

SECTION 8.10

SUBSURFACE SOIL SAMPLING FOR CHEMICAL ANALYSIS

1.0 Purpose

To describe the procedures to collect samples of subsurface soils for chemical analysis.

2.0 Responsibilities

- The site coordinator is responsible for assuring this procedure is implemented.
- Survey team personnel are responsible for following this procedure.

3.0 Procedure

3.1 Equipment

- ✓ Drilling equipment: hand auger, motorized auger, drill rig, etc. Cleaned and prepared as described in Section 8.13.
- ✓ Sampling equipment: split-spoon, shelly tube, trier, stainless steel or teflon spoon, etc. Prepared as described in Section 8.13.
- ✓ Visqueen sheeting.
- ✓ Wide-mouth glass sample jars with teflon lined closures or other appropriate container.
- ✓ Sample gloves.
- ✓ Sample shipment containers, packing material, and ice or “blue ice”.
- ✓ Record forms, logbooks.
- ✓ Labels and security seals, chain of custody forms.
- ✓ Indelible pen.
- ✓ Sample equipment decontamination supplies (described in Section 8.14).

3.2 Sample Collection

NOTE: This is a general procedure for obtaining subsurface soil samples. Individual site characteristics or contaminants of interest may require a deviation from this procedure. The site-specific survey plan will address the exact sampling methodologies to be employed.

3.2.1 Subsurface soil sampling (option 1)

3.2.1.1 Stage all drilling and sampling equipment on visqueen.

3.2.1.2 Drill borehole to the required sampling depth.

3.2.1.3 Lower a sidewall scraper to the required sampling depth (sampling should be initiated at the maximum sample depth and proceed toward the surface) and scrape away the initial layer of soil that was in contact with the drilling equipment. This is to remove any contamination spread by the drill.

3.2.1.4 Lower the sampling tool to the sample point and collect sample.

3.2.1.5 Transfer sample to appropriate container, and seal the sample container. The survey plan will specify the container type.

3.2.1.6 Label and secure the sample in accordance with Section 8.15 and the chain-of-custody procedures in Section 8.16. Record pertinent information on the Chain-of-Custody Form (Figure B-16 or equivalent).

3.2.1.7 Record sample identification, location, depth, date, time, and other pertinent data on field work form, maps, drawings, and/or site logbook.

3.2.1.8 Use a clean sampling device for the next sample location or decon equipment in accordance with Section 8.14.

3.2.1.9 Change sample gloves before proceeding with next sample.

3.2.2 Subsurface sampling (option 2)

3.2.2.1 Stage equipment on visqueen sheeting.

3.2.2.2 Drill or auger borehole to the required depth.

3.2.2.3 Drive a split spoon sampler, shelby tube, or other coring device beyond the borehole depth.

3.2.2.4 Remove the collecting device, discard the top 1 to 2 inches of core, and remove the remaining core.

3.2.2.5 Place the core or segments representing specific sample depths into appropriate container(s). The survey plan will specify the container type.

3.2.2.6 Repeat steps 3.2.1.6 to 3.2.1.9.

3.2.3 Subsurface soil sampling (option 3)

3.2.3.1 Open a trench to the specified depth with backhoe or trackhoe excavator or utilize existing trench.

NOTE: OSHA requirements must be met before working in a trench.

3.2.3.2 Follow procedure for surface soil sampling specified in Section 8.9, steps 3.2.1 to 3.2.8 at each required sample depth.