

Voyager Drills Fastest 8 1/2" Build Section in Rawdatain Field

8 - 1/2" V716PDG1X, North Kuwait

CHALLENGE: Improve ROP and directional stability through the build section of the Rawdatain field drilling through the Zubair sandstone interbedded with shale while on a high build rate RSS directional tool.

SOLUTION: Varel's IMPACTS software package is utilized to help design all Voyager bits. Varel's SPOT-DN™ and DIG-IT™ software help the engineers design the cutting structure and examine the torque signature of the bit to the formations that will be drilled. Varel engineers design the bit for maximum directional responsiveness to help control torque at the bit face based on the DIG-IT software analysis. The cutting structure arrangement provides complete directional control without sacrificing ROP.

RESULTS: This Voyager 8 1/2" V716PDG1X PDC bit drilled 714 ft (217 m) at a record ROP of 31.7 ft/hr (9.6 m/hr) while building angle from 46° to 88.5° inclination and turning from 272.5° to 249°. The bit achieved a 49% ROP improvement compared to the offset average in this application. The dull grade for the bit is 1-2-BT-G-X-I-WT-TD as can be seen in the photos to the right. The 8 1/2" V716PDG1X Voyager bit contributed to efficient drilling through excellent directional control which resulted in a new ROP benchmark.



8 1/2" V716PDG1X and Direct Offsets

