EnerLITE† Lowers Drilling Fluid Cost by 40%

CHALLENGES

Lower costs while delivering required performance in the Delaware basin

Prevent salt washout and mitigate downhole losses

SOLUTION

EnerLITE direct emulsion system

Maintain system leveraging operational and system experience

RESULTS

- Lowered drilling fluid costs by 40% when compared to offset wells
- No hole issues tripping or running casing despite multiple equipment failures
- EnerLITE re-used on future wells

OVERVIEW

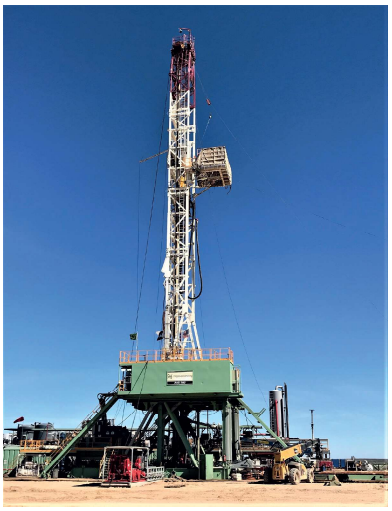
In West Texas, an operator was looking to lower overall well costs. Typical challenges in the 12 ¼" intermediate section include loss of circulation, washout of the Salado salt formation, and torque and drag issues. In many parts of the Delaware basin, effectively addressing these issues requires the use of two intermediate casing strings.

EnerLITE is a direct emulsion system designed to address the challenges in the Delaware basin, particularly salt washout and losses. The direct emulsion features a continuous saturated brine phase to limit salt dissolution with a dispersed oil phase to reduce the drilling fluid density below the anticipated fracture gradient. Aware of the success using EnerLITE in the region, the operator concluded the system had the potential to lower costs while addressing key concerns.

A 9.3 lbm/gal EnerLITE system was used to drill out the surface casing at 4,699'. Drilling continued with several non-fluid related issues, requiring trips to replace failed drilling tools. In spite of these delays, there were no hole related issues during trips, minimizing costs during downtime.

The interval was drilled to depth at 9,130'. Casing was run to bottom trouble-free and cemented. A comparison of drilling fluid costs between wells showed a reduction of nearly 40%. Further savings can be realized as EnerLITE is reused from well to well.

Salt cuttings from the Salado formation



Drilling rig, located in Reeves county

DETAILS

Initial drill-out used a 9.3 lbm/gal system, maintaining mud weight below 9.5 lbm/gal throughout the interval. Premix additions and aggressive use of the dual centrifuges and 200 mesh screeens kept low gravity solids below 6% v/v.

There were no issues with hole cleaning using a flow rate of 725+ gallons per minute and a 6 rev/min reading of 10-12°. Rate of penetration was controlled at 75 feet per hour.

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