LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 5-1976, Open File 413, Map 83-1976, Open File 414 and Map 11-1976, Open File 415

HELIKIAN

12	Gabbro, meta-gabbro and diabase dykes [DGHB]

SIBRIAN

11	Granite, quartz monzonite and granodiorite [SZMG]
10	Litho-greywacke to subgreywacke [SSGG]
10	Conglomerate [SCLM]
9	Arkose to subgreywacke [ARKS]
8	Lutite, quartz lutite,dacite and tuff [SUIT]
7	Ferruginous, pyroxenitic, ultra-ultrabasic bands derived from 14 [UMBS]
6	Dedrinated 11, 12 and 13 [DEMG]
5	Dolomite, limestone and minor argillite, phyllite [DMMS]
4	Sandstone [SSBS]
3	Argillite, phyllite, greywacke, some minor dolomite [SMMS]
2	Quartzite, orthoquartzite [SMQS]
1	Greywacke-conglomerate, greywacke, protoquartzite [SCGW]

ARCHEAN

14	Meta-gabbro dykes [MGBD]
13	Quartz monzonite, granodiorite and granite; massive to foliated [SZMG]
12	Diorite and gabbro [SDIT]
11	Deep biotite granodiorite gneiss [DGMG]
10	Ferruginous, minor pyroxenitic [MMGS]
9	Amphibolite, amphibolite gneiss [AMPH]
8	Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [SGRC]
1	Meta-volcanic rocks [MVCS]

Drift-covered areas....
Geological contact.....
Fault.....
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 B5. R.C. Cade

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, 33°06.9'E decreasing 5.6' annually. Readings vary from 31°10.2' in the SE corner to 35°06.6' 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 symetrically arranged so that they first 14 represent a set of increasing values which are divided by approximately the 1 sigma. 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 detective 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 of the data allows for comparisons between Canada wide series of maps constituting the National Geochemical Reconnaissance.

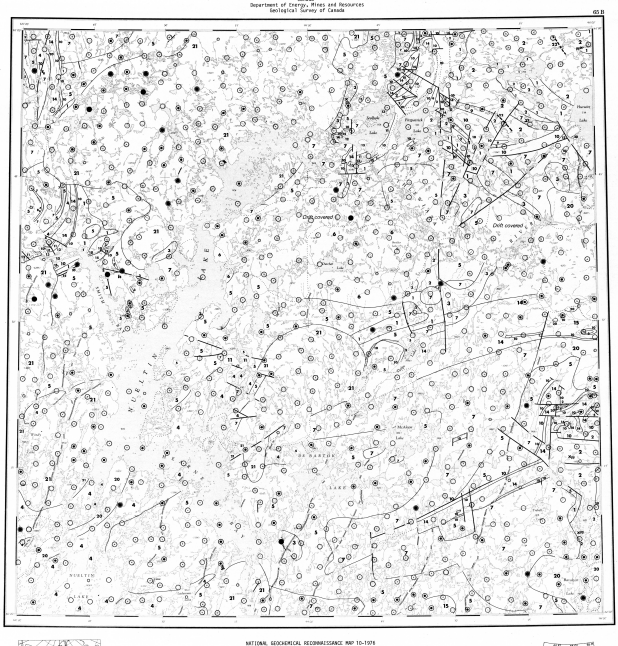
The choice of symbols and the data groups they represent for any specific element is based on the histogram and cumulative frequency plot for the total survey data from one, or more contiguous, open file sheets covered in one field season. The lowest symbol usually includes the lower detection limit of the analytic, 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 chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is given below.

The data groups, selected on basis of 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 geographical features. To fulfill the needs of a more specific and thorough interpretation, the raw data should be modified to compensate for the effects of factors 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 from one, or more contiguous, open file sheets, can be used along, 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 dependence of mean geochemical levels on bedrock type. It may often be also observed that the range of values for a specific lithologic unit is too great to permit 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 with concentrations in excess of the threshold for the rock unit they appear to be in, should be given a high priority when the data interpretation and modification 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 amenable to detection by the sampling medium.

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 data quality, [% Reliability], is a numerical value which gives an estimate of the reliability of the geochemical maps. On the basis of duplicate sampling 55 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 / RF and X x RF where X is the original value plotted. 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


Chibougamau
Chibougamau Lake
Obatogamau Lake
Opawica
Lake
Chibougamau
Lake
Chibougamau
Lake
Doda
Lake
Mistassini
Lake
Nichi
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