



PERFORMANCE BULLETIN

DSI PBL[®] Bypass System saves thousands of \$\$\$’s by preventing NPT for an operator by allowing LCM and cement displacement to cure losses in a deep-water GoM well without the need for a dedicated trip to run the cementing stinger.

Overview

The DSI PBL circulating sub was requested by a major operator to be utilized in a 12 1/4” hole drilling operation in the deep waters of the Cuenca Salina basin offshore Mexico. An 8-1/4” PBL tool was placed in the BHA as a contingency for major mud losses, which allowed pumping of high-concentration LCM and also thixotropic cement through its two ports with a TFA of 2.863 in².

PBL operation

While drilling at 4,470m, severe mud losses (350 bbl /hour) were encountered; the PBL tool was activated and LCM pills were pumped with no operational issues.

The PBL was activated for a second time as the mud loss continued at a rate of 58 bbl/hour and the operator decided to pump cement slurry through the PBL. 100 bbl of cement slurry with 15.8 ppg, followed by oil base mud were displaced.

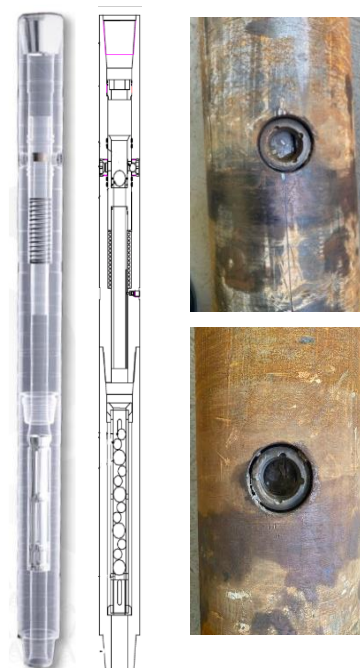
The well was monitored, and as losses remained at a level of 110 bbl/hour, a second cement slurry was displaced having the same properties as before. The mud losses were finally eliminated, the PBL tool was deactivated and the flow through the directional tools was successfully restored and the remaining section was drilled without any further issues.

Benefits

- The PBL preserves drill-string integrity and closes after the cement slurry is displaced to the annular. The operator can position the BHA above the cement to perform the squeeze operation without the undesirable flow back that can occur if other circulating subs with locked open ports are used. Locked open ports can lead to contamination of the cement, preventing successful cementing operation.
- Aggressive LCM pills and two cement plugs were displaced through the PBL tool isolating and protecting the expensive BHA (LWD, MWD and rotary steerable tools) and the mud losses were eliminated.
- Saved on rig time needed for a dedicated trip to pull the BHA out of the hole to run a cementing stinger if the PBL tool was not in the BHA.



Deep water drill ship for Salina Basin offshore in Mexico



After pumping cement through PBL bypass system, the tool remained operational, sliding sleeve was free to move from open to close position.

The PBL multiple activation bypass system demonstrated its value to the operator by preventing NPT associated with dedicated trips to perform cementing operations allowing the displacement of aggressive LCM and cement slurry multiple times. Its reliable design assures the successful protection of BHA components such as LWD and directional tools.