

## **Interpretation of 2-D multichannel seismic reflection data across the Sohm Abyssal Plain along the Scotian margin**

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In 2006, as part of Canada's effort to define its Extended Continental Shelf in accordance with the United Nations Convention on the Law of the Sea (UNCLOS), Natural Resources Canada collected 6900 line km of 2-D multichannel seismic reflection data over the Sohm Abyssal Plain off of the Scotian margin. These lines were integrated with existing data sets and interpretations to determine the nature and the thickness of the sedimentary succession. Five seismic horizons were extended from the Scotian shelf and slope regions and correlated across the Sohm Abyssal Plain. Jurassic units are widespread near the slope, but appear only in isolated basins between localized basement highs distally. Cretaceous units are mapped everywhere across the region except where sediments lap out against the seamounts of the New England Seamount chain. A prominent Upper Cretaceous or lower Paleocene unconformity manifests significant uplift that is likely related to the emplacement of the Gregg and San Pablo seamounts. Post-Oligocene units thicken dramatically toward the northeast as a result of sediment input from the Laurentian Fan. Using a seismic velocity model derived from numerical filtering of existing sonobuoy records and seismic refraction data to convert reflection data to the depth domain, the sediment thins from 15–19 km beneath the slope to less than 1 km at the distal edge of the survey area.