



WWT NRPs Help Drill the Longest Lateral in the Lower 48

Executive Summary

An operator requested the use of WWT NRPs to reduce torque while drilling the 8-1/2 in. section of a directional well; the longest lateral in the Lower 48. The 8-1/2" section was drilled from 7,635 ft to 31,962 ft TD. 267 x SS3-550 NRPs were installed at one per joint on 5-1/2" DP to cover the areas of highest side forces in the vertical and curve into open hole. NRPs were installed 5 ft above the tool joint creating standoff between the drill pipe and the casing reducing overall rotational friction and torque.

NRP Performance

The torque backmodels show a 13% reduction at well TD compared to simulated torque as shown in Figure 2 below.

All 267 NRPs on string came out in good condition after a maximum duration of 8 days downhole. WWT NRPs helped maintain a 250+ average ROP throughout the 24,166' ft lateral which contribute to drilling this record well quickly and efficiently.

WWT NRP Summary of Benefits:

- 13% torque reduction
- Drill pipe protection
- Casing protection
- Maintained high ROP throughout lateral
- Robust design
- Fast installation and removal

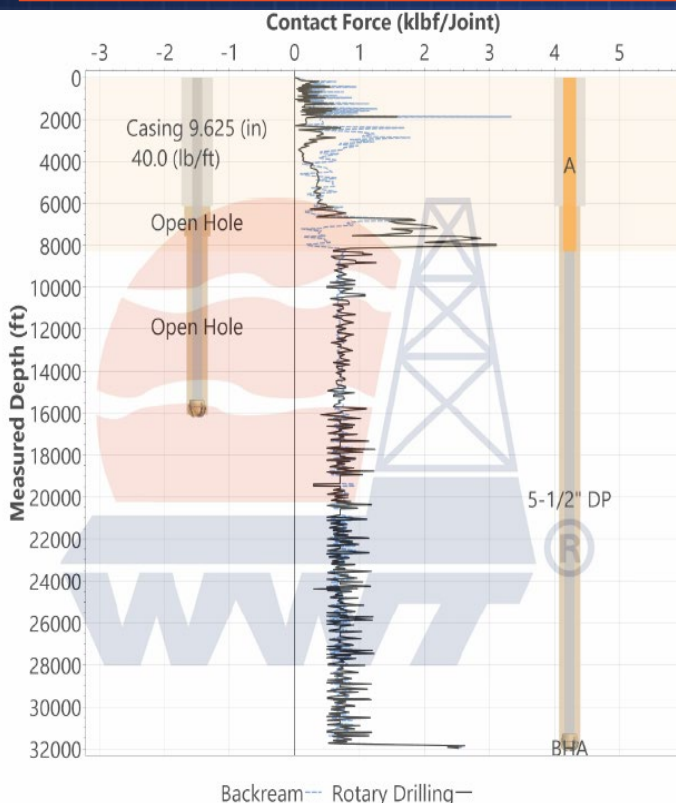


Figure 1: SS3-550 Protector Placement

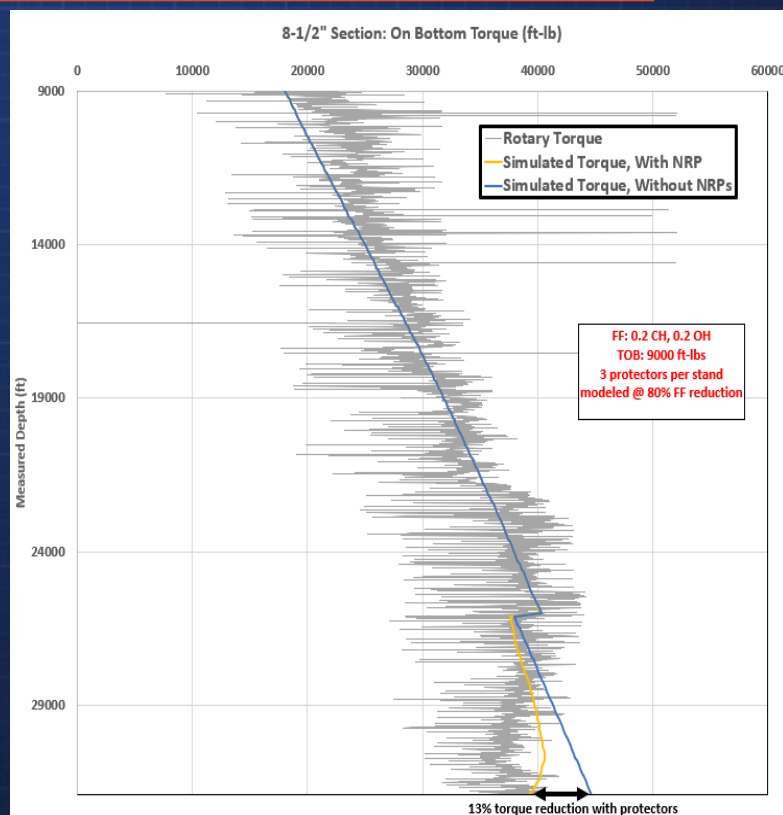


Figure 2: On Bottom Torque Reduction by 13% Using WWT NRPs