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Ontario Geological Survey 2012. Airborne magnetic, electromagnetic and gamma-ray spectrometric surveys, colour-filled contours of the VLF-EM vertical field, Aerobus Lake area—Purchased data; Ontario Geological Survey, Map 60 396, scale 1:20 000.

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AIRBORNE MAGNETIC,
ELECTROMAGNETIC
AND GAMMA-RAY
SPECTROMETRIC SURVEYSColour-filled contours of the
VLF-EM vertical field

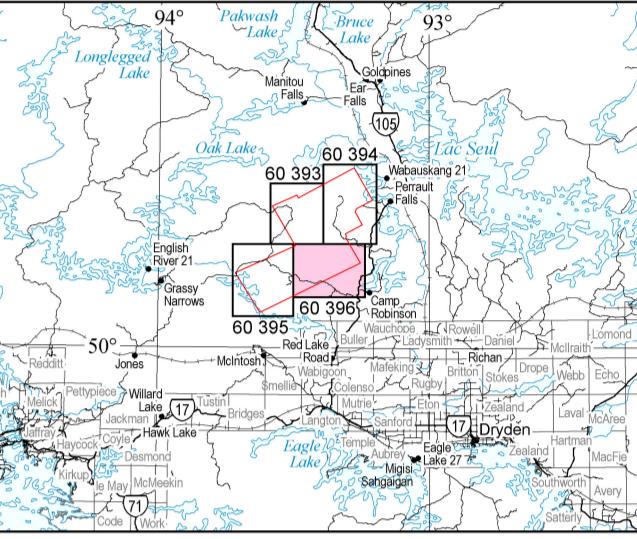
AEROBUS LAKE AREA

Purchased Data

Scale 1:20 000

500 m 0 0.5 1 km

NTS References: 52 K/3.

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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 magnetometer, gamma-ray spectrometer and XDS VLF-EM systems. The digital data were also processed with a GPS navigation system and a digital data visualisation system.

VLF-EM Vertical Field
The VLF-EM field is measured using three coils oriented in the X, Y and Z directions. The system has a frequency range from 22 to 26 kHz, which includes the Cutler, Maine (NAA) and Seattle, Washington (NLK) signals. The vertical field (Z component) is referenced to the line (X) coil.

As the VLF-EM signal originates from distant sources, the field is relatively stable. Any change in the field over time is due to conductive changes in the ground either through induction or current channelling. The VLF-EM method may respond to bedrock conductors (e.g. graphite and massive sulphides), geological structures (e.g. shear zones and shear zones) and overburden conductivity variations.

The measured vertical component VLF-EM field values were interpolated onto a 20 m regular grid, using the cubic spline algorithm.

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).

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°10'W in 2012.

Barrie, C. 2008. High resolution magnetic, radiometric and XDS VLF-EM Airborne Survey Aeromag Project, Dryden, Ontario; unpublished Operators 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 maps surrounds by the Ontario Ministry of Northern Development and Mines, Sudbury, Ontario.

To facilitate 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 guarantee the accuracy of the data that it contains. Users can verify critical information from the corresponding Ontario Geological Survey profile data distributed by the Ontario Geological Survey.

The geographical 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 under OGS contract. The data provided by the private sector do not 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.
Information from this publication may be apportioned credit is given. It is recommended that reference be made to the following map:

Ontario Geological Survey 2012 Airborne magnetic, radiometric and gamma-ray spectrometric surveys, colour-filled contours of the VLF-EM vertical field, Aerobus Lake area—Purchased data: Ontario Geological Survey, Map 60 396, scale 1:20 000.



SURVEY PARAMETERS

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

MAGNETOMETER
Type: Radiionics caesium-vapour
Sensitivity: 0.005 nT
Sample interval: 10 readings per second
Sample size: 1000 samples, bin stringer

GAMMA-RAY SPECTROMETER SYSTEM
Type: Radiation Solutions RGS-X
Downward-looking crystal volume: 50.4 l
Number of channels: 84.1
Sample interval: 1 reading per second
Sample size: 1000 samples, bin stringer
Potassium window: 1370 keV to 1570 keV
Uranium window: 2410 keV to 2810 keV
Thorium window: 2410 keV to 2810 keV
Total count window: 410 keV to 2810 keV

ELECTROMAGNETIC SYSTEM
Type: XDS-VLF
Frequency: 22 to 26 kHz
Parameters: line (X), orbit (Y) and vertical (Z)
Components of VLF-EM total field
Sample interval: 1 reading per second

NAVIGATION SYSTEM
GPS receiver: Trimble Agri132
GPS sample interval: 1 reading per second
Radar: 1 reading per second
Radar sample interval: 10 readings per second
Barometric altimeter: Sensym LX18001AN
Barometric sample interval: 1 reading per second
Video flight path recorder: Panasonic AG-C2400
Guidance system: AgNav Linav
Digital data acquisition system: RMS DAARC 500
Magnetic compensation: combined with DAS

BASE STATION
Type: CS-2 caesium-vapour
GPS receiver: Trimble Agri132
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: 750 m
Control line spacing: 750 m
Traverse line direction: N30°W
Control line direction: N0°E

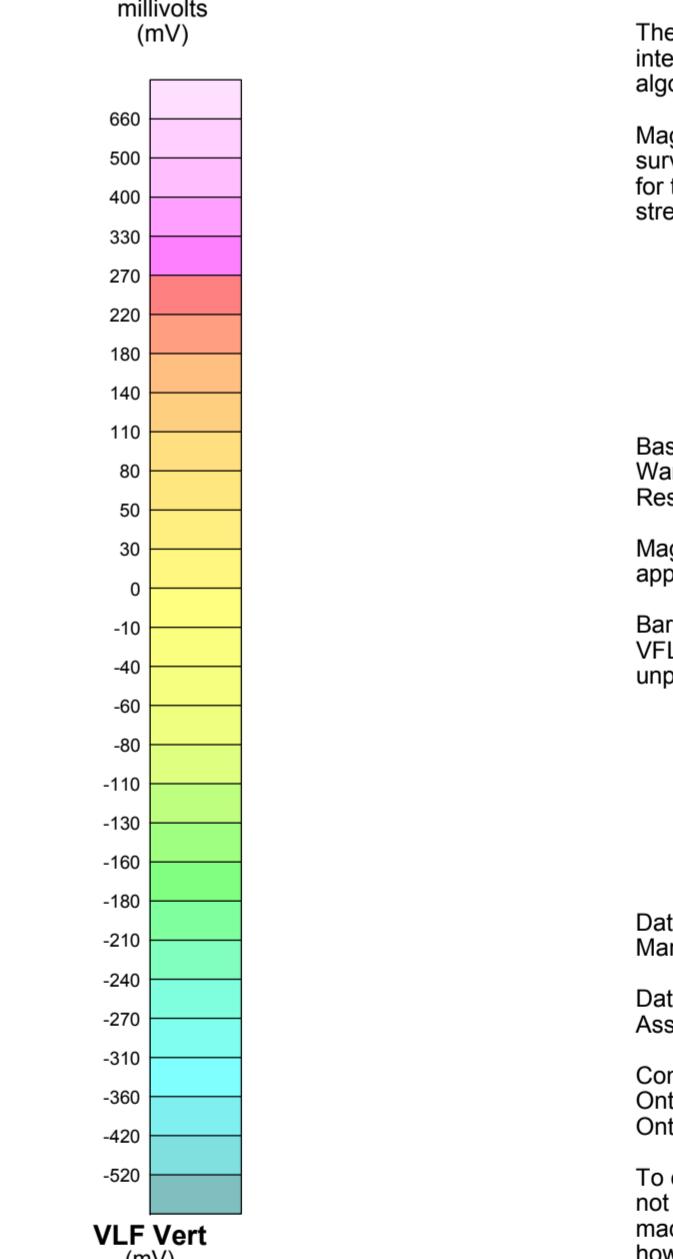
Data purchased from: Terraquest Limited

LEGEND
FLIGHT LINE INFORMATION

Line number →
← Line direction
← Fiducial

VLF VERTICAL COMPONENT FIELD CONTOURS
millivolts (mV)

10 mV	1000 mV
50 mV	low
250 mV	

VLF VERTICAL COMPONENT FIELD GRID
millivolts (mV)

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.