

SuprSeal® Stops Severe Losses and Restores Circulation During Lateral Drilling

Location: Lincoln County, Oklahoma, USA

Application: Severe lost circulation remediation

Product: SuprSeal® Severe Lost Circulation Technology

Challenge

- Severe fluid losses encountered while drilling a 6-1/8 in. lateral
- Conventional LCM treatments failed to restore circulation
- Risk of wellbore instability and increased nonproductive time
- Reliable sealing solution required to continue drilling safely

Solution

- Applied SuprSeal® severe lost circulation technology
- Pumped two treatment pills at 10 lb/bbl in 40 bbl volume
- Treatment placed at approximately 7,900 ft total depth
- Pumpable high-solids sealing system deployed to bridge large loss pathways

Results

- Losses significantly reduced after the first treatment
- Full circulation restored after the second pill
- Drilling resumed without further loss events to TD
- Wellbore stability maintained throughout the lateral

CHALLENGE

While drilling a 6-1/8 in. lateral section in Lincoln County, Oklahoma, the operator encountered an unexpectedly weak formation that resulted in severe fluid losses and loss of circulation. Multiple attempts were made to regain returns using conventional lost circulation materials. Three pills consisting of Magna Fiber and calcium carbonate (8 lb/bbl each) were pumped, but the loss zone continued to take fluid and circulation could not be restored.

Without returns, drilling operations faced increased risk of wellbore instability, escalating nonproductive time, and potential operational delays. If circulation could not be restored, the operator faced potential sidetracking or other costly remediation options. A rapid and reliable sealing solution was required to stabilize the wellbore and allow drilling to continue safely to total depth.

SOLUTION

WelDril recommended treatment with SuprSeal® severe lost circulation technology, engineered specifically for high-volume and total loss events where conventional LCM blends fail to establish an effective seal.

SuprSeal is designed to rapidly seal large fractures, vugs, and highly permeable thief zones by forming a pumpable, high-solids sealing slurry capable of bridging large loss pathways while remaining easily mixed and deployed in the field. The technology is delivered as a complete single-sack system that requires only water for preparation, eliminating the need for additional additives and simplifying rig-site logistics. For this well, a treatment pill containing 10 lb/bbl of SuprSeal® in 40 bbl of drilling fluid was prepared and pumped at the total depth of approximately 7,900 ft. After the first treatment significantly reduced fluid losses, a second SuprSeal® pill at the same concentration was pumped to fully seal the loss interval and restore full circulation.

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RESULTS

The SuprSeal® treatments successfully sealed the loss zone and restored full circulation in the well. Fluid losses were significantly reduced after the first treatment pill, and a second SuprSeal® pill completely sealed the loss interval, restoring full returns. Circulation was re-established, allowing drilling operations to resume and enabling the operator to successfully drill to total depth without further loss events. Wellbore stability was maintained throughout the remainder of the lateral section, and the operator reported superior performance compared with previously applied conventional lost circulation materials. By rapidly restoring circulation and stabilizing the wellbore, SuprSeal® helped prevent additional nonproductive time, preserved the drilling fluid system, and allowed the operation to reach its planned total depth.