

NOV's along-string measurement tool helps confirm efficient sealing off of losses

Innovation in action

Total E&P Norge AS is developing a field that consists of an oil reservoir and several deeper, structurally complex, high-pressure gas and condensate reservoirs. The wells are being drilled with restricted pressure windows.

NOV has provided along-string measurements through high-speed wired drillpipe telemetry, resulting in an improved understanding of the environment along the entire hole. This real-time data enabled informed decision making and better control of the operation.

Technology

NOV provides real-time measurements from sensors embedded throughout the drillstring at regular intervals. Our **BlackStream™** along-string measurement (ASM) tools acquire temperature, annular pressure, rotation, and three-axis vibration data at high frequencies. The data is streamed to surface via our high-speed wired drillpipe telemetry network.

Performance

After losses were encountered, a cement plug was pumped and the BlackStream ASM tools were run as part of the cement stinger. After an injection test was performed, the BlackStream ASM tools were used to accurately monitor annular pressure trends. This data, provided without flow, helped confirm that losses were efficiently sealed off.

Results

The data from the BlackStream ASM tools brought clarity to the total wellbore environment. By acquiring real-time information that described the hole condition, the client was able to resume drilling operations without further delay.

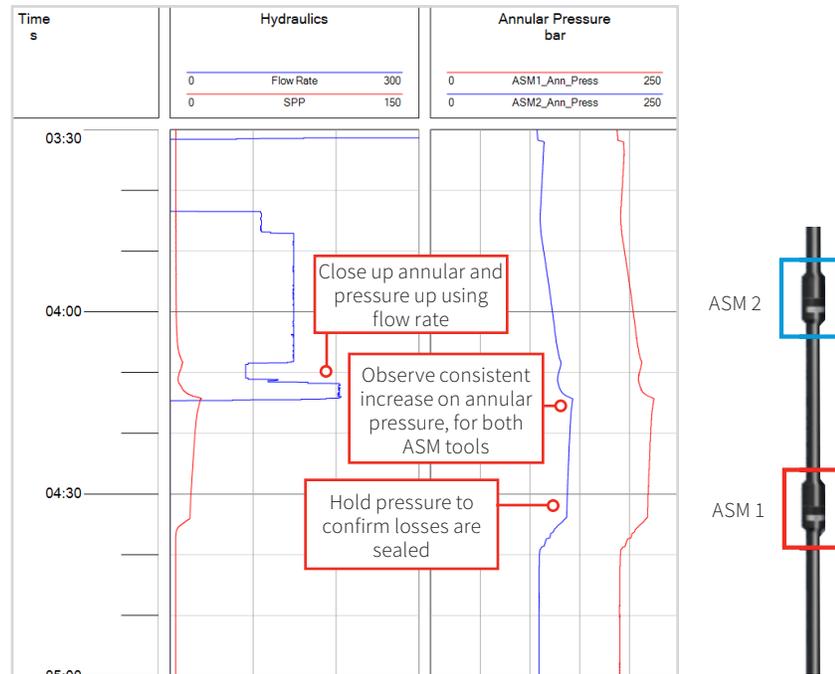


Figure 1 – This time-based log shows measurements acquired by the BlackStream ASM tools, which were placed along the cement stinger. When a stable annular pressure was seen, it was confirmed that losses were effectively sealed off.