



AccuWave EM System and Blue Force Motor Reduced Drilling Time 64%, Saved \$956,000

An operator, working in the Wolfcamp shale formation in West Texas, was looking for options to improve drilling performance in their horizontal wells. Typically, the operator was spending 10 days from spud to TD, but they wanted to reduce drilling time and costs on a 3 well program. Their objective was the drill their wells from spud to rig release in under 7 days.

To achieve these objectives, the plan was to drill the entire program using a 6¾ in. Blue Force™ motor and the AccuWave™ EM MWD system. The Blue Force motor drilled through the Wolfcamp formation with an average ROP of 281.1 ft/hr. Well placement in the reservoir was optimized using AccuWave EM MWD System real-time directional survey and gamma data for enhanced positional awareness. The integrated system provided greater positional awareness from the

continuous inclination surveys, allowed for earlier directional corrections, reduced number of slides. It also reduced overall tortuosity and dogleg severity, and resulted in a smoother wellbore. In addition to eliminating sliding, use of the Blue Force and AccuWave combination improved reliability and substantially increased ROP.

Overall, the Blue Force motor, combined with AccuWave EM MWD system saved an average of 5 minutes on connections on each of the wells and saved approximately 27-33 hours. In all, 40,713 ft was completed in 145.5 drilling hours with zero nonproductive time (NPT). The results achieved far exceeded expectations for the project, drilling time was reduced by 64% and saved \$956,000 compared to their 3 previous wells.

Challenge

- Goal—reduce previous drilling time and costs in 3 horizontal well program in the Wolfcamp shale

Solution

- Use Ryan Directional Services 6¾ in. short-bit-to-bend Blue Force motor line and AccuWave EM MWD system for enhanced positional awareness

Results

- Reduced drilling time 64%
- Drilled 40,713 Ft. in 10.88 days (spud to TD) with 0 NPT
- Achieved average drilling performance of 281.1 hr/well
- Saved \$956,000 on drilling cost

