

CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES

Geological Survey of Canada



NATIONAL GEOCHEMICAL RECONNAISSANCE

1:2,000,000 Coloured Compilation Map Series

OPEN FILE 740

Great Bear Lake, Northwest Territories

(86K,L and part of 96I)

Resource Geochemistry Subdivision  
Resource Geophysics and Geochemistry Division  
Geological Survey of Canada  
Ottawa, Ontario, Canada

## Introduction

The National Geochemical Reconnaissance 1:2,000,000 Coloured Compilation Map Series is a product of the continuing interpretation of the National Geochemical Reconnaissance (NGR) data. Variables have been computer contoured and plotted utilizing an Applicon colour plotter. Xerox colour copies of these maps are available in a series of 20 Open Files.

In the course of NGR surveys (1975-1979), sediment and water samples were collected from more than 23,000 streams and 41,000 lakes in Canada. The surveys were carried out under the auspices of the Uranium Reconnaissance Program (URP) and Provincial Geochemical Reconnaissance Surveys. Sediments from all areas were analyzed for U, Zn, Cu, Pb, Ni, Co, Mn, Fe, Mo and those from some areas for Hg, Ag, As, V, F, W, Sn and Ba. When collected, waters were analyzed for one or more of U, F and pH.

## National Geochemical Reconnaissance - Uranium Reconnaissance Program

Part of the data for the NGR 1:2,000,000 Coloured Compilation Map Series was obtained from NGR - URP surveys (1975-1978) in the provinces. These surveys were jointly planned and funded under the terms of the following agreements:

British Columbia: Canada - British Columbia Uranium Reconnaissance Agreement.

Saskatchewan: Canada - Saskatchewan Mineral Exploration and Development  
Program, Project 6-1, 1974, Reconnaissance Geoscience  
Surveys (lake sediment survey).

Saskatchewan: Canada - Saskatchewan Agreement on a Uranium Reconnaissance Program.

Manitoba: Canada - Manitoba Subsidiary Agreement on Mineral  
Exploration and Development; Schedule A, 3(b)(ii).

Ontario: Canada - Ontario Agreement on a Uranium Reconnaissance Program.

Newfoundland: Canada - Newfoundland Agreement on a Uranium Reconnaissance Program.

Other data were obtained from NGR-URP surveys (1975-1978) in the Yukon and Northwest Territories. These surveys were totally funded and directed by the Resource Geochemistry Subdivision, Geological Survey of Canada.

#### Provincial Geochemical Reconnaissance Surveys

Additional data used in the preparation of the NGR 1:2,000,000 Coloured Compilation Map Series have been provided through geochemical reconnaissance surveys in British Columbia (1978 and 1979) and in Ontario (1979). These surveys were totally funded by the provinces. The geochemical data from these surveys have been incorporated into the NGR archives.

### Preparation of the NGR 1:2,000,000 Coloured Compilation Map Series

The maps and annotative material have been prepared directly from digital data by a computer mapping package (APPMAP) being developed in the Resource Geochemistry Subdivision, Geological Survey of Canada. This package makes use of an Applicon colour plotter and Applicon library software resident on a CDC Cyber 74 computer at the Computer Science Centre of the Department of Energy, Mines and Resources. The legend, border and annotative material were entered through APPMAP directives; the geochemical survey data were accessed from archival data files. APPMAP interpolates from the irregularly spaced reconnaissance data to a regular grid, which, for these data, is  $3,200 \text{ m}^2$ . The interpolation is in the form of a moving average where weighting is by an inverse distance function ( $1/d^3$ ) using the nearest five data points. The effect of this moving average is to filter out the minor irregularities in the spatial data and emphasize the broader scale and regional features. Data percentiles were used for contour interval selection.

The NGR 1:2,000,000 Coloured Compilation Map Series has been prepared by members of the Resource Geochemistry Subdivision:

#### Project Co-ordinators

W.B. Coker and D.J. Ellwood

#### Computer Mapping Package (APPMAP)

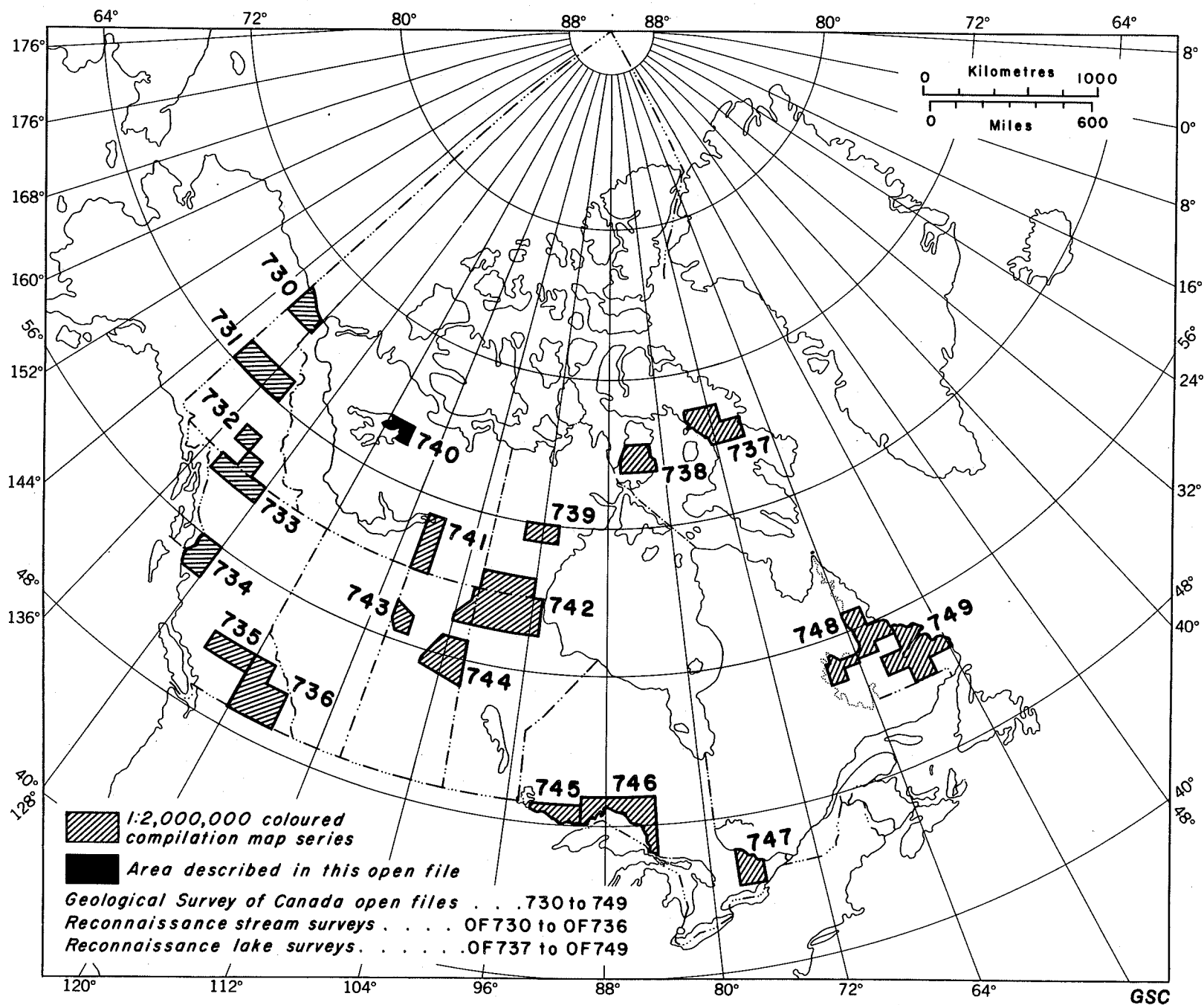
D.J. Ellwood



Base Map Digitizing and Contour Interval Selection

Open File 730	Northern Yukon and Northwest Territories (117A and parts of 117B,C,D)	W.D. Goodfellow
Open File 731	Central Yukon Territory (106D, 116A,B and parts of 106C,E,F, and 116C,F,G and H)	W.D. Goodfellow
Open File 732	Quiet Lake, Southern Yukon Territory (105F)	W.D. Goodfellow
Open File 733	Southern Yukon Territory and Northern British Columbia (104N,O,P; and 105B)	S.B. Ballantyne
Open File 734	Prince Rupert Area, British Columbia (103I,P and parts of 103J,O)	S.B. Ballantyne
Open File 735	Taseko Lakes and Bonaparte Lake Area, British Columbia (920 and 92P)	S.B. Ballantyne
Open File 736	Southeastern British Columbia (82E,F,K,L and M)	S.B. Ballantyne
Open File 737	Baffin Island, Northwest Territories (27B and part of C; 37A,D)	Y.T. Maurice
Open File 738	Melville Peninsula, Northwest Territories (46N,O,P; 47A(S $\frac{1}{2}$ ) and 47B(S $\frac{1}{2}$ ))	E.M. Cameron
Open File 739	Baker Lake, Northwest Territories (55M, 65P)	Y.T. Maurice

Open File 740	Great Bear Lake, Northwest Territories (86K,L and part of 96I)	Y.T. Maurice
Open File 741	Nonacho Lake, Northwest Territories (75C,F, and K)	Y.T. Maurice
Open File 742	Northern Manitoba, Southeastern Northwest Territories and Northeastern Saskatchewan (54L,M; 64I,J,K,N,O,P and parts of 64L,M; 65A,B,C)	W.B. Coker
Open File 743	West-Central Saskatchewan (74F and 74C(N $\frac{1}{2}$ ))	W.B. Coker
Open File 744	East-Central Saskatchewan (63M, 64D and parts of 63K,L,N and 73I,O,P and 74A)	E.H.W. Hornbrook
Open File 745	Southwestern Ontario (52B,C)	W.B. Coker
Open File 746	Lake Superior, Ontario (52A, 52H(S $\frac{1}{2}$ ), 42D, 42E(S $\frac{1}{2}$ ), 42C, 42F(S $\frac{1}{2}$ ), 41N, 41K(N $\frac{1}{2}$ ))	W.B. Coker
Open File 747	Southeastern Ontario (31C(N $\frac{1}{2}$ ), 31F)	W.B. Coker
Open File 748	Northern Labrador (23G(NE $\frac{1}{4}$ ), 23H(N $\frac{1}{2}$ ), 23I, 23J(E $\frac{1}{2}$ ), 14D, 13N, 13M, 13L(N $\frac{1}{2}$ )).	D.R. Boyle
Open File 749	Eastern Labrador (13B,F,G,H,I,J and O; 3E)	D.R. Boyle



**NATIONAL GEOCHEMICAL RECONNAISSANCE 1:2,000,000  
COLOURED COMPILATION MAP SERIES**

## Open File 740: Great Bear Lake, Northwest Territories (86K,L and part of 96I)

The data compiled on these maps were acquired under the auspices of the Canada Uranium Reconnaissance Program and previously published as part of the National Geochemical Reconnaissance:

### References

Hornbrook, E.H.W., Garrett, R.G. and Lynch, J.J.

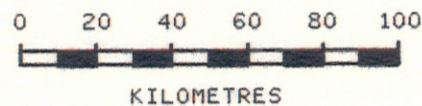
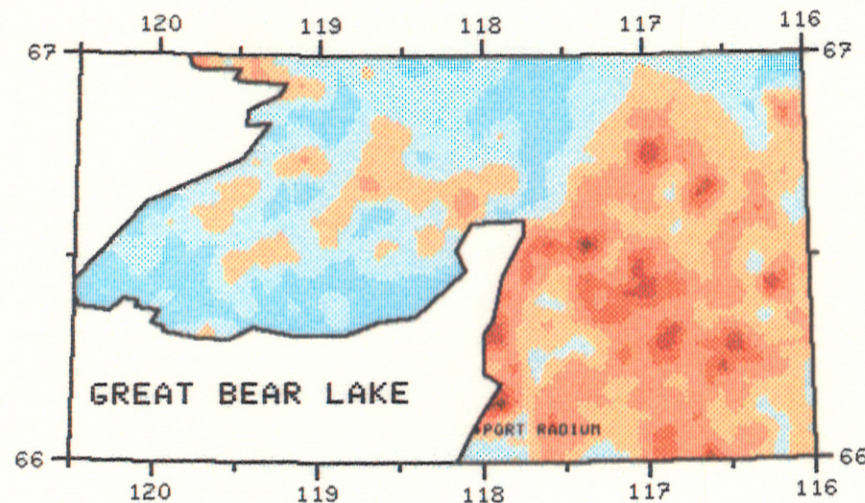
1975a: Regional lake sediment geochemical reconnaissance data, Great Bear Lake (86K), Northwest Territories; Geological Survey of Canada, Open File 327.

1975b: Regional lake sediment geochemical reconnaissance data, Great Bear Lake (96I), Northwest Territories; Geological Survey of Canada, Open File 328.

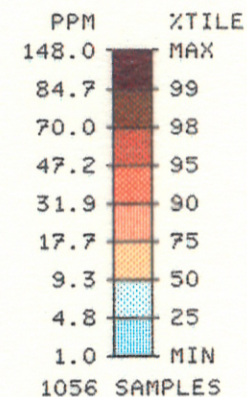
### 1:2,000,000 Coloured Compilation Maps

- |                              |                                  |
|------------------------------|----------------------------------|
| 1. Sample Location           | 8. Manganese in Lake Sediments   |
| 2. Uranium in Lake Sediments | 9. Iron in Lake Sediments        |
| 3. Zinc in Lake Sediments    | 10. Molybdenum in Lake Sediments |
| 4. Copper in Lake Sediments  | 11. Mercury in Lake Sediments    |
| 5. Lead in Lake Sediments    | 12. Silver in Lake Sediments     |
| 6. Nickel in Lake Sediments  | 13. Arsenic in Lake Sediments    |
| 7. Cobalt in Lake Sediments  |                                  |

**NATIONAL  
GEOCHEMICAL RECONNAISSANCE  
NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I**



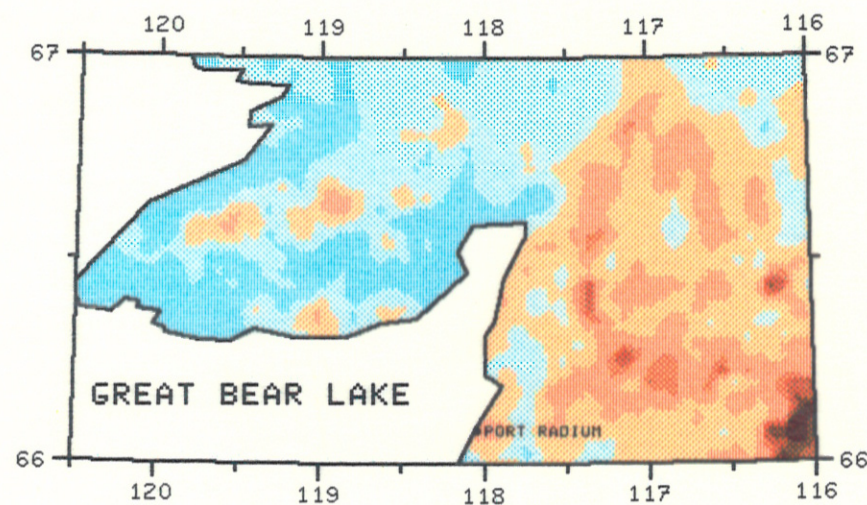
**URANIUM  
IN  
LAKE SEDIMENTS**



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GEOLOGICAL SURVEY OF CANADA

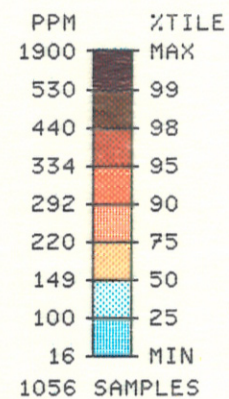


NATIONAL  
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NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I



0 20 40 60 80 100  
KILOMETRES

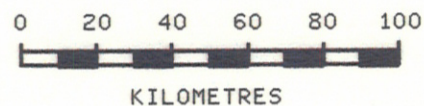
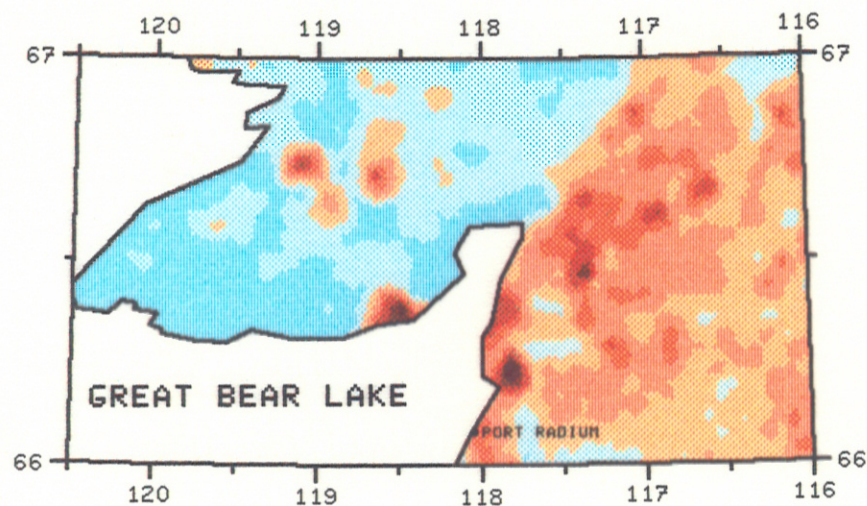
ZINC  
IN  
LAKE SEDIMENTS



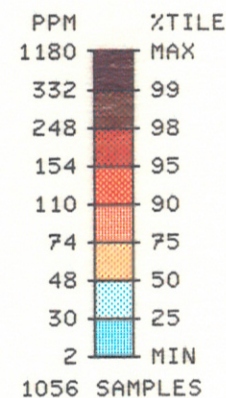
RESOURCE GEOCHEMISTRY SUBDIVISION  
GEOLOGICAL SURVEY OF CANADA



# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



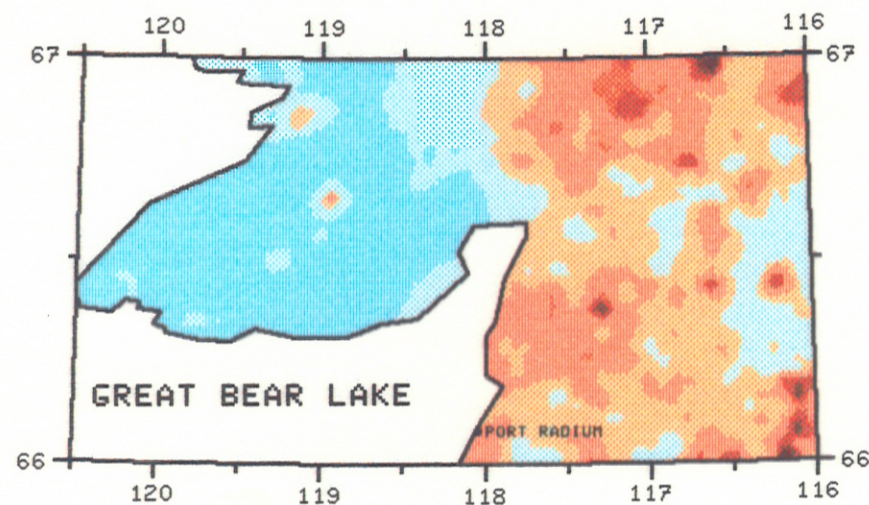
## COPPER IN LAKE SEDIMENTS



RESOURCE GEOCHEMISTRY SUBDIVISION  
GEOLOGICAL SURVEY OF CANADA

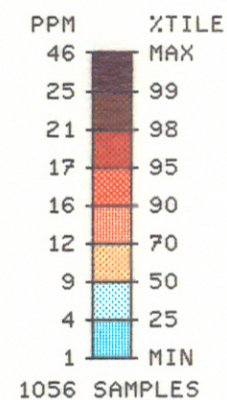


**NATIONAL  
GEOCHEMICAL RECONNAISSANCE  
NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I**



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KILOMETRES

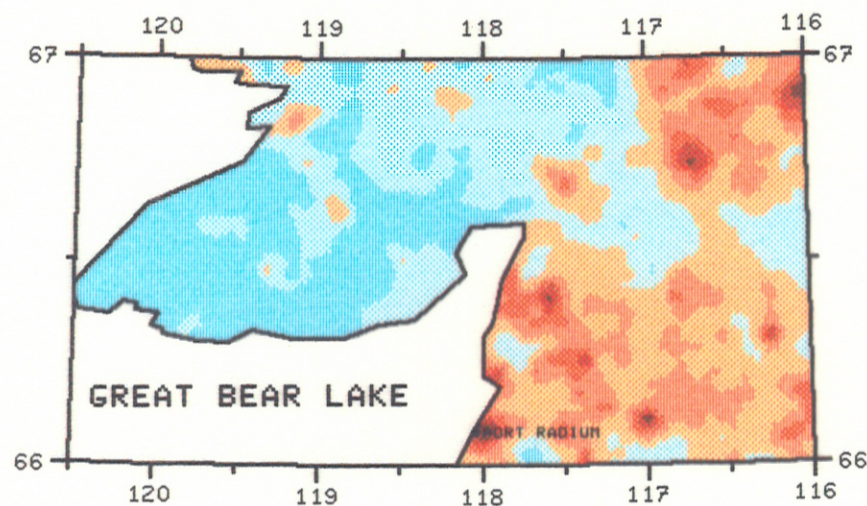
**LEAD  
IN  
LAKE SEDIMENTS**



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GEOLOGICAL SURVEY OF CANADA

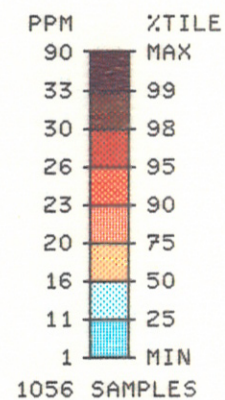


# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



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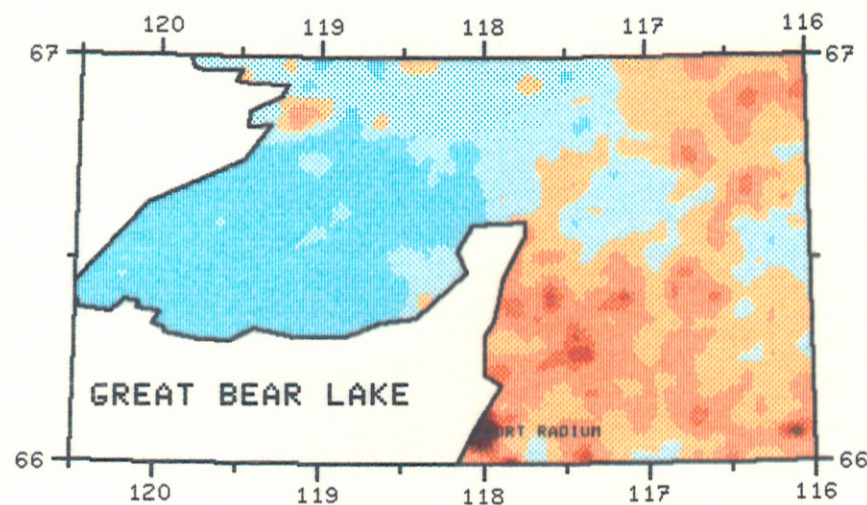
## NICKEL IN LAKE SEDIMENTS



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GEOLOGICAL SURVEY OF CANADA

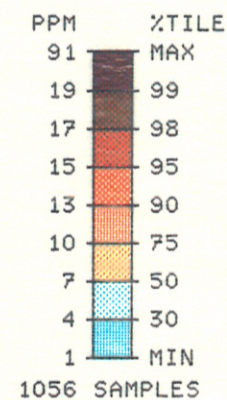


**NATIONAL  
GEOCHEMICAL RECONNAISSANCE  
NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I**



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KILOMETRES

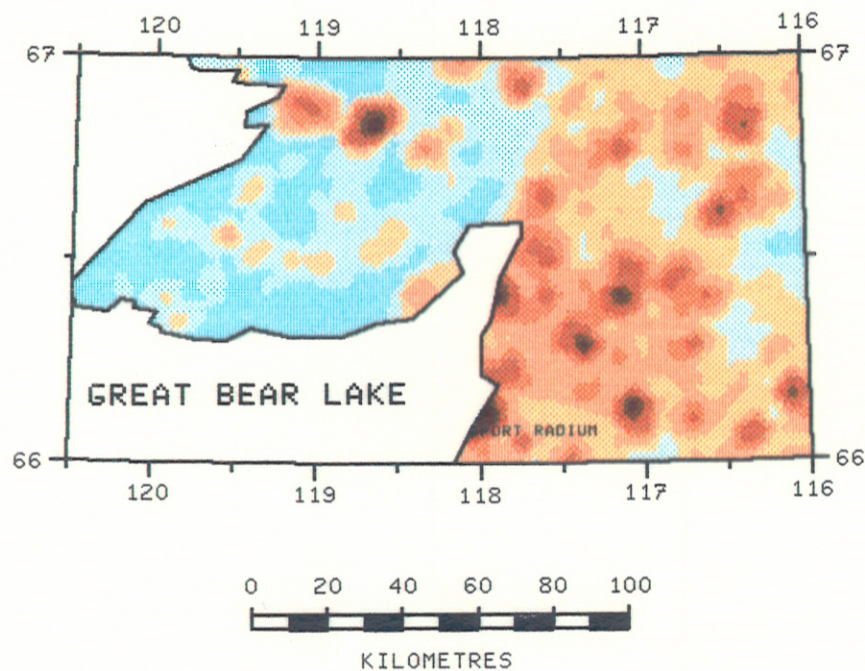
**COBALT  
IN  
LAKE SEDIMENTS**



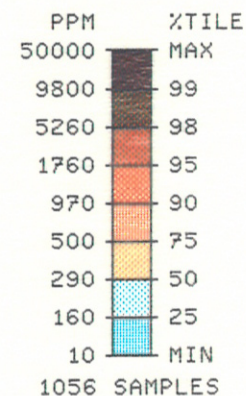
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NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I



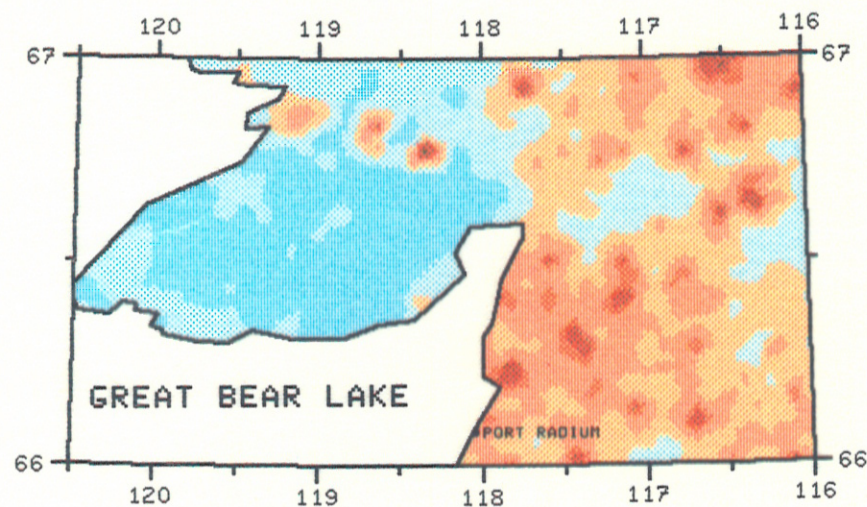
MANGANESE  
IN  
LAKE SEDIMENTS



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GEOLOGICAL SURVEY OF CANADA

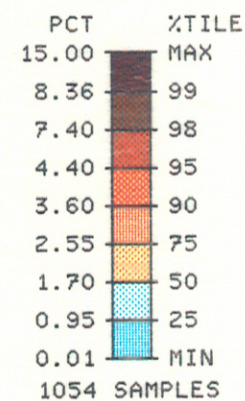


# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



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KILOMETRES

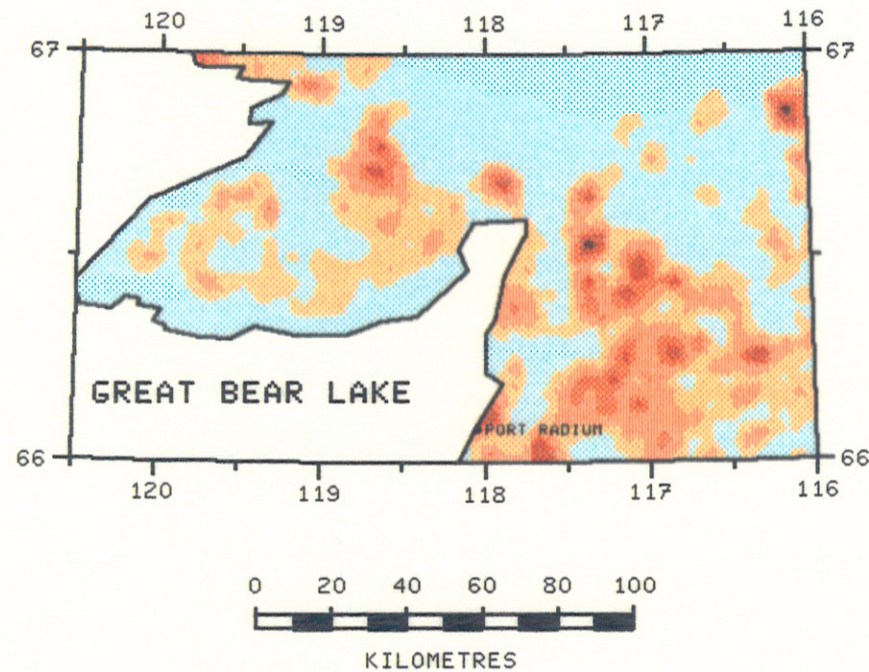
## IRON IN LAKE SEDIMENTS



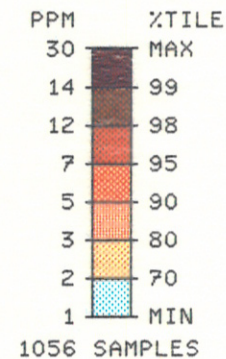
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# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



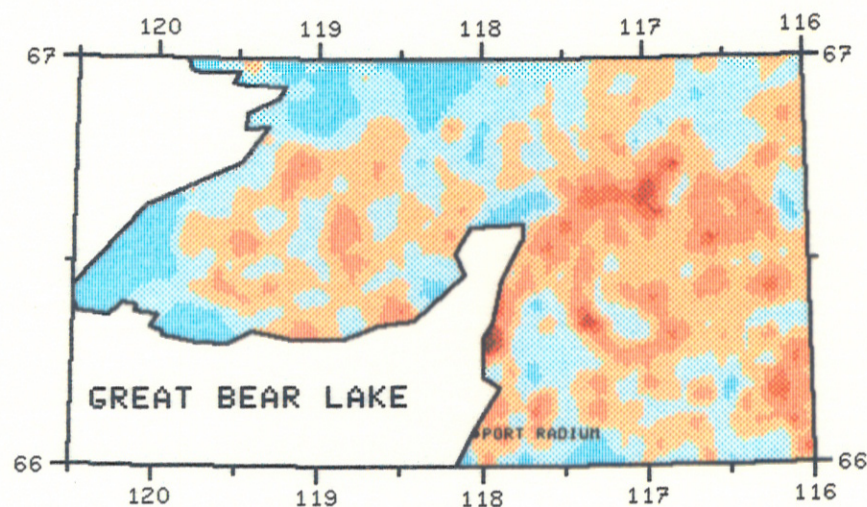
## MOLYBDENUM IN LAKE SEDIMENTS



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GEOLOGICAL SURVEY OF CANADA

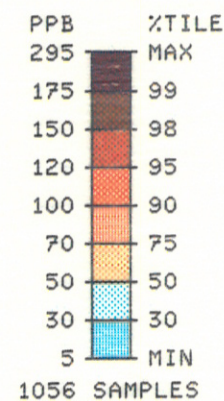


**NATIONAL  
GEOCHEMICAL RECONNAISSANCE  
NORTHWEST TERRITORIES  
NTS 86K, 86L, 96I**



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KILOMETRES

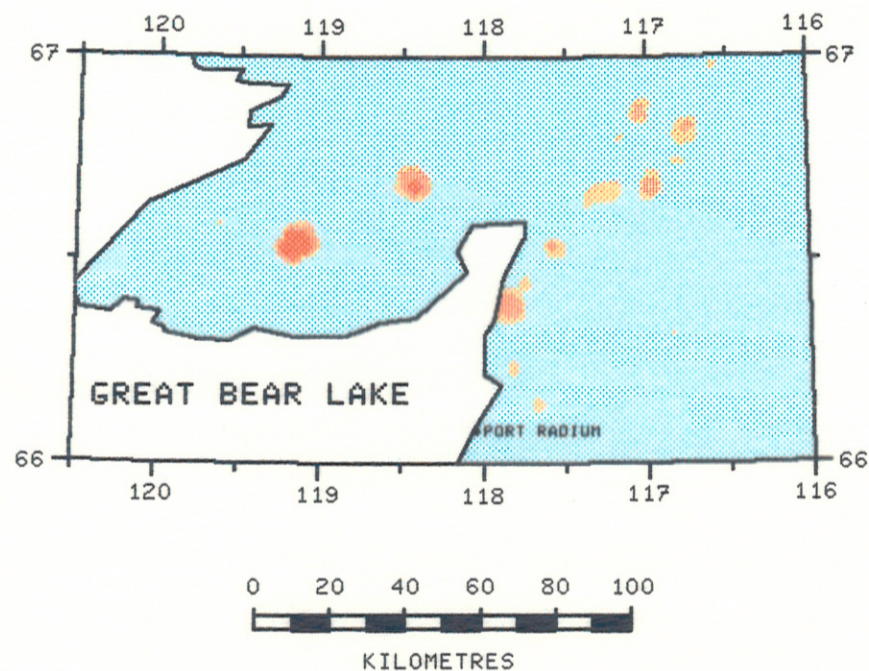
**MERCURY  
IN  
LAKE SEDIMENTS**



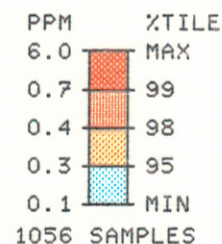
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GEOLOGICAL SURVEY OF CANADA



# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



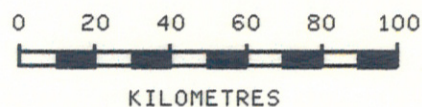
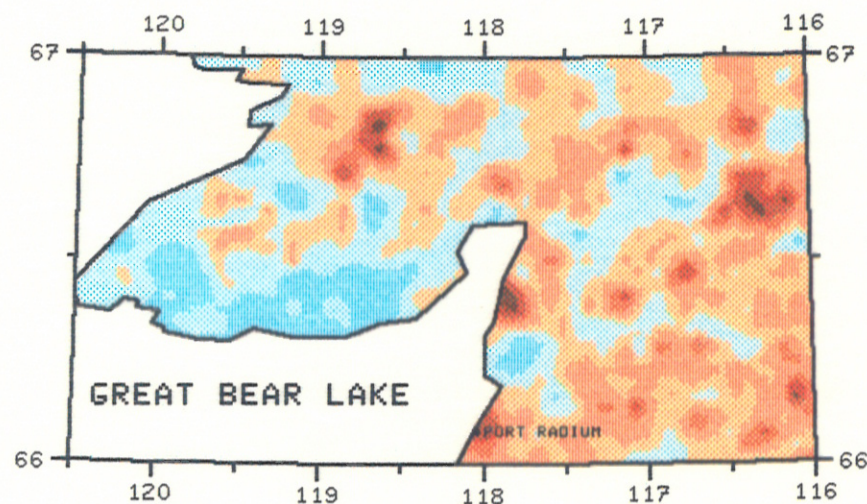
## SILVER IN LAKE SEDIMENTS



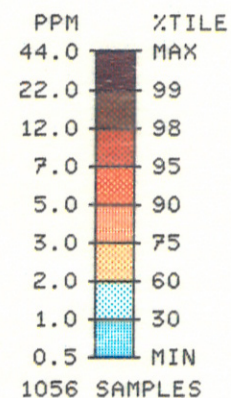
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GEOLOGICAL SURVEY OF CANADA



# NATIONAL GEOCHEMICAL RECONNAISSANCE NORTHWEST TERRITORIES NTS 86K, 86L, 96I



## ARSENIC IN LAKE SEDIMENTS

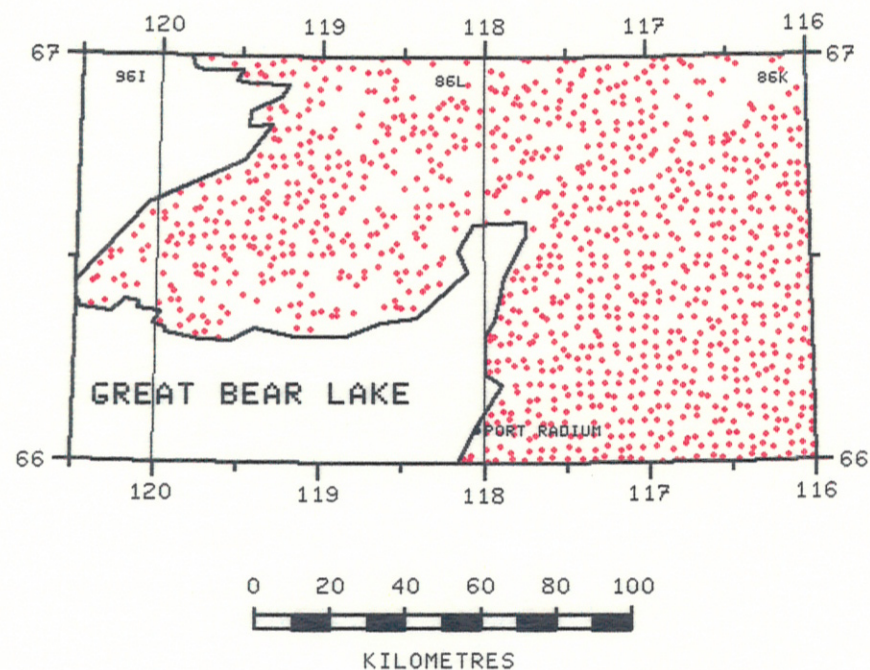


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SAMPLE  
LOCATION MAP



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