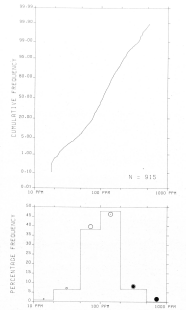
Province of Ontario
Ontario Ministry of Natural Resources
Ontario Geological Survey

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

42D and Part of 42E

ZINC (ppm)
OPEN FILE 926
THUNDER BAY AREA 1977



Geochemical Symbol and Data Presentation

The concentration of an element in 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 decrease in size through the fifteenth symbol. The class limits of the low end of the scale are used to respectively denote concentrations below the analytical detection limit, or, in the data group containing more than 50 percent of the samples, the median concentration. Values 1-2-5,10-20-50,100-200-500 etc. flow decades can be summed and this arbitrary division has been chosen for the continuing Canada wide series of maps constituting the National Geochemical Reconnaissance.

The status of symbols and the data groups they represent for any one element map is shown on the cumulative frequency curve example for the total number of data represented on each particular element suite of rock samples covered in one field season (above). The eighth symbol (the largest) is centered on the median value in the data group and usually includes the median of the data as defined by the U.S. ISOTOPE on the cumulative frequency curve. The ratio of the class marking in 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 unrestricted by the availability of ever increasing levels of knowledge of the significance of the concentrations of the various chemical elements. 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 detailed follow-up investigations the symbol maps and data tables 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 symbol maps can be improved by constructing new data subsets and deriving local background levels based on the most detailed and up-to-date knowledge available.

Copies of map materials and listings of field observations and analytical data from which the material was prepared may be available at cost; apply by application to:

R.G. Campbell Corporation
880 Wellington Street
Suite 1204
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 0E9

LEGEND

Note: This legend is common for National Geochemical Reconnaissance Map 77-1977, Open File 926 and Map 50-1977, Open File 927.

PRECAMBRIAN
LATE PRECAMBRIAN (HELIKIAN)
KEWEENAWAN

CARBONATITE - ALKALIC COMPLEXES [KAlk]*
13 Carbonatites; nephelite, hornblende, baylite syenites, gabbro; alkaline, nepheline gabbro

LATE MAFIC INTRUSIVE ROCKS
12 Diabase, gabbro, anorthosite

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

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

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

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

MIDDLE PRECAMBRIAN (APHEBIAN)
KNIFE LAKE

7 Rove Formation [KNIL]: amphibite, shale, greywacke

6 Conniffont Formation: chert [CONT], chert-carbonate, carbonate rocks, argillite, tuff, taconite

EARLY PRECAMBRIAN (ARCHEAN)
FELSIC INTRUSIVE AND METAMORPHIC ROCKS
5 Granite [GRIT], granite gneiss [GRIG], granodiorite [GRID], quartz feldspar porphyry [QFP], monzonite, magnetite [MGTI], syenite, pegmatite

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS [UMIC]
4 Gabbro, diorite, serpentine, hornblendite, amphibolite

METASEDIMENTS
3 Greywacke [GREM], greywacke [GRCA], arkose, quartzite, [ARQT], slate, mica schist and gneiss, quartz-feldspar schist and gneiss [SCST], garnet-feldspar schist and gneiss [GNSC]

METAVOLCANICS
2 Felsic to intermediate metavolcanics [KFIV]: rhyolite, crystal tuff, porphyritic lava, pyroclastic rocks, derived schists

1 Intermediate to mafic metavolcanics [KMIV]: tuffs, lavas, schistose, pillow lava, porphyritic and amygdaloidal lava, pyroclastic rocks and derived schists; undifferentiated metavolcanics with some metasediments [MVCX]

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

Geological boundary

Fault

Limit of geological mapping [SIBB]

The legend modified and geology derived for this geochemical map from Geology Compilation Series maps 2070 and 2232, Ontario Division of Mines and map 2066, 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 Geller Associates.
Uranium in water analysis by Activation Laboratories of Canada Ltd.
Other sediment chemical analyses by Chemex Labs Ltd.
Water chemical analyses by Barringer Research Ltd.

42D and Part of 42E

Elevations in feet above mean sea level

Main magnetic declination 1970, 2°0.1' West, decreasing 0.1' annually, secular variation very small. The 2°E. in the SE corner of the map-area

ZINC (ppm)
OPEN FILE 926

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 77-1977
URANIUM RECONNAISSANCE PROGRAM
THUNDER BAY AREA 1977

Scale 1:250,000

Kilometres 0 5 10 15 20 Kilometres
Miles 0 5 10 15 Miles

Universal Transverse Mercator Projection
© Crown Copyrights reserved

Basemap assembled by the Geological Cartography Unit from maps published at the same scale by the Surveys and Mapping Branch in 1960, 1969

This map forms one of a series of 20 sheets released under the Geological Surveys of Canada, Open Files 926 and 927. The Open Files consist of maps for 11 elements, each for two quadrangles, 2 elements for lake waters and sample site location.

ZINC (ppm)
OPEN FILE 926
THUNDER BAY AREA 1977