

ORCA wireless downhole CPT system



Geomil now developed the “Offshore Retractable Continuation Appliance” or ORCA[®] system. The system consists of a set of wireline (WL) tools and their deck (vessel or platform) supporting units.

In short, the ORCA system is designed to acquire geotechnical data from the bottom of a borehole. After testing and sampling, drilling can be advanced and the ORCA application be repeated cyclically until final (drill) depth is reached.

The current standard version of the ORCA system is designed for depths up to 500 m and operates with GEOBORE-S drill pipes or equivalent, adaptation for other sizes (BL PQ – API 6 5/8) on request.

The ORCA system provides utmost efficiency since its only deployed on demand of the geotechnical engineer. Known strata or layers of minor interest can be ignored and the borehole can be advanced at maximum possible rate.

The ORCA consists of 3 different downhole (DH) WL tools.

- ORCA CPTtool, which is able to make DH CPT's at a maximum thrust force of 100 kN. Two options are available, a 10 cm² cone version and a downscaled 5 cm² cone version, the latter allowing for greater penetration force per cm². The CPTtool reaches an effective stroke length of the 1,50m and is based on Geomil's digital cone techniques.
- ORCA Piston sampler, allowing to obtain undisturbed in-situ soil samples in soft ground conditions ($\varnothing = 3''$, L = 1.00 m). The tubes can, after sample extraction, be reused or packed and stored.
- ORCA Push sampler, less delicate but suitable gravelly soil conditions ($\varnothing = 3''$, L = 1.00 m).

On deck level the ORCA is supported by its data acquisition unit, allowing to communicate with and download data from the ORCA CPTtool after it has been recovered with a fishing tool. The software for data compilation and presentation complies to Geomil CPTest standard. Data formats are of international standards and the engineers can easily process the data with customized software applications.

The Geomil ORCA package also comprises high quality actuation and driveback pumps, driven by either diesel or electric motors, and comes with multiple sets for all DH units and advised quantities of required spare parts.

No bad surprises on board, no costly downtime, but successful projects!

