

**SOP-06**  
**Investigation-Derived Waste Handling**  
**Procedures**

**Yerington Mine Site**  
**Standard Operating Procedure**

**Revision 0**  
**Revision Date: June 6, 2006**

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**INVESTIGATION DERIVED WASTE HANDLING PROCEDURES**

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## 1.0 OBJECTIVES

The objective of this standard operating procedure (SOP) is to establish consistent methods to handle and manage all Investigation-Derived Waste (IDW), including:

- Solid waste, both hazardous and non-hazardous (e.g., soil cuttings, contaminated debris or equipment)
- Liquid waste both hazardous and non-hazardous (e.g., purge water, rinse water from decontamination, product removal)
- Personal Protective Equipment (e.g., gloves, spent respirator cartridges, chemical-resistant coveralls)

This SOP provides procedures and standards that are in addition to applicable regulatory requirements and industry standards.

## 2.0 APPLICABILITY

Investigation sampling activities may generate solid, liquid, and Personal Protective Equipment (PPE) waste. The IDW Handling Procedures SOP will be implemented primarily on-site.

## 3.0 RESPONSIBILITY

The *Project Manager*, or designee, will have the responsibility to oversee and ensure that the IDWs are properly handled and managed in accordance with this SOP and any site-specific or project-specific planning documents.

*Field personnel* will be accountable for the comprehension and implementation of this SOP during all field activities, as well as obtaining the appropriate field logbooks, forms, labels, records and equipment needed to complete the field activities.

## 4.0 DEFINITIONS

Designated Waste: A solid or liquid waste which is not defined as hazardous, but which still may present a threat to groundwater, and which requires handling differently than a non-hazardous inert waste.

D.O.T.: – Department of Transportation. Typically referred to when specifying a type of container that is approved for transporting hazardous substances, either materials or waste, on streets.

Hazardous Waste: Soil, liquid, or other wastes generated from site investigations that exhibit toxic (human or ecological effects), ignitable, corrosive, or reactive characteristics as defined by applicable state or federal regulation or which is otherwise classified as hazardous. Such waste requires special handling and documentation of disposal.

IDW: – Investigation Derived Waste. Typically solid (e.g., soil) or liquid (e.g. groundwater, decontamination fluids) wastes resulting from field activities.

Non-hazardous Waste: A waste that does not exhibit characteristics of a hazardous waste and which is not otherwise classified as hazardous. Non-hazardous waste can be designated as inert waste.

PPE: – Personal Protective Equipment. Worn by workers when potential for exposure to hazardous materials exists.

SHSP: – Site Health and Safety Plan. Plan written to coordinate and outline precautions that will be taken to initiate and monitor worker safety.

## 5.0 REQUIRED MATERIALS

The equipment and supplies required for implementation of this SOP include the following:

- Containers for waste (e.g., 55-gallon open and closed top drums) and material to cover waste to protect from weather (e.g., plastic covering)
- Equipment (i.e., pumps, generators, water/interface level indicators, safety monitoring equipment)
- Hazardous /non-hazardous waste drum labels (weatherproof)
- Permanent marking pens
- Inventory forms for project file
- Plastic garbage bags, zip lock storage bags, roll of plastic sheeting
- Steel-toed boots, chemical resistant gloves, coveralls, safety glasses, and any other PPE required in the site-specific SHSP.

## 6.0 METHODS

The following methods are used to handle the IDW.

### 6.1 Labeling

Containers used to store IDW must be properly labeled. Two general conditions exist: 1) from previous studies or on-site data, waste characteristics are known to be either hazardous or non-hazardous; or 2) waste characteristics are unknown until additional data are obtained.

For situations where the waste characteristics are known, the waste containers should be packaged and labeled in accordance with Nevada State Regulations and any federal regulations that may govern the labeling of waste.

The following information shall be placed on all non-hazardous waste labels:

- Description of waste (i.e., purge water, soil cuttings);
- Contact information (i.e., contact name and telephone number);
- Date when the waste was first accumulated.

The following information shall be placed on all hazardous waste labels:

- Description of waste (i.e., purge water, soil cuttings);
- Generator information (i.e., name, address, contact telephone number);
- EPA identification number (supplied by on-site client representative);
- Date when the waste was first accumulated.

When the final characterization of a waste is unknown, a notification label should be placed on the drum with the words “waste characterization pending analysis” and the following information included on the label:

- Description of waste (i.e., purge water, soil cuttings);
- Contact information (i.e., contact name and telephone number);
- Date when the waste was first accumulated.

Once the waste has been characterized, the label should be changed as appropriate for a non-hazardous or hazardous waste.

Waste labels should be constructed of a weatherproof material and filled out with a permanent marker to prevent being washed off or becoming faded by sunlight. It is recommended that waste labels be placed on the side of the container, since the top is more subject to weathering. However, when multiple containers are accumulated together, it also may be helpful to include labels on the top of the containers to facilitate organization and disposal.

Each container of waste generated shall be recorded in the field notebook used by the person responsible for labeling the waste. After the waste is disposed of, either by transportation off-site or disposal on-site in an approved disposal area, an appropriate record shall be made in the same field notebook to document proper disposition of IDW.

## **6.2 Types of Site Investigation Waste**

Several types of waste are generated during site investigations that may require special handling. These include solid, liquid, and used PPE, as discussed further below.

### **6.2.1 Solid Waste**

Soil cuttings from boreholes will typically be shoveled back into the borehole after drilling is complete and do not require special handling. Drilling mud generated during investigation activities shall be collected in containers. Covers should be included on the containers and must be secured at all times and only open during filling activities. The containers shall be labeled in accordance with this SOP. An inventory containing the source, volume, and description of material put in the containers shall be logged on prescribed forms and kept in the project file. Non-hazardous solid waste can be disposed on-site in the designated site landfill or in a designated evaporation pond if it is liquefied. Hazardous wastes must be disposed off-site at an approved hazardous waste landfill.

### **6.2.2 Liquid Waste**

Groundwater generated during monitoring well development, purging, and sampling can be collected in truck-mounted containers and/or other transportable containers (i.e., 55-gallon drums). Lids or bungs on drums must be secured at all times and only open during filling or pumping activities. The containers shall be labeled in accordance with this SOP. Non-hazardous liquid waste can be disposed of in one of the designated lined evaporation ponds on-site. Hazardous wastes must be handled separately and disposed off-site at an approved hazardous waste facility.

### **6.2.3 Personal Protective Equipment (PPE)**

PPE that is generated throughout investigation activities shall be placed in plastic garbage bags. If the solid or liquid waste that was being handled is characterized as hazardous waste, then the corresponding PPE should also be disposed as hazardous waste. If not, all PPE should be disposed as non-hazardous waste in the designated on-site landfill. Trash that is generated as part of field activities may be disposed of in the landfill as long as the trash was not exposed to hazardous media.

### **6.3 Waste Accumulation On-Site**

Solid, liquid, or PPE waste generated during investigation activities that are classified as non-hazardous or “characterization pending analysis” should be disposed of as soon as possible. Until disposal, such containers should be inventoried, stored as securely as possible, and inspected regularly, as a general good practice.

Solid, liquid, or PPE waste generated during investigation activities that are classified as hazardous shall not be accumulated on-site longer than 90 days. All hazardous waste containers shall be stored in a secured storage area. The following requirements for the hazardous waste storage area must be implemented:

- Proper hazardous waste signs shall be posted as required by any state or federal statutes that may govern the labeling of waste;
- Secondary containment to contain spills;
- Spill containment equipment must be available;
- Fire extinguisher;
- Adequate aisle space for unobstructed movement of personnel.

Weekly storage area inspections shall be performed and documented to ensure compliance with these requirements. Throughout the project, an inventory shall be maintained to itemize the type and quantity of the waste generated.

### **6.4 Waste Disposal**

Solid, liquid, and PPE waste will be characterized for disposal through the use of client knowledge, laboratory analytical data created from soil or groundwater samples gathered during the field activities, and/or composite samples from individual containers.

All waste generated during field activities will be stored, transported, and disposed of according to applicable state, federal, and local regulations. All wastes classified as hazardous will be disposed of at a licensed treatment storage and disposal facility or managed in other approved manners.

In general, waste disposal should be carefully coordinated with the facility receiving the waste. Facilities receiving waste have specific requirements that vary even for non-hazardous waste, so characterization should be conducted to support both applicable regulations and facility requirements.

### **6.5 Regulatory Requirements**

The following federal and state regulations shall be used as resources for determining waste characteristics and requirements for waste storage, transportation, and disposal:

- Code of Federal Regulations (CFR), Title 40, Part 261;
- CFR, Title 49, Parts 172, 173, 178, and 179.

### **6.6 Waste Transport**

A state-certified hazardous waste hauler shall transport all wastes classified as hazardous. Typically, the facility receiving any waste can coordinate a hauler to transport the waste. Shipped hazardous waste shall be disposed of in accordance with all RCRA/USEPA requirements. All waste manifests or bills of lading will be signed either by the client or the client's designee, which can in special circumstances be the project manager if acting as an authorized agent for the client. Any such agreements where a Brown and Caldwell employee acts as an agent for the client shall be reviewed and approved by corporate legal.

## **7.0 REFERENCES**

U.S. EPA Guide to Management of Investigative-Derived Waste, Publication: 9345.3-03FS, April 1992.

Code of Federal Regulations, Title 40, Section 262.32, Standards Applicable to Generators of Hazardous Wastes, Subpart C – Pre-transport Requirements, Marking, periodically updated – use most current version.

## **8.0 ATTACHMENTS**

None