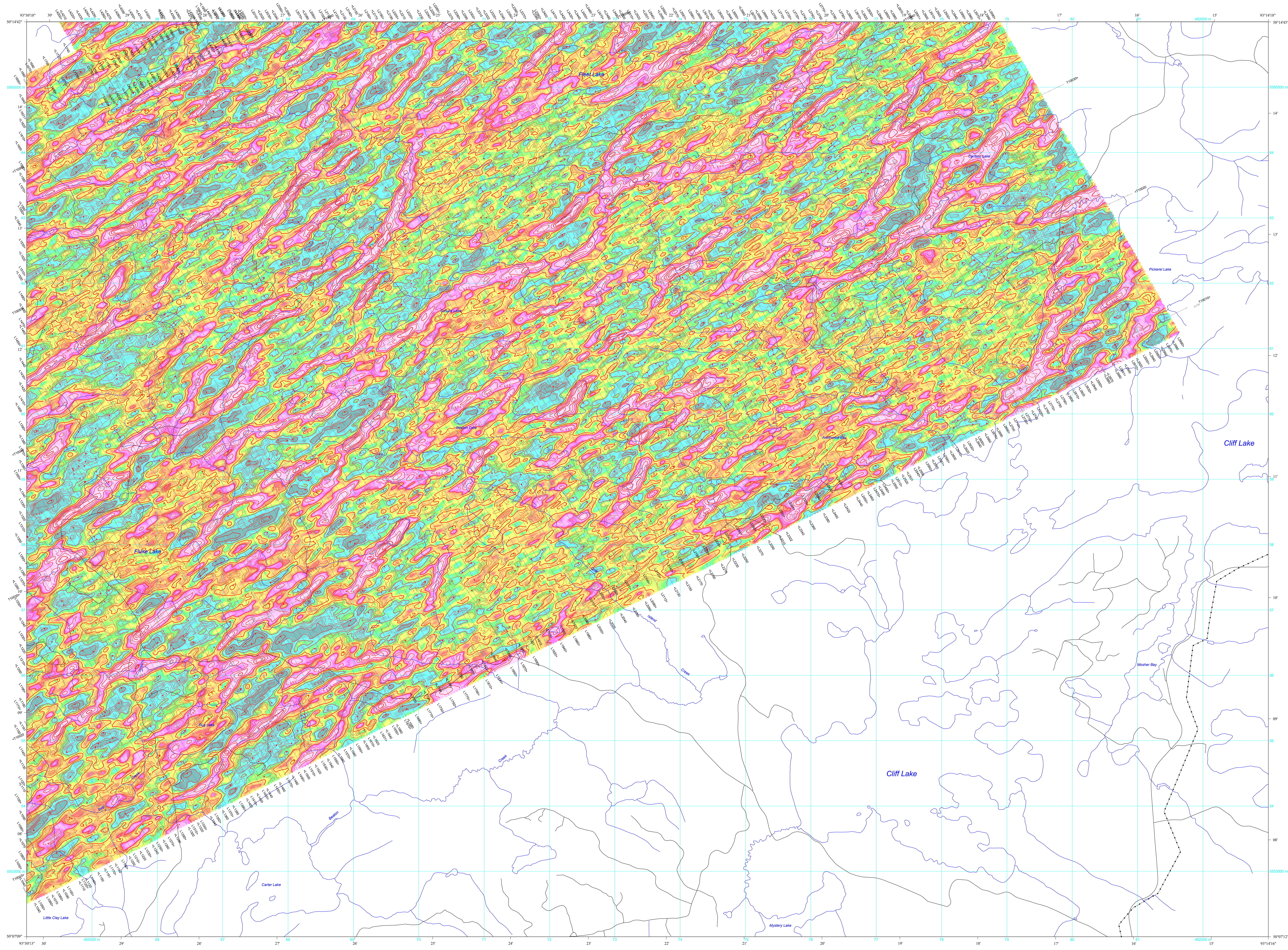


SURVEY PARAMETERS

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

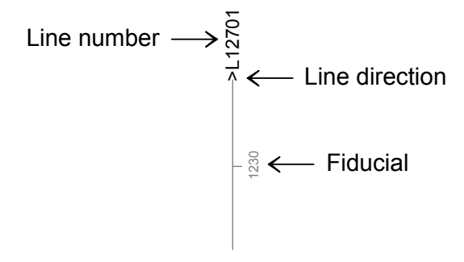
BASE STATION
Type: CS-2 caesium-vapour
Magnetometer sample interval: 1 reading per second
GPS sample interval: 1 reading per second

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



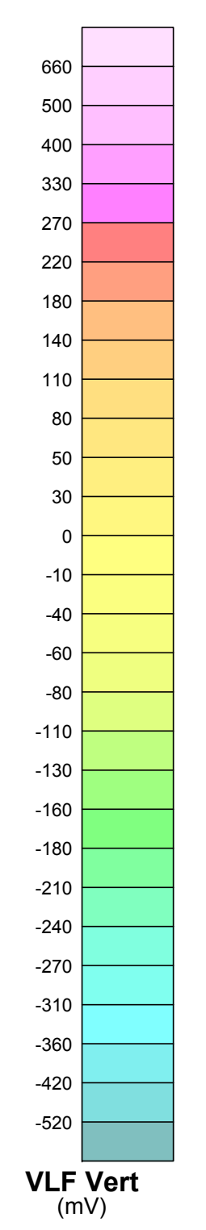
VLF VERTICAL COMPONENT FIELD CONTOURS

millivolts (mV)

▨	10 mV
▨	50 mV
▨	250 mV
▨	1000 mV
▨	low

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.

Ontario

Ontario Geological Survey

MAP 60 396

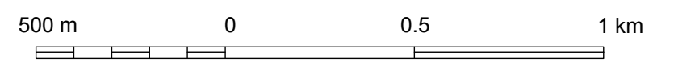
AIRBORNE MAGNETIC, ELECTROMAGNETIC AND GAMMA-RAY SPECTROMETRIC SURVEYS

Colour-filled contours of the VLF-EM vertical field

AEROBUS LAKE AREA

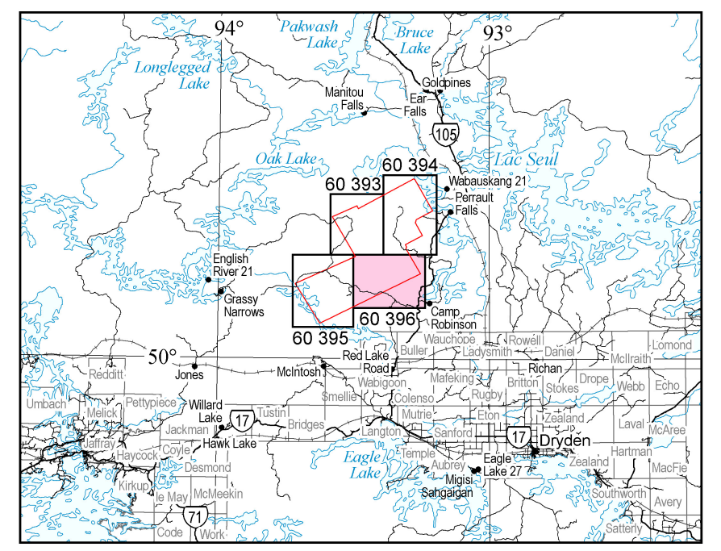
Purchased Data

Scale 1:20 000



NTS References: 52 K/3.

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



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.

VLF-EM Vertical Field

The VLF-EM field is measured using three coils oriented in the X, Y and Z directions. The system was tuned to receive signals in the 22.0 to 26.0 kHz range 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 primary field is effectively a plane wave. Scattering of this field occurs because of the presence of conductivity changes in the ground either through induction or current channelling. The location of conductors is indicated by peak amplitudes. The VLF-EM method may respond to bedrock conductors (e.g. graphite and massive sulphides), geological structures (e.g. faults 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 bicubic 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 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.

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 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.