Los Alamos National Laboratory **Environmental Restoration Program** **Standard Operating Procedure**	No: LANL-ER-SOP-12.03 Rev: 0

ACCEPTANCE OF NON-BOREHOLE SAMPLES BY THE SAMPLE MANAGEMENT FACILITY

Prepared by	E. Dow Davidson, Jr. (Print Name)	(Signature)	05-17-94 (Date)
Quality Review by	G. Thomas Farmer (Print Name)	(Signature)	5-18-94 (Date)
Technical Review by	Greg Bayhurst (Print Name)	(Signature)	5-17-94 (Date)
PM Approval	David McInroy (Print Name)	(Signature)	20 MAY 94 (Date)
QPPL Approval	Larry Souza (Print Name)	(Signature)	5/19/94 (Date)

Effective Date: 5/25/94

ACCEPTANCE OF NON-BOREHOLE SAMPLES BY THE SAMPLE MANAGEMENT FACILITY

Contents

1.0 PURPOSE 2

2.0 SCOPE 2
- 2.1 Applicability 2
- 2.2 Training 2

3.0 DEFINITIONS 2
- 3.1 Sample Management Organization 2
- 3.2 Sample Management Facility 2
- 3.3 Sample 3
- 3.4 Collector 3

4.0 BACKGROUND AND CAUTIONS 3

5.0 EQUIPMENT 3

6.0 PROCEDURES 3
- 6.1 Responsibilities for Curation of ER Project Samples and Documents 3
- 6.2 Acceptance for Curation of Samples and Documents 3
- 6.3 Transfer of Custody of Samples 4
- 6.4 FIMAD Unique Sample Number 5
- 6.5 Containerization and Labeling of Samples 5
- 6.6 Sample Storage 5
- 6.7 Verification 6
- 6.8 Records Storage 6

7.0 REFERENCES 6

8.0 RECORDS 6

9.0 ATTACHMENTS 6

ACCEPTANCE OF NON-BOREHOLE SAMPLES BY THE SAMPLE MANAGEMENT FACILITY

1.0 PURPOSE

This procedure provides instructions for the acceptance of non-borehole samples by the Environmental Restoration (ER) Program Sample Management Facility (SMF). The implementation of this procedure ensures that non-borehole samples will be correctly identified and documented upon acceptance for curation by the SMF.

2.0 SCOPE

This procedure includes activities required to accept non-borehole samples for curation at the SMF. Only samples collected in support of the Los Alamos National Laboratory (the Laboratory) ER Program's Resource Conservation and Recovery Act (RCRA) Field Investigation (RFI) are within the scope of the procedure.

2.1 Applicability

This procedure applies to Sample Management Organization (SMO) staff performing functions related to acceptance of selected non-borehole samples at the SMF for curation.

2.2 Training

SMF staff will be trained to this procedure before conducting work, and will document they have read and understand this procedure.

3.0 DEFINITIONS

3.1 Sample Management Organization

SMO is the organization responsible for the collection, documentation, storage, and control of selected samples, and records collected and distributed for analysis and evaluation. SMO includes the SMF and Field Operations. SMO staff consists of management and operations personnel who ensure that SMO operations and documentation satisfy applicable regulatory requirements. SMO is operated by the ER Program Subsurface Technologies Technical Team.

3.2 Sample Management Facility

The SMF is the facility (Building TA-3-271) used for the documentation, examination, physical processing, storage, and control of selected samples, remnants, and records collected and distributed for the ER Program. The SMF consists of a physical facility and equipment designed to effectively process and preserve these samples, remnants, and records.

3.3 Sample

Sample: A sample is a physical entity, collected in the field, representative of the whole, that is the original source material for all subsequent analyses and testing activities.

3.4 Collector

A Collector is an Operable Unit worker or other ER Program representative who submits samples or documents to the SMF for curation.

4.0 BACKGROUND AND CAUTIONS

N/A

5.0 EQUIPMENT

N/A

6.0 PROCEDURES

6.1 Responsibilities for Curation of ER Project Samples and Documents

Various types of samples will be collected and documents generated in support of the ER program RFI at the Laboratory. Borehole samples will normally be curated by the SMF because of the expense and difficulty of redrilling and collecting samples. Because non-borehole samples normally represent much lower recollection costs these samples may be stored and managed by individual collectors. However, non-borehole samples may be submitted to the SMF for acceptance and curation.

6.2 Acceptance for Curation of Samples and Documents

After collection of samples intended for use for the ER Program, a Collector shall submit a completed Sample Collection Report (Attachment A) with all samples collected and/or submitted to the SMF for curation. This report shall be completed prior to submission of the samples to the SMF. In addition, the Collector shall submit a document that establishes the levels of radiological and non-radiological contaminants for each sample being considered for acceptance by the SMF. The document will provide readings for beta/gamma, alpha, and volatile organic compounds. This documentary evidence will provide field screening or laboratory levels that may be compared to SMF health and safety based Acceptance Criteria. Samples may be accepted for curation by the SMF If the sample's readings are below the Acceptance Criteria. Samples will not be accepted for curation If readings are above the Acceptance Criteria. Acceptance Criteria are listed in

Table 1. Those hazards that can be evaluated by means of field screening instruments are indicated.

TABLE 1

SMF ACCEPTANCE CRITERIA

Hazard	Acceptance Level	Method
Penetrating Radiation*	<100, 000 dpm/100 cm^2 at a distance of 1 inch from the sample material	gross beta/gamma
Radon	<3.8 pCi/L	portable radon detector
Tritium	<220, 000 pCi/ml	portable tritium monitor, or liquid scintillation counting for samples taken from tritium contaminated areas.
Beta/Gamma Contaminated Particulates*	<100, 000 dpm/100 cm^2	various methods, including direct reading instruments, swipes, and smears
Alpha Contaminated Particulates*	<1000 dpm/100 cm^2	various methods, including direct reading instruments, swipes, and smears
Volatile Organic Compounds*	<5.9 ppm total VOC	PID[1], FID[2], colorimetric indicator tubes
Metals	acceptable exposure limits[3]	EPA method SW 6010

1 Photo ionization Detector
2 Flame Ionization Detector
3 Acceptable level (ppm) = species specific occupational exposure limit (mg/m^3) /10 (mg/m^3)
* Hazards suitable for detection with field screeining instruments.

6.3 Transfer of Custody of Samples

Upon arrival at the SMF, the Collector will register at the Reception Area. Samples or sample containers will not be brought into the SMF until SMF staff have

determined that the Collector's screening documentation establishes that the contamination levels of the samples are below SMF Acceptance Criteria. If samples are cleared for acceptance they may be unloaded and placed in the Sample Storage Area or other appropriate area. Additional screening may be performed at the SMF.

SMF staff will determine if the following information is completed on each Sample Collection Report: the date sample was collected, and person releasing custody and organization. Other information should include sample type; type of field site; collection location; sample weight, volume or dimensions; and the Facility for Information Management And Display (FIMAD) unique sample number (if available); storage requirements; and verification that the sample meets SMF Acceptance Criteria.

SMF staff will determine if all SMF bar code labels have been properly applied to the sample (if possible), inside the sample container, on the outside of the sample container, and on the Sample Collection Report. If a photograph of the sample at its acquisition site is submitted with the sample, a bar code label should appear on the back of the photograph.

When the sample and Sample Collection Report are submitted to the SMF, the Collector and the SMF staff member completing the custody change will sign and date the Sample Collection Report. A copy of the report will be given to the Collector.

6.4 FIMAD Unique Sample Number

The FIMAD system documents provenience for samples. If the FIMAD unique sample number is available only the name of the Collector and the FIMAD unique sample number is required to be provided by the Collector on the Sample Collection Report. The Person Releasing Custody field must be completed.

6.5 Containerization and Labeling of Samples

The sample will be placed in an appropriate container, depending upon the type of sample. Information from the Sample Collection Report will be used to generate container labels for the sample and will contain the SMF bar code number, FIMAD unique sample number (if available), sample type, collection location, Collector, date of collection, date of receipt by the SMF, and date of storage. These labels will then be affixed to the appropriate sample containers. The container will be sealed according to the specifications of the Collector.

6.6 Sample Storage

The container will be assigned a storage location (e.g., storage racks, shelves), depending upon the type of storage container and appropriate environmental conditions (e.g., shelf life, temperature) designated by the Collector. Storage location and date and time of storage will be recorded on the Sample Collection

Report. If samples are not placed in permanent storage immediately, they will be placed in a designated temporary storage area maintained at required environmental conditions.

6.7 Verification

After completion of the Sample Collection Report, an SMF staff member will verify that the report has been properly completed by signing and dating the form. This signature also indicates the SMF staff member who received and verified the Sample Collection Report if no sample was submitted with the report.

6.8 Records Storage

All documents and records submitted to the SMF for curation will be submitted to the RPF. Working copies will be retained in the SMF Documents File. Access to these documents and records will be obtained through authorization by the Curator.

7.0 REFERENCES

LANL-ER-QPP, Quality Program Plan for Environmental Restoration Activities
LANL-ER-SOP-12.01, Field Logging, Handling, and Documentation of Borehole Materials
LANL-ER-SOP-12.02, Transportation, Receipt, and Admittance of Borehole Samples for the SMF

"Branch Technical Procedure: Sample Management for the Yucca Mountain Project Office," 1989, Yucca Mountain Project Office, Las Vegas, NV

8.0 RECORDS

Sample Collection Report

The Sample Management Facility is ultimately responsible for transfer of these records to the ER Records Processing Facility in accordance with the procedure for the Laboratory's ER Records Management (LANL-ER-AP-02.1)

9.0 ATTACHMENTS

Attachment A - Sample Collection Report

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

SAMPLE COLLECTION REPORT

SMF BAR CODE		FIMAD No.	Collectors No.	Sample Type	***SMF ONLY***
					Meets AC?
Storage Requirements	Sample weight, volume, etc.	Collection Location	Type of Site	Date Sample Collected	***Assigned Storage***

SMF BAR CODE		FIMAD No.	Collectors No.	Sample Type	***SMF ONLY***
					Meets AC?
Storage Requirements	Sample weight, volume, etc.	Collection Location	Type of Site	Date Sample Collected	***Assigned Storage***

SMF BAR CODE		FIMAD No.	Collectors No.	Sample Type	***SMF ONLY***
					Meets AC?
Storage Requirements	Sample weight, volume, etc.	Collection Location	Type of Site	Date Sample Collected	***Assigned Storage***

SMF BAR CODE		FIMAD No.	Collectors No.	Sample Type	***SMF ONLY***
					Meets AC?
Storage Requirements	Sample weight, volume, etc.	Collection Location	Type of Site	Date Sample Collected	***Assigned Storage***

SMF BAR CODE		FIMAD No.	Collectors No.	Sample Type	***SMF ONLY***
					Meets AC?
Storage Requirements	Sample weight, volume, etc.	Collection Location	Type of Site	Date Sample Collected	***Assigned Storage***

Person Releasing Custody	Date	Total Samples On This Page: _____
		Date Entered in DB: _____
Person Accepting Custody	Date	Verified By