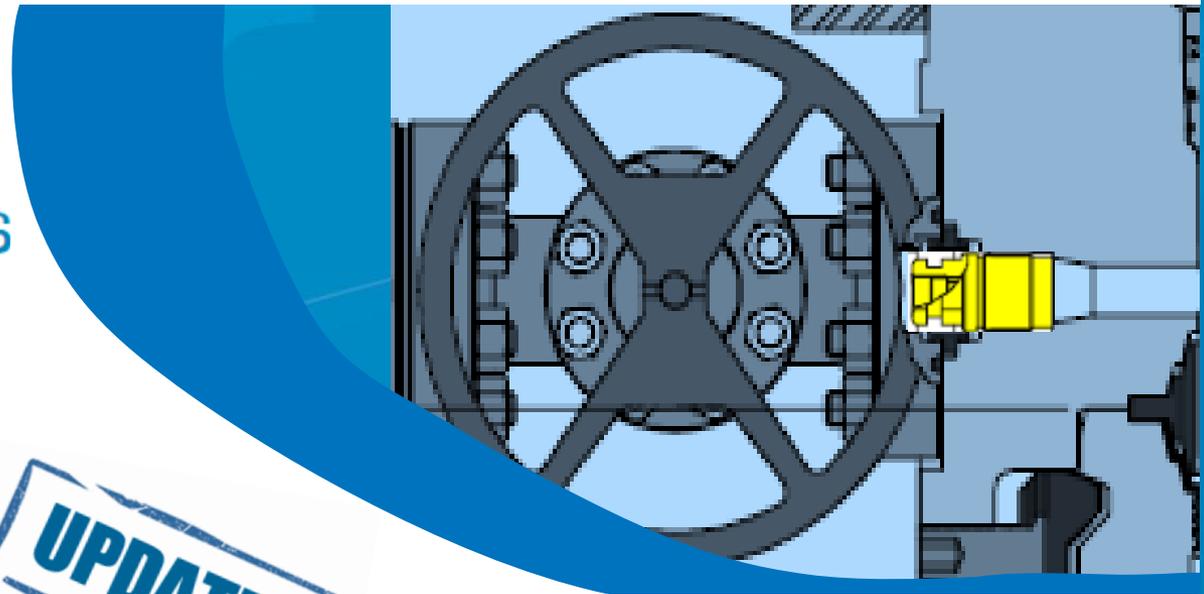




Kinetics Controls
& Innovation Ltd

www.kciltld.co.uk

MAC-SEAL Leak Sealing Solution



UPDATED

“Successful VR Plug Isolations
UK Offshore with Mac-Seal”

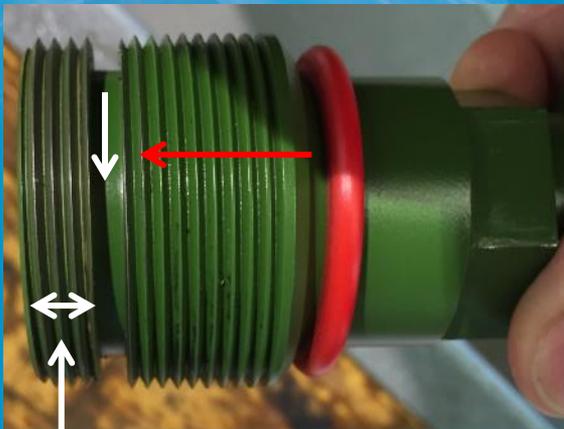


VR Plug Isolations with Mac-Seal

Corroded threads on old VR Plug



Seal ring fits in the groove of new VR plug



Mac-Seal applied in front of seal

Background

- ❑ KCI were approached by a major Oil and Gas producer in the UK to provide isolations on several A-Annulus VR Plugs that had failed a leak off test on Gas Lift Wells.
- ❑ The Isolations were required to regain full Well Integrity on the selected wellheads.
- ❑ Corrosion had occurred on the VR Plug threads as seen on a sample recently recovered from a wellhead leading to a loss of integrity – see photo of corroded threads on VR plug.

Planned Operation

- ❑ The offshore operation followed on from a successful onshore trial where a corroded VR Plug coated with Mac-Seal was installed into a test fixture which was progressively damaged to replicate the offshore leaks reported.
- ❑ A new style VR Plug with a Teflon ring will be used offshore along with Mac-Seal to isolate the leak paths.
- ❑ A final pressure test or leak off test will be carried out to verify the isolation.



VR Plug Isolations with Mac-Seal



*Mac-Seal applied to VR Plug



Actual operation

- ❑ Four wells had their leaking VR Plugs removed and replaced.
- ❑ A new style VR Plug c/w Teflon Seal Ring was used along with Mac-Seal to isolate any leak paths.
- ❑ Mac-Seal was mixed and coated on the front four threads of the new style VR Plug then it was installed in the wellhead profile.
- ❑ Mac-Seal is designed to fill & isolate all corroded areas of the threads or any leak paths as the VR Plug is screwed into position and torqued up.
- ❑ The Mac-Seal was allowed to cure then a 3000psi pressure test was applied. A Good Test was achieved.
- ❑ The wells were brought on to production after the platform shut down with full gas lift pressure and no leaks were witnessed. A Good Test was achieved.

*Original VR Plug installed into test piece with Mac-Seal



*Example photos taken during successful onshore trial

Objective Achieved

The Isolation was successful and the Well was brought back online safely. Our customer was extremely satisfied with our Safe, Effective & Efficient Isolation.

This Value Adding, Rigless Isolation Operation saved the Well owner from a potentially time consuming and costly Wellhead repair or long term suspension.