LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map Sheets, Open File 413, Map 5-1976, Open File 414 and Map 7-1976, Open File 415.

METAMORPHIC

AMPHIBOLITE

- 18 Gabbro, meta-gabbro and diabase dykes [DIAB]
- 83 Granites, quartz monzonite and granodiorite (Hutchin Lake granite) [GRAT]

MYLONITE

- 78 Granite, quartz monzonite and granodiorite [GIMY]

GNEISS

- 19 Schists proximite to subgreywacke [SHGR]
- 20 Conglomerate [CGLM]
- 17 Arkose to subgreywacke [GREY]
- 16 Lavities, quartz latite/dacite and tuff [QLTT]
- 15 Paragneiss, paraschist, calc-silicate bands derived from 14 [PARA]
- 14 Undivided 12, 13 and 13 [GNEI]
- 13 Dolomite, limestone and minor argillite, phyllite [DMAL]
- 12 Gabbro sills [GABB]
- 11 Argillites, phyllites, phyroxenite, some minor dolomite [ARGL]
- 10 Quartzite, orthoquartzite [QRQZ]
- 9 Greywacke-conglomerate, greywacke, protoquartzite [LGWC]

ORTHO

- Meta-gabbro dykes [MGBD]
- 7 Quartz monzonite, granodiorite and granites massive to foliated [GIMY]
- 6 Diorite and gabbro [DIRT]
- 5 Grey biotite granodiorite gneiss [GGNS]
- 4 Paragneiss, minor paraschist [PMGS]
- 3 Amphibolite, amphibolite gneiss [AMPG]
- 2 Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [GRGV]
- 1 Meta-volcanic rocks [MVCC]

Drift-covered areas.....
Geological contact.....
Faults.....
Limit of geological mapping.....
Isthmi (direction of flow known).....
Mineral occurrence.....

Legend modified and geology derived for the geochemical map by R.G. Garrett from maps 24-1971, 3-1972 and 4-1972 and G.S.C. Paper 74-58 BY E.G. Labbe

Geological cartography by the Geological Survey of Canada

Base-map at the same scale published by the Mapping and Charting Establishment, M.C.E., 1968

Mean magnetic declination 1977, 0°15'E decreasing 2.4' annually. Readings vary from 7°22.0' in the SE corner to 17°21.6' in the NW corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

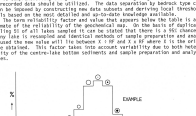
The concentration of an element at a sample site is graphically represented as one of 15 symbols; if a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size and then in number of segments filled in as the class number increases. The two small crosses at the top and of the scale are used to respectively denote concentrations below the analytical detection limits, or, in the data group containing the detection limits. 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 is the same as that used by 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 used to select the class interval (data group). For convenience, 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 then chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is given below.

Since the data groups 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 symbol maps can be used directly for reconnaissance interpretation. The process required 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. To assist in the appraisal and modification of the data in terms of the symbol map bedrock geology, the data listings include, where possible, a statistical data group parameter predominantly derived 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, these will be found to be clustered in areas of the presence or occurrence of more geochemical levels an bedrock type. It may often be also observed 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 threshold presented are believed to be useful in interpretation of the data in reconnaissance terms. Anomalous values are those associated with concentrations in excess of the threshold for the rock-unit they appear to be derived from, should be studied carefully. The above threshold concentration can be due to a wide range of mineralization and environmental factors, but most of these could be the presence of elemental concentrations of the element in a form of economic interest warranting exploration.

To comprehensively study an area, all available geological, environmental and recorded data should be utilized. The data separation by bedrock type can be modified by the user to conform with any variations in the above threshold levels based on the most detailed and up-to-date knowledge available.

The term 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 51 of all lakes sampled it can be stated that there is a 95% chance that the true value of the element concentration will be within a factor of 2 when ratios 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-like bottom sediments and sample preparation and analytical causes.



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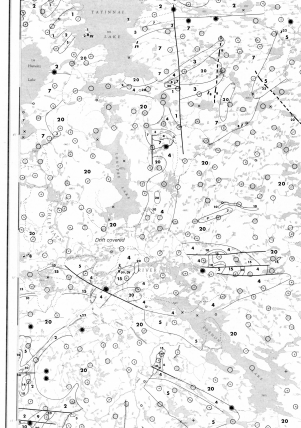
65 A



NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 9-1976
MERCURY IN LAKE SEDIMENTS
URANIUM RECONNAISSANCE PROGRAM

Scale: 1:250,000

Kilometres 0 5 10 15 20 Kilometres
Miles 0 2 4 6 8 Miles

Universal Transverse Mercator Projection
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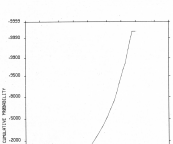

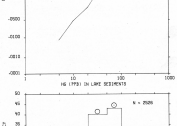

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.F.S	Threshold
GBBR	2	150	14	13	-
GRAT	195	99	25	42	150
LGWC	859	55	27	60	160
GRGV	134	55	22	60	150
CGLM	56	61	26	60	150
ARKS	70	62	25	62	150
ORH1	167	63	22	65	150
ORSZ	29	69	27	65	150
GRIT	3	108	46	45	-
SSRT	6	55	33	64	-
GGNS	422	66	28	52	160
PMGS	16	64	29	56	160
AMPG	10	64	24	38	150
GNCX	58	79	33	39	200
PVCC	14	62	27	48	180
Unknown	581	66	29	53	160

Data units are ppb

Reliability Factor = 1.67

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 9-1976
OPEN FILE 413

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

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

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Kelber Associates
Mercury analyses by Chemex Labs Ltd.

This map forms one of a series of 45 sheets released under Geological Survey of Canada, Open Files 413, 414, 415. The Open Files 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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Ottawa, Ontario K1A 0E8

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 9-1976
OPEN FILE 413
SOUTHERN DISTRICT OF KEEWATIN N.W.T., 1976
MERCURY