

PullMaster Successfully Deployed on a North Sea Well to Recover Dual 7 x 9⁵/₈ inch Casing from Barite Sag

PullMaster Jack enhanced the rig's maximum pull capacity for casing recovery.

Deployment of the PullMaster System to recover dual casing embedded in barite sag.

During the plug and abandonment (P&A) phase, multiple sections of 7 inch, 9⁵/₈ inch, and 7 inch x 9⁵/₈ inch dual cemented casings were successfully recovered using conventional methods. However, due to limited rig capacity and applying maximum jarring load impacts, the 7 inch x 9⁵/₈ inch dual cemented casing could not be recovered from the cut at 543 meters (1781 feet) depth.

The Wellbore Integrity Solutions' (WIS) Red Baron team introduced the PullMaster Jacking tool. A decision was made to first cut and retrieve a section of 7 inch casing from the 7 inch x 9⁵/₈ inch dual cemented casing. This allowed the WIS PullMaster system to use an 8¹/₄ inch OD Casing Spear (for 9⁵/₈ inch casing) to maximize the Fishing Bottom Hole Assemblies' (BHA's) tensile strength, instead of a 5³/₄ inch OD Casing Spear (for 7" casing). After recovering a short 7 inch casing stump, an 8¹/₄ inch OD Casing Spear (for 9⁵/₈ inch casing) was deployed on the WIS PullMaster System.

After the grapple successfully engaged the 9⁵/₈ inch casing just above the 7 inch x 9⁵/₈ inch dual cemented casing stump, a straight overpull was applied, and the PullMaster hydraulic anchor was activated. With the anchor set, the stand pipe pressure was gradually increased to jack the 7 inch x 9⁵/₈ inch dual cemented casing section free from the 13³/₈ inch casing. The WIS PullMaster generated a pull



force of 270 mTon (595 klbs) to free the 7 inch x 9⁵/₈ inch dual cemented casing section.

The casing string was successfully lifted, as indicated by the full stroke of the jack and the corresponding drop in surface pressure, confirming the full stroke completion.

CHALLENGE

An Oil & Gas Operator in the North Sea contacted Wellbore Integrity Solutions to evaluate the feasibility of cutting and retrieving a 7 inch x 9⁵/₈ inch dual cemented casing section, presumed to be embedded in barite sag within the 9⁵/₈ inch x 13³/₈ inch casing annulus. The assessment had to account for the rig's maximum pulling capacity of 250 mTon (550 klbs).

SOLUTION

The proposal involved deploying a 7 inch x 9⁵/₈ inch dual casing cutter, followed by a dedicated casing spear run using the WIS PullMaster downhole jacking system with the 13³/₈ inch casing hydraulic activated anchor.

RESULTS

- Enhanced downhole pulling capacity with the PullMaster System.
- Successfully recovered the 7 inch x 9⁵/₈ inch dual cemented casing section from the well.
- Customer successfully set the 13³/₈ inch bridge plug at the P&A target depth.

