

Overview

Two scenarios can exist where the dimensional gap between the outer diameter (OD) of a swellable isolation packer and its target sealing inner diameter (ID) can be larger than average. A heavily washed out open hole can present a challenge where the packer OD must be maintained at a standard size. Even an open hole that is drilled in-gauge can be difficult when a reduced packer OD is required to aid deployment, perhaps to achieve a reduction in torque-and-drag modelling or to minimise impact on equivalent circulating densities. In these circumstances, an above average swell ratio is required to establish and maintain isolation. Reactive has developed elastomers to provide a solution to these challenges.

Challenge

Reactive was approached by a major operator in Scandinavia to design and manufacture packers for two purposes; to prevent water breakthrough at the toe and gas at the heel, whilst also acting as a contingency barrier against cross flow.

The reservoir temperature was 90°C and the drilling fluid was water-based mud (WBM). It was essential that the swellable packers were designed to hold 100 bar differential pressure.

The client required a packer with a particularly slim OD that could also swell to effectively seal the washed out open hole. Reactive were chosen to complete this project as they were the only supplier who could provide a high expansion swellable solution to meet these specific requirements.

Region : Scandinavia
Date : February 2016
Key Outcomes : Client was able to successfully set stringent OD requirements
: Safe and successful deployment



Reflex® HP
Swellable Isolation Packer



Reaction

As the swell packers were not exposed to WBM for a long period of time and there was no potential for water breakthrough until later in the production phase, Reactive developed a high expansion oil swellable packer to ensure a complete seal was achieved between 5.5" casing and 8.5" open hole. It is the swellable nature of the Reflex® element that allows the packer to seal in the irregular fractures along the length of the wellbore.



Result

The installation of the slim high expansion packers were successful and added no additional time or complexity to the running of the liners, whilst giving the operator cost-effective peace of mind.

For further information please visit
www.reactivetools.com