Notes: This legend is common to National Geochemical Reconnaissance Map 1-1976, Open Files 413, Map10-1976, Open File 414 and Map11-1976, Open File 415

PLUTONIC

- 42 Gabbro, meta-gabbro and diabase dykes [DEVO]
- 39 Granite, quartz monzonite and granodiorite (Saddle Lake granite) [ORVI]

VOLCANICS

- 38 Granite, quartz monzonite and granodiorite [LEMI]
- 18 Lithic greywacke to subgreywacke [COGI]
- 16 Conglomerate [COLM]
- 17 Arkose to subgreywacke [ARVA]
- 14 Lutite, quartz lutite,marlite and tuff [CUTT]
- 15 Turquoise, parachloti, calc-silicate bands derived from 14 [CHMA]
- 13 Interbed in, 12 and 11 [CHMA]
- 12 Dolomite, limestone and minor argillite, phyllite [CHMA]
- 10 Gabbro sills [GABB]
- 9 Argillite, phyllite, greywacke, some minor dolomite [CHMA]
- 19 Quartzite, orthoquartzite [QUAR]
- 8 Argillaceous-conglomerate, greywacke, pebbleguartzite [LIAN]

OLDER

- 41 Meta-gabbro dykes [MGBR]
- 7 Quartz monzonite, granodiorite and granitic gneisses to foliated [GUMY]
- 6 Diorite and gabbro [DIOR]
- 5 Grey biotite granodiorite gneiss [GGNE]
- 4 Feldspathic, minor paramictite [PARG]
- 3 Amphibolite, amphibolite gneiss [AMPH]
- 2 Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [GRCH]
- 1 Meta-volcanic rocks [MVCC]

Drift covered area.....
Geological contacts.....
Faults.....
Lines of geological mapping.....
Elskers (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 R.S.C. Paper 74-54 Pf. 4.C. Eade

Geological cartography by the Geological Survey of Canada

Dose-map at the same scale published by the Mapping and Charting Establishment, M.C.E., 1963

Mean magnetic delcination 1977, $16^{\circ}35.5'$E decreasing 4.0' annually. Readings vary from $14^{\circ}28.4'$ in the SE corner to $18^{\circ}22.2'$ in the NW corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

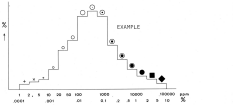
The concentration of an element at a sample site is graphically represented as one of 11 symbols, if a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size to the eighth symbol and then increase in blackness to the fifteenth. The largest symbol is used for the highest 5% of the data, the smallest for concentrations below the analytical detection limit, or, in the data presentation 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 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 from one, or more contiguous, open file sheets covered by one field season. The eighth symbol is used for the modal group as defined by the histogram. The cumulative frequency plot is used to find the 5% (or 95%) point on the cumulative frequency plot. Some, or all, of the remaining 10 symbols are chosen so as to achieve as 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 bias introduced by over intensive study of mineralized zones and superficial 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. The data should not be used for detailed investigations of any one symbol unit, which should be modified using the field and lithological 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 from each of the lithological units which cover 1% or more of the earth based on the total survey data is presented below the histograms. This table can be used along, or in conjunction, with the sample location map and data listing 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 anomalous concentrations on specific rock units. It is to be emphasized that while 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 containing above threshold concentrations of the element in question are plotted on to derived from the stacked 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 to a form of interest to the mineral exploration.

The above threshold values should be used with available geological, environmental and recorded data should be utilized. The data separation by bedrock type can often be imposed 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 chance that a sample collected from the area will be above the sampling 5% of all lakes sampled it can be stated that there is a 40% chance that if any lake is resampled and identical methods of sample preparation and analysis are used the new value will lie between $X / 8$ and $X \times 8$ 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.



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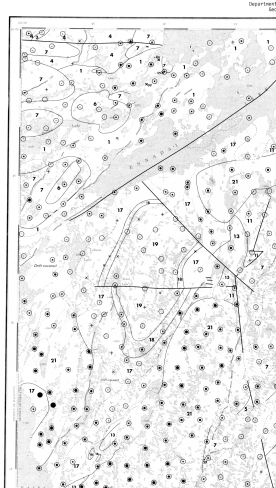

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976

FLUORINE IN LAKE WATERS

URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

Kilometers 0 5 0 10 20 Kilometres

Miles 0 5 0 10 Miles

Universal Transverse Mercator Projection

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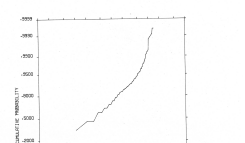

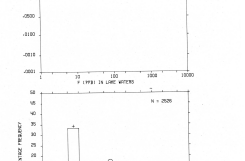

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.	Threshold
QUAR	2	10			
GRNT	326	402	272	68	1500
CLPZ	459	62	63	101	300
GUMY	119	43	33	76	200
DIOR	14	85	74	86	300
ARKS	70	157	200	128	600
GNEI	167	55	52	94	200
CMGI	30	19	12	64	100
CMGI	7	47	23	49	
LUTT	4	98	37	38	
GGNE	422	73	107	150	600
MVCC	178	107	110	103	500
GRCH	62	45	18	40	200
AMPH	59	20	15	74	150
MVCC	62	107	110	103	500
Unknown	581	67	111	166	900

Data units are ppb

Reliability Factor = 1.86

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

Geochemistry by F.W.W. Hornbrook
Analytical chemistry by J.J. Lynch
Data monitoring by R.G. Garrett, R.C. Lund and D.J. Elwood

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Golder Associates
Fluoride in water determined by Boedar-Clegg and Co. Ltd.

This map forms one of a series of 45 sheets released under Geological Survey of Canada, Open Files 413, 414, 415. The Open Files consists of data for 11 elements each for lake sediments, percent loss on ignition, two elements for lake waters and sample site location

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

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Computer Science Centre,
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Ottawa, Ontario K1A 0E8

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415
SOUTHERN DISTRICT OF KEEWATIN N.W.T., 1976
FLUORINE