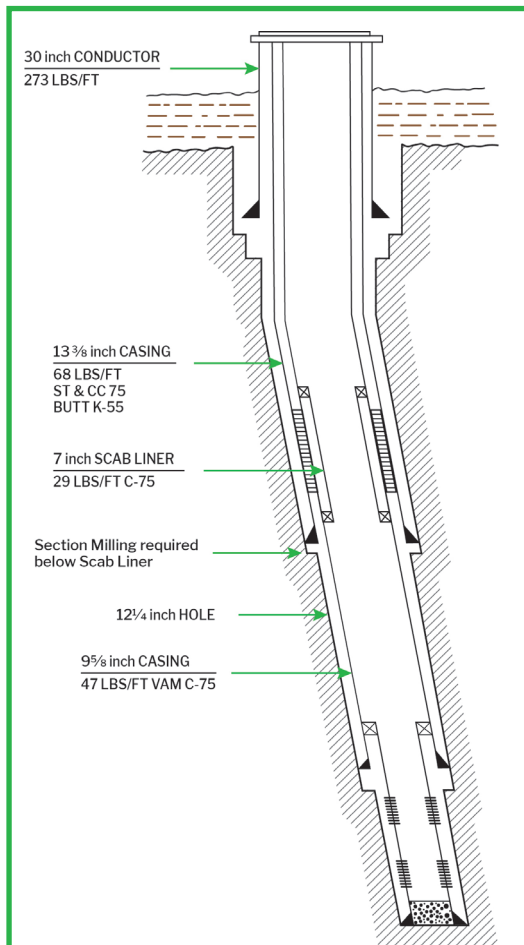


6000 ProMILL Duo™ Enables Abandonment Operations Below a 7 inch Scab Liner in the UAE

Wellbore Integrity Solutions (WIS) provided an innovative solution to mill a 9 $\frac{5}{8}$ inch window, using tools capable of drifting a 7 inch scab liner above desired window depth.

Milling a single casing window below a scab liner, using dual casing milling technology for the first time.

A key customer in the Middle East urgently needed to set a barrier across a 9 $\frac{5}{8}$ inch casing. However, there was a restriction above the desired barrier depth due to a 7 inch scab liner installed during previous workover operations. Standard section milling tools could not be used because their maximum outer diameter of 8 $\frac{1}{2}$ inches was too large to pass through the 6 inch inner diameter of the scab liner.



To address the situation, WIS recommended using dual casing milling technology to drift the scab liner's ID, followed by milling the casing window with smaller-diameter tools from WIS 6000 ProMILL Duo* System.

Since the 9 $\frac{5}{8}$ -inch casing could not be adequately drifted in preparation for milling, a dedicated run with the 6000 ProMILL High-Ratio Underreamer (HRU) was performed to verify clear access through the 9 $\frac{5}{8}$ -inch casing ID across the desired window interval. Following this, section milling operations were successfully executed using ProMILL Duo* Technology, enabling the required well abandonment.

Complex well geometry for abandonment operations; window required on 9 $\frac{5}{8}$ inch casing at 5,795 ft, however there is a 7 inch scab liner at 2,837 ft – 5,713 ft.

CHALLENGE

Mill a 150-foot window across 9 $\frac{5}{8}$ inch casing, at a depth where 8 $\frac{1}{2}$ inch tools could not drift, due to the presence of a 7 inch scab liner above.

SOLUTION

Standard section milling tools for 9 $\frac{5}{8}$ -inch casing could not drift the 7-inch scab liner. WIS proposed using Dual Casing Milling technology to mill a single casing window. The solution involved using the 6000 ProMILL Duo* tool.

To confirm free access below the restriction:

- The 6000 ProMILL HRU would be run first.
- It would be equipped with scraper arms.
- This setup would serve as a dummy/ access BHA.

RESULTS

- Successfully clean / scrape 9 $\frac{5}{8}$ inch casing ID using the 6000 HRU, before running ProMILL Duo*.
- Deployed 6000 ProMILL Duo* through a 7 inch scab liner ID to open a window in the 9 $\frac{5}{8}$ inch casing.
- Completed 150 feet window to enable well plug and abandonment

