

Overview

Typically, swellable packers are required to swell quickly upon deployment, but some applications can require a longer delay before activation.

One such application is Extended Reach Drilling (ERD) wells, a technically challenging but rewarding method of field development.

The nature of these wells - a long horizontal departure from a short vertical drop - means

that operators can maximise reservoir contact area whilst minimising costly upper cemented sections and surface architecture.

Due to the initial cost and inherent difficulty in workover it's imperative that ERD wells are completed with a completion design that allows for efficient hydrocarbon production for the life of well.

Normally these designs utilise wellbore segmentation by the use of open hole packers.

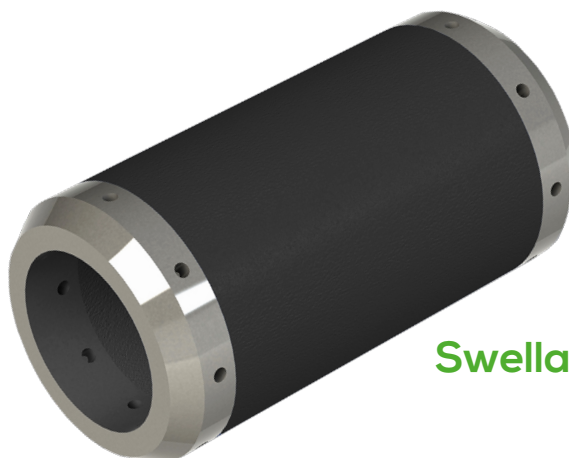
Challenge

A Middle East operator conducting an ERD campaign - with a slotted liner and swellable packer completion design - needed to push the well depths further.

Region : MENA
Date : Q3 2016
Key Outcomes : Provision of long swell window
: Full qualifications procedure
: Tight operational deadline
: Record breaking installation

The combination of well length and completion type required a new packer design. As well as the liner deployment, the slotted design meant that an addition to the swell window was needed to run an inner string and complete an annular circulation before the packers made open hole contact.

Including a contingency time, the requirement was a 21 day delay packer.



Reflex® Lite
Swellable Isolation
Packer



Reaction

Drawing on its extensive catalogue of proprietary base compounds, Reactive Downhole Tools worked to develop a completely new packer design.

Using our API and ISO compliant R&D facilities, the packer design was tested to ensure it provided full compatibility with downhole fluid rheology and the provision of a seal - including any washed out section of the well bore - all outwith the critical deployment window.

Due to the superior performance of the packer, it also was possible to reduce the running diameter from those previously used by the operator whilst still providing enough swell performance to allow the packer to seal as required.

This benefits ERD wells as this reduction decreases the contact time of the rubber and the open hole, minimising friction and making deployment easier.

The time taken to design, test, manufacture and deliver the packer were extremely important to the success of the project. By utilising dedicated and local Middle East representatives, expertise of the Aberdeen Technical Centre and manufacturing facilities in Houston, Reactive provided an innovative solution with an extremely quick turnaround.



Result

The packer design allowed the operator to drill deeper and further than ever before - the liner installed is the longest for a single run liner of its size worldwide.

Despite the extremely long horizontal departure, the installation confirmed that the reduced running diameter of the packers resulted in some of the lowest friction factors seen in the campaign.

Circulation from the inner string was made on day 19 after the first packer was installed,

proving that the required 21 day deployment window had been achieved.

This record-breaking installation builds on the previous 24,000 packers Reactive has installed worldwide, and reaffirms its abilities at the forefront of swellable technologies.

For further information please visit
www.reactivetools.com