

OMAN

VersaFlex® XSL Expandable Liner Hanger System Provides 100% Reliable Solution to Challenging Large-Scale Project

Halliburton successfully installs 300 consecutive VersaFlex® XSL systems with perfect execution, ZERO service quality or safety issues

CHALLENGES

Multiple difficulties associated with liner hanger installations during large-scale project.

- Challenging wellbore environment
- High dogleg severity and difficult geometry of drilled sections led to difficulties getting conventional liner hanger systems to target depth (TD)
- Run-in-hole limitations associated with CLH systems insufficient to reach TD

SOLUTION

VersaFlex® XSL expandable liner hanger system

- Allows for a wide operating envelope during deployment to counter the challenges and standardize deployment operations

RESULTS

Since implementation, VersaFlex® XSL systems have been installed with zero HSE and SQ issues.

- System reliability showcased over 300 consecutive runs without NPT or safety events.
- Decrease in deployment time led to reduction in overall wellbore construction costs.

Overview

A large-scale project for an operator in Oman included construction of 300+ wells with a 7 x 9 5/8-inch liner hanger system deployed in each well. However, challenging geological formations and run-in-hole (RIH) limitations associated with conventional liner hanger (CLH) systems created difficulties when installing the 7-inch liner string. After observing multiple service quality (SQ) issues and failed runs, Halliburton replaced the CLH system with the more robust VersaFlex® XSL expandable liner hanger system in April 2020. The VersaFlex® XSL liner hanger system provided the operational capability to overcome the challenging formations and wellbore parameters, eliminating the issues associated with running a CLH. Since switching to the VersaFlex® XSL system, Halliburton has completed 300 consecutive runs successfully, with zero SQ or health, safety and environment (HSE) issues. In addition, the system has reduced RIH time, helping the operator save well construction costs.

Challenge

During the drilling of previous wells, challenging geological formations led to complications while running CLH systems. These complications resulted from inadequate RIH compression load and pumping pressure limits, liner lengths, external moving components, and premature setting or unplanned release. All of which are issues commonly associated with conventional systems that add risk and uncertainty to the liner installations. This led to a track record of one out of every three jobs having issues associated with SQ.

Solution

To improve SQ, Halliburton suggested running the VersaFlex XSL system instead of CLHs. Implementing this change comprehensively required bringing in running tools, expediting manufacturing of components, training field and workshop personnel to help ensure competency, and communicating the change across multiple product service lines (PSLs). Because of the project size, collaboration and continuous improvement were crucial to operation efficiency and overall success.

Results

Since project operations began in April 2020, Halliburton has completed 300 installations, delivering perfect SQ and maximizing asset value. The VersaFlex® XSL system delivered an increase in RIH capabilities across all metrics. Coupled with a simplified setting process, a 35% reduction in total job time on average was achieved and the wellbore construction operation was completed with zero NPT. Collaboration between office and field personnel led to standardized RIH methods, optimizing the time required for installation of the 7-inch string during the wellbore construction phase. With more than 80 wells remaining in the project, the robust and

reliable VersaFlex XSL system, coupled with the highly capable cementing group processes, will continue to save the operator significant time and costs during well construction and field development.

Through utilization of the robust VersaFlex® XSL system, a record 300 consecutive installations for a single customer were completed



300+

Wells with liner hanger deployed



300

Consecutive runs with ZERO Sq incidents

For more information on Halliburton geothermal services, please go to halliburton.com/geothermal

At Halliburton we collaborate and engineer solutions to maximize asset value for our customers. All products and service solutions are available as integrated offerings or as discrete services, based on customer requirements.

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