



Kinetics Controls
& Innovation Ltd

www.kcilttd.co.uk

MAC-PAC Leak Sealing Solution

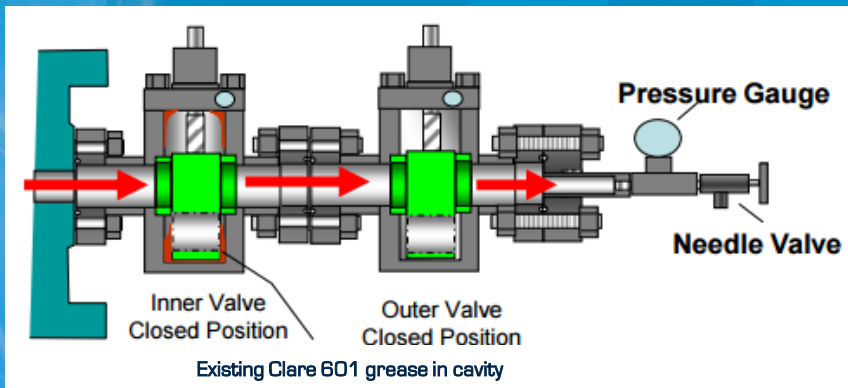


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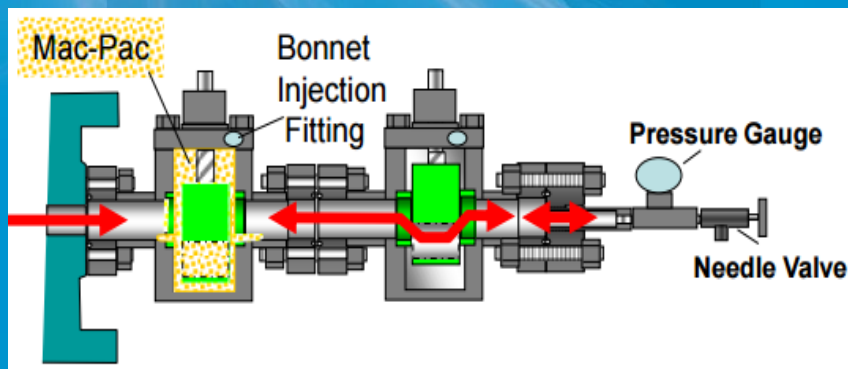
“Successful Offshore Annulus Gate Valve
Isolation With KCI’s Mac-Pac”



Wellhead drawing - As found condition



Both Annulus Valves were passing so the Outer Flange could not be safely removed.



Inject Mac-Pac into Inner Annulus Valve to create an isolation to break containment.

Background

- ❑ KCI were requested by a major Oil and Gas operator in the UK to provide an isolation on a leaking 15k, 2 1/16" Inner Annulus Gate Valve in support of installing a VR Plug in the wellhead to replace both Annulus Valves. Mac-Pac is ideal for this application as it acts both as a sealant and lubricant.

Planned Operation

- ❑ Displace the existing Clare 601 Grease from the Inner Annulus Valve cavity by deploying Mac-Pac through a Model 'D' Fitting on the Gate Valve to provide an effective valve isolation.
- ❑ Obtain a zero leak rate & Pressure Build Up (PBU) through the closed Inner Annulus Valve and remove the Outer Annulus Valve.
- ❑ Install a Telescopic VR Plug Installation Lubricator and successfully set and test a VR Plug through the Inner Annulus Valve.
- ❑ Replace both Annulus Valves and remove the VR Plug.
- ❑ Return well to service.

Inner valve filled with Mac-Pac



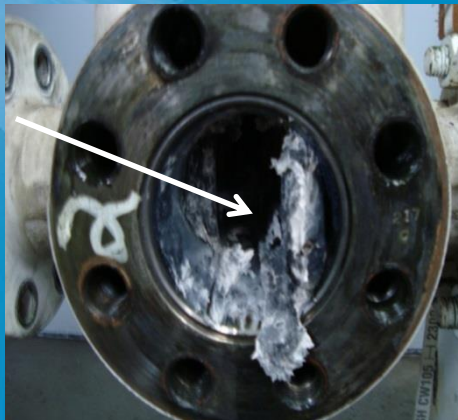
VR plug coated in Mac-Pac after removal during onshore trial

Actual operation

□ The work scope of the operation was carried out following these steps:

1. Connect KCI Deployment tooling to the Model 'D' Fitting on the Inner Annulus valve.
2. Inject Mac-Pac Sealant through the Model 'D' Fitting displacing Clare 601 Grease.
3. Function the Inner Annulus Valve to the closed position with the cavity full of Mac-Pac. Confirm zero PBU.
4. Remove Outer Annulus Valve and fit Telescopic VR Plug Installation Lubricator. Open Inner Annulus Valve and install VR Plug and test.
5. Replace Inner Annulus Valve and test. Remove VR Plug. Fit Outer Annulus Valve.
6. Carry out functional checks – OK.
7. Return well to production.

Valve Body after Bonnet removal showing the Mac-Pac Sealant packed in the cavity.



Objective Achieved

The Onshore Trial & subsequent Offshore Operation went as planned. KCI executed a Safe, Effective & Efficient Isolation of the Annulus Gate Valve.

This Value Adding, Rigless Isolation Operation saved the Well owner from a potentially time consuming and costly Freeze operation or Barrier Dispensation Process.