Single-Run Success in Indonesia:

DwC™ System Drills Through High-Risk Formations With Zero Incidents, Saves 4 Days

Objectives

- Optimize the well design into two sections, allowing the 12 1/4-in. hole to pass through interbedded formations across potential casing points at an MD of 2,100 ft (640 m) and 2,380 ft (725 m).
- Mitigate the risk of losses, shallow gas, stuck pipe, sloughing shale, and coal cavings.
- Reduce overall cost by minimizing trip time, eliminating the pilot hole requirement, and lowering exposure to operational risks.
- Enhance bit durability to avoid early casing setting and still reach the planned TD.
- Run and set casing to TD in a single run, safely and efficiently.

Our Approach

- Weatherford deployed a 9 5/8-in. DwC Drilling-with-Casing system equipped with a 12 1/4-in. Defyer® DPA 5519X drillable casing bit to mitigate previously encountered challenges.
- The 12 1/4-in. x 9 5/8-in. non-retrievable DwC system was successfully run from 95 ft (29 m) MD to 3,000 ft (914 m) MD, drilling a 2,905-ft (885-m) interval using 9 5/8-in. 47 ppf L80 casing in a single run without any safety incidents or nonproductive time (NPT).
- The BHA configuration consisted of the DPA bit, first float collar, pup joint, second float collar, and casing joints up to surface.
- The system enabled immediate cementing upon reaching TD, successfully pumping cement through the cementing swivel without issues.
- An 8 1/2-in. PDC bit with motor BHA for the next section was used to drill out the 12 1/4-in. DPA 5519X bit in only 6 minutes using low parameters, allowing the operator to continue drilling the next hole section with the same bit.

Value to Customer

- The DwC technology enabled the operator to drill and cement the 9 5/8-in. casing string beyond the target depth (620 ft (188 m) deeper than planned) in a single trip, eliminating multiple potential well issues.
- Successfully managed drilling operations in a high shallow-gas environment, eliminating the need for a pilot hole while maintaining safe and controlled conditions throughout the run.
- The DwC system completed the section in 63 hours, finishing one day ahead of plan and saving 4 days compared to conventional drilling.
- The well set a record as the deepest onshore 9 5/8-in. drilling-with-casing operation in Indonesia.

Bit marks were observed in the cuttings while drilling at 3,000 ft MD with an ROP of 60 ft/hr, indicating that the bit maintained excellent durability and can drill even deeper than 3,000 ft MD.

LOCATION
East Kalimantan, Indonesia

WELL TYPE
Onshore, vertical

FORMATION
Shale, coal, sandstone, limestone, and Calcareous

HOLE SIZE
12-1/4 in.

CASING SIZE AND TYPE
9-5/8 in., 47 ppf, L-80 with BTC connection

PRESSURE
400 to 1,400 psi (2.7 to 9.6 MPa)

MEASURED DEPTH
In: 95 ft (29 m)
Out : 3,000 ft (914 m)
Interval: 2,905 ft (885 m)

PRODUCTS/SERVICES
- Centro® well construction optimization platform
- DwC system
- 12-1/4 in. DPA5519X

Weatherford®