

Incorporating Fault Intensity and AVO Inversion to Characterize a Shale Gas Reservoir

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Abstract

We show that fault intensity and AVO inversion show insights into hydraulic fracturing operations. This is supported by microseismic data using calculations of event density, b-value, and D-value. Production data is also shown to support these conclusions. We also demonstrate that fault intensity is linked to the azimuthal anisotropy of the AVO inversion. This helps both infer the presence of faults that are below seismic imaging resolution, and potentially determine the spatial scale at which anisotropy measurements relate to natural faults and fractures.