Structural and gravity study of the Howley Sub-Basin, Western Newfoundland

Anticipated deliverables include a new structural analysis, including a revised structural map of the Howley Sub-Basin of the Deer Lake Basin in Western Newfoundland, which will be integrated with high resolution ground gravity transects over the area. This new fundamental data about a largely unexplored Devonian-Carboniferous sedimentary basin will help assessment of its hydrocarbon potential. Several junior oil companies have expressed an interest in the region, but lack the resources for their own studies.

This project will be carried out by faculty (Drs Leitch and Calon) and graduate student Linden Ernst from Memorial University's Department of Earth Science, using the department's new CG-5 gravity meter and a borrowed or rented DGPS system, and with the aid of local people for field support. Gravimetric and structural data will be gathered over the Howley sub-basin over one or two seasons. The initial gravity transects will be carried out in the summer along all local roads and at intermediate points depending on access. Depending on ice conditions, a winter survey over Sandy Lake and the north part of Grand Lake will be carried out. The structural survey will involve field work along all major roads and where rocks are exposed along rivers and lake edges, around Sandy Lake and the north part of Grande Lake. Samples will be taken for microstructural and paleontological analysis. These data will be combined with existing regional aeromagnetic and gravity data, and seismic and drillhole data from the neighbouring Cormack sub-basin.