

Case study: Permian Basin

DuraMax saves customer 3 days of rig-time in the Permian Basin

114 ft/hr

Average ROP

3,127 ft/day

Drilled lateral

30%

Improvement in ROP

An oil producer in the Permian Basin of west Texas, USA, contacted Baker Hughes to help provide a solution that would reduce the amount of time spent in drilling curve and lateral hole sections. The wells in this area typically require a steerable motor with a high-adjustable kick-off (AKO) setting to achieve the build-up rate (BUR) necessary to drill the curve section. However, a high AKO setting can compromise the rate-of-penetration (ROP) in the lateral section.

The Baker Hughes team recommended their new **DuraMax™ steerable drilling motor** to improve performance and reduce the number of trips made for new motors and bits through the curve and lateral sections. The ruggedized DuraMax motors, with a shorter bit-to-bend, successfully drilled the high BUR curve section. The rugged motor design also enabled the operator to rotate the drill sting at a higher RPM and a high weight-on-bit (WOB), compared to offset runs, and delivered optimized performance in the lateral section.

The 5-1/8-in. DuraMax D75-5095C motor drilled the 6-3/4-in. curve and lateral section in the Wolfcamp A formation. The DuraMax motor drilled 7,652 ft (2,332 m) in 80 drilling hours and maintained an average ROP of 114 ft/hr (35 m/hr). The motor delivered a consistent BUR in the curve, exceeding expectations. By drilling 3,127 ft (953 m) laterally in one day, Baker Hughes provided a 30% improvement in overall ROP, which saved the customer 3 days in rig-time.

