

# ADVANCED REAL-TIME COMPLETIONS EVALUATION

ENABLING FRAC OPTIMIZATION: FROM THE FIELD TO YOUR DEVICE IN MINUTES



## **OPTIMIZE YOUR PRODUCTION WITH REAL-TIME MICROSEISMIC ANALYSIS**

MicroSeismic, Inc. helps customers increase production and lower development costs through improved real-time decision making. Instead of after-the-fact results, operators can accurately understand and react to the impact of treatment on the reservoir in real-time. MicroSeismic gives customers a set of eyes and ears into the reservoir as well as recommendations based on years of experience to optimize production.

As the industry and technology leader, MicroSeismic has drastically improved the accuracy and reliability of real-time microseismic processing with advances such as Automatic Moment Tensor Inversion, a machine learning algorithm for Event Editing, and Anisotropic Calibration. In addition, many of MicroSeismic's completions engineering services can be provided in real-time for immediate improvements to frac coverage area and treatment optimization.

#### WHY MONITOR IN REAL-TIME?

- » Saves money and improves production by allowing each frac treatment to be optimized
- » Empowers completions engineers to meet or exceed frac coverage area
- » Allows for quick comparison of different frac treatments
- » Enables active monitoring of fracture extent to stay in-zone and avoid geohazards
- » Provides optimized well spacing and stage spacing recommendations for subsequent wells



### **REAL-TIME COMPLETIONS EVALUATION**

MicroSeismic is the only microseismic provider to deliver true, actionable results in real-time. Proprietary services like FracRx<sup>™</sup> and early estimates of Productive-SRV<sup>™</sup> are provided to evaluate and optimize the completion as it is performed.

- » Improve production by optimizing frac coverage area at the time of first completion
- » Optimize costs by understanding and adjusting for treatment effectiveness

### **REAL-TIME PROCESSING ADVANCEMENTS**

At the core of MicroSeismic's engineering applications is a robust set of patented technologies that allow for highly precise event locations and source mechanisms in real-time.

#### **AUTOMATIC MOMENT TENSOR INVERSION**

- » Allows for more accurate source mechanisms on all events
- » Details moment tensor inversion in real-time

#### MACHINE LEARNING ALGORITHM FOR EVENT EDITING

- » Increases accuracy of events and reduces subjectivity of interpretation
- » Locates 10% more true events than other technologies

#### UNPARALLELED CUSTOMER SERVICE

- » Highly experienced engineers, geologists, and geophysicists on call to answer your questions and provide interpretation
- » Data is delivered in real-time at the project site in one of MicroSeismic's state-of-the-art MicroStar trucks and securely on the web for worldwide access
- » A summary of daily results, key findings, and recommendations is sent to the client and a comprehensive final project report is delivered at the end of the project





