

The Longest Liner Milling Operation in Kuwait

Integrity and efficiency combined



Saved the operator the extra cost associated with open hole and cased hole sidetracks and kicking off away from the target.

Extremely robust in challenging environments

Challenge

The client was challenged with milling more than 1,000 feet of a heavy wall 5-inch liner (21.4#, Q-125 material grade) and an extreme material strength hanger (BH/ZXP Hanger). In addition, they had to perform more than 100 feet of uncontrolled open hole milling to regain access to the original hole after it had been abandoned for quite some time. It is worth noting that the second pilot mill twisted off, which resulted in 2.5 feet of additional fish to mill, consisting of a 1.5-foot pilot and a 1-foot-long blade embedded with a harsh material (an inserted tungsten carbide chip). Eight new 6 1/2-inch Pilot/Barracuda mills were instantly manufactured during the operation to execute the remaining work.

Solution

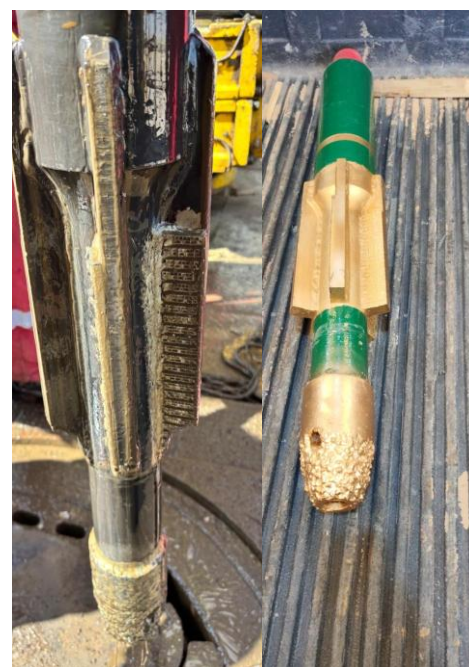
Odfjell Technology supplied custom-engineered 6½" pilot mills featuring a rigid, extended five-blade configuration designed to efficiently mill heavy-wall casing and high-strength hanger materials. This unique design provided exceptional durability and aggressive cutting capability, enabling longer tool life and maximum rate of penetration. The operation achieved one of the longest milling intervals recorded in the region — more than 1,000 feet of heavy-wall liner and 100 feet of open hole — allowing the client to avoid an additional trip through dual casing strings (7¾" and 5") and successfully restore the main wellbore path while maintaining access to the target zone.

Execution

This well had been abandoned due to a stuck 5-inch liner that proved unretrievable, forcing a choice between sidetracking or milling the liner to restore the mother bore. Odfjell Technology responded by manufacturing eight new sets of 6 1/2-inch Barracuda/Pilot mills and executing an extraordinary milling job. They milled more than 1,000 feet of a heavy material liner (Q125/21.4#) and an additional 100 feet in the open hole, establishing this as the most extended interval milled in Kuwait.

Results

Odfjell Technology successfully milled the entire 1,040-foot section of the 5-inch liner in 165 days. This operation utilized eight new, instantly manufactured 6 1/2-inch Barracuda/Pilot mills alongside flat-bottom mills designed to dress the section and clear debris, ensuring proper access for the pilot. The flawless execution delighted the client, as Odfjell Technology saved them the substantial costs associated with dual casing exits, which would have compromised access to high-potential zones. This successful milling operation was critical in preventing the abandonment of the well and ensuring it proceeded to completion.



Location: GCC
29/06/2025

JOB DATA

On/Offshore	Casing Data	Milled Section	Well Trajectory
Onshore	5" & 21.4#	1040 ft	Highly deviated

CASING SPECIFICATION

5"
21.4# & Q-125

DRILL OUT PERFORMANCE

Mills	Duration	Parameters
6 ½" Pilot & Flat Bottom & 3 7/8" Bladed Mills	165 Days	Avg Controlled ROP of 2.5 ft/hr milling casing