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Abstract: In 1998–2000, two high-resolution, regional aeromagnetic surveys totalling 148 533 line kilometres were flown in the Mackenzie Corridor, Northwest Territories. Also, in 1999, a high-resolution, regional aeromagnetic survey totalling 81 765 line kilometres was flown over Lake Ontario and northern New York State. Phase I of the Mackenzie Corridor survey and the Lake Ontario and northern New York State survey were both supported by a cost-sharing agreement with industry partners. A detailed, multiparameter electromagnetic/magnetic/gamma-ray spectrometric helicopter-borne survey totalling 11 400 line kilometres was flown in New Brunswick; this survey was funded by the Province of New Brunswick.

INTRODUCTION

In 1998–2000, the GSC aeromagnetic survey program included three regional aeromagnetic projects, two of which were in the Northwest Territories and one in the Lake Ontario area. A detailed HEM/magnetic/gamma-ray spectrometric survey was also flown in New Brunswick. Locations of these projects are shown in Figure 1 and details are summarized in Table 1.

NORTHWEST TERRITORIES

As part of a multiyear program, an aeromagnetic survey totalling 77 407 line kilometres was initiated in 1998 by a consortium of three oil companies and the Geological Survey of Canada on a cost-shared basis. The survey area is located in the Mackenzie Corridor extending approximately from south to north from latitude 64°N to Fort Good Hope. Consortium members are entitled to exclusive use of the data for one field season, prior to release to the public. The data will be released to the public in March 2000. The survey results support geological mapping and hydrocarbon exploration in a frontier region of Canada.

The Mackenzie Corridor Phase II survey commenced in June 1999 and covers an area north from Fort Good to latitude 68°N. The survey totals 71 126 line kilometres. As with Phase I, the survey data support geological mapping and hydrocarbon exploration.

LAKE ONTARIO/NORTHERN NEW YORK STATE

A total-field magnetic survey totalling 81 765 line kilometres was flown over an area covering the northern part of New York State, Niagara peninsula, and eastern Lake Erie. The new detail provided by the high-resolution magnetic data will help resolve questions related to basement structure and assist in work related to understanding the relationship between the basement and the sedimentary cover. One industry partner

AEROMAGNETIC SURVEY ACTIVITY IN 1998–2000

- MAGNETIC TOTAL FIELD
- ELECTROMAGNETIC / MAGNETIC / RADIOMETRIC
- DATE OF RELEASE
and the GSC participated in a cost-sharing agreement to acquire this data. The survey results will be released to the public in 2000.

**NEW BRUNSWICK**

A helicopter-borne frequency domain electromagnetic, magnetic, gamma-ray spectrometric survey was flown in the Kedgwick area in the summer of 1999 on behalf of the Geological Surveys Branch of the New Brunswick Department of Natural Resources and Energy (DNR&E). Survey lines were flown at 200 m intervals at a height of 60 m above ground, totalling 11 400 line kilometres. This survey is a continuation of the 1997 initiative for a detailed coverage of the rocks of the Gaspésie belt in northwestern New Brunswick to act as a stimulant for the mineral exploration in the region. Funds were provided by the Province of New Brunswick. Survey results will be released to the public in June 2000.

Geological Survey of Canada Projects 940001, 980007, 980008

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