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CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES

Geological Survey of Canada



NATIONAL GEOCHEMICAL RECONNAISSANCE

1:2,000,000 Coloured Compilation Map Series

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)

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

Source data acquired under the auspices of
the Canada, Canada-Manitoba and Canada-Saskatchewan Uranium Reconnaissance Programs.

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 m². The interpolation is in the form of a moving average where weighting is by an inverse distance function (1/d³) 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

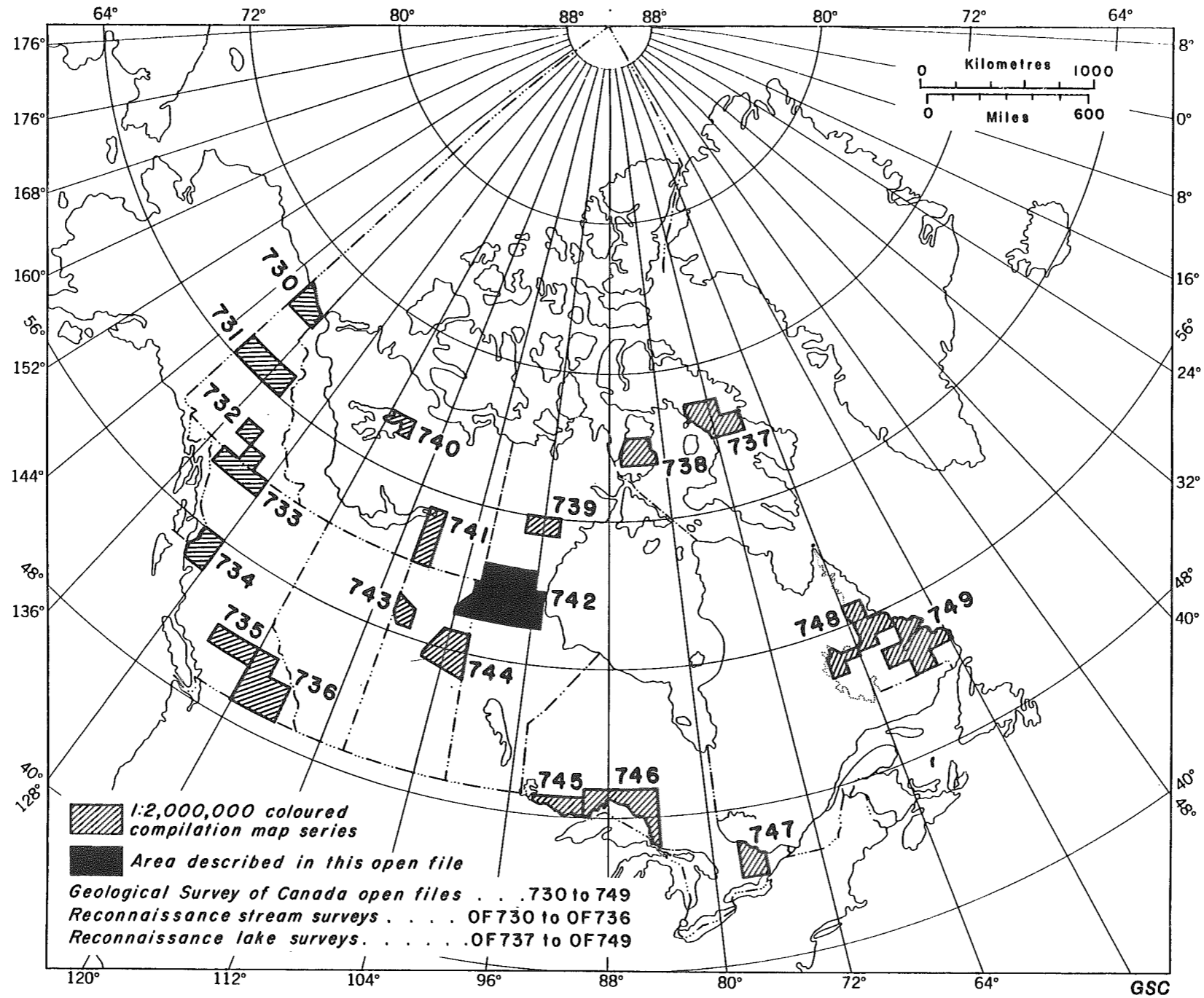
Computer Mapping Package (APPMAP)

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 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)

The data compiled on these maps were acquired under the auspices of the Canada, Canada - Manitoba and Canada - Saskatchewan Uranium Reconnaissance Programs and previously published as part of the National Geochemical Reconnaissance:

References

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

- 1976a: Regional lake sediment reconnaissance data, northwestern Manitoba (NTS 64J); Geological Survey of Canada, Open File 320.
- 1976b: Regional lake sediment reconnaissance data, northwestern Manitoba (NTS 64K); Geological Survey of Canada, Open File 321.
- 1976c: Regional lake sediment reconnaissance data, northwestern Manitoba (NTS 64N); Geological Survey of Canada, Open File 322.
- 1976d: Regional lake sediment reconnaissance data, northwestern Manitoba (NTS 64O); Geological Survey of Canada, Open File 323.
- 1977a: Regional lake sediment geochemical reconnaissance data, northeastern Manitoba (NTS 64I and 54L(W/2)); Geological Survey of Canada, Open File 407 (National Geochemical Reconnaissance Release NGR 3-1976).
- 1977b: Regional lake sediment geochemical reconnaissance data, northeastern Manitoba (NTS 64P and 54M(W/2)); Geological Survey of Canada, Open File 408 (National Geochemical Reconnaissance Release NGR 4-1976).
- 1977c: Regional lake sediment geochemical reconnaissance data, southern District of Keewatin (NTS 65A); Geological Survey of Canada, Open File 413 (National Geochemical Reconnaissance Release NGR 9-1976).

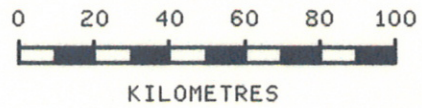
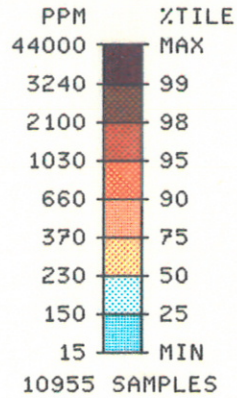
- 1977d: Regional lake sediment geochemical reconnaissance data, southern District of Keewatin (NTS 65B); Geological Survey of Canada, Open File 414 (National Geochemical Reconnaissance Release NGR 10-1976).
- 1977e: Regional lake sediment geochemical reconnaissance data, southern District of Keewatin (NTS 65C); Geological Survey of Canada, Open File 415 (National Geochemical Reconnaissance Release NGR 11-1976).
- 1978: Regional lake sediment and water geochemical reconnaissance data, northeastern Saskatchewan (NTS 64L, 64M); Geological Survey of Canada, Open File 508 (National Geochemical Reconnaissance Release NGR 19-1977).

1:2,000,000 Coloured Compilation Maps

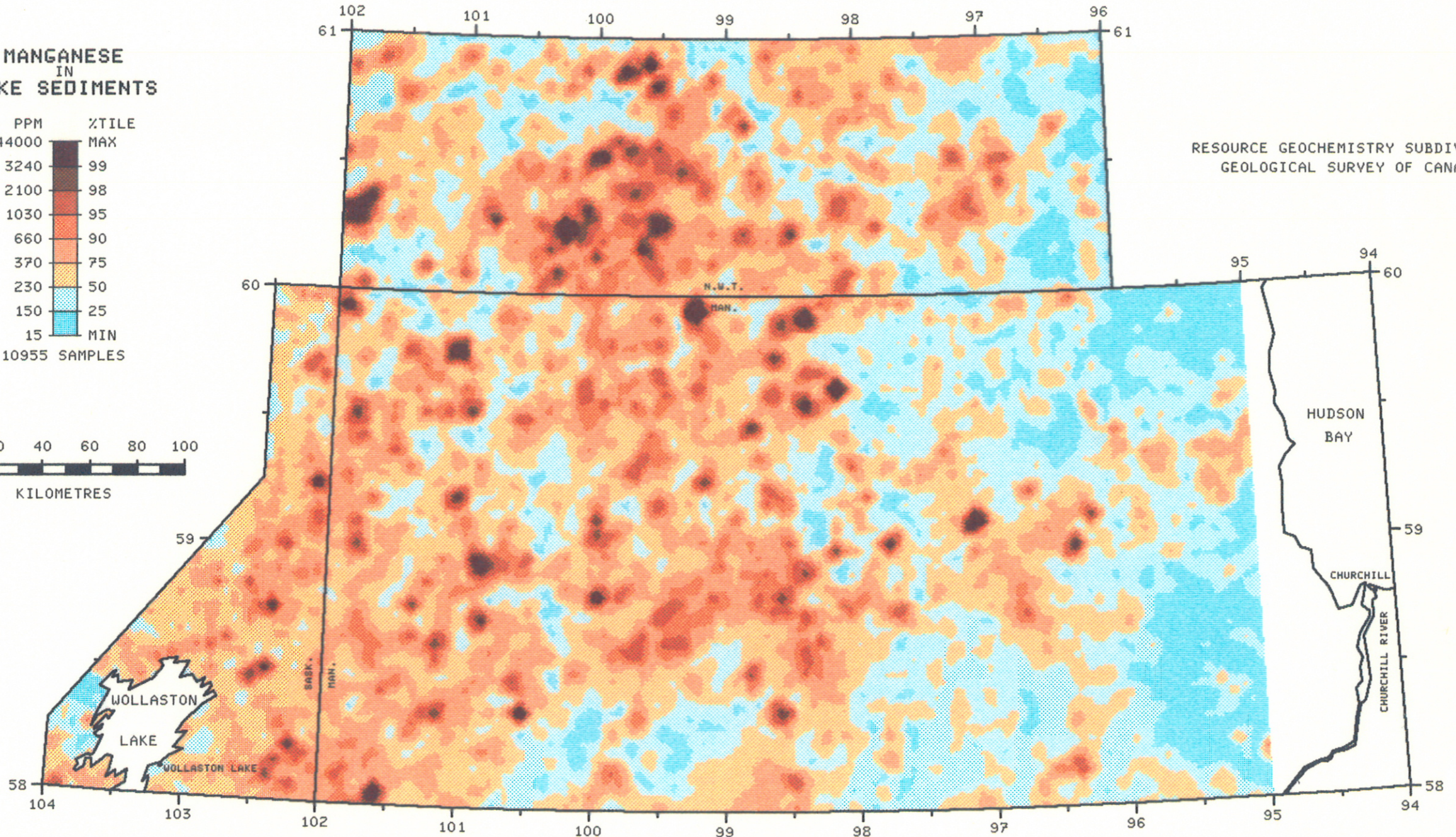
- | | |
|--------------------------------|----------------------------------|
| 1. Sample Location | 9. Iron in Lake Sediments |
| 2. Uranium in Lake Sediments | 10. Molybdenum in Lake Sediments |
| 3. Zinc in Lake Sediments | 11. Mercury in Lake Sediments |
| 4. Copper in Lake Sediments | 12. Arsenic in Lake Sediments |
| 5. Lead in Lake Sediments | 13. Uranium in Lake Waters |
| 6. Nickel in Lake Sediments | 14. Fluorine in lake Waters |
| 7. Cobalt in Lake Sediments | 15. pH in Lake Waters |
| 8. Manganese in Lake Sediments | |

**NATIONAL
GEOCHEMICAL RECONNAISSANCE
MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES**
NTS 54L.M , 64I,J,K,O,P AND PARTS OF 64L.M , 65A,B,C

**MANGANESE
IN
LAKE SEDIMENTS**

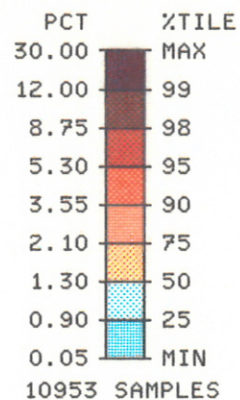


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GEOLOGICAL SURVEY OF CANADA

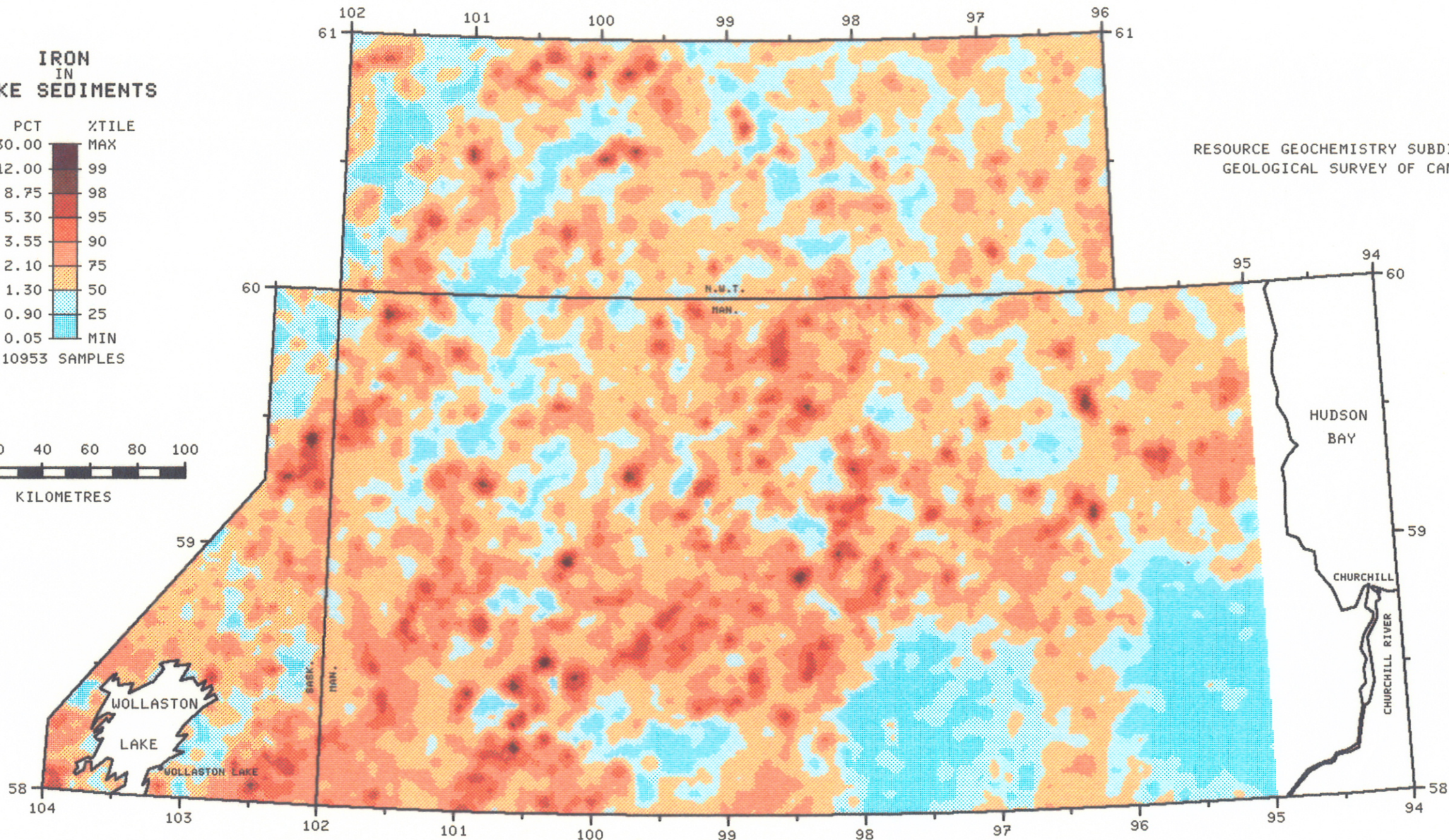
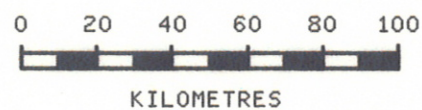


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MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES**
NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**IRON
IN
LAKE SEDIMENTS**

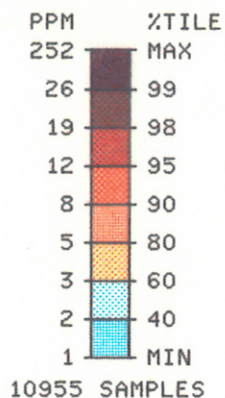


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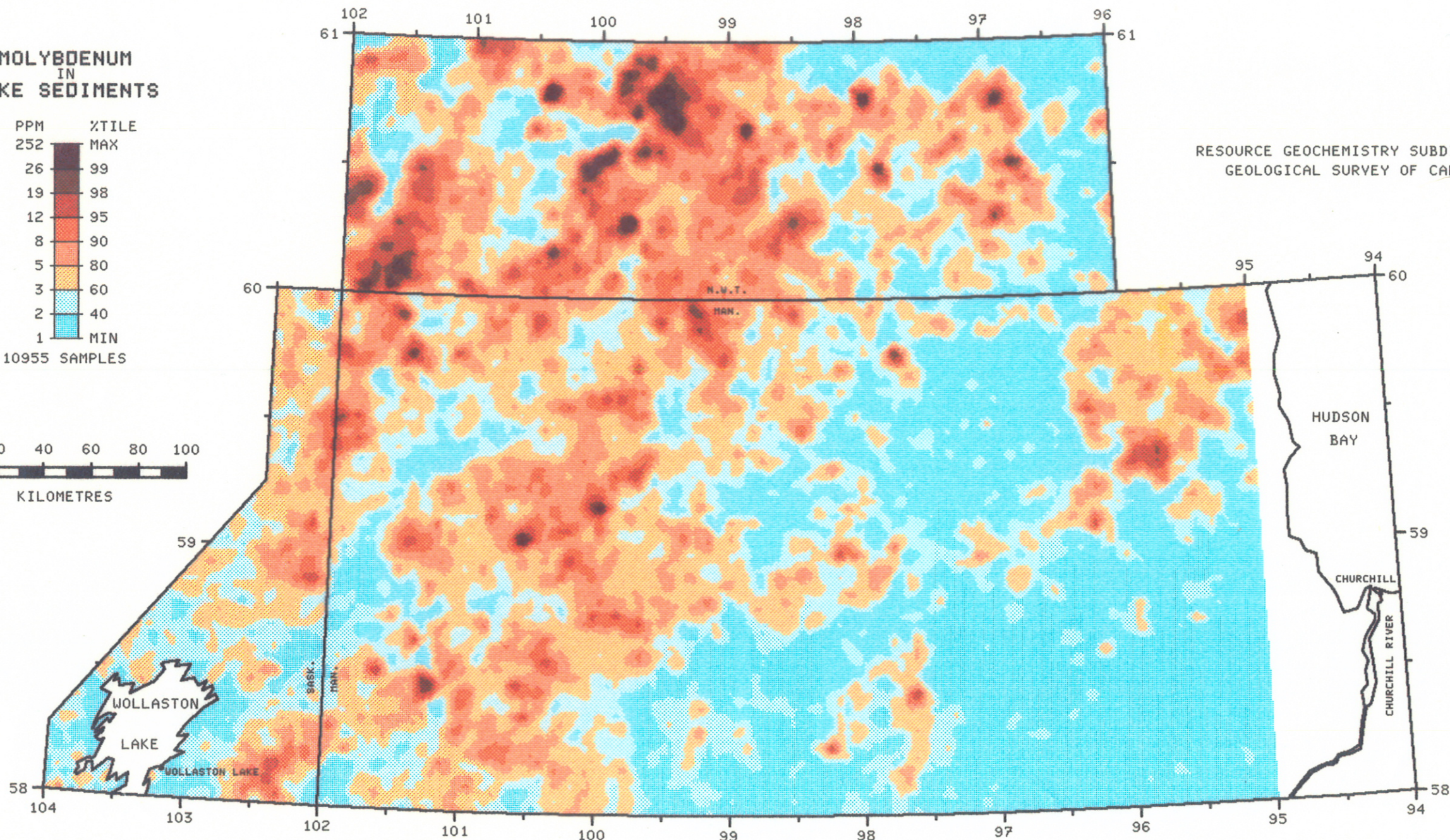
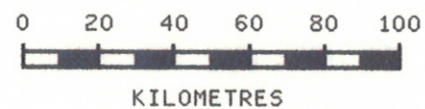


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MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES**
NTS 54L.M , 64I,J,K,O,P AND PARTS OF 64L.M , 65A,B,C

**MOLYBDENUM
IN
LAKE SEDIMENTS**

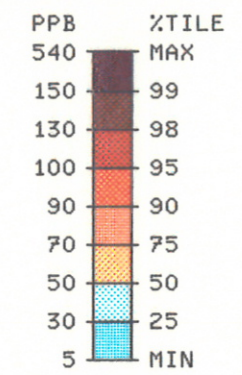


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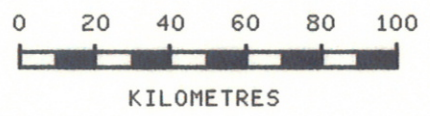


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

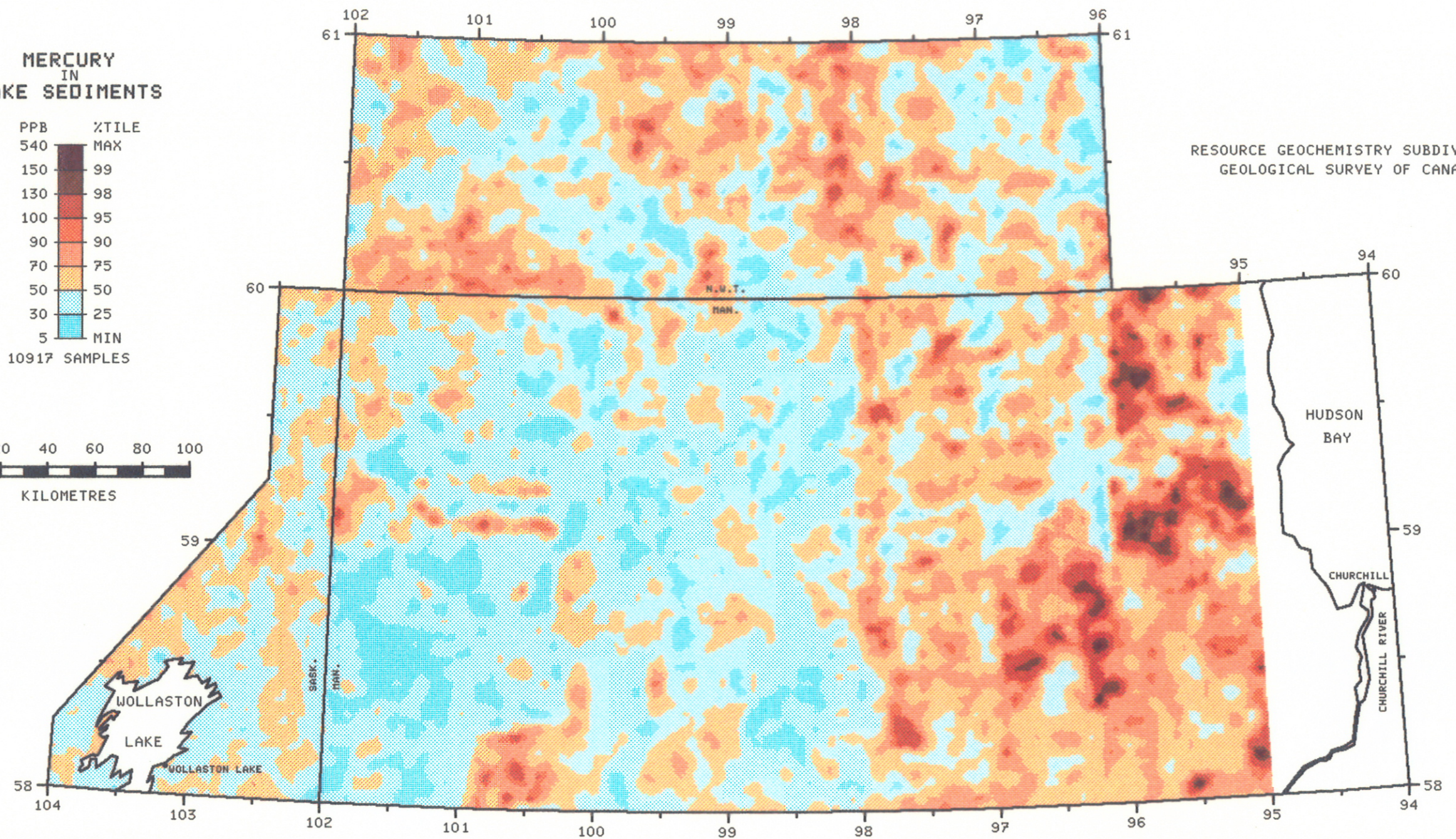
**MERCURY
IN
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10917 SAMPLES

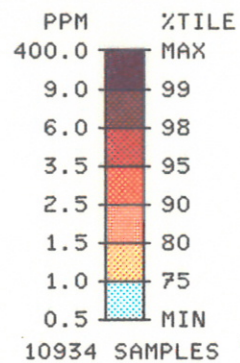


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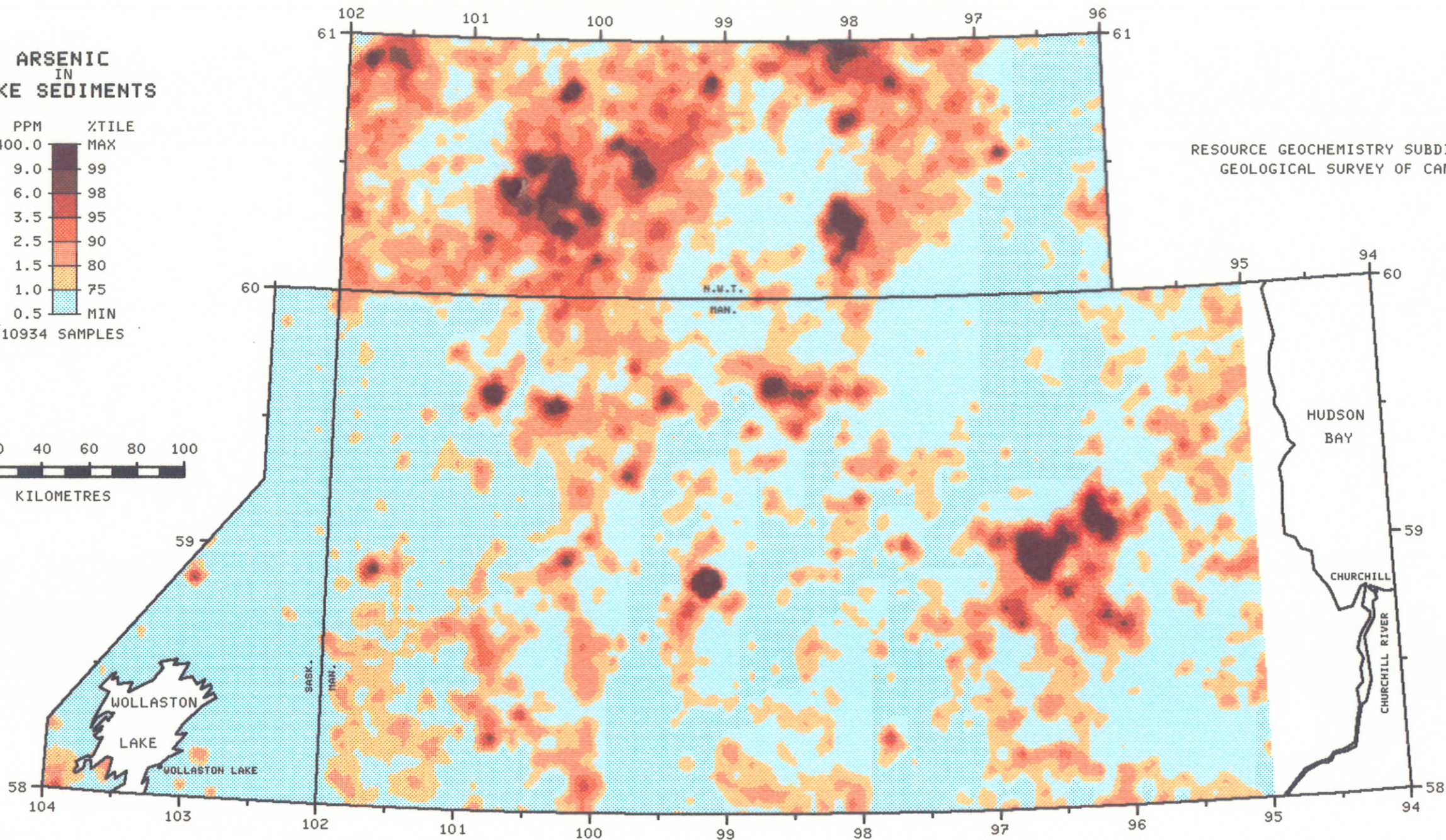
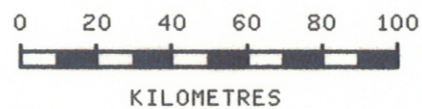


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**ARSENIC
IN
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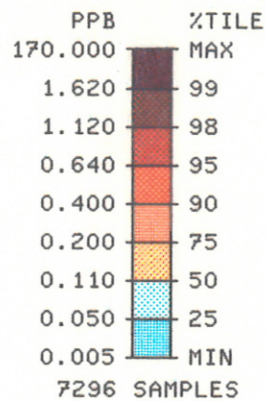


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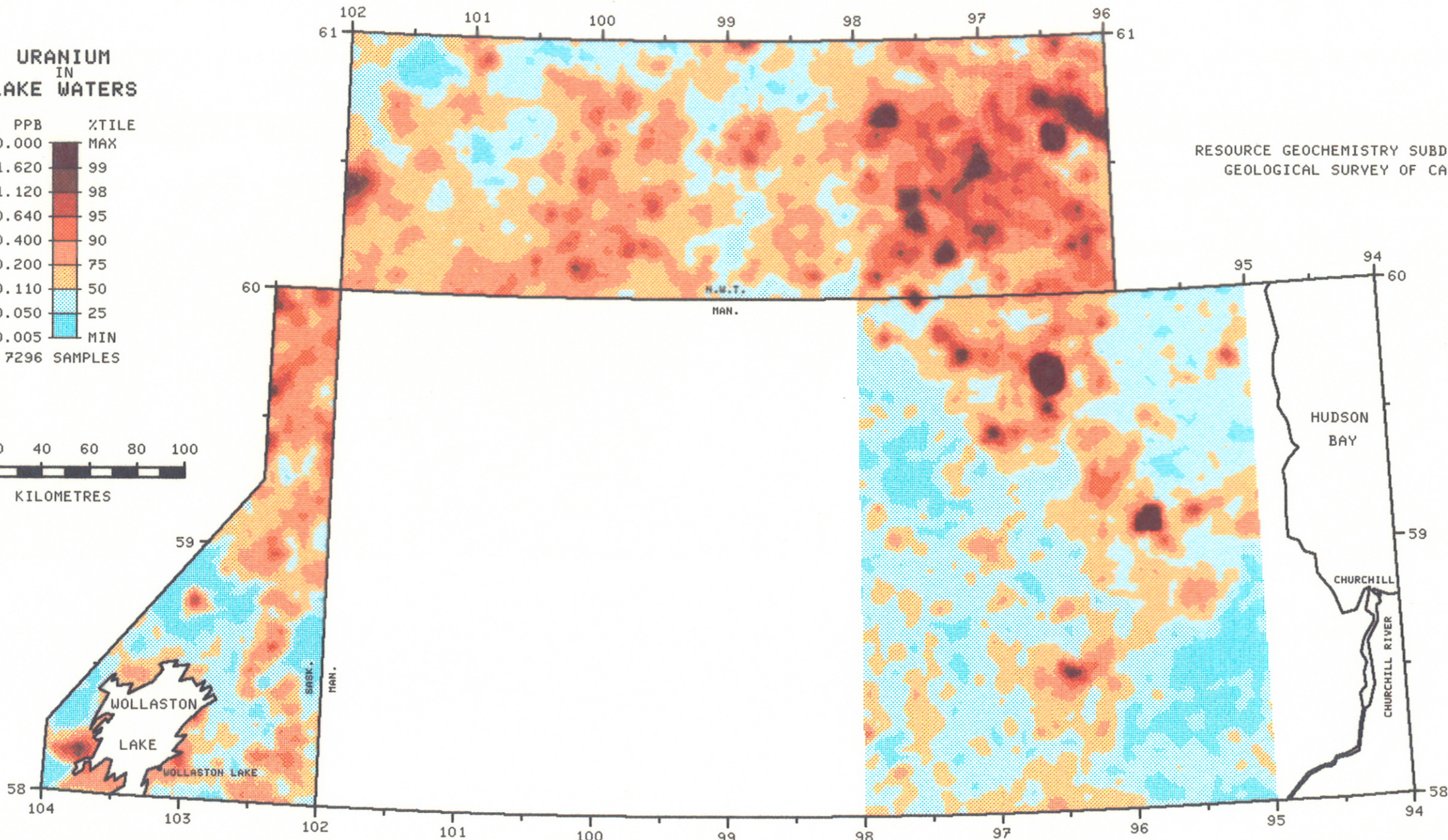
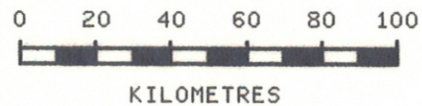


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**URANIUM
IN
LAKE WATERS**



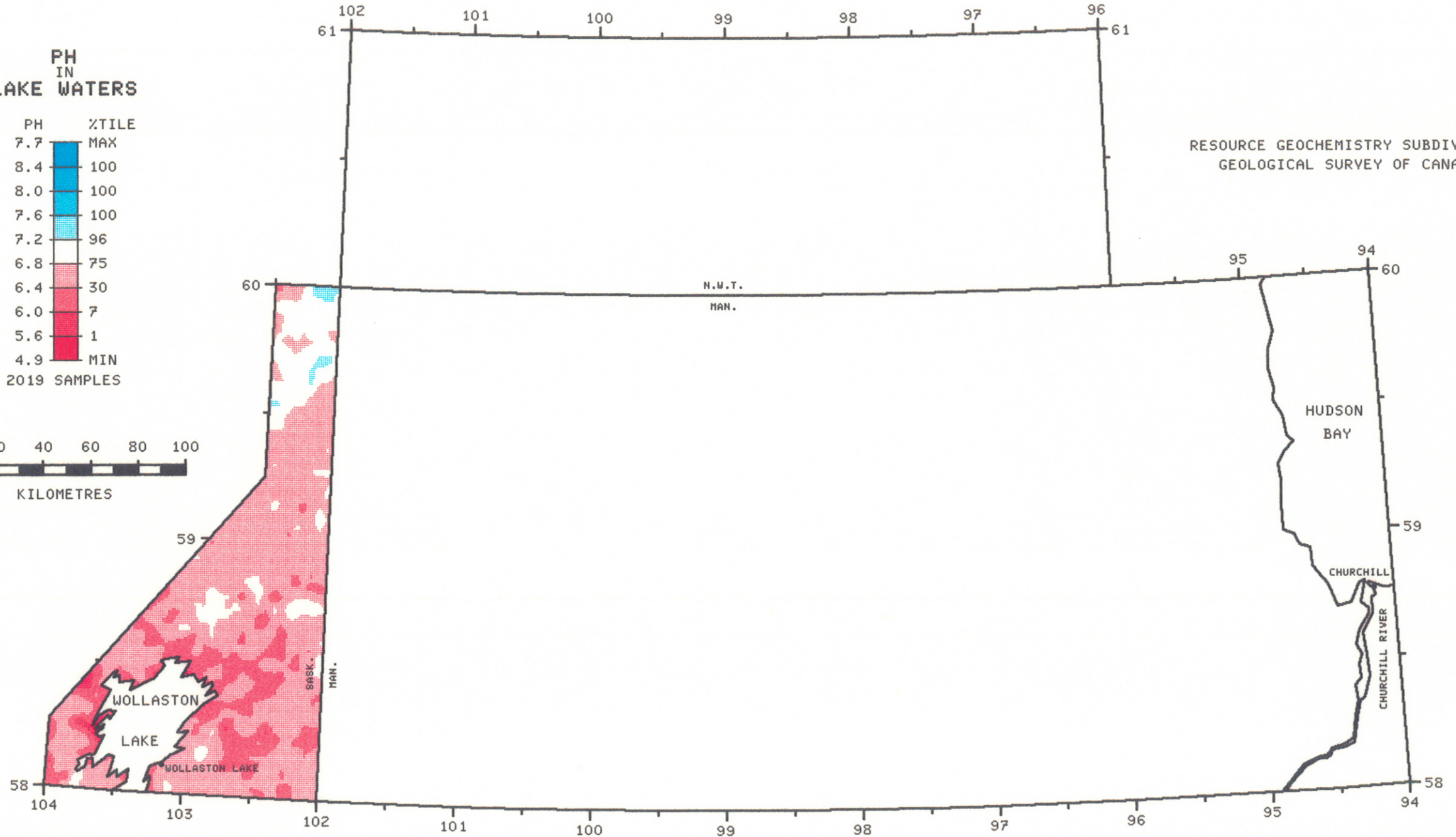
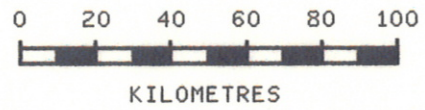
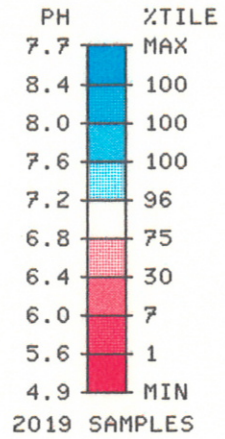
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GEOLOGICAL SURVEY OF CANADA



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MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES**
NTS 54L.M , 64I,J,K,O,P AND PARTS OF 64L.M , 65A,B,C

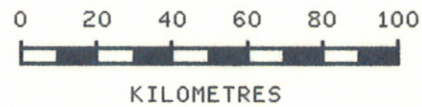
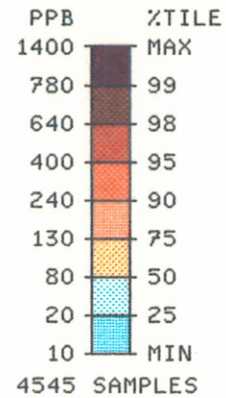
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**PH
IN
LAKE WATERS**

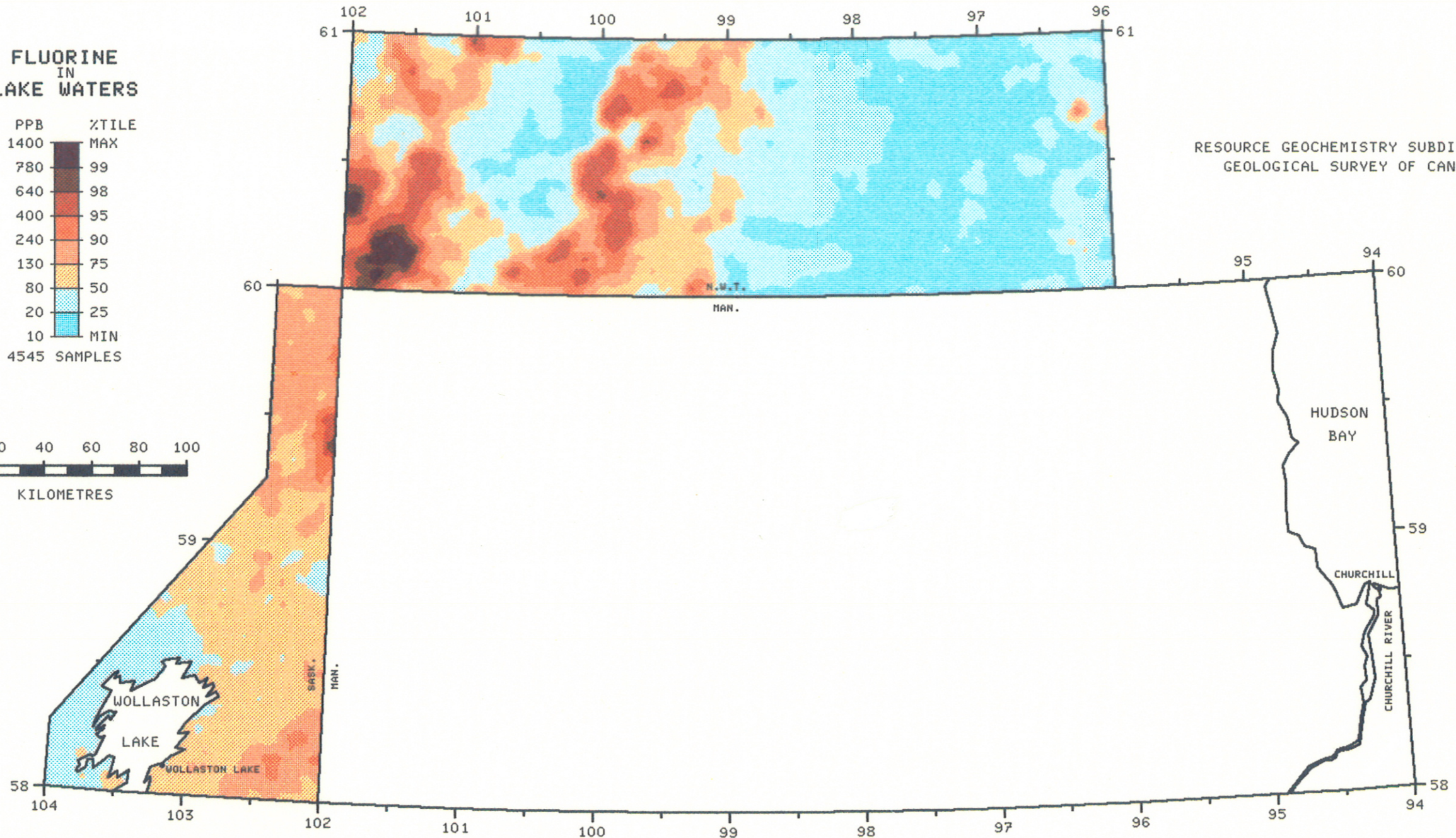


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MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES**
NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**FLUORINE
IN
LAKE WATERS**



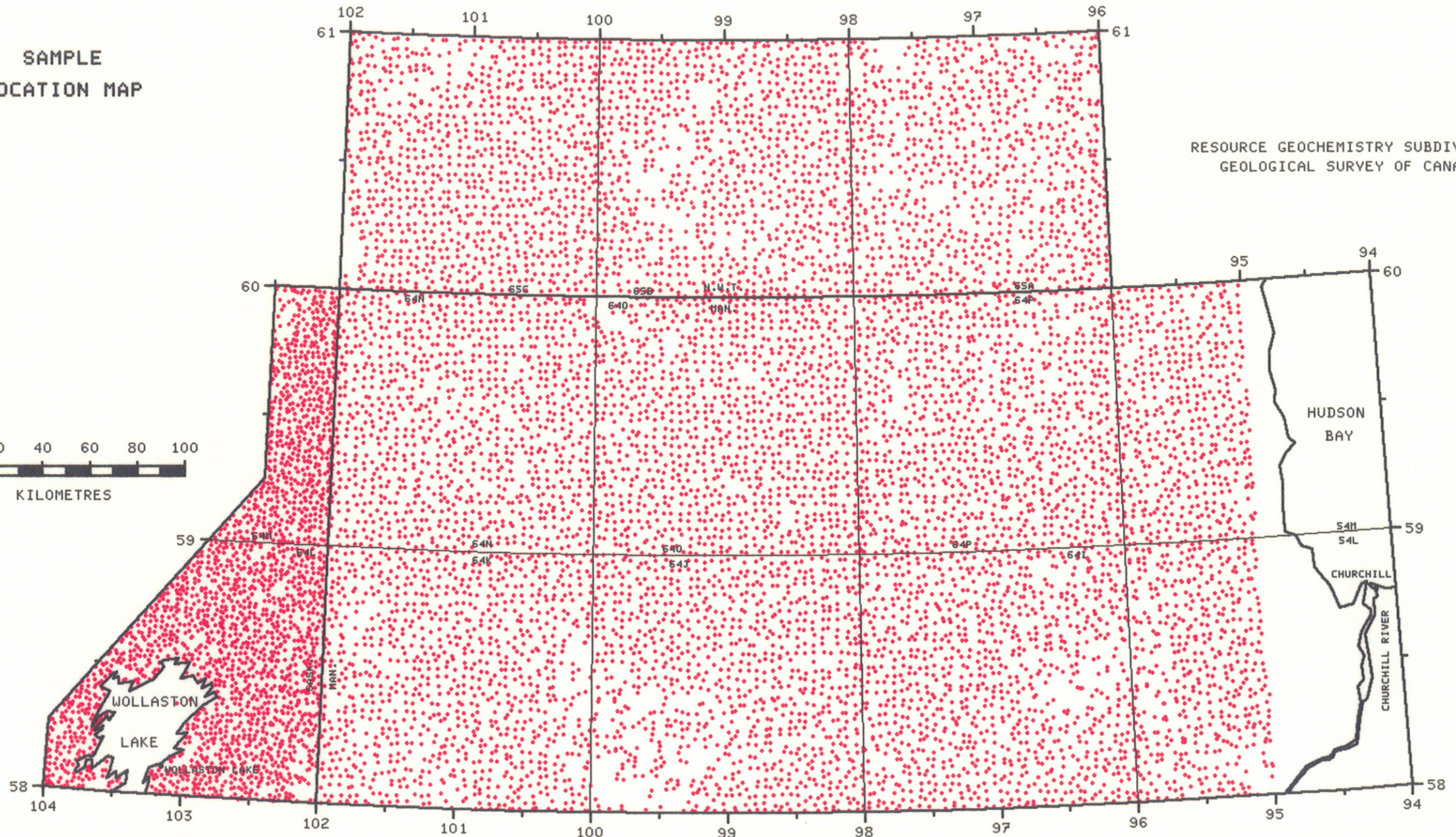
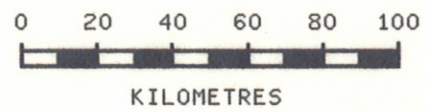
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MANITOBA, SASKATCHEWAN AND NORTHWEST TERRITORIES
NTS 54L.M, 64I, J, K, O, P AND PARTS OF 64L.M, 65A, B, C

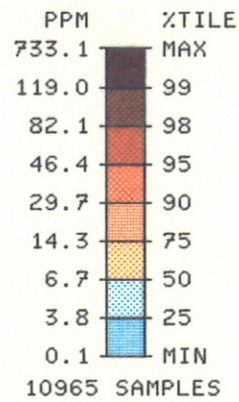
SAMPLE
LOCATION MAP

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GEOLOGICAL SURVEY OF CANADA

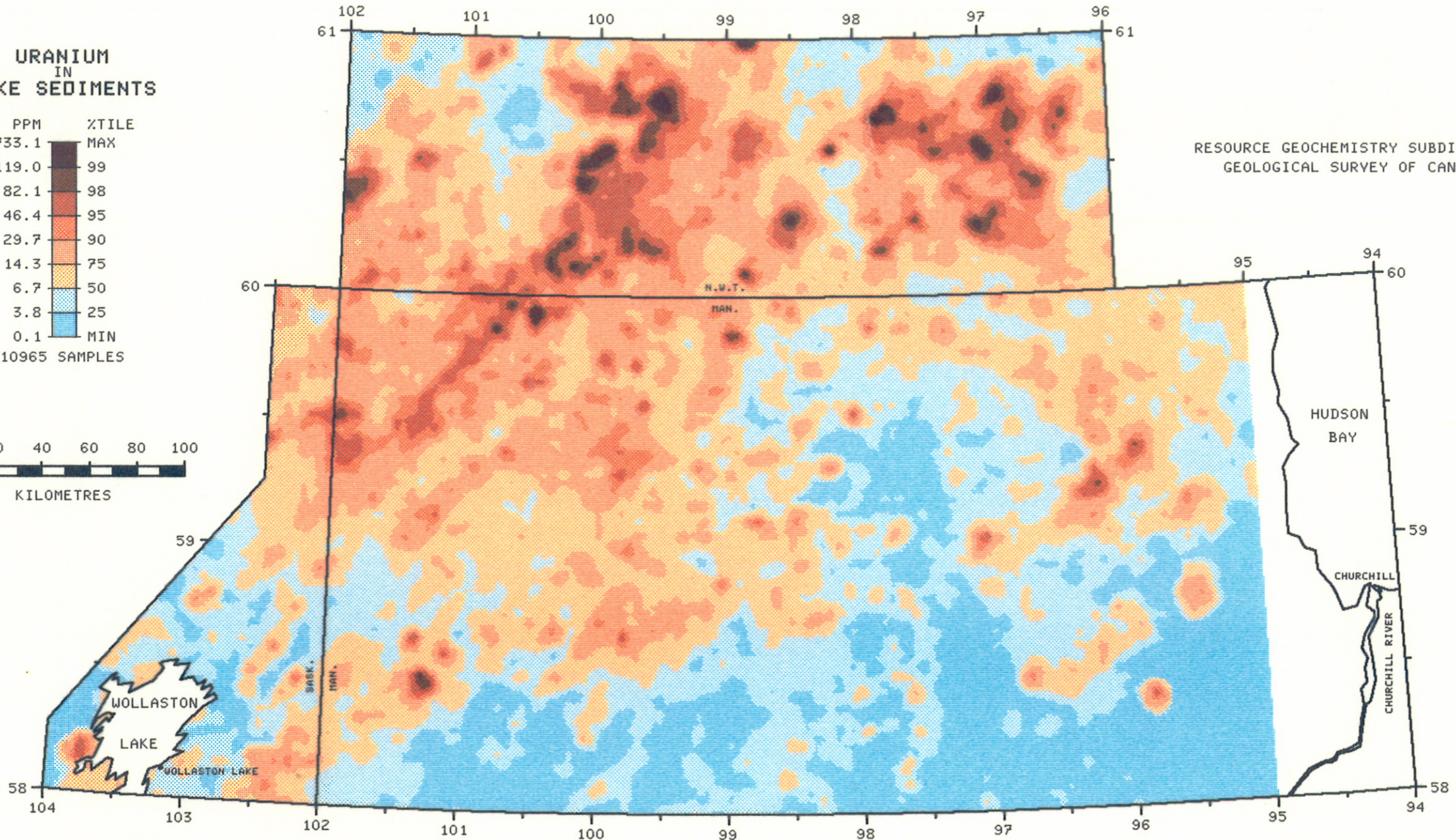
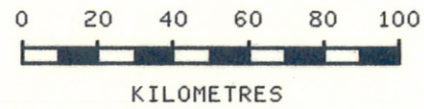


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**URANIUM
IN
LAKE SEDIMENTS**

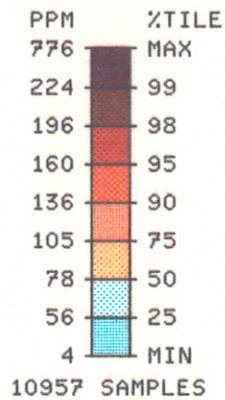


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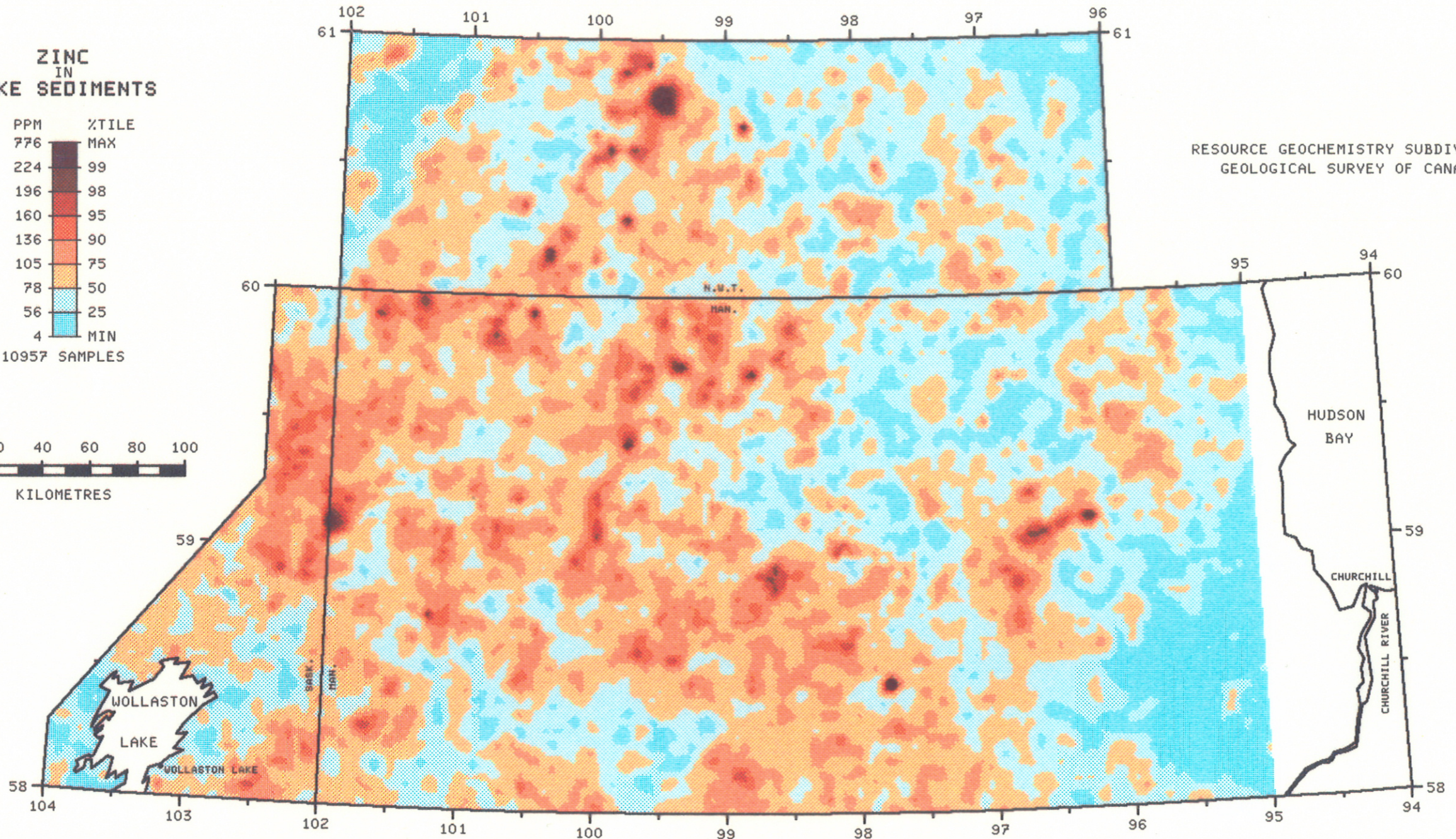
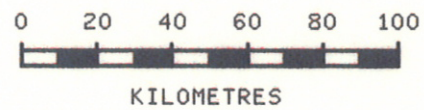


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**ZINC
IN
LAKE SEDIMENTS**

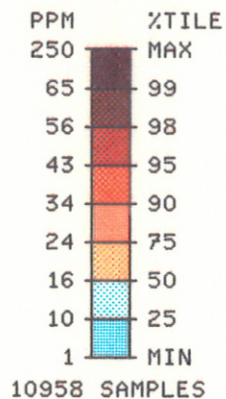


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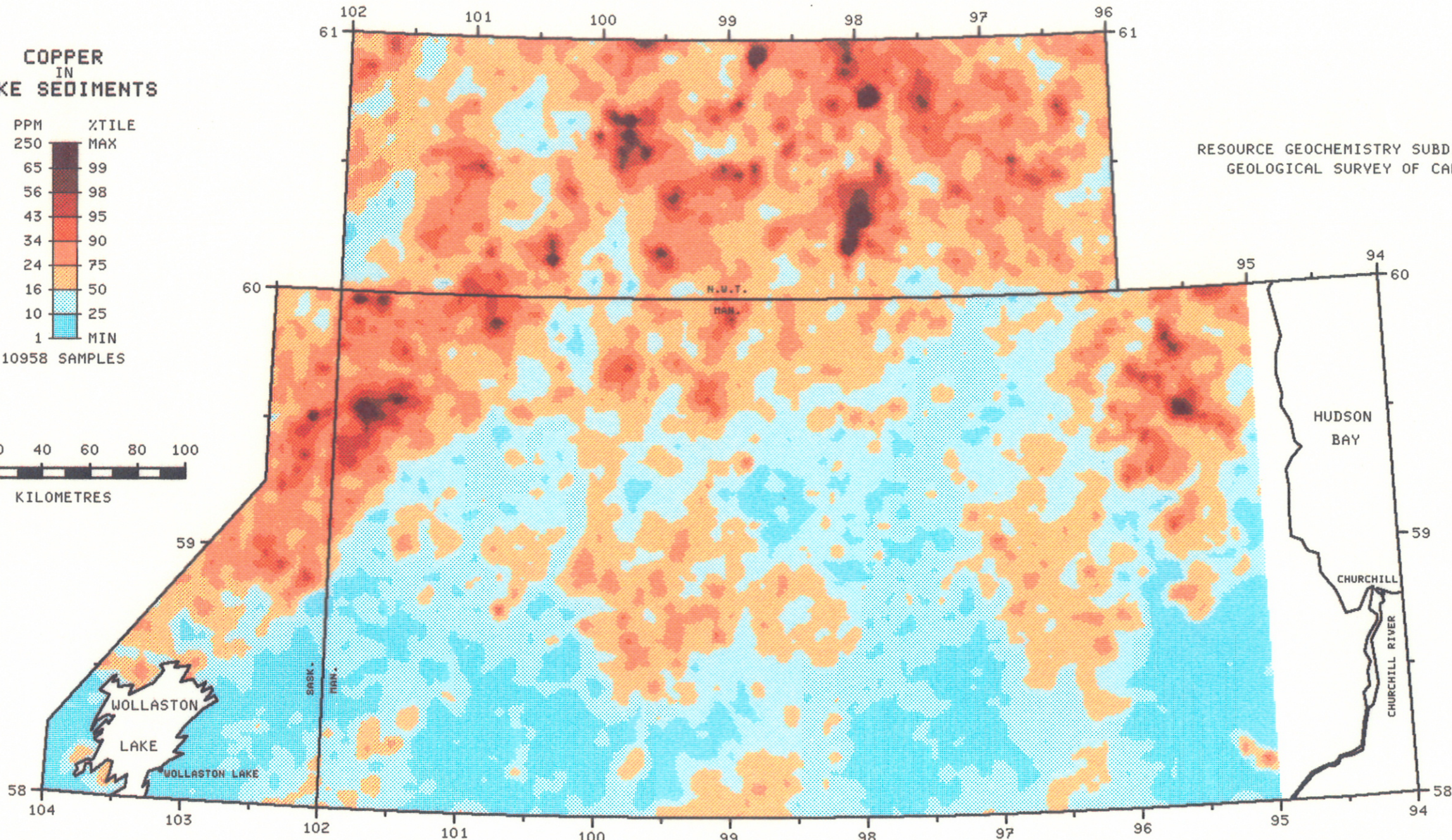
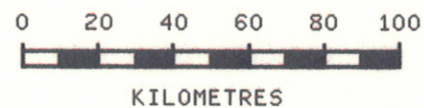


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NTS 54L.M , 64I,J,K,O,P AND PARTS OF 64L.M , 65A,B,C

**COPPER
IN
LAKE SEDIMENTS**

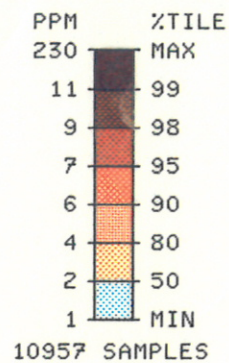


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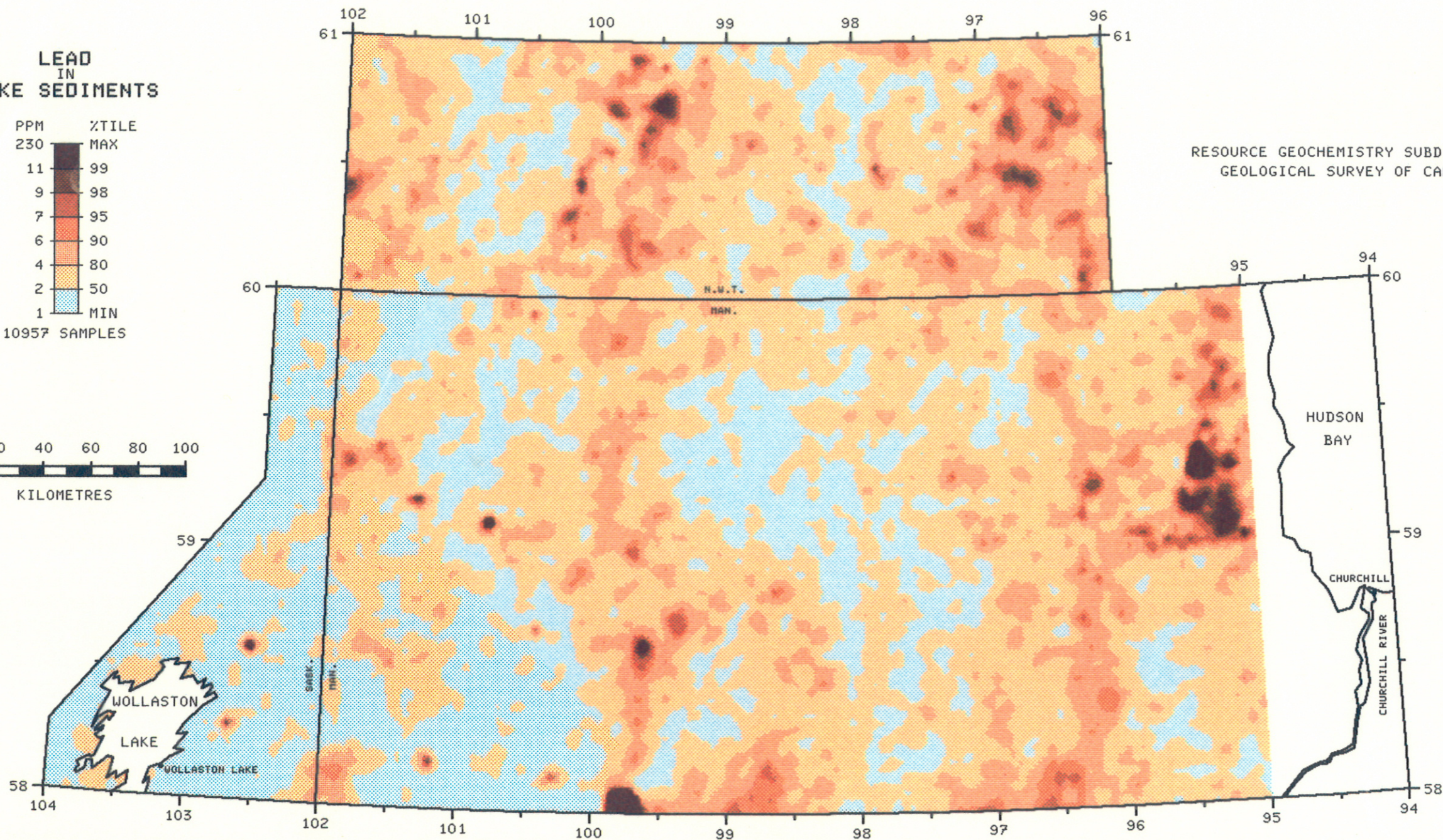
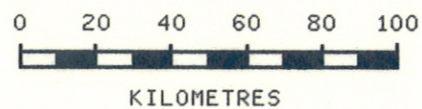


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NTS 54L.M , 64I,J,K,O,P AND PARTS OF 64L.M , 65A,B,C

LEAD
IN
LAKE SEDIMENTS

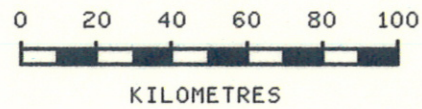
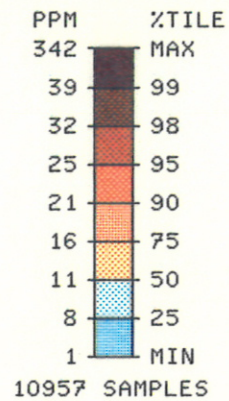


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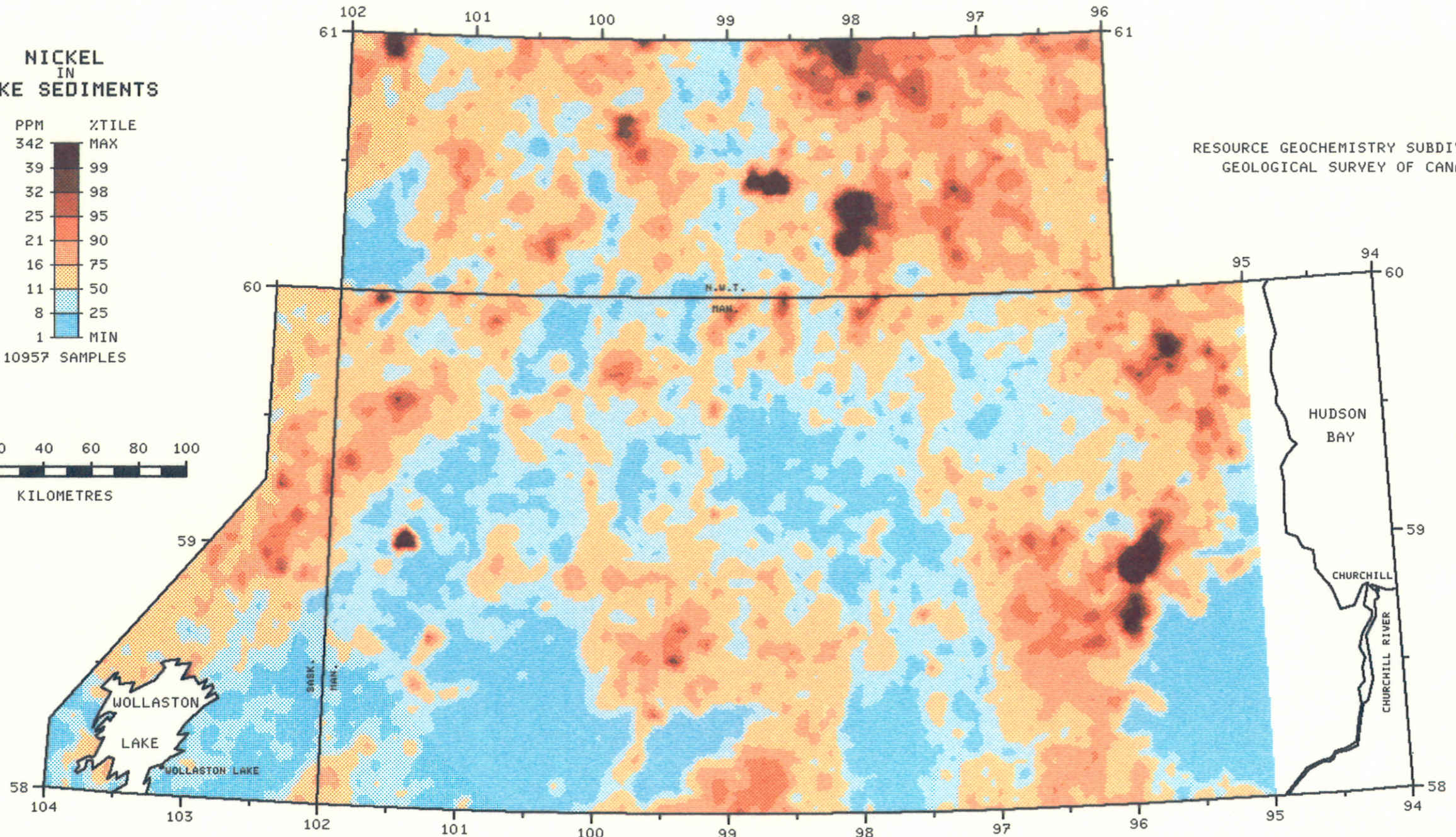


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NTS 54L,M , 64I,J,K,O,P AND PARTS OF 64L,M , 65A,B,C

**NICKEL
IN
LAKE SEDIMENTS**

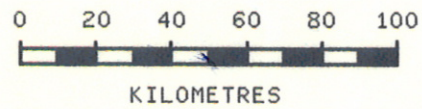
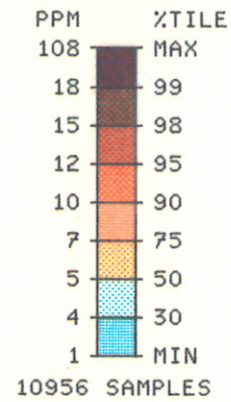


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**COBALT
IN
LAKE SEDIMENTS**



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