

## **Standard Operating Procedure 226**

### **Soil Sampling - Test Trenches**

#### *Purpose*

Test trenches can be utilized at a variety of sites to obtain soil samples, characterize fill materials and to examine soil horizons. They provide an opportunity to examine subsurface conditions in greater detail than with soil probes or borings.

#### *Safety Equipment and Concerns*

- Wear nitrile gloves to reduce the incidence of skin contact with potentially contaminated soil and to reduce the risk of cross contamination.
- Wear a hard hat and steel-toed safety boots whenever working with heavy equipment.
- Other site-specific personal protective equipment may be required. Consult the site-specific Health and Safety Plan for site-specific concerns.
- Test trenches present special safety issues, especially concerning potential excavation sidewall failure. In general, do not enter excavations.

#### *Required Equipment*

- Measuring Tape
- Camera and Film
- Note pad for field notes and photograph identification

#### *Procedure*

1. Determine the appropriate sampling location and trench identifier prior to excavating. Use a measuring tape to determine the distance from site landmarks. Identify samples by their trench identifier and depth intervals.

2. Direct the backhoe operator to dig at the sample location and to the desired depth(s). Obtain soil and debris samples as per the proposal or work plan.
3. When taking analytical or headspace samples from trenches, always take the sample from a freshly exposed surface. Soil that is in contact with the bucket sides or with soil from sidewall slumping should be avoided. Use a gloved hand to transfer the soil directly into a sample container as described in SOP 215 – Collecting Soil Samples for Laboratory Analysis.
4. Take accurate notes of all debris encountered and relative percentages of soil vs. debris. Be sure to note the depth of debris, soil horizons, native soil, fill, etc. The notes should closely parallel logs kept for borings and probes.
5. It is helpful to take photographs of test trenches. Take a photograph of at least one sidewall of each trench and photograph all unusual or significant findings. Include a sheet of paper with the trench identifier written in bold black letters in the photograph. A photo log should also be kept providing the photo number, subject and all other appropriate information and observations.
6. After sampling and photographing the trench, direct the backhoe operator to fill the trench with excavated material. An attempt should be made to return the materials into the trench in the same order as originally removed.