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# TROUT LAKE - BIRCH LAKE SHEET

KENORA DISTRICT  
 Scale: 1:126 720 or 1 inch to 2 miles

NTS Reference: B2  
 ODM Geological Compilation Map: 2175

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## LEGEND

PHANEROZOIC  
 CENOZOIC  
 QUATERNARY  
 RECENT

Lake, stream and swamp deposits  
 Sand, gravel, ground moraine, varved clays

PRECAMBRIAN  
 MIDDLE PRECAMBRIAN (PROTEROZOIC)  
 MAFIC INTRUSIVE ROCKS

12 12 Diabase

INTRUSIVE CONTACT

EARLY PRECAMBRIAN (ARCHEAN)  
 UNMETAMORPHOSED ROCKS  
 FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

11 11 Unaltered  
 11a Biotite, amphibole-quartz monzonite, granite  
 11b Muscovite, quartz monzonite  
 11c Biotite, amphibole-trondhjemite, quartz diorite  
 11d Porphyritic granodiorite, quartz monzonite

INTRUSIVE CONTACT

INTERMEDIATE TO MAFIC INTRUSIVE ROCKS

10 10 Unaltered  
 10a Diorite, quartz diorite

INTRUSIVE CONTACT

METAMORPHOSED PLUTONIC ROCKS  
 FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

9 9 Unaltered  
 9a Hornblende, biotite, magnetite-trondhjemite, granodiorite (massive)  
 9b Hornblende, biotite, magnetite-trondhjemite, quartz monzonite (massive)  
 9c Hornblende, biotite, magnetite-trondhjemite, granodiorite (porphyritic)  
 9d Hornblende, biotite, magnetite-trondhjemite, quartz monzonite (porphyritic)  
 9e Cataclastic granitic rocks

INTRUSIVE CONTACT

FELSIC TO INTERMEDIATE SUBVOLCANIC ROCKS

7 7 Unaltered  
 7a Quartz, quartz-felsite, felsite, felsic porphyry  
 7b Intermediate porphyry  
 7c Chlorite, biotite-trondhjemite

INTRUSIVE CONTACT

MAFIC TO ULTRAMAFIC INTRUSIVE ROCKS

6 6 Unaltered  
 6a Gabbro, diorite, quartz diorite  
 6b Anorthositic gabbro, gabbroic anorthosite  
 6c Amphibole, peridotite, Danite  
 6d Peridotite, peridotite, Danite

INTRUSIVE CONTACT

METASEDIMENTS  
 Chemical Metasediments

5 5 Unaltered (assumed oxide facies ironstone)  
 5a Oxide facies ironstone  
 5b Sulphide or silicate facies ironstone  
 5c Chert  
 5d Carbonate

UNCONFORMITY

Clastic Metasediments and Derived Migmatites

4 4 Unaltered  
 4a Wacke, tuffaceous metasediments  
 4b Siltstone, argillite  
 4c Arenite  
 4d Conglomerate  
 4e Biotite-quartz-albite-titanite schist, amphibole schist (up to 10% mobilized)  
 4f Metakalshite, (wacke paleosome with 10-70% mobilized)  
 4g Homogeneous distalite  
 4h Homogeneous distalite  
 4i Unaltered migmatitic rocks

METAVOLCANICS  
 Felsic Metavolcanics

3 3 Unaltered  
 3a Flows  
 3b Tuff, lapilli tuff, laillastone  
 3c Tuff-breccia, pyroclastic breccia

Intermediate Metavolcanics

2 2 Unaltered  
 2a Flows  
 2b Tuff, lapilli tuff, laillastone  
 2c Tuff-breccia, pyroclastic breccia  
 2d Biotite, hornblende-biotite schist, migmatite

Mafic Metavolcanics

1 1 Unaltered  
 1a Flows  
 1b Pillowed flows  
 1c Variolitic flows  
 1d Coarse flows, amphibolites  
 1e Tuff, lapilli tuff, laillastone, tuff breccia, pyroclastic breccia

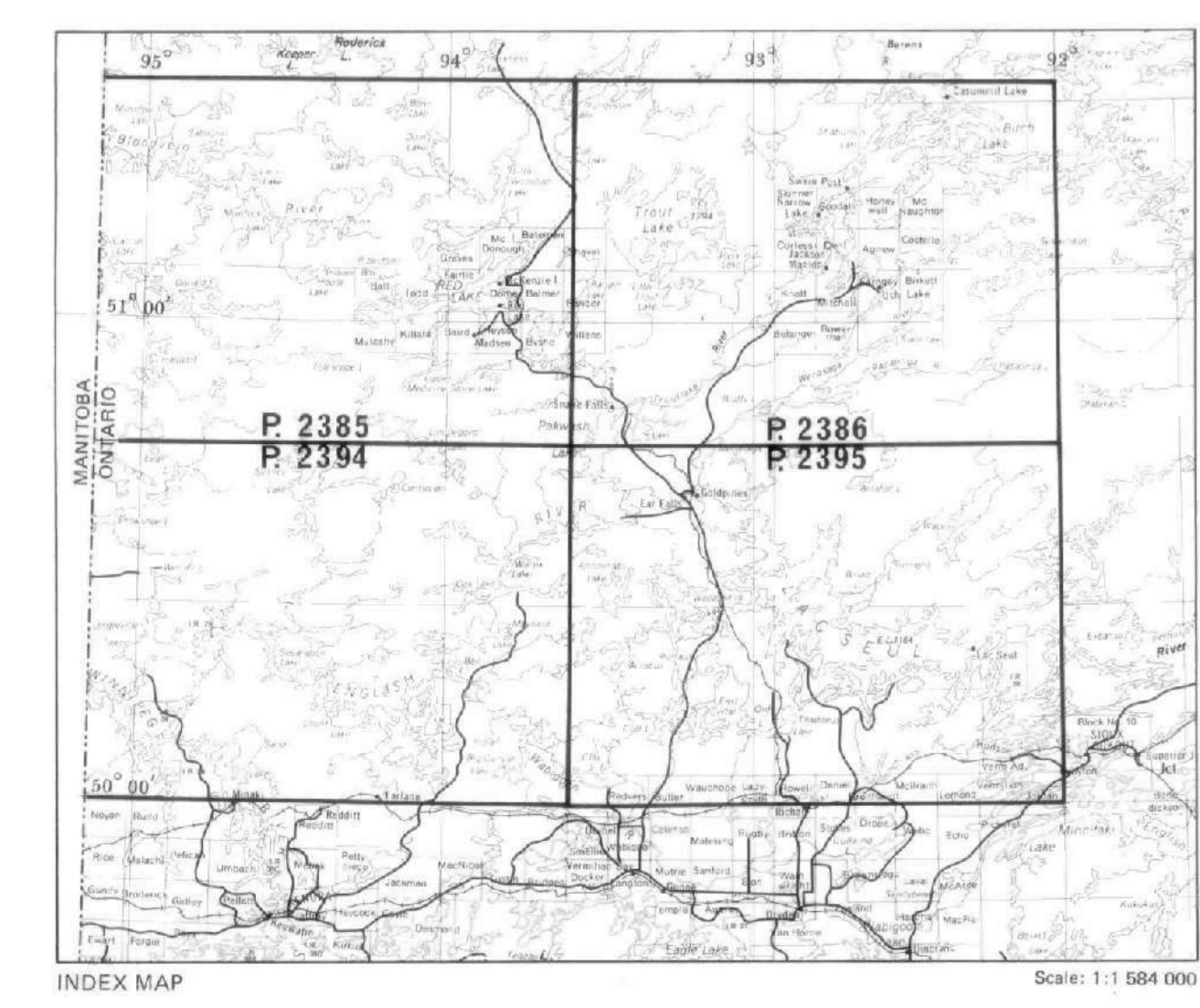
Notes  
 a) Age relations between units 1-5 are variable.  
 b) Unit 8 may be in part substantially older than units 1-2 and 9-11 or equivalent in age to units 4 and 5.  
 c) Migmatite terminology after Breas and Bond, 1978.

The letter "C" preceding a code refers to data interpreted from aeromagnetic information.

CREDITS  
 Compilation by P.C. Thurston and J.R. Bartlett, 1978  
 Every possible effort has been made to ensure the accuracy of the information presented on this map; however, the Ontario Ministry of Natural Resources does not assume any liability for errors that may occur. Users may wish to verify critical information sources include both the references listed here, and information on file at the Resident or Regional Geologist's office and the Mining Recorder's office nearest the map area.

SOURCES OF INFORMATION  
 Geology from published maps of the Ontario Geological Survey, Geological Survey of Canada, unpublished data of mining companies and additional unpublished data from P.C. Thurston, F.W. Breas, and W.D. Bond (Geologists, Ontario Geological Survey, Toronto).  
 Base maps prepared by the Cartography Section, Surveys and Mapping Branch, Lands and Water Group, Ontario Ministry of Natural Resources with additional information from the authors.

Scale: 1:126 720 or 1 inch to 2 miles. Compilation 1978.



### MINERAL PRODUCTION AND RESOURCES

The area contains deposits of cobalt, copper-zinc-silver, gold, iron, lead, molybdenum, nickel, platinum group elements, pyrite, uranium, and zinc. During 1980 copper, gold, silver, iron, and zinc were produced from mines in the area.

Mineral development commenced with the mining of pyrite in 1908 near Hudson. Following closure of the mine in 1924, gold exploration was concentrated in the Uchi-Confederation and Red Lake areas. Total production from 9 properties in the Uchi-Confederation area during the period 1929 to 1942 was about 9 million dollars. Mining commenced in Red Lake in 1930 and the total value of production from 18 properties was \$622 million by 1979.

Base metal mining was conducted at Werner Lake from 1940 to 1944 and 1962-1976, with production of nickel and copper with by-product platinum group element production. Selco Mining Corporation Limited's South Bay copper-silver-lead deposit began production in 1970 and continues in production as of 1980 at a rate of about 500 tons per day.

The Griffith Mine at Bruce Lake produces iron pellets at the rate of about 1.5 million tons of pellets per year.

### HOW TO OBTAIN ADDITIONAL INFORMATION

Published geological maps used as a reference in the preparation of this sheet are indicated on "Index to Published Geological Maps", Ontario Geological Survey, Toronto, and on "Index Sheet 52", Geological Survey of Canada, Department of Energy Mines and Resources, Ottawa.

Published geological reports and miscellaneous papers covering this sheet are listed in "MP 77" and supplements, Ontario Geological Survey, and in the "Index of Publications", Geological Survey of Canada.

Topographic maps of the area may be obtained from the Public Service Centre, Ontario Ministry of Natural Resources, Toronto, or the Department of Energy Mines and Resources, Ottawa. Aeromagnetic maps may be obtained from the Geological Survey of Canada, Ottawa, or the Public Service Centre, Ontario Ministry of Natural Resources, Toronto.

Quarterly reports may be reviewed at the Mines Library, Ontario Geological Survey.

Air photographs may be obtained from the Public Service Centre, Ontario Ministry of Natural Resources, Toronto, or from the National Air Photo Library, Department of Energy Mines and Resources, Ottawa.

The name and ownership of many of the mineral occurrences on the sheet are given on Map 2175, the Ontario Mineral Map, 1974.

Information on mineral occurrences may be obtained from the Ministry of Natural Resources Regional Geologist at Kenora, or Resident Geologists at Red Lake and Sioux Lookout.

Mining claim maps and general information for prospectors may be obtained at mining recording offices at Red Lake and Sioux Lookout, or the Ministry of Natural Resources recording office in Toronto.

Information on current developments in the mineral industry may be obtained from the annual reports of the Regional and Resident Geologists, published by the Ontario Geological Survey as miscellaneous papers on an annual basis early each year.

### PROPERTY LIST

Producing Mines	Commodities
1) Selco Mining Corp. Ltd.	Au, Zn, Cu
2) The Steel Company of Canada Ltd. (Selco) (Griffith Mine)	Fe
3) Campbell Red Lake Mines Ltd.	Au
4) Dickinson Mines Ltd.	Au
5) Robin Red Lake Mines Ltd.	Au
Past Producing Mines	
1) Marbois Mines Ltd. (McKinnon Mine)	Au
2) H.C. Young Mines Ltd.	Au
3) Golder Mines Ltd.	Au
4) Little Long Lac Gold Mines Ltd. (Red Lake Gold Shore Mine)	Au
5) Starratt Nickel Mines Ltd. (Starratt Open Mine)	Au
6) Heagy Gold Mines Ltd.	Au
7) Teck Corporation (Howey)	Au
8) Little Long Lac Gold Mines Ltd. (McKenzie Red Lake Mine)	Au
9) Mason Red Lake Gold Mines Ltd. (Jackson-Manson Mine)	Au, Ag
10) Doehneux Wilms Gold Mines Ltd. (Hudson - Patricia Mine)	Au
11) St. Joseph Explorations Ltd. (Hudson - Patricia Mine)	Au, Ag
12) Argois Gold Mining Inc. (Sul-Dyck Mine)	Au
13) Mt. James Mines (Quebec) Ltd.	Au
14) Uchi Gold Mines Ltd. (Sul-Dyck Mine)	Au, Ag
15) Rondeau Copper Mines Ltd. (Sul-Dyck Mine)	Au
16) Marbois Mines Ltd. (Caspery Summit, Jason)	Au, Ag
17) Allair Chemical Canada Ltd. (North Pines Mine)	py
18) Consolidated Canadian Faraday Ltd. (Gordon Lake Mine)	Ni, Cu, Pt
19) Kenora Prospectors and Miners Ltd. (Werner Lake Cobalt Mine)	Cu, Co

### SYMBOLS

- Geological boundary
- Synclinal axis
- Anticlinal axis
- Fault
- Lineament
- Railway, with station or flagstop
- Provincial highway
- Motor road
- Other road
- Winter road
- Aircraft landing facilities
- Larger community
- Smaller community
- Producing mine
- Past producing mine
- Mineral occurrence, commodity
- Surveyed line
- Line of section

### METAL AND MINERAL ABBREVIATIONS

Au	Silver	Pb	Lead
Ag	Gold	Pt	Palladium
Co	Cobalt	Pl	Platinum
Cu	Copper	S	Sulphur
Fe	Iron	U	Uranium
Ga	Gallium	W	Tungsten
Mo	Molybdenum	Zn	Zinc
Ni	Nickel		