don't build roads to do CPTs

IGS Technical Note

Be careful How You Access Soft Sites (especially tailings dams)

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high quality in situ testing
high quality sampling

There are two ways to access very soft sites such as tailings dams to undertake in situ testing:

Either (1) Build road-like fill embankments over the surface and use conventional test machines that drive on these embankments.

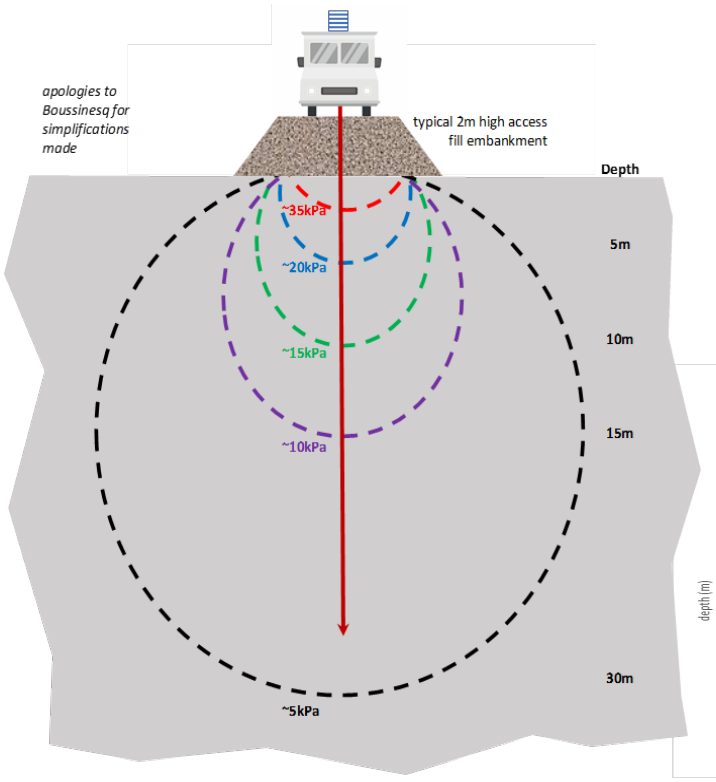
Or (2) Use specialised testing equipment and techniques that were specifically designed and built to safely and efficiently access difficult very soft sites (without having to build such embankments).

See the brochure accompanying this Technical Note. IGS has evolved its business and equipment to work the second way, for two reasons:

a) The consolidation effect under embankments can radically change the results of in situ tests such as CPTs. The critical soft profile to be tested will be preloaded and stiffened by the embankment, making the test data through that zone "optimistically misleading".

b) Access embankments cost money that is simply wasted when there are other options which are also technically better. Why not spend the access budget on better testing?

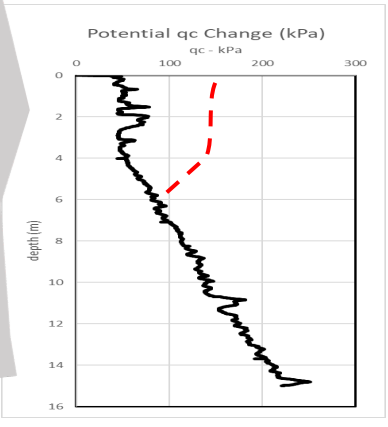
The Approach To Avoid Is Depicted Below



The red dashed line on the q_c vs depth graph below shows the potential impact on qc under this scenario.

It assumes that the access embankment has been in place for a few days/weeks before CPT testing (see note marked * below the figures).

The black line is real data from a typical IGS tailings project, accessed and tested without any fill embankment.



*** Even if the embankment has not been in place long enough to fully consolidate, the embankment's mass will significantly elevate pore pressures and in this way similarly "spoil" the test data over its zone of influence.**

reducing geotechnical uncertainty

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