



Lost Circulation Materials

STOPPIT® LCM Pills Cure Severe Losses, Eliminating Need for Cement Plug

Location: Oman

Operator’s Challenge

While drilling the 17-1/2-in. hole section with a premium 9.5-ppg paraffin-based drilling fluid, the operator encountered 50-bph losses in the Fiqa shale formation.

Halliburton’s Solution

The operator typically had 4–6 different types of lost circulation material (LCM) on location for lost circulation prevention. To combat the severe 50-bph loss rate, the Baroid team recommended mixing and spotting a 50-bbl pill formulated with Baroid’s STOPPIT® “Engineered, Composite Solution” and other LCM components. This would be the first use of STOPPIT LCM in Oman.

STOPPIT LCM provides variable particle size distribution to help plug off a wide range of pore/fracture openings. Its composition specifically enhances “toughness,” allowing it to resist change in downhole pressure while sealing the loss zone. STOPPIT LCM pills can be pumped through the existing drillstring, so no trip is required.

LCM	Concentration (ppb)
STOPPIT® engineered composite material	80
BAROFIBRE® coarse	20
BARACARB® 150 sized ground marble	20

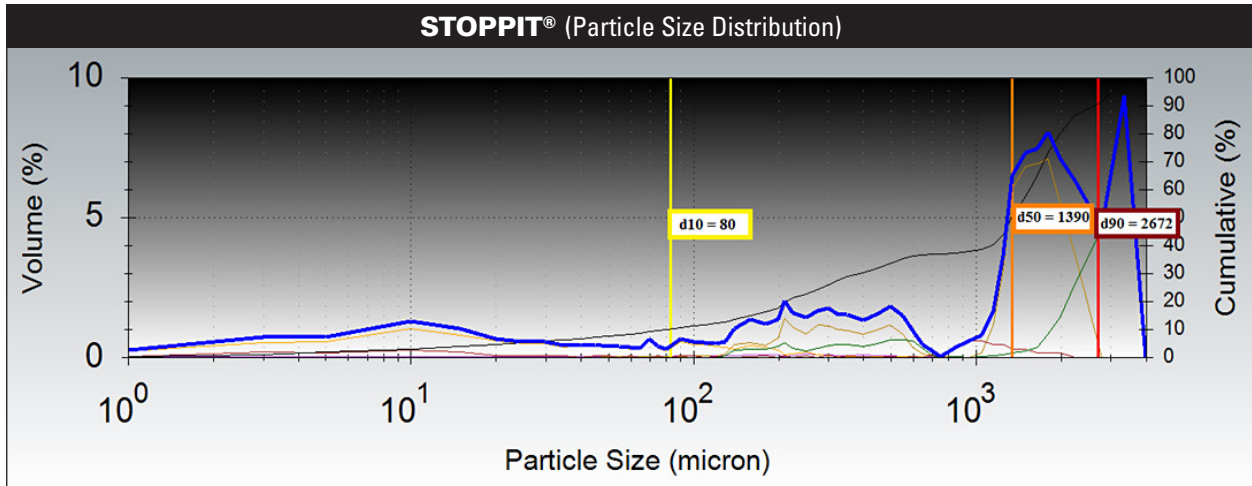
Based on these benefits, the decision was made to mix and spot a 50-bbl pill formulated as follows:

The STOPPIT LCM pill was prepared using the active synthetic-oil-based mud at a density of 9.5 ppg. It was bumped through the bottomhole assembly (BHA) and displaced slowly across the loss zones, at a temperature of 154°F, with a minimum flow rate of 290gpm through the PDC bit with a Total Flow Area (TFA) of 1.035 in.² [Mud Motor OD/ID (11 ½ / 9 ¼ in.) and MWD OD/ID: 8 ¼ / 5 ⅙ in.]. After the pill was spotted, losses decreased to 10 bph. A second identical pill was pumped and displaced slowly with 300 gpm as sweep and resumed drilling ahead with full returns. The Baroid team reached the interval target depth, ran wireline logs, and then set and cemented 13-3/8-in. casing with no losses or issues.

CHALLENGE	SOLUTION	RESULT
While drilling the 17-1/2-in. interval with a high-performance oil-based fluid, the operator experienced a 50-bph loss rate which needed to be stopped	The Baroid team designed an effective 50-bbl pill formulated primarily with the STOPPIT® “Engineered, Composite Solution”	The first pill slowed the loss rate to 10 bph, and the second pill cured it completely, allowing the operator to reach interval depth, run wireline logs, and set 13-3/8-in. casing with no further issues.

Economic Value Created

The STOPPIT LCM pill applications cured the losses and helped minimize the volume of expensive fluid loss. The operator avoided the need to pump a cement plug, which would have required a full day of tripping to change the drillstring in addition to the cost of the plug itself.



Variable particle size distribution helps seal a wide range of pore/fracture openings.