

Seabed CPT GMC200



Introduction

Geoquip Marine have developed a 200kN cone penetration testing system (GMC200) capable of operating in water depths up to 2,000m providing a push capacity of 200kN (20t), enabling the recovery of *in situ* soil data to a depth of 40m or more below the seabed depending on soil conditions.

The unit has a subsea HPU which is mounted on the subsea frame and provides power to the chain drive system to push/pull the CPT string and clamping force onto the CPT string by means of hydraulic cylinders.

Mobilisation

The system is designed to enable the unit to be mobilised onto a vessel of opportunity or onto an existing Geoquip Marine vessel. This versatility enables the system to be deployed quickly and efficiently to the port of mobilisation.

Operations

Once on location the CPT unit is lowered to the seabed and the test is commenced with the rod penetrating the soil at a rate of 2cm/s. Data is relayed to the operator on board in real time where it is then processed.

Data Acquisition

The 200kN system provides a continuous profile of tip resistance, sleeve friction and pore water pressure, which can be used for the derivation of shear strength in cohesive soils and the relative density of non-cohesive soils. The system has the ability to operate a range of cone sizes and optionally seismic CPT cones, T-bar and ball PCPT equipment.

GMC200	
Type	200kN seabed PCPT
Operating conditions	20 – 2,000m water depth
Available measurements	Tip resistance, sleeve friction, pore water pressure, cone inclination, rig inclination, altitude and total thrust
Cones	10cm ² or 15cm ²
Specifications	Penetration adjustable to soil conditions, tip resistance up to 200kN
Applications	Determination of engineering parameters including <i>in situ</i> relative density and shear strength for use in engineering analysis

