



PERFORMANCE BULLETIN

DSI PBL® Bypass System activated by Fast Ball® and Fast Dart® helped to control severe mud losses and recover mud circulation in a high mud weight application in Mexico.

Application

Most of Mexico south land operations require high mud density to control bottom hole pressures (from 15 to 17.3 ppg). This application becomes even more difficult due to a non-conventional borehole pressure profile. Severe mud losses could occur at shallow depths and formation inflow at deeper depths or vice versa. With that scenario in place, many different drilling techniques are required in order to reach the total depth, such as MPD (Managed Pressure Drilling), DSI PBL® Bypass System, and ECD control, which are used to allow drilling these very challenging oil wells.

Solution

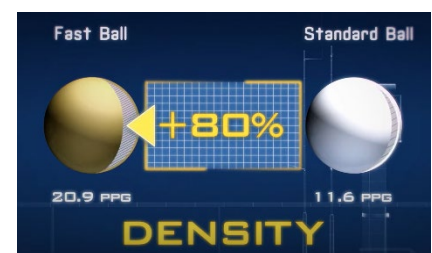
The PBL® Bypass System has been used in many wells to control severe mud losses. The standard (Ertalyte or Torlon) activation balls has a SG of 11.6 ppg, so in heavier mud weights the floating factor makes it more difficult for the activation ball to reach the ball seat. For this scenario, DSI offers two solutions to mitigate this effect, that is the Fast Dart (SG of 64 ppg) or Fast Ball (SG of 21 ppg), and the selection of the ideal activating system will depend on the well conditions and geometry in order to achieve the optimal results.

Benefits of Fast Dart and Fast Ball

- ✓ For packed BHA due to formation and no circulation, dropping a Fast Dart helped to recover circulation thru the PBL® Bypass System and be able to pump pills for hole cleaning at higher pump rates.
- ✓ In a total mud losses scenario in a well with an inclination lower than 55° and fluid inside the DP, dropping the Fast Dart without pumping reduces the amount of lost volume required for the PBL® Bypass System activation (no need to pump a ball).
- ✓ In the scenario of total losses, regardless of well inclination, dropping the Fast Ball will ensure proper activation once you establish the circulation through the bit even if some heavy mud column remains above the ball seat.
- ✓ The Fast Ball can be deployed at heavy mud weight and offers more activating cycles than the Fast Dart if multiple mud loss zones are expected during drilling operations. Extended ball catchers are available upon request.
- ✓ The Fast Ball can be deployed for HPHT applications due to its high temperature rating (260° C).



Fast Dart is a solution for deploying the PBL® Bypass System at heavy mud weight applications in Mexico.



Fast Ball is a suitable option under special well conditions to ensure more efficient PBL® Bypass System activation.

The Fast Dart and Fast Ball have consistently helped to reduce mud loss control time and volume at heavy mud weight applications. Usage of the DSI PBL® Bypass system is vital to reach total depth at abnormal borehole pressure profile in conjunction with many other innovative drilling techniques in Mexico.