



AccuWave EM System and Blue Force Motor Saved Client \$98K and Drilled a Record 4.91 Day Well.

An operator, working in the Wolfcamp shale formation in Crockett County Texas, wanted to see a reduction in drilling time and reduce NPT over what was currently being experienced in comparable wells. Previous wells drilled in the area had experienced drilling motor reliability issues. The formation is notorious for large directional influence, in some cases building or dropping 9 degrees per rotation, which increase tortuosity and sliding time, and occasionally have to pump LCM resulting in reliability issues.

To achieve these objectives, the operator used a Ryan Directional Services 6¾-in. Blue Force™ motor and the AccuWave™ EM MWD system. The Blue Force motor drilled 7613 ft through the Wolfcamp formation with an average ROP of 186 ft/hr —a record run for the area. By comparison, a competitor’s motor was almost 20% slower, drilling only 155 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 allowed for earlier directional corrections from the continuous inclination measurements, reduced number of slides, 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.

WolfCamp AccuWave/Blue Force Well	
When	November 2014
Where	Crockett Co., TX (Wolfcamp C2)
Fottage drilled	14,110 ft.
Duration	4.91 days
Benefits of using AccuWave EM System	
Total surveys taken	162 surveys
Est. time savings per survey	5 minutes
Total time savings	13.5 hours

Overall, the Blue Force motor, combined with AccuWave EM MWD system saved seven trips in three months, increased ROP by 20% and set a new project record for a single run, drilling 7613 ft in 41 hours. The client plans to continue using Blue Force and AccuWave in their Wolfcamp well campaign.

Challenge

- Wolf Camp Formation notorious for large directional influence, in some cases building or dropping 9 degrees per rotation.
- Increased tortuosity and increased sliding time
- Occasionally have to pump LCM in some areas
- Goal— outperform previously drilled wells, and reduce NPT

Solution

- Deployed 6¾ in. short-bit-to-bend Blue Force motor line and AccuWave EM MWD system

Results

- Saved \$98,000 by drilling to TD in one run
- Eliminated 7 trips with greater positional awareness from continuous inclination, reduced number of slides and reduced overall tortuosity and dogleg severity
- Achieved record drillout to TD in the Eagle Ford, 4.91 days