LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 1-1976, Open File 413, Map10-1976, Open File 414 and Map 11-1976, Open File 415

Gabbro, meta-gabbro and diabase dykes [GABB]

Granite, quartz monzonite and granodiorite (biotite lake granite) [GRNT]

PROTEROZOIC

Granite, quartz monzonite and granodiorite [GRNT]

Lithic greywacke to subgreywacke [GREY]

Conglomerate [CGLM]

Arkose to subgreywacke [ARKS]

Lutite, quartz lutite,marlite and tuff [SILTS]

Paragneiss, paraschist, ala-rithicle bands derived from 14 [GRNK]

Undivided 11, 12 and 13 [GRNK]

Dolomite, limestone and minor argillite, phyllite [GRNK]

Gabbro sills [GABB]

Argillite, phyllite, greywacke, some minor dolomite [GRNK]

Quartzite, orthoquartzite [QRZT]

Greywacke-conglomerate, greywacke, protoquartzite [LGRT]

ARCHEAN

Meta-gabbro dykes [MGAB]

Quartz monzonite, granodiorite and granites, massive to foliated [GRNT]

Diorite and gabbro [DIOR]

Grey biotite granodiorite gneiss [GGRG]

Paragneiss, minor paraschist [PRGS]

Hornblende, psammitic gneiss [MAFG]

Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [GRCH]

Meta-volcanic rocks [MVOL]

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

Legend modified and geology derived for the geochemical map by R.G. Garrett from maps 24-1970, 3-1972 and 4-1972 and G.S.C. Paper 14-58 by R.E. Lake

Geological cartography by the Geological Survey of Canada

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

Mean magnetic declination 1977, 13°06.9'E decreasing 3.6' annually. Readings vary from 11°11.2' in the SE corner to 15°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 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 the presence of gold in the HNO3 partial leach or in the aqua regia digestion obtaining the lowest limit. The data are grouped on a non-logarithmic basis, i.e. 1,2,5,10,20,50,100 etc. Five decades can be spanned and this arbitrary division has been chosen for the continuing Canada wide series of maps constituting the National Geochemical Reconnaissance.

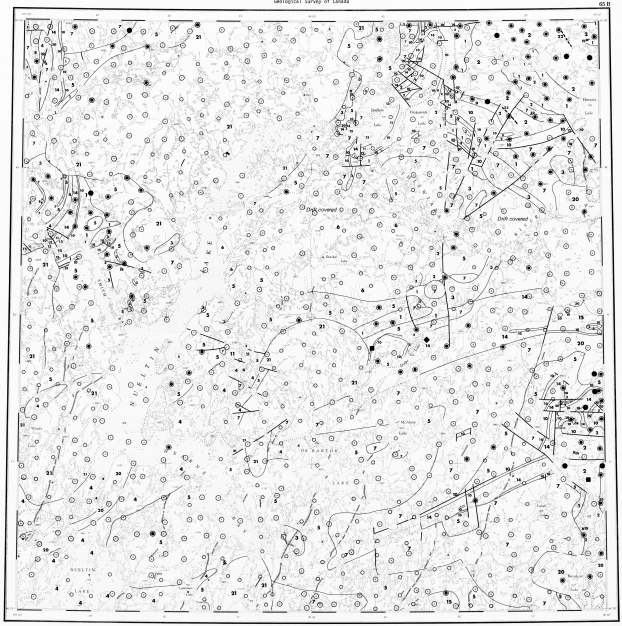
The class intervals for the data groups they represent for any specific element is based on the cumulative frequency plot for the total survey data from one, or more contiguous, open file sheets covered in one field season. The eighth symbol is used for the modal group as defined by the histogram, this 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 preceding and following are appropriate graphical impact. An example of all 15 symbols is given below.

The symbol ring, being based on the total survey data distribution, are unaffected by the availability of ever increasing levels of knowledge in bedrock and overburden types. Each symbol represents a specific data range and the same symbol must be intended to assist the world reader in the comparison of data from regional features. To fulfil 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 modification of the symbol maps, the data listings include for each bedrock unit, a table of isolation statistic and proposed threshold values. These are based 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 conjuction, with the sample location map and data listings to obtain a more detailed picture of the distribution of an element. In circumstances, 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 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. This is an important consideration when selecting threshold values depicting the data for exploration viewpoint. Locations of samples 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 geological and environmental factors, but one of these factors is likely to be anomalous 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 for the bedrock units which display anomalous values.

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 it is 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 be within a factor of 2 times or 1/2 of the original value obtained. 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


Drift covered
Drift covered
Drift covered