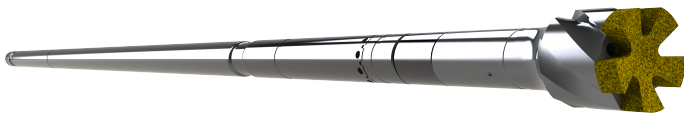


Milling Optimization

TTS' F5 Motor Completes a Record Breaking 4.5 Mile Lateral



HIGHLIGHTS

- Longest Well in the US
- 4.5 Mile Super Lateral
- Higher Torque Output for Longevity

DETAILS

Location	Jefferson County, OH
Formation	Utica
Casing Size	5 1/2" 23#
Well Orientation	Horizontal
Fluid	Water
Lateral Length	23,700 Ft
Conveyance	2.875" Stick Pipe
Total Measured Depth	34,036 Ft
Tools Used	3-1/8" TTS Milling Assembly

RESULTS

In a collaborative effort and years of working together, TTS completed the longest well in the United States for Ascent Resources. The strong working relationship has helped both TTS and Ascent move confidently to a well measuring 34,036' with a daunting 136 plugs. The outcome was a drillout that took 178 hours from open master valve to close, 129 hours from tagging the kill plug to reaching TD, and averaged 1.05 plugs per hour across the 23,700' lateral. Thru Tubing Solutions utilized a BHA and process that has been refined over years, consisting of the 3.13" F5 6BPM Motor and TriboSlick 97 Pipe-on-Pipe. TTS is fortunate to be a part of this project and looks forward to continuing the partnership into the future.

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