



## **ENERGY EMERGER**

### **Jack Up Rig and Equipment Overview**

## RIG SPECIFICATIONS

### GENERAL

**Rig:** Energy Emerger

**Flag:** Liberia

**Owner:** Energy Emerger Ltd

**Year Built:** 2017

**Builder:** Shanghai Waigaoqiao Shipyard (SWS) Company Limited, China

**Design:** GustoMSC CJ46-X100-D, self-elevating cantilever jack-up

**Classification:** ABS  $\boxtimes$  A1 Self Elevating Drilling Unit

**Accommodation:** 120 beds + 2 beds in sickbay

### MACHINERY

**Main Power:** 5 x Caterpillar 3516C HD 2150 bhp (1,600 kW) diesel engines; 5 x Hyundai Ideal generator sets, 690V, 60 Hz, 1,534 kW each; 2287 kVA

**Power Distribution:** ABB variable frequency drive power management system, 690V/480V motor control centers

**Emergency Power:** Cummins CCFU900-E with marine generator, 1,370 kW; 1125 kVA; 480 VAC

### DRILLING EQUIPMENT

**Derrick:** NOV 170 ft x 35 ft x 40 ft; 1,500,000 lbs maximum rated static hook load with 14 lines; Crown Block – NOV 750 ton with 6 x 60" diameter cluster sheaves, 2 x 60" diameter fastline sheaves and 2 x 60" diameter deadline sheaves, all sheaves grooved for 1-5/8" wireline

**Drawworks:** NOV automated ADS-10T, 3,200 hp driven by 3 x DM27A HN A 1,150 hp AC induction motors; NOV water/air cooled multi-plate, fail safe disc brake system

**Rotary:** NOV RST 49-1/2" hydraulic operated rotary support table with dynamic slip ring, 49-1/2" opening, with up to 15 rpm intermittent rotary speed

**Top Drive:** NOV TDS-8SA, driven by 1 x GE GEB-20 1,150 hp AC induction motor with 62,500 ft-lbf continuous drilling torque @ 95 rpm, PH-100 pipe handler

**Traveling Block:** NOV Dresco 760TB-750-8C with 7 x 60" sheaves grooved for 1-5/8" wireline, 750 ton capacity

**Pipe Handling:** NOV ST-120 Iron Roughneck; PS-30 Power Slips; BX Hydraulic Elevator; NOV PRS-8i "Foxhole" Pipe Racking System with off-line drill pipe/drill collar stand building system; NOV CWS-P Pipehandling Catwalk Shuttle

**Cementing:** Schlumberger CPS361 15,000 psi WP recirculating cement mixing unit with CBS 355 mixing tank system

**Mud Pumps:** 3 x NOV 14-P-220, 2,200 hp each; 7,500 psi WP each with 2 x Mattco A7520 7,500 psi WP pulsation dampeners each

### MUD SYSTEM

**Return Mud Treatment System:** 1 x Derrick Flo-line Primer II unit; 4 x Derrick Triple Hyperpool shale shaker unit with flow control divider; 1 x Derrick 3 - 10" cone in-line Hydrocyclone Desander, 1 x Derrick Mud Cleaner, 1 x Derrick 20 - 4" cone in-line Desilter; 1 x Derrick Vacu-Flo 1200 degasser; 1 x 48" Brandt mud/gas separator

**Mud Mixing System:** 2 x 105 ft<sup>3</sup> surge tanks, surge tank feeder and cyclone dust collector mounted over 2 x venturi mud mixers with hoppers;

1 x NOV Big Bag Unit on main deck feeding mud hopper below deck

**Mud Tank System:** Usable volume – 4428 (4,014 (Pits 1-8), 150 bbls (Mud Process pits), 264 (Slug pits))

**Other Tank Volumes:** Drill Water - 22,325 bbls; Base Oil – 1,250 bbls; Potable Water – 3,675 bbls; Fuel Oil – 3,645 bbls; Completion Brine – 1,250 bbls; Total Pre-load – 70,440 bbls

**Bulk Mud/Cement Storage Volumes:** Total Volume – 14,800 ft<sup>3</sup>; consisting of 4 x 1,850 ft<sup>3</sup> bulk barite P-tanks – 7,400 ft<sup>3</sup> total and 4 x 1,850 ft<sup>3</sup> bulk cement P-tanks – 7,400 ft<sup>3</sup> total

**Sack Room Storage:** 5,000 sacks

### MAIN DIMENSIONS/ DRAFT/DISPLACEMENT

**Length:** 214 ft; **Breadth:** 203.4 ft; **Hull Depth:** 26.2 ft

**Legs:** 3 x 503.3 ft with 45.3 ft diameter spud cans; leg below hull - 440 ft

**Cantilever:** 70 ft lateral; 20 ft transverse / side (70' x 40' total cantilever envelope)

**Transit Draft:** 16.4 ft load line

**Transit Displacement:** 30,464 kips

### OPERATING PARAMETERS

**Max Water Depth:** 375 ft

**Max Drilling Depth:** 30,000 ft

**Survival Conditions:** Wind - 100 knots; waves - 45 ft; period - 15.0 sec @ 375 ft WD and 15 ft of leg penetration with max elevated weight of 24,230 kips

### CAPACITIES

**Variable Load:** 7,714 kips drilling (includes combined cantilever load)

5,289 kips jacking (includes combined cantilever load)

5,289 kips afloat (includes combined cantilever load)

**Total Cantilever Variable Load Capacity:** 2,268 kips

**Drilling Load Capacities:** static hook load with top drive: 1,500,000 lbs;

rotary: 1,500,000 lbs; rig floor setback: 1,120,000 lbs

### BOP & CHOKE MANIFOLD SYSTEMS

**18-3/4" BOP system:** 1 x 18-3/4" 10,000 psi NOV Shaffer Spherical BOP;

2 x 18-3/4" 15,000 psi NOV Shaffer NXT-M double hydraulic operated ram preventers

**Choke and Kill Manifold:** NOV Shaffer 3-1/16" 15,000 psi H2S trim with

2 x hydraulic actuated automatic chokes and 2 x manual chokes

**Diverter:** AVERT TEK Expanded Bore diverter, 500 psi with 12" Nominal ID port/stb overboard lines

**Control System:** NOV Koomey BOP and diverter hydraulic control system consisting of 750 gal accumulator reservoir capacity

**BOP Handling:** 150 mt handling system consisting of 2 x 75 mt air operated chain hoists

### TUBULARS

**Drill Pipe:** 7,000 ft x 5-1/2", 24.7 lb/ft, Grade HS<sup>3</sup>-125

15,000 ft x 5-1/2", 21.9 lb/ft, Grade HS<sup>3</sup>-125

5,000 ft 4" 15.7 lb/ft., Grade CYX-105

**Hevi-wate Drill Pipe:** 40 joints x 5-1/2"; 35 joints x 4"

**Drill Collars:** 10 joints x 9-1/2"; 21 joints x 8-1/4"; 30 joints x 6-1/2"; 24 joints x 4-3/4"

### ADDITIONAL EQUIPMENT

**Craneage:** 3 x Favelle Favco Model 7.5/10K pedestal crane (port side, port aft and starboard) with 135 ft (41.2 mtr) boom, 50 mt capacity (onboard) @ 32.8 ft (10 mtr) radius and 25 mt capacity (offboard) @ 32.8 ft (10 mt) radius with 30 knot wind speed and 1.5 mtr sig. wave height; 1 x knuckle boom crane (cantilever pipe deck),

12 mt capacity (max) and 3.2 mt capacity with gripper head (2-7/8" to 20" pipe sizes)

**Jacking System:** GustoMSC rack & pinion system with 18 x 896 kips (max) elevating units per leg; jacking speed: 1.5 ft/min (hull lifting), 2.2 ft/min (leg lifting)

**Helideck:** S-61N/S-92N; steel octagonal shape, 72.8 ft diameter (D-value) CAP 437 compliant

**Lifeboats/Life Rafts:** 3 x 60-man lifeboats, SOLAS approved; 6 x 20 man life rafts, SOLAS approved

**Conductor Pipe Tensioning System:** TSC; 225 mt (tension capacity); 4 lift points; 14" (350mm)