



CASE STUDY

TCO TDP-3E glass plug deployment on suspended well saves 20 million NOK

Product

TCO TDP-3E

Outline

On the Norwegian Continental Shelf (NCS), a multilateral well with main bore (Y1) and lateral (Y2) required intervention-free isolation following a two-month suspension. For this specific well architecture, the operator had to make sure that deployment, setting packer and acid stimulation of the reservoir could be executed without any risk of remotely opening the barrier plug installed in Y1. TCO's TDP-3E glass plug, integrated with an electronic system, was successfully deployed to isolate Y1. The plug was remotely opened using an electronic system triggered by a client specific pressure key from a stimulation vessel.

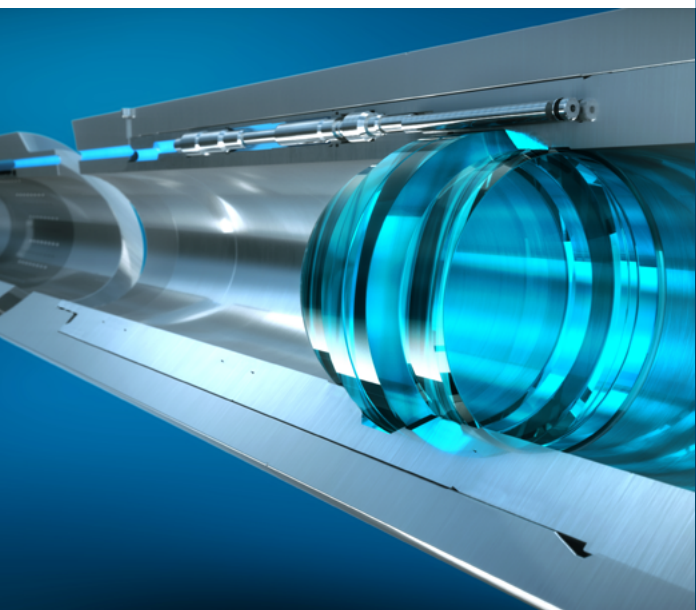
Challenge

A multilateral well with main bore (Y1) and the lateral (Y2) required isolation during stimulation of Y2 without intervention. This required a remotely operated plug to isolate Y1. Conventional cycle-based plugs pose challenges such as the risk of premature opening during extensive pressure testing and stimulation. Therefore, a robust, electronic remotely operated solution was essential for this application.

Solution

TCO's innovative TDP-3 with a E-trigger system was the ideal solution. The E-trigger enabled precise planning of an electronic signature to remotely open the TDP-3E glass plug after suspension. This system integrated seamlessly with pressure testing and stimulation processes, eliminating risks associated with cycle-based plugs.

The E-trigger boasts multiple smart activation mechanisms, providing operators with flexibility and control. Pressure cycles and pre-set or pressure-activated timers are utilized to activate the trigger, allowing for precise and efficient plug opening. This technology plays a crucial role in streamlining operations, reducing potential N2 consumption, and mitigating potential reservoir shocks during the opening process.



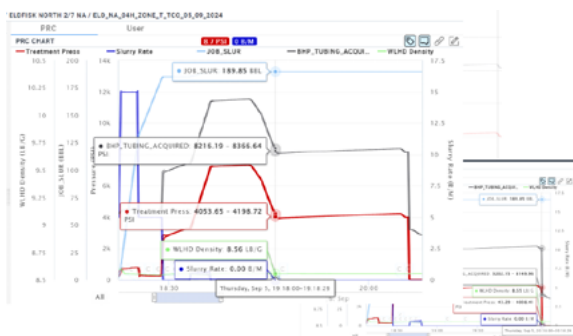


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Result

The MLT well was successfully installed with the TCO TDP-3E as a barrier plug in Y1. Y2 was effectively stimulated from the vessel, and the TDP-3E was opened according to plan. A 3.455" dissolvable ball was then dropped and pumped into the Y2 leg to isolate Y2 and remotely remove the glass plug in Y1.

Highlights

- Cost Savings: 20 million NOK (USD 1.8 million) by utilizing the TCO TDP-3E Glass Plug with E-Trigger technology in the Completion main bore.
- Efficient Installation: MLT well with TCO TDP-3E as a barrier plug in Y1.
- Successful Stimulation: TDP-3E isolated Y1 during Y2 stimulated from the vessel.
- Enabling Technology: Electronic activation reduces the operational planning and risk of unintentional replication of the programmed signal during completion installation and stimulation work
- Precise Control: 3.455" dissolvable ball pumped into Y2 to isolate Y2 and remotely remove the glass plug in Y1.

