



IGS Technical Note

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Geotechnical Services

- CPT & Piezocone & SCPT
- Dilatometer & SDMT
- Seismic Dilatometer
- Vane Shear
- Tee-Bar
- Push-Sampling
- Piezometer Installation
- In Situ Permeability

Some Of Our Rigs

Esme – 10-15t all-terrain



Bervl – 15t 4 wheel drive



Eunice – 20t 6x4 bogey



Minnie - Mini-Jack-Up



A Short History - IGS and Piezometers

Back in June 2015 we produced a newsletter explaining that (a) IGS installs various types of piezometers and standpipes, and that (b) this was becoming pretty much business-as usual for us. Well, it's all still true, but of course it has evolved.

Almost every week, at some place where we are working, we are installing piezometers of one type or another; some sealed into specific strata to measure local pore pressure and some (eg in embankments) to permit monitoring of phreatic surface.

Vibrating Wire Piezometers



We install VWP by a variety of direct-push methods. We can install almost any piezometer type that a client requests. However the most popular by far is using a 316 sacrificial stainless steel push-in "installer" that we designed ourselves that (a) permits use of almost any off-the-shelf 19mm dia piezometer tip; (b) protects the piezometer filter from damage and/or smearing during installation and (c) positively seals the device into the ground.

These seem to work very well. Certainly clients all have so far been happy with the end result.

The fact that we can use almost any off-the-shelf piezo tip, as explained above, typically simplifies the supply-to-install cycle; no longer does anyone need to wait for special push-in tips to come from overseas for their job.

It is very important to understand that any push-in piezometer can (might, likely will) generate pore pressure while it is being "pushed in". This can in some circumstances far exceed the pressure range of the piezometer being installed and hence must be eliminated or managed. IGS's installation technique prevents damage from this cause.

Open Standpipe Piezometers

To avoid language-confusion at IGS we call open standpipes "standpipes", not piezometers.

Usually we install one or other of the Casagrande types that are shown in the adjacent figure. The galvanised-steel-encased type is most common, as there is a little additional fussiness and time involved in installing the PVC type.

These are installed to observe or monitor phreatic surface; not for sampling for chemical testing of groundwater.



As always at IGS, choice and detail is up to the client. Certainly we are sometimes called on to install piezometers or standpipes that are different to those described here and we are happy to do that. But it is notable that 90%+ that we install nowadays are as those shown on this page.

reducing geotechnical uncertainty