

BESPOKE DESIGNED 7" SWAT™ FOR A RIGLESS OIL WELL ABANDONMENT PROJECT IN THE NORTH SEA

ACTEON | ENERGY SERVICES

PROJECT OVERVIEW

Claxton, a cutting and decommissioning brand in Acteon's Energy Services division, was contracted by EXCEED Energy to abandon five wells in the Northern North Sea.

Claxton was awarded both phases of the well abandonment scope. The first phase involved plugging the wells to prevent environmental harm. In the second phase, a solution was devised and implemented for wellhead severance and recovery.

Claxton provided bespoke rigless abandonment technologies including a new compact model of the suspended well abandonment tool SWAT™ designed to meet the specific requirements of the project.

Operations were carried out from the subsea construction vessel *Siem Day*.

THE CHALLENGE

One of the four wells had a 7" x 32 lb/ft casing. The standard configuration of SWAT which operates in casing sizes 9 5/8" through to 13 3/8" could not be used to place the environmental plug in this well.

The well therefore required a specially designed compact 7" SWAT to be used. However, due to a restricted back deck, it also needed to have a smaller footprint but maintain the same functionality and interface as the larger 9 5/8" SWAT that was being used for the other wells.

Supplying a well abandonment tool to perforate, circulate out oil-based mud and place an environmental cement plug across two annuli within the drift diameter of 5.969" (151.6mm) was going to push tolerances.

The abandonment work was also completed in the winter amid challenging weather conditions in the North Sea.

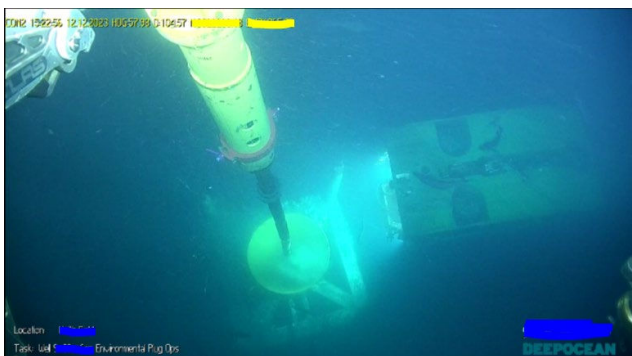
CUSTOMER GOAL

The goal was to abandon the five wells in the two oil fields while reducing project costs and carbon footprint as well as minimising the environmental impact.

OUR SOLUTION AND ITS COMMERCIAL BENEFITS TO THE PROJECT

Market-leading services and integrated solutions

- SWAT was used to perforate the well annuli, recover oil-based mud and place environmental cement plugs in three of the four wells.
- The multi-string severance tooling combined with the wellhead picker was used to sever wellheads >10 ft below the mudline and recover the well stumps to the vessel.
- A new SWAT was designed, procured, manufactured, assembled, and tested for use inside a 7" x 32 lb/ft well casing.
- Claxton worked with Probe, another brand in Acteon's cutting and decommissioning segment, for manufacturing the new SWAT.



Operational bases across the world

- The SWAT was designed, procured, assembled, and tested at Claxton's Great Yarmouth base in the UK.
- Probe's Great Yarmouth facility was used for the machining and manufacturing work.
- The tools used for wellhead severance were delivered from our sites in Aberdeen and Norway.

Work at scale with a proven track record for delivery

- Both phases of the project were overseen by one project manager to provide a single interface to the customer.
- SWAT has a strong track record proven across 120 North Sea wells.

Optimise the project to increase commercial value

- The rigless approach achieved significant cost savings compared to a typical rig-based abandonment.
- The 7" SWAT was developed with the same functionality as the larger tool to enable easy interface with the existing subsea disconnect and umbilical to minimise the footprint of the equipment spread on the vessel.

Minimise the environmental impact

- SWAT was able to safely clean up the wells and recover well fluids such as oil-based mud back to the surface while minimising the impact on the environment.
- The multi-string severance tooling utilised a naturally occurring abrasive that does not pollute the environment or cause damage.
- Abandoning wells from a vessel enabled a significant reduction in carbon emission and cost as compared to the use of a rig.

PRODUCTS USED

- SWAT
- Multi-string severance tooling
- Wellhead picker

