

LEGEND

PRECAMBRIAN BASEMENT COMPLEX Mafic and ultramafic rocks; includes gabbro, pyrox-

enite, diorite, quartz diorite and basalt Migmatite and mylonite zones; complexes of mixed metasediment and granite

8 Marble and calc-silicate gneisses

7 Conglomerate

Amphibolite and hornblende-bearing gneisses; in part may be volcanic, intrusive or sedimentary in origin, contains hypersthene-bearing amphibolite gneisses west of Virgin River

5 Mixed metasediments; undifferentiated schists and gneisses of pelitic, semi-pelitic and psammitic

Pelitic schists and gneisses; essentially aluminous metasediments including cordierite-, sillimanite-, staurolite-, and garnet-bearing biotite gneisses (many rocks mapped as "biotite gneisses" are psammitic); north of Lake Athabasca grade into migmatites

3 Psammites; essentially meta-arkose, quartzite and micaceous psammites

Metavolcanic rocks and meta-greywackes; includes basalt, andesite, rhyolite, volcanic breccia, tuff, agglomerate, subordinate meta-greywacke, chlorite schist and hornblende schist

Granite, granodiorite, quartz monzonites; may be massive or gneissic, includes areas in which metasediments may be intimately mixed

Geological contact Fault

> Geology derived from the 1:1,267,200 Geological Map of Saskatchewan

Base-map assembled by the Geological Cartography Unit from maps published at the same scale by the Army Survey Establishment, R.C.E. in 1960, 1961, 1964, 1965, 1966

Mean magnetic declination 1975, 18⁰22.1' East, decreasing 6.2' annually. Readings vary from 16⁰57' in the SE corner to 19^o49.5' in the NW corner of the map-area

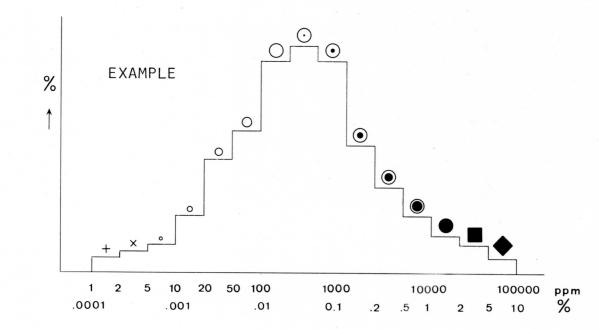
Elevations in feet above mean sea level

Geochemical Symbol and Data Presentation

The concentration of an element at a sample site is graphically represented by 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 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 semilogarithmic 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 in one field season. 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 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 given below.

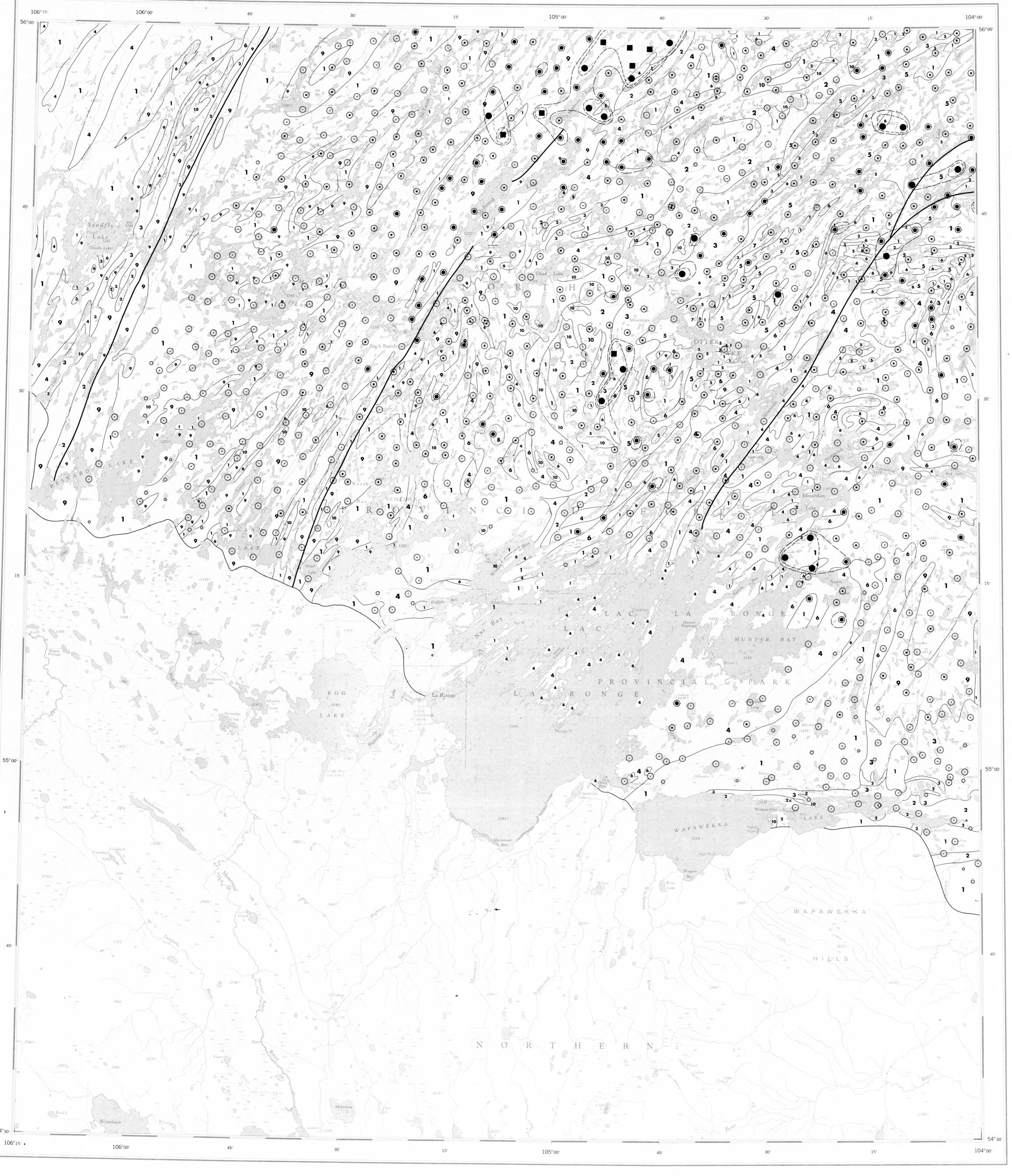
The symbol maps, being based only on the total survey data distributions, are unaffected by the availability of ever increasing levels of knowledge in bedrock and surficial geology, and other environmental factors. Therefore, the raw data symbol maps are only intended to assist the rapid inspection of the data for gross regional features. To fulfil the needs of a more specific and thorough interpretation, the 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, a series of histograms and tables based on the total data, and total data subdivided by the dominat bedrock, or broad lithological, unit contributing to the sample site geochemistry are appended to the data listings. These tables can be used in conjuction with the sample location maps and data listings to identify interesting samples and their location. In many instances, the tables will also illustrate, more clearly than the maps, the dependence of mean geochemical levels on bedrock type. It may often be also observed 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 percentiles presented are believed to be useful in interpreting the data from a mineral exploration viewpoint. Locations of samples with concentrations in excess of the 98th percentile for the rock unit they appear to be derived from, should be studied carefully. The above 98th percentile concentrations 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. To comprehensively study an area, all available geological, environmental

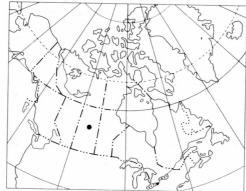
and recorded data should be utilized. The data separation by bedrock type can often be improved by constructing new data subsets and deriving local threshold levels based on the most detailed and up-to-date knowledge available. The term reliability factor and value that appears below the histogram is an estimate of the reliability of the geochemical map. On the basis of duplicate sampling 5% 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 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.



Province of Saskatchewan Department of Mineral Resources Saskatchewan Geological Survey

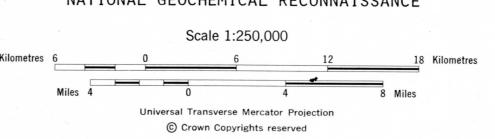
Department of Energy, Mines and Resources Geological Survey of Canada

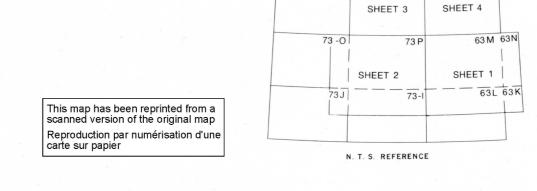


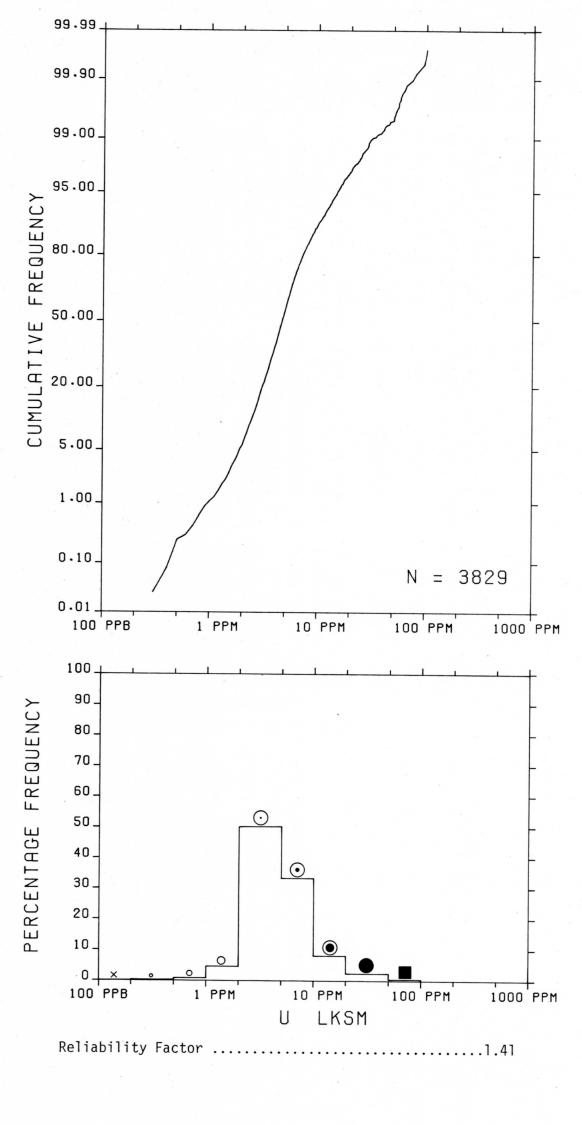


INDEX MAP

SHEET 2 URANIUM IN LAKE SEDIMENTS CANADA-SASKATCHEWAN AGREEMENT ON MINERAL EXPLORATION AND DEVELOPMENT IN NORTHERN SASKATCHEWAN NATIONAL GEOCHEMICAL RECONNAISSANCE Scale 1:250,000







Geological Survey of Canada Geochemistry and Federal-Provincial coordination by E.H.W. Hornbrook Analytical chemistry by J.J. Lynch Data monitoring and compilation by R.G. Garrett and Cartography and base compilation by Geological Cartography Section

Saskatchewan Geological Survey Federal-Provincial coordination by L.S. Beck Geological compilation by D.E. Pearson

Contractors Sample collection by Trigg, Woollett & Associates Ltd. Uranium analyses by A.E.C.L., Commercial Products Division

Geochemical contours 98 Percentile - 23.8

95 Percentile - 15.0 This map forms one of a series of 12 sheets released under Geological Survey of Canada Open File 488. The open file consists of data for 2 elements and sample site locations, each item requiring 4 sheets for the total survey area. This open file covers the same area as Open File 266 which

The data for both Open Files 266 and 488 are available in a combined digital form from the Computer Science Centre of the Department of Energy, Mines and Resources. For further information please contact:

contains data for an additional 12 elements and loss on ignition.

The Director, Computer Science Centre, Department of Energy, Mines and Resources, Ottawa, Ontario KIA OE4

National Geochemical Reconnaissance Open File 488 East-Central Saskatchewan, 1974 URANIUM

URANIUM by DELAYED NEUTRON COUNTING