

Real-time vibration monitoring lifts ROP 195% with zero tool failures

CHALLENGES

- Severe formation-induced vibration and stick-slip drove high tool-failure and BHA-damage rates in the 12.25-in. section
- Extended ~5,000 ft intervals through hard, interbedded formations caused torsional instability, torque fluctuations, and lateral vibration, overstressing the BHA
- Aggressive parameters chasing higher ROP intensified downhole dysfunction, accelerating tool wear and failure

SOLUTION

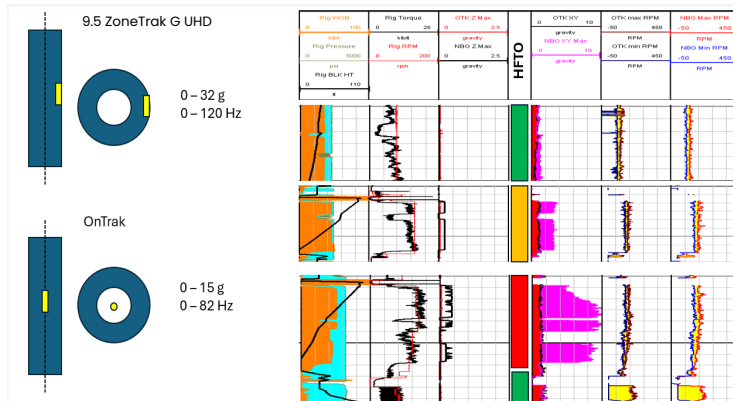
- Deployed a comprehensive vibration monitoring solution with the 9.5-in. [OnTrak™ MWD/LWD](#) and 9.5-in. [ZoneTrak™ G UHD](#) services for real-time, multi-point downhole measurements
- The integration of accelerometer ranges, frequency responses, and sensor positions enhanced characterization of lateral and torsional vibration behavior
- Systematically optimized RPM and WOB to reduce vibration severity and mitigate high-frequency torsional oscillations (HFTO)

RESULTS

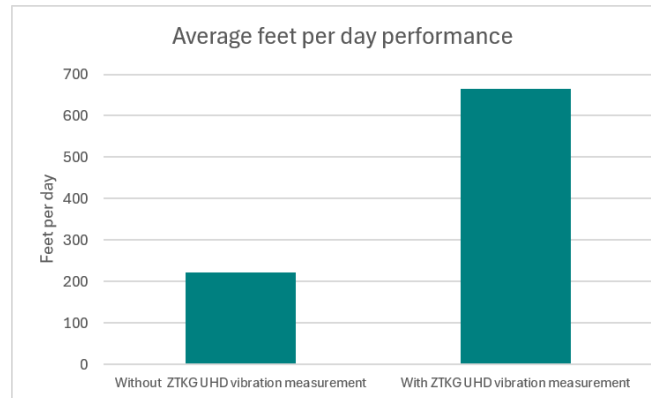
+195%
increase in average ROP

655
ft/day, up from 222

Zero
tool failures in the section and no BHA damage



Example of downhole BHA vibration evaluation with 9.5-in. OnTrak and 9.5-in. ZoneTrak G UHD



Performance improvement on average feet per/day through the use of the ZoneTrak G UHD vibration evaluation

Real-time vibration evaluation turned a failure-prone section into a repeatable, high-ROP delivery with less NPT.