

GEOCHEMICAL FOLLOW-UP SURVEYS, LABRADOR TROUGH

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INTRODUCTION

Follow-up geochemical surveys were conducted in three areas of Labrador during the 1985 field season (Figure 1). One area was northeast of Wabush-Labrador City known as Rannie Lake (A), and two other areas were in close proximity to Schefferville, Quebec: Iron Arm (B) to the east and Howell's River (C) to the west.

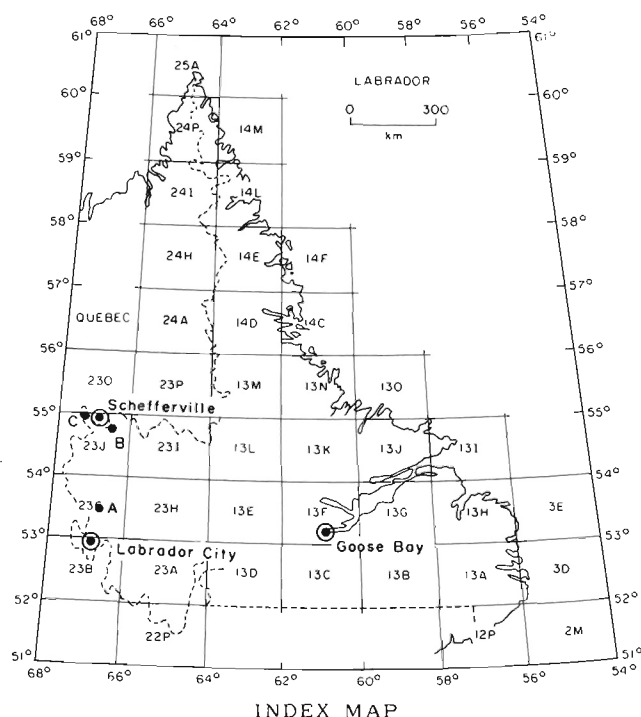


Figure 1: Areas of geochemical follow-up in the Labrador Trough.

AREA DESCRIPTIONS

Rannie Lake Area (A)

Previously known as Anomaly 6 (McConnell, 1984), the anomalous zinc area at Rannie Lake was shown to extend southward from the original anomaly based on reconnaissance lake sediment data (Geological Survey of Canada, 1982). Initially, lake sediment and lake water samples were collected from the 230 km² area at a density of 1 sample per 1.8 km². This was followed by sediment sampling every stream within the area at a sample interval of 50 m. In all, 137 lake sedi-

ment samples and 261 stream sediment samples were collected.

The area is covered with glacial overburden to a considerable depth. Eskers are common throughout the northern part of the area, some reaching a height of almost 10 m. Only three outcrops were noted in the northwest corner of the area, the largest of which is a north striking ridge that is exposed for a distance of about 50 m. The rock type in this outcrop is homogeneous Menihek Formation shale containing very minor quartz veins.

Iron Arm Area (B)

The Iron Arm area is about 30 km east of Schefferville. In 1981, John McConnell completed a detailed soil sampling program in the area. Soil samples were collected every 50 m from a grid with a 2 km baseline and 2 km crosslines 400 m apart. Our work extended the baseline for 1 km to the west and added crosslines at 400 m intervals on the extension. In addition, three lines, each 500 m long, were run off both sides of a small lake which intersected line 19+50W at 5+82S. A total of 136 soil samples were collected from the grid extension. The original grid and the extension were also surveyed for rock samples. A total of 83 rock samples from outcrop, probable outcrop and local float were collected.

All samples were analysed for a suite of elements including Cu, Pb, Zn, Co, Ni, Ag, Mn, Fe, F, Cd and loss on ignition. Some selected samples may be analysed for other elements such as Au at a later date. The data will be released on open file when all analyses and statistics have been completed.

Howell's River Area (C)

The Howell's River area is located west of the town of Schefferville, Quebec, and extends to the northwest. Several of the lake sediment samples collected during the URP surveys (Geological Survey of Canada, 1979) produced anomalous values in zinc. During the 1985 field season, lake sediment and lake water samples were collected, and then stream sediment samples were taken. From an area of about 800 km², there were 207 lake water and lake sediment samples and 285 stream sediment samples collected.

The Howell's River area contained much less glacial overburden than the Rannie Lake area and outcrops were noted at several localities along both the north and south sides of Howell's River. All outcrops were highly fractured, relatively homogeneous, Menihek Formation shale; minor

pyrite occurs locally. Some rock samples were collected for analysis.

Affiliated Work

Joan Tod conducted geophysical work in two of the three areas discussed above. At Rannie Lake, a grid was established and VLF-EM, magnetic and scintillometer readings were recorded. The second grid was established over, and at an angle to, a grid originally established by McConnell in 1980 (McConnell, 1984) at Iron Arm. On this grid, VLF-EM and magnetic readings were recorded. The results of the geochemistry and geophysics will be incorporated into a joint open file release in 1986.

ACKNOWLEDGEMENTS

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