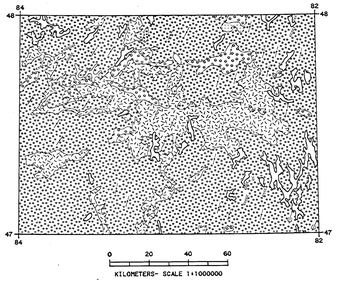
GEOLOGICAL SURVEY OF CANADA COMMISSION GEOLOGIQUE DU CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTERE DE L'ENERGIE, DES MINES ET DES RESSOURCES

# COPPER (ppm)
## LAKE SEDIMENTS
## GSC OPEN FILE 1357
## CENTRAL ONTARIO, 1986




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, Z/I 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 . . . . . xxxxx

Surficial geology derived from:
Boissonneau, A.N. (1965), Map 5465, 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

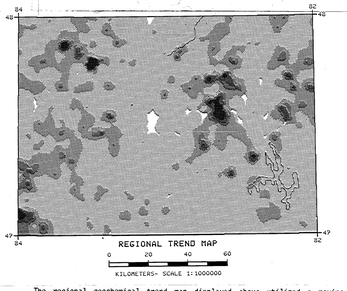
Au analyses by Chemex Labs Limited, Vancouver
Water chemical analyses by Barringer Magenta Laboratories (Alberta) Ltd., Calgary

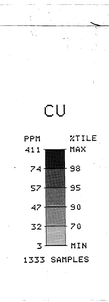
Contribution to Canada - Ontario Mineral Development Agreement 1986 - 1990, a subsidiary agreement under the Economic and Regional Development Agreement. Project funded by the Geological Survey of Canada.

Ministry of Northern Development and Mines Ontario

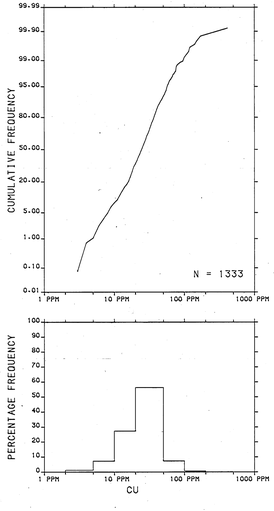
Energy, Mines and Resources Canada / Energie, Mines et Ressources Canada

Canada

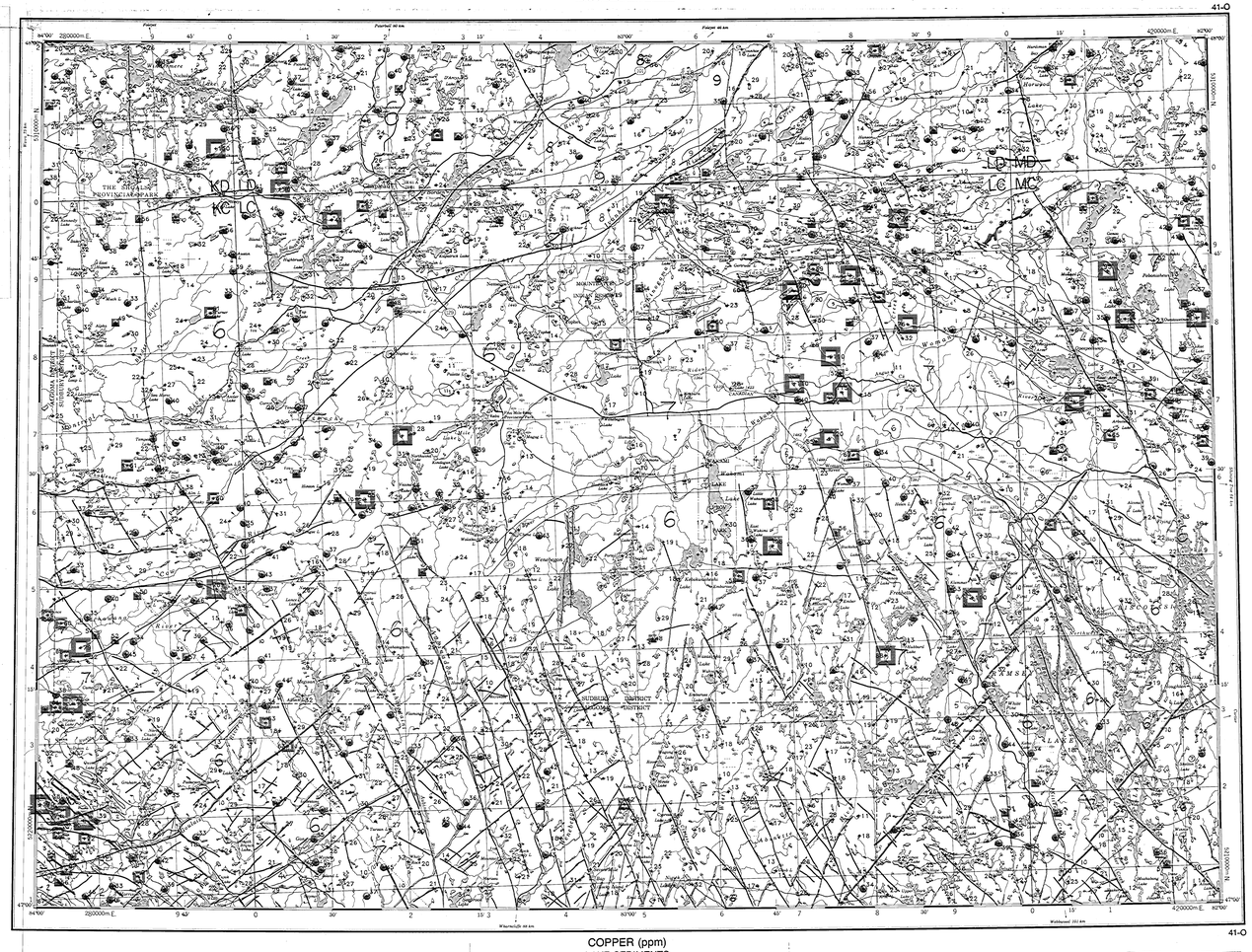


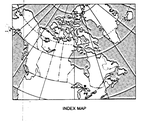




The regional geochemical trend map displayed above utilized a moving weighted average using an inverse distance function ($1/d^3$) to filter out minor irregularities and emphasize broad-scale regional features. Single point anomalies may be suppressed or eliminated, however, geological units which are chemically enriched, or large metallic deposits undergoing weathering would be expected to produce identifiable anomalies.




| CONCENTRATION | FREQUENCY |
|---|---|
| 75 to 411 | N= 27( 2.0%) |
| 58 to 74 | N= 36( 2.7%) |
| 48 to 57 | N= 66( 5.0%) |
| 33 to 47 | N= 254(19.1%) |
| 3 to 32 | N= 950(71.3%) |




Elevation in feet above mean sea level

Mean magnetic declination 1987, 8°20' West, increasing 10.9' annually. Readings vary from 9°07'W in the SE corner to 7°30'W in the NW corner of the map area

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REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 93-1986

CANADA - ONTARIO
MINERAL DEVELOPMENT AGREEMENT (1986-1990)

LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
CENTRAL ONTARIO, 1986

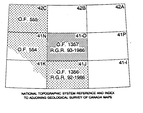
Scale 1:250 000 - Echelle 1/250 000

Kilometres 5 0 5 10 15 20 Kilometres

Universal Transverse Mercator Projection

Projection transverse universelle de Mercator


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




LEGEND

PRECAMBRIAN

LATE PRECAMBRIAN

| | | |
|---|---|---|
| 11 | LPAC* | Carbonatite - alkalic complexes; alkalic syenite, pulaskite, brecciated and fenitized rocks, nepheline syenite, sovite, magnetite-apatite rock, urtite, ijolite, melteigite |

EARLY TO MIDDLE PRECAMBRIAN

| | | |
|---|---|---|
| 10 | LPAD | Diabase dykes |

EARLY PRECAMBRIAN (ARCHEAN)

| | | |
|---|---|---|
| 9 | ASUB | Shawmere Anorthosite Complex; anorthosite to gabbro, gneissic to flaser-textured tonalite and monzonite |
| 8 | AKN | Kapuskasing structural zone rocks; meta-igneous rocks, melanocratic granulites, pelitic and psammitic granulites, metasedimentary gneiss and arkosic metasediments |
| 7 | AGM | Massive felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, monzodiorite, pegmatite |
| 6 | AGN | Foliated to gneissic felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, diorite, migmatite |
| 5 | AUB | Mafic and ultramafic intrusive rocks, including gabbro, diorite and serpentinized ultramafics |
| 4 | ASGN | Paragneiss, orthogneiss and migmatite |
| 3 | ACSP | Metasediments; greywacke, arkose, quartzite, conglomerate, argillaceous and migmatized metasediments, biotite-quartz-feldspar schist and gneiss |
| 2 | AMVF | Felsic to intermediate metavolcanics; rhyolite to dacite flows and fragmentals, tuff, lapilli-tuff, agglomerate, breccia, porphyritic flows |
| 1 | AMVB | Mafic to intermediate metavolcanics; basalt to andesite flows, porphyritic flows, and pillow lavas, mafic pyroclastics, layered amphibolite, diorite, gabbro, migmatized mafic metavolcanics |
| | 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 - Chapleau - Foleyet, Map 2221 Geological Compilation Series, Ontario Department of Mines, 1:253 400.
McCrank, 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.

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



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