



BOREMAX® Water-Based Drilling Fluid

BOREMAX® System Customized with BXR™ -L and BDF™ -490 Shale Stabilizers Saves Six Days of Rig Time

Location: Western Siberia, Russia

Operator’s Challenge

The operator encountered wellbore instability issues while drilling horizontally in the Yem-Yegovskaya field. Competitor fluid systems had not been able to maintain adequate hole stability so that the operator could reach total depth (TD). The Baroid team implemented the highly effective BOREMAX® water-based mud (WBM), based on its wide use throughout Western Siberia. This system helped the operator reach TD, but there were still overpull and reaming problems. The operator’s goal for the next 220-mm horizontal section was to reduce time lost to reaming.

Halliburton’s Solution

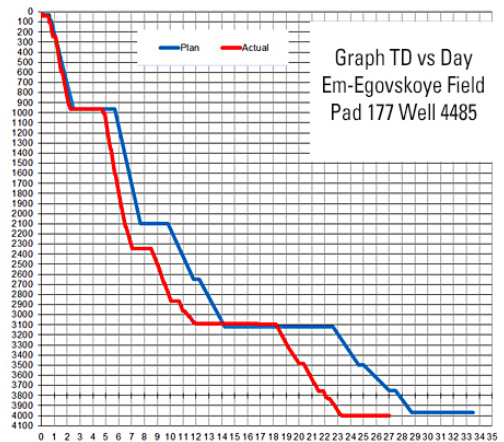
Based on the detailed analysis of complications while drilling previous 220-mm sections, the Baroid technical professional customized the BOREMAX system by adding BXR™ -L shale stabilizer (12 kg/m³) and BDF™ -490 shale stabilizer (14 kg/m³) for use in the next Yem-Yegovskaya well.

The drilling program remained the same for the upper sections. Both shale stabilizers were added immediately before drilling into the Frolovskaya and Bazhenovskaya formations. Wellbore stability improved significantly, eliminating the need for excessive reaming in the horizontal section and allowing the operator to set casing at the planned depth with no issues.

Economic Value Created

The engineered change to the BOREMAX system resulted in zero hours of nonproductive time, saving the operator six days of rig time (approximately US\$180,000).

Planned vs. Actual BOREMAX® Fluid Formulation		
Main components	Program concentration, kg/m³	Actual concentration, kg/m³
POLYAC® PLUS	5	5.3
CLAY GRABBER®	0.5	0.6
BORE-HIB® DP	2	2.6
LUBRICANT (AKS)	18	18.2
BDF™-490	14	14.8
BXR™-L	12	12.3



Planned vs. actual drilling days with customized BOREMAX® fluid

CHALLENGE	SOLUTION	RESULT
Excessive time spent reaming in horizontal interval	Customize BOREMAX water-based fluid with two powerful shale stabilizers	Reaming problems eliminated and well drilled six days ahead of plan valued at US\$180k