

Case History: HydroPull™



Record Setting 101 Composite Plugs Drilled in Midland Basin with a HydroPull™ Tool and Coiled Tubing

Case Study, Spraberry Trend, WolfCampA, Midland County, TX

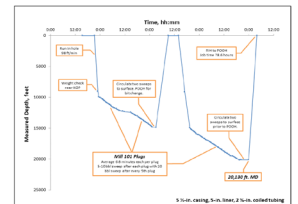
- Casing 5 ½-in. 20 lb./ft.
- Liner 5-in. 18 lb./ft.
- KOP 9,000 ft. TVD; PBTD 20,175 ft. MD
- 2 5/8-in. Coiled Tubing
- **101 Composite Plugs**

Oil States Energy Services Thru-Tubing group and the Tempress HydroPull combined forces to mill a total of **101 composite bridge plugs** from a horizontal lateral 10,261 ft. long to a total measured depth of 20,130 ft. The well bore contained 5 ½-in. casing with a 5-in. liner and the job was run on 2 5/8-in. QT grade coiled tubing. The 3 1/8-in. BHA consisted of a slip-on coil connector, a dual back pressure valve, a hydraulic disconnect, a set of jars, a screen sub, a 3 1/8-in. High Flow-High Impact Tempress HydroPull, a 3 1/8-in. Oil States Energy Services high torque motor and a 4 1/8-in. tri-cone JZ rock bit. Together with the powerful pulsing power of the Tempress HydroPull, two high viscosity sweeps were pumped after plug 50 to clean debris from the wellbore at 4.5 bpm. At this time, it was decided by the operator's wellsite representative to trip out of the hole to change the bit. The remaining 51 plugs were milled without incident in approximately 24 hours, at which time two high viscosity sweeps were pumped at 4.5 bpm just prior to pulling out of the hole.

All 101 plugs were milled without incident and with minimal motor stalls. Gel sweeps in volumes ranging from 5-10 bbl followed the milling of each plug and per the operator's policy, a 20 bbl gel sweep followed every fifth plug. The wellhead pressure ranged from 1,500 to 3,000 psi and the pump pressure ranged from 5,600 to 7,500 psi.

This job was completed in 78.6 hours and the average plug milling time was 6.8 minutes per plug.

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