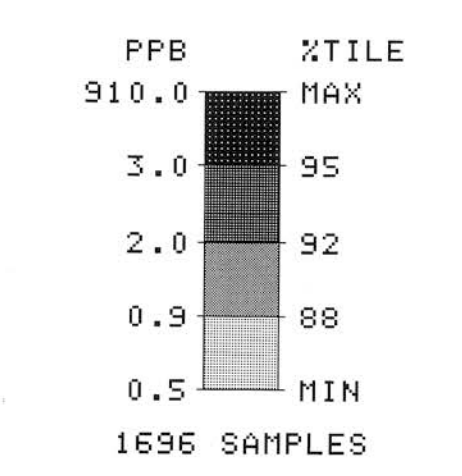


**GOLD
IN
LAKE SEDIMENTS**



CONCENTRATION	FREQUENCY
9 to 910	N= 32 (1.9%)
4 to 8	N= 44 (2.6%)
2 to 3	N= 82 (4.8%)
1	N= 39 (2.3%)
<1	N=1499(88.4%)

- Organic and peatland deposits.
- Glaciolacustrine and glaciomarine clay and silt; deep water deposits.
- Glaciolacustrine sand and gravel; includes shallow water glaciolacustrine and glaciomarine deposits.
- Till; blanket deposits of unsorted boulders, sand, silt and clay-sized particles.
- Till; veneer of glacial sediments over bedrock.
- Bedrock; minor patches of thin glacial sediment cover.

- SYMBOLS**
- Moraines; end, recessional and interlobate
- Linear ice flow features; drumlins, drumlinoid forms, crag and tail forms
- Esker

Source of Information:

Sado, L.V., and Carswell, B.F. (compilers), 1987, Surficial Geology of Northern Ontario, GSC Map 2518, Ministry of Northern Development and Mines, Mines and Minerals Division, 1:1,000,000.

NOTE: This legend is common to Open Files 1639 and 1640.

Geological Survey of Canada
Mineral Resources Division
Exploration Geochemistry Subdivision

CONTRACTORS

Lake sediment sample collection by SIAL Geophysics Inc., Montreal
Sample preparation by Golder Associates, Ottawa
Sediment chemical analyses by Bondar-Clegg and Company Ltd., Ottawa
Water and Au chemical analysis by Chemex Labs Limited, Vancouver
Geological base prepared by Terra Survey Ltd., Ottawa
from published material supplied by Geological Survey of Canada

Copies of the Open File map material, element trend and symbol plots, listing of field observations, analytical data, descriptions of analytical methods, and digital data on IBM-PC compatible diskette are available by inquiring to:

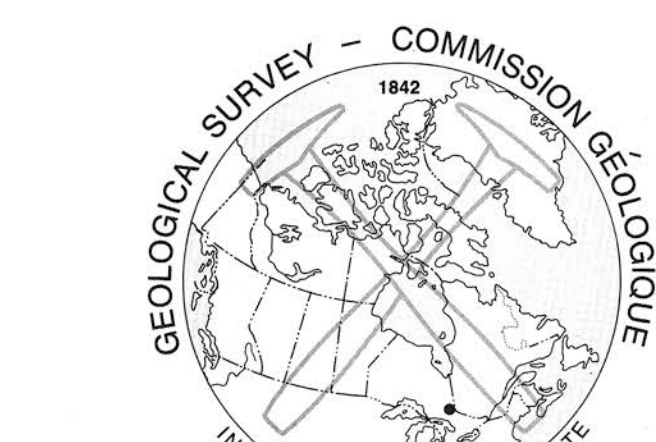
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l'exploitation minière 1985 dans le cadre de l'Entente
de développement économique et régional. Ce projet a été
financé par la Commission géologique du Canada.

Canada



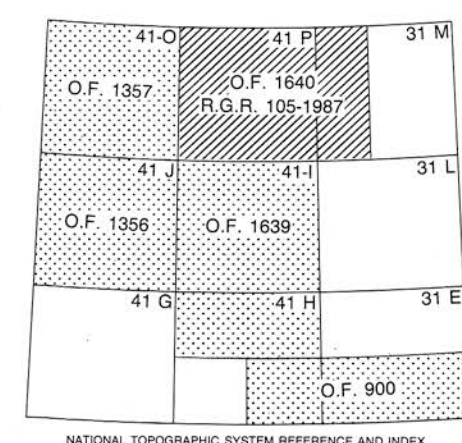
Elevation in feet above mean sea level

Mean magnetic declination 1988, 10° 09' West, increasing
4.3 annually. Reading vary from 8° 49' in the SE corner to
11° 30' in the NE corner of the map area.

**GOLD (ppb)
LAKE SEDIMENTS**
GSC OPEN FILE 1640
REGIONAL GEOCHEMICAL DATA - SUMMARY MAP 105-87
CANADA - ONTARIO
MINERAL DEVELOPMENT AGREEMENT (1985 - 1990)
LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
CENTRAL ONTARIO, 1987

Scale 1:250 000 - Échelle 1:250 000

Universal Transverse Mercator Projection
Projeté par la Commission géologique



- Geological boundary; approximate, assumed
- Fault
- No analytical results
- Field duplicate site

Geology base and legend for these geochemical maps were derived from:

Ayres, L.D., Lumbers, S.B., Milne, V.G., Robeson, D.W., 1970, Ontario Geological Map Southern Sheet, Map 2197, Ontario Department of Mines and Northern Affairs, 1:1,013,760.

Card, K.D., and Lumbers, S.B., 1975, Sudbury - Cobalt, Geology Compilation Series, Map 2361, Ontario Geological Survey, 1:253,440.

Douglas, R.J.W. (coordinator), Sanford, B.V., and Baer, A.J., 1971, Southern Ontario, Map 1259, Geological Survey of Canada, 1:1,000,000 Geological Atlas.

McCann, G.T.D., Mistura, J.B., and Brown, P.A., 1979, Geology - Plutonic Rocks in Ontario, Map 1533A, Geological Survey of Canada, to accompany GSC P 80-23, 1:1,000,000.

Pyke, D.R., Ayres, L.D., and Jones, D.B., 1971, Timmins - Kirkland Lake, Geology Compilation Series, Map 2205, Ontario Geological Survey, 1:253,440.

NOTE: The geology legend is common to both GSC Open Files 1639 and 1640.

**GOLD (ppb)
LAKE SEDIMENTS**
GSC OPEN FILE 1640
CENTRAL ONTARIO, 1987

LEGEND

- CENOZOIC**
- PLEISTOCENE TO RECENT**
- QUS* 64** Sand, gravel, clay, boulder till, organic deposits.
- PALEOZOIC**
- ORDOVICIAN - SILURIAN**
- OSP 19** Limestone, dolostone, shale, sandstone, conglomerate.
- CAMBRIAN**
- CAC 10** Carbonatite, nepheline and alkali syenites, associated mafic and ultramafic rocks, fensite.
- PRECAMBRIAN**
- LATE PRECAMBRIAN**
- LPAD 04** Mafic intrusive rocks; diabase, quartz diabase, olivine diabase, gabbro, pyroxenite, serpentized peridotite, olivine gabbro stocks.
- LPAC 04** Carbonatite, nepheline and alkali syenites and associated mafic and ultramafic rocks, fensite.
- GREENVILLE PROVINCE**
- LPGB 04** Metamorphosed mafic and ultramafic intrusive rocks.
- LPQA 04** Gneissic alkali and nepheline syenite.
- LPGF 04** Quartz monzonite, minor granodiorite and derived gneisses.
- LPQX 04** Anorthositic intrusive rocks; anorthosite, gabbroic anorthosite, tonalite, diorite, monzonite, sodic, alkali and quartz syenites, derived gneisses.
- MIDDLE AND LATE PRECAMBRIAN**
- MPBN 04** Mafic and ultramafic intrusive rocks; gneissic gabbro, diorite, amphibolite, peridotite, pyroxenite, minor trondhjemite, possible Kipissing diabase equivalents.
- MIDDLE PRECAMBRIAN**
- MPDF 04** Felsic intrusive rocks and gneissic equivalents; quartz monzonite, granodiorite, granite, trondhjemite, albite granite, syenite and minor gabbro.
- MPS 04** Metasediments; biotite gneiss, muscovitic and quartzose gneiss, calc-silicate gneiss, quartz-feldspathic gneiss, gneiss coarse clastic metasediments, meta-conglomerates.
- SUPERIOR AND SOUTHERN PROVINCES**
- SUDBURY NICKEL ERUPTIVE**
- MSGS 04** Granophyre
- MSFN 04** Norite-gabbro, quartz norite, quartz gabbro, and transition sub-layer and offset rocks.
- WHITEWATER GROUP**
- MPHG 04** CHELMSFORD FORMATION: greywacke, siltstone, ONATON FORMATION: carbonaceous shale, ONATON FORMATION: siltstone, argillite, breccia, felsic flows and intrusions, carbonate and cherty rocks.
- KIPISSING DIABASE**
- MPND 04** Pyroxene and hornblende gabbro, amphibolite, granophyre.
- HURONIAN SUPERGROUP**
- COBALT GROUP**
- MPC 04** BAR RIVER FORMATION: quartz sandstone, hematitic siltstone, sandstone, GORDON LAKE FORMATION: siltstone, argillite, LORRAIN FORMATION: micaceous and aluminous quartz, and quartz-feldspar sandstone, minor conglomerate and siltstone, GOWANDA FORMATION: conglomerate, sandstone, siltstone and argillite.
- QUIRKE LAKE GROUP**
- MPQL 04** SERPENT FORMATION: quartz-feldspar sandstone with minor siltstone and conglomerate, ESPANOLA FORMATION: limestone, dolostone, siltstone, sandstone, BRUCE FORMATION: conglomerate with minor sandstone and siltstone.
- HOUGH LAKE GROUP**
- MPHL 04** MISSISSAUGI FORMATION: quartz-feldspar sandstone, minor siltstone, argillite and conglomerate, PECONS FORMATION: siltstone, argillite, greywacke, RAMSAY LAKE FORMATION: conglomerate, minor sandstone and siltstone.
- ELLIOT LAKE GROUP**
- MPEL 04** MCKIN FORMATION: siltstone, greywacke, argillite, MATINENA FORMATION: quartz-feldspar sandstone with minor conglomerate and siltstone.
- MPVB 04** SALWAY LAKE AND ELSIE MOUNTAIN FORMATIONS: dominantly mafic metavolcanics with minor felsic volcanics, intercalated metasediments, COPPER CLIFF FORMATION: dominantly felsic and intermediate metavolcanics, minor intrusions and intercalated metasediments, STOBIE FORMATION: mafic metavolcanics with abundant intercalated metasediments.
- MPB 04** Mafic intrusive rocks; gabbro, anorthositic and porphyritic metagabbro.
- EARLY PRECAMBRIAN (ARCHEAN)**
- AGM 02** Massive felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, monzonite, pegmatite.
- AGN 02** Foliated to gneissic felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, diorite, monzonite.
- AGY 02** Syenite, monzonite, feldspar porphyry.
- AUB 02** Mafic and ultramafic intrusive rocks, including gabbro, diorite, and serpentized ultramafics.
- ACSP 02** Metasediments; greywacke, arkose, quartzite, conglomerate, argillaceous and migmatized metasediments, biotite-quartz-feldspar schist and gneiss.
- AMVA 02** Alkaline metavolcanics; trachyte, leucitic trachyte, flows, tuffs, breccia.
- AMU 02** Ultramafic metavolcanics; serpentized dunite and peridotitic flows.
- AMF 02** Felsic to intermediate metavolcanics; rhyolite to dacite flows and fragmentals, tuff, lapilli-tuff, agglomerate, breccia, porphyritic flows.
- AMW 02** Mafic to intermediate metavolcanics; basalt to andesite flows, porphyritic flows, and pillow lavas, mafic pyroclastics, layered amphibolite, diorite, gabbro, migmatized mafic metavolcanics.
- IF 02** Iron formation.

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

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