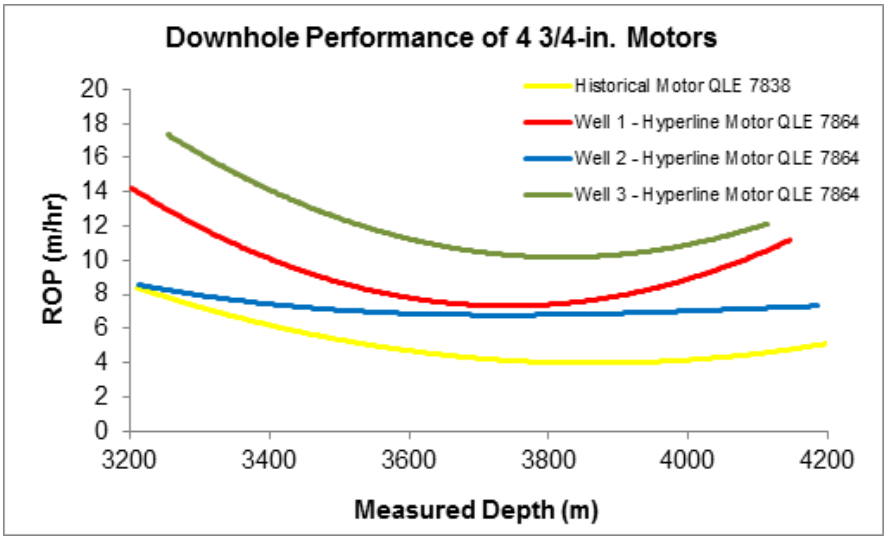
HyperLine™ 250 Drilling Motor
Doubles ROP To Reduce Drill Time by 50%, Saves Client $900,000



The above graph shows the historical performance of directional motors in the field (yellow) and the performance of the HyperLine motor in each of the three wells (red, blue, and green). The HyperLine motor significantly improved upon the field average ROP of the previous motors.

Objectives

- Drill vertical intervals that average 3,281 ft (1,000 m) in three onshore, developmental oil wells through a challenging, highly compressed lime and sandstone formation.
- Optimize drilling operations by increasing the rate of penetration (ROP) and reaching total depth (TD) in the fewest runs possible in each well. Previous wells drilled in the field required two to four runs because of challenging conditions such as rock compressibility.

Our Approach

- The Weatherford team deployed a 4-3/4 in. HyperLine 250 QLE 7864 drilling motor for its superior steering capability, operating torque, pressure differential, and power output because the previously used standard motors had required multiple runs to reach TD.
- The team also applied the HyperPulse measure-while-drilling (MWD) system to enable the collection of directional surveying, gamma ray, and temperature data at higher speeds in high-pressure and high-temperature (HTHP) wells.

LOCATION
Argentina

WELL TYPE
Onshore, vertical, oil producers

HOLE SIZE
6-1/8 in.

MAXIMUM TEMPERATURE
230°F (110°C)

MAXIMUM PRESSURE
10,000 psi (68.9 MPa)

DEPTH IN
- Well 1: 10,449 ft (3,200 m)
- Well 2: 10,535 ft (3,211 m)
- Well 3: 10,548 ft (3,215 m)

DEPTH OUT
- Well 1: 13,602 ft (4,146 m)
- Well 2: 13,730 ft (4,185 m)
- Well 3: 13,494 ft (4,113 m)

AVERAGE ROP
26 ft/hr (8 m/hr)

PRODUCTS/SERVICES
- Drilling Services
- HyperLine 250 QLE 7864 drilling motor
- HyperPulse MWD system

Weatherford®

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Our Approach (continued)

- The team used the HyperLine motor to drill a vertical section in each of the three wells from an average of depth of 34,537 ft (10,527 m) to 44,646 ft (13,608 m). The motor averaged a rate of penetration (ROP) of 26 ft/hr (8 m/hr), which was double the rate for previous wells drilled in the field.
- The final depths extended the wells by approximately 656 ft (200 m) per well compared to similar wells drilled in the same field.

Value to Client

- The HyperLine 250 motor enabled the client to drill each of the three wells in a single run by increasing the torque output by 31% and the power output by 96% compared to the standard power sections previously used.
- By increasing the ROP and drilling each section in one run, the HyperLine motor reduced drill times by 93 hours per well—or 50%—which equals US $900,000 for all three wells.