LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 12-1976, Open File 416 Map 73-1216, Open File 417

PROTEROZOIC

KHORYUSIAN (UPPER PROTEROZOIC)

Dkd Dia, gabbro and diabase to gabbro dykes [DIBBON]

HILLSCRAG (MIDDLE PROTEROZOIC)

DURANT GROUP (10-23)

Dr Mainly arkosic sandstone, some intercalated sandstone. In part, may be older than 23 or 10 [CGLB]

Dp 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-porphyritic syenitic rocks [DIPP]

Dv Sandstone and pebbly sandstone, grit, arkose, siltstone and minor breccia, probably includes some undifferentiated conglomerate (10 and/or 23) [DRBS]

Dg Conglomerate; intercalated gritty sandstone [CGLM]

ARCHEAN (EARLY PROTEROZOIC)

A Granite, granodiorite and allied rocks: in large part gneissic and tonpre, with many bands of partly assimilated schist, gneiss, amphibolite; stratiform granite-gneiss; aplanitic gneisses of granitic composition; some pyroxene granulite. In part probably older than 4 and, possibly, 7 [GRNT]

Ag Gneiss, schist, amphibolite, and granulite derived mainly from sedimentary and volcanic rocks of Archaean and/or Lower Proterozoic (Hudsonian) age; some tonpre quartzite and pregnaquite; commonly with some granitic material [GNSS]

I Intermediate to basic volcanic rocks (greenstones) and derived amphibole schist and gneiss; in part includes much schistose pyroxene (Lower Thelon Basin). Mainly Archaean, but probably includes younger rocks in the magnetic high-formation (Southern Kenaathi); undifferentiated basic intrusions. May be younger in part (Hanwild) [DRCK]

B Diorite and gabbro in gneissic and gneissic bervoles [DBMT]

F Basic syenites, diorites, gabbros [GBBS]

Geological contact.....
Fault.....
Mineral prospect.....

Geological cartography by the Geological Survey of Canada

Legend and geology for the geochemical map by R.G. Garrett, from map 1216A of G.S.C. Memoir 350 by G.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°54.0' in the SE corner to 12°06' in the NW corner of the map area

Elevations in feet above mean sea-level

Geochemical Symbol and Data Presentation

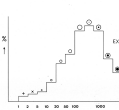
The concentration of an element at a sample site is graphically represented as one of 15 symbols, if a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size, then in blackness, as the amount of the element in the sample increases. 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 consisting of duplicate pairs, pairs in which one was grouped on a smaller interval than the other. The 2,2,5,10,20,50 etc. flow-like breaks can be scanned and this arbitrary division has been chosen for the continuously variable series of maps constituting the National Geochemical Reconnaissance.

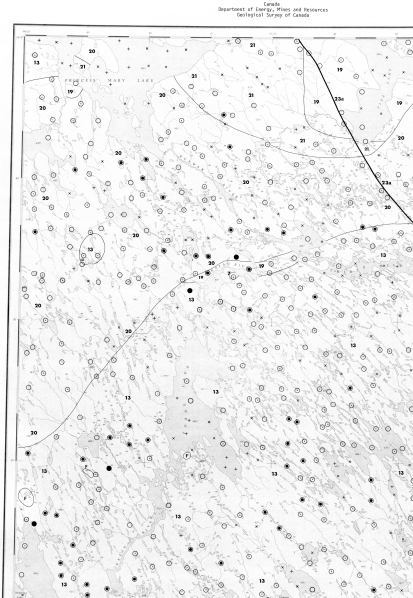
The choice of symbols and the data groups they represent for any specific element is made by inspection of the histogram and probability plot for the entire survey data from one, or more contiguous, base fifth sheets covered in one field season. The eighth symbol is used for the modal group as defined by the histogram, this group usually includes the median of the data as defined by the G.S (50%) point on the cumulative frequency plot. Some, or all, of the remaining 14 symbols are then used to form as appropriate graphical basis. 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 more interesting levels of knowledge of bedrock and surficial geology, economic or environmental factors. Therefore, the raw data symbol maps are suitable for unbiased statistical studies and for the study of gross regional features. To fulfill the needs of a more specific and thorough interpretation, the raw symbol maps should be modified using the field and analytical data available. The use of the symbol maps for interpretation will require the subsequent appraisal and modification of the data in terms of the symbol base 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 presented below the histogram. This table can be used as a guide to the selection of specific symbols for use as a threshold, to isolate 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 background on bedrock or lithologic type. It may often be also observed that within the total data appears to be present the polymodal distribution indicative for individual map or lithologic units mapped by the geochemical reconnaissance. The proposed thresholds presented are not to be used to be useful in interpreting the data from a mineral exploration viewpoint. Locations of samples with anomalous values, and the possible significance of the anomalies, should 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 could be the presence of abnormal concentrations of the element in a form of interest to the mineral exploration(ist)

The interpretation of the geochemical data, 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. This is illustrated by examples in the accompanying report.

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 samples 1% 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 value obtained will be within the range of the first sample value obtained. This factor taken into account variability due to both heterogeneity of the concre-lake bottom sediments and sample preparation and analytical causes.





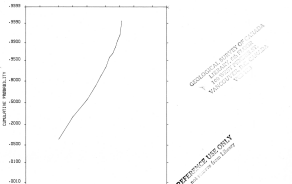


Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
CGLM	43	16	13	71	60
DRBS	200	27	19	70	100
GBBS	110	27	18	67	100
GRNT	644	24	18	73	100
GNSS	54	29	16	70	100
VNCK	44	23	13	56	80
DIBBON	14	16	12	75	60
DIBBR	14	34	15	46	90

Data units are ppm Reliability Factor = 2.01

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
OPEN FILE 416

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

Geochemistry by I.M.A. Nornbrook
Analytical Chemistry by J.C. Lynch
Data monitoring by R.G. Garrett, N.C. Land and D.J. Ethoed

Contractors

Sample collection by Trigg, Woolfett & Associates Ltd.
Sample preparation by Golder Associates
Chemical analyses by Chemex Labs Ltd.

This map forms one of a series of 19 sheets released under Geological Survey of Canada, Open Files 416 and 417. The Open Files consists of data for 11 elements each for lake sediments, percent loss on ignition, uranium in lake waters and sample site locations

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

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Resource Appraisal Centre,
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Ottawa, Ontario K1A 0E8

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

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
MERCURY IN LAKE SEDIMENTS
URANIUM RECONNAISSANCE PROGRAM
Scale 1:250,000
Kilometres 0 5 10 15 20 Kilometres
Miles 0 5 10 Miles
Universal Transverse Mercator Projection
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