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North Sea Platform N54 Varipak stem packing isolation Project & Product Overview

Procedure:

- Varipak stem seal isolation with Mac-Pac

Revision History

Rev	Date	Description	Author	Checked	Project
01	12/09/2014	Issued for Internal review	SR	Total (Lauchlan)	Stem Packing Isolation
	12/09/2014	Final	SR	Total (Lauchlan)	

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FINAL



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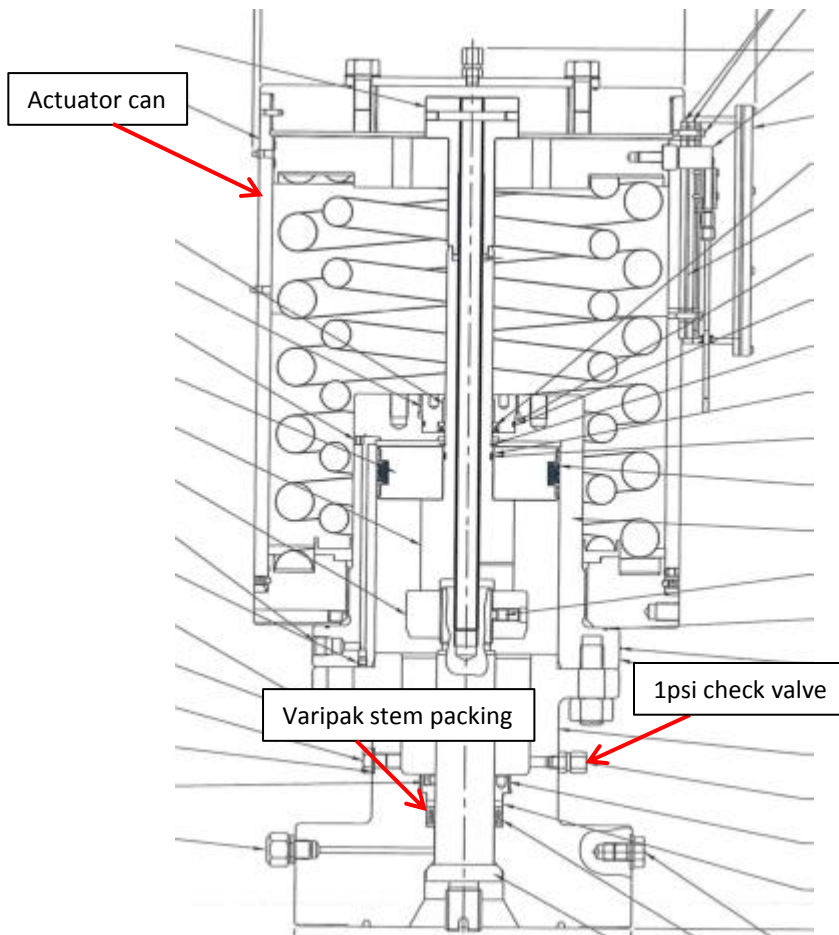


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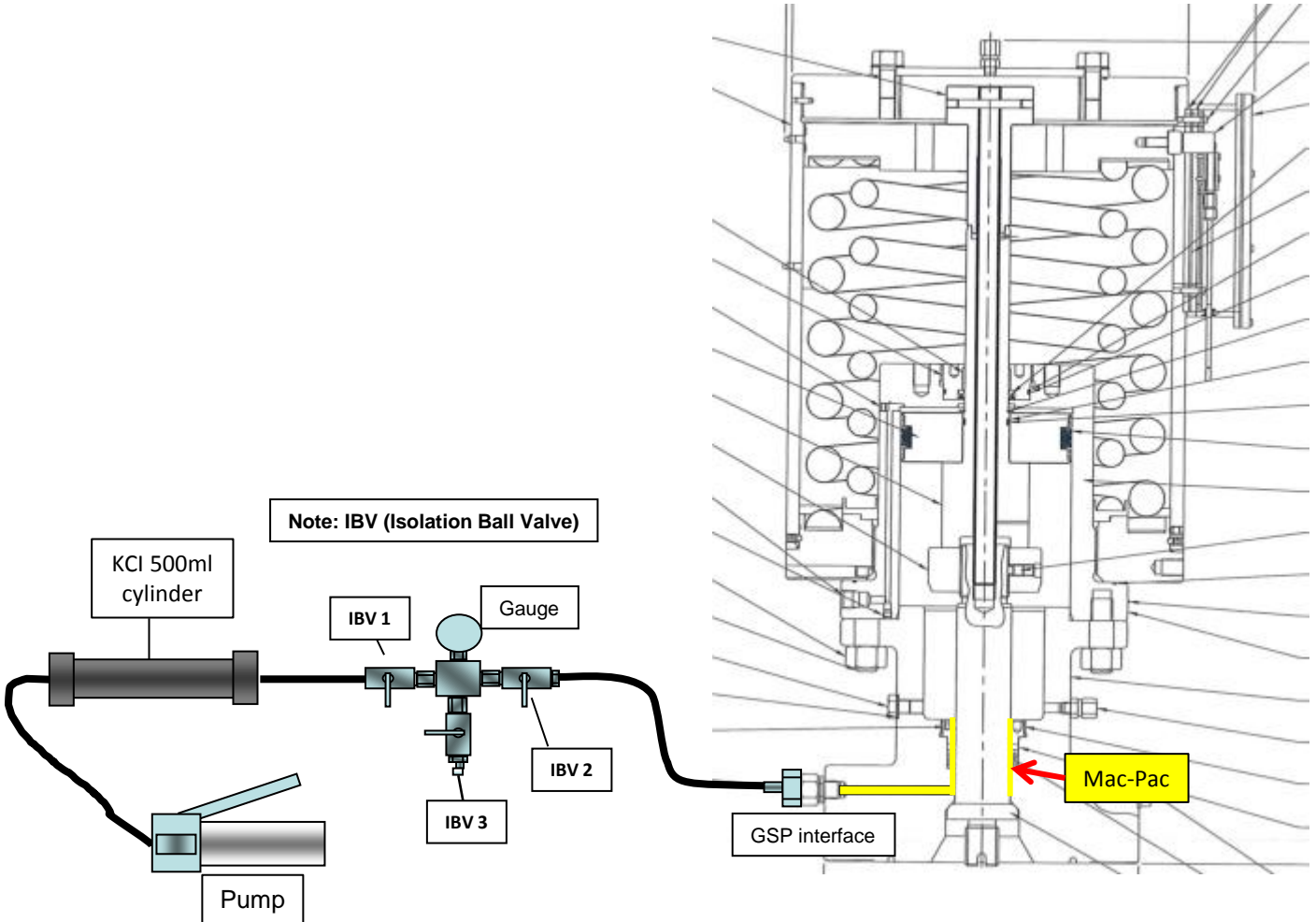
N54 Stem packing isolation

History:

KCI were contacted by Customer North Sea to assist in an isolation of a stem packing on the UMV on well N54. During routine maintenance a small leak escaping from the actuator can. KCI will supply the product Mac-Pac and this will be injected by Total staff in an attempt to isolate the stem packing and allow the valve to be opened and BPV set in order for the stem packing to be replaced.



Varipak Isolation



Preparation:

Pre-fill the KCI deployment cylinder with 500mls of Mac-Pac. Install the KCI hand pump and hydraulic feed line to the deployment cylinder.

Close IBV 3, Open IBV 1, IBV 2. Inject the Mac-Pac through the tool package.

Close IBV2, Pressure test the cylinder with the hand pump, 3,000psi

Bleed / Vent pressure at the pump. Note IBV 3 remains closed.

Open IBV2 and commence injection.

Mac-Pac Injection:

Operate the actuator and open the valve.

With the valve open inject the Mac-Pac, Continue to inject the Mac-Pac until you reach a PBU of 3000psi (Piston has reached its full stroke)

Close IBV2 and monitor gauge on the manifold. This should meet current well pressure.

Contingency available 500mls.



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KCI Mac-Pac Product Review

Mac-Pac Sealant:

KCI Mac-Pac is a highly viscous fluid which will energise existing damaged seals.

The Mac-Pac sealant will maintain and increase its viscosity within a confined cavity (subject to the size of the leak path).

The Mac-Pac will pass through the leak path and position a top-load seal structure against injection gas or fluid pressure.

The Mac-Pac will pig out all of the existing fluids within the cavity including Plastic Packing.

The Mac-Pac has an operational temperature range of -50° to 250°C with no change to the products viscosity.

Deployment Activity:

Gate Valves, Ball Valves, Plug Valves, Wellhead Pac-Off, Special Applications

Note: When deploying more than 500mls of Mac-Pac (stick) swap cap ends and remove the oil and install the additional Mac-Pac stick. The piston will come to a mechanical stop with an instant build up of pressure indicating end of piston travel. Always bleed down the hydraulic oil pressure before removing the cap.