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Environment & Remediation Support Services

Standard Operating Procedure

for **HANDLING, PACKAGING, AND TRANSPORTING FIELD SAMPLES**

APPROVAL SIGNATURES:

Subject Matter Expert:	**Organization**	**Signature**	**Date**
Keith Greene	ERSS-GS	Signature on File	6/5/07
Quality Assurance Specialist:	**Organization**	**Signature**	**Date**
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Responsible Line Manager:	**Organization**	**Signature**	**Date**
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1.0 PURPOSE AND SCOPE

The purpose of this procedure is to describe the process for handling, packaging, and transporting field samples collected by the Los Alamos National Laboratory (LANL or Laboratory) Environmental Programs (EP) Directorate Environment & Remediation Support Services (ERSS) personnel and subcontractors that will be submitted through the ERSS Sample Management Office (SMO).

2.0 BACKGROUND AND PRECAUTIONS

2.1 Background

None.

2.2 Precautions

If the samples were collected in an area controlled by a Radiological Work Permit, they must be released by HSR-1 prior to transfer to the SMO. The samples shall be preserved and secured at the site until the shipping requirements are met and the samples are removed from the site.

3.0 EQUIPMENT AND TOOLS

• Laboratory notebook; • Ziploc™ bags; • Bubble wrap; • Cooler (ice chest); • Cushioning material; l	• Labels; • Gloves; • Any personal protective equipment required in the SSHASP; and • Any additional supplies listed in associated procedures, as needed.

4.0 STEP-BY-STEP PROCESS DESCRIPTION

4.1 Preparation of Environmental Samples for Transport and Shipment

Field Team Member	1.	Properly label, securely seal, and wipe dry all sample containers before placing them in a transportation package (e.g., bubble wrap)
	2.	As necessary to control leakage, place and seal sample containers in a polyethylene, sealable bag (e.g., Ziploc™ bag).
	3.	If the sample requestor deems it necessary for liquid samples, place sufficient absorbent material in the cooler or other transport container to absorb all liquid in the event that sample containers break.
	4.	Seal and secure the drainage hole at the bottom of the cooler in case of sample container leakage.

Field Team Member (Continued)	5.	Pack multiple sample containers by using bubble wrap, or other means to avoid breakage during transport.
	6.	Protect plastic containers from possible puncture during shipping by the use of cushioning material.
	7.	Separate glass vials in the shipping container with cushioning material to prevent breakage.
	8.	Place samples that require preservation in a sturdy ice chest with sufficient cooling material to maintain the required preservation temperature.
	9.	To avoid increasing the likelihood of container breakage, do not freeze water samples or transport water samples in dry ice. [NOTE: The goal is to maintain preserved samples at $4^{o}C \pm 2^{o}C$; however, under field conditions, this may not be possible.]
	10.	If using wet ice to preserve samples, place the ice in sealed containers, such as doubled Ziploc™ bags, so that water does not fill the cooler as the ice melts.
	11.	If water does leak into the transport container, ensure that labels and markings on sample containers remain intact and legible.
	12.	Complete original Chain of Custody/Request for Analysis forms and deliver with transport container to the SMO. [NOTE: Samples must remain under positive control of the individual who has signed for them.]
	13.	Completely close and secure coolers or other transport containers, using tape if necessary, and place a chain of custody seal over the lid of the container so that tampering can be easily detected.
	14.	Mark the outside of all containers (e.g., coolers) used to transport environmental samples with the following information: • Environmental Samples; • Name of contact; and • Contact information (e.g., phone number).

4.2 Transport Environmental Samples for Shipment

Field Team Member	1.	Transport environmental samples to the SMO or radiation screening laboratory by using a government vehicle or approved subcontractor vehicle only. [NOTE: Transportation of samples to the SMO by using a personal or other nongovernmental vehicle is not permitted; except for approved subcontractor vehicles.]

Field Team Member (Continued)	2.	Deliver environmental samples to the SMO between the hours of 8:00 a.m. and 5:00 p.m. on workdays and, as necessary, coordinate with the SMO for delivery during other times.
	3.	Coordinate with the SMO for the delivery of samples that have limited holding times.
SMO Personnel	4.	Verify that samples transported to the SMO are properly prepared for shipment and the Chain of Custody/Request for Analysis documentation is complete and accurate.
	5.	Do not accept for analysis any environmental samples for which documentation is incomplete or incorrect. [NOTE: Such samples will not be accepted until the sample documentation is completed and/or corrected.]
	6.	Do not accept for analysis any environmental samples without appropriate radiation screening information (e.g., historical data, RP-1 data, etc.).
	7.	Require the Radiation Screening Data Release Form (see Attachment 1) be signed prior to accepting the samples.
SMO or Radiation Screening Laboratory Personnel	8.	Assume custody of properly packaged and transported environmental samples and perform packaging and shipment of the samples to contract laboratories as directed.

4.3 Sanitary Waste Samples for Transport and Shipment

Field Team Leader	1.	For the safety of all laboratory personnel and before transport to the SMO, affix a Biohazard warning label to the outside of the transport container for samples from active septic systems and sewage lagoons that identifies the samples as sanitary waste. [NOTE: A typical warning label attached to the outside of the transport container might read as follows: *This package contains samples of sanitary waste. If leakage is noted, take all prudent precautions and notify the sampling team that collected the samples.*]

4.4 Handling, Packaging, and Transporting Samples Containing Radioactive Materials

Field Team Leader	1.	Coordinate the handling and packaging of samples with an RP-1 Radiological Control Technician (RCT).

Field Team Leader (Continued)	2.	Ensure RCT provides radioactivity data that will allow determination of specific activities. [Note: Data must be provided for each sample. The screening must be conducted on the sample media rather than on the sample container.]
	3.	Do not accept NDS (No Detected Activity).
	4.	Ensure data radiation screening data is provided for each sample.
	5.	Ensure RCT conducts the screening on the sample media, and not on the sample container.
	6.	Follow established RP-1 safety precautions when handling and packaging field samples that meet DOT or RP-1 action levels for radioactivity.
	7.	To prevent personnel exposure and equipment contamination, notify the SMO and RCT that the samples contain significant radioactivity.
	8.	Submit field samples to an SMO-approved radiation screening facility if more accurate determination of radioactivity levels is required. [NOTE: SMO-approved facilities are American Radiation Services (ARS) and RP-1.]
	9.	If RP-1 reports a result for solids greater than 5,000 dpm, confirm the results using ARS.

4.5 Records

Field Team Member	1.	Submit the following records generated by this procedure to the Records Processing Facility: • Chain of Custody forms/Analytical Request forms; and • Shipping documentation.

5.0 PROCESS FLOW CHART

Will be provided at a later date.

6.0 ATTACHMENTS

Attachment 1 5057-1 Radiation Screening Data Release Form (1 page)

7.0 REVISION HISTORY

Author: Keith Greene

Revision No. *[Enter current revision number, beginning with Rev.0]*	Effective Date *[DCC inserts effective date for revision]*	Description of Changes *[List specific changes made since the previous revision]*	Type of Change *[Technical (T) or Editorial (E)]*
0.0	07/29/05	New document derived from E-SOP-1.03 and WQH-SOP-020	T
0.0	10/16/07	New document number, reformatted, minor technical changes. Supersedes ENV-DO-207.	T

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ATTACHMENT 1: RADIATION SCREENING DATA RELEASE FORM

5057-1 **Radiation Screening Data Release Form**	Records Use only 

Rad Screening Data Release Form

The following samples were received at the Field Support Facility (FSF) without screening data (*list sample numbers*):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (*list sample numbers*):

Reason:

Printed Last Name:	**Signature:**	**Date:**