

**Region 4**  
**U.S. Environmental Protection Agency**  
**Science and Ecosystem Support Division**  
**Athens, Georgia**

**OPERATING PROCEDURE**

Title: **Management of Investigation Derived Waste**

**Effective Date:** November 1, 2007

**Number:** SESDPROC-202-R1

**Authors**

Name: Art Masters

Title: Environmental Scientist, Regional Expert

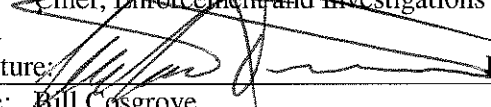
Signature: 

Date: 11/07/07

**Approvals**

Name: ~~Antonio Quinones~~

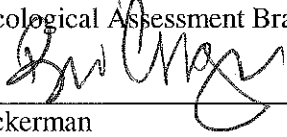
Title: ~~Chief, Enforcement and Investigations Branch~~

Signature: 

Date: 11/02/07

Name: Bill Cosgrove

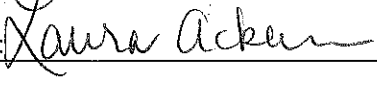
Title: Chief, Ecological Assessment Branch

Signature: 

Date: 11/2/07

Name: Laura Ackerman

Title: Field Quality Manager, Science and Ecosystem Support Division

Signature: 

Date: 11/02/07

## Revision History

---

This table shows changes to this controlled document over time. The most recent version is presented in the top row of the table. Previous versions of the document are maintained by the SESD Field Quality Manager.

| History   | Effective Date           |
|---|--------------------------|
| <p>SESDPROC-202-R1, <i>Management of Investigation Derived Waste</i>, replaces SESDPROC-202-R0.</p> <p><b>General</b><br/>Corrected any typographical, grammatical and/or editorial errors.</p> <p><b>Title Page</b><br/>Changed title for Antonio Quinones from Environmental Investigations Branch to Enforcement and Investigations Branch. Changed Bill Cosgrove's title from Acting Chief to Chief.</p> <p><b>Section 1.3</b><br/>Updated information to reflect that the procedure is located on the H: drive of the LAN. Clarified Field Quality Manager (FQM) responsibilities.</p> <p><b>Section 1.4</b><br/>Alphabetized and revised the referencing style for consistency.</p> <p><b>Section 1.5.1</b><br/>Corrected the title of the Safety, Health, and Environmental Management Program Procedures and Policy Manual.</p> | <p>November 1, 2007</p>  |
| <p>SESDPROC-202-R0, Management of Investigation Derived Waste, Original Issue</p>   | <p>February 05, 2007</p> |

## TABLE OF CONTENTS

|          |   |          |
|----------|---|----------|
| <b>1</b> | <b>General Information</b> .....                  | <b>4</b> |
| 1.1      | Purpose.....                                      | 4        |
| 1.2      | Scope/Application .....                           | 4        |
| 1.3      | Documentation/Verification.....                   | 4        |
| 1.4      | References.....                                   | 4        |
| 1.5      | General Precautions.....                          | 5        |
| 1.5.1    | <i>Safety</i> .....                               | 5        |
| 1.5.2    | <i>Procedural Precautions</i> .....               | 5        |
| <b>2</b> | <b>Types of Investigation Derived Waste</b> ..... | <b>6</b> |
| <b>3</b> | <b>Management of Non-Hazardous IDW</b> .....      | <b>7</b> |
| <b>4</b> | <b>Management of Hazardous IDW</b> .....          | <b>8</b> |

## TABLES

|                                       |          |
|---------------------------------------|----------|
| <b>Table 1: Disposal of IDW</b> ..... | <b>9</b> |
|---------------------------------------|----------|

# Contents

## **1 General Information**

---

### **1.1 Purpose**

This document describes general and specific procedures and considerations to be used and observed when managing investigation derived waste (IDW) generated during the course of hazardous waste site investigations.

### **1.2 Scope/Application**

The procedures and management options for the different categories of IDW described in this document are to be used by SESD field personnel to manage IDW generated during site investigations. On the occasion that SESD field personnel determine that any of the procedures described in this section are inappropriate, inadequate or impractical and that another procedure must be used to manage IDW generated at a particular site, the variant procedure will be documented in the field log book, along with a description of the circumstances requiring its use.

### **1.3 Documentation/Verification**

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and have been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the H: drive of the SESD local area network. The Field Quality Manager (FQM) is responsible for ensuring the most recent version of the procedure is placed on the H: drive and for maintaining records of review conducted prior to its issuance.

### **1.4 References**

SESD Operating Procedure for Field Equipment Cleaning and Decontamination, SESDPROC-205, Most Recent Version

United States Environmental Protection Agency (US EPA). 2001. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division (SESD), Athens, GA

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

## 1.5 General Precautions

### 1.5.1 Safety

Proper safety precautions must be observed when managing IDW. Refer to the SESD Safety, Health and Environmental Management Program (SHEMP) Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

### 1.5.2 Procedural Precautions

The following precautions should be considered when managing IDW:

- Due to time limitations and restrictions posed by RCRA regulations on storage of hazardous waste, accumulation start dates should be identified on all drums, buckets or other containers used to hold IDW so that it can be managed in a timely manner.
- During generation of both non-hazardous and hazardous IDW, keep hazardous IDW segregated from non-hazardous IDW to minimize the volume of hazardous IDW that must be properly managed.

## **2 Types of Investigation Derived Waste**

---

Materials which may become IDW include, but are not limited to:

- Personnel protective equipment (PPE) - This includes disposable coveralls, gloves, booties, respirator canisters, splash suits, etc.
- Disposable equipment and items - This includes plastic ground and equipment covers, aluminum foil, conduit pipe, composite liquid waste samplers (COLIWASAs), Teflon® tubing, broken or unused sample containers, sample container boxes, tape, etc.
- Soil cuttings from drilling or hand augering.
- Drilling mud or water used for mud or water rotary drilling.
- Groundwater obtained through well development or well purging.
- Cleaning fluids such as spent solvents and wash water.
- Packing and shipping materials.

Table 1, found at the end of this procedure, lists the types of IDW commonly generated during field investigations and the current disposal practices for these materials.

For the purpose of determining the ultimate disposition of IDW, it is typically distinguished as being either hazardous or non-hazardous. This determination is based on either clear regulatory guidance or by subsequent analysis. This determination and subsequent management is the responsibility of the program site manager.

### **3 Management of Non-Hazardous IDW**

---

Disposal of non-hazardous IDW should be addressed in the study plan or QAPP for the investigation. To reduce the volume of any IDW transported back to the Field Equipment Center (FEC), it may be necessary to compact the waste into a reusable container, such as a 55-gallon drum.

If the waste is from an active facility, permission should be sought from the operator of the facility to place the non-hazardous PPE, disposable equipment, and/or paper/cardboard into the facilities' dumpsters. If necessary, these materials may be placed into municipal dumpsters, with the permission of the owner. These materials may also be taken to a nearby permitted landfill. On larger studies, waste hauling services may be obtained and a dumpster located at the study site.

Disposal of non-hazardous IDW such as drill cuttings, purge or development water, decontamination wash water, drilling mud, etc., should be specified in the approved study plan or QAPP. It is recommended that these materials be placed into a unit with an environmental permit, such as a landfill or sanitary sewer. These materials must not be placed into dumpsters. If the facility at which the study is being conducted is active, permission should be sought to place these types of IDW into the facilities treatment system. It may be feasible to spread drill cuttings around the borehole, or, if the well is temporary, to place the cuttings back into the borehole. Non-hazardous monitoring well purge or development water may also be poured onto the ground down gradient of the monitoring well when site conditions permit. Purge water from private potable wells which are in service may be discharged directly onto the ground surface.

The minimum requirements for this subsection are:

- Non-hazardous liquid and soil/sediment IDW may be placed on the ground or returned to the source if doing so does not endanger human health or the environment or violate federal or state regulations. Under no circumstances, however, should monitoring well purge water be placed back into the well from which it came.
- Soap and water decontamination fluids and rinsates of such cannot be placed in any water bodies and must be collected and returned to the FEC for disposition.
- The collection, handling and proposed disposal method must be specified in the approved study plan or QAPP.

## **4 Management of Hazardous IDW**

---

Disposal of hazardous or suspected hazardous IDW must be specified in the approved study plan or QAPP for the study or investigation. Hazardous IDW must be disposed as specified in USEPA regulations. If appropriate, these wastes may be placed back in an active facility waste treatment system. These wastes may also be disposed in the source area from which they originated if doing so does not endanger human health or the environment.

If on-site disposal is not feasible, and if the wastes are suspected to be hazardous, appropriate tests must be conducted to make that determination. If they are determined to be hazardous wastes, they must be properly contained and labeled. They may be stored on the site for a maximum of 90 days before they must be manifested and shipped to a permitted treatment or disposal facility. Generation of hazardous IDW must be anticipated, if possible, to allow arrangements for proper containerization, labeling, transportation and disposal/treatment in accordance with USEPA regulations.

The generation of hazardous IDW should be minimized to conserve Division resources. Most routine studies should not produce any hazardous IDW, with the possible exception of spent solvents and, possibly, purged groundwater. The use of solvents during field cleaning of equipment should be minimized by using solvent-free cleaning procedures for routine cleaning and decontamination (see SESD Operating Procedure for Field Equipment Cleaning and Decontamination, SESDPROC-205). If solvents are needed, the volume should be minimized by using only the amount necessary and by capturing the residual solvent separately from the aqueous decontamination fluids (detergent/wash water mixes and water rinses).

At a minimum, the requirements of the management of hazardous IDW are as follows:

- Spent solvents must be left on-site with the permission of site operator and proper disposal arranged.
- All hazardous IDW must be containerized. Proper handling and disposal should be arranged prior to commencement of field activities.

**Table 1: Disposal of IDW**

| TYPE                  | HAZARDOUS  | NON-HAZARDOUS  |
|-----------------------|--|--|
| PPE-Disposable        | Containerize in plastic 5-gallon bucket with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise return to FEC for proper disposal.  | Place waste in trash bag. Place in dumpster with permission of site operator, otherwise return to FEC for disposal in dumpster.  |
| PPE-Reusable          | Decontaminate as per SESDPROC-205, if possible. If the equipment cannot be decontaminated, containerize in plastic 5-gallon bucket with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise return to FEC for proper disposal. | Decontaminate as per SESDPROC-205.   |
| Spent Solvents        | Containerize in original containers. Clearly identify contents. Leave on-site with permission of site operator and arrange for proper disposal.  | N/A  |
| Soil Cuttings         | Containerize in DOT-approved container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.  | Containerize in a 55-gallon steel drum with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal. **   |
| Groundwater           | Containerize in DOT-approved container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.  | Containerize in an appropriate container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal. ** |
| Decontamination Water | Containerize in DOT-approved container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.  | Containerize in an appropriate container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.    |
| Disposable Equipment  | Containerize in DOT-approved container or 5-gallon plastic bucket with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.   | Containerize in an appropriate container with tight-fitting lid. Identify and leave on-site with permission of site operator, otherwise arrange with program site manager for testing and disposal.    |
| Trash                 | N/A  | Place waste in trash bag. Place in dumpster with permission of site operator, otherwise return to FEC for disposal in dumpster.  |

\*\* These materials may be placed on the ground if doing so does not endanger human health or the environment or violate federal or state regulations.