



Department of Energy
Carlsbad Field Office
P. O. Box 3090
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AUG 16 2010



Mr. Steve Zappe, Project Leader
Hazardous Materials Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Transmittal of the Carlsbad Field Office Final Audit Report A-10-14, Los Alamos National Laboratory/Central Characterization Project TRU Waste Characterization and Certification

Dear Mr. Zappe:

This letter transmits the subject Final Audit Report for the processes performed to characterize and certify waste as required by Section II.C.2.c of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit. The report contains the results of the audit performed for Summary Category Groups S3000 homogeneous solids and S5000 debris waste. The audit was conducted April 27-29, 2010.

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

Should you have any questions concerning this audit report, please contact the Carlsbad Field Office Director of Quality Assurance, Ava L. Holland, at (575) 234-7423.

Sincerely,

David C. Moody
Manager

Enclosure



Mr. Steve Zappe

-2-

AUG 16 2010

cc: w/Report Narrative

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cc: w/enclosures

WIPP Operating Record, MS: 452-09

CTAC QA File

CBFO M&RC

**U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE**

FINAL AUDIT REPORT

OF THE

**LOS ALAMOS NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROJECT**

LOS ALAMOS, NEW MEXICO

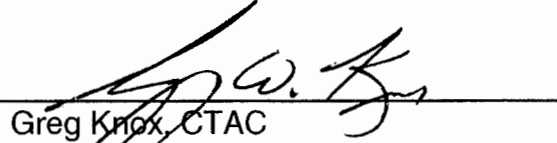
AUDIT NUMBER A-10-14

April 27 – 29, 2010

TRU WASTE CHARACTERIZATION AND CERTIFICATION

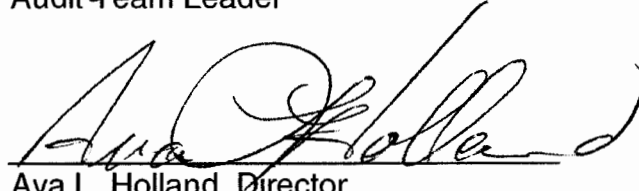


Prepared by:


Greg Knox, CTAC
Audit Team Leader

Date: 11 Aug 2010

Approved by:


Ava L. Holland, Director
CBFO Office of Quality Assurance

Date: 8/13/10

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-10-14 was conducted to evaluate the adequacy, implementation, and effectiveness of Los Alamos National Laboratory (LANL) transuranic (TRU) waste characterization activities performed for LANL by the Washington TRU Solutions (WTS) Central Characterization Project (CCP) relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the *CBFO Quality Assurance Program Document (QAPD)*, and the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*.

The audit team evaluated the characterization of contact-handled (CH) Summary Category Group (SCG) S3000 homogeneous solids and S5000 debris wastes, as well as visual examination (VE) in support of the Off-Site Recovery Program (OSRP). The specific items evaluated during this audit are listed in section 2.1.

The audit was conducted at the LANL facilities in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, April 27 – 29, 2010. The audit team concluded that the LANL/CCP technical and QA programs were adequate for compliance with the applicable upper-tier requirements. The audit team verified that the LANL/CCP program for characterization and certification of CH S3000 homogeneous solids and S5000 debris wastes continues to be adequate, satisfactorily implemented, and effective.

The audit team also concluded that the established QA and technical programs for the related activities were satisfactorily implemented in accordance with the CCP *Transuranic Waste Quality Assurance Characterization Project Plan (QAPjP)*, and that the associated implementing procedures and processes were effective.

The audit team identified three concerns during the audit. A concern in the area of VE resulted in the issuance of accelerated CBFO Corrective Action Report (CAR) 10-025. A concern in the area of project-level validation resulted in issuance of CAR 10-029 and this was also classified as an accelerated CAR. A concern with documentation relating to the custody of the SUMMA[®] canisters used for Head Space Gas sampling resulted in CAR 10-027. The CARs are described in section 6 and 7.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the continued adequacy, implementation, and effectiveness of the LANL/CCP TRU waste characterization and certification activities for CH S3000 homogeneous solids and S5000 debris wastes. The following elements were evaluated:

Quality Assurance

Personnel Qualification and Training
Nonconformance Reporting
Records
Sample Control

Technical

Generation and Project-Level Data Validation and Verification (V&V)
Acceptable Knowledge (AK)
Visual Examination (VE)
Off-Site Recovery Program (OSRP)
Real-Time Radiography (RTR)
Headspace Gas Sampling (HSG)
Waste Certification (e.g., Waste Stream Profile Form)
WIPP Waste Information System (WWIS)/Waste Data System (WDS)

General

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

The evaluation of LANL/CCP TRU waste activities was based on current versions of the following documents:

Hazardous Waste Facility Permit Waste Isolation Pilot Plant EPA No.
NM4890139088-TSDF, New Mexico Environment Department

CBFO Quality Assurance Program Document, DOE/CBFO-94-1012

*Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,
DOE/WIPP-02-3122*

*CCP Transuranic Waste Quality Assurance Characterization Project Plan
(QAPjP), CCP-PO-001*

CCP Transuranic Waste Certification Plan, CCP-PO-002

Related technical and QA implementing procedures

2.2 Purpose

Audit A-10-14 was conducted to assess sustained compliance with requirements applicable to waste characterization and certification activities for CH S3000 homogeneous solids and S5000 debris wastes.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Dennis Miehls	Audit Team Management Representative, CBFO
Greg Knox	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Rick Castillo	Auditor, CTAC
Berry Pace	Auditor, CTAC
Tommy Putnam	Auditor, CTAC
Porf Martinez	Auditor, CTAC
Priscilla Martinez	Auditor, CTAC
Laurie Smith	Auditor, CTAC
Harold Washington	Auditor, CTAC
Wayne Ledford	Auditor/Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC
Mavis Lin	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Joe Willis	Technical Specialist, WTS

OBSERVERS

Andy Walker	CBFO Office of the National TRU Program (NTP)
Martin Navarrete	CBFO Office of Quality Assurance
Steve Holmes	New Mexico Environment Department (NMED)
Tim Hall	NMED
Ricardo Maestas	NMED
Chris Timm	PECOS Management
Vince Rojas	PECOS Management
Steve Calvert	Navarro Research & Engineering
Steve Kopp	CTAC

4.0 AUDIT PARTICIPANTS

LANL/CCP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held in the Taos Conference Room at the Best Western Hilltop Inn, in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, on April 27, 2010. Daily briefings were held with LANL/CCP management and staff to discuss issues, potential deficiencies, and progress of the audit. The audit was concluded with a post-audit meeting held in the Taos Conference Room at the Best Western Hilltop Inn and in the Skeen-Whitlock Building on April 29, 2010.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the capability of the LANL/CCP program to characterize and certify CH S3000 homogeneous solids and S5000 debris wastes for compliance with the requirements specified in the WIPP HWFP Waste Analysis Plan (WAP). The characterization methods assessed were AK, HSG sampling, RTR, and VE. Other processes evaluated were project-level data review and validation, data quality objective (DQO) reconciliation, preparation of WSPFs, and WWIS/WDS data entry.

The audit team concluded that LANL/CCP TRU waste characterization and certification activities, as described in the associated LANL/CCP QAPjP and implementing procedures, are adequate, satisfactorily implemented, and effective for compliance with the requirements of the HWFP.

Attachment 1 lists the personnel contacted during the audit. Personnel contacted during the audit are listed in Attachment 2 by area. Attachment 3 is the objective evidence reviewed during the audit, as well as evidence supporting completion of the corrective actions for the deficiencies described in section 6.0. Audit activities, including associated objective evidence reviewed, are described below and in the attached B6 checklists. The B6 checklists identify the LANL/CCP program documents and procedures demonstrating compliance with the HWFP. Attachment 4 is a list of LANL/CCP implementing documents for the applicable Table B6-1 through B6-6 WAP requirements. Attachment 5 identifies the processes and equipment audited for certification. Attachment 6 identifies and briefly describes revisions to the implementing procedures that have occurred since the last recertification audit (CBFO Audit A-09-12).

5.2 Technical Activities

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

5.2.1 Table B6-1, WAP Checklist

The B6-1 WAP checklist addresses general program requirements from an overall management perspective. The checklist addresses both technical requirements and QA programmatic requirements that, when collectively implemented, ensure effective overall management of TRU waste characterization and certification activities. Requirements are integrated into controlled documents that ensure the waste characterization strategy defined in the WAP is accomplished and documented in accordance with controlled processes and procedures.

The audit team evaluated both the QA program aspects of the B6-1 checklist and the technical activities defined in the remaining B6 checklists. The following B6-1 checklist items related to QA program implementation were evaluated by the audit team.

Personnel Qualification and Training

The audit team interviewed responsible personnel and reviewed documentation to verify that LANL/CCP complies with the requirements of the CBFO QAPD and CCP-QP-002, *CCP Training and Qualification Plan*. Training and qualification records for the following positions were reviewed: AK Expert (AKE), Site Project Manager (SPM), HSG Drum Sampling Operator/Independent Technical Reviewer (ITR), VE Expert (VEE), and VE Operator/ITR. Document/record reviews also included the LANL List of Qualified Individuals (LOQI), training files, qualification cards, and various appointment letters. The procedures reviewed and objective evidence evaluated during the audit indicated that the applicable requirements for personnel qualification and training are adequately established for compliance with upper-tier requirements and are satisfactorily implemented and effective. No concerns were identified.

Nonconformance Reporting

The audit team interviewed responsible personnel and reviewed implementing procedure CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, relative to the control of nonconformances to determine the degree to which the procedure adequately addressed upper-tier requirements. Evidence of nonconformance control was verified through review of the following nonconformance logs and nonconformance reports (NCRs), both reportable and non-reportable.

LANL Nonconformance Logs

LANL NCR Log 2009
LANL NCR Log 2010

LANL NCRs

NCR-LANL-0503-09 (WAP-related NCR requiring CBFO notification)
NCR-LANL-0506-09 (WAP-related NCR requiring CBFO notification)
NCR-LANL-0510-09
NCR-LANL-0518-09
NCR-LANL-0501-10
NCR-LANL-0503-10
NCR-LANL-0506-10

The procedure reviewed and objective evidence evaluated during the audit indicated that the applicable requirements for control of nonconformances are adequate for compliance with upper-tier requirements and are satisfactorily implemented and effective. No concerns were identified.

Records

The audit team reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The procedures reviewed included CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-PO-002, *CCP Transuranic Waste Certification Plan*; CCP-QP-008, *CCP Records Management*; and CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Evidence of the control of QA records was verified through review of the LANL/CCP CH Records Inventory and Disposition Schedule (RIDS) dated 1/19/2010, and associated characterization process batch data reports (BDRs). The procedures reviewed and objective evidence evaluated during the audit indicated that the applicable requirements for QA records are adequately established for compliance with upper-tier requirements and are satisfactorily implemented and effective. No concerns were identified.

5.3 Technical Activities

Evaluations of applicable LANL/CCP technical activities are summarized in the following subsections.

5.3.1 Project-Level Validation and Verification

Project-level reviews were performed to assess data collected as a result of the current waste characterization implementing procedures. The ability of the LANL/CCP to characterize SCG S5000 debris waste and S3000 homogeneous solids waste was evaluated. Objective evidence was reviewed as part of this assessment and was utilized in the completion of Table B6-1, the WAP Checklist. The objective evidence included BDRs completed through the CCP SPM review for nondestructive examination (NDE), VE, HSG sampling and analysis, and solids sampling and analysis.

In addition, procedures and objective evidence were reviewed to evaluate LANL/CCP data reconciliation activities and preparation of Waste Stream Profile Forms (WSPFs). Objective evidence was reviewed to determine the adequacy of the SPM V&V procedures. Evidence included BDRs from each of the waste characterization activities.

The flow of data from the point of generation to inclusion in the WSPF for each characterization technique was reviewed to ensure that all applicable requirements were captured in the site operating procedures. The specific procedures and objective evidence reviewed are identified in the attached checklists.

Compliance with the characterization requirements of the WAP was evaluated through review of documentation. The project-level data V&V process was evaluated by reviewing the following BDRs.

NDE

LA-RTR2-09-0026 LA-RTR2-09-0137 LA-RTR2-09-0167

VE

LAVE550021 LAVE550025 LAVE550030
LAVE500234 LAVE500290 LAVE500335
LAVE2310001 LA10-OSR-VE-003

HSG Sampling and Analysis

LAHSGS090001 ECL09034G ECL09034M
LAHSGS090002 ECL09023G ECL09023M
LAHSGS100001 ECL10001G ECL10001M

Solids Sampling and Analysis

SSC10-00001 ALD10007V ALD10007S
ALD10007N ALD10007M

The HSG BDRs cited above were used to demonstrate confirmation of AK, reconcile data quality objectives (DQOs), and prepare WSPF MHD08.001. Most of the remaining BDRs will be used in the development of a new WSPF.

The quarterly repeat of data-generation-level requirements for NDE, HSG, solids, and VE was requested. LANL/CCP did not provide HSG sampling quarterly data for 1Q09 and 2Q09, as no samples were collected in those quarters. HSG sampling was characterized in 3Q09 and 4Q09, but no objective evidence of a random selection for quarterly HSG sampling for 3Q09 and 4Q09 was presented. This resulted in the issuance of CBFO CAR 10-029 (see section 6.1).

A review was performed of the WSPF Characterization Information Summary (CIS) for S5000 and S3000 waste streams, indicating that random selection of containers for these waste streams was properly completed.

LANL/CCP performs HSG sampling using SUMMA[®] canisters. Sampling BDRs LAHSGS090001, LAHSGS090002, and LAHSGS100001 for S5000 debris waste were examined. Drum age criteria (DAC), sample chain-of-custody (COC), and shipment to the analytical laboratory were reviewed and determined to be compliant with the exception of the COC documentation for the samplers identified in BDR LAHSGS100001. This resulted in the issuance of CBFO CAR 10-027. The HSG analysis of the SUMMA[®] samples was reviewed by the team, as well as the training and qualification of V&V personnel. The analysis and reporting of the Field Reference Standard was determined to be accurately completed.

The LANL/CCP NDE and VE project-level processes were evaluated to determine the effectiveness of NDE and VE as characterization methods. BDRs LA-RTR2-09-0026, LA-RTR2-09-0137, and LA-RTR2-09-0167 were reviewed. VE BDRs LAVE550021, LAVE550025, LAVE550030, LAVE500234, LAVE500290, LAVE500335, LA2310001, and LAVE10-OSR-VE-003 were also assessed by the team.

Overall, the audit team determined that the requirements for project-level V&V activities were adequate, satisfactorily implemented, and effective.

5.3.2 Solids Sampling and Analysis

Solids sampling is not performed at LANL. All drums requiring sampling are transported to the Idaho National Laboratory for processing.

5.3.3 Acceptable Knowledge

Members of the audit team reviewed the AK process and examined AK documentation for two relevant waste streams: a contaminated mixed heterogeneous debris stream from the TA-48 Alpha Facility, LA-MHD08.001, and a mixed homogeneous inorganic solids stream from TA-50, LA-CIN02.001-NC.001. The associated AK Summary Reports CCP-AK-LANL-012, Rev. 2, and CCP-AK-LANL-004, Rev. 9, were also reviewed.

In addition to the AK Summary Reports for the two waste streams referenced above and the approved or draft WSPFs, the audit team reviewed the following AK attachments: Attachment 1, *AK Documentation Checklist*; Attachment 4, *AK Source Document Reference List*; Attachment 5, *AK Hazardous Constituents List*; Attachment 6, *AK Waste Form, Waste Material Parameters, Prohibited Items and Pkg.*, including the justification for waste material parameter weight estimates, and Attachment 8, *AK Container List*, with memos supporting the addition of containers to the waste stream. The team also examined numerous AK source document summaries for the two streams for verification of the information in the AK Summary Reports, reviewed examples of discrepancies in the AK record, and examined discrepancies between the AK record and characterization activities and resultant AK re-evaluations.

The audit team reviewed NCRs written concerning prohibited items identified during RTR of waste drums, including excess liquids and the presence of aerosol cans and/or sealed containers greater than 4 liters. The WAP-required traceability exercise was conducted for five containers from the two waste streams, including containers from HSG sampling for the TA-48 debris stream and solids sampling from the TA-50 cemented sludge stream. In addition to specific BDRs for the drums selected, the audit team examined HSG and Solids Sampling Random Container Selection reports, the HSG Summary report, the Solids Summary report, container input forms, burial ground records, WSPFs, database records, and AK characterization checklists used to reconcile characterization results with the AK record for those drums placed in a shipping lot. The AK Accuracy Report for the TA-50 solids stream was also reviewed. Finally, training records for AKEs and SPMs were examined, along with an example of a recent AK internal audit. All applicable elements of the B6-1 and B6-3 checklists were reviewed during the audit to assure that sufficient and relevant objective evidence had been compiled to demonstrate compliance.

In addition to the WAP requirements, the AK audit team examined the AK record for objective evidence to demonstrate compliance with the requirements of the WAC, including information on the ten tracked radionuclides and identification of the two most prevalent radionuclides. The AK/NDA memo was reviewed for both streams.

The audit team initially identified a potential concern relative to the CCP program and the HWFP requirement for the solids sampling of containers identified in the random container selection memo dated August 11, 2008, for Lot 2 of solids waste stream LA-CIN02.001. Since the date of the memo, four of the five randomly selected containers were made available for sampling; however, they had yet to be sampled at the time of the audit. CCP-TP-162, *CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis*, section 4.4.2 states, "Arrange for sampling or coring of the selected containers as soon as practical following identification by the SPM performing the RS [random selection]." The HWFP, Attachment B2, section B2-1 states, "As those randomly selected locations (e.g., buried or newly generated waste containers) become accessible for sampling, samples will be obtained and analyzed." Since the requirements, as stated in these two documents, appeared to be inconsistent, the CBFO NTP Office was requested to provide an interpretation of the Permit term "become accessible". The NTP responded in a memo (CBFO:NTP:DCG:MDA:10-0853:UFC 5900.00) dated May 24, 2010, stating that since the requirement for sampling is prefaced with the statement, "A minimum of five randomly selected sample locations will be selected from the waste stream as a whole," this provides the latitude to wait until all containers have been collected from the sample locations before sending them to be sampled and analyzed. Based on this interpretation, the potential concern was abated.

Overall, the audit team determined that the LANL/CCP AK program for both S3000 solids and S5000 debris wastes was adequate in addressing the applicable upper-tier requirements, and was satisfactorily implemented and effective .

5.3.4 Headspace Gas Sampling

HSG Sampling BDRs LAHSGS090001, LAHSGS090002, and LAHSGS100001 for debris waste were examined. The DAC, operational logbook, sample COC, and transfer to the analytical laboratory were reviewed and determined to be compliant. Measuring and test equipment (M&TE) certificates of calibration were examined and determined to be acceptable. Training and qualification of sampling individuals were confirmed to be compliant with the CCP program. Interviews were conducted with sampling personnel. No HSG sampling was being performed during the audit; however, a mock demonstration of HSG sampling was observed and determined to be satisfactory.

Overall, the LANL/CCP procedures and activities for HSG sampling were determined to be adequate and the associated requirements satisfactorily implemented and effective.

5.3.5 Real-Time Radiography

The audit team evaluated the following RTR-related CCP procedures: CCP-TP-028, *CCP Radiographic Test and Training Drum Requirements*; CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*; and CCP-QP-002, *CCP Training and Qualification Plan*.

The audit team evaluated seven RTR BDRs and associated video records: LA-RTR2-09-0026, LA-RTR2-09-0057, LA-RTR2-09-0074, LA-RTR2-09-0137, LA-RTR2-09-0167, LA-RTR2-09-0121, and LA-RTR2-10-0033. These BDRs included waste streams LA-MIN03-NC.001, LA-MHD01.001, and LA-MHD03.001.

The audit team evaluated evidence of capability demonstrations for six RTR operators. Records of RTR operator training and qualification, including capability demonstrations, were examined and provided evidence that operators were trained and qualified as required.

The audit team toured Area G, which contains RTR Unit #2 used for RTR activities. During this tour, the audit team observed radiography of container 85093. The radiography activities associated with the container were determined to be satisfactory.

There were no concerns identified as a result of RTR BDR reviews, personnel interviews, and observation of RTR activities.

Overall, the audit team determined that LANL-CCP RTR operations were adequate, satisfactorily implemented, and effective.

5.3.6 Visual Examination

The audit included evaluations for compliance with VE requirements for TRU waste, as well as VE in support of the OSRP. LANL has been previously approved for VE of records for RH waste for the 16 canisters that were stored at TA-54. These RH canisters have been shipped to WIPP and no further RH VE activity has occurred at LANL/CCP.

VE CH TRU Waste

The audit included review of the implementation of Procedure CCP-TP-113, *CCP Standard Waste Visual Examination*. VE operations are currently being conducted in the Waste Characterization, Reduction, and Repackaging (WCRR) facility and in TA-55. The audit team toured the WCRR facility to witness repackaging activities and VE activities to examine the glove-box being used. During repackaging in the WCRR, drums are subjected to VE if, in the judgment of the repackaging team and the VEE, a container will be difficult to RTR due to impenetrable items. Otherwise, drums are repackaged and then subjected to RTR. The audit team examined associated BDRs and training records for VE activities performed in the WCRR and TA-55, and interviewed operations personnel.

One concern was identified. The VE operators in both the WCRR and TA-55 record their observations using handwritten data sheets. This information is transferred to an electronic data sheet when the VE operators return to their offices. The original handwritten record is then destroyed. As a result, the ITR is not afforded an opportunity to review the original data for proper data reduction as required. This concern was documented in CBFO CAR-10-25 (see section 6.1).

VE OSRP

The LANL/CCP performs VE of sealed sources in support of the OSRP. The OSRP collects sealed sources from various locations, both domestic and overseas, and packages them in pipe overpack components for shipment to LANL. At the time of packaging, the sources are subject to VE in accordance with Procedure CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*. The audit team examined associated BDRs and training files, and interviewed OSRP VE operations personnel.

No concerns were identified in the area of OSRP VE.

Overall, the OSRP and VE activities were determined to be adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQ) and document such conditions on corrective action reports (CARs).

Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, regulatory compliance demonstration, or the effective implementation of the QA program.

The following CARs were issued as a result of Audit A-10-14.

CBFO CAR 10-025

During VE in TA-55 and TA-50, the CCP VE operators record their field observations manually on data forms. These are surveyed out and the data are then transferred to electronic VE data sheets for the containers that are included in the BDRs. The original handwritten field records are destroyed after the data are entered in the final VE data sheets. As a result, the ITR does not have an opportunity to verify that data have been properly transferred and reduced from the field records.

CCP-PO-001, *CCP Transuranic Waste Characterization QA Project Plan*, Rev. 17, section B3-10a, requires that during data generation review, verification be performed to confirm that, "All data are transferred and reduced from field and laboratory records completely and accurately."

Section B3-10a(1) requires that, "The independent technical reviewer ensures by review of raw data that data generation and reduction are technically correct, calculations are verified correct, deviations are documented, and QA/QC results are complete, documented correctly, against the criteria in this QAPjP. This review is to validate and verify all of the work done by the originator."

CBFO CAR 10-027

Sampler who collected some of the samples in sample batch HSGS100001 did not sign the Chain of Custody (COC). This also affects analysis batch data reports ECL10001G and ECL10001M.

CCP-TP-093, Rev. 13, 4.5.5[Q.8] Collection of Waste Container HSG Sample, requires the Sampler's Signature be entered for each container sample on Attachment 1 (COC form).

CBFO CAR 10-029

No objective evidence of HSG Quarterly Report data for 3Q09 and 4Q09 was available for review during the audit.

CCP-TP-001, *CCP Project Level Data Validation and Verification*, Rev. 17, section 4.3, states in part, "The SPM shall ensure that a repeat of the DGL data review, validation, and verification of data generated to meet the requirements of CCP-PO-001 is performed quarterly for a minimum of one randomly chosen waste container," and "The repeat DGL data review, validation, and verification are completed for each required characterization methodology that was performed in the last quarter, at each Host site where CCP performed characterization."

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The ATL and audit team members evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals have not completed a reading assignment. Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA.

The audit team did not identify any concerns related to permit requirements during Audit A-10-14.

6.3 Observations

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

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

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

The audit team did not identify any Observations during the audit.

6.4 Recommendations

During the audit, the audit team may identify suggestions for improvement that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Recommendations using the following definition.

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements. Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

The audit team offered no Recommendations during the audit.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Personnel Contacted During the Audit by Area
- Attachment 3: Objective Evidence Reviewed During the Audit
- Attachment 4: Implementing Documents
- Attachment 5: Processes and Equipment Evaluated
- Attachment 6: Revisions to Implementing Procedures

PERSONNEL CONTACTED DURING THE AUDIT

PERSONNEL CONTACTED DURING AUDIT A-10-14				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Billett, M.	Training Coordinator/CCP		X	X
Blunn, D.	VEE/CCP		X	
Cantu, A.	SPM/CCP		X	
Ewing, S.	RTR Tech/MCS	X	X	X
Farquhar, C.	RTR/MCS		X	
Fitzgerald, R.	AKE/CCP	X	X	
Garcia, J.	HSGS SME/CCP	X	X	
Gomez, C.	NCR Coordinator/CCP		X	
Griffin, J.	VE/OSRP/LANL		X	
Hemsing, D.	VE/CCP		X	
Hinojos, F.	Training Manager/CCP		X	
Jones, L.	QAE/CCP		X	
Kantrowitz, R.	AK SPM/CCP		X	
Kirkes, C.	WCO/CCP		X	
MacMillan, M.	RTR Operator/MCS	X	X	X
Martin, R.	Training/CCP		X	
Martinez, M.	VPM/CCP	X	X	
Mojica, T.	HSGS/CCP	X	X	
Oney, F.	RTR/MCS		X	
Papp, M.	AKE/CCP	X	X	
Pearcy, S.	Records Manager/CCP	X	X	X
Peterman, S.	SPM/CCP	X	X	X
Schorn, J.	AKE/CCP	X	X	
Sharif, N.	SPM/WCO/CCP	X	X	X
Thompson, J.	VEE/CCP	X	X	
Waldham, V.	SPM/CCP	X	X	X
Weston, C.	AK SPM/CCP		X	

PERSONNEL CONTACTED DURING THE AUDIT BY AREA

Nonconformances	Gomez, C. Jones, L.
Training	Billett, M. Hinojos, F. Martin, R.
Records	Pearcy, S
Acceptable Knowledge	Fitzgerald, R. Kantrowitz, R. Papp, M. Peterman, S. Schorn, J Weston, C.
Headspace Gas & Gas VOCs Sampling and Analysis	Garcia, J. Martinez, M Mojica, T. Peterman, S
Real-Time Radiography	Ewing, S. Farquhar, C. MacMillan, M. Martinez, M. Oney, F. Peterman, S.
Visual Examination	Blunn, D. Griffin, J. Hemsing, D. Thompson, J.
WIPP Waste Information System (WWIS Data Entry)	Kirkes, C.
Waste Certification/Project Level Validation & Verification	Cantu, A Sharif, N. Peterman, S. Waldham, V.

Objective Evidence Reviewed During the Audit

The objective evidence supporting Audit A-10-14 is included in the box(es) submitted with this report. Included in the box(es) is a "Content Map" describing the location (using color coding) and identity of all required objective evidence supporting the performance of the audit.

LISTING OF AUDITED DOCUMENTS

	Document No.	Rev.	Document Title
1.	CCP-PO-001	17	CCP Transuranic Waste Characterization QA Project Plan
2.	CCP-PO-002	22	CCP Transuranic Waste Certification Plan
3.	CCP-PO-012	7	CCP/LANL Interface Document
4.	CCP-QP-002	27	CCP Training and Qualification Plan
5.	CCP-QP-005	18	CCP TRU Nonconforming Item Reporting and Control System
6.	CCP-QP-008	15	CCP Records Management
7.	CCP-QP-011	10	CCP Notebooks and Logbooks
8.	CCP-QP-021	6	CCP Surveillance Program
9.	CCP-QP-022	11	CCP Software Quality Assurance Plan
10.	CCP-QP-028	9	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
11.	CCP-TP-001	17	CCP Project Level Data Validation and Verification
12.	CCP-TP-002	21	CCP Reconciliation of DQOs and Reporting Characterization Data
13.	CCP-TP-003	17	CCP Data Analysis for S3000, S4000, and S5000 Characterization
14.	CCP-TP-005	18	CCP Acceptable Knowledge Documentation
15.	CCP-TP-008	8	CCP Solids Sampling Procedure
16.	CCP-TP-028	3	CCP Radiographic Test and Training Drum Requirements
17.	CCP-TP-030	27	CCP CH TRU Waste Characterization and WWIS Data Entry
18.	CCP-TP-033	16	CCP Shipping of CH TRU Waste
19.	CCP-TP-053	7	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
20.	CCP-TP-056	4	CCP HSG Performance Demonstration Plan
21.	CCP-TP-069	4	CCP Sealed Source Visual Examination and Packing
22.	CCP-TP-082	7	CCP Preparing and Handling Waste Containers for Headspace Gas Sampling
23.	CCP-TP-093	13	CCP Sampling of TRU Waste Containers
24.	CCP-TP-098	3	CCP Installation of the NucFil HSG Sample Port
25.	CCP-TP-101	4	CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization
26.	CCP-TP-106	6	CCP Headspace Gas Sampling Batch Data Report Preparation
27.	CCP-TP-113	13	CCP Contact-Handled Standard Waste Visual Examination
28.	CCP-TP-120	14	CCP Container Management
29.	CCP-TP-162	0	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
30.	CCP-TP-180	1	CCP Analytical Sample Management
31.	DOE/WIPP 02-3122	6.4	Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant
32.	WP 13-QA.03	17	Quality Assurance Independent Assessment Program

Processes and Equipment Reviewed During Audit A-10-14 of the LANL/CCP

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT				
N/A	Headspace Gas Sampling Procedure – CCP -TP-093 Description – Headspace Gas Sampling	Debris (S5000)	YES	N/A
11RR1	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES	YES
11RR2	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES	YES
11VE1	CH Visual Examination Procedure – CCP-TP-113 Description – CH Characterization performed utilizing Visual Examination and Acceptable Knowledge	Debris (S5000)	YES	YES
N/A	Acceptable Knowledge Procedure – CCP-TP-005 Description – Acceptable Knowledge	Solids (S3000) Debris (S5000)	YES	YES

Processes and Equipment Reviewed During Audit A-10-14 of the LANL/CCP

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	Data Verification and Validation Procedure(s) – CCP-TP-001, CCP-TP-002, CCP-TP-003, CCP-TP-103, CCP-TP-162	Solids (S3000) Debris (S5000)	YES	YES
N/A	WWIS/WDS Procedure – CCP-TP-030 Description – CH TRU Waste Characterization and WWIS Data Entry	Solids (S3000) Debris (S5000)	YES	YES
N/A	Quality Assurance Program	Solids (S3000) Debris (S5000)	N/A	YES

PROCEDURE REVISION MATRIX
 (Revision since last audit – Audit A-09-12)

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
1.	CCP-PO-001	CCP Transuranic Waste Characterization Quality Assurance Project Plan	16	17	Updated to agree with the WIPP Hazardous Waste Facility Permit Class 1 Modification dated July 2008.
2.	CCP-PO-002	CCP Transuranic Waste Certification Plan	21	22	Revised to incorporate Revision 6.4 of DOE/WIPP-02-3122, <i>Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant</i> .
3.	CCP-PO-012	CCP/LANL Interface Document	7	7	No Change
4.	CCP-QP-002	CCP Training and Qualification Plan	27	27	No Change
5.	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control System	17	18	Revised to incorporate freeze file editorial changes, clarify the ability to delete/remove containers from the BDR/Container ID list when revising an NCR per CAR-LANL-0001-09, and incorporate CCP Standing Order CCP-SO-024, 1.
6.	CCP-QP-008	CCP Records Management	14	15	Revised to make personnel title changes and name changes to organizations. Added Sec. 4.7.1[H] for lost records as well as a section for receipt and handling of OOU and UCN documents.
7.	CCP-QP-011	CCP Notebooks and Logbooks (Accuracy, Legibility, Complete, Review)	9	10	Revised in response to CCP CAR-CCP-0012-09, to clarify document scope for WAP Laboratory Logbook use.
8.	CCP-QP-021	CCP Surveillance Program	6	6	No Change
9.	CCP-QP-022	CCP Software Quality Assurance Plan (Version Installation Verification)	10	11	Revised to include unique identifier information on all applications within COTS software spreadsheets (SCO #, Addendum #, Software name and version, and tested operating environment). Annual review of the SIL will be

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					performed incrementally on a quarterly basis. Minor software changes were also incorporated.
10.	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning	9	9	No Change (past expiration date on Q&MIS)
11.	CCP-TP-001	CCP Project Level Data Validation and Verification	17	17	No Change
12.	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data	20	21	Revised to answer WIPP Form 09-050, add changes to Sec. 3 and 4 and make other editorial changes needed.
13.	CCP-TP-003	CCP Data Analysis for S3000, S4000, and S5000 Characterization	16	17	Revised to delete a reference that is no longer applicable and add the new reference. Also to update attachments and correct editorial errors. (Title changed rev. 14)
14.	CCP-TP-005	CCP Acceptable Knowledge Documentation	18	18	No Change
15.	CCP-TP-008	CCP Solids Sampling Procedure	6	8	R7 - Revised in response to CCP CAR CAR-INL-0001-09. Also revised to add grab sampling from un-containerized waste retrieved from the SDA at the INL and to update the location of the INL laboratory, which is no longer located at the INTEC facility. R8 - Revised to incorporate cancellation of CCP-TP-161, and addition of CCP-TP-162.
16.	CCP-TP-028	CCP Radiographic Test and Training Drum Requirements	3	3	No Change
17.	CCP-TP-030	CCP CH TRU Waste Characterization and WWIS Data Entry	25	27	R26 - Revised to implement changes made to the CH-TRAMPAC. R27 - Revised to allow use of the WDS.
18.	CCP-TP-033	CCP Shipping of CH TRU Waste	14	16	R15 - Revised based on changes in Rev. 3 of the CH-TRAMPAC from the U.S. NRC. Editorial changes were

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					also made. PCBs checks added. R16 - Revised to incorporate WDS operations. Editorial changes were also made.
19.	CCP-TP-053	CCP Standard Real-Time Radiography (RTR) Inspection Procedure	6	7	Revised to address the NMED's concerns regarding who could perform replicate scans, independent observations, and/or independent technical reviews.
20.	CCP-TP-056	CCP HSG Performance Demonstration Plan	4	4	No Change
21.	CCP-TP-069	CCP Sealed Source Visual Examination and Packing	4	4	No Change
22.	CCP-TP-082	CCP Preparing and Handling Waste Containers for Headspace Gas Sampling	7	7	No Change
23.	CCP-TP-093	CCP Sampling of TRU Waste Containers	13	13	No Change
24.	CCP-TP-098	CCP Installation of the NucFil HSG Sample Port	3	3	No Change
25.	CCP-TP-101	CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization	4	4	No Change
26.	CCP-TP-106	CCP Headspace Gas Sampling Batch Data Report Preparation	6	6	No Change
27.	CCP-TP-113	CCP Contact-Handled Standard Waste Visual Examination	13	13	No Change
28	CCP-TP-180	CCP Analytical Sample Management	0	1	The laboratory is moving to a new facility and the sample receiving and handling is being changed to reflect the new facility. Also some editorial and responsibility name changes

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
29.	CCP-TP-120	CCP Container Management	12	14	R13 - Revised to remove VPM Administrative Hold controls on VE of newly generated waste containers as it is now a certified process at LANL. R14 - Revised in response to CAR-LANL-0006-09 and to clarify when a waste container must be put through container management.
30.	CCP-TP-162	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis	N/A	0	Initial issue to combine CCP-TP-160, <i>CCP Random Selection of Containers for Headspace Gas Sampling and Analysis</i> , and CCP-TP-161, <i>CCP Random Selection of Containers for Solids Sampling and Analysis</i> , into single procedure and incorporate freeze file changes and CCP Management Assessment, CCP-MA-0027-08 findings.
31.	DOE/WIPP 02-3122	Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant	6.2	6.4	R6.3 - Supersedes Revision 6.2 R6.4 - The majority of the changes to this document are contained in Tables 3.3.2, 3.3.4, 4.3.2.1, and 4.3.2.2. These changes capture the FGE and PE-Ci requirements contained in Revision 1 of the Waste Isolation Pilot Plant DSA (Reference 42). Other changes include the addition of Table 4.3.2.3 addressing U-235 fissile equivalent mass limits for shipping RH waste to WIPP using a RH-TRU 72-B package, updates to the acronym list, an addition to the glossary, and modification of the references.

No	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
32.	WP 13-QA.03	Quality Assurance Independent Assessment Program	14	17	R15 - Revision to incorporate changes from DOE O226.1A R16 - Revision to incorporate new DSA changes. R17 - Changes in this revision include deletion of requirements to enter conditions corrected during the audit into CTS for external audits, since this data is not needed for trending. Added environmental and software as elements to consider for audit criteria. Added prefix "A" to assessment number for assessment related to the American Recovery and Reinvestment Act.