

PBL® Bypass System Successfully Pumped Gross LCM Multiple Times to Cure Losses, Saving Rig Days



Challenge

An operator in Argentina was completing an extended-reach horizontal well, but was challenged with collapsed casing. This can make it harder to clean the well, mainly where it was completed with the plug-and-perf process. DSI proposed a solution that would allow the BHA to go through the collapsed points and rotate the plugs as much as possible to the drift.

The casing diameter was 5-in./21.4# (101.6mm drift). According to the multi-finger tool, before the first plug, there were four collapsed zones with different geometric shapes. The smallest pass-thru diameter was 90mm. Beyond the collapsed zones, there were still 17 plugs to be drilled.

Solution

A 2 7/8-in. DSI PBL® and Bi-Centre Mill Tool (with a 87mm pass-thru diameter and 100.5mm orbital pass-thru diameter) was used. The PBL® was essential to complete the operation without fatiguing the BHA and damaging the CSG.

Execution

During the operation, the following sequence was performed:

- Mill two plugs and activate PBL®, circulate bottoms up, complete wiper trip to the vertical section
- Repeat this until the sixth plug was reached..
- Pull out of hole and change BHA completely.
- Repeat three times until the remaining 17 plugs were milled and TD was reached.

By activating the PBL® at the collapsed zones, the operator passed through the problem areas without mill rotation and still achieved full circulation above the BHA.

Results & Benefits

The rotating operation was concluded successfully, milling the 17 plugs beyond the collapsed points and reaching TD.

The use of PBL® not only made it possible to reduce BHA fatigue with the use of a bicentric mill, but also improve hole cleaning. This was fundamental because the cuttings generated by the bicentric mill are larger and geometrically different from a conventional flat mill. The maximum pumping rate with the activated PBL® is 3.8 bpm.

Because of the success of this operation, the customer is implementing this completions program wherever the scenario is encountered.

