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Ref. Map 1-1976
Ref. Open File 417

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Geological Survey of Canada

55 M

LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 12-1976, Open File 416; Map 13-1976, Open File 417

PROTEROZOIC

HADRYNIAN (UPPER PROTEROZOIC)

35Hpr Dia, gabbro and diabasic gabbro dykes [DBBM]

WELTIAN (MIDDLE PROTEROZOIC)

LOBRART GROUP (18-21)

21 Conglomerate, pebble sandstone, some intercalated sandstone. In part, may be older than 20 or 19 [CGLM]

20 Mainly porphyritic (quartz and/or feldspar, biotite and/or pyroxene) igneous rocks; probably mainly extrusive, but in part intrusive; some breccia, tuff, agglomeratic minor sub-porphyritic syenitic rocks [QZPP]

19 Sandstone and pebbly sandstone, grit, arkose; siltstone and minor breccia, probably includes some undifferentiated conglomerate (18 and/or 21) [SMDS]

18 Conglomerate; intercalated gritty sandstone [CGLM]

ARCHEAN

ARCHEAN (LOWER PROTEROZOIC)

12 Granite, granodiorite and allied rocks: in large part gneissic and impure, with many bands of partly assimilated schist, gneiss, amphibolite; strato-form and migmatitic; includes some pegmatite and aplite; includes some pyroxene granulite. In part probably older than 9 and, possibly, 7 [GRNT]

13 Gneiss, schist, amphibolite, and granulite derived mainly from sedimentary and volcanic rocks of Archaean and/or Lower Proterozoic (Aphebian) age; some impure quartzite and greywacke; commonly with some granitic material [GNIS]

3 Intermediate to basic volcanic rocks (greenstones) and derived amphibole schist and gneiss; in part includes much schistose greywacke (Yellowknife belt); some rhyolite, tuff, agglomerate; minor quartz-mica schist and paragneiss; in part probably younger than 2 and 1. Differentiated basic intrusions. May be younger in part (Aurelia) [ARKE]

6 Diorite and gabbro in granitic and gneissic terraies [DORT]

7 Basic syenites, diorites, gabbros [SBBR]

Geological contact.....
Faults.....
Mineral prospect.....

Geological cartography by the Geological Survey of Canada

Legend and geology for the geochemical map by R.G. Garrett, from map 1216A of G.S.C. Memoir 360 by G.M. Wright

Base-map at the same scale published by the Mapping and Charting Establishment, M.C.I., 1966

Mean magnetic declination 1977, 3°48' East increasing 2.3' annually. Readings vary from 7°39.6' in the SE corner to 0°03.4' in the NW corner of the map area

Elevations in feet above mean sea-level

Geochemical Symbol and Data Presentation

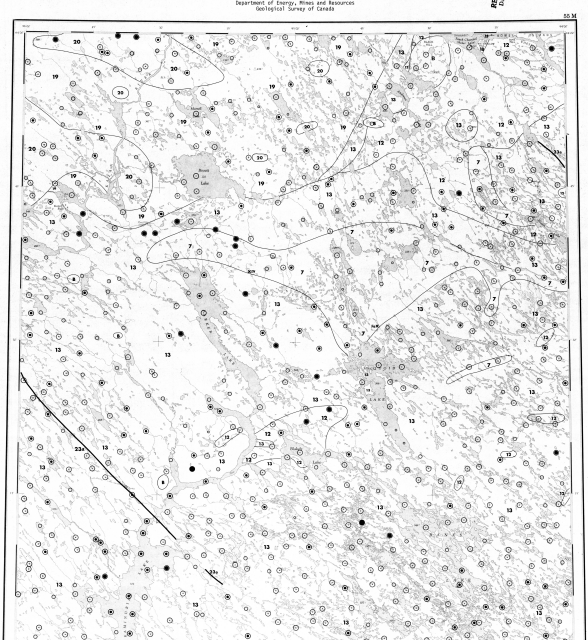
The concentration of an element at a sample site is graphically represented as one of 15 symbols. The range of concentration that each symbol represents on a dot is plotted. The symbols are symmetrically arranged so that they first increase in size to the eighth symbol and then increase in blackness to the fifteenth. The two small crosses at the low end of the scale are used to respectively denote concentrations below the analytical detection limits, or, in the data group containing 50 detection limits. The data are grouped on a semi-logarithmic scale, i.e. 1-2-5-10-20-50-100 etc. Two decades can be spanned and this arbitrary division has been chosen because the Geological Survey of 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. The histogram is plotted using 20 groups and the first 19 symbols in these groups. 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 10 symbols are chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is given below.

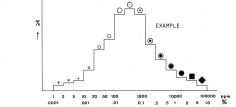
The symbol maps, being based on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge in bedrock and surficial geology. Because of this independence from geology, the data symbol maps are only intended to assist the rapid inspection of the data for gross regional features. To fulfill the needs of a more specific and thorough interpretative, the raw symbol maps should be modified using the field and statistical data provided in the data listings and any other knowledge available. To assist in the selection of meaningful data groups for modification of the symbol maps geology, a table of summary statistics and proposed threshold values for previously sampled bedrock units and from each mapped bedrock unit, or broad lithologic unit, again based on the total survey data, is presented below the histogram. This table can be used along, or in conjunction, with the sample location map and data listings to indicate above threshold samples where they occur on the map. In many instances, the table will also illustrate, more clearly than the map, the dependence of the distribution of an element on the geology. It is also recommended that whilst the total data appears to approximate a log-normal distribution the data for individual map or lithologic units appears to approximate a normal distribution. The proposed thresholds presented are believed to be useful in interpreting the data from a mineral exploration viewpoint. Locations of samples containing values above the thresholds listed in the table can be plotted and may be derived from, should be studied carefully. The above threshold concentration can be due to a wide range of geological and environmental factors, but one of these could be the presence of abnormal concentrations of the element in a form of interest to the mineral exploration(ist).

Before embarking on any area, the all available geological, environmental and recorded mineral data should be sought. The data interpretation by bedrock type can often be topped by constructing new data subsets and deriving local threshold levels based on the most detailed and up-to-date knowledge available.

The terms reliability factor and value that appears below the table is an estimate of the reliability of the geochemical map. On the basis of duplicate sampling 50 of all lakes sampled it can be stated that there is a 95% chance that the true value of a sample will be between the reported value divided and multiplied are used the new value will lie between X ÷ RF and X x RF where X is the original value obtained. This factor takes into account variability due to both heterogeneity of the centre-lake bottom sediments and sample preparation and analytical causes.



INDEX MAP



NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 13-1976

IRON IN LAKE SEDIMENTS

URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

Kilometres 0 5 2 5 12 15 Kilometres
Miles 0 2 4 6 8 Miles

Universal Transverse Mercator Projection
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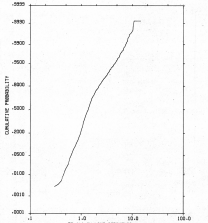

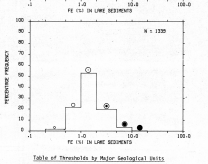

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
CGLM	43	1.0	1.1	82	6.0
QZPP	226	1.7	1.3	76	8.0
SMDS	110	1.8	1.4	76	7.0
GRNT	844	1.8	1.4	77	8.0
GNIS	64	1.8	1.3	69	8.0
ARKE	64	1.8	1.3	69	8.0
DORT	4	1.3	0.5	41	
SBBR	14	2.0	1.0	50	7.0

Data units are percent Reliability Factor = 1.37

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 13-1976
OPEN FILE 417

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

Geochemistry by E.H.W. Hornbrook
Analytical chemistry by J.J. Lynch
Data monitoring by R.E. Garrett, N.G. Lund and D.J. Ethwood

Contractors

Sample collection by Tripp, Woollett & Associates Ltd.
Sample preparation by Golder Associates
Chemical analyses by Chemex Labs Ltd.

This map forms one of a series of 28 sheets released under Geological Survey of Canada, Open Files 416-417. The Open Files consists of data for 11 elements each for lake sediments, percent loss on ignition, uranium in lake waters and sample site location

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

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NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 13-1976
OPEN FILE 417
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IRON