

# ER-SOP-20236, R0



## Handling, Packaging, and Transporting Field Samples

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**Hazard Class:**  Low  Moderate  High/Complex

**Usage Mode:**  Reference  Use Every Time (UET)  Both Reference & UET

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ER-SOP-20236, R0	2/10/2015	New	<ul style="list-style-type: none"><li>• New number issued in accordance with ADEP Numbering Guide.</li><li>• Reformatted to new template</li><li>• Minor edits.</li><li>• Document number change to reflect organizational changes from CAP to ERP.</li></ul>

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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 Los Alamos National Laboratory.

## 2.0 BACKGROUND AND PRECAUTIONS

### 2.1 Background

Not applicable.

### 2.2 Precautions (RWP)

If the samples were collected in an area controlled by a radiological work permit (RWP), they must be released by HSR-1 before transfer to the Sample Management Office (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 REFERENCES

None.

## 4.0 ACRONYMS

ARS	American Radiation Services
COC	chain-of-custody (form)
NDA	no detectable activity
QC	quality control
RCT	radiological control technician
RP	Radiation Protection (Division) or radiation protection
RWP	radiological work permit
SAP	sample and analysis plan
SMO	Sample Management Office (ER project)
VOC	volatile organic compound

### 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 case sample containers break.
  4. Seal and secure the drainage hole at the bottom of the cooler in case of sample container leakage.
  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  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ; however, under field conditions, this goal 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 field chain-of-custody forms (COCs) and deliver with transport container to the SMO.  
[NOTE: Samples must remain under positive control of the individual who has signed for them.]
13. Place a COC seal over the lid of all containers so that tampering can be detected easily.
14. 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)

#### **4.2 Transport Environmental Samples for Shipment**

- |                   |   |
|-------------------|---|
| Field Team Member | <ol style="list-style-type: none"><li>1. Transport environmental samples to the SMO or radiation-screening laboratory by using a government vehicle or approved subcontractor vehicle only.<br/>[NOTE: Transportation of samples to the SMO by using a personal or other nongovernmental vehicle is not permitted except for approved subcontractor vehicles.]</li><li>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.</li><li>3. Coordinate with the SMO for the delivery of samples that have limited holding times.</li></ol> |
| SMO Personnel     | <ol style="list-style-type: none"><li>4. Verify that samples transported to the SMO are properly prepared for shipment and that the field COC documentation is complete and accurate.</li><li>5. Do not accept for analysis any environmental samples for which documentation is incomplete or incorrect.<br/>[NOTE: Such samples will not be accepted until the sample documentation is completed and/or corrected.]</li><li>6. Do not accept for analysis any environmental samples without appropriate radiation-screening information (e.g., historical data, RP data, etc.).</li></ol>   |

- SMO or  
Radiation  
Screening  
Laboratory  
Personnel
7. 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 radiological control technician (RCT).
  2. Ensure that the 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 NDA (no detectable activity) as a radioactivity data entry.
  4. Ensure that radiation-screening data are provided for each sample.
  5. Ensure that the RCT conducts the screening on the sample media and not on the sample container when in a radiation area or if required by the RWP.
  6. Follow established RP safety precautions when handling and packaging field samples that meet Department of transportation or RP 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 a more accurate determination of radioactivity levels is required. [NOTE: SMO-approved facilities are American Radiation Services (ARS) and RP.]
  9. If RP reports a result for solids greater than 5,000 dpm above background, confirm the results using ARS.

### **5.0 RECORDS**

- SMO Staff
1. Submit the following records generated by this procedure to the Records Processing Facility:
    - field COC
    - shipping documentation