Case History

PreFix™, ProppFix™, and FracFix™ Lost Circulation Materials Reduced Losses and Stabilized Wellbore in Onshore Albania

An engineered materials solution was used to reduce losses and cut downtime in a very difficult formation.

CHALLENGE	SOLUTION	RESULT
• Mitigate potential losses and stabilize wellbore while drilling the pressurized and unstable Flysch formation in onshore Albania	• Newpark's engineered solution using PreFix, ProppFix, and FracFix mechanical wellbore stabilization fluids	• Mitigated lost circulation with an engineered economical solution • Improved wellbore stabilization

OVERVIEW

The Flysch Shale in Albania is characterized by high tectonic stress, highly unstable brittle shale, large washouts, problems in steering, and difficulties in keeping the hole clean. The increased fluid density required for borehole stability in tectonically stressed shale can lead to losses in shallower weaker zones.

CHALLENGE

High mud weight is required to stabilize the wellbore, but this tends to lead to formation losses. Low fluid loss values are also required to minimize interaction between the fluid and the formation. Water activity of the mud system will be monitored and adjusted to be close to that of the formation and the use of sealing/bridging materials to plug and seal the micro-fractures in the wellbore contribute to a successful drilling of the formation.

SOLUTION

To address the wellbore instability, the operator decided to increase the Mud Weight from 16.1 to 16.5 ppg. As a result, this action led to downhole losses with a rate of 6 bbls/h in static, up to 96 bbls/h in dynamic.

Newpark's engineered materials PreFix™, ProppFix™ and FracFix™ were selected as lost circulation materials (LCM).

Five LCM pills (50 bbl each), formulated with ProppFIX and FracFIX at variable concentrations ranging from 40 to 70 ppb, successfully cured the losses. To minimize any risk of further losses and provide additional wellbore stabilization while restarting drilling, PreFIX was added to the active system at the rate of 1 sx/30 min to TD.

RESULTS

PreFix, ProppFix and FracFix lost circulation materials proved effective in remediating losses and stabilizing the wellbore in this extremely difficult formation. The operator was able to reduce downtime due to lost circulation and wellbore instability with the use of Newpark's lost circulation materials.

NEWPARK FLUIDS SYSTEMS