UNCONVENTIONALS

CASE STUDY

HyperSteer™ Directional Drill Bit Technology Helps Operator Achieve Longer, More Consistent Runs

A NEW WOLFCAMP D DAYS FROM SPUD RECORD OF 18.06 DAYS WAS ACHIEVED, SURPASSING THE PREVIOUS OPERATOR RECORD BY MORE THAN FIVE DAYS

PERMIAN BASIN

CHALLENGE

- Design and provide an ultra-short make-up bit to minimize shock and vibration and allow the operator to complete more one-run curve/ lateral sections

SOLUTION

- Deploy DatCI™ design at the customer interface to design and deliver HyperSteer™ directional drill bit for initial testing
- New cutter technology including the Razor™ 4-D shaped cutters

RESULT

- Operator achieved longer, more consistent runs with the HyperSteer directional bit compared to the incumbent bit
- Allowed operator to remove the flex joint and reduce shock and vibration
- Improved well, cementing, and production schedules
- Set a new spud record of 18.06 days, beating the previous operator record by more than five days

OVERVIEW

An operator experienced durability and directional challenges while drilling a curve and lateral on a push-the-bit rotary steerable system. The operator reached out to Halliburton to design and assemble an ultra-short makeup length bit to meet their criteria in an expedited timeframe.

CHALLENGE

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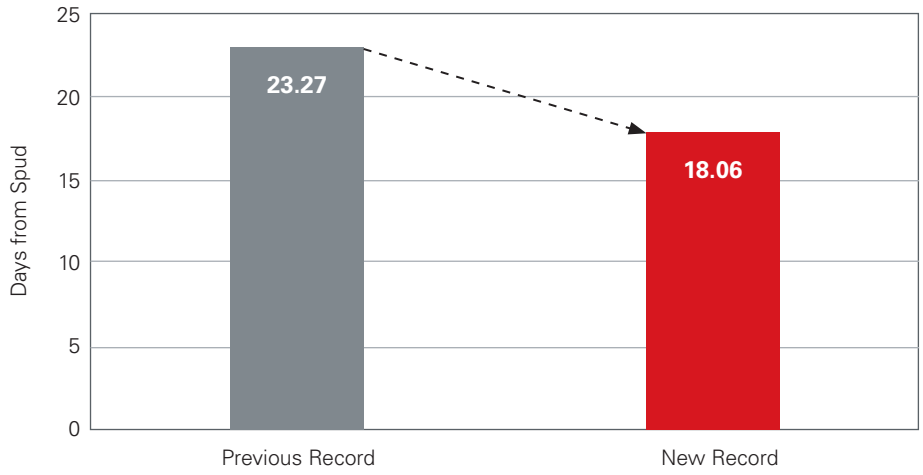
SOLUTION

As part of the DatCI™ design at the customer interface process, Halliburton met with the operator to understand design needs and application specifics. Based on the information provided, Halliburton designed and constructed a HyperSteer™ directional drill bit for initial testing. While the initial bit performed well and produced much less shock and vibration than the incumbent bit, the operator requested a redesign to achieve additional ROP. The revised version included Razor™ 4-D shaped cutters as well as a more aggressive cutting structure,

Wolfcamp D – Days from Spud
Operator Record



higher side cutting efficiency, more erosion-resistant hardfacing, and reduced blade tops to meet the customer requirements. Razor cutters feature a higher contact stress area along the cutter rock interface for optimized rock failure, enhanced edge profile for efficient cuttings removal and evacuation, and a domed center for increased durability.

RESULTS

The HyperSteer directional drill bit configuration was quickly delivered, and adjustments were expedited based on operator requirements. The operator achieved longer, more consistent runs with the HyperSteer drill bit compared to runs with the incumbent bit. The new bit design consistently delivered low shock and vibration, and the operator was able to better plan well, cementing, and production schedules. The team achieved a new Wolfcamp D days from spud to TD record of 18.06 days, surpassing the previous operator record by more than five days, resulting in substantial cost savings for the operator.

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