LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 9-1976, Open File 413, Map10-1976, Open File 414 and Map13-1976, Open File 416

PELICAN

- [ ] [GRNT] Gabbro, meta-gabbro and diabase dykes
- [31] Granite, quartz monzonite and granodiorite (Nueltin Lake granite)
- [GRNT] AMISK
- [28] Granite, quartz monzonite and granodiorite
- [19] Schist-greywacke to subgreywacke
- [18] Conglomerate
- [17] Schists to subgreywacke
- [16] Tuffite, quartz facies/Dacite and Tuff
- [13] Paragneiss, paraschist, calc-silicate bands derived from
- [12] Undivided T1, T2 and T3
- [11] Dolomite, limestone and minor argillite, phyllite
- [10] Tuffite
- [9] Argillite, phyllite, greywacke, some minor dolomite
- [8] Quartzite, orthoquartzite
- [7] Greywacke-conglomerate, greywacke, protoquartzite
- [6] Meta-gabbro dykes
- [5] Quartz monzonite, granodiorite and granite; massive to foliated
- [4] Diorite and gabbro
- [3] Grey biotite granodiorite gneiss
- [2] Paragneiss, minor paraschist
- [1] Amphibolite, amphibolite gneiss
- [9] Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff
- [1] Meta-volcanic rocks

Drift-covered areas
Geological contact
Faults
Limit 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, 2-1972 and 4-1972 and G.S.C. Paper 74-54 BY R.E. Lode

Geological cartography by the Geological Survey of Canada

Base-map at the same scale published by the Mapping and Chartley Establishment, M.E.E., 1966

Mean magnetic declination 33°, 0°58'E decreasing 2.4' annually. Readings vary from 7°02.8' in the SE corner to 13°03.4' in the NW corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

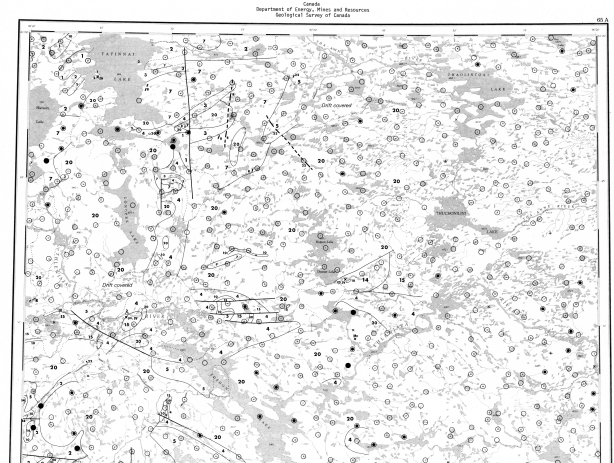
The concentration of an element at a sample site is graphically represented as one of 10 symbols. If a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size and then symbol and then increase in blackness to the fifteenth. The two small circles at the left of the scale are used to respectively denote concentrations below the analytical detection limit and at the lowest value exhibiting the detection limit. The data are grouped on a semi-logarithmic basis, i.e. 1,2,5,10,20,50,100 etc. Five decades can be spanned and this arbitrary division of the data has been selected to cross-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 class interval, or data group in which a change in symbol occurs on the map, this group usually includes the 90th percent of data as defined by the 0.9 (90%) point on the cumulative frequency plot. Some, or all of the remaining 10% of the data are chose 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 in bedrock and surficial geology, and other environmental factors. Therefore, the raw data symbol maps 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, threshold values for specific bedrock units should be used, where they can be provided in the literings 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 given. Similar statistics for soil samples can be used alone, or in conjunction, with the sample location map and data listing, to indicate above threshold samples where they occur on the esp. In many instances, the table will also illustrate, more clearly than the map, the dominance of weak geochemical levels on bedrock type. It may often be also observed that the 90th percent of data corresponds to background and the remainder to 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 anomalous concentrations in excess of the threshold for the rock unit they appear to be in, should be followed up. However, it is felt that no arbitrary restrictions should often be imposed by constructing new data subsets and deriving local threshold levels based on the most detailed and up-to-date knowledge available.

The table of statistics, in addition to providing a guide to the selection of thresholds, is an estimate of the reliability of the geochemical map. On the basis of duplicate sampling 15 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 X ÷ XF and X x XF where X is the original value found. This factor takes into account variability due to both heterogeneity of the centre-lake bottom sediments and sample preparation and analytical causes.

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



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

Scale 1:250,000

Kilometres 0 5 10 15 20 25 Kilometres
Miles 4 3 2 1 0 5 Miles

Universal Transverse Mercator Projection
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INDEX MAP

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NATIONAL GEOCHEMICAL SURVEY ACCESSORY

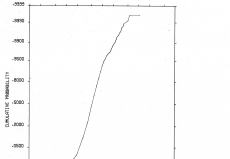

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
QUGR	2	9.5	0.7	7	-
GRNT	139	5.7	2.9	52	20
GTNZ	410	6.4	3.4	53	30
GGNA	93	4.7	1.5	31	20
AMIS	70	5.4	2.6	48	20
AMSS	11	6.4	1.6	25	20
SMSS	167	6.5	1.5	23	25
QVSZ	20	11.3	6.5	57	30
LGNT	3	10.3	10.9	112	-
UGNT	1	7.0	0.0	0	-
GGNG	402	6.4	2.9	46	30
PRSS	105	6.3	1.8	28	10
AMSG	20	7.4	4.6	61	30
AMPG	26	17.6	13.6	102	60
MVCC	74	7.8	5.9	78	30
Unknown	501	6.3	2.4	38	30

Data units are ppm

Reliability factor = 1.38

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 9-1976
OPEN FILE 413

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

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

Contractors:
Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Salzer Associates
Analytical 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:

The Director,
Computer Science Centre,
Department of Energy, Mines and Resources,
Ottawa, Ontario K1A 0E9

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