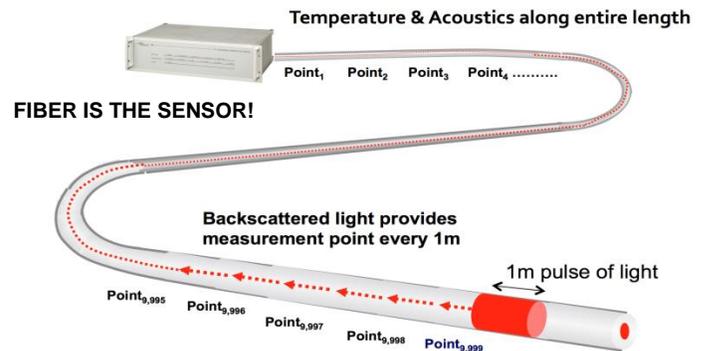


Fiber coil is an integrated solution for potential and existing through-tubing applications in horizontal completion and production technologies. This string can do everything normal e-coil can do, plus the addition of distributed sensing. The integrated fiber line allows for normal CT operation with the option of controlling through-tubing electric tools, as well as Distributed Temperature Sensing (DTS) and Distributed Acoustic Sensing (DAS) along the entire string. With our fiber coil service, the line can be installed inside various CT strings dependent on wellbore requirements for cutting edge wellbore evaluation. More conventional deployment methods for fiber and e-line in horizontal wells can require tractor-in conveyance, which can be expensive, limited, and risky.

Fiber Coil Applications

- Horizontal injection/production profiling (DTS and DAS)
- Formation logging (open hole & cased hole)
- Wellbore integrity evaluation (casing & tubing)
- Casing imaging tools
- HD video camera
- MicroSeismic
- Hydraulic fracture profiling
- Inter-wellbore fracture communication
- Stimulation optimization
- Perforating
- Tool setting & retrieval
- Fishing

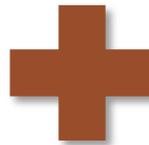


What's in it for you?

1. *Fracture/Injection Flow Profiling*
 - a. Identify which sections of the wellbore contributes to production/injection
 - b. Quantify flow through each perforation/port over entire well
 - c. Remotely visualize data in 3D to understand flow dynamics
2. *Production Optimization*
 - a. Log horizontal flow, fluid and reservoir monitoring information to identify hydrocarbon sources, reduce water production and keep operating costs at a minimum
 - b. Identify and characterize failed start-ups, slugging and flow restrictions
 - c. Simplistic, real-time, flow no-flow data delivery

QUICK FIBER FACTS

- Fiber is the sensor - get thousands of data points on a single line
- Highly sensitive to temperature and acoustics
- Proven in extreme environments
- No moving parts and very robust
- Highly accurate with great spatial resolution
- Immune to EM noise
- High signal to noise ratio - ability to sense very small events



QUICK E-LINE FACTS

- Power and transmit data to and from downhole tools
- Real-time monitoring always in communication with tool. No memory tool failure and wasted time on location.
- Robust line design by the wireline industry
- Cased hole formation evaluation generates high quality formation evaluation data, enabling optimal drilling and completion decisions in real-time
- Unconventional perforating

FIBER COIL



- Up to 5,800 m (19,208 ft) of 2-3/8" and 5,200 m (17,060 ft) of 2" coiled tubing
- Go beyond limitations of slickline/tractor by using a reliable conveyance method

