

TEST PIT EXCAVATION

Test pit excavation can be undertaken in all types of terrain and in all types of conditions. Because of the variety of situations one may be exposed to, it is important to recognize and be aware of potential hazards associated with this operation.

Key hazards include:

- Impact by moving equipment;
- Slough or collapse of the pit sidewalls;
- Encountering subsurface utilities;
- Traversing uneven ground to excavate, document and sample and:
- Burst hydraulics resulting in sudden failure of the boom

Precautions

- Get as much site-specific information as possible concerning ground conditions and surface obstructions. Ask the Project Manager and, if possible, the Client or Client Contact.
- Use available soils information (i.e., previous reports, Geological Survey of Canada Surficial Geology Maps, colleagues who have had experience in the area) to ascertain potential subsurface conditions.
- Clear services at and/or in the vicinity of the site
- Before test pit excavation, walk the site and identify potential locations for investigation. Consider access requirements, look for evidence of underground services (i.e., service boxes, plugs, exposed pipe, trenches, etc.), and locate the test pits accordingly.
- Look for surface and overhead features that may represent a hazard. Overhead power lines are a major concern and must be avoided or de-energized. Even without direct contact, electricity can arc from the power lines to another object.
- Locate spoil piles a minimum of 1.2 metres), and preferably at least 2 metres away from the crest of the excavation. Remember that the added loading from stockpiled soil can induce sidewall failures.
- Do not pile excavation spoil such that it could endanger workers
- Identify a safe viewing area where you can observe the excavation, but not so close that you are either in danger of being struck by the excavation equipment or fall into the excavation should the sidewalls collapse.
- Always make sure you have a route of escape, should things go wrong.
- Make sure the excavator operator knows where you are **at all times**.
- If you want to approach the excavator or test pit, signal the operator first and make sure the equipment is stopped before you approach.
- Watch for tell-tale signs of instability in the test pit (cracks, sloughing, inflow of water). Don't approach the crest of the pit if instability is perceived. Also note that soil can and will fail beneath asphalt, so take extra care when excavating through paved surfaces.
- **NEVER**, enter a test pit to sample soil when the depth of the test pit is greater than 1.2 metres (4 feet), or when conditions in the pit are unsafe;
- **NEVER**, enter a deep excavation (greater than 1.2 metres deep) without the sidewalls of the excavation being supported, cut to a stable angle, or certified by a professional engineer.

- **NEVER**, enter a test pit in the bucket of the excavator.
- **NEVER**, leave a test pit open for an extended period. Always backfill and compact the excavation (with the excavator's bucket or other suitable equipment) after you have completed sampling and documentation activities. Open holes represent a potential hazard to yourself and others.

Minimum Personal Protective Equipment Required

- Hard Hat
- Safety Boots
- High Visibility Vest