

PreFix™, ProppFix™, FracFix™ Mechanical Wellbore Stabilization Products Significantly Reduce Losses

Tuscaloosa Marine Shale, United States

Challenge

Reduce costly losses in the Tuscaloosa Marine Shale

Solution

Newpark's proprietary PreFIX, ProppFIX, and FracFIX mechanical wellbore stabilization fluids

Results

Customer saved 30% on drilling fluid costs

The Tuscaloosa Marine Shale is a naturally occurring, easily induced micro-fractured formation that is fragile in nature. Operators do not find it uncommon to lose thousands of barrels of drilling fluid per well in pursuit of the payzone, thus Tuscaloosa Marine Shale is a prime candidate for Newpark's wellbore stabilization products.

Newpark has developed several mechanical wellbore stabilization products to meet the challenges faced in the Tuscaloosa Marine Shale. The products, PreFIX, ProppFIX, and FracFIX lost circulation materials (LCM), are used in conjunction with each other.

Consistent sweep regimens (using the following operational guidelines) have resulted in an increase in wellbore stabilization:

- Ten-barrel (1.6 m³) sweeps pumped every connection
- First sweep to be pumped one stand after drilling out new formation
- Sweeps composed of 25 lbm/bbl (71 kg/m³) PreFIX LCM and 15 lbm/bbl (43 kg/m³) ProppFIX LCM.

Two field trials were conducted with the sweep regimen previously mentioned. The first trial saw no mud losses to the formation. This was a massive improvement over previous wells drilled by the operator, which saw an average of 2,000 to 3,000 bbl (318 to 477 m³) of mud losses per well. Other notable caveats include three trips made during drilling operations with no backreaming required, a trouble-free casing run, and a 30% reduction in the cost of drilling fluids. The second field trial saw the total mud loss tally at 895 bbl (142 m³), however, this was still a vast improvement over the previous well drilled from the same pad, which experienced 9,800 bbl (1,558 m³) in losses. Normal torque and drag levels were experienced throughout drilling operations. With the enhancements from the LCM, losses were greatly reduced and drilling costs were improved.