

# Case History: HydroPull™



## 69 Composite Plugs Milled with a HydroPull™ Tool in the Wolfcamp B Field in the Midland Basin

Case Study, Spraberry Trend, Martin County, TX

- Casing 5 ½-in. 20 lb./ft.
- KOP 8,587 ft. TVD; PBTD 20,365 ft. MD
- 2 ⅝-in. Coil Tubing
- **69 Composite Plugs**

Thru Tubing services from Oil States Energy Services employed the Tempress HydroPull to mill a total of **69 composite bridge plugs** from a horizontal lateral almost 11,000 ft. long to a total measured depth of 20,365 ft. The liner was 5 ½-in. and the job was run on 2 ⅝-in. coiled tubing. The 2 ⅞-in. BHA consisted of a weld-on coil connector, a dual back pressure valve, a set of jars, a hydraulic disconnect, a ball-actuated annular velocity tool, a screen sub, a 2 ⅞-in. High Flow-High Impact Tempress HydroPull, a 2 ⅞-in. Oil States Energy Services high torque motor and a 4 ⅝-in. tri-cone JZ rock bit.

After milling several plugs and achieving slower than expected plug milling time, the company representative decided to trip out of the hole to check the motor status. The BHA was changed and the assembly was tripped back in the hole to continue milling the composite plugs. The remaining 55 plugs were drilled in approximately 55 hours with an average plug milling time of 10.0 minutes per plug. High viscosity sweeps were utilized in conjunction with a ball activated annular ported sub to clean debris from the wellbore at 4.0 bpm increasing to 6.0 bpm during times the ported sub was activated and isolating the HydroPull and Motor.

Gel sweeps in volumes ranging from 5-20 bbl followed the milling of each plug and no short trips were necessary during milling operations. The wellhead pressure ranged from 600 to 960 psi and the pump pressure ranged from 2,900 to 3,700 psi.

Including the 8 hour round trip for the BHA change, this job was completed in approximately 79 hours and the average plug milling time was 10.1 minutes per plug.

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