

Structure of the South-Eastern Nechako Basin, British Columbia: Results of Seismic Interpretation and First-Arrival Tomographic Inversion

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Abstract/Excerpt

Reinterpretation of Canadian Hunter seismic reflection profiles provides new insight into the complex structure, stratigraphy and tectonic history of the south-eastern Nechako Basin. The basin, which contains predominantly Mesozoic sedimentary and volcanic rocks, is overlain by Eocene and Neogene volcanic rocks and Pleistocene glacial deposits that mask the underlying geology. New results reveal details of how Cretaceous sedimentary and volcanic rocks, deformed during pre-Eocene transpression, were re-activated and cut by NW-SE trending strike-slip faults related to Eocene transtension. First-arrival tomographic models provide new information on the structure and velocity of the near-surface volcanic rocks. The focussing of model rays allows for estimation of the thickness of the Endako Group in the vicinity of well b-82-C, and may elsewhere provide information on the thickness of the Neogene and Eocene volcanic rocks.