CASE STUDY

Alaska

TrackMaster Nexus™ Doubles Tripping Speed, Achieves Low-Side Exit in North Slope Alaska Re-Entry Well

Low-side exit enhances flexibility in wellbore trajectory design

TrackMaster Nexus™ Whipstock System – Single Trip 9⅝ inch Low-Side Exit

In a North Slope re-entry well, a 9⅝-inch TrackMaster Nexus whipstock system anchored with a permanent packer was deployed to isolate the parent wellbore in compliance with regulatory requirements. The deviated wellbore exhibited a 39° inclination at the planned kickoff point, with a directional plan necessitating a low-side exit.

To enable smooth passage of a rotary steerable bottomhole assembly (BHA), a high-quality window with low dogleg severity (DLS) was essential. The whipstock system was paired with an 8½-inch integral tri-mill assembly featuring TruEdge™ cutters strategically positioned on the gauge area to enhance milling stability and maintain gauge integrity.

An improved whipstock-to-mill attachment method—featuring a high-strength integral lug twice as robust as conventional systems—enabled a significant increase in tripping speed, from 45 ft/min to 100 ft/min. Upon reaching setting depth, the whipstock was oriented 120° to the right of high side using measurement-while-drilling (MWD) tools to achieve the planned low-side exit.

The operation was executed in a single trip, successfully milling an 18 ft window and a 20 ft rat hole. Post-run inspection confirmed that the lead mill, dressed with TruEdge cutters, remained within 1/16" of nominal gauge—validating both tool integrity and cutter durability under challenging wellbore departure conditions.

CHALLENGE

- Plan and execute a sidetrack in a re-entry well through 9⅝-inch, 47.0 ppf L-80 casing
- Navigate a deviated wellbore with 39° inclination at setting depth
- Achieve a low-side cased-hole exit per directional plan
- Deliver a high-quality window to enable smooth passage of a rotary-steerable directional BHA

SOLUTION

- Deployed a one-trip 9⅝-inch CH TrackMaster Nexus whipstock system anchored with a permanent packer
- Utilized an 8½-inch TrackMaster Nexus integral tri-Mill with TruEdge cutters positioned on the gauge area for enhanced milling stability
- Configured the whipstock system specifically for a low-side exit

RESULT

- Doubled rig tripping speed from 45 ft/min to 100 ft/min
- Enabled orientation with MWD tools achieve low-side exit at 120° degrees right of high side
- Milled an 18 ft window and a 20 ft rat hole in a single trip with the 8½-inch TrackMaster Nexus tri-mill
- Lead mill dressed with TruEdge cutters measured 1/16 inch under gauge.

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