

Case Study: Pump Open Sub C/W 342-450 ME Thru Bore RBP

Challenge

A major operator In the United Arab Emirates contacted Interwell for a solution in order to save rig time on retrieving a shallow set bridge plug prior to pulling tubing.

Solution

Interwell provided the client with a solution of adding a Pump Open Sub (POS) as an “add-on” below the existing thru-bore equalizing capability that the Medium Expansion (ME) Bridge Plug has, to offer a unique cost efficient application for this operation.

The Pump Open Sub will hold pressure from above up to a pre-determined pressure level, at which point the POS will open permanently, enabling injection/production. At setting depth, the opening pressure over the POS is determined by the number of shear screws in the POS and the type of configuration used. When pressure is increased above the plug, the POS will stay closed until the downward force on the piston due to pressure overcomes the total shear value of the shear screws.

In differential pressure configuration, the pressure level needed above the plug to open the POS is dependent on the pressure below the plug at setting depth. Whereas in absolute pressure/atmospheric chamber configuration, it is independent of the pressure below the plug as long as it is within rated values.

Value Created

By using Interwell’s application of Medium Expansion RBP with Pump Open Sub add-on, the client was able to save time on rigging up and rigging down slickline to retrieve the shallow set barrier. The client was then able to equalize the plug+POS with pressure and retrieved the plug assembly while pulling the tubing. The plug was recovered at pipe deck after the tubing was pulled. The time saved equated to one (1) shift of twelve (12) hours which in Rig Time was around 40,000 USD. This was recorded for the both of the first two wells and this application is now part of the clients Standard Operating Procedures for Pre-Work for Workover operations where a shallow set barrier is required.

Date:

October 2017

Region/Field:

Middle East Region /
United Arab Emirates

Key Capabilities:

- Robust solution
- Low risk
- Cost efficient
- Proven technology

