

Halliburton Installs 400th FlexRite® System, Including Over 150 FlexRite MIC Junctions, in North Sea

FLEXRITE MIC JUNCTIONS ENABLE ADVANCED CONTROL IN MULTILATERAL COMPLETIONS

NORTH SEA, NORWAY

CHALLENGES

Provide selective control and monitoring of multiple individual lateral branches

SOLUTIONS

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

RESULTS

- » Enabled selective control and monitoring of individual laterals
- » Created TAML Level 5 junction in existing wellbore
- » Installed 400 FlexRite systems, of which over 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 has recently completed its 400th FlexRite system installation. These installations have included 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 new milestone by installing its 150th FlexRite MIC system in the North Sea.

CHALLENGE

In 2012, the operator required a solution for achieving new levels of zonal control in its 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 on control over individual branches and zones. A new completion solution was required that would address challenges such as water and/or gas breakthroughs in laterals and allow for greater productivity and well life.



SOLUTIONS

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 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.

RESULTS

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, allowing for a single-trip final installation of an intelligent completion string. This, in turn, provided the ability to choke back individual branches, should they experience a gas influx or water breakthrough, without impacting the 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 new milestone in Norway by successfully installing the 150th FlexRite MIC junction. This system has proven its success through its solid track record and industry-leading reliability.

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