

COMPLETION SLEEVE LOGGING

Adding intelligence to efficiently isolate conformance issues in complex horizontal wells

CHALLENGE

A multi-national operator of a mature North Sea field experienced a well conformance issue between multiple zones of a long reach horizontal producer and neighbouring water injection well. With a rapid decline in oil production and longer-term implications of Enhanced Oil Recovery (EOR) efficiency, the operator sought to intervene and isolate the breakthrough of injection water at source.

The combination of high operating costs and a complex completion, equipped with 17 producing zones and 35 Sliding Sleeves Devices (SSDs), placed a high demand on decisive well site decision making to minimise operational risk and maximise intervention efficiency.

Rapid, accurate confirmation of **successful SSD manipulation** and **100% safety** record and zero operational **NPT**

CLIENT OVERVIEW

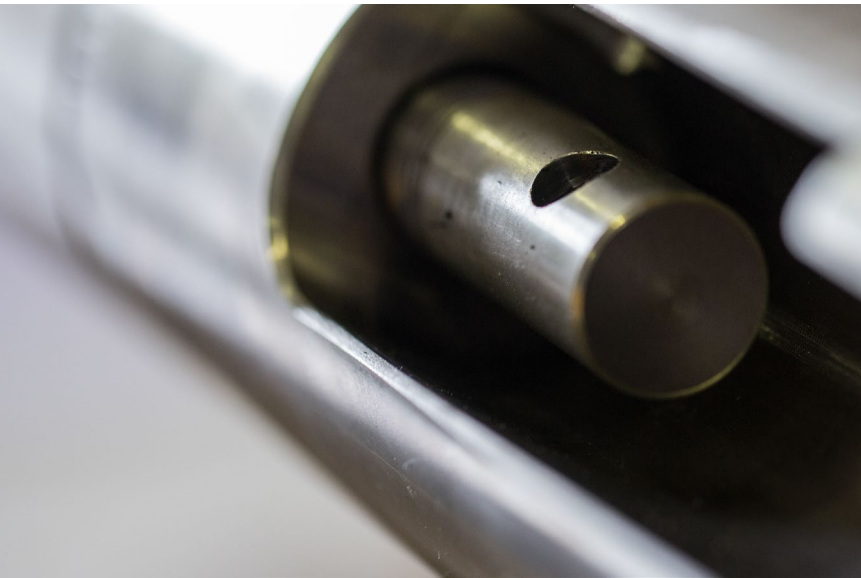
Multi-national operator in the North Sea region

SERVICE

Completion Sleeve Logging

TECHNOLOGY INVOLVED

Coil Tubing flow-through tool carrier with Ruggedized Casing Collar Locator, Pressure and Temperature sensors



THE SOLUTION

The READ team discussed the issue with the operator and demonstrated how the **Completion Sleeve Logging** technique would provide accurate confirmation of successful SSD manipulation without the need for dedicated logging runs. As a result, the Completion Sleeve Logging was integrated into a coiled tubing SSD shifting operation to shut off the source of breakthrough water from the injecting well.

The high-resolution data acquired by the **Completion Sleeve Logging** ruggedised Casing Collar Locator, combined with fast response temperature and borehole pressure sensors analysed at the well-site provided rapid, definitive determination of the status of each sleeve and the effectiveness of shifting operations after every run-in hole.

THE RESULTS

Three SSDs were successfully manipulated from an open to a closed position. Critically, the information derived by the **Completion Sleeve Logging** confirmed the success of each manipulation in the absence of positive surface tension indications by the Coiled Tubing system.

The application of the **Completion Sleeve Logging** eliminated two coiled tubing runs, resulting in a reduction of approximately 24 hours operating time and a simplified, risk-reduced operation.

Upon confirmation of successful SSD closure the well was put back online and injection restored. Analysis of surface rates of the neighbouring production well revealed successful isolation of injection water and increased hydrocarbon production had been achieved.

CLIENT TESTIMONIAL

“The operation efficiency that we gained and the reduction in time to restore production enabled by the **Completion Sleeve Logging** ensured a highly successful, cost-effective intervention.”

*Completions Engineer
Multi-national operator*