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High-Temperature Exploration Well Drilled Offshore Norway

Multifunction LWD and formation pressure-while-drilling HT services provide information needed to guide decisions in temperatures exceeding 175 degC

CHALLENGE

Acquire real-time information to guide drilling decisions and evaluate exploration well in temperatures expected to exceed 175 degC [350 degF].

SOLUTION

Run EcoScope HT* multifunction logging-while-drilling service and StethoScope HT* formation pressure-while-drilling service.

RESULTS

- Acquired real-time information needed to make confident drilling decisions.
- Successfully drilled high-temperature exploration well.

"To use any of these tools in a high-pressure, high-temperature environment, you need to operate them at the limits of their capability—and that means nursing them very carefully. It's all about how you plan and manage them in the well."

Oil company petrophysicist

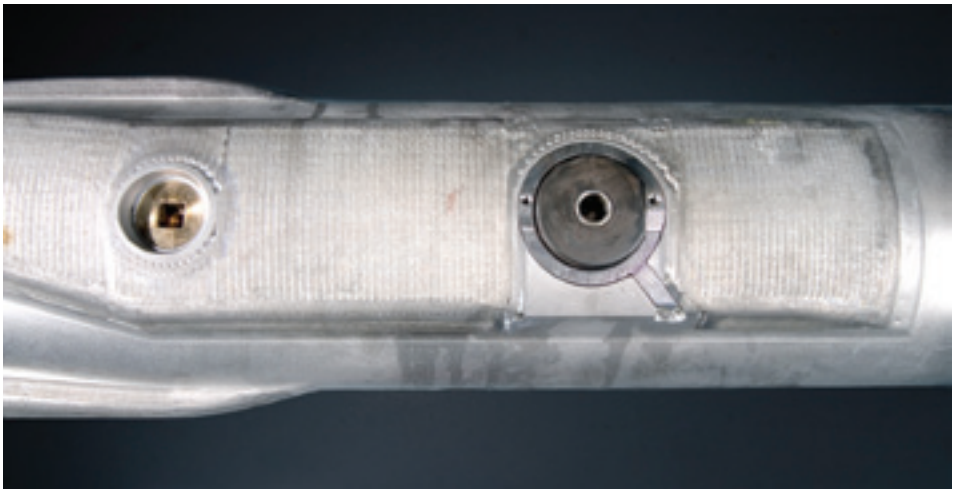
Acquire real-time information

An oil company drilling an exploration well in the Norwegian sector of the North Sea wanted to acquire real-time information to guide drilling decisions and evaluate the well. Because downhole temperatures were expected to exceed 175 degC [350 degF], drilling the well presented a major challenge.

Make decisions with confidence

The EcoScope HT multifunction LWD service and StethoScope HT formation pressure-while-drilling service the company selected to provide the information proved to be up to the challenge, even though the reservoir temperature exceeded 175 degC [350 degF]. This success was achieved by strictly following the Schlumberger HT Drilling Operations Procedures to keep the drilling temperature, which reached 155 degC [311 degF], as low as possible.

The EcoScope HT service integrates a full suite of formation evaluation, well placement, and drilling optimization measurements into a single collar.



Sensors on the StethoScope HT downhole tool provide accurate real-time measurements.

The fact that the EcoScope HT service is designed to operate without battery power was an advantage for high-temperature operation, since temperatures above 150 degC [300 degF] often cause battery failure and the loss of memory. Another EcoScope HT advantage was its pulsed neutron generator (PNG), which replaces the traditional chemical source and reduces HSE risk. The PNG has higher energy and a higher count rate than a traditional chemical source, so it provides deeper and more accurate readings.

Optimize LWD operations

Confident decisions—made possible by the information the EcoScope HT and StethoScope HT services supplied—contributed significantly to the successful drilling of the high-temperature exploration well. The Schlumberger HT Drilling Operations and Maintenance Procedures implement the best practices and lessons learned from this well, and pass that knowledge on to all locations undertaking challenging HT projects.

Contact your local Schlumberger representative to learn more.

www.slb.com/HTdrilling

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