



ATLANTIC
OCEAN

GULF OF

MAINE

AIRBORNE GAMMA-RAY SPECTROMETRIC MAP

This map was prepared from secondary data collected in Nova Scotia during the summer of 1970, and presented as follows:

- (1) an outline map showing flight lines, flight lines number, line direction, and the approximate locations of air base and 100 metre contour lines;
- (2) an outline map of the same radiometric parameters plotted for each of the flight lines.

The airborne measurements were obtained using a four window spectrometer, type TCS-10, in a C-130 Hercules aircraft. Flight altitudes were between 1,000 and 1,200 metres. Instrument flight times were 5 to 10 minutes, and the instrument flight lines were plotted on each of the contour lines.

Potential is measured directly from the 408 KeV gamma-ray photos and the spectrometer detector and data are presented as contours. Corrections for gamma-ray absorption and detector geometry were made by using a correction factor based on the measured values of the gamma-ray absorption coefficient and the detector geometry.

Spot, horizon and elevation contours were measured from 2.5 second intervals. Wind marks were 500-metre intervals. The data have been corrected to sea level and are presented as contours.

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EQUIVALENT URANIUM / EQUIVALENT THORIUM
ANNAPOLIS-SHELburne

NOVA SCOTIA
PARTS OF 21 A, B, 20 C

Scale 1:250,000



The values for the radiometric concentrations shown on the contour maps are "average surface concentrations", that is, an average of the area in the areas defined by the contour lines. The contour lines are drawn so that the radiation at them is the contour value (see usually contour lines) lower than the contour value in the contour line. The contour value is the average of the contour lines.

Values for the radiometric concentrations in closed contours were determined by adding the measured airborne count rates for each contour to the values for the mean ground radiometric concentrations (see the caption for the contour maps). The contour values are presented on the contour lines.

The conversion factors used are approximately those listed below.

Count rates: 1 c.p.m. = 100 d.p.m.
1 SP = 80 d.p.m.
1 SP = 100 d.p.m.
1 ppm U²³⁸ = 7 d.p.m.

Count rates measured are presented as radiometric concentrations (see the caption for the contour maps) based on Agency Standard Series 40, 1970.

In order to produce the contour maps, data along the flight lines were averaged over a distance of 150 metres. The contour interval is 2.5 ppb and the effect of background count rates over the lake was removed. This means of background correction is satisfactory for the data.

- (1) Keep the sampling to a minimum, i.e., have the smoothed values as close as possible to the original unsmoothed data; and
- (2) use sufficient smoothing to utilize all data along flight lines and to obtain the desired contour interval (contour interval is 2.5 ppb) and the effect of background count rates over the lake was removed. This means of background correction is satisfactory for the data.

Contour lines were plotted on the contour maps for the radiometric concentrations. The contour interval is 2.5 ppb. The contour interval is 2.5 ppb. The contour interval is 2.5 ppb.

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