

Case Study:

SwellStack regains well integrity without requirement for workover

SwellStack successfully restores production and maintains well integrity for global operator in the North Sea.

Well Data

Location: North Sea, Carrack Platform

Well Type: Gas Well

Installation Date: June 2016

Safety Valve: 5.963" SCSSSV



TAQA was asked to provide a more robust sealing solution for Surface Control Sub-Surface Safety Valve (SCSSSV). The valve was utilising a chevron stack with O-ring, however this had failed. It was essential to find a solution to avoid the need for an expensive workover, which would have involved pulling the completion to replace the entire system.

The Challenge

Client had a damaged SCSSSV, existing isolation system was damaged and could not stop the leak through the valve. A more robust sealing solution was required to ensure long-term production of the well. The challenge was to design a seal system strong enough to hold 5000psi differential pressure in a damaged seal bore with possible corrosion. The system also had to be flexible in order to be retrieved from the safety valve when required.

TAQA Solution

TAQA designed an oil swellable SwellStack and replaced the existing chevron stack within the 5.963" SCSSSV. Within 24 hours, the SwellStack was installed, activated and was holding the required pressure of 350 bar / 5000psi. By installing the SwellStack system, it extended the life of the safety valve and also avoided the alternative of an expensive workover that would have involved pulling the completion to replace the entire system.

Project Results

Well integrity was regained and was placed back on production without the requirement for a workover.

