

Qatar

TrackMaster Select™ Whipstock System Enables Successful Sidetrack in Challenging Extended-Reach Well

Custom modular system enables successful 9-5/8" cased-hole sidetrack, delivering three days of rig-time savings and eliminating remedial operations

Extended-reach wells are critical to modern field development, and deep-well sidetracking continues to grow as operators optimize reservoir contact. In Qatar, as part of a production enhancement campaign, the customer encountered a unique technical challenge: the specialized well design restricted weight-on-bit transfer within the extended-reach horizontal section. This constraint created difficulties in both achieving the required sidetrack window placement and releasing the milling assembly when using conventional set-down weight solutions. Close collaboration between the operator and the Wellbore Integrity Solutions (WIS) team in Qatar led to the development of a tailored, technically robust solution.

WIS performed a comprehensive torque and drag analysis to define the true operational limits and engineer an optimized modular assembly. The resulting solution enabled the TrackMaster Select™ whipstock system to be conveyed to the target depth, hydraulically set, and disengaged using upward overpull rather than weight-down. The modular design featured a customized retrievable packer to allow full recovery from the well. The milling assembly incorporated an integral tri-mill configuration capable of milling the window and drilling the 11-ft rat hole in a single run.

WIS successfully executed the 9-5/8" cased-hole sidetrack, allowing the customer to meet all well objectives. The innovative approach enabled accurate whipstock setting at the planned depth, reliable disengagement of the tri-mill assembly via overpull, and smooth passage of the directional assembly through the window. The whipstock was later recovered using a hook-retrieval tool, completing the sidetrack without the need for remedial trips. The operation delivered three days of rig-time savings while ensuring operational efficiency and wellbore integrity.

CHALLENGE

- Extended-reach well design restricted weight-on-bit transfer in the horizontal section
- Difficulty achieving accurate sidetrack window placement using conventional set-down weight methods
- Risk of being unable to release the milling assembly due to weight-transfer limitations

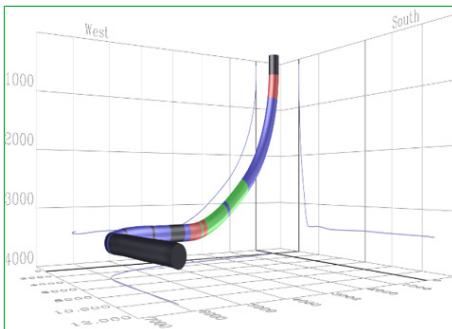
SOLUTION

- Performed a full torque and drag analysis to define operational limits
- Engineered an optimized modular system allowing hydraulic setting and upward overpull release
- Integrated a customized retrievable packer for full system recovery
- Used an integral tri-mill assembly to mill the window and drill the 11-ft rat hole in a single run

RESULT

- Completed two 9-5/8" cased-hole sidetracks successfully
- Milled 14-ft, 8-1/2" full-gauge windows in ~6-1/2 hours and drilled the 11-ft rat hole in ~1-1/2 hours
- 8-1/2" tri-mill remained within acceptable gauge-loss limits
- Rotary steerable BHAs passed the window and drilled the sidetrack as planned
- 9-5/8" whipstocks recovered in a single trip using the hook assembly

Well Trajectory



WhipSim® Sidetracking Simulation Software

