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WELL INTEGRITY CASE_STUDY CS-1854-08-18

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oilenco

Hybrid Annulus Lock Mandrel

A major North Sea Operator faced a downhole safety valve issue that was highlighted during a routine well integrity test. The well design utilises annulus tubing for gas injection and requires a functioning downhole safety valve. To reinstate well integrity, a gas injection valve would be installed within the existing downhole safety valve.

A recent addition to the Oilenco Hybrid range is the Hybrid Annulus Lock Mandrel, similar in design to the established Hybrid Plug, but with a through bore and threaded connection to attach flow control devices. The Oilenco Hybrid system is a field proven, gas-tight (zero bubble leak rate) device – therefore it was a natural choice for this application.

As Oilenco carry an inventory of the Hybrid Lock Mandrels, they were able to mobilise all the equipment from stock.

A Gas Injection Valve was attached to the Hybrid Lock Mandrel via a crossover extension spacer bar that was manufactured specifically for the operation. Once installed, the complete assembly would straddle across the downhole safety valve and thus retain the safety valve flapper in the open position.

The entire package of equipment was supplied offshore within a matter of days, therefore allowing the Operator to get the well back online promptly.

Due to the metallurgy of the stock supplied Hybrid Lock Mandrel (13-Cr NACE MR0175), the installation was only considered as a 'short-term' solution. Subsequently, an API6A 718 Inconel version of the Hybrid Lock Mandrel was then manufactured as a long-term replacement.

Blair McCombie, Oilenco Operations Manager, remarked; "...this demonstrates how our stocking policy for our core products, such as the hybrid, allows us to react quickly and deliver immediate solutions..."



Hybrid Lock Mandrel
1.875in 'X' profile
top

Hybrid Extension Spacer
1-1/2in connection
below