

Revolutionizing Acid Fracturing in the Middle East with Packers Plus Titanium XV and Multicycle FracPORT Technology

Middle East

A Middle East operator selected a Titanium XV multi-stage completion system with high pressure/high temperature (HPHT) PrimeSET Liner Hanger to conduct an acid fracturing treatment using open hydraulically set mechanical RockSEAL packers and re-closeable FracPORT sleeves.

The multicycle FracPORT sleeves were strategically chosen by the operator to perform an efficient acid fracturing treatment in 6 stages. The FracPORT sleeve is run in a pinned configuration with a ball seat and is sheared when desired by dropping the corresponding ball size, providing positive pressure indication that the specified port has opened before fracturing. Later, the sleeves can be opened, closed, and reopened, enabling operators to manage production using the Coiled Tubing (CT) Drillable Closeable Hydraulic (DCH) shifting tool for selective stimulation and flowback from distinct or combined producing zones. Studies have shown that refracturing can be an effective practice in tight reservoirs over long periods of time. Additionally, these sleeves facilitate the re-stimulation of the wellbore or closure of water-producing zones during future interventions.

CHALLENGE

Post-well completion and opening of all FracPORT stages, the operator sought to isolate specific stages through real-time monitoring for the first time. Historically, confirming shifting events was only possible by observing the surface coiled tubing parameters and later running logging tools to evaluate the zonal contribution.

SOLUTION

When wellbore conditions do not allow a clear surface indication, monitoring downhole CT load parameters during shifting operations is critical to achieving successful intervention in deviated and horizontal wells. Downhole sensors were used during the manipulation of the FracPORT sleeves, providing indication of latching, profile shifting, and releasing of the shifting tool, including depth control while locating the shifting profile at every FracPORT stage. The operation utilized fiber optic-enabled coiled tubing to monitor downhole temperature sensing during sleeve shifting operations, validating sleeve closure by comparing temperature change at the port depth pre- and post-shifting.

RESULTS

The use of fiber optic-enabled coiled tubing ensured accurate confirmation of sleeve actions through temperature differentials, critical parameters such as latching, profile shifting, and the release of the shifting tool, enhancing operational control in both deviated and horizontal wells. This innovative approach, in addition to the field-proven Titanium XV technology, sets the stage for future advancements in wellbore management, contributing to improved hydrocarbon production and reservoir performance. For more information about Retina and other completion solutions, visit packersplus.com.

