

United States Government

Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

DATE: December 2, 2002

REPLY TO
ATTN OF: CBFO:QA:MLC:GS:02-1966:UFC 2300.00SUBJECT: Report of Carlsbad Field Office Audit A-03-07 of Los Alamos National Laboratory, Manual
Headspace Gas Sampling

TO: James Nunz, LASO

The Carlsbad Field Office conducted an audit of the Los Alamos National Laboratory (LANL) Transuranic Waste Characterization Program (TWCP) on October 29-31, 2002. Attached is the report for this audit.

One Corrective Action Report (CAR 03-004) was identified and forwarded via separate correspondence. Two Observations and one Recommendation are presented for management action and consideration.

If you have any questions or comments concerning this report, please contact me at (505) 234-7442.



M. Lea Chism
Quality Assurance Specialist



Attachment

cc: w/attachment	
K. Watson, CBFO	*ED
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A. Holland, CBFO	*ED
G. Rodriguez, LASO	*ED
R. Erickson, LASO	*ED
D. Newell, LASO	*ED
D. Winters, DNFSB	*ED
S. Zappe, NMED	*ED
S. Holmes, NMED	*ED
M. Eagle, EPA	*ED
J. Youngman, EEG	*ED
P. Rogers, LANL	*ED
L. Saunders, LANL	*ED
P. Lindahl, LANL	*ED
T. Bowden, CTAC	*ED
L. Greene, WTS	*ED
P. Roush, WTS	
CBFO QA File	
CBFO M&RC	

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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

AUDIT REPORT

OF THE

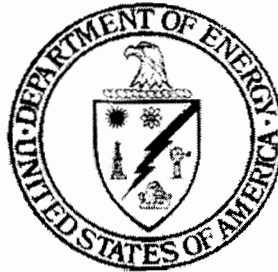
LOS ALAMOS NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUDIT NUMBER A-03-07

October 29 – 31, 2002

Manual Headspace Gas Sampling for Analysis at the Idaho National
Engineering and Environmental Laboratory



Prepared By: _____

Wayne Ledford
Wayne Ledford
Audit Team Leader

Date: _____

11/21/02

Approved By: _____

Ava L. Holland
Ava L. Holland
CBFO QA Manager

Date: _____

12/02/02

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-03-07 was conducted to evaluate the adequacy, implementation, and effectiveness of obtaining manual samples of headspace gas (HSG) in Summa® canisters and utilizing the Idaho National Engineering and Environmental Laboratory (INEEL) for analytical services.

The audit was conducted at the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico, October 29-31, 2002. The audit team concluded that, overall, the LANL process for obtaining manual HSG samples was adequate relative to the flow-down of requirements from the CBFO Quality Assurance Program Document (QAPD) and the Hazardous Waste Facility Permit (HWFP). The audit team also concluded that overall, the LANL technical processes were satisfactorily implemented and effective.

The audit team identified one condition adverse to quality that resulted in the issuance of a corrective action report (CAR) in the area of procurement. The audit team identified one isolated deficiency requiring only remedial corrective actions that was corrected during the audit (CDA). Two Observations were identified and one Recommendation was offered for management consideration.

2.0 SCOPE

The scope of the audit was to evaluate the adequacy, implementation, and effectiveness of obtaining manual samples of headspace gas (HSG) in Summa® canisters and utilizing the INEEL laboratory for analytical services. Compliance with the WIPP HWFP Waste Analysis Plan (WAP) and selected portions of the CBFO QAPD was also evaluated.

The following Quality Assurance (QA) elements were evaluated:

- Personnel Qualification and Training
- Procurement
- Document Control

The following characterization technical elements were evaluated:

- HSG Sampling and Analysis
- Project-level Data Verification and Validation

The evaluation of LANL documents was based on the current revisions of the following documents:

- *CBFO Quality Assurance Program Document, CAO-94-1012*
- *WIPP Hazardous Waste Facility Permit*
- Related LANL technical and QA implementing procedures

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Wayne Ledford	Audit Team Leader, CTAC
Steve Calvert	Auditor, CTAC
Dorothy Gill	Technical Specialist, CTAC

INSPECTORS/OBSERVERS

Steve Holmes	New Mexico Environment Department (NMED)
Kevin Krause	NMED
Judith Youngman	Environmental Evaluation Group (EEG)

4.0 AUDIT PARTICIPANTS

LANL personnel participating in the audit process are identified in Attachment 1. A pre-audit meeting was held in the Oppenheimer Building on October 29, 2002. A daily meeting was held with LANL management and staff to discuss issues and potential deficiencies. The audit was concluded with a post-audit meeting held in the Oppenheimer Building on October 31, 2002.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that, overall, the LANL technical and QA procedures continue to be adequate relative to the flow-down of requirements from the CBFO QAPD and the HWFP. The audit team also concluded the LANL technical processes were satisfactorily implemented and effective.

The audit team concluded that the defined LANL QA program elements reviewed were adequate and satisfactorily implemented in accordance with the LANL Quality Assurance Program Manual (QAMP), the LANL Quality Assurance Project Plan (QAPjP), and LANL implementing procedures for the areas evaluated. The LANL QA program was also determined to be effective. For details of CARs, CDAs, observations, recommendations, and exemplary practices, see Section 6.

A summary table of audit results for each of the QA program elements and the technical processes is provided in Attachment 2. Audit activities, including the specific objective evidence reviewed, are described below and in the CBFO checklists. The CBFO checklists are maintained as QA records. A list of procedures evaluated during the audit is included in Attachment 3.

5.2 Quality Assurance Activities

Details of the objective evidence reviewed in the QA areas are contained in the audit checklists. Overall, the QA activities evaluated were determined to be adequate, satisfactorily implemented, and effective.

5.3 Technical Activities

Evaluations of applicable LANL technical activities are summarized below.

5.3.1 Headspace Gas Sampling and Nucfil® Sample Port Installation

Direct canister headspace gas sampling and associated activities were reviewed during the audit. The activities audited were documented in the following procedures:

- TWCP-DTP-1.2-074, *Manual Headspace Gas Sampling of LANL TRU Waste Containers for Analysis by INEEL*
- TWCP-DTP-1.2-075, *Headspace Gas Sampling Batch Data Report Preparation (INEEL)*
- TWCP-QP-1.1-043, *TWCP Receipt from INEEL of LANL Headspace Gas Analysis Data Reports*
- TWCP-QP-1.1-040, *Tracking and Reporting of TICs*
- TWCP-DTP-1.2-038, *HGAS Filter Removal & Replacement*
- TWCP-DTP-1.2-069, *Installation of the NucFil HGAS Sample Port*

Operators were knowledgeable with regard to their sampling duties, and the sampling processes were well organized. Batch data report generation and data validation processes were sufficiently comprehensive to meet all WIPP WAP requirements, and were well coordinated.

Successful installation of a sample port was observed during the audit. Review of QP-040, *Tracking and Reporting of TICs*, was limited because LANL has not identified a tentatively identified compound (TIC) in the samples processed to date.

The areas of manual headspace gas sampling and sample port installation were determined to be adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTION REPORTS (CARs), CORRECTED DURING THE AUDIT (CDAs) OBSERVATIONS, RECOMMENDATIONS AND EXEMPLARY PRACTICES

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

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 that, 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.

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.

6.1 Corrective Action Reports (CARs)

One CAR, described in Section 6.1.1, was issued during the audit.

6.1.1 CAR 03-004

Headspace gas sampling and analysis activities were being performed prior to the approval of the *Statement of Work for INEEL Headspace Gas Sampling and Analysis of LANL's Transuranic Waste Containers*. Sampling and analysis activities began in August 2002. The statement of work (SOW) was not approved until October 22, 2002. QAPD, Rev. 3, Section 2.3.2.3.C, requires that, "*Supplier QA provisions shall be accepted by the purchaser QA management before authorizing the supplier to start work.*"

6.2 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 require a CAR. Once a determination is made that the CAQ does not require a CAR, the audit team members, in conjunction with the ATL, determine 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 members, in conjunction with the ATL, evaluate/verify any objective evidence/actions submitted or taken by the audited organization and determine if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been acceptably corrected, the ATL categorizes the condition as CDA.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

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

One isolated deficiency, requiring remedial action only, was identified during the audit. This was corrected and verified before the completion of the audit.

PERSONNEL CONTACTED DURING AUDIT A-03-07

NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Anghel, Ioana	LANL/RRES-AT		X	X
Ankrom, James	LANL/NOC			
Baker, Michael	LANL/NDA-NDE			X
Baker, Shannon	LANL/QA	X		X
Coriz, Suzanne	LANL/RRES-AT	X		X
DeSignore, J.C.	LANL/Deputy Project Manager	X		
Hardesty, Bill	LANL/HSG	X		X
Hartwell, Ware	LANL/RRES-AT Cert			X
Humphrey, Betty	LANL/SPM	X	X	
Lin, Mavis	LANL/SPM		X	X
Lindahl, Peter	LANL/SPM		X	X
Marczak, Stanislaw	LANL/RRES-AT		X	
Martin, Beverly	LANL/RRES			X
Ortega, Laura	LANL/RRES-AT HSG	X	X	
Polley, Mark	RRES-AT/TCO		X	
Romero, Bobby	RRES-AT/Technician		X	
Romero, Myrna	RRES-AT/Team Leader		X	
Saunders, Lori	LANL/QA	X	X	X
Souza, Larry	LANL/QA		X	
Sullivan, Jeri	LANL/HSG	X		X
Valdez, Joseph	RRES-AT/Technician		X	
Velarde-Lashley, Karen	LANL/RRES-AT HSG	X	X	

Summary Table of Audit Results

Evaluation Area	Concern Classification					QA Evaluation		
	EP	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Headspace Gas Sampling			3	5		A	S	E
Sample Port Installation					4	A	S	E
Procurement		03-004		1		A	S	E
Project Level V&V						A	S	E
Training						A	S	E
Document Control						A	S	E
TOTALS		1	1	2	1	A	S	E

Definitions

E = Effective

S = Satisfactory

U = Unsatisfactory

I = Indeterminate

A- Adequate

M- Marginal

CDA = Corrected During Audit

CAR = Corrective Action Report

Obs = Observation

Rec = Recommendation

EP=Exemplary Practice

PROCEDURES AUDITED DURING A-03-07		
NUMBER	PROCEDURE NUMBER	TITLE
1.	QP-1.1-010	Project Level Data Validation and Verification
2.	DTP-1.2-006	Calculation of UCL90 Values
3.	DTP-1.2-064	Waste Characterization Data Reconciliation with AK
4.	DTP-1.2-038	HGAS Filter Removal & Replacement
5.	QP-1.1-040	Tracking and Reporting of TICs
6.	DTP-1.2-069	Installation of the NucFil HGAS Sample Port
7.	DTP-1.2-074	Manual Headspace Gas Sampling of LANL TRU Waste Containers for Analysis by INEEL
8.	DTP-1.2-075	Headspace Gas Sampling Batch Data Report Preparation (INEEL)
9.	QP-1.1-043	TWCP Receipt from INEEL of LANL Headspace Gas Analysis Data Reports
10.	QP-1.1-003	TWCP Training