Raider®

Raider® Steel Drills the Fastest Surface Hole

20” RS619HX, Loving County, Texas

CHALLENGE: To improve ROP and minimize deviation issues in the surface interval in the Delaware Basin. This interval in the area has shown to have moderate to severe deviation tendencies due to the topography and formations structure. Performance improvements are most notably seen in on bottom instantaneous ROP. Offsets drilling the same section average an ROP of 36.6 ft/hr (11.1 m/hr) with the fastest offset at 51 ft/hr (15.5 m/hr).

SOLUTION: To maximize drilling efficiency in this application, the local Varel designer used proprietary SPOT-DN™ software to design a cutting structure adverse to deviation but aggressive enough to drill ahead and provide excellent ROP. Hydraulics were also considered with an increased number of nozzles utilized to improve cleaning efficiency at high rates of penetration.

RESULTS: The 20” RS619HX drilled 1101 ft (335 m) to TD the surface hole with an outstanding overall ROP of 84.7 ft/hr (25.8 m/hr). On bottom instantaneous ROP averaged 198 ft/hr for the run and the overall interval ROP average improved 65% over the closest offset. When pulled to run casing and cement the Raider bit showed an above average dull condition of 0-1-CT-S-X-0-NO-TD. The operators comments when pumping cement were that they had returned almost all of the excess they pumped, meaning it was as close to a perfectly gauged hole as could be drilled.