



Case Study:

Electronic Setting Tool Enables Efficient P&A Campaign

Date: Spring 2020
Region: Offshore Eastern Canada



Key Capabilities

- Non-pyrotechnic
- Ability to record and analyse plug setting data
- High reliable with extensive run history
- Capable of multiple runs without requirement for redress

Challenge

An operator in Eastern Canada planned to perform live well intervention to isolate and abandon five wells from the production/injection intervals by setting two mechanical isolation plugs below the 9-5/8" production packer. The plugs were to be set in 4-1/2" 12.6 lb/ft tubing in locations between the 9-5/8" production packer and a lower 7" packer.

Given the close proximity that the plugs would be set to each other, the Operator required a way to verify that the upper plug was set other than pressure test alone. This verification was critical as it was required by the regulatory body in the region.

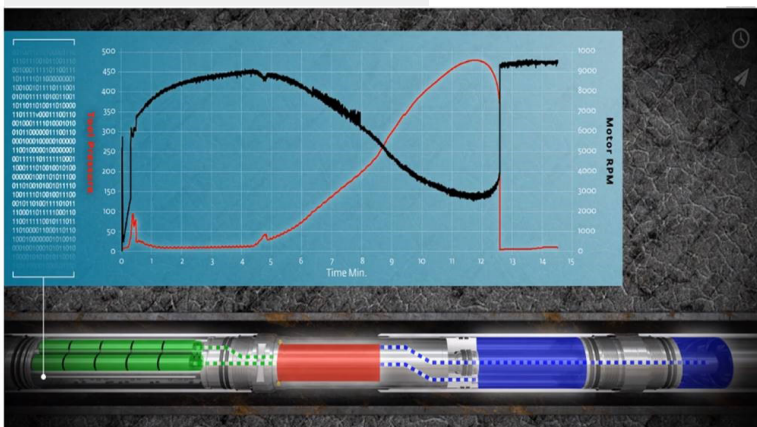
Solution

Interwell was selected to supply its 342-450 High Pressure High Temperature (HPHT) Retrievable Bridge plug for mechanical isolation. Two plugs were run per well, with the exception of one of the wells, which only required a single plug to be installed.

In addition to the HPHT, Interwell's Electronic Setting Tool (EST) was selected as the setting tool of choice. The EST is a highly reliable, non-pre-pressurized, non-pyrotechnic setting tool having an extensive run record all over the world. The Operator in this case was also interested in the ability of the setting tool to log the data during the plug setting sequence. The recorded data could then be downloaded from the tool once at surface. The data would be sent to the Operations Team in Norway for immediate analysis and in turn a setting profile plot could be supplied. The Operations Team could analyze this data versus an extensive database of setting profiles under matching conditions to validate the success of the plug set with a high level of confidence.

Value Created

By using the HPHT in conjunction with the EST, Interwell successfully installed and tested nine plugs without issue. The analysis of the setting of the upper plug gave the ability for the Operator to show that the plug was set successfully and help prove that the pressure test for the upper plug was indeed a good test and not just pressure bypassing and testing against the plug below. This was a key regulatory requirement that the EST data helped satisfy. Additionally, the quick turnaround time of the setting tool analysis enabled the operator to carry on to subsequent steps in the procedure without risk of downtime had there been an issue with the set, such as potential issues caused by previously damaged casing or inaccurate depth control. All operations proceeded according to plan, and the EST provided both mitigations to potential NPT as well as enhanced validation to fulfill regulatory requirements.



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