

# Richter Predictor allows Permian Operator to Detect Fault Activity during Completions prior to Seismic Event

## Challenge

A partner in the Midland basin approached ShearFRAC® to complement their existing seismic detection in an area with an active fault:

- + Identify aseismic slip and background seismicity along fault
- + Quantify stick-slip signature in pressure data
- + Provide early warning of possible induced seismic events

## Solution

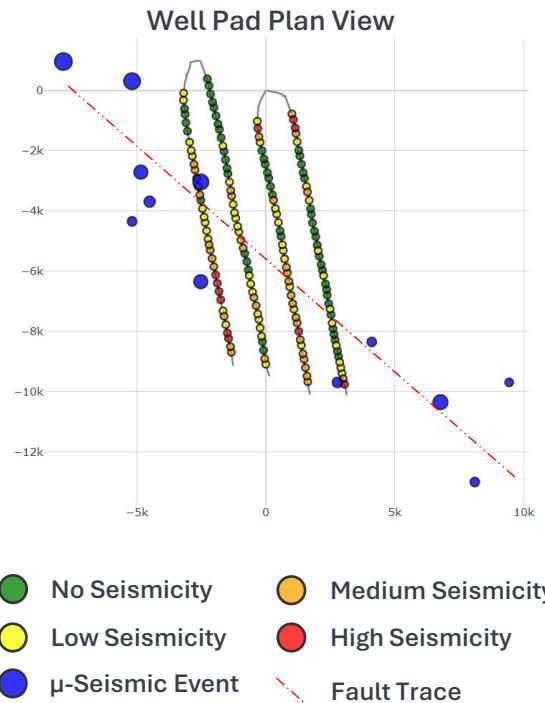
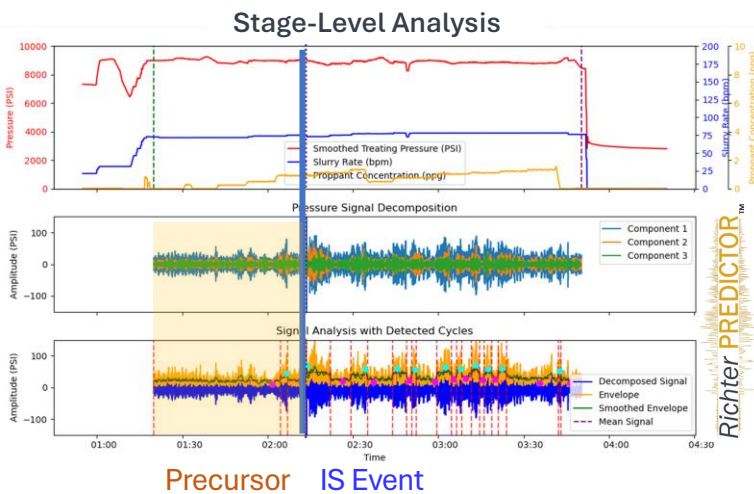
- + Richter Predictor™ provides real-time measurements of aseismic stick-slip cycles during well completions
- + Real-time measurements facilitate data-driven decisions to adjust operations in real time to mitigate fault activation



Basin – Midland

Location – South Texas

Producing Well Type – Oil



## Results

- + Surface Pressure monitoring detected increase in fault activity hours before traditional  $\mu$ -seismic based on duration & amplitude of stick-slip cycles
- + Characterized background seismic signature of fault during completions activity

## Outcomes

- + Fracturing order of operations modified based on Richter Predictor™ results and seismic array.
- + Signal decomposition provided valuable real-time insights for quantifying fault slip

Subsurface Insights: Driving the Future of Fracturing

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