First 30-in Casing Drilling Run with Direct XCD Bit Saves 1.31 Days in a Shallow-Water Exploration Well

Casing drilling with 34-in drillable alloy casing bit optimizes the conductor section of a well, offshore Mexico

**CHALLENGE**
Reduce time and enhance efficiency of well construction in the shallow waters of Mexico, implementing new casing drilling technology.

**SOLUTION**
Use a casing drilling system including the Direct XCD* drillable alloy casing bit to drill and case the hole simultaneously and reach planned TD in one run.

**RESULTS**
- Successfully achieved the first 30-in casing-drilling job using a 34-in Direct XCD bit—a diameter that had never been used in Mexico or worldwide.
- Drilled 178 m of 34-in hole to 256-m section TD.
- Eliminated wiper trip to calibrate the hole and casing run.
- Secured the conductor casing at planned TD without stuck pipe issues or resistance while tripping in the hole.
- Decreased drilling time by 26.3% or 1.31 days compared with conventional drilling techniques.

**Optimize drilling time in shallow waters of Mexico**
Successful 30-in casing drilling for exploratory wells in Tertiary formations led to the design of the first 34-in Direct XCD drillable alloy casing bit. The ultimate goal was to implement casing drilling in conductor sections of wells with robust well schematics, targeting Mesozoic formations. Using drillable alloy casing bit technology in the 30-in × 34-in conductor section would ensure the settlement of the 30-in casing in a single run, thus optimizing well construction time by drilling and casing the hole simultaneously to achieve the planned well design in less time.

**Provide timesaving drilling solution with Direct XCD bit**
To optimize the operation and the drilling time needed for the conductor sections of the exploratory wells, the operator and Schlumberger performed a technical feasibility study to analyze the viability of deploying the 34-in Direct XCD bit. This study included a 34-in Direct XCD bit with 30-in casing, an integral drilling system with casing, and a drillable PDC bit that enables drilling and casing the section, eliminating the need to assemble a BHA and running dedicated wiper trips and casing.

**Drilled in 1.31 fewer days with 26.3% drilling time improvement**
The 30-in x 34-in conductor section was drilled and cased at a TD of 256 m. Drilling with the Direct XCD bit totaled 178 m in less than 10 hours, with an average ROP of 18.04 m/h. The operator achieved a 26.3% drilling time improvement in the conductor section compared with conventional drilling methods (1.31 fewer days).

---

*Mark of Schlumberger
Copyright © 2017 Schlumberger. All rights reserved. 17-BDT-227396

---

**Slb.com/DirectXCD**
Bits and Drilling Technology