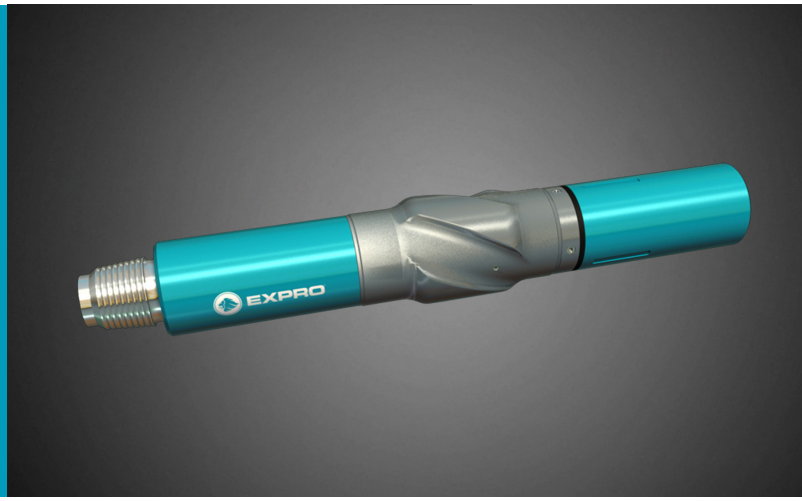
Expro Excellence

HI TOOL® mitigates stick-slip and lateral vibrations to improve ROP by 35% for major Middle East operator

Well Construction



Objectives and background

- A major customer in the Middle East sought a solution to optimize the drilling performance in a 12 ¼" build section
- High lateral and stick slip vibrations were seen in offset wells while drilling interbedded, sticky shale formations in the12 ¼" section
- High vibration levels usually limit the drilling performance and cause potential BHA failures and unnecessary tripping (NPT)

Expro Excellence

- HI TOOL® was proposed to be placed at the topmost point of the BHA replacing what is normally an integral blade stabilizer; typically, Expro aim to replace an already planned stabilizer thus no disruption to the directional capabilities of the BHA
- The top position of the HI TOOL® was optimal to decouple the drill string harmonics from the BHA and the bit. Thus, allowing the bit to drill steadily, undisturbed by drill string dynamics and improving Mechanical Specific Energy (MSE)

Value to the client

- Stick slip vibrations were seen at low level for > 81% of the section with HI TOOL®. On the other hand, offset section without HI TOOL® met high vibration levels for > 87% of the section
- In this section, with the HI TOOL® at the top of the BHA we achieved extremely steady parameters (MSE) and completed the section in one run, with very good ROP. Average on bottom ROP was observed to be improved by 35% with HI TOOL® comparing to offset section drilled with similar system but without HI TOOL®