

## 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 largescale offshore geotechnical site investigations.

### 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.

### 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

### 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. 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	
<b>Power Swivel</b>	Dando 500 with dual speed setting for high torque / high rotation dependent on soil / rock type
<b>Drill String</b>	5½" or 6½" API drill string
<b>Seabed Frame</b>	18t, with hydraulic clamps
<b>Heave Compensation</b>	Effective drill string compensation 0m to 4m. Seabed frame and seabed CPT unit heave compensation with an effective stroke from 0m to 5m
<b>Mud</b>	4,000l mix tank, 8,000l storage tank guar gum seawater miscible
<b>Downhole Sampling</b>	Wireline piston / push sampler, percussion / hammer sampler
<b>Downhole <i>in situ</i> Testing Tools</b>	WISON-APB PCPT cone penetration testing with pore water pressure and seismic velocity measurements PS wireline logging
<b>Downhole Coring</b>	Traditional and leading shoe core barrel
<b>HPU</b>	Electro-hydraulic, 3 x 125hp
<b>HP Air</b>	2,000l high pressure air with associated compressors, filters and driers
<b>Drill Control Cabin</b>	Lever controlled operations, fully HVAC
<b>Drill Rig Workshop</b>	ISO 20ft container sized fully equipped workshop, tools and equipment. 220v supply
<b>Equipment Winches</b>	Braden draw-works winch, seabed frame umbilical winch, 2 x piston sample winch (electro mechanical), 2 x headline tugger winch, tail line tugger winch.
<b>Seabed CPT Unit</b>	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	
<b>Flag, IMO, Call Sign</b>	Taiwan. IMO 9546021, Call Sign: BR4507
<b>Class</b>	CR CR100E OSV, SPS, DPS-II,
<b>Built</b>	2010, converted 2020
<b>Tonnage</b>	GRT 3,504 NRT 1,052
<b>Principal Dimensions</b>	
LOA	84.0m
Breadth (moulded)	17.6m
Draft (max.)	6.5m
<b>Tank Capacity</b>	
Fuel Oil	1,720m <sup>3</sup>
Fresh Water	1,650m <sup>3</sup>
<b>Speed / Consumption</b>	
Standby	3m <sup>3</sup> /24h
On DP	9m <sup>3</sup> /24h
Economic (transit)	14m <sup>3</sup> /24h at 12 knots
<b>Endurance</b>	>28days
<b>Machinery</b>	
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
<b>DP System</b>	Rolls-Royce Icon
<b>Moon Pool</b>	
Main Deck	4.0m x 3.5m
<b>Cargo Deck</b>	830m <sup>2</sup>
<b>Accommodation</b>	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.