



## Mechanical Wellbore Stabilization with FIX™ Additives Cuts Fluid Losses by 77% and Fluid Costs by 50%, Woodford Shale

Preventative lost circulation strategy with PreFIX™, ProppFIX™, and FracFIX™ wellbore strengthening additives minimizes high fluid losses and reduces NPT in challenging shale.

| CHALLENGE   | SOLUTION  | RESULT  |
|---|---|---|
| <ul style="list-style-type: none"> <li>Reduce high drilling fluid losses and costs while drilling challenging Woodford Shale</li> </ul> | <ul style="list-style-type: none"> <li>Mechanical wellbore stabilization strategy</li> <li>Multiple sweeps of an engineered blend of proprietary PreFIX™, ProppFIX™, and FracFIX™ wellbore strengthening additives</li> </ul> | <ul style="list-style-type: none"> <li>Completed project with 77% reduction in downhole fluid losses compared to previous wells</li> <li>50% reduction in total fluids cost compared to previous wells</li> <li>NPT and cost savings</li> </ul> |

### OVERVIEW

An operator drilling in the Woodford Shale play in Oklahoma had been dealing with high costs associated with high oil-based mud losses.

### CHALLENGE

The operator had already made the decision to use a direct emulsion fluid system from Newpark in an effort to lower cost; however, the issue of ongoing high mud losses still needed to be addressed.

### SOLUTION

Innovation and technology from Newpark provided the solution. A strategy was devised to prevent lost circulation using sweeps of an engineered combination of three products from the Newpark FIX™ wellbore strengthening additives series to mechanically stabilize the wellbore.

The blend of PreFIX, ProppFIX and FracFIX additives was used in sweeps at a concentration of 8 lbm/bbl (23 kg/m<sup>3</sup>) each. Sweeps of 20 bbl (3.2 m<sup>3</sup>) in volume were sent downhole with each stand, beginning in the Union Valley shale where losses are typically seen first. When seepage losses increased in the Woodford shale, two 20 bbl (3.2m<sup>3</sup>) sweeps were sent downhole with each stand.



### RESULTS

The combination of the PreFIX, ProppFIX, and FracFIX wellbore strengthening additives coupled with multiple sweeps consistently moving through the wellbore allowed the customer to drill to the measured depth target of 9,968 ft (3,038 m). This was completed with a 77% reduction in downhole fluid losses and a 50% saving in overall fluid costs.

The success of the LCM strategy and the FIX™ series of wellbore strengthening additives saved the customer time and money in non-productive time and was a testament to the remediation properties of combined FIX™ series additives. To combat downhole losses, the customer has requested FIX™ series additives to be available on all future well sites.