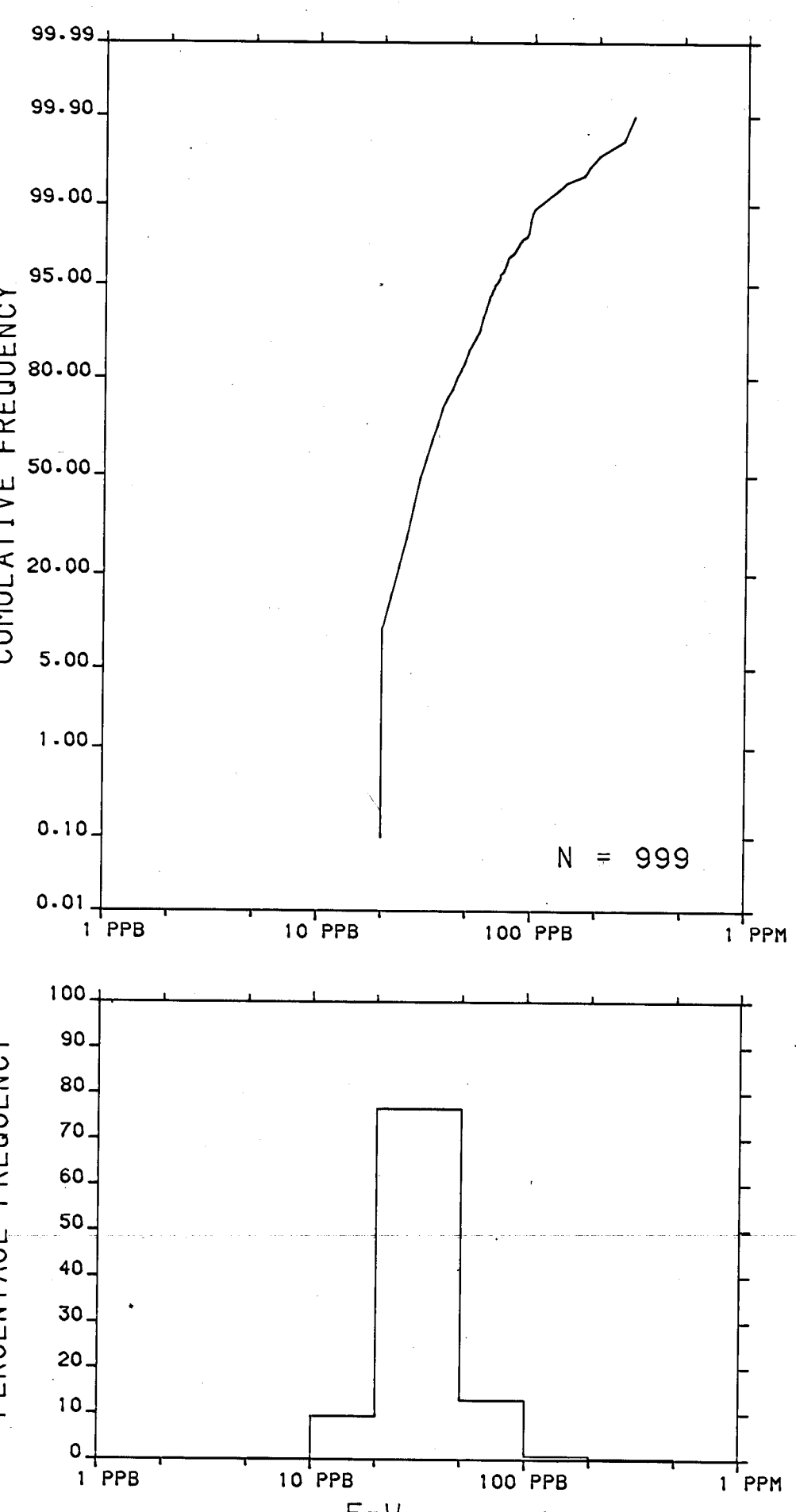


The regional geochemical trend map displayed above utilized a moving weighted average using an inverse distance function (1/d²) to filter out minor irregularities and emphasize broad-scale regional features. Single point anomalies may be suppressed or eliminated, however, geological units which are chemically enriched, or large metallic deposits undergoing weathering would be expected to produce identifiable anomalies.



CONCENTRATION	FREQUENCY
89 to 290	N = 20 (2.0%)
67 to 88	N = 29 (2.9%)
59 to 66	N = 37 (3.7%)
39 to 58	N = 190 (19.0%)
<20 to 38	N = 723 (72.4%)

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:
Boissonneau, 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).

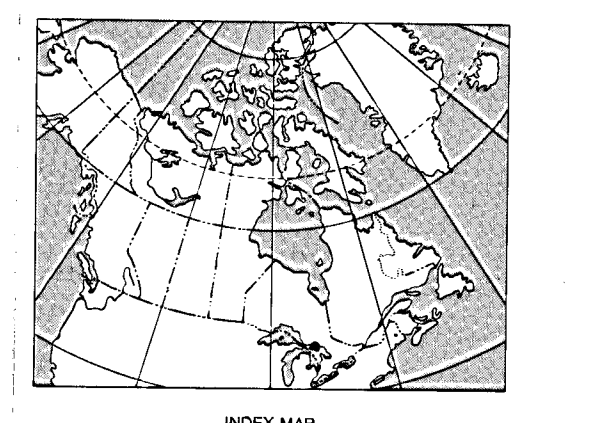
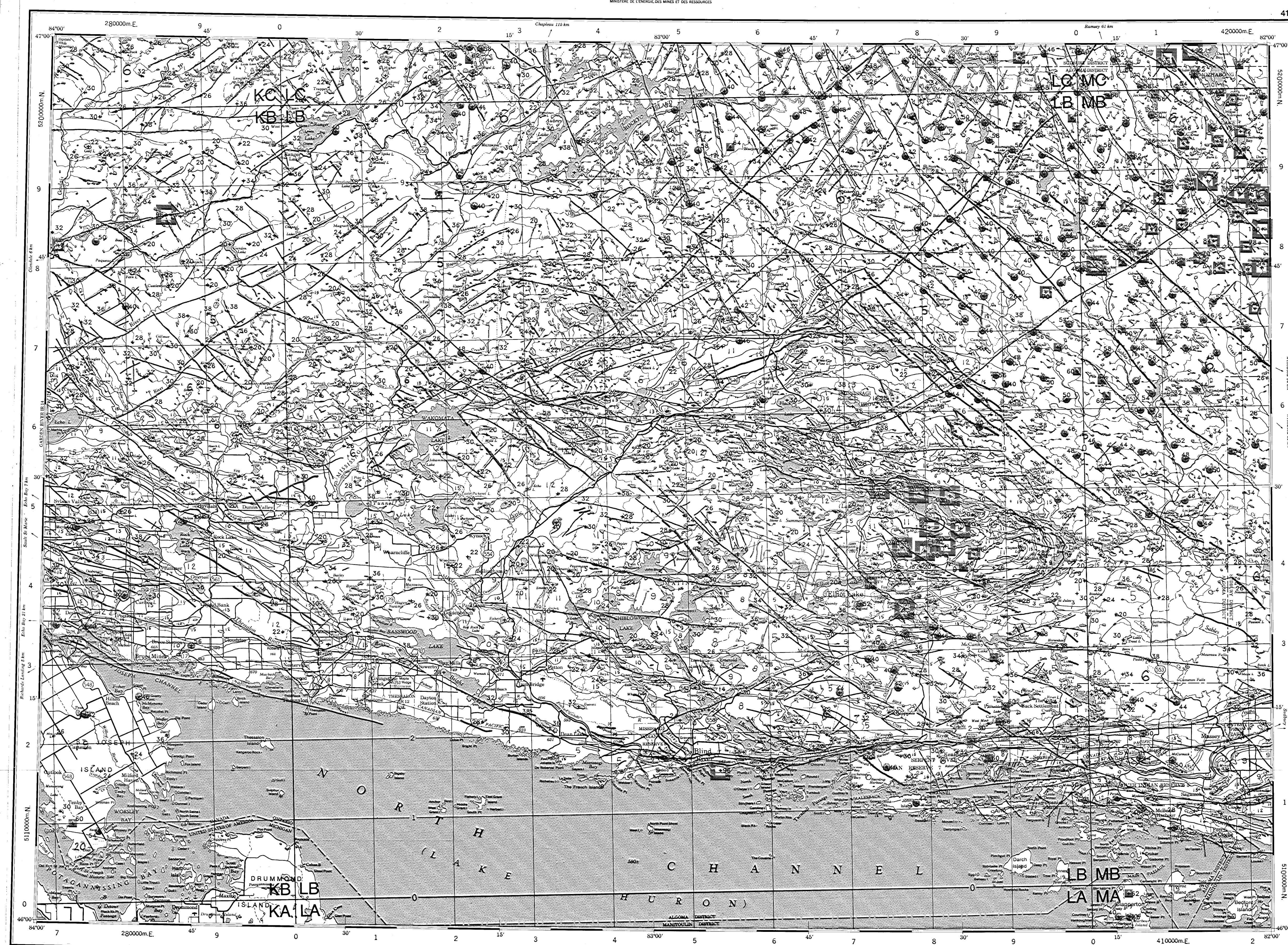
Geological Survey of Canada
Mineral Resources Division
Exploration Geochemistry Subdivision

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



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.
Bay 238
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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FLUORIDE (ppb)
LAKE WATERS
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

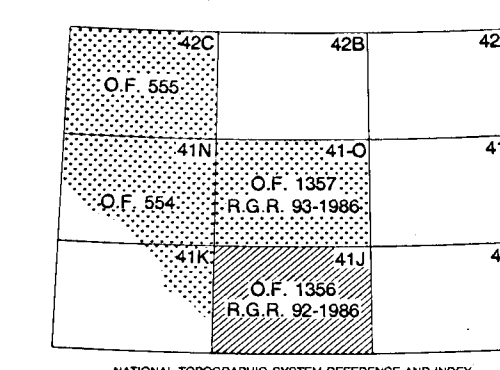
Scale 1:250 000 - Echelle 1/250 000

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Elevation in feet above mean sea level

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



- LEGEND**
- PALEOZOIC**
- SILURIAN**
- 20 SCP* Limestone, shale
- UPPER CAMBRIAN AND ORDOVICIAN**
- 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, carbonate
- MIDDLE TO LATE PRECAMBRIAN**
- 16 MPCC Croker Island Complex; granite, syenite, diorite, gabbro
Culter Pluton; granite, quartz monzonite, granodiorite, trondhjemite, pegmatite
- MIDDLE PRECAMBRIAN**
- 15 MPND Nipissing Diabase; diabase, gabbro, metagabbro, granophyre
- HURONIAN SUPERGROUP**
- COBALT GROUP**
- 14 MPR 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 MPHLL Aweres Formation; conglomerate, arkose, quartzite
Mississagi Formation; quartzite, conglomerate
Pecors Formation; argillite, siltstone
Ramsay Lake Formation; conglomerate
- ELLIOT LAKE GROUP**
- 8 MPEL 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 AGM 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 ACP Conglomerate, greywacke, arkose, quartzite, siltstone, argillite, chert
 - 2 ANVF Felsic to intermediate metavolcanics
 - 1 ANVB 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 St. Marie - Elliot Lake, Map 2419 Geological Compilation Series, Ontario Department of Mines, 1:253 440.
McCrack, G.F.D., Misura, J.D., and Brown, P.A. (1979): Geology - Plutonic Rocks in Ontario, Geological Survey of Canada Map 1533A, to accompany GSC Paper 80-23.

FLUORIDE (ppb)
LAKE WATERS
GSC OPEN FILE 1356
CENTRAL ONTARIO, 1986

2 of 25

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Ministry of Northern Development and Mines

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

