

Successful One-Trip Sidetrack with TrackMaster* Select 7-Inch OD System in Demanding Deep-Well Conditions

Unmatched experience, careful planning and precision milling with a hybrid tri-mill allows Wellbore Integrity Solutions (WIS) to deliver optimal window in Colombian Onshore Field.

Thorough planning enabled a successful one-trip operation

Careful planning and execution enabled the TrackMaster* Select system with a hybrid tri-mill configuration to deliver optimal results. In collaboration with a major oil and gas operator in Colombia, WIS completed a challenging sidetrack operation in a deep onshore well. The WIS team developed a detailed plan, utilizing the 7-inch TrackMaster* Select Whipstock System to mill a window from 17,319 feet to 17,340 feet, creating a new path for drilling the 6-inch section and reaching the target formation.

The Red Baron team designed the bottom hole assembly (BHA) with the support of WhipSim* sidetrack software, evaluating wellbore trajectory and window geometry to ensure smooth passage for subsequent drilling BHAs. The hybrid tri-mill configuration was key, its blended cutting structure featuring diamond and carbide allowed improved milling parameters, while minimizing insert wear, and maintaining full gauge on the 10-foot window. In just one trip, the operation milled the 10-foot window and drilled an additional 10-foot rat hole. This high performance insert configuration ensures durability and single-trip efficiency in mid to hard formations. The success was achieved through comprehensive risk analysis and precise planning, outperforming alternative methods.

CHALLENGE

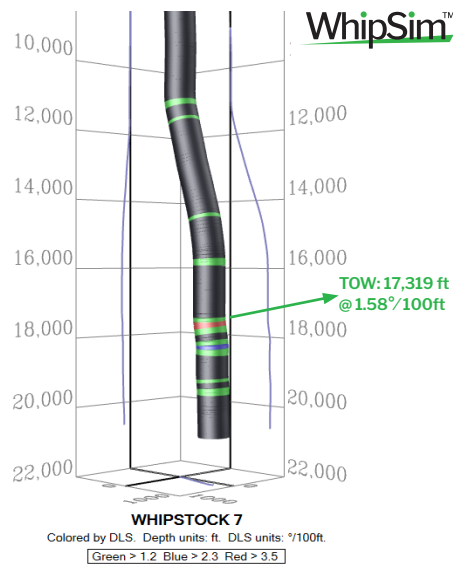
Plan and execute a 7-inch cased hole sidetrack through P-110 grade casing, creating a usable window exiting into "Carbonera" formation, with an Unconfined Compressibility Strength (UCS) of 15 to 20 KSI. The whipstock system was selected after an unsuccessful fishing operation, with the setting depth positioned approximately 80 feet above the casing shoe.

SOLUTION

Wellbore Integrity Solutions (WIS) recommended and deployed the TrackMaster Select Fastrack System, configured with a 6-inch OD hybrid tri-mill and a hydraulic expandable anchor to ensure the whipstock remained securely in place while milling. Ditch magnets were installed in the flowline to capture all swarf generated downhole.

RESULTS

- Successfully completed the window and rathole in a single trip, exceeding customer expectations.
- Delivered a high-quality window for smooth passage of subsequent directional BHA and production string.
- Hybrid tri-mill remained within acceptable gauge criteria, despite challenging formation characteristics.



Left: Well trajectory and top of window depth
Right: Lead mill in gauge



TrackMaster™ Select

- A HISTORY OF INNOVATION
- UNRIVALED EXPERIENCE
- GLOBAL PRESENCE



Well Information:

Location: Onshore, Colombia
Casing Size: 7-inch (P-110, 32 lbs/ft)
Depth: 17,340 ft MD @ 1.58°/100 ft
Inclination @ Whipstock: 1.56°

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