**CASE STUDY**

**Modular Whipstock Sidetracking System Reduces Well Costs 10%, Oklahoma**

Retrieval of whipstock in 14 h and one trip for multilateral well, Mississippi Lime

**CHALLENGE**
- Mill a full-gauge window for sidetracking from 7-in, 26-lbm/ft casing and drill the rathole in hard limestone formation in a single trip.
- Ensure the window profile provided low dogleg severity (DLS) and would allow passage of liner.
- Retrieve whipstock assembly in one trip to enable production of lower lateral section.

**SOLUTION**
- Run the TrackMaster Select* modular whipstock sidetracking system with the FasTrack* one-trip mill to efficiently create a window and allow drilling the upper lateral.

**RESULTS**
- Set the whipstock and milled the casing window in one trip.
- Retrieved the whipstock on the first attempt in only 14 h.
- Reduced well costs by 10%.

**Mill casing and exit in hard limestone formation**
An operator drilling in northern Oklahoma’s Mississippi Lime formation required a full-gauge window to sidetrack out of 7-in casing to run 4,296 ft of 4½-in liner with openhole packers. A cutting structure was required that could mill the casing efficiently and drill the required rathole for the upper horizontal section of the multilateral wellbore. Minimal DLS was required to provide trouble-free access to the lateral section.

**Mill full-gauge window in minimal time**
The TrackMaster Select system was used with a 6½-in FasTrack mill equipped with MillMaster* carbide inserts to mill a full-gauge window and rathole in minimal time despite hard, abrasive chert stringers. PDC cutters were placed on every other blade to improve cutting structure durability. The TrackMaster Select system provided a quality casing window for multiple drilling assembly runs and reduced bending stresses in the liner system with openhole packers.

The hook system was used to jet the whipstock’s retrieval slot and remove cuttings and solids. Then, the hook was engaged with the whipstock, and the expandable anchor was released with straight overpull.

**Completed upper lateral section in one attempt**
The TrackMaster Select system milled a clean, full-gauge window which enabled drilling the upper lateral section. The liner passed through the casing window without any issues, and the whipstock was retrieved on the first attempt in 14 h. Successful deployment and retrieval of the whipstock system enabled the operator to switch to the multilateral design, which reduced its traditional well costs by 10%.

*Mark of Schlumberger

Copyright © 2018 Schlumberger. All rights reserved. 18-BDT-378214

slb.com/trackmaster

Drilling