



CASE STUDY

PBL® Bypass System used with Fast Dart in high fluid weight, hole angle and depth for a Malaysian wellbore clean-up application.

Challenge

With standard wellbore clean-up tools, unable to circulate at a high flow rate for cleanout in an HP HT (350o F BHT), 16 ppg mud weight at a depth of 13,000 feet at the top of the 7" liner, and at the 5,000 feet depth in one run.

Solution

Position a 6-3/4" PBL Multiple Activation Bypass Tool as part of the wellbore clean-up string.

Open the ports of the PBL to allow a high flow rate (up to 1,000 gpm) at multiple depths in a single run.

Execution

- RIH to position the PBL below the 10-3/4" x 9-5/8' crossover, at a depth of 5,159 feet.
- Drop the PBL 2" Fast Dart, in 16 ppg mud weight, in a hole angle of 65.6 degrees to open the PBL ports and bring the flow rate up to ~1,000 gpm.
- Close the PBL ports by dropping 2 x steel deactivation balls to the PBL.
- Continue to RIH to a depth of 13,135 feet, to the top of the 7" liner.
- Drop a second fast dart to open the PBL ports to once again bring the flow rate up to ~ 1,000 gpm.
- Circulated 3 x bottoms up at this position and flow rate.
- Close the PBL ports by dropping 2 x steel deactivation balls to the PBL.

Conclusion & Recommendation

By activating the PBL, at 2 locations in this high fluid weight, temperature and hole angle, and extreme depth, this was the only method available to allow for adequate cleaning and without making separate trips. The PBL Fast Dart allowed for the activation of the PBL, even in the heavy mud weight and hole angle. The PBL is ideally suited for a wellbore clean-up operation and should be placed above the wellbore clean-up assembly to offer multiple activation cleanout cycles, in extreme conditions.

