



## **ENERGY EMBRACER**

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

## RIG SPECIFICATIONS

### GENERAL

**Rig:** Energy Embracer  
**Flag:** Liberia  
**Owner:** Energy Embracer Ltd  
**Year Built:** 2018  
**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:** 140 beds + 2 beds in sickbay

### MACHINERY

**Main Power:** 5 x Caterpillar 3516C HD 2150 bhp (1,600 bkw) 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; 480VAC.

### DRILLING EQUIPMENT

**Derrick:** NOV 170 ft x 35 ft x 40 ft; 1,500,000lbs maximum rated static hook load with 14 lines; Crown Block – NOV 750 ton with 6 x 60" diameter cluster sheaves, 2 x 60" diameter fast line 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 Pipe handling 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 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 ram preventers.

**21-1/4" BOP system:** 1 x 21 1/4" 2000 psi BOMCO/Cansco spherical BOP  
2 x 20-3/4" 3000 psi BOMCO/Cansco single 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:** Vetco Gray KFDJ, 500 psi with 12" Nominal ID port/stbd overboard lines

**Control System:** NOV Koomey BOP and diverter hydraulic control system consisting of 750-gal accumulator reservoir capacity, 11 station BOP manifold with 20 x 15-gallon 3,000 psi bottles for BOP functions and independent diverter control manifold with 6 x 15-gallon 3,000 psi bottles for all diverter functions

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

### TUBULARS

**Drill Pipe:** 18,000 ft x 5-1/2", 27.88 lb/ft, Grade HS3 125, Delta 576 conn.

4,500 ft x 4", 17.47 lb/ft, Grade G105, Delta 391 conn.

4,500 ft x 2 7/8" 10.4 lbs/ft Grade G105 conn.

**Hevi-wate Drill Pipe:** 30 joints x 6 5/8" 74.23 lbs/ft. 30 joints x 5 1/2" 61.55 lbs/ft

**Drill Collars:** 9 joints x 9-1/2"; 18 joints x 8-1/4"; 18 joints x 6-1/2"; 18 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 mtr) 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)