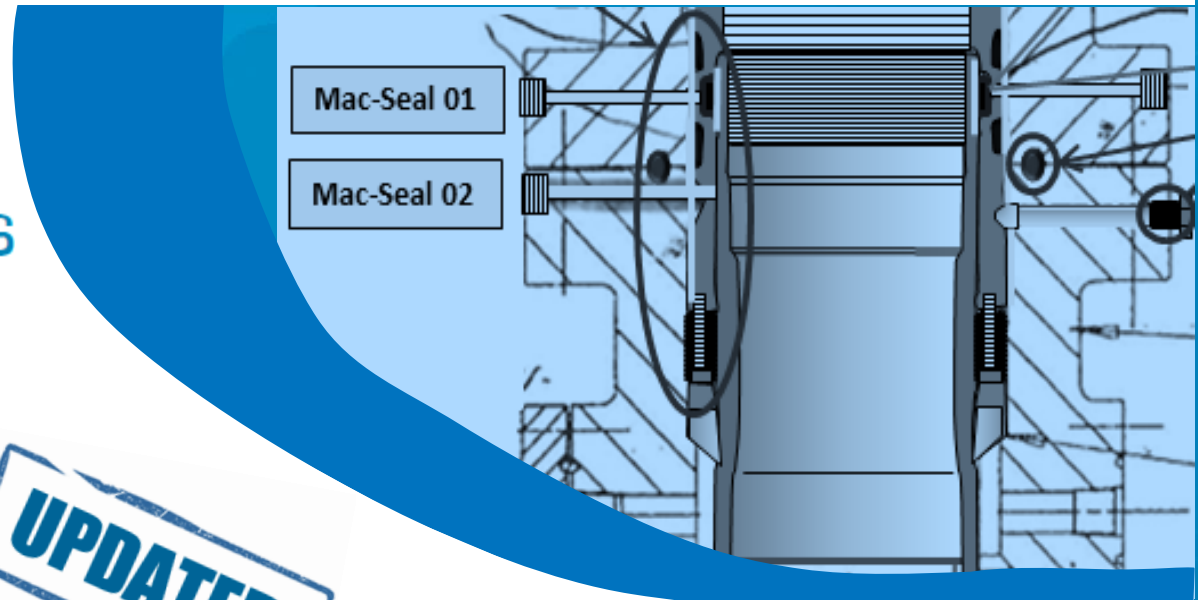




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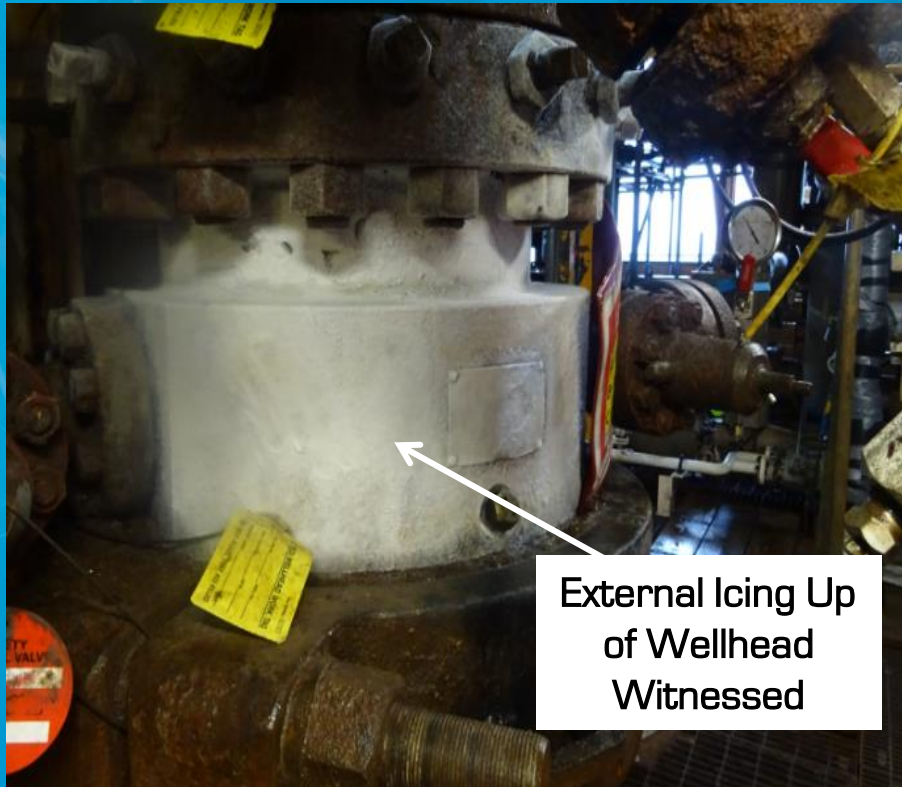
# MAC-SEAL - Leak Sealing Solution



**UPDATED**

“Successful Casing Hanger  
Mandrel Isolation with Mac-Seal”





## Background

- ❑ KCI were requested by a major UK Oil and Gas Operator to provide an isolation on a Vetco Wellhead due to A to B Annulus communication.
- ❑ The Well is a gas lift design and the A Annulus gas pressure was charging the B Annulus.
- ❑ Severe freezing was witnessed on the external body of the 9 5/8" Casing Spool when venting down the B-Annulus indicating that there was a significant gas leak path causing the external icing on the wellhead.
- ❑ The Well was Shut-In due to this major Well Integrity issue.

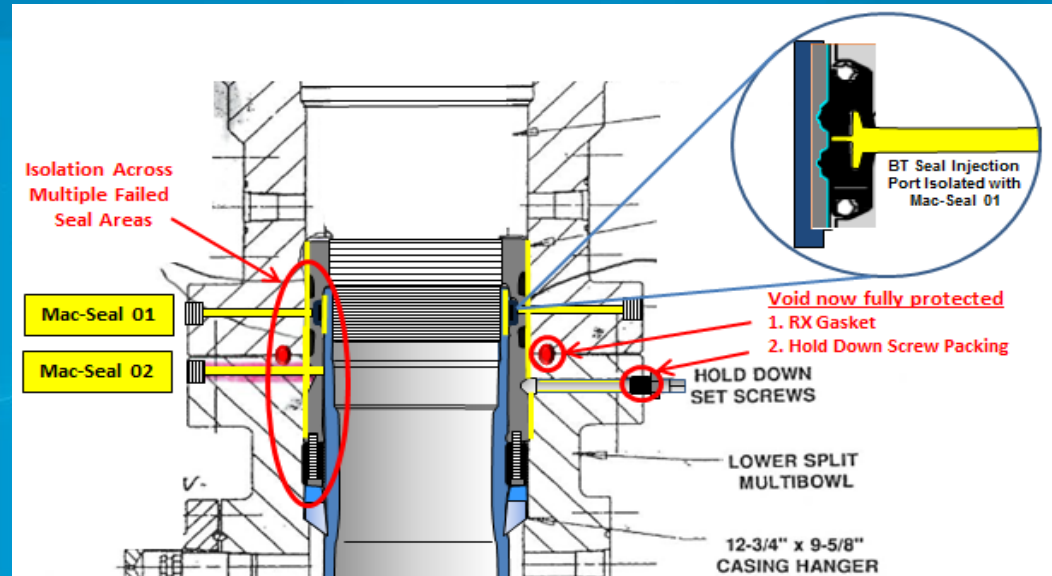


# Casing Hanger Mandrel Isolation - Mac-Seal



## Deployment Detail

- ❑ Test medium fluid was injected into the Casing Hanger assembly to confirm the leak path – Leak verified.
- ❑ 1.8 Litres of Mac-Seal 02 was deployed into the 9-5/8" Casing Hanger Mandrel Void to establish the isolation.
- ❑ 0.5 Litres of Mac-Seal 01 (thinnest viscosity) was deployed to isolate the split or damaged BT Seal assembly.
- ❑ Once the Mac-Seal had cured the 9-5/8" Casing Hanger Mandrel Void was tested using the A & B Annuli pressures.
- ❑ With full Gas Lift pressure on the A Annulus, the B Annulus was successfully vented off with no pressure build-up or external freezing witnessed on the external body of the wellhead.



## \*Objective Achieved\*

The Isolations were 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 Well Workover or lost production from a Long Term Suspension.