

POSEIDON-1



Introduction

The POSEIDON-1 is a new build DP2 vessel designed and built in Japan. Recently the GMTR150 was mobilised on board to perform drilling including CPT, sampling and pressure coring in water depths in excess of 1,000m. The POSEIDON-1 has a very powerful dynamic positioning system which enables the vessel to be suitable for varied offshore works in challenging marine environments.

Key Features:

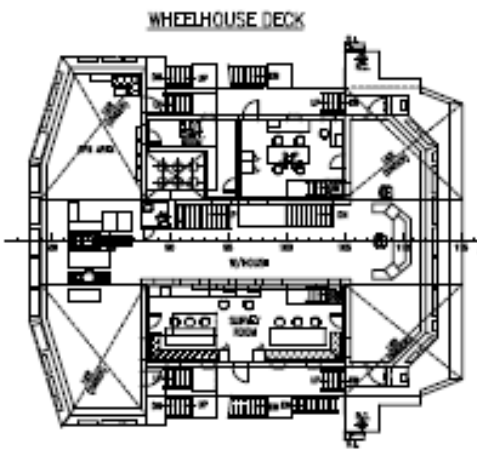
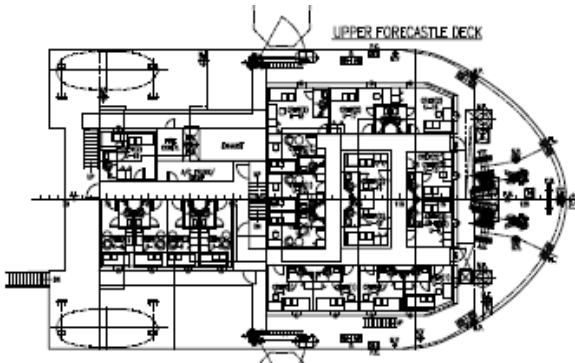
- 5.4m x 5.4m Moonpool
 - 50t Crane with AHC
(Active Heave Compensation)
- Accommodation for max. 77 persons

Capabilities

POSEIDON-1 is fitted with two NIIGATA Z-Peller (CPP) to generate powerful thrust and excellent efficiency. This enables the vessel to be suitable for varied offshore development works which require DPS (dynamic positioning system).

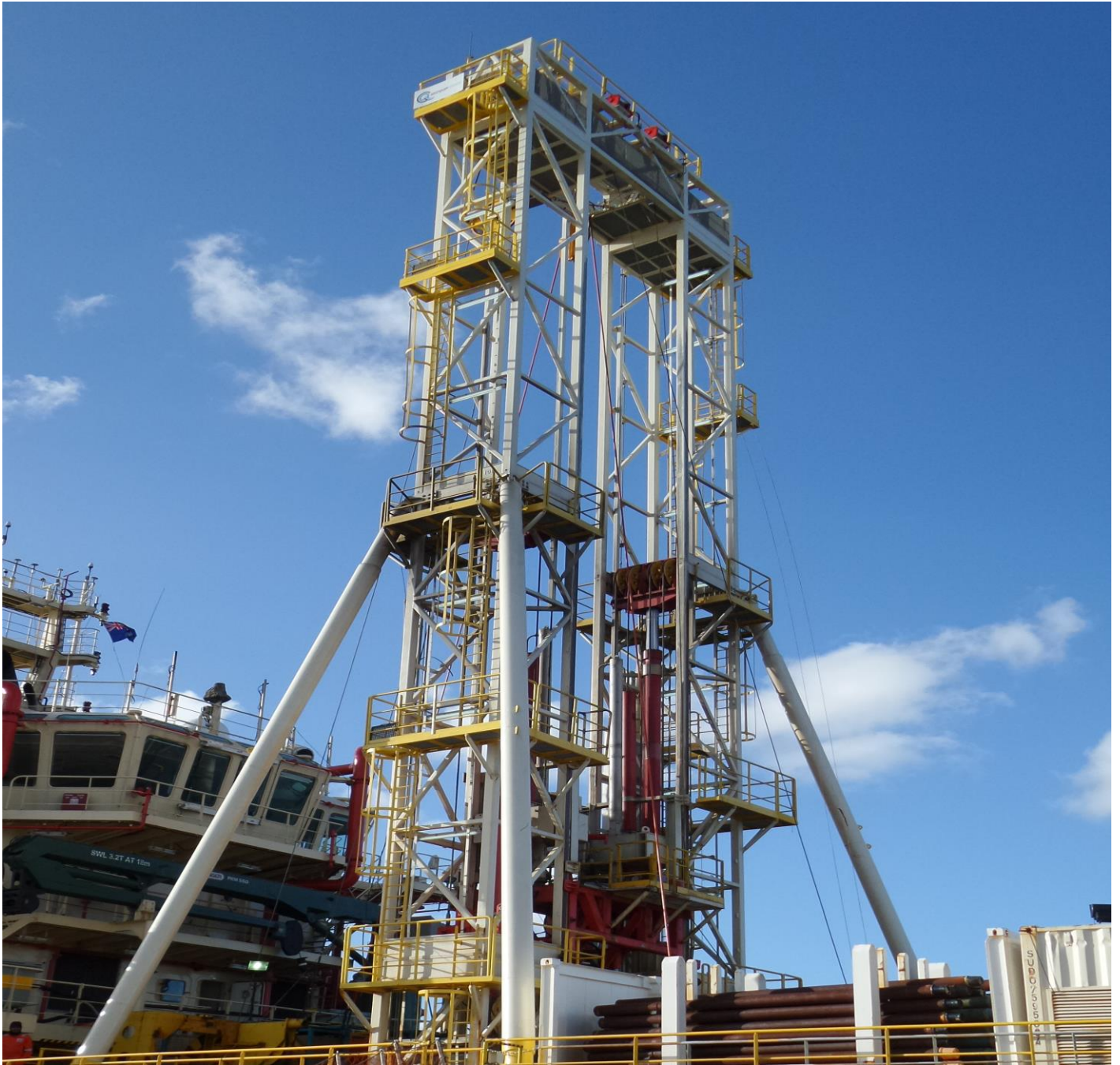
Positioning

DUAL DP System Installed: K-Pos DP-21+C JOY by KONGSBERG (Autoposition, Auto Track, Follow Target, Joystick System)
Reference System (DGPS, HiPAP501)



POSEIDON-1	
Flag	Tokyo/Japan
Class	IMO DP Class II ABS + A1(E) + AMS, SPS, CRC, CPS, Offshore Support Vessel (ROV)
Built	June 2015 (Expected)
Tonnage	Approx. 4,000t
Principal Dimensions	Length Overall 78.00m Breadth Mid 20.40m Depth Mid 7.00m Draft Summer 5.50m Speed Service / Maximum 11 knots / 13 knots Cruising Days 40 days (at 11 knots)
Tank Capacity	Fresh Water 220m ³ Fuel Tank 850m ³ Drill Water 1,950m ³ Portable Tank 730m ³ RO Desalination System 60t/day (2x 30t)
Machinery	Main Engine NIIGATA Diesel Engine Type 6L28AHX (3,000ps) / 2x 750rpm Propellers 2x NIIGATA Z-peller (CPP) (ZP-41CP) Bow Thrusters 2x 4-Blade CPP (970kW)
Generator	Shaft Generator 2x AC450V 60 Hz, 1,000kW Main Generator 2x AC450V 60 Hz, 800kW
DP System	Make Kongsberg type K-POS DP-21 + C JOY (Autoposition, Auto Track, Follow Target, Joystick System, Reference System (DGPS, HiPAP))
Deck Space	Area 650m ² Max. Deck Cargo 1,000t Deck Strength 10.00t/m ²
Deck Equipment	AHC Offshore Crane 15m x 50t / 35m x 20t / 36m x 10t Lift: 2,500m (20t) Auxiliary Crane 15m x 2t Tugger Winch 10m/20m x 10t/5t Moonpool 5.4m x 5.4m
Navigation Equipment	2x ECDIS, 2x Radar, 2x Speed Log Deep Sea Echo Sounder EA600 (10,000-metre class), 3x Gyrocompass, 3x DGPS, HiPAP, HPR410KL 6,000m, ADCP (current profiler) JLM-650 (500-metre class), Fish Finder (2,000-metre class)
Communication	Coastal Telephone (Tel, Fax, Data), Inmarsat C (Tel&Fax), Inmarsat FB (FB500), GDMSS A3, Weather Fax, VHF
Accommodation	23x 1 Man Cabins, 19x 2 Man Cabins, 4x 4 man Cabins

Geotechnical Drilling Rig GMTR150



Introduction

The Twin Ram Drilling Rig (GMTR150) was designed, built, installed and commissioned by Geoquip Marine. The rig complements the company's existing fleet and has enabled Geoquip Marine to expand into deep water markets.

Capabilities

The GMTR150 is suitable for drilling, coring, sampling and testing in all soil conditions in water depths plus borehole depth of up to 3,500m

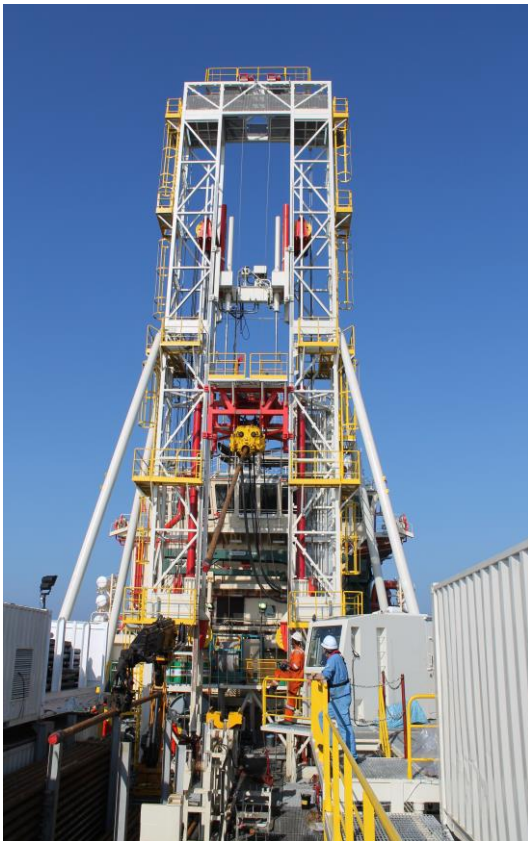
Sampling and Downhole Testing

Downhole PCPT, push/piston sampler, P-S wave logger and other downhole tools can be used without having to retrieve the drill string. This makes the sampling process more efficient.

Technical Features

The rig has mechanized remotely operated pipe handling, ram hoist system with twin wire balanced beam suspension for safe and controlled operation. There is a six-metre passive stroke, nitrogen charged compensation system for safe, improved sample recovery and quality.

The seabed frame can clamp onto the drill string and enable *in situ* testing with the downhole CPT. Furthermore the GMTR150 is capable of lowering and hoisting the GMC201 seabed CPT, which enables rapid execution of CPT surveys, especially for offshore wind farm projects.



GMTR150	
Drilling System	Ram hoist system with twin wire suspension giving safe, efficient and compensated handling of the drill string and all in-hole tooling
Heave Compensation	6m stroke passive heave compensation using nitrogen gas as compensation buffer with Olmsted valve slingshot protection. Seabed frame compensation 0.0m to 7.0m
Top Drive/Power Swivel	Top Drive / Power Swivel-Ocean Hydraulics design 35,600 N/M @ 50rpm 9,900 N/M @ 250 rpm 150 ton load capacity
Pipe Handling	Single range two joint handling using a proprietary automated handling system utilising pipe handling crane with grab; remote operated iron rough neck; proprietary catwalk system. Handles pipe with minimum manual intervention and improved safety
Hydraulic System	Electro hydraulic power pack of 310kW each. Hydraulic distribution from a control module beneath the centralised control cabin
Mud System	Project-specific modular mud systems installed as required
Rig Winches	Seabed Frame: 3,500m, 36mm wire rope; SWL 32t / Head Line: SWL 3t, Tail Line: SWL 3t / Sampling: 3,000m, 10mm wire rope; SWL 1.5t
Drill Control Cabin	Proprietary designed control cabin for remote control via hydraulic/electric interface of all drilling and sampling operations. 3 man cabin for driller, pipe handling operator and PCPT operator giving coordinated control of all drilling/sampling operations. Rig specific DMS recording
Transport	Derrick sections and modular components designed to be transported within standard open-top shipping containers
Capability	Utilising a standard oilfield geotechnical drill string of 7x 4 drill collars and 5½ inch API drill pipe the 150t SWL gives a combined bore hole and water depth capacity up to 3,500m. Use of a combined aluminium and steel drill string could increase this capability
Sampling <i>in situ</i> Testing	Can utilize 6½" API drill string to allow large diameter coring. Fitted with AP v. d. Berg downhole PCPT / push/piston sampling equipment and wireline coring equipment
Soil Testing Laboratory	Installed on board as per project requirements
200kN Seabed CPT	As an option Geoquip's GMC201 20t seabed unit can be deployed through the vessel moonpool using the rig derrick and compensation system