Operator Reduces Vibration by 90%

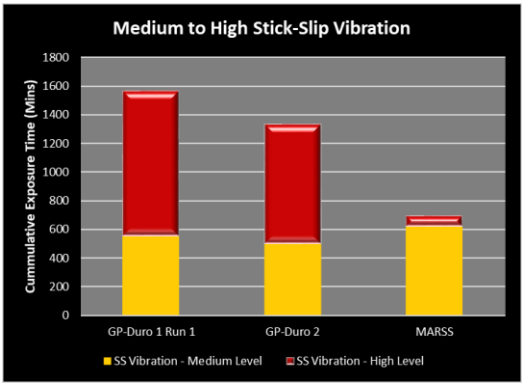
MATURE FIELDS

ENGINEERED BHA DESIGN WITH MOTOR CONFIGURATION REDUCES STICK-SLIP AND IMPROVES RATE OF PENERATION

COLOMBIA

Overview

Wells of simple trajectory with strong geological tendencies can lead to excessive drag and stick-slip. The Halliburton Sperry Drilling team engineered a bottomhole assembly (BHA) consisting of the Geo-Pilot® Duro™ RSS plus the StrataForce™ high-performance motor placed above the RSS (MARSS) to provide efficient power transmission to the bit, and reduce vibration and mechanical stress along the drill string while delivering power to the top drive. In the chart below, MARSS parameters were compared to an offset well drilled with only the Geo-Pilot Duro RSS. Drilling torque (shown by the red dots) increased smoothly and consistently from 7 to 20 ft-klbf with an average of 120% stick-slip, whereas the offset well experienced erratic torque varying from 7 to 25 ft-klbf with stick slip over 200%. The MARSS assembly delivered efficient weight transfer with less weight on bit (WOB) and reduced vibration levels by 90%, improving ROP and helping the operator maximize asset value.



The motor placed above the RSS reduces torsional vibration and stick slip.

Torque variations: MARSS vs. Geo-Pilot® Duro RSS