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GEOLOGICAL SURVEY OF CANADA
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## LEGEND

**Note:** This legend is common to National Geochemical Reconnaissance Map 12-1976, Open File 414; Map 13-1976, Open File 417

ARCHEAN (UPPER PROTEROZOIC)

Shq — 23a, gabbro and diabasic gabbro dykes [GSBR]

HELIKIAN (MIDDLE PROTEROZOIC)

GUBANOT GROUP (10-23)

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

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-porphyritic syenitic rocks [EOPY]

19 — Sandstone and pebbly sandstone, grit, arkosic siltstone and minor breccia, probably includes some undifferentiated conglomerate (18 and/or 21) [SNDS]

18 — Conglomerate; intercalated gritty sandstone [CGLM]

ARCHEAN (LOWER PROTEROZOIC)

13 — Granite, granodiorite and allied rocks: in large part gneissic and impure, with many bands of partly assimilated rock; pegmatite, aplite veins; some migmatic, mylonitic and cataclastic rocks; gneissic equivalents, some of pyroxene granulite, in part probably older than 9 and, possibly, 7 [GRNT]

12 — Gneiss, schist, amphibolite, and granulite derived mainly from sedimentary and igneous rocks; includes migmatite and mylonite; includes rocks that in some places have quartzite and pyroxenic commonly with some granitic material [GNSS]

3 — Intermediate to basic volcanic rocks (greenstones) and derived amphibole schist and gneiss; in part includes much sericitoid-pyroxenite (Lower Thelon belt); some rhyolite, tuff, agglomerate; minor quartz-mica schist and magnetite iron-formation (Southern Kewaunit); undifferentiated basic intrusions. May be younger in part (hurwitz) [VRIC]

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

7 — Basic syenites, diorites, gabbros [GBBR]

Geological contact
Fault
Mineral prospect

Geological cartography by the Geological Survey of Canada

Layout 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°59' East increasing 0.3° annually. Grid lines very near KM46.0° in the SE corner to 12°00' 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 16th symbol is used. The symbols are progressively larger from the smallest, a circle 1/6 inch in diameter to the eighth symbol and then increase in thickness in the fifteenth. 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 detection limit. The data are grouped on a semi-logarithmic scale, with a ratio of 2 between the class boundaries. Fifteen class intervals of the following have been chosen for the continuing 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. The median value is used for the centre of the fifth symbol, a filled square. 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 are chosen so as to achieve an appropriate graphical impact. An example of all 15 symbols is shown below.

The symbol maps, being based on the total survey data are nevertheless, 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 gross regional features. They are not intended to be definitive for detailed interpretation. This, the 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 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 collected over various lithologies is presented below. The values in the table are based on the total survey data, it is presented below the histogram. The table can be used along, or in conjunction, 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 the above threshold samples on lithology. The variation in background 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. The proposed thresholds presented are believed to be useful in interpreting the data from a mineral exploration viewpoint. Locations of samples which exceed the threshold values for Cu, Pb, Zn, Ni, Co, Ag, Mo, As, Sb and U should be defined 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 explorationist.

Interpretation of the data in terms of available geological, environmental and recorded data should be settled. The data separation by bedrock type can often be improved by constructing new data subsets and deriving local threshold level 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 95% confidence limits for the median value. On the basis of replicate sampling 95 of all taken sampled it can be stated that there is a 95% chance that if any take is resampled and identical methods of sample preparation and analysis are used the new value will lie between X ÷ RF and 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.

EXAMPLE

1 2 5 10 20 30 50 100 +100 1000 10000 100000 ppm
.001 .01 0.1 2 5 10 20 50 %

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

OGDEN

LAKES MAP

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976

URANIUM IN LAKE WATERS

URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

Kilometres 0 5 10 15 20 Kilometres
Miles 4 0 2 4 6 Miles

Universal Transverse Mercator Projection
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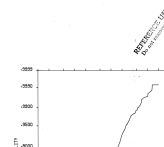


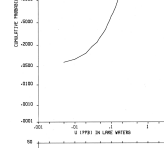


### Table of Thresholds by Major Geological Units

| Lithology | No. of Samples | Mean | S.D. | C.V.% | Threshold |
|---|---|---|---|---|---|
| CGLM | 43 | 0.07 | 0.05 | 72 | 0.5 |
| GSYP | 227 | 0.12 | 0.14 | 125 | 0.5 |
| SNDS | 110 | 0.12 | 0.20 | 166 | 0.5 |
| GNSS | 867 | 0.11 | 0.10 | 90 | 0.5 |
| GNSS | 94 | 0.16 | 0.15 | 96 | 0.5 |
| GRNT | 1 | 0.12 | 0.00 | 00 | 0.5 |
| GRNT | 64 | 0.12 | 0.07 | 62 | 0.5 |
| GBBR | 14 | 0.08 | 0.05 | 61 | 0.5 |

Data units are ppb — Reliability Factor = 6.12

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 12-1976
OPEN FILE 414

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

Geochemistry by C.H.W. Hornbrook
Analytical chemistry by J.C. Lynch
Data monitoring by R.G. Garrett, R.G. Lund and O.J. Ethwood

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Gilbar Associates
Uranium in water by Fission track analysis, Bowder-Clegg and Co. Ltd.

This map forms one of a series of 20 sheets released under Geological Survey of Canada, Open Files 414-417. 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

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 414
BAKER LAKE (LAT., 1976
URANIUM

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