



EXPLANATION SHEET

IGS's PPI SAMPLER

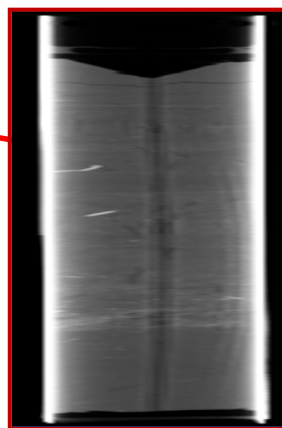
23 February 2021

Our Unique PPI Sampler (possibly the highest quality fixed piston sampler reasonably available)

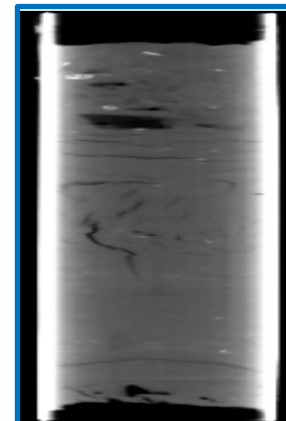
Our flagship sampler, designated PPI¹ takes 63 or 75mm diameter samples about 800mm long that are arguably as close to undisturbed as you can get by any means other than research-level block sampling. This sampler is used in very soft to firm cohesive soils; typically it is used for sampling for high quality laboratory strength and compressibility testing.

This is a thin walled fixed piston sampler developed by IGS that:

- first captures the sample in the normal fixed-piston manner;
- then cuts the sample free from the soil mass;
- then totally eliminates tension in the sampled material inside the tube as the sampler is withdrawn from the ground.

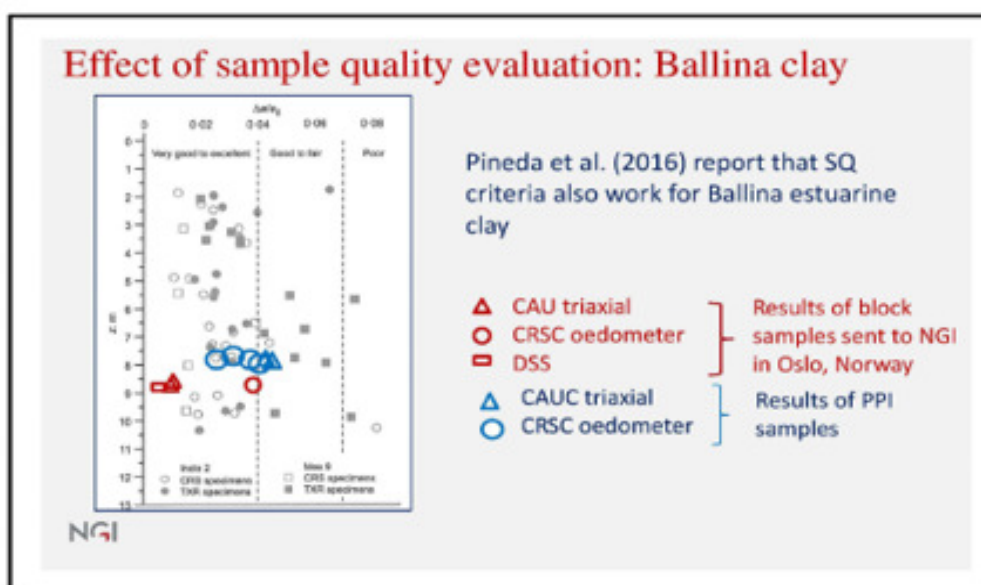


CAT Scan of a PPI sample showing no tension cracks in the sample



CAT Scan of a driller's U75 piston sample showing many tension cracks in the sample

The figure below is an extract from a PowerPoint presentation made by Dr Tom Lunne of the Norwegian Geotechnical Institute (NGI) detailing the effect of sample quality; referring specifically to IGS's PPI sampler.



This plot demonstrates the high quality of our PPI Samplers – confirmed by Dr Lunne in his email to us in which he stated:

“The PPI samples appear to be of very good quality.”

¹ The PPI Sampler is described in the technical paper “Performance Of An Innovative Direct-Push Piston Sampler in Soft Clay”, by Dr Jubert A. Pineda, Allan McConnell and Dr Richard Kelly, presented at the 3rd International Symposium on Cone Penetration Testing, Las Vegas, Nevada, USA – 2014. Refer to the IGS Technical Note “Update on PPI Sampler” for an explanation of the sampler’s operation.