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Casing Rotation Constraint Overcome in ERD Well Saving Operator USD 375K

RPT REAMER SHOE AND PROTECH™ II CENTRALIZATION
USED TO REACH TOTAL DEPTH IN CHALLENGING ERD
WELL CAMPAIGN

OVERVIEW

Landing casing to total depth (TD) during extended-reach drilling (ERD) campaigns can be challenging. When torque and rig related limitations prevent casing rotation in long horizontal sections, downhole tools must be robust enough to withstand longer exposure times.

CHALLENGE

A major operator in South Asia faced challenges during an ERD campaign. Long horizontal sections and wellbore instability limited the casing from reaching TD, requiring reciprocation and washing through tight spots to reach the casing to bottom.

SOLUTION

With an impressive history of successful deployment in ERD wells, Halliburton proposed the RPT reamer shoe for this campaign. The shoe's aggressive tungsten carbide blades can help clear the ledges without the need for casing rotation. In conjunction, Protech™ II centralization was selected to help reduce friction and achieve positive standoff.

CHALLENGE

- Land casing in long ERD section where rotation is challenging

SOLUTION

- Deploy RPT reamer shoe so casing can reach well bottom using reciprocation and wash down techniques

RESULTS

- Successfully reached well TD
- Prevented extrapolated reamer technology expenses
- Saved rig time and effort

Total depth (TD)
successfully achieved
in a challenging ERD
campaign, resulting in
cost savings of

**USD
375,000**

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A 9 5/8-in. RPT reamer shoe was deployed into a 12 1/4-in. section of 1650-m long horizontal open hole at 81° inclination in 11.4-lbm/gal synthetic-based mud. The casing experienced resistance in tight spots at multiple depths because of instable wellbore conditions and cuttings buildup on the low side. Using reciprocation and wash down techniques, the ledges were cleared and well depth was successfully reached. Because of wellbore instability, and that it was an inefficiently cleaned hole, Protech II centralization technology helped ensure the minimal friction factor (FF) was maintained (and did not exceed 0.5). The unique design of the RPT reamer shoe blades aided reciprocation and, despite multiple instances of encountered resistance, the non-return valve maintained its integrity and the tool sustained backpressure after cementation.

Further, the RPT reamer shoe was run in hole with a 5 1/2-in. completion string equipped with swell packers. The completion string landed easily without the need for rotation.

RESULTS

Despite wellbore instability, TD was successfully achieved in a challenging ERD campaign. The Halliburton RPT reamer shoe reliably landed casing to well depth in hostile conditions. Casing was run for more than 36 hours without affecting the build integrity of the RPT reamer shoe or function of the non-return valve. The successful combination of Halliburton RPT reamer shoe and Protech II centralization helped reduce rig time, prevent unforeseen costs associated with nonproductive time (NPT), and eliminate the need to procure expensive reamer technologies, saving the operator USD 375K.



» RPT Reamer Shoe

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