Operator Drills Through Paleocene Sands in 16 Days Less than Previous Well on Multi-Slot Platform

UNCONVENTIONALS

PENTA COMBO BHA FEATURING GEOTAP® TESTER TOOL MITIGATES COLLISION RISK AND HIGH VIBRATION TO STAY IN WELL PATH

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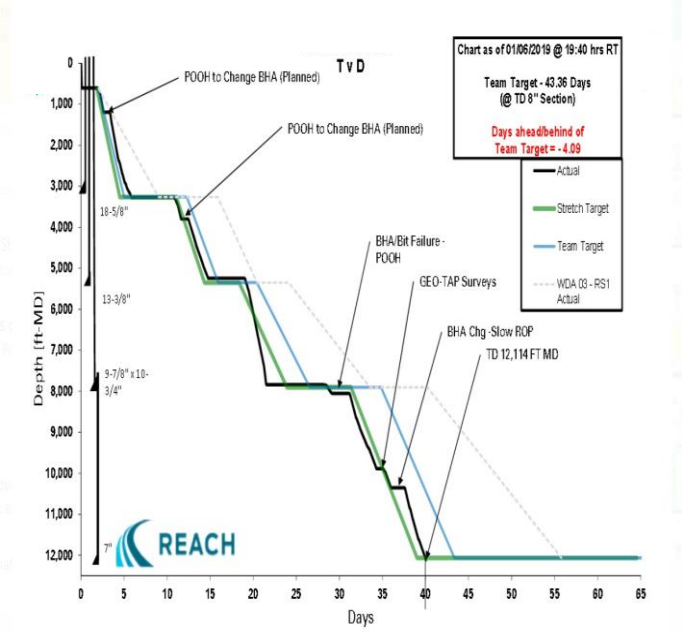
Halliburton Sperry Drilling was tasked with drilling a planned trajectory, while avoiding surface collision risk, managing hole cleaning in a 24” directional section, mitigating vibrations in 17-½” and 12-¼” sections, and delivering an 8-½” section to target depth. A Penta Combo bottomhole assembly (BHA) was used, with a drillstring that included the following tools: Geo-Pilot® rotary steerable system (RSS), gamma ray resistivity (GR), neutron density, pressure while drilling (PWD), XBAT azimuthal sonic and ultrasonic logging-while-drilling service, and GeoTap® formation pressure tester.

In addition to pressure, vibration, and directional drilling challenges of a multi-slot platform, another challenge was to drill this well through difficult carbonate formations – Kais and Faumai – without tool failures or running over customer timelines. The Sperry Drilling team took several steps to mitigate these issues.

First and foremost, additional well planners were brought in for anti-collision (AC) monitoring. Detailed planning and engineering consisted of running simulations for the required 24”, 17-½”, 12-¼”, and 8-½” BHAs with exhaustive offset data analysis. Recommendations were made to replace the customer’s dog leg reamer (DLR) used with a Redback Reamer in the12-¼” section to mitigate vibration levels. GeoTap testing was used to optimize the operational sequence for a Pressure Points Program for drilling the Paleocene sands. This involved minimizing formation exposure time by recording GeoTap data as soon as the sands were drilled prior to reaching total depth.

The job was successfully executed, per plan, obtaining the expected results and reduced well time. The well was nudged and avoided collision with offset wells; the 12-¼” section was delivered much faster than the customer’s stretch target goals; GeoTap testing was run in Paleocene sands with good results, avoiding formation supercharging; and a total of 16 days’ time was saved, as compared with a previous well drilled on the same platform, maximizing asset value for the operator.



Time depth chart, showing Sperry Drilling exceeded customer targets.