

Introduction
A gamma-ray spectrometric and aeromagnetic airborne geophysical survey of the northeast Thelon Basin area, Nunavut, was completed by Geotek Airborne Surveys. The survey was flown from August 26 to September 09, 2009 using three Fiesel PA-31 Traveller aircraft (C-GJBA, C-GJBB, C-GJBG). The northeast and central line segments were, respectively, 400 m and 2400 m, and the aircraft flew at a nominal terrain clearance of 120 m as opposed to between 200 and 270 m. Traverse lines were oriented 135° with orthogonal control lines. The flight path was reconstructed following post-flight corrections to a Global Positioning System. The survey was flown on a pre-determined flight surface to minimize differences in magnetic values at the intersections of control and traverse lines.

Gamma-ray Spectrometric Data
The airborne gamma-ray measurements were made with a Radiation Solutions RS-500 gamma-ray spectrometer using NaI(Tl) crystals. The main detector array consisted of twelve crystals (total volume 50.4 litres), shielded by the main array, were used to detect variations in background radiation from the thorium and uranium series. The system also included 1024 channel spectrometers from the individual NaI(Tl) detectors with no loss of Potassium statistics. A calibration was accomplished by measuring the recorded spectra with several natural gamma-ray peaks.

Table 1. Gamma-Ray spectrometer sensitivities for each aircraft.
Table 2. Sensibilities des spectromètres de chacun des aéronefs.

Magnetic Data
The magnetic field was sampled 10 times per second using an split-beam cesium vapour magnetometer (sensitivity = 0.005 nT) rigidly mounted to the aircraft. Differences in magnetic values at the intersections of control and traverse lines were smoothed to obtain a regularly sampled set of data. The smoothed data were then interpolated to a 100 m grid. The International Geomagnetic Reference Field (IGRF) defined at the average GPS altitude of 207 m for the year 2009.64 was then removed. The resulting IGRF represents the magnetic field of the Earth's core, providing a residual component attributable to the Earth's crust.

Funding for this project was provided through the Strategic Investments in Northern Economic Development (SIED) program of Indian and Northern Affairs Canada and the Geomapping for Energy and Resource (GEM) program of the Earth Sciences Sector, Natural Resources Canada. Project management and data quality control procedures were carried out by the Geological Survey of Canada, under the GEM program.

On peut télécharger gratuitement, depuis l'Internet, les données géométriques de Ressources naturelles Canada à l'adresse Web http://data.nrc.ca. Des versions numériques de cette copie, des données numériques correspondantes en format profil et en format maille, ainsi que des données sismiques issues des levés aéromagnétiques et spectrométriques adjacents. On peut se procurer les mêmes produits, moyennant des frais, en s'adressant au Centre de données géophysiques de la Commission géologique du Canada, 615, rue Booth, Ottawa (Ontario) K1A 0H8, Téléphone: (613) 995-5226, courriel: sfg@data.nrc.ca.



GSC OPEN FILE 6527 / DOSSIER PUBLIC 6527 DE LA CGC
GEOPHYSICAL SERIES / SÉRIE DES CARTES GÉOPHYSIQUES
AIRBORNE GEOPHYSICAL SURVEY OF THE NORTHEAST THELON BASIN, NUNAVUT
LEVÉ GÉOPHYSIQUE AÉROPORTE DE LA PARTIE NORD-EST DU BASSIN DE THELON, NUNAVUT
NTS 66 H7 et 66 H8 / SNRC 66 H7 et 66 H8

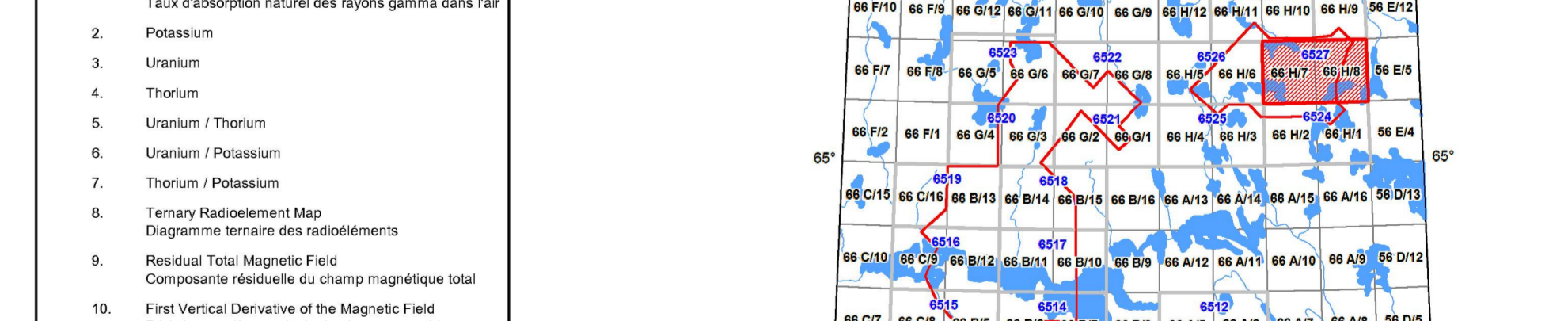
URANIUM / POTASSIUM
Scale 1:50 000 - Échelle 1/50 000
Authors: Harvey, B.J.A., Coyle, M., Buckle, J.L., Carson, J.M. and Hefford, S.W.
Data acquisition, compilation and map production by Geotek Airborne Survey, Saskatoon, Saskatchewan. Contract and project management by the Geological Survey of Canada, Ottawa, Ontario.

Digital versions of this map, corresponding digital profile and gridded data, and similar data for adjacent aeromagnetic and gamma-ray spectrometric surveys can be downloaded, at no charge, from Natural Resources Canada's Geoscience Data Repository at http://data.nrc.ca. The same products are available, for a fee, from the Geophysical Data Centre, Geological Survey of Canada, 615 Booth Street, Ottawa, Ontario, K1A 0H8. Telephone: (613) 995-5226, email: info@gsdpc.nrc.ca.

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MAP SHEET SUMMARY / SOMMAIRE DES FEUILLETS
Sheet: 6527
Feuille: 6527
1. Natural Air Absorbed Dose Rate
Taux d'absorption naturelle des rayons gamma dans l'air
2. Potassium
3. Uranium
4. Thorium
5. Uranium / Thorium
6. Uranium / Potassium
7. Thorium / Potassium
8. Terrain Relief/Topography
9. Residual Total Magnetic Field
Composante résiduelle du champ magnétique total
10. First Vertical Derivative of the Magnetic Field
Dérivée première verticale du champ magnétique

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2011
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NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND GEOPHYSICAL MAP INDEX
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX DES CARTES GÉOPHYSIQUES
AIRBORNE GEOPHYSICAL SURVEY OF THE NORTHEAST THELON BASIN, NUNAVUT
LEVÉ GÉOPHYSIQUE AÉROPORTE DE LA PARTIE NORD-EST DU BASSIN DE THELON, NUNAVUT