Dinkelman, M. G., and Bird, D. E., 2011, **Offshore Nova Scotia: integrating salt deformation styles, basin structuring and distribution of crustal terranes** (abstract): American Association of Petroleum Geologists, Annual Meeting, 984694.

We integrate a new interpretation of ION-GXT's recently reprocessed (RTM pre-stack depth imaging) long-offset (9000 m), long-record (18 s, or 40 km) seismic reflection data (NovaSPAN) with gravity and magnetic data, as well as results from seismic refraction experiments, in the slope diapiric province of the Scotian Basin along regional transects that extend from about 50 to over 500 km offshore. Our results indicate that: 1) crystalline crustal thicknesses range between 5 and 12 km, 2) a prominent basement ridge bisects the region of thin crust, and 3) this region is roughly 60 to 100 km wide and appears to be offset between oceanic fracture zones The 2 to 16+ km thick predominantly clastic aggradational wedge, extending across the outer shelf and into the deep basin, is interspersed with Jurassic and Cretaceous carbonates and salt. Based on carbonate deposition, salt deformation and tectonic setting, we infer dynamic structural basin styles and depositional environments throughout the Jurassic and Cretaceous. Crustal thicknesses range from over 30 km inboard continental to about 7 to 9 km outboard oceanic. Intriguing, complex reflections within the crystalline crust are difficult to understand, yet suggest possible internal structuring related to the latest stages of tectonic extension and formation of the passive margin Recent tectonic interpretations, supported by seismic reflection and refraction data, suggest that the north-eastern part of the Nova Scotia salt basin is underlain by unroofed and hydrated upper mantle rocks. Consistent with these interpretations, our work indicates that the crystalline crust of this part of the basin is markedly different from that of the crust to the southwest. However magnetic data over Nova Scotia and its conjugate margin, Morocco, are characterised by prominent anomalies. If these sets of anomalies indeed are conjugates, then this implies that the thin crust may be oceanic.