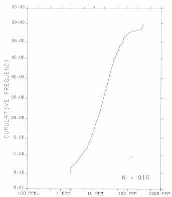
Province of Ontario
Ontario Ministry of Natural Resources
Ontario Geological Survey

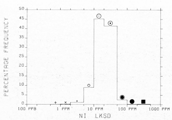
Canada
Department of Energy, Mines and Resources
Geological Survey of Canada

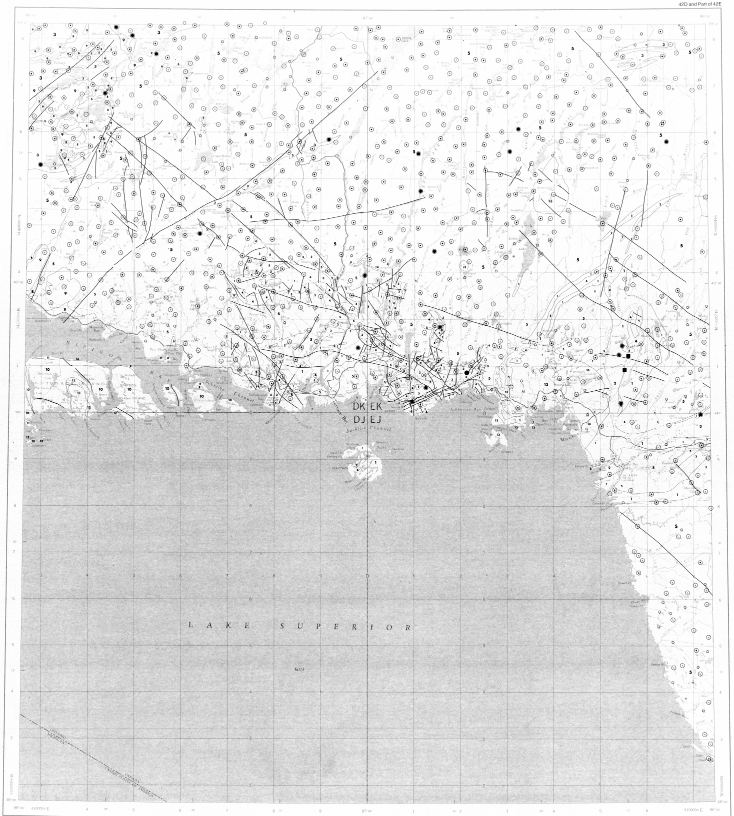
NICKEL (ppm)

OPEN FILE 506

THUNDER BAY AREA 1977







Geochemical Symbol and Data Presentation

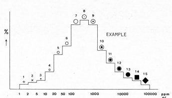
The concentration of an element at a sample site is graphically represented as one of 15 symbols. If a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size to the eighth symbol and then increase in blackness to the fifteenth. The two small crosses at the low end of the scale are used to respectively denote concentrations below the analytical detection limit, or, in the data group containing the detection limit. The data are grouped on a semi-logarithmic scale, i.e. 1,2,5,10,20,50,100 etc. Five decades can be spanned and this arbitrary division has been chosen for the continuing Canada wide series of maps constituting the National Geochemical Reconnaissance.

The choice of symbols and the data groups they represent for any specific element is based on the histogram and cumulative frequency plot for the total survey data from one, or more contiguous, open file sheets covered in one field season (above). The eighth symbol is used for the model group as defined by the histogram. This group usually includes the median of the data as defined by the 0.5 (50%) point on the cumulative frequency plot. Some, or all, of the remaining 14 symbols are chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is given below.

The symbol maps, being based on the total survey data distributions, are unaffected by tha availability of ever increasing levels of knowledge in bedrock and surficial geology, and other environmental factors. Therefore, the raw data symbol maps are only intended to assist the rapid inspection of the data for gross regional features. To fulfill the needs of a more specific and thorough interpretation, the raw symbol maps should be modified using the field and analytical data provided in the data listings and any other knowledge available.

The data listings contain notes on survey and analytical methods, raw data listing with legend and statistics for total data as well as for data grouped on the basis of rock type.

To comprehensively study an area, all available geological, environmental and recorded data should be utilized. The data separation by bedrock type can often be improved by constructing new data subsets and deriving local threshold levels based on the most detailed and up-to-date knowledge available.



LEGEND

Note: This legend is common for National Geochemical Reconnaissance Map 17-1977, Open File 506 and Map 18-1977, Open File 507.

PRECAMBRIAN
LATE PRECAMBRIAN (HELIKIAN)
KEWEENAWAN

CARBONATITE - ALKALIC COMPLEXES [AKRK]*
13 Carbonatite; nepheline, hornblende, augite syenites, gabbro; olivine, nepheline gabbro.

LATE MAFIC IGNEOUS ROCKS
12 Diabase, gabbro, anorthorite

OSLER GROUP
11 Porphyritic rhyolite or dacite, quartz porphyry, felsite

10 Diabase, basalt, minor pyroclastic rocks, conglomerate, sandstone

MAFIC IGNEOUS ROCKS
9 Diabase [DIBS], porphyritic diabase, gabbro, anorthositic gabbro (sills and dykes)

SIBLEY GROUP [SMRK]
8 Conglomerate, sandstone, chert, shale, carbonate rocks

MIDDLE PRECAMBRIAN (APHEBIAN)
ANIMIKIE
7 Rove Formation [ARGL]: argillite, shale, greywacke

6 Gunflint Formation: chert [CHRT], chert-carbonate, carbonate rocks, argillite, tuff, taconite

EARLY PRECAMBRIAN (ARCHEAN)
FELSIC IGNEOUS AND METAMORPHIC ROCKS
5 Granite [GRNT], granite gneiss [GRNG], granodiorite [GRDR], quartz-feldspar porphyry [QZFP], monzonite, magmatite [MGMT], syenite, pegmatite

MAFIC AND ULTRAMAFIC IGNEOUS ROCKS [UMFC]
4 Gabbro, diorite, serpentine, hornblendite, amphibolite

METASEDIMENTS
3 Conglomerate [CGLM], greywacke [GRCK], arkose, quartzite, argillite, slate, mica schist and gneiss, quartz-feldspar schist and gneiss [SCST], garnet-feldspar schist and gneiss [GRSC].

METAVOLCANICS
2 Felsic to intermediate metavolcanics [AEXV]: rhyolite, pillow lava, porphyritic lava, pyroclastic rocks, derived schists

1 Intermediate to mafic metavolcanics [BEXV]: massive, schistose, pillow lava, porphyritic and amygdaloidal lava, pyroclastic rocks and derived schists, undifferentiated metavolcanics with some metasediments [MVCC]

* A four letter mnemonic name recorded as rock type as part of field observations

Geological boundary..

Fault..

Limit of geological mapping [UKNN]..........................

The legend modified and geology derived for this geochemical map from Geology Compilation Series maps 2220 and 2232, Ontario Division of Mines and map 2065, Ontario Department of Mines

Geological Survey of Canada
Resource Geophysics and Geochemistry Division

and

Ontario Ministry of Natural Resources
Ontario Geological Survey

CONTRACTORS

Sample collection by Marshall Macklin Monaghan Ltd.
Sample preparation by Golder Associates.
Uranium in sediment chemical analyses by Atomic Energy of Canada Ltd.
Other sediment chemical analyses by Chemex Labs Ltd.
Water chemical analyses by Barringer Research Ltd.

Copies of map material and listings of field observations and analytical data from which the material was prepared may be available at users expense by application to:

K.G. Campbell Corporation
880 Wellington Street
Bay No. 238
Ottawa, Ontario
K1R 6K7

The data is also available in digital form. For further information please contact:

The Director
Computer Science Centre
Department of Energy, Mines and Resources
Ottawa, Ontario
K1A 0E4

INDEX MAP

Elevations in feet above mean sea level

Mean magnetic declination 1978, 2°8.6' West, increasing 2.0' annually. Readings vary from 3°01.2' in the SE corner to 1°12.0' in the NW corner of the map-area

NICKEL (ppm)

OPEN FILE 506

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 17-1977

URANIUM RECONNAISSANCE PROGRAM

THUNDER BAY AREA 1977

Scale 1:250,000

Kilometres 6 0 6 12 18 Kilometres

Miles 4 0 4 8 Miles

Universal Transverse Mercator Projection

Base-map assembled by the Geological Cartography Unit from maps published at the same scale by the Surveys and Mapping Branch in 1968, 1969

N. T. S. REFERENCE

This map forms one of a series of 28 sheets released under the Geological Survey of Canada, Open Files 506 and 507. The Open Files consist of maps for 11 elements, each for lake sediments, 2 elements for lake waters and sample site location.

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OPEN FILE 506
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