

SCALE 1:250 000

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GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Survey Ltd., Montanum Inc., Keaning Earth Sciences Ltd., and Northway Survey Corporation Ltd.

The topography for this series of maps was reproduced from 1:250,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

[illegible]

**TOTAL COUNT**  
**NUELTIN LAKE**  
**MAP 1996**

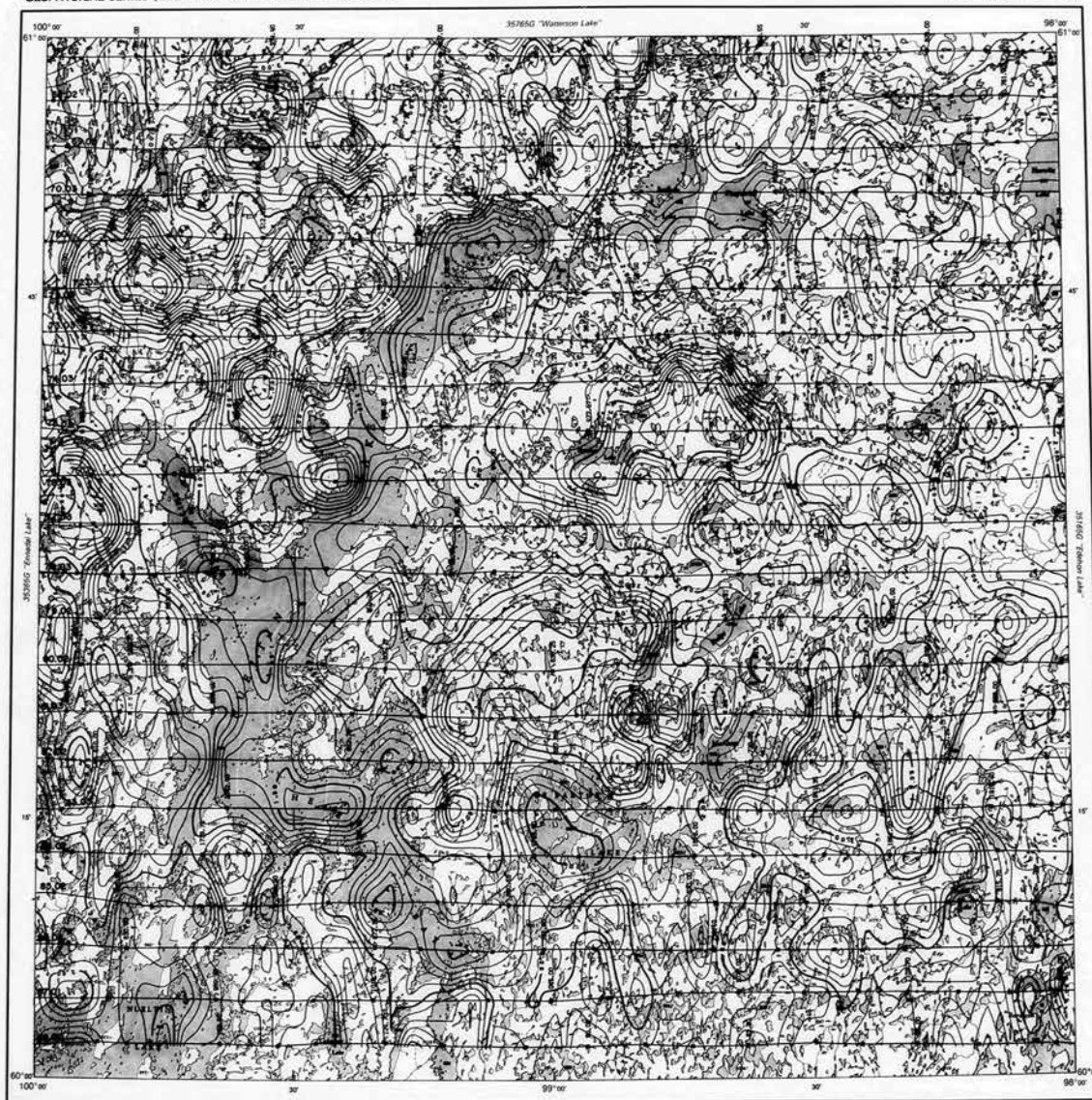
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GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND RESOURCES

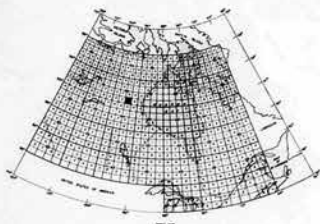
GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

POTASSIUM (K) 658



35265G "Nueltin Lake"

Potassium 1977



POTASSIUM (K)  
MAP 35265G

### NUEL TIN LAKE

DISTRICT OF KEEWATIN  
NORTHWEST TERRITORIES

Contour Interval: 0.2 per cent



SCALE 1:250,000

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GEOLOGICAL SURVEY OF CANADA, OTTAWA

Chapman Reconnaissance Program Airborne Gamma Ray Spectrometer Survey 1976, flown and compiled by the consortium of Terra Survey Ltd., Vancouver, British Columbia, and Northwest Survey Corporation Ltd.

The topography for this series of maps was reproduced from 1:50,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

This map was compiled from airborne gamma-ray spectrometer data recorded digitally along the flight lines shown. The spectrometer was 30 metres of radius within 100 metres of the flight lines, recorded gamma-ray data in four channels, with the following energy ranges:

Channel 1 74.2 - 75.0 MeV

Channel 2 1.86 - 1.88 MeV

Channel 3 1.88 - 1.90 MeV

Channel 4 1.90 - 1.92 MeV

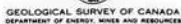
Channels 1 and 2 were combined on the 2.02 MeV 1.04 ppm scale, the 1.76 MeV 0.47 ppm scale and on the 1.46 MeV 0.21 ppm scale. Channels 3 and 4 were combined on these channels and recorded at one second intervals. The terrain elevation was integrated and recorded in the second channel. The data were then normally distributed to the normal spectrum (4.4). The survey profile was flown at a ground speed of 400 km/h and at a ground level between 1000 and 1200 feet.

The data were corrected for dead time, atmospheric changes in temperature, background radiation, scatter, surface roughness and absorption of gamma rays from the ground surface. Corrected count rates from channels 1 and 2 were converted to potassium levels in different forms: absolute concentration and potassium oxide concentration. Channel 4 was integrated to give a potassium level in the range 100 to 150 ppm. The data were then converted to a potassium level in the range 100 to 150 ppm.

Data were smoothed using all data points along the flight lines (charting values over water) plotted at 2.5 kilometre intervals along the flight lines and 10 kilometre intervals across tracks, and contouring.

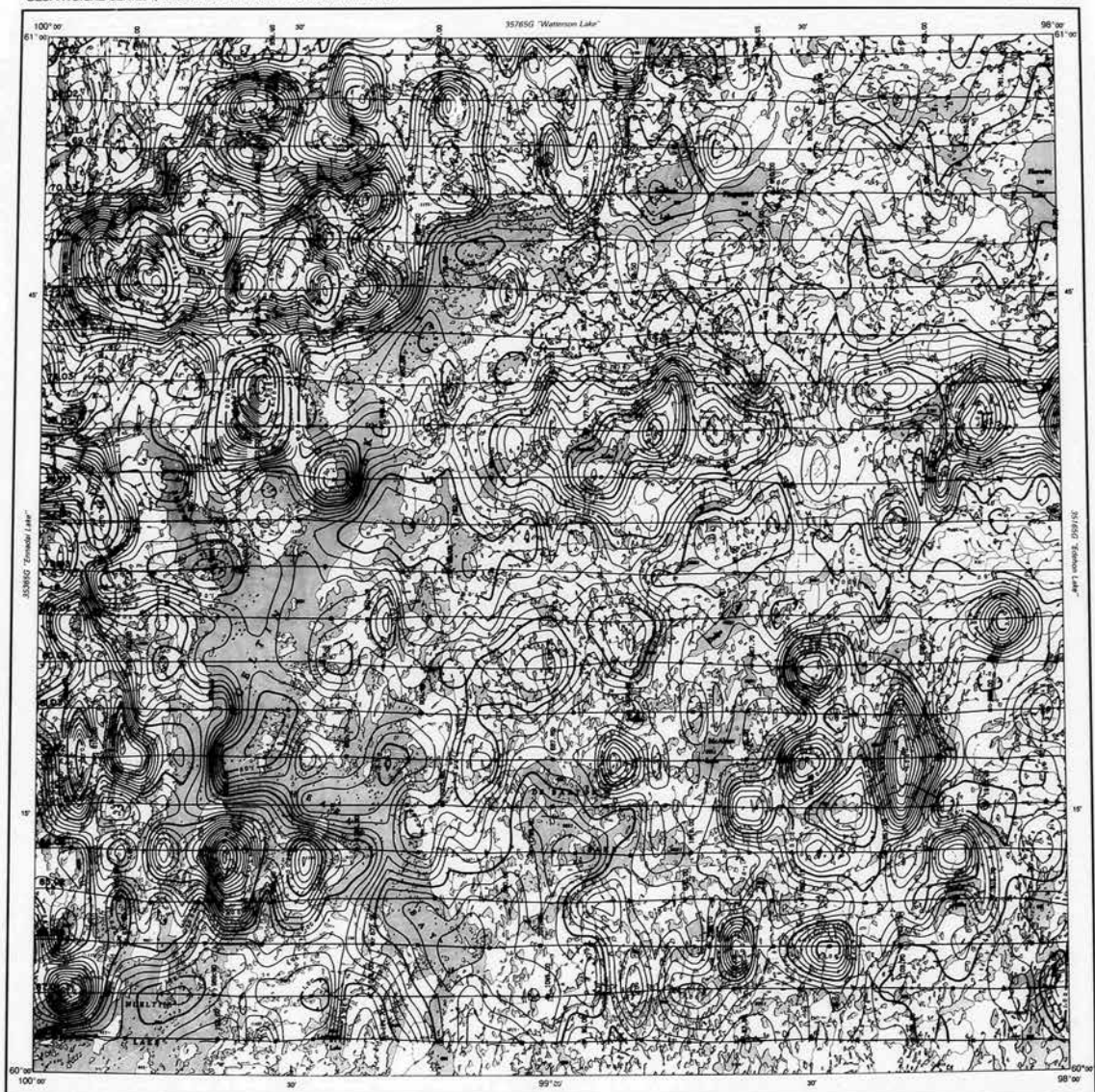
The contour values are surface sediment concentrations averaged over areas of approximately 1000 square metres. These areas generally include some surface water bodies, creeks and other bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentrations in sediments.

POTASSIUM (K)  
NUEL TIN LAKE  
MAP 35265G

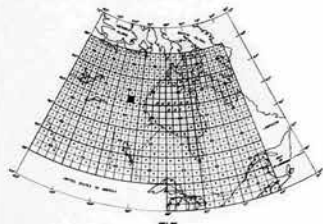


GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

EQUIVALENT URANIUM (eU) 650



Published 1987



**Continue Reading**

Flight time and frequency

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EQUIVALENT URANIUM (eU)  
MAP 35265G

## NUELTIN LAKE

DISTRICT OF KEEWATIN  
NORTHWEST TERRITORIES

Lithium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Surveys Ltd., Consortium director, Kenting Earth Sciences Ltd., and Northway Survey Corporation Ltd.

The topography for this series of maps was reproduced from 1:250,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

This map was compiled from airborne gamma ray spectrometer data recorded digitally along the flight lines shown. The spectrometer, with 30 bins of sodium iodide (NaI(Tl)) detector, recorded gamma radiation in four channels with the following energy ranges:

Channel 1	142 - 252 MeV
Channel 2	156 - 136 MeV
Channel 3	136 - 106 MeV

Channels 1, 2 and 3 were sampled on the 2.92 MeV  $^{137}\text{Cs}$  gamma peak, the 1.76 MeV  $^{60}\text{Co}$  (photo) peak and on the 1.46 MeV  $^{40}\text{K}$  gamma peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The timer clearance was averaged and recorded at one second intervals. The detectors were thermally stabilized to minimize spectrum shift. The survey aircraft were flown at a planned survey altitude of 600 feet and were

The data were corrected for dead time, atmospheric changes in temperature, back-ground radiation, spectral scattering and deviations of terrain clearance from the planned survey altitude. Corrected count rates from channels 1, 2 and 3 were converted to concrete forms of equivalent strontium, equivalent cesium, and potassium, using conversion factors determined for each gamma-ray spectrum used in the survey. The total count rates from channel 4 were converted to units of radon concentration. The conversion factors which differed among the 3 air int. units are approximately three times listed below.

Channel 1	Channel 2	Channel 3
1.0 ppm/ct-h	1.0 ppm/ct-h	1.0 ppm/ct-h
1.0 ppm/ct-h	1.0 ppm/ct-h	1.0 ppm/ct-h
1.0 ppm/ct-h	1.0 ppm/ct-h	1.0 ppm/ct-h

Channel 2	1 ppm-4% = 8 to 10 rpm
Ch. well 3	1 %A = 10 to 80 rpm

Channel 6  $t_{\text{eff}} = 140 \pm 100$  s

**EQUIVALENT URANIUM (eU)**  
NUEL TIN LAKE  
MAP 352650

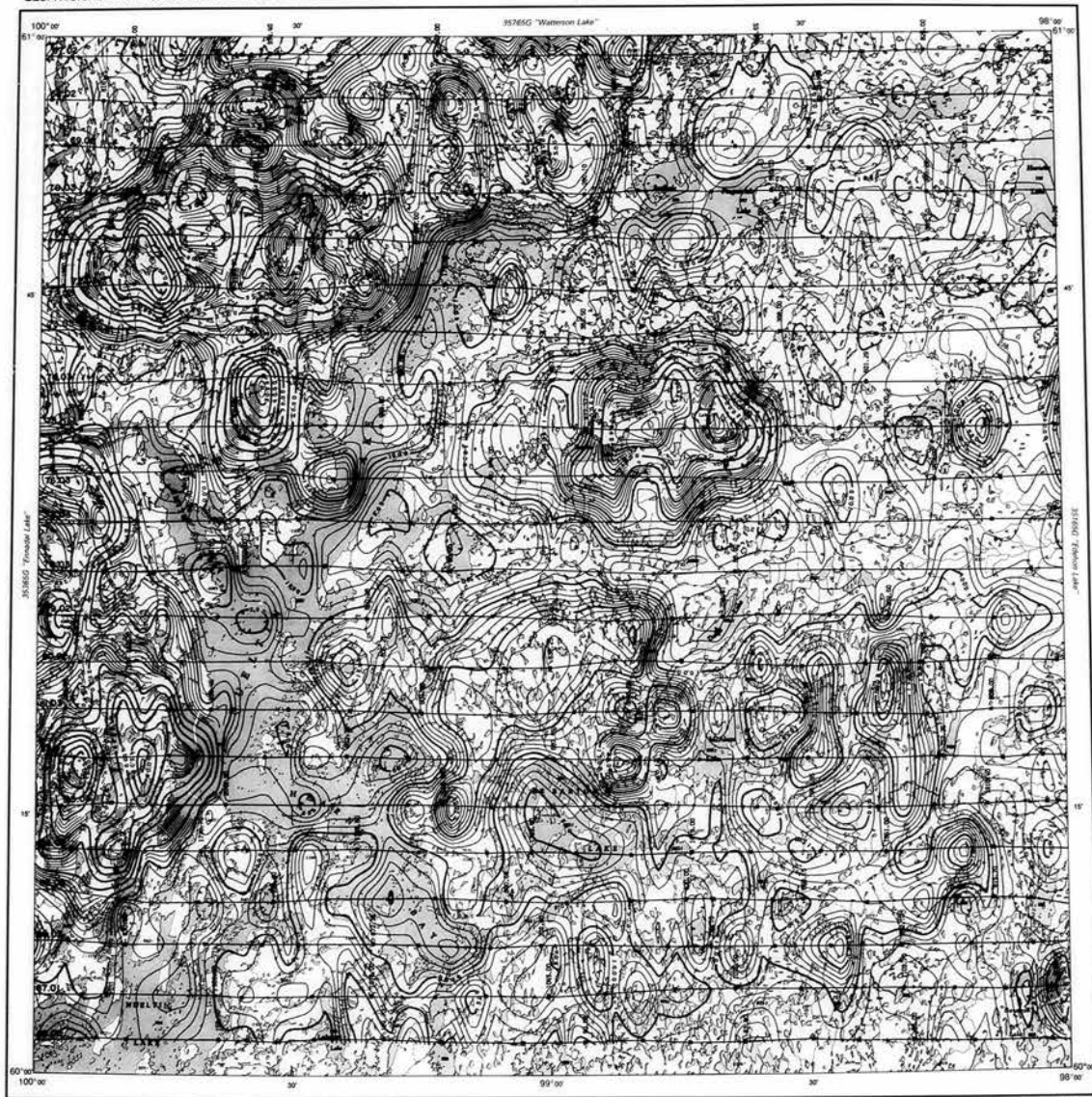




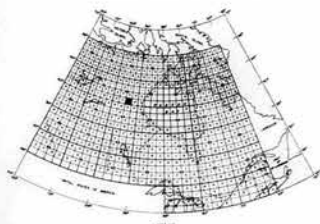
GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

EQUIVALENT THORIUM (eTh) 658



Published, 1977



EQUIVALENT THORIUM (eTh)  
MAP 35265G

# NUEL TIN LAKE DISTRICT OF KENWATIN NORTHWEST TERRITORIES

SCALE 1:750,000

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GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometry Survey, 1975. Scan and compiled by the Department of Energy, Mines and Resources, Geological Survey of Canada, Ottawa.

The topography for this series of maps was reproduced from 1:250,000 topographic map sheets published by the Department of Energy, Mines and Resources, Ottawa.

This map was compiled from airborne gamma-ray spectrometry data recorded during the flight lines shown. The spectrometry data were obtained from a 1000 channel gamma-ray spectrometer with the following energy ranges:

Channel 1 0-100 keV  
Channel 2 100-150 keV  
Channel 3 150-200 keV  
Channel 4 200-250 keV

Channels 1 and 2 were compiled on the 2500-MHz 1-MHz pulse rate, the 1000-MHz pulse rate and on the 1000-MHz pulse rate. The data were recorded on 16-mm film.

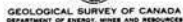
The data were corrected for dead time, atmospheric absorption, changes in temperature, latitude, longitude, altitude and direction of travel. Corrections for the above factors were made using the following formulae:

Corrected count rate = Observed count rate / (1 - Dead time) \* (1 - Atmospheric absorption) \* (1 - Temperature correction) \* (1 - Latitude correction) \* (1 - Longitude correction) \* (1 - Direction correction)

The data were corrected for dead time, atmospheric absorption, changes in temperature, latitude, longitude, altitude and direction of travel. Corrections for the above factors were made using the following formulae:

Corrected count rate = Observed count rate / (1 - Dead time) \* (1 - Atmospheric absorption) \* (1 - Temperature correction) \* (1 - Latitude correction) \* (1 - Longitude correction) \* (1 - Direction correction)

EQUIVALENT THORIUM (eTh)  
NUEL TIN LAKE  
MAP 35265G



•U/Eth RATIO  
MAP 35265G

**NUELTIN LAKE**

DISTRICT OF KEEWATIN  
NORTHWEST TERRITORIES

SCALE 1:250 000

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GEOLOGICAL SURVEY OF CANADA OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1978. flown and compiled by the consortium of Terra Surveys Ltd., (Hemphill director), Kenting Earth Sciences Ltd., and Porphyrus Survey Corporation Ltd.

The topography for this series of maps was reproduced from 1:250,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

This map was computed from airborne gamma-ray spectrometer data recorded digitally along the flight lines shown. The spectrometer, with 50 coils of sodium iodide (NaI(Tl)) detectors,

Channel 1	2.42–2.62 MeV
Channel 2	1.06–1.36 MeV
Channel 3	1.36–1.56 MeV
Channel 4	0.60–2.62 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV  $^{11}\text{C}$  peak, the 1.76 MeV  $^{60}\text{Co}$  photo peak and on the 1.46 MeV  $^{60}\text{Co}$  photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The beam clearance was averaged and recorded at one second intervals. The detectors were thermally shielded to minimize

The data were corrected for dead time, atmospheric changes in temperature, background radiation, spectral scattering and deviations of laser clearance from the planned survey altitude. Corrected count rates from channels 1, 2 and 3 were converted to counts.

Channel 1	1 ppm at 10 <sup>-5</sup> to 10 <sup>-6</sup> cps
Channel 2	1 ppm at 10 <sup>-5</sup> to 10 <sup>-6</sup> cps

Channel 2	1 ppm (d) = 4 to 10 cps
Channel 3	1 $\mu$ M = 70 to 80 cps
Channel 4	1 $\mu$ M = 140 to 160 cps

Data were collected using 40 data points along the flight lines (sampling values over water) gridded at 2.2-kilometer intervals along track and 5-kilometer intervals across track.

The contoured values are surface redistribution concentrations, averaged over areas of approximately 750 000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

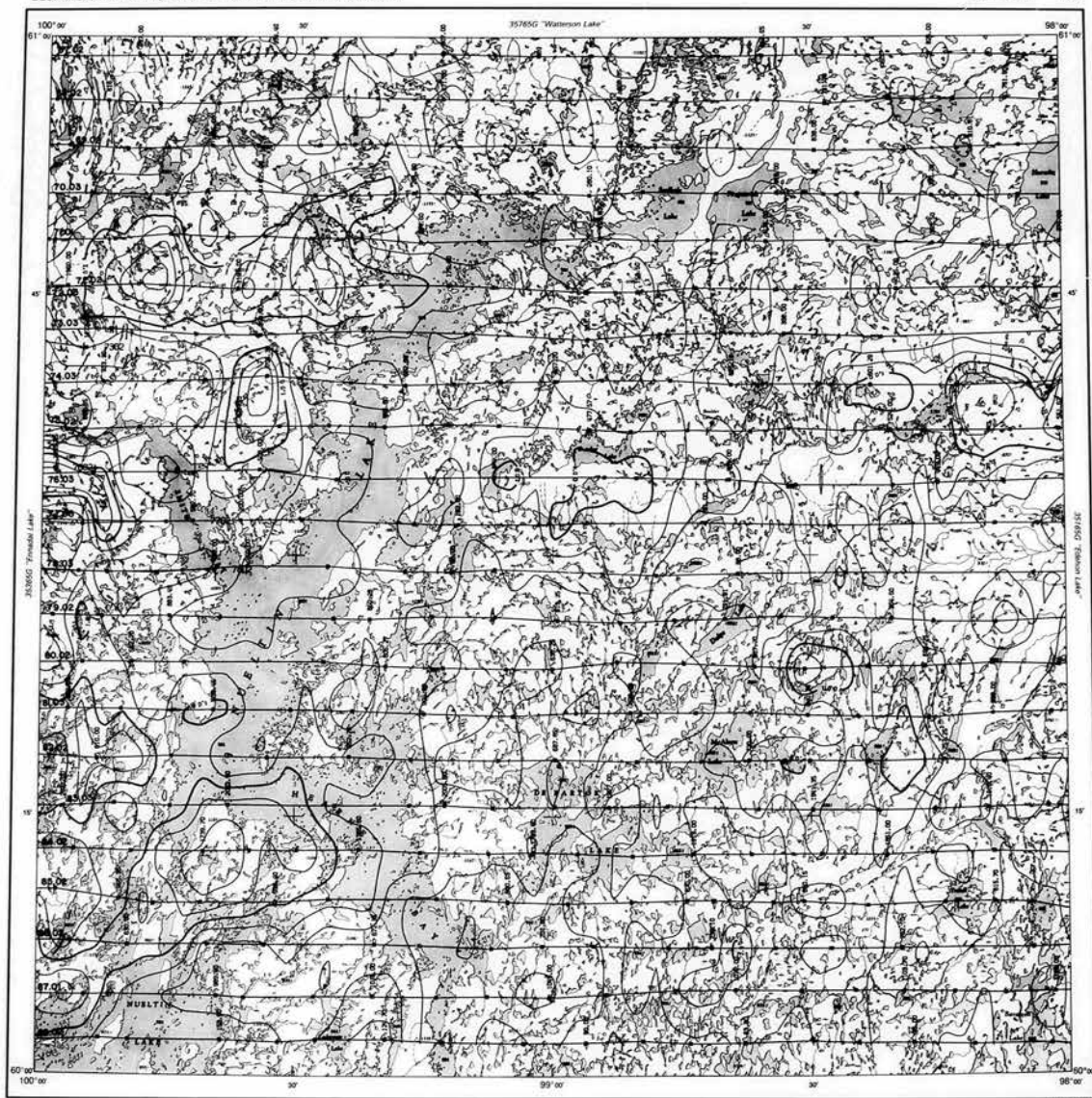
**•U/•Th RATIO**  
NUELTIN LAKE  
MAP 33252



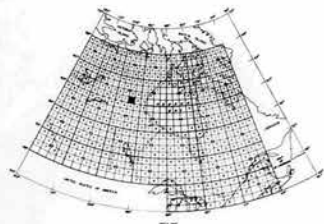
GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

#U/K RATIO 658



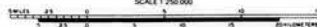
Published, 1977



#U/K RATIO  
MAP 35765G

# NUEL TIN LAKE DISTRICT OF KIRKPATRICK NORTHWEST TERRITORIES

SCALE 1:250,000



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GEOLOGICAL SURVEY OF CANADA, OTTAWA.

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the personnel of Terra Survey Ltd., Vancouver, British Columbia, and Northwest Survey Corporation Ltd.

The topography for this series of maps was reproduced from 1:250,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

This map was compiled from airborne gamma-ray spectrometer data recorded digitally along the flight lines shown. The spectrometer, with 50 lines of sodium iodide (NaI) as detectors, recorded gamma-ray spectra in four channels, with the following energy ranges:

Channel 1	242 - 282 MeV
Channel 2	180 - 242 MeV
Channel 3	135 - 180 MeV
Channel 4	85 - 135 MeV

Channels 1 and 2 were combined on the 1:250,000 map. Counts were accumulated in 10-second intervals and the 10-second counts were then averaged and recorded in one second intervals. The detectors were thermally stabilized to within 0.1°C and the counting rate was held at a constant level of 4000 per second and a ground level between 1000 and 2000 counts.

The data were corrected for dead time, atmospheric changes in temperature, background radiation, spectral scattering and variations of sensor clearance from the planned survey altitude. Corrected count rates were then converted to a field level corrected to a standard altitude of 1000 feet above the ground. The ground level was determined by each gamma-ray detector used in the survey. The total count rates from the detectors were then converted to a standard level of 1000 feet above the ground. The correction factors were then applied to the data and the resulting map was produced.

Channel 1	1 gram U <sub>3</sub> O <sub>8</sub> / 100 g
Channel 2	1 gram U <sub>3</sub> O <sub>8</sub> / 100 g
Channel 3	1 gram U <sub>3</sub> O <sub>8</sub> / 100 g
Channel 4	1 gram U <sub>3</sub> O <sub>8</sub> / 100 g

Data were checked using 40 data points along the flight lines, including values over water, ground at 2.5 kilometer intervals along track and 5 kilometer intervals across track, and corrected.

The contour lines are a 1:250,000 scale map. The contour lines are generally based on approximately 100,000 square meters. These areas generally include some water, over-land, water and some areas of water. The contour lines are generally based on the contour lines of the 1:250,000 scale map.

#U/K RATIO  
NUEL TIN LAKE  
MAP 35765G



