

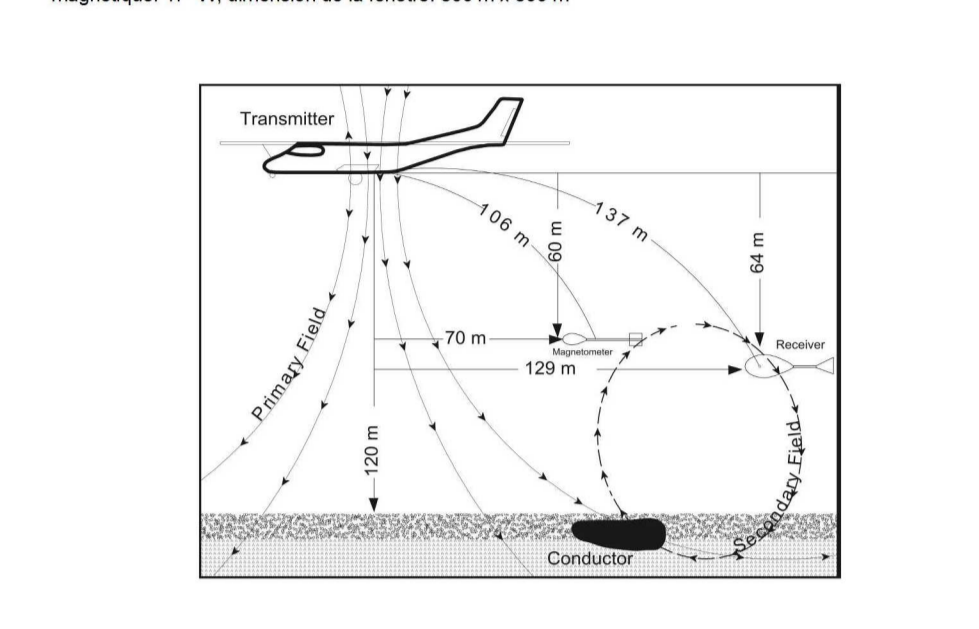


GEOPHYSICAL SERIES
SECOND VERTICAL DERIVATIVE OF THE TOTAL MAGNETIC FIELD WITH KEATING COEFFICIENTS

SÉRIE DES CARTES GÉOPHYSIQUES
DÉRIVÉE SECONDE VERTICALE DU CHAMP MAGNÉTIQUE TOTAL AVEC LES COEFFICIENTS KEATING

NOTES DESCRIPTIVES

INTRODUCTION
Cette carte a été compilée à partir des données acquises pendant un levé électromagnétique-magnétique aéroporté effectué par FIGRO AIRBORNE SURVEYS en utilisant un système électromagnétique (EM) dans le domaine du temps MEGATEM II. Le système était installé dans un avion quadrimoteur modèle DASH 7 De Havilland (immatriculé C-GJPI). Le levé fut exécuté pendant la période allant du 6 janvier au 27 mars 2006.



DESRIPTIVE NOTES
INTRODUCTION
This map was compiled from data acquired during an airborne electromagnetic survey carried out by FIGRO AIRBORNE SURVEYS using a MEGATEM II time domain electromagnetic (EM) system. The system was mounted on a four engine De Havilland DASH 7 (registration C-GJPI) aircraft. The survey was carried out during the period from January 6 to March 27, 2006.

The traverse-lines were spaced 200 m and control-lines were 2 km apart. The aircraft flight-elevation was maintained at a nominal ground clearance of 120 m. Navigation was made possible by utilizing a 12-channel NovAtel dual frequency GPS receiver and the Omnistar differential service to correct position in real-time. Post-flight differential corrections were subsequently applied to determine final flight path position. A vertically mounted video camera was used to record images of the ground. The radar altitude was recorded twice per second using a Sparrow unit, and the barometric altitude was recorded once every second using a Rosemount 1241M unit. The magnetic data were recorded 10 times per second using a Scintrex CS-2 cesium-vapor magnetometer.

The time domain EM system transmits a signal from a horizontal loop centered on the aircraft, and measures the response of buried conductors using a three-axis (X, Y, Z) electromagnetic receiver towed below the aircraft. The EM system records 20 channels of data four times per second on each of the three components. The EM receiver measures dB/dt directly, from which information the secondary total magnetic field is numerically integrated. The system was operated at 90 Hz.

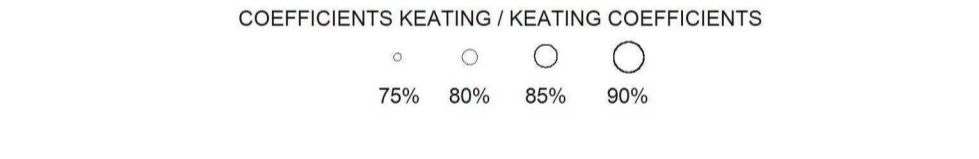
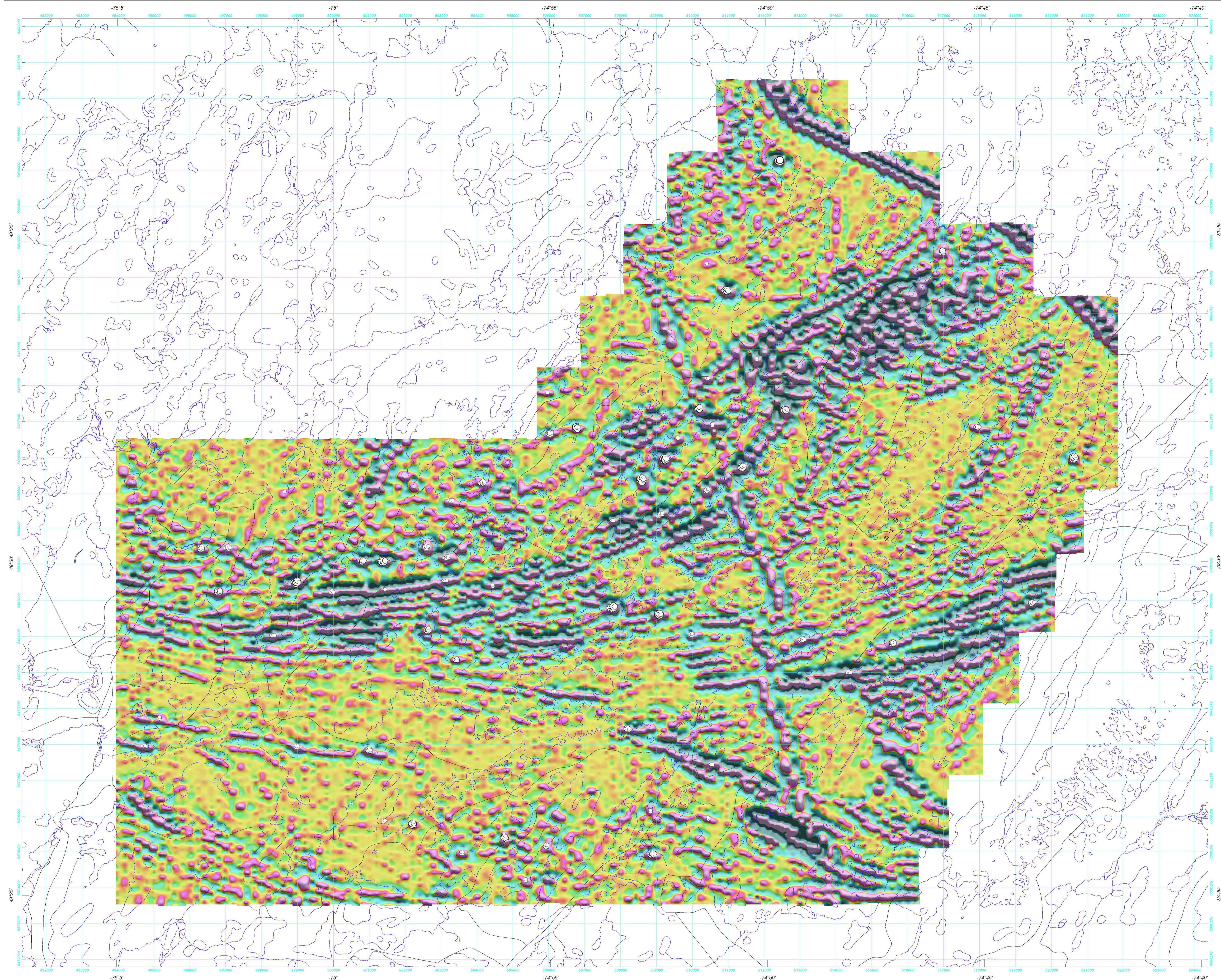
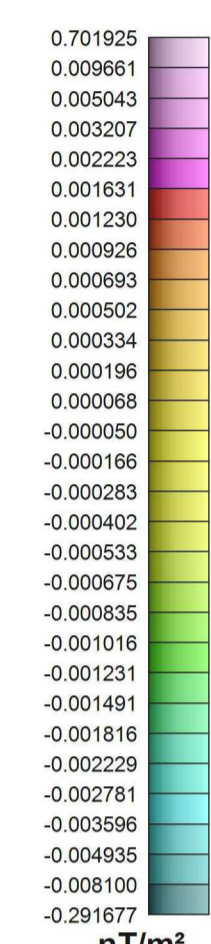
SECOND VERTICAL DERIVATIVE OF THE MAGNETIC FIELD
The second vertical derivative of the magnetic field was calculated by fast Fourier transform on the gridded total magnetic field with a grid cell size of 40 m.

KEATING CORRELATION COEFFICIENTS
This pattern recognition technique (Keating, 1995), of identifying roughly circular anomalies consists of computing the correlation coefficient, over a moving window, between a vertical cylinder model anomaly and the gridded magnetic data. Results above an absolute value of the correlation coefficient of 80% were depicted as circular symbols, scaled to reflect the correlation value. The most favourable targets are those that exhibit a cluster of high correlation coefficients. The cylinder model parameters for this survey are as follows: diameter: 100 m, infinite length, depth 10 m, magnetic inclination: 74° N, magnetic declination: 17° W, window size: 800 m x 800 m.

REFERENCE
Keating, P., 1995. A simple technique to identify magnetic anomalies due to kimberlite pipes. Explor. Mining Geol., 4, 121-125.

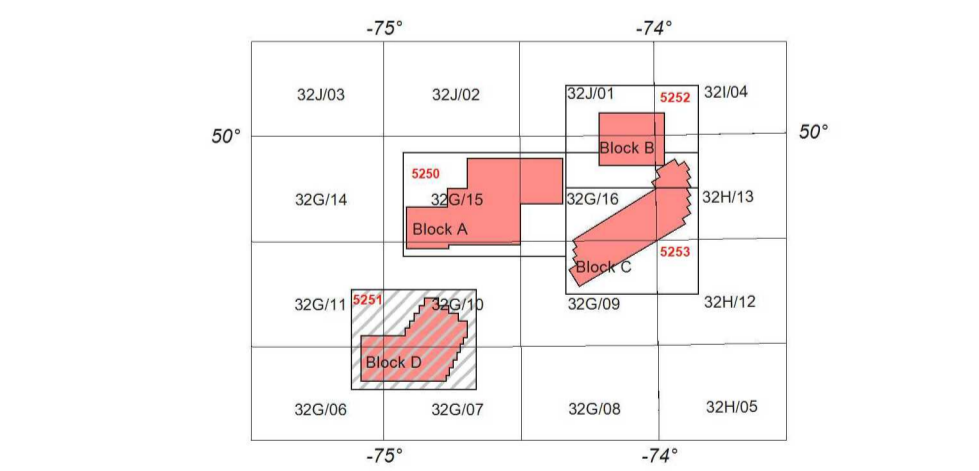
Ce levé électromagnétique et magnétique et la production de cette carte ont été financés par le programme de l'Initiative géoscientifique ciblée (IGC-3) de Ressources naturelles Canada. Cette carte a été produite dans le cadre du projet IGC-3/Abitibi et contribue au programme de l'Initiative géoscientifique ciblée (IGC-3) du Secteur des sciences de la terre.

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SYMBOLS PLANIMÉTRIQUES / PLANIMETRIC SYMBOLS

Routte	Road
Chemin de fer	Railway
Ligne de transport d'énergie	Power Line
Drainage	Drainage



LEVÉ MEGATEM II CHIBOUGAMAU 2006
MEGATEM II SURVEY CHIBOUGAMAU 2006

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DOSSIER PUBLIC
5251
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Levée MEGATEM II Chibougamau 2006.
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Commission géologique du Canada, Dossier public 5251,
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2006. Second vertical derivative of the total magnetic field with Keating coefficients.
MEGATEM II survey Chibougamau 2006.
Parts of NTS 32 G/10 - 32 G/11 - 32 G/06 - 32 G/07, Québec.
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SECOND VERTICAL DERIVATIVE OF THE TOTAL MAGNETIC FIELD WITH KEATING COEFFICIENTS

LEVÉ MEGATEM II CHIBOUGAMAU 2006
MEGATEM II SURVEY CHIBOUGAMAU 2006

Parts of NTS: / Parties des SNRC: 32 G/10 - 32 G/11 - 32 G/06 - 32 G/07 QUEBEC

Data acquisition, compilation and map production by
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L'acquisition, la compilation des données ainsi que la production des cartes
furent effectuées par FIGRO Airborne Surveys, Ottawa, Ontario.
La gestion et la supervision du projet furent effectuées
par la Commission géologique du Canada, Ottawa, Ontario.



Échelle / Scale 1:50 000
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