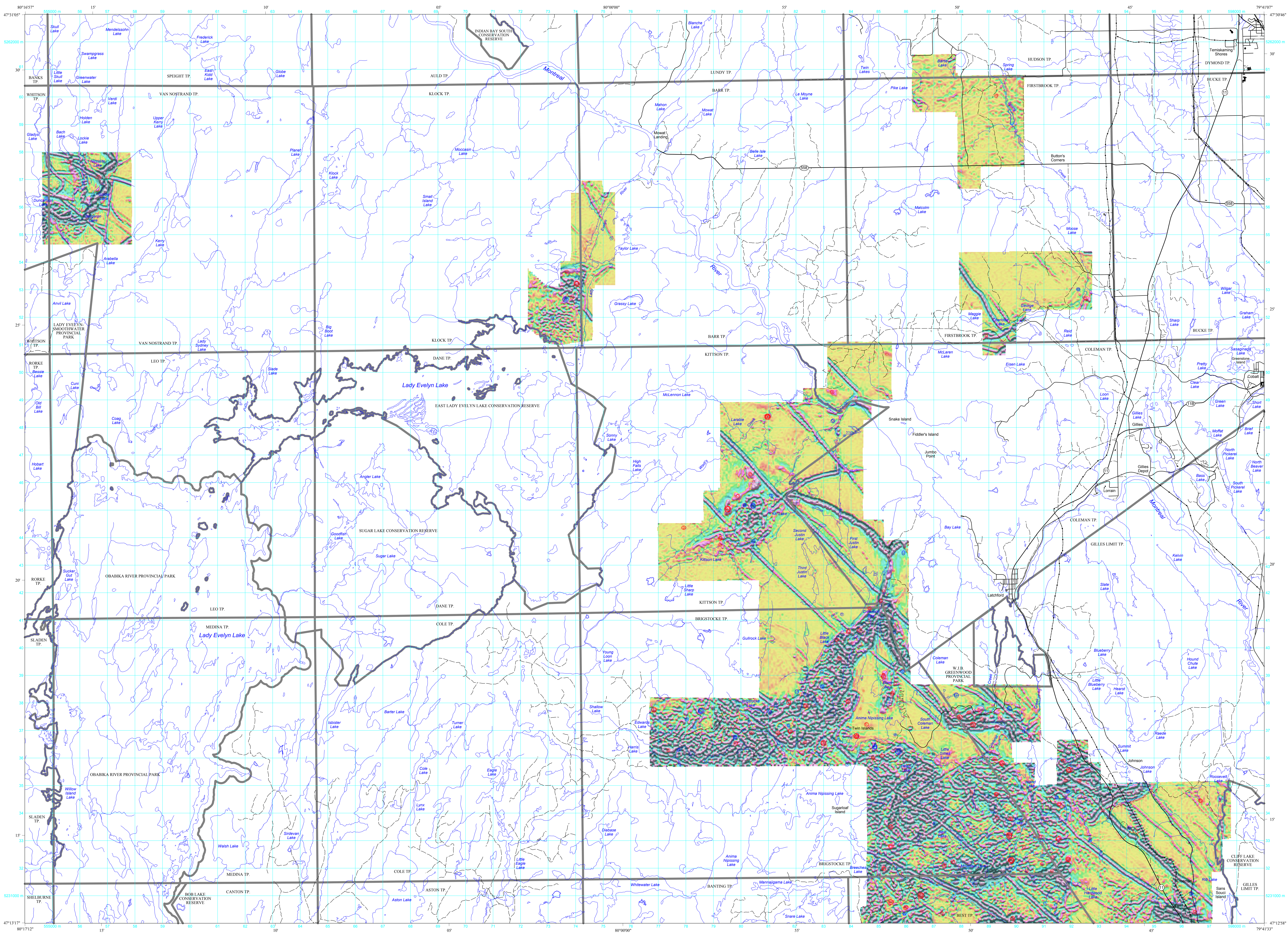


SURVEY PARAMETERS

AIRCRAFT
Type: Aerospatiale AS350BA (Block 1)
Registration: C-GHSM
Type: Aerospatiale AS350B (Block 2)
Registration: C-FDYS

MAGNETOMETER
Type: Geometrics caesium-vapour (Block 1)
Scintrex CS2 caesium-vapour (Block 2)
Sensitivity: 0.02 nT (Block 1)
0.01 nT (Block 2)
Sample interval: 10 readings per second
Sensor location: 15 m below aircraft (Block 1)
0 m below aircraft (Block 2)
Sensor separation: 13.2 m (Block 2)

NAVIGATION AND DATA ACQUISITION SYSTEMS
GPS receiver: Novatel OEM4-G2-3151W (Block 1)
Ashtec Glonass GG24 (Block 2)
GPS sample interval: 5 readings per second (Block 1)
2 readings per second (Block 2)
Radar altimeter: Terra 3000/TRI-40 (Block 1)
Honeywell AA 330 (Block 2)
Radar sample interval: 5 readings per second (Block 1)
2 readings per second (Block 2)
Guidance system: Geotech (Block 1)
PNAV 2100 (Block 2)
Digital acquisition system: Geotech (Block 1)
Fugro Helidas (Block 2)

BASE STATION
Type: Geometrics caesium-vapour (Block 1)
Scintrex CS2 caesium-vapour (Block 2)
Magnetometer sample interval: 1 reading per second
GPS sample interval: 1 reading per second

SURVEY SPECIFICATIONS
Survey date: December 16, 2005 to January 6, 2006 (Block 1)
February 10, 2006 to March 6, 2006 (Block 2)
Nominal aircraft terrain clearance: 80 m (Block 1)
30 m (Block 2)
Traverse line spacing: 50 m (Block 1)
75 m (Block 2)
Control line spacing: 500 m (Block 1)
1000 m (Block 2)
Traverse line direction: N44°E (Block 1)
North-South (Block 2)
Control line direction: N134°E (Block 1)
East-West (Block 2)

CO-ORDINATE SYSTEM
Projection: Universal Transverse Mercator
Datum: NAD83
Central meridian: 93°00' W (UTM zone 15N)
Central scale factor: 0.9996
False easting: 500 000 m
False northing: 0 m

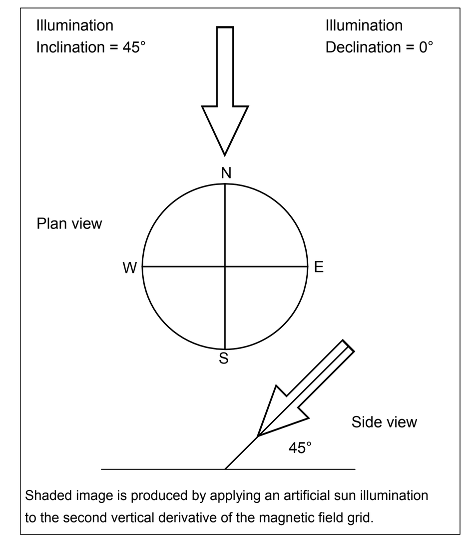
Data purchased from:
Amador Gold Corp. (Block 1) (Banting–Chambers property)
Temex Resources Corp. (Block 2) (Cobalt area)

LEGEND

KEATING COEFFICIENTS

Positive correlation		Negative correlation
○	90%	○
○	85%	○
○	80%	○
○	75%	○

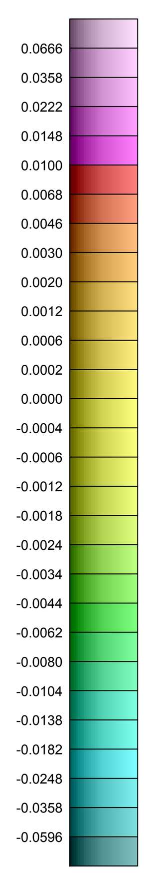
SHADED IMAGE SUN ANGLE



Shaded image is produced by applying an artificial sun illumination to the second vertical derivative of the magnetic field grid.

SECOND VERTICAL DERIVATIVE OF THE MAGNETIC FIELD GRID

nanoteslas per metre²
(nT/m^2)



Users of OGS products are encouraged to contact those Aboriginal communities whose traditional territories may be located in the mineral exploration area to discuss their project.

Ontario

Ontario Geological Survey

MAP 60 418

AIRBORNE MAGNETIC SURVEY

Shaded colour image of the second vertical derivative of the gradient-enhanced residual magnetic field and Keating coefficients

LATCHFORD AREA

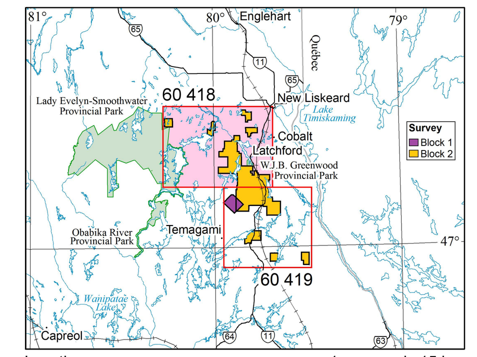
Purchased Data

Scale 1:50 000

1 km 0 1 2 km

NTS References: 41 P/1, 8; 31 M/4, 5

This map is published with the permission of the Director, Ontario Geological Survey.



Location map 1 cm equals 15 km

DESCRIPTIVE NOTES

Introduction

This map was compiled from two proprietary airborne surveys purchased by the Ontario Ministry of Northern Development and Mines. These surveys were flown using a Fugro Midas magnetic horizontal gradiometer-equipped aircraft and a Geotech helicopter-borne magnetometer-equipped aircraft. The aircraft were also equipped with GPS navigation systems and digital data acquisition systems.

Second Vertical Derivative of the Magnetic Field

The second vertical derivative values of the magnetic field were computed directly from the gridded residual magnetic intensity data using a fast Fourier transform, combining the transfer functions of the second vertical derivative and a 30 m Upward Continuation operator. The Upward Continuation was applied in order to attenuate unwanted high frequencies enhanced by the derivative operator.

The shaded relief parameters are:
Illumination inclination: 45°
Illumination declination: 0°

Using the means for all blocks, the magnetic declination on January 30, 2006 for the centre of the survey area was 11.5°W and magnetic inclination was 73.3°N. Magnetic field strength was 56 565 nT (calculated using IGRF).

Keating Correlation Coefficients

Possible kimberlite targets have been identified from the residual magnetic intensity data, based on the identification of roughly circular anomalies. This procedure was automated by using a known pattern-recognition technique (Keating 1995), which consists of computing, over a moving window, a first-order regression between a vertical cylinder model anomaly and the gridded magnetic data. Only the results where the absolute value of the correlation coefficient is above a threshold of 75% were retained. The results are depicted as circular symbols, scaled to reflect the correlation value. The most favourable targets are those that exhibit a cluster of high amplitude solutions. Correlation coefficients with a negative value correspond to reversely magnetized sources. It is important to be aware that other magnetic sources may correlate well with the vertical cylinder model, whereas some kimberlite pipes of irregular geometry may not.

The cylinder model parameters are as follows:
Cylinder diameter: 200 m
Cylinder length: infinite
Overburden thickness; 3.8 m
Window size: 20 x 20 cells (400 m x 400 m)

SOURCES OF INFORMATION

Base map information derived from the Ontario Land Information Warehouse, Land Information Ontario, Ontario Ministry of Natural Resources, scale 1:50 000.

Magnetic declination for the centre of the map area was approximately 11°22'W in 2013.

Keating, P.B. 1995. A simple technique to identify magnetic anomalies due to kimberlite pipes; Exploration and Mining Geology, v.4, no.2, p.121-125.

Bowslaugh, E. 2006. Midas high-resolution magnetic geophysical survey for Temex Resources Corp., Cobalt area, Ontario; unpublished report by Fugro Airborne Surveys Corp.

Orta, M. 2006. Report on a helicopter-borne time domain electromagnetic geophysical survey, Banting–Chambers property, Temagami, Ontario; unpublished report for Amador Gold Corp.

CREDITS

Data acquisition, data compilation by Fugro Airborne Surveys Corp., Mississauga, Ontario for Temex Resources Corp., Toronto, Ontario and by Geotech Limited, Aurora, Ontario for Amador Gold Corp., Vancouver, British Columbia

Data reprocessing and map production by CGI Controlled Geophysics Inc., Thornhill, Ontario.

Contract management, base maps and map surrounds by the Ontario Ministry of Northern Development and Mines, Sudbury, Ontario.

To enable the rapid dissemination of information, this map has not received a technical edit. Every possible effort has been made to ensure the accuracy of the information presented; however, the Ontario Ministry of Northern Development and Mines does not assume liability for any errors that may occur. Users may wish to verify critical information.

Corresponding digital data for this survey are available from the following Ontario Geological Survey publication:

Ontario Geological Survey 2013. Ontario airborne geophysical surveys, magnetic and electromagnetic data, grid and profile data (ASCII and Geosoft® formats) and vector data, Latchford area—Purchased data; Ontario Geological Survey, Geophysical Data Set 1242.

The geophysical data on this map were purchased from the private sector. The original data acquisition was neither supervised by the Ontario Geological Survey (OGS) nor carried out to OGS technical specifications. However, the purchased data do meet a pre-defined valuation criteria set out by the OGS. Some quality assurance and quality control checks have been carried out on the digital data.

Issued 2013.

Information from this publication may be quoted if credit is given. It is recommended that reference be made in the following form:

Ontario Geological Survey 2013. Airborne magnetic survey, shaded colour image of the second vertical derivative of the gradient-enhanced residual magnetic field and Keating coefficients, Latchford area—Purchased data; Ontario Geological Survey, Map 60 418, scale 1:50 000.