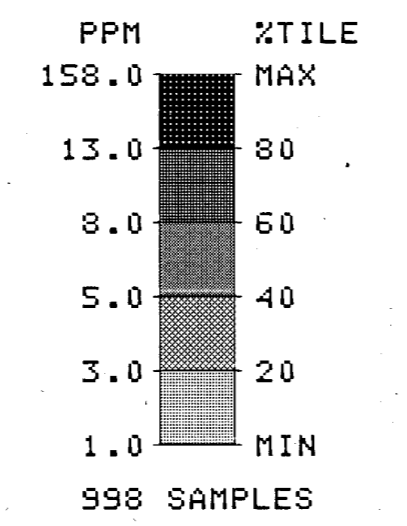
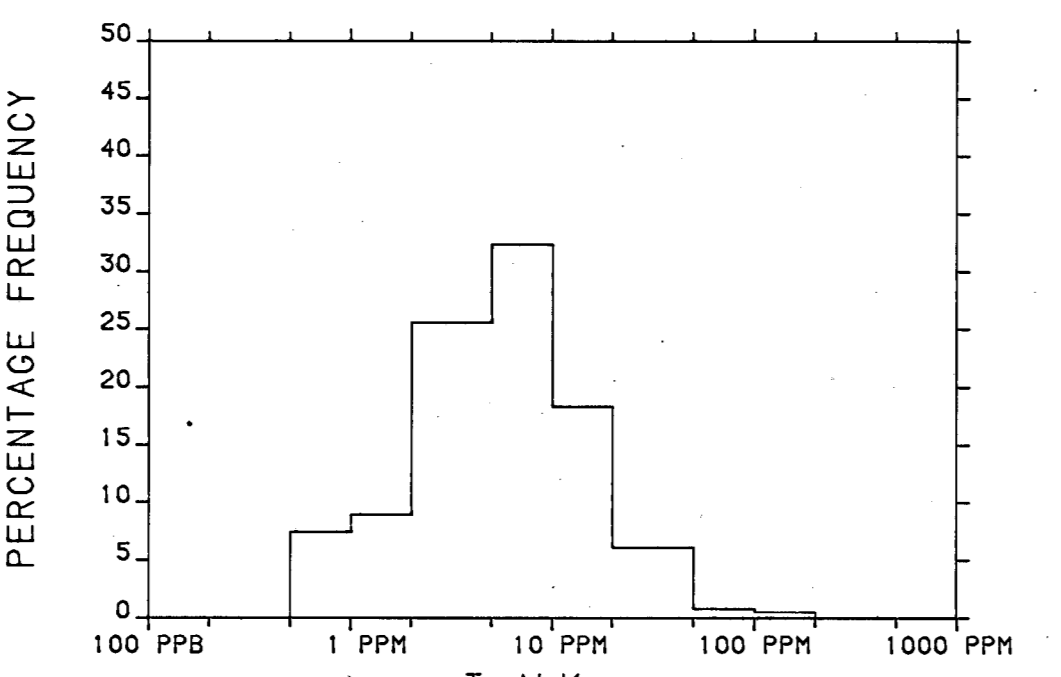
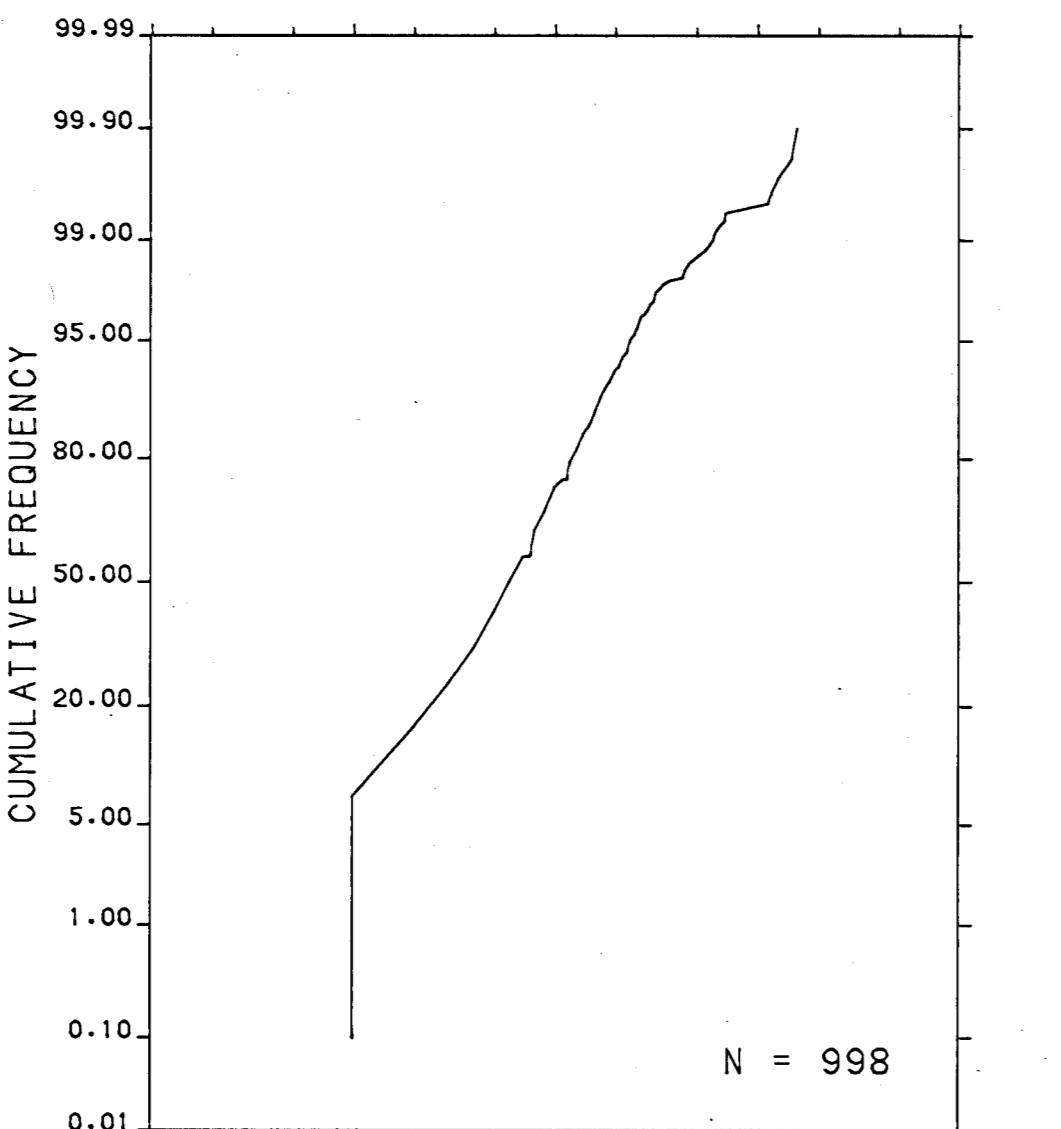


**ALKALINITY**



The regional geochemical trend map displayed above utilized a moving weighted average using an inverse distance function (1/d<sup>2</sup>) 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
13.1 to 158.0	N = 180 (18.0%)
8.1 to 13.0	N = 179 (17.9%)
5.1 to 8.0	N = 221 (22.1%)
3.1 to 5.0	N = 171 (17.1%)
<1.0 to 3.0	N = 247 (24.7%)

**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).

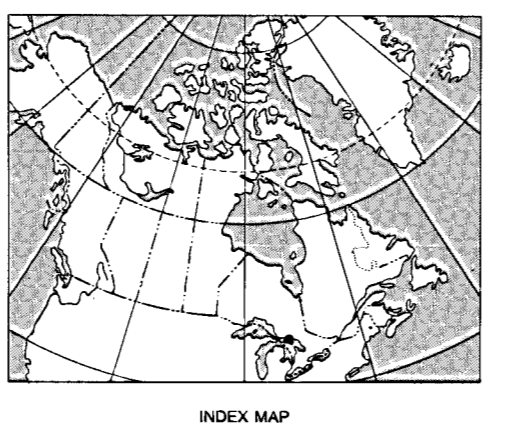
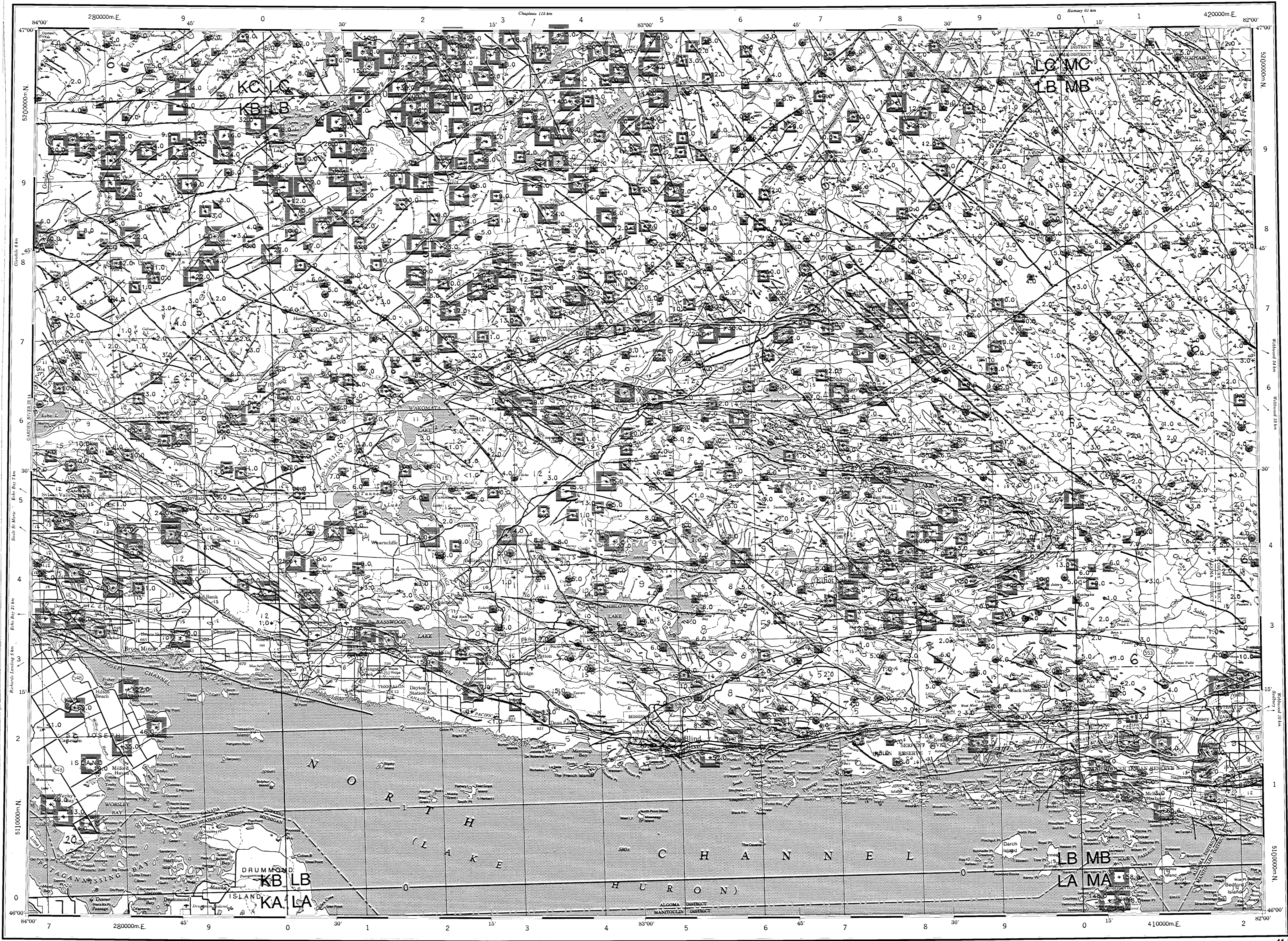
Geological Survey of Canada  
Mineral Resources Division  
Exploration Geochemistry Subdivision

**CONTRACTORS**

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

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



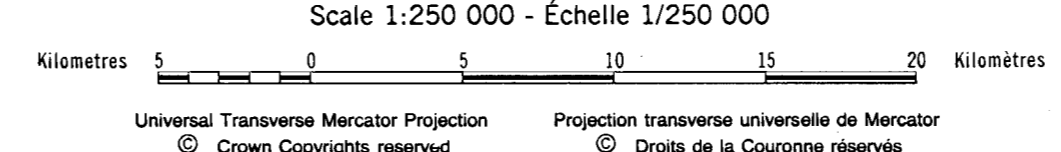
Copies of map material and listings of field observations, analytical data and methods, from which the open file was prepared, are available from:

K.G. Campbell Corporation  
880 Wellington St.  
Bay 238  
Ottawa, Ontario  
K1R 6K7

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

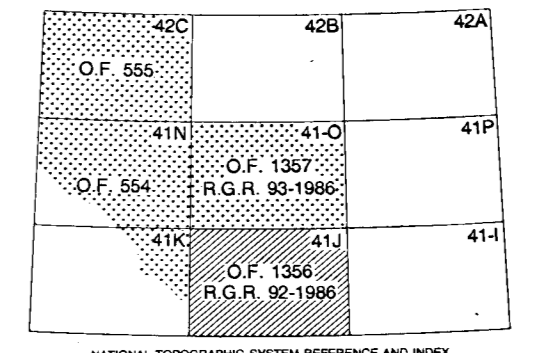
Geological Survey of Canada  
Publications Distribution  
601 Booth St.  
Ottawa, Ontario K1A 0E8  
Tel: (613)995-4342

**ALKALINITY (as ppm CaCO<sub>3</sub>)**  
**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



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



**ALKALINITY (as ppm CaCO<sub>3</sub>)**  
**LAKE WATERS**  
GSC OPEN FILE 1356  
CENTRAL ONTARIO, 1986

**LEGEND**

- PALEOZOIC**
- SILURIAN**
- 20 SCP\* Limestone, shale
- UPPER CAMBRIAN AND ORDOVICIAN**
- 19 QCCS 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 Croker Island Complex; granite, syenite, diorite, gabbro, Outler Pluton; granite, quartz monzonite, granodiorite, trondjemite, 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  
Pecors Formation; argillite, siltstone  
Ramsay Lake Formation; conglomerate
- ELLIOT LAKE GROUP**
- 8 MPFL McKin 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, monzoniorite, pegmatite
  - 5 AGN Foliated to gneissic felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, diorite, migmatite
  - 4 AUB Gabbro, diorite
  - 3 ACPG Conglomerate, greywacke, arkose, quartzite, siltstone, argillite, chert
  - 2 AMWF Felsic to intermediate metavolcanics
  - 1 AMWB 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.  
McCrack, G.F.D., Misiura, J.D., and Brown, P.A. (1979): Geology - Plutonic Rocks in Ontario, Geological Survey of Canada Map 1533A, to accompany GSC Paper 80-23.

**ALKALINITY (as ppm CaCO<sub>3</sub>)**  
**LAKE WATERS**  
GSC OPEN FILE 1356  
CENTRAL ONTARIO, 1986

This map has been reprinted from a scanned version of the original map. Reproduction per numérisation d'une carte sur papier.