



Operator Saves Over \$10 Million On Multilateral Well Installations

FLEXRITE® SYSTEM IMPROVEMENTS EXTEND PRODUCTION LIFE OF MATURE FIELDS IN THE NORTH SEA

NORTH SEA, NORWAY

CHALLENGES

- » Drilling new lateral branches to enable additional production from a mature wellbore

SOLUTION

- » FlexRite® multibranch inflow control (MIC) system
- » ReFlexRite® completion system
- » XtremeGrip® MLT system

RESULTS

- » Saved operator over \$10 million by eliminating 15 days of rig time
- » Extended production life of the mature wells

OVERVIEW

For nearly three decades, multilateral technology has extended the production life of mature North Sea fields, with many offshore wells in Norway drilled as dual-laterals, tri-laterals or quad-laterals. As wells near the end of their life expectancy, after many years of initial production, further advances in Halliburton multilateral technology enable re-drilling of these wells as new multilateral producers.

CHALLENGES

A North Sea operator asked Halliburton to provide a multilateral solution for drilling new lateral legs in existing subsea wells. The solution needed to eliminate the retrieval of the Christmas tree or tieback liner and reduce the number of drilling sections required.

SOLUTIONS

Halliburton recommended the award-winning 9 5/8-inch FlexRite® multibranch inflow control (MIC) system and the ReFlexRite® completion system. This combination provides new capabilities that allow the operator to sidetrack out of an existing mainbore casing above an old multilateral well, install an 8 5/8-inch expandable liner and ultimately drill and complete three laterals.



Using these systems saved the operator more than \$10 million and eliminated 15 operating days.

An XtremeGrip® MLT anchor packer provides the foundation to drill and complete the lower lateral. The lower lateral completion is run with a second XtremeGrip MLT anchor packer. Once set in place, the second anchor packer provides the foundation to drill and complete the upper lateral.

Using the Halliburton liner deployment system (LDS) enables installation of the lateral completion with standalone screens and swellable packers. The FlexRite MIC system allows for flow control of the branches separately through interval control valves (ICVs). Standalone screens in the laterals are equipped with autonomous inflow control devices (AICDs) for zonal gas production shutoff.

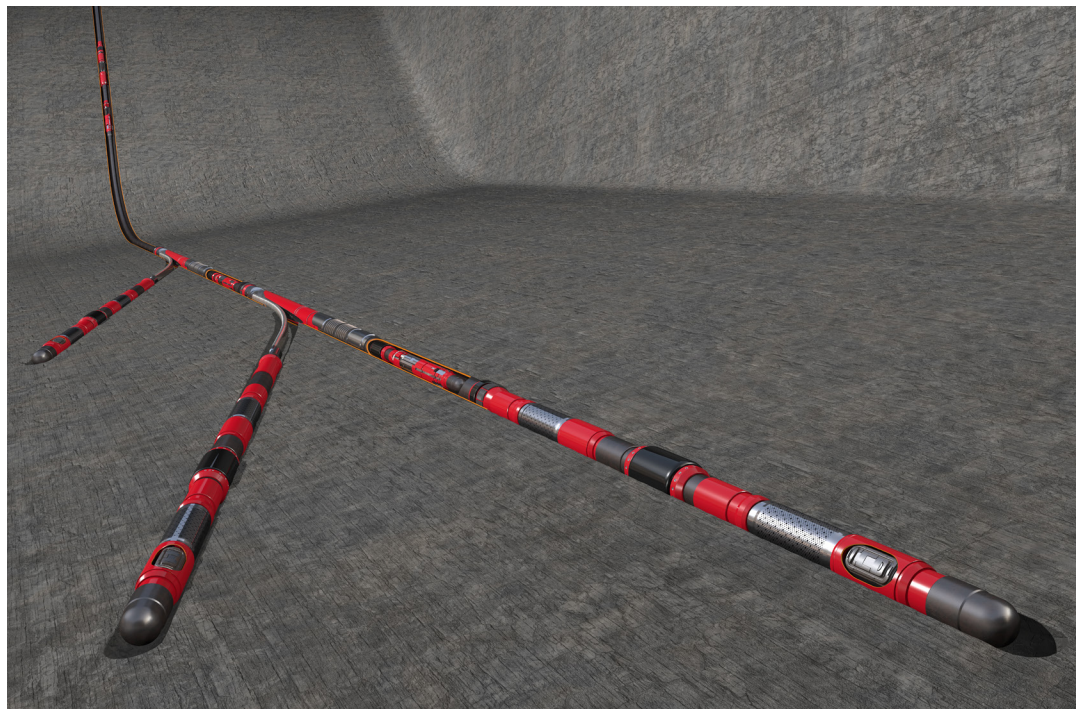
RESULTS

The FlexRite[®] MIC system and ReFlexRite[®] system met the operator's well objectives and exceeded expectations by enabling all downhole operations to be performed through the Christmas tree. Using these systems extended the wells' natural lifespan and enabled further economic production, maximizing asset value and saving the operator more than \$10 million by eliminating 15 operating days.



HCT1866-002

The FlexRite[®] multibranch inflow control (MIC) system.



HCT1558-002

A tri-lateral completion with zonal isolation and Intelligent Completion flow control.



FlexRite[®] System

- IOR Prize (Improved Oil Recovery)
Norwegian Petroleum Directorate (2006)

ReFlexRite[®] System

- Meritorious Award for Engineering Innovation
Exploration and Production E&P Magazine (2007)
- Offshore Energy Achievement Award in Well Construction
Offshore Engineering Magazine (2007)

FlexRite[®] MIC System

- Meritorious Award for Engineering Innovation
Exploration and Production E&P Magazine (2014)

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