

The PBL® Bypass System, with Fast Dart, Allowed a Major Offshore Operator in Brazil to Re-Establish Circulation and Safely Complete Operations



Challenge

An operator was drilling an offshore well in Brazil. While picking up off bottom to make a connection (8 ½-in. hole at ~6000m MD, 28° inclination), the drillstring plugged. They planned to pull the drillstring out of the hole to replace the plugged component but wanted to avoid swabbing while tripping out.

Solution

A 6 ¾-in. DSI PBL® Bypass System was already included in the BHA. The team decided to activate the tool with a 2-in. PBL® Fast Dart to re-establish circulation and circulate while tripping out to avoid swabbing.

Execution

- The Fast Dart was dropped, descended by gravity for one hour and reached the 6 ¾-in. PBL®, despite the 28° inclination.
- When the Fast Dart reached the PBL® system, the trapped pressure was released, and the circulation was re-established through the PBL® ports.
- This procedure allowed the operator to pump while tripping out the BHA, thus avoiding swabbing.
- Later, the Auto-lock function of the PBL® was successfully activated

Conclusion & Recommendation

Utilizing the PBL® Bypass System, as part of the drilling BHA, the operator was able to circulate while tripping out the plugged BHA, avoiding swabbing and mitigating the risk of inducing a kick.

The Activation feature on the PBL® Fast Dart proved effective in re-establishing circulation in the plugged string situation at a 28° inclination. To maintain this safety feature in wells with inclination above 55°, DSI's Burst Disk System is recommended.

The PBL® Bypass System Auto-lock feature proved to be a safe, reliable, and effective way to pull out of hole dry.

This demonstrates the effectiveness of the PBL® Fast Dart in activating the PBL® Bypass System whenever limited or zero circulation is encountered. Moreover, it highlights the need to have an Auto-lock PBL® Bypass System incorporated in every BHA as a contingency in case of such emergencies.

