GEOQUIPMARINE

TRUSTED OFFSHORE GEOTECHNICAL SOLUTIONS

Drilling Vessel MV Investigator

Introduction

The MV Investigator is a four point moored permanently mobilised geotechnical drilling and survey vessel fitted with a GMR300 heave compensated marine drill rig located over a central moon pool. The GMR300 design is based on over 30 years' experience of designing, building and operating such rigs. Geoquip Marine created the GMR300, a fully heave compensated, offshore geotechnical drilling system. The GMR300 is suitable for conducting geotechnical drilling and sampling in all soil conditions and for borehole depths down to 300m. The rig has a Dando 500 top drive power swivel and a minimum of 400m of 5½" A.P.I. drill string.

Key Features:

- Four point mooring
- Fully heave compensated marine drill rig
- High reaction seabed frame/drilling template
- Borehole depth 300m capability
- Downhole piston/push and percussion sampling
- Downhole WISON-APB cone penetration testing
- Wireline rock coring
- Comprehensive on board soils testing laboratory

Instrumentation

An 20t seabed frame is used to clamp the drillstring to enable downhole sampling and in situ testing tobe performed using a suite of downhole tools.
A drop in wireline core barrel is used where variable cemented material such as calcarenite or layers of claystone or sandstone are encountered enabling good quality core samples to be obtained without the need to recover the drill string.

On Board Laboratory

All downhole tools are fully interchangeable within the single drill string and bottom hole assembly such that any sampling and testing regime can be accommodated. Geoquip's offshore laboratory enables geotechnical engineers to immediately determine soil classification and strength parameters for use in preliminary pile design, jack-up spudcan penetration analyses, pipeline route assessments and dredging applications whilst offshore during project fieldwork.

Drilling Rig GMR300

Power Swivel	Dando 500 swivel 9500N/M max rpm 200, 20 ton load capacity
Drill String	5½" or 6⅝" API drill string
Seabed Frame	20t, with hydraulic clamps
Heave Compensation	Drill string and seabed frame heave compensation with a stroke length of 4.0m
Mud	4,000l mix tank, 8,000l storage tank guar gum seawater miscible
Downhole Sampling	Tools piston/push sampler, percussion/hammer sampler, marine wire core barrel
Downhole in situ Testing Tools	WISON-APB PCPT / S-PCPT
Downhole Coring	Traditional/Leading Shoe Core Barrel
HPU	Electro-hydraulic, 3x 125hp
HP Air	2,000l HP Air (36No Cylinders), with associated compressors, filters and driers
Drill Control Cabin	Lever controlled operations, fully HVAC
Drill Rig Workshop	ISO 20ft container sized fully equipped workshop c/w suitable tools and equipment. 220v supply
Equipment Winches	Braden draw works winch, 8t seabed frame umbilical winch, piston sample winch (electro mechanical), headline tugger winch, tail line tugger winch

MV Investigator

Flag	Vanuatu
Call Sign	YJQG2
IMO Number	8020795
Class	DNV 1A1, ICE-C
Built / Converted	5x 12 man life rafts, Zodiac MOB with 25HP outboard
Tonnage	1,306t
Dimensions Length Beam Draft	 59.4m 14.0m 4.3m
Max. Speed	10.8kt
Fuel Consumption Capacity	 Approx. 7.3t/day 506m3 (approx. 436t)
Fresh water	277t
Machinery Main engines Generators Bow thrusters	 2x KHD SBV6M 628, ea. 956kW 2x 520kW shaft 2x 520kW (380/220V 50Hz) 1x 170kW (380/220V 50Hz) 1x 96kW (380/220V 50Hz) (Emergency) 404kW varispeed
Communications	GMDSS, SSB Trans/Rec, VHF(2), Sailor, Debeg 7500/2340, Fleet 55 Sat. System for email/fax/voice
Accommodation	34 persons, 2x Geotechnical/Client Offices, 1x Hospital
Other Deck/Drill Rig Area Four Point Mooring	 410m2 4x 3t Flipper Delta HHP anchors