REFERENCE USE ONLY
Do not remove from Library

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

65 P

LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 12-1976, Open File File Nos 13-1976, Open File 417

PROTEROZOIC

HELIKIAN (UPPER PROTEROZOIC)

Hby Clay, gabbro and diabasic gabbro dykes [GSB8]

MELICHAN (MIDDLE PROTEROZOIC)

DUBAWNT GROUP (10-22)

21 Conglomerate, pebble sandstone, some intercalated sandstone. In part, may be older than 20 or 19 [EGLM]

20 Mainly porphyritic (quartz and/or feldspar, biotite and/or pyroxene) igneous rocks; probably mainly extrusive, but in part intrusive; some breccia, tuff, agglomerate; minor sub-arkosic/pyritic sedimentary rocks [DZPI]

19 Sandstone and pebbly sandstone, grit, arkose; siltstone and minor breccia; probably includes some undifferentiated conglomerate (10 and/or 21) [DUDS]

18 Conglomerate; intercalated gritty sandstone [CGLM]

ARCHEAN (LOWER PROTEROZOIC)

17 Granite, granodiorite and allied rocks: in large part gneissic and impure, with many bands of partly assimilated schist, gneiss, amphibolite; strata-bound and stratiform pegmatite; some migmatite and composite gneiss; pyroxene granulites. In part probably older than 9 and, possibly, 7 [GRAT]

12 Gneiss, schist, amphibolite, and granulite derived mainly from sedimentary and volcanic rocks of Archaean and/or Lower Proterozoic (Aphebian) age; some impure quartzite and greywacke; commonly with some granitic material [GNCS]

3 Intermediate to basic volcanic rocks (greenstones) and derived amphibole schist, gneiss, and amphibolite; in part probably Archaean and Lower Proterozoic (Aphebian); some rhyolitic, tuff, agglomeratic; minor quantities of schistose magnetite iron-formation (Southern Hanwakie); undifferentiated basic intrusives. May be younger in part (Hanwakie) [VBCS]

B Diorite and gabbro in granitic and gneissic terranes [DORT]

F Basic syenites, diorites, gabbros [GSB8]

Geological contact.....
Faults.....
Mineral prospect.....

Geological cartography by the Geological Survey of Canada

Legend and geology for the geochemical map by R.G. Garrett, from map 12164 of G.S.C. Memoir 350 by E.M. Wright

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

Mean magnetic declination 1977, 0°09' East increasing 0.3' annually. Readings vary from 0°34.3' in the SE corner to 1°09' in the NW corner of the map area

Elevations in feet above mean sea-level

Geochemical Symbol and Data Presentation

The concentrations 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 as the value of the element increases in blackness to the fifteenth. The two tail ends of the symbol of the scale are used respectively to denote concentrations below the analytical detection limit and above the highest value entering 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 made for the continuing Canada wide series of maps constituting the National Geochemical Reconnaissance.

The 15 data symbols and their 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 eighth symbol is used for the modal group as indicated by the histogram, this group usually includes the median of the data as defined by the G.S (50)% point of the cumulative frequency plot. Other data groups, for the remaining symbols are chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is given below.

The symbol maps, being based on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge in bedrock geology as more and more detailed mapping is completed. The geochemical 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, 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 for any specific area of interest, the histogram, a table of summary statistics and proposed threshold values for evaluating samples dominantly derived from each mapped bedrock unit, or broad lithologic unit, again based on the total survey data, is presented below the histogram. The table can be used along, or in conjunction, with the sample location map and data listings to produce a modified symbol map for any specific area. In addition to the statistics, 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 whilst the total data appears to approximate a lognormal distribution the data for individual map or lithologic units appears to approximate a normal distribution. This information can be extremely useful in defining the best way of 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 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 will be mineralization. Concentrations of the element in a form of interest to the mineral exploration.

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 values. Such data subsets could include, for example, overburden.

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 95 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, that the new value will be within a factor of 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.

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976

LOSS ON IGNITION

URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

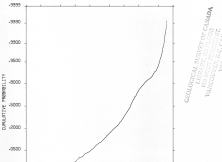
Kilometres 0 4 8 12 16 Kilometres

Miles 0 2 4 6 8 Miles

Universal Transverse Mercator Projection

© Crown Copyrights reserved

This map has been reproduced from a copy supplied by the author. Reproduction per examination of print (s/b not glazed)



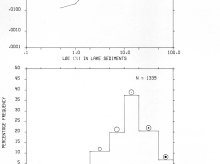


Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
CGLM	43	10	8	73	-
DZPI	226	21	17	78	-
DUDS	110	18	14	80	-
GRAT	193	14	14	100	-
GNCS	54	21	16	78	-
VBCX	46	15	10	67	-
DORT	42	15	12	79	-
GSB8	14	21	20	99	-

Data units are percent

Reliability Factor = 2.07

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
OPEN FILE 416

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

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

Contractors

Sample collection by Tryg, Woollett & Associates Ltd.
Sample preparation by Golder Associates
Chemical analyses by Chemex Labs Ltd.

This map forms one of a series of 28 sheets released under Geological Survey of Canada, Open Files 416-417. The Open Files consists of data for 11 elements in lake sediments, percent loss on ignition, uranium in lake waters and sample site location

The data are also available in digital form. For further information please contact:

The Director
Earth Physics Service Centre,
Department of Energy, Mines and Resources,
Ottawa, Ontario K1A 0E9

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
OPEN FILE 416
BAKER LAKE N.W.T., 1976
LOSS ON IGNITION

REFERENCE USE ONLY
Do not remove from Library

GEOLOGICAL SURVEY OF CANADA
LIBRARY, 601 BOOTH
100 WEST PENDER ST.
VANCOUVER, B.C. CANADA
V6B 1R8