

A New Record of a 220 Ft Window was Milled Using the K-Mill In KSA

An efficient well abandonment was successfully completed in a KSA gas well using the 8200 Series K-Mill, section milling a 220 ft window in 9⁵/₈ inch NKA casing (53.50 ppf).

Record setting success for longest milled window.

The Wellbore Integrity Solutions’ team successfully section milled a 220 ft window in 9⁵/₈ inch NKA casing (53.50 ppf), setting a national record for the longest window milled in this casing size and weight.

The operation’s success was driven by the robust and reliable design of the K-Mill, meticulous job planning, and experienced personnel. Key technical challenges addressed included a vertical well, poor cement quality (per logs), heavy-duty casing, and an extended milling window. The execution incorporated a dedicated parameter roadmap, hydraulic simulations for both cut-out and milling, and an optimized BHA for enhanced stabilization.

Summary Section Milling Operation

TOW	Footage Milled	Ave ROP	Number of Runs	Comments
10,030 ft	220 ft	2.2 ft/hr	2	First run footage: 175 ft Second run footage: 45 ft

Post-run evaluation confirmed that the tools remained within acceptance criteria. The 8200 Series K-Mill successfully milled the required window, enabling the customer to proceed with the well’s plug and abandonment plan.

CHALLENGE

Section milled a 220 ft window in 9⁵/₈ inch NKA casing (53.50 ppf) for a gas well abandonment operation within 13³/₈ inch VMC parent casing (72 ppf).

SOLUTION

The K-Mill 8200 Series tool was deployed alongside hydraulic analysis using HART simulation software to optimize both the cut-out and milling operations, ensuring proper tool performance and effective hole cleaning. A detailed operational parameters roadmap was integral to the planning and execution process.

RESULTS

- Successfully section milled a 220 ft window, setting a record in KSA.
- The window was completed in two runs.
- The operation was highly efficient and recognized by the client.
- Enabled subsequent abandonment and remedial operations.



First and second run tools remained in good condition after successfully completing the section milling.



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