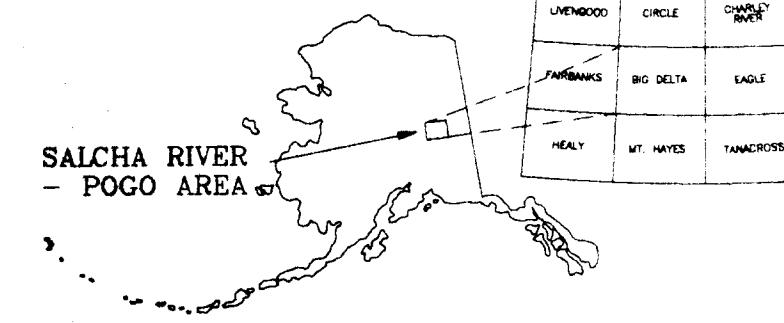


Map courtesy of the U.S. Geological Survey, Alaska Division of Geological & Geophysical Surveys.



#### RADIOMETRICS

The gamma-ray, potassium-40, and thorium-232 spectra recorded at a 10 second sample rate into 256 channel main detector spectra using an EG&G GR820 gamma-ray spectrometer. The volume of NaI in the two detectors comprising the system were equal. The detector, 18 cm radius, was shielded after application of Noise Adjusted Singular Value Decomposition to the spectra. Counts from the main detector were recorded in five windows corresponding to thorium (232-238 keV), potassium (1860-1960 keV), potassium (1370-1570 keV), total radioactivity (400-2815 keV) and cosmic radiation (3000->6000 keV). Counts from the radar detector were recorded in one window (1600-2000 keV).

The radar detection system was subtended following methods outlined in IAEA Report 323.

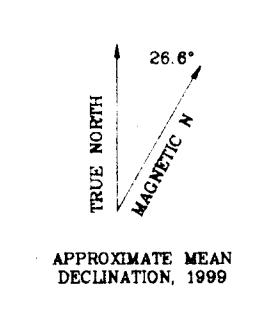
After removal of the background, the data were corrected for spectral interferences, changes in temperature, pressure, and departures from the planned survey elevation of 200 feet. The data were then converted to standard concentration units using a contour interval of 100 ppm using a modified Akima (1970) technique.

Airtronics G224 NAVSTAR / GLONASS Global Positioning System was used for navigation. The helicopter position was derived every 0.5 seconds using position fix accuracy of better than 5 m. Flight path positions were projected onto the Clarke 1866 UTM grid using a central meridian (CM) of 147°, a north constant of 0 and an east constant of 500,000. Postflight accuracy of the presented data is better than 10 m. with respect to the UTM grid.

## THORIUM / POTASSIUM ( $\text{eTh}/\text{k}$ ) OF THE SALCHA RIVER - POGO MINING AREA, CENTRAL ALASKA

BIG DELTA QUADRANGLE

2000



APPROXIMATE MEAN DECLINATION, 1999

#### THORIUM / POTASSIUM ( $\text{eTh}/\text{k}$ )

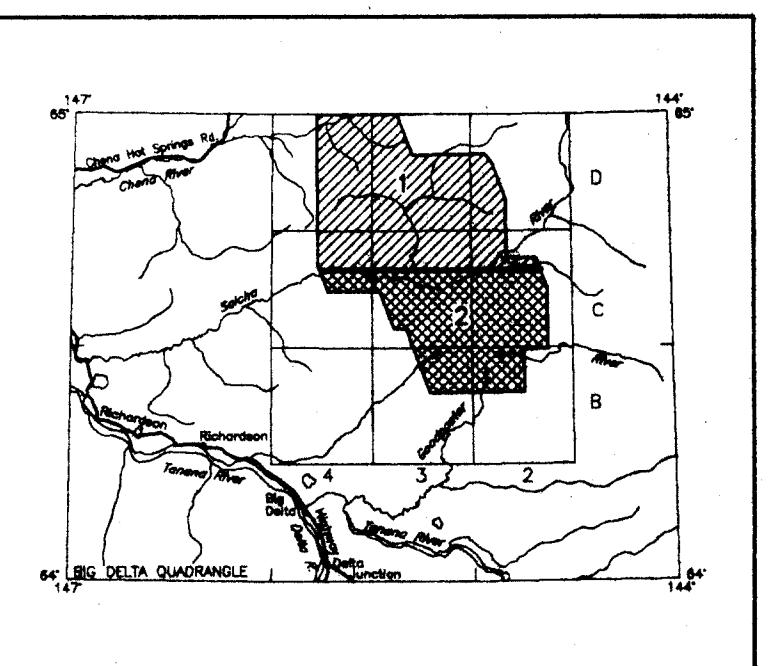
Measured radioelement concentrations for potassium and thorium were converted to a ratio parameter to account for soil thickness and moisture content. The ratio parameter isolates areas of enrichment of one radioelement relative to another.

A blank region indicates an area where the summed concentrations fall below thresholds required for a meaningful calculation of the thorium/potassium/thorium/potassium concentration ratio. Results have been multiplied by  $10^4$  for clarity in presentation.

#### CONTOUR INTERVAL

.....	1.00 ( $\times 10^4$ )
.....	0.20 ( $\times 10^4$ )
.....	0.04 ( $\times 10^4$ )
.....	0.02 ( $\times 10^4$ )
.....	low

#### LOCATION INDEX



#### SURVEY HISTORY

This map has been compiled and drawn under contract between the State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS), and Stevens Exploration Management Corp. Airborne geophysical data for the area were acquired by Gertie Helicopters Inc. in 1993. In 1993, Laurel Burns was the contract manager for DGGS. This map and other products from this survey are available by mail order or in person from DGGS, Suite 200, Fairbanks, Alaska, 99709.