



United States Government

Department of Energy

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: November 5, 2003

REPLY TO
ATTN OF: CBFO:QA:DSM:03-2937:UFC 2300.00

SUBJECT: Audit Report A-04-08, Rocky Flats Environmental Technology Site, Characterization of Waste Certification Audit

to: John Schneider, Assistant Manager

The Carlsbad Field Office (CBFO) conducted a certification audit of the Rocky Flats Environmental Technology Site (RFETS) waste characterization activities. The audit was conducted on October 28-29, 2003. The audit team concluded that the RFETS technical and quality assurance programs for these activities were adequate in accordance with the WIPP Hazardous Waste Facility Permit, the CBFO Contact-Handled Transuranic Waste Acceptance Criteria for the WIPP, and the CBFO Quality Assurance Program Document. The audit team also concluded that overall the RFETS procedures were being satisfactorily implemented and the evaluated processes were effective. No CBFO Corrective Actions Reports were issued as a result of the audit.

If you have any questions or comments, please contact me at (505) 234-7491

Dennis S. Miehl
Quality Assurance Specialist



Attachment

cc: w/attachments

A. Holland, CBFO	*ED
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G. Morgan, RFFO	*ED
L. Xuan, RFFO	*ED
M. Eagle, EPA	*ED
R. Joglekar, EPA	*ED
E. Feltcorn, EPA	*ED
S. Zappe, NMED	*ED
S. Webb, EEG	*ED
D. Winters, DNFSB	*ED
C. Ferrera, RFETS	*ED
G. O'Leary, RFETS	*ED
C. Riggs, CTAC	*ED
M. Rojo, CTAC	*ED
L. Greene, WRES	*ED
K. Dunbar, WRES	
CBFO QA Files	
CBFO M&RC	

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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

AUDIT REPORT

OF THE

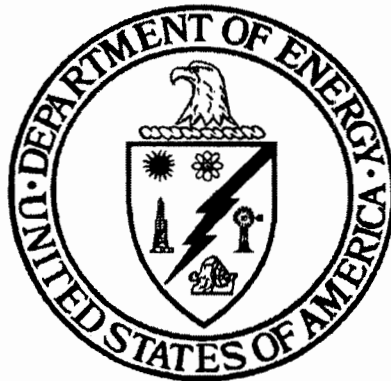
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO

AUDIT NUMBER A-04-08

October 28 – 29, 2003

AUDIT REPORT OF WASTE CHARACTERIZATION ACTIVITIES

Soil Removal for Sampling
Gas Generation Testing



Prepared By: Charles L. Riggs
Charles L. Riggs, CTAC
Audit Team Leader

Date: 11/5/03

Approved By: Ava L. Holland
Ava L. Holland, CBFO
Quality Assurance Manager

Date: 11/5/03

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-04-08 was conducted to evaluate the adequacy, implementation, and effectiveness of the Rocky Flats Environmental Technology Site (RFETS) transuranic (TRU) waste characterization activities relative to the requirements contained in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the Contact-Handled Transuranic Waste Acceptance Criteria (CH-WAC) for the WIPP, and the Quality Assurance Program Document (QAPD).

The audit scope included Summary Category Group S3000 solid wastes, S4000 soils/gravels, and S5000 debris wastes. The audit evaluated the activities related to Building 440 gas generation testing (85-gallon overpack containers). The removal of soil (S4000 soils/gravels) from Intermodal containers and placement into small containers (Vollrath cans) for subsequent sampling was also evaluated.

This was the initial evaluation of activities associated with S4000 soils/gravels. S4000 soils/gravels will not be accepted at WIPP until RFETS has successfully completed a full CBFO certification audit and the subsequent audit report has been approved by the New Mexico Environment Department (NMED).

The audit was conducted at RFETS on October 28 – 29, 2003. The audit team concluded that the overall adequacy of the RFETS technical and quality assurance (QA) programs, as applicable to audited activities, was satisfactory in meeting requirements. The audit team also concluded that the defined QA and technical programs for these activities were being implemented in accordance with the RFETS Quality Assurance Project Plan (QAPjP) and the applicable implementing procedures, and that the processes were effective.

The audit team did not identify any conditions adverse to quality (CAQ) requiring the issuance of a CBFO corrective action report (CAR). No deficiencies requiring remedial corrective actions were found during the course of the audit. No Observations resulted from the audit. The audit team presented one Recommendation to RFETS management for consideration.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the RFETS TRU waste characterization activities for a new process for soil removal for sampling. In addition, the Building 440 gas generation testing (85-gallon overpack containers) activities were evaluated.

The audit included the following elements:

Technical

Soil Removal for Sampling
Gas Generation Testing (85-gallon overpacks)
Project-Level Verification and Validation (V&V) (in support of the above technical elements)

Quality Assurance

The following QA elements were evaluated only to the extent needed to support the technical elements listed above.

Records/Document Control
Training
Quality Improvement

The evaluation of RFETS TRU waste activities and documents was based on current revisions of the following documents:

Waste Isolation Pilot Plant Hazardous Waste Facility Permit

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

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

RFETS Quality Assurance Project Plan for the Transuranic Waste Characterization Program, 95-QAPjP-0050

RFETS Transuranic Waste Management Manual, 1-MAN-008-WM-001

Related RFETS technical and QA implementing procedures

Purpose

The audit team evaluated the adequacy, implementation, and effectiveness of the RFETS TRU waste characterization activities for a new process for soil removal for sampling. In addition, the Building 440 gas generation testing (85-gallon overpack containers) activities were evaluated.

AUDIT TEAM AND OBSERVER

AUDITORS/TECHNICAL SPECIALISTS

Charlie Riggs	Team Leader, CBFO Technical Assistance Contractor (CTAC)
William (BJ) Verret	Technical Specialist, CTAC

OBSERVER

Bob Thilke

New Mexico Environment Department (NMED)
Contractor

AUDIT PARTICIPANTS

RFETS individuals contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at RFETS Building 460 on October 28, 2003. A daily meeting was held with RFETS management and staff to discuss the issues and potential deficiencies from the previous day. The audit concluded with a post-audit meeting held at RFETS Building 460 on October 29, 2003.

SUMMARY OF AUDIT RESULTS

Program Adequacy and Implementation

The audit team concluded that the applicable RFETS TRU waste characterization activities, as described in the associated RFETS implementing procedures, satisfactorily meet applicable requirements.

Attachment 2 contains a summary table of audit results. Audit activities, including objective evidence reviewed, are described below and in CBFO checklists and/or objective evidence reviewed forms. Attachment 3 contains a list of RFETS procedures included in the audit.

Technical Activities

The following sections describe the technical activities reviewed during the audit.

5.2.1 Soil Removal for Sampling

The audit team examined the program for soil removal for sampling, including methods for taking portions of soil from Intermodal containers and placing the soil into Vollrath cans for future sampling. The audit team also reviewed the memorandum identifying the random locations for soil removal for sampling using this process.

On October 28, 2003, the audit team witnessed the removal of soil from grid areas 4B and 16A of Intermodal number LO 1988. Soil from the pre-selected grid areas was placed into Vollrath cans to be sampled using the small container waste sampling procedure, PRO1623-SCWS-440, *Small Container Waste Sampling*. The audit team verified that the sampling team properly implemented the requirements of the procedure, PRO-1729-903-SOIL, *Soil Removal from Pre-Selected Areas, 903 Pad*.

Training records for all personnel performing the removal of soil for sampling were reviewed and verified to meet the training and qualification requirements in accordance with PLN-97-007, *TRU Waste Characterization Program Training Implementation Plan*.

One recommendation was identified for this process. The audit team recommended that the tools used to take portions of soil from the Intermodal containers and place them into the Vollrath cans be cleaned when shifting from one Intermodal to the next (see Recommendation 1).

Overall, soil removal for sampling was determined to be adequate, satisfactorily implemented, and effective.

5.2.2 Gas Generation Testing

The audit team examined the Gas Generation Test Program (GGTP) testing equipment that was recently brought on-line for Building 440, including new steel bell jars to handle 85-gallon drum GGTP testing, in addition to 55-gallon drums. Procedures for testing both the 85-gallon drum and the 55-gallon drums were updated and submitted to CBFO and CTAC for review and approval prior to the audit.

The GGTP activities for drum loading, initial and final testing for hydrogen and methane generation, and drum unloading operations were evaluated on October 28 and 29, 2003. Sampling and analysis operations on both 85-gallon and 55-gallon drums were audited. The audit team observed initial and final drum sampling for hydrogen and methane, including gas chromatograph (GC) calibration verification and duplicate sampling and analysis. Both heated and non-heated GGTP operations were observed. Documentation was examined while sampling and analysis were occurring, completed data packages GGFP-DP-00169 (heated operations) and GGFP-DP-00170 (nonheated operations) were examined, interviews were conducted with operators and supervisors, and equipment confirmation was performed.

Training records for selected personnel performing the testing were verified and met the training and qualification requirements in accordance with PLN-97-007, *TRU Waste Characterization Program Training Implementation Plan*.

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

Verification and Validation

The audit team reviewed the V&V process at both the data-generation and the project level for data packages associated with the other audited activities. Overall, data-generation and project-level data V&V were determined to be adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

Corrective Action Reports

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

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

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

No conditions adverse to quality were identified during the audit. Therefore, no CAR was issued during the audit.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify conditions adverse to quality (CAQ). The audit team members and the audit team leader (ATL) evaluate the CAQs to determine if they are significant, using the following definitions. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). 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.

Corrected During the Audit (CDA) – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and for which correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals that have not completed a reading assignment.

No CDAs resulted from the audit.

Observations

An Observation documents marginally acceptable conditions that, if not controlled, might later escalate into a deficiency.

No Observations were presented as a result of the audit.

Recommendations

The following recommendations were provided to RFETS management for consideration during the audit.

Recommendation 1

The shovel, bowl, and trowel used to take portions of soil from the Intermodal containers and place them in Vollrath cans are not cleaned prior to use. This creates the potential for cross-contamination between containers and from portion to portion. Recommend using a stiff brush to clean shovel blade, bowl, and trowel, followed by wipe-down with paper or cloth towel prior to taking a portion of soil for the Vollrath can.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Summary Table of Audit Results

Attachment 3: Table of Audited RFETS Implementing Procedures

SUMMARY TABLE OF AUDIT RESULTS

Documents	Concern Classification				QA Evaluation		Technical
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Activity							
SOIL REMOVAL FOR SAMPLING				1	A	S	E
VERIFICATION AND VALIDATION					A	S	E
GAS GENERATION TESTING					A	S	E
TRAINING					A	S	E
RECORDS/DOCUMENT CONTROL					A	S	E
QUALITY IMPROVEMENT					A	S	E
TOTALS	0	0	0	1	A	S	E

Definitions

E = Effective
 S = Satisfactory
 I = Indeterminate
 M = Marginal

CAR = Corrective Action Report
 CDA = Corrected During the Audit
 NE = Not Effective
 Obs = Observation

Rec = Recommendation
 A = Adequate
 NA = Not Adequate

RFETS DOCUMENTS AUDITED FOR A-04-08		
No.	Procedure Number	Title
1.	PRO-1729-903-SOIL	Soil Removal from Pre-Selected Areas, 903 Pad
2.	PRO-1730-903-001	903 Pad Soil Removal/Repack and Characterization Plan
3.	PRO-1623-SCWS-440	Small Container Waste Sampling
4.	PRO-1618-PLP-001	Data Review & Verification of Solid Sampling Batch Data Reports
5.	PRO-940-WIPP-010	WIPP TRU Waste Characterization Project Level Data Review and Reporting
6.	PLN-97-007	TRU Waste Characterization Program Training Implementation Plan
7.	95-QAPjP-0050	TRU Waste Characterization Program Quality Assurance Project Plan (TWCP QAPjP)
8.	1-MAN-008-WM-001	Transuranic (TRU) Waste Management Manual (TWMM)
9.	RS-020-001	Gas Generation Testing Program QAPjP
10.	PRO-440-RS-0149	GGTP Drum Selection and Batching
11.	PRO-1654-NHGGT-1983	Non-Heated Gas Test Canister Operations
12.	PRO-1655-HGGT-1954	Heated Gas Test Canister Operations
13.	PRO-962-MGSS-001	Mobile Gas Generation Testing Sampling System Operations
14.	PRO-963-MGSS-002	Mobile Gas Generation Testing Sampling system Data Calculation