

Expro Excellence

HI TOOL[®] prolongs BHA life to achieve first shoe to shoe 12 1/4" section in Sicily

Well Construction | Drilling Technologies



Objectives and background

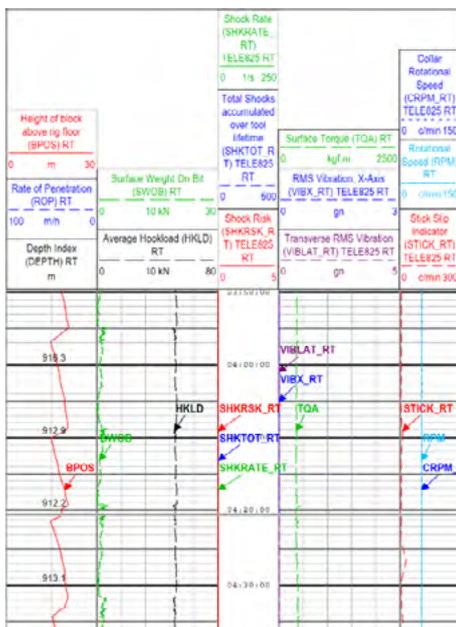
- Our customer required a solution to reduce vibrations during drilling in order to minimize down hole tool (DHT) failure and the resulting need to execute multiple runs to drill a 12 1/4" section
- Expro's HI TOOL (Harmonic Isolation Tool) was run above the measuring/logging while drilling (M/LWD) suite of tools
- The main goal was to prevent vibrations from travelling from the string down into the lower part of the bottom hole assembly (BHA); the HI TOOL[®] actively decoupled string harmonics through its flexible geared connection and mitigated lateral and axial vibration generated by the drillstring from the lower assembly where the M/LWD and RSS package was located
- The RSS and bit were therefore allowed to dynamically self-centre and drive the hybrid drill bit efficiently, while protecting valuable downhole equipment from premature failure

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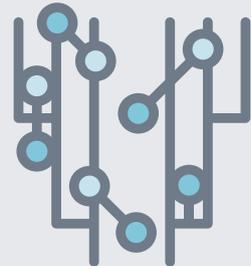
- Our HI TOOL[®] delivered its objective by protecting the MWD/LWD/DD tools from shocks and vibration, including stick slip, as seen from the log. This in turn led to minimized bit-whirl and supported prolonged bit life
- The logs show that only minimal shock levels were reported during the entire 12 1/4" section, consisting of clay, sandstone, shale, limestone and chert
- The HI TOOL[®] helped provide an effective method of control shock and vibration during the drilling of interbedded formations which are typically prone to major vibration issues, while achieving an unprecedented shoe-to-shoe run at a high rate of penetration

Value to the client

- Improved wellbore quality due to greatly reduced vibration energy impacting on the wellbore
- Significant improvement in ROP from the best offset in the field. This is first time the section was drilled shoe-to-shoe; significant reduction in section completion time
- Reduction of shock and vibration – we were able to make significant improvements compared to offsets of axial and lateral shocks with very low orders of stick-slip, resulting in prolonged life span of the bits' cutting structure
- Expro's HI TOOL[®] placed above the M/LWD suite isolated the lower BHA allowing for smooth running, which aided in maintaining wellbore verticality



Well integrity



Cost saving



Contact

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