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General Information

Rig Name	Tungsten Explorer
Rig Type	Ultra Deepwater Drillship
Rig Design	DSME 12,000
Year Built	2013
Year Upgraded	N/A
Builder	DSME
Class	DNV 1A Ship- Shaped Drilling unit BIS
	DPS (3)
Flag	Bahamas

General Specifications

Hull Length	781'
Hull Breadth	138'
Hull Depth	62'
Moon Pool	82' x 41'
Accommodation	200 POB
Helideck	CAP437, 75ft Octagon, Sikorsky S-61N, S-92 Compatible

Operational Capabilities

Water Depth (Design)	12,000'
Water Depth (Outfitted)	10,000'
Water Depth Min	1,150'
Load Line Draft	42.6'
Load Line Displacement	111,634 MT
Operating Draft	39.3'
Operating Displacement	102,682 MT
Transit Draft	27.8'
Transit Displacement	71,706 MT
Drilling Depth	40,000'
Variable Load	25,000 MT
Max Setback	1,000 MT
	500 MT (In field Transit)
Transit Speed	up to 12 kts

Storage Capacities

Diesel	59,628 bbls
Drill Water	20,033 bbls
Potable Water	8,628 bbls
Bulk Barrite/Bentonite	16,950 ft ³
Bulk Cement	11,300 ft ³
Base Oil	5,118 bbls
Brine	5,118 bbls
Active Mud	8,883 bbls
Reserve Mud	10,561 bbls
Slugs	752 bbls
Mud Treatment Tanks	506 bbls
Trip Tank	137 bbls
Sack Store	10,000 sacks

Mud System

Working Pressure	7,500 psi
Mud Pumps	4 x AKMH Wirth model TPK-7½ x 14 / 2200 CL, Gear driven, 2,200 hp 7,500 psi, 1 x Siemens Loher motor
Shakers	8 x DP 626 BEM dual deck shakers (2 configured as Mud cleaners with 4 x 20" cones each)
Mud Manifold	1 x Techdrill, API 6A PSL dual 5" NB 7,500 psi WP

Cement System

Working Pressure	15,000 psi
Cement Manifold	1 x Techdrill, API 6A PSL single 3" NB 15,000 psi WP
Cement Unit	Free Placement Schlumberger Dowell, CPS-3000 Ultra Deepwater Cementing Package, 15,000 psi WP

Drilling Package

Derrick	Aker Kvaerner Maritime Hydraulics (AKMH) Single Pyramid Dynamic Derrick, 46 ft. x 52 ft. base x 210 ft. clear working height, API-4F 3rd Edition
Hookload Capacity	2.8 million lbs. static
Racking Capacity	6 $\frac{5}{8}$ " Drill pipe—368 stands x 135 ft. (49,680ft) 9 $\frac{1}{2}$ " Drill collars— 8 stands x 135 ft. (992ft) 13 $\frac{3}{8}$ " casing - 35 stands x 135 ft. (4,725 ft.), or, 9 $\frac{5}{8}$ " casing - 54 stands x 135 ft. (7,290 ft.) or, 7" liner – 91 stands x 135 ft. (12,285 ft.)
Drawworks	1 x AKMH Wirth GH 9000-EG-01-AC electric motor driven 9,000 hp
Rotary Table	1 x AKMH Wirth RTSS 75 $\frac{1}{2}$ ", hydraulically driven, 20 rpm, 1,500 ton capacity
Iron Roughneck	1 x AKMH 1899 MKII Iron Roughneck for Well Center Operations, 2 $\frac{3}{8}$ " to 9 $\frac{3}{4}$ "
Topdrive	1 x AKMH model MDDM-1250-AC-2M, 1,250 tons hoisting capacity, 750 tons quill capacity, AC motor driven, 101,200 ft. lbs. max continuous torque, 151,300 ft. lbs. intermittent, 0 -282 max rpm, 2 x 1150 hp AC motors

Tubular Handling Capabilities

Pipe Feeding Machine	1 x AKMH Tubular Feeding Machine, SWL 15 MT, 2-7/8" to 30", suitable for handling 45 ft tubular
Pipe Rackers	2 x AMH Bridge Racking cranes, Lower Guiding Arms, each 15 MT, 3 $\frac{1}{2}$ " to 13 $\frac{5}{8}$ "
Riser Feeding Machine	1 X AKMH Riser Feeding Machine, SWL 40 MT, 2-7/8" to 54"
Manipulator Arm	1 x AKMH Drill Floor Manipulator arm, 3 $\frac{1}{2}$ " to 60"
Pipe Deck Handling Crane	1 x AKMH PDPH, SWL 4.5 MT to 9 MT, 2 $\frac{7}{8}$ " to 20"

Offline Capabilities

Offline Stand Building	1 x AKMH Stand building arm for offline tubular handling lifting capacity of 6.4 MT, 15 ft. to 45 ft. tubular, 3 $\frac{1}{2}$ " to 13 $\frac{5}{8}$ "
Offline Roughneck	1 x AKMH 'Torque Master' for tubular range 2 $\frac{7}{8}$ " to 20" for offline operations.
Offline Mouseholes	2 x AKMH Hydraulic Mouseholes for up to 13 $\frac{5}{8}$ "

Handling Systems

Deck Cranes	- 3 x Liebherr model BOS 4200-85, 85 mt max load at 9 m radius & 32.7 mt at 46 m radius (static), Auxiliary hook 15 mt max load at 51 m radius - 1 x Liebherr model BOS 4200-50, 50 mt max load at 9 m radius & 34.2 mt at 46 m radius (static), Auxiliary hook 15 mt max load at 51 m radius
Riser Gantry Crane	1 x AKMH Riser Gantry Crane, SWL 40 MT

BOP Handling

1 x AKMH BOP Trolley, SWL 500 MT c/w 1000 MT hang off adapter plate for riser hang-off

Xmas Tree Handling

2 x AKMH LMRP Overhead Gantry Crane, each SWL 75 MT
1 x AKMH Xmas Tree Trolley, SWL 150 MT
2 x AKMH Xmas Tree Overhead Gantry Crane, each SWL 75 MT

Drill Pipe and Fishing Equipment

Drill Pipes	Various, details available on request
Fishing Equipment	Various, suitable to fish for Contractor's drill pipes

Managed Pressure Drilling Equipment

Integrated Riser Joint	M-I Swaco BTR Rotating Control Device, 2500 psi static, bore size 18 3/4", 9.1/4" inside, dual seal bearing assembly, DP size 4 1/2" to 6 5/8" Cameron Slim line annular closing device 2000 psi, nitrile temp rated seal element. Cameron Flow Spool 2000 psi, 7 1/6" 3000 psi flow line connections Cameron Control Flow manifold 3000 psi M-I Swaco Dual Automated Choke manifold 2 x 6", 5000 psi. HPU 5000 psi. UPS 2 hrs backup as per API 16D M-I Swaco flow meter 1440 psi, 6", 2400 gpm.
Flow Control	2 Flex hose flow lines 6" ID, 3000 psi 190 ft. and 1 Flex hose Equalization line 2" ID, 3000 psi 190 ft.

Flow & Equalization lines

Well Control Equipment

Blowout Preventer	1 x Cameron BOP, 18 $\frac{3}{4}$ " 15,000 psi, 6 x ram cavities (3 x Type TL doubles)
LMRP	1 x Cameron dual Type DL, 18 $\frac{3}{4}$ ", 10,000 psi annular preventer
Diverter	1 x Cameron x 75 $\frac{1}{2}$ " 500 psi with 16" diverter lines, 16" flow line, 16" Mud Gas separator line, 8" trip tank line, 4" fill up line. 21" nominal bore.
BOP Control System	Cameron Multiplex (MUX) BOP Control System for up to 10,000 ft. water depth capability (12,000 ft. upgradeable)
C & K Manifold	1 x Techdrill, API 16C 3 $\frac{1}{16}$ " 15K HP side / 4 $\frac{1}{16}$ " 10k LP side, 2 manual chokes, 2 remote chokes, double 15K isolation valves, Glycol Injection unit, Spilt Buffer system, Bypass Line, Port/Stbd emergency overboard line

Riser Equipment

Riser	21", Cameron Load King / 15k psi, 4.5" ID Choke & Kill Line, 5k psi 4" ID booster line, 2 x 5K psi, 3.5" ID hydraulic lines.
Riser Tensioning	8 x AKMH Dual wire line tensioner, 3,600,000 lbs. combined capacity with a maximum net effective stroke of 12.5 ft.
Motion Compensators	- 1 x AKMH 680-1270-25 Crown Mounted Compensator, rated at 1,270 MT / 1,400 tons (static) and 680 MT / 750 tons (Compensation) with a 25 ft. stroke - 1 x AKMH Active Heave Compensator, rated at 20 MT x 2 with a 25 ft. stroke, Upgraded to AHC WD (while drilling)

Power Generation

Main Engines	6 x STX MAN 14V32/40 diesel engines, 7,000 kW @ 720 rpm c/w HHI 8,437 kVA AC alternators
Emergency Engines	1 x STX MAN B&W diesel engine c/w HHI 2,625 kVA AC alternator

Station Keeping & Propulsion System

DP Control System	DPS33, GE Converteam, Triplex DP + IJS 3 x independent GNSS + 2x independent acoustic systems
Thrusters	6 x 5.5 MW Rolls Royce Ulstein Aquamaster UUC 455 Azimuth (100 mt thrust nominal), variable speed, fixed pitch, fully azimuthing

Life Saving Systems

Lifeboats	6 x Norsafe, 70 man (95 kg/person) TEMPSC, davit launched lifeboats (210 % of POB)
Fast Rescue Craft	1 x DSB FRC, 6 man
Life Rafts	16 x 25 man Viking 25DK+ inflatable life rafts (200% of POB)

