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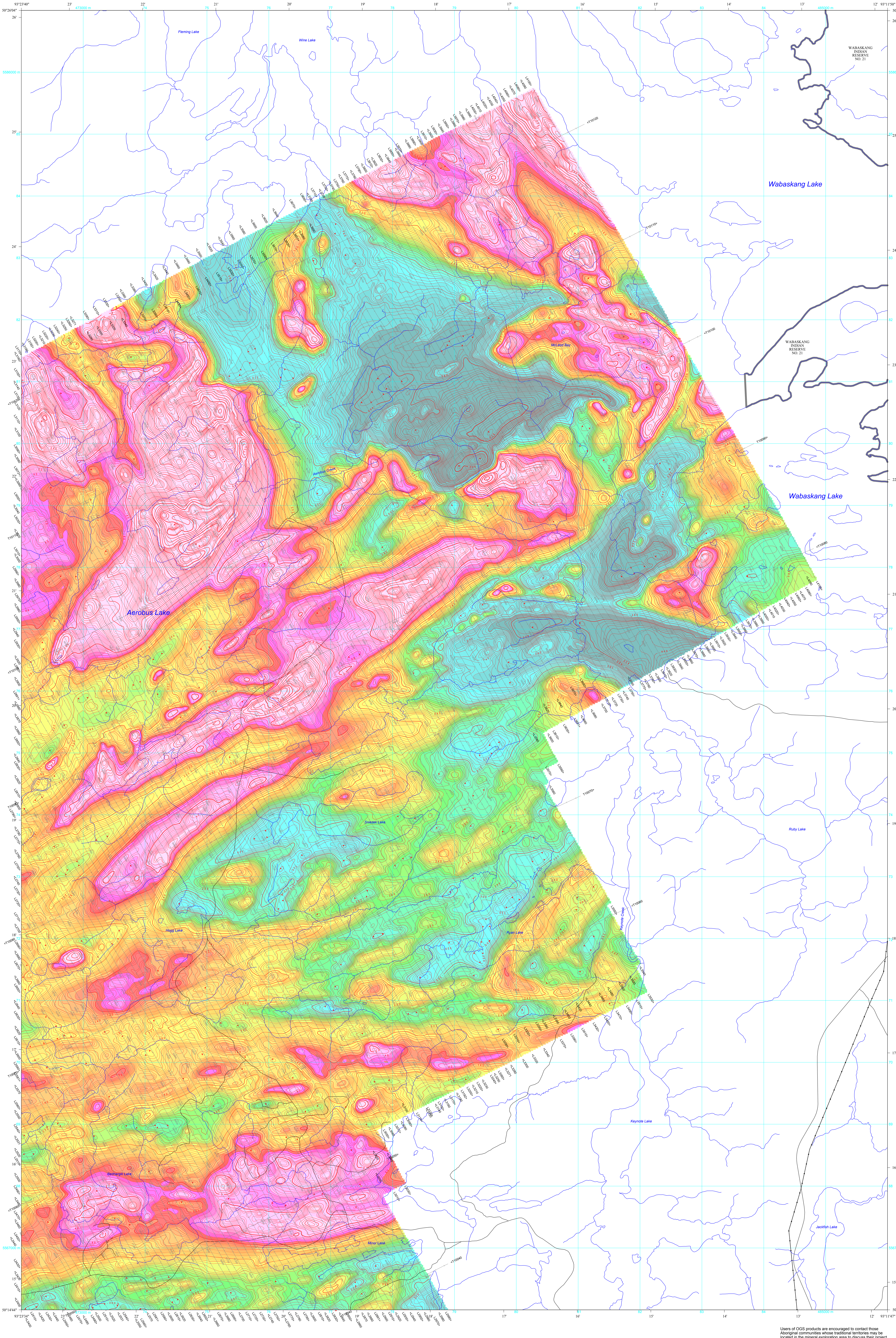

Ontario

Ontario Geological Survey

MAP 60 386

AIRBORNE MAGNETIC, ELECTROMAGNETIC AND GAMMA-RAY SPECTROMETRIC SURVEYS

Colour-filled contours of the residual magnetic field

AEROBUS LAKE AREA

Purchased Data

Scale 1:20 000

500 m 0 0.5 1 km

NTS References: 52 K/6.

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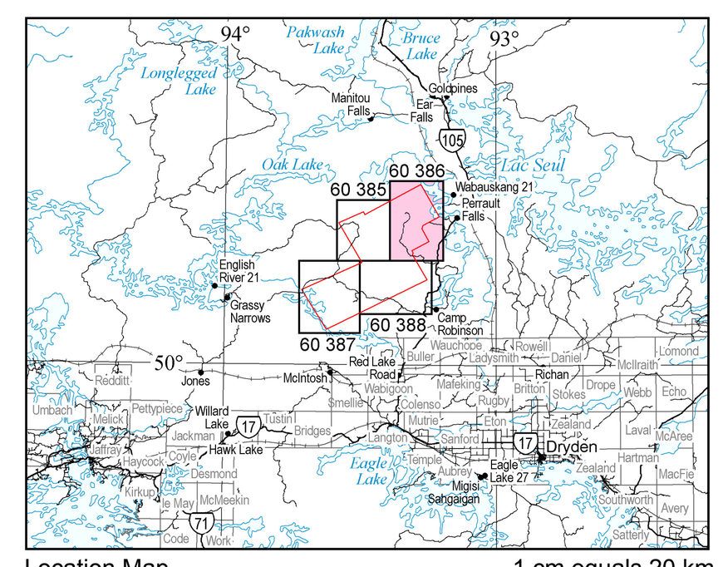

Location Map 1 cm equals 20 km

DESCRIPTIVE NOTES

Introduction

This map was compiled from a proprietary airborne survey purchased by the Ontario Ministry of Northern Development and Mines. This survey was flown using Terraquest's fixed-wing magnetic, gamma-ray spectrometric and XDS VLF-EM systems. The aircraft was also equipped with a GPS navigation system and a digital data acquisition system.

Residual Magnetic Field Map

The contours of residual magnetic intensity were generated from digitally recorded data. The magnetic data were corrected for diurnal variations, levelled to the control lines and interpolated onto a 20 m regular grid, using the GT-Grid algorithm. A regional correction was applied to level the magnetic field to the Ontario Master Aeromagnetic Grid.

Magnetic declination on June 30, 2008, for the centre of the survey area was 0.21°E. Magnetic inclination on June 30, 2008, for the centre of the survey area was 75.78°. Magnetic field strength was 58 076 nT (calculated using IGRF).

SURVEY PARAMETERS

AIRCRAFT
Type: Piper Navajo PA 31-325 CR
Registration: C-GXKS

MAGNETOMETER
Type: CS-3 caesium-vapour
Sensitivity: 0.005 nT
Sample interval: 10 readings per second
Sensor location: wingtips, tail stinger

GAMMA-RAY SPECTROMETER SYSTEM
Type: Radiation Solutions RSX-5
Downward-looking crystal volume: 50.4 l
Upward-looking crystal volume: 8.4 l
Number of channels: 256
Sample interval: 1 reading per second
Sensor location: near centre of aircraft
Potassium window: 1370 keV to 1570 keV
Uranium window: 1680 keV to 1860 keV
Thorium window: 2410 keV to 2810 keV
Total count window: 410 keV to 2810 keV

ELECTROMAGNETIC SYSTEM
Type: XDS-VLF
Frequency range: 22 to 26 kHz
Parameters: line (X), ortho (Y) and vertical (Z) components of VLF-EM total field
Sample interval: 10 readings per second

NAVIGATION SYSTEM
GPS receiver: Trimble Ag132
GPS sample interval: 1 reading per second
Radar altimeter: King KRA-10A
Radar sample interval: 10 readings per second
Barometric altimeter: Sensym LX18001AN
Barometric sample interval: 1 reading per second
Video flight path recorder: Panasonic AG-2400
Guidance system: AgNav LiNav
Digital acquisition system: RMS DAARC 500
Magnetic compensation: combined with DAS

BASE STATION
Type: CS-2 caesium-vapour
Magnetometer sample interval: 1 reading per second
GPS sample interval: 1 reading per second

SURVEY SPECIFICATIONS
Survey date: June 19, 2008, to July 9, 2008
Nominal aircraft terrain clearance: 70 m
Traverse line spacing: 2000 m
Control line spacing: 750 m
Traverse line direction: N30°W
Control line direction: N64°E

Data purchased from Terraquest Limited

LEGEND

FLIGHT LINE INFORMATION

Line number → L12701
← Line direction
1230 ← Fiducial

MAGNETIC CONTOURS

nanoteslas (nT)

5 nT
20 nT
100 nT
500 nT
Magnetic depression

RESIDUAL MAGNETIC FIELD GRID

nanoteslas (nT)

50, -5, -35, -60, -80, -100, -115, -130, -145, -155, -170, -185, -195, -210, -220, -225, -235, -245, -255, -265, -270, -280, -295, -305, -315, -330, -350, -380

RMI (nT)

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 0°16'W in 2012.

Barrie, C. 2008. High resolution magnetic, radiometric and XDS VFL-EM Airborne Survey Aerobus Project, Dryden, Ontario; unpublished Operations Report for Delta Uranium Inc.

CREDITS

Data acquisition, data compilation by Terraquest Limited, Markham, Ontario, for Delta Uranium Inc., Toronto, Ontario.

Data reprocessing and map production by Scott Hogg & Associates, Toronto, 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 can verify critical information from the corresponding digital profile, gridded and profile data distributed by the Ontario Geological Survey.

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 2012.

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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.