

CASE HISTORY

Deep, Hot & Accurate: Advancing Perforation Planning in the North Sea

CHALLENGE

Area	North Sea
Temperature	190°C
Depth	5,922m MD
Tubular Size	5 in. & 7 in.

The operator of a high-temperature gas field in the North Sea wanted to assess the condition of 5 in. and 7 in. liners in a 190°C well for the planning of subsequent perforation gun runs.

Temperature related challenges were amplified by well depth and a log interval of 5,922m MD (19,430 ft. MD) to surface. Depth correlation was also a concern given the well depth.

SOLUTION

Scientific Drilling deployed its 220°C (428°F)-rated Vulcan MFT-24 caliper, capable of measuring diameters from 1.85 in. to 7.2 in. in a single run. Given the well depth, cable stretch was a key consideration. The caliper was therefore combined with the GR/CCL of the Vulcan FLS 1.75 system to identify depth discrepancies and enable accurate depth correction.

The toolstring was run in hole (RIH) to the hold-up depth (HUD), with logging conducted out of hole to surface. A high sampling rate of 100 samples/sec enabled the acquisition of highly detailed caliper data, providing a vertical resolution of just 1 mm.



RESULTS

The caliper data identified notable liner features that could affect gun conveyance, enabling the operator to mitigate potential risks and improve the likelihood of the perforating guns reaching their target depth. The data was used to perform Pipe Deformation Analysis, supporting the planning and optimization of the gun-conveyance operation.

The integration of GR/CCL provided accurate hold-up-depth (HUD) correlation and enabled correction for cable stretch, ensuring greater confidence in depth control throughout the logging interval.

TECHNOLOGY

Cased Hole Services

Vulcan MFT-24

Vulcan FLS 1.75 (GR/CCL)