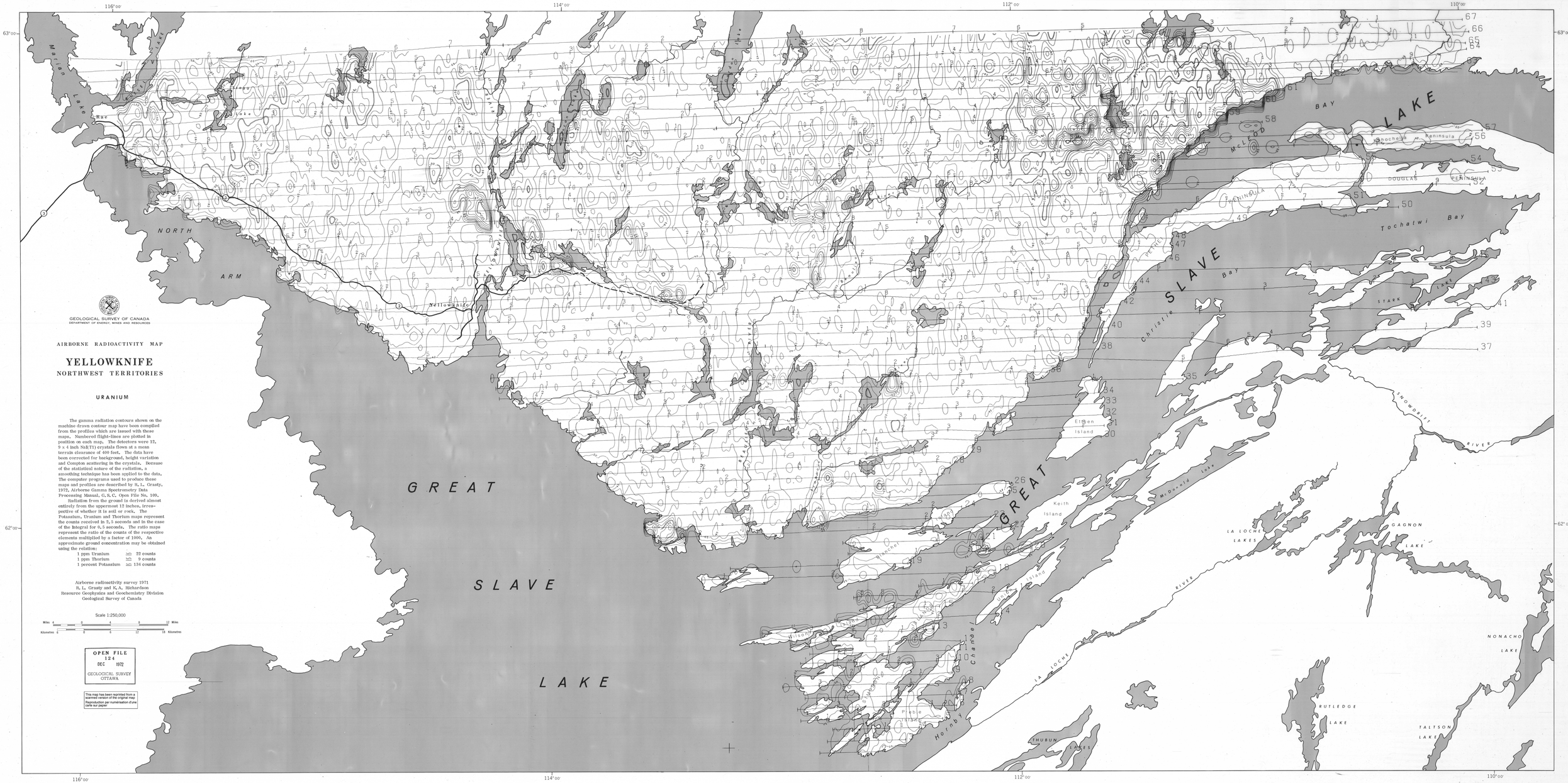

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

AIRBORNE RADIOACTIVITY MAP

YELLOWKNIFE
NORTHWEST TERRITORIES

URANIUM

The gamma radiation contours shown on the machine drawn contour map have been compiled from the profiles which are issued with these maps. Numbered flight-lines are plotted in position on each map. The detectors were 12, 9 x 4 inch NaI(Tl) crystals flown at a mean terrain clearance of 400 feet. The data have been corrected for background, height variation and Compton scattering in the crystals. Because of the statistical nature of the radiation, a smoothing technique has been applied to the data. The computer programs used to produce these maps and profiles are described by R. L. Grasty, 1972, Airborne Gamma Spectrometry Data Processing Manual, G.S.C. Open File No. 109.

Radiation from the ground is derived almost entirely from the uppermost 12 inches, irrespective of whether it is soil or rock. The Potassium, Uranium and Thorium maps represent the counts received in 2.5 seconds and in the case of the integral for 0.5 seconds. The ratio maps represent the ratio of the counts of the respective elements multiplied by a factor of 1000. An approximate ground concentration may be obtained using the relation:

1 ppm Uranium	$\simeq$	22 counts
1 ppm Thorium	$\simeq$	9 counts
1 percent Potassium	$\simeq$	134 counts

Airborne radioactivity survey 1971
R. L. Grasty and K. A. Richardson
Resource Geophysics and Geochemistry Division
Geological Survey of Canada

Scale 1:250,000

Miles 4 0 4 8 12 Miles
Kilometres 6 0 6 12 18 Kilometres

OPEN FILE
124
DEC 1972
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