



Weatherford®

REAL RESULTS

DwC™ Technology, Defyer™ Bit Enable Operator to Drill Through Formation with Hard Stringers, Set Surface Casing in One Trip

Objectives

- Overcome formation challenges observed on previous drilling attempts. The medium-soft formation was interbedded with hard rock stringers, drastically reducing the bit life and forcing the operator to pull out of the hole and resume drilling with a second string.
- Provide a durable casing bit so that the surface casing can be set in a single trip.
- Prove technology is technically and commercially viable for future operations in same region.

Results

- Weatherford personnel deployed the new *Defyer* 9 5/8- x 12-in. OD DPA4413 drillable casing bit to gauge performance and maximum bit life before continuing with the project.
- The *Defyer* DPA4413 bit successfully penetrated through the hard section and drilled to 1,476 ft (450 m) measured depth rotary table (MDRT).
- The bit achieved a high-average rate of penetration (ROP) of 98 to 131 ft/hr (30 to 40 m/hr). While drilling through the hole section with hard stringers, the average ROP slowed to 16 to 32 ft/hr (5 to 10 m/hr).
- At planned TD, the ROP remained high, an indication that the cutting structure was intact for drilling further, if required.
- The 9 5/8-in. casing string was successfully cemented, and the *Defyer* DPA4413 bit was drilled out in 20 minutes with a rerun PDC bit without any issues.

Value to Client

- Using Weatherford's *Defyer* bit and drilling-with-casing (DwC™) technology provided the operator with a more efficient, cost-effective solution for setting surface casing strings.
- The successful trial offered the operator another technology to reduce well construction costs and, potentially, to eliminate strings in future wells.



Weatherford's *Defyer* 9 5/8- x 12-in. OD DPA4413 drillable casing bit enabled the operator to set the casing at planned depth, overcoming traditional challenges associated with operations in the medium-soft formation interbedded with hard stringers.

Location

Queensland, Australia

Formation

Sandstone, claystone, hard stringers

Well Type

Onshore, exploratory gas

Hole Size

12 in.

Setting Depth

1,484 ft (452.5 m) MDRT

Run Length

1,453 ft (443 m) MDRT

Casing

9 5/8-in., 36ppf, K55 surface casing with buttress connection

Products/Services

- DwC technology
- *Defyer* 9 5/8- x 12-in. OD DPA4413 drillable casing bit
- Weatherford 9 5/8- x 12-in. heavy-duty SpiraGlider™ centralizer
- Rig-supplied TorkSub™ system

Weatherford
Drilling-with-casing (DwC)
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