

Geoscience Integration and Interpretive Model Building to Overcome Seismic Imaging Problems in Foothills Environments

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Abstract/Excerpt

Seismic imaging in thrust-belt environments like the foothills of the Canadian Rockies benefits significantly from interpretive input to velocities used for time and depth migration. With low fold in the near surface, low signal-to-noise ratios on the image gathers, and complex horizon geometries, automated velocity-model-building tools fail to produce an optimum velocity model for TTI anisotropic depth migration. In a setting with such under-constrained velocities, geologic constraints are crucial in the interpretation of our velocity model.

Close interaction between data processor and structural geologist leads to a feedback loop of continuous improvement in both geologic understanding and seismic imaging.