



Department of Energy  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
November 7, 2003



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

RE: Transmittal of the Certification Audit Report for the Rocky Flats Environmental Technology Site (A-04-08)

Dear Mr. Zappe:

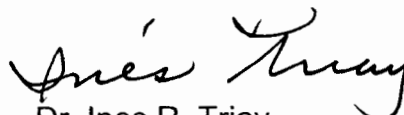
This letter transmits the Rocky Flats Environmental Technology Site Audit Report for the processes performed to characterize and certify waste as required by Section II.C.2.c of the WIPP Hazardous Waste Facility Permit. The report contains the results of the audit performed for the characterization and certification of a new process for removing soil from Intermodal containers into small containers for subsequent sampling. The audit was conducted October 28-29, 2003.

This was the initial evaluation of activities associated with Summary Category Group 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).

I certify under penalty of law that this document and all attachments 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, Ava L. Holland, at (505) 234-7423 should you have any questions concerning this audit report.

Sincerely,

  
Dr. Ines R. Triay  
Manager

Enclosure



Mr. Steve Zappe

-2-

November 7, 2003

cc: w/o enclosure

T. Harms, DOE-HQ	*ED
A. Holland, CBFO	*ED
D. Miehls, CBFO	*ED
R. Knerr, CBFO	*ED
K. Watson, CBFO	*ED
J. Schneider, RFFO	*ED
L. Xuan, RFFO	*ED
R. Ballenger, RFETS	*ED
C. Ferrera, RFETS	*ED
G. O'Leary, RFETS	*ED
J. Kieling, NMED	*ED
S. Martin, NMED	*ED
B. Walker, EEG	*ED
S. Warren, WTS	*ED
M. Rojo, CTAC	*ED

cc:w/enclosure

C. Walker, Techlaw	*ED
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CBFO QA File	
CBFO M&RC	

U.S. DEPARTMENT OF ENERGY  
CARLSBAD FIELD OFFICE  
FINAL AUDIT REPORT  
OF THE  
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE  
GOLDEN, COLORADO  
AUDIT NUMBER A-04-08  
October 28 – 29, 2003

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

Soil Removal for Sampling



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: 11/6/03

## **1.0 EXECUTIVE SUMMARY**

Carlsbad Field Office (CBFO) Audit A-04-08 was conducted to evaluate the adequacy, implementation, and effectiveness of Rocky Flats Environmental Technology Site (RFETS) transuranic (TRU) waste characterization activities for Summary Category Group S4000 soils/gravels, relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) and the CBFO *Quality Assurance Program Document (QAPD)*. A set of B6 checklists used for assessing compliance of HWFP-related activities is included in Attachment 4.

The audit scope included Summary Category Group S4000 soils/gravels. The audit evaluated the process of removal of soil from Intermodal containers and placement into small containers (Vollrath cans) for subsequent sampling.

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 and 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 resulting in 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. One Recommendation was presented 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 processes for the removal of soil from Intermodal containers and placement into small containers (Vollrath cans) for subsequent sampling.

The RFETS waste characterization processes were evaluated relative to the requirements contained in the HWFP Waste Analysis Plan (WAP), Attachments B through B6, as applicable. Compliance was documented by completing the HWFP Attachment B6 checklists for the applicable RFETS activities.

The following RFETS program elements were evaluated in accordance with the HWFP.

### Quality

The following quality assurance elements were evaluated only to the extent necessary to support the technical elements listed below.

- Control of nonconforming items
- Personnel qualification and training
- Documents and records

### Technical

- Soil Removal for Sampling
- Project-Level Verification and Validation (V&V)

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

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit Quality Assurance Program Document, DOE/CBFO-94-1012*
- Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan, 95-QAPjP-0050*
- RFETS Transuranic (TRU) Waste Management Manual, 1-MAN-008-WM-001*
- Related RFETS technical and quality assurance implementing procedures

## **2.2 Purpose**

Audit A-04-08 was conducted to assess the level of compliance of RFETS waste characterization activities associated with the removal of soil from Intermodal containers and placement into small containers (Vollrath cans) for subsequent sampling.

## **3.0 AUDIT TEAM AND OBSERVERS**

### **AUDITORS/TECHNICAL SPECIALISTS**

Charlie Riggs	Audit Team Leader, Carlsbad Field Office Technical Assistance Contractor (CTAC)
William (BJ) Verret	Technical Specialist, CTAC

### **OBSERVER**

Bob Thielke	New Mexico Environment Department (NMED) Contractor
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## **4.0 AUDIT PARTICIPANTS**

RFETS individuals contacted during the audit are identified in Attachments 1 and 2. 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 of the previous day. The audit concluded with a post-audit meeting held at RFETS Building 460 on October 29, 2003.

## **5.0 SUMMARY OF AUDIT RESULTS**

### **5.1 Program Adequacy and Implementation**

The audit team concluded that the applicable RFETS TRU waste characterization activities for the removal of soil from Intermodal containers and placement into small containers (Vollrath cans) for subsequent sampling, as described in the associated RFETS implementing procedures, satisfactorily meet the requirements contained in the HWFP. Details of audit activities, including specific objective evidence reviewed for those activities approved by CBFO as a result of this audit, are described below and in the attached supplemental B6 checklists. The B6 checklists identify the RFETS program documents and procedures where WAP requirements are met and list the objective evidence used to evaluate the implementation. Enclosure 2 contains examples of the objective evidence reviewed during the audit.

### **5.2 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 WAP is cited briefly (and in detail on the checklist), and the results of the assessments are provided.

The audit team did not identify any conditions adverse to quality resulting in 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. One Recommendation was presented to RFETS for management consideration.

#### **5.2.1 Table B6-1 WAP Checklist**

This audit was performed to assess RFETS' ability to characterize S4000 soils/gravels for the removal of soils for sampling. RFETS has not changed the project-level data V&V, acceptable knowledge, headspace gas processes, RTR, or VE since Audit A-03-03, the last recertification audit. RFETS has not changed the solids sampling processes since Audit A-03-22. Therefore, there is no supplemental information to add to the B6-1 checklist. RFETS continues to satisfactorily meet the project-level data V&V, solids sampling and analysis, acceptable knowledge, headspace gas, RTR, and VE requirements for S3000 solid waste and S5000 debris waste.

### 5.2.2 Table B6-2 Solids and Soils/Gravel Sampling Checklist

The audit team examined the program for soil removal for sampling, including methods for taking portions of soil from Intermodal containers and placing them 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 process (presently awaiting approval by NMED, CBFO Audit A-03-22). The audit team verified that the sampling team properly implemented the requirements of the procedure, *Soil Removal from Pre-Selected Areas, 903 Pad*.

The documentation supporting the removal of soil from preselected areas in the Intermodal containers was reviewed and provided objective evidence that the soil was removed from the areas identified in the plan.

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 another (Recommendation 1).

Overall, the soil removal for sampling activities were determined to be adequate, satisfactorily implemented, and effective.

### 5.2.3 Table B6-3 Acceptable Knowledge Checklist

This audit was performed to assess RFETS' ability to characterize S4000 soils/gravels for the removal of soils for sampling. RFETS has not changed the project-level data V&V, acceptable knowledge, headspace gas processes, RTR, or VE since Audit A-03-03, the last recertification audit. RFETS has not changed the solids sampling processes since Audit A-03-22. Therefore, there is no supplemental information to add to the B6-3 checklist. RFETS continues to satisfactorily meet the project-level data V&V, solids sampling and analysis, acceptable knowledge, headspace gas, RTR, and VE requirements for S3000 solid waste and S5000 debris waste.

### 5.2.4 Table B6-4 Headspace Gas Checklist

This audit was performed to assess RFETS' ability to characterize S4000 soils/gravels for the removal of soils for sampling. RFETS has not changed the project-level data V&V, acceptable knowledge, headspace gas processes, RTR, or VE since Audit A-03-03, the last recertification audit. RFETS has not changed the solids sampling

processes since Audit A-03-22. Therefore, there is no supplemental information to add to the B6-4 checklist. RFETS continues to satisfactorily meet the project-level data V&V, solids sampling and analysis, acceptable knowledge, headspace gas, RTR, and VE requirements for S3000 solid waste and S5000 debris waste.

#### 5.2.5 B6-5 Radiography Checklist

This audit was performed to assess RFETS' ability to characterize S4000 soils/gravels for the removal of soils for sampling. RFETS has not changed the project-level data V&V, acceptable knowledge, headspace gas processes, RTR, or VE since Audit A-03-03, the last recertification audit. RFETS has not changed the Solids Sampling processes since Audit A-03-22. Therefore, there is no supplemental information to add to the B6-5 checklist. RFETS continues to satisfactorily meet the project-level data V&V, solids sampling and analysis, acceptable knowledge, headspace gas, RTR, and VE requirements for S3000 solid waste and S5000 debris waste.

#### 5.2.6 B6-6 Visual Examination (VE) Checklist

This audit was performed to assess RFETS' ability to characterize S4000 soils/gravels for the removal of soils for sampling. RFETS has not changed the project-level data V&V, acceptable knowledge, headspace gas processes, RTR, or VE since Audit A-03-03, the last recertification audit. RFETS has not changed the Solids Sampling processes since Audit A-03-22. Therefore, there is no supplemental information to add to the B6-6 checklist. RFETS continues to satisfactorily meet the project-level data V&V, solids sampling and analysis, acceptable knowledge, headspace gas, RTR, and VE requirements for S3000 solid waste and S5000 debris waste.

## **6.0 SUMMARY OF DEFICIENCIES**

### **6.1 Corrective Action Reports**

During the audit, the audit team may identify conditions adverse to quality (CAQ) and document them on 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, regulatory compliance demonstration, or the effective implementation of the QA program.

No WAP-related CARs were issued as a result of the 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, using the following definitions. Once a determination is made that a 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.

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. A significant condition adverse to quality is one which, if uncorrected, could have a serious effect on safety, operability, waste isolation, TRU waste site certification, regulatory compliance demonstration, or effective implementation of the QA program.

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 who have not completed a reading assignment.

No WAP-related conditions adverse to quality were identified, therefore no CDAs resulted from the audit.

## **7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS**

### **7.1 Observations**

Observations document marginally acceptable conditions that, if not controlled, might later escalate into deficiencies.

No WAP-related observations were presented as a result of the audit.

### **7.2 Recommendations**

The following WAP-related recommendation was provided to RFETS management during the audit.

#### **Recommendation 1**

The shovel, bowl, and trowel used to take portions of soil from the Intermodal containers and place them into Vollrath cans are not cleaned prior to use. There is a

potential for cross-contamination from Intermodal to Intermodal 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 the portion for the Vollrath can.

## **8.0 LIST OF ATTACHMENTS**

Attachment 1: Personnel Contacted During the Audit  
Attachment 2: Personnel Contacted During the Audit by Area  
Attachment 3: Table of Audited RFETS Implementing Procedures  
Attachment 4: WIPP Hazardous Waste Facility Permit B6 Checklist

## **9.0 LIST OF ENCLOSURES**

Enclosure 1: RFETS Audited Implementing Procedures  
Enclosure 2: Objective Evidence and Content Map

## PERSONNEL CONTACTED DURING THE AUDIT

RFETS PERSONNEL CONTACTED DURING AUDIT A-04-08				
NAME	ORG/T ITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Armour, Faith	WRC; Lead			X
Ballenger, Roger J.	TWCP; TRU Waste Prog. Manager	X	X	X
Burmeister, Mark	RISS/ER; 903 Pad	X	X	X
Dahl, David	QA/QE; MSQA	X	X	X
Dang, H. P.	B440 Gas Gen Operator		X	
Edmiston, Doug	TRU Waste Programs; GGT Manager		X	
Ferrera, Carol	KH TWCP QAO	X	X	X
Grady, Frank	RMRS/TRU Waste Projects; TRU Project Engineer	X	X	X
Johnson, Micky	TRU Waste Prog; Engineer	X	X	X
Keating, Mike	RISS/ER; KH Project Manager 903	X	X	X
Kirk, Nancy	MSQA; Assessments	X	X	
Kirschenmann, Harley	MSQA, Manager			X
Lindsay, Tom	RISS/ER; 903 Field Prog Manager	X	X	X
Lopez, D. J.	B440 Gas Gen Operator		X	
McCarthy, Ed	B440 Operations Manager	X	X	X
McGrory, Mike S.	TRU Programs; TRU Waste Prog. Mgt.	X		
O'Leary, Jerry	KH/MS TRU Prog; SPM	X		X
Pigeon, Paul	Material Stewardship; TWCP Training Officer	X		X
Pruitt, Ra	B440 Gas Gen Operator		X	
Rivera, Mike	TRU Waste Program	X	X	X

<b>RFETS PERSONNEL CONTACTED DURING AUDIT A-04-08</b>				
<b>NAME</b>	<b>ORG/T ITLE</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST-AUDIT MEETING</b>
Sisk, Susan	QA/QE; MSQA	X		X
Weigel, T. A.	MS B440 Gas Gen Supervisor		X	
Wolfe, Mike	PDCO/Waste records Manager, SOM	X		
Xuan, Lam	DOE/RFFO/ERWM; WIPP Coordinator	X	X	X

### Personnel Contacted During Audit A-04-08 by Area

Verification and Validation	Faith Armour Carol Ferrera
Soil Removal for Sampling	Roger Ballenger Lam Xuan Paul Pigeon Micky Johnson David Dahl Nancy Kirk Mark Burmeister Mike Keating Tom Lindsay

Table of Audited RFETS Documents

<b>RFETS DOCUMENTS AUDITED FOR A-04-08</b>		
<b>No.</b>	<b>Procedure Number</b>	<b>Title</b>
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.	PLN-97-007	TRU Waste Characterization Program Training Implementation Plan
4.	95-QAPjP-0050	TRU Waste Characterization Program Quality Assurance Project Plan (TWCP QAPjP)
5.	1-MAN-008-WM-001	Transuranic (TRU) Waste Management Manual (TWMM)