

JACKET SUPPORT STRUCTURE INTEGRATED SOLUTION OFF THE COAST OF ANGOLA

PROJECT OVERVIEW

Claxton, a Cutting and Decommissioning brand in Acteon's Energy Services division was contracted to provide engineering and installation services and manage subcontracts with Acteon brands 2H and LDD for a jacket support structure off the coast of Angola, West Africa.

THE CHALLENGE

Limited deck space on the vessel meant that the standard layout for the piling equipment could not be used. A modified layout was required which necessitated project-specific methodology agreed between all parties for deploying and handling the 18Te hammer.

In-country logistics and mobilisation challenges required detailed and timely plans to manage the port facilities. The equipment needed to be mobilised as efficiently as possible due to the limited time the vessel could be in the port.

CUSTOMER GOAL

The scope of work was to install a strengthening structure to two platform jackets.

OUR SOLUTION AND ITS COMMERCIAL BENEFITS TO THE PROJECT

Market-leading services and integrated solutions

- 2H provided upfront engineering for the drivability study and deck plan sea fastening calculations. Claxton provided the pile installation equipment including pile handling and driving subsea equipment. LDD provided the subsea grouting equipment for cementing the piles and the annulus.
- A readily available backup hammer and hydraulic powerpack were mobilised to due to the remote work location.
- A backup grouting procedure was created due to limited diver bottle time in case the divers' encountered issues.



Operational bases across the world

- The equipment was shipped from the UK, therefore requiring in-country inspection and test plans created and completed onshore by the Claxton and LDD technicians before the mobilisation.

Work at scale with a proven track record for delivery

- Claxton completed the initial engineering to confirm the suitability of the S-90 subsea hydro hammer, along with the drive time predictability and fatigue analysis of the pile during driving operations. The vessel deck layout and tie-down calculations for seasoning the equipment to the vessel deck, which included a hammer-up ending frame, were also provided.
- Claxton provided pile lifting equipment to manoeuvre the piles into location and an S-90 hydro hammer for driving the pile to the target depth. All four piles were successfully driven to a target depth of 70 ft with an average drive time of 31 minutes. All piles driven were recorded on the integrated logger which provided the customer with drive blow count, drive logs and graphs.
- Once the piles were installed, LDD completed the subsea grouting operation which included the grouting of two clamps per pile and the pile annulus to secure the structure in place. The subsea grouting hoses were installed and connected to the jacket by air divers, and all grouting equipment was operated via topside equipment.
- The work was completed from the customer's air-diving vessel.



Combine digital technology and data to enhance our expertise

- Vessel limitations meant that extra precautions had to be taken during the pile driving and operation of the hammer. Additional cameras and lights were installed by the divers for Claxton to monitor the hammer sling and work directly with the crane operator to complete the driving.

PRODUCTS USED

- S-90 Hydraulic hammer spread and backup hammer and HPU
- Subsea grouting spread
- Pile handling equipment.

