LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map
Sets, Open File 415, Map1-1976, Open File 416 and Map11-1976, Open
File 417

PELLUCID

- 🗸 Gabbro, meta-gabbro and diabase dykes [GABB]
- 11 Granite, quartz monzonite and granodiorite (Seattle Lake pluton) [GRAT]

PHANEROZOIC

- 10 Granite, quartz monzonite and granodiorite [GRMT]
- 9 Felsic gneisses to subgneissic [GGNS]
- 8 Conglomerate [CGLM]
- 17 Breccia to subgneissic [BRXS]
- 16 Lapilli, quartz lapilli,dacite and tuff [DCTT]
- 15 Pyroxenitic, pyroxenitic, calc-silicate bands derived from 14 [PXNS]
- 14 Undivided 11, 12 and 13 [UNMS]
- 13 Dolomite, limestone and minor argillite, phyllite [UMBS]
- 12 Gabbro sills [GBRS]
- 11 Argillite, phyllite, greywacke, some minor dolomite [UMBS]
- 10 Dunite-lite, orthopyroxenite [UNBS]
- 9 Greywacke-conglomerate, greywacke, pyroxenopelite [LIBS]

ARCHEAN

- 🗸 Meta-gabbro dykes [MGBS]
- 7 Quartz monzonite, granodiorite and granitic gneisses to foliated [GLMS]
- 6 Diorite and gabbro [DIOT]
- 5 Grey biotite granodiorite gneiss [GBNS]
- 4 Pyroxenitic, minor pyroxenitic [PNIS]
- 3 Amphibolites, amphibolite gneiss [AMBS]
- 2 Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [UNCS]
- 1 Meta-volcanic rocks [MVCC]

Drift covered area.....
Geological contact.....
Fault.....
Limit of geological mapping.....
Eskers (direction of flow known).....
Mineral occurrence.....

Legend modified and geology derived for the geochemical map by R.G. Garratt from maps 24-1970, 3-1972 and 4-1972 and G.S.C. Paper 74-54 89. K.E. Eade

Geological cartography by the Geological Survey of Canada

Base-map at the same scale published by the Mapping and Charting Establishment, M.C.E., 1983

Mean magnetic declination 1977, 16°26.5'E decreasing 4.8' annually. Readings vary from 14°24.4' in the SE corner to 18°22.2' in the NW corner of the map area

Elevation 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 eight symbols. The symbols are based on the distribution of the data for the element to be 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 consisting entirely of zero values, the zero value. Any one of a number of symbol sets, i.e. 1,2,3,15,20,50,100 etc., for the nodes can be used and the finite 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 map is, in part, governed by the method of data presentation. Where adjacent map data from one, or more contiguous, open file sheets covered in one field season. The eighth symbol is used for the modal 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 used to display data on an exponential or graphical basis. An example of all 15 symbols is shown on the histogram.

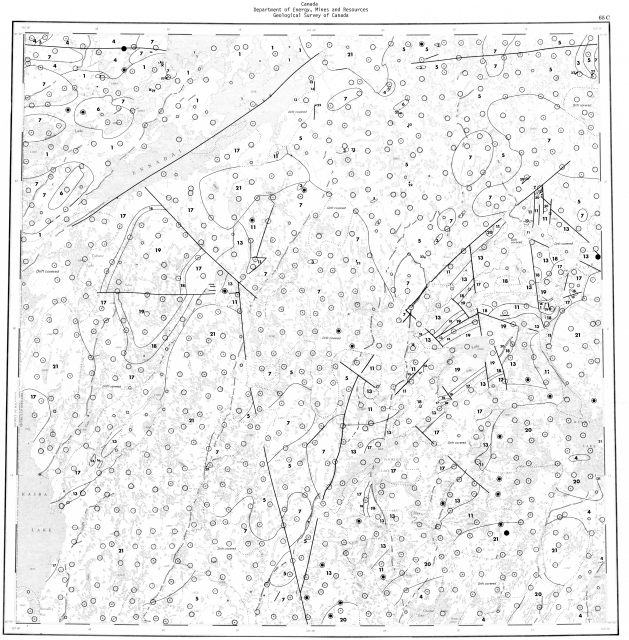
The symbol maps, being based on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge in bedrock and surficial geology, and other environmental factors. Therefore, the raw data presented initially on these maps may be subsequently modified in the light of regional features. To fulfil the needs of a more specific and thereby interpretation, the raw symbol maps should be modified using the field and analytical data provided in the data listings and any other knowledge available. To assist in the appraisal and modification of the data in terms of the symbol map bedrock geology, the data listings include a column containing the bedrock unit from which each sample was derived, derived from each mapped bedrock unit, or broad lithological unit, again based on the total survey data, is presented below the histogram. This table can be used alone, or in conjunction, with the sample location map and data listings to indicate above threshold samples where they occur on the map. In many terranes, the data for a single bedrock unit approximates to a log-normal occurrence of some geochemical levels on bedrock type. It may often be also observed that within 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 interpretation of the data in terms of mineralization, pollution, etc. Any anomalies with concentrations in excess of the threshold for the rock unit they appear to be derived from, should be studied carefully. The above threshold concentrations 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 industry.

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.

The Table of Thresholds by Major Geological Units for each element 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 if any lake is resampled and identical methods of sample preparation and analysis are used the new value will lie between 2 ÷ RF and 2 x RF where 2 is the original value and RF is the reliability factor. Information about variability due to both natural genesis of the centre-lake bottom sediments and sample preparation and analytical causes:

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

68-C



NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
COPPER IN LAKE SEDIMENTS
URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

Kilometres 5 0 5 10 15 Kilometres
Miles 4 0 4 8 Miles

Universal Transverse Mercator Projection
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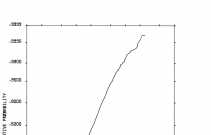

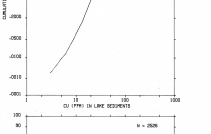

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
GGNS	2	50	21	41	-
GBNT	335	23	13	56	100
GRMT	529	19	16	82	100
DIOT	10	19	12	63	100
CGLM	14	18	9	49	50
AMTS	70	18	8	47	150
GNMX	167	20	20	72	150
GLMS	75	17	10	59	100
LIBS	3	52	33	63	-
DOBT	2	29	20	68	-
GBNS	402	27	19	70	100
PNIS	105	27	16	60	100
UNCS	59	41	34	83	100
GBRS	19	43	38	88	100
MVCC	74	28	21	77	100
Unknown	501	24	13	55	100

Data units are ppm

Reliability Factor = 1.37

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

Geochemistry by C.H.W. Hornbrook
Analytical chemistry by A.A. Lynch
Data monitoring by R.G. Garrett, N.S. Lund and D.J. Ellwood

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Kelvar Associates
Chemical analyses by Chemex Labs Ltd.

This map forms one of a series of 45 sheets released under Geological Survey Open File numbers 415 and 417. The full set of data consists of data for 11 elements each for lake sediments, percent loss on ignition, two elements for lake waters and sample site location

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

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Computer Science Centre,
Geological Survey, Mines and Resources,
Ottawa, Ontario K1A 0E8

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP11-1976
OPEN FILE 417
SOUTHERN DISTRICT OF MACKENZIE N.W.T., 1976
COPPER