Expro Excellence

HI TOOL® replaces 16" Near Bit Roller Reamer in vertical exploration well

Well Construction | Drilling Technologies

Objectives and background

- A Middle East operator sought a solution to achieving shoe to shoe single bit trips in long 16" sections

- The Expro HI TOOL® (Harmonic Isolation Tool) was deployed in an exploration application while drilling vertically from the Ahmadi to the Mid Thamama (Yamama) formations, a mix of limestones, shales, sandstones and siltstones. Made up into the BHA above bit, the goal was to achieve shoe to shoe performance not seen on previous wells

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- To allow the roller cone bit to sit evenly on the formation face, undisturbed by the tilting action of the BHA above, the HI TOOL® was run near bit to decouple this motion

Value to the client

- In this well, with the HI TOOL® close to the bit, both axial and lateral vibrations were greatly reduced. This allowed the bit to sit flat on the well bore face, and for drilling to continue smoothly with normal parameters and a constant rate of penetration. The 2,080 ft section was drilled in a smooth manner with the roller cone TCI bit graded 1-5 WT

- Reduction of lateral and axial vibrations
- Smooth drilling throughout section
- Noticeably quieter drilling on the rig floor
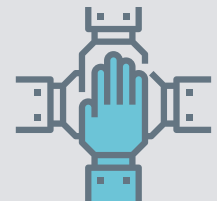- Bit condition reflects worn teeth, and not TCI tooth breakage on roller cone

Order	Component	Provider	Nominal Size	# Joints	OD Size
1	Bit; GS18VEJ3; TCI roller cone	SMT	16	1	16
2	*Hamonic Isolation Tool*	Expro	9.5	1	15.875
3	Sub	RIG	9.5	1	9.5
4	Bit Sub	RIG	9.5	1	9.5
5	Pony Collar	RIG	9.5	1	9.5
6	Roller Reamer	RIG	9.5	1	16
7	Drillcollar	RIG	9.5	1	9.5
8	Roller Reamer	RIG	9.5	1	16
9	Drillcollar	RIG	9.5	7	9.5
10	Crossover	RIG	9.5	1	9.5
11	Drillcollar	RIG	8.5	7	8.5
12	Hydraulic Jar	NPC	8	1	8
13	Drillcollar	RIG	8.5	3	8.5
14	Crossover	RIG	8.5	1	8.5
15	Heavy Weight Drillpipe (HWDP)	RIG	5.5	15	6.625
16	Drillpipe	RIG	5.5	0	6.625
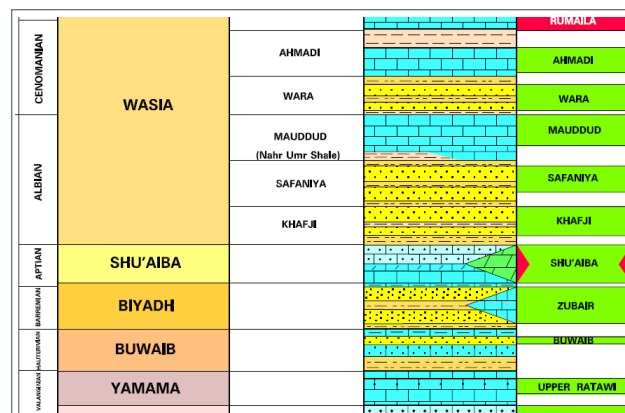
Safety

Partnership

Operational efficiency