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Carlsbad Field Office
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July 15, 2008



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

Subject: Transmittal of the Carlsbad Field Office Final Audit Report A-08-09
of the Advanced Mixed Waste Treatment Project

Dear Mr. Zappe:

This letter transmits the Advanced Mixed Waste Treatment Project (AMWTP) Audit Report for the container-in-container sampling process performed to characterize and certify waste as required by Section II.C.2.c of the WIPP Hazardous Waste Facility Permit. The report contains the results of the certification audit performed for sampling of Summary Category Group S3000 homogeneous solids and S4000 soils/gravel, and generation-level data verification of S3000 homogeneous solids and S4000 soils/gravel container-in-container sampling methods. The audit was conducted June 24 through June 25, 2008.

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.

Please contact the CBFO Quality Assurance Manager, Ms. Ava Holland, at (575) 234-7423 should you have any questions concerning this audit report.

Sincerely,

David C. Moody
Manager

Enclosure



Mr. Steve Zappe

-2-

July 15, 2008

cc: w/Report Narrative

A. Holland, CBFO	ED
D. Miehl, CBFO	ED
M. Navarrete, CBFO	ED
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T. Fallon, AMWTP	ED
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cc: w/enclosures

WIPP Operating Record, MS: 452-09

CTAC QA File

CBFO M&RC

2 Copies to S. Zappe

*ED denotes electronic distribution

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

ADVANCED MIXED WASTE TREATMENT PROJECT (AMWTP)
CONTAINER-IN-CONTAINER SAMPLING

IDAHO FALLS, IDAHO

AUDIT NUMBER A-08-09

JUNE 24 – 25, 2008

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



Prepared by: *B.J. Verret*
B.J. Verret, CTAC
Audit Team Leader

Date: *7/1/08*

Approved by: *Ava Holland*
Ava Holland, CBFO
Quality Assurance Manager

Date: *7/10/08*

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) certification Audit A-08-09 was conducted to evaluate the adequacy, implementation, and effectiveness of Advanced Mixed Waste Treatment Project (AMWTP) transuranic (TRU) waste container-in-container solids sampling activities.

The AMWTP container-in-container solids sampling activities are performed inside a glove box located in Building 634. The AMWTP activities evaluated included container-in-container solids sampling of Summary Category Group (SCG) S3000 homogeneous solids and S4000 soils/gravel and generation-level data verification and validation (V&V) of solids sampling of S3000 homogeneous solids and S4000 soils/gravel.

The audit was conducted in Idaho Falls, Idaho, June 24 and 25, 2008. The audit team concluded that overall, the AMWTP technical procedures are adequate relative to the flow-down of requirements from the *CBFO Quality Assurance Program Document* (QAPD) and the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) *Waste Analysis Plan* (WAP). The audit team concluded that the AMWTP technical areas evaluated are being satisfactorily implemented and are effective and demonstrate compliance with the applicable Table B6-2 checklist items.

The audit team also concluded that the AMWTP Quality Assurance (QA) Program activities that demonstrate compliance with the Table B6-1 checklist QA-related questions are being implemented and are effective.

No conditions adverse to quality (CAQ) were identified during this audit. No Observations were identified. No Recommendations were offered for management consideration.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the technical and QA activities related to the AMWTP Program. The following elements were evaluated.

Quality Assurance

- Organization and QA Program (Program Interfaces)
- Personnel Qualification and Training
- Control of Measuring and Test Equipment Used for Characterization
- Sample Control
- Documents and Records

Technical

- Solids Sampling

Generation-level Data Verification and Validation (V&V)

The evaluation of the AMWTP TRU waste activities and documentation 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

AMWTP Quality Assurance Project Plan (QAPjP), MP-TRUW-8.2

INST-OI-75, Container-in-Container Sampling

2.2 Purpose

Audit A-08-09 was conducted to evaluate the adequacy, implementation, and effectiveness of technical and QA processes related to the AMWTP program.

3.0 AUDIT TEAM AND OBSERVERS

AUDIT TEAM, TECHNICAL SPECIALISTS, AND OBSERVERS

B.J. Verret	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Rhett Bradford	Auditor, CTAC

OBSERVERS

Steve Holmes	New Mexico Environment Department (NMED)
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4.0 AUDIT PARTICIPANTS

The individuals at AMWTP who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at the AMWTP Energy Development Facility (EDF) in Idaho Falls, Idaho, on June 24, 2008. The audit was concluded with a post-audit meeting held at the AMWTP EDF in Idaho Falls, Idaho, on June 25, 2008.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the applicable AMWTP container-in-container solids sampling activities, as described in the associated AMWTP implementing procedure, are adequate, satisfactorily implemented, and effective in meeting the requirements of the HWFP. The Permit Attachment B6 checklist questions that were applicable to the audit scope were answered. Those B6 checklist questions that were not applicable to

the audit scope are marked "N/A" on the B6 checklist. Audit activities, including objective evidence reviewed, are described below. The B6 checklist identifies the AMWTP program documents and procedure where the WAP requirements are met. Attachment 2 contains the AMWTP objective evidence reviewed during the audit. Attachment 3 contains a listing of AMWTP implementation of the appropriate Table B6-1 and B6-2 WAP requirements. Attachment 4 identifies the processes and equipment audited for certification. Attachment 5 identifies the implementing procedure used for the container-in-container solids sampling.

The audit team concluded that the AMWTP QA program is satisfactorily implemented and effective.

5.2 Quality Assurance Activities

Organization and QA Program

For certification of the AMWTP for container-in-container solids sampling, the audit team performed a review of the AMWTP program-related documentation and associated interface documents. Interviews with personnel were also conducted. Based on this review, the audit team concluded that the AMWTP QA Program plans and procedures adequately address the applicable requirements of the CBFO QAPD and the WIPP HWFP, and are effectively implemented.

The audit team concluded that the requirements governing organization and the QA program (CBFO QAPD, Section 1.1) were adequately addressed, satisfactorily implemented, and effective.

Personnel Qualification and Training

AMWTP personnel who perform work under the AMWTP Program are trained and qualified to WIPP requirements in accordance with QP-SS-0001, *Solids Sampler*, and QP-VE-0001, *Visual Examiner*.

The audit team concluded that the requirements governing personnel qualification and training processes (CBFO QAPD, Section 1.2) were adequately addressed, satisfactorily implemented, and effective.

Measuring and Test Equipment

The audit team verified the QAPD requirements of the control of measuring and test equipment (M&TE). The audit team examined the sampling area and observed instruments appropriately labeled with the status of calibration. Instrument numbers were noted and then verified against the AMWTP M&TE listing.

The audit team concluded that the requirements governing the M&TE process (CBFO QAPD, Section 2.4.6) were adequately addressed, satisfactorily implemented, and effective.

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 receipt to disposal. The audit team interviewed personnel and reviewed documentation to verify that AMWTP met all of the solids sampling requirements of the WAP.

The audit team concluded that the requirements governing sample control processes (CBFO QAPD, Section 4.1) were adequately addressed, satisfactorily implemented, and effective.

Documents and Records

The audit team reviewed the AMWTP implementing document, INST-OI-75, "Container-in-Container Sampling", Revision 1, to verify that minor corrections to the document had been performed. Training records for 4 sampling personnel were examined and it was determined that the training of these personnel was complete and acceptable.

5.3 Technical Activities

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

Objective evidence to evaluate the implementation of the associated solids sampling activity was selected and reviewed. Batch data reports (BDRs), sampling records, generation-level V&V documentation, and training documentation for AMWTP personnel were included in the evaluation. The audit included a demonstrated walk-through of solids sampling activity. The characterization process involves:

- Selecting the drum to be sampled
- Selecting the inner container to be sampled
- Sampling the inner container
- Sample custody
- Reporting of solids sampling information

The AMWTP provided Solids Sampling BDRs SSG08-00010 and SSG08-00011. The audit team evaluated these BDRs and found them to be acceptable.

Generation-Level Data V&V

Objective evidence was reviewed to ensure generation-level activities were adequately performed to support waste characterization. BDRs were evaluated based on generation-level requirements for solids sampling.

The audit team concluded that the generation-level data V&V activities were adequately addressed, satisfactorily implemented, and effective.

5.3.1 Table B6-1, WAP Checklist

The audit was performed to assess the ability of AMWTP to manage and perform TRU waste solids sampling activities for S3000 homogeneous solids and S4000 soils/gravel.

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 solids sampling strategy as defined in the WAP is accomplished and documented in accordance with controlled processes and procedures.

The audit team evaluated both the QA program aspects of the B6-1 checklist and the technical activities defined in the B6-2 checklists. The following B6-1 checklist items related to QA program implementation were evaluated by the audit team.

Personnel Qualification and Training

B6-1, Question 64: The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the QA implementation requirements of B6-1, Question 64, relative to the AMWTP training requirements of INST-OI-75, QP-SS-0001, and QP-VE-0001. The audit team determined that the documented AMWTP personnel qualification and training program was adequate, satisfactorily implemented, and effective. No concerns related to personnel qualification and training were identified during this audit.

Sample Control

B6-1, Questions 46 and 47: 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 final analysis result reporting. The audit team interviewed personnel and reviewed documentation to verify that AMWTP laboratories met all of the solids sample control requirements of the WAP. The solids sample control processes were determined to be adequate, satisfactorily implemented, and effective.

5.3.2 Table B6-2 Solids and Soils/Gravel Sampling Checklist

Solids sampling activities performed by the AMWTP include sampling, sample custody, and sample shipment. The audit team examined BDRs SSG08-00010 and SSG08-00011. Training and qualification of samplers were confirmed to be acceptable to the AMWTP program. Sample control was verified to be compliant.

The audit team did not identify any CAQs during the audit and concluded the solids sampling processes are adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs) and document them 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, 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 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 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 issued as a result of 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.

No Observations were presented to AMWTP management as a result of this audit.

6.4 Recommendations

During the audit, the audit team may develop 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 provided to AMWTP management as a result of the audit.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Objective Evidence

Attachment 3: Table of Audited Documents

Attachment 4: Process and Equipment Reviewed

Attachment 5: Revisions to Implementing Procedures

PERSONNEL CONTACTED DURING THE AUDIT

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Adams, Nick	OPS Tech			X
Auginaga, Angel	OPS Tech		X	X
Black, Lance	OPS Tech		X	X
Brugger, Mike	VEE, Sampling	X	X	X
Dumas, Elvin	BBWI QA Programs Manager	X		X
Holmes, Steve	Observer/NMED	X	X	X
Marquardt, Dave	SPM Designee	X		
Preston, Dave	Sampling SME	X	X	X
Schweinsberg, Eric	BBWI SPM	X		X
Tedford, Gina	BBWI SMP.AKE Audit Lead	X	X	X
Twitchell, Juanita	ITR Validation	X		
Wells, Jerry	DOE TRU Waste Projects	X		X

LISTING OF AUDITED DOCUMENTS

	Document No.	Document Title
1.	INST-OI-75, Rev. 1	Container-in-Container Sampling

Processes and Equipment Reviewed During Audit A-08-09 of the AMWTP

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				
	Container-in-Container Sampling	S3000 (HOMOGENEOUS SOLIDS) AND S4000 (SOILS/GRAVEL)	No	N/A
<u>PREVIOUSLY APPROVED PROCESSES</u>				
	N/A			

PROCEDURE REVISION MATRIX

AMWTP Certification Audit A-08-09

No.	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
1	INST-OI-75	Container-in-Container Sampling	N/A	1	1- Changes made for consistency with support tasks and required for WTS code operation.