

ATWOOD ARCHER



The ATWOOD ARCHER is a DP3 Drillship capable of operating in 3,658 meters (12,000 ft.) of water, drilling depths of up to 12,200 m (40,000 ft.) and has accommodations for 200 personnel. The main load path has a 1,250 ton top drive, a 1,250 ton crown mounted compensator and a 1,250 ton drawworks; the derrick is rated to 4,500,000 lbs. The unit has four (4) mud pumps 2,200 HP/7,500 psi. and the dual BOPs are rated to 15k psi which include two (2) annulars and seven (7) rams each and have upgraded capabilities for shearing and subsea intervention. Also, the rigs are fitted with three (3) X 100 MT Knuckle Boom Cranes and one (1) X 165 MT Heave Compensated Knuckle Boom Crane with 10,000 ft. wire for Tree Handling over the side.



CHARACTERISTICS

Type Of Vessel	Ultra-Deep Water DP Drillship
Rig Design	DSME
Water Depth	12,000 ft (3,657 m)
Drilling Depth	40,000 ft (12,192 m)
Year of Construction	Under Construction – 2018 Delivery
Variable Deck Load Operation	23,000 mT
Drilling Draft	39 ft (12 m)
Operating Displacement	104,000 mT @ 12 m draft

PRINCIPAL DIMENSIONS

Length	780 ft (238 m)
Beam	137 ft (42 m)
Baseline to Main Deck	62 ft (19 m)
Baseline to Pipe Rack	123 ft (37 m)
Baseline to Drill Floor	142 ft (43 m)

CAPACITIES

Liquid Mud Active & Reserve	2,991.1m ³ (includes slug tanks but not processing tanks)
Base Oil	815 m ³
Brine	1,033.4 m ³
Bulk Material	320 m ³ Cement, 480 m ³ Barite/Bentonite
Sack Storage	10,000 sacks
Drill Water	3,190 m ³
Fuel	8,415.6 m ³
Potable Water	1,634.3 m ³
Accommodations	200 persons

DRILLING EQUIPMENT

Double Derrick	24m x 18m x 64m
Hook Load, main/aux	1,134 mT/907 mT
BOP	18 3/4" 15 ksi, 7 ram, 2 annulars, MUX
Marine Riser	21" OD x 0.875" wall x 75 ft, 10,000 ft total
Mud Pumps	4 x 2,200 hp / 7,500 psi

ATWOOD ARCHER

STATION KEEPING SYSTEM Kongsberg

Simrad, DPS-3 and IAS system Kongsberg /
Siemens Power Management System Six (6)
Siemens AC Drives/Motors

Six (6) Rolls Royce Mechanical Thrusters with steering motors, control panel and Hydraulic power unit, c/w Siemens 5,500 kW drive motors @ 750 rpm

DRILLING EQUIPMENT

Driller's Cabin

One (1) NOV, Pressurized Drillers Control Cabin with safety glass & guards, four (4) operators stations (NOV Cyberchairs) and an office annex

Instrumentation/Control - Drilling

One (1) NOV, Cyberbase, Drilling Control & Data Acquisition System (DCDA) with Smart Machine Integration (Anti-Collision), Drilling Control Interface (DCI) and Smart Drilling Instrumentation (SDI)

One (1) C & K Manifold Instrumentation

One (1) Mud Control System

One (1) Integrated Drawworks Control System

Drawworks and CMC

One (1) Main Well, NOV 1,250 sTon, 6 motor, AHD-1250 Active Heave Drawworks System

Continuous rating is 1,120 kW (1,500 HP), 690 VAC

One (1) NOV CMC-E-1500/2500 active drill string compensator 25 ft stroke, 1,500 kip compensating, 2,500 kip tripping

One (1) Aux Well, NOV 1,000 sTon, 4 motor SSGD-1000 Drawworks System

Continuous rating is 858 kW (1,150 HP), 690 VAC

One (1) NOV CMC-1000-2000-25 active drill string compensator 25 ft stroke, 1,000 kip compensating, 2,000 kip tripping

Derrick

One (1) NOV Galvanized Derrick, 18m x 24m x 64m (approx. 59ft x 80ft x 210ft) working height static hook load 2,500 kips

One (1) Alimak Derrick Elevator with stops at Drillfloor, Drawworks Roof, Fingerboard, Hydraracker, and Crown

Rotary Table and Floor Tools

One (1) Main, NOV Rotary table 75.5", hydraulic drive, 5 rpm continuous/15 rpm intermittent, 1,375 sTon load capacity

One (1) Aux, NOV Rotary table 60.5", hydraulic drive, 5 rpm continuous/15 rpm intermittent, 1,000 sTon load capacity

Two (2) NOV, PS-30 Power Slips

Traveling Block

One (1) Main, NOV HTB-1250 traveling block c/w (8) ea. 78" sheaves rated at 1,250 sTon

One (1) Aux, NOV HTB-1000 traveling block c/w (7) ea. 72" sheaves rated at 1,000 sTon

Top Drive and Tubular Handling Equipment

One (1) Main, NOV TDX - 1250 top drive (1,250 sTon Capacity) c/w PH-150 pipe handler, IBOP, Bi-Directional link tilt & 49" dolly retract

One (1) Aux, NOV TDX - 1000 top drive (1,000 sTon Capacity) c/w retract dolly

One (1) RBS-IV, Elevated Backup Tong

Two (2) NOV Hydra-Racker IV-ER Automated pipe handling/racking system

for handling tubulars from 3-1/2" drill pipe to 14" casing c/w derrick arm (one of the Hydra-Racker will be used as a separate stand building system for Quads up to 14")

Two (2) NOV ST-160 Iron Roughnecks (one Main and one Aux well)

One (1) NOV Pipe Catwalk Machine 15 mT x 50' length c/w tail-in arm

One (1) NOV Riser Catwalk Machine with tail in arm and flat bed service cart capable of transporting the Spider/Gimbal/Load Plate to well center as a single unit

Mouse Holes

One (1) NOV Powered Mousehole

One (1) Rotary sock for Aux well

Fingerboards

One (1) NOV fingerboard for 135 ft stands as follows:

Main well:

224 stands 5-7/8" OD with GPDS55 connection drill string (30,240 ft)

150 stands 6-5/8" OD with GPDS65 connection drill string (20,250 ft)

16 stands 5-7/8" OD with GPDS55 connection HWDP (2,160 ft)

15 stands 6-5/8" OD with GPDS65 connection HWDP (2,025 ft)

8 stands 7" OD x 3" ID drill collar (1,080 ft)

8 stands 8-1/4" OD x 2-13/16" ID drill collar (1,080 ft)

10 stands 9-1/2" OD x 3" ID drill collar (1,350 ft)

4 stands 9-1/2" BHA (540 ft)

90 stands of 6-5/8" landing string (12,150 ft)

MUD SYSTEM

Mud Pumps: Four (4) NOV 14P-220 HP mud pumps, 2,200 HP, 7,500 psi

Riser Boost Pump: One (1) NOV 10P-130 pump, 1,300 HP

Shale Shakers: Eight (8) NOV VSM-300 shale shakers

Mud Cleaners: Two (2) NOV VSM-300 Desilter Header (20 cone) over shakers

Degassers: Three (3) NOV/Brandt DG-12 vacuum degassers, 1,200 gpm each
One (1) Techdrill Mud Gas Separator (Poorboy degasser)

One (1) Techdrill 15k x 10k choke and kill manifold with glycol injection

BULK MUD AND CEMENT SYSTEM

Six (6) Bulk storage tanks for Barite/Bentonite 80 m³ ea. c/w dust collector/cyclone

Four (4) Bulk storage tanks for Cement 80 m³ ea. c/w dust collector/cyclone

Two (2) bulk mud surge tanks 6 m³ ea. c/w dust collector/cyclone

HP Washdown System

One (1) Freshwater HP Washdown system with outlets throughout the rig

RISER AND TENSIONING EQUIPMENT

Sixteen (16) NOV Hydralift SWRT-250-50 packaged as eight dual units complete with dual turn down sheaves rated to 250,000 lbs each (4,000,000 lbs total)

10,000 ft Aker Solution Marine CLIP Riser including pups, buoyant, and bare joints.

21" OD x 1" wall w/21" CLIP Connector

Two (2) Vetco telescopic joint c/w 65" stroke, dual packing box, BLAT tool interface, and KT donut termination housing

One (1) Riser tensioner ring - Vetco KT type with permanent connection points for 2 ea. C&K hoses, 2 ea. hydraulic conduit hoses, and 1 ea. mud boost hose

Two (2) OilStates Gimbals 2,500 kips c/w one (1) load ring for 75.5" rotary - Gimbals interface with BOP transporter for riser hang off

Two (2) each 3,000 kip AKER Riser Spiders

One (1) riser hang adapter for BOP transporter 2,000 kips

BOP EQUIPMENT

Two (2) GE/Hydril 18-3/4" 15 ksi 7 ram BOP stack c/w two (2) 10 ksi annulars and an 18-3/4" Super HD-H4 wellhead connector

One (1) GE/Hydril centralized control panel for 4 reels, including 2 MUX, 1 hotline, and 1 riser fill up valve control hose (future)

One (1) mini control panel to operate spare BOP

One (1) GE/Hydril CSO type 75.5" diverter housing with 18" flowline, 16" divert line

One (1) GE/Hydril full closure diverter assy c/w 20" thru bore and rated to 500 psi

BOP CONTROLS

Hydril Control System 3,000/5,000 psi

One (1) Hydril BOP Test Pump

One (1) Hydril Diverter closing unit c/w pumps, accumulator, and operator/test panel

BOP HANDLING

Storage for two (2) complete BOP's and LMRP's with sea fastening at all positions including on the transport skid

One (1) NOV BOP bridge crane 2 x 250 mT c/w 2 ea. 30 mT auxiliary winches

One (1) NOV bulkhead guidance system for capturing BOP movement

XMAS TREE HANDLING

One (1) 150 mT Xmas tree bridge crane with two (2) 75 mT hooks

One (1) 150 mT Xmas handling cart for skidding Xmas tree to well center

CCTV

Fifty (50) CCTV cameras

DECK CRANES

Three (3) NOV Knuckle boom crane 100 mT lifting capacity at 20 m

One (1) NOV Active Heave Crane for subsea lifts, 165 mT deck load at 18.2 m radius to 600 m water depth, 103 mT deck load at 3,000 m water depth

HELIDECK

One (1) Sypack Helicopter refueling system, DNV HELDK-SH & CAP 437 Compliant

COMPRESSORS

Three (3)TMC 240-11 EWNA Service/Control Air Compressor 1,890 m³/hr @ 8 Bar

Two (2) Sperre XW200 Main Engine Starting Air Compressor 220 m³/hr @ 30 Bar

One (1) Sperre HL2/90 Emergency Gen. Starting Air Compressor 34 m³/hr @ 30 Bar

AC ELECTRICAL SYSTEM - GENERAL

Three (3) Siemens Switchboard 11 kV for generator control and distribution

Six (6) HHI 14H32/40V 14 cylinder engines rated 7,000 kW each, driving six (6)

Siemens HSJ71209-10P generators rated at 6,750 kW each

One (1) Caterpillar, 3516B 16 cylinder emergency diesel engine rated 1,889.2 kW driving

One (1) Leroy Somer, Brushless/Revolving Field generator rated at 1,765 kW

AtwoodOceanics