

GEOQUIP SPEER

Introduction

The Geoquip Speer is a 2010 build, dynamically positioned geotechnical site investigation vessel designed for safe operations in harsh and remote regions. The vessel is 84m in length, with the GMR302 heave compensated geotechnical drill rig installed over a centrally located moonpool. The GMR302 can also deploy and recover a 20T deep push seabed CPT unit. The vessel is ideally suited to large-scale offshore geotechnical site investigations.

Key Features:

- Class 2 Dynamic Positioning
- Heave compensated offshore geotechnical drilling rig
- Combined water and borehole depth of 360m
- Large deck space
- Comprehensive on board soil and rock testing laboratory



Positioning

The vessel uses a Rolls-Royce Icon dynamic positioning (DP) system for station keeping. The system consists of a dual DP controller unit and operator stations. The controller unit and the operator station communicate via a dual high-speed data network. The DP system provides a direct interface to the azimuth propellers, and bow thrusters, and includes the necessary interfaces to power plants, position-reference systems, and sensors. This provides accurate and precise station-keeping during all borehole and seabed testing operations.

Drilling Monitoring and Downhole Tools

The GMR302 drill rig includes instrumentation for the electronic display of drilling parameters: torque, bit weight, mud pressure, mud flow rate, and rotation speed. A comprehensive range of wireline downhole sampling and testing tools is available, including PCPT (Piezocone Penetration Test), piston sampling, push sampling, wireline core barrel, and percussion (hammer) sampling. All downhole tools (coring, sampling, PS logging, etc.) are fully compatible with the 5½" API drill string. Additionally, a range of drag and specialised coring bits are provided. Large diameter drill pipe can also be used to allow larger diameter cores to be recovered.

DRILLING RIG GMR302	
Power Swivel	Dando 500 with dual speed setting for high torque / high rotation dependent on soil / rock type
Drill String	5½" or 6%" API drill string
Seabed Frame	18t, with hydraulic clamps
Heave Compensation	Effective drill string compensation 0m to 4m. Seabed frame and seabed CPT unit heave compensation with an effective stroke from 0m to 5m
Mud	4,000l mix tank, 8,000l storage tank guar gum seawater miscible
Downhole Sampling	Wireline piston / push sampler, percussion / hammer sampler
Downhole <i>in situ</i> Testing Tools	WISON-APB PCPT cone penetration testing with pore water pressure and seismic velocity measurements PS wireline logging
Downhole Coring	Traditional and leading shoe core barrel
HPU	Electro-hydraulic, 3 x 125hp
HP Air	2,000l high pressure air with associated compressors, filters and driers
Drill Control Cabin	Lever controlled operations, fully HVAC
Drill Rig Workshop	ISO 20ft container sized fully equipped workshop, tools and equipment. 220v supply
Equipment Winches	Braden draw-works winch, seabed frame umbilical winch, 2 x piston sample winch (electro mechanical), 2 x headline tigger winch, tail line tigger winch.
Seabed CPT Unit	20t deep push seabed CPT system. Straight rod push thrust mechanism allows recording of <i>in situ</i> data to 40m below mudline, or greater, depending on soil conditions.

GEOQUIP SPEER	
Flag, IMO, Call Sign	Taiwan. IMO 9546021, Call Sign: BR4507
Class	CR CR100E OSV, SPS, DPS-II,
Built	2010, converted 2020
Tonnage	GRT 3,504 NRT 1,052
Principal Dimensions	<ul style="list-style-type: none"> • LOA 84.0m • Breadth (moulded) 17.6m • Draft (max) 6.5m
Tank Capacity	<ul style="list-style-type: none"> • Fuel Oil 1,720m³ • Fresh Water 1,650m³
Speed / Consumption	<ul style="list-style-type: none"> • Standby 3m³/24h • On DP 9m³/24h • Economic (transit) 14m³/24h at 12 knots
Endurance	>28days
Machinery Main Engine	4 x Caterpillar 3512C, 1,700kW each
Propellers	2 x Rolls-Royce CPP azipull 1,600kW each
Thrusters / Rudders	2 x Rolls-Royce CPP tunnel thrusters 880kW
Fuel Type	MGO
DP System	Rolls-Royce Icon
Moon Pool	4.0m x 3.5m
Cargo Deck	830m ²
Accommodation	<ul style="list-style-type: none"> 7 x Single berth cabins 23 x Double berth cabins 1 x Project / drilling office 1 x Client office 2 x Recreation rooms 1 x Gymnasium, 1 x Hospital Fully air-conditioned.