



PERFORMANCE BULLETIN

DSI PBL Bypass System with modified High Flow (HF) configuration brings about a “fit for purpose” solution for a major oil and gas service company in Mexico.

Application

The very complex wells in Mexico with robust well design using larger than standard casing sizes, require the best-in-class drilling techniques and technologies. BHA components that include underreamers, drilling jars, circulating subs, MLWDs and rotary steerable tools must work together in order to achieve maximum efficiency in drilling. A major multi-national oil & gas service company invites DSI PBL de Mexico to be part of the team.

Challenges

The following well conditions and BHA arrangements were considered for a PBL Bypass Tool modification:

- A narrow operational window for mud density with potential for mud losses.
- The underreamer below the PBL Bypass Tool needs to be activated by using a 1-3/4" OD ball and deactivated by using a 2.625" OD ball.
- A drilling jar above the PBL Bypass Tool with a 2.75" minimum ID.
- The standard 9-1/2" OD or 8-1/4" OD High Flow PBL Bypass Tool requires a 2.75" OD activation ball and has a 2.65" drift, so whilst it is possible to activate and deactivate the underreamer below it, the 2.75" OD PBL activation ball will not pass through the drilling jar.

Solution

A special 2.72" OD activation ball and a special ball seat for a High Flow PBL Bypass Tool were designed and manufactured to fully address our customer's requirements. This modification allows to properly activate and deactivate the underreamer (prior to the activation of the PBL Bypass Tool) and, in case of mud losses, preserves the ability to activate the High Flow PBL Bypass Tool despite the restricted ID of the drilling jar.

Results

More than 20 successful jobs performed using this special High Flow (HF) configuration of PBL Bypass Tools with 9-1/2" and 8-1/4" tool sizes run in conjunction with different underreamer sizes (20" x 18-1/2", 14-1/2" x 16", 12-1/4" x 14-3/4", 10-5/8" x 12-1/4").

With such simple modifications the customer can continue using the DSI PBL Multiple Activation Bypass System with proven reliability and benefits such as saving rig time and, the ability to pump aggressive LCM pills while protecting the directional BHA and reaching the total depth in narrow operational windows even if total mud losses are encountered.



Fit for purpose High Flow (HF) PBL Bypass Tool was deployed for successful activation and deactivation of underreamers.