

Downhole Motor

Section Mill with TruEdge™ Knives

String Stabilizer

Pup Joint Spacer

Taper Mill

# Single-Trip Section Milling of 200 ft in 13<sup>3</sup>/<sub>8</sub> inch Casing Using Hydraulic Workover Unit

Wellbore Integrity Solutions (WIS) successfully milled a 13<sup>3</sup>/<sub>8</sub> inch casing on a challenging well, with a Hydraulic Workover Unit for a customer in Spain.

## Optimized Section Milling BHA from a Hydraulic Workover Unit (HWU).

As part of an ongoing plug and abandonment (P&A) campaign in the offshore sector of Spain for a key Spanish customer, Wellbore Integrity Solutions (WIS) was tasked with milling a 200 ft section of 13<sup>3</sup>/<sub>8</sub> inch 72 lb/ft casing to enable the placement of a reservoir isolation barrier.

This marked the seventh section milling operation on the same installation. Drawing on lessons learned from previous campaigns under more challenging conditions, WIS' Fishing Specialists designed an optimized bottomhole assembly (BHA) onsite. This approach significantly reduced the risks typically associated with section milling from a Hydraulic Workover Unit (HWU).

A 11700 Section Mill equipped with TruEdge™ milling inserts was selected, paired with a low-speed, high-torque motor to maximize efficiency and reliability.

Given the complex downhole conditions, a carefully controlled milling strategy was adopted. This allowed for effective coordination of the HWU support systems, milling performance, mud properties, and hole cleaning operations. To enhance hole cleaning, surface rotation of the string was maintained at low RPM.

This strategy enabled successful milling of a 200 ft window in the 13<sup>3</sup>/<sub>8</sub> inch casing in a single trip. Post-operation inspection revealed only 40% wear on the section mill knives.

## CHALLENGE

Wellbore Integrity Solutions (WIS) successfully milled a 13<sup>3</sup>/<sub>8</sub> inch casing on a challenging well, from a Hydraulic Workover Unit.

## SOLUTION

- 13<sup>3</sup>/<sub>8</sub> inch Section Milling BHA was optimized for milling and circulating.
- Controlled parameters—balancing milling rate of penetration (rate of penetration (ROP), hole cleaning and motor operation.
- Specialized high-torque downhole motor (8 inch OD).
- TruEdge™ Milling insert technology.

## RESULTS

- Successfully milled a 200 ft window in 13<sup>3</sup>/<sub>8</sub> inch 72 lb/ft casing in a single trip.
- Milled through three casing couplings without issue.
- TruEdge™ milling insert technology showed only 40% knife wear post-operation.
- Operation completed with zero non-productive time (NPT) and no HSE incidents.

