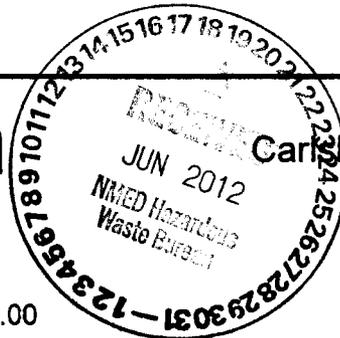




United States Government

Department of Energy

# memorandum

 Carlsbad Field Office  
 Carlsbad, New Mexico 88221


DATE: JUN 19 2012

REPLY TO  
ATTN OF: CBFO:OQA:CF:CC:12-1425:UFC 2300.00

SUBJECT: Transmittal of Interim Audit Report A-12-11, Hanford/CCP Waste Characterization Activities in Accordance with the HWFP

TO: Oliver A. Farabee, Department of Energy-Richland

The Carlsbad Field Office (CBFO) conducted the subject audit May 15-16, 2012. The interim audit report is attached. The audit team concluded that the Hanford Site Central Characterization Project (Hanford/CCP) technical and quality assurance programs for data generated during waste characterization activities performed from the previous audit (CBFO Audit A-11-10, April 5-7, 2011) until the suspension of characterization activities in September 2011, were adequate to fulfill requirements in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the CBFO *Quality Assurance Program Document*, and the WIPP Waste Acceptance Criteria. The audit team determined that the applicable Hanford/CCP procedures were satisfactorily implemented and the evaluated processes were effective for data generated during the referenced time frame.

Since the Hanford/CCP suspended characterization activities at the Hanford Site, the audit team was unable to evaluate Headspace Gas (HSG) sampling, Real-Time Radiography (RTR), Visual Examination (VE), and Nondestructive Assay (NDA) characterization activities in the field, or verify personnel and equipment were available to continue characterization activities. For this reason, the audit team was unable to determine the implementation and effectiveness of characterization procedures for HSG sampling, RTR, VE, and NDA; therefore, these processes were deemed indeterminate.

The audit team verified that acceptable knowledge activities (including data quality objective reconciliation and preparation of Waste Stream Profile Forms), project-level data validation and verification, WIPP Waste Information System/Waste Data System data entry, and quality assurance activities (nonconformance reporting, records management, and training qualifications), as related to the HWFP Waste Analysis Plan, continue to be adequate, satisfactorily implemented, and effective.

No CBFO Corrective Action Reports were issued as a result of the audit. Four Observations were identified during the audit and one Recommendation was offered to Hanford/CCP management for consideration.

If you have any questions, please contact Courtland Fesmire at (575) 234-7548.

Randy Unger  
 Director, Office of Quality Assurance

Attachment



Oliver A. Farabee

-2-

JUN 19 2012

cc: w/ attachment

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T. Morgan, CBFO	ED
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M. Sensibaugh, WTS/CCP	ED
V. Cannon, WTS/CCP	ED
A.J. Fisher, WTS/CCP	ED
I. Quintana, WTS/CCP	ED
M. Walker, WTS/CCP	ED
Y. Salmon, WTS/CCP	ED
J. Carter, WTS/CCP	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. Kieling, NMED	ED
T. Kliphuis, NMED	ED
S. Holmes, NMED	ED
R. Maestas, NMED	ED
T. Kesterson, NMED/DOE OB	ED
J. Marple, NMED/DOE OB	ED
D. Winters, DNFSB	ED
P. Gilbert, LANL-CO	ED
G. Lyshik, LANL-CO	ED
E. Bradford, CTAC	ED
G. White, CTAC	ED
M. Mager, CTAC	ED
WIPP Operating Record	ED
CBFO QA File	
CBFO M&RC	

\*ED denotes electronic distribution

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

**INTERIM AUDIT REPORT**

**OF THE**

**HANFORD SITE  
CENTRAL CHARACTERIZATION PROJECT (CCP)**

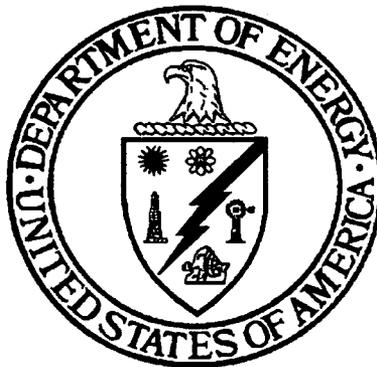
**FOR**

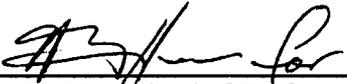
**WASTE CHARACTERIZATION ACTIVITIES IN ACCORDANCE WITH  
THE HAZARDOUS WASTE FACILITY PERMIT**

**CARLSBAD, NEW MEXICO**

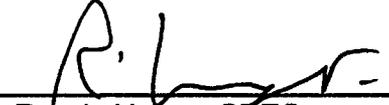
**AUDIT NUMBER A-12-11**

**MAY 15 – 16, 2012**



Prepared by:   
Earl Bradford, CTAC  
Audit Team Leader

Date: 6-5-12

Approved by:   
Randy Unger, CBFO  
Director, Office of Quality Assurance

Date: 18 Jun 12

## 1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-12-11 was performed to evaluate the continued adequacy, implementation, and effectiveness of Hanford Site transuranic (TRU) waste characterization activities performed by the Washington TRU Solutions (WTS) Central Characterization Project (CCP) for contact-handled (CH) Summary Category Group (SCG) S5000 debris waste and CH SCG S3000 solids waste. Activities were evaluated 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 *Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC). The audit was performed in the Skeen-Whitlock Building in Carlsbad, New Mexico, May 15 and 16, 2012.

Hanford/CCP suspended characterization activities at the end of September 2011 due to funding issues. No new containers were introduced into the characterization process after September 2011. Containers requiring the completion of data generation-level and project-level activities to finalize the characterization process continued for a short time thereafter.

The audit team evaluated headspace gas (HSG) sampling, solids sampling and analysis (SS/SA), real-time radiography (RTR), visual examination (VE), nondestructive assay (NDA), batch data reports (BDRs), acceptable knowledge (AK) documentation, training documentation, nonconformance reports, records, logbooks, and audio/video media generated from the date of the previous audit (CBFO Recertification Audit A-11-10, April 5 – 7, 2011) to the September 2011 referenced timeframe. The audit team concluded that, for the documentation reviewed, the overall adequacy of the Hanford/CCP technical and quality assurance (QA) programs was satisfactory in meeting upper-tier requirements as applicable to the audited activities. The audit team verified that for the documentation evaluated, the Hanford/CCP program for characterization and certification activities related to SCG S5000 CH debris waste and SCG S3000 CH solids waste was satisfactorily implemented and effective up to the end of September 2011.

Since Hanford/CCP suspended characterization activities at the Hanford Site, the audit team was unable to evaluate HSG sampling, RTR, VE, and NDA characterization activities in the field, or verify personnel and equipment were available to continue characterization activities. For this reason, the audit team was unable to determine the implementation and effectiveness of characterization procedures for HSG sampling, RTR, VE, and NDA; therefore, these processes were deemed indeterminate.

The audit team verified that AK activities (including data quality objective (DQO) reconciliation and preparation of Waste Stream Profile Forms), project-level data validation and verification (V&V), WIPP Waste Information System/Waste Data System (WWIS/WDS) data entry, and QA activities (nonconformance reporting, records management, and training qualifications) as related to the HWFP Waste Analysis Plan (WAP), continue to be adequate, satisfactorily implemented, and effective.

No conditions adverse to quality (CAQs) were identified during this audit. The audit team identified four Observations during the audit and one Recommendation was offered for management consideration. The Observations and the Recommendation are described in section 6.3.

## 2.0 SCOPE AND PURPOSE

### 2.1 Scope

The audit team evaluated documentation to verify continued adequacy, implementation, and effectiveness of the Hanford/CCP TRU waste characterization activities for SCG S5000 CH debris waste and SCG S3000 CH solids waste generated from the date of the previous audit to the September 2011 timeframe. The following elements were evaluated.

#### General

- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel

#### Quality Assurance

- Personnel Qualification and Training
- Nonconformances
- Records

#### Technical

- Acceptable Knowledge (AK) (including waste certification, e.g., Waste Stream Profile Forms)
- Project-level Data Validation and Verification (V&V)
- Headspace Gas (HSG) Sampling
- Solids Sampling and Analysis (SS/SA)
- Real-time Radiography (RTR)
- Visual Examination (VE)
- Nondestructive Assay (NDA)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)

The evaluation of the adequacy of Hanford/CCP documents was based on current revisions of the following documents:

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- Quality Assurance Program Document (QAPD)*, DOE/CBFO-94-1012
- Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*, DOE/WIPP-02-3122

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

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

*CCP Transuranic Waste Certification Plan, CCP-PO-002*

Related technical and QA implementing procedures

## **2.2 Purpose**

The Hanford/CCP annual Recertification Audit A-12-11 was conducted to assess the degree of compliance to the requirements of the HWFP, WAC, and the QAPD from waste characterization and certification activities for SCG S5000 CH debris waste and SCG S3000 CH solids waste.

## **3.0 AUDIT TEAM AND OBSERVERS**

Courtland G. Fesmire	Management Representative, CBFO Quality Assurance
Earl Bradford	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Charlie Riggs	Auditor, CTAC
Jack Walsh	Auditor, CTAC
Rick Castillo	Auditor, CTAC
Katie Martin	Auditor, CTAC
Tammy Bowden	Auditor, CTAC
Greg Knox	Auditor, CTAC
Sheila Hailey	Auditor-in-training, CTAC
Paul Gomez	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Porf Martinez	Technical Specialist, CTAC
James Oliver	Technical Specialist, CTAC
Mavis Lin	Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC

### **OBSERVERS**

Mike Eagle	U.S. Environmental Protection Agency (EPA)
Steve Holmes	New Mexico Environment Department (NMED)
Connie Walker	NMED Contractor
Norma Castaneda	Office of the National TRU Program (NTP)

#### **4.0 AUDIT PARTICIPANTS**

The individuals who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held in room T-224 at the Skeen-Whitlock Building in Carlsbad, New Mexico, on May 15, 2012. A meeting was held the morning of May 16, 2012, with Hanford/CCP management and staff to discuss issues, audit progress, and potential deficiencies. The audit was concluded with a post-audit meeting held in room T-224 at the Skeen-Whitlock Building in Carlsbad, New Mexico, on May 16, 2012.

Attachment 2 contains a summary table of audit results. Attachment 3 contains a list of Hanford/CCP documents audited. Attachment 4 lists the processes and equipment evaluated during the audit. Audit activities, including objective evidence reviewed, are described below.

#### **5.0 SUMMARY OF AUDIT RESULTS**

##### **5.1 Program Adequacy, Implementation, and Effectiveness**

This audit was performed to assess the ability of the Hanford/CCP to characterize CH SCG S5000 debris waste and SCG S3000 CH solids waste to the requirements specified in the WIPP HWFP WAP, WIPP WAC, and the QAPD. The characterization methods assessed were AK, HSG Sampling, SS/SA, VE, RTR, and NDA. Other areas evaluated were generation and project-level data V&V, WWIS/WDS data entry, data quality objective (DQO) reconciliation, and the preparation of Waste Stream Profile Forms (WSPFs).

The audit team concluded that, for the documentation reviewed, the applicable Hanford/CCP TRU waste characterization activities for CH SCG S5000 debris waste and CH SCG S3000 solids waste, as described in the implementing procedures, were adequate, satisfactorily implemented, and effective. The audit team was unable to evaluate HSG, SS/SA, RTR, VE, and NDA characterization activities in the field, or verify personnel and equipment were available to continue characterization activities. For this reason, the audit team was unable to evaluate the implementation and effectiveness of characterization procedures and processes for HSG, SS/SA, RTR, VE, and NDA; therefore, these processes were deemed indeterminate.

##### **5.2 General**

###### **5.2.1 Results of Previous Audits**

The results of CBFO Recertification Audit A-11-10 of the Hanford/CCP were examined. The CAQs that were issued as a result of that audit had been corrected and closed and the audit team considered these conditions during performance of this audit.

## **5.2.2 Changes in Programs or Operations**

The Hanford/CCP suspended characterization activities at the end of September 2011 due to funding issues. Only those containers already in the characterization process that could be completed and certified for shipment to WIPP were processed during that timeframe. Containers requiring project-level data V&V continued for a short time thereafter until completion. No new containers were brought into the characterization process after September 2011.

The Hanford/CCP has identified 221 containers that have been fully characterized and entered into the WDS since the previous audit. These containers are considered ready for shipment, but still reside at the Hanford Site. The containers are SCG S5000 debris waste and are 55-gallon drums and standard waste boxes (SWBs); the container numbers are listed in Attachment 5. There are a number of physically characterized containers at Hanford not entered into the WDS and not considered to be shippable containers.

During the audit, no characterization activities were being performed at the Hanford Site. The audit team was unable to evaluate HSG, SS/SA, RTR, VE, or NDA field operations including procedure implementation, personnel/operator availability, and active personnel/operator training qualifications.

## **5.2.3 New Programs or Activities Being Implemented**

No new programs or activities have been implemented by the Hanford/CCP since the previous audit (CBFO Recertification Audit A-11-10).

## **5.2.4 Changes in Key Personnel**

No changes in key personnel have been made by the Hanford/CCP since the previous audit (CBFO recertification Audit A-11-10).

## **5.3 Quality Assurance Activities**

The audit team evaluated the QA elements for personnel qualification and training, QA records, and control of nonconformances to requirements applicable to the HWFP WAP. The evaluation results for each area audited are described below.

### **5.3.1 Personnel Qualification and Training**

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 31, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records associated with VE, RTR, NDA, HSG Sampling, AK, and site project management were examined to verify implementation of associated requirements and to verify that personnel performing characterization activities were appropriately qualified. Records reviews included qualification cards and

other pertinent qualification documentation such as attendance sheets/briefings on newly revised AK summaries for RTR and VE operators, VE expert appointment letters, test drum and training container documentation, and eye exams.

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

### **5.3.2 Nonconformances**

The audit team interviewed the resident QA engineer and then randomly selected a sampling of nonconformance reports (NCRs) to confirm that deficiencies are being appropriately documented and tracked through resolution, as required. The following NCRs were reviewed: NCR-RL-2283-11, NCR-RL-2476-11, NCR-RL-2739-11, NCR-RL-2742-11, NCR-RL-2950-11, NCR-RL-3075-11, and NCR-ECL-3289-11.

The audit team reviewed two NCRs (NCR-RL-2319-11 and NCR-RL-2333-11) that documented nonadministrative deficiencies first identified at the site project manager (SPM) level, and determined that the deficiencies had been reported to the Permittee within seven days, as required. There were no reportable CH NCRs since the previous recertification audit. All NCRs were verified as being managed and tracked in the CCP data center and on the CCP NCR logs.

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

### **5.3.3 Records**

The audit team conducted interviews and 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 audit team reviewed procedures CCP-PO-001, Rev. 20, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-008, Rev. 19, *CCP Records Management*; and CCP-QP-028, Rev. 14, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Control of QA records was verified through review of the CH Records Inventory and Disposition Schedule (RIDS) dated 8/15/2011.

One concern was identified regarding the potential loss of the electronic media, which was a quality record, concerning two AK source documents that could not be retrieved during the audit (see section 6.3, Observation 1). The audit team verified that the two source documents were located in the back-up server. Additionally, the audit team

reviewed a total of 30 BDRs from records storage and found no additional records-related issues.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA records are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.4 Technical Activities**

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

##### **5.4.1 Acceptable Knowledge**

The audit team reviewed documentation to support requirements in the WAP and the WAC, the WAP C6-3 and C6-1 checklists, and reviewed objective evidence demonstrating compliance.

The audit team reviewed the AK record for a CH SCG S5000 debris waste stream and a CH SCG S3000 solids waste stream. The specific waste streams examined included RLCCP308D1, a mixed debris waste stream generated from the decontamination and decommissioning (D&D) of Building 308, and waste stream RLCCPPUNIT, a solidified plutonium nitrate waste stream primarily from Bldg 325 and the Plutonium Finishing Plant (PFP). The AK Summaries reviewed were CCP-AK-RL-114 Rev. 1, and CCP-AK-RL-116 Rev. 1, respectively. The complete AK record associated with each waste stream was evaluated during the audit, as described below.

The objective evidence reviewed included the AK Summary Reports listed above, numerous AK source documents, an approved WSPF for RLCCP308D1, a draft WSPF for RLCCPPUNIT, and BDRs for HSG sampling and analysis, SS/SA, RTR, and NDA.

The audit team reviewed the random container selection memos for HSG Lots 1 and 2, along with the corresponding HSG Summary Report for Lot 1. In addition, the audit team reviewed the random container selection memo for solids sampling and analysis SS/SA, prepared by Hanford for waste stream RLCCPPUNIT. CCP incorporated the SS/SA results developed by Hanford after review by CCP staff.

The audit team also reviewed the documentation associated with each waste stream, including the following: AK Documentation Checklist, attachment 1; the AK Source Document Information List, attachment 4; the AK Hazardous Constituents List, attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Packaging, attachment 6; along with the justification for waste material parameter weight estimates; the Radionuclides list, attachment 7, with a copy of the AK/NDA memos; and the AK Container Lists, attachment 8, including "add container" memos for the RLCCP308D1 debris stream.

The audit team also reviewed documentation of the resolution of AK discrepancies, NCRs pertaining to prohibited items, and the most recent internal surveillance of the AK activities. The audit team reviewed screen-prints from the item description code (IDC) database, container input forms, and copies of the AK Tracking spreadsheets.

The audit team conducted the WAP-required container traceability exercise for a total of four waste containers, one from HSG Lot 1, one from the SS/SA Lot, and two other containers that had been completely through the characterization process. AK Characterization checklists were also reviewed.

The audit team identified two concerns while evaluating the AK processes. The first concern consisted of a list of recommended changes to the AK Summaries pertaining to clarifications to the text regarding, for example, a consistent and exact number of containers in the waste stream populations (see section 6.3, Recommendation 1). The second concern dealt with the need for additional characterization data for waste stream RLCCPPUNIT to complete the elements of the WSPF package before it was submitted for approval. For example, additional RTR data was needed to address questions on the Reconciliation of DQOs form (see section 6.3, Observation 2).

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the AK Program was adequate in addressing the requirements of the WAP and WAC as applicable, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.4.2 Project-level Data Validation and Verification**

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-001, Rev. 19, *CCP Project Level Data Validation and Verification*; CCP-TP-003, Rev. 18, *CCP Data Analysis for S3000, S4000, and S5000 Characterization*; and CCP-TP-162, Rev. 1, *CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis*, relative to project-level V&V activities, to determine the degree to which procedures adequately address upper-tier requirements.

The audit team reviewed objective evidence to ensure project-level V&V activities were adequately performed to support waste characterization activities.

The audit team also verified the random selections completed for Lots 1 and 2 of RLBWD.001, Lots 1 and 2 of RLM231ZD.001, and Lots 1 and 2 of RLCCP308D1. The audit team verified quarterly reports and results for the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2011 VE, NDE, and HSG sampling. The audit team verified that the field Reference Sample (FRS) results were satisfactorily reported in support of HSG BDRs that were examined. The memorandum for the disposition of HSG samples was also reviewed.

The project-level data V&V process was evaluated by reviewing the following BDRs:

Radiography

RLRTR01003  
RLRTRB0199  
RLRTRB0207  
RLRTRA0201  
RLRTRA0216  
RLRTR010026

Visual Examination

RLVEPF0035  
RLVEPF0036

Headspace Gas

RLHSG1101	ECL11009G	ECL11009M
RLHSG1105	ECL11020G	ECL11020M
RLHSG1110	ECL11029G	ECL11029M

Nondestructive Assay

RLGEAB0148  
RLGEAA0150  
RLNDAB11036  
RLNDAB11024  
RLGEAA0165

The audit team's review determined that project-level RTR, VE, NDA, and HSG sampling and analysis review of the BDRs was acceptable.

No concerns were identified related to project-level data V&V during the audit. The procedure and document reviews provided evidence that the applicable requirements for the project-level data V&V process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

### **5.4.3 Headspace Gas Sampling**

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-082, Rev. 8, *CCP Preparing and Handling Waste Containers*; CCP-TP-093, Rev. 16, *CCP Sampling of TRU Waste Containers*; and CCP-TP-106, Rev. 7, *CCP Headspace Gas Sampling Batch Data Report Preparation*, relative to HSG sampling activities, to determine the degree to which procedures adequately address upper-tier requirements.

The audit team reviewed HSG sampling documentation generated after the previous audit to the September 2011 timeframe to assess the ability of Hanford/CCP to collect

HSG samples for the purpose of characterizing CH waste from SCG S5000. Hanford/CCP operations for HSG sampling is performed using SUMMA® canisters. The audit team was unable to evaluate HSG sampling activities in the field during the audit due to the suspension of activities in September 2011.

HSG sample analyses are performed by the Idaho National Laboratory (INL) Environmental Chemistry Laboratory and are evaluated under a separate audit.

The audit team examined five HSG sampling BDRs (RLHSG1101, RLHSG1104, RLHSG1107, RLHSG1109, and RLHSG1110) that were generated during the referenced timeframe. The audit team reviewed the documentation supporting the random selections of HSG containers for sampling, collection of duplicate samples, the authorizing to cease collection of a FRS, Drum Age Criteria (DAC), and sample chain of custody (COC) and transfer to the analytical laboratory.

The audit team verified calibration of measuring and test equipment (M&TE) and proper training and qualification of sampling individuals.

One concern was identified during evaluation of the HSG processes. During the review of HSG sampling BDRs, the audit team identified a concern indicating some confusion regarding how NCRs are referenced in applicable BDRs.

NCR-ECL-3289-11 was initiated at the INL as a result of two sample monitoring thermometers that were found by laboratory personnel to be faulty upon receipt of the Hanford/CCP samples. The NCR originator (INL/CCP laboratory personnel) referenced BDR RLHSG1109 (a Hanford/CCP HSG sampling BDR) in block 3 of the NCR, as opposed to the INL/CCP laboratory BDRs ECL11028M and ECL11028G. Upon further review of BDR RLHSG1109 and associated checklists, the audit team determined there was no reference to the NCR. When the auditor questioned the SPM about the reference to the NCR, the SPM revised the BDR checklist to indicate Yes and added the reference to NCR-ECL-3289-11.

Further investigation revealed that in the INL/CCP laboratory BDRs associated with HSG sampling (BDRs ECL11028M and ECL11028G), the SPM accurately captured the NCR information. It was also confirmed by the auditors that NCR-ECL-3289-11 was appropriately captured in WDS (see section 6.3, Observation 3).

The procedures and documents reviewed provided evidence that the applicable requirements for Headspace Gas Sampling are adequately established for compliance with upper-tier requirements. Since the audit team was unable to evaluate HSG sampling activities in the field, the team concluded that the implementation and effectiveness of the sampling process was indeterminate.

#### **5.4.4 Solids Sampling and Analysis**

Solids sampling and analysis and associated generation-level data V&V are performed at INL under a separate certified program.

The audit team requested and received the SS/SA BDRs that were reviewed in the previous certification audit (A-11-10). The audit team verified that no new SS or SA activities have been performed since the previous audit.

The audit team had previously verified the Hanford/CCP processes for project-level data V&V.

No concerns were identified during the audit regarding solids sampling. Since the audit team was unable to evaluate HSG sampling activities in the field, the audit team concluded that the implementation and effectiveness of the solids sampling processes were indeterminate.

#### **5.4.5 Real-time Radiography**

The audit team evaluated the adequacy, implementation, and effectiveness of the Hanford/CCP ability to characterize and certify CH SCG S3000 solids waste and CH SCG S5000 debris waste using the RTR characterization process for documentation generated after the previous audit to the September 2011 timeframe.

The audit team evaluated the following RTR-related CCP procedures: CCP-TP-028, Rev. 6, *CCP Radiographic Test and Training Drum Requirements*; CCP-TP-053, Rev. 11, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*; CCP-TP-198, Rev. 2, *CCP HE-RTR Operating Procedure*; and CCP-TP-068, Rev. 8, *CCP Standardized Container Management*. The results of the review indicated that the procedures adequately address upper-tier requirements.

The audit team examined the following CH RTR BDRs generated from the referenced timeframe:

RLRTRA0187  
RLRTRA0207  
RLRTR010014  
RLRTR010045  
RLRTRB0162  
RLRTRB0207

The audit team evaluated evidence of RTR operator required capability demonstrations for three RTR operators. Records of RTR operator training and qualification, including audio/video media of capability demonstrations, were examined by the audit team. The reviews indicated that the RTR operators were appropriately qualified as required for those activities performed during the referenced time frame.

The audit was conducted in Carlsbad, NM, so the audit team could not witness the use of the three RTR units or review the operational logbooks associated with the units. Also, the audit team could not interview RTR operators or verify their use of current AK summaries and RTR operating procedures.

No concerns were identified during the audit related to RTR activities. The procedures and documents reviewed provided evidence that the applicable requirements for RTR are adequately established for compliance with upper-tier requirements. Since the audit team was unable to evaluate RTR activities in the field, the team concluded that the implementation and effectiveness of the referenced procedures were indeterminate.

#### 5.4.6 Visual Examination

The audit team evaluated the adequacy, implementation, and effectiveness of Hanford/CCP's ability to characterize and certify CH SCG S3000 solid waste and CH SCG S5000 debris waste using the VE characterization process for documentation generated from the previous audit to the September 2011 timeframe.

A review of Hanford/CCP procedures CCP-TP-113, Rev. 16, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-QP-002 Rev 32, *CCP Training and Qualification Plan*, was performed to determine their adequacy in addressing upper-tier requirements. The review indicated that the procedures adequately address requirements.

The audit team examined the following CH VE BDRs to verify implementation and compliance with the requirements for documenting VE activities, as stipulated in CCP-TP-113, for waste characterized during the referenced timeframe:

CH  
RLVEPF0035  
RLVEPF0036

No SCG S3000 CH solids BDRs were generated during the referenced timeframe.

The audit team examined training records and qualification cards for three VE operators based on the BDRs reviewed, and concluded that the required training was adequate and qualifications were current. The audit team also confirmed the appointment of one Hanford/CCP VE expert, as required.

The audit team identified one concern while evaluating the Hanford/CCP VE process. While reviewing the two VE BDRs (RLVEPF0035 and RLVEPF0036), the audit team noted the sequential numbering of the BDRs was reversed. The SPM recorded the condition on an internal NCR to accurately document the numbering sequence. The VE recorded in BDR RLVEPF0036 was actually performed prior to the VE recorded in BDR RLVEPF0035 (see section 6.3, Observation 4).

The procedures and documents reviewed provided evidence that the applicable requirements for VE are adequately established for compliance with upper-tier requirements. Since the audit team was unable to evaluate VE activities in the field, the audit team concluded that the implementation and effectiveness of the referenced procedures were indeterminate for the VE waste characterization process.

#### **5.4.7 Nondestructive Assay**

The audit team assessed the adequacy, implementation, and effectiveness of the NDA systems used by the Hanford/CCP to characterize waste from CH SCG S3000 (solids) and S5000 (debris) on the two Gamma Energy Assay (GEA) units (GEA-A and GEA-B) and a Super High Efficiency Neutron Counter (SHENCA) for documentation generated after the previous audit to the September 2011 timeframe.

A review of Hanford/CCP procedures CCP-TP-070, Rev. 0, *CCP Gamma Energy Assay (GEA) Calibration, Confirmation and Verification Procedure*; CCP-TP-071, Rev. 1, *CCP Gamma Energy Assay (GEA) Operating Procedure*; CCP-TP-072, Rev. 2, *CCP Gamma Energy Assay (GEA) Data Review, Validation and Reporting Procedure*; CCP-TP-137, Rev. 2, *CCP Operation of the Hanford SuperHENC Assay System*; CCP-TP-144, Rev. 0, *CCP Hanford SuperHENC Calibration Procedure*; CCP-TP-148, Rev. 7, *CCP SuperHENC Data Reviewing, Validating, and Reporting Procedure*; and CCP-TP-058, Rev. 4, *CCP NDA Performance Demonstration Program*, was performed to determine their adequacy in addressing upper-tier requirements. The review concluded that the procedures adequately address the requirements.

Based on a review of the current revisions of Hanford/CCP procedures, calibration reports, and other supporting and technical documents provided prior to and during the audit, checklists were prepared and used to evaluate each system for the following:

- System stability as evidenced by the implementation and effectiveness of daily and weekly measurement controls, calibration verifications and weekly interfering matrix checks
- Applicability of each system's calibration and operational range to the matrix, geometry and radionuclide content of samples assayed
- Determination of the number of containers assayed, completed NDA BDRs, and BDRs that had been through project-level review
- Participation in the most recent CBFO-sponsored NDA Performance Demonstration Cycle (PDP) Cycle
- Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Personnel qualification and training

The audit team interviewed Hanford/CCP NDA personnel in Carlsbad, NM, and examined electronic and hard copies of records. The audit team was unable to evaluate the NDA equipment in the field.

Since Audit A-11-10, unit GEA-A has assayed 341 containers resulting in 38 BDRs, and unit GEA-B has assayed 277 containers resulting in 30 BDRs.

Since the last audit (A-11-10), the SHENCA has assayed 182 SWBs resulting in 38 BDRs. The audit team selected two BDRs (RLNDAB11011 and RLNDAB11022) at random for review. Hanford/CCP performed calibration verifications on the SHENCA. These activities are documented in CCP-SHENCA-11-001, Rev. 0, CCP-SHENCA-11-003, Rev. 0, and CCP-SHENCA-11-004, Rev. 0. The audit team reviewed the calibration verification reports associated with each NDA unit.

The GEA units successfully participated in PDP Cycle 18A, assaying sample waste matrices consisting of combustibles and metals loaded with sources of weapons grade plutonium. The SHENCA most recently participated in PDP Cycle B10B where the sample matrices consisted of combustibles loaded with sources of weapons grade plutonium with enhanced americium-241 and a mixed metals matrix loaded with weapons grade plutonium.

All NDA instruments used at the Hanford Site ceased WIPP assay operations in September 2011. For that reason, the audit team was not able to interview operations personnel on-site or observe equipment operations. Additionally, all routine performance checks were ceased so equipment performance can be assessed only through the end of fiscal year 2011.

No concerns were identified during the audit regarding NDA. The procedures and documents reviewed provided evidence that the applicable requirements for NDA are adequately established for compliance with upper-tier requirements. Since the audit team was unable to evaluate NDA activities in the field or identify and verify NDA operators were properly qualified, the audit team concluded that the implementation and effectiveness of the referenced procedures was indeterminate for the NDA waste characterization process.

#### **5.4.8 WIPP Waste Information System/Waste Data System**

The audit team conducted interviews and reviewed implementing procedure CCP-TP-030, Rev. 29, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*, relative to the WWIS/WDS data entry process to determine the degree to which the procedure adequately addresses upper-tier requirements.

The audit team verified implementation of the procedure and the use of the WWIS/WDS data entry spreadsheet. The evaluation included data population of the spreadsheet, review of data entry by a Waste Certification Assistant, and waste certification by the Waste Certification Official. Records reviews included container information summaries, pages from BDRs showing analyses values, WWIS/WDS Container Data Reports, and submittals for WWIS/WDS review/approval.

The audit team reviewed three WWIS/WDS waste certification packages (RLMW09700289, RLMW10700115, and RLMW10700116) for CH waste from waste stream RLCCP308D1. No completed waste certification packages were available for S3000 waste.

No concerns were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for WWIS/WDS activities are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

## **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 corrective action reports (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.*

No CARs were issued during this audit.

### **6.2 Deficiencies Corrected During the Audit**

During the audit, the audit team may identify CAQs that can be resolved during the audit. The formal definition of CAQ that can be corrected during the audit is as follows:

*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.*

No isolated CAQs were identified and corrected during the audit that would have warranted documentation of closure on a CDA.

### **6.3 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.

### **6.3.1 Observations**

#### **Observation 1**

The audit team discovered that the electronic media, which is a record, containing AK historical source documents M367 and P606 associated with CCP-AK-RL-114, could not be found during the audit. However, the back-up of this file was available on the Garrison server.

#### **Observation 2**

The draft WSPF for waste stream RLCCPPUNIT lacks the characterization data necessary to complete the DQO reconciliation checklist and the table addressing the absence of prohibited items. In addition, there is an inconsistency between the number of containers in this waste stream between the WSPF and the Summary of Aspects section of the WSPF package. These items must be addressed in the version submitted for approval.

#### **Observation 3**

While reviewing the two VE BDRs (RLVEPF0035 and RLVEPF0036) the audit team noticed the sequential numbering of the BDRs was not in compliance with the procedure. The SPM recorded the condition on an internal NCR to accurately document the numbering sequence. The VE recorded in BDR RLVEPF0036 was actually performed prior to the VE recorded in BDR RLVEPF00035.

#### **Observation 4**

During the review of HSG sampling BDRs, the audit team identified a concern indicating some confusion regarding how NCRs are referenced in applicable BDRs.

NCR-ECL-3289-11 was initiated at the INL as a result of two sample monitoring thermometers that were found by laboratory personnel to be faulty upon receipt of the Hanford/CCP samples. The NCR originator (INL/CCP laboratory personnel) referenced BDR RLHSG1109 (a Hanford/CCP HSG sampling BDR) in block 3 of the NCR, as opposed to the INL/CCP laboratory BDRs ECL11028M and ECL11028G. Upon further review of BDR RLHSG1109 and associated checklists, the audit team determined there was no reference to the NCR. When the auditor questioned the SPM about the reference to the NCR, the SPM revised the BDR checklist to indicate Yes and added the reference to NCR-ECL-3289-11.

Further investigation revealed that in the INL/CCP laboratory BDRs associated with HSG sampling (BDRs ECL11028M and ECL11028G), the SPM accurately captured the NCR information. It was also confirmed by the auditors that NCR-ECL-3289-11 was appropriately captured in the WDS.

### **6.3.2 Recommendations**

#### **Recommendation 1**

The audit team recommended that additions be made to the freeze files for the AK Summaries for waste streams RLCCPPUNIT and RLCCP308D1 to cover, for example, changing the term "confirmation" to "characterization" and footnoting the Waste Material Parameter Weight Estimate table regarding the potential for skewing the data with the disposal of pipe overpacks and changing the number of containers from 114 to 113 (RLCCP308D1); and revising the total numbers of containers in the waste stream to 68 (RLCCPPUNIT).

### **7.0 LIST OF ATTACHMENTS**

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Summary Table of Audit Results
- Attachment 3: Table of Audited Documents
- Attachment 4: List of Processes and Equipment Reviewed
- Attachment 5: List of Hanford/CCP Containers Characterized Since Recertification Audit (A-11-10) and Entered into the WDS

**PERSONNEL CONTACTED DURING THE AUDIT**

<b>PERSONNEL CONTACTED DURING AUDIT A-12-08</b>				
<b>NAME</b>	<b>ORG/TITLE</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST-AUDIT MEETING</b>
Cheryl Armijo	WTS/CCP Records		X	
Michele Billet	WTS/CCP Training		X	
Barbara Broomfield	WTS/SPM			X
Mitch Carter	Stoller/CH/RH Mobile Loading		X	
Norma Castaneda	CBFO/NTP CH Certification Manager	X		X
Sherie Davis	Tech. Specs./Records Secretary		X	
Neil Dickes	WTS/NDA Spec.			X
Mark Doherty	Tech. Specs./AK Expert		Per Telecon.	Per Telecon.
Mike Eagle	EPA/QA Lead Auditor			X
Courtland Fesmire	CBFO QA Representative	X		X
A.J. Fisher	WTS/Senior Tech. Advisor			X
Bruce Gillespie	Canberra NDA Tech.	X	X	X
Creta Kirkes	WTS/WCO		X	
Steve Holmes	NMED Observer	X		X
Laura R. Jones	WTS/QA Engineer		X	X
Sheri Nance	Tech. Specs. AK Expert	Per Telecon.	Per Telecon.	
Cathy Nesser	WTS QA Specialist	X		
Derek Ott	MCS Operator	X	X	X
Berry Pace	CTAC Auditor (Observer)	X		X
Sheila Pearcy	CCP Records Manager	X	X	X
Eric Pennala	MCS/General Manager			X
Mike Ramirez	WTS/CCP SPM	X		

<b>PERSONNEL CONTACTED DURING AUDIT A-12-08</b>				
<b>NAME</b>	<b>ORG/TITLE</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST-AUDIT MEETING</b>
Ron Reeves	WTS/PM			X
Steve Schafer	Tech. Specs./AK Expert	Per Telecon.	Per Telecon.	Per Telecon.
Andrew Stallings	NDE Cognizant Engineer	X	X	X
Charley Turner	WTS/Labs Manager		Per Telecon.	Per Telecon.
Jim Vernon	WTS/CCP SPM	X	X	X
Joe Wachter	Canberra/MCS EA	X	X	X
Veronica Waldram	WTS/CCP SPM	X	X	X
Connie Walker	NMED Contractor	X		X

**SUMMARY TABLE OF AUDIT RESULTS**

Documents	Concern Classification				QA Evaluation	Technical Evaluation	
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
<b>Activity</b>							
Acceptable Knowledge				1	A	S	E
Reconciliation of DQO's WSPFs			1		A	S	E
Project Level Data V & V					A	S	E
Headspace Gas Sampling			1		A	I	I
Solids Sampling & Analysis					A	I	I
Real-time Radiography					A	I	I
Visual Examination			1		A	I	I
Nondestructive Assay					A	I	I
QA General C6-1 Training					A	S	E
QA General C6-1 NCRs / WWIS					A	S	E
QA General C6-1 Trans/Records			1		A	S	E
<b>TOTALS</b>			<b>4</b>	<b>1</b>	<b>A</b>	<b>S</b>	<b>E</b>

**Definitions**

E = Effective

S = Satisfactory

I = Indeterminate

M = Marginal

U = Unsatisfactory

CAR = Corrective Action Report

CDA = Corrected During Audit

NE = Not Effective

Obs – Observation

Rec = Recommendation

A = Adequate

NA = Not Adequate

**TABLE OF AUDITED DOCUMENTS**

No.	Procedure Number	REV	DOCUMENT TITLE
1.	CCP-PO-001	20	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	26	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	22	CCP Conduct of Operations
4.	CCP-PO-008	9	CCP Quality Assurance Interface with the WTS Quality Assurance Program
5.	CCP-PO-011	4	CCP/CH2M-Hill Plateau Remediation Company Interface Document
6.	CCP-QP-002	31	CCP Training and Qualification Plan
7.	CCP-QP-005	20	CCP TRU Nonconforming Item Reporting and Control
8.	CCP-QP-008	19	CCP Records Management
9.	CCP-QP-016	16	CCP Control of Measuring and Testing Equipment
10.	CCP-QP-021	7	CCP Surveillance Program
11.	CCP-QP-023	3	CCP Handling, Storage and Shipping
12.	CCP-QP-028	14	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
13.	CCP-TP-001	19	CCP Project Level Data Validation and Verification
14.	CCP-TP-002	24	CCP Reconciliation of DQOs and Reporting Characterization Data
15.	CCP-TP-003	18	CCP Data Analysis for S3000, S4000, and S5000 Characterization
16.	CCP-TP-005	24	CCP Acceptable Knowledge Documentation
17.	CCP-TP-028	6	CCP Radiographic Test and Training Drum Requirements
18.	CCP-TP-030	29	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
19.	CCP-TP-033	19	CCP Shipping of CH TRU Waste
20.	CCP-TP-053	11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
21.	CCP-TP-058	4	CCP NDA Performance Demonstration Program
22.	CCP-TP-068	8	CCP Standardized Container Management
23.	CCP-TP-070	0	CCP Gamma Energy Assay (GEA) Calibration, Confirmation and Verification Procedure
24.	CCP-TP-071	1	CCP Gamma Energy Assay (GEA) Operating Procedure
22.	CCP-TP-072	2	CCP Gamma Energy Assay (GEA) Data Review, Validation and Reporting Procedure
23.	CCP-TP-082	8	CCP Waste Containers Filter Vent Operation
24.	CCP-TP-093	16	CCP Sampling of TRU Waste Containers
25.	CCP-TP-106	7	CCP Headspace Gas Sampling Batch Data Report Preparation
26.	CCP-TP-113	16	CCP Standard Contact-Handled Waste Visual Examination
27.	CCP-TP-137	2	CCP Operation of the Hanford SuperHENC Assay System
28.	CCP-TP-144	0	CCP Hanford SuperHENC Calibration Procedure
29.	CCP-TP-148	7	CCP SuperHENC Data Reviewing, Validating, and Reporting Procedure
30.	CCP-TP-162	1	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
31.	CCP-TP-180	2	CCP Analytical Sample Management
32.	CCP-TP-198	5	CCP HE-RTR Operating Procedure
33.	WP 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
<b>PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT</b>				
18GEAA	Radiological Characterization by NDA – Hanford Gamma Energy Assay System Unit A – 55-gallon drums Procedure –CCP-TP-071	Debris (S5000) Solids (S3000)	N/A	YES
18GEAB	Radiological Characterization by NDA – Hanford Gamma Energy Assay System Unit B – 55-gallon drums Procedure –CCP-TP-071	Debris (S5000) Solids (S3000)	N/A	YES
18SHENC	Super High Efficiency Neutron Counter “A” Platform (SHENC) Procedure – CCP-TP-0137	Debris (S5000) Solids (S3000)	N/A	YES
18RTRA	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000) Solids (S3000)	YES	YES
18RTRB	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000) Solids (S3000)	YES	YES
18HERTR	High-Energy Real-Time Radiography System – 55/85- gallon drums and SWBs Procedure – CCP-TP-053	Debris (S5000) Solids (S3000)	YES	YES
18RLVE	Visual Examination Process – SWB and 55-gallon drums Procedure –CCP-TP-113	Debris (S5000)	YES	YES

**List of Processes and Equipment Reviewed**

<b>WIPP #</b>	<b>Process/Equipment Description</b>	<b>Applicable to the Following Waste Streams/Groups of Waste Streams</b>	<b>Currently Approved by NMED</b>	<b>Currently Approved by EPA</b>
N/A	Solids Sampling and Analysis <sup>1</sup>	Solids (S3000)	YES	YES
N/A	Headspace Gas Sampling <sup>2</sup> Procedure – CCP-TP-093	Debris (S5000)	YES	YES
N/A	Acceptable Knowledge Procedure – CCP-TP-002 and CCP-TP-005	Debris (S5000) Solids (S3000)	YES	YES
N/A	Data Generation and Project Level Validation & Verification (V&V) Procedure – CCP-TP-001	Debris (S5000) Solids (S3000)	YES	YES
N/A	WIPP Waste Information System (WWIS)/Waste Data System (WDS) Procedure – CCP-TP-030	Debris (S5000) Solids (S3000)	YES	YES
N/A	Quality Assurance	Debris (S5000) Solids (S3000)	N/A	YES
<b>NEW PROCESSES OR EQUIPMENT</b>				
NONE				

<sup>1</sup> Solids Sampling and Analysis: Coring is performed by AMWTP, core samples are analyzed by the INL/CCP Labs.

<sup>2</sup> Headspace Gas Analysis is performed by INL/CCP Labs.

**List of Hanford/CCP Containers Characterized  
Since Recertification Audit A-11-10 and Entered into the WDS**  
(All containers are 55-gallon drums, unless otherwise noted.)

RL0000782	RL0055292	RL0067488	RL0071917	RL0077648
RL0000796	RL0055823	RL0067519	RL0071945	RL0077666
RL0000802	RL0055939	RL0067928 (SWB)	RL0072263	RL0077673
RL0000858	RL0056091	RL0067935 (SWB)	RL0072302	RL0077677
RL0020938 (SWB)	RL0056093	RL0067940 (SWB)	RL0072375	RL0077680
RL0028658 (SWB)	RL0056158	RL0067969 (SWB)	RL0072422	RL0077691
RL0029175	RL0056159	RL0067972 (SWB)	RL0072444	RL0078296 (SWB)
RL0032645	RL0056204	RL0067987 (SWB)	RL0072449	RL0078297 (SWB)
RL0037142 (SWB)	RL0056223	RL0069053	RL0073410	RL0078307 (SWB)
RL0037151 (SWB)	RL0056678	RL0069147	RL0074538	RL0078313 (SWB)
RL0037153 (SWB)	RL0056679	RL0069195	RL0074547	RL0078693
RL0037155 (SWB)	RL0056692	RL0069224	RL0074712	RL0078695
RL0037377 (SWB)	RL0056693	RL0069777	RL0074736	RL0078697
RL0037378 (SWB)	RL0056714	RL0069811	RL0074824	RL0078702
RL0037525 (SWB)	RL0058274	RL0069875	RL0074863	RL0078703
RL0037526 (SWB)	RL0058437	RL0069886	RL0075944	RL0078730
RL0037963 (SWB)	RL0058496	RL0069963	RL0075950	RL0078734
RL0040437	RL0058866	RL0070012	RL0075951	RL0078736
RL0040474	RL0058976	RL0070128	RL0076007	RL0078741
RL0040475	RL0061306	RL0071049	RL0077342	RL0078743
RL0045430	RL0062233	RL0071387	RL0077422	RL0078755
RL0048263	RL0062234	RL0071389	RL0077423	RL0078771
RL0053119	RL0063673	RL0071436	RL0077505	RL0078772
RL0053144	RL0065391	RL0071449	RL0077506	RL0078793
RL0053200	RL0065492	RL0071450	RL0077510	RL0078796
RL0053210	RL0065504	RL0071512	RL0077512	RL0078890
RL0054891	RL0066992	RL0071520	RL0077565	RL0079424
RL0054950	RL0067142	RL0071548	RL0077568	RL0079425
RL0054953	RL0067192	RL0071581	RL0077570	RL0079440
RL0054969	RL0067242	RL0071869	RL0077621	RL0080577 (SWB)
RL0055200	RL0067469	RL0071895	RL0077630	RL0080620 (SWB)

RL0080623 (SWB)  
RL0080624 (SWB)  
RL84047  
RL9400952 (SWB)  
RLMW08700284(SWB)  
RLMW08700285(SWB)  
RLMW08700292(SWB)  
RLMW08700452(SWB)  
RLMW08700482(SWB)  
RLMW09700028(SWB)  
RLMW09700035(SWB)  
RLMW09700037(SWB)  
RLMW09700049(SWB)  
RLMW09700167(SWB)

RLMW09700168(SWB)  
RLMW09700196(SWB)  
RLMW09700199(SWB)  
RLMW09700200(SWB)  
RLMW09700201(SWB)  
RLMW09700210(SWB)  
RLMW09700218(SWB)  
RLMW09700223(SWB)  
RLMW09700224(SWB)  
RLMW09700229(SWB)  
RLMW09700230(SWB)  
RLMW09700231(SWB)  
RLMW09700232(SWB)  
RLMW09700255(SWB)

RLMW09700259(SWB)  
RLMW09700408(SWB)  
RLMW10700003(SWB)  
RLMW10700017(SWB)  
RLMW10700052(SWB)  
RLMW10700087(SWB)  
RLMW10700088(SWB)  
RLMW10700090(SWB)  
RLMW10700092(SWB)  
RLMW10700093(SWB)  
RLMW10700094(SWB)  
RLMW10700098(SWB)  
RLMW10700099(SWB)  
RLMW10700100(SWB)

RLMW10700101(SWB)  
RLMW10700102(SWB)  
RLMW10700117(SWB)  
RLMW10800480  
RLMW10800630(SWB)  
RLMW10800631(SWB)  
RLMW11700025(SWB)  
RLMW11700026(SWB)  
RLMW11700027(SWB)  
RLMW11700028(SWB)  
RLMW11700031(SWB)  
RLMW11800001(SWB)  
RLMW11800004(SWB)  
RLMW11800013(SWB)

RLMW11800021(SWB)  
RLMW11800022(SWB)  
RLMW11800023(SWB)  
RLMW11800029(SWB)  
RLMW11800032(SWB)  
RLMW11800034(SWB)  
RLMW11800036(SWB)  
RLMW11800040(SWB)  
RLRHZ-103-A15279  
RLZ72-7-5