

Australia

Expandable liner hanger system simplifies 9 5/8-in. floated liner deployment in ERD well

XtremeGrip® expandable liner hanger system helps operator overcome wellbore challenges with ZERO non productive time

CHALLENGES

Float liner to depth and minimize torque and drag in ERD well

- Reduce risks associated with special equipment, such as rupture discs
- Eliminate potential hangup points for drillpipe darts
- Maximize string weight and torque available to work string to depth

SOLUTION

Deploy the XtremeGrip® ELH system:

- No additional specialized tools required to isolate the liner from the work string
- Superior burst and collapse ratings that enable full string to be run dry
- Superior torque ratings that enable maximum torque for reaming operations

RESULTS

Installed the XtremeGrip® ELH system with ZERO NPT to overcome wellbore challenges

- Reached TD successfully in single trip
- Performed successful cement operation
- Set and released ELH setting tool

Overview

A major offshore operator in Australia faced extended-reach drilling (ERD) challenges in a subsea gas well development project. The challenges required added considerations because of torque and drag concerns and the requirement to cement the liner after deployment. To overcome these challenges, the operator was the first globally to install a 9 5/8-in. × 13 3/8-in. XtremeGrip expandable liner hanger (ELH) system to simplify a dry 9 5/8-in. floated liner deployment. This system does not require the operator to incorporate specialized equipment into the string, such as with standard liner deployment operations. The operator deployed the liner to depth, cement operations were successful, and the liner hanger was set without issue.

Challenge

During planning, the operator initially wanted to incorporate a sealing mechanism into the liner hanger setting tool to isolate the two volumes between the liner and drillpipe. This is typically done using a rupture disc within the setting tool section so the liner can be run dry while the liner hanger and drillpipe are filled with fluid during deployment. The risks associated with this design include premature activation of the rupture disc that a pressure surge during deployment can cause. Another risk includes potential obstructions during dart deployment.

Solution

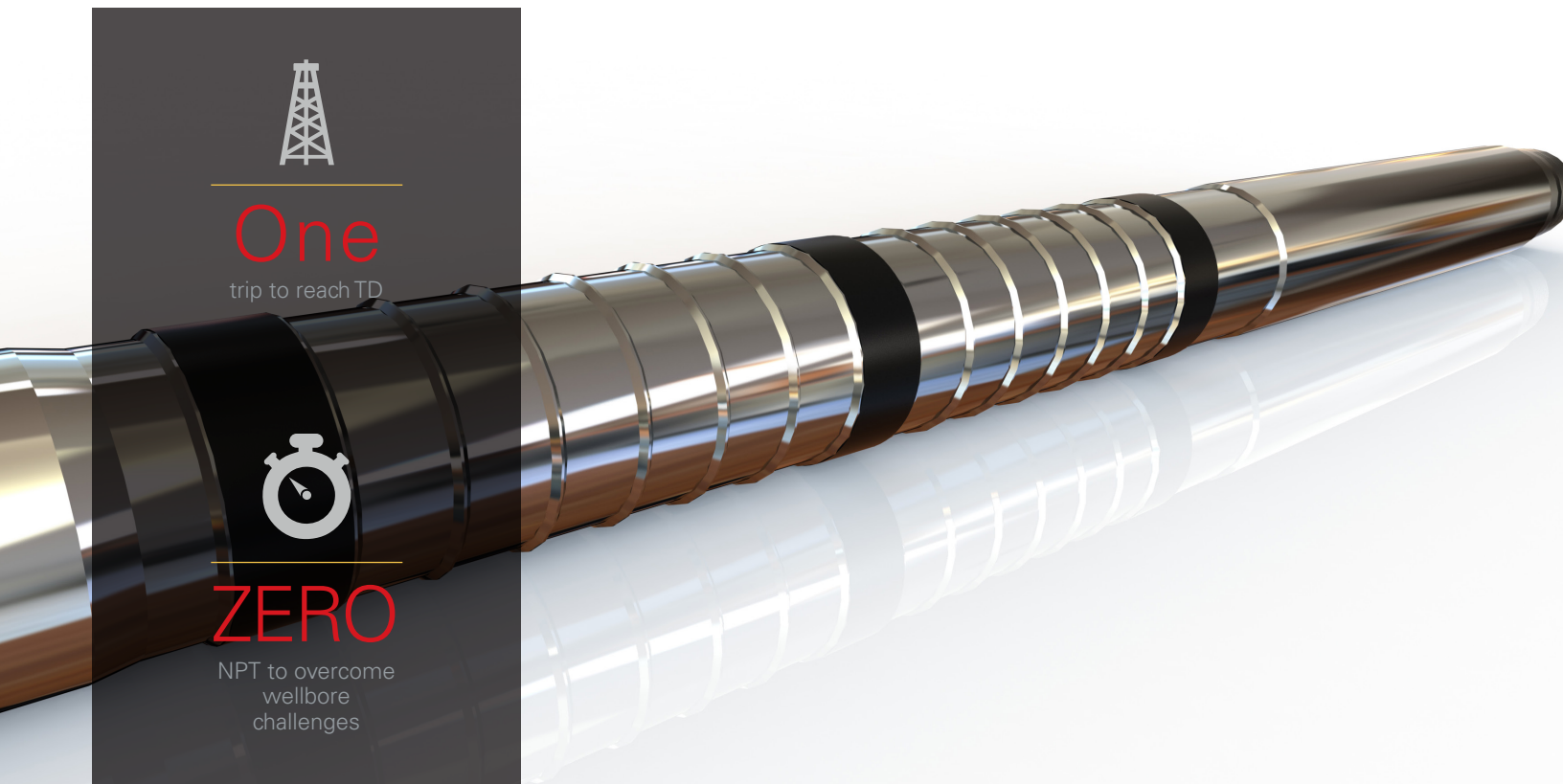
Halliburton proposed the XtremeGrip ELH system for its proven, robust design and deployment as an alternative solution. This system allows the full string to be run dry without the additional equipment otherwise necessary for a standard liner deployment operation. This system's superior burst and collapse ratings allow the entire string to be run dry. It can also withstand the differential pressures induced with a floated liner in an ERD well. This eliminates the complexity and risks associated with the inclusion of a rupture disc. The metal-to-metal extrusion ribs provide both bidirectional anchor and seal capabilities and delivers superior liner hanging performance. Additionally, the XtremeGrip ELH system has been tested and qualified to API 19LH V1.

Results

As part of the operator's well development campaign, the team successfully deployed the liner to a depth of 4,392 m MD/1,645 m TVD at a maximum inclination of 86 degrees. Based on torque and drag simulations, the operator planned reaming from 3,392 m MD/1,337 m TVD to the setting depth for the last 1,000 m. During the actual run, however, based on well conditions, reaming was not necessary and the floated liner reached depth with no issues.

After the liner hanger reached setting depth, mud replaced the air, and the liner was cemented to the top using the Halliburton SSR-II™ cement plug system. The operator observed the bump plug, and the primary flapper setting mechanism hydraulically set and released the liner hanger per plan.

The use of the XtremeGrip® ELH system instead of standard liner deployment equipment helped the operator address the ERD well challenges. It also eliminated potential risks associated with a rupture disc and resulted in zero NPT.



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