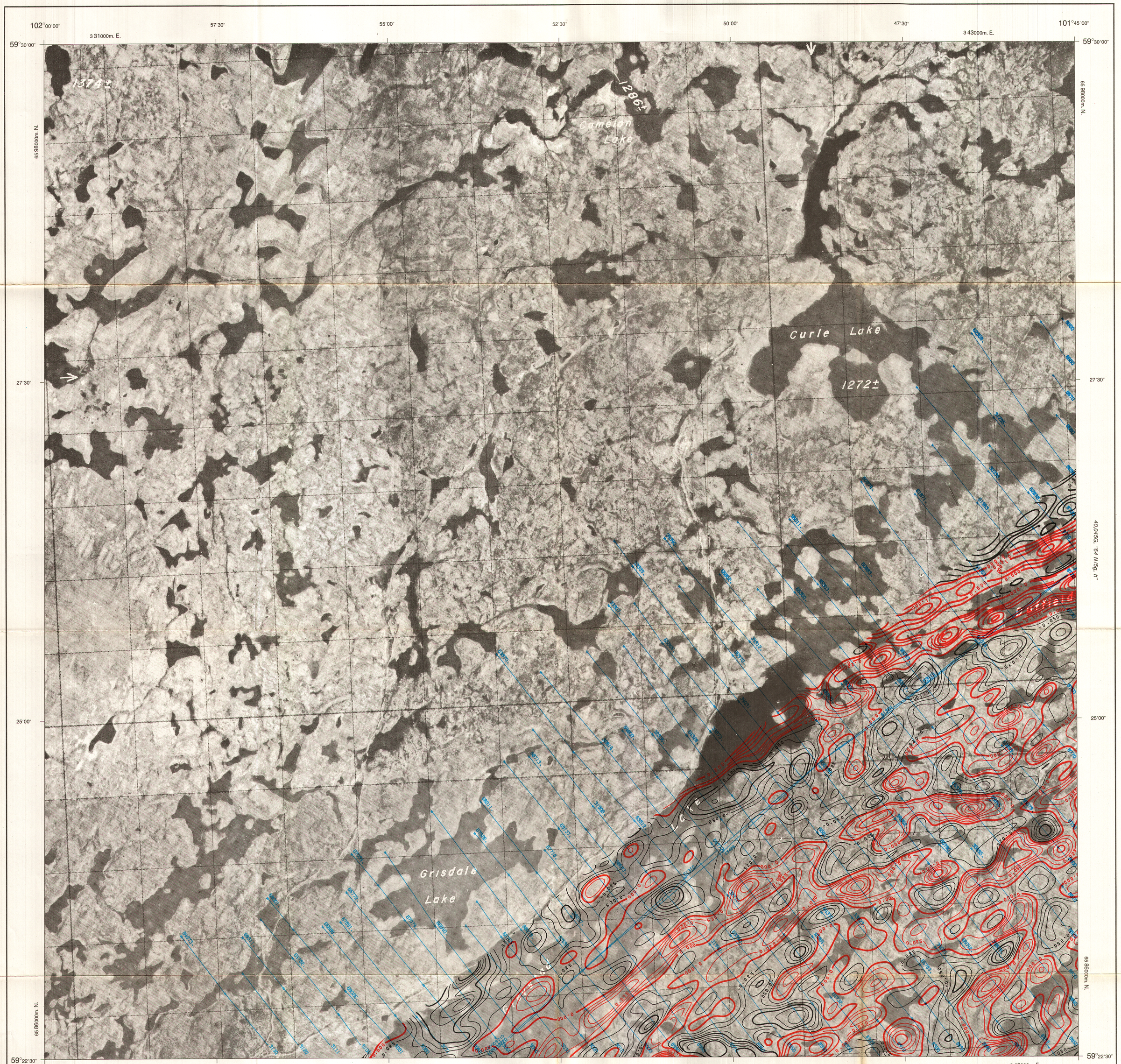
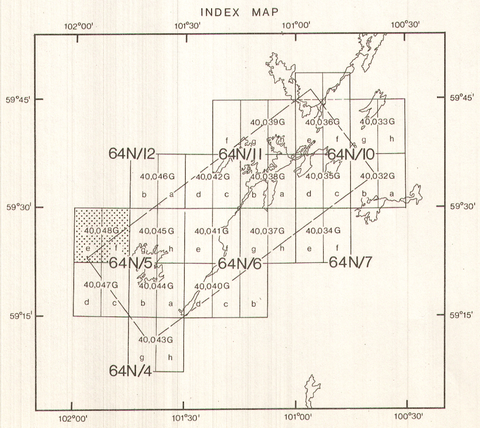
GEOPHYSICAL SERIES
(HIGH RESOLUTION AEROMAGNETIC VERTICAL GRADIENT)

PROVINCE
OF
MANITOBA
DEPARTMENT OF MINES, RESOURCES AND ENVIRONMENTAL MANAGEMENT
MINERAL RESOURCES DIVISION

DEPARTMENT
OF
ENERGY, MINES AND RESOURCES
GEOLOGICAL SURVEY OF CANADA



INDEX MAP



MAGNETIC CONTOUR LINES

+.5 gammas/metre
+.1 gammas/metre
+.025 gammas/metre
−.5 gammas/metre
−.1 gammas/metre
−.025 gammas/metre
(1 gamma = 1 nanotesla in SI units)
Flight lines
Flight altitude: 150m above ground level

MAP 40,048 G

64 N/5e, f

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SCALE 1:25,000

1 MILE
FEET 2000 1000 0 1000 2000 3000 4000 5000
METRES 500 0 500 1000 1500 2000 METRES

PUBLISHED 1979

This map has been compiled from digitally-recorded high-sensitivity aeromagnetic data obtained by two self-orienting rubidium-vapour magnetometers installed in twin tail booms mounted on the GSC Beechcraft B80 aircraft. The magnetometers are vertically separated by a distance of 2.08 metres with each measuring the total magnetic field to a resolution of 0.02 gammas.

Flight altitude was 150 m above ground at 300 m average flight line spacing. Double control lines were flown at an average spacing of 7.5 kilometres.

The vertical gradient values, which approximate closely to the first vertical derivative of the earth's total field, are obtained by dividing the difference between the total field readings of the two magnetometers by their vertical separation.

The vertical gradient data was filtered with a digital operator to remove instrument noise. The vertical gradient data from the control lines was not used in the compilation of the map. The data was edited, compiled, levelled and gradient values for contouring interpolated onto a square grid (0.25 cm grid spacing at the published map scale) by automatic computer processes. The final data grid was contoured and plotted using the automatic contouring program and digital plotter facilities of Dataplotting Services Ltd. The survey data used to compile this map is available in digital form from the Geological Survey of Canada at the cost of retrieval and copying.

Airborne survey and digital compilation was carried out by Resource Geophysics and Geochemistry Division, Geological Survey of Canada. The survey operations took place in August and September 1977 using Beechcraft Queenair 65-B80 aircraft CF-WZG.

The topography for this map was reproduced from 1:50,000 topographical map sheets, published by the Department of Energy, Mines and Resources, Ottawa.

Copies of this map may be obtained from the Mineral Resources Division, Manitoba Department of Mines, Winnipeg, or from the Geological Survey of Canada, Ottawa.

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