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Ontario

Ontario Geological Survey

MAP 82 686

AIRBORNE MAGNETIC AND GAMMA-RAY SPECTROMETRIC SURVEYS

Colour-filled contours of the residual magnetic field

LAC DES MILLE LACS–NAGAGAMI LAKE AREA

Scale 1:50 000

1 km 0 1 2 km

NTS References: 42 E/9, 16; F/12, 13

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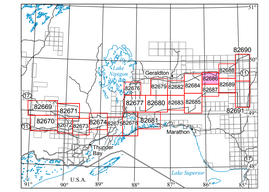


Location map 1 cm equals 35 km

SURVEY PARAMETERS

AIRCRAFT
Type: Piper Navajo PA-31
Registration: C-GJBB, C-GJBG

MAGNETOMETER
Type: Geometrics cesium-vapour
Sensitivity: 0.005 nT
Noise level: 0.05 nT
Sample interval: 10 readings per second
Sensor locations: wingtips (transverse separation is 14.78 m)
tail stinger (longitudinal separation is 9.75 m)
Compensation: RMS AADCII
Data Acquisition: GEDAS

GAMMA-RAY SPECTROMETER SYSTEM
Type: Radiation Solutions RS-500
Downward-looking crystal volume: 33.6 L
Upward-looking crystal volume: 8.4 L
Number of channels: 1024
Sample interval: 1 reading per second
Sensor location: near centre of aircraft
Potassium window: 1370 to 1570 keV
Uranium window: 1660 to 1860 keV
Thorium window: 2410 to 2810 keV
Total count window: 410 to 2810 keV

NAVIGATION SYSTEM
GPS receiver: Novatel OEM4 ProPak
GPS sample interval: 1 reading per second
Radar altimeter: Thompson CFS 530A
Radar sample interval: 10 readings per second
Barometric altimeter: Setra 270
Barometric sample interval: 10 readings per second
Video flight path camera: Panasonic GPKR402 HRSV
Navigation-Acquisition: GEDAS

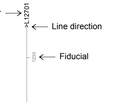
BASE STATION
Type: GEM System GSM-19W
Magnetometer sample interval: 1 reading per second
GPS sample interval: 1 reading per second

SURVEY SPECIFICATIONS
Survey date: July 18 to October 29, 2014
Nominal aircraft terrain clearance: 100 m
Traverse line spacing: 200 m
Control line spacing: 2000 m
Traverse line direction: 0 degrees
Control line direction: 90 degrees

CO-ORDINATE SYSTEM
Projection: Universal Transverse Mercator
Datum: NAD83
Central meridian: 87°W (UTM zone 16N)
Central scale factor: 0.9996
False easting: 500 m
False northing: 0 m

LEGEND

FLIGHT LINE INFORMATION

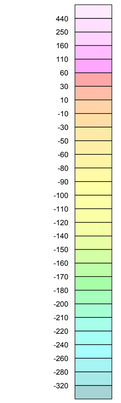


MAGNETIC CONTOURS

nanoteslas (nT)

RESIDUAL MAGNETIC FIELD GRID

nanoteslas (nT)



DESCRIPTIVE NOTES

Introduction

The data comprising this map are derived from the results of an airborne magnetic and gamma-ray spectrometric survey carried out by Goldak Airborne Surveys. The survey was flown using 2 Piper PA-31 Navajo aircraft. The aircraft were each equipped with 3 Geometrics magnetic sensors, Radiation Solutions gamma-ray spectrometers, GPS navigation systems and digital data acquisition systems.

Residual Magnetic Field Map

The contours of residual magnetic intensity were generated from digitally recorded data. The magnetic data were levelled to the control lines and interpolated onto a 40 m regular grid using local horizontal gradients to guide between-line splines. A regional correction was applied to level the magnetic field to the Ontario Master Aeromagnetic Grid.

Magnetic declination on September 7, 2014, for the centre of the survey area was 5.2°W, magnetic inclination was 74.6° and the magnetic field strength was 56 929.6 nT (calculated using IGRF).

SOURCES OF INFORMATION

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

Magnetic declination for the centre of the map area was approximately 7°11'W in 2015.

CREDITS

Data acquisition, data compilation and map production by Goldak Airborne Surveys, Saskatoon, Saskatchewan.

Project management and quality assurance by Paterson, Grant and Watson Limited, Toronto, Ontario.

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

Every possible effort has been made to ensure the accuracy of the information presented on this map; however, the Ministry of Northern Development and Mines does not assume liability for errors that may occur. Users should verify critical information.

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

Ontario Geological Survey 2015. Ontario airborne geophysical surveys, magnetic and gamma-ray spectrometric data, grid and profile data (ASCII format) and vector data, Lac des Mille Lacs–Nagagami Lake area; Ontario Geological Survey, Geophysical Data Set 1078a.

Ontario Geological Survey 2015. Ontario airborne geophysical surveys, magnetic and gamma-ray spectrometric data, grid and profile data (Geosoft® format) and vector data, Lac des Mille Lacs–Nagagami Lake area; Ontario Geological Survey, Geophysical Data Set 1078b.

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