

SURFICIAL GEOLOGY

- Op** Organics, peatland deposits
- GL** Glaciolacustrine and glaciomarine deepwater deposits, clay, silt
- GF** Glacioluvial deposits, includes shallow water, glaciolacustrine and glaciomarine deposits of predominantly sand and gravel
- MB** Fill, unsorted mixture of boulders, sand, silt, and clay sufficiently thick to mask bedrock topography
- HV** 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, Mellicoe, Ontario Geological Survey Map 5077, Scale 1:100,000.
- Gartner, J.F. 1980. Northern Ontario Engineering Geology Terrain Study, Data Base Map, Maron 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, Marison 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, S.V. and Carwell, W.F. 1987. Surficial Geology of Northern Ontario, Ontario Geological Survey Map 2318, Scale 1:1,200,000.

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

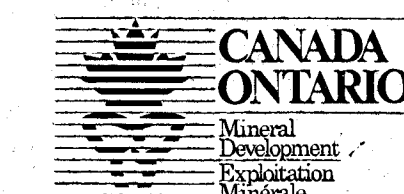
**GEOLOGICAL SURVEY OF CANADA
MINERAL RESOURCES DIVISION
EXPLORATION GEOCHEMISTRY SUBDIVISION**

CONTRACTORS

- Collection:** SIAL Geophysics Inc., Montreal
- Preparation:** Golder Associates, Ottawa
- Sediment Analysis:** Bondar-Clegg and Company Ltd., Ottawa
Chemex Labs Limited, Vancouver (Au only)
- Water Analysis:** Chemex Labs Limited, Vancouver
- Cartography:** GSC - Geological Information Division
Terra Surveys Ltd., Ottawa
- Reproduction:** Ashley Reproductions Ltd., Ottawa

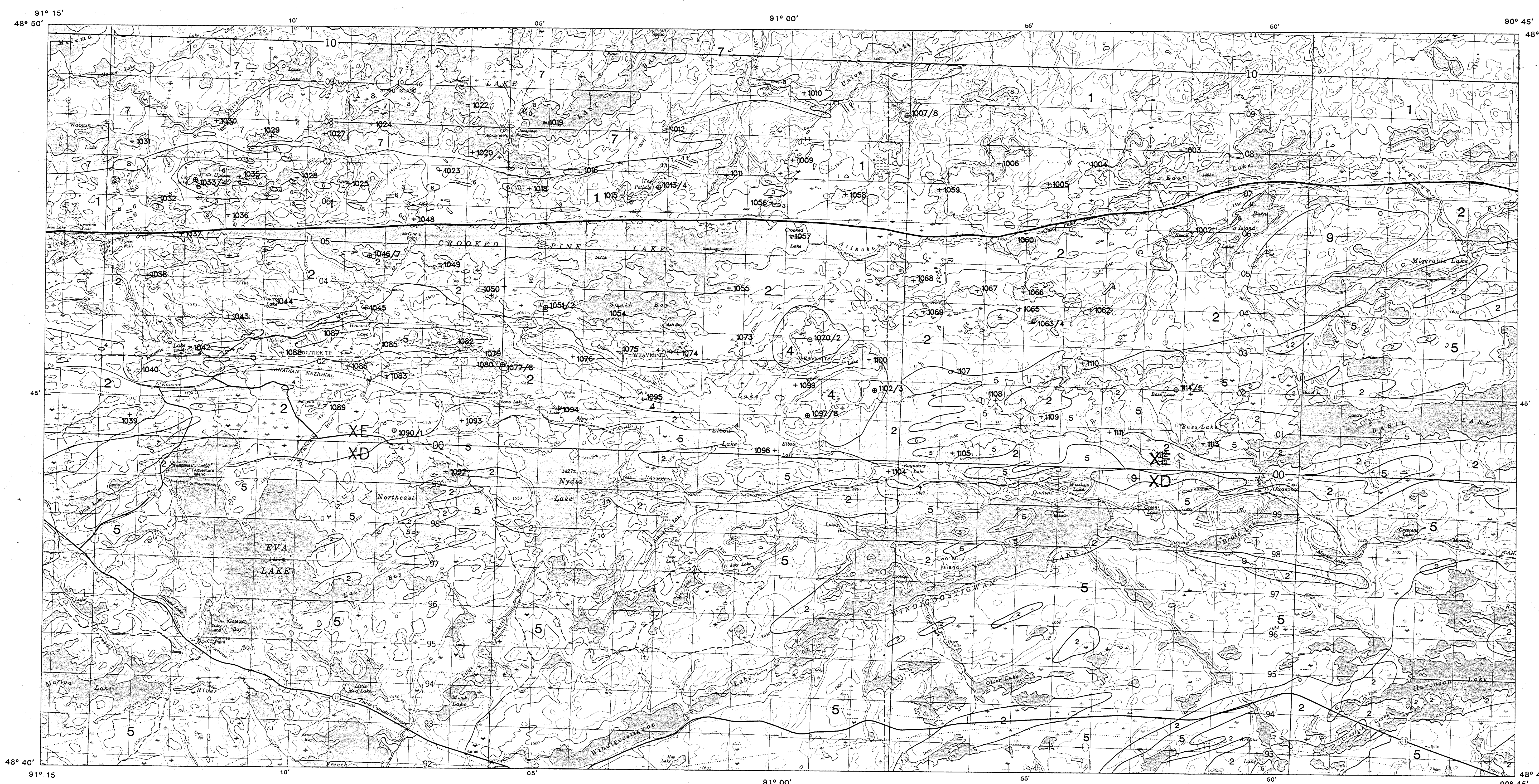
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**SAMPLE LOCATION
LAKE SEDIMENTS
GSC OPEN FILE 2026
CROOKED PINE LAKE AREA
NORTHWESTERN ONTARIO, 1987**

PARTS OF NTS 52B/10, 52B/11, 52B/14 AND 52B/15

LEGEND

- MIDDLE TO LATE PRECAMBRIAN (PROTEROZOIC)
- 11* PPDI 04** Mafic intrusive rocks; diabase
- EARLY PRECAMBRIAN (ARCHEAN)
- 10 PADI 02 Mafic intrusive rocks; diabase
- 9 PSY 02 Red hornblende syenite
- 8 PMG 02 Massive granitic rocks; porphyritic hornblende quartz diorite, granodiorite, quartz monzonite, pegmatite
- 7 PFCB 02 Foliated and gneissic batholithic rocks; leucotroctonite, pegmatite, apite, diorite, trondhjemite and hornblende gneiss, biotite-chlorite schist
- 6 PMFI 02 Metamorphosed felsic intrusive rocks; leucocratic quartz monzonite
- 5 PMSM 02 Metasedimentary migmatite; quartz monzonite, granodiorite, granite, pegmatite, apite, biotite gneiss-sigmatite
- 4 PMII 02 Metamorphosed mafic to ultramafic intrusive rocks; hornblende, pyroxene hornblende, minor pyroxenite, feldspathic hornblende, hornblende gabbro, hornblende diorite, porphyritic quartz diorite
- 3 PIUI 02 Metamorphosed intermediate and ultramafic intrusive rocks; amphibole quartz diorite, chlorite trondhjemite, peridotite, melanophyre
- 2 PMS 02 Metasediments; wacke, mudstone, biotite phyllite, schist, biotite gneiss, marble, calc-silicate gneiss
- 1 PMV 02 Mafic to felsic metavolcanic rocks; lapillitons, lapilli-tuff, tuff, fine grained flow, sericite phyllite, chlorite phyllite, biotite-chlorite schist, coarse to medium grained flow

* Map unit number assigned to rock type
** A mnemonic code assigned to rock type

- Geology base derived from:
- Harris, F.R. 1970. Tilly Lake Sheet, Thunder Bay District; Ontario Geological Survey Map 2203, Scale 1:51,600 or 1 inch to 1/2 mile.
 - Irvine, T.N. 1962. Western Lac Des Mille Lacs Area, District of Thunder Bay; Ontario Geological Survey Map 2022, Scale 1:63,360 or 1 inch to 1 mile.
 - Pirie, J. 1978. Crooked Pine Lake, Rainy River District; Ontario Geological Survey Map 2405, Scale 1:51,680 or 1 inch to 1/2 mile.
 - Pye, E.G. and Fenwick, K.G. 1963. Quetico Sheet, Districts of Thunder Bay and Rainy River, Map P.184, Compilation Series - Preliminary Map, Scale 1:126,760 or 1 inch to 2 miles.

SYMBOLS

- Geological boundary
- Fault
- No data
- Field duplicate site

Elevation in feet above mean sea level

Magnetic declination at the centre of the map area (48°45'N; 91°00'W) in 1989 is 0°26'E decreasing 20' annually. Magnetic declination ranges from 0°13'E decreasing 21' annually, in the southwest corner of the map area, to 0°08'E decreasing 20' annually, in the northeast corner of the map area.

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**SAMPLE LOCATION
LAKE SEDIMENTS
GSC OPEN FILE 2026
CROOKED PINE LAKE AREA
NORTHWESTERN ONTARIO, 1987**

PARTS OF NTS 52B/10, 52B/11, 52B/14 AND 52B/15

**SAMPLE LOCATION
LAKE SEDIMENTS
GSC OPEN FILE 2026
REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 127A-87
CROOKED PINE LAKE AREA
CANADA - ONTARIO
MINERAL DEVELOPMENT AGREEMENT
(1985-1990)
LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
NORTHWESTERN ONTARIO, 1987**

