ShearFRAC®

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

Challenge

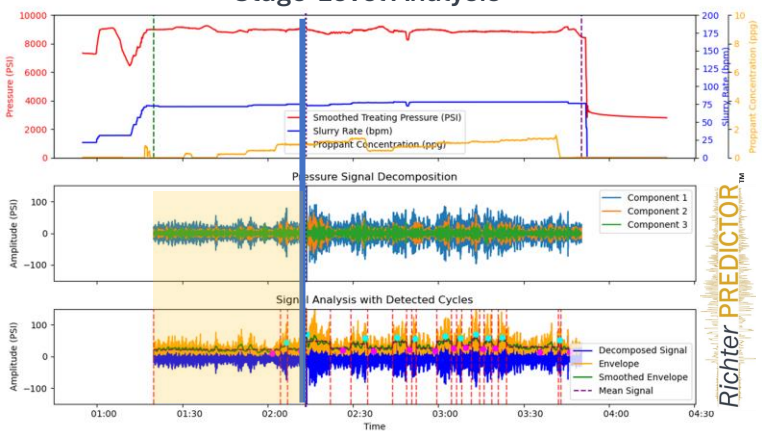
A partner in the Midland basin approached ShearFRAC® to complement their existing seismic detection in an area with an active fault:

+ 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

Stage-Level Analysis



Precursor IS Event

Results

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

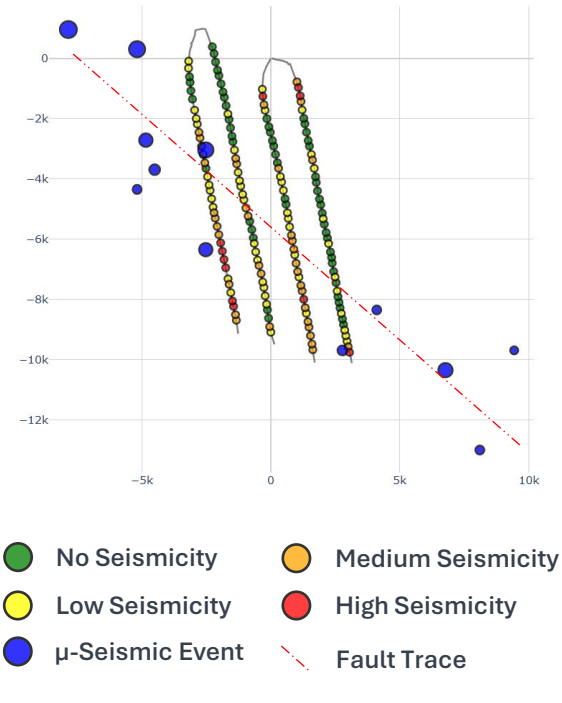
Richter PREDICTOR™

Basin – Midland

Location – West Texas

Producing Well Type – Oil

Well Pad Plan View



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

For More Information:

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