GEOPHYSICAL SERIES

EXPERIMENTAL COLOUR COMPILATION

(HIGH RESOLUTION AEROMAGNETIC VERTICAL GRADIENT)

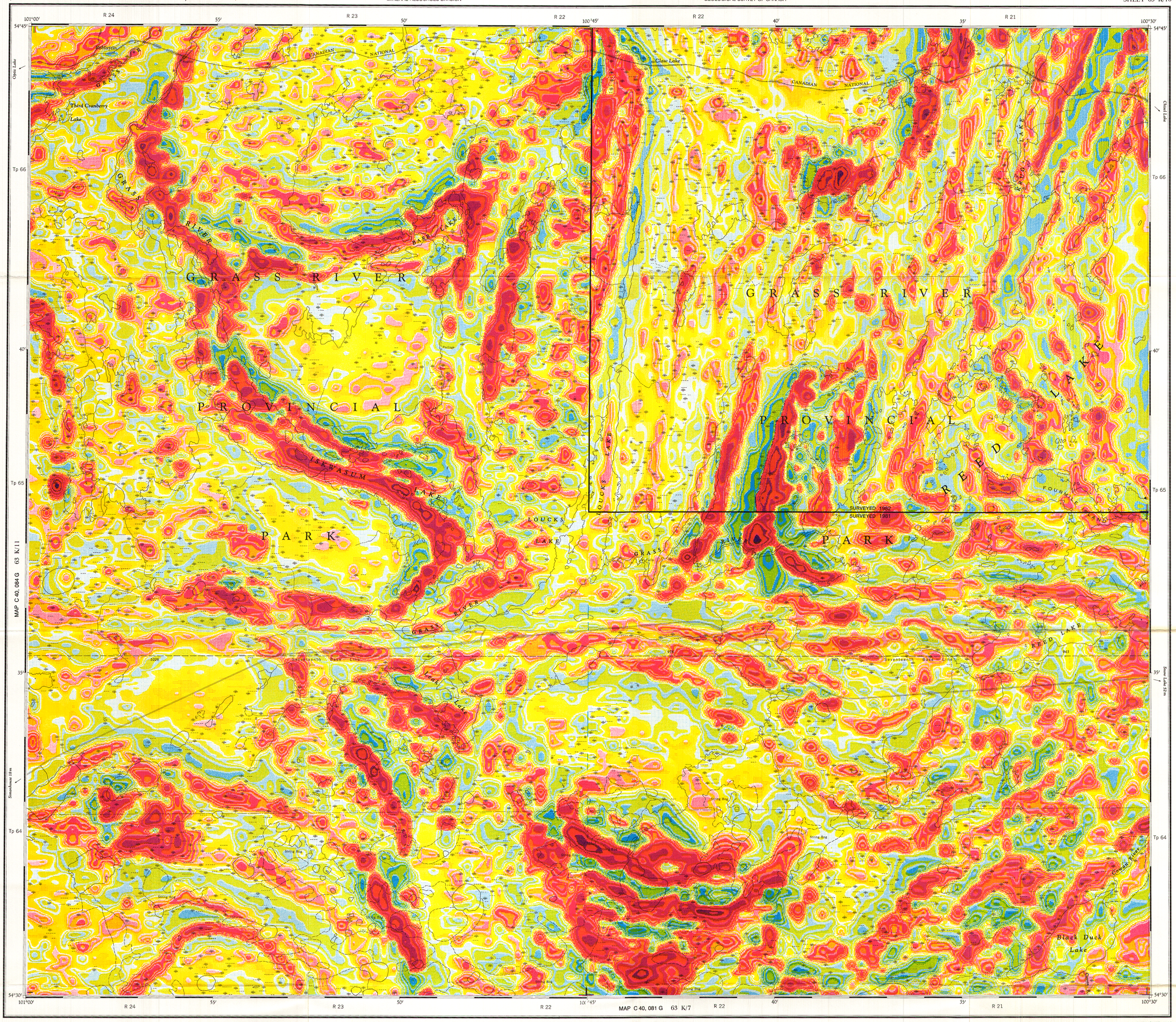
PROVINCE
OF
MANITOBA
DEPARTMENT OF ENERGY AND MINES

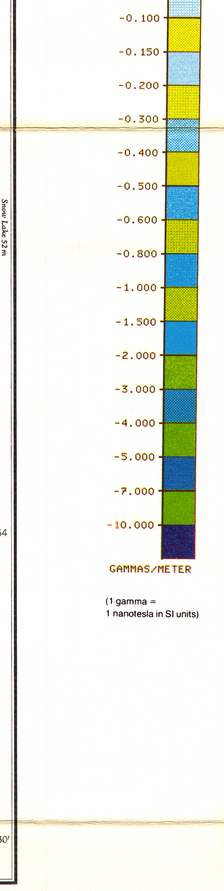
MINERAL RESOURCES DIVISION

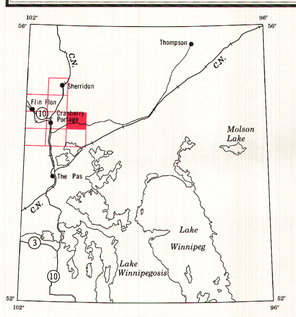
DEPARTMENT
OF
ENERGY, MINES AND RESOURCES

GEOLOGICAL SURVEY OF CANADA

SHEET 63 K/10







INDEX MAP

EXPERIMENTAL COLOUR MAP

This map was compiled using the following computer automated techniques. Aeromagnetic digital data values were interpolated from the flight line data at the nodes of a regular grid covering the survey area. Each grid cell was .08 cm square. A colour code was assigned to each cell according to the amplitude of the aeromagnetic value within the cell using the colour scale shown in the legend. The data matrix was output on an Applicon colour jet plotter to produce a colour field map identical to the one above. To permit colour printing colour separations were made with the plotter to produce the red, yellow and blue components of the map on separate sheets.

The Geological Survey of Canada would appreciate your comments concerning the merits of this type of compilation.

Please address your comments to:

Re: Experimental Aeromagnetic Colour Map
The Director General,
Geological Survey of Canada,
601 Booth Street,
Ottawa, Ontario,
K1A 0E8
Canada.

EXPERIMENTAL COLOUR COMPILATION
(HIGH RESOLUTION AEROMAGNETIC VERTICAL GRADIENT)

MAP C 40, 082 G

ISKWASUM LAKE

MANITOBA

Scale 1:50 000

Miles 1 — 0 — 1 — 2 — 3 Miles
Metres 1000 — 0 — 1000 — 2000 — 3000 — 4000 Metres
Yards 1000 — 0 — 1000 — 2000 — 3000 — 4000 Yards

Funds for this survey were provided jointly by the Manitoba Department of Energy and Mines and the Geological Survey of Canada, under the Federal-Provincial Northlands Agreement.

PUBLISHED 1983

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 B80 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 12 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 interpolated onto a square grid (0.25 cm grid spacing at the published map scale) by automatic computer processes. 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 between July 1980 and August 1982 using Beechcraft Queenair 65-B80 aircraft C-FWZG.

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 Energy and Mines, Winnipeg, or from the Geological Survey of Canada, Ottawa.

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