STANDARD OPERATING PROCEDURE NO. 7
DECONTAMINATION OF SAMPLING EQUIPMENT

REVISION LOG		
Revision Number	Description	Date
7.0	Original SOP	12/03/03
7.1	Revisions by PJP	5/20/2004
7v2	LMK added form, did not edit	8/15/05
7v2	LMK finalized for posting on website and to send George Robinson for lab audit	3/20/07
7v3	Editorial by SKA	10/22/08

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 Principal Investigator (PI) or Bureau Field Geologist have the overall responsibility for implementing this SOP. They will be responsible for assigning staff to implement this SOP and for ensuring that all personnel follow the procedures.

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 PI or Bureau Field Geologist.

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 2 Sample Management
- SOP 5 Sampling Outcrops, Rock Piles, and Drill Core (solid)
- SOP 6 Drilling, Logging, and Sampling Subsurface Materials (solid)
- SOP 8 Sample Preparation
- SOP 9 Test Pit Excavation, Logging, and Sampling (solid)
- SOP 12 Field Parameter Measurements (including Instrument Calibration)
- SOP 13 Water Elevation Measurements
- SOP 14 Field Filtration of Water Samples
- SOP 15 Surface Water and Seep Sampling
- SOP 20 Well Development
- SOP 21 Monitor Well Installation

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
- Chemical-free paper towels or Kimwipes
- Potable tap water
- Deionized or distilled water
- Garden type water sprayers
- 500 mL or lL 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.
- Equipment that will not be damaged by water will be placed in a wash tub or bucket or sprayed with a solution containing Alconox or low-sudsing detergent along with potable water and scrubbed with a bristle brush or similar utensil. Equipment will be washed or sprayed with potable water, followed by a potable water rinse or spray. Equipment will then be double rinsed or sprayed with distilled or deionized water. 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 and detergent water and rinsed again with a sponge dipped in distilled or deionized 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.

5.1.2 Large Equipment

Drilling equipment (rigs, drill rods, augers, bits, casing, etc.), downhole logging equipment, and other large pieces of field equipment must 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. Molycorp personnel shall manage the decontamination fluids.

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 on the Molycorp database Field Activity form.

Sampling personnel will be responsible for documenting the decontamination of all sampling equipment. The information entered on the Field_Activity_form will include the following:

- Decontamination personnel
- Date and start and end times
- Decontamination steps/observations
- Weather conditions
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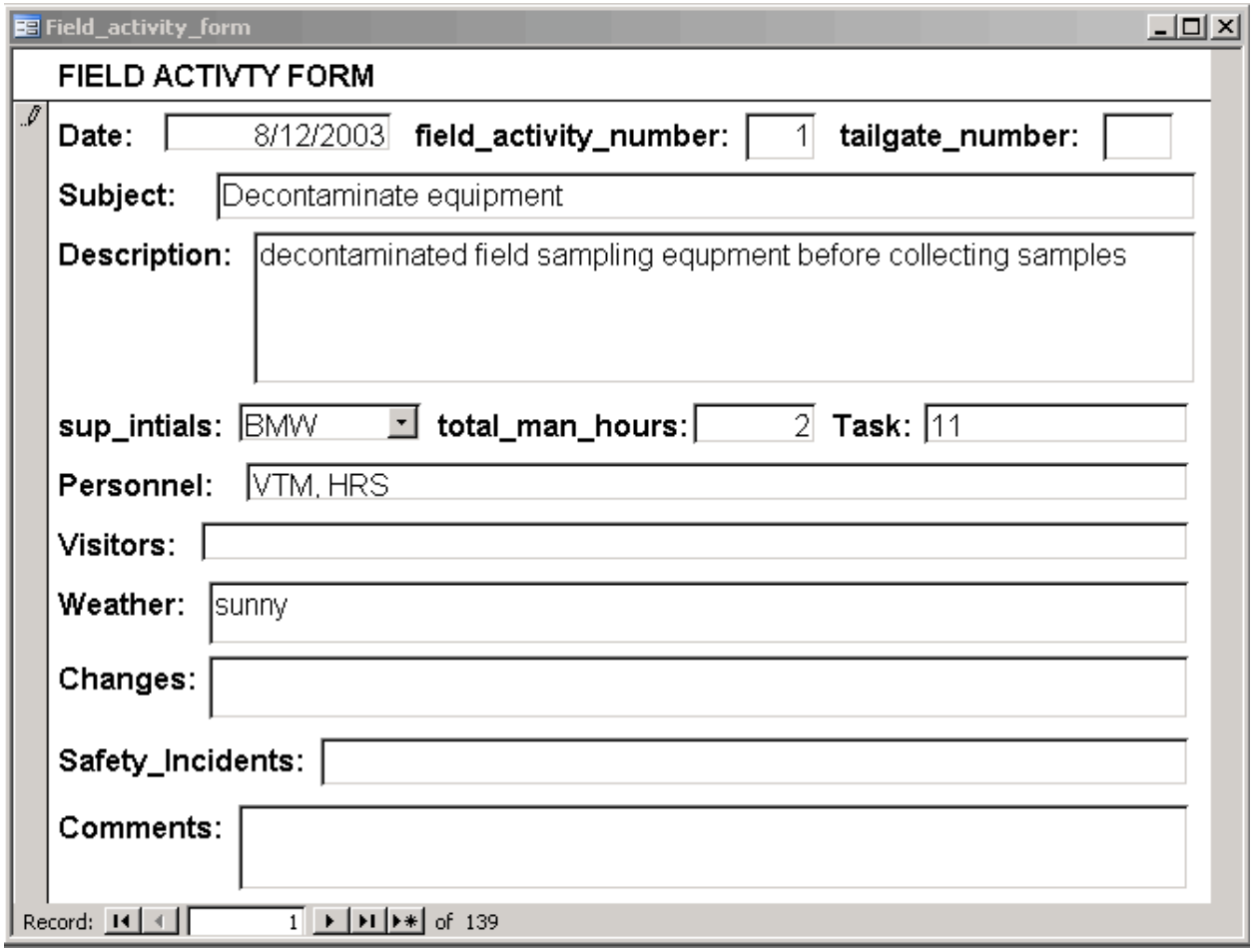
7.0 Forms – sample field activity form used for decontaminating equipment:



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