

North Sea, Norway

Halliburton installs 400th FlexRite® system, including more than 150 FlexRite® MIC junctions, in North Sea

FlexRite® MIC junctions enable advanced control in multilateral completions

CHALLENGE

- Provide selective control and monitor multiple individual lateral branches

SOLUTION

- Develop the FlexRite® MIC system, the first TAML Level 5 junction to allow upper completion components to be run through the junction

RESULT

- Enabled selective control and monitoring of individual laterals
- Created TAML Level 5 junction in existing wellbore
- Installed 400 FlexRite systems, of which more than 150 are FlexRite MIC installations in Norway



Overview

In the late 1990s, Halliburton partnered with a major North Sea operator to install multilateral technology (MLT) systems in a Norway deepwater field. This collaboration led to the development of the first FlexRite® multilateral system in 2001 and its use on wells in many other fields.

Halliburton completed its 400th FlexRite system installation, which include multiple types of FlexRite junctions, including lateral access (LA), intelligent completion interface (ICI), and multibranch inflow control (MIC). In 2021, the Halliburton MLT team in Norway celebrated a milestone with the installation of the 150th FlexRite MIC system in the North Sea.

Challenge

In 2012, the operator required a solution to achieve new levels of zonal control in multilateral wells. Traditionally, many multilateral wells have consisted of multiple branches commingled in a completion solution that provides greatly increased reservoir exposure, but with limitations to control of individual branches and zones. A new completion solution was required to address challenges, such as water and/or gas breakthroughs in laterals, and allow for greater productivity and well life.

Solution

Halliburton worked with the operator to develop the FlexRite® MIC system, which was the first TAML Level 5 junction of its kind to allow upper completion components to be run through the junction - thus representing a step change in the possibilities for advanced completion solutions.

The FlexRite MIC system allows a multilateral well to be completed with sand screens, swellable packers, inflow control devices (ICDs), and interval control valves (ICVs) to help increase reservoir exposure and maximize production from each multilateral leg. It allows individual branch control of stacked (three legs or more) multilateral wells, and a single-trip completion system consisting of multiple slim-hole ICVs that can be deployed through the TAML Level 5 multilateral junctions. Using the FlexRite MIC system, an unlimited number of MIC junctions can be installed into a given well. Production or injection can be managed and controlled at each individual lateral, independent of all other lateral legs.

Result

The development of the FlexRite MIC system enabled selective control and monitoring of individual laterals. The new junction featured a large drift diameter throughout the entire mainbore, and allowed a single-trip final installation of an intelligent completion string. This, in turn, provided the capability to choke back individual branches, should they experience a gas influx or water breakthrough, without impacting production from other laterals.

Since the first FlexRite MIC installation in 2012, this technology has grown and developed to become a standard solution for several fields in the North Sea. As of 2021, Halliburton reached a milestone in Norway with the successful installation of the 150th FlexRite MIC junction. This system has proven success through solid track record and industry-leading reliability.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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