

Case study: United States

Proxima delivered high quality log data in deep, high temperature well with challenging hole conditions

A customer wanted to drill a step-out to an untested area of their acreage with a well plan that called for 12¼-in. (311.2 mm), 8½-in. (215.9 mm) and 6½-in. (165.1 mm) sections. High bottom hole temperatures in excess of 300°F (149°C) were expected and high mud weight would be used to ensure that the well was always under control.

Baker Hughes recommended **Proxima™ advanced logging services** for the full range of deployment capabilities and the ability to operate in up to 350°F (177°C) hole temperatures. Proxima logging services can maintain well control, safely get to total depth, and execute the logging runs quickly while providing the same data quality as conventional wireline logging. Extensive pre-job planning was carried out to ensure that circulation could be maintained, and the well was always under control and temperatures were regulated in the high-temperature environment. It was critical to get good logging data for the step-out and conventional logging was not an option.

The drilling was extremely challenging and the well experienced high local doglegs, as much as 18°/100 ft. At one point in the 8½-in. (216 mm) section there was a collapse in the casing that

required a sidetrack. After the sidetrack the Proxima logging assembly was run in with drill pipe through the difficult section and the well was logged in real time from 15,378 ft to 13,350 ft (4687 m to 4069 m). The challenging hole conditions caused some stick and pull but the logging run was completed with good data acquired in the section.

With the first logging run successful, the customer decided to proceed with drilling the 6½-in. section past 16,000 ft (4876 m). The second Proxima run in this well was a memory run conducted through drill pipe from 16,399 ft to 13,758 ft (4,998 m to 4193 m). The logging tools recorded a temperature as high as 330°F (166°C).

All logging objectives were achieved and as a result the customer was able to move forward with the completion of the step-out well because of the critical logging data acquired by the Proxima advanced logging services.

Challenges

- High temperature - 330°F (166°C)
- High mud weight - 18 ppg (2.16 sg)
- High local doglegs up to 18°/100 ft
- Poor hole conditions

Results

- Successfully acquired logging data in high temp application
- Logged in open hole and through casing
- Completed logging runs in 14 hours