LEGEND

NOTE: This legend is common to Open File 820, 821

Geological contact

Fault

Dyke

Geology derived from the map 1240-A, Kirkley Quirkmere at the scale of 1: 1,000,000. Simplified by A.L. Fyon, W.R. Poole and D.C. Sandford, 1977

Geological cartography by the Geological Survey of Canada

Base-map at the same scale published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, 1976

Mean magnetic declination 10°, 1976.0 west decreasing 0.0° annually. Shown only near UTM grid "0" in the S.E. corner in 5P/1,2F in the N.W. corner of the map area

Elevation in feet above mean sea-level

Geochemical Symbol and Data Presentation

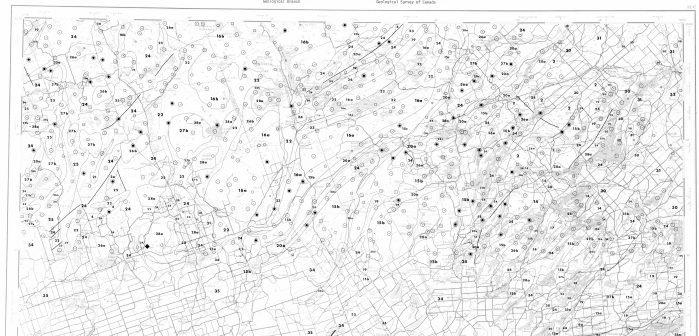
The concentration of an element at a sample site is graphically represented as one of 15 symbols, if a sample was collected but there is no data available a dot symbol is plotted. Sample locations are shown on the base-map only if they are close to the 15 symbol symbol and then thinner to diagonals to the fifteenth. The symbols are based on a geometric progression of data values, the first symbol includes all data below the analytical detection limits, or, in the data group containing the detection limits, all data below the second detection limit, and the fifteenth all data above the 14th. Five decades are assumed and this arithmetic division has been chosen as the most satisfying Canada wide series of maps constituting the National Geochemical Reconnaissance. The class limits are not equally spaced on a linear scale but are equally spaced when plotted to 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 are not equally spaced on a linear scale but are equally spaced when usually includes the median of the data as defined by the 8.0 (50) point of the cumulative frequency plot. Some, or all, of the remaining 14 symbols are chosen in order to achieve an 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 variations in the analytical detection limits, sample density, sample media, geology, and other environmental factors. Therefore, the raw data symbol maps are only intended to assist the rapid inspection of the data for areas regional features. The 15 symbol maps are not suitable for the detailed interpretation of the data which was required to define the field and analytical data constraints in the data.

The 15 symbol maps are not suitable for the detailed interpretation of the data which was required to define the field and analytical data constraints in the data. In terms of the symbol map bedrock geology, a table of summary statistics for each lithological unit is given. Where a sufficient number of samples were collected from each based on the total survey data, it is proposed below how a threshold can be used along, or in conjunction, with the single location raw data treatment. Such a threshold is considered necessary to define the data which is anomalous in the terms of the total survey data. Note Clarke's that the low, the occurrence of mineralization/soil levels on bedrock type. It may often be also observed that within the lithological units, the concentrations of elements are higher in the vicinity of known mineralization with appears to substantiate a general observation. The proposed threshold as presented are believed to be useful in interpreting the data for a private exploration company. Whether the proposed thresholds are valid or not, the use of a threshold for the rock-units they appear to be derived from, should be stated explicitly. The above threshold concentration can be due to a wide range of geological and environmental factors. The following are some of the more common explanations of the element in a zone of interest to the mineral exploitationist:

To comprehensively study an area, all available geological, environmental, and geochemical information should be considered. Anomalous zones should be confirmed by constructing new data subsets and deriving local thresholds local-based on the new data subsets and deriving local thresholds.

The term enrichment factor and value that appears below the table is an attempt to express the degree of enrichment of the element in the lithological unit with respect to all rocks sampled in the Canada Shield. This is believed to be a more meaningful, reproduced and identical methods of sample preparation and analysis are used. The enrichment factor takes into account variability due to sedimentary of the carbonate bottom sediments and sample preparation and analytical issues.



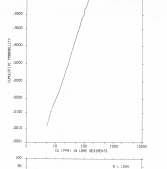


Table of Thresholds for Major Geological Units

Lithology	No. of Samples	Mean	S.D.	C.O.V.	Threshold
Limestone	12	26.3	18.6	55	70
Dolostone	7	14.3	10.1	70	50
Dolomite	7	14.3	10.1	70	50
Shale	25	28.7	14.0	49	70
Greywacke	43	25.3	14.0	55	70
Conglomerate	7	20.3	14.0	69	60
Redbeds	79	37.0	21.3	57	80
Basalt	5	52.0	17.0	33	70
Gabbro	24	243.0	1140.1	470	400
Granite	167	27.3	14.1	34	60
Granodiorite	92	22.0	14.1	64	60
Quartz Monzonite	61	19.3	14.1	73	60
Diorite	5	39.6	16.3	34	60
Quartz Diorite	13	20.0	14.1	70	60
Gneiss	35	25.5	14.1	55	60
Paragneiss	91	34.3	15.7	46	80
Orthogneiss	31	26.2	14.1	54	60
Unknown	0	49.6	34.0	69	80

Data units are ppm

Reliability Factor = 1.36

NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 1-1976
OPEN FILE 820

Resource Geophysics and Geochemistry Division

Geological Survey of Canada, Ottawa

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This map forms one of a series of 23 sheets released under Geological Survey of Canada, Open Files 820-836. The area is centred on latitude 55° and longitude 94°, per cent fens on tertiton and sands in the Tazaltan.

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

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NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 1-1976
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SOUTHAMPTON ORKNEYS, 1976
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