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Environment, Safety, Health Directorate

ENV-ES: Environmental Stewardship Services

Technical Procedure

Game Animal Sampling

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REVISION HISTORY

Document Number and Revision *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
0	10/04/96	New Document
1	3/99	Reformatted in accordance with LIR300-00-01, Safe Work Practices.
2	4/01	Added new Section 9.0, Training.
3	4/02	Change in directorate.
4	4/03	Team name change to Environmental Surveillance.
5	5/12/04	Updated and reformatted document to conform to MAQ procedures.
6	05/31/05	Quick-change revision to convert HCP to HR, remove chain-of-custody form, and refer to new Chain-of-Command procedure.
SOP-5136,R0	1/30/08	Renumbered and reformatted to WES Division.
ENV-ES-TP-007, R0	9/30/2015	Renumbered and reformatted to ENV Division. Supersedes SOP-5136.

Table of Contents

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to describe the method of sample collection for game animals such as deer and elk. This procedure applies to the individual assigned to collect meat and bone from game animals as part of the Soil, Foodstuffs and Biota Monitoring Program mandated by DOE Orders. This procedure is applicable to personnel within the Los Alamos National Laboratory (Laboratory or LANL) Environmental Protection Division.

2.0 BACKGROUND AND PRECUATIONS

This document establishes the basic requirements for collecting game animal samples. Work performed under this procedure by LANL personnel will occur only after required training to applicable documents has been completed and documented.

Within this procedure, deer and elk will be collected as road kills, and the front shoulder portion will be collected. The meat and bone are separated and submitted as two samples.

2.1 Precautions

Individuals are required to be trained in the following prior to performing this procedure:

- First aid
- Cardiopulmonary resuscitation (CPR)
- General Field Safety for All Employees

A minimum of two (2) people are required to go out in the field. Do not perform work under conditions you consider unsafe. Before beginning work described in this procedure, review safety needs and requirements, identify hazards, and develop hazard mitigation measures.

3.0 EQUIPMENT AND TOOLS

- Disposable plastic bags (e.g., trash bags)
- Sharp knife
- Meat saw
- Permanent marker for labeling
- Soap-water solution (for washing knife)
- Water (for rinsing)
- Paper towels
- Chain-of-custody forms
- Ice chest with blue ice
- Ziplock™ bags (2-gal. size)
- Personal protective equipment ([PPE] e.g., safety glasses, safety/field shoes, rubber gloves, face shield, Kevlar gloves, and hat)

- Global positioning system

4.0 STEP-BY-STEP PROCESS DESCRIPTION

4.1 Preparatory Activities

Sampler or Field Team Leader (FTL):

1. Game animal sampling is done on recently killed deer and elk (usually road kill) and collected as deer and elk become available to the Environmental Surveillance Team. Usually the Department of Game and Fish notifies Los Alamos National Laboratory (LANL) that a road kill has occurred at on-site, perimeter, or off-site locations. If information about road kill comes from a different source, notify the LANL's Department of Game and Fish reserve conservation officer. Currently, that is Manuel L'Esperance (667-6211). Notice of a road kill is short and action to collect the sample should be fast. Thus, keep on hand a sample kit (ice chest) with all of the required equipment.
2. Conduct a hazard review in accordance with Attachment 1, Hazard Review for Game Animal Sampling.
3. Check the condition of the vehicle and the fuel level before leaving the field.
4. Identify a point-of-contact to provide pertinent information of destination, expected time-in, and methods of notifying the field team.
5. Notify the group office to place you on travel status when leaving Los Alamos County.
6. Ensure you have a working cell phone and a pager.

4.2 Sampling Steps

Sampler or FTL:

1. Travel to the sampling location to collect meat and bone for analysis. Since reported locations may not be precise, carefully survey the area for the sample when approaching the site. Also, identify a safe place (e.g., a turn-out next to the road) to stop the vehicle as close as possible to the animal.
2. Move the animal carcass to a safer location off the pavement and as far from traffic as practical, if needed.
3. Remove the front shoulder/leg and place in a large bag. At the laboratory, skin the leg and collect a sample of meat (about two to three pounds) from the shoulder area with a clean, sharp knife with cut-resistant gloves on (or meat saw, as required). Similarly, remove a sample of bone.
4. Place the sample(s) into individual 2-gal. Ziplock™ bags.
5. Complete a chain-of-custody form with the appropriate sampling information. Label the form with the sample location, date, time, and sampler's initials. Seal each bag with chain-of-custody tape and pack on ice for transport back to the Laboratory.
6. Obtain an X and Y coordinate for each sampling location.

7. Store the samples on ice or in a freezer until samples are shipped to the analytical laboratory.
8. Maintain proper chain-of-custody procedures for samples (see section 4.4) until submitted to the analytical laboratory for analysis.

4.3 Maintaining Custody of Samples

Sampler or FTL:

1. Document chain of custody for all samples used to demonstrate compliance.
2. Verify the possession and handling of samples is traceable at all times. Note: A sample is considered in custody if it is one of the following:
   - In one's physical possession
   - In one's view after being in one's physical possession
   - In one's physical possession and then locked up so that no one can tamper with it, or
   - In a secure area where access is restricted to authorized and accountable personnel only

   A secured area is an area that is locked (e.g., a room, cooler, vehicle, or refrigerator).

4.4 Transferring Custody of Samples

Sampler or FTL:

1. Complete the "relinquished by/received by" and "date" sections of the form whenever samples are transferred into the custody of another person or organization.

   [Note: These sections of the form must provide a complete history of custody of the samples from collection to transfer to the analytical laboratory.]

4.5 Broken Chain-of-Custody

Sampler or FTL:

1. Document the failure by initiating a deficiency report in accordance with P322-4, *Laboratory Performance Feedback and Improvement Process* whenever there is a break in the chain of custody of a sample.
2. Document the occurrence, evaluate the potential impact (if any) on the samples, and propose a fix to prevent recurrence.

4.6 Emergency Actions to Take in the Event of Control Failure

FTL:

1. Document the failure by initiating a deficiency report in accordance with P322-4, *Laboratory Performance Feedback and Improvement Process* whenever there is a break in the chain of custody of a sample.
2. Document the occurrence, evaluate the potential impact (if any) on the samples, and propose a fix to prevent recurrence.

4.7 Records

All records are to be given and managed by the Principal Investigator for documentation in the Annual Environmental Surveillance Report.

5.0 PROCESS FLOW CHART

Flow chart is to be included at a later date.

6.0 ATTACHMENT

Attachment 1: *Hazard Review for Game Animal Sampling*

ATTACHMENT 1 – HAZARD REVIEW FOR GAME ANIMAL SAMPLING

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Hazard Review for Game Animal Sampling			Records Use only
Work Tasks/Steps	**Hazards, Concerns, and Potential Accidents; Likelihood/Severity**	**Controls, Preventive Measures (e.g., safety equipment, administrative controls, etc.)**	**Hazard Level (from IMP 300-00-00, Hazard Grading Matrix)**
Collect samples as described in this procedure	Oncoming vehicular traffic improbable/catastrophic = Medium	If you are collecting a sample from a road kill on the side of a road, park your vehicle as close to the animal as possible and activate the hazard lights. Be cognizant of the fact that you are next to a road and be aware of oncoming traffic. Move the animal off pavement and as far away from traffic as practical.	Low
Same as above	Use of knives improbable/moderate = Minimal	Use care when cutting and wear cut-resistant (Kevlar) gloves.	Low
Same as above	Handling heavy objects (loading/unloading/ transporting/positioning) Occasional/moderate = Low	Use proper lifting techniques.	Low
Same as above	Blood-borne pathogens improbable/critical = Low	Wear safety glasses and gloves.	Low

Wastes or Residual Materials Resulting from Process

After processing, bag all animal parts not used and dispose at the Los Alamos area landfill. Do not place animal parts in any dumpster.

Emergency Actions to Take in Event of Control Failure

For all injuries, provide first aid and take the injured person to Occupational Medicine (only if immediate medical attention is not required) or the nearest hospital if immediate medical attention is needed. Notify supervisor and group office as soon as possible.

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environment, Safety and Health

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Operations Integration Office Management Approval:

Print Name	Signature	Date
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Derivative Classifier:

☐ OUO ☐ UCNI ☒ Unclassified ☐ Classified

Print Name	Signature	Date
Larry W. Maassen	Larry Maassen	3/4/16

List of Controlled Documents:

Procedure No.	Title/Description
Air Monitoring (ENV)	
ENV-ES-TPP-003	Technical Project Plan for the Neighborhood Environmental Watch Network (NEWNET)
ENV-ES-TPP-007	Technical Project Plan for the Direct Penetrating Radiation Monitoring Network (DPRNET)
Data Validation (ADESH)	
OIO-TP-5161	Routine Validation of Volatile Organic Compound Analytical Data
OIO-TP-5162	Routine Validation of Semivolatile Organic Compound Analytical Data
OIO-TP-5163	Routine Validation of Organochlorine Pesticide and Polychlorinated Biphenyl Analytical Data
OIO-TP-5165	Routine Validation of Metals Analytical Data
General Field Work	
OIO-TP-222	Shipping/Receiving of Environmental Samples by the Sample Management Office (SMO)
OIO-QP-219	Sample Control and Field Documentation
Soil, Foodstuffs, and Biota Sampling (ENV)	
ENV-ES-TPP-002	Technical Project Plan for Biota Dose Assessment
ENV-ES-TP-003	Collection of Soil and Vegetation Samples for the Environmental Surveillance Program
ENV-ES-TP-004	Produce Sampling
ENV-ES-TP-007	Game Animal Sampling
ENV-ES-TP-006	Sampling Soil and Vegetation at Facility Sites
SOP-5247	Collection of Benthic Macroinvertebrates in the Rio Grande
ENV-ES-TP-008	Collection of Crawfish in the Rio Grande
Well Drilling, Construction, Development, Maintenance, and Abandonment	
ENV-RCRA-QP-010	Land Application of Groundwater