Weatherford®

REAL RESULTS

OneTrip StarBurst™ Multilateral System Accesses New Reservoir Targets in 4 Wells, Cuts Rig Time by 50%, and Avoids Cost of New Platform

The OneTrip StarBurst multilateral system provides a more efficient means to access new reservoir targets than drilling new wells. The system orients the whipstock-anchor assembly, mills a window, and drills a rathole in one run. For this operation, the system reduced rig time by 50 percent.

Objectives

- Implement a multilateral solution to reach additional reservoir targets. The operator had no remaining slots available on the existing platform and did not want to abandon a producing wellbore or incur the costs of building a new platform.
- Create multilateral wells with the maximum mechanical support at the junction.
- Ensure the compatibility of the multilateral solution with planned drilling technologies (rotary steering and PDC bit drilling) and completion technologies (sand screen).
- Maintain existing production by isolating mainbore zones during lateral drilling and completion.
- Mobilize necessary equipment and personnel quickly. The operator's drilling rig contract was near its expiration and could not be extended.

Results

- Weatherford deployed the OneTrip StarBurst multilateral system to install lateral wellbores in four existing wells. The system met all the operator's technical requirements and provided operational flexibility and compatibility with planned drilling and completion technologies.
- The team placed the multilateral junctions high in the formation to avoid water coning, and kicked the junctions off from high-inclination wellbores to more quickly obtain the horizontal inclination of the lateral bore. For each lateral bore, the OneTrip StarBurst system provided the necessary Technical Advancement for Multilaterals (TAML) Level 4 mechanical support to withstand formation instability.
- In a single run in each well, rig personnel ran and oriented the whipstock-anchor assembly and milled and drilled a full-gauge window and rathole. Following the installation of the liners and sand screens in the lateral bores, tubing-conveyed guns perforated the hollow whipstocks to regain production from the main bores.
- The team completed the entire four-well multilateral operation within 60 days.

Location
Gulf of Thailand

Well Type
Offshore, oil

Number of Wells
4

Mainbore Casing
9-5/8 in., 43.5 ppf L80

Hole Size (Casing-Exit Windows)
8-1/2 in.

Average Window Milling Time
4 hours, 30 minutes

Multilateral Junction Formation Type
Medium-grain sandstone

Multilateral Junction Depth
3,100 to 4,550 ft (945 to 1,387 m)

Mainbore Inclination at Junction Depth
53° to 73°

Products/Services
- OneTrip StarBurst multilateral system
- 7-in. liner
- 4 1/2-in. sand screen

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Value to Client

- Without the single-trip efficiency of the OneTrip StarBurst multilateral system, the installation would have required at least two additional trips in and out of hole per well. The system helped to save the operator approximately 40 hours of rig time per well—160 total hours of rig time—compared to the conventional StarBurst system.
- Compared to the time that would have been spent drilling four new wells, the StarBurst multilateral system reduced overall rig time from 14 days to 7 days—a savings of 50 percent—in each well. This amounted to a reduction of 28 days of rig time for all four wells.
- By completing the entire installation within two months, Weatherford accommodated the time constraints associated with the impending expiration of the operator's drilling rig contract.
- The system offered an economical solution for accessing additional reservoir targets. By not building a new platform—an expense that can reach millions of dollars—the operator avoided significant costs.
- The operator did not have to sacrifice existing production to access new reserves. In each well, the system enabled production from the main bore to commingle with new production from the lateral bore.

