



Weatherford®

REAL RESULTS

DwC™ System and Defyer™ DPA Casing Bit Mitigate Lost Circulation, Save Operator 15 Days Valued at \$982,659

Objectives

- Mitigate lost-circulation problems to drill and case a 24-in. well to 840 ft (256 m). In previous wells in the same field, severe lost-circulation issues had caused fluid loss of 2.8 bbl (0.45 m³) and had necessitated two cement cover installations. The operator had averaged drilling times of 19 days and costs of US \$1,646,000 per well.

Our Approach

- Weatherford deployed a 20-in. drilling-with-casing (DwC) system with a 24-in. Defyer DPA 4419X drillable casing bit in the new well to mitigate the problems previously encountered.
- The DwC system enabled simultaneous drilling and casing of the 24-in. hole with 20-in. casing.
- The DwC system, Defyer DPA casing bit, and the DwC internal casing drive tool (ICDT) mitigated circulation loss in the area.
- The DwC system achieved 40 to 60 rpm and a 147- to 800-gal/min (556 to 3,028 L/min) flow rate to reach a depth of 840 ft (256 m) in 33 hours.
- A 17-in. polycrystalline-diamond-compact (PDC) bit was used to drill out the Defyer DPA 4419X and stab-in float collar 402-1 with SureSeal 3™ valve. Drillout took 45 minutes and caused no damage to the PDC cutting structure of the drillout bit.

Value to Client

- The Weatherford DwC system and Defyer DPA drillable casing bit mitigated lost-circulation problems and enabled the operator to drill and case the well to 840 ft (256 m) in 33 hours.
- In comparison to drilling the previous two wells in the area, DwC technology saved the operator 15.2 days valued at US \$982,659.



The Defyer DPA is a premium drillable casing bit that enables drilling with casing in medium to medium-hard formations. It can be drilled out using a PDC drill bit without sacrificing drillout-bit durability.

Client

Petroquiquire/Petróleos de Venezuela, S.A. (PDVSA)

Location

Venezuela

Well Type

Onshore, vertical

Hole Size

24 in.

Casing Size and Type

20-in., 90-lb/ft BTC

Depth

- In: surface
- Out: 840.56 ft (256.2 m)

Torque

- On bottom: 15,000 ft-lb (20,337 N·m)
- Off bottom: 1,000 ft-lb (1,356 N·m)

Products/Services

- Tubular running services
- DwC system with ICDT
- Defyer DPA 4419X casing bit
- Stab-in float collar with SureSeal 3 valve

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