

Project Management – Subsea Casing Stub Removal

Scope of Work

NCA, Inc. successfully project managed the removal of a subsea 30" multistring casing stub. The stub was completely covered with five hundred (500) 3-1 sandbags and was bowed up against an existing pipeline. NCA was awarded the project and performed the duties of a prime contractor. NCA was responsible for coordinating all vessel and dive operations, as well as supplying the necessary internal and external cutting equipment (including NCA's patented Internal Multistring Cutting Tool and 36" Diamond Wire Saw) needed to remove the casing stub to the required depth.



Challenges

- Casing Stub P&A completed in 1971
- 500 3-1 Sandbags placed on top and around the casing stub
- Poor Conductor Structural Integrity
- Dive Support Vessel Limited Deck Space
- Existing Pipeline bowed against the 30" casing stub and buried under the sandbags
- Non-jettable material found in 16" casing 3' below mudline
- Fully Grouted thru all casing strings
- Dredging around existing 12" pipeline with possible residual energy

Project Facts

Location: Gulf of Mexico – M/V Diamond Discovery
Eugene Island Field

Water Depth: 243 ft.

Well: 16" x 30" Casing Strings
Fully Grouted thru all strings from 3' below mudline
Metal Debris inside 16" casing

Timing: September 21st – October 2nd

Diamond Wire
Cut Time: Thirty-Seven (37) Minutes

Dredging Days: 3 days 5 hrs



Project Execution

NCA contracted Seamar International to supply both a dive support vessel (M/V Discovery) and gas diving spread to the casing stub location. Seamar diver's initial scope involved video surveying the area around the sandbags, pipeline and casing stub and verifying any existing pipeline damage as well as the condition of the work area. Upon work site clearance the divers removed the sandbags from the top of the casing stub with a hydraulic chisel and exposed the top of the 16" and 30" casing stub to allow for drifting. The original trash cap was not located on top of the casing stub. The diver was unable to drift down the 16" casing due to non-jettable material, estimated 3' below mudline. NCA and Seamar divers began dredging operations around the caisson and pipeline using Gulfstream Services mass excavating grapple. This enabled NCA to trench out around the caisson with speed and efficiency. The grapple and Mesotech scanner allowed for operations to continue even while the diver was in decompression. The total cut depth was reached in just 3 days 5 hours. NCA and Seamar divers deployed the diamond wire saw and installed onto the casing stub below mudline. The external diamond wire cut was performed in 37 minutes. The casing stub was retrieved and placed onto a waiting supply vessel. After removal of the stub, the divers completed the final pipeline survey and began the backfilling that was required to return the excavated area to its original state. Before leaving the project site the divers and Tesla survey performed a 150' radial clearance site survey checking for any debris and proper pipeline support.



Achievements

- Project completed earlier than expected and under allotted budget
- Diamond Wire Cut completed in 37 minutes

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