



The PBL® Multiple Activation Bypass System pumped coarse LCM multiple times to cure losses while drilling in the upper sections of the well, resulting in substantial cost saving for an operator in Pakistan.

Challenge

A major E&P company in Pakistan was drilling a well in the northern Punjab region. While drilling the 18 ½” section through a sticky shale formation, from 6,529 to 6,619 ft, no returns were observed confirming that they were facing total losses.

The operator pumped 100 bbl of LCM pill through the bit with no change observed. An additional three LCM pills were tried. There was still no improvement due to the LCM concentration and size limitations pumping through the BHA and drill bit.

The operator decided to POOH and run the DSI PBL® Sub in the BHA. During POOH, several tight spots were also observed, but with proper back-reaming, the operator managed to safely POOH. The static and dynamic losses during the operation were recorded as an average 10 and 25 bbl/hr.

Solution

A 9 ½” OD PBL® Multiple Activation Bypass System, with extended catcher sub, was incorporated into the next drilling BHA.

Conclusion & Recommendation

By adding the DSI PBL® Multiple Activation Bypass System to the BHA, the operator was able to control losses in a timely manner, substantially reducing rig time and expensive drilling fluid costs. As a result, the operator decided to have the PBL® in the upper sections of the hole as a standard component for the operations in the field. This would eliminate the need to POOH the entire drill string and BHA.



Execution

The PBL® Sub was activated using the activation dart to pump the 100 bbl LCM pill with a concentration of 200 ppb including calcium carbonate chips. After displacing two LCM pills through the Sub, the mud loss was reduced to 46 bbl/hr. The third LCM pill, with 210 ppb concentration, was displaced and the losses were reduced to zero.

The PBL® Sub was pulled up to above the LCM pill and four hours of soaking time were observed. Static and dynamic losses were checked and the well was confirmed to be stable and drilling operations resumed.

Due to the use of the PBL® Subs:

- Losses were cured in a timely manner with high-concentration LCM pills with a mix of coarse Calcium Carbonate flakes.
- No additional trip was required to run with open-ended DP.
- The section was completed on time and did not compromise the AFE.
- No part of the BHA below the PBL® Sub was contaminated.
- Extended catcher allowed additional cycles to be run with the dart activation.
- The operator will be using the PBL in the upper sections as standard procedure.

