THESE TERMS GOVERN YOUR USE OF THIS DOCUMENT

Your use of this Ontario Geological Survey document (the "Content") is governed by the terms set out on this page ("Terms of Use"). By downloading this Content, you (the "User") have accepted, and have agreed to be bound by, the Terms of Use.

Content: This Content is offered by the Province of Ontario's *Ministry of Northern Development and Mines* (MNDM) as a public service, on an "as-is" basis. Recommendations and statements of opinion expressed in the Content are those of the author or authors and are not to be construed as statement of government policy. You are solely responsible for your use of the Content. You should not rely on the Content for legal advice nor as authoritative in your particular circumstances. Users should verify the accuracy and applicability of any Content before acting on it. MNDM does not guarantee, or make any warranty express or implied, that the Content is current, accurate, complete or reliable. MNDM is not responsible for any damage however caused, which results, directly or indirectly, from your use of the Content. MNDM assumes no legal liability or responsibility for the Content whatsoever.

Links to Other Web Sites: This Content may contain links, to Web sites that are not operated by MNDM. Linked Web sites may not be available in French. MNDM neither endorses nor assumes any responsibility for the safety, accuracy or availability of linked Web sites or the information contained on them. The linked Web sites, their operation and content are the responsibility of the person or entity for which they were created or maintained (the "Owner"). Both your use of a linked Web site, and your right to use or reproduce information or materials from a linked Web site, are subject to the terms of use governing that particular Web site. Any comments or inquiries regarding a linked Web site must be directed to its Owner.

Copyright: Canadian and international intellectual property laws protect the Content. Unless otherwise indicated, copyright is held by the Queen's Printer for Ontario.

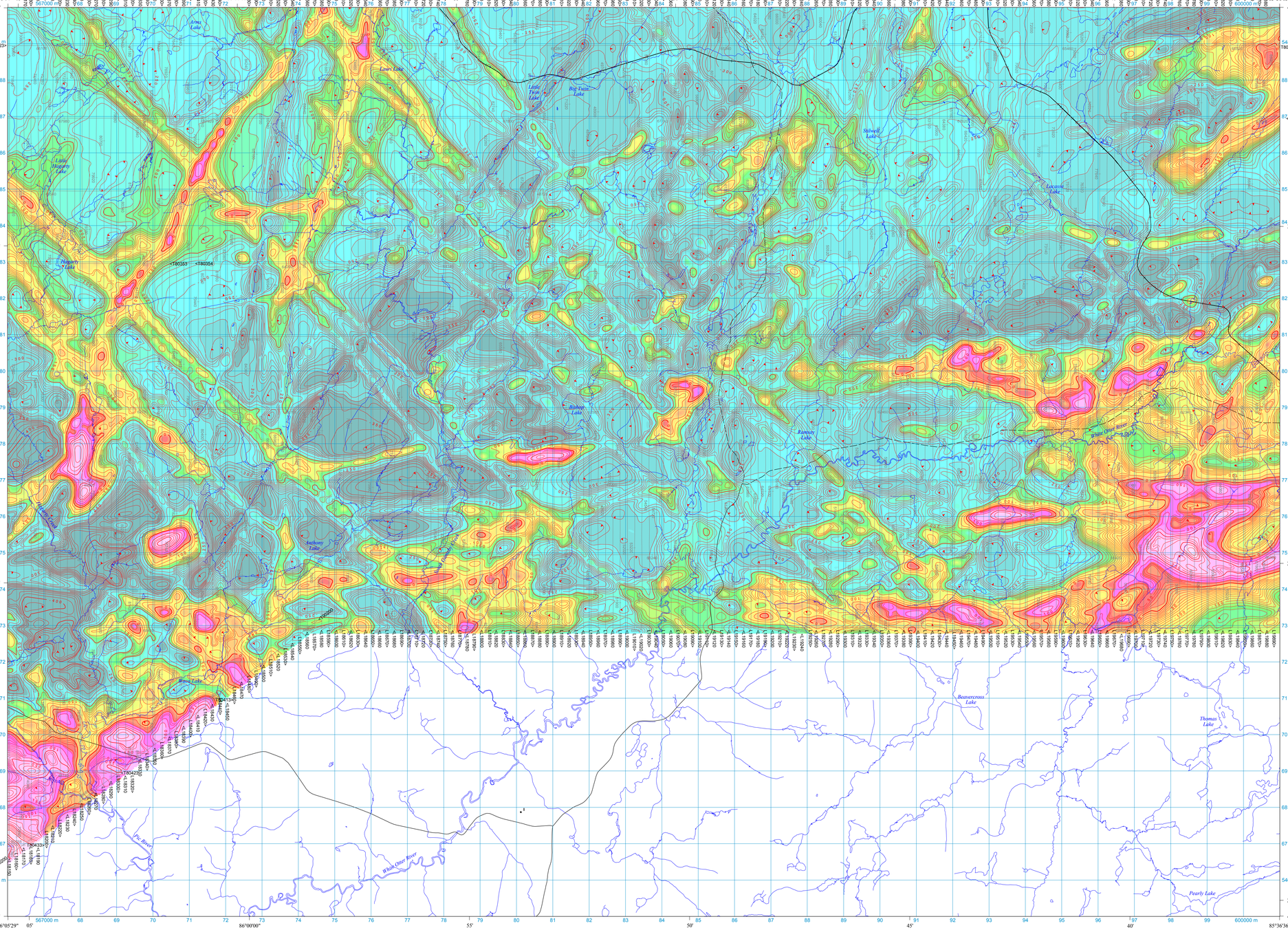
It is recommended that reference to the Content be made in the following form:

Ontario Geological Survey 2015. Airborne magnetic and gamma-ray spectrometric surveys, colour-filled contours of the residual magnetic field, Lac des Milles Lacs–Nagagami Lake area; Ontario Geological Survey, Map 82 687, scale 1:50 000.

Use and Reproduction of Content: The Content may be used and reproduced only in accordance with applicable intellectual property laws. *Non-commercial* use of unsubstantial excerpts of the Content is permitted provided that appropriate credit is given and Crown copyright is acknowledged. Any substantial reproduction of the Content or any *commercial* use of all or part of the Content is prohibited without the prior written permission of MNDM. Substantial reproduction includes the reproduction of any illustration or figure, such as, but not limited to graphs, charts and maps. Commercial use includes commercial distribution of the Content, the reproduction of multiple copies of the Content for any purpose whether or not commercial, use of the Content in commercial publications, and the creation of value-added products using the Content.

Contact:

FOR FURTHER INFORMATION ON	PLEASE CONTACT:	BY TELEPHONE:	BY E-MAIL:
The Reproduction of the EIP or Content	MNDM Publication Services	Local: (705) 670-5691 Toll-Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	Pubsales.ndm@ontario.ca
The Purchase of MNDM Publications	MNDM Publication Sales	Local: (705) 670-5691 Toll-Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	Pubsales.ndm@ontario.ca
Crown Copyright	Queen's Printer	Local: (416) 326-2678 Toll-Free: 1-800-668-9938 (inside Canada, United States)	Copyright@gov.on.ca



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

Line number → 10127701
Line direction
Fiducial

MAGNETIC CONTOURS

nanoteslas (nT)

- 10 nT contour
- 50 nT contour
- 200 nT contour
- 1000 nT contour
- Magnetic depression

RESIDUAL MAGNETIC FIELD GRID

nanoteslas (nT)

440, 250, 160, 110, 60, 30, 10, -10, -30, -50, -60, -80, -90, -100, -110, -120, -140, -150, -160, -170, -180, -200, -210, -220, -240, -260, -280, -320

Ontario

Ontario Geological Survey

MAP 82 687

AIRBORNE MAGNETIC AND GAMMA-RAY SPECTROMETRIC SURVEYS

Colour-filled contours of the residual magnetic field

LAC DES MILLE LACS–NAGAGAMI LAKE AREA

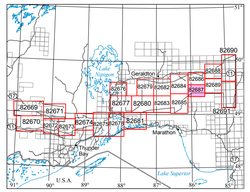
Scale 1:50 000

1 km 0 1 2 km

NTS References: 42 E/8, 9; F/5, 12

© Queen's Printer for Ontario, 2015.

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



Location map 1 cm equals 35 km

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°6'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.

Issued 2015.

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 2015. Airborne magnetic and gamma-ray spectrometric surveys, colour-filled contours of the residual magnetic field, Lac des Mille Lacs–Nagagami Lake area; Ontario Geological Survey, Map 82 687, scale 1:50 000.

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