

memorandum

Carlsbad Field Office
 Carlsbad, New Mexico 88221

DATE: May 24, 2002
 REPLY TO
 ATTN OF: CBFO:QA:ALH:GS:02-1051:UFC 2300.00
 SUBJECT: Audit A-02-22 of the Performance Demonstration Program for Nondestructive Assay
 to: Kerry Watson, Assistant Manager, Office of National TRU Waste Program

The Carlsbad Field Office (CBFO) conducted an audit of the Performance Demonstration Program (PDP) for Nondestructive Assay (NDA) on April 12, 16, 17, and 29, 2002. The audit team concluded that, overall, the PDP NDA is adequate in accordance with the CBFO Quality Assurance Program Document and the Waste Acceptance Criteria. The audit team also concluded that the PDP NDA processes were being satisfactorily implemented and effective. The CBFO audit report is attached.

There was one CBFO Corrective Action Report issued as a result of the audit. Two conditions adverse to quality were corrected during the audit.

If you have any questions or comments concerning this report, please contact me at (9505) 234-7423.

Ava L. Holland //signature on file//
 Ava L. Holland
 Quality Assurance Manager



Attachment

- cc w/attachment:
- I. Triay, CBFO *ED
 - M. Brown, CBFO *ED
 - S. Monroe, EPA *ED
 - M. Eagle, EPA *ED
 - S. Zappe, NMED *ED
 - B. Walker, EEG *ED
 - C. Watkins, CTAC *ED
 - A. Areceo, CTAC *ED
 - T. Bowden, CTAC
 - L. Chism, CBFO

*ED denotes electronic distribution

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

**AUDIT REPORT
OF THE**

PERFORMANCE DEMONSTRATION PROGRAM

NONDESTRUCTIVE ASSAY

**PORTAGE ENVIRONMENTAL, INC.
IDAHO FALLS, ID, APRIL 12, 2002**

**CARLSBAD FIELD OFFICE
APRIL 16, 17 and 29, 2002**

AUDIT NUMBER A-02-22



Prepared By: Amelia I. Arceo //s//
Amelia I. Arceo
Audit Team Leader

Date: 4/30/02

Approved By: Ava L. Holland //s//
Ava L. Holland
CBFO QA Manager

Date: 5/23/02

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-02-22 was conducted to evaluate the adequacy, implementation, and effectiveness of the Waste Isolation Pilot Plant (WIPP) Performance Demonstration Program (PDP) for Nondestructive Assay (NDA). The PDP for Analysis of Simulated Headspace Gases and Resource Conservation and Recovery Act (RCRA) Constituent Analysis of Solidified Wastes were previously evaluated in Audit A-02-11 on January 21-31, 2002.

The audit was conducted at the office of Portage Environmental, Inc. in Idaho Falls, ID, on April 12, 2002 and at CBFO, Carlsbad, NM, on April 16, 17, and 29, 2002. The audit team concluded that, overall, the PDP NDA Management Plans and Management Procedure are adequate relative to the flow down of requirements from the CBFO Quality Assurance Program Document (QAPD), and Waste Acceptance Criteria (WAC). The audit team also concluded that, except for the area identified in this report, the defined Quality Assurance (QA) Program continued to be satisfactorily implemented in accordance with the PDP Management Plans and implementing procedure. The audit team determined that the PDP NDA activities evaluated from PDP Cycles 6 through 8 were adequate, satisfactorily implemented, and effective.

The audit team identified one condition adverse to quality resulting in the issuance of one CBFO Corrective Action Report (CAR) that requires corrective actions in the drum identification and design specification. Two isolated deficiencies requiring only remedial corrective actions were corrected during the audit (CDA). The CAR and CDAs are described in Section 6.0.

2.0 SCOPE

The audit team evaluated the adequacy, implementation, and effectiveness of technical and quality assurance processes related to the PDP NDA activities for drummed and boxed wastes.

The following elements were evaluated in accordance with the CBFO QAPD as they relate to the PDP for NDA:

- Organization
- Qualification and Training
- Document Control
- Records Management
- Corrective Action

The following technical elements were evaluated in accordance with the WAC:

- Nondestructive Assay (NDA) Drummed Waste
- Nondestructive Assay (NDA) Boxed Waste

Evaluation of PDP NDA documents was based on the following documents:

DOE/CBFO-01-3107, Rev. 1, *Performance Demonstration Program Management Plan*

DOE/CBFO-01-1005, Rev. 0.1, *Performance Demonstration Program Plan for Nondestructive Assay of Drummed Wastes for the TRU Waste Characterization Program*

DOE/CBFO-01-1006, Rev. 0, *Performance Demonstration Program Plan for Nondestructive Assay of Boxed Wastes for the TRU Waste Characterization Program*

CTAC Management Procedure (MP) 2.7, Rev. 0, *Conduct of the Nondestructive Assay Performance Demonstration Programs*

3.0 AUDIT TEAM AND OBSERVERS

AUDITOR/TECHNICAL SPECIALIST

Amy Arceo
Patrick Kelly

Audit Team Leader, CTAC
Technical Specialist, CTAC

OBSERVER

Ben Walker

Observer, EEG

4.0 AUDIT PARTICIPANTS

Individuals involved in the audit process from Portage Environmental, Inc., and CBFO are identified in Attachment 1. Pre-audit and post-audit meetings were held at the Portage Environmental, Inc., conference room on April 12, 2002. The audit was concluded with a post-audit meeting at the CBFO office of Mike Brown on April 29, 2002.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the PDP NDA QA program was adequate for the work being performed and was implemented in accordance with the program documents identified in Section 2.0. The audit determined that the technical areas evaluated are satisfactorily implemented and the processes are effective.

5.2 QA Program Audit Activities

Details of audit activities, including specific objective evidence reviewed, are contained in the audit checklist. The checklist is maintained as a CBFO QA record. See Section 6.0 for a description of the CAR that was issued relative to the PDP NDA program.

5.3 Technical Activities

Evaluations of NDA PDP technical activities are summarized below.

5.3.1 Nondestructive Assay (NDA)

The audit encompassed the NDA PDP for drummed and boxed wastes, and evaluated the following elements: preparation control and distribution of PDP standards, receipt and scoring of results, control of technically relevant programmatic aspects, pedigree and traceability of PDP standards, and program control as documented by PDP records.

The NDA PDP has been in operation for a total of eight (8) cycles. The records related to many program aspects prior to Cycle 6 (November 2000) were not available for this audit at Portage Environmental, Inc. The present contractor took over the activity in November 2000. The previous contractor was CONTEC, Inc., with support from INEEL who manufactured the surrogate waste matrix PDP drums and Los Alamos National Laboratory who prepared the radionuclide standards and samples. Their activities were audited on August 18-19, 1997 (Audit Number A-97-14) and April 21-25, 1997 (Audit A-97-02). The records for PDP NDA Cycles 1 through 5 were kept at the WIPP Project Records Services in Carlsbad, NM.

Audit A-02-22 focused primarily on Cycles 6 through 8. The PDP NDA has provided drum samples (208-liter) for Cycles 1 through 8. At the time of this audit, boxed samples had been provided only in Cycle 8A. The PDP NDA was found acceptable for Cycles 6 through 8, with the exceptions noted below.

The PDP NDA records evaluated during the audit indicated that the drums are not "serial numbered" as required in DOE/CBFO-01-1005, Rev. 0.1, *Performance Demonstration Program Plan for Nondestructive Assay of Drummed Wastes for the TRU Waste Characterization Program*, Section 3.1, fourth paragraph. Additionally, it is not clear what design specifications were used to prepare the waste drums for the PDP NDA. Portage personnel provided design specifications for the waste drums that were documented in INEEL/EXT-02-00320, dated February 2002, approximately six years subsequent to the drums' creation. This was reported in CAR-02-057.

6.0 CARs, CDAs, OBSERVATIONS, and RECOMMENDATIONS

6.1. Corrective Action Reports

One CAR, initiated as a result of Audit A-02-22, has been transmitted to Portage Environmental Inc. under separate cover. A brief description of the CAR is stated below.

CAO CAR 02-057

The PDP NDA records evaluated during the audit indicated that the drums are not “serial numbered,” and it is not clear what design specifications were used to prepare the waste drums for the PDP NDA because the design document (INEEL/EXT-02-00320) for the waste drums provided by Portage personnel was dated February 2002, approximately six years subsequent to the drums’ creation.

6.2 Deficiencies Corrected During the Audit (CDA)

Two deficiencies, requiring remedial action only, were identified during the audit. All were corrected and verified before the completion of the audit. These are identified on the completed audit checklist and documented on the “Corrected During the Audit Forms,” which are maintained as CBFO QA records. Summaries of the CDAs are provided below.

6.2.1 CDA No. 1

Reviews of the draft scoring report for PDP NDA Cycle 8A were performed by two individuals on the same document. The comments were not initialed or noted to identify the reviewer.

The comments on the draft scoring report for PDP NDA Cycle 8A were initialed by the reviewer, and a memo to file was added to clarify the documentation prior to the end of the audit.

6.2.2 CDA No. 2

The documentation to demonstrate that notifications to receive and handle the radioactive standards for the program prior to shipment were not available.

Portage personnel requested the shipping documents from the Los Alamos National Laboratory. The completed *Radioactive Materials Transfer and Authorization to Ship* documents were provided to the auditor prior to the end of the audit.

6.3 Observations

No observations were identified during this audit.

6.4 Recommendations

No recommendations were offered for management consideration during this audit.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

