# CENTRAL LABRADOR TROUGH PROJECT

by

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Regional mapping in the central part of the Labrador Trough,, *i.e.* that part between latitude 54°00'N and the Quebec border, has essentially been completed and no new field work was carried out during the 1979 field season. The geology of the area is presently being written up as a final report to be accompanied by two 1:100,000 scale colored maps and several 1:50,000 sheets.

Two weeks of the 1979 field season were spent in a general geological reconnaissance of areas of the Churchill and Grenville Provinces, east and southeast of the Labrador Trough, in order to determine the most appropriate direction in which to extend mapping from the Trough.

As a result it is likely that future mapping, commencing in 1980, will be centered on Churchill Falls and will concentrate on the area of the Churchill/Grenville Province boundary between the Labrador Trough and Churchill Falls.

Reconnaissance work in the area has revealed that much of the area supposed by previous workers to be underlain by gneissic rocks is in fact dominated by extensive bodies of granite in varying states of deformation. Interspersed within the granites are several small areas of gneiss, volcanics and sedimentary rocks. The geology and mineral potential of this area is only poorly defined and will be revised during a 1:100,000 or 1:250,000 mappping project.

Two Rb/Sr age dates were obtained during the winter of 1978-79 which have significance for the geology of the southern part of the Labrador Trough that lies between latitude 54°00'N and the Grenville Front. Both dates were provided by C. Brooks of the University of Montreal.

1.) The age of the Shabogamo Gabbro has been determined at 1685±60 Ma.

    This is an eighteen point errochron obtained by the combination of three separate isochrons determined from three sample group sites in the areas of MacLean Lake (8 samples) north Gabbro Lake (6 samples) and south Gabbro Lake (4 samples). Although the date is an errochron the fact that it is based on three isochrons from sample sites up to 30 km apart is considered good evidence that the date reflects the age of crystalization of the Shabogamo Gabbro and that the gabbro forms a body of uniform age in this part of the Trough.

    This early Paleohelikian age for the gabbro requires that the Sims Formation, which is locally intruded by the gabbro (Ware, 1979) also be Paleohelikian.

2.) A six point errochron corresponding to an age of 1540±40 Ma has been obtained from felsic volcanic rocks of the Blueberry Lake group (Wardle, 1979).

    On this basis the group postdates the Shabogamo Gabbro and might be considered equivalent to the Bruce River Group of eastern Labrador (Smyth *et al.*, 1978).

Recent work by Rivers and Noel (this volume) however, has shown that sedimentary rocks believed to be part of the Blueberry Lake group (Wardle, 1979) have been intruded by the Shabogamo

Group, thus casting doubt on the validity of the errochron as an age of extrusion.

Further work is obviously required before the age of the Blueberry Lake group can be firmly established.

Details of both Rb/Sr determinations are included in an internal report on geochronology in Labrador (Brooks, 1979) held on open file at the Mineral Development Division, St. John's.

## REFERENCES

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