SOP S-11/S-12

Standard Operating Procedure For Soil And Sediment Sampling At The West Kingston Town Dump/ Uri Disposal Area Site

Woodard & Curran, Inc.

Soil and Sediment Sampling Procedure

Soil and sediment samples will be collected using stainless steel and/or Teflon-lined scoops, trowels, shovels, spoons, or spatulas. A hand auger will be used for soils collected at depth. Encore samplers may also be used for sediment sampling.

Equipment needed:

- Bound field logbook
- Sample tags.
- Appropriate sample containers and labels.
- Insulated cooler and ice.
- Decontamination equipment and supplies.
- Personal protective clothing and equipment as required by the site-specific HSP.
- Temperature probe or thermometers, specific conductance meter, pH meter, dissolved oxygen meter, and turbidimeter.
- Stainless steel or aluminum trays or bowls.
- Stainless steel shovels, trowels, spoons, or spatulas.
- Hand auger.
- Encore samplers.

Soil and Sediment Sampling Steps

1. Follow the sampling pattern outlined in the QAPP.
2. Carefully remove stones, vegetation, snow, etc., from the boring location surface.
3. Assess deeper soil samples by drilling a hand auger to the desired depth and removing the soils from the auger.
4. The requirements for collecting grab samples of soil are as follows:
    a. Use a clean stainless steel trowel or spoon to collect sufficient material to fill the sample containers.
    b. Fill the sample containers directly from the sampling device, removing stones, twigs, grass, etc., from the sample. Additional sample containers may be required to obtain enough material for a minimum of 30 percent solids.
    c. Immediately secure the caps on the sample container.

d. Label container with the appropriate information. NOTE: Container may be labeled prior to sample collection.

e. Record samples (e.g., sample ID, location, depth, method, etc…) in the bound field logbook.

f. Pack sample in cooler with ice. The only preservation required for soil, sediment and sludge samples is to cool them to 4 degrees Celsius. A small plastic temperature blank will be filled with water and placed in the cooler with the samples. The temperature of the samples will be determined at the laboratory by measuring the temperature of the temperature blank.

g. Use decontaminated sampling equipment at each sample location to minimize cross-contamination.

h. In the event that a duplicate sample is collected: fill duplicate jars for VOAs as described above. For other parameters, place sufficient sample quantity in a stainless steel bowl and mix. Split duplicate sampling jars.

i. VOC containers will be preserved with methanol. Pre-measured vials containing the appropriate quantity of methanol will be provided by the laboratory.

Collection of Sediment Samples. The following steps will be followed when collecting sediment samples from below a surface water body. When collecting a sample from below moving water care should be taken to keep fine grained material from being washed away.

1. Stake the sampling locations presented in QAPP.
2. In shallow water (< 2 feet), collect sediments directly into sample containers by submerging containers to the steam bed and scooping sediment directly into containers. In deeper water, use a sediment sampling device (e.g., hand corer, Ekman Dredge, or Encore sampler) to collect a sample for transfer into appropriate soil jars. If sediment is collected in an Encore sampler, transfer is not needed in the field. This will be performed by the laboratory.
3. Top off sample containers with additional sediments using a stainless steel spoon as required to obtain sufficient volume to ensure that the sample contains a minimum of 30 percent solids.
4. Immediately secure caps on the sample container.
5. Label container.
6. Pack sample in cooler with ice, and include temperature blank.
7. Note on COC that sediment sample is also to be analyzed for percent solids.

QA/QC

QA/QC procedures are outlined in the Sampling procedures discussed above. Duplicates, blanks, and spikes have been incorporated into the QAPP to assess potential for sampling, shipping, and laboratory impacts on data quality. Percent solids will also be analyzed for each sediment sample so that proper concentration adjustments can be made.

References

None.