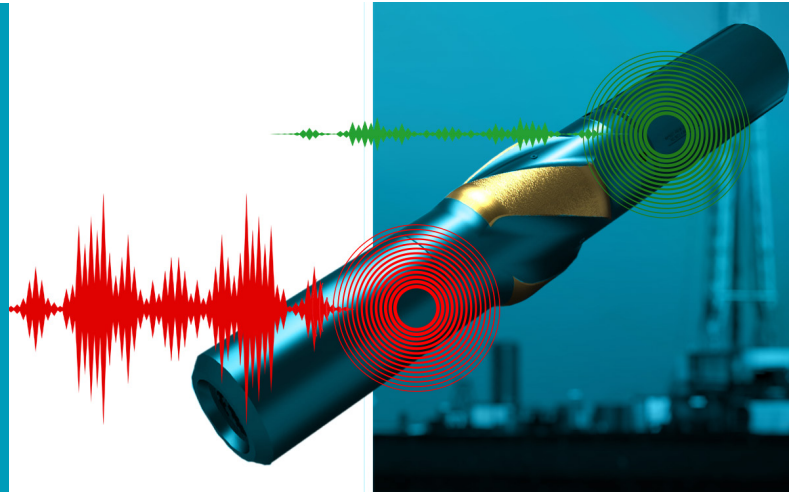


## Expro Excellence

# HI TOOL<sup>®</sup> Harmonic Isolation Tool reduces vibrational shock for intermediate wells with RSS + Motor Assist

## Well Construction | Drilling Technologies



### Objectives and background

- A Permian Basin operator sought a solution to reduce damages to bottom hole assemblies
- In today's market where there is a fine line between success and failure, operators are looking to optimize cost reducing efficiencies in every part of their operations. In this case, a major Permian Basin operator was challenged by increased cost and lower drilling efficiencies due to vibration related non-productive time (NPT) in the intermediate (vertical) hole section. The geology of this area consisted of sandstones and carbonates. The operator and directional company had attempted various proactive solutions including bit changes, drilling parameters, bottom hole assembly (BHA) design, and various vibration mitigation tools (including shock and oscillation tools with no success

### Expro Excellence

- Expro recommended utilizing our HI TOOL<sup>®</sup> Harmonic Isolation tool for this section. In a rotary steerable system (RSS) + Motor Assist BHA, the HI TOOL<sup>®</sup> was placed above the RSS/measurement while drilling (MWD) suite and below the mud motor. Expro also provided our new Data Logger (HI TOOL<sup>®</sup> with triaxial sensors) to help understand the source of the vibration

### Value to the client

- The HI TOOL<sup>®</sup> was run on two different four-well drilling pads and was implemented on five of the eight total wells for the 8 3/4" intermediate section. The HI TOOL<sup>®</sup> successfully reduced both axial and lateral vibrations resulting in lower high frequency torsional oscillations (HFTO) while improving mechanical specific energy (MSE). The average run length was approximately 6,000 feet with four out of five wells drilled in one run, significantly enhancing the RSS and MWD reliability while reducing the operator's rig spread cost
- Reduction of axial shocks
- Reduction of tangential shocks
- 30% increase in BHA reliability

#### Safety



#### Cost saving

