

OPERATOR INCREASES ROTATING ROP AND ENHANCES BIT AND BHA INTEGRITY WITH FLEXDRILL® TECHNOLOGY

Challenge

An operator drilling out of the Meramec formation in Oklahoma historically struggled with suboptimal rates of penetration (ROP) due to stick slip and whirl. It caused premature tool failures and bit damage and increased the nonproductive time and costs.

They turned to H&P for a solution to enhance drilling efficiency and preserve bit life.

Solution

Based on the desired outcome the operator was looking to achieve, H&P recommended the Autodriller control system in conjunction with FlexDrill® technology. The continuous, automatic optimization of these solutions helped increase ROP and lower mechanical specific energy (MSE), leading to a more efficient drilling process for the operator.

Outcomes

The proprietary FlexDrill technology performed continuous drill off tests to find the optimal drilling parameters through each formation. This process mitigated stick slip and whirl dysfunction, reducing the downhole vibrations responsible for bit and bottom hole assembly (BHA) damage. Additionally, H&P's solution automatically staged the drilling set points after tagging bottom to further reduce risk and accelerate the well program.

Overall, H&P helped the operator outperform all offsets in both the intermediate and lateral portions of the well.

Increased ROP

- The rig improved their spud to total depth time by five days, resulting in a 12% overall savings.

Reduced BHA Count

- There were four less BHAs used throughout the well, translating to a 30% reduction.

Record Breaking Performance

- The Tonkawa formation interval was drilled to casing point in a single run.



PROJECT OVERVIEW

Location

Blaine County, Oklahoma
Meramec Formation

Outcomes

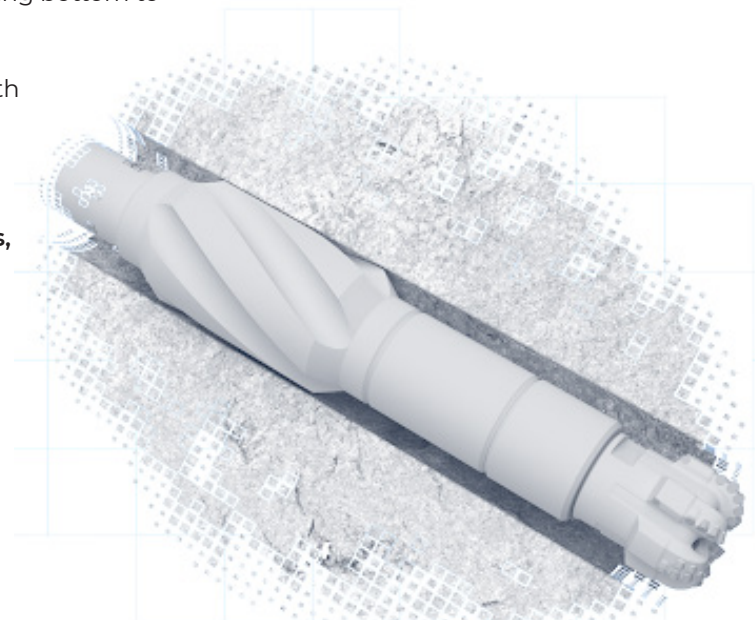
- Reduce Time to Target
 - Increase Rotating ROP
- Enhance Bit and BHA Integrity

Technology & Services

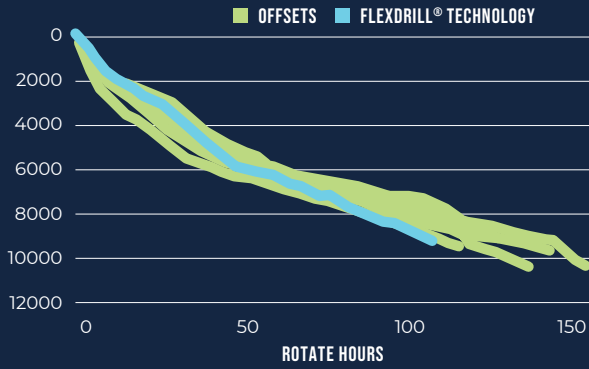
- FlexDrill® Technology
- Autodriller Control System

Are you looking to achieve a similar outcome?

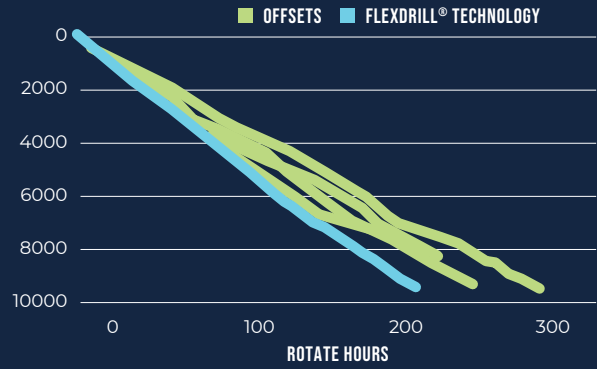
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INTERMEDIATE ROTATING PERFORMANCE

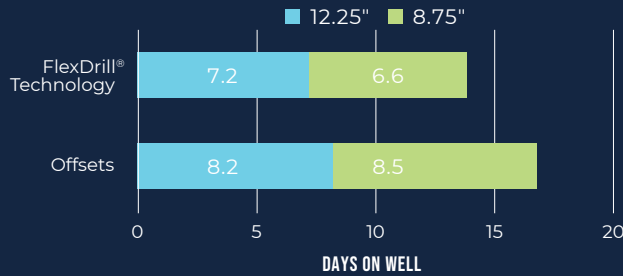


LATERAL ROTATING PERFORMANCE

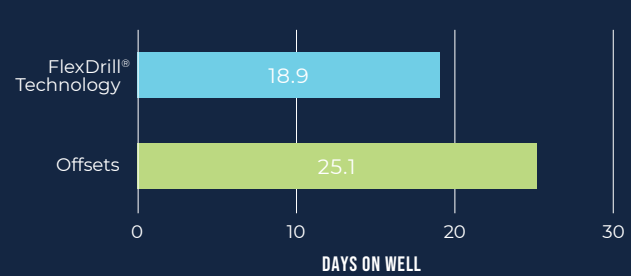


The depth versus time charts displayed above compare the rotating performance of FlexDrill® technology well in the intermediate (left) and lateral (right) sections with relative offsets. The FlexDrill well, displayed in blue, demonstrates far better performance when compared to the average of the offsets.

INTERMEDIATE DAYS DRILLING

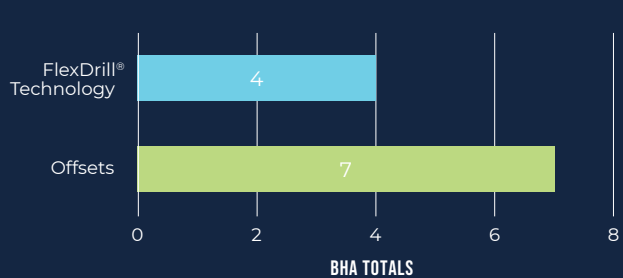


LATERAL DAYS DRILLING

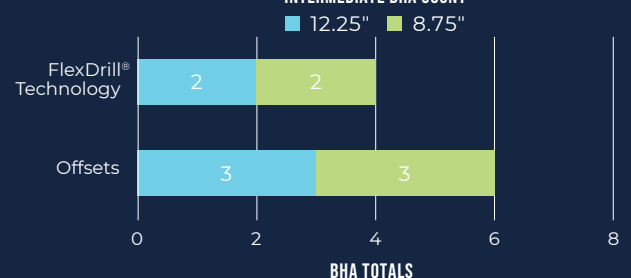


FlexDrill technology's ROP efficiencies contributed to a significant reduction in total days on well when compared with offsets in both the intermediate and lateral sections.

LATERAL BHA COUNT



INTERMEDIATE BHA COUNT



The proper bit engagement and reduced downhole vibration achieved by FlexDrill® technology makes it the obvious leader in BHA efficiency, demonstrated by fewer BHA totals in both the intermediate and lateral sections.



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