



WWT Non-Rotating Protectors

WWT Non-Rotating Protector Provides Greater Than 25% Torque Reduction

WWT NRPS REDUCE TORQUE IN CHALLENGING WELL

Executive Summary

- This well had a shallow build and turn starting at approximately 500ft MD with a planned rate of 3.0 deg/100ft. WWT recommended installing 115 SS3-400 NRPs in cased hole at a frequency of one per joint through the build and tangent sections. In addition, 45 SS3-400 NRPs were also recommended through the curve and out into open hole to further reduce torque and drag. The projected vertical section graph to the lower left represents cased and open hole zones by yellow and green shaded regions respectively.

High Torque With WBM

- Drill a horizontal well with a **10,500ft** step out.
- Torque approaching the torsional limit for **4" drill pipe** with a 10,500ft step out.

Greater Than 25% Torque Reduction

- 10,200ft MD to install NRPs.
- Friction factors decreased from 0.30 to less than 0.20 after installing WWT NRPs.

