LEGEND

Note: This legend is common to National Geochemical Reconnaissance Map 8-1976, Open File 415; Map35-1976, Open File 414 and Map 13-1976, Open File 416

HELIKIAN

Pg²	Gabbro, meta-gabbro and diabase dykes [GGBR]
Pt	Granite, quartz monzonite and granodiorite (Boulder Lake granite) [GBOT]
Pg	Granite, quartz monzonite and granodiorite [GINC]
Pp	Lithic greywacke to subgreywacke [GSGL]
Pf	Arkose to subgreywacke [AKOS]
Pq	Lattice, quartz lattice,dacite and tuff [QLTC]
Pa	Paragneiss, paraschist, calc-silicate bands derived from Pf [GMNS]
Pm	Undivided Pl, Pd and Pl [GMNS]
Pd	Dolomite, limestone and minor argillite, phyllite [GMNS]
Pl	Gabbro sills [GGBR]
Pl	Argillite, phyllite, greywacke, some minor dolomite [GMNS]
Pq	Quartzite, orthoquartzite [QMQZ]
Pc	Greywacke-conglomerate, greywacke, cratoquartzite [LCAC]

ARCHEAN

Ag²	Meta-gabbro dykes [MGBR]
7	Quartz monzonite, granodiorite and granite, massive to foliated [GGMO]
6	Diorite and gabbro [GDBT]
5	Grey biotite granodiorite gneiss [GGBG]
4	Paragneiss, minor paraschist [MPGS]
3	Hornblende-biotite gneiss [GHBG]
2	Greywacke, greywacke-conglomerate, argillite, phyllite, minor tuff [GMCG]
1	Meta-volcanic rocks [MVCC]

Drift covered area.....
Geological contact.....
Faults.....
Limit of geological mapping.....
Eskers (direction of flow known).....
Mineral occurence.....

Legend modified and geology derived for the geochemical map by R.G. Garrett from maps 24-1970, 31-1972 and 4-1972 and G.S.C. Paper 74-58 89. R.C. Eade

Geological cartography by the Geological Survey of Canada

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

Mean magnetic declination 1977, 16°25.5'E decreasing 6.8' annually. Readings vary from 14°35.4' in the SE corner to 18°02.2' in the NW corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

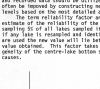
The concentration of an element at a sample site is graphically represented as one of 15 symbols, if a sample was collected but there is no data available a dot is plotted. The symbols are symmetrically arranged so that they first increase in size to the eighth symbol and then increase in blackness to the fifteenth. The class interval for the first eight symbols is based on a geometric progression of concentrations below the analytical detection limit, or, in the data presented, containing the detection limit. The data are grouped on a semi-logarithmic scale, 1, 1.2, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30, 40, 50, 60, 80, 100 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 contained they represent for any specific element on a map is based on an empirical cumulative frequency plot for the total survey data from one, or more contiguous, open file quads covered in one field session. The eighth symbol is used for the model 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 then used to fill in the appropriate graphical intervals. 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 and surficial geology, and other environmental factors. Therefore, the raw data presented on these maps may require modification in the vicinity of known mineralized features. If infill 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 appraisal and modification of the data in terms of the symbol map bedrock geology, the following table of data for the element zinc, which is presented graphically predominantly 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 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 use of the 75th percentile as a threshold for the rock unit may be evidence of weak anomalous levels on bedrock type. It may also be that the element that whilst 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 in terms of the bedrock geology, but any coincidence of weak anomalous levels on bedrock type. It may also be that whilst 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 to interpreting the data in terms of the bedrock geology, but any coincidence of weak anomalous levels on bedrock type. It may also be that where apparent 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 could be the presence of abnormal concentrations of the element in a form of mineralization that is geologically significant.

To comprehensively study an area, all available geological, environmental and recorded data should be utilized. The data separities 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 data listings for each element, for each bedrock unit, or group is an estimate of the reliability of the geochemical map. On the basis of duplicate sampling 51 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 the new value will lie between 0 x RF and 3 x RF where R 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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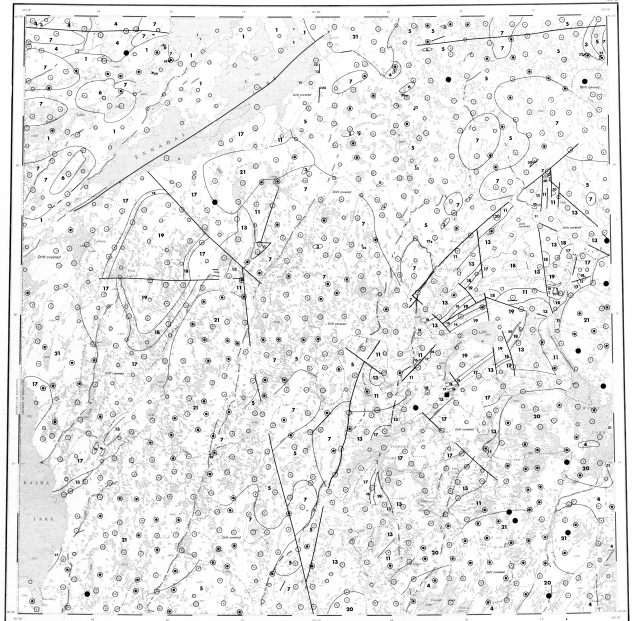
Department of Energy, Mines and Resources
Geological Survey of Canada



NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976

ZINC IN LAKE SEDIMENTS

URANIUM RECONNAISSANCE PROGRAM

Scale 1:250,000

Kilometres 0 5 10 15 Kilometres
Miles 4 0 4 8 12 Miles

Universal Transverse Mercator Projection
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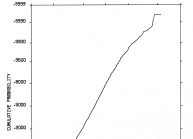

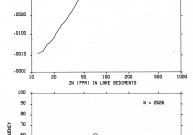

Table of Thresholds by Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.V.%	Threshold
GBBR	2	65	20	31	-
GBOT	338	103	63	61	300
GINC	610	75	30	40	307
GGMO	90	61	13	21	100
GGLN	76	68	23	34	150
GDBT	145	58	23	39	150
GMNS	167	77	61	79	220
GNSZ	20	87	44	50	200
LCAC	3	78	21	27	-
GSGL	7	71	32	46	-
GMCG	402	73	30	41	300
MVCC	105	87	47	54	300
GGBG	23	72	39	54	300
GHCG	58	72	38	52	300
MVCC	74	71	42	59	200
Unknown	581	69	-	52	200

Data units are ppm

Reliability Factor = 1.32

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 11-1976
OPEN FILE 415

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

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

Contractors

Sample collection by Trigg, Woollett & Associates Ltd.
Sample preparation by Geoscan Associates
Chemical analyses by Chemex Labs 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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Ottawa, Ontario K1A 0E8

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