

Soil Sampling Procedures

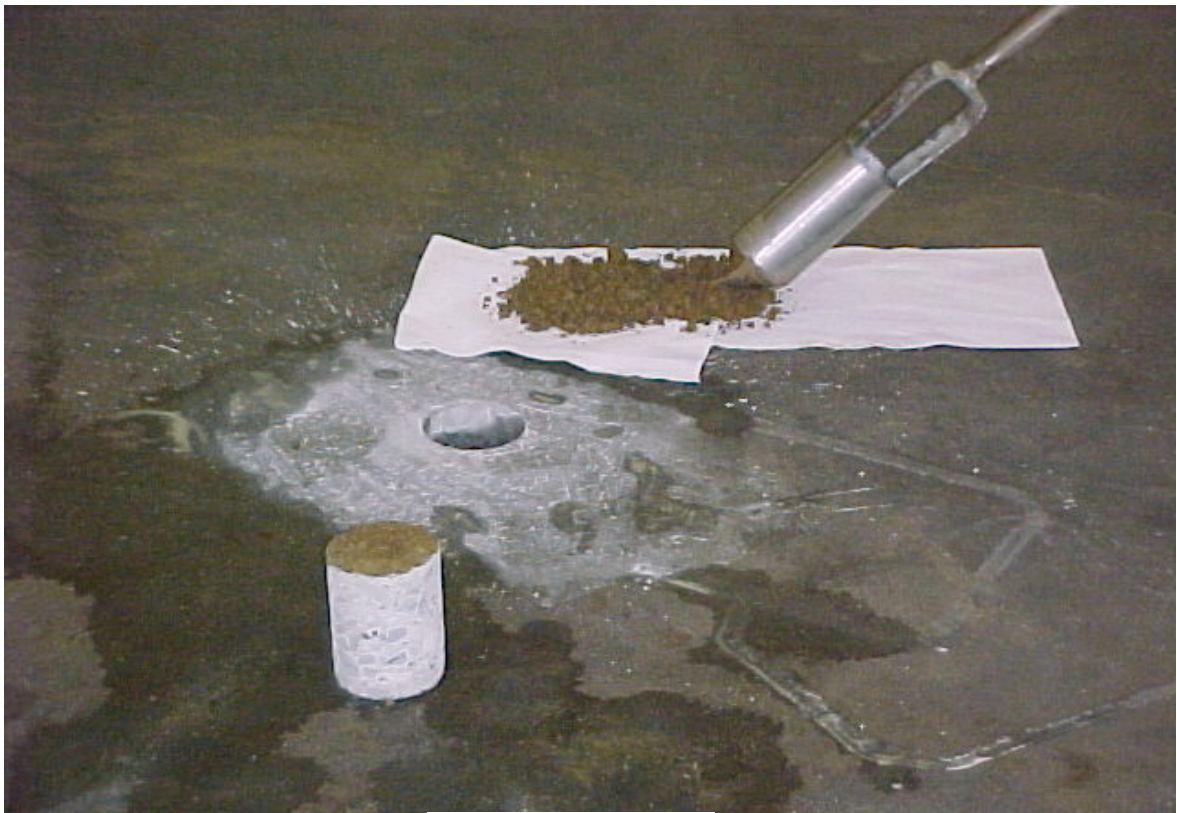
1. When the work order is received, contact the sales person and then the client to discuss the reason for sampling. Obtain the contact info for the agency requiring the sampling. If the soil samples are to be taken from an area below a concrete pad, obtain the depth of the concrete pad.
2. Contact the regulatory agency to determine if they have specific requirements regarding a) the location and depth of the samples, b) the type of analysis to be performed on the samples, c) whether a sampling plan is required, d) what will need to be included in the sampling plan and e) whether they would like to be present while the samples are collected.
3. If the agency does not have specific requirements for the analysis, then get any relevant information, such as MSDSs, from the client that will be necessary to determine the potential hazardous contaminants.
4. If necessary, talk with the analytical laboratory to determine which analyses will identify any hazardous components identified in their MSDSs.
5. Prepare, submit and obtain approval on the sampling plan from the agency, if necessary.
6. If necessary, call a concrete cutting company to determine their availability for drilling holes through the client's concrete pad. Before calling you will need to know the quantity of holes to be drilled, the diameter of the holes (4" min. to accommodate the auger) and the approximate depth of the concrete pad (usually 6-8").
7. If the ground will be penetrated during sampling, call Underground Service Alert (1-800-642-2444) at least 48 hours before sampling to ensure that there are no pipes or utilities underlying the area. The sampling locations will need to be marked.
8. Coordinate the sampling date with the client, drilling company and, if necessary, the agency. Verify that the sampling equipment will be available for that date.
9. Obtain a purchase order for the concrete drilling and laboratory analysis.
10. Gather supplies to take to the sampling site. The following is a list of the supplies needed.

- Slide Hammer
- Soil Probe (replace if dented or distorted)
- Plastic Liners
- Liner Caps
- Cross Handle
- Extension
- Auger
- Distilled Water
- Bucket
- Container and hazardous waste label for the wastewater
- Paper Towels
- Gloves
- Coats
- Ice Chest
- Ice
- Pliers
- Knife
- Garbage Bags
- Marking Pen
- Sample labels
- Tape Measure
- Chain of Custody
- Check or PO number for drilling
- Check or PO number for analysis

11. After arriving at the site, show the drilling company the locations for drilling and confirm the diameter of the holes.
12. While the drilling company is drilling, clean all tools that will come in contact with the samples (slide hammer, auger, extension, soil probe, pliers, etc.) using distilled water.
13. Screw together the auger, extension and cross handle.
14. Using the auger, rotate and advance it in the hole until native soil or the desired depth is reached (See Picture #1). Place the soil to the side so it can be replaced after sampling is completed (See Picture #2).
15. Measure the depth from the top of the concrete to the sampling area and record.
16. Unscrew the connector of the soil probe and slide a plastic liner into the cleaned probe. Screw the connector back on.
17. Screw the connector onto the slide hammer.
18. Using the slide hammer, hammer the soil probe into the soil until the top of the soil probe has reached the soil (See Picture #3).
19. Remove the soil probe from the soil with an upward hammer motion and unscrew it from the slide hammer (See Picture #4).
20. Take the plastic liner out of the soil probe with the clean pliers, cut off any remaining head space with the knife, place a label on the sample that includes the sample ID, sampler's initials and date and time collected and place it in the ice chest with ice (See Picture #5).
21. Wash all tools with distilled water prior to resampling.
22. Upon completion of sampling, wash all tools with distilled water and thoroughly towel dry them to prevent rusting.
23. Fill out the chain of custody form.
24. Mark the sampling locations on a facility drawing or rough sketch of the area.
25. Any waste that is generated during the sampling should be treated as hazardous until the analytical results come back. The client has the responsibility to dispose of the wastewater.
26. Place the soil that was removed with the auger back into the holes. The client is responsible for refilling the holes in the concrete unless otherwise specified in the contract.
27. Confirm with the client the turn around time they would like for the analyses.
28. Clean up the area.
29. Submit the samples for analysis.
30. Once the analysis results are received, complete the report using the template. Draw a sample map based on the rough sketches made at the facility. Included the map and photos (if any were taken) showing sample locations and IDs. Attach the chain of custody and analytical report.
31. Submit the report to the client and any other agencies as required.



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