



Estudio de Impacto Ambiental de la perforación del pozo exploratorio EQN.MC.A.x-1 en CAN_100

Anexo IV - A: Especificaciones técnicas de
los modelos de buque de perforación

8 November 2021

Proyecto No.: 0582679



Stena DrillMAX

Harsh Environment Dynamically Positioned DP Class 3 Drillship

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GENERAL INFORMATION

RIG TYPE / DESIGN.....	Dynamically Positioned, Harsh Environment DP3 Drillship
CONSTRUCTION SHIPYARD.....	SHI (Samsung Heavy Industries)
YEAR ENTERED SERVICE / SIGNIFICANT UPGRADES.....	December 2007 / N/A
CLASSIFICATION	DNV: + 1A1 Ship-shaped Drilling unit(N) BIS Crane DRILL(N) DYNPOS(AUTRO) EO F(A, M) HELDK(S, H)
FLAG.....	United Kingdom (UK)
DIMENSIONS	228 m (Long) x 42m (Wide) x 19m (moulded depth)
DRAFTS.....	12m (39.4 ft) operating / 8.5m (27.9 ft) transit
ACCOMODATION.....	180, upgradeable to 220
VARIABLE DECK (OPERATING)...	19,500Mt @12m
TRANSIT SPEED.....	up to 12 knots
MAXIMUM WATER DEPTH	3,000m designed / 2,285m outfitted - Additional Riser Available 10,000 ft designed / 7,500 ft outfitted - Additional Riser Available
MAXIMUM DRILLING DEPTH	10,700m / 35,104 ft *With Offset Setback Standbuilding Capability
HELIDECK.....	Rated for EH-101 and S-92, Equipped with trace heating

DRILLING EQUIPMENT

MAST.....	NOV Dual Hoisting and Drilling Tower - Offline Standbuilding Capability
HOOKLOAD CAPACITY	[MAIN] 1000st static hookload (2,000,000 lbs), upgradeable to 1250st [AUX] 600st static hookload (1,200,000 lbs)
HOIST/DRAWWORKS.....	[MAIN] Hydraulic NOV Cylinder Hoisting Rig system with emergency lift/boost speed accumulator system Rated to a capacity of 2,300,000lbs - upgradeable to a capacity of 1400st [AUX] Hydraulic NOV Cylinder Hoisting Rig system with emergency lift/boost speed accumulator system Rated to a capacity of 1,200,000lbs
MOTION COMPENSATOR.....	[MAIN] NOV Deadline Compensator with active heave compensation. Rated to 1040kips - upgradeable to 1125st compensated [AUX] NOV Deadline Compensator with active heave compensation. Rated to 840kips
ROTARY TABLE.....	[MAIN] NOV RST 60-1/2", static load rating of 1250st, max torque 57,000ft-lbs [AUX] NOV RST 49-1/2", static load rating of 800st, max torque 47,160ft-lbs
TOP DRIVE	[MAIN] NOV HPS-03 1000, 2 x ABB HXR 450 (LM6) AC-motors (2 x 990HP). 1,000st static load rating, max continuous drilling torque 68,888ft-lb. Upgradeable to NOV TDX 1250 [AUX] NOV HPS-03 750, 2 x ABB HXR 450 (LM8) AC-motors (2 x 1000HP). 750st static load rating, max continuous drilling torque 68,900 ft-lb
TUBULAR HANDLING	Drillfloor: Main and aux well NOV MPT 200 Hydratong Roughnecks, tubular range 3 1/2" to 9 3/4". Maximum make-up/brake-out torque: 140/200kNm respectively. Casing tong KT-7585 data: Jaw range: 2 3/8" to 8 5/8" (inch), Max torque: 25,000 Ft-Lb NOV horizontal pipe handling catwalk machine for single drillpipes, collars and casing. Pipe size range from 2 7/8" to 36" OD, for singles up to 50ft. Setback: Dedicated off-drillfloor pipe racking setback comprising dual NOV HR-IV quadruple stand height vertical pipe racking machines, 3 1/2" to 13 5/8", serving both main and aux wells. 1 x NOV horizontal riser handling catwalk for 80ft riser/slip-joints.
RISER FEED	1 x NOV horizontal riser handling catwalk for 80ft riser/slip-joints.
OFFLINE STANDBUILDING.....	1 x NOV MPT 200 Hydratong Roughneck, tubular range 3 1/2" to 9 3/4" Casing tong KT-7585 data: Jaw range: 2 3/8" to 8 5/8" (inch) Max torque: 25,000 Ft-Lb NOV horizontal pipe handling catwalk machine for single drillpipes, collars and casing. Pipe size range from 2 7/8" to 38" for singles up to 50ft. 1 x Torque Master; 3-1/2" to 14" Diameter (90 to 355mm) Tailstock 3-1/2" to 18" Diameter (90 to 457mm) Headstock 2-3/4" to 13-1/4" Diameter (70 to 336mm) Tailstock using extended tong dies 2-3/4" to 17-1/4" Diameter (70 to 438mm) Headstock using extended tong dies
MUD PUMPS	4 x National FC2200 pumps – 7500psi
HP MUD SYSTEMS	Rated for 7,500psi – Dual Fluid System upgradeable
SOLIDS CONTROL.....	5 x NOV Shale Shakers – VSM 300
MANAGED PRESSURE	
DRILLING (MPD).....	MPD-Ready, DNV Approved for Stena Drilling owned MPD System

WELL CONTROL EQUIPMENT

BOP STACKS.....	2 x 6 Ram, 2 Annular, Cameron 18-3/4" 15,000psi TL BOP Stacks <i>Features</i> API S53 Class 8-A2-R6, Wet BOP weight of 660kips (< 320mT) BOP Footprint 160" x 200", Upper Annular (LMRP) Cameron 18-3/4" 10,000psi DL Lower Annular (Lower Stack) Cameron 18-3/4" 10,000psi DL Vetco SHD H4 Wellhead Connector 27" (30" adapter kit available)
BOP CONTROL SYSTEM.....	Cameron MKIII Multiplex Primary & Secondary BOP Control Systems. Secondary BOP control system used for offline testing of setback BOP stack (minimising end of well maintenance time). <i>Features;</i> Acoustic and API 17H ROV Intervention Secondary Control Systems Emergency Disconnect, Autoshear & Deadman (AMF) Emergency Control Systems
RISER.....	Cameron Load King, 3,500kips, 80ft, 21" OD, Flanged Riser & 4.5" ID Auxiliary Lines (Choke, Kill, Hydraulics & Booster) Telescoping Joint with 63ft Stroke and Dual Seal Assembly Subsea Services Remotely Operated Pull-in System (ROPS) (providing efficient hands free connection and disconnection of colfixip hoses).
RISER TENSIONER	6 x 600kip, NOV N-Line Direct Acting Tensioners <i>Features;</i> 48.5ft stroke, Riser Anti-Recoil System
CHOKE MANIFOLD.....	Cameron 3-1/16" 15,000psi Choke Manifold <i>Features;</i> 3-1/16" 15,000psi Inlet / 4-1/16" 10,000psi Outlet 2 x 15,000psi Hydraulic Chokes, 2 x 15,000psi Manual Chokes HDI Choke Control System
DIVERTER.....	GE KFDS-CSO 500psi WP Diverter <i>Features;</i> Designed for 60.5" Rotary Table, Diverter Housing is 59" ID 21-1/4" Packer ID, Pressure Rating of 500psi in Complete Shut Off (CSO)
TREE STORAGE & HANDLING	1 x NOV X-Mas Tree Gantry Crane, 264kips (120mT) Capacity 1 x NOV X-Mas Tree Trolley, 551kips (250mT) Capacity 4 x NOV X-Mas Tree Skids, 264kips (120mT) Capacity
MOONPOOL	84ft x 41ft (25.60m x 12.48m)

POWER MANAGEMENT & MACHINERY

MAIN POWER	6 x Wartsila 16V32C diesel engines rated at 7.29 MW driving 6 x ABB AMG 1120MR10 LSE alternators rated at 7 MW
EMERGENCY POWER	6 x Main power generators each capable of operating as designated emergency generator rated at 7 MW with automatic change-over function from main switchboards to supply ABB Unigear 11 kV emergency switchboard.
POWER DISTRIBUTION.....	3 x ABB Unigear 11 kV switchboards with ABB REM 543 protection relays supplying 690 V, 440 V and 220 V distribution networks and with ABB ACS800 air-cooled variable speed drilling drives.

STORAGE CAPACITIES

FUEL OIL.....	10805.3 m ³ / 67963 bbl	LIQUID MUD.....	Active: 1068 m ³ / 6718 bbl Reserve: 1004.8 m ³ / 6320 bbl Total: 2072.8 m ³ / 13038 bbl
BASE OIL	490.3 m ³ / 3084 bbl	BULK CEMENT.....	420 m ³ / 2642 bbl
BRINE.....	490.3 m ³ / 3084 bbl	BARITE.....	315 m ³ / 1981 bbl
DRILL WATER.....	4464.2 m ³ / 28079 bbl	BENTONITE.....	105 m ³ / 660 bbl
POTABLE WATER.....	2052.5 m ³ / 12910 bbl	SACK STORAGE.....	250 tonnes / 7,500 sacks

STATION KEEPING – PROPULSION SYSTEMS

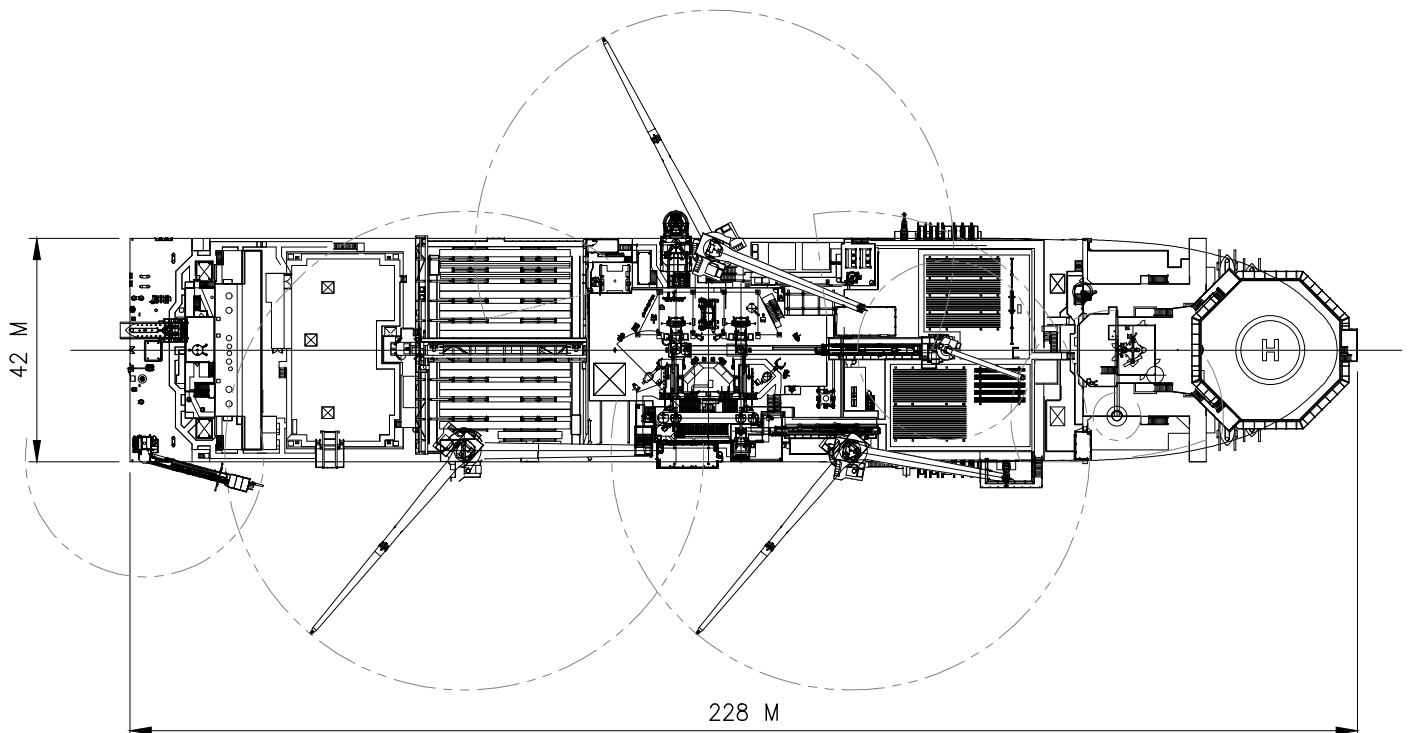
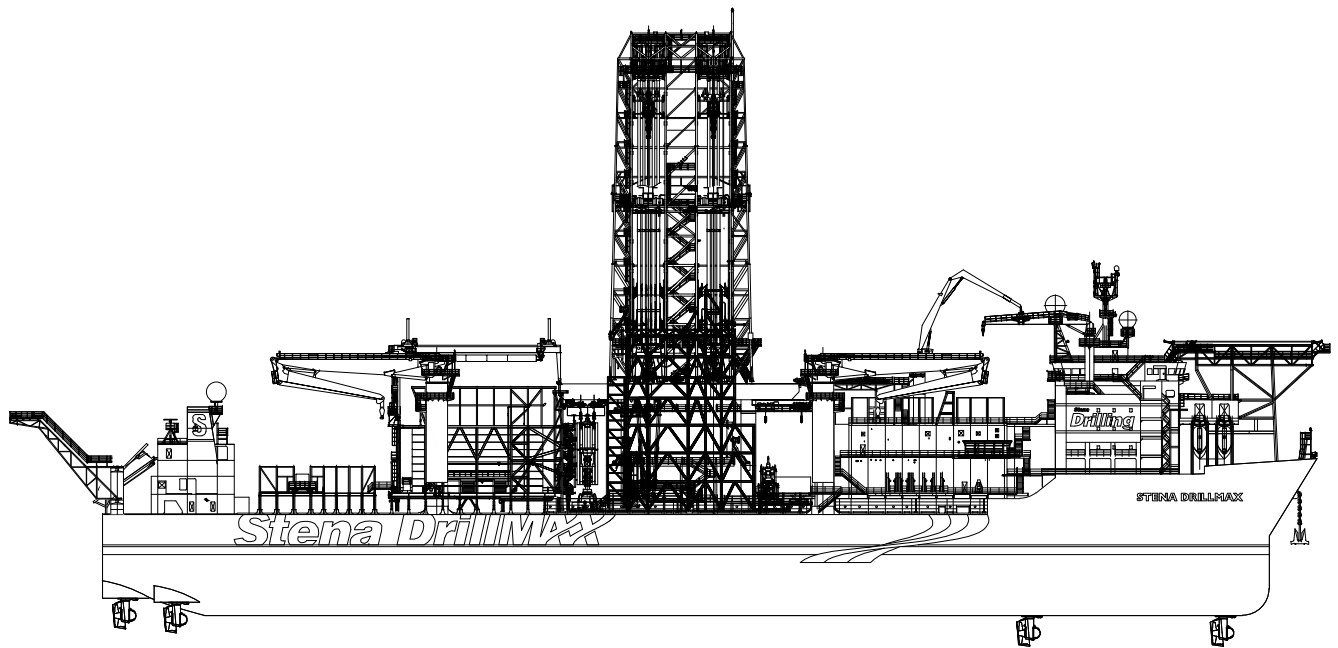
THRUSTERS.....	6 x Rolls Royce UUC-455, variable speed, fixed pitch, 360° azimuthing thrusters driven by 6 x ABB ACS6000 5.5MW water-cooled variable speed drives.
DP SYSTEM	Kongsberg K-Pos DP-32 dual redundant control system and K-Pos DP-12 backup control system with 2 x HiPAP, 1 x HAIN, 3 x DGPS position reference systems.
MOORING SYSTEMS	2 x 12.675 Mt Anchors

CRANES

CRANES	3 x NOV Knuckle Boom Cranes, model OC3932KCE 1 fall: SWL 17mT @ 45m radius 5 fall: SWL 85mT @ 17m radius All units personnel handling – upgradeable to 100mT internal lift
BOP HANDLING	BOP overhead gantry crane with 2 x 175mT main winches and 1 x 20mT auxiliary winches. 1 x BOP skid rated to 370mT 2 x LMRP skids rated to 350mT each. Dual BOP/LMRP sea fastening.
RISER HANDLING	Riser overhead gantry crane including riser handling yoke. Crane rated to 2 x 20mT, yoke rated to 2 x 17.5mT
TUBULAR HANDLING	NOV Pipehandling Knuckle Boom Crane, model C2201 PCE Gripper yoke size & Type: 2-7/8" to 20", 3.5mT SWL Without gripper: SWL 14mT @ 17m radius SWL 6mT @ 29m radius

Revision Date: 27 February 2018

These specifications are intended for general reference only. Equipment and Specifications are subject to change based on Contractual Status and Customer Requirements. Stena Drilling Limited operates and maintains the equipment in compliance with company policies and procedures.





Maersk Valiant

Ultra deepwater drillship



Simple to Be Safe



Maersk Drilling truly wants to bring our people Out Of Harm's Way. We are challenging the way we work with safety, not only as a priority but as a commitment.

This starts with asking our frontline colleagues what they need to stay safe and efficient. We are thinking out of the box for ways to eliminate risk. Nobody should ever be in doubt as to how to perform a task safely.

We are removing complexity and reducing administration so we have more time for safety conversations. We are innovating new solutions to digitise and make our work processes more visible.

We want to make it **Simple to Be Safe**.

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A committed workforce of on- and offshore professionals.

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Every hour spent on a well counts. We aim to make drilling smarter.

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Strong experience is vital to enable efficient operations.

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Fully equipped to deliver safe and efficient operations.

22. Rig drawings

See the full picture with a top and side view of the rig.

Delivering operational excellence with innovation

Maersk Drilling provides offshore drilling services to oil companies in major oil basins around the world.



We are a leader in the harsh environment sector and have a strong track record in deepwater drilling. Our fleet is one of the youngest and most advanced in the industry, comprising advanced drillships, deepwater semi-submersibles and high-end jack-up rigs.

For over 40 years, we've been working closely with our customers to deliver safe and efficient drilling campaigns. Our highly skilled and committed workforce of on- and offshore professionals is recognised for their technical skills, operational excellence and for solving complex problems.

Today, we're increasingly providing third-party services and partnering with our customers on innovative technologies and new commercial models. Together, we're reducing the complexity, cost, and risk of drilling campaigns to improve the competitiveness of offshore oil and gas for our customers.

Jørn Madsen
CEO, Maersk Drilling

A stylized, handwritten signature in black ink, appearing to read 'Jørn Madsen'.



"Our fleet is one of the **youngest** and most **advanced** in the industry, comprising advanced drillships, deepwater semi-submersibles and high-end jack-up rigs. "



Smarter Drilling for Better Value



Offshore oil and gas is in a race to produce the most competitive barrel of oil. With dozens of different suppliers and multiple interfaces involved, the process of delivering a well safely, on time and within budget has become more complex for operators than it needs to be.

Every hour spent on a well counts – there's a lot to play for

Smarter Drilling for Better Value is Maersk Drilling's response to this. It combines innovative technologies with new commercial models to reduce waste and inefficiency across all the activities delivered on a well.

We provide solutions that plan, orchestrate and integrate the services involved in a drilling campaign. By improving co-ordination and simplifying

interfaces across the supply chain, we aim to reduce overall NPT, increase efficiency and improve safety for our customers.

We're also building new types of alliances with our customers that take a longer-term time horizon, align incentives and create value for the partners. Together, we're lowering the cost per barrel and improving the competitiveness of offshore oil and gas.

Our joint challenge:

60+
suppliers

It can take over **60** suppliers and **6,000** invoices to drill an offshore well

20–25%
NPT

Non-productive time (NPT) is often **20–25%** across all suppliers on a well

Rig capabilities



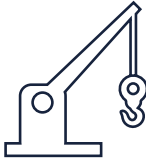






The **Maersk Valiant** is a Samsung 96K designed drillship with several Maersk Drilling upgrades including Managed Pressure Drilling (MPD).

The design and capacities of the drillship includes features for high-efficiency operation. Featuring dual derrick and large subsea work and storage areas, the design allows for efficient well construction and field development activities through parallel and offline activities.

Uptime and efficiency are maximised through dual pipe handling. While one string is working in the main well centre, a second string of casing, drill pipe or bottomhole assembly in the auxiliary well centre can be both assembled and run back in the setback area for later use, assembled and ran in the auxiliary well centre, or disassembled and laid out on the deck.

Dual mud systems ensure efficient change between mud types and completion fluids. The travelling system; crown sheaves, travelling block and main well centre top drive are rated for 1,250sT, enabling a total drilling depth of up to 40,000ft/12,000m.

The Maersk Valiant also has substantial accommodations for 230 people and considerable storage and tank capacities for long-range and extended operational capabilities.

<h2>Main features</h2>	 <p>4 x NOV knuckle boom cranes 17MT/85MT SWL/ 2 x STBD / 2 x PRT – 8m / 42.3m</p>	<h1>1,200MT</h1> <p>Setback capacity</p>	<h2>Plus...</h2> <ul style="list-style-type: none"> • Upgraded Cat Walk Machine: serves both main and auxiliary well centres (upgraded for a SWL of 20MT/can handle 30" conductor) • GE BOPs – 15,000psi BOP w/ 10,000psi annular preventer and 15,000psi choke and kill manifold (outfitted for 1 BOP) • 4 x Brandt multisizer shakers with LCM recovery and 2 x Brandt VSM 300 shakers • Hands-free Vetco MR 6H-SE 90ft riser • Full NOV topside package 1250sT main/1000 sT aux • Total mud capacity (active and reserve pits) – 2,539.7m³ / 15,974bbls • Derrick rated for 2,500,000lbs on main, 3,500,000lbs combined load • Bulk and Cement – 4 x 113m³ (ea.) bulk and cement / 32,000ft³ total • MPD arrangement comprises of an RCD, flow spool and drill string isolation tool (DSIT) integrated into a dedicated riser joint below the Telescopic joint.
<h1>DP class 3</h1> <p>total installed power 42MW</p>	<h1>3,657m/ 12,000ft</h1> <p>Maximum rated water depth</p>	<p>Variable deck load – 20,000MT operating/survival mode</p> 	
 <p>5 x NOV 14-P-220 – 7,500psi mud pumps</p>	 <p>Flareboom 15,000 BOPD</p>	 <h1>2 x 15k BOP</h1>	
<h1>AHDW</h1> <p>fitted on both well centres with fully redundant controls</p>	 <p>Riser tensioning capacity – 3,600,000lbs/1,633MT</p>	 <p>6 x Wärtsilä LIPS thrusters – type FS3510/NU – 5,500kW</p>	

Experience



Drilling successfully with a customised MPD system

Managed pressure drilling (MPD) has been lacking in the US Gulf of Mexico for a long period.

The Maersk Valiant presented an opportunity for ConocoPhillips and Marathon Oil to bring a state-of-the-art seventh-generation drillship into the Gulf with an MPD system. The system needed to handle high and low flow

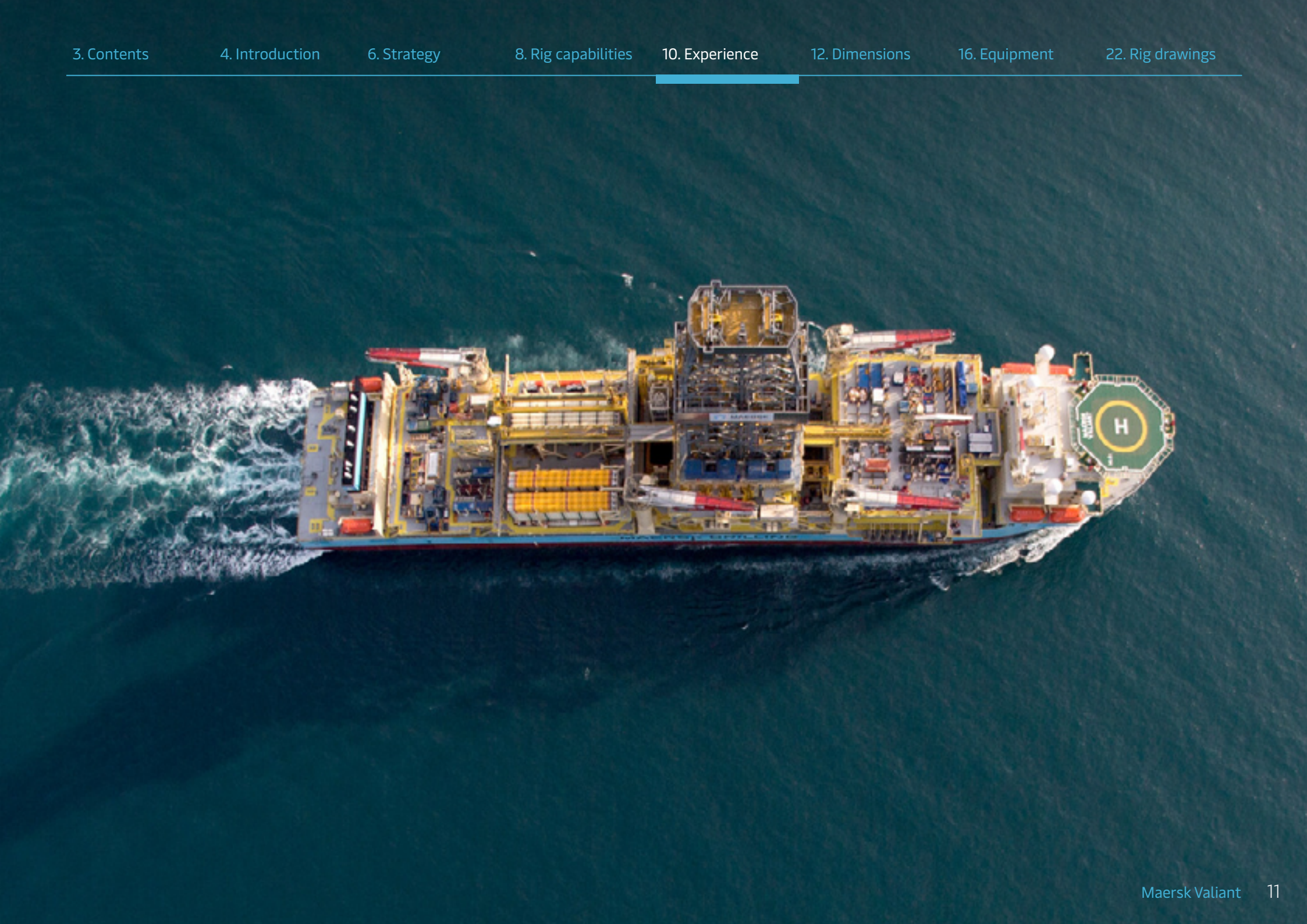
rates, large cuttings and a high cuttings volume, and measure flow more accurately. Rather than just counting pump strokes, our customers wanted flow meters on all pumps, and to be able to feed this data into their hydraulics model. Maersk Drilling and the Maersk Valiant crew successfully drilled two challenging wells using this customised MPD system.

Driving Energy Efficiency to reduce costs and CO2 emissions

The Maersk Valiant engaged in an energy-efficiency project using an Energy Management System (MSPS) to capture real-time consumption on-board.

By analysing fuel consumption, Maersk Drilling delivered fuel cost savings to our customers and

reduced the CO2 emissions, by reducing energy consumption during actual operation. Specific initiatives were to reduce the number of engines running at low loads, and to reduce hotel consumption by installing variable frequency drivers on lube and cooling water pumps.



Main dimensions

Main dimensions	Imperial	Metric
Total length	748ft	228m
Main moon pool dimensions	84ft x 41ft	25.6m x 12.48m
Length between perpendiculars	719.8ft	219.4m
Breadth, moulded	137.8ft	42m
Depth, moulded	62.3ft	19m
Scantling draught	42.7ft	13m
Operating draught	39.4ft	12m
Transit draught	27.9ft	8.5m
Total elevation (from baseline to top of derrick): approx	363.5ft	110.9m

Maximum design limits

Operational capabilities	Imperial	Metric
Drilling depth	40,000ft	12,000m
Drilling water depth	12,000ft	3,658m
Riser tensioner load	3,600,000lbs	1,633MT
Variable load capacity	Imperial	Metric
Transit mode	36,376,300lbs	16,500MT
Drilling mode	44,092,500lbs	20,000MT
Survival mode	44,092,500lbs	20,000MT

Environmental design limits

Design DP operating condition	Imperial	Metric
Sign. wave height (max)	19ft	5.8m
Wave period (max)	10.6 sec	10.6 sec
Wind speed (max)	50 knots	26m/s
Current velocity (max)	2.5 knots	1.3m/s
Survival/Transit condition	Imperial	Metric
Sign. wave height (max)	47ft	14.4m
Wave period (max)	17 sec	17 sec
Wind speed (max)	100 knots	51m/s

Design DP operating condition	Imperial	Metric
Max. heave	10ft	3.0m
Max. pitch	3.2 deg	3.2 deg
Max. roll	2.0 deg	2.0 deg



Storage capabilities

Storage capabilities	Imperial	Metric
Drill water	15,158bbls	2,410m ³
Potable water	8,963bbls	1,425m ³
Fuel oil	39,060bbls	6,210m ³
Brine	4,887bbls	777m ³
Base oil	6,277bbls	998m ³
Liquid mud (active)	5,678bbls	902.7m ³
Liquid mud (reserve)	10,296bbls	1,637m ³
Bulk mud	15,962ft ³	452m ³
Bulk cement	15,962ft ³	452m ³
Waste mud (slop tank)	1,622bbls	258m ³

Equipment

Accommodation

With comfortable living areas and the ability to host high numbers of service company personnel, the Maersk Valiant's accommodation offers more than just bed space. Large common office space enables good cooperation between Maersk Drilling, operator and service company personnel with several dedicated rooms for meetings.

- Total beds: 230
 - 10 x single-berth cabins with private toilet
 - 110 x twin-berth cabins with private toilet
- 2 x company representative offices, with 2 desks each
- 1 x open office with 20 desks shared with Maersk Drilling
- 1 x open office with 10 desks
- 1 x conference room seating 14
- 2 x conference rooms seating 10 people each, which can be joined to form one common room
- 1 x recreation room for non-smokers: 28 seats
- 1 x recreation room for smokers: 28 seats
- 1 x library/quiet room: 17 seats
- 1 x IT cafe with 8 seats
- 1 x gym
- 1 x games room
- Main mess seating: 102
- Catering mess seating: 8

Deck cranes / handling systems

In addition to the four main hydraulic knuckle boom deck cranes, a dedicated pipe handling crane covers the drill pipe and casing storage deck areas. A gantry crane will cover the riser bays and slip joint to ensure safe and efficient handling. Both the BOP and subsea trees are handled by dedicated, guided gantry cranes and carriers.

- 4 x NOV knuckle boom cranes, 17MT/85MT SWL/2 x starboard /2 x port - 8m/42.3m. Two for starboard side and two port side placed forward and aft.
- 1 x NOV knuckle boom pipehandler w/ gripper yoke, 3.5MT/7,700lbs SWL, 3.2m/22.3m
- 540MT BOP carrier with full guiding system
- 230MT Xmas tree transport – head room for 13m high Xmas trees
- 150MT Xmas tree gantry crane c/w fully integrated guidance system
- 3 x forklifts, two of 1.5MT SWL and one of 2.5MT SWL
- Dedicated runways arranged for forklift operation on vessel upper deck, topside main deck and sack storage area

Drilling equipment

With a full NOV topside package, the Maersk Valiant is equipped to drill the most demanding wells in the world. Utilising Multi Machine Control (MMC) on the drill floor, this large degree of automation ensures safe operation, a reduction in equipment damage, and more importantly consistent performance. Within the derrick setback area, range 2 drill pipe can be racked back in quads or range 3 drill pipe in triples up to 135ft length. Casing of up to 16" diameter can be racked back in triples. Over 50,000ft of drill pipe can be racked including a heavy duty drill pipe landing strings.

- Full NOV topside package
1250MT main/1000MT aux
- NOV TDX1250 on both well centres
- RST 755 on main well centre, RST 605 on aux
- Setback capacity – 1,200MT
- Derrick rated for 2,500,000lbs on main, 3,500,000lbs combined load
 - Hook/Rotary Load – Main – 1,250sT
 - Hook/Rotary Load – aux – 1000sT
- NOV ARN 200 iron roughnecks x 2 – MU 140,000nm / 103,000ft-lbs, BO 200,000nm / 147,000ft-lbs
- AHDW fitted on both well centres with fully redundant controls – dedicated separate cabinets for switchboards
 - Power plant prepared for energy storage backup system, eliminating possibility of a black ship or loss of power to the DC bus
 - Fast start recovery with power back to AHDW within 30 seconds

Drilling equipment contd.

- Advanced drill line monitoring system to enhance life and extend duration between slip and cut
- 15 MMscfd MGS with 12" vent line
- 2 x NOV HR-IV-ER Hydrarackers w/ Multi Machine Control
- Upgraded cat walk machine: serves both main and auxiliary well centres
 - Upgraded for a SWL of 20MT/ can handle 30" conductor
- Racking capacity:
 - 16" casing – 24 stands x 126ft
 - 7" to 14" casing – 64 stands x 126ft
 - 7" to 10" casing – 45 stands x 126ft
 - 5 $\frac{7}{8}$ " DP to 6 $\frac{5}{8}$ " DP – 196 stands x 133ft
 - 5" DP – 90 stands x 133ft
 - 3 $\frac{1}{2}$ " DP – 54 stands x 133ft
 - 6 $\frac{5}{8}$ " HWDP / CSG-LS – 104 stands x 124ft
 - 8 $\frac{1}{4}$ " DC – 7 stands x 124ft
 - 9 $\frac{1}{2}$ " DC – 10 stands
 - 9 $\frac{1}{2}$ " BHA – 4 stands in designated BHA Fingers
- Compensated Coiled Tubing Lifting Frame (CCTLF) rated 350/750 MT (compensated/ static)
- Early Kick Detection (EKD) Modifications to flowline in place to accept 3rd party Coriolis meter
- Topdrive is Softspeed/ Softtorque enhanced

Marine / power

The Maersk Valiant is designed with a DP-3 Dynamic Positioning System, which is the highest for MODU operations. Additional built-in redundancy in critical systems allows for normal maintenance. The updated power management system has the most efficient black-out recovery configuration available today. This will ensure greatly enhanced overall safety.

- DP Class 3 – total installed power 42MW
- 6 x Wärtsilä LIPS Thrusters – Type FS3510/NU – 5,500kW
- Kongsberg Maritime/K-POS 32 and K-POS 12
- DGPS – DPS 5D, DPS 232 and DPS 132
- 4 x fully equipped HIPAP 501 systems installed
- 3 x motion reference units (MRU 5) and 1 MRU5+ backup included in DGPS 5D
- 3 x gyro compasses, 5 x sets wind sensors
- 6 x Doosan / MAN 16V32/40 Engines – 7,248kW
- 6 x ABB, AMG 0900MR10LSE main generators – 7,000kW / 7,777kVA
- 1 x STX / Cummins – QSK60DMGE emergency engine – 1,900kW
- 1 x Newage / PM734E1 emergency generator – 1,350kW / 1,687.5kVA
- 6 x Noreq motorised fully enclosed (80 person) lifeboat / survival capsule

Mud system / bulk storage

The Maersk Valiant has one of the most robust mud cleaning systems in its class. With dual drilling fluid systems for efficient change between mud types and completion fluids, simultaneous mixing and transfer of two mud types is possible. The shaker arrangement allows for offline conditioning of reserve mud, while circulating on the well. The Valiant also has dedicated and separate completion fluid shakers as well as dual trip tanks.

- 5 x NOV 14-P-220 – 7,500psi mud pumps
- 4 x Brandt multisizer shakers with LCM recovery
- 2 x Brandt VSM 300 shakers
- 2 x MI Swaco / CD-1400 vertical degassers
- 2 x MI Swaco CleanCut Cuttings Blowers (CCB) Model B
- NOV / mud gas separator and liquid seal – 10.7bar / 155psi working pressure
- Dual mud system ensuring efficient change between mud types and completion fluids
- Total mud capacity (active and reserve pits) – 2,539.7m³ / 15,974bbls
- Slug pit capacity – 2 x 20.9m³ / 263bbls
- Chemical pit capacity – 2 x 20.9m³ / 263 bbls
- Waste mud capacity: 258m³ / 1,622bbls
- Processing tanks
 - Sand trap – 1 x 9.5m³ / 60bbls
 - Solids control – 43.2m³ / 272bbls total
- Trip tank – 2 x 8m³ / 100bbls
- Mini trip tank – 1.3m³ / 8.2bbls
- Brine capacity – 769m³ / 4,840bbls
- Base oil capacity – 998m³ / 6,277bbls
- Bulk and cement – 4 x 113m³ (ea.) bulk and cement / 32,000ft³ total

Well control equipment

With a state-of-the-art double redundancy of our GE BOP's mux control system, the Maersk Valiant can independently control both pods using only one mux cable. This cross-over function between the blue and yellow pod, with two SEMs in each pod, delivers unparalleled redundancy in subsea BOP operations.

- 2 x 18¾" 15K BOPs
- BOP GE Hydril 18¾" 15K 6 ram stack
- 2 x Hydril GX 18¾" 10K annular preventer
- 15,000psi choke and kill manifold
- Vetco 18¾" 15K Super HD H4 wellhead connector
- 1 x Vetco 18¾" 15K ExF H-4 riser connector
- Hands-free Vetco MR 6H-SE 90ft riser
- Vetco Grey KT tension ring
- Riser tensioning capacity – 3,600,000lbs / 1,633MT
- Gas handler for safe evacuation through choke of gas trapped in marine riser
- 230MT Xmas tree transport – head room for 13m high Xmas trees
- 150MT Xmas tree gantry crane c/w fully integrated guidance system



Xmt/completion running and well testing

The Maersk Valiant is fully prepared for running completions, XMT and well testing, the rig has ample deck space to install all equipment for this phase in the operation, there is no need to mob and de-mob equipment once it's in place, and this saves the client time and reduces logistics and load outs to the rig.

The rig has a dedicated XMT carrier on-board, the XMT can be placed on the XMT transport cart, prepared and made ready for deployment.

The well test area has deluge coverage adequate for flaring off at 10,000bbls a day, hard lines are installed from the rig floor to the well test area then onto the flare boom tower to reduce the need for temporary pipework.

- Flare boom – swan neck type
 - Capacity up to 15,000bopd (depending on burner head)
 - Boom length – 30m
 - Burner head weight – max 1.6MT
 - Operating conditions – 26.0m/s
- Deck space and utilities for completion equipment
 - Frac pack and injection equipment fully laid out
 - CT unit, N2 tanks and equipment fully laid out
- Surface flow tree and equipment tested offline
- Fully prepare and test ELSA offline, transfer to MWC in one lift

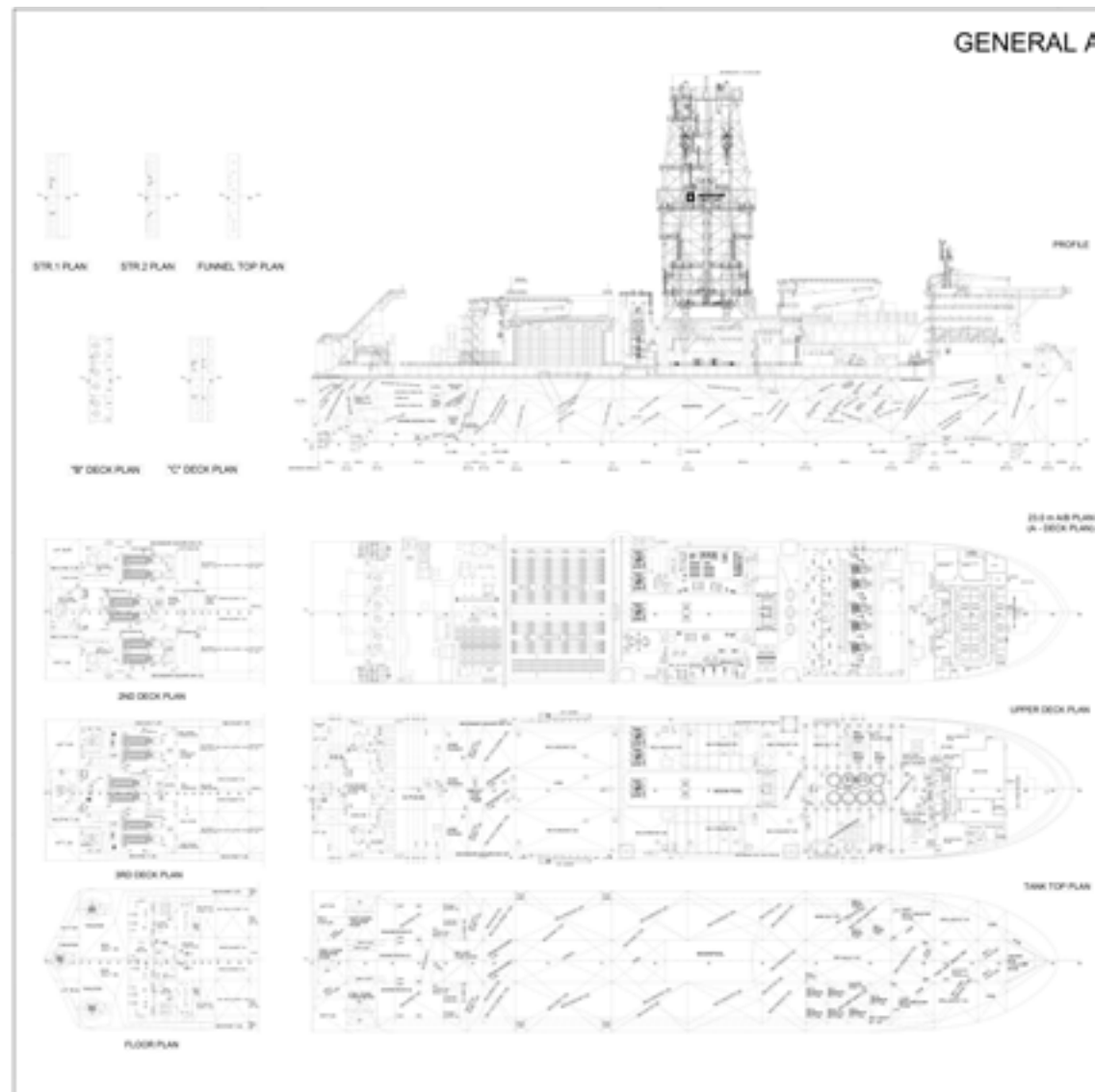
Managed Pressure Drilling (MPD)

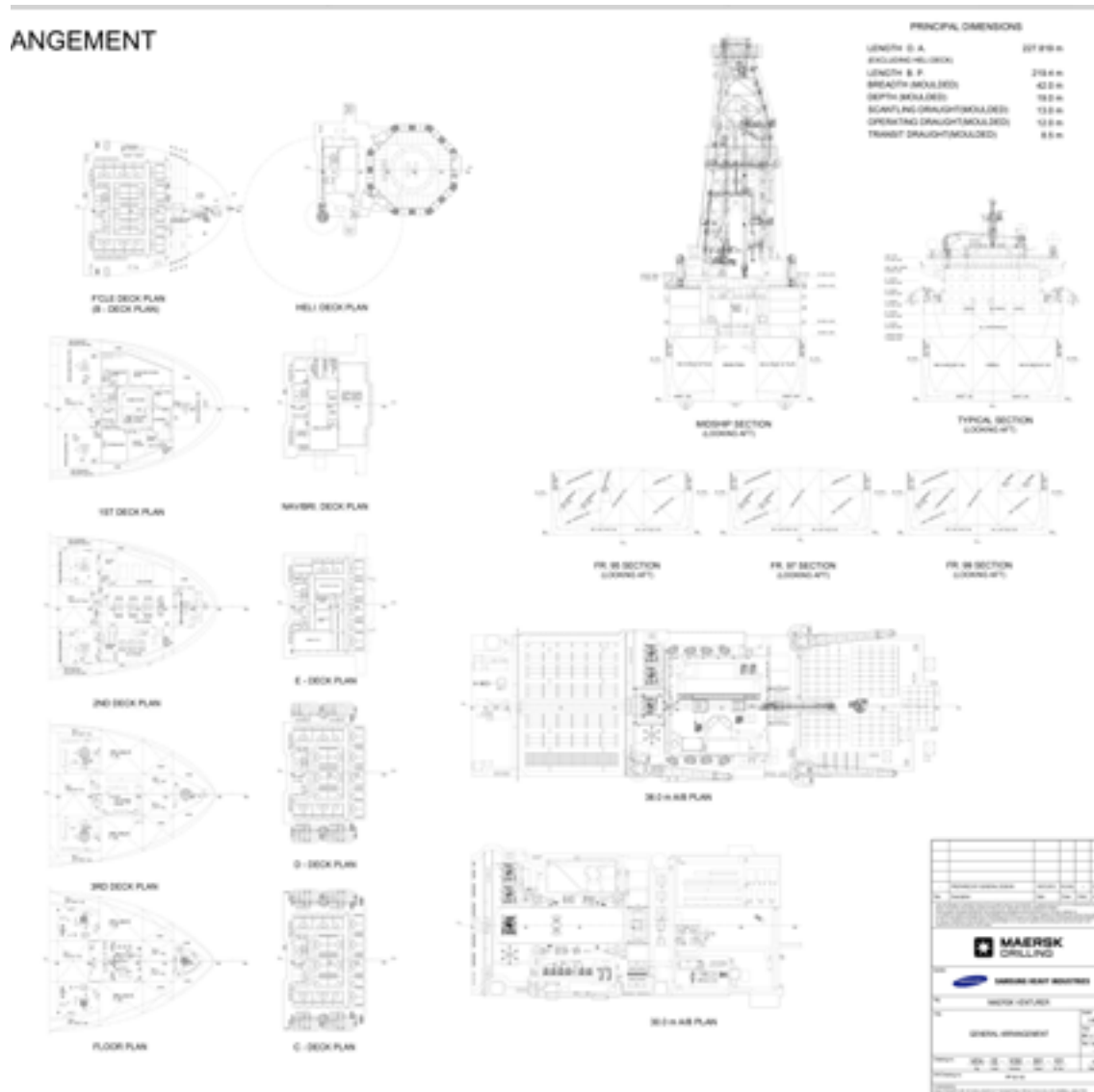
The Maersk Valiant's Surface Backpressure (SBP) Managed Pressure Drilling (MPD) system is a closed-loop pressurised circulating drilling fluid system, where bottomhole pressure can be adjusted by choking the drilling fluid return at MPD choke manifold. The system may be used for Constant Bottomhole Pressure (CBHP) drilling, Pressurised Mudcap (PMCD) drilling, and controlled pressure while cementing.

- BTR-SI 7875 Rotating Control Device (RCD) by Weatherford
- Drill String Isolation Tool (DSIT) to isolate RCD and act as Riser Gas Handler (RGH) – uses standard Shaffer style 21¼" 2k packing element and seal kit
- AF Global Flowspool joint:
 - Mud return is arranged via the flow spool to rig topside MPD equipment package which comprise of buffer manifold, MPD choke manifold, flowmeters manifold and control system
- SafeKick Intelli-Choke™ MPD Manifold:
 - SafeKick data acquisition and choke control system provides an automated control of downhole pressures
- Real-time Transient Hydraulic Modeling
- 8" pipework and a combination of 2 x 3" and 2 x 6" Electric Servo Actuated Chokes, allows MPD system to be utilised for multiple flow regimes
- 2 x 8" Flow out Coriolis Meters
- In addition, high-precision Coriolis Meters installed downstream all 5 pre-charge pumps (at Mud Pumps) to measure real-time flow – in mass and volume
- Integrated Riser Joint Operator's Panel
- HMI – Driller's Operator Panel/Valve Control Panel
 - 2 x Pressure Relief Valves (PRV) Control Panels
 - Electric Actuated and Manual Ball Valves
 - High Resolution Pressure Transducers
- Early Kick Detection (EKD) uses Coriolis meters to measure the mass flow in and out of drilling fluid during the drilling process to provide advanced kick detection

Rig drawings

Top view





Side view







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