

# DESCRIPTIVE NOTES FOR VERTICAL GRADIENT MAPS

This map has been compiled from digitally-recorded high-sensitivity aeromagnetic data obtained by two self-orienting cesium vapour magnetometers installed in twin tail booms mounted on the GSC Beechcraft 880 aircraft. The magnetometers are vertically separated by a distance of 2.05 metres with each measuring the total magnetic field to a resolution of 0.005 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 1:25,000 map scale) by automatic computer processes. The final data grid was contoured and plotted at 1:20,000 scale 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 on a cost recovery basis.

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## 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: 150 m above ground level

GEOLOGICAL SURVEY OF CANADA  
 COMMISSION GÉOLOGIQUE DU CANADA  
 DEPARTMENT OF ENERGY, MINES AND RESOURCES  
 MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

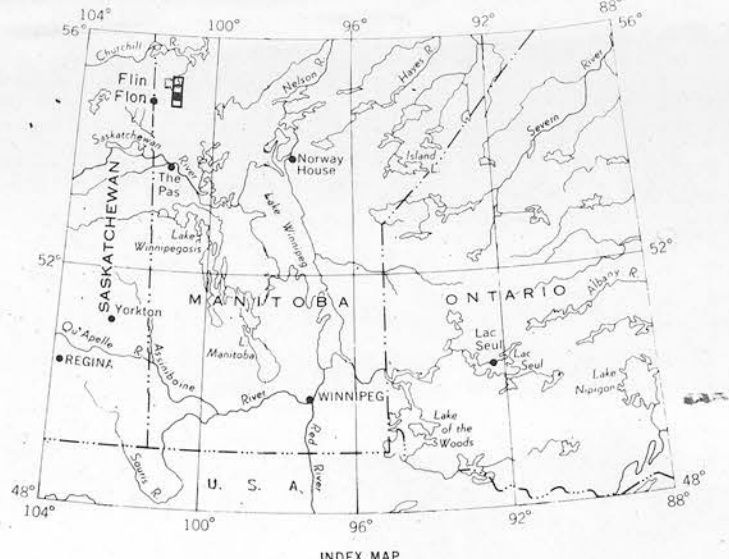
63K/14g. h

MANITOBA

VERTICAL GRADIENT

Scale 1:20 000 Échelle

Mètres 600 0 600 1200 1800 Mètres  
 Feet 2000 0 2000 4000 Pieds  
 Universal Transverse Mercator Projection Projection transversale universelle de Mercator  
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