

The regional geochemical trend map displayed above utilized a moving weighted average using an inverse distance function ($1/d^2$) to filter out minor irregularities and emphasize broad-scale regional features. Single point anomalies may be suppressed or eliminated, however, geological units which are chemically enriched, or large metallic deposits undergoing weathering would be expected to produce identifiable anomalies.

SURFICIAL GEOLOGY

This legend is common to Open Files 1356 and 1357

PROGLACIAL AND GLACIAL ENVIRONMENTS

Glaciolacustrine Deposits:

- Varved or massive clay and silt
- Fine Sands, sands, and deltaic sand

Glaciofluvial and Ice Contact Deposits:

- Outwash sands and gravel
- End moraine, interlobate moraine; sand, gravel and boulders
- Esker or kame complex; sand, gravel, boulders

Glacial Deposits:

- Predominantly clayey till
- Predominantly silty to sandy till

NONGLACIAL ENVIRONMENT

- Bedrock

Complexes: when two or more types of glacial or non-glacial environment are interspersed in a mosaic or repeating pattern, the relative dominant/subordinate amount of each type is indicated by sequential order. For example, 2/1 indicates predominantly silty to sandy till with lesser clayey till.

SYMBOLS

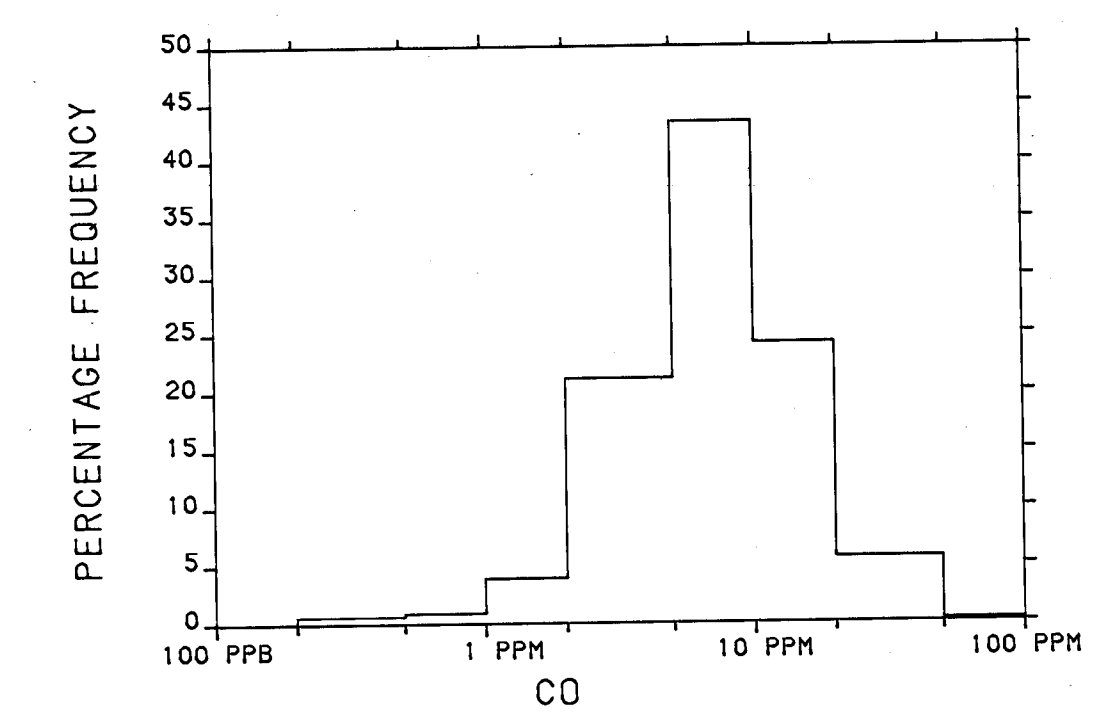
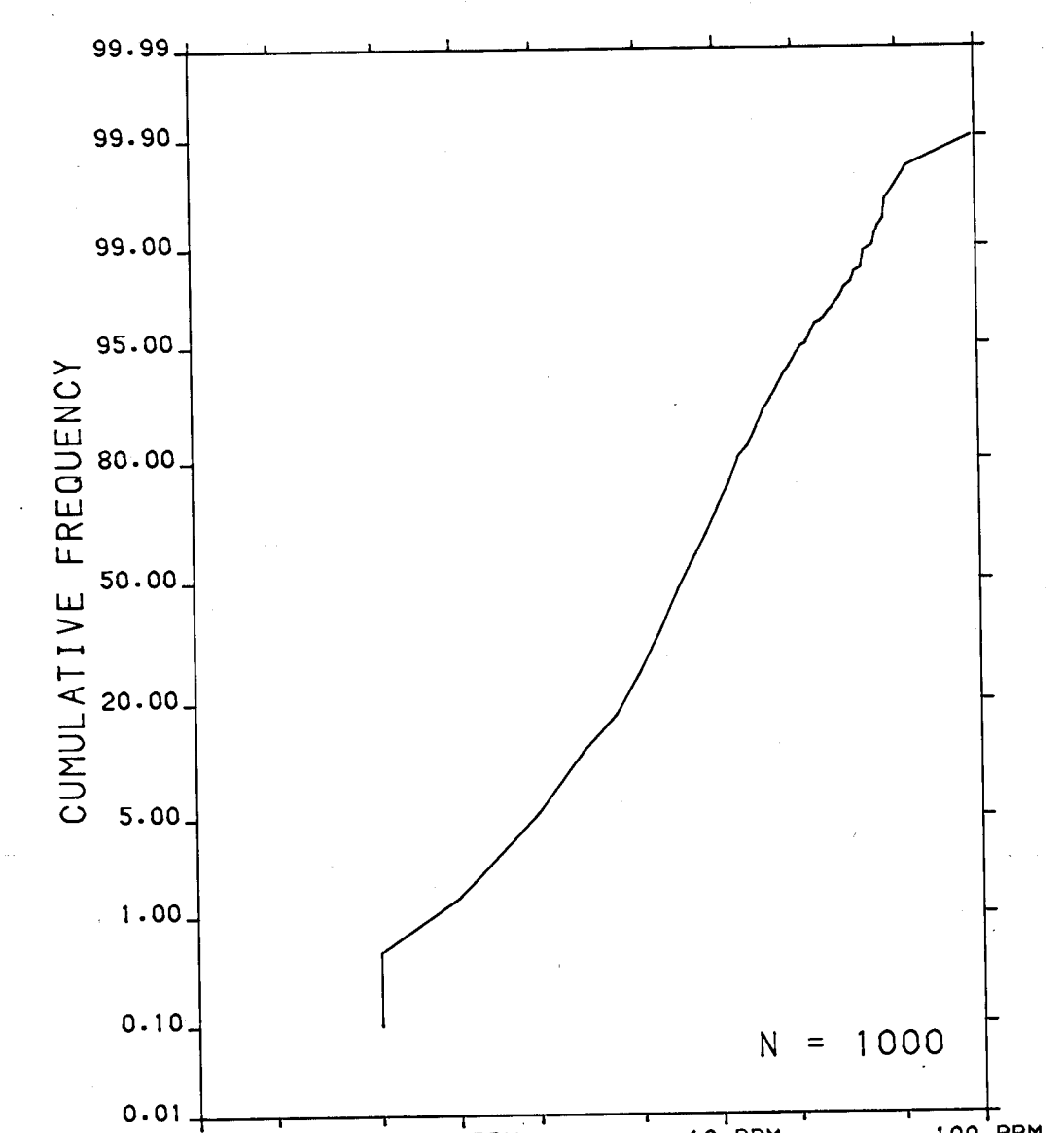
- Surficial geological boundary
- Striae
- Fluting, drumlin or drumlinoid ridge
- Esker, kame or kame complex

Surficial geology derived from:
 Boisjourné, A.N. (1965), Map S465, Ontario Department of Lands, Forests,
 Prest, V.K., Grant, D.R., and Rampton, V.N. (1969), Glacial Map of
 Canada, Geological Survey of Canada, Map 1253A (Scale: 1:5 000 000).

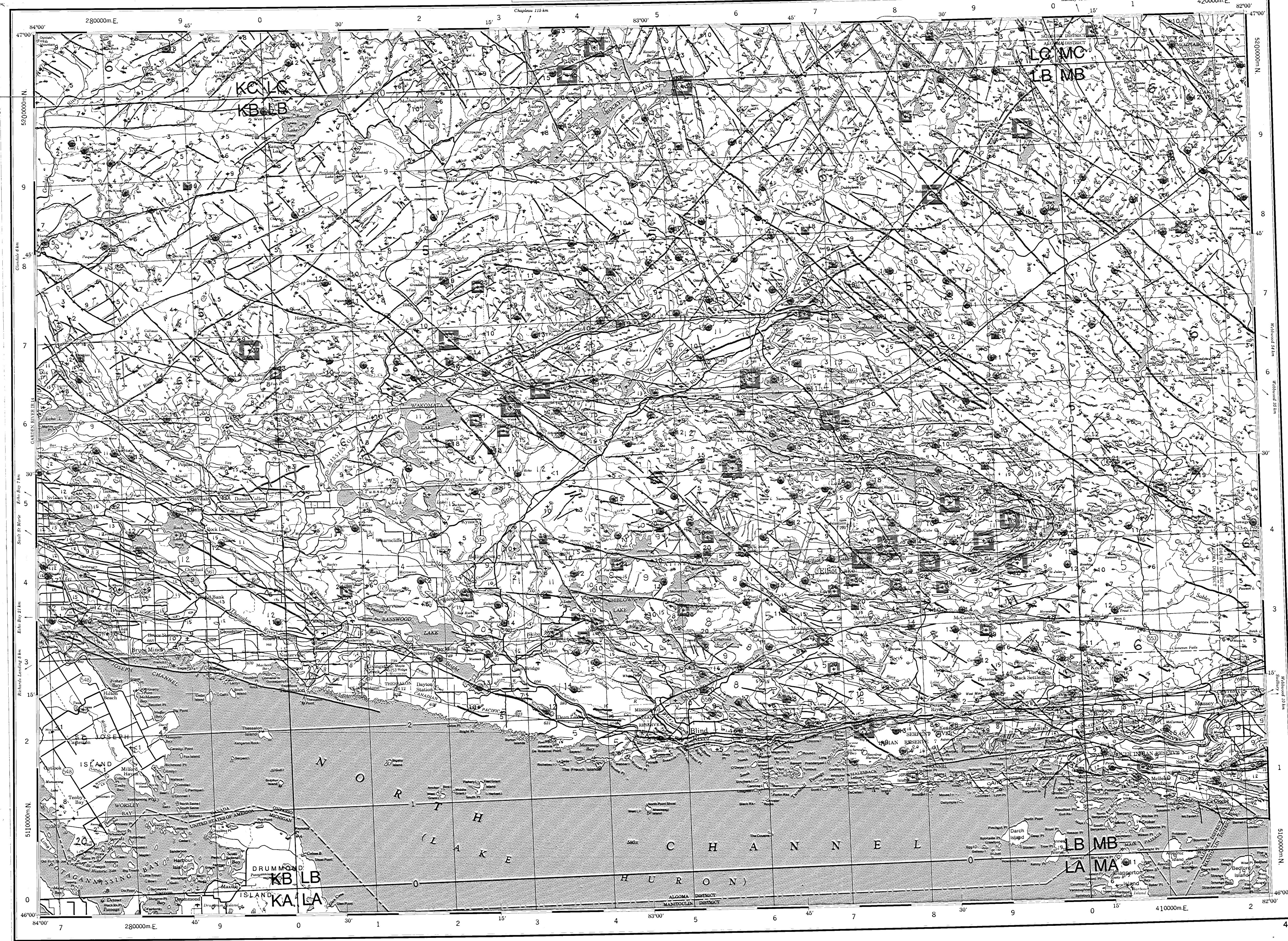
Geological Survey of Canada
 Mineral Resources Division
 Exploration Geochemistry Subdivision

CONTRACTORS

- Sample collection by SIAL Geophysique Inc., Montreal
- Sample preparation by Golder Associates, Ottawa
- Sediment chemical analyses by Barringer Magenta Ltd., Rexdale, Ontario
- Au analyses by Chemex Labs Limited, Vancouver
- Water chemical analyses by Barringer Magenta Laboratories (Alberta) Ltd., Calgary



CONCENTRATION	FREQUENCY
32 to 96	N = 20 (2.0%)
23 to 31	N = 29 (2.9%)
18 to 22	N = 39 (3.9%)
11 to 17	N = 212 (21.2%)
<1 to 10	N = 700 (70.0%)



LEGEND

PALEOZOIC

SILURIAN

- 20 SCP* Limestone, shale

UPPER CAMBRIAN AND OROVICIAN

- 19 OCCS Limestone, shale, sandstone, includes Munising Formation; sandstone

PRECAMBRIAN AND ARCHEAN

- 18 LPAD Diabase, gabbro, diorite

PRECAMBRIAN

LATE PRECAMBRIAN

- 17 LPAC Fenite, ijolite, pyroxenite, carbonatite

MIDDLE TO LATE PRECAMBRIAN

- 16 MPCC Oraker Island Complex; granite, syenite, diorite, gabbro
 Otter Pluton; granite, quartz monzonite, granodiorite, trondhjemite, pegmatite

MIDDLE PRECAMBRIAN

- 15 MPND Nipissing Diabase; diabase, gabbro, metagabbro, granophyre

HURONIAN SUPERGROUP

COBALT GROUP

- 14 MPBR Bar River Formation; quartzite
- 13 MPGL Gordon Lake Formation; siltstone, argillite, quartzite
- 12 MPL Lorrain Formation; quartzite, arkose, conglomerate
- 11 MPG Gowanda Formation; conglomerate, argillite, greywacke, quartzite, siltstone

QUIRKE LAKE GROUP

- 10 MPQL Serpent Formation; quartzite, conglomerate
 Espanola Formation; limestone, dolomite, calcareous siltstone
 Bruce Formation; conglomerate

HOUGH LAKE GROUP

- 9 MPHIL Aweres Formation; conglomerate, arkose, quartzite
 Mississagi Formation; quartzite, conglomerate
 Pecora Formation; argillite, siltstone
 Ramsay Lake Formation; conglomerate

ELLIOT LAKE GROUP

- 8 MPFL McKim Formation; siltstone, argillite, quartzite
 Matinenda Formation; quartzite, arkose, conglomerate, uraniferous conglomerate

- 7 MPVB Basalt, andesite, amphibolite, gabbro, anorthosite, ultramafic rocks and minor rhyolite

ARCHEAN

- 6 AGH Massive felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, monzodiorite, pegmatite
- 5 AGN Foliated to gneissic felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, diorite, migmatite
- 4 AUB Gabbro, diorite
- 3 ACSF Conglomerate, greywacke, arkose, quartzite, siltstone, argillite, chert
- 2 AMWF Felsic to intermediate metavolcanics
- 1 AMVB Mafic to intermediate metavolcanics; includes flows, minor mafic pyroclastics and interflow sediments.

IF Iron formation

*A mnemonic code assigned to rock types and recorded as part of field observations.

Geological boundary:

Fault:

No analytical results:

The geology base and legend for these geochemical maps were derived from: Geology - Sault Ste. Marie - Elliot Lake, Map 2419 Geological Compilation Series, Ontario Department of Mines, 1:253 440.
 McCrank, G.F.D., Misura, J.D., and Brown, P.A. (1979): Geology - Plutonic Rocks in Ontario, Geological Survey of Canada Map 1338, to accompany GSC Paper 80-23.

Contribution to Canada - Ontario Mineral Development Agreement 1986 - 1990, a subsidiary agreement under the Economic and Regional Development Agreement. Project funded by the Geological Survey of Canada.

Ministry of Northern Development and Mines
 Ontario

Energy, Mines and Resources Canada
 Energie, Mines et Ressources Canada

Copies of map material and listings of field observations, analytical data and methods, from which the open file was prepared, are available from:

K.G. Campbell Corporation
 880 Wellington St.
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 Ottawa, Ontario
 K1R 6K7

Digital data are available on IBM-PC compatible diskette from:

Geological Survey of Canada
 Publications Distribution
 601 Booth St.
 Ottawa, Ontario K1A 0E8
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**COBALT (ppm)
 LAKE SEDIMENTS
 GSC OPEN FILE 1356**

REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 92-1986

CANADA - ONTARIO
 MINERAL DEVELOPMENT AGREEMENT (1986-1990)

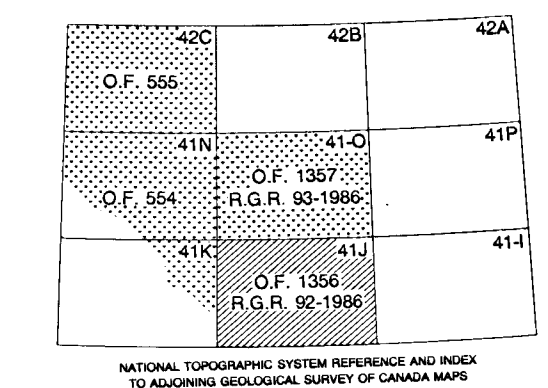
LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
 CENTRAL ONTARIO, 1986

Scale 1:250 000 - Échelle 1:250 000

Mean magnetic declination 1987, 7°48' West, increasing 10.6' annually. Readings vary from 8°33'W in the SE corner to 7°00'W in the NW corner of the map area

Base map at the same scale published by the Surveys and Mapping Branch in 1979

Elevation in feet above mean sea level



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