



United States Government

Department of Energy

memorandum

 Carlsbad Field Office
 Carlsbad, New Mexico 88221


DATE: JUL 11 2012

REPLY TO
ATTN OF: CBFO:OQA:CF:CC:12-1450:UFC 2300.00

SUBJECT: Interim Audit Report A-12-14, INL/CCP Analytical Laboratories

TO: Jerry Wells, DOE-ID

The Carlsbad Field Office (CBFO) conducted Audit A-12-14 June 11 through June 14, 2012. The interim audit report is attached.

The audit team concluded that the Idaho National Laboratory Central Characterization Project (INL/CCP) technical and quality assurance programs for Audit A-12-14, INL Analytical Laboratories activities evaluated were adequate in accordance with the WIPP Hazardous Waste Facility Permit, the CBFO Quality Assurance Program Document, and the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria. The audit team determined that the applicable INL/CCP procedures were satisfactorily implemented and the evaluated processes were effective.

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

Randy Unger, Director
Office of Quality Assurance

Attachment

cc: w/attachment

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I. Quintana, WTS/CCP	ED	G. White, CTAC	ED
A. J. Fisher, WTS/CCP	ED	P. Y. Martinez, CTAC	ED
M. Walker, WTS/CCP	ED	WWIS Database Administrators	ED
Y. Salmon, WTS/CCP	ED	WIPP Operating Record	ED
M. Eagle, EPA	ED	CBFO QA File	
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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

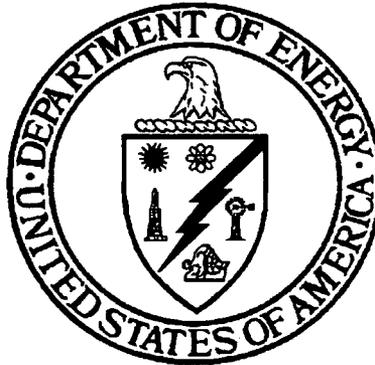
IDAHO NATIONAL LABORATORY (INL)
ANALYTICAL LABORATORIES
UTILIZING THE
CENTRAL CHARACTERIZATION PROJECT (CCP)

IDAHO FALLS, IDAHO

AUDIT NUMBER A-12-14

June 11 – 14, 2012

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



Prepared by:

Priscilla Y. Martinez
Priscilla Y. Martinez, CTAC
Audit Team Leader

Date:

7-3-12

Approved by:

R. Unger
Randy Unger, CBFO
Director, Office of Quality Assurance

Date:

11 July 12

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-12-14 was conducted to evaluate the continued adequacy, implementation, and effectiveness of Idaho National Laboratory (INL) Analytical Solids and Headspace Gas Laboratories transuranic (TRU) waste characterization activities performed under the Central Characterization Project (CCP) (hereafter referred to as INL/CCP).

The INL/CCP analytical laboratories consist of two separate facilities: the Environmental Chemistry Laboratory (ECL), located at the INL Idaho Research Center (IRC) and managed by Battelle Energy Alliance (BEA), and the Analytical Chemistry Laboratory (ACL), located at the Radioactive Waste Management Complex (RWMC) and managed by the Idaho Treatment Group (ITG). Responsibilities for the ACL activities were recently transferred to the ITG. It was noted by the audit team that the identification of ITG had not been updated in the interface and implementing procedure. Accordingly, the audit team noted this as a concern which was classified as an Observation (see Observation 1, section 6.3).

The INL/CCP activities evaluated included the ECL headspace gas (HSG) analysis of Summary Category Group (SCG) S5000 debris wastes; ACL solids analysis of S3000 homogeneous solids and S4000 soils/gravel wastes; generation-level data validation and verification (V&V); and SUMMA[®] canister preparation and certification for use by the generator sites.

The audit was conducted in Idaho Falls, Idaho, June 11 - 14, 2012. The audit team concluded that overall, the INL/CCP technical procedures are adequate relative to the flow-down of requirements from the *CBFO Quality Assurance Program Document* (QAPD), the *Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit* (HWFP), and DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC). The audit team concluded that the INL/CCP technical areas evaluated continue to be satisfactorily implemented and effective.

The audit team identified two concerns during the audit classified as Observations (see Observations, section 6.3). There were no Conditions Adverse to Quality (CAQs) identified and no Recommendations were offered for management consideration as a result of this audit.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the continued adequacy, implementation, and effectiveness of the INL/CCP Analytical Laboratories TRU waste characterization activities for HSG analysis of SCG S5000 debris wastes; solids analysis of S3000 homogeneous solids and S4000 soils/gravel wastes; generation-level data V&V; and SUMMA[®] canister preparation and certification for use by the generator sites.

The following elements were evaluated:

Quality Assurance

- Personnel Qualification and Training
- Nonconformances
- Records
- Sample Control

Technical

- Data Generation-Level Data Validation and Verification
- Performance Demonstration Program
- Solids and Soils/Gravel
- Headspace Gas

General

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

The Quality Assurance (QA) Technical, and General Program elements listed above were evaluated to confirm compliance with requirements specified in both the WIPP HWFP and the CBFO QAPD. The program elements for measuring and test equipment (M&TE) and logbooks were included to further confirm implementation at the laboratories since the implementation of requirements associated with this element cannot be fully verified during the annual CCP QA Program Audit. All other program elements are evaluated at the Carlsbad Field Office during the annual CCP QA Program Audit.

The evaluation of the INL/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

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

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

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

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

CCP-PO-024, *CCP/INL Interface Document*

CCP-PO-030, *CCP/Battelle Energy Alliance Analytical Chemistry & Instrument Department Interface Document*

Related technical and QA implementing procedures

2.2 Purpose

Audit A-12-14 was conducted to assess the INL/CCP Analytical Laboratories TRU waste characterization activities for HSG analysis of SCG S5000 debris wastes; solids analysis of S3000 homogeneous solids and S4000 soils/gravel wastes; data generation-level data V&V; and SUMMA[®] canister preparation and certification for use by generator sites for compliance with the requirements of the HWFP and QAPD.

3.0 AUDIT TEAM AND OBSERVERS

AUDIT TEAM and TECHNICAL SPECIALISTS

Courtland G. Fesmire	Audit Team Management Representative, CBFO
Priscilla Y. Martinez	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Earl Bradford	Auditor, CTAC
Sheila Hailey	Auditor-in-Training, CTAC
Mavis Lin	Technical Specialist, CTAC

OBSERVERS

Steve Holmes	New Mexico Environment Department
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4.0 AUDIT PARTICIPANTS

The individuals who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at the INL Idaho Research Center (IRC) in Idaho Falls, Idaho, on June 11, 2012. The audit was concluded with a post-audit meeting held at the INL IRC in Idaho Falls, Idaho, on June 14, 2012.

Attachment 2 is summary table of audit results. Attachment 3 lists the INL/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

The audit was performed to assess the INL/CCP Analytical Laboratories TRU waste characterization activities for HSG analysis of SCG S5000 debris wastes; solids analysis of S3000 homogeneous solids and S4000 soils/gravel waste; data generation-level data V&V; and SUMMA[®] canister preparation and certification for use by generator sites for compliance with the requirements of the HWFP and QAPD.

The analytical instrument HPLC-1 for the ACL was evaluated during Surveillance S-12-10, November 1, 2011. HPLC-1 is used for analysis of samples for hydrazine and formaldehyde. The associated procedure, batch data reports (BDRs) and supporting data generated by the HPLC-1 was reviewed during the surveillance and this audit to confirm the adequacy, implementation, and effectiveness of this process for SCGs S3000 solids and S4000 soils/gravel waste.

Also, two new instruments for the ECL were evaluated during Surveillance S-11-31, September 21, 2011. Gas chromatography/mass spectrometry instruments I and J (GC/MS-I and GC/MS-J), and associated procedures, BDRs and supporting data were reviewed during the surveillance and this audit to confirm the adequacy, implementation, and effectiveness of this process for SCG S5000 debris waste.

As a result, the audit team concluded that the INL/CCP Analytical Laboratories program is adequate, satisfactorily implemented, and effective, as described in Attachment 2, Summary Table of Audit Results. Attachment 3, includes a Listing of Audited Documents, and Attachment 4 includes the list of Processes and Equipment Evaluated During the Audit.

5.2 Quality Assurance Activities

5.2.1 Personnel Qualification and Training

The audit team interviewed personnel and reviewed implementing procedure CCP-QP-002, Rev. 32, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records associated with HSG and solids analysis were examined to verify implementation of associated requirements and to verify that personnel performing characterization activities are appropriately qualified.

A concern was identified during the audit. Attachment 1 in the training procedure has not been revised to include the minimum education and experience for operators performing a newly implemented analysis method (High Performance Liquid Chromatography) used for the detection of Formaldehyde and Hydrazine (see Observation 2, section 6.3).

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

5.2.2 Nonconformances

The audit team interviewed personnel and randomly selected a sample of nonconformance reports (NCRs) to confirm that deficiencies are being appropriately documented and tracked through resolution as required per procedure CCP-QP-005, Rev. 21, *CCP TRU Nonconforming Item Reporting and Control*. The audit team reviewed NCR-ALD-3188-11, NCR-ALD-3189-11, NCR-ALD-3190-11, NCR-ALD-3191-11, NCR-ECL-2841-11, NCR-ECL-3289-11, NCR-ECL-2840-11, and NCR-ECL-0158-12. All NCRs examined were verified as being managed and tracked in the CCP data center and on the CCP NCR Logs.

No concerns were identified regarding nonconformances. 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.

5.2.3 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. CCP-QP-008, Rev. 19, *CCP Records Management* was reviewed and various records examined to verify that they were appropriately completed, stored, maintained and transferred in accordance with the procedure. ACL and ECL personnel transmit records generated during the performance of the waste characterization activities to CCP Records. All records are controlled by CCP. ACL and ECL personnel have access to CCP records in the event corrections to QA records are needed.

No concerns were identified regarding records. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for control of 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.

5.2.4 Sample Control

The process for sample handling and control was evaluated and verified through review of chain-of-custody forms. The samples are documented from the point of origin to the reporting of final analysis results including final disposition. The ability of the

laboratories to maintain temperature control was evaluated and determined to be compliant. The audit team conducted interviews and reviewed implementing procedure CCP-TP-177, Rev. 0, *CCP Sample Receipt, Custody and Storage* to verify that INL/CCP analytical laboratories comply with sample control requirements for HSG and solids analysis requirements in the HWFP Waste Analysis Plan (WAP).

No concerns were identified regarding sample control. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for sample control 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 Technical Activities

Each technical area audited is discussed in the following sections. Objective evidence to evaluate the implementation of the associated characterization activities was selected and reviewed. BDRs, sampling records, data generation-level data V&V documentation, and training documentation for INL/CCP personnel were included in the evaluation. The audit team toured the ACL and ECL facilities where HSG and solids analysis are performed, and reviewed the following processes:

- Sample receipt
- Sample custody
- Sample preparation and analysis
- Reporting of final waste characterization information to WIPP

The INL/CCP provided the following BDRs:

- HSG Analytical BDRs: ECL11010G, ECL11010M, ECL11030G, ECL11030M, ECL11031M, and ECL12008M
- Solids Sample Analysis BDRs: ALD11020V, ALD11020N, ALD11020S, ALD11020M, ALD11029V, ALD11029N, ALD11029S, ALD11029M, ALD12005V, ALD12005N, ALD12005S, ALD12005M, ALD11022H, and ALD12022F

5.3.1 Data Generation-Level Data V&V

Objective evidence was reviewed to ensure data generation-level activities were adequately performed to support waste characterization. BDRs, sampling records, and data generation-level documentation were evaluated based on data generation-level requirements for HSG and solids and soils/gravel analysis.

No concerns were identified regarding data generation-level data verification and validation (DGL V&V). The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for DGL V&V 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 Performance Demonstration Program (PDP)

The audit team examined the PDP documentation relative to HSG (Cycle 26A), solids analysis (Cycle 19A), and interviewed responsible INL/CCP personnel to verify that PDP activities were performed as required and that the results were determined to be acceptable and approved by the CBFO.

No concerns were identified regarding PDP. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for PDP 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 Solids and Soils/Gravel

Evaluation of solid analysis activities performed by the INL/CCP included sample receipt, sample custody, sample preparation and analysis for Volatile Organic Compounds (VOCs), Non-Halogenated Volatile Organic Compounds (NHVOCs), Semi-Volatile Organic Compounds (SVOCs), metals, and mercury. Successful participation in the latest Resource Conservation and Recovery Act (RCRA) Solids PDP Cycle 19A was verified. Determination of Detection Limits, Method Detection Limits (MDLs) and Instrument Detection Limits (IDLs), Performance and Accuracy (P&A) studies, standard certification and material, and the current WIPP-approved processes and equipment were evaluated and determined to be compliant. The audit team also verified the control of M&TE. The audit team toured the laboratory and observed instruments appropriately labeled with the status of calibration. Instrument numbers were noted and then verified against the CCP M&TE listing. Sample preparation activities were verified and determined to be compliant.

Analytical instrument, HPLC-1, is used to analyze hydrazine and formaldehyde for SCGs S3000 and S4000 soils/gravel waste. The HPLC-1 operation was evaluated during Surveillance Audit, S-12-10. BDRs and supporting data generated by the HPLC-1 was reviewed during this audit. The audit team concurs with the surveillance report conclusion that the hydrazine and formaldehyde analysis operations and procedures at the INL/CCP are acceptable, satisfactorily implemented and effective.

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

5.3.4 Headspace Gas (HSG)

The audit team evaluated the ECL facility for HSG analytical operations and SUMMA[®] passivated canister cleaning, handling, and shipment. HSG analysis operations performed included sample receipt, sample custody, and sample analysis for gas volatile compounds and methanol.

Successful participation in the latest HSG PDP Cycle 26A, was verified. The MDL, P&A studies, standard certification and material, the current WIPP approved processes, and equipment were evaluated and determined to be compliant. BDRs ECL11010G, ECL11010M, ECL11030G, ECL11030M, ECL11031M, and ECL12008M were examined. The analyses of Tentatively Identified Compounds (TICs) were reviewed and determined to be compliant. Laboratory sample preparation and sample dilutions were verified to be compliant. The laboratory properly utilizes and disposes of samples as required. Additionally, the training and qualification of analysts were confirmed to be compliant with the INL/CCP program.

The audit team toured the laboratories and verified that equipment GC/MS-H (WIPP# 12HE4) and GC-2 (WIPP# 12HE6) had been deactivated (see Attachment 4). The replacements are GC/MS-I (WIPP# 12HE10) and GC/MS-J (WIPP# 12HE11). Both GC/MS-I and GC/MS-J are appropriately labeled with the status of calibration and carrier gas cylinder tags are in place. The two new instruments were evaluated during Surveillance S-11-31, September 21, 2011. Gas chromatography/ mass spectrometry instruments I and J (GC/MS-I and GC/MS-J), and associated procedures, BDRs and supporting data was reviewed during the surveillance and this audit to confirm the adequacy, implementation, and effectiveness of this process for SCG S5000 debris waste.

The audit team also evaluated SUMMA[®] passivated canister cleaning, handling, and shipment activities. SUMMA[®] passivated canister cleaning processes were verified for procedural completeness and maintenance of pressurization for gas sampling. The laboratory maintains excellent air temperatures in the facility to optimize analysis of the gas samples. Logbooks and canister tags are properly completed and maintained by the laboratory. Control of M&TE was determined to be compliant with requirements.

During the laboratory tour, the team observed certain instances whereby QA/QC gas standards used had exceeded their manufacturer recommended expiration date. However, ECL provided the audit team with a letter/memo from the gas manufacturer noting that the non-reactive gas standards are acceptable for use beyond their expiration date as long as the cylinder is properly maintained.

The audit team verified the qualification and training of the laboratory analysts by examining the CCP List of Qualified Individuals (LOQI) as well as the individual qualification cards for each discipline.

Document control was verified by examining the BDRs listed above and verifying that the correct version of the corresponding procedure was utilized at the time the analysis was performed.

No concerns were identified regarding analysis of solids and soils/gravel. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for analysis of solids and soils/gravels 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 General

5.4.1 Results of Previous Audits

The audit team identified no CAQs in the previous audit (A-11-13) that resulted in the issuance of Corrective Action Reports (CARs). One observation was issued and no recommendations were identified as a result of last year's audit. The observation dealt with a lack of description for the responsibility and authority between the managing and operating contractor and CCP in establishing, defining and documenting work activities.

5.4.2 Changes in Program or Operations

Operation of the ACL at the RWMC is now under the management of the ITG; however there is no change in the program activities.

5.4.3 New Programs or Activities Being Implemented

ECL instruments GC/MS-H (12HE4) and GC-2 (12HE6) will be placed in the Deactivated Section of the Processes and Equipment Evaluated During the Audit (see Attachment 4).

Two new Gas Chromatography/mass spectrometry instruments GC/MS-I and GC/MS-J were evaluated during Surveillance S-11-31, September 21, 2011 and re-evaluated during this audit. The new instruments and related process were determined to be adequate, satisfactorily implemented and effective.

ACL instrument HPLC-1 used for analysis of samples for hydrazine and formaldehyde was evaluated during Surveillance S-12-10, November 1, 2011 and re-evaluated during this audit. The instrument and related process were determined to be adequate, satisfactorily implemented and effective.

5.4.4 Changes in Key Personnel

There was no change in key personnel since the last audit (A-11-13)

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify CAQs and document them on CARs.

Condition Adverse to Quality – 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, regulatory compliance demonstration, or the effective implementation of the QA program.

No CAQs were issued as a result of this audit.

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.

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 can, therefore, be a Corrected During the Audit (CDA). 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.

No CDAs were identified during this audit.

6.3 Observations

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

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

The following observations were issued as a result of this audit.

Observation 1

The interface and implementing procedures associated with the analytical laboratories should be revised/updated to incorporate organizational titles, charts, and/or references.

Observation 2

CCP-QP-002, Section 4.3.7, states, "Solid analysis personnel are those who perform functions outlined in Attachment 1". Attachment 1 lacks the description of the minimum education and experience requirements for the ACL functions of "High-Performance Liquid Chromatography" processes for determination of "Hydrazine and Formaldehyde".

6.4 Recommendations

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

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

No recommendations were offered as a result of this audit.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Summary Table of Audit Results

Attachment 3: Listing of Audited Documents

Attachment 4: Processes and Equipment Evaluated During the Audit

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Bauer, William	BEA Manager	X		
Crowder, Catherine	ECL Tech Leader/INL BEA	X	X	X
Fisher, A.J.	Senior Technical Advisor/CCP			X
Hahn, Paula	BEA Staff/ECL	X		
Jenkins, Tally	DOE-ID			X
LaRue, Bruce	Idaho Department of Environmental Quality			X
Laug, Jeff	ACL Lab Manager/ ITG	X	X	X
Morgan, Sabrina	BEA Staff/ECL	X		
Pearcy, Mark	Site Project Manager/CCP			X
Pearcy, Sheila	Records Manager/CCP		X	X
Sailer, Shelly	ACL Analytical Labs QA Officer/ ITG	X	X	X
Sensibaugh, Michael	Manager/CCP			X
Turner, Charles	Site Project Manager/WTS/ CCP	X	X	X
Vernon, Jim	Site Project Manager/CCP			X
Walker, Mak	Quality Assurance/CCP			X
Wells, Jerry	DOE-ID			X

SUMMARY TABLE OF AUDIT RESULTS

Activity	QA Evaluation			Technical			
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Organization			1		A	S	E
Personnel Qualification and Training					A	S	E
Nonconformances					A	S	E
Records					A	S	E
Sample Control					A	S	E
Solids/Soils/Gravel Analysis			1		A	S	E
Headspace Gas Analysis					A	S	E
Data Generation-level Data Validation and Verification					A	S	E
Summa Canister Preparation					A	S	E
TOTALS	0	0	2	0			

A = Adequate

S = Satisfactory

E = Effective

LISTING OF AUDITED DOCUMENTS

	Document No.	Document Title
1.	CCP-PO-001, Rev. 19	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002, Rev. 25	CCP Transuranic Waste Certification Plan
3.	CCP-PO-030, Rev. 1	CCP/Battelle Energy Alliance Analytical Chemistry & Instrument Department Interface Document
4.	CCP-PO-031, Rev. 1	CCP/Idaho Cleanup Project Analytical Laboratories Department Interface Document
5.	CCP-QP-002, Rev. 31	CCP Training and Qualification Plan
6.	CCP-QP-005, Rev. 20	CCP TRU Nonconforming Item Reporting and Control
7.	CCP-QP-008, Rev. 18	CCP Records Management
8.	CCP-QP-010, Rev. 22	CCP Document Preparation, Approval, and Control
9.	CCP-QP-011, Rev. 10	CCP Laboratory Logbooks
10.	CCP-QP-016, Rev. 16	CCP Control of Measuring, Testing, and Data Collection Equipment
11.	CCP-TP-056, Rev. 5	CCP HSG Performance Demonstration Plan
12.	CCP-TP-173, Rev. 1	CCP Analysis of Gas Samples for VOCs by GC/FID
13.	CCP-TP-175, Rev. 3	CCP Analysis of Gas Samples for VOCs by GC/MS
14.	CCP-TP-176, Rev. 0	CCP Determination of Method Detection Limits for Gas Analysis
15.	CCP-TP-177, Rev. 0	CCP Sample Receipt, Custody, and Storage
16.	CCP-TP-178, Rev. 0	CCP SUMMA Canister Cleaning
17.	CCP-TP-179, Rev. 0	CCP Gas Transfer Manifold Systems and Sample Compositing
18.	CCP-TP-180, Rev. 2	CCP Analytical Sample Management
19.	CCP-TP-181, Rev. 0	CCP Determination of Mercury by CVAA for TRU Waste Characterization
20.	CCP-TP-182, Rev. 1	CCP Determination of Metals of ICP-AES for TRU Waste Characterization
21.	CCP-TP-183, Rev. 0	CCP Microwave Assisted Digestion of Homogeneous Solids and Soil/Gravel
22.	CCP-TP-184, Rev. 0	CCP Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry
23.	CCP-TP-185, Rev. 1	CCP Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry
24.	CCP-TP-186, Rev. 1	CCP Determination of Nonhalogenated Volatile Organics by Gas Chromatography
25.	CCP-TP-187, Rev. 1	CCP Sample Preparation for Semivolatile Organic Compounds
26.	CCP-TP-188, Rev. 2	CCP Analytical Recording, Review, and Reporting
27.	CCP-TP-196, Rev. 1	CCP Determination of Formaldehyde by High-Performance Liquid Chromatography (HPLC)
28.	CCP-TP-197, Rev. 1	CCP Determination of Hydrazine by High-Performance Liquid Chromatography (HPLC)

PROCESSES AND EQUIPMENT EVALUATED DURING THE AUDIT

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				
Headspace Gas				
12HE10	Environmental Chemistry Lab (ECL) – Headspace gas volatile organic compounds specified in Procedure CCP-TP-175 Equipment = GC/MS-I	DEBRIS (S5000)	NO	N/A
12HE11	Environmental Chemistry Lab (ECL) – Headspace gas volatile organic compounds specified in Procedure CCP-TP-175 Equipment = GC/MS-J	DEBRIS (S5000)	NO	N/A
Solids				
12HP1	Analytical Chemistry Laboratory (ACL) – Determination of Formaldehyde and Hydrazine by High-Performance Liquid Chromatography (HPLC) specified in Procedure CCP-TP-196 and CCP-TP-197 Equipment – HPLC-1	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	NO	N/A
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT				
Headspace Gas				
N/A	N/A	N/A	N/A	N/A

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
Solids				
12HA8	Analytical Chemistry Laboratory (ACL) – Total purgable volatile organic compound analysis specified in Procedure CCP-TP-184 Equipment – VOA-4 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HA3	Analytical Chemistry Laboratory (ACL) - Total non-halogenated volatile organic compounds specified in Procedure CCP-TP-186 Equipment –GC-1 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HA14	Analytical Chemistry Laboratory (ACL) – Total non-halogenated volatile organic compounds specified in Procedure CCP-TP-186 Equipment – GC-6 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HA10	Analytical Chemistry Laboratory (ACL) – Total semi-volatile organic compounds specified in Procedure CCP-TP-185 Equipment – SV-6 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HA12	Analytical Chemistry Laboratory (ACL) – Total semi-volatile organic compounds specified in Procedure CCP-TP-185 Equipment – SV-8 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
12HA13	Analytical Chemistry Laboratory Department (ACL) – Total purgable volatile organic compounds specified in Procedure CCP-TP-184 Equipment – VOA-5 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HM11	Analytical Chemistry Laboratory (ACL) – Total metals analysis specified in Procedure CCP-TP-182 Equipment – ICP-7 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HM13	Analytical Chemistry Laboratory Department (ACL) – Total metals analysis specified in Procedure CCP-TP-182 Equipment – ICP-8 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HM8	Analytical Chemistry Laboratory Department (ACL) – Total metals (Hg) analysis specified in Procedure CCP-TP-181 Equipment – CVHG-2 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HM12	Analytical Chemistry Laboratory Department (ACL) – Total metals (Hg) analysis specified in Procedure CCP-TP-181 Equipment – CVHG-3 (Cycle 19A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
12HM9	Analytical Chemistry Laboratory Department (ACL) – Total metals digestion specified in Procedure CCP-TP-183 Equipment – MW-3 (Cycle 18A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
12HM10	Analytical Chemistry Laboratory Department (ACL) – Total metals digestion specified in Procedure CCP-TP-183 Equipment – MW-4 (Cycle 18A)	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
Processes				
N/A	Generation-Level Data Validation and Verification	DEBRIS (S5000) SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	Yes
N/A	Sample Management as described in Procedure CCP-TP-180	SOILS/GRAVEL (S4000) HOMOGENEOUS SOLIDS (S3000)	Yes	N/A
N/A	SUMMA Canister Cleaning for generator/storage sites HSG sample collection, as described in Procedure CCP-TP-178	DEBRIS (S5000)	Yes	N/A
N/A	Quality Assurance Program	N/A	Yes	Yes
Deactivated Equipment				
WIPP#	Site Equipment #	Site Description	Date Deactivated	
12HE2	GC/MS-F	ECL – Headspace gas volatile organic compounds specified in Procedure CCP-TP-175	May 2010	
12HE5	GC-1	ECL – Headspace gas volatile organic compounds specified in Procedure CCP-TP-173	May 2011	

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
12HE9	GC-7	Environmental Chemistry Lab – Headspace gas volatile organic compounds specified in Procedure CCP-TP-173		May 2011
12HE4	GC/MS-H	ECL – Headspace gas volatile organic compounds specified in Procedure ACMM-9930 and CCP-TP-175		April 2012
12HE6	GC-2	ECL – Headspace gas volatile organic compounds specified in Procedure CCP-TP-173		April 2012