

Case Study:

Swellable O-Rings successfully reinstates function of safety valves

Swellable O-Rings help to get wells back on production successfully and faster by sealing badly damaged sealbores.

Well Data

Location: Malaysia

Well Type: Oil Producers

Installation Date: 2018/2019

Completion Sizes: 2-7/8" 3-1/2", 4-1/2" 5-1/2"

Field: Multiple Fields



Malaysia has thousands of mature wells in which they have insert safety valves. These wells need to have intervention on a regular basis, meaning the insert valve needs to be recovered to gain access to the wellbore below.

The Challenge

An operator in Malaysia with mature wells was facing everyday issues with scored/damaged sealbores. They were unable to get control pressure to the safety valve without performing multiple wireline runs and trying different packing configurations to get the required opening pressure of the safety valve without success.

TAQA Solution

TAQA expanded their knowledge on swellable products to come up with the swellable O-ring. The O-ring replaced the existing male to male adaptor in the packing stack. Using the control fluid as well as the wellbore fluid, they swelled the rubber into the scored or damaged sealbore. This created a pressure tight seal to enable full opening pressure to the safety valve and restoring the well to production, saving time and cost on previous operations.

Project Results

Swellable O-Rings have become the standard on all safety valves with success across multiple fields in the area.



O-rings