CASE STUDY

Wellbore Integrity SOLUTIONS

North Sea

Re-Anchoring Success: Expandable Anchoring Technology Enables Precision Recovery of a 30” Conductor

A tailored anchoring solution resolves a complex P&A recovery challenge in the North Sea

Wellbore Integrity Solutions (WIS) delivered a tailored technical solution to a complex challenge encountered during a plug and abandonment (P&A) campaign in the North Sea.

The operator approached the WIS UK team with a requirement to recover a parted 30” conductor during offshore operations. The challenge arose during a triple-string cutting operation involving 13-3/8”, 20”, and 30” casings.

Following this operation, the remaining 13-3/8” casing was recovered to 512 ft, followed by recovery of the 20” casing to the same depth. With both inner strings removed, clear access to the 30” conductor was established.

Upon accessing the 30” conductor, a restriction was encountered at 260 ft. The existing 30” LSD Spear bottom hole ssembly (BHA) was unable to pass this restriction. Multiple recovery attempts were made using the LSD Spear from surface to 181 ft; however, progress was restricted due to the remaining section of 30” conductor leaning within the jacket structure, limiting access through the guides.

To overcome this challenge, WIS proposed the deployment of an 18-1/2” × 31” Expandable Anchor. This solution enabled secure engagement and recovery of a 40-ft section of the 30” conductor. The new BHA was hydraulically set at 200 ft using 3,650 psi, providing the anchoring force required to complete the recovery operation.

Due to the geometry of the recovered conductor, it could not be passed through the wellhead guide opening. As a result, a decision was taken to safely store the recovered conductor and remaining BHA on the seabed. The BHA was repositioned to a safe depth, and the hydraulic disconnect sub was activated, allowing the BHA to be severed at a predetermined point.

CHALLENGE

- Recovery of a parted 30” conductor during a North Sea P&A campaign
- Restricted access caused by a restriction at 260 ft and a leaning conductor within the jacket structure
- Existing 30” LSD Spear BHA unable to pass the restriction or achieve recovery
- Limited wellhead guide clearance creating handling and geometry constraints

SOLUTION

- Deployment of an 18-1/2” × 31” Expandable Anchor to enable secure engagement of the 30” conductor
- New BHA hydraulically set at 200 ft using 3,650 psi to achieve reliable anchoring
- Controlled recovery strategy designed to work within subsea and structural limitations
- Use of a hydraulic disconnect sub to safely separate and position the BHA as required

RESULT

- Successfully engaged the 40-ft section of 30” conductor
- Safe management of recovered conductor and BHA via seabed storage
- Operational challenges mitigated without compromising well or structural integrity
- Demonstrated effectiveness of expandable anchoring technology for complex P&A recovery operations

WIS-MKT-320