

Case Study

Removing 30 Year Old Subsea TA Caps to Facilitate Well Abandonment



PRODUCT: SUITE OF PULLING TOOLS FOR SUBSEA TEMPORARY ABANDONMENT CAPS

Project:

A subsea well in the Dutch sector of the southern North Sea had been suspended for over thirty years. The operator wished to abandon the well so a suite of tools were required that would seal on and pull a set of temporary abandonment (TA) caps.

The 13-3/8" TA cap needed a tool which would seal onto the cap in order to stab a back pressure valve (BPV) to vent any pressure up through the drill string. A secondary means of holding pressure in the event that the existing BPV would not re-seal was also required, with the option to leave the system in place if needed and re-latch on at a later date.

Solution:

Unity designed a Pulling Tool which could:

- Locate and latch a torque pin on the TA cap.
- Provide a double sealing system on the TA cap for pressure containment.
- Provide a means of testing the seal once energised, from both the annulus side and drill string side, prior to stabbing the BPV on the TA cap.

- Incorporate a secondary internal seal that would retain pressure from below in the event that the BPV did not re-seal.
- Provide a method of telling if the original BPV was opening/sealing.
- Allow a straight pull to disconnect, leaving the tool holding integrity on the TA cap for a return trip at a later date with a retrieval tool.
- Enable simple operation, including rotate left or right and pull up or set down weight.

The efficiency of the design and development of the first tool and its successful performance led to the development of further specialised tools for the recovery of other temporary abandonment caps.

Quick and reliable well re-entry was achieved, which is vital for saving operational time, costing upwards of £150,000 per day on the jack-up rig, crews and equipment.

The tool enabled the safe and environmentally secure re-entry to a well not accessed for over thirty years so it could be abandoned, ensuring the operator met their statutory obligations.

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