



Technology in Action



OD Heavy Duty Releasable Spear

UK-based Operator, North Sea

Technical Challenge:

Retrieval of Injection Valve backed off from 7" Retrievable Bridge Plug (RBP).

Well Type:

Water Injector (maximum 40 degrees deviation).

Peak Solution:

4.5" OD Heavy Duty Releasable Spear.

The Challenge:

In March 2015, wireline was deployed to pull the 7" RBP complete with Injection Valve to surface. Once pulled to surface it was noticed that the Injection Valve with Crossover had backed off downhole.

The Injection Valve and Crossover were located at 9,901ft between the 7" – 5 1/2" completion Crossover. A method to fish the Injection Valve and Crossover to allow a new Injection Valve to be installed was required.

Considerations:

The following key requirements and concerns were identified:

- A timely and effective intervention was critical to allow the new Injection Valve to be installed to minimise impact on linked production wells
- Onshore trial to determine how the Injection Valve and Crossover could be fished was to be conducted within hours of the issue arising

Summary:

During the onshore trial it was established that the Crossover could only be located at the smaller ID where it would make contact with the poppet of the Injection Valve. The Injection Valve required 125lbs minimum force to compress the Poppet and the full travel to open the Injection Valve was 5.52". With the Poppet fully compressed this would allow the Peak Releasable Spear to locate the inner ID on the Crossover.

Following rapid mobilisation of Peak's 4.5" OD Heavy Duty Releasable Spear to the offshore platform it was successfully run in hole to the location of the Crossover at 9,901ft. After the latching process the pick-up weight increased 100lbs confirming the 4.5" OD Heavy Duty Releasable Spear had a grip of the Injection Valve.

Upon returning to surface it was noted by the operator that the Injection Valve was externally damaged and there was clear evidence of debris which was brought back to surface.

Value to Customer:

All operations were carried out safely and efficiently, minimising the period of reduced production from linked production wells.

- Onshore trials were carried out immediately to confirm forward plan
- Mobilised to offshore platform within eight hours
- Upon arriving at the platform the tools were run in-hole without issue and successfully fished the Crossover complete with Injection Valve within six hours
- New RBP and Injection Valve now set and full injection available
- Operational support ensured that the Customer received the best possible support

For more information please contact: info@peakwellsystems.com

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