



Unit : Beacon Atlantic
Type: : MW Semi Submersible Drilling Unit / GM4D
Class : DnV
Built : 2017
Rig Operator : Bluewhale Offshore

Email : marketing@bluewhaleoffshore.com



Unit Specifications

| | |
|--------------------------------|---|
| Registered Name | Beacon Atlantic |
| Rig Type | Column Stabilized Drilling Unit (midwater) |
| Unit/Design/Shape | GM4D - design by Global Maritime & CIMC Raffles |
| Unit Flag | Flag upon contract commitment |
| Unit Classification/ Notations | DNV GL: +1A1 Column Stabilized Drilling Unit (N); DRILL (N); DYNPOS-AUTRO; POSMOOR-ATA; HELIDK-SH (N); CRANE (N); E0; CLEAN; ICE-T; WINTERIZED BASIC |
| IMO Certification | IMO registration upon contract commitment |
| Year of Construction | 2017 |
| Construction Yard | Yantai CIMC Raffles Offshore Ltd |
| Type of Positioning System | DP3; ATA; or anchored |

Main Dimensions/Technical Description

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| Weight (light ship) | 28,500 tonne |
| Displacement at Loadline | 45,727 tonne (@ 21 m draft) |
| Draft at Loadline | 21 meters |
| Hull Length | 107 m |
| Hull Width | 74 m |
| Moon Pool | 29.1 m x 7.4 m |
| Transit draft | 10.1 m; Displacement 32,656 t |
| Survival draft and Airgap | 19 m; Displacement 43,826 t; Airgap 15 m |

Storage Capacities

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| Fuel | 29,436 bbls (4,680 m ³) |
| Drilling Water | 10,881 bbls (1,730 m ³) |
| Potable Water | 3,774 bbls (600 m ³) |
| Active Liquid Mud | 2,937 bbls (467 m ³) |
| Mud Processing Tank | 340 bbls (54 m ³) |
| Reserve Liquid Mud | 4,032 bbls (641 m ³) |
| Bulk Bentonite/Barite | 12,819 ft ³ (363 m ³) |
| Bulk Cement | 12,501 ft ³ (354 m ³) |
| Sack Storage | 5,500 sacks |
| Pipe Rack & Riser Storage Area | Pipe racks area: 130 m ² Riser racks area: 165 m ² |

Propulsion/Thrusters

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| Thrusters | Six (6) Rolls-Royce / UCC405 azimuth thrusters; Each with Siemens 6,120 hp motors |
| Dynamic Positioning | Kongsberg K-Pos system; Full DP/Dynpos-AUTRO; Posmoor ATA; DP 3 |

Operational Capabilities

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| Maximum Water Depth | 3,900 ft (1,200 m) |
| Maximum Drilling Depth | 26,250 ft (8,000 m) |
| Transit Speed | 6 knots |

Variable Deck Load Capacity

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| Variable Deck Load Capacity | Transit VDL capacity: 3,000 tonnes Drilling VDL capacity: 4,000 tonnes Survival VDL capacity: 4,000 tonnes |
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Environmental Limits

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| Environmental Limits | Drilling Air gap below main deck: 13 m Maximum wave height (H _s): 8 m Maximum heave (double amplitude): 15.6 m Maximum pitch (double amplitude): 5.7 degrees Maximum roll (double amplitude): 7.3 degrees |
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Mooring System

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| Anchor Winches & Anchors | Four (4) NOV-BLM / MV375 double drum winches; Each @ 630 kW; Rated pull of 384 t; Stalling pull 540 t Eight (8) Bridon / DBK2 SWR 96mm anchor lines; Each @ 750 m long; DNV Offshore E-301 Anchors not installed |
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Marine Loading Hoses

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| ML System | Two (2) NOV hose reel loading station; 7 each 4" liquid hoses and 2 each 5" hoses for powder/dry bulk; Each hose 60 m long |
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Cranes, Hoist And Material Handling

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| Cranes | Two (2) NOV / OC3500LCE lattice boom deck cranes; 80 t @ 7.8 m; Boom length 50 m One (1) NOV knuckle boom pipe handling crane; 13.3 to 24.2 t @ radius 4.3 to 26.6m One (1) NOV BOP / LMRP/ XT overhead gantry crane; 2 x 60 tonne plus 1 x 12 tonne One (1) NOV / WU101 rig floor man-riding winch in derrick; 150 kg capacity One (1) NOV / PM150-65 man-riding winch in moonpool; 150 kg capacity |
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Helicopter Landing Deck

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|------------------------------|---|
| Dimensions | Octagonal shape helideck; 91 ft diameter |
| Deck Load Capacity | 12.6 tonne; UK CAP 437 |
| Refueling System | System by Helifuel AS; Two (2) portable tanks; 2 x 2,900 liters |
| Designed For Helicopter Type | S61N; S92A; AS332L2 |

Auxiliary Equipment

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| Water Maker | Two (2) Sondex / SFD222-75; Each with a capacity of 75 tonne/day |
| Cargo Transfer Pumps | Two (2) fuel oil transfer pumps; Each delivering 60 m ³ /hr @ 6 bar Two (2) potable water transfer pumps; Each delivering 42 m ³ /h @ 6 bar Two (2) general SW service pumps; Each delivering 432 m ³ /h @ 12 bar |

Derrick and Substructure

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|----------------------|--|
| Derrick/Mast | NOV / Single Dynamic Bottle Neck (SDBN) [1 1/2 derrick]; Height of 63.7 m Base: 15 m x 16 m Crown: 6.1 m x 6.1 m Gross nominal capacity of 890 t; Static hook load of 680 t |
| Racking Platform | NOV fingerboard; Racking platform capacity of: 5 7/8" DP: 7,400 m 6 1/2" to 9 1/2" DC: 325 m |
| Maximum Setback Load | 1,351 kips (613 tonnes) |



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Derrick and Substructure

| | |
|----------------------------|--|
| Drawworks & Associated Eq. | NOV / AHD-750-5750-73.5-82-10.5 drawworks; Five (5) GE / 5GEB22A5 TEWAC 857 kW motors; Continuous power rating of 4,285 kW; 73.5" API 7K drum with 1 ¾" wire; Max. line pull (12 lines) @ 680 t |
| Derrick Hoisting Equipment | NOV / CBC-750 crown block and compensator system; Compensating load in hook 454 t; Crown block maximum capacity 681 t; Compensator stroke length 25 ft; AHC for CMC with cylinder stroke of 7,800 mm; Max push/pull force of 25 t @ 250 bar / 15 t @ 150 bar; Rated capacity of 680 t; 6 each 72" sheaves; grooved for 1 ¾" line size NOV / 750 travel block (7 x 72" - 1 ¾"); Rated capacity of 750 short ton; 7 sheaves |
| Rotating System | NOV / RST605-2G rotary table; Max. opening of 60 ½"; Static load capacity of 907 t; Rotating load capacity of 680 t; 2-speed hydraulic; Max. continuous torque of 61 kNm |
| Top Drive | NOV / HPS-03 electric topdrive; 907 t; Test/working pressure of 7,500 psi; Two (2) ABB / HT motors; 2 x 746 kW; Max. continuous torque of 108 kNm |

Power Supply Systems

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| Rig Power Plant | Six (6) Rolls Royce / B32:40V12ACD diesel engines; Max. continuous power 5,765 kW @ 720 rpm Six (6) Siemens / 1DK4143-8AM05-Z AC generators; Continuous power 6,150 kVA @ 720 rpm; 11 kV output |
| Compressed Air Systems | Two (2) Sperre / XA090 high pressure air compressors; Rated capacity of 100 m3/h; Working pressure of 30 bar; Electric prime mover; Continuous power of 20 kW Two (2) Tamrotor / TMS 235-11 EWNA FW rig air compressors; Rated capacity of 1,764 m3/h; Working pressure of 10 bar; Electric prime mover; Continuous power of 210 kW Two (2) Tamrotor / A 1500 low pressure bulk air compressors; Rated capacity of 1,764 m3/h; Working pressure of 10 bar; Electric prime mover; Continuous power of 210 kW Tamrotor air dryers with capacity to suit air compression system |
| Emergency Generator | Two (2) Rolls Royce / B32:40V12ACD diesel engines; Max. output 5,765 kW @ 720 rpm; air started; Max. angle of operation 25 degrees Two (2) Siemens / 1DK4143-8AM05-Z generators; Max. output 6,150 kVA @ 720 rpm |

Drillstring Equipment

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| Tubulars | Detailed specification and inventory available upon request |
| Handling Tools | VBJ / BX4 drill pipe elevators; 680 t; 2 ¾" - 9 ¾" VBJ / BX4 drill collar elevators; 680 t; 2 ¾" - 9 ¾" VBJ / BX3 tubing elevators; 318 t; 9 ¾" - 20" VBJ / PS21 power DP slips; Max / Min 14" / 2 ¾" Bit Breakers up to 26" Hydratong / SW10-1 drillpipe spinner; Max / Min 9 ¾" / 3 ½" Hydratong mud saver bucket; 2 ¾" - 6 ¾" Hydraulic CatHead; Max. linepull 20 - 147 kN Hydratong / MPT-200 and ARN/270 iron roughnecks; Max OD/Min OD 9 ¾" - 3 ½"; Max. makeup torque of 140 kNm; Max. breakout torque of 200 kNm |

Well Control/Subsea Equipment

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|---------------------------------|--|
| Lower Riser Diverter Assembly | Vetco / EXF HAR H4 hydraulic connector; 18 ¾" Oilstates flex joint/riser adaptor; 21"; Max. deflection 15° NOV / Shaffer FT-E riser adaptor; 18 ¾" |
| Primary BOP Stack | NOV / Shaffer NXT; 18 ¾", 15,000 psi Vetco / Super HD - H4 hydraulic wellhead connector; 18 ¾"; w/ 27" inserts; Ram type preventers Five (5) NOV / Shaffer NXT preventers; 18 ¾"; 15,000 psi; 1 double and 1 tripple; Ram locks 22"; PosLock and UltraLock 2B |
| Primary Lower Marine Riser Pkg. | Vetco / EXF HAR H4 hydraulic connector; 18 ¾"; 10,000 psi; Hot tap for underwater intervention NOV / Shaffer Wedge Cover Spherical BOP; annular type preventer (LMRP); 18 ¾"; 10,000 psi Oilstates flex joint; 21"; Max deflection 15° NOV / Shaffer FT-E riser adapter; 18 ¾" Flex loop type connections to riser |
| Primary Marine Riser System | NOV / Shaffer FT-E marine riser joints; OD 21"; ID 19 ¾"; 50 ft joints; X-80 grade pipe material X-80; Min. yield strength of 75,000 psi; Rated for 1,500 m waterdepth; Six (6) bolt connections w/ tread inserts NOV / Shaffer FT-E telescopic joint; ID 21"; 5 aux. lines; Remote operated; Goosenecks; 50 ft stroke; Double seals; Onboard spare; Rotating support ring for riser tensioners with 8 connection points Oilstates / Diverter 2 Flex Joint API 21-2M FT-E; 21"; Max. deflection 15°; PCG-NOV 1000 ton marine riser spider; 60.5" PCG-NOV 1000 ton marine riser gimbal; 60.5" Hydraulic (2) and mechanical (1) riser handling tools NOV / Shaffer FT-E riser test tools |
| Diverter BOP | Shaffer/Oilstates / NOV 21-500-60; Max. bore size 59"; Working pressure of 500 psi; Five (5) diverter outlets; Outlet OD 16" x 3 and 8" and 6"; Insert packer ID 21 1/4"; For installation in fixed bell nipple |
| Subsea Support System | Eight (8) NOV riser tensioners; Each @ 54 t; Max. stroke 3,810 mm; 2" wireline; 50 ft line travel Four (4) NOV guideline systems; Capacity each tensioner 7.5 t; Max. stroke 3,050 mm; ¾" wireline; 40 ft line travel; 550 m line storage drums Two (2) NOV pod line tensioners; Each @ 12 t; Max. stroke 3,050 mm; 1 3/16" wireline; 40 ft line travel |
| BOP Control System | PCG / NOV surface accumulator unit; 791 USG; 3000 psi Two (2) NOV / Triplex accumulator hydraulic pumps; Each with 75 hp electric motor; 30 USG/min @ min. operating pressure 3000 psi |
| Subsea Control System | Two (2) DDI hose reels; Max. storage length 1,200 m; Air motor drive Two (2) pod hoses; Each 900 m long; OD 5" |
| Choke and Kill Manifold | Anson; Min. ID: 3 1/6"; Max. working pressure 15,000 psi; H ₂ S service |

Mud System/Bulk System

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|--------------------------|--|
| High Pressure Mud System | Three (3) NOV / 14-P-220 triplex mud pumps; Liner size 5" - 9"; Each with 2 AC motors; Continuous power rating per motor of 2,200 hp; Max. working pressure of 7,500 psi |
| Low Pressure Mud System | Five (5) Brandt / VSM 300 shale shakers |



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Mud System/Bulk System

Bulk System Three (3) NOV barite/bentonite silos; Capacities of 178 m³ / 92 m³ / 92 m³; 6 bar
 Two (2) NOV cement silos; Each with a capacity of 178 m³; 6 bar;
 Two (2) NOV surge tanks for barite/bentonite; Each with capacity of 5 m³; 5.5 bar
 One (1) BHI surge tank for cement; 2.5 m³; 6.5 bar
 All silos and tanks equipped with NOV / VC3500 load cells

Casing/Cementing Equipment

Casing Equipment Casing equipment mobilized as per contract agreement

Cementing Equipment Baker Hughes International / Electric Seahawk AC 1600 HP; Max. working pressure 15,000 psi; Max. flowrate 4.2 bbls/min @ 5,000 psi; 90 ft³ surge tank

Instrumentation/Communication

Drilling Instrumentation NOV weight indicators; 2 each
 NOV standpipe pressure Gauge; 0 - 7,500 psi
 NOV choke manifold pressure gauge; 4 each; 0 - 15,000 psi
 NOV rotary speed tachometer; 0 - 15 rpm
 NOV rotary torque indicator; Max. torque 60 kNm
 NOV motion compensator instrumentation and hook position indicator
 NOV pump stroke counters; One pump stroke indicator and one cumulative counter
 NOV tong torque indicator; 0 - 150 kNm with 1 meter arm
 NOV pit volume totalizer; Floats in active mud tanks; Floats in reserve mud tanks; Floats in mud processing tanks; Loss/gain indicator; Alarm (audio and visual)
 NOV mud flow indicator; High/low alarm (audio and visual); 2 off sensors in flowline adjacent to diverter housing
 NOV trip tank indicator; Chart recorder; Alarm
 DNH General Alarm system
 NOV Automatic Driller; NOV/ ROP auto

Rig Communication System Telephone System: 242 stations in total; FHF / Ex Resist and FHF / W Resist; Alcatel / 4019 and 4039
 NOR Electronic public address system (PAGA)
 Drillers' Talkback: Four (4) Phoneteck / 2067 and 2092 stations; Explosion proof
 Hand-held VHF Radios: Motorola / GP340Ex; 6 sets

Environmental Instrumentation Kongsberg / HMS-200 system with recorder for Temperature; Barometric pressure; Humidity; Wind speed and direction

MODU Specific Instrumentation Roll/Pitch/Heave: Kongsberg / K-pos OS + HMS with recorder
 Gyro Compass: Kongsberg / Navitwin IV
 Echo Sounder: Kongsberg / GDS 102 with recorder
 Weather Facsimile: Furuno / Fax-408 with recorder
 X-band Radar: Kongsberg; 2 each; Bandwidth 2.4 GHz
 S-band Radar: Kongsberg; Bandwidth 3.5 Ghz

Instrumentation/Communication

Radio Equipment SSB Transceiver: Three (3) Furuno / FS-2575; 120 - 960 W; 1605 kHz to 27500 kHz; Synthesized
 EPIRB: Two (2) Jotron/ Tron 40S
 VHF Radio Telephone: Three (3) Jotron / TR-20
 GMDSS; 2 W; 21 channels
 VHF Radio Transceiver: Three (3) Furuno / FM-8900S; 25 W
 Radio Beacon Transmitter: Two (2) Jotron / AIS-SART; 1W
 Aeronautical VHF Transceiver: Two (2) ICOM / IC-A210; 8W; 118 MHz - 137 MHz; Synthesized
 Watch Receiver: Furuno / NX7001
 Satellite Communication System: Furuno / Felcom-500; Inmarsat C; Facsimile link; Inmarsat Fleetbroadband; Telex link; Other capabilities
 VSAT system

Production Test Equipment

Burner Boom Two (2) Dalian TSC horizontal burner booms; Each 100 ft long; Max. wind speed (operation) 36 m/s;
 Burner platform size: 3,1 m x 3,1 m

Workover Tools

Workover Tools As per contract agreement

Accommodation

Offices Company Rep office @ A deck AFT
 Contractor Rep @ drill floor (with unrestricted view of drill floor)

Living Quarters 130 PAX capacity; All single occupancy cabins

Safety Equipment

Gas/Fire/Smoke Detection H₂S monitoring system: Kongsberg / K-safe
 Combustible gas monitoring system: Kongsberg / K-safe
 Two (2) portable H₂S detectors: Honeywell / GasAlert Quattro
 Two (2) explosimeters: Honeywell / GasAlert Quattro

Fire Fighting Two (2) firewater pumps; Allweiler / RVP250M;
 Single stage vertical centrifugal; 2 x 430 m³/h
 Four (4) Norsafe / GES50 MKIII Free Fall lifeboats; Each with 70 PAX capacity
 Eight (8) Viking / 35 DK-RS liferafts; Each with a capacity of 35 PAX
 Norsafe / Mako 655-R002 FRC / MOB; Water-jet propulsion

Survival Equipment

Pollution Prevention Equipment

Sewage Treatment EVAC / MBR vacuum system; In compliance with IMO MEPC159(55) and US Coast Guard regulations

Oily Water Separator JOWA / 3Sep OWS; 5 m³/h

Reviewer's Notes:

