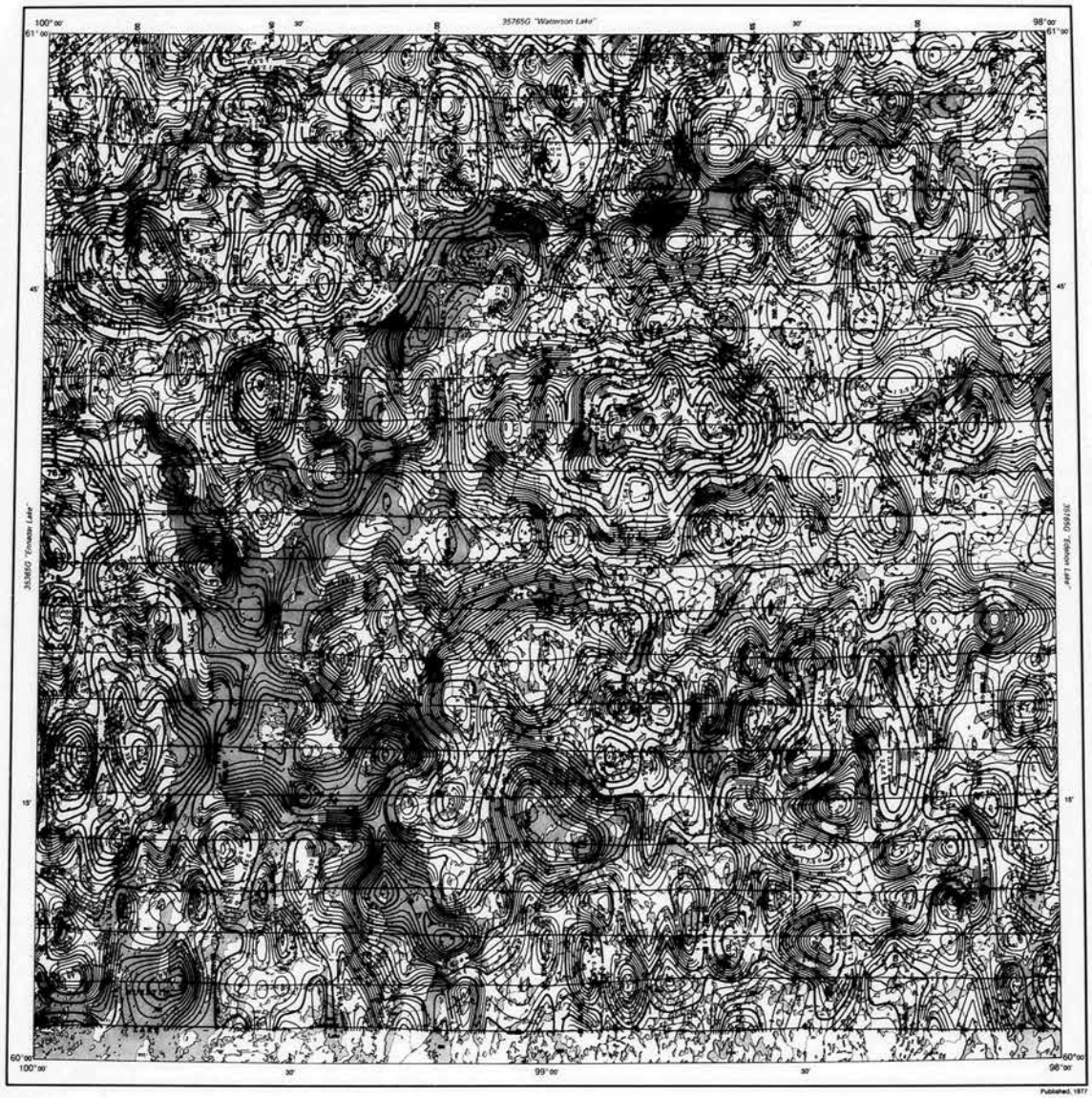
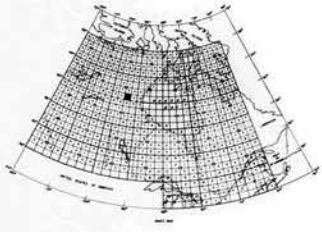
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

TOTAL COUNT 65B



Published, 1977



Contour Interval 0.5 μr

Flight line and Fiducial

250

TOTAL COUNT
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

SCALE 1:250,000

MILES 2.5 0 5 10 15
KILOMETRES 5 0 5 10 15 20

COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL, GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Surveys Ltd., Iconsortium directors', 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 50 litres of sodium iodide (thallium) detectors, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.62 – 3.52 MeV
Channel 2	1.66 – 1.86 MeV
Channel 3	1.36 – 1.56 MeV
Channel 4	0.40 – 2.80 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl^{208} photopeak, the 1.76 MeV Bi^{214} photopeak and on the 1.46 MeV K^{40} photopeak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground speed between 180 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

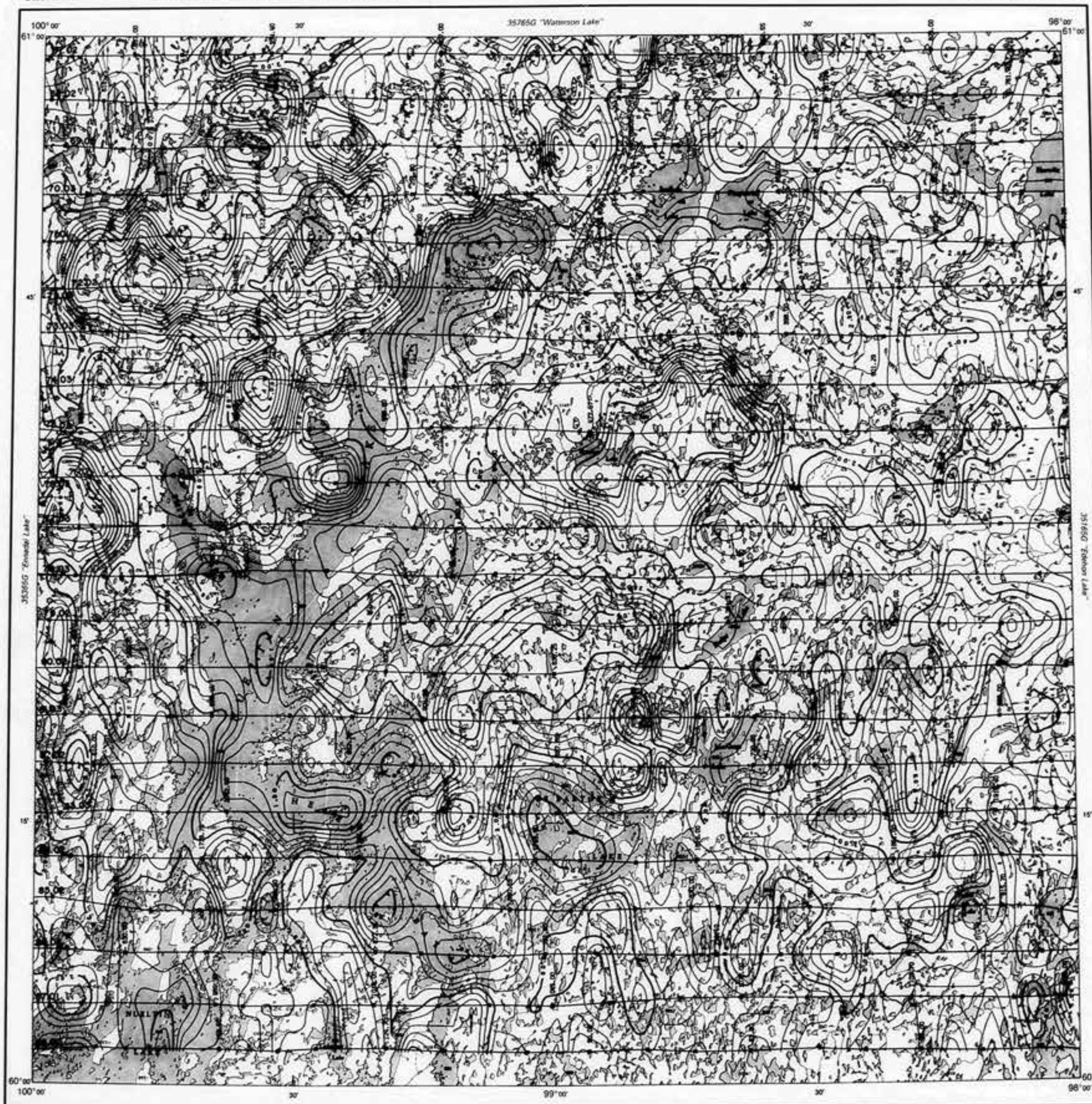
Channel 1	1 ppm eTh =	6 cps
Channel 2	1 ppm eU =	8 to 10 cps
Channel 3	1 %K =	70 to 80 cps
Channel 4	1 μr =	140 to 160 cps

Data were smoothed using 40 data points along the flight lines (rejecting values over water), gridded at 2.2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

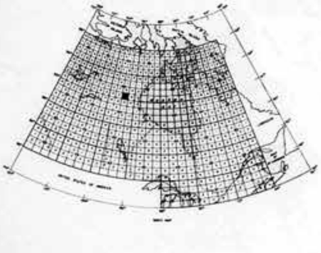
The contoured values are surface radioelement concentrations averaged over areas of approximately 700,000 square meters. These areas generally include some outcrop, overburden, swamps, and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

TOTAL COUNT
NUELTIN LAKE
MAP 35265G

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



Published, 1977



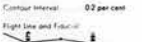
POTASSIUM (K)
MAP 35265G

NUELTIN LAKE

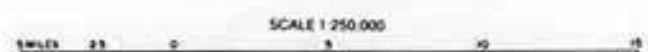
DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

Contour interval 0.2 per cent

Flight Line and Fiducial



SCALE 1:250,000



COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL, GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium 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 50 litres of sodium iodide (NaI(Tl)) detectors, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.42 – 2.82 MeV
Channel 2	1.66 – 1.86 MeV
Channel 3	1.36 – 1.56 MeV
Channel 4	0.40 – 2.82 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl photo peak, the 1.76 MeV Bi photo peak and on the 1.46 MeV K photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground speed between 190 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

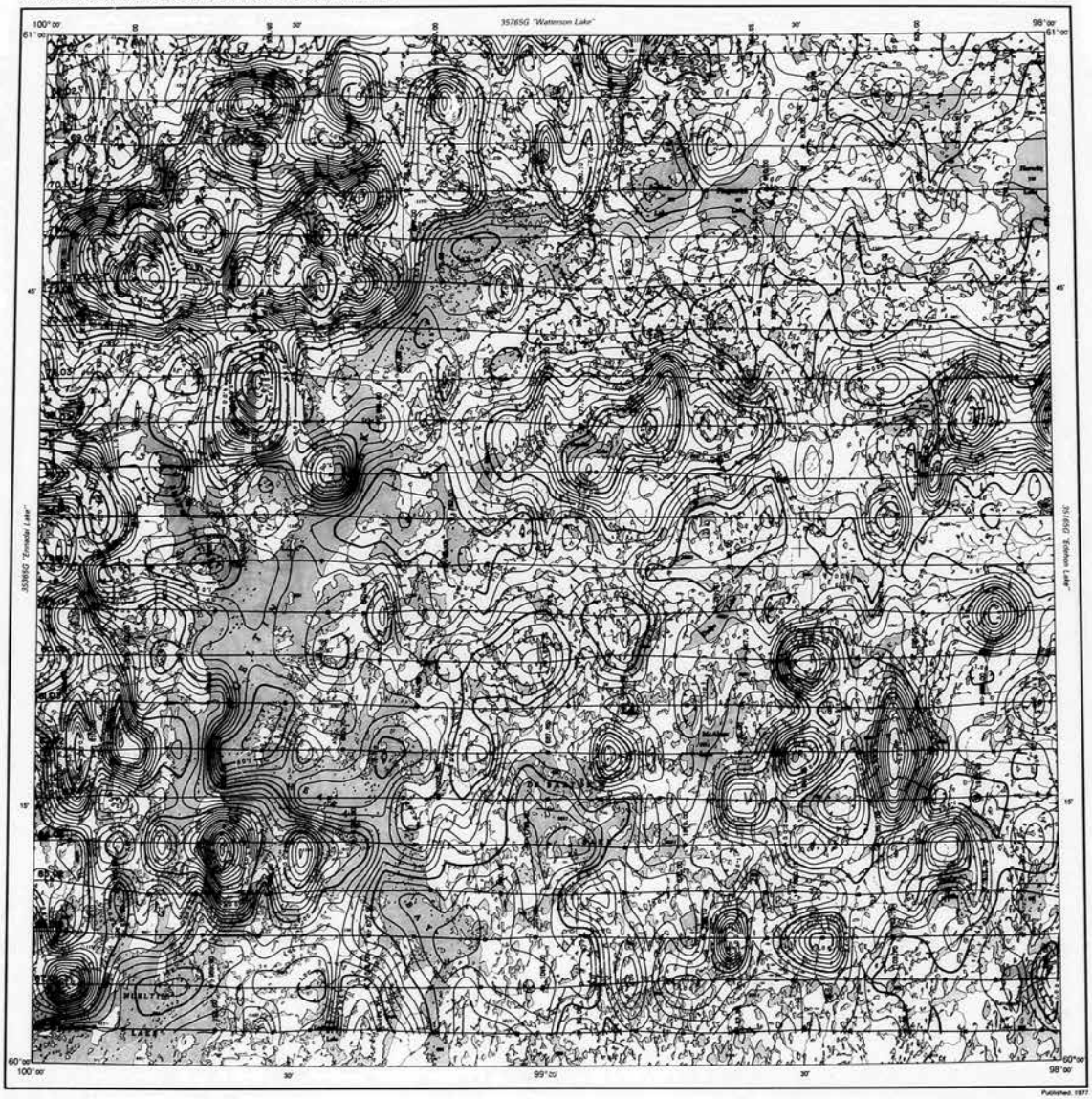
Channel 1	1 ppm eTh	= 6 cps
Channel 2	1 ppm eU	= 8 to 10 cps
Channel 3	1 %K	= 70 to 80 cps
Channel 4	1 ur	= 140 to 180 cps

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

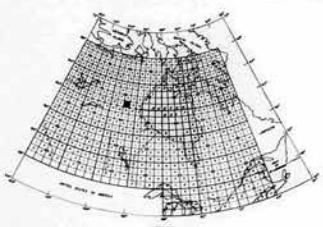
The contoured values are surface radioelement concentrations averaged over areas of approximately 700,000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

POTASSIUM (K)
NUELTIN LAKE
MAP 35265G

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



Published 1977



Contour Interval 0.2 ppm

Flight Line and Fiducial

EQUIVALENT URANIUM (eU)
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

SCALE 1:250,000

COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL, GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Surveys Ltd., Iconsortium directors), 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 50 litres of sodium iodide (NaI) TI detector, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.42 – 2.82 MeV
Channel 2	1.66 – 1.86 MeV
Channel 3	1.36 – 1.56 MeV
Channel 4	0.40 – 2.82 MeV

Channels 1, 2 and 3 are centered on the 2.62 MeV Tl^{208} photo peak, the 1.76 MeV Bi^{214} photo peak and on the 1.46 MeV K^{40} photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground speed between 180 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

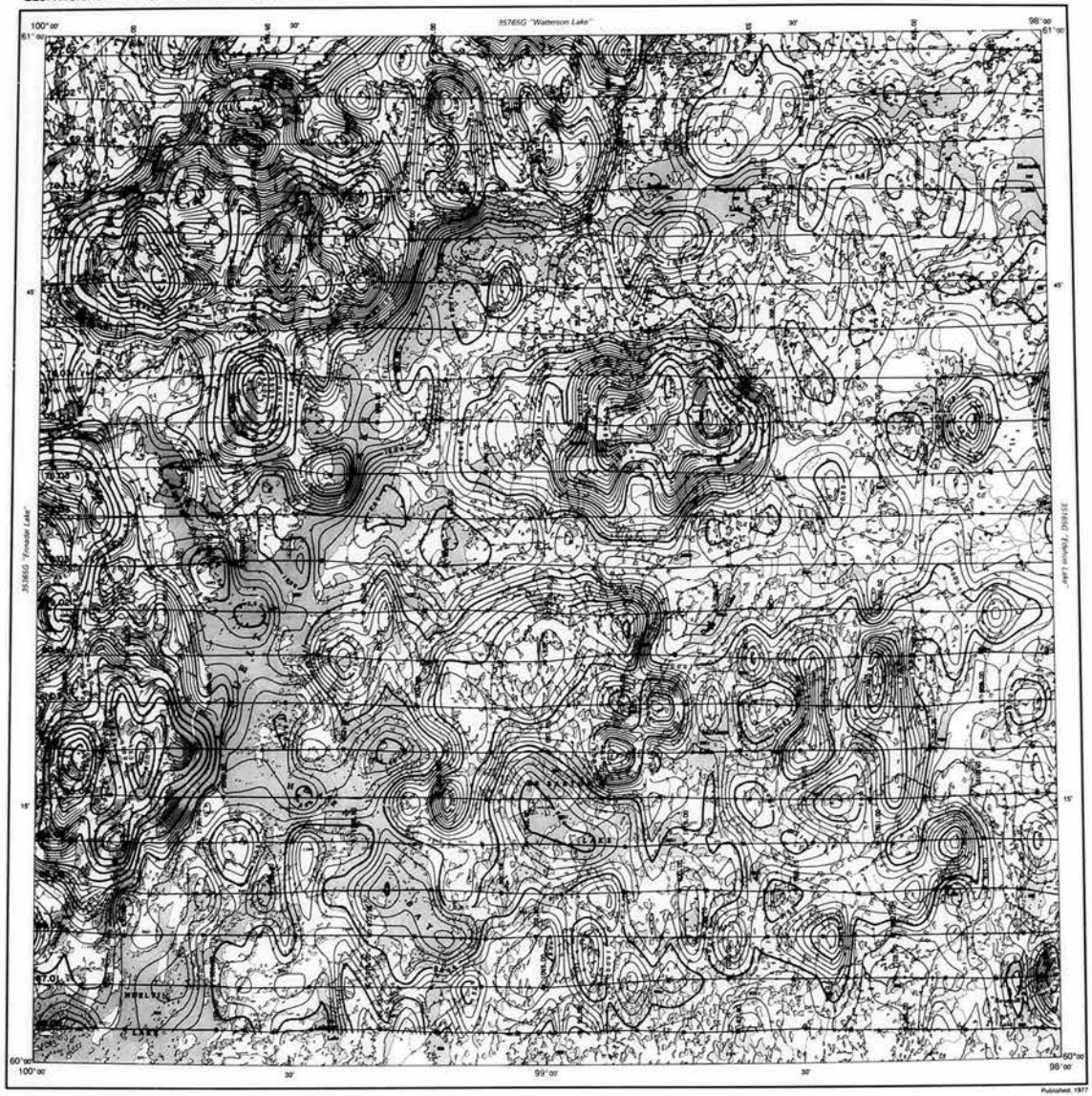
Channel 1	1 ppm eTh =	8 cpm
Channel 2	1 ppm eU =	8 to 10 cpm
Ch. (ref) 3	1 %K =	70 to 80 cpm
Channel 4	1 ur =	140 to 160 cpm

Data were smoothed using 40 data points along the flight lines (representing values over square, gridded at 2-2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

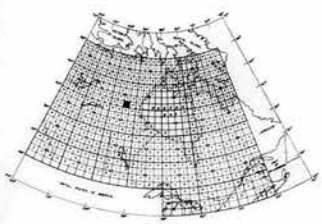
The contoured values are surface radioelement concentrations averaged over areas of approximately 700 000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour lines are generally lower than the concentration in bedrock.

EQUIVALENT URANIUM (eU)
NUELTIN LAKE
MAP 35265G

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



Published, 1977



Contour Interval 1.0 ppm

Flight Line and Fiducial

EQUIVALENT THORIUM (eTh)
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

SCALE 1:250,000

COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL
GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Surveys Ltd., (consortium directors), 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 50 litres of sodium iodide (NaI(Tl)) detectors, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.62 - 2.82 MeV
Channel 2	1.66 - 1.96 MeV
Channel 3	1.36 - 1.56 MeV
Channel 4	0.40 - 2.82 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl^{208} photo peak, the 1.76 MeV Bi^{214} photo peak and on the 1.46 MeV K^{40} photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain clearance was averaged and recorded at one second intervals. The detectors were thermally stabilized to minimize spectrum shift. The surveys aircraft were flown at a planned survey altitude of 400 feet and at a ground speed between 180 mi/hr and 240 mi/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

Channel 1	1 ppm eTh =	6 cps
Channel 2	1 ppm eU =	8 to 10 cps
Channel 3	1 %K =	70 to 80 cps
Channel 4	1 ur =	140 to 160 cps

Data were smoothed using 40 data points along the flight lines (depicting values over waters), gridded at 2.2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

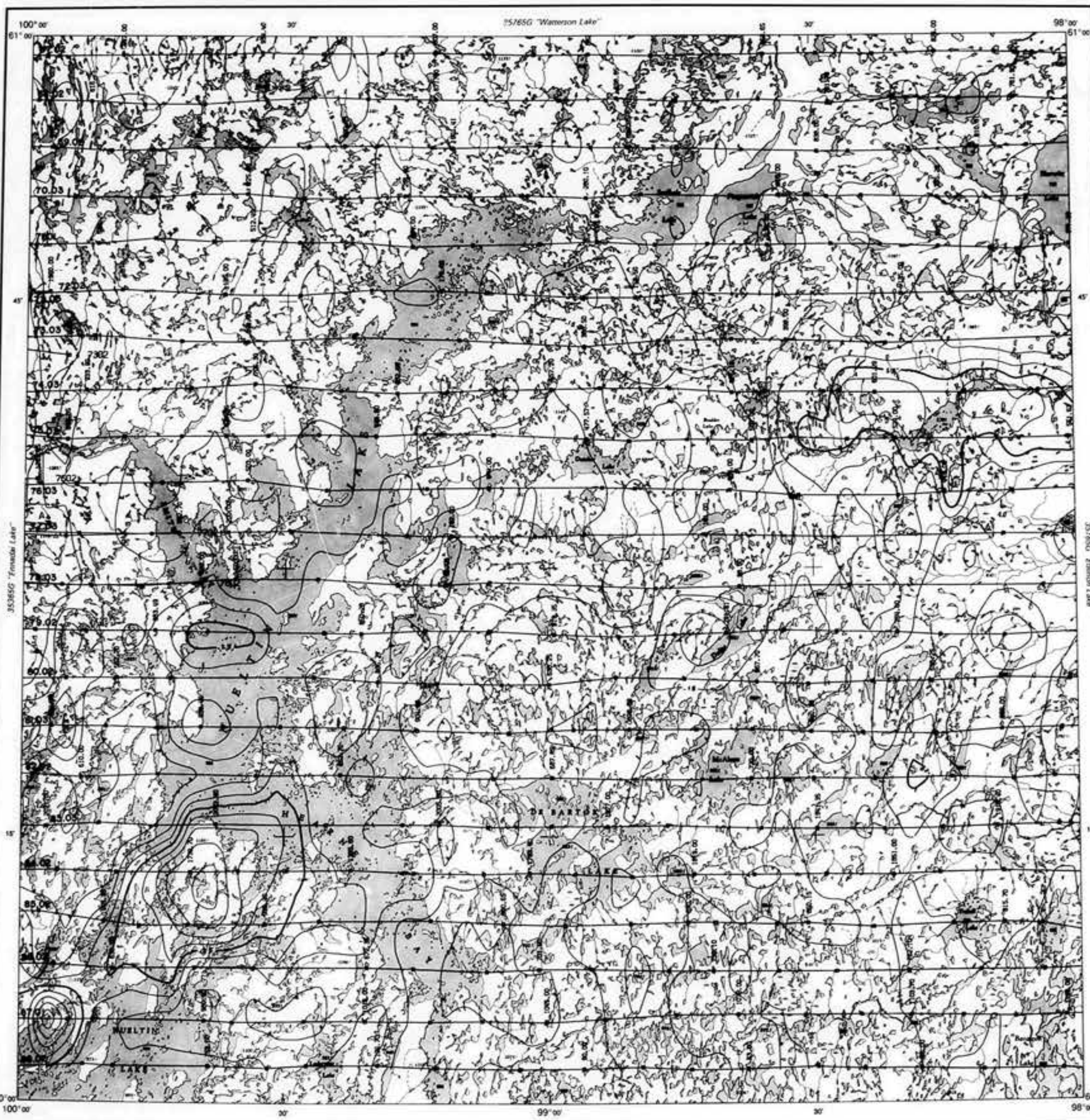
The contoured values are surface radioelement concentrations averaged over areas of approximately 700,000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

EQUIVALENT THORIUM (eTh)
NUELTIN LAKE
MAP 35265G

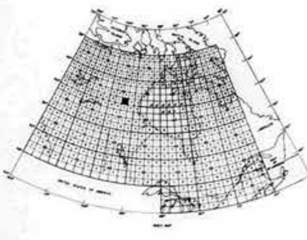
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

eU/eTh RATIO 65B



Published, 1977



Contour Interval 05

Flight Line and Fiducial

eU/eTh RATIO
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

SCALE 1:250,000

MILES / KILOMETERS

COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL, GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium 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 50 litres of sodium iodide (NaI(Tl)) detectors, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.42 – 2.82 MeV
Channel 2	1.66 – 1.86 MeV
Channel 3	1.36 – 1.56 MeV
Channel 4	0.40 – 2.82 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl^{208} photo peak, the 1.76 MeV Bi^{214} photo peak and on the 1.46 MeV K^{40} photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground speed between 190 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

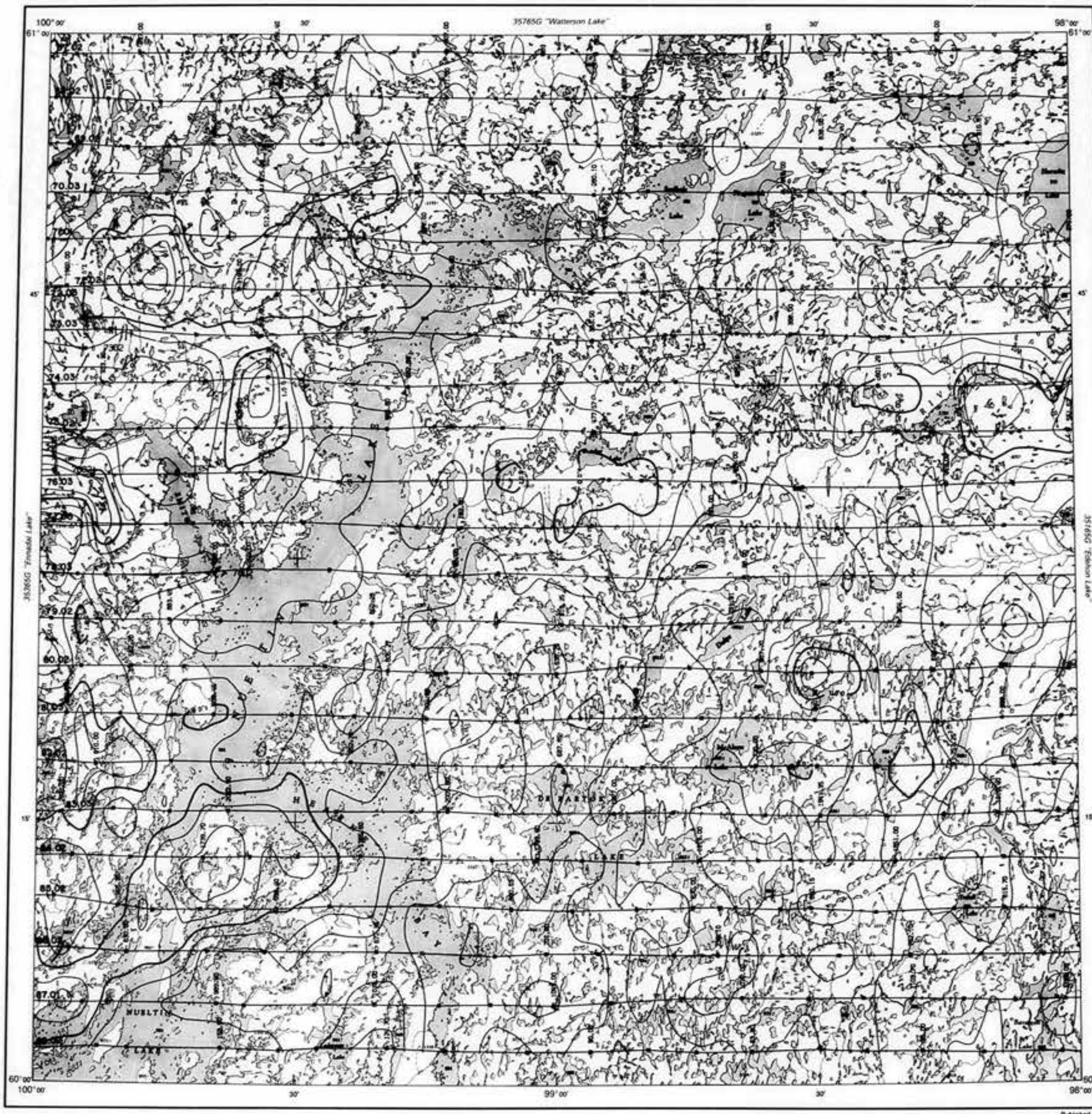
Channel 1	1 ppm eTh	= 6 cps
Channel 2	1 ppm eU	= 8 to 10 cps
Channel 3	1 %K	= 70 to 80 cps
Channel 4	1 ur	= 140 to 160 cps

Data were smoothed using 40 data points along the flight lines (rejecting values over water), gridded at 2.2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

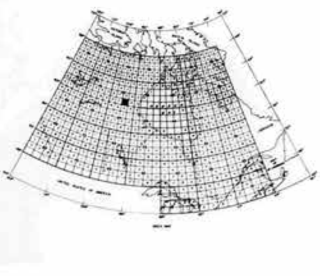
The contoured values are surface radioelement concentrations averaged over areas of approximately 700,000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

eU/eTh RATIO
NUELTIN LAKE
MAP 35265G

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



Published, 1977



eU/K RATIO
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

Contour Interval 0.2 x 10°

Flight Line and Fiducial

SCALE 1:250,000

Uranium 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 50 litres of sodium iodide (NaI(Tl)) detection, recorded gamma radiation in four channels, with the following energy ranges:

Channel 1	2.42 – 2.82 MeV
Channel 2	1.66 – 1.56 MeV
Channel 3	1.76 – 1.56 MeV
Channel 4	0.40 – 2.82 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl-208 photo peak, the 1.76 MeV Bi-214 photo peak and on the 1.46 MeV K-40 photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground speed between 190 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background 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 concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which differed among the 3 aircraft used, are approximately those listed below:

Channel 1	1 ppm eTh	= 6 cps
Channel 2	1 ppm eU	= 8 to 10 cps
Channel 3	1 %K	= 70 to 80 cps
Channel 4	1 ur	= 140 to 160 cps

Data were smoothed using 42 data points along the flight lines (rejecting values over water), gridded at 2.2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

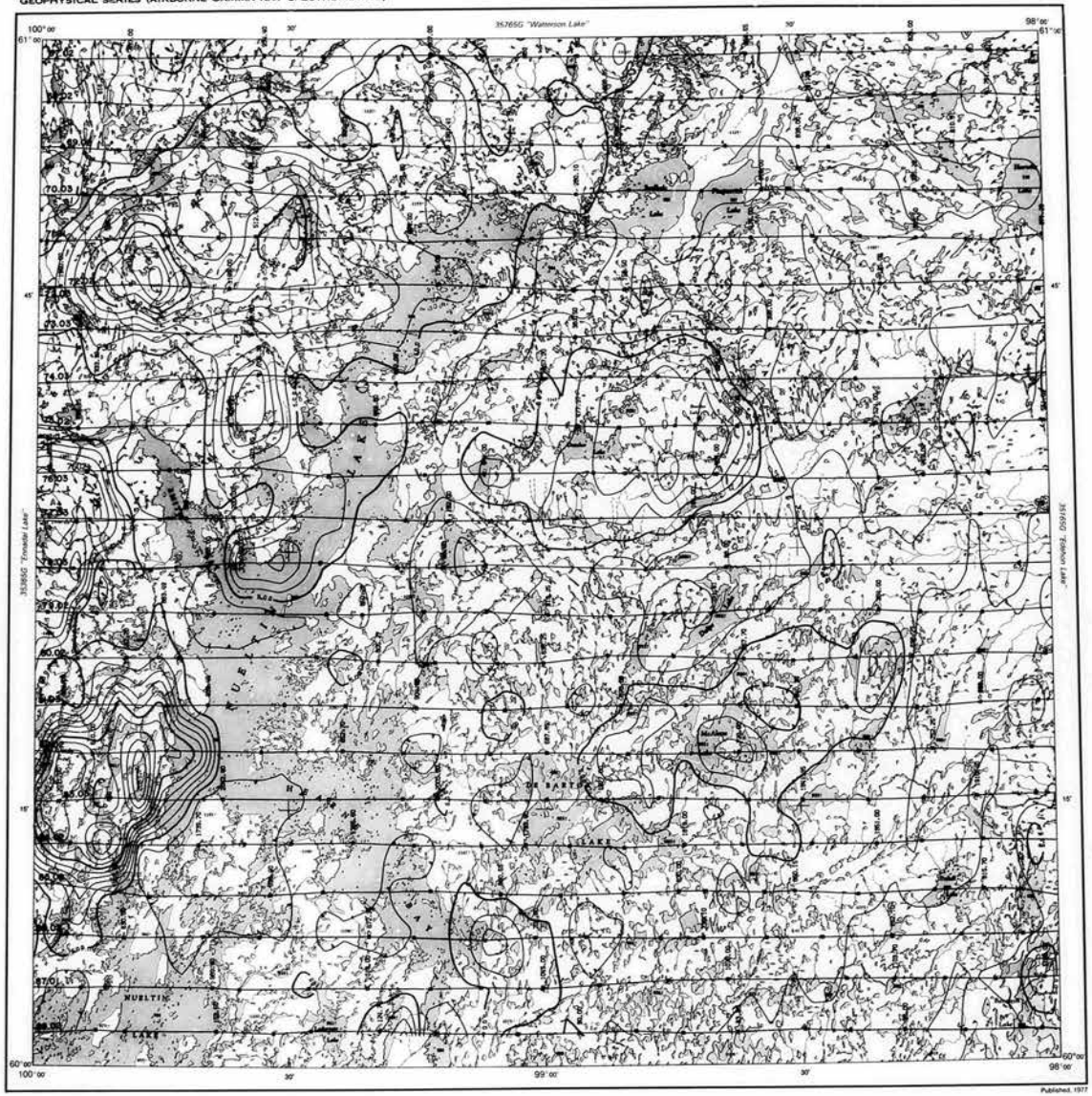
The contoured values are surface radioelement concentrations averaged over areas of approximately 700,000 square meters. These areas generally include some outcrop, overburden, swamps and small bodies of water. Consequently the concentrations indicated by the contour map are generally lower than the concentration in bedrock.

eU/K RATIO
NUELTIN LAKE
MAP 35265G

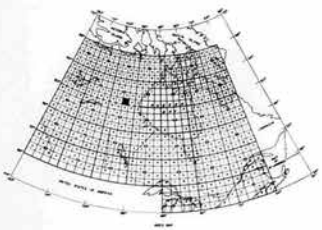
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

eTh/K RATIO 65B



Published, 1977



Contour Interval 1.0 x 10⁶

Flight Line and Fiducial

250

eTh/K RATIO
MAP 35265G

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

SCALE 1:250,000

5 0 5 10 15 20 KILOMETERS

COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR GENERAL, GEOLOGICAL SURVEY OF CANADA, OTTAWA

Uranium Reconnaissance Program Airborne Gamma-Ray Spectrometer Survey, 1976, flown and compiled by the consortium of Terra Surveys Ltd., Iconsortium directord., Keating 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 a airborne gamma-ray spectrometer data recorded digitally along the flight lines shown. The spectrometer, with 50 litres of sodium iodide (NaI(Tl)) detectors, recorded gamma-radiation in four channels, with the following energy ranges:

Channel 1	2.42 – 2.82 MeV
Channel 2	1.66 – 1.96 MeV
Channel 3	1.36 – 1.56 MeV
Channel 4	0.40 – 2.82 MeV

Channels 1, 2 and 3 were centered on the 2.62 MeV Tl^{208} photo peak, the 1.76 MeV Bi^{214} photo peak and on the 1.46 MeV K^{40} photo peak, respectively. Counts were accumulated in these channels and recorded at one second intervals. The terrain 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 400 feet and at a ground-speed between 180 km/hr and 240 km/hr.

The data were corrected for dead time, atmospheric changes in temperature, background radiation, spectral scattering and deviations in terrain clearance from the planned survey altitude. Corrected count rates from channels 1, 2 and 3 were converted to concentrations of equivalent thorium, equivalent uranium, and potassium, using conversion factors determined for each gamma-ray spectrometer used in the survey. The total count rates from channel 4 were converted to units of radioelement concentration. The conversion factors which ochered among the 5 aircraft used, are approximately those listed below:

Channel 1	1 ppm eTh =	8 cps
Channel 2	1 ppm eU =	8 to 10 cps
Channel 3	1 %K =	72 to 80 cps
Channel 4	1 u =	140 to 180 cps

Data were smoothed using 40 data points along the flight lines (rejecting values over water), gridded at 2.2 kilometer intervals along track and 5 kilometer intervals across track, and contoured.

The contoured values are surface radioelement concentrations averaged over areas of approximately 700 000 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.

eTh/K RATIO
NUELTIN LAKE