



PROOF OF PERFORMANCE

Mitigating Cross-Communication, Saving Costly Equipment

PROVEN THROUGHOUT THE DELAWARE AND PERMIAN BASINS

PROBLEM

In cementing operations, H₂S or water migration into perforated zones is a dreaded but common experience. When this occurs, operators may opt to perform a suicide squeeze with thixotropic cement to plug any leaks. Unfortunately, traditional suicide squeezes often result in collateral damage, such as trapped tubing, which can be a costly price to pay.

SOLUTION

Proven in wells throughout the Delaware and Permian Basins, FlowLOK is a system of additives formulated to mitigate the risk of cross-communication. With controlling properties such as post-set expansion, static gel strength development and zero gel time and fluid loss, FlowLOK helps maintain the stability and integrity of the cement in challenging well environments.

SUCCESSFUL PERFORMANCE

In the Midland basin, Nine partnered with an operator who found themselves facing a potential suicide squeeze. The operator had carefully avoided perforating zones with known H₂S and water production but soon discovered H₂S and water leaking into the perforated zones anyway. These sections needed to be shut off, but previous experience with disastrous suicide squeezes made the operator reluctant. That's when they turned to FlowLOK in a final Hail Mary attempt.

A modified FlowLok slurry was pumped downhole to optimize H₂S resistance as well as ensure adequate slurry made it to the backside to seal off the targeted section. The operator pumped the FlowLok in stages on the lower zone. The result was a successful isolation of the unwanted flow. The operator then moved up the well and squeezed off the higher set of perforations successfully as well.





PERFORMANCE BY THE NUMBERS

In the Midland and Delaware Basins, FlowLOK has proven itself time and again with exceptional outcomes in both primary and remedial cementing operations. In 42 primary cementing jobs¹, operators experienced a 91% success rate using FlowLOK (up from a previous success rate of 50%). In 33 remedial jobs², operators experienced an 89% success rate using FlowLOK after just one squeeze. Previously, it took two to three squeezes to successfully stop fluid flow.

For a single well experiencing fluid flow (assuming \$40,000/day for rig time and an average of three days to fix the issue), the cost to an operator is around \$120,000. The cost of remediation could be an additional \$25,000 to \$50,000, depending on whether one or more remediation jobs are required. Assuming two squeeze jobs successfully seal the flow, cementing of the primary intermediate casing with FlowLOK could save an operator \$170,000, per well.

91%

Success Rate
in 42 Primary
Cementing Jobs

89%

Success Rate
in 33 Remedial
Cementing Jobs

1 Temperature ranges of 80°F to 115°F and density ranges of 13.5 ppg to 14.8 ppg
 2 Temperature ranges of 80°F to 125°F and density ranges of 14.5 ppg to 14.8 ppg