



SERVICE DATA SHEET

Trial Pitting

Trial pitting is a technique that can be deployed rapidly and has distinct benefits (to the Client), insofar as all work is supervised by qualified engineering professionals throughout the process. This site investigation technique is an established and routine method of assessing the near surface ground conditions. Using correctly sized excavator plant, geotechnical trial pits can be extended to depths of up to six metres. Shoring support can be installed by trained employees where specified in deeper excavations or unstable (loose or soft soils) to prevent side collapse, or subject to risk assessment, to allow entry. The instability of the ground to stand vertically and the position of the groundwater table is a significant limiting factor.

Trial pitting allows direct observation of the mass ground conditions and how they relate to each other, as well as observation and determination of buried features. The technique is typically low cost and allows quick coverage of the investigation area. Excavations can be sampled, both for geotechnical and geo-environmental testing requirements, as well as tested using a range of in-situ techniques throughout the operation.

Application and Sampling Methods

- ◆ Useful for the determination of abandoned mine shafts or for delineating the extent of old quarried areas. The technique can also be used for weak rock sub-crop assessment and establishing the extent of areas of previous landfill, essentially contrasts between different ground make-ups.
- ◆ Trial pitting can be integrated reliably with various in-situ testing techniques (i.e. plate load, hand shear vane, Californian Bearing Ratio and sand replacement testing during the investigation process.
- ◆ The technique allows discrete and accurate sampling (including block sampling in accordance with BS EN 22475-1: 2006) and testing of the strata encountered, as well as the ability to assess and provide useful visual identification of the near surface ground conditions.
- ◆ Allows photography of the exposed ground conditions for later review.
- ◆ The process can be combined with soakaway soil infiltration analysis in accordance with BRE guidance.



Summary

Supervised excavation, with logging and sampling undertaken by an engineering professional.

Trial pitting provides cost effectiveness, technical flexibility and rapid deployment for the assessment of the ground conditions above the water table.

Facilitates a wide range of in-situ and sampling (disturbed, undisturbed and environmental) techniques.

Average daily productivity depends on the sampling and in-situ testing regime, as well as the strata conditions (whether breaking out is required). Realistically anything between 4 and 10 trial pits can be achieved in an average working shift.

Benefits

- Allows relatively rapid coverage and the direct assessment of near surface ground conditions across an investigation area.
- Low deployment costs.
- Discrete environmental sampling for asbestos, metals, volatile and semi-volatile organic determinants.
- Can be combined with a number of other geotechnical testing procedures in order to provide additional parameter based design information.

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