BAROLIFT® Outperforms High-Vis Sweeps in Milling and Fishing Operation

Location: Basra, Southern Iraq

Overview
The logging tool had become stuck on bottom at 4,235 m in the limestone formation, requiring a milling and fishing job. The operator planned to use a junk mill to remove debris from the open hole and wanted to ensure that the drilling fluid could deliver good hole cleaning without adverse effects on rheology and density.

Typically this type of operation would require a series of high-viscosity sweeps, but this was known to cause problems with excessive equivalent circulating density (ECD). The high-vis sweeps were sometimes ineffective at removing cuttings and cavings, increasing the risk of a pack off around the tool and cable.

There was also a concern about the time needed to dilute and recondition the drilling fluid after pumping multiple high-vis sweeps.

Fig 1. Logging tool, cable debris recovered after pumping BAROLIFT sweeps in open hole limestone formation.

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<th>CHALLENGE</th>
<th>SOLUTION</th>
<th>RESULT</th>
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<td>The Baroid team recommended using BAROLIFT® sweeping agent to clean the debris and cuttings from the hole while at the same time having no impact on the overall system mud properties and minimizing the need to spend time diluting the active system.</td>
<td>The fishing operation recovered 20% more debris and cuttings with the BAROLIFT pills, compared to similar operations using high-vis pills.</td>
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BAROLIFT sweeping agent is a synthetic fiber that enhances hole cleaning and is highly effective in milling operations where junk and debris must be recovered from the wellbore.

Several pills containing 0.1 ppb BAROLIFT sweeping agent were pumped during the effort to recover the logging tool. As each pill reached the surface, the BAROLIFT material was easily screened out over shakers, with no blinding or sticking. Pieces of logging tool and cable were recovered, as well as cuttings and cavings that had accumulated around the tool debris, as shown in the photos below.

The Baroid team applied the Technical Process to achieve these results, beginning with a wellsite request from the operator’s representative for a single product that would remove debris without impairing other mud properties. The BAROLIFT treatment was customized at 0.1-0.15 ppb during milling operations, based on the operator’s priorities. The operator confirmed that the ability to run the liner to bottom in a clear, clean wellbore had higher importance than any concerns about formation damage. Details of the BAROLIFT application were communicated to the operator, who has decided to utilize BAROLIFT sweeping agent on all future wells, both while drilling and to assist with milling / fishing operations.

The BAROLIFT sweeps proved to be safe and more effective alternative to high-vis sweeps, saving dilution time and the cost of chemical thinners normally required to restore mud properties after pumping high-vis sweeps.

Most importantly, the fishing operation recovered 20% more debris and cuttings with the BAROLIFT pills, compared to similar operations using high-vis pills.

Although the operator’s drilling supervisor was initially skeptical about the effectiveness of BAROLIFT sweeps, after the operation he commented on its good hole cleaning capabilities and cost efficiency.