

Midland Basin

Curve and lateral drilled with a customized BHA and a HyperSteer™ directional drill bit

Operator doubles percentage of one-run curve/lateral section with less vibration compared to competitor drill bits

CHALLENGE

- Design a BHA for high DLS in the curve section and efficient lateral drilling to achieve single-run curve/lateral sections

SOLUTION

Customized BHA:

- Utilize the DatCI™ design process
- HyperSteer™ directional drill bit (reduced makeup length)
- Removed flex assembly to reduce lateral vibrations

RESULT

- Achieved required DLS in curve section and drilled lateral with same BHA
- Increased total footage
- Doubled percentage of single-run curve/laterals
- Eliminated trips in the lateral for flex assembly removal

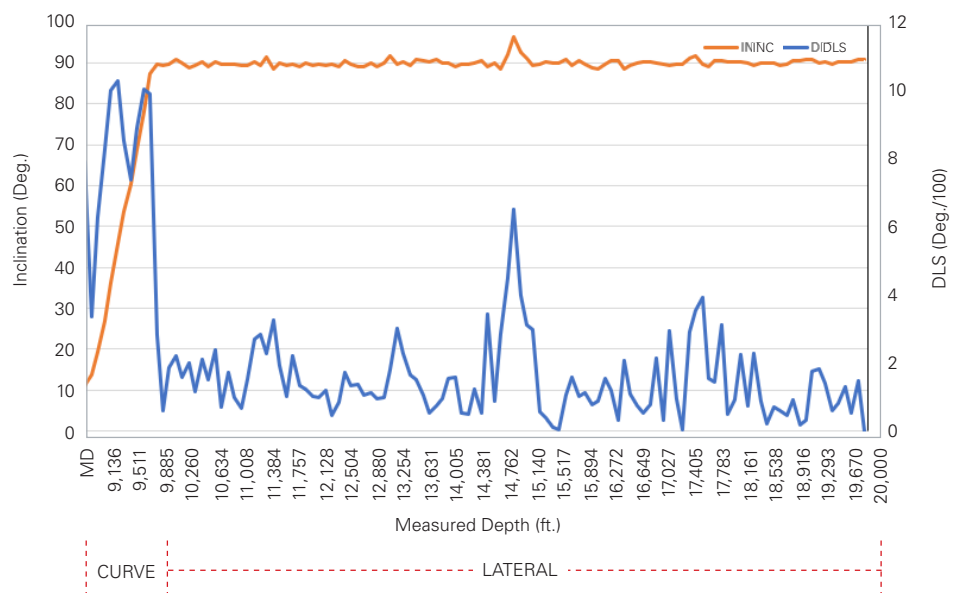
Challenge

An operator in the Midland Basin sought to optimize drilling performance and improve efficiency. Their goal was to design a bottomhole assembly (BHA) that would reduce drilling dysfunctions and complete the curve and lateral sections in a single run. To address these challenges, the operator engaged Halliburton. The objective was to achieve as many single-run curve/lateral sections as possible. This required a customized BHA design that incorporated a motorized rotary steerable system (RSS) with an iCruise® X intelligent RSS, along with a standard makeup length bit.

Solution

During the Design at the Customer Interface (DatCI™) design process, Halliburton identified a key improvement: remove the flex assembly from the motorized RSS BHA. By doing so, the operator could reduce shock and vibration when drilling into the lateral after completing the curve. This change

DLS and Inclination for 6-3/4" HyperSteer™ Curve/Lateral



would significantly increase the success rates for one-run curve/lateral sections and minimize the need for additional trips and BHAs. Halliburton chose the HyperSteer™ directional drill bit for this purpose. The HyperSteer bit's shorter makeup length allowed removal of the flex assembly while still achieving the desired build rates necessary to land the curve within a specified window.

Result

The HyperSteer directional drill bit outperformed competitor bits in terms of shock and vibrations in the lateral. As a result, the operator successfully completed curves without a flex assembly, achieving several one-run curve/lateral sections. This solution doubled the operator's percentage of one-run curve/laterals. Furthermore, the initial BHA covered more footage, and less time was spent to change out the BHA in the lateral to remove the flex assembly.

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