

Schlumberger Fracturing Team Steps In and Saves 24 Hours of Rig Time, Permian Basin

Reclosable CT frac sleeves enable completion of 37 frac stages in just 55 hours and provide subsequent zonal management flexibility

CHALLENGE

Maximize the efficiency of a multistage stimulation operation in the Permian Basin.

SOLUTION

Deploy 37 Schlumberger reclosable CT frac sleeves across 4,860 ft of casing in the lateral.

RESULTS

Saved 24 hours during the fracturing operation compared with a third-party provider, enabling the operator to stay on budget and maintain the planned drilling and fracturing schedule.



Permian Basin operator wanted to expedite multistage hydraulic fracturing

An operator in West Texas was using frac sleeves to isolate and hydraulically fracture multiple stages in a single continuous operation. However, the operating efficiency of its existing service provider was unsatisfactory. With a tight completion schedule, the operator wanted to expedite operations and assigned its next well to Schlumberger.

Schlumberger frac sleeves streamlined stimulation operations

Schlumberger reclosable CT frac sleeves enable selective single-point multistage stimulation and add flexibility for rigless zonal shutoff later in the life of the well. The two-position fullbore sleeve is designed for high-pressure and high-rate fracturing operations. The inner sleeve is run in a pinned configuration and sheared when required, providing positive indication that the specified port has opened before fracturing.

The sleeve can be opened and closed multiple times, enabling operators to tailor production over the life of the well using the CT frac sleeve shifting tool. This tool has been engineered as a fracture-in-place solution with no requirements for isolation or related service tools, even after hundreds of stages are fractured. The tool design ensures that no solids will interfere with its operation.



Schlumberger reclosable CT frac sleeves reduced rig-up and rig-down times as well as the time between stages. In addition, they provided the flexibility for rigless zonal shutoff (e.g., for sand management) later in the life of the well.

CASE STUDY: CT frac sleeves streamline stimulation of 37 stages in Permian Basin well

Operator saved 24 hours and maintained completion schedule

The sleeves were installed together with the casing in just 5 hours—37 sleeves in total, with one sleeve every 135 ft of casing throughout the lateral. When hydraulic fracturing was to commence, the first sleeve (near the toe of the well) was opened using CT and the proprietary shifting tool. After fracturing the zone with a 20/40 mesh proppant and overflushing, the sleeve was closed. This sequence was repeated for each successive stage in turn. The average time between opening one sleeve and the next was just 16.4 min (excluding fracturing time).

Once stimulation was complete, the isolation packer on the end of the shifting tool was removed to minimize friction. In addition, the end of the BHA was replaced by a wash nozzle to remove any proppant in the wellbore that could prevent the toolstring from reaching TD. The round trip to open all 37 frac sleeves was swiftly completed in 8 hours.

Use of Schlumberger reclosable CT frac sleeves saved 24 hours of operating time compared with the third-party provider. The operator was able to stay on budget and on schedule and chose Schlumberger frac sleeves for all completions planned in this field for the subsequent year.

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