

STEP-IQ fiber optic solutions deliver real-time data accuracy and value for operators



STEP-IQ real-time data services

Key Benefits of STEP-IQ Fiber Optics

- Real-time data acquisition verifies proper tool functioning and allows operators to make better decisions during operations
- More accurate and complete data helps operators to better optimize their wells
- Robust and simple deployment of CT-conveyed fiber reduces costs and operational complexities
- Interventional fiber solutions are more cost effective than a permanent fiber installation

STEP Energy Services leverages modern technology that allows operators to make better decisions in real-time. The company has Canada's longest interventional coiled tubing (CT) conveyed fiber optic capability, at 7,100 meters total length. STEP-IQ fiber optic solutions are used for production logging and injection profiling to help optimize wells. Applications, such as frac monitoring to mitigate the risks of parent/child well communication, are also on the horizon.

CASE STUDY: PRODUCTION LOGGING

CHALLENGE

An operator in the Montney wanted an accurate understanding of where and how much gas it was producing along the length of a 6,090-meter horizontal wellbore.

SOLUTION

STEP Energy Services worked with the operator using fiber optic technology to log production in the well. The fiber optic string was conveyed using coiled tubing to the bottom of the well where it remained "parked" for two days collecting production data across the entire length of the wellbore.

RESULT

Real-time fiber logging provided superior data, detail and accuracy compared to a conventional production logging tool (PLT). STEP-IQ fiber optics delivered a robust solution, eliminated the risks of damaging a conventional PLT in the wellbore and saved time while gathering data along the entire wellbore length; all of this with the additional benefit of fewer running meters.

STEP-IQ provided the operator with a more complete understanding of well performance. The information was used to extrapolate well reservoir performance for other wells in the area and allowed the operator to optimize their current completion strategies.

CASE STUDY: INJECTION PROFILING

CHALLENGE

An operator in the Alberta Swan Hills area wanted to see where and how much fluid was entering the formation along each stage of a 4,000 meter 14-stage water flood injection well, to better understand where it was sweeping the formation.

SOLUTION

The operator decided to use STEP's CT-conveyed fiber optic profiling solution to overcome the primary limitations of conventional PLT tools which include: susceptibility to damage in the wellbore, data only gathered in 'chunks' along the wellbore and uncertainty over data quality captured by memory tools.

STEP-IQ was run to the bottom of the well and "parked." The well was left to stabilize, which was then followed by a fluid injection phase. The well was shut in again to allow it to equalize, followed by one more injection phase. The STEP-IQ fiber string was then pulled out of hole.

RESULT

STEP Energy Services provided the client a real-time injection profile report, which revealed a major inefficiency in the injection well: 83% of the total injection fluid was entering the formation through the heel of the well, in stages 10 to 14.

By using fiber optic technology the operator saw a more complete picture of what was happening underground in real-time. This accurate and detailed data helped the operator optimize their water flood program.