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LETITIA LAKE PROJECT: PROGRESS REPORT

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INTRODUCTION

The Letitia Lake area is located in Labrador, 160 km northwest of Goose Bay and 50 km east of the Smallwood Reservoir (Figure 1). It has been the focus of sporadic mineral exploration activity since the discovery of several Nb-Be showings (Mann #1 and Mann #2) in the late 1950's (Brummer, 1957). The aim of this project is to study the metallogeny of the Mann-type Nb-Be mineralization, in order to aid in the further evaluation of these deposits, and to develop criteria to explore for similar mineralization in Labrador.

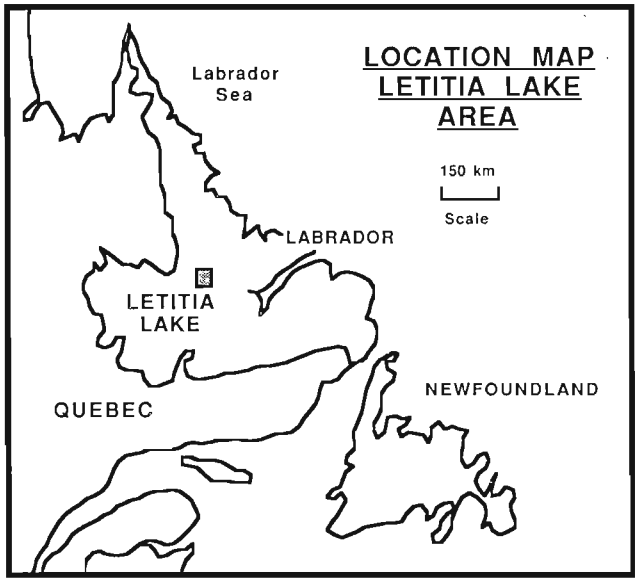

Figure 1: *Location of the Letitia Lake area, central Labrador.*

LETITIA LAKE RARE METAL SHOWINGS

Five weeks were spent in the Letitia Lake area, in the summer of 1985, to sample and map the Mann #1 showing and to visit some of the lesser known showings. A helicopter-borne spectrometer survey was also carried out over the Letitia Lake area to help locate other Mann-type showings.

The Mann #1 showing was mapped on a scale of 1:580 and the surrounding area was mapped on a scale of 1:2,320. Representative lithogeochemistry and petrographic samples were collected from each map area for future laboratory analysis (samples are presently being prepared for analysis). Regions contained on each map have been outlined on the geology sketch map of the Letitia Lake area (Figure 2).

Results from the spectrometer survey (total counts) will be released at a later date along with the results of a later ground check of significant radiometric anomalies; correlation of survey results indicate that the Mann-type showing has above background radioactivity, although not all radiometric anomalies can be attributed to this type of mineralization. Previously described showings in the area (Figure 2) were clearly indicated by the survey. These include:

Mann #1 Showing ..... *Be 001
Michelin Prospect ..... *Nb 001
Mann #2 Showing ..... *Nb 002
Two Tom Lake Showing ..... *Ree 001

Mapping of the rocks around all four previously known showings indicates that peralkaline syenites are the main rock type associated with the mineralization. Five centres of peralkaline syenite ± granite have been identified in the area; four have associated mineralization at or near their margins. Preliminary conclusions suggest that some or all of these five intrusive centres were the focus of the volcanic activity which resulted in the Letitia Lake Group peralkaline volcanic rocks; previous work suggests that all peralkaline rocks in the vicinity are coeval (Thomas, 1981; Hill and Thomas 1983). The four mineralized peralkaline centres are in the upper part of the Letitia Lake Group volcanic sequence near the contact with the younger Seal Lake Group. The apparently unmineralized peralkaline centre is near the base of the Letitia Lake Group and contains a significant proportion of peralkaline granite.

ACKNOWLEDGEMENTS

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This project is a contribution to the Canada-Newfoundland Mineral Development Agreement, 1984-1989

* Newfoundland Department of Mines and Energy Mineral Inventory File numbers for NTS 13L/1

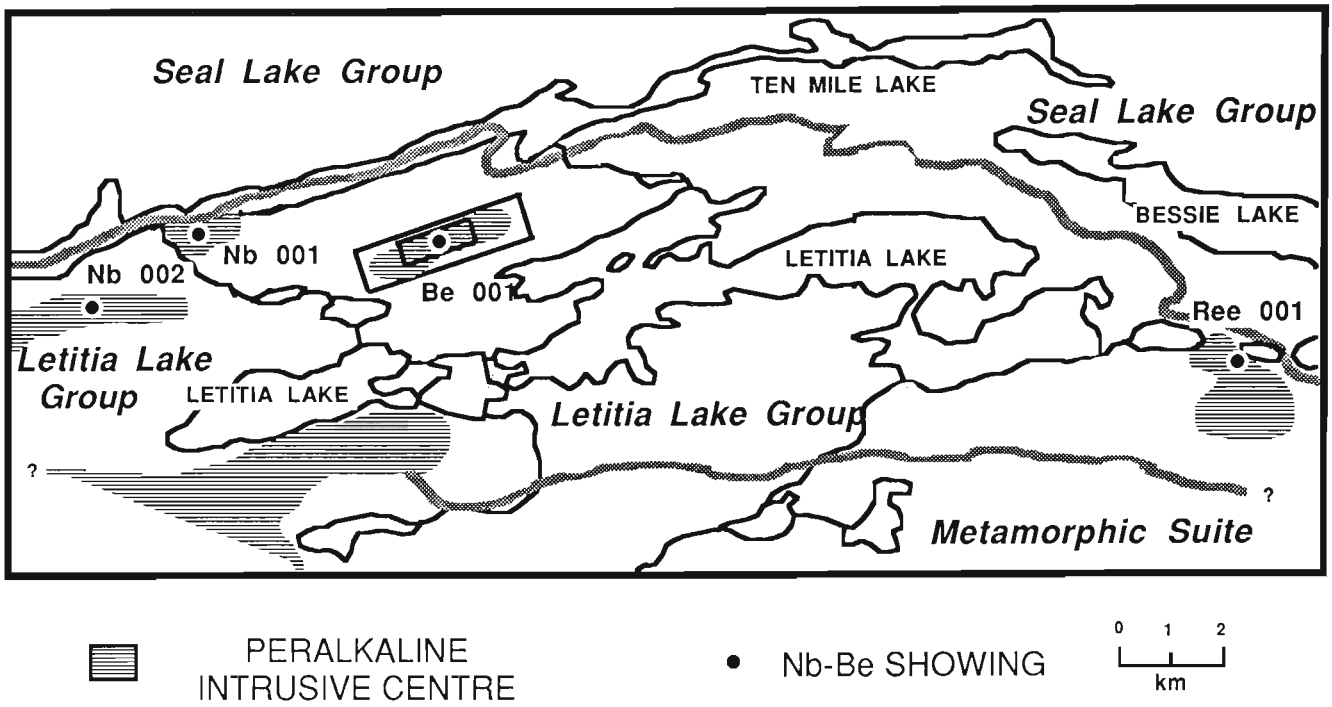

Figure 2: *General geology and location of Nb-Be showings in the Letitia Lake area.*

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Note: Mineral Development Division file numbers are included in square brackets.