

OverDrive™ and DwC Systems Drill a Record-Breaking Interval, Save Client 4.7 Days of Rig Time

Objectives

- Drill out the previous shoe track and drilling-with-casing (DwC) bit. Weatherford had previously drilled and cased the 13 3/8-in. well section using a Defyer® DPA 4416X bit.
- Simultaneously drill and case the 9 5/8-in. well interval from 1,641 to 7,218 ft (500 to 2,200 m).
- Optimize drilling times in a formation with an expected low rate of penetration (ROP) by passing through soft to medium-hard clay, sand, and conglomerates.

Our Approach

- Weatherford deployed the OverDrive system, including the TorkDrive™ Compact internal clamping tool (ICT), and DwC technology, including a 9 5/8- × 12-in. Defyer DPA 6413 casing bit.
- Using a Defyer DPA 6413 bit with six blades and 0.5-in. (13-mm) polycrystalline diamond compact (PDC) cutters, the crew drilled through the shoe track beginning at 1,598 ft (487 m) and drilled out the 13 3/8- × 16-in. Defyer DPA 4416X bit in 84 minutes.
- Starting from 1,641 ft (500 m), the crew continued drilling with the DwC system, which achieved a 28-ft/hr (8.6-m/hr) on-bottom ROP, 2,000 to 20,000 WOB, 60 to 100 rpm, and 1 to 9 ft-lb (1.4 to 12.2 N·m) torque. After 10 days and 152 hours of drilling, the operator decided to set the casing at 5,909 ft (1,801 m), and the crew cemented the casing string and Defyer DPA 6413 in place. This 4,269-ft (1,301-m) interval set a new Weatherford DwC record for the deepest section drilled in this length.
- The 9 5/8-in. Model 402ND double-valve float collar effectively held cement backpressure.
- Using a roller-cone bit on a conventional slick bottomhole assembly (BHA), the crew drilled out the DPA 6413 shoe track in 2 hours and penetrated the DPA 6413 in 60 minutes. The roller cone bit was pulled in good condition.

Value to Client

- The OverDrive system and DwC technology enabled the operator to drill in the first 13 3/8-in. casing string, cement it, and continue drilling the second 9 5/8-in. casing.
- The combined systems mitigated hole problems—such as shallow formation leakage, sticky clay, and some conglomerates—which saved 4.7 days of rig time compared to conventionally drilled wells of similar depths.
- The Defyer DPA series casing bit facilitated drillout with a conventional bit.



The Weatherford Defyer DPA drillable casing bit has a design—including the nose and blade made of aluminum, and special steel alloy stripe dressed with PDC cutters and secured on top of the aluminum blade—to maximize drilling efficiency, durability, and drillability.

CLIENT
YPFB Andina

LOCATION
Bolivia

FIELD
Boqueron

WELL TYPE
Onshore, vertical

FORMATION
Sand, claystone, conglomerate, shale

HOLE SIZE AND INCLINATION
12 in., 0.75° at 5,909-ft (1,801-m) TD

CASING SIZE AND TYPE
9 5/8-in., 40-ft/lb N-80 TXP connection
Dopeless® technology

LENGTH OF DRILLED INTERVAL
4,269 ft (1,301 m)

DEPTH

- In: 1,644 ft (501 m)
- Out: 5,909 ft (1,801 m)

PRODUCTS/SERVICES

- DwC system with Defyer DPA bit
- OverDrive system with TorkDrive Compact ICT (500 tons)



* Defyer is a registered trademark of Weatherford in the U.S. Dopeless is a registered trademark of Tenaris.