LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 12-1976, Open File 416 Map 13-1976, Open File 417

HELIKIAN (UPPER PROTEROZOIC)

Sby — Slu, gabbro and diabasic gabbro dykes [GSBR]

HELIKIAN (MIDDLE PROTEROZOIC)

QUIRANT GROUP (16-21)

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

20 — Mainly porphyritic (quartz and/or feldspar, biotite and/or pyroxene) igneous rocks; probably mainly extrusives, but in part intrusives; some breccia, tuff, agglomerate; minor sub-porphyritic lamitic rocks [QZPP]

19 — Sandstone and pebbly sandstone, grit, arkose; siltstone and minor breccia, probably includes some semiferruginized conglomerate (18 and/or 21) [SMDS]

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; streaky granite-pegtite; migmatic gneisses of granitic composition; some pyroxene granulite. In part probably older than 9 and, possibly, ? [GRNT]

16 — Quartz, 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 [GNEI]

3 — Intermediate to basic volcanic rocks (greenstones) and derived amphibole schist and gneiss; in part includes much schistose greywacke (Lower Thelon Belt); some rhyolite, tuff, agglomerate; minor quartz-mica schist and gneiss. In part probably younger than 9 and 16. Preferred basic intrusives. May be younger in part (Aphebian) [BNCK]

8 — Diorite and gabbro in granitic and gneissic terrains [DORT]

7 — Basic syenites, diorites, gabbros [GSBR]

ARCHEAN

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 360 by G.M. Wright

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

Mean magnetic declination 1977, 9°06' East increasing 0.3' annually. Readings vary from 6°34.0' in the SE corner to 12°09' 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 entered a dot is plotted. The symbols are symetrically arranged so that they first 10-percentile, the next 20, the next 30, the next 20 and the last 10 in the fourth. The two small crosses at the low end of the scale are used to record only detectable concentrations below the analytical detection limits, or, in the data group contiform 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 is used for all maps published by Canada wide series of maps constituting the National Geochemical Reconnaissance.

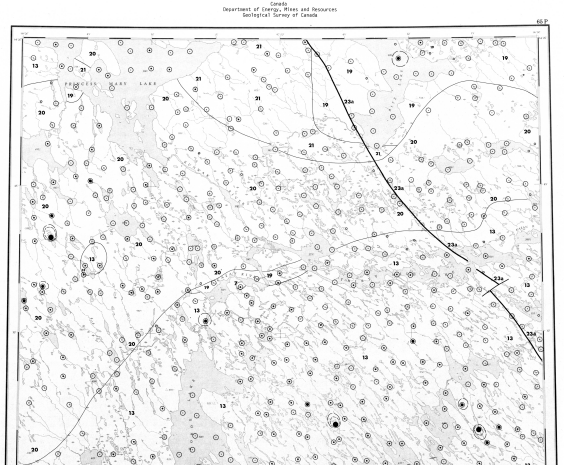
The choice of symbols and the data groups they represent for any specific element is based on the histogram and cumulative frequency plot for the total survey data from one, or more contiguous, open file sheets covered in one field season. The class limits for the data groups are chosen to fall at, or near, certain critical values usually includes the median of the data and is defined by the 50th 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 choice is made being based on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge of 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, the data must be plotted on a map base containing all the geological data provided by 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 geologic units predominantly derived from each mapped bedrock unit, or broad lithologic unit, again based on the total survey data, is given. The proposed thresholds may, or may not be used alone, 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 data for a single bedrock unit may exhibit polymodal characteristics. The data for individual map or lithologic units appear to be normally a normal distribution. The proposed thresholds presented are believed to be useful to 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 underlain by may be of interest to explorers. Such anomalous concentrations can be due to a wide range of geological and environmental factors some of these could be the presence of abnormal concentrations of the element in a form of interest to the mineral explorationist.

To comprehensively study an area, all available geological, environmental and geochemical data must be used. The threshold values for any one element 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 term reliability factor and value that appears below the table is an estimate of the reliability of the geochemical map. In the basis of duplicate analyses of 10% of the samples collected during the survey. The value is valid if any two individually sampled 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 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



INDEX MAP

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976

URANIUM 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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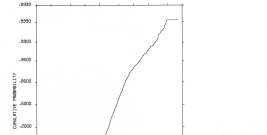

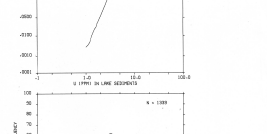

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
CGLR	43	4.0	1.3	33	10
SDTP	226	4.0	2.4	60	10
SMDS	110	3.7	1.0	27	10
BRNT	844	6.5	5.7	89	30
GRNT	1041	5.5	4.9	89	30
VNCK	44	3.8	1.1	30	10
DORT	46	3.0	1.0	33	10
GSBR	14	4.9	3.0	61	15

Data units are ppm

Reliability Factor = 1.30

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, N.G. Lund and D.J. Ellwood

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Golder Associates
Uranian analyses by A.C.C.L., Commercial Products Division

This map forms one of a series of 25 sheets released under Geological Survey of Canada, Open Files 416-417. The Open Files consists of data for 11 elements each for lake sediments, percent loss on ignition, uranium in lake waters and sample site location

Geochemical contours

98th Percentile - 20 ppm.....
95th Percentile - 14 ppm.....

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 0E8

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
OPEN FILE 416
BASED ON NTS SHEET 66 P, 1976
URANIUM

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