

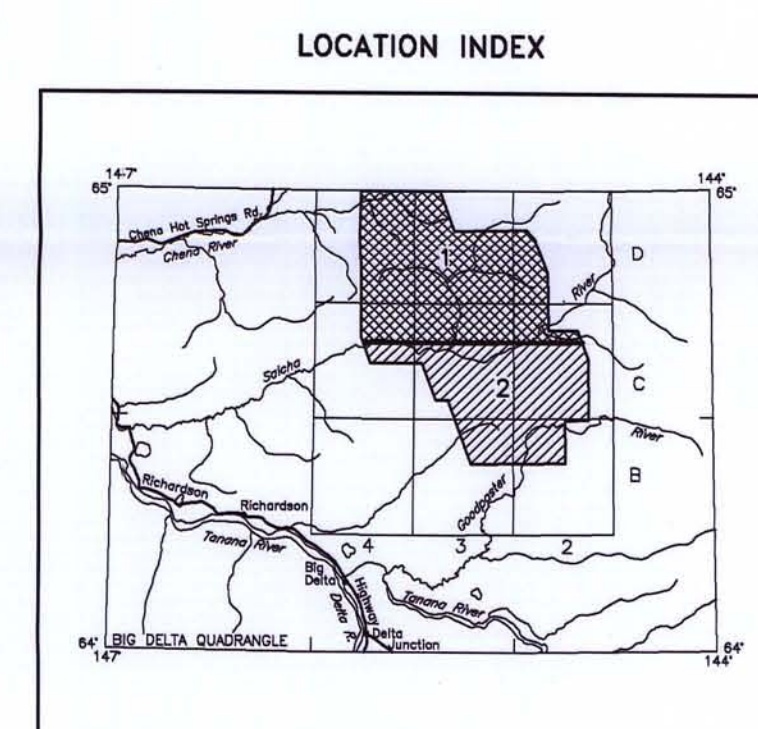
BIG DELTA QUADRANGLE
2000

The geophysical data were recorded with a DiGEM Electromagnetic (EM) system, Exploranium GR-824 gamma-ray spectrometer and a SinteX cesium NaI scintillation detector. The gamma-ray data were flown at a height of 100 feet. The gamma-ray data were recorded at a rate of 200 counts per second. In addition the survey recorded data from a radar altimeter, GPS navigation system, 50/60 Hz magnetic field, and a heading sensor. The survey was on an AS350B-2 Squirrel helicopter at a mean altitude of 100 feet. The survey track was a series of survey flight lines with a spacing of a quarter of a mile. The lines were flown perpendicular to the coastline. The survey was completed in 1997.

An Ashtech G24 NAVSTAR GLONASS Global Positioning System was used for navigation. The system provides position data at a rate of 0.5 seconds using post-flight differential positioning. The horizontal accuracy of better than 5 m. Flight path accuracy of better than 5 m. The system is based on (UTC zone 6) spheroid, 1927 North American datum. The system has a scale factor of 1.0, a datum constant of 0 and an east constant of 500,000. Positional accuracy of the presented data is better than 5 m.

The gamma-ray spectra data were recorded at a 1.0 second sampling rate into 256 channel main and radon spectra using an Explanurum GR802 gamma-ray spectrometer. The volume of NaI in the two detectors combined was 10.5 L. The energy resolution was 16.7% radon detector 4.2L. After application of the Energy Adjusted Singular Value Decomposition to the data, the radon spectra were deconvoluted. The spectra were recorded in five windows corresponding to the radon peaks: 214Pb (2410-2810 keV), uranium (1680-1860 keV), thorium (1370-1550 keV), 214Pb (1400-2815 keV) and cosmic radiation (3000-8000 keV). Counts from the radon detector were subtracted from the radon spectra. The radon detection system was calibrated following methods outlined in IAEA Report 323 (1982). The radon concentration was corrected for spectral interferences, changes in temperature, pressure, and departures from the standard calibration. The radon concentration was then converted to standard concentration units which were interpolated to a 100 m

Akima, H., 1970, A new method of interpolation and smooth curve fitting based on local procedures: *Journal of the Association of Computing Machinery*, v. 17, no. 4, p. 589-602.



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. (SEMC). The geophysical data were acquired by Geotekx-Digheim, a division of CGG Canada Ltd., in 1999. 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, 794 University Ave., Suite 200, Fairbanks, Alaska, 99709.