

**STANDARD OPERATING PROCEDURE No. 10.0  
DECONTAMINATION OF SAMPLING EQUIPMENT**



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## 1.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) describes procedures that will be used for sampling equipment decontamination. The collection of environmental samples requires that all equipment associated with collecting these samples be cleaned. This requirement reduces the possibility of contaminants being introduced into the sample from external sources. This procedure establishes the cleaning and decontamination methods for achieving that goal.

## 2.0 RESPONSIBILITIES AND QUALIFICATIONS

The Project Manager or Field Manager has the overall responsibility for implementing this SOP. They will be responsible for assigning environmental staff to implement this SOP and for ensuring that the procedures are followed by all personnel.

All personnel performing these procedures are required to have the appropriate health and safety training. In addition, all personnel are required to have a complete understanding of the procedures described within this SOP and receive specific training regarding these procedures, if necessary.

All environmental and assay laboratory staff are responsible for reporting deviations from this SOP to the Project Manager or Field Manager.

## 3.0 RELATED STANDARD OPERATING PROCEDURES

The procedures for decontamination of sampling equipment set forth in this SOP are intended for use with the following SOPs:

SOP No. 1.0	Surface Water and Seep Sampling
SOP No. 5.0	Monitor Well Installation
SOP No. 6.0	Water Level Measurements
SOP No. 8.0	Field Parameters Measurement (including instrument calibration)
SOP No. 9.0	Field Filtration Procedures
SOP No. 15.0	Well Development
SOP No. 26.0	Monitor Well Groundwater Sampling
SOP No. 30.0	Drilling and Sampling of Subsurface Materials

## 4.0 EQUIPMENT LIST

The following is a list of equipment that may be used to perform decontamination:

- Alconox detergent (or equivalent)
- Brushes
- Wash tubs (minimum of 3) or 5-gallon buckets (minimum of 3), as necessary
- Scrapers, as necessary
- Steam cleaner or high-pressure sprayer (portable), as necessary
- Sponges
- Squirt bottles
- Chemical-free paper towels or Kimwipes
- Potable tap water
- Deionized or distilled water
- Garden type water sprayers
- 500 mL or 1L spray bottles
- Plastic trash bags
- Plastic sheeting and clean plastic wrap/bags

## 5.0 PROCEDURE

### 5.1 DECONTAMINATION

#### 5.1.1 Sampling Equipment

The following steps will be used to decontaminate small sampling equipment, such as bailers, stainless steel trowels, bowls, spoons, etc.:

- Personnel will dress in suitable safety equipment to reduce personal exposure.
- Set up a decontamination area with plastic sheeting, as necessary.
- Gross decontamination on equipment will be scraped off at the sampling site. For most equipment (e.g. shovels, bailer cord) during pre-mining activities, this is sufficient for decontaminating procedures.
- Equipment that will not be damaged by water (e.g. YSI sonde, surface water collectors) will be rinsed, washed, or sprayed with D.I. water and a brush if necessary, and then wiped clean with a paper towel. Spray water may be collected by paper towels and disposed of appropriately.

- Equipment that may be damaged by water (such as a specific conductivity meter) will be carefully wiped clean when necessary using a sponge or towel and then rinsed again with D.I. water. Care will be taken to prevent damage to equipment.
- Rinse (and detergent) waters will be replaced between sample locations.
- Used rinse (and detergent) water will be disposed of properly at a designated location at the site.

Following decontamination, equipment will be placed in a clean area or in clean plastic wrap/bags.

#### 5.1.1.1 Sample Decontamination Procedure for Decontamination of a Water Level Meter

1. Thoroughly wet a paper towel or Kimwipe with deionized water from a squirt bottle.
2. Clean tape by wiping with paper towel soaked with deionized water followed by wiping with a dry paper towel. To facilitate decontamination, two people can perform the procedure by placing a dry paper towel adjacent to the tape reel and the wet paper towel a few inches away from the dry paper towel toward the probe. Slowly reel in the tape ensuring that the tape is thoroughly wiped with both the paper towels. If necessary, repeat the procedure or replace the paper towels as they become soiled.
3. The water level probe can be cleaned by spraying the probe with deionized water and wiping it dry with a clean paper towel.
4. If persistent stains or oily films are present on the tape, apply pesticide-free-grade isopropanol to a paper towel and wipe tape until clean. Because solvents can damage the water level indicator tape, the tape must be thoroughly rinsed with deionized water and wiped dry with a clean paper towel. Allow tape to completely air dry.
5. Place water level indicator in the clean carrying case or in a clean plastic bag to prevent contamination during transportation to the next location.
6. Place used towels in the designated field trash container for proper disposal.

#### 5.1.2 Large Equipment

Drilling equipment (rigs, drill rods, augers, bits, casing, etc.), downhole logging equipment, and other large pieces of field equipment should be high-pressure steam cleaned before and after use. Steam cleaning will be performed at an appropriate decontamination area specified by the field manager. The decontamination area shall be capable of containing decontamination fluids and solids.

#### 5.1.3 Equipment Leaving the Site

All sampling equipment will be cleaned prior to leaving the site. Vehicles used during field activities shall be cleaned on an as-needed basis with soap and water on the outside and vacuuming the inside.

## 6.0 DOCUMENTATION

Documentation of observations and data acquired in the field will provide information on the activities concluded and also provide a permanent record of field activities. The observations and data will be recorded with waterproof ink in a permanently bound weatherproof field logbook with consecutively numbered pages.

Sampling personnel will be responsible for documenting the decontamination of all sampling equipment. The information entered in the field book concerning decontamination should include the following:

- Decontamination personnel
- Date and start and end times
- Decontamination steps/observations
- Weather conditions

## 7.0 QUALITY ASSURANCE/QUALITY CONTROL

During the project the designated project representatives will conduct QA/QC field book checks. Any corrective action must be conducted in writing by the owner of the Note book and initialed by the QA/QC representative.

## 8.0 INSTRUMENT CALIBRATION AND STANDARDIZATION

Not applicable.

## 9.0 REFERENCES

EPA, March 2001, Guidance for Preparing Standard Operating Procedures (SOPs) EPA QA/G-6, EPA/240/B-02/004, Office of Environmental Information, Washington, D.C.

EPA, March 2001, EPA Requirements for Quality Management Plans, EPA A/R-2, EPA/240/B-02/002, Office of Environmental Information, Washington, D.C.

EPA, November, 2002, Guidance on Environmental Verification and Data Validation, EPA QA/G-8, EPA/240/R-02/004, Office of Environmental Information, Washington, D.C.

EPA, December 2002, Guidance for Quality Assurance Project Plans, EPA AQ/G-5, EPA/240/R-2/009, Office of Environmental Information, Washington, D.C.