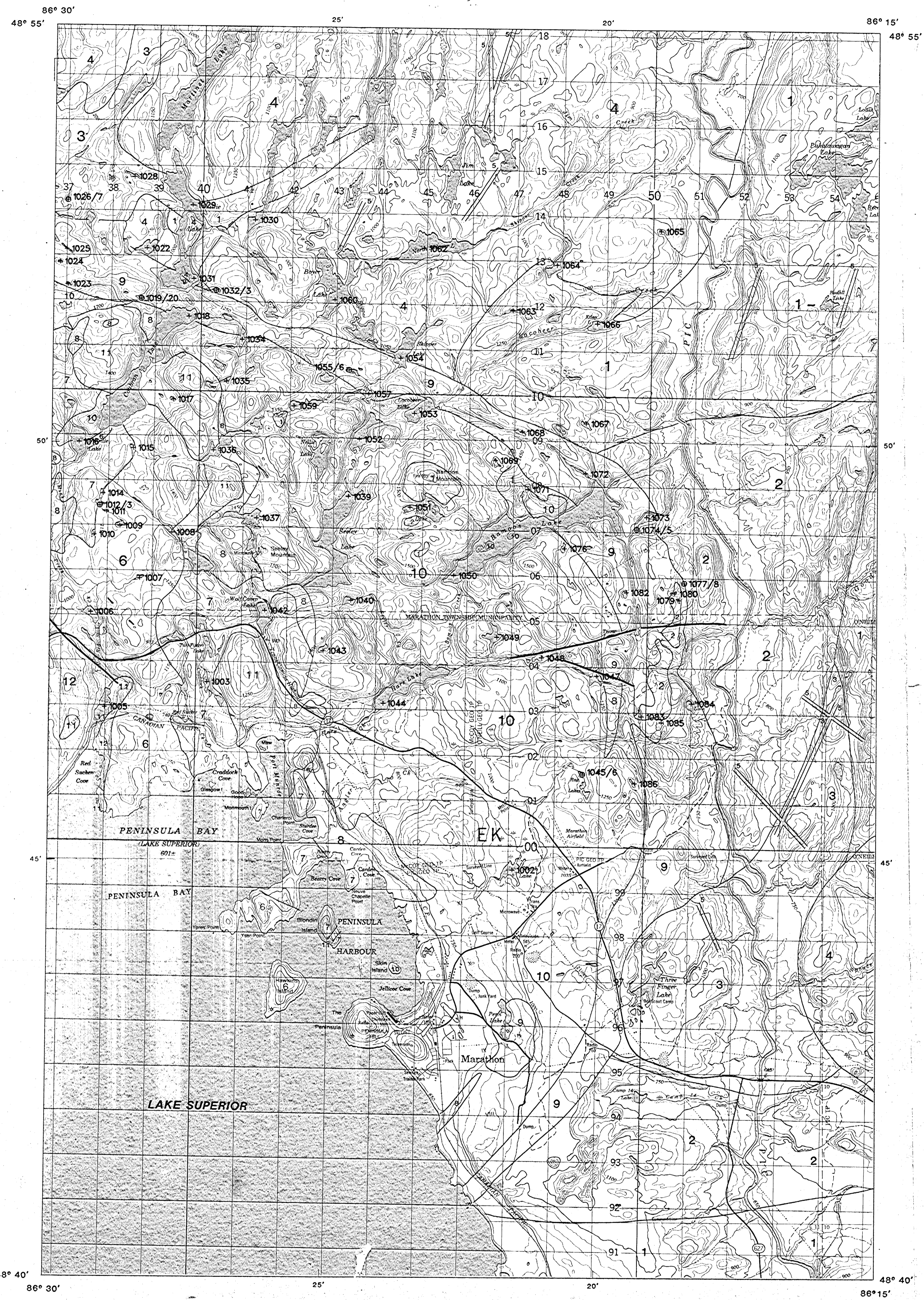
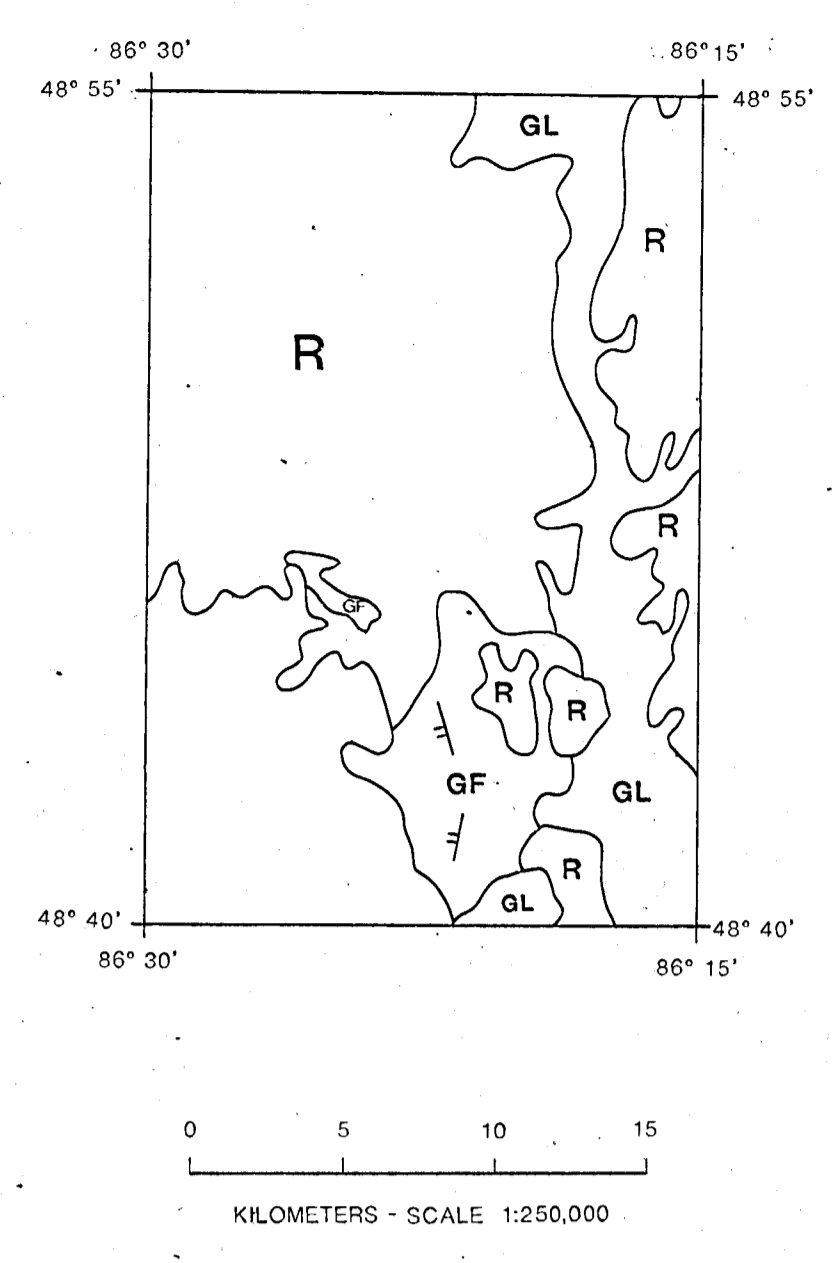


Energy, Mines and Resources Canada Énergie, Mines et Ressources Canada



- SURFICIAL GEOLOGY**
- Op** Organics, peatland deposits
  - GL** Glaciolacustrine and glaciomarine deepwater deposits, clay, silt
  - GF** Glaciofluvial deposits, includes shallow water, glaciolacustrine and glaciomarine deposits of predominantly sand and gravel
  - Mb** Till, unsorted mixture of boulders, sand, silt, and clay sufficiently thick to mask bedrock topography
  - NV** Shallow drift, thin glacial sediments, mostly overlying bedrock
  - R** Bedrock, predominantly bare rock with thin glacial sediment cover

- SYMBOLS**
- Major moraines (includes end, recessional and interlobate types) . . . . .
  - Crag and tail forms . . . . .
  - Esker . . . . .
  - Relict, beach and bar forms . . . . .

**Sources of information:**

Gartner, J.F. 1980. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Jellicoe, Ontario Geological Survey Map 5077, Scale 1:100,000.

Gartner, J.F. 1980. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Heron Bay, Ontario Geological Survey Map 5093, Scale 1:100,000.

Mollard, D.G. 1979. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Kaministiquia, Ontario Geological Survey Map 5045, Scale 1:100,000.

Mollard, D.G. 1979. Northern Ontario Engineering Geology Terrain Study, Data Base Map Heaven Lake, Ontario Geological Survey Map 5051, Scale 1:100,000.

Mollard, D.G. 1980. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Marmion Lake, Ontario Geological Survey Map 5073, Scale 1:100,000.

Mollard, D.G. 1980. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Lac Des Mille Lacs, Ontario Geological Survey Map 5074, Scale 1:100,000.

Sado, E.V. and Carswell, B.F. 1987. Surficial Geology of Northern Ontario, Ontario Geological Survey Map 2518, Scale 1:1,200,000.

This legend is common for all maps in this Open File.

**GEOLOGICAL SURVEY OF CANADA  
MINERAL RESOURCES DIVISION  
EXPLORATION GEOCHEMISTRY SUBDIVISION**

**CONTRACTORS**

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**Preparation:** Golder Associates, Ottawa

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Chemex Labs Limited, Vancouver (Au only)

**Water Analysis:** Chemex Labs Limited, Vancouver

**Cartography:** GSC - Geological Information Division  
Terra Surveys Ltd., Ottawa

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Contribution to the Canada-Ontario Mineral Development Agreement 1985-1990, a subsidiary agreement under the Economic and Regional Development Agreement. Project funded by the Geological Survey of Canada.

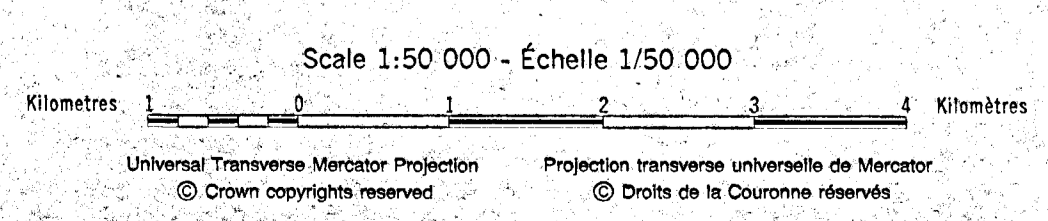
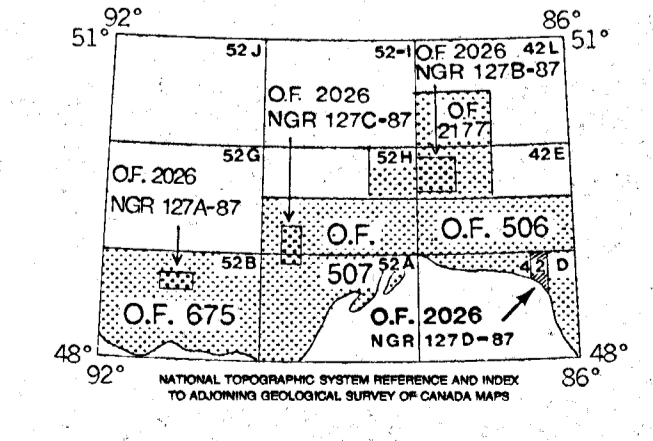
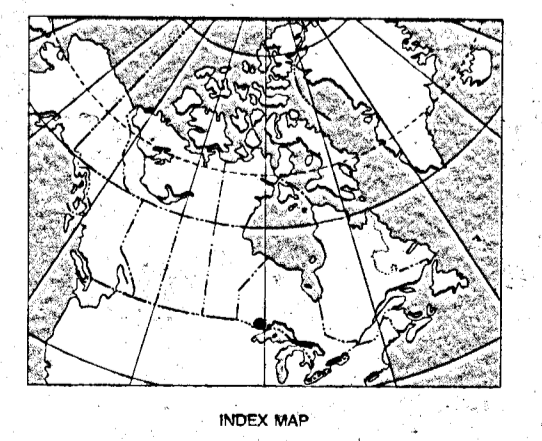
Contribution à l'Entente auxiliaire Canada/Ontario sur l'exploitation minière 1985-1990 dans le cadre de l'Entente de développement économique et régional. Ce projet a été financé par la Commission géologique du Canada.



**SAMPLE LOCATION  
LAKE SEDIMENTS**  
GSC OPEN FILE 2026  
MARATHON AREA  
REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 127D-87

**CANADA - ONTARIO  
MINERAL DEVELOPMENT AGREEMENT  
(1985-1990)**

LAKE SEDIMENT AND WATER GEOCHEMICAL INFILL SURVEY  
NORTHWESTERN ONTARIO, 1987



- LEGEND**
- MIDDLE TO LATE PRECAMBRIAN (PROTEROZOIC)**
- 12\*** PNS 04\*\* Mesocratic augite-biotite nepheline syenite
  - 11** PAG 04 Lamprophyric alkaline gabbro, melanocratic with pegmatitic mesocratic schliers and patches
  - 10** PAAS 04 Homogeneous olive-brown, coarse-grained augite-amphibole syenite ('laurvikite')
  - 9** PEG 04 Eastern gabbro; massive, layered or hybrid plagioclase-clinopyroxene rocks locally containing olivine and/or hypersthene, commonly hybridized with 10
  - 8** PBS 04 Red barkevikite syenite, coarse grained with acicular amphibole
  - 7** PQS 04 Heterogeneous quartz syenite and syenodiorite, variously hybridized and veined by 10, 11 (ultrafenites)
  - 6** PGRA 04 Heterogeneous reddened granitoid rocks displaying alkaline metasomatism on cracks (fenites)
- MIDDLE TO LATE/ OR EARLY PRECAMBRIAN (PROTEROZOIC OR ARCHEAN)**
- 5** PDI 01 Diabase dykes
  - 4** PGR 01 Granitoid rocks; buff to grey hornblende-biotite granodiorite, foliated to gneissic, massive hornblende trondjemite
- EARLY PRECAMBRIAN (ARCHEAN)**
- 3** PGS 02 Greywacke and slate, minor iron formation, conglomerate, tuff; mica schists and gneiss derived from unit 3
  - 2** PFV 02 Felsic volcanic and metavolcanic rocks; massive and porphyritic rhyolite, agglomerate, tuff, tuff breccia; phyllite and schist derived from unit 2
  - 1** PBIV 02 Basic to intermediate volcanic and metavolcanic rocks; massive, vesicular amygdaloidal and pillowed lavas; mafic gneisses and schists, amphibolite and garnet amphibolite derived from unit 1
- \* Map unit number assigned to rock type.  
\*\* A mnemonic code assigned to rock type.

- SYMBOLS**
- Geological boundary . . . . .
  - Fault . . . . .
  - No data . . . . .
  - Field duplicate site . . . . .
  - Geology base derived from:  
Coates, M.E. 1970. Killala Lake Sheet, Thunder Bay District, Ontario Geological Survey Map 2191, Scale 1:63,360 or 1 inch to 1 mile.  
Currie, K.L. 1980. A Contribution to the Petrology of the Coldwell Complex, Northern Ontario. Geological Survey of Canada Bulletin 287, 43 pp.  
Milne, V.G. 1966. Cirrus Lake Sheet, Thunder Bay District, Ontario Geological Survey Map 2098, Scale 1:31,680 or 1 inch to 1/2 mile.

Elevation in feet above mean sea level

Magnetic declination at the centre of the map area (48°50'N; 86°22.5'W) in 1989 is 4°51'W increasing 6.1' annually. Magnetic declination ranges from 4°39'W increasing 6.1' annually, in the southwest corner of the map area, to 5°05'W increasing 6.0' annually, in the northeast corner of the map area.