order to identify new petroleum leads and assess their potential for large discoveries in the northern Hopedale Basin.

Seismic stratigraphic and structural characterization of the Snorri J-90 well area, Hopedale Basin, Labrador Sea

Michael E. Enachescu and Andrew B. Carroll
Department of Earth Sciences, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3X5

Several large gas discoveries were made during the 1970s to early 1980s exploration cycle in the shallow near-shore Labrador Sea, proving the existence of a rich petroleum system. No follow-up drilling or field development has taken place and only during the past few years has exploration returned with collection of modern 2D seismic data. A re-evaluation of the petroleum potential of the Labrador Sea's Hopdale Basin is long overdue. The Basin Group of the Pan-Atlantic Petroleum System Consortium (PPSC) at Memorial University will perform an integrated regional interpretation using new regional seismic sections collected of the Labrador Sea basins. This study includes the Snorri J-90 discovery well area located in the northern part of the Hopedale Basin. The Hopedale Basin had a complex geological evolution, starting with intra-continental rifting in the Late Jurassic (?) or Early Cretaceous, followed by rifting, transitional crust emplacement, drifting (ocean crust creation) and sea opening cessation. The pre-rift basement has variable seismic proprieties as it varies in age from Paleozoic to Archean and in lithology from carbonates (Ordovician) to granites and metamorphic rocks. The basement reflector is well imaged in the shallow part of the basin and mostly inferred as the basement dives deeper. Several larger depocenters are recognized on the shelf and slope that may contain Mesozoic sequences including mature Cretaceous source rocks and possible Late Jurassic, Kimmeridgian-age sediments. Reservoir intervals are identified in several wells and correlated to seismic markers in