

## STEP-conneCT Reduces Bridge Plug Milling Time By Over 215%

STEP Energy Services leverages modern technology that allows operators to make better decisions in real-time. As a part of the STEP-IQ suite of products and services, STEP-conneCT is a downhole data acquisition tool that provides real-time data to the surface during milling operations. This data allows operators to evaluate critical job parameters and make instant decisions to reduce motor stalls and non-productive time.

### Key Benefits of STEP-conneCT:

- More accurate picture of the milling operation enabled by real-time downhole data
- Reduced motor stalls that protect the BHA and its components as an outcome of more complete data, including wellbore and circulation pressure, controlling weight on bit, torque, inclination, temperature and vibration
- Less non-productive time by reducing wiper and other tool trips
- Extended reach well capability with STEP's ~6,000 meter (19,685 feet) string of e-coil
- Dedicated technology development experts to oversee the deployment makes STEP a leader in advanced downhole technology offerings in North America

### Challenge:

An operator with low bottom-hole pressure in its Alberta/B.C. Montney horizontal wells was experiencing difficulty maintaining circulation while milling bridge plugs, which contributed to inconsistent milling results and the need for multiple wiper runs to clean out debris. Standard milling operations rely on data, based on surface measurements, to make decisions. This data is an estimate and does not provide a clear picture of what is happening downhole leading to challenges such as unplanned wiper trips and the potential of stuck pipe.

These operational challenges prevented the operator from budgeting future projects accurately due to the increased risk of unnecessary non-productive time.

### Accurate Data:

The operator worked with STEP to deploy STEP-conneCT, a downhole tool that provides real-time data such as circulation pressure, weight on bit, torque, inclination, temperature and vibration at the bit face.

By incorporating STEP-conneCT into their operations, the operator was able to make instant decisions based on data from the wellbore in real-time; the accuracy of the data provided a clear picture of what happened downhole which was directly correlated to more efficient operations and cost savings.

The tool was used to mill bridge plugs in five Montney wells with an average well depth of 4,400 meters (14,435 feet).

## Results:

Total milling time of the five-well pad was 250-plus hours without any tool failures.

Notably, no wiper trips were required on the first four wells, representing a savings of more than 12 wiper trips. Historically, the operator required two or three wiper trips per well when using conventional milling practices.

When analyzing milling times of two 16-plug sections of two comparable wells – one using STEP-conneCT and the other using standard milling practices without a real-time data downhole tool – the operator saw a reduction of the milling time by over 215% in the well using STEP-conneCT.

STEP Energy Services leverages technology that allows operators to make better decisions in real-time. The operator achieved its goals of more consistent and lower-cost plug milling and provided its view to more accurate budgeting for future milling jobs by using STEP-conneCT. These positive results convinced the operator to use data acquisition tool on every well in future completion programs.