



Weatherford®

REAL RESULTS

LWD Services Deliver Quality Data and TD in an HTHP Deepwater Well With 28,000 psi and 290°F Conditions

Objectives

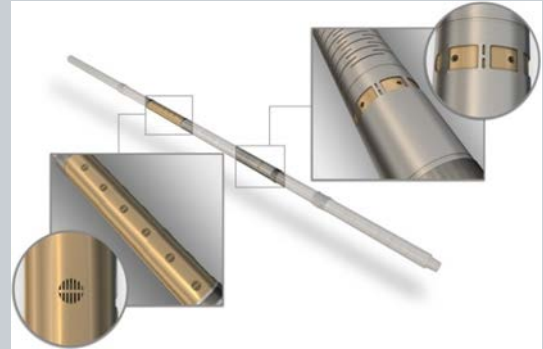
- Design, build, test, and deploy a 4 3/4-in. logging-while-drilling (LWD) tool for the 6 1/2-in. production section of an HTHP deepwater well. A tool from another provider had failed four times due to pressure problems.
- Provide a formation evaluation and wellbore survey of a 2,907-ft (886-m) openhole section starting from 28,047 ft (8,549 m).
- Wipe and drill from 28,047 to 31,330 ft (8,549 to 9,549 m).

Our Approach

- Weatherford deployed an LWD team along with a newly designed, built, and tested LWD toolstring with the following configuration: 4 3/4-in. high-temperature azimuthal gamma ray (HAGR™) sensor, multifrequency resistivity (MFR™) sensor, azimuthal density (AZD™) sensor, thermal-neutron porosity (TNP™) sensor, ShockWave® sonic tool, and a hostile-environment-logging (HEL™) measurement-while-drilling system.
- The team first provided formation evaluation and wellbore surveys for the 2,907-ft (886-m) openhole section.
- The team began drilling at 28,074 ft (8,549 m). Despite low-flow conditions that ranged between 60 and 110 gal/min (227 and 416 L/min) throughout the operation, the HEL tool provided real-time formation evaluation data. The well exerted ultra-high pressures of 28,500 psi (1,965 bar) and temperatures up to 290°F (93.3°C). The team drilled to 31,330 ft (9,549 m) in only one run.

Value to Client

- The Weatherford team successfully wiped, drilled, and reached TD in one run in an ultrahigh-pressure and high-temperature environment. The operation put an end to the nonproductive time (NPT) that had sidelined client drilling for 10 days and is valued at approximately US \$10 million.
- The operation provided comprehensive formation evaluation data in a complex and harsh environment.



Weatherford designed, built, and deployed an LWD system—including the above ShockWave sonic tool—and technical team that drilled a deepwater well with ultrahigh pressures of 28,500 psi (1,965 bar).

Location

Gulf of Mexico, East Breaks field

Well Type

Deepwater oil

Water Depth

3,795 ft (1,158 m)

Well Depth

31,330 ft (9,549 m)

Hole Pressure

28,500 psi (1,965 bar)

Hole Temperature

290°F (93.3°C)

Products/Services

- LWD services
- AZD sensor
- TNP sensor
- MFR sensor
- HEL system
- HAGR
- ShockWave sonic tool

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