Shallow-Angle QuickCut[™] Whipstock and MultiCatch[™] Anchor Achieve Single-Trip, 4-Hour Casing Exit In Challenging Horizontal Well

Objectives

 Accomplish a sidetrack in a deep, horizontal well using a robust hydraulic-set anchor. Attempts by another vendor to sidetrack two other wells in this field had failed because the anchor did not set properly and the whipstock became lost in hole. After these previous failures, the client sought a change in approach for what was expected to be the most challenging sidetracking operation yet because of the complex well path and the depth of the intended casing-exit point.

Our Approach

- Weatherford recommended the shallow-angle QuickCut (SAQC) whipstock with the hydraulic-set MultiCatch anchor.
- To confirm that the casing could support the bottomhole assembly (BHA) of the whipstock and to eliminate wellbore debris, the team ran a cleanout BHA to the planned setting depth of the whipstock and anchor at 23,091 ft (7,038 m). The cleanout BHA included string magnets and a junk trapper.
- As a result of unexpected losses in the well, the team set a plug below the setting depth of the whipstock.
- The whipstock and anchor passed several perforation intervals while running to the setting depth. When passing through these critical areas, the small diameter of the MultiCatch anchor prevented the anchor slips from contacting the casing wall and sticking in or damaging the wellbore. Using the hydraulic-set anchor in combination with the AccuSet hydraulic-actuation system also mitigated the risk of the anchor setting prematurely upon the unintentional application of weight to it, which could have caused a misrun.
- The whipstock successfully set at 23,091 ft (7,038 m). Then the team milled the casing exit and drilled the rathole in one 4-hour trip.
- The client continued drilling the lateral with no issues while passing through the window.

Value to Client

• The combination of the SAQC whipstock with the hydraulic-set MultiCatch anchor provided complete operational control and enabled a one-trip casing exit to reach extended targets. As a result, the client avoided the time and expense of a multiple-trip casing-exit operation.



The Weatherford SAQC whipstock and hydraulic-set MultiCatch anchor enabled an operator to set the tools at 23,091 ft (7,038 m) with no issues and to mill a window and rathole in one 4-hour trip.

LOCATION North Sea, Norway

WELL TYPE Offshore, producer, oil

FORMATION Sandstone

HOLE SIZE AND ANGLE 6 in., 90° at setting depth

CASING TYPE AND SIZE 7 in., 32 lb/ft (47.6 kg/m), L-80 13Cr

WHIPSTOCK ORIENTATION 60° left of high side

SETTING DEPTH 23,091 ft (7,038 m)

MILLING TIME INCLUDING RATHOLE 4 hours

PRODUCTS/SERVICES

- 7-in. SAQC whipstock
- Hydraulic-set MultiCatch anchor
- AccuSet hydraulic-actuation system



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