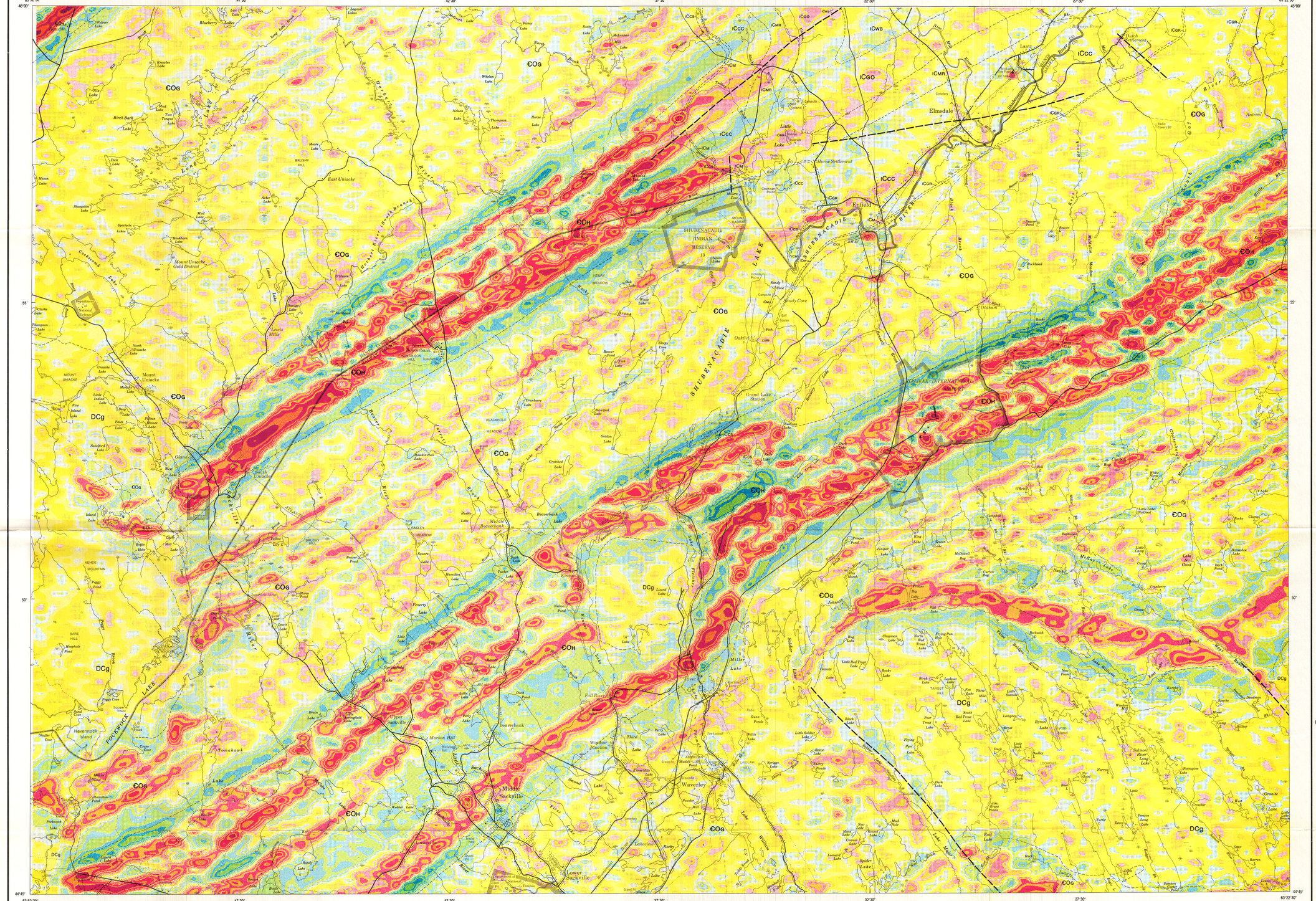
EXPERIMENTAL COLOUR COMPILATION
(HIGH RESOLUTION AEROMAGNETIC VERTICAL GRADIENT)

PROVINCE
OF
NOVA SCOTIA
DEPARTMENT OF MINES AND ENERGY
MINERAL RESOURCES DIVISION

DEPARTMENT
OF
ENERGY, MINES AND RESOURCES
GEOLOGICAL SURVEY OF CANADA

PARTS OF 11 D/13, 11 D/14

C 40, 077 G "PARTS OF 11 E/3, 11 E/4"



(1 gamma = 1 nanotesla in SI units)

LEGEND

MESOZOIC

LOWER CRETACEOUS

lK — *Clay, sand, silt and lignite*

PALEOZOIC

CARBONIFEROUS

UPPER CARBONIFEROUS
PICTOU GROUP

uCSv — *SCOTCH VILLAGE FORMATION: sandstone, shale and siltstone*

LOWER CARBONIFEROUS
CANSO GROUP

lCWB — *WATERING BROOK FORMATION: shale, minor gypsum, anhydrite and halite*

WINDSOR GROUP (lCw, undivided)

lCGO — *GREEN OAKS FORMATION: siltstone, sandstone limestone, dolostone, anhydrite and gypsum*

lCMR — *MacDONALD ROAD FORMATION (lCMR): gypsum, anhydrite, minor halite, some siltstone and carbonate members*

lCs — *STEWIACKE FORMATION (lCs): halite, minor anhydrite and siltstone (subsurface only)*

lCCc — *CARROLLS CORNER FORMATION (lCCc): anhydrite, gypsum, minor dolostone and mudstone*

lCGR — *GAYS RIVER FORMATION (lCGR): dolostone and minor limestone*

MACUMBER FORMATION (lCM): limestone and dolostone

lCw

HORTON GROUP (lCH - lCCs)

lCCs — *COLDSTREAM FORMATION: conglomerate sandstone and minor shale*

lCH — *HORTON BLUFF AND CHEVERIE FORMATIONS undivided: sandstone and minor shale; basal conglomerate*

DEVONIAN AND CARBONIFEROUS

DCg — *Granitoid rocks (may be in part younger than lCH)*

CAMBRIAN AND ORDOVICIAN

MEGUMA GROUP (€Og - €Oh)

€Oh — *HALIFAX FORMATION: slate*

€Og — *GOLDENVILLE FORMATION: greywacke and slate*

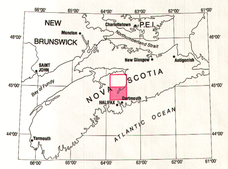
Geological boundary (approximate, assumed)

Fault (approximate)

Thrust fault (approximate)

Geology compiled by J. D. Keppie, Nova Scotia Department of Mines and Energy, from: Faribault, E. R. and Fletcher, H. (1905-1916), Geological Survey of Canada, Map publication numbers 635, 700, 807, 878, 908, 1005, 1019, 1025, 1036, 1037 and 1539; Giles, P. S. and Boehner, R. C. (in press) Geological map of the Shubenacadie and Musquodoboit basins, central Nova Scotia, Nova Scotia Department of Mines and Energy (in Memoir 8); and Stevenson, I. M. (1959), Kennetcook and Shubenacadie map areas, Colchester, Halifax and Hants counties, Nova Scotia, Geological Survey of Canada, Maps 1075A and 1076A (in Memoir 302)

Geological cartography by the Geological Survey of Canada



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 .05 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,
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601 Booth Street,
Ottawa, Ontario,
K1A 0E8
Canada.

Canada

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MAP C 40,076 G

PARTS OF 11 D/13, 11 D/14

NOVA SCOTIA

Funds for the flying operation were provided jointly by the Canada Department of Regional Economic Expansion, the Geological Survey of Canada, and the Nova Scotia Department of Mines and Energy. Publication of the maps was funded by Geological Survey of Canada through the Canada-Nova Scotia Co-operative Mineral Program 1981-84.

PUBLISHED 1982

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 2.05 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 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 in October and November 1976 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, Nova Scotia Department of Mines, Halifax, or from the Geological Survey of Canada, Ottawa.

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