

Torque Reduced By 20% As WWT NRPs Moved Through Build Section

High Torque While Drilling

Operator experienced high torque while drilling a one mile lateral well. WWT provided a complimentary well analysis report to identify critical areas where frictional torque was occurring.

NRP Recommendation

WWT Non-Rotating Protectors (NRPs) were recommended through the build and start of the lateral with the goal of significant torque reduction. NRPs were installed 15ft above the tool joint on the drill pipe to mitigate negative effects of buckling such as erratic torque, increased drag, and vibration. A total of 99 SS3-500 NRPs were installed at a frequency of one per joint. The shaded blue area in the projected vertical section plot represents the NRP placement at TD.

Immediate 20% Torque Reduction

The Torque vs Measured Depth plot demonstrates the actual torque decrease at 12,000ft. Once the BHA passed through the build, torque began to significantly increase. Drilling ahead, 2,000ft behind the BHA, the NRPs reach the build section and torque was reduced from 23k ft-lbf at 11,400ft to 18k ft-lbf at 12,100ft. Friction factor average dropped below 0.25 and was sustained while drilling to TD. The operator was able to maintain WOB and ROP for the remainder of the horizontal section.



Location: Permian
Well Type: 1 Mile Horizontal
Objective: Torque Reduction
Solution: WWT SS3-500 NRPs
Results: Immediate 20% Torque Reduction

