

**Preliminary seismic refraction and reflection results from
the Southwest Newfoundland Transform Margin**

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Predrift reconstructions of the North Atlantic show the southwestern edge of the Grand Banks as a sheared (transform) margin that developed during the Early Cretaceous with the separation of Iberia and North America. Mapping of the two-way time to basement shows a complex topography across the ocean-continent transition zone. Seismic refraction shows that this zone is about 30 km wide. The oceanic crust near the transition has a thickness of 6 km and is characterized by steep velocity gradients and the absence of a

clear layer 3 arrival. The refraction data on the continental crust near the transition indicate a thickness of 30+ km. P-wave velocities of 7-8 km/sec are evident at depths of 15-20 km, which may correlate with crustal reflectors seen on preliminary versions of a Lithoprobe line across the Grand Banks. Little or no stretching of the continental crust occurred in the transition zone. Models and synthetic seismograms based on the refraction data are being refined.