

COMPLETE SEVERANCE AND RECOVERY SOLUTION FOR 28 WELLS USING SABRE™

Claxton provided a full severance suite and rig-based surface recovery equipment to abandon a North Sea platform.

THE PROBLEM

The client's initial planning and decommissioning evaluation of the facilities influenced their decision to contact Claxton in 2017. The requirement was to plan and perform abrasive mid-water conductor/casing severance and recovery of 28 wells, using a drilling rig.

The majority of the wells were cemented back to surface on all casing strings. However, as with many ageing structures, there were limited historical notes, meaning there was no guarantee to have cemented casing at the proposed cut depth on any of the wells.

THE SOLUTION

The operator opted for a sequential rig based approach, utilising the platform derrick, and Claxton's SABRE™ abrasive cutting system would be used to sever the wells. The equipment has an extensive track record and has been proven on multiple successful campaigns.

This was a large scale decommissioning challenge which Claxton was ideally qualified for, as the Head of Decommissioning, Matt Marcantonio explained; "We have built up a strong portfolio to help work on projects like this. SABRE has been used on many North Sea decommissioning campaigns and this was the ideal opportunity to deploy the tool again. SABRE™ uses a mixture of air, water and abrasive garnet at up to 1,000 bar to cut through the multiple steel casings and any cement within the various annuli. The abrasive cutting system is proven to simultaneously sever all the casings in a well, regardless of casing loading, annuli contents or eccentricity".

As this was the heaviest recovery Claxton have performed to date, with a factored string weight of 175T, a new dual pin lift system was designed. Other bespoke developments included; revised tooling geometry for SABRE™, a 250Te capacity proving string and jacking system plus a tension system for controlled cut verification.

Once offshore, the team followed the process of severing the wells internally from within either the 9-5/8" or 7-5/8" casing, out through the inner 13-3/8" and 20" casing and 30" conductor. This was followed by proving the cuts using our bespoke verification system. During this process, Claxton implemented an innovative proving string including a baffle for well returns and a strengthening system for the starter head connection, the strength integrity of which was in question.

The wells with uncemented casings presented no issues to SABRE and were all within the cut tolerance range. Some of the wells were trickier to sever due to eccentricity issues so downhole tooling and

procedures were adapted to accommodate.

During the recovery operation, the casings were drilled and pinned and recovered as a single multi-string recovery. The team even designed a compact marine growth removal tool especially for this recovery process, to operate within the confined space at the production deck.

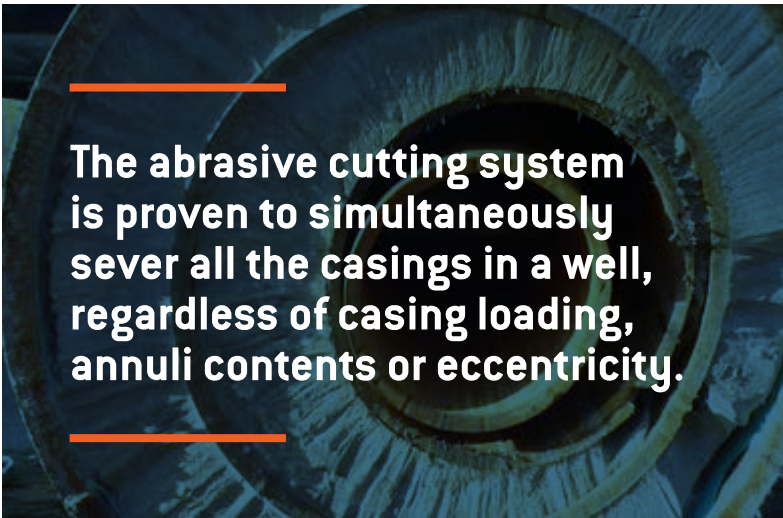
THE RESULT

"Claxton worked closely with the operator to jointly plan the project carefully before the offshore phase. We went on to mobilise multi-skilled decommissioning technicians and maintenance personnel who ensured round the clock operations", said Claxton Project Engineer, Scott Eke.

Throughout the project, Claxton have continued to investigate and implement safe ways to speed up processes when met with challenging well conditions. At the time of writing, the cut speed for one well was reduced by a third.

Claxton's partnership with the client has gone from strength to strength, with the client stating; "The Claxton team were innovative from the project outset, designing and developing bespoke equipment within tight deadlines. The offshore team came up against several challenges, including a tricky multi-string recovery, where they remained professional and worked hard to resolve the problem, achieving a clean and successful recovery."

The operator's decommissioning campaigns in the North Sea are ongoing and Claxton hope to continue to support them by using our marine package on their other assets.

A close-up photograph showing the circular opening of a well casing. The interior of the casing is dark and appears to be filled with a cutting slurry. The metal edges of the casing are visible, showing some wear and the texture of the cutting process. The lighting is dramatic, highlighting the circular geometry and the industrial nature of the scene.

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