

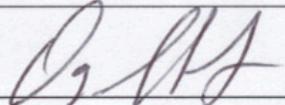
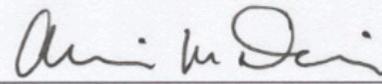
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**Environmental Stewardship—
Environmental Characterization and Remediation**

Standard Operating Procedure

for **Handling, Packaging, and
Transporting Field Samples**

NES Approved

Responsible Division Leader: Doug Stavert	Signature & Date  12/13/05
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Revision Log

Revision No.	Effective Date	Prepared By	Description of Changes	Affected Pages
0	08/06/91	C. Rzeszutko	New procedure	All
1	05/05/94	K. Beguin	Document current processes.	All
2	12/04/00	K. Beguin	Document current processes.	All
R2,ICN1	6/12/01	K. Beguin	Change for clarification and flexibility of sample transport.	15
R2,ICN2	4/3/03	S. Bolivar	Title changes, delete sections 8.1 & 8.3.	11 and all
3	03/08/04	K. Greene	New format and organizational references and incorporation of ICNs.	All
R3,ICN1	5/27/05	K. Greene	Change Paragraph B.3.1 in Attachment B	16
4	10/25/05	K. Greene	Change to meet NES and new package and transport requirements.	All

Handling, Packaging, and Transporting Field Samples

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List of Acronyms and Abbreviations

DOT	US Department of Transportation
EPA	US Environmental Protection Agency
ER	Environmental Restoration
ECR	Environmental Characterization and Remediation
ENV	Environmental Stewardship Division
FTL	field team leader
HASP	health and safety plan
HSR-1	Health Safety and Radiation Protection Division—Health Physics Operations
ICN	Interim Change Notice
LANL	Los Alamos National Laboratory
QII	Quality Integration and Improvement
QP	quality procedure
PPE	personal protective equipment
PL	project leader
RPF	Records Processing Facility
SMO	Sample Management Office
SOP	standard operating procedure
SSHASP	site specific health and safety plan
SUP-3	Supply Chain Management Division

Handling, Packaging, and Transporting Field Samples

1.0 PURPOSE

This standard operating procedure (SOP) states the responsibilities and describes the process for handling, packaging, and transporting field samples. The success of this process directly ties to the participation of each employee within the Los Alamos National Laboratory (LANL).

2.0 SCOPE

- 2.1 All **ENV personnel** shall implement this mandatory SOP.
- 2.2 **Subcontractors** performing work under the Environmental Stewardship Division-Environmental Characterization and Remediation (ENV-ECR) Quality Program shall follow this SOP.

3.0 TRAINING

- 3.1 **ENV personnel** shall train to and use the current version of this SOP; contact the author if the text is unclear.
- 3.2 **ENV personnel** using this SOP shall document training in accordance with QP-2.2, "Personnel Training Management."
- 3.3 The responsible **field team leader (FTL)** shall monitor the proper implementation of this procedure and ensure that field team members complete and document all applicable training assignments. The FTL will be responsible to assure that field work is performed in accordance with the current revision and (any) Interim Change Notice(s) (ICN). The current revision and associated ICN may be obtained from the ENV-ECR website.
- 3.4 The **FTL** shall ensure that **ENV personnel** who handle, package, and transport field samples for the ER project are familiar with the objectives of and are properly trained in the procedures controlling these activities.
- 3.5 **ENV personnel** may request any needed assistance with implementation of this procedure from the ENV-ECR Quality Integration and Improvement team.

4.0 DEFINITIONS

- 4.1 *Environmental samples*—Air, soil, water, or other media samples that are collected from surface waters, wells, soils, or other locations and are not

expected to exhibit properties classified by the US Department of Transportation (DOT) as hazardous.

- 4.2 *Sanitary waste*—Waste collected from septic systems or sewage lagoons. Environmental samples that contain sanitary waste may be classified as diagnostic or nondiagnostic depending upon the sampling location.
- 4.3 *Site-specific health and safety plan (SSHASP)*—A health and safety plan (HASP) that is specific to a site or ENV-ECR related field activity and that has been approved by a ENV-ECR health and safety representative. A SSHASP contains information specific to the project including scope of work, relevant history, descriptions of hazards by activity associated with the project site(s), and techniques for exposure mitigation (e.g., personal protective equipment [PPE]) and hazard mitigation.

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in this procedure:

- FTL
- ENV personnel
- radiation screening laboratory personnel
- SMO personnel
- user

6.0 BACKGROUND AND PRECAUTIONS

- 6.1 **ENV personnel** shall use this SOP in conjunction with an approved SSHASP.
- 6.2 **ENV personnel** shall coordinate sampling activities with and obtain appropriate sample documentation paperwork (e.g., Sample Collection Log forms, Chain Of Custody forms, sample labels) from the SMO according to the procedure described in SOP-01.04, “Sample Control and Field Documentation.”
- 6.3 **ENV personnel** shall follow all requirements in QP-5.3, “Readiness Planning and Review.”
- 6.4 During sample transport, **ENV personnel** shall maintain sample integrity and chain of custody and protect samples from tampering by locking the samples and/or keeping them under constant supervision. Refer to SOP-01.04 for guidance on protecting sample chain of custody.

6.5 **ENV personnel** shall protect the health and safety of personnel and the environment from the detrimental effects of hazardous materials contained in any regulated samples.

7.0 EQUIPMENT

None

8.0 PROCEDURE

Make any deviations from this SOP in accordance with QP-4.2, "Standard Operating Procedure Development."

8.1 Handling and Packaging Samples

ENV personnel shall handle and package all samples in accordance with EPA, LANL, and DOT requirements and regulations. SOP-01.02, "Sample Containers and Preservation", includes detailed guidance for sample handling and packaging.

Note: Contact the SMO for DOT requirements.

8.1.1 Properly label, securely seal, wipe dry and, and, if appropriate, decontaminate all sample containers before placing them in a transportation package.

8.1.2 As necessary to control leakage, place and seal sample containers in a polyethylene, sealable bag (e.g., Ziploc bag). 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.

8.1.3 To prevent sample container breakage, pack multiple sample containers by using bubble wrap, or other means to avoid breakage during transport. Special care should be taken with glass vials to prevent breakage.

8.1.4 Place samples that require preservation in a sturdy ice chest with sufficient cooling material to maintain the required preservation temperature.

Note: 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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$; however, under field conditions, this may not be possible.

8.1.5 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

Note: If water does leak into the transport container, ensure that labels and markings on sample containers remain intact and legible.

8.1.6 Complete original Chain of Custody/Request for Analysis forms and deliver with transport container to the SMO.

Note: Samples must remain under the positive control of the individual who has signed for them.

8.1.7 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.

8.1.8 Mark the outside of all containers (e.g., coolers) used to transport environmental samples with the following information.

- Environmental Samples
- Name of contact
- Contact information (e.g., phone number)

8.2 Transporting Samples

Note: If concerned about radiological DOT screening levels, please consult the SMO.

8.2.1 Transport environmental samples to the SMO or radiation screening laboratory by using a government vehicle or subcontractor vehicle only.

Note: Transportation of samples to the SMO by using a personal vehicle is not permitted.

8.2.2 Coordinate with the SMO for the delivery of samples that have limited holding times in accordance with SOP-01.02, "Sample Containers and Preservation."

8.2.2.1 **SMO personnel** will verify that samples transported to the SMO are properly prepared and the chain of custody documentation is complete and accurate.

8.2.2.2 **SMO personnel** will not accept for analysis any environmental samples for which documentation is incomplete or incorrect. Such samples shall remain in the custody of the sampler until the sample documentation is completed and/or corrected.

8.2.2.3 **SMO personnel** will not accept samples without appropriate rad screening information (e.g., historical data, HSR-1 data). SMO will require that the rad screening form (see Attachment A) be signed prior to accepting the samples.

8.2.3 **SMO or radiation screening laboratory personnel** will assume custody of properly packaged and transported environmental samples and perform packaging and shipment of the samples to contract laboratories as directed.

9.0 LESSONS LEARNED

- 9.1 Before performing work described in this SOP, **ENV personnel** should go to the Department of Energy Lessons Learned Information Services home page at <http://www.tis.eh.doe.gov/II/II.html>, and/or to the LANL Lessons Learned Resources web page at http://www.lanl.gov/projects/lessons_learned/, and search for applicable lessons.
- 9.2 During work performance and/or after the completion of work activities, **ENV personnel**, as appropriate, shall identify, document, and submit lessons learned in accordance with the LANL, Lessons Learned System located at http://www.lanl.gov/projects/lessons_learned/.

10.0 RECORDS

SMO personnel shall submit the following records to the Records Processing Facility (RPF), in accordance with QP-4.4, "Record Transmittal to the Records Processing Facility:"

- Rad Screening Data Release Form
- any and all other related documentation

11.0 REFERENCES

To implement properly this SOP, **ENV personnel** should become familiar with the contents of the following documents located at http://erinternal.lanl.gov/home_links/Library_proc.shtml:

- LANL Occupational Radiation Protection Guidance (available at [http://dominoapp2.lanl.gov/labreq/labreq.nsf/0/C73CDB1A3341D42F87256D8700719C63/\\$File/lig40270001.pdf](http://dominoapp2.lanl.gov/labreq/labreq.nsf/0/C73CDB1A3341D42F87256D8700719C63/$File/lig40270001.pdf))
- ENV/RS, Quality Management Plan
- QP-2.2, Personnel Orientation and Training

- QP-4.2, Standard Operating Procedure Development
- QP-4.4, Record Transmittal to the Records Processing Facility
- QP-5.3, Readiness Planning & Review
- SOP-01.02, Sample Containers and Preservation
- SOP-01.04, Sample Control and Field Documentation

12.0 ATTACHMENTS

The **user** of this SOP may locate all forms associated with this procedure at <http://erinternal.lanl.gov/Quality/user/forms.asp>.

Attachment A: Rad Screening Data Release Form (1 page)

[Using a CRYPTOCARD, click here to record "self-study" training to this procedure.](#)

If you do not possess a CRYPTOCARD or encounter problems, contact the ENV-ECR training specialist.

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that 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:

.....

Print Last Name _____ Signature _____ Date _____