LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 11-1976, Open File 413; Map13-1976, Open File 414 and Map15-1976, Open File 415

MESOZOIC

TKd	Kimberlite, meta-picrites and diabase dykes [KIMB]
TJr	Granite, quartz monzonite and granodiorite [Hamilton Lake granite] [GRAT]
ARCHEAN	
10	Granite, quartz monzonite and granodiorite [GRMZ]
9	Lattite, quartz lattite,dacite and tuff [DCIT]
8	Pyroxenite, peridotite, calc-silicate bands derived from 14 [PXBS]
7	Undivided 11, 12 and 13 [UMAS]
6	Dolomite, limestone and other argillites, phyllite [DMRG]
5	Gabbro sills [GABS]
4	Argillite, phyllite, greywacke, some other dolomite [UMAS]
3	Quartzite, orthoquartzite [QRQZ]
2	Greywacke-conglomerate, greywacke, pre-kaparuktin [LCAK]
ARCHEAN	
1	Meta-gabbro-norite [MGBN]
2	Quartz monzonite, granodiorite and granite; massive to foliated [QUMZ]
3	Granite and gabbro [GRIT]
4	Grey biotite granodiorite gneiss [GRGZ]
5	Pyroxenite, minor peridotite [PRDS]
6	Amphibolite, amphibolite gneiss [AMPH]
7	Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [GACC]
8	Meta-volcanic rocks [MVIC]

Drift covered area.....
Geological contacts.....
Faults.....
Trend of geological mapping.....
Esker; (direction of flow known).....
Mineral occurrence.....

Legend modified and geology derived for the geochemical map by R.G. Garrett from maps 24-1970, J-1972 and K-1972 and O.S.C. Paper 76-54 BY. K.E. Eade

Geological cartography by the Geological Survey of Canada

Base-map at the same scale published by the Mapping and Charting Establishment, N.C.C., 1963

Mean magnetic declination 1977, 10°25.5'E decreasing 4.8' annually. Readings vary from 14°26.4' in the SE corner to 10°22.2' in the NW corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

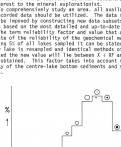
The concentration of an element at a sample site is graphically represented as a circle, the size of which is proportional to the amount present. Where a sample site is not to plotting scale, the circle is drawn as large as possible. Each class interval is an increase in size to the eighth symbol and then increases in thickness 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 to cover most areas 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. Normally the lowest data group, the smallest circle on the final published map, this group usually includes the median of the data as defined by the O.S (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.

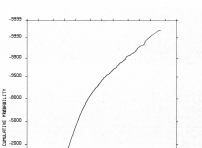
The data groups being based on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge to bedrock and surficial geology, and other environmental factors. Therefore, the raw data symbol-sets are only intended to assist the rapid inspection of the data for gross regional features. To fulfil the needs of a more specific and thorough interpretation of the data, the symbol-sets must be used in conjunction with the statistics 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, a table of summary statistics and proposed threshold values for drainage samples dominantly derived from each mapped bedrock unit, or broad lithologic unit, again based on the total survey data, is provided. The threshold values in the table may be used alone, or in conjuction, 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 dependance of mean geochemical levels on bedrock type. It may often be also observed that the range of data from one bedrock unit overlaps that encountered in the data for individual 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 with concentrations in excess of the threshold for the rock unit they appear to be underlain from, will be studied carefully. The above threshold concentration can be due to a wide variety of geological and environmental factors, but one of these could be the presence of economic concentrations of the element in a form of interest to the mineral exploration industry.

To comprehensively study an area, all available geological, environmental and geochemical data should be utilized. The data separation by bedrock type can often be improved by constructing new data subsets comprising local threshold values for the bedrock units and applying these to the whole area.

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 50 of all holes sampled it can be stated that there is a 95% chance that if any hole is resampled and identical methods of sample preparation and analysis are employed, the new value will be within a factor of the reliability factor value obtained. This factor takes into account variability due to both heterogeneity of the centre-lake bottom sediments and sample preparation and analytical causes.



This map has been reprinted from a recent volume of the original map.
Reproduction par lumérisation d'une partie de l'original



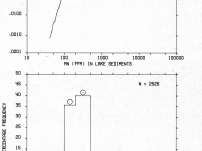


Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
GBBN	2	1410	1631	114	-
GRNT	335	699	2564	366	3000
GRMZ	619	407	1442	354	3000
GRIT	38	393	314	82	1200
GRGN	3	1333	1528	115	3000
UMAS	79	477	1098	230	2000
SMRK	167	447	626	140	2500
CRGZ	29	660	976	147	2000
LCAK	1	720	682	95	-
QRQZ	2	220	141	64	-
UMRG	422	291	162	143	2500
PRDS	105	702	1382	197	3000
AMPH	28	674	518	122	2000
GRCK	58	433	454	105	2000
MVIC	74	439	729	166	2000
Unknown	581	393	1237	315	2000

Data units are ppm Reliability Factor = 1.74

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415

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Analytical chemistry by J.J. Lynch
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Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Golder Associates
Chemical 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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NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415

SOUTHERN DISTRICT OF KEEWATIN N.W.T., 1976
MANGANESE