

Case Study: Barrier Verification System (BVS)

Challenge

A client in the North Sea was preparing a well for permanent P&A, using a light well intervention vessel. The operation involved securing the well with a deep-set bridge plug as a barrier, punching the tubing, displacing well fluid, installing a top barrier, and pulling the vertical Christmas tree.

A previously performed injection test resulted in plugging the perforated zone and there was no means of injecting into the well. Due to the relatively small volume below the planned installation depth for the plug and the obstructed pay zone below the barrier a successful conventional pressure test was questionable.

Solution

Interwell's wireless Barrier Verification System (BVS) was developed to meet the demand for barrier plug integrity assurance. The solution was to run the bridge plug and a setting tool with BVS receiver for pressure data acquisition, to positively verify differential pressure over the barrier. This was run in a single run. A caliper was run to verify the hold-up depth and examine the tubing conditions, before the barrier with the BVS was installed and the pressure test from above was performed.

Value Created

The main objective of the operation was met and verification of the deep set barrier plug was achieved. Barrier verification without the BVS would have been questionable.

Date:

November 2014

Region/Field:

North Sea

Key Capabilities:

- Positively verify integrity of an installed well barrier
- Reduces time taken to verify barrier
- Wireless transfer of well information

