



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

JUL 23 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 Certification Audit Report for the Hanford Central Characterization Project, Audit A-10-07

Dear Mr. Zappe:

This letter transmits the Audit Report for Hanford Central Characterization Project Audit A-10-07 of 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 certification audit conducted April 6-8, 2010.

An electronic version of the audit documentation (final audit report, B-6 checklists, and the audited plans and procedures) is included as a courtesy for use by the New Mexico Environment Department, but is not to be regarded as the formal submittal.

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 Ms. Ava L. Holland, CBFO Quality Assurance Director, at (575) 234-7423.

Sincerely,


David C. Moody
Manager

Enclosure

Mr. Steve Zappe

-2-

JUL 23 2010

cc: w/Report Narrative

V. Daub, CBFO	*ED
A. Holland, CBFO	ED
D. Gadbury, CBFO	ED
G. Basabilvazo, CBFO	ED
N. Castaneda, CBFO	ED
D. Miehl, CBFO	ED
M. Navarrete, CBFO	ED
S. McCauslin, CBFO	ED
L. Romine, DOE-RL	ED
D. Haar, WTS/CCP	ED
D. Ploetz, WTS/CCP	ED
V. Cannon, WTS/CCP	ED
A. J. Fisher, WTS/CCP	ED
M. Walker, WTS/CCP	ED
Y. Salmon, WTS/CCP	ED
J. Hoff, WTS	ED
M. A. Mullins, WTS	ED
T. Peake, EPA	ED
M. Eagle, EPA	ED
E. Feltcorn, EPA	ED
R. Joglekar, EPA	ED
S. Ghose, EPA	ED
R. Lee, EPA	ED
J. Bearzi, NMED	ED
S. Holmes, NMED	ED
J. Kieling, NMED	ED
T. Kesterson, DOE OB WIPP NMED	ED
C. Timm, Pecos Management Services	ED
D. Winters, DNFSB	ED
G. Lyshik, LANL-CO	ED
P. Gilbert, LANL-CO	ED
WWIS Database Administrators	ED
R. Chavez, WRES	ED
W. Most, WRES	ED
D. Streng, WRES	ED
L. Pastorello, WRES	ED
D. Guevara, WRES	ED
P. Martinez, CTAC	ED
A. Pangle, CTAC	ED
R. Garcia, CTAC	ED

*ED denotes electronic distribution

cc: w/enclosures

WIPP Operating Record, MS: 452-09

CBFO QA File

CBFO M&RC

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

FINAL AUDIT REPORT

OF THE

HANFORD SITE UTILIZING THE

CENTRAL CHARACTERIZATION PROJECT (CCP)

Richland, Washington

AUDIT NUMBER A-10-07

April 6 – 8, 2010

**FINAL AUDIT REPORT OF WASTE CHARACTERIZATION IN ACCORDANCE WITH
THE HAZARDOUS WASTE FACILITY PERMIT**



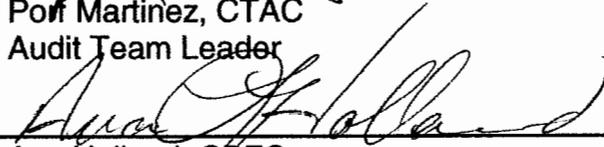
Prepared by:



Porf Martinez, CTAC
Audit Team Leader

Date: 7/19/2010

Approved by:



Ava Holland, CBFO
Quality Assurance Director

Date: 7/23/10

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Initial Certification Audit A-10-07 was conducted to evaluate the adequacy, implementation, and effectiveness of transuranic (TRU) waste characterization activities performed for the Hanford Site by the Washington TRU Solutions (WTS) Central Characterization Project (CCP) relative to the requirements detailed in 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 was performed at the Hanford Site April 6 through 8, 2010. The audit team concluded that overall, the Hanford/CCP technical and quality assurance (QA) programs, as applicable to the audited activities, were adequate and satisfactory in meeting requirements. The audit team concluded that overall, the defined QA and technical programs for Summary Category Group (SCG) S5000 debris waste were satisfactorily implemented in accordance with the *CCP Transuranic Waste Quality Assurance Characterization Project Plan (QAPjP)* and its implementing procedures, and the processes were effective.

The audit team also concluded that the Hanford/CCP QA program activities that demonstrate compliance with the HWFP Table B6-1 were satisfactorily implemented and effective.

The audit team identified three conditions adverse to quality (CAQs) resulting in the issuance of three corrective action report (CARs). One deficiency, isolated in nature and requiring only remedial corrective action, was identified and corrected during the audit (CDA).

One Observation was identified during the audit, and one Recommendation was offered for management consideration. The Observation and Recommendation are described in section 7.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the Hanford/CCP TRU waste characterization activities for SCG S5000 contact-handled (CH) debris waste. The following elements were evaluated.

Quality Assurance

- Personnel Qualification and Training
- QA Records
- Nonconformances

Technical

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

The evaluation of Hanford/CCP TRU waste activities and documents was based on current revisions 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-10-07 was conducted to assess the level of compliance of Hanford/CCP CH waste characterization activities for the certification of S5000 debris waste, as related to the requirements of the HWFP.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Martin Navarrete	CBFO Management Representative
Porf Martinez	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Cindi Castillo	Auditor, CTAC
Harold Washington	Auditor, CTAC
Prissy Martinez	Auditor, CTAC
Berry Pace	Auditor, CTAC
Jim Schuetz	Auditor, CTAC
Norm Frank	Auditor, CTAC

Paul Gomez
Rhett Bradford
William (BJ) Verret
Wayne Ledford
Dick Blauvelt
Jim Oliver

Technical Specialist, CTAC
Technical Specialist, CTAC

OBSERVERS

Steve Holmes
Ricardo Maestas
Connie Walker
Court Fesmire
Kathy Leonard
Steve Kopp

New Mexico Environment Department (NMED)
NMED
NMED Contractor
CBFO Office of the National TRU Program (NTP)
CBFO NTP
CTAC

4.0 AUDIT PARTICIPANTS

The individuals at the Hanford Site who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held in the lunch room in Trailer 272WA at the Hanford Site, near Richland, Washington, on April 6, 2010. Daily meetings were held with Hanford/CCP management and staff to discuss the previous day's issues and potential deficiencies. The audit was concluded with a post-audit meeting held in the lunch room in Trailer 272WA at the Hanford Site, near Richland, Washington, on April 8, 2010.

Attachment 2 is a list of personnel contacted during the audit by area. Attachment 3 consists of the CBFO CAR closure packages for CARs 10-019, 10-020, and 10-021, and the documentation for CDA 1. Attachment 4 consists of the objective evidence reviewed during the audit. Attachment 5 lists the Hanford/CCP documents audited. Attachment 6 lists the processes and equipment evaluated during the audit. Audit activities, including objective evidence reviewed, are described in section 5.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the ability of Hanford/CCP to characterize SCG S5000 CH debris waste to the requirements specified in the WIPP HWFP. The related characterization methods assessed were AK, HSG sampling, RTR, and VE. Other areas evaluated were project-level data V&V, data quality objective (DQO) reconciliation, the preparation of Waste Stream Profile Forms (WSPFs), and WWIS data entry. QA elements evaluated included Personnel Qualification and Training, Records, and Nonconformances.

The audit team concluded that the Hanford/CCP TRU waste characterization activities evaluated, as described in the associated Hanford/CCP implementing procedures, are satisfactory in meeting the requirements of the HWFP. Audit activities are described below.

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 the results of the assessment are provided.

5.2.1 Table B6-1, WAP Checklist

The audit was performed to assess the ability of the Hanford/CCP to manage and perform TRU waste characterization and certification activities for S5000 CH debris waste. The B6-1 WAP checklist addresses general program requirements from an overall management perspective. The general requirements 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 will ensure the waste characterization strategy as defined in the WAP is accomplished and documented in accordance with controlled processes and procedures.

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

- **Personnel Qualification and Training:** The audit team conducted interviews with responsible personnel and reviewed implementing Procedure CCP-QP-002, Rev. 27, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records for VE, RTR, HSG Sampling, AK, and Site Project Management personnel were examined to verify that personnel performing characterization activities were appropriately trained and qualified. Reviews included qualification cards and addenda, required reading documentation, and capability demonstrations.

One condition adverse to quality was identified and corrected during the audit. An HSG sampling Independent Technical Reviewer (ITR) performed work on a HSG sampling batch data report (BDR) prior to the date the CCP Program Manager had signed the ITR's qualification card. Interviews with the CCP Program Manager and Training personnel indicated that the qualification card was missing. An investigation was conducted to verify that the HSG sampling ITR was qualified. The qualification card in question was regenerated and the CCP Program Manager annotated the card stating the HSG ITR was qualified on the dates indicated on the regenerated card. This was not an issue of

qualification, but rather an issue of documentation (see section 6.2, CDA 1). CDA 1 documentation is provided in Attachment 3.

The procedures reviewed and objective evidence evaluated during the audit indicated that personnel training and qualification activities were adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

- **QA Records:** The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to evaluate compliance with upper-tier requirements. The team reviewed Procedures CCP-PO-001, Rev. 17, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-PO-002, Rev. 22, *CCP Transuranic Waste Certification Plan*; CCP-QP-008, Rev. 15, *CCP Records Management*; and CCP-QP-028, Rev. 9, *CCP Records Filing, Inventory, Scheduling, and Dispositioning*. Control of QA records was verified through review of the Hanford CH Records Inventory and Disposition Schedule (RIDS) dated 1/27/10, and associated characterization process BDRs.

One condition adverse to quality was identified during the audit, resulting in the issuance of CAR 10-021 (see section 6.1). Procedure CCP-QP-028 Attachment 2 provides instructions for completing the CCP RIDS, including a detailed description of records storage location. The Hanford CH RIDS simply lists the location as "CCP Records." The exact location is not stated on each records series listed on the RIDS. The CBFO CAR 10-021 closure package is contained in Attachment 3.

The procedures reviewed and objective evidence evaluated during the audit provided evidence that the applicable requirements for QA records were adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

- **Nonconformances:** The audit team evaluated the adequacy, implementation, and effectiveness of the Hanford/CCP nonconformance reporting process to identify, document, and control deficient items. Procedures CCP-PO-001, Rev. 17, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, and CCP-QP-005, Rev. 18, *CCP TRU Nonconforming Item Reporting and Control*, were reviewed. The audit team interviewed the resident QA engineer and reviewed a random sample of nonconformance reports (NCRs) to confirm that deficiencies are appropriately documented and tracked through resolution as required.

The audit team identified no concerns in this area. The procedures reviewed and objective evidence evaluated provided evidence that the applicable requirements for nonconformances were adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

- **WWIS/Waste Data System (WDS):** The audit team evaluated the implementation of the WWIS/WDS data entry procedures for manual data entry into the new WWIS/WDS software application for Hanford/CCP waste container data. The audit team conducted interviews with responsible personnel and reviewed implementing Procedure CCP-TP-030, Rev. 27, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*.

The evaluation included review of five data packages entered into the WWIS/WDS test module for CH waste containers RL0062930, RL0063014, RL0063034, RL0063040, and RL0063021. The audit team reviewed results of data entry and WWIS/WDS data submittal using a demonstration version of the WDS Master Template.xls Rev. 2 spreadsheet for Hanford/CCP CH data entry. The demonstration version was populated with actual Hanford/CCP waste container data to demonstrate functionality specific to Hanford/CCP and to demonstrate WWIS/WDS data submittal and acceptance. Reports from the WWIS/WDS test module were reviewed and indicated that data from the spreadsheet were complete and properly formatted and submitted for all permit-required data fields. The production version of the CCP WWIS/WDS spreadsheet will be modified to include features in the demonstration version. The revised and tested version will be used to submit Hanford/CCP data to the WWIS/WDS characterization module for WSPF review and approval and subsequent submittal of certification data into the WWIS/WDS certification module.

CCP waste certification assistants (WCAs) manually enter record characterization data into spreadsheets and perform independent data verification. Waste certification officials (WCOs) validate the spreadsheets and submit data to the WWIS/WDS. All data validation is performed using comparison with paper copies of BDRs from QA records.

CCP WCAs and WCOs receive container information summaries (CIS) that list containers scheduled for WWIS/WDS data entry. A review is performed prior to issue of the CIS to verify that there are no unresolved CARs or NCRs that may inhibit data entry or certification. WCA personnel review BDR listings and perform data entry as characterization data become available from completed and approved BDR records packages.

The audit team determined that all CCP WCO and WCA personnel are cross trained for data entry and certification of data for all CCP host facility sites. Performance of data entry and waste certification is administratively controlled and assigned based on personnel training and qualifications. Access to the WWIS/WDS is controlled through user identification and passwords.

No concerns were identified during the audit. The procedures reviewed and objective evidence evaluated during the audit provided evidence that the applicable requirements for WWIS/WDS were adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

The technical activities evaluated, including both characterization and certification activities, consisted of data-generation and project-level V&V, AK, HSG sampling, RTR, VE, and preparation of WSPFs for SCG S5000 CH debris waste. Objective evidence was selected and reviewed to evaluate the implementation of the associated characterization activities. BDRs, sampling records, and training documentation for personnel were included in the evaluation. The audit included direct observation of actual waste characterization activities, such as AK, VE, and RTR. Each characterization process involves:

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

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. Specific procedures audited and the objective evidence reviewed is described in the following sections.

Objective evidence was reviewed to ensure project-level activities were adequately performed to support waste characterization. BDRs were evaluated based on project-level requirements for NDA, VE, RTR, and HSG sampling and analysis for SCG S5000 CH debris waste. The random selection requirements for HSG were evaluated along with the associated BDRs. In addition, procedures and objective evidence were reviewed to ensure that Hanford/CCP could adequately perform data reconciliation and properly prepare a WSPF.

Objective evidence was reviewed to determine the adequacy of the Site Project Manager (SPM) V&V procedures. 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.

Compliance with the characterization requirements of the WAP was evaluated through document review and observance of characterization activities. The audit team evaluated the project-level data V&V process by reviewing the following BDRs.

RTR BDRs

RLRTRA0001, RLRTRA0002, RLRTRA0006
RLRTRB0001, RLRTRB0003, RLRTRB0004

VE BDRs

RLVEPF0001, RLVEPF0008, RLVEPF0013

HSG Sampling and Analysis BDRs
RLHSGS100001, ECL10002G, ECL10002M

These BDRs were reviewed to evaluate confirmation of AK, DQO reconciliation, and preparation of WSPFs.

Hanford/CCP has not yet prepared quarterly reports for the repeat of data generation-level review, V&V for RTR, HSG sampling and analysis, and VE. The quarterly reports are due in June 2010, and will be evaluated during the next certification audit.

A review was performed of the CH WSPF/CIS for S5000 MPFPDD Lot 1. The random selection of containers for this waste stream was determined to be properly completed.

Hanford/CCP performs HSG sampling using SUMMA[®] canisters. HSG sampling BDR RLHSGS100002 was examined. Drum age criteria (DAC), sample chain-of-custody (COC), and shipment to the analytical laboratory were reviewed and determined to be compliant with WAP requirements. HSG analyses of SUMMA[®] canisters were also examined. Training and qualification for V&V personnel was verified. The analysis and reporting of the Field Reference Standard was found to have been accurately completed.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for project-level V&V were adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

5.2.2 Table B6-2, Solids and Soil/Gravel Sampling Checklist

This audit was performed to assess the ability of Hanford/CCP to characterize the SCG S5000 CH debris waste stream.

Hanford/CCP was not characterizing S4000 soils/gravel or S3000 homogeneous solids waste streams at the time of the audit.

5.2.3 Table B6-3, Acceptable Knowledge

In conjunction with the certification audit for the Hanford/CCP, the audit team examined AK Summary Report CCP-AK-RL-101, Rev. 2 for S5000 TRU mixed waste debris stream MPFPDD from the Hanford Plutonium Finishing Plant (PFP). Because this initial certification audit is based on the requirements of the WIPP HWFP and the WAP, as well as the requirements of the CH TRU WAC, the audit team reviewed documentation to support both sets of requirements, the WAP B6-3 and B6-1 checklists, and objective evidence to demonstrate compliance.

The objective evidence reviewed included the AK Summary Report referenced above, numerous AK source documents, a WAP-compliant draft WSPF and attachments, and BDRs for HSG sampling and analysis, VE, and RTR. A random container selection

memo for HSG lot 1 was reviewed, along with the corresponding HSG Summary Report.

The audit team also reviewed the AK Documentation Checklist, Attachment 1; the AK Source Document Reference List, Attachment 4; the AK Hazardous Constituents List, Attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Packaging Form, Attachment 6; the justification for waste material parameter weight estimate, Attachment 7; the Radionuclides List with a copy of the AK/NDA memo, and the AK Container List, Attachment 8. Documentation of the resolution of AK discrepancies was reviewed in DR10, NCRs dealing with prohibited items were reviewed, and the most recent internal AK surveillance was examined along with screenshots from the Project Tracking System (PTS) and Solid Waste Information Tracking System (SWITS) and a copy of the AK Tracking Spreadsheet. Requisite training records were reviewed for AK experts (AKEs) and SPMs. The WAP-required container traceability exercise was conducted for four waste containers, two from the HSG lot, one box that had a VE BDR and another randomly selected drum. A draft AK Characterization checklist and data reconciling characterization testing for lot 1 were also reviewed.

Two concerns were documented by the audit team. The first concern consisted of a list of recommended changes to the AK Summary Report CCP-AK-RL-101, Rev. 2, having to do with clarification of text and non-data quality affecting changes to the chemical table (see section 7.2, Recommendation 1). The second concern related to several errors in the draft WSPF and attachments, including the omission of F007 from the hazardous waste number list. In addition, future projections for waste generation were not included. These errors must be corrected before the WSPF is submitted for review and approval (see section 7.1, Observation 1).

Overall, the Acceptable Knowledge Process was determined to be adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

5.2.4 Table B6-4, Headspace Gas

The audit team conducted interviews with responsible personnel and reviewed implementing Procedures CCP-TP-093, Rev. 13, *CCP Sampling of TRU Waste Containers*, CCP-TP-106, Rev. 6, *CCP Headspace Gas Sampling Batch Data Report Preparation*, and CCP-TP-162, Rev. 0, *CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis*, relative to HSG sampling activities, to determine their adequacy in addressing upper-tier requirements. The audit team assessed the ability of Hanford/CCP to characterize SCG S5000 CH debris waste using HSG sampling. Hanford/CCP HSG sampling is performed using SUMMA[®] canisters. HSG sample analyses are performed by the Idaho National Laboratory (INL) Environmental Chemistry Laboratory (ECL) and are evaluated under a separate audit.

The random selection of drums to be sampled was verified. A walkthrough and examination of the sampling area was conducted on April 7, 2010. Interviews with sampling personnel included an explanation of the sampling process and packaging of samples for shipment to the off-site laboratory for analysis. The audit team observed the inspection of SUMMA[®] canisters and needle assemblies (provided by the INL ECL), calculation of drum age criteria, and temperature equilibration activities performed by Hanford/CCP.

HSG sample collection was not being performed at the time of the audit. BDR RLHSGS100001 was examined, as well as documentation for the collection of field reference standards.

No concerns were identified during the audit. Overall, HSG sampling activities and procedures were determined to be adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

5.2.5 Table B6-5, Radiography Checklist

The audit team evaluated RTR-related CCP Procedures CCP-QP-002, Rev. 27, *CCP Training and Qualification Plan*; CCP-TP-028, Rev. 3, *CCP Radiographic Test and Training Drum Requirements*; and CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*.

The audit team evaluated RTR BDRs RLRTRA0001, RLRTRA0003, RLRTRA0005, RLRTRB0001, RLRTRB0002, and RLRTRB0003. These BDRs contained waste identified in waste stream MPFPDD.

The audit team evaluated RTR operator training and qualification documentation, including evidence of performing capability demonstrations for three RTR operators. As a result, the audit team determined that RTR operators were appropriately trained and qualified as required.

The audit team observed RTR operations in the Waste Receiving and Processing (WRAP) facility (Building 2336W) on April 7, 2010. RTR Units A and B are both used for characterizing CH S5000 debris waste. The audit team observed radiography of container RL0055295. The radiography activities associated with the container were determined to be satisfactory.

As a result of RTR BDR reviews, personnel interviews, and observation of RTR activities, the audit team identified one concern (see section 6.1, CAR 10-020). In BDR RLRTRB0001 for container RL0062992, the radiography data sheet for both the RTR examination and the replicate scan, RTR operators identified "No Liner" in section 2, "Waste Container Data," indicating no liner was present. However, in section 3, "Container Inventory," a "Rigid Liner" is noted as part of the waste. The audit team expanded the review to include 100 percent of the BDRs generated through SPM

review to date to determine if the condition existed elsewhere. No similar conditions were noted. The CBFO CAR 10-020 closure package is contained in Attachment 3.

Overall, RTR activities were determined to be adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

5.2.6 Table B6-6, Visual Examination

The audit team evaluated the adequacy, implementation, and effectiveness of Hanford/CCP VE processes for characterizing SCG S5000 CH debris waste.

Procedures CCP-TP-113, Rev 13, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-QP-002, Rev. 27, *CCP Training and Qualification Plan*, were reviewed and determined to be adequate in addressing upper-tier requirements.

Hanford/CCP uses the two-operator method when performing VE characterization. VE is performed by two qualified operators who visually examine the waste and place it into standard waste boxes and 55-gallon drums.

The audit team examined training records for six VE operators and concluded the required training was adequate and qualifications were current. The audit team also confirmed the appointment of two Hanford/CCP VE Experts (VEEs) as required.

The audit team examined CH VE BDRs RLVEPF0001, RLVEPF0002, RLVEPF0004, RLVEPF0008, and RLVEPF0010 to verify implementation and compliance with the requirements for documenting VE activities, as stipulated in CCP-TP-113.

The audit team was unable to observe VE operations in the PFP at the Hanford Site due to facility beryllium contamination concerns. The audit team did gain access to the area where the containers are weighed after the VE process is complete. The weight scale calibration was verified to be within calibration requirements. The audit team interviewed VE operators and VEEs performing CH VE operations, and examined VE operational logbooks.

The audit team identified one concern. The CCP VE operators record their field observations on note paper while observing waste packaging inside the PFP. These are surveyed out of the PFP and the data are transferred to the VE Operating Log Book, and in turn to VE data sheets for the output container in the VE office trailer (MO2102). The original field record is destroyed after the data are entered in the VE Operating Log Book or VE data sheets. Therefore, the ITR does not have an opportunity to verify the data have been properly transferred and reduced from the field records (see section 6.1, CBFO CAR 10-019). The CBFO CAR 10-019 closure package is contained in Attachment 3. CBFO performed surveillance S-10-35 on July 13, 2010 and verified corrective actions were effective in addressing the condition adverse to quality.

Based on the results of the surveillance, VE activities were determined to be adequate, satisfactorily implemented, and effective in achieving compliance with upper-tier requirements.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs) and document such conditions on CARs.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

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

Three CARs were issued during this audit.

CBFO CAR 10-019

The Hanford/CCP VE operators record their field observations on note paper while observing waste packaging inside the PFP. The note paper is surveyed out of the PFP and the data are transferred to the VE Operating Log Book, and then to VE data sheets for the output container in the VE office trailer (MO2102). The original field record is destroyed after the data are entered in the VE Operating Log Book or VE data sheets. Therefore, the ITR does not have an opportunity to verify the data have been properly transferred and reduced from the field records.

Procedure CCP-PO-001, 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 10-020

In BDR RLRTTB0001 for container RL0062992, on the radiography data sheet for both the RTR examination and the replicate scan, RTR operators identified “No Liner” in section 2, “Waste Container Data,” indicating no liner was present. However, in section 3, “Container Inventory,” a “Rigid Liner” is noted as part of the waste. The audit team

expanded the review to include 100 percent of the BDRs generated through SPM review to date to determine if the condition existed elsewhere. No similar conditions were noted. This concern was determined to be isolated to one container.

Procedure CCP-TP-053, Rev. 7, Section 4.4.3[D.6](a) , states the RTR operator...
“Describe both the rigid liner **AND** liner venting method (e.g. “90 mil liner with punctured lid”, **OR** “No Liner”).”

CBFO CAR 10-021

Procedure CCP-QP-028 Attachment 2 provides instructions for completing the CCP RIDS. These instructions include a detailed description as to where records are stored. The Hanford CH RIDS simply lists the location as “CCP Records.” The exact location is not stated on each records series listed on the RIDS.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant using the following definitions:

CAQ – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

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

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. 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 according to the definition below.

CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. 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), and one or two individuals that have not completed a reading assignment.

One CDA was identified and corrected during the audit.

CDA-1

An HSG Sampling ITR performed work on a HSG sampling BDR prior to the date the CCP Program Manager had signed his qualification card. Interviews with the CCP Program Manager and Training personnel indicated that the record was lost. An investigation was conducted to verify that the HSG Sampling ITR was properly qualified. The qualification card in question was regenerated and the CCP Program Manager annotated the regenerated card stating the HSG ITR was qualified on the dates indicated on the card. This was not an issue of qualification, but rather an issue of documentation.

7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

During the audit, the audit team may identify potential problems or suggestions for improvement that should be communicated to the audited organization. The audit team member, in conjunction with the ATL, evaluates these conditions and classifies them as Observations or Recommendations using the following definitions.

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

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.

7.1 Observations

One Observation was identified during the audit.

Observation 1

The audit team identified several errors in the draft WSPF and attachments for waste stream MPFPDD, including the omission of F007 from the hazardous waste number list. In addition, future projections for waste generation were not included. These errors must be corrected before the WSPF is submitted for review and approval.

7.2 Recommendations

One Recommendation was provided to Hanford/CCP management as a result of the audit.

Recommendation 1

The audit team identified several changes needed in AK Summary Report CCP-AK-RL-101 for clarification. A freeze file of these changes was prepared by the AKE. The audit team recommends that the freeze file of the changes be incorporated into the next revision of the AK Summary.

8.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Personnel Contacted During the Audit by Area
- Attachment 3: CBFO CAR/CDA Closure Packages
- Attachment 4: Objective Evidence
- Attachment 5: Table of Audited Documents
- Attachment 6: List of Processes and Equipment Reviewed

PERSONNEL CONTACTED DURING THE AUDIT

PERSONNEL CONTACTED DURING AUDIT A-10-07				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
John Bevs	WTS/RCT Software Configuration Engineer		X	X
Michele Billett	CCP/Stoller Training Coordinator	X	X	X
David Brown	CH2M Hill NCO		X	
Jason Buck	CCP/Stoller Records Coordinator	X	X	
Mark Doherty	CCP/Tech Spec AK Expert	X	X	
Janet Decker	CH PRC TRU Disposal	X		X
David De Rosa	CH PRC TRU Disposal	X		X
Courtland Fesmire	CBFO NTP Observer	X		X
Chris Foster	CH PRC TRU Disposal	X		X
Ed Galbransen	CCP/WTS NDA Analyst	X	X	X
Yolanda Gales	CCP/WTS VE Operator		X	
Dennis Gray	CH2M Hill NCO		X	
Terri-Ann Groover	CCP/WTS VPM	X	X	X
Joe P. Harvill	CCP/WTS NDA Support		X	X
Janie Hensley	CH2M Hill NCO		X	
Alfred Hinojos	LANS TCO		X	
R. Scott Hobbs	CCP/WTS QA Engineer	X	X	X
Steve Holmes	NMED Observer	X	X	
Lisa Hudston	CCP/WTS NDA Support		X	
Steve Kopp	CTAC Senior Manager			X
Kathy Leonard	CBFO NTP Observer	X	X	X
Ricardo Maestas	NMED Observer	X	X	
Carrisa Marquez	CCP/WTS VE Operator		X	
Mike Maul	CH2M Hill NCO		X	

PERSONNEL CONTACTED DURING AUDIT A-10-07				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Edward McCarthy	CH2M Hill Director TRU Project	X		X
Charles McCants	CCP/WTS VE Operator		X	
Natasha McCants	CCP/WTS SPM	X	X	X
Sheri Nance	CCP/Tech Spec AK Expert	X	X	X
Eric Pannala	MCS General Manager	X		
Sheila Pearcy	CCP/WTS Records Manager	X	X	X
Jeff Poole	CCP/WTS VE Expert	X	X	X
Larry Porter	CCP Program Manager	X	X	X
Gary Pyles	DOE/RL General Engineer			X
Mike Ramirez	CCP/WTS WCO		X	X
Charlie Riggs	NRE-RL Project Manager	X		X
Steve Schaffer	CCP/WTS AK Expert	X	X	
Kenneth Simpson	MCS RTR Operator	X	X	
C. A. Stepzinski	CCP/WTS Program Manager	X	X	X
Bret Templeton	CCP/WTS NDA Lead		X	
Jeremy Vesely	CCP/WTS RTR Operator		X	
Joseph Wachter	Canberra Expert Analyst	X	X	
Louis R. Wade	CCP/WTS QA Engineer	X	X	
Veronica Waldram	CCP/WTS SPM		X	X
Connie Walker	NMED Observer	X	X	
Eddy R. Walters	CCP/WTS HSG Sampler	X	X	X
George Westsik	CCP/WTS NDA Support	X	X	
William Williams	CH2M Hill NCO		X	
Deborah Zentner	CCP/WTS VE Expert		X	X

Personnel Contacted During the Audit by Area

Nonconformances	R. Scott Hobbs Louis Wade
Training	Michele Billett Larry Porter
Records	Sheila Pearcy Jason Buck
Acceptable Knowledge	Mark Doherty Sheri Nance Steve Schaffer
Headspace Gas Sampling	Terri-Ann Groover Natasha McCants Eddy Walters
Real-Time Radiography	Kenneth Simpson Jeremy Vesely
Visual Examination	Yolanda Gales Charles McCants Carrisa Marquez Jefte Poole Deborah Zentner
Nondestructive Assay	John Bevs David Brown Ed Galbransen Dennis Gray Joe Harvill Janie Hensley Lisa Hudson Mike Maul Brett Templeton Joe Wachter George Westsik William Williams
WIPP Waste Information System (WWIS Data Entry)	Mike Ramirez
Waste Certification/Project Level Validation & Verification	Natasha McCants Larry Porter Veronica Waldram
Transportation	Alfred Hinojos
Software QA	John Bevs
M&TE / Identification and Control of Items	Terri-Ann Groover Charles A. Stepzinski

CBFO CAR/CDA Closure Packages

The CBFO CAR closure packages and CDA documentation supporting Audit A-10-07 are included in the box(s) submitted with this report.

Objective Evidence

The objective evidence supporting Audit A-10-07 is included in the box(s) submitted with this report. Included in the box(s) is a "Content Map" describing the location (using color coding) and identity of all required objective evidence supporting the performance of the audit.

Table of Audited Documents

No.	Procedure Number	Rev	DOCUMENT TITLE
1.	CCP-PO-001	17	CCP Transuranic Waste Characterization-Quality Assurance Project Plan
2.	CCP-PO-002	22	CCP Transuranic Waste Certification Plan
3.	CCP-PO-011	1	CCP/CH2M HILL Plateau Remediation Company Interface Document
4.	CCP-QP-002	27	CCP Training and Qualification Plan
5.	CCP-QP-005	18	CCP TRU Nonconforming Item Reporting and Control
6.	CCP-QP-008	15	CCP Records Management
7.	CCP-QP-011	9	CCP Notebooks and Logbooks
8.	CCP-QP-016	14	CCP Control of Measuring, Testing, and Data Collection Equipment
9.	CCP-QP-017	3	CCP Identification and Control of Items
10.	CCP-QP-021	6	CCP Surveillance Program
11.	CCP-QP-022	11	CCP Software Quality Assurance Plan
12.	CCP-QP-023	3	CCP Handling, Storage, and Shipping
13.	CCP-QP-028	9	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
14.	CCP-TP-001	17	CCP Project Level Data Validation and Verification
15.	CCP-TP-002	21	CCP Reconciliation of DQOs and Reporting Characterization Data
16.	CCP-TP-003	17	CCP Data Analysis for S3000, S4000, and S5000 Characterization
17.	CCP-TP-005	18	CCP Acceptable Knowledge Documentation
18.	CCP-TP-028	3	CCP Radiographic Test and Training Drum Requirements
19.	CCP-TP-030	27	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
20.	CCP-TP-033	16	CCP Shipping of CH TRU Waste
21.	CCP-TP-053	7	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
22.	CCP-TP-068	6	CCP Standardized Container Management
23.	CCP-TP-070	0	CCP Gamma Energy Assay (GEA) Calibration, Confirmation, and Verification Procedure
24.	CCP-TP-071	0	CCP Gamma Energy Assay (GEA) Operating Procedure
25.	CCP-TP-072	0	CCP Gamma Energy Assay (GEA) Data Review, Validation, and Reporting Procedure
26.	CCP-TP-082	7	CCP Preparing and Handling Waste containers for Headspace Gas Sampling
27.	CCP-TP-093	13	CCP Sampling of TRU Waste Containers
28.	CCP-TP-106	6	CCP Headspace Gas Sampling Batch Data Report Preparation
29.	CCP-TP-113	13	CCP Standard Contact-Handled Waste Visual Examination
30.	CCP-TP-162	0	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
31.	CCP-TP-180	1	CCP Analytical Sample Management
32.	13-QA.03	17	Quality Assurance Independent Assessment Program

List of Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
NEW PROCESSES OR EQUIPMENT				
Contact-handled (CH) S5000 debris waste				
N/A	Acceptable Knowledge Procedure – CCP-TP-002 and CCP-TP-005	Debris (S5000)	NO	NO
RTRA	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000)	NO	NO
RTRB	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000)	NO	NO
N/A	Headspace Gas Sampling Procedure – CCP-TP-082 and CCP-TP-093	Debris (S5000)	NO	NO
N/A	Data Generation and Project Level Validation & Verification (V&V) Procedure – CCP-TP-001	Debris (S5000)	NO	NO
N/A	WIPP Waste Information System (WWIS)/Waste Data System (WDS) Procedure – CCP-TP-030 and CCP-TP-033	Debris (S5000)	NO	NO
GEAA	Hanford Gamma Energy Assay System Unit A – 55-gallon drums Procedure – CCP-TP-071	Debris (S5000)	N/A	NO
GEAB	Hanford Gamma Energy Assay System Unit B – 55-gallon drums Procedure – CCP-TP-071	Debris (S5000)	N/A	NO
RLVE	Visual Examination Process – SWB and 55-gallon drums Procedure – CCP-TP-113	Debris (S5000)	NO	NO
N/A	Quality Assurance	N/A	N/A	YES