Report on a Helicopter-Borne AeroTEM System Electromagnetic & Magnetic Survey

Aeroquest Job # 08121

Sunday Lake Block
Thunder Bay, Ontario, Canada
NTS 052A11

For

Kennecott Canada Exploration Inc.

by

AEROQUEST

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Report date: October 2008

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- RES – Apparent Resistivity with line contours and EM anomaly symbols.

1. INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out on behalf of Kennecott Canada Exploration Inc. for their Sunday Lake Block, near Thunder Bay, Ontario.

The principal geophysical sensor is Aeroquest's exclusive AeroTEM IV (Oscar) time domain helicopter electromagnetic system which is employed in conjunction with a high-sensitivity caesium vapour magnetometer. Ancillary equipment includes a real-time differential GPS navigation system, radar altimeter, video recorder, and a base station magnetometer. Full-waveform streaming EM data is recorded at 36,000 samples per second. The streaming data comprise the transmitted waveform, and the X component and Z component of the resultant field at the receivers. A secondary acquisition system (RMS) records the ancillary data.

The total survey coverage is 418.3 line-km, of which 403.9 line-km fell within the defined project area (Appendix 1). The survey was made up of a single survey block, the Sunday Lake Block, flown at 100 metre line spacing in an east-west flight direction (Table 1). The survey flying described in this report took place from August 17th – 20th, 2008. This report describes the survey logistics, the data processing, presentation, and provides the specifications of the survey.

2. SURVEY AREA

The Project area (Figure 1) is located in northwest Ontario, approximately 25 km directly north of Thunder Bay. The project was made up of a single rectangular block of 38 km^2 with a small exclusion area of 1.4 km^2 within the block. The area can be located on NTS map sheet 052A11. Survey terrain was flat to hilly with elevations ranging from approximately 450 m – 530 m above sea level. There were many lakes and waterways in the area, including Sunday Lake from which the project derives its name.

There are 10 mining claims within the project area. Details are in Appendix 2.

The base of survey operations was at Thunder Bay Airport and crew accommodation was at the Travelodge Hotel, Thunder Bay. A fuel cache was located at 48˚ 42' 10" N, 89˚06' 52" W.

Figure 1. Project Area

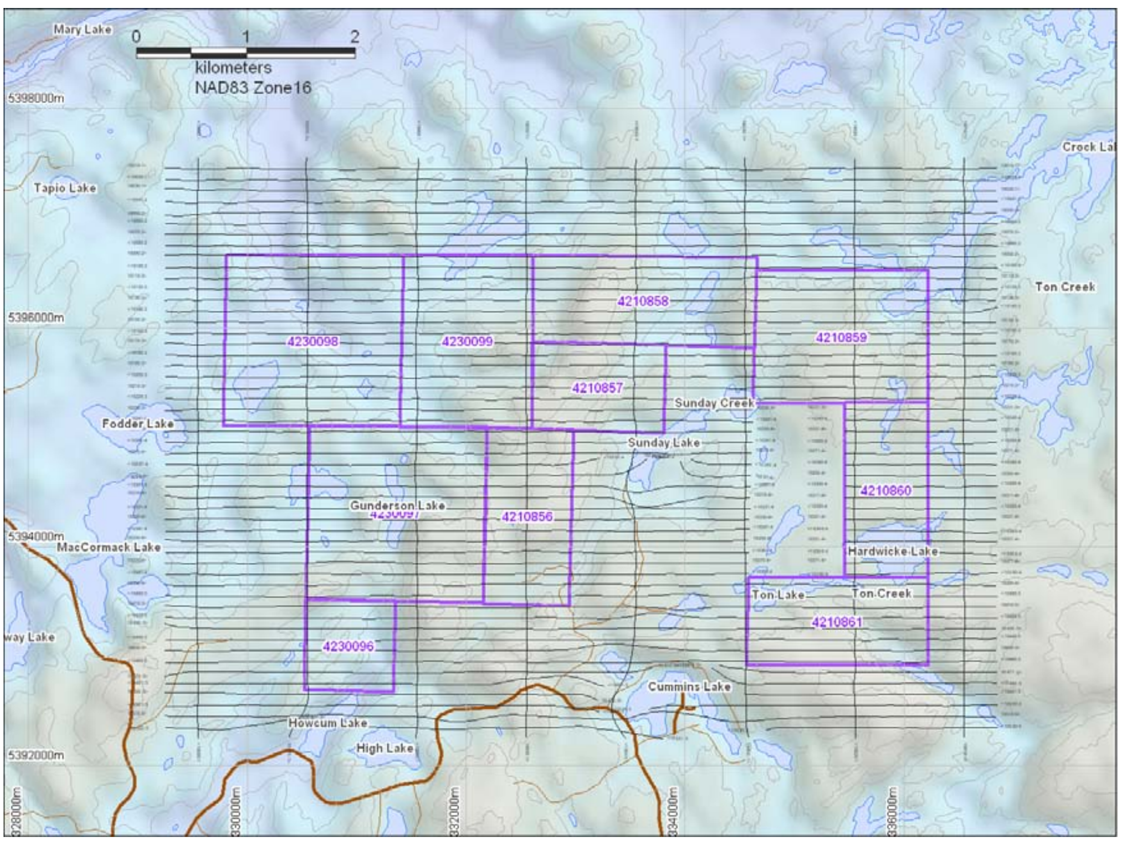


Figure 2. Survey Flight Path and Mining Claims

3. SURVEY SPECIFICATIONS AND PROCEDURES

The survey specifications are summarised in the following table:

Project Name	Line Spacing (metres)	Line Direction	Survey Coverage (line-km)	Date flown
Sunday Lake	100	E-W (90º)	418.3	August 17 - 20, 2008

Table 1. Survey specifications summary

The survey coverage was calculated by adding up the along-line distance of the survey lines and control (tie) lines as presented in the final Geosoft database. The survey was flown with a line spacing of 100 metres. The control (tie) lines were flown perpendicular to the survey lines with various tie line spacing.

The nominal EM bird terrain clearance is 30 metres, but can be higher in more rugged terrain due to safety considerations and the capabilities of the aircraft. The magnetometer sensor is mounted in a smaller bird connected to the tow rope 31 metres above the EM bird and 21 metres below the helicopter (Figure 3). Nominal survey speed over relatively flat terrain is 75 km/hr and is generally lower in rougher terrain. Scan rates for ancillary data acquisition is 0.1 second for the magnetometer and altimeter, and 0.2 second for the GPS determined position. The EM data is acquired as a data stream at a sampling rate of 36,000 samples per second and is processed to generate final data at 10 samples per second. The 10 samples per second translate to a geophysical reading about every 1.5 to 2.5 metres along the flight path.

3.1. NAVIGATION

Navigation is carried out using a GPS receiver, an AGNAV2 system for navigation control, and an RMS DGR-33 data acquisition system which records the GPS coordinates. The x-y-z position of the aircraft, as reported by the GPS, is recorded at 0.2 second intervals. The system has a published accuracy of less than 3 metres. A recent static ground test of the Mid-Tech WAAS GPS yielded a standard deviation in x and y of less than 0.6 metres and for z less than 1.5 metres over a two-hour period.

3.2. SYSTEM DRIFT

Unlike frequency domain electromagnetic systems, the AeroTEM IV system has negligible drift due to thermal expansion. The operator is responsible for ensuring the instrument is properly warmed up prior to departure and that the instruments are operated properly throughout the flight. The operator maintains a detailed flight log during the survey noting the times of the flight and any unusual geophysical or topographic features. Each flight included at least two high elevation ‘background’ checks. During the high elevation checks, an internal 5 second wide calibration pulse in all EM channels was generated in order to ensure that the gain of the system remained constant and within specifications.

3.3. FIELD QA/QC PROCEDURES

On return of the pilot and operator to the base, usually after each flight, the AeroDAS streaming EM data and the RMS data are carried on removable hard drives and Flashcards, respectively and transferred to the data processing work station. At the end of each day, the base station magnetometer data on FlashCard is retrieved from the base station unit.

Data verification and quality control includes a comparison of the acquired GPS data with the flight plan; verification and conversion of the RMS data to an ASCII format XYZ data file; verification of the base station magnetometer data and conversion to ASCII format XYZ data; and loading, processing and conversion of the steaming EM data from the removable hard drive. All data is then merged to an ASCII XYZ format file which is then imported to an Oasis database for further QA/QC and for the production of preliminary EM, magnetic contour, and flight path maps.

Survey lines which show excessive deviation from the intended flight path are re-flown. Any line or portion of a line on which the data quality did not meet the contract specification was noted and reflown.

4. AIRCRAFT AND EQUIPMENT

4.1. AIRCRAFT

A Eurocopter (Aerospatiale) AS350B2 "A-Star" helicopter - registration C-GJIX was used as survey platform. The helicopter was owned and operated by Questral Helicopters Ltd. or Ottawa, Ontario. Installation of the geophysical and ancillary equipment was carried out by Aeroquest Limited personnel in conjunction with a licensed aircraft. The survey aircraft was flown at a nominal terrain clearance of 275 ft (83metres).

Figure 3. Helicopter of the type used in the survey.

4.2. MAGNETOMETER

The AeroTEM IV airborne survey system employs the Geometrics G-823A caesium vapour magnetometer sensor installed in a two metre towed bird airfoil attached to the main tow line, 21 metres below the helicopter (Figure 3). The sensitivity of the magnetometer is 0.001 nanoTesla at a 0.1 second sampling rate. The nominal ground clearance of the magnetometer bird is 51 metres (170 ft.). The magnetic data is recorded at 10 Hz by the RMS DGR-33.

4.3. ELECTROMAGNETIC SYSTEM

The electromagnetic system is an Aeroquest AeroTEM IV time domain towed-bird system (Figure 4). The current AeroTEM IV transmitter dipole moment is 237 kNIA. The AeroTEM bird is towed 53 metres (175 ft) below the helicopter. More technical details of the system may be found in Appendix 6.

The wave-form is triangular with a symmetric transmitter on-time pulse of 1.10 ms and a base frequency of 90 Hz (Figure 5). The current alternates polarity every on-time pulse. During every Tx on-off cycle (180 per second), 200 contiguous channels of raw X and Z component (and a transmitter current monitor, itx) of the received waveform are measured. Each channel width is 27.78 microseconds starting at the beginning of the transmitter pulse. This 200 channel data is referred to as the raw streaming data. The AeroTEM system has two separate EM data recording streams, the conventional RMS DGR-33 and the AeroDAS system which records the full waveform (Figure 5).

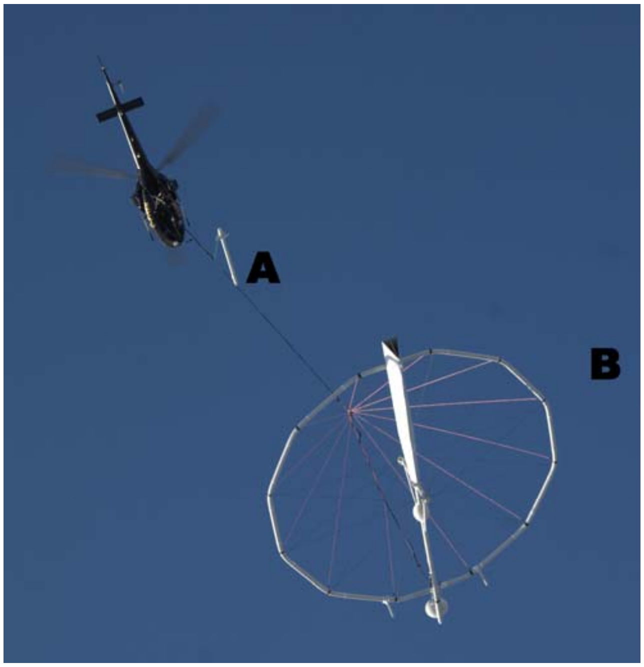


Figure 4. The magnetometer bird (A) and AeroTEM IV EM bird (B)

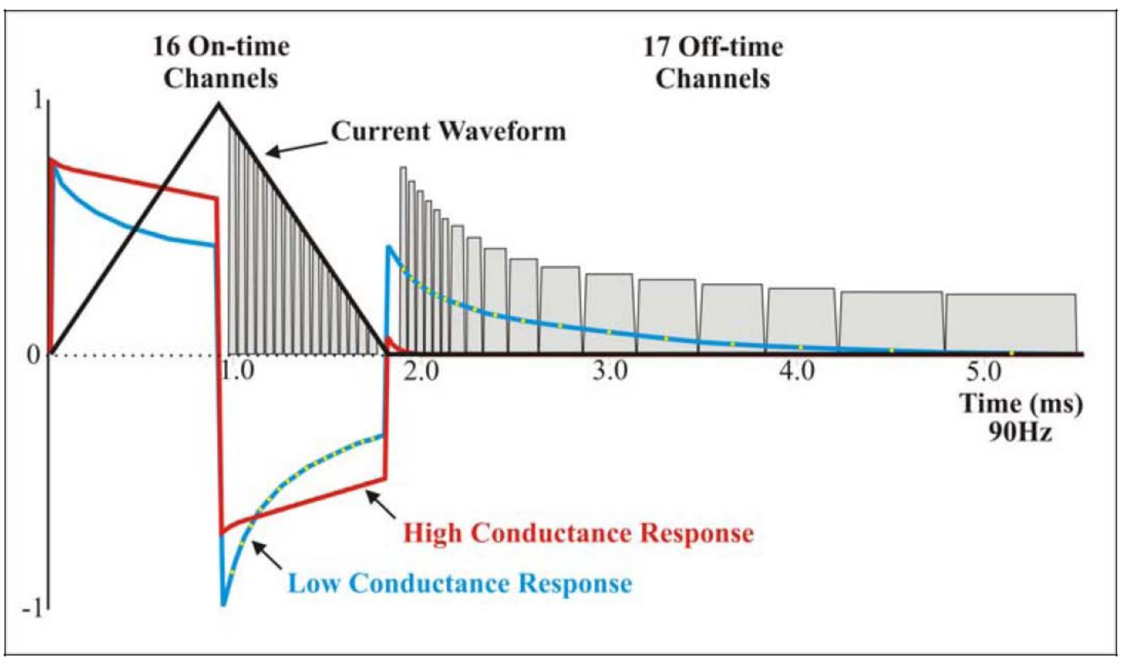


Figure 5. Schematic of Transmitter and Receiver waveforms

4.4. AERODAS ACQUISITION SYSTEM

The 200 channels of raw streaming data are recorded by the AeroDAS acquisition system (Figure 6) onto a removable hard drive. The streaming data are processed post-survey to yield 33 stacked and binned on-time and off-time channels at a 10 Hz sample rate. The timing of the final processed EM channels is described in the following table:

```
Average TxOn      -3.2332 us
Average TxSwitch  991.6066 us
Average TxOff     1903.9197 us
```

Channel	Sample Range	Time Width (us)	Time Center (us)	Time After TxOn (us)
On1	4 - 4	27.778	97.222	100.455
On2	5 - 5	27.778	125.000	128.233
On3	6 - 6	27.778	152.778	156.011
On4	7 - 7	27.778	180.556	183.789
On5	8 - 9	55.556	222.222	225.455
On6	10 - 11	55.556	277.778	281.011
On7	12 - 13	55.556	333.333	336.567
On8	14 - 15	55.556	388.889	392.122
On9	16 - 17	55.556	444.444	447.678
On10	18 - 19	55.556	500.000	503.233
On11	20 - 21	55.556	555.556	558.789
On12	22 - 23	55.556	611.111	614.344
On13	24 - 25	55.556	666.667	669.900
On14	26 - 27	55.556	722.222	725.455
On15	28 - 28	27.778	763.889	767.122
On16	29 - 30	55.556	805.556	808.789

Channel	Sample Range	Time Width (us)	Time Center (us)	Time After TxOff (us)
Off0	71 - 71	27.778	1958.333	54.414
Off1	72 - 72	27.778	1986.111	82.191
Off2	73 - 73	27.778	2013.889	109.969
Off3	74 - 74	27.778	2041.667	137.747
Off4	75 - 75	27.778	2069.444	165.525
Off5	76 - 76	27.778	2097.222	193.303
Off6	77 - 79	83.333	2152.778	248.858
Off7	80 - 82	83.333	2236.111	332.191
Off8	83 - 85	83.333	2319.444	415.525
Off9	86 - 88	83.333	2402.778	498.858
Off10	89 - 93	138.889	2513.889	609.969
Off11	94 - 98	138.889	2652.778	748.858
Off12	99 - 104	166.667	2805.556	901.636
Off13	105 - 113	250.000	3013.889	1109.969
Off14	114 - 127	388.889	3333.333	1429.414
Off15	128 - 149	611.111	3833.333	1929.414
Off16	150 - 183	944.444	4611.111	2707.191

4.5. RMS DGR-33 ACQUISITION SYSTEM

In addition to the magnetics, altimeter and position data, six channels of real time processed off-time EM decay in the Z direction and one in the X direction are recorded by the RMS DGR-33 acquisition system at 10 samples per second and plotted real-time on the analogue chart recorder. These channels are derived by a binning, stacking and filtering procedure on the raw streaming data. The primary use of the RMS EM data (Z1 to Z6, X1) is to provide for real-time QA/QC on board the aircraft.

The channel window timing of the RMS DGR-33 6 channel system is described in the table below.

RMS Channel	Start time (µs)	End time (µs)	Width (µs)	Streaming Channels
Z1, X1	1269.8	1322.8	52.9	48-50
Z2	1322.8	1455.0	132.2	50-54
Z3	1428.6	1587.3	158.7	54-59
Z4	1587.3	1746.0	158.7	60-65
Z5	1746.0	2063.5	317.5	66-77
Z6	2063.5	2698.4	634.9	78-101

Figure 6. AeroTEM IV Instrument Rack., including AeroDAS and RMS DGR-33 systems, AeroTEM power supply, data acquisition computer and AG-NAV2 navigation system.

4.6. MAGNETOMETER BASE STATION

The base magnetometer was a Geometrics G-859 caesium vapour magnetometer system with integrated GPS. Data logging and UTC time synchronisation was carried out within the magnetometer, with the GPS providing the timing signal. The data logging was configured to measure at 1.0 second intervals. Digital recording resolution was 0.001 nT. The sensor was placed on a tripod in an area of low magnetic gradient and free of cultural noise sources. A continuously updated display of the base station values was available for viewing and regularly monitored to ensure acceptable data quality and diurnal variation.

4.7. RADAR ALTIMETER

A Terra TRA 3500/TRI-30 radar altimeter is used to record terrain clearance. The antenna was mounted on the outside of the helicopter beneath the cockpit. Therefore, the recorded data reflect the height of the helicopter above the ground. The Terra altimeter has an altitude accuracy of +/- 1.5 metres.

4.8. VIDEO TRACKING AND RECORDING SYSTEM

A high resolution digital colour 8 mm video camera is used to record the helicopter ground flight path along the survey lines. The video is digitally annotated with GPS position and time and can be used to verify ground positioning information and cultural causes of anomalous geophysical responses.

Figure 7. Digital video camera typical mounting location.

4.9. GPS NAVIGATION SYSTEM

The navigation system consists of an Ag-Nav Incorporated AG-NAV2 GPS navigation system comprising a PC-based acquisition system, navigation software, a deviation indicator in front of the aircraft pilot to direct the flight, a full screen display with controls in front of the operator, a Mid-Tech RX400p WAAS-enabled GPS receiver mounted on the instrument rack and an antenna mounted on the magnetometer bird. WAAS (Wide Area Augmentation System) consists of approximately 25 ground reference stations positioned across the United States that monitor GPS satellite data. Two master stations located on the east and west coasts collect data from the reference stations and create a GPS correction message. This correction accounts for GPS satellite orbit and clock drift plus signal delays caused by the atmosphere and ionosphere. The corrected differential message is then broadcast through one of two geostationary satellites, or satellites with a fixed position over the equator. The corrected position has a published accuracy of less than 3 metres.

Survey co-ordinates are set up prior to the survey and the information is fed into the airborne navigation system. The co-ordinate system employed in the survey design was NAD83 [World] using the UTM zone 16N projection. The real-time differentially corrected GPS positional data was recorded by the RMS DGR-33 in geodetic coordinates (latitude and longitude using WGS84) at 0.2 s intervals.

4.10. DIGITAL ACQUISITION SYSTEM

The AeroTEM received waveform sampled during on and off-time at 200 channels per decay, 180 times per second, was logged by the proprietary AeroDAS data acquisition system. The streaming data was recorded on a removable hard-drive and was later backed-up onto DVD-ROM from the field-processing computer.

The RMS Instruments DGR33A data acquisition system was used to collect and record the analogue data stream, i.e. the positional and secondary geophysical data, including processed 6 channels EM, magnetics, radar altimeter, GPS position, and time. The data was recorded on 128 Mb capacities FlashCard. The RMS output was also directed to a thermal chart recorder.

5. PERSONNEL

The following Aeroquest personnel were involved in the project:

- Manager of Operations: Duncan Wilson
- Manager of Data Processing: Gord Smith
- Field Data Processor: Greg Roman
- Field Operator: Christophe Comina, Mike Blondin
- Data Interpretation and Reporting: Geoff Plastow, Tim Moore, Marion Bishop

The survey pilot, Guy Lajoie, was employed directly by the helicopter operator – Questral Helicopters Ltd.

6. DELIVERABLES

6.1. HARDCOPY DELIVERABLES

The report includes a set of five 1:10,000 maps and the following three geophysical data products are delivered:

- FP-Flight Path with EM anomaly symbols.
- TMI – Coloured Total Magnetic Intensity (IGRF removed) with line contours and EM anomaly symbols.
- CVG – Calculated Vertical Gradient of TMI with line contours and EM anomaly symbols.
- ZOFF0 – AeroTEM Z0 Off-time with line contours, and EM anomaly symbols.
- RES – Apparent Resistivity with line contours and EM anomaly symbols.

The coordinate/projection system for the maps is NAD83 – UTM Zone 16N. For reference, the latitude and longitude in WGS84 are also noted on the maps.

All the maps show flight path trace, skeletal topography, and conductor picks represented by an anomaly symbol classified according to calculated off-time conductance. The anomaly symbol is accompanied by postings denoting the calculated off-time conductance, a thick or thin classification and an anomaly identifier label. The anomaly symbol legend and survey specifications are displayed on the left margin of the maps.

6.2. DIGITAL DELIVERABLES

6.2.1. Final Database of Survey Data (.GDB)

The geophysical profile data is archived digitally in a Geosoft GDB binary format database. A description of the contents of the individual channels in the database can be found in Appendix 3.

6.2.2. Geosoft Grid files (.GRD)

Levelled Grid products used to generate the geophysical map images. All grids have 20 m cell size.

- Total Magnetic Intensity with IGRF removed (08-121_TMI_IGRF.grd)
- Calculated Vertical Gradient of TMI (08-121_TMI_IGRF_CVG.grd)
- AeroTEM Z Off time Channel 0 (08-121_ZOff[0].grd)
- Apparent Resistivity Channel 2 (08-121_App_Res_ZOff[2].grd)

6.2.3. Digital Versions of Final Maps (.MAP, .PDF)

Map files in Geosoft .map and Adobe PDF format.

6.2.4. Google Earth Files (.kmz)

Flight navigation lines, EM Anomalies and geophysical grids in Google earth kmz format. Double click to view in Google Earth.

6.2.5. Free Viewing Software (.EXE)

- Geosoft Oasis Montaj Viewing Software
- Adobe Acrobat Reader
- Google Earth Viewer

6.2.6. Digital Copy of this Document (.PDF)

Adobe PDF format of this document.

7. DATA PROCESSING AND PRESENTATION

All in-field and post-field data processing was carried out using Aeroquest proprietary data processing software and Geosoft Oasis Montaj software. Maps were generated using 36-inch and 42-inch wide Hewlett Packard ink-jet plotters.

7.1. BASE MAP

The geophysical maps accompanying this report are based on positioning in the NAD83 datum. The survey geodetic GPS positions have been projected using the Universal Transverse Mercator projection in Zone 16 North. A summary of the map datum and projection specifications is given following:

- Ellipse: GRS 1980
- Ellipse major axis: 6378137m eccentricity: 0.081819191
- Datum: North American 1983 - Canada Mean
- Datum Shifts (x,y,z) : 0, 0, 0 metres
- Map Projection: Universal Transverse Mercator Zone 16 (Central Meridian 87ºW)
- Central Scale Factor: 0.9996
- False Easting, Northing: 500,000m, 0m

For reference, the latitude and longitude in WGS84 are also noted on the maps.

The background vector topography was sourced from Natural Resources Canada 1:250000 National Topographic Data Base data and the background shading were derived from NASA Shuttle Radar Topography Mission (SRTM) 90 metre resolution DEM data.

7.2. FLIGHT PATH & TERRAIN CLEARANCE

The position of the survey helicopter was directed by use of the Global Positioning System (GPS). Positions were updated five times per second (5 Hz) and expressed as WGS84 latitude and longitude calculated from the raw pseudo range derived from the C/A code signal. The instantaneous GPS flight path, after conversion to UTM co-ordinates, is drawn using linear interpolation between the x/y positions. The terrain clearance was maintained with reference to the radar altimeter. The raw Digital Terrain Model (DTM) was derived by taking the GPS survey elevation and subtracting the radar altimeter terrain clearance values. The calculated topography elevation values are relative and are not tied in to surveyed geodetic heights.

Each flight included at least two high elevation ‘background’ checks. These high elevation checks are to ensure that the gain of the system remained constant and within specifications.

7.3. ELECTROMAGNETIC DATA

The raw streaming data, sampled at a rate of 36,000 Hz (200 channels, 180 times per second) was reprocessed using a proprietary software algorithm developed and owned by Aeroquest Limited. Processing involves the compensation of the X and Z component data for the primary field waveform. Coefficients for this compensation for the system transient are determined and applied to the stream data. The stream data are then pre-filtered, stacked, binned to the 33 on and off-time channels and checked for the effectiveness of the compensation and stacking processes. The stacked data is then filtered, levelled and split up into the individual line segments. Further base level adjustments may be carried out at this stage. The filtering of the stacked data is designed to remove or minimize high frequency noise that cannot be sourced from the geology.

The final field processing step was to merge the processed EM data with the other data sets into a Geosoft GDB file. The EM fiducial is used to synchronize the two datasets. The processed channels are merged into ‘array format; channels in the final Geosoft database as Zon, Zoff, Xon, and Xoff.

Apparent bedrock EM anomalies were interpreted with the aid of an auto-pick from positive peaks and troughs in the off-time Z channel responses correlated with X channel responses. The auto-picked anomalies were reviewed and edited by a geophysicist on a line by line basis to discriminate between thin and thick conductor types. Anomaly picks locations were migrated and removed as required. This process ensures the optimal representation of the conductor centres on the maps.

At each conductor pick, estimates of the off-time conductance have been generated based on a horizontal plate source model for those data points along the line where the response amplitude is sufficient to yield an acceptable estimate. Some of the EM anomaly picks do not display a Tau value; this is due to the inability to properly define the decay of the conductor usually because of low signal amplitudes. Each conductor pick was then classified according to a set of seven ranges of calculated off-time conductance values. For high conductance sources, the on-time conductance values may be used, since it provides a more accurate measure of high-conductance sources. Each symbol is also given an identification letter label, unique to each flight line. Conductor picks that did not yield an acceptable estimate of off-time conductance due to a low amplitude response were classified as a low conductance source. Please refer to the anomaly symbol legend located in the margin of the maps.

Due to the fact that this block is dominated by resistive geology picking discrete targets can sometimes be problematic. Therefore, we applied a conductivity depth imaging (CDI) algorithm to the data to produce an apparent resistivity product. The algorithm computes apparent resistivity values from the time decay at each measurement location. The methodology used is based on the pseudo-layer half-space model. For more information see: Huang and Rudd, Conductivity-depth imaging of time-domain EM data based on pseudo-layer half-space model, 2006 SEG Technical Program Expanded Abstracts, pp 765-769.

7.4. Magnetic Data

Prior to any levelling the magnetic data was subjected to a lag correction of -0.1 seconds and a spike removal filter. The filtered aeromagnetic data were then corrected for diurnal variations using the magnetic base station and the intersections of the tie lines. Corrections for the regional reference field (IGRF) were applied. The geomagnetic reference field model for the year 2005 was used in combination with the survey flight date, GPS location and elevation to correct Earth's regional field. The IGRF correction was applied to each sample of magnetic data. The corrected profile data were interpolated on to a grid using a bi-directional grid technique with a grid cell size of 20 metres. The final levelled grid provided the basis for threading the presented contours which have a minimum contour interval of 2 nT. A calculated vertical gradient was performed on the magnetic data to enhance small variations and highlight the short wavelength component of the magnetic field.

8. GENERAL COMMENTS

The survey was successful in mapping the magnetic and conductive properties of the geology throughout the survey area. Below is a brief interpretation of the results. For a detailed interpretation please contact Aeroquest Limited.

8.1. Magnetic Response

The magnetic data provide a high resolution map of the distribution of the magnetic mineral content of the survey area. This data can be used to interpret the location of geological contacts and other structural features such as faults and zones of magnetic alteration. The sources for anomalous magnetic responses are generally thought to be predominantly magnetite because of the relative abundance and strength of response (high magnetic susceptibility) of magnetite over other magnetic minerals such as pyrrhotite.

8.2. EM Anomalies

The EM anomalies on the maps are classified by conductance (as described earlier in the report) and also by the thickness of the source. A thin, vertically orientated source produces a double peak anomaly in the z-component response and a positive to negative crossover in the x-component response (Figure 8). For a vertically orientated thick source (say, greater than 10 metres), the response is a single peak in the z-component response and a negative to positive crossover in the x-component response (Figure 9). Because of these differing responses, the AeroTEM system provides discrimination of thin and thick sources and this distinction is indicated on the EM anomaly symbols (N = thin and K = thick). Where multiple, closely spaced conductive sources occur, or where the source has a shallow dip, it can be difficult to uniquely determine the type (thick vs. thin) of the source (Figure 10). In these cases both possible source types may be indicated by picking both thick and thin response styles. For shallow dipping conductors the 'thin' pick will be located over the edge of the source, whereas the 'thick' pick will fall over the downdip 'heart' of the anomaly.

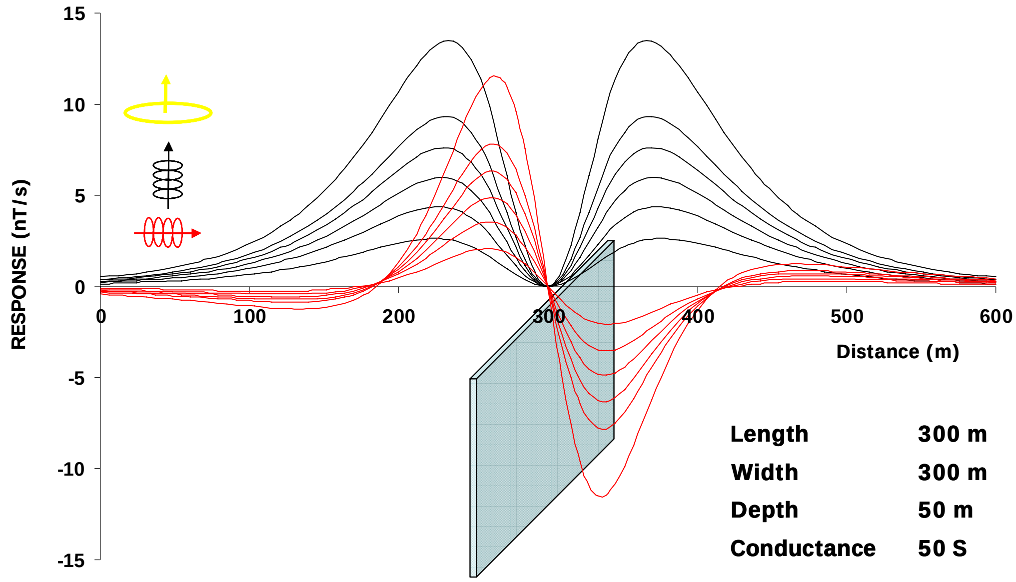


Figure 8. AeroTEM response to a 'thin' vertical conductor.

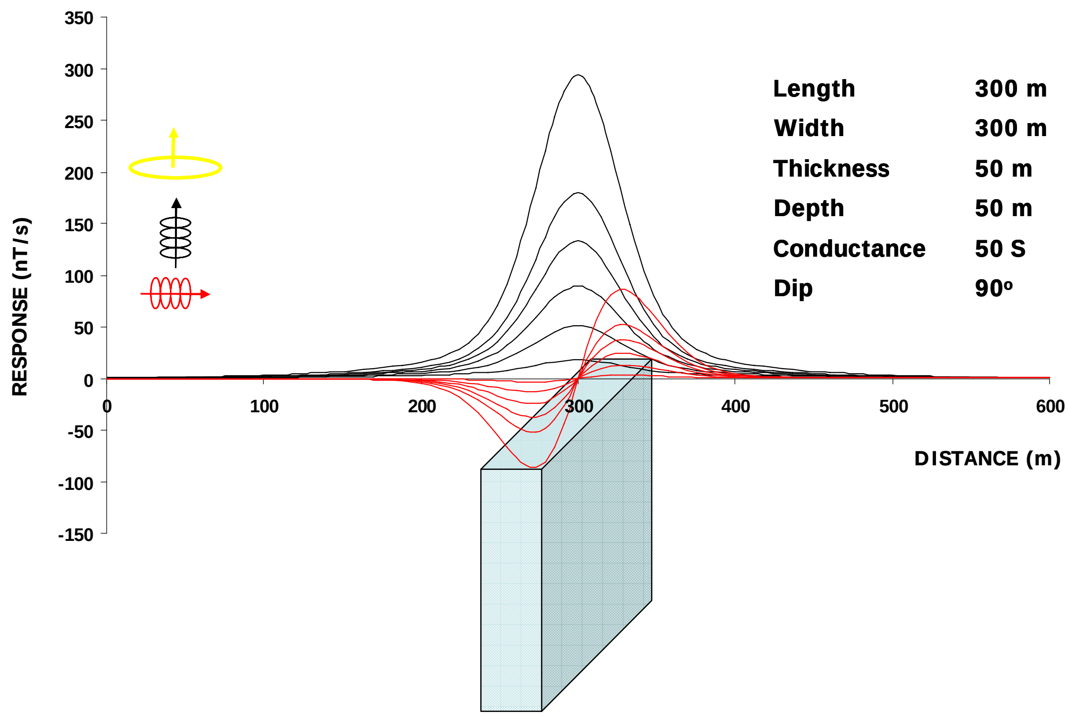


Figure 9. AeroTEM response for a 'thick' vertical conductor.

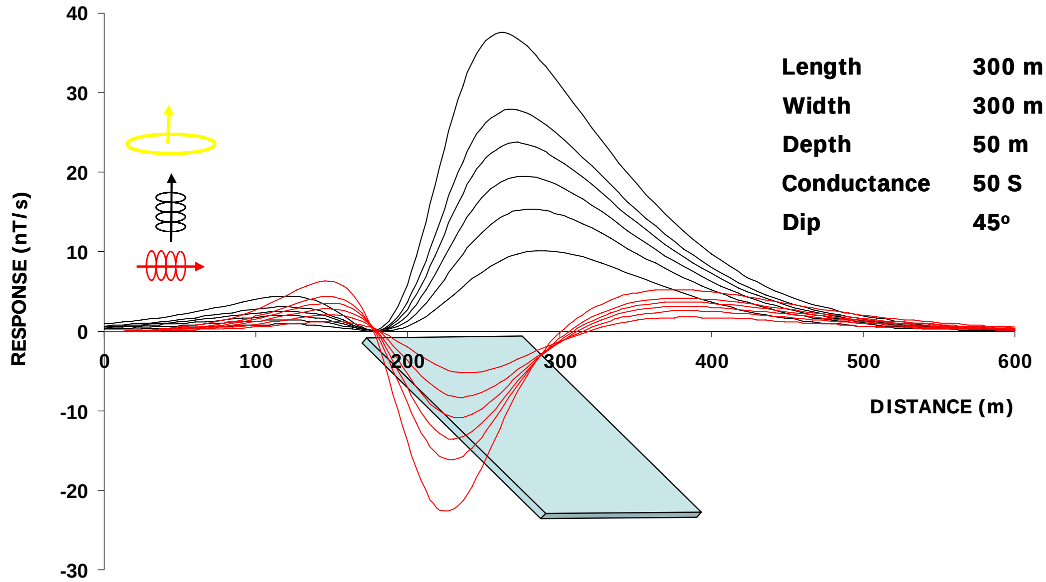


Figure 10. AeroTEM response over a 'thin' dipping conductor.

All cases should be considered when analyzing the interpreted picks and prioritizing for follow-up. Specific anomalous responses which remain as high priority should be subjected to numerical modeling prior to drill testing to determine the dip, depth and probable geometry of the source.

Respectfully submitted,

Geoff Plastow
Aeroquest Limited
August 2008

Reviewed By:

Doug Garrie
Aeroquest Limited
August 2008

APPENDIX 1: SURVEY BOUNDARIES

The following table presents the Extension block boundaries. All geophysical data presented in this report have been windowed to 100m outside of these boundaries. X and Y positions are in metres: NAD83 UTM Zone 16N. No data was delivered for the area within the Exclusion Zone.

Block 1:

X	Y
329350.0	5397450.0
336750.0	5397450.0
336750.0	5392350.0
329350.0	5392350.0

Exclusion Zone

X	Y
334621.4	5395310.81
335463.17	5395317.65
335463.18	5393715.29
334578.44	5393715.37

APPENDIX 2: MINING CLAIMS

From Ontario Ministry of Northern Development and Mines (October 2008)

Claim Number	Area	Township Area	Recorded Holder	Due Date
4210857	96.4395	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18
4210859	190.25	ONION LAKE (G-747)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18
4230096	67.1168	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2010-FEB-21
4230099	187.16	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2010-FEB-21
4230098	252.191	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2010-FEB-21
4230097	256.451	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2010-FEB-21
4210861	131.369	ONION LAKE (G-747)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18
4210858	163.53	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18
4210856	126.146	JACQUES (G-0666)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18
4210860	120.823	ONION LAKE (G-747)	KENNECOTT CANADA EXPLORATION INC. (100.00 %)	2008-NOV-18

APPENDIX 3: DESCRIPTION OF DATABASE FIELDS

The GDB file is a Geosoft binary database. In the database, the Survey lines and Tie Lines are prefixed with an "L" for "Line" and "T" for "Tie".

COLUMN	UNITS	DESCRIPTOR
line		Line number
flight		Flight #
emfid		AERODAS Fiducial
utctime	hh:mm:ss.ss	UTC time
x	m	UTM Easting (NAD83, Zone 16)
y	m	UTM Northing (NAD83, Zone 16)
galt	m	GPS elevation of magnetometer bird
ralt	m	Helicopter radar altimeter (height above terrain)
bheight	m	Terrain clearance of EM bird
Basemag	nT	Base station total magnetic intensity
magU	nT	Final levelled total magnetic intensity from upper magnetometer sensor (installed on the tail of the EM bird).
Mag_IGRF_Corrected	nT	Final levelled total magnetic intensity from upper magnetometer sensor with IGRF removed
dtm	m	Digital Terrain Model
Zon	nT/s	EM On-Time Z component Channels 1-16
Zoff	nT/s	EM Off-Time Z component Channels 0-16
Xon	nT/s	EM On-Time X component Channels 1-16
Xoff	nT/s	EM Off-Time X component Channels 0-16
pwrline		powerline monitor data channel
Grade		Classification from 1-7 based on conductance of conductor pick
Anom_Labels		Letter label of conductor pick (Unique per flight line)
Off_Con	S	Off-time conductance at conductor pick
Off_Tau	µs	Off-time decay constant at conductor pick
Anom_ID		EM Anomaly response style (K= thicK, N = thiN)
Off_AllCon	S	Off-time conductance
Off_AllTau	µs	Off-time decay constant
On_AllCon	S	On-time conductance
On_AllTau	µs	On-time decay constant
TranOff	s	Transmitter turn off time
TranOn	s	Transmitter turn on time
TranPeak	A	Transmitter peak current
TranSwitch	s	Transmitter peak current time
Off_Pick		Anomaly pick channel
ResZOFF2	Ωm	Apparent Resistivity

APPENDIX 4: AEROTEM ANOMALY LISTING

Line	Anom	ID	Cond (S)	Tau (μs)	Flight #	UTC Time	Bird height (m)	Easting (m)	Northing (m)
10270	A	K	6.3	250.6	8E+06	19:24:35	43.4	333884.1	5394845.8
10480	A	N	19.2	438.1	8E+06	14:03:27	45.3	332605.8	5392800.4
10490	A	N	19.1	436.7	8E+06	14:08:37	38.0	332481.4	5392650.4
19050	A	N	29.4	542.1	8E+06	15:15:53	42.6	332551.8	5392721.8

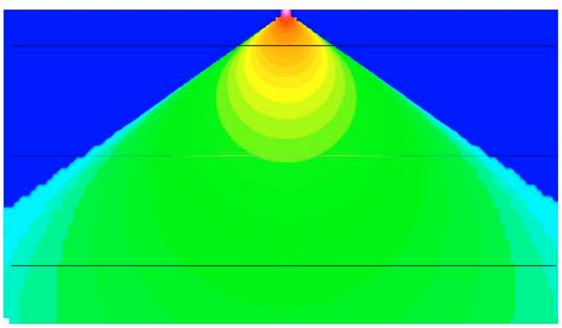
APPENDIX 5: AEROTEM DESIGN CONSIDERATIONS

Helicopter-borne EM systems offer an advantage that cannot be matched from a fixed-wing platform. The ability to fly at slower speed and collect data

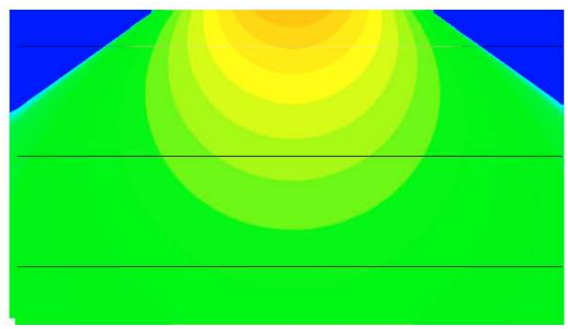
3a with high spatial resolution, and with great accuracy, means the helicopter EM systems provide more detail than any other EM configuration, airborne or ground-based. Spatial resolution is especially important in areas of complex geology and in the search for discrete conductors. With the advent of helicopter-borne high-moment time domain EM systems the fixed wing platforms are losing their *only* advantage – depth penetration.

Advantage 1 – Spatial Resolution

The AeroTEM system is specifically designed to have a small footprint. This is accomplished through the use of concentric transmitter-receiver coils and a relatively small diameter transmitter coil (5 m). The result is a highly focused exploration footprint, which allows for more accurate "mapping" of discrete conductors. Consider the transmitter primary field images shown in Figure 1, for AeroTEM versus a fixed-wing transmitter.



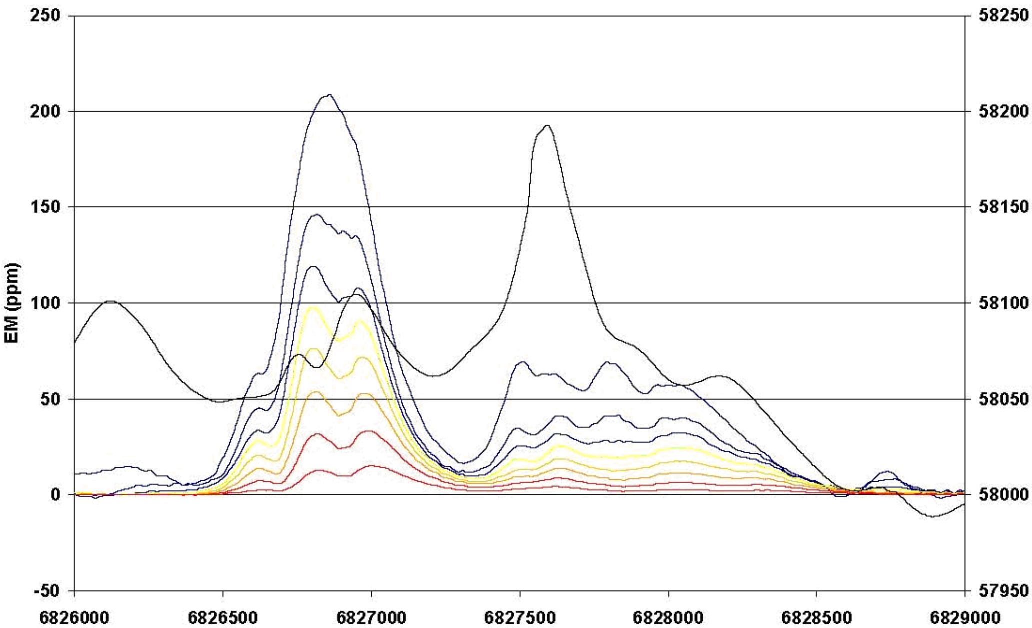
The footprint of AeroTEM at the earth's surface is roughly 50m on either side of transmitter



The footprint of a fixed-wing system is roughly 150 m on either side of the transmitter

Figure 1. A comparison of the footprint between AeroTEM and a fixed-wing system, highlights the greater resolution that is achievable with a transmitter located closer to the earth's surface. The AeroTEM footprint is one third that of a fixed-wing system and is symmetric, while the fixed-wing system has even lower spatial resolution along the flight line because of the separated transmitter and receiver configuration.

At first glance one may want to believe that a transmitter footprint that is distributed more evenly over a larger area is of benefit in mineral exploration. In fact, the opposite is true; by energizing a larger surface area, the ability to energize and detect discrete conductors is reduced. Consider, for example, a comparison between AeroTEM and a fixed-wing system over the Mesamax Deposit (1,450,000 tonnes of 2.1% Ni, 2.7% Cu, 5.2 g/t Pt/Pd). In a test survey over three flight lines spaced 100 m apart, AeroTEM detected the Deposit on all three flight lines. The fixed-wing system detected the Deposit only on two flight lines. In exploration programs that seek to expand the flight line spacing in an effort to reduce the cost of the airborne survey, discrete conductors such as the Mesamax Deposit can go undetected. The argument often put forward in favour of using fixed-wing systems is that because of their larger footprint, the flight line spacing can indeed be widened. Many fixed-wing surveys are flown at 200 m or 400 m. Much of the survey work performed by Aeroquest has been to survey in areas that were previously flown at these wider line spacings. One of the reasons for AeroTEM's impressive discovery record has been the strategy of flying closely spaced lines and finding all the discrete near-surface conductors. These higher resolution surveys are being flown within existing mining camps, areas that improve the chances of discovery.



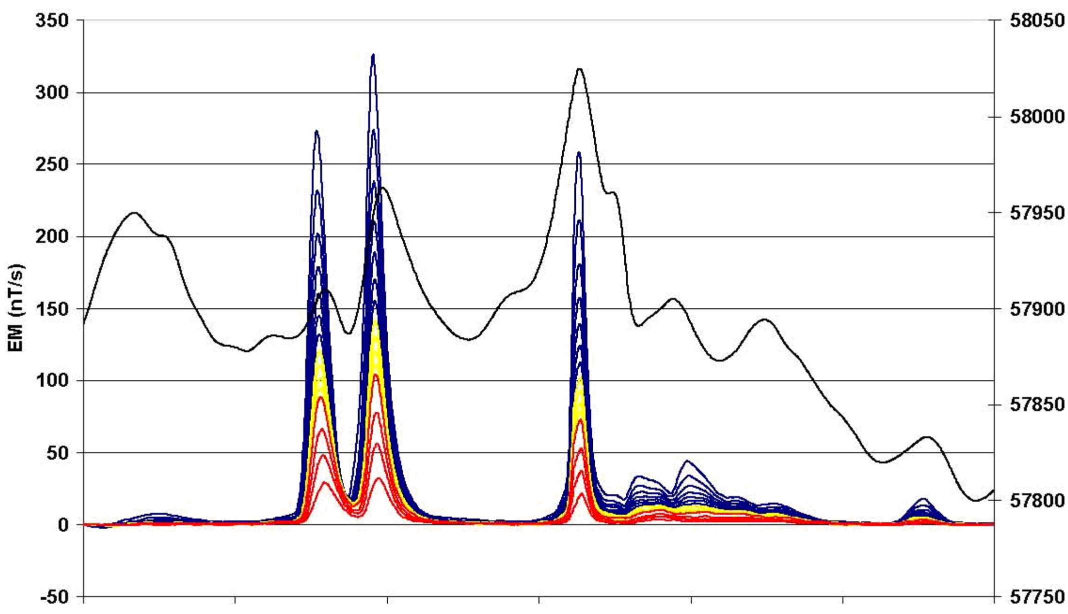


Figure 2. Fixed-wing (upper) and AeroTEM (lower) comparison over the eastern limit of the Mesamax Deposit, a Ni-Cu-PGE zone located in the Raglan nickel belt and owned by Canadian Royalties. Both systems detected the Deposit further to the west where it is closer to surface.

The small footprint of AeroTEM combined with the high signal to noise ratio (S/N) makes the system more suitable to surveying in areas where local infrastructure produces electromagnetic noise, such as power lines and railways. In 2002 Aeroquest flew four exploration properties in the Sudbury Basin that were under option by FNX Mining Company Inc. from Inco Limited. One such property, the Victoria Property, contained three major power line corridors.

The resulting AeroTEM survey identified all the known zones of Ni-Cu-PGE mineralization, and detected a response between two of the major power line corridors but in an area of favourable geology. Three boreholes were drilled to test the anomaly, and all three intersected sulphide. The third borehole encountered 1.3% Ni, 6.7% Cu, and 13.3 g/t TPMs over 42.3 ft. The mineralization was subsequently named the Powerline Deposit.

The success of AeroTEM in Sudbury highlights the advantage of having a system with a small footprint, but also one with a high S/N. This latter advantage is achieved through a combination of a high-moment (high signal) transmitter and a rigid geometry (low noise). Figure 3 shows the Powerline Deposit response and the response from the power line corridor at full scale. The width of power line response is less than 75 m.

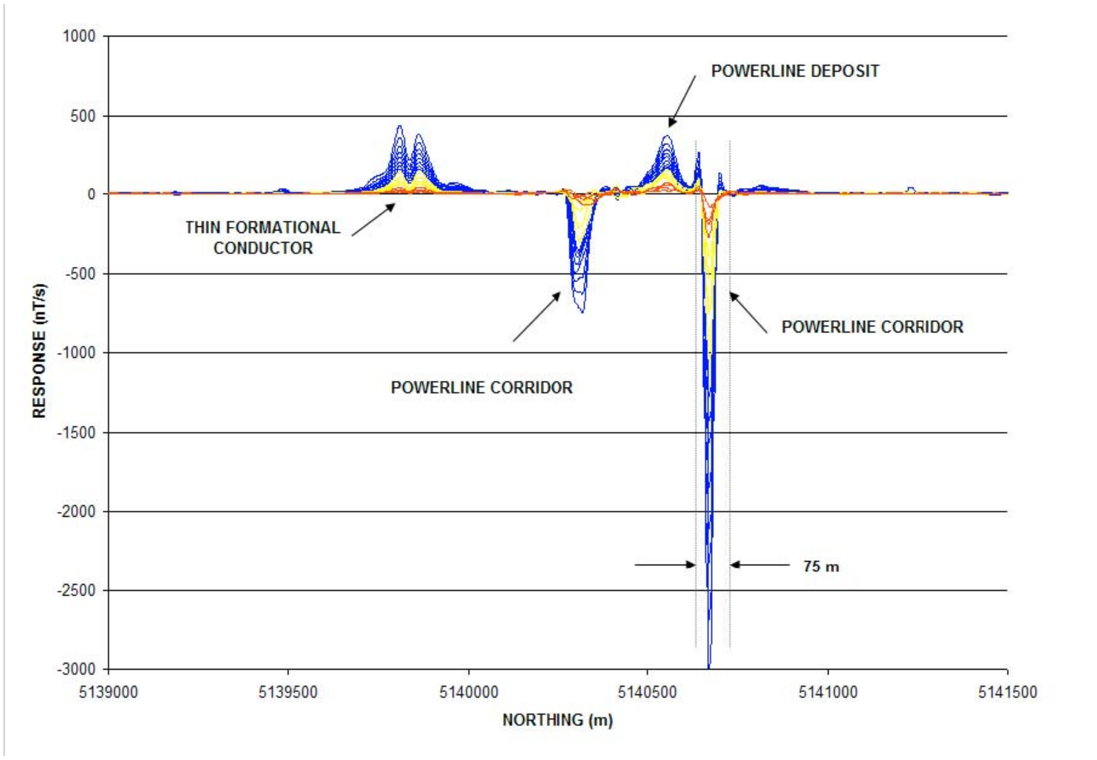


Figure 3. The Powerline Deposit is located between two major power line corridors, which make EM surveying problematic. Despite the strong response from the power line, the anomaly from the Deposit is clearly detected. Note the thin formational conductor located to the south. The only way to distinguish this response from that of two closely spaced conductors is by interpreting the X-axis coil response.

Advantage 2 – Conductance Discrimination

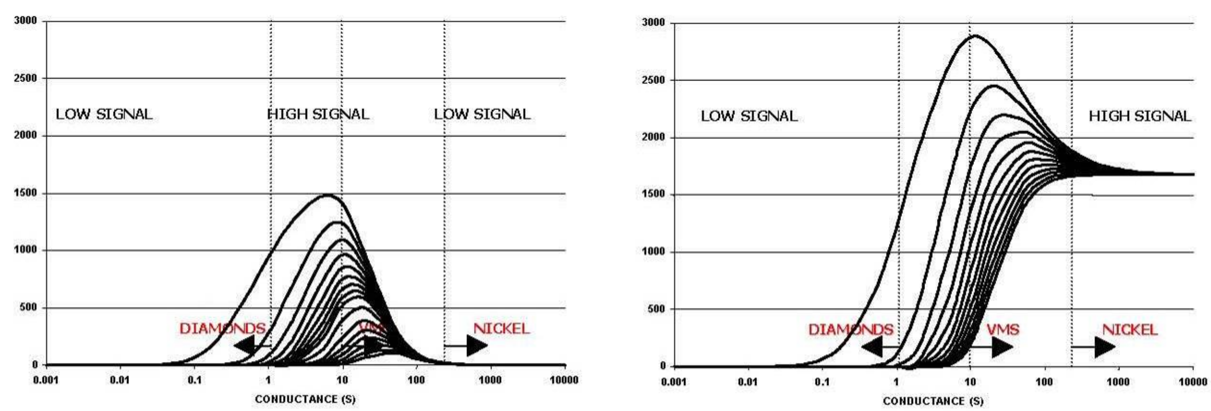
The AeroTEM system features full waveform recording and as such is able to measure the on-time response due to high conductance targets. Due to the processing method (primary field removal), there is attenuation of the response with increasing conductance, but the AeroTEM on-time measurement is still superior to systems that rely on lower base frequencies to detect high conductance targets, but do not measure in the on-time.

The peak response of a conductive target to an EM system is a function of the target conductance and the EM system base frequency. For time domain EM systems that measure only in the off-time, there is a drop in the peak response of a target as the base frequency is lowered for all conductance values below the peak system response. For example, the AeroTEM peak response occurs for a 10 S conductor in the early off-time and 100 S in the late off-time for a 150 Hz base frequency. Because base frequency and conductance form a linear relationship when considering the peak response of any EM system, a drop in base frequency of 50% will double the conductance at which an EM system shows its peak response. If the base frequency were lowered from 150 Hz to 30 Hz there would be a fivefold increase in conductance at which the peak response of an EM occurred.

However, in the search for highly conductive targets, such as pyrrhotite-related Ni-Cu-PGM deposits, a fivefold increase in conductance range is a high price to pay because the signal level to lower conductance targets is reduced by the same factor of five. For this reason, EM systems that operate with low base frequencies are not suitable for general exploration unless the target conductance is more than 100 S, or the target is covered by conductive overburden.

Despite the excellent progress that has been made in modeling software over the past two decades, there has been little work done on determining the optimum form of an EM system for mineral exploration. For example, the optimum configuration in terms of geometry, base frequency and so remain unknown. Many geophysicists would argue that there is no single ideal configuration, and that each system has its advantages and disadvantages. We disagree.

When it comes to detecting and discriminating high-conductance targets, it is necessary to measure the pure in phase response of the target conductor. This measurement requires that the measured primary field from the transmitter be subtracted from the total measured response such that the secondary field from the target conductor can be determined. Because this secondary field is in-phase with the transmitter primary field, it must be made while the transmitter is turned on and the transmitter current is changing. The transmitted primary field is several orders of magnitude larger than the secondary field. AeroTEM uses a bucking coil to reduce the primary field at the receiver coils. The only practical way of removing the primary field is to maintain a rigid geometry between the transmitter, bucking and receiver coils. This is the main design consideration of the AeroTEM airframe and it is the only time domain airborne system to have this configuration.



The off-time AeroTEM response for the 16 channel configuration.

The on-time response assuming 100% removal of the measured primary field.

Figure 4. The off-time and on-time response nomogram of AeroTEM for a base frequency of 150 Hz. The on-time response is much stronger for higher conductance targets and this is why on-time measurements are more important than lower frequencies when considering high conductance targets in a resistive environment.

Advantage 3 – Multiple Receiver Coils

AeroTEM employs two receiver coil orientations. The Z-axis coil is oriented parallel to the transmitter coil and both are horizontal to the ground. This is known as a maximum coupled configuration and is optimal for detection. The X-axis coil is oriented at right angles to the transmitter coil and is oriented along the line-of-flight.

This is known as a minimum coupled configuration, and provides information on conductor orientation and thickness. These two coil configurations combined provide important information on the position, orientation, depth, and thickness of a conductor that cannot be matched by the traditional geometries of the HEM or fixed-wing systems. The responses are free from a system geometric effect and can be easily compared to model type curves in most cases. In other words, AeroTEM data is very easy to interpret. Consider, for example, the following modeled profile:

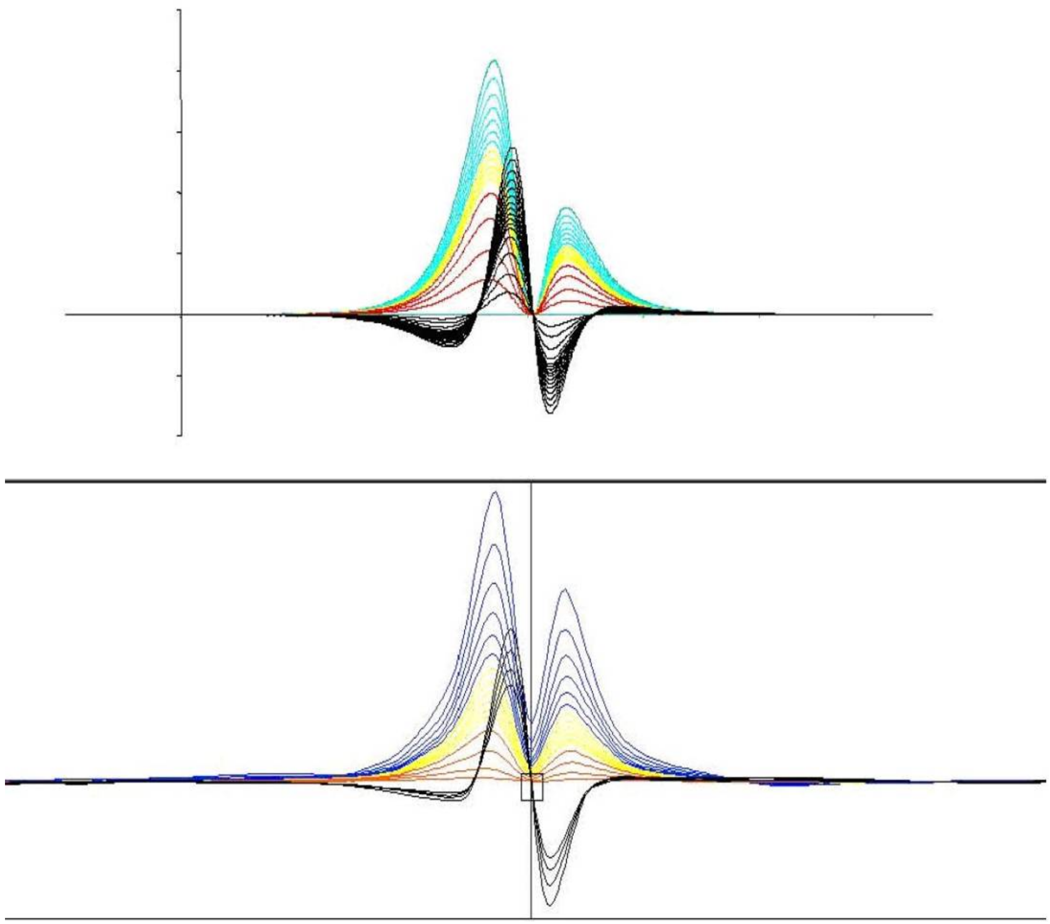


Figure 5. Measured (lower) and modeled (upper) AeroTEM responses are compared for a thin steeply dipping conductor. The response is characterized by two peaks in the Z-axis coil, and a cross-over in the X-axis coil that is centered between the two Z-axis peaks. The conductor dips toward the higher amplitude Z-axis peak. Using the X-axis cross-over is the only way of differentiating the Z-axis response from being two closely spaced conductors.

HEM versus AeroTEM

Traditional helicopter EM systems operate in the frequency domain and benefit from the fact that they use narrowband as opposed to wide-band transmitters. Thus all of the energy from the transmitter is concentrated in a few discrete frequencies. This allows the systems to achieve excellent depth penetration (up to 100 m) from a transmitter of modest power. The Aeroquest Impulse system is one implementation of this technology.

The AeroTEM system uses a wide-band transmitter and delivers more power over a wide frequency range. This frequency range is then captured into 16 time channels, the early channels containing the high frequency information and the late time channels containing the low frequency information down to the system base frequency. Because frequency domain HEM systems employ two coil configurations (coplanar and coaxial) there are only a maximum of three comparable frequencies per configuration, compared to 16 AeroTEM off-time and 12 AeroTEM on-time channels.

Figure 6 shows a comparison between the Dighem HEM system (900 Hz and 7200 Hz coplanar) and AeroTEM (Z-axis) from surveys flown in Raglan, in search of highly conductive Ni-Cu-PGM sulphide. In general, the AeroTEM peaks are sharper and better defined, in part due to the greater S/N ratio of the AeroTEM system over HEM, and also due to the modestly filtered AeroTEM data compared to HEM. The base levels are also better defined in the AeroTEM data. AeroTEM filtering is limited to spike removal and a 5-point smoothing filter. Clients are also given copies of the raw, unfiltered data.

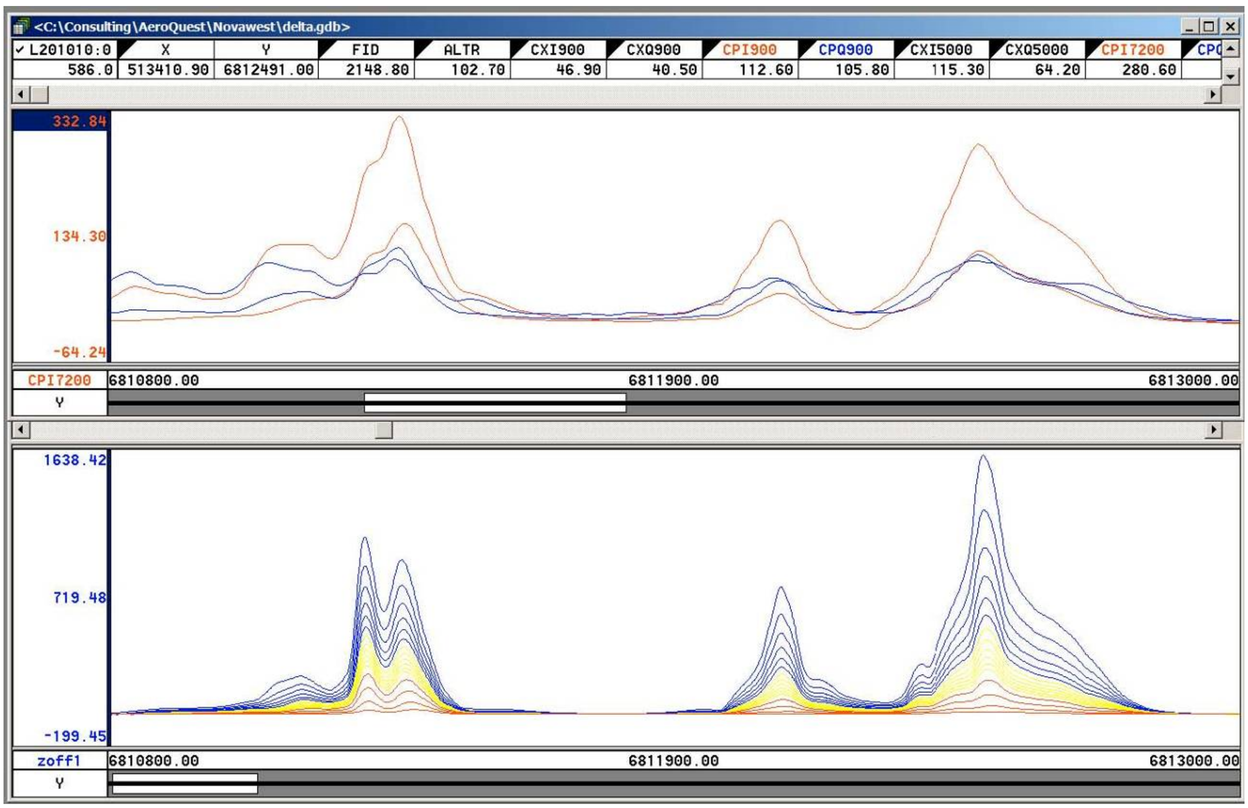


Figure 6. Comparison between Dighem HEM (upper) and AeroTEM (lower) surveys flown in the Raglan area. The AeroTEM responses appear to be more discrete, suggesting that the data is not as heavily filtered as the HEM data. The S/N advantage of AeroTEM over HEM is about 5:1.

Aeroquest Limited is grateful to the following companies for permission to publish some of the data from their respective surveys: Wolfden Resources, FNX Mining Company Inc, Canadian Royalties, Nova West Resources, Aurogin Resources, Spectrem Air. Permission does not imply an endorsement of the AeroTEM system by these companies.

APPENDIX 6: AEROTEM INSTRUMENTATION SPECIFICATION SHEET

AEROTEM Helicopter Electromagnetic System

System Characteristics

- Transmitter: Triangular Pulse Shape Base Frequency 90 Hz
- Tx On Time – 1,833 (90 Hz) µs
- Tx Off Time – 3,667 (90 Hz) µs
- Loop Diameter - 12 m
- Peak Current - 410 A
- Peak Moment – 237,000 NIA
- Typical Z Axis Noise at Survey Speed = 10 nT/s peak to peak
- Sling Weight: 1200 lb
- Length of Tow Cable: 52 m
- Bird Survey Height: 30 m nominal

Receiver

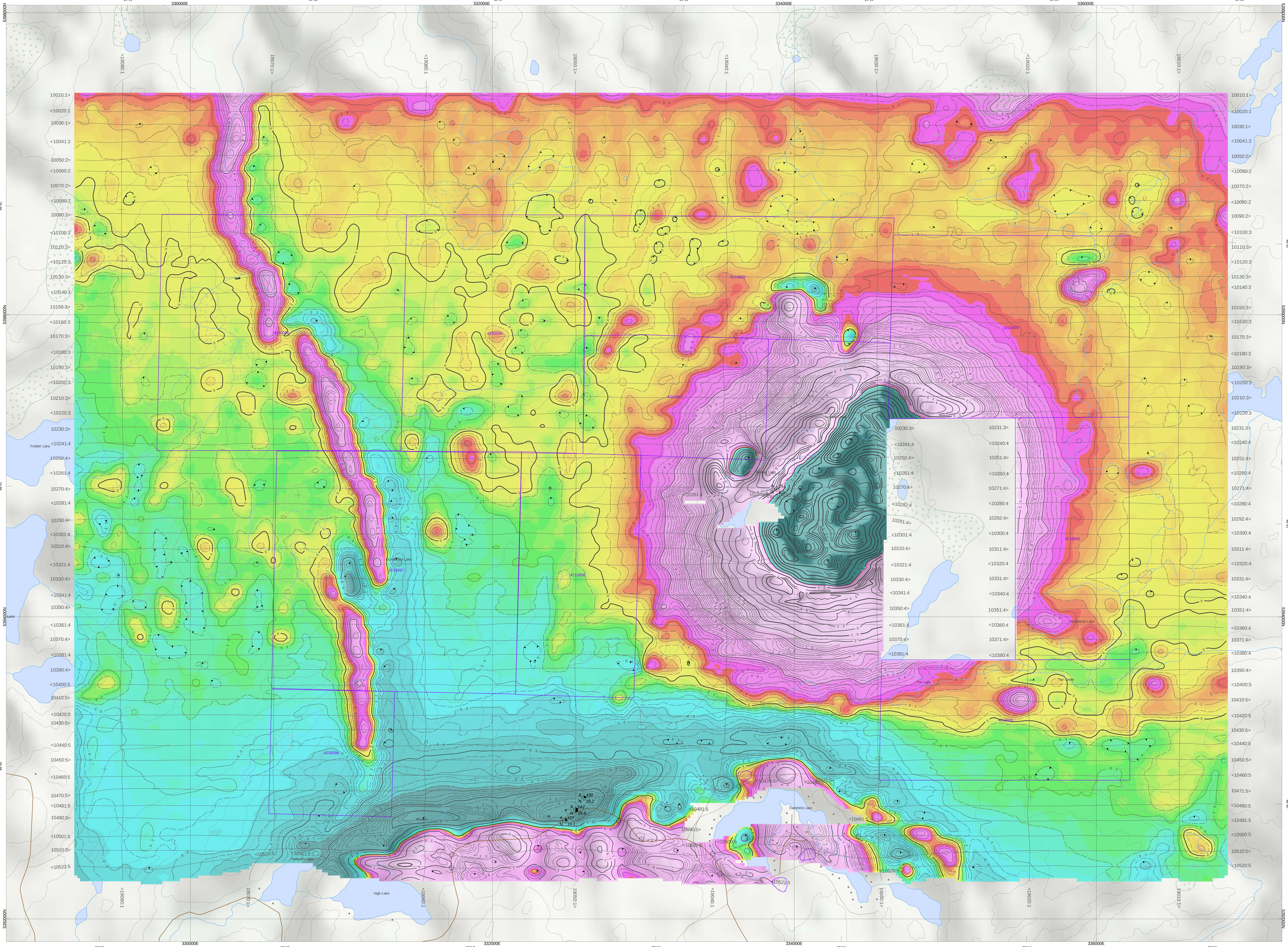
- Two Axis Receiver Coils (x, z) positioned at centre of transmitter loop
- Selectable Time Delay to start of first channel 28, 55, or 83 ms

Display & Acquisition

- AERODAS Digital recording at 200 samples per decay curve at a maximum of 180 curves per second (27.778 µs channel width)
- RMS Channel Widths: 52.9,132.3, 158.7, 158.7, 317.5, 634.9 µs
- Recording & Display Rate = 10 readings per second.
- On-board display - six channels Z-component and 1 X-component

System Considerations

Comparing a fixed-wing time domain transmitter with a typical moment of 500,000 NIA flying at an altitude of 120 m with a Helicopter TDEM at 30 m, notwithstanding the substantial moment loss in the airframe of the fixed wing, the same penetration by the lower flying helicopter system would only require a sixty-fourth of the moment. Clearly the AeroTEM system with nearly 183.131 NIA has more than sufficient moment. The airframe of the fixed wing presents a response to the towed bird, which requires dynamic compensation. This problem is non-existent for AeroTEM since transmitter and receiver positions are fixed. The AeroTEM system is completely portable, and can be assembled at the survey site within half a day.



Grid North
NAD83-Zone16

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
Topo contours derived from NASA SRTM (Shuttle Radar Topography Mission) data
Inset data derived from Natural Resources Canada 'Atlas of Canada Base Maps'

This map accompanies the technical report entitled 'Report on a Helicopter-Borne Magnetic and Electromagnetic Survey, Thunder Bay, Ontario', by Aeroquest Limited, October 2008

Scale 1:10,000,000

100 0 100 200 (kilometers)

NAD83 / UTM zone 16N

CVG Contour Interval

- 0.05nT/m
- 0.1nT/m
- 0.5nT/m
- 2.5nT/m

- Building
- Roads / Trails
- Mining Area
- Mining Claims
- Wetland
- Lake

CVG nT/m: 1.72, 0.92, 0.49, 0.31, 0.23, 0.18, 0.15, 0.13, 0.11, 0.09, 0.08, 0.06, 0.05, 0.03, 0.01, -0.01, -0.02, -0.04, -0.06, -0.08, -0.10, -0.13, -0.15, -0.18, -0.22, -0.29, -0.40, -0.74

Off-Time Anomaly Symbols

- >50S ....
- 35-50S ....
- 20-35S ....
- 10-20S ....
- 5-10S ....
- 1-5S ....
- <1S ....
- Cultural Sources.....

anomaly label A, 125 decay constant (µs)
thicK/thiN source K, 36 off-time conductance (S)

SURVEY SPECIFICATIONS:
Survey flown: August 17 - 20, 2008
Traverse line spacing: 100 metres
Traverse line direction: 90º / 270º
Nominal EM bird height: 30 metres
Aircraft: Aerospatiale A-Star 350B2 (C-GJIX)

INSTRUMENTATION:
Data acquisition: ADAS & RMS DGR-33
Magnetometer: Geometrics G-823A cesium vapour
Installation: Towed bird 31 m above EM bird
Sensitivity: .001 nanoTesla
Electromagnetics: AeroTEM IV System (OSCAR)
Configuration: Towed bird

NAVIGATION:
Navigation: Differential Global Positioning System (DGPS)
Navigation equipment: AGNAV with MID-TECH RX400p receiver
Radar Altimeter: Terra TRA3000/TRI-30

DATA PROCESSING
Magnetics: diurnal, tieline and micro-leveling corrections

POSITIONING
Datum: NAD83
Major Axis: 6378137.000
Eccentricity: 0.081819191

MAP PROJECTION
Projection: Universal Transverse Mercator
Central Meridian: 87°W (Zone 16)
Central Scale Factor: 0.9996
False Easting/Northing: 500,000m/0m

scale 1:10,000

200 0 200 400 600 (meters)

NAD83 / UTM zone 16N

Kennecott Canada Exploration Inc.
Thunder Bay, Ontario

CALCULATED VERTICAL GRADIENT OF TMI

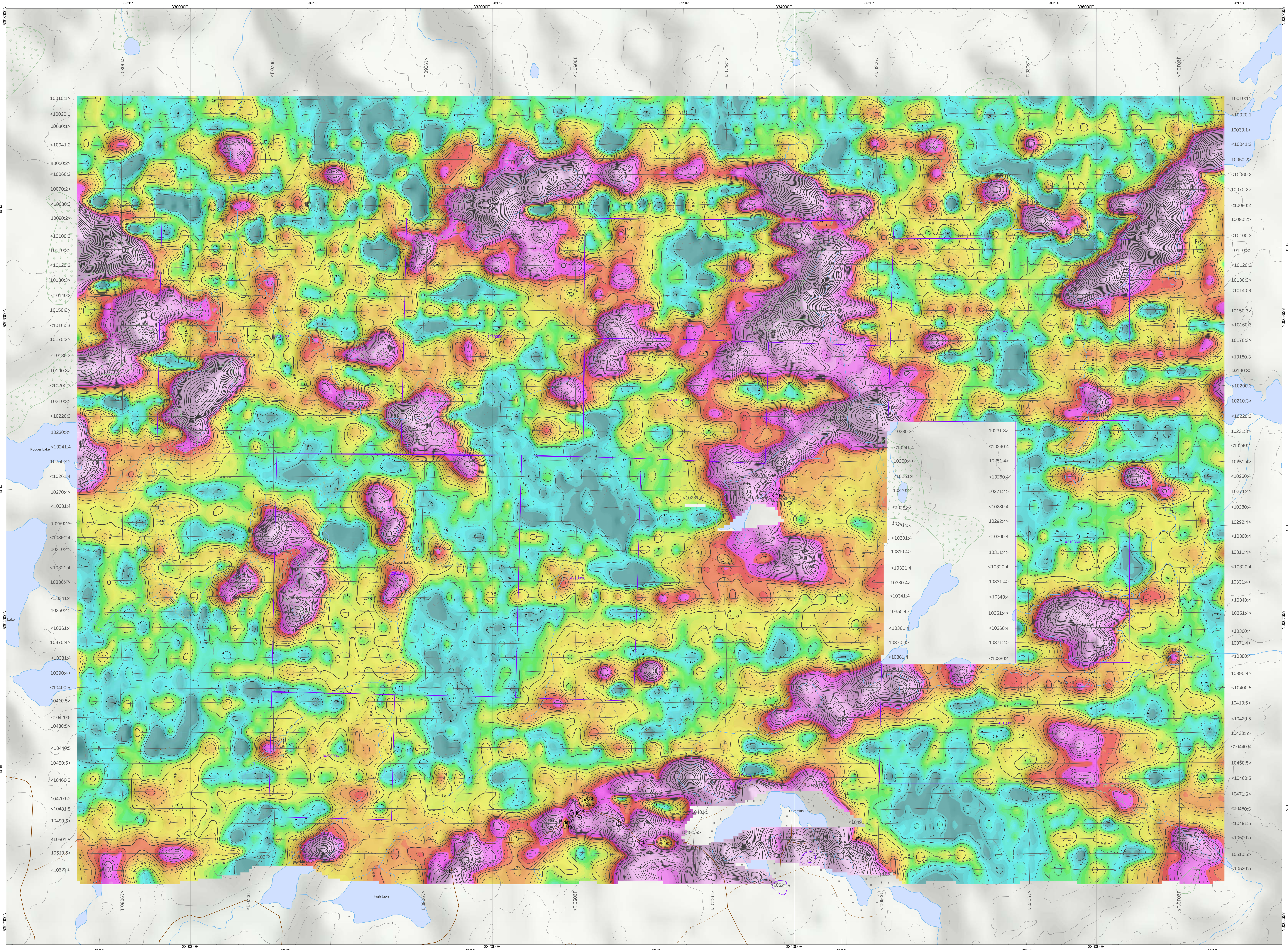
Sunday Lake Project

NTS 052A11

AEROQUEST
7687 Bath Road, Mississauga, ON, Canada, L4T 3T1
Tel: (905) 672-9129 Fax: (905) 672-7083
www.aeroquest.ca

October 2008

CVG



Grid North
NAD83-Zone16

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
Topo contours derived from NASA SRTM (Shuttle Radar Topography Mission) data
Inset data derived from Natural Resources Canada 'Atlas of Canada Base Maps'

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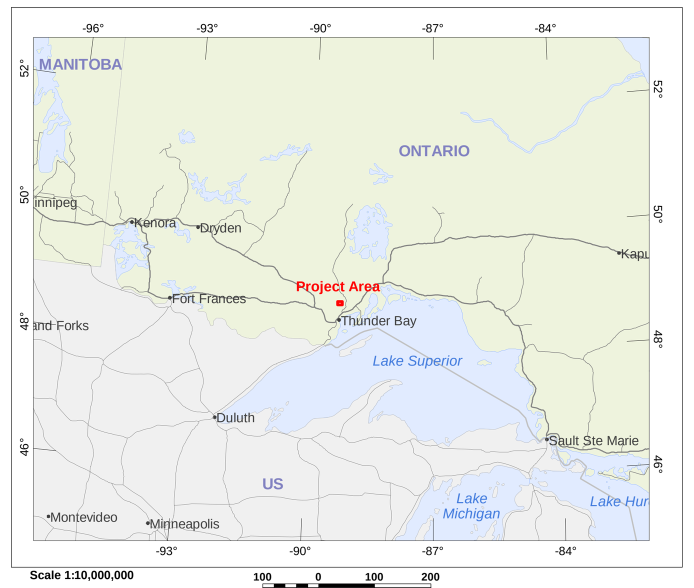


Scale 1:10,000,000
(kilometers)
NAD83 / UTM zone 16N

ZOFF0 nT/s: 357.2, 236.2, 183.1, 148.3, 125.9, 110.5, 98.9, 89.5, 81.7, 75.0, 68.9, 63.6, 59.0, 54.7, 50.9, 47.6, 44.3, 41.2, 38.0, 35.0, 32.2, 29.4, 26.5, 23.4, 20.3, 16.9, 12.8, 7.0

ZOFF Contour Interval
- 10 nT/s
- 20 nT/s
- 50 nT/s
- 1000 nT/s

Building
Roads / Trails
Mining Area
Mining Claims
Wetland
Lake

Off-Time Anomaly Symbols
- >50S ....
- 35-50S ....
- 20-35S ....
- 10-20S ....
- 5-10S ....
- 1-5S ....
- <1S ....
- Cultural Sources.....

anomaly label A, decay constant (μs) 125, thicK/thiN source K, off-time conductance (S) 36

SURVEY SPECIFICATIONS:
Survey flown: August 17 - 20, 2008
Traverse line spacing: 100 metres
Traverse line direction: 90º / 270º
Nominal EM bird height: 30 metres
Aircraft: Aerospatiale A-Star 350B2 (C-GJIX)
INSTRUMENTATION:
Data acquisition: ADAS & RMS DGR-33
Magnetometer: Geometrics G-823A cesium vapour
Installation: Towed bird 31 m above EM bird
Sensitivity: .001 nanoTesla
Electromagnetics: AeroTEM IV System (OSCAR)
Configuration: Towed bird
NAVIGATION:
Navigation: Differential Global Positioning System (DGPS)
Navigation equipment: AGNAV with MID-TECH RX400p receiver
Radar Altimeter: Terra TRA3000/TRI-30
DATA PROCESSING
Magnetics: diurnal, tieline and micro-leveling corrections
POSITIONING
Datum: NAD83
Major Axis: 6378137.000
Eccentricity: 0.081819191
MAP PROJECTION
Projection: Universal Transverse Mercator
Central Meridian: 87°W (Zone 16)
Central Scale Factor: 0.9996
False Easting/Northing: 500,000m/0m

scale 1:10,000
(meters)
NAD83 / UTM zone 16N

Kennecott Canada Exploration Inc.
Thunder Bay, Ontario

AEROTEM Z0 OFF-TIME

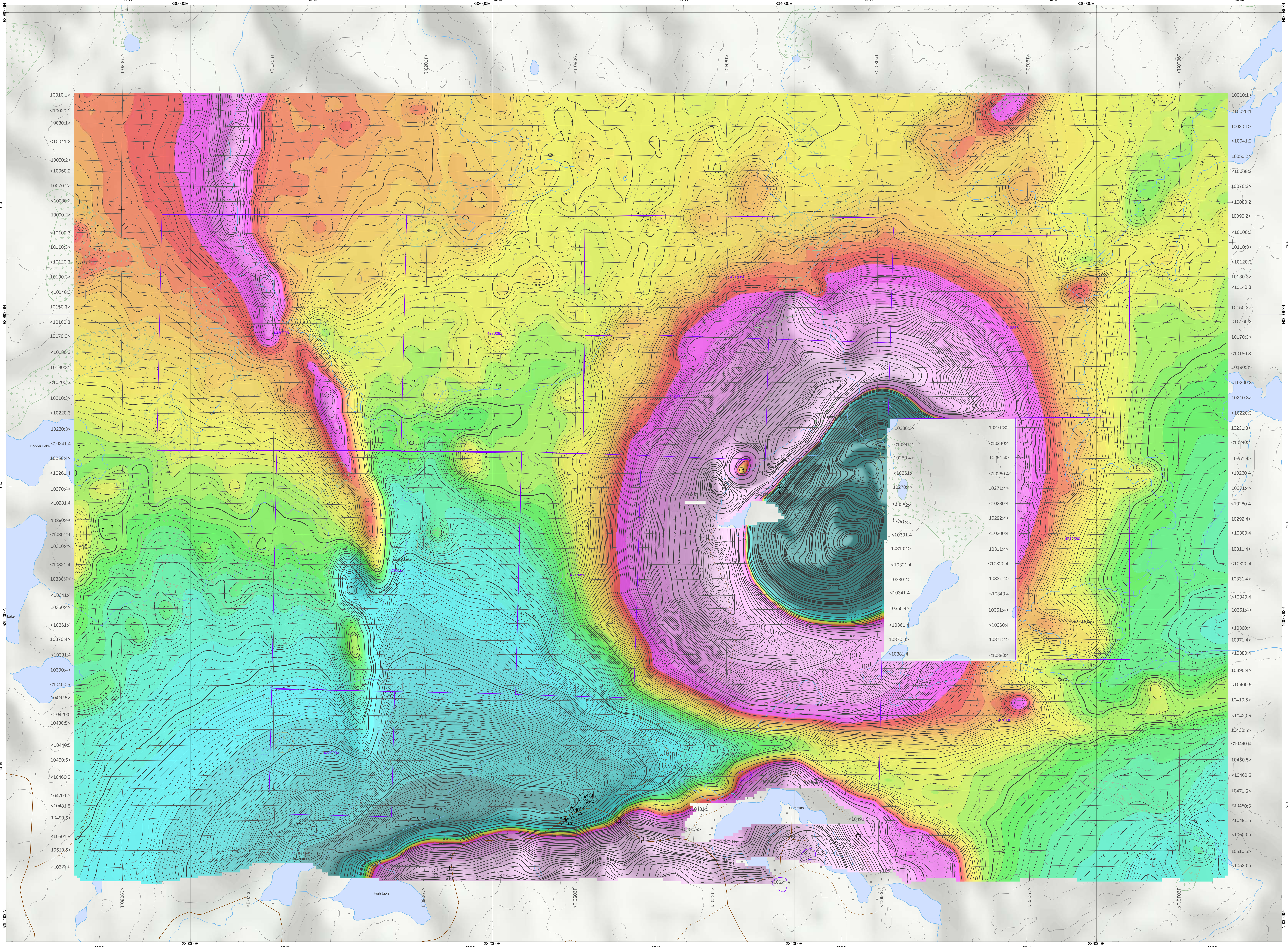
Sunday Lake Project

NTS 052A11

AEROQUEST
7687 Bath Road, Mississauga, ON, Canada, L4T 3T1
Tel: (905) 672-9129 Fax: (905) 672-7083
www.aeroquest.ca

October 2008

ZOFF



Grid North
NAD83-Zone16

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
Topo contours derived from NASA SRTM (Shuttle Radar Topography Mission) data
Inset data derived from Natural Resources Canada 'Atlas of Canada Base Maps'

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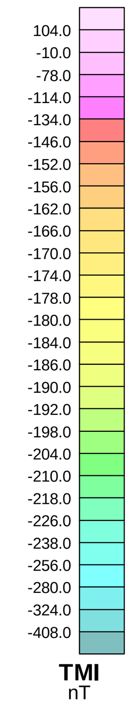

TMI Contour Interval
- 2 nT
- 4 nT
- 20 nT
- 100 nT

- Building
- Roads / Trails
- Mining Area
- Mining Claims
- Wetland
- Lake

Off-Time Anomaly Symbols

- >50S
- 35-50S
- 20-35S
- 10-20S
- 5-10S
- 1-5S
- <1S
- Cultural Sources

anomaly label A, 125 decay constant (µs)
thicK/thiN source K, 36 off-time conductance (S)

SURVEY SPECIFICATIONS:
- Survey flown: August 17 - 20, 2008
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- Traverse line direction: 90º / 270º
- Nominal EM bird height: 30 metres
- Aircraft: Aerospatiale A-Star 350B2 (C-GJIX)

INSTRUMENTATION:
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- Magnetometer: Geometrics G-823A cesium vapour
  - Installation: Towed bird 31 m above EM bird
  - Sensitivity: .001 nanoTesla
- Electromagnetics: AeroTEM IV System (OSCAR)
  - Configuration: Towed bird

NAVIGATION:
- Navigation: Differential Global Positioning System (DGPS)
- Navigation equipment: AGNAV with MID-TECH RX400p receiver
- Radar Altimeter: Terra TRA3000/TRI-30

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- Magnetics: diurnal, tieline and micro-leveling corrections

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  - Eccentricity: 0.081819191

MAP PROJECTION
- Projection: Universal Transverse Mercator
- Central Meridian: 87°W (Zone 16)
- Central Scale Factor: 0.9996
- False Easting/Northing: 500,000m/0m

scale 1:10,000
(meters)
NAD83 / UTM zone 16N

Kennecott Canada Exploration Inc.
Thunder Bay, Ontario

TOTAL MAGNETIC INTENSITY
IGRF Removed

Sunday Lake Project

NTS 052A11

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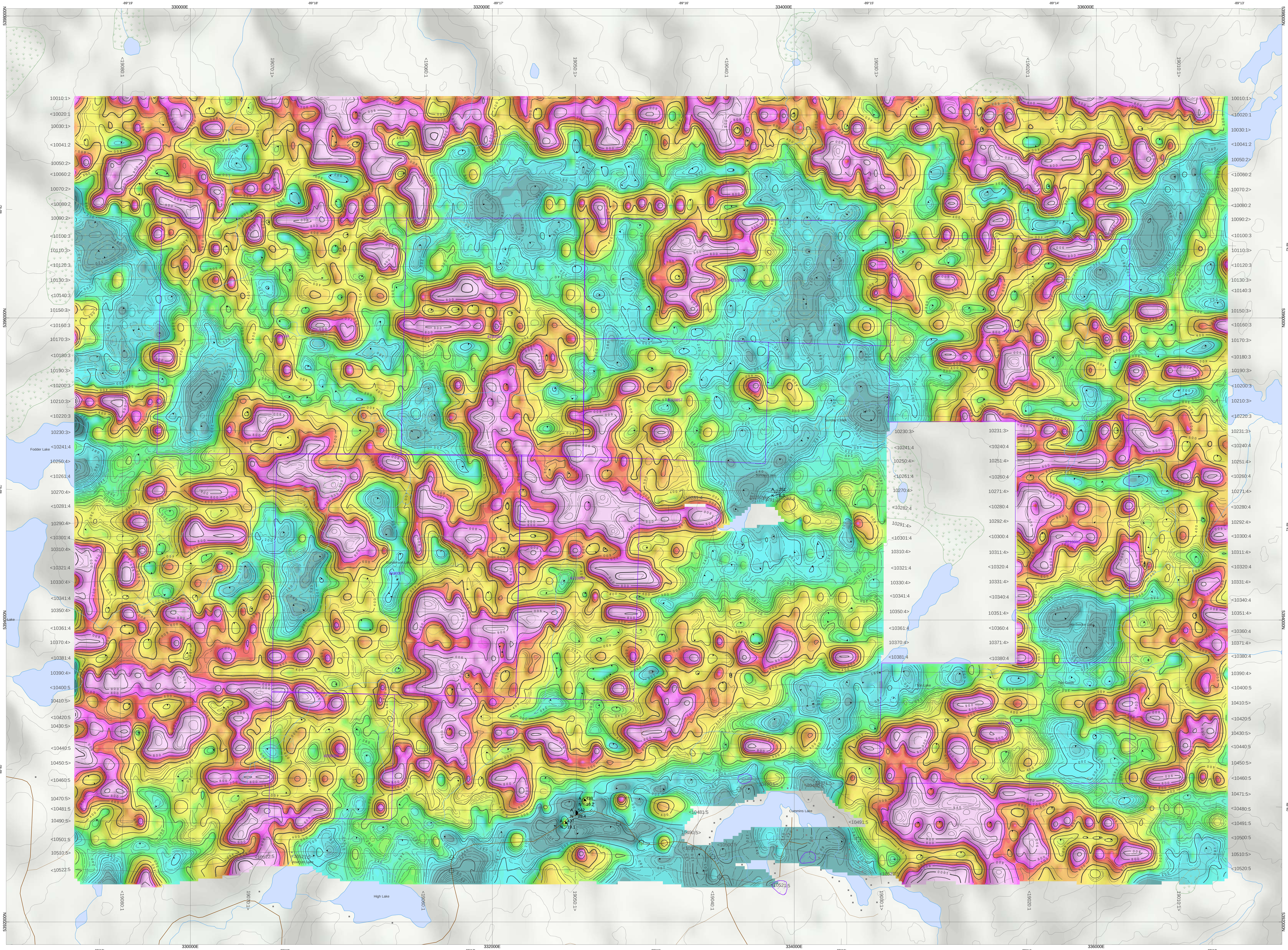
Tel: (905) 672-9129 Fax: (905) 672-7083
www.aeroquest.ca

October 2008

TMI



Grid North
NAD83-Zone16

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
Topo contours derived from NASA SRTM (Shuttle Radar Topography Mission) data
Inset data derived from Natural Resources Canada 'Atlas of Canada Base Maps'

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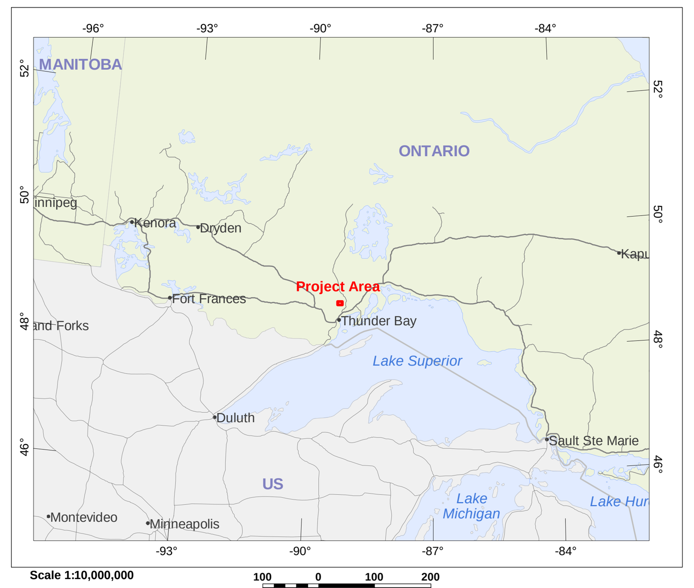


RES Ωm
904.97
851.87
794.81
741.71
691.74
648.01
610.72
575.30
542.13
511.48
482.99
456.38
430.96
407.34
385.44
365.04
345.42
326.04
306.62
287.65
270.02
252.72
236.56
220.28
204.10
187.61
168.44
143.13

RES Contour Interval
- 10 Ωm
- 20 Ωm
- 100 Ωm
- 500 Ωm

- Building
- Roads / Trails
- Mining Area
- Mining Claims
- Wetland
- Lake

Off-Time Anomaly Symbols

- >50S ....
- 35-50S ....
- 20-35S ....
- 10-20S ....
- 5-10S ....
- 1-5S ....
- <1S ....
- Cultural Sources.....

anomaly label A
decay constant (µs) 125
thicK/thiN source K
off-time conductance (S) 36

SURVEY SPECIFICATIONS:
Survey flown: August 17 - 20, 2008
Traverse line spacing: 100 metres
Traverse line direction: 90º / 270º
Nominal EM bird height: 30 metres
Aircraft: Aerospatiale A-Star 350B2 (C-GJIX)
INSTRUMENTATION:
Data acquisition: ADAS & RMS DGR-33
Magnetometer: Geometrics G-823A cesium vapour
Installation: Towed bird 31 m above EM bird
Sensitivity: .001 nanoTesla
Electromagnetics: AeroTEM IV System (OSCAR)
Configuration: Towed bird
NAVIGATION:
Navigation: Differential Global Positioning System (DGPS)
Navigation equipment: AGNAV with MID-TECH RX400p receiver
Radar Altimeter: Terra TRA3000/TRI-30
DATA PROCESSING
Magnetics: diurnal, tieline and micro-leveling corrections
POSITIONING
Datum: NAD83
Major Axis: 6378137.000
Eccentricity: 0.081819191
MAP PROJECTION
Projection: Universal Transverse Mercator
Central Meridian: 87°W (Zone 16)
Central Scale Factor: 0.9996
False Easting/Northing: 500,000m/0m

scale 1:10,000
200 0 200 400 600
(meters)
NAD83 / UTM zone 16N

Kennecott Canada Exploration Inc.
Thunder Bay, Ontario

APPARENT RESISTIVITY

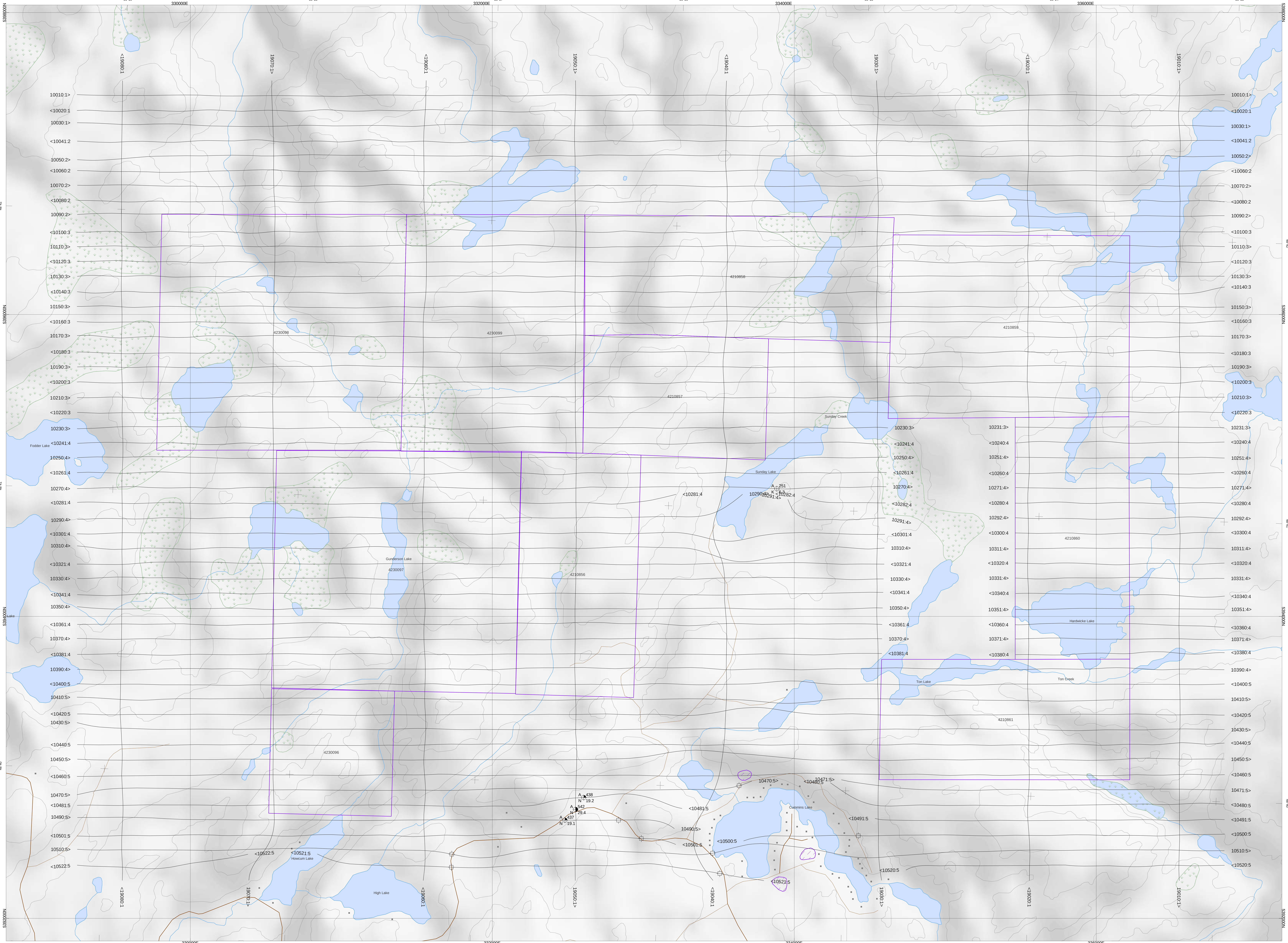
Sunday Lake Project

NTS 052A11

AEROQUEST
7687 Bath Road, Mississauga, ON, Canada, L4T 3T1
Tel: (905) 672-9129 Fax: (905) 672-7083
www.aeroquest.ca

October 2008

RES



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Scale 1:10,000,000

100 0 100 200
(kilometers)
NAD83 / UTM zone 16N

Building
Roads / Trails
Mining Area
Mining Claims
Wetland
Lake

Off-Time Anomaly Symbols

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20-35S ....
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anomaly label A 125 decay constant (µs)
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NAD83 / UTM zone 16N

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FLIGHT PATH WITH EM ANOMALIES

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