POWERED BY PARKER 2800 HP, AC Variable Frequency Drive Land Drilling Rig

Year Built: 2008 / 2023

Rated Drilling Depth

5 ½ in. Drill Pipe: 21,000 ft (6,400 m)

Mast

Make, Type: Loadmaster, Telescoping

Height: 152 ft (46 m) Max. Hookload: 1,000,000 lbs

Racking Capacity: 5-1/2 in. drill pipe, Range II Triple – 23,000 ft (7,012 m)

Drawworks

Make: Varco ADS-10D AC 2,800 hp

Maximum Input: (2,089 kW)

Continuous Input: 2,300 hp (1,715 kW)

Input Power: Two (2) 1,150 hp GEB-22 AC motors

Drilling Line: 1-1/2 in. (38 mm)

Traveling Equipment

Traveling Block: Dreco 660TB-500 Max. Load: 1,000,000 lbs

Substructure

Make, Type: Loadmaster, Hydraulically Raised

Rig Floor Height: 32 ft (9.75 m)

Clear Working Height: 28 ft (8.5 m) Setback Capacity:

600,000 lbs

Walking System: Loadmaster Lift-an-Roll, ability to walk

with full setback, 360 deg. capacity

Rotary Equipment

Top Drive: TDS-11SA
Max. Load: 1,000,000 lbs
Max. Cont. Torque 58,800 ft-lbs

Input Power: Two (2) AC drilling motors, each

rated 600 hp (895 kW)

Rotary Table: NOV D-375

Input Power: 37-1/2 in. (952 mm)
Static Load Rating: 1,150 hp (858 kW)
1,300,000 lbs

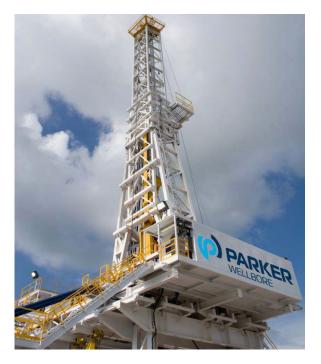
BOP System

Annular Preventer: Hydril 21-1/4 in. 2M Diverter, 13-5/8 in.

5M annular

Ram Preventers: Cameron 13-5/8 in. 10M double ram

Cameron 13-5/8 in. 10M single ram



Gensets

Generators:

Engines: Five (5) Caterpillar 3512-B 1,476 hp

(1,100 kW) @ 1,200 rpm each Five (5) Kato 6P6-3300 generators;

1,365 kW (1,950 kVA) each

Power Distribution

Gen. Control:

National Oilwell Varco - Amphion

Function Control System with ABB

Variable AC Drive, easYgen

Control System

VFD: Nine (9) ABB Drives, Inverters MCC: Two (2) 3200 NOV Converters

(8) 600 VAC (14) 480 VAC

Mud Pumps

Pumps: Three (3) NOV 12-P-160 pumps;

each rated 1,600 hp (1,193 kW)

Input Power: Each pump driven by two (2)

1,150 hp GEB-22 AC motors

Fluid Ends: NOV Mission, 7500 psi

Mud Handling/Solids Control

Total Mud Volume: 2,000 bbls (318 m³)

Shale Shakers: Three (3) Derrick FLC-503, 3-panel

High-"G" shakers; 560 gpm each One (1) Derrick High-"G" Dryer Swaco

Degasser: Horizontal D-Gasser;800 gpm



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2800 HP, AC Variable Frequency Drive Land Drilling Rig

Design Features (All main components conform to API specifications)

Mast & Substructure

- Mast and substructure are raised via hydraulic cylinders, and the mast sections are scoped via the Drawworks
- Mast is completely assembled at horizontal position, pinned to the drill floor, and with the drill floor in the lowered position
- Beams are integrated into the mast structure for the dissipation of torque generated by the top drive during operation.
- Substructure's slingshot design allows floor equipment to be installed in its lower position and swing up in place during the raising operation. Subsequently, it is all lowered simultaneously as the rig is lowered.
- Maximum package for transportation for either the mast or substructure is 44.3 feet in length x 10.5 feet in width x 8.5 feet in height. Maximum weight associated with this package is 44,000 lbs, or 20 metric tons.

Mud Pumps

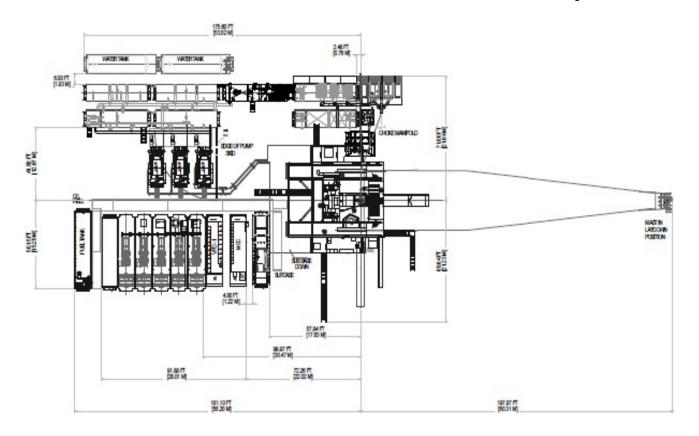
 Three (3) NOV 12-P-160, 1600 HP mud pump packages driven by belt drives.

Drawworks

- Digital closed-loop controls and dynamic braking systems take full advantage of integrated automation during tripping operations and zero-speed hovering.
- Can achieve constant bit weight and automatic bit feed control 0.3 – 197 ft/hr (0.1-60 m/hr).
- Drawworks features a simple mechanical transmission and reliable controls.
- Brake system is a combination of hydraulic disc brakes and dynamic braking.
- Motor, gearbox, drum, lubricating system and disc brake are installed on skid as one piece for ease of transportation.
- Digital control of drawworks parameters, such as hook speed, hook position, automatic drilling and dynamic braking. Drawworks' air and hydraulic systems controlled by the programmable logic controller (PLC) system in driller's console.

Controls

 Intelligent driller control uses advanced variable frequency drive (VFD) control technologies and integrated PLCs.
 Driller monitors and operates essential drilling functions from a driller's chair located on the rig floor.



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