

Date: May 2023
Region: North Sea, UK



Key Capabilities

- ISO 14310 Vo qualified
- PTC GoLift™ technology
- Slim design (small OD/large ID)
- Large through bore ID/large flow area

Challenge

Production had ceased on Apache's Beryl Alpha A85 well due to a failed gas lift valve (GLV). During slickline retrieval of the GLV it was found to have sheared, leaving the lower half stuck in the Side Pocket Mandrel (SPM). With the lower half of the valve stuck in the SPM, there was communication between the tubing and A-annulus. Attempts to recover the lower half of the valve were unsuccessful and the decision was made to try a different approach to reinstate gas lift in the well.

Solution

Interwell and PTC proposed a combined gas lift straddle solution consisting of a 2-run 363-450 (3.63" OD for 4 ½" tubing) Multi-Run Medium Expansion (ME) Anchored Production Straddle (APS) combined with a PTC 4 ½" GoLift™ Sub and 1" SafeLift™ GLV. The PTC GoLift™ Sub directly interfaced with the Interwell APS eliminating the need for any x-overs.

Our APS combined with PTC's GoLift™ technology enables operators to retrieve shut in potential. This retrofit system can improve production where:

- **Gas lift equipment was never installed in original completion:**
 - Reservoir and well performance is poorer than expected and lift gas available
 - ESP failed and lift gas available
- **Current gas lift equipment installed inoperative:**
 - Valve has had a failure
 - Side pocket mandrel failure
- **The original gas lift valve set-up in the well is suboptimal:**
 - Unexpected change in available lift gas pressure
 - Slugging or dying production
 - Gas lift design not considered for late life or change in conditions

The 363-450 Multi-Run ME APS is ISO 14310 validation grade Vo qualified to 3,500psi differential pressure in a temperature range of 125-4°C in 4 ½" tubing and features a large 2.114" minimum throughbore ID.

The lower run, consisting of a lower module, spacer pipe and female latch, was accurately correlated on e-line 6ft below the SPM and set using our Electronic Setting Tool (EST) with real-time activation from surface.

The upper run, consisting of a stinger, GoLift™ Sub and upper module was run on e-line, strung into the lower run and set 6ft above the SPM using the EST with real-time activation from surface.

Case Study:

Re-establishing production after failed gas lift valve

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Value

Gas lift was reinstated, and production was successfully brought back online with no further time being lost.

It took a total of 7 days from the initial enquiry to the mobilisation of the equipment. The recent integration of PTC into Interwell allowed for seamless operational planning and equipment preparation right through to the successful execution of the operation.

