WWT International

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Case study

WWT NRPs Facilitate Completing Challenging Well in 3 Sections Instead of 4

Challenging Build-and-hold Well

High torque was expected while drilling challenging build-and-hold well. Therefore, the well was planned to be drilled in 4 sections. The client planned to run casing before reaching the target formation in the 16” section due to the torque limitation.

NRP Placement Plan:

High side forces were identified across the build section via torque and drag analysis. As a result, 96 SS3 NRPs were installed on the 5” DP, with majority placed in open hole, to reduce the torque generated from these high side forces. The shaded orange area in the projected vertical section plot represents the NRP placement at TD.

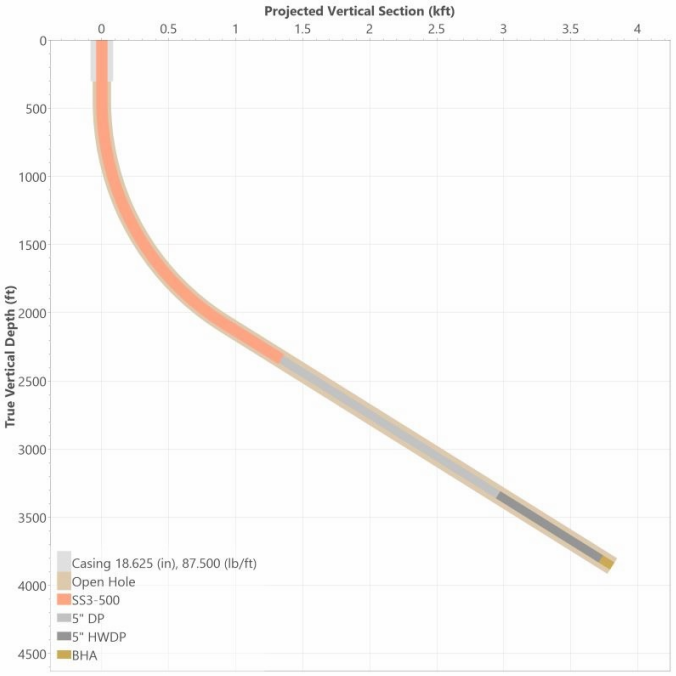
Overcoming the Torque Limitations:

The 16” section was drilled from 305 ft to 3,880 ft without NRPs where high torque trend was observed. The NRPs were used while drilling from 3,880 ft to the target formation at 5,858 ft while keeping the torque below the 18 kft-lb limit.

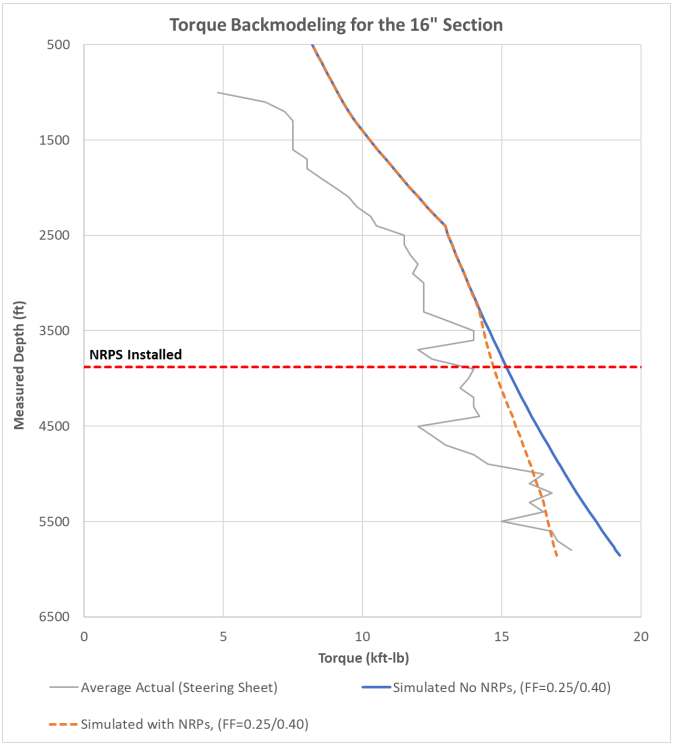
Cost Savings

As a result of drilling the 16” section to the target formation, the client drilled the well in 3 sections instead of 4. By eliminating the extra section, the client saved the cost of 4.5 rig days and the liner run cost.

The client reported cost savings of approximately 150,000 USD.



Projected Vertical Section Plot



Torque Backmodeling Graph