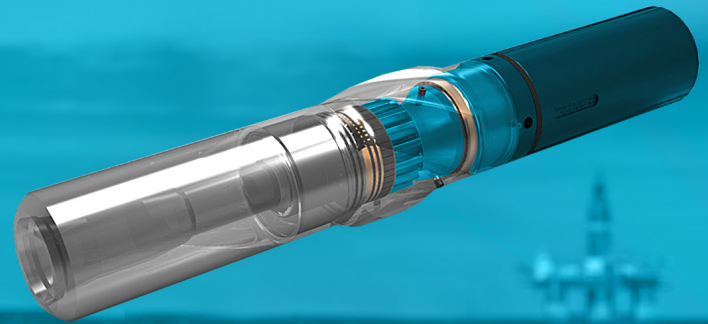


Expro Excellence

HI TOOL® completes 8 1/2" section saving 45 drilling hours

Well Construction | Drilling Technologies



Objectives and background

- The Expro HI TOOL® (Harmonic Isolation Tool) was deployed in a offshore development well in Gabon. The application while drilling the reservoir section holding verticality while maintaining constant parameters, and to minimize corrective actions by the BHA which would lead to smooth running of the 7" production tubing afterward. The BHA was a rotary steerable (RSS) with the placement of the HI TOOL® at the top of the BHA in order to decouple the vibration from the string down into the M/ LWD preventing failure and thus additional NPT trips. Typically, this section is drilled with 1-2 BHA runs

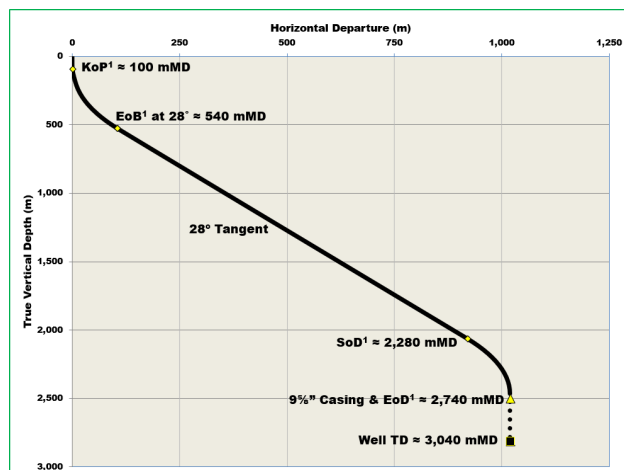
Expro Excellence

- Placement of the HI TOOL® at the top most point of the BHA (#12) replacing what is normally an integral blade stabilizer; typically, Expro's 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 as most of the damaging harmonics were string generated

Value to the client

- In this section, with the HI TOOL® at the top of the BHA we achieved extremely steady parameters (MSE) and completed the section with extremely good RoP. The bit came out in re-runnable condition (1,2,WT,C,In,TD)
- Significant reduction in SS-vibe time
- Lateral vibes in green all the way (level 1-2)
- Improved RoP by 45% with constant parameters
- Improved MSE efficiency of the BHA

	Offset	HI-800 run
Meterage	308 m	366 m
RoP	3.80 m/h	10.07 m/h
Time	81.2 hours	36.3 hours



#	Description	OD
45	Circ sub	
44	Float sub	
43	Filter sub	
42	HI 800 C	8 3/8"
41	NM sub	
40	TesTrak	
9	CCN	
8	ORD	8 3/8"
7	NM sub	
6	BOPM	
5	MWD mod stab	8 3/8"
4	OnTrak	7 7/8"
3	Flex stab	8 3/8"
2	ATK	
1	PDC bit (13mm)	8 1/2"

8 1/2" Performance Summary RSS BHA

Shock levels	Well #1 (NO HI) hours	Well #2 (HI) hours
Level 5 (Stick Slip)	37.5	13.66
Level 6 (Stick Slip)	8.26	1.11
Level 7 (Backward rotating)	0.48	0.3
Level 0 (Lateral)	59.3	30.3
Level 1 (Lateral)	54.8	18.4
Level 2 (Lateral)	5.1	5.8

Safety



Reduction of rig time



Time saving

