

**Report on a Helicopter-Borne
AeroTEM II Electromagnetic
& Magnetometer Survey**



**Aeroquest Job # 05002
Lapointe Project**
Temagami Area, Ontario
41P/16

for

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January, 2005



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1 TABLE OF CONTENTS

1	TABLE OF CONTENTS.....	1
1.1	List of Figures.....	1
1.2	Appendices.....	2
1.3	List of Maps (1:10,000).....	2
2	INTRODUCTION.....	3
3	SURVEY AREA.....	4
4	REGIONAL GEOLOGY and EXPLORATION.....	4
5	SURVEY SPECIFICATIONS AND PROCEDURES.....	5
6	AIRCRAFT AND EQUIPMENT.....	6
6.1	Aircraft.....	6
6.2	Magnetometer.....	7
6.3	Electromagnetic System.....	7
6.4	AERODAS Acquisition System.....	8
6.5	RMS DGR-33 Acquisition System.....	9
6.6	Magnetometer Base Station.....	9
6.7	Radar Altimeter.....	9
6.8	Video Tracking and Recording System.....	9
6.9	GPS Navigation System.....	9
6.10	Digital Acquisition System.....	10
7	PERSONNEL.....	11
8	DELIVERABLES.....	11
9	DATA PROCESSING AND PRESENTATION.....	11
9.1	Base Map.....	11
9.2	Flight Path & Terrain Clearance.....	12
9.3	Electromagnetic Data.....	12
9.4	Magnetic Data.....	13
10	Results and Interpretation.....	13
10.1	Magnetic Response.....	13
10.2	EM Anomalies – General comments.....	14

1.1 List of Figures

Figure 1.	Regional location map of the project area.....	3
Figure 2.	Claim Map of the project area with survey coverage indicated.....	4
Figure 3.	The magnetometer bird (A) and AeroTEM II EM bird (B).....	6
Figure 4.	Schematic of Transmitter and Receiver waveforms.....	7
Figure 5.	The AeroTEM II Instrument Rack.....	10
Figure 6.	AeroTEM response to a ‘thin’ vertical conductor.....	14
Figure 7.	AeroTEM response for a ‘thick’ vertical conductor.....	15
Figure 8.	AeroTEM response over a ‘thick’ dipping conductor.....	15

1.2 Appendices

Appendix 1: Survey Block Co-ordinates

Appendix 2: Description of Database Fields

Appendix 3: Technical Paper: "Mineral Exploration with the AeroTEM System"

Appendix 4: Instrumentation Specification Sheet

Appendix 5: Statement of Expenditures

Appendix 6: Statement of Qualifications

1.3 List of Maps (1:10,000)

Map 1: Total Magnetic Field Contours and EM anomalies

Map 2: AeroTEM Off-Time Profiles (Z3, Z6, Z9, Z12, Z15) and EM anomalies

2 INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out on behalf of Tres-OR Resources Ltd. on the Lapointe Project, north of Temagami, northeastern Ontario. The principal geophysical sensor is Aeroquest's exclusive AeroTEM II time domain helicopter electromagnetic system which is employed in conjunction with a high-sensitivity cesium vapour magnetometer. Ancillary equipment includes a real-time differential GPS navigation system, radar altimeter, digital video acquisition system, and a base station magnetometer.

The total line kilometre flown is totaled at 98.9 km. The survey flying described in this report took place on January 7, 2005. This report describes the survey logistics, the data processing, presentation, and provides a brief interpretation of the results.

The survey was designed to map the conductive and magnetic properties of the survey area with high spatial resolution and accuracy.

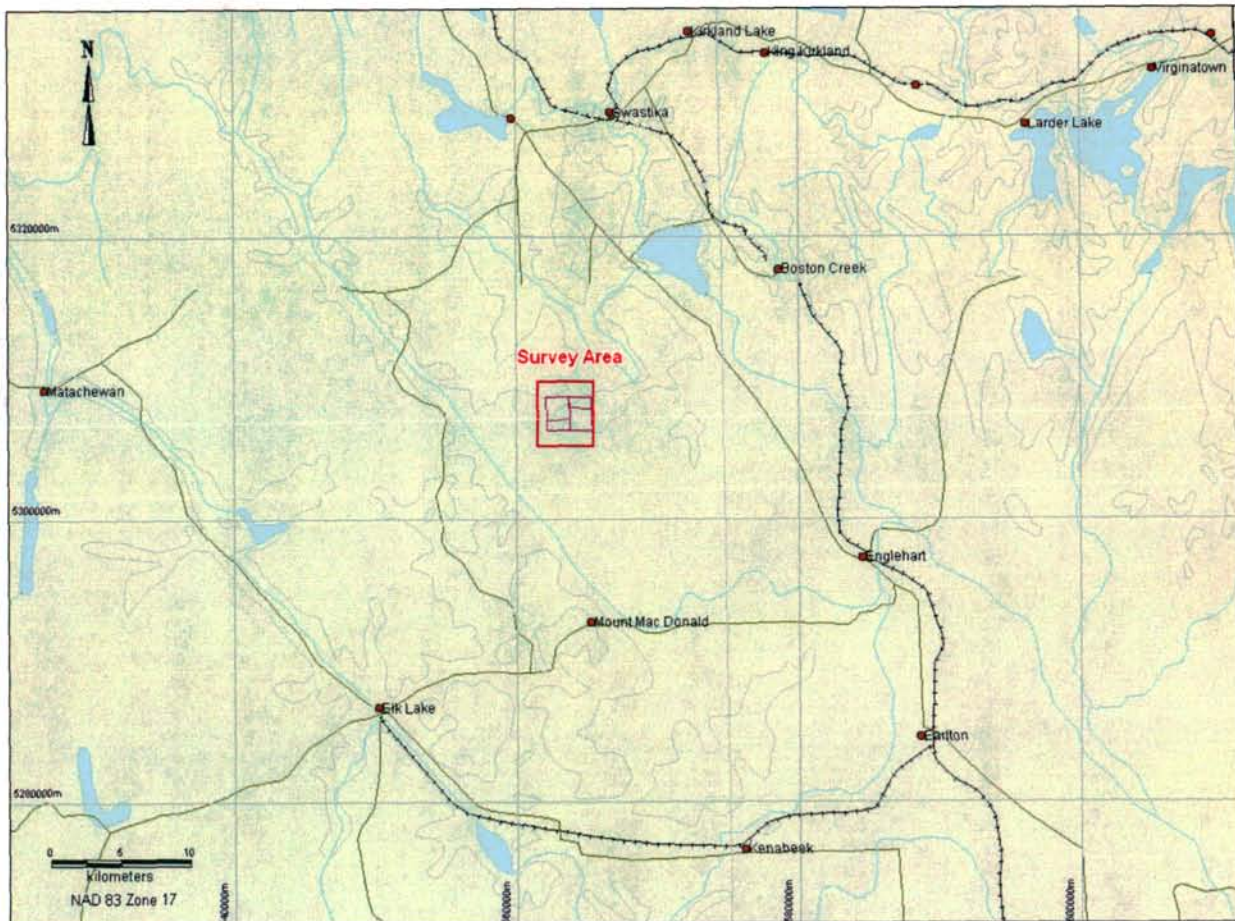


Figure 1. Regional location map of the project area

3 SURVEY AREA

The Lapointe Project (Figure 1) is located approximately 100 km north northwest of Temagami and 150 km southeast of Timmins, Ontario, within the Porcupine Mining District. The property consists of 4 claims (see Figure 2 and Maps). Access to the project area was by existing paved roads. The field crew was based in North Bay. The helicopter was staged out of the Gateway Helicopters Base in North Bay. The survey area may be located on NTS 1:50,000 map sheet 41P/16.

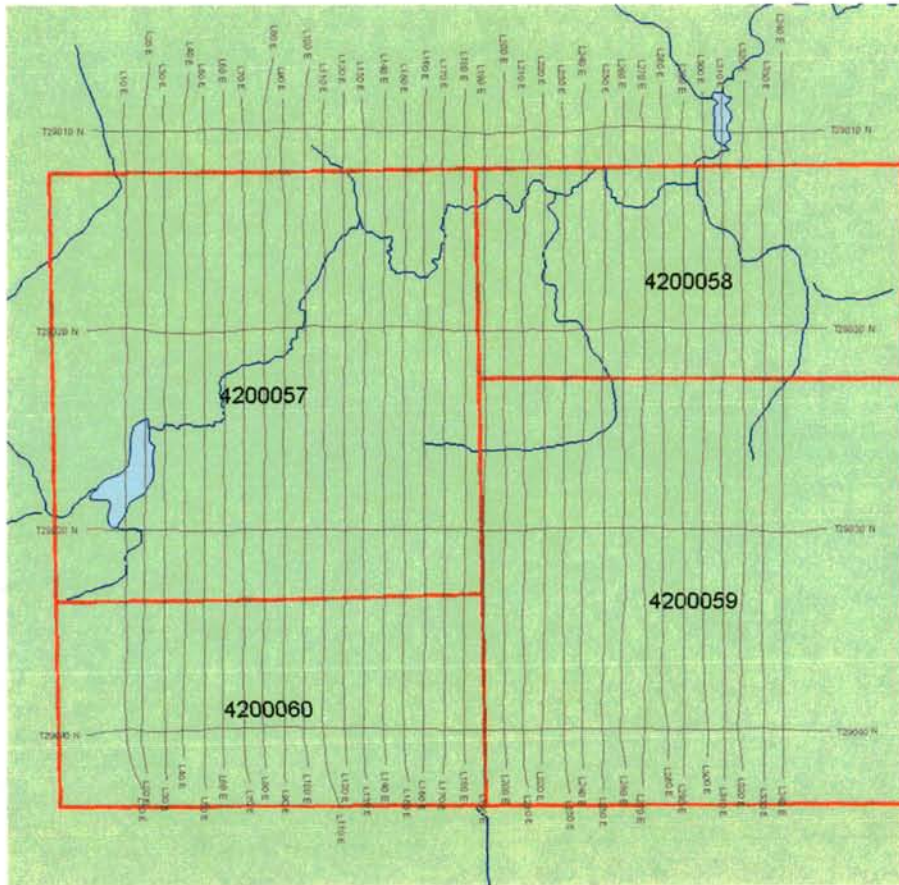


Figure 2. Claim Map of the project area with survey coverage indicated

4 REGIONAL GEOLOGY and EXPLORATION

The geology of northeastern Ontario and Quebec is considered favorable for primary diamond deposits due to the underlying Archean Superior craton that has been stable for at least 2.5 billion years and major, deep structures favorable for the ascending kimberlite magmas such as the Lake Timiskaming Structural Zone. This is supported by research and exploration results that demonstrate the upper mantle in eastern Canada is significantly diamond-bearing.

5 SURVEY SPECIFICATIONS AND PROCEDURES

The survey specifications are summarised in the following table:

Project Name	Line Spacing (m)	Line direction	Survey Coverage (line-km)	Dates Flown
Lapointe	75	N-S (000°)	98.9	January 7, 2005

The survey coverage was calculated by adding up the along-line distance of the survey lines and control (tie) lines in the final Geosoft database. The survey was flown with a line spacing of 75 m. The control (tie) lines were flown perpendicular to the survey lines with a spacing of 750 m.

The nominal EM bird terrain clearance is 30m (98 ft). The magnetometer sensor is mounted in a smaller bird connected to the tow rope 17 metres above the EM bird and 19 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 38,400 samples per second and is processed to generate final data at 10 samples per second. The 10 samples per second translates to a geophysical reading about every 1.5 to 2.5 metres along the flight path.

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.

Unlike frequency domain electromagnetic systems, the AeroTEM II system has negligible drift due to thermal expansion. The system static offset is removed by high altitude zero calibration lines and employing local leveling corrections where necessary.

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.

On return of the pilot and operator to the base usually after each flight, the ProtoDAS 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 re-flown.

6 AIRCRAFT AND EQUIPMENT

6.1 Aircraft

A Eurocopter (Aerospatiale) AS350B2 "A-Star" helicopter - registration C-GVDE used as survey platform. The helicopter was owned and operated by Helico 2000 Inc., Lasarre, Quebec. Installation of the geophysical and ancillary equipment was carried out by Aeroquest Limited at the Gateway Helicopters hangar in North Bay and ferried to the survey area. The survey aircraft was flown at a nominal terrain clearance of 210 ft (65 m).



Figure 3. The magnetometer bird (A) and AeroTEM II EM bird (B)

6.2 Magnetometer

The Aeroquest airborne survey system employs the Geometrics G-823A cesium vapour magnetometer sensor installed in a two metre towed bird airfoil attached to the main tow line, 19 metres below the helicopter. 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 47 metres. The magnetic data is recorded at 10Hz by the RMS DGR-33.

6.3 Electromagnetic System

The electromagnetic system is an Aeroquest AeroTEM II time domain towed-bird system. The current AeroTEM transmitter dipole moment is 38.8 kNIA. The AeroTEM bird is towed 36.6 m (120 ft) below the helicopter. More technical details of the system may be found in Appendix 4.

The wave-form is triangular with a symmetric transmitter on-time pulse of approximately 1.1 ms and a base frequency of 150 Hz. The current alternates polarity every on-time pulse. During every Tx on-off cycle (300 per second), 128 contiguous channels of raw x and z component (and a transmitter current monitor) of the received waveform are measured. Each channel width is 26.06 microseconds starting at the beginning of the transmitter pulse. This 128 channel data is referred to as the raw streaming data.

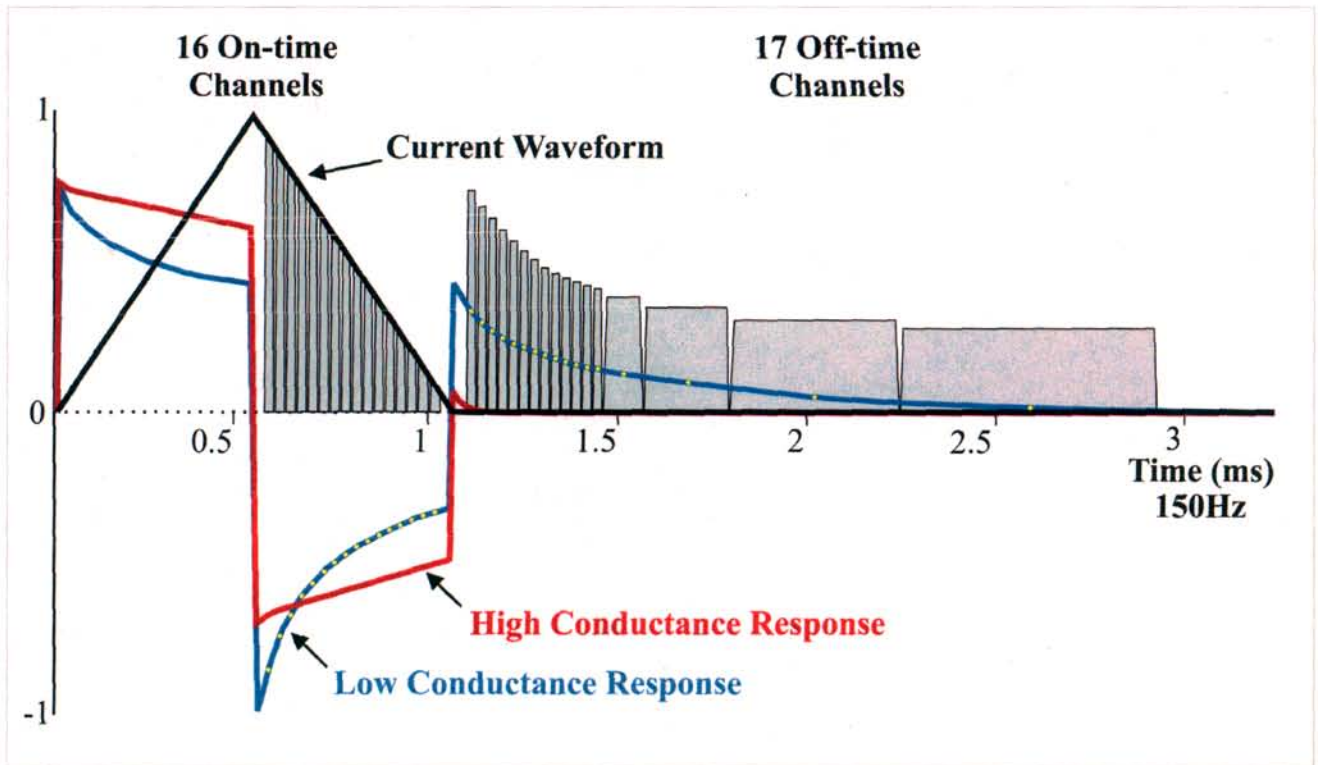


Figure 4. Schematic of Transmitter and Receiver waveforms

6.4 AERODAS Acquisition System

The 128 channels of raw streaming data are recorded by the AERODAS acquisition system 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:

Channel	Width	Gate	Start(μ s)	Stop(μ s)	Mid(μ s)	Width(μ s)
1 ON	1	25	651.0	677.1	664.1	26.04
2 ON	1	26	677.1	703.1	690.1	26.04
3 ON	1	27	703.1	729.2	716.1	26.04
4 ON	1	28	729.2	755.2	742.2	26.04
5 ON	1	29	755.2	781.3	768.2	26.04
6 ON	1	30	781.3	807.3	794.3	26.04
7 ON	1	31	807.3	833.3	820.3	26.04
8 ON	1	32	833.3	859.4	846.4	26.04
9 ON	1	33	859.4	885.4	872.4	26.04
10 ON	1	34	885.4	911.5	898.4	26.04
11 ON	1	35	911.5	937.5	924.5	26.04
12 ON	1	36	937.5	963.5	950.5	26.04
13 ON	1	37	963.5	989.6	976.6	26.04
14 ON	1	38	989.6	1015.6	1002.6	26.04
15 ON	1	39	1015.6	1041.7	1028.6	26.04
16 ON	1	40	1041.7	1067.7	1054.7	26.04
0 OFF	1	44	1145.8	1171.9	1158.9	26.04
1 OFF	1	45	1171.9	1197.9	1184.9	26.04
2 OFF	1	46	1197.9	1224.0	1210.9	26.04
3 OFF	1	47	1224.0	1250.0	1237.0	26.04
4 OFF	1	48	1250.0	1276.0	1263.0	26.04
5 OFF	1	49	1276.0	1302.1	1289.1	26.04
6 OFF	1	50	1302.1	1328.1	1315.1	26.04
7 OFF	1	51	1328.1	1354.2	1341.1	26.04
8 OFF	1	52	1354.2	1380.2	1367.2	26.04
9 OFF	1	53	1380.2	1406.3	1393.2	26.04
10 OFF	1	54	1406.3	1432.3	1419.3	26.04
11 OFF	1	55	1432.3	1458.3	1445.3	26.04
12 OFF	1	56	1458.3	1484.4	1471.4	26.04
13 OFF	4	57	1484.4	1588.5	1536.5	104.17
14 OFF	8	61	1588.5	1796.9	1692.7	208.33
15 OFF	16	69	1796.9	2213.5	2005.2	416.67
16 OFF	32	85	2213.5	3046.9	2630.2	833.33

6.5 RMS DGR-33 Acquisition System

In addition to the magnetics, altimeter and position data, six channels of real time processed off-time EM data 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 (microsec)	End time (microsec)	Width (microsec)	Streaming Channels	Noise tolerance
Z1, X1	1269.8	1322.8	52.9	48-50	20 ppb
Z2	1322.8	1455.0	132.2	50-54	20 ppb
Z3	1428.6	1587.3	158.7	54-59	15 ppb
Z4	1587.3	1746.0	158.7	60-65	15 ppb
Z5	1746.0	2063.5	317.5	66-77	10 ppb
Z6	2063.5	2698.4	634.9	78-101	10 ppb

6.6 Magnetometer Base Station

The base magnetometer was a GEM Systems GSM-19 overhauser magnetometer with a built in GPS receiver and external GPS antenna. 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.

6.7 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.

6.8 Video Tracking and Recording System

A high resolution digital colour 8mm 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.

6.9 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 under 3 metres. A recent static ground test of the Mid-Tech WAAS GPS yielded a standard deviation in x and y of under 0.6 metres and for z under 1.5 metres over a two-hour period.

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 WGS84 [World] using the UTM zone 10N 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.

6.10 Digital Acquisition System

The AeroTEM received waveform (Figure 4) sampled during on and off-time at 128 channels per decay, 300 times per second, was logged by the proprietary AERODAS data acquisition system. The channel sampling commences at the start of the Tx cycle and the width of each channel is 26.04 microseconds. 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 DGR-33A data acquisition system (was used to collect and record the analogue data stream, i.e. the positional and secondary geophysical data, including processed 6 channel EM, magnetics, radar altimeter, GPS position, and time. The data was recorded on 128Mb capacity FlashCard. The RMS output was also directed to a thermal chart recorder for on-board real-time QA/QC.



Figure 5. The AeroTEM II Instrument Rack

7 PERSONNEL

The following AeroQuest personnel were involved in the project:

- Manager of Operations: Bert Simon
- Field Data Processor: Neil Fiset, Sean Scrivens
- Field Operator: Chris Kozak
- Data Interpretation and Reporting: Jonathan Rudd

The survey pilot, Steeve Gros-Louis was employed directly by the helicopter operator – Helico 2000 Inc.

8 DELIVERABLES

The report includes 2 geophysical maps plotted at a scale of 1:10,000.

- Map 1: Total Magnetic Field contours and EM anomalies
- Map 2: Stacked EM Plan Profiles and EM anomalies

All the maps show flight path trace, skeletal topography, and conductor picks represented by an anomaly symbol classified according to calculated conductance. The anomaly symbol is accompanied by postings denoting the decay constant in microseconds, the calculated conductance, and an anomaly identifier label. The anomaly symbol legend is given in the margin of the maps. The magnetic field data is presented as superimposed line contours with a minimum contour interval of 5 nT. Bold contour lines are separated by 100nT.

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. No such archive accompanies this report, but a copy of this digital data is archived at the Aeroquest head office in Milton.

9 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 wide Hewlett Packard ink-jet plotters.

9.1 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 17 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 17
- Central Scale Factor: 0.9996
- False Easting, Northing: 500,000m, 0m

For reference, the latitude and longitude in NAD83 are also noted on the maps. The skeletal topography was derived from the Federal Government's 1:50,000 NTS map series.

9.2 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 (5Hz) 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. 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.

9.3 Electromagnetic Data

The raw streaming data, sampled at a rate of 38,400 Hz (128 samples, 300 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, leveled and split up into the individual line segments. The filtering of the stacked data is designed to remove or minimize high frequency noise that can not be sourced from the geology. Further base level adjustments may be carried out at this stage.

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 presented in a Geosoft "array" channel format in the final GDB (Appendix 2) and are labeled in the 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 on-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

bedrock and conductive overburden sources and to determine the source type response (thin vs. thick – discussed later). 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 on-time and off-time conductance have been generated based on calculation of the decay constant (τ) of the EM decay curves for those data points along the line where the response amplitude is sufficient to yield an acceptable estimate. Only channels that had a minimum response of 15 nT/s were included in the τ calculation. A minimum of three channels responding above the 15 nT/s threshold were required to produce an acceptable τ estimate. The τ values were then windowed to exclude any values that had a correlation-coefficient less than 96%. Conductance values (in Siemens) were then directly calculated from τ values at each conductor pick. Each conductor pick was then classified according to a set of seven ranges of calculated off-time conductance values as indicated on the map legends. 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 were assigned a ‘null’ conductance value of “0.01”, thus plotting as a low conductance source on the maps.

9.4 Magnetic Data

Prior to any leveling 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. No corrections for the regional reference field (IGRF) were applied. The corrected profile data were interpolated on to a grid using a bi-directional gridding technique with a grid cell size of 20 metres. The final leveled grid provided the basis for threading the presented contours which have a minimum contour interval of 5 nT.

10 Results and Interpretation

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

10.1 Magnetic Response

The magnetic data provide a high resolution map of the distribution of the magnetic mineral content of the survey area. The sources for anomalous magnetic responses are 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.

The magnetic data set is dominated by an oblate magnetic high which occurs in the north-central portion of the survey block. The size of this anomaly is approximately 400 m by 850 m with the long axis trending east-west. The source appears to comprise two distinct lobes with a break in the vicinity of line 180. The western lobe has a maximum amplitude of approximately 166 nT above background. This relatively low dynamic range suggests a relatively low concentration of magnetite. Other narrow linear magnetic highs extend through the survey area with north-south and east northeast trends. These are readily interpreted as mafic dykes.

10.2 EM Anomalies – General comments

The EM data are dominated by a broad, weakly conductive anomaly in the north-central portion of the survey area. The source of this response is oblate with approximate dimension 850 m by 400 m with the long axis extending with an east-west trend. This anomalous response is typical of a broad region of conductive material in the near-surface. This anomaly correlates perfectly with the anomalous magnetic response described above and is interpreted to be reflecting the same source or mineralization that is closely associated with the magnetic source.

The EM anomalies on the maps are classified by conductance (as described earlier in the report). 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 10m), the response is a single peak in the z-component response and a negative to positive crossover in the x-component response (Figure 7). Because of these differing responses, the AeroTEM system provides discrimination of thin and thick sources and this distinction can be seen when examining the profile data in conjunction with the EM anomaly symbols. 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.

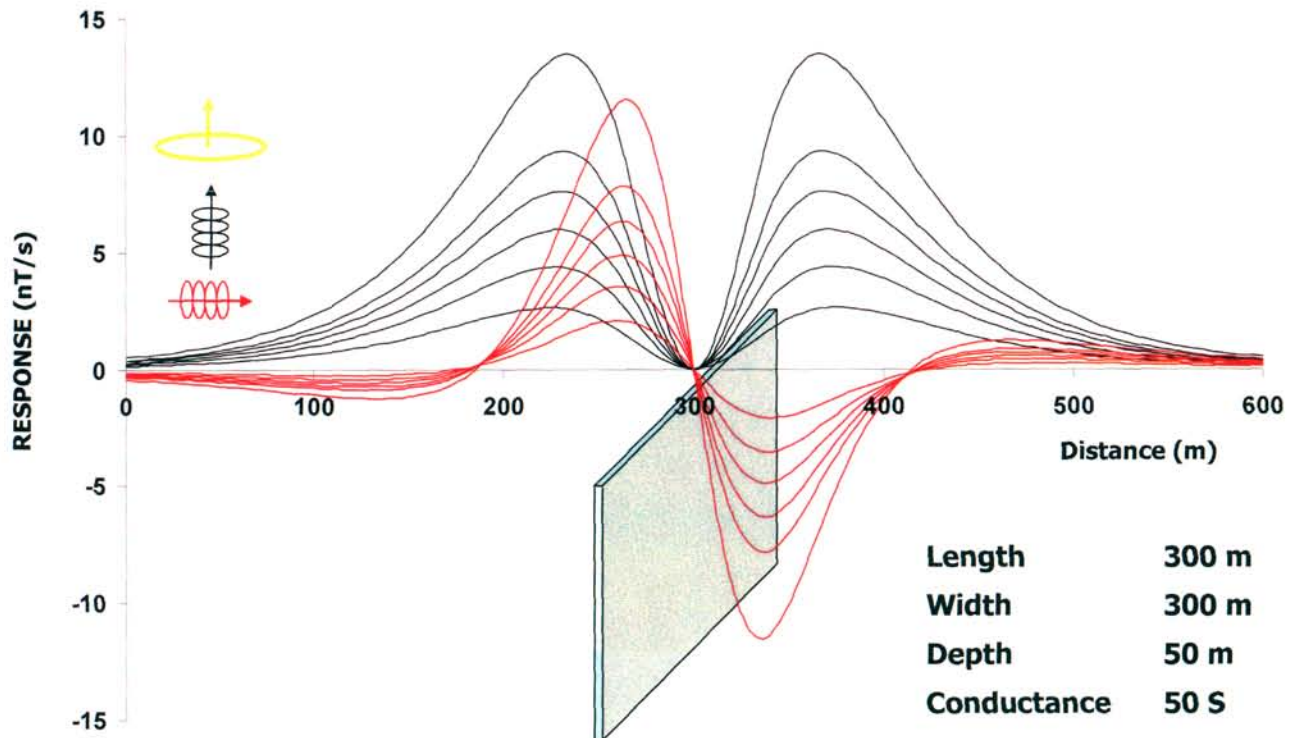


Figure 6. AeroTEM response to a 'thin' vertical conductor.

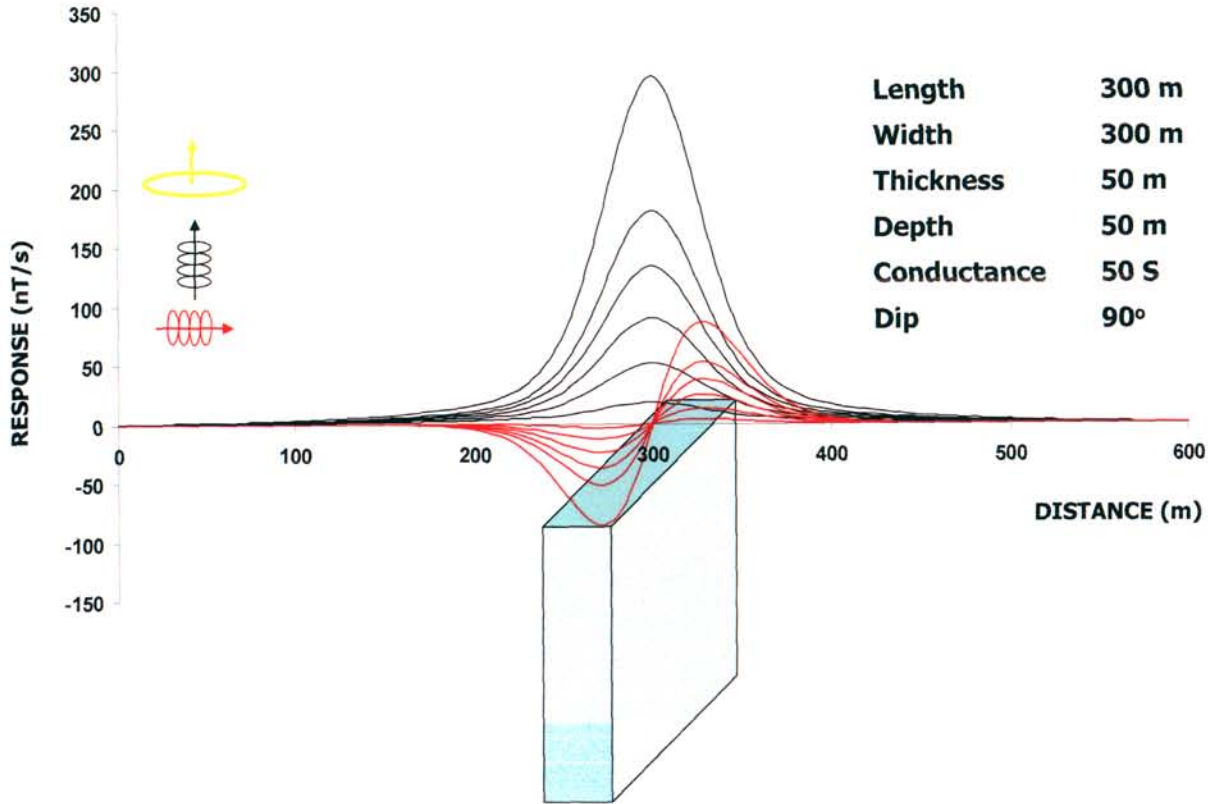


Figure 7. AeroTEM response for a 'thick' vertical conductor.

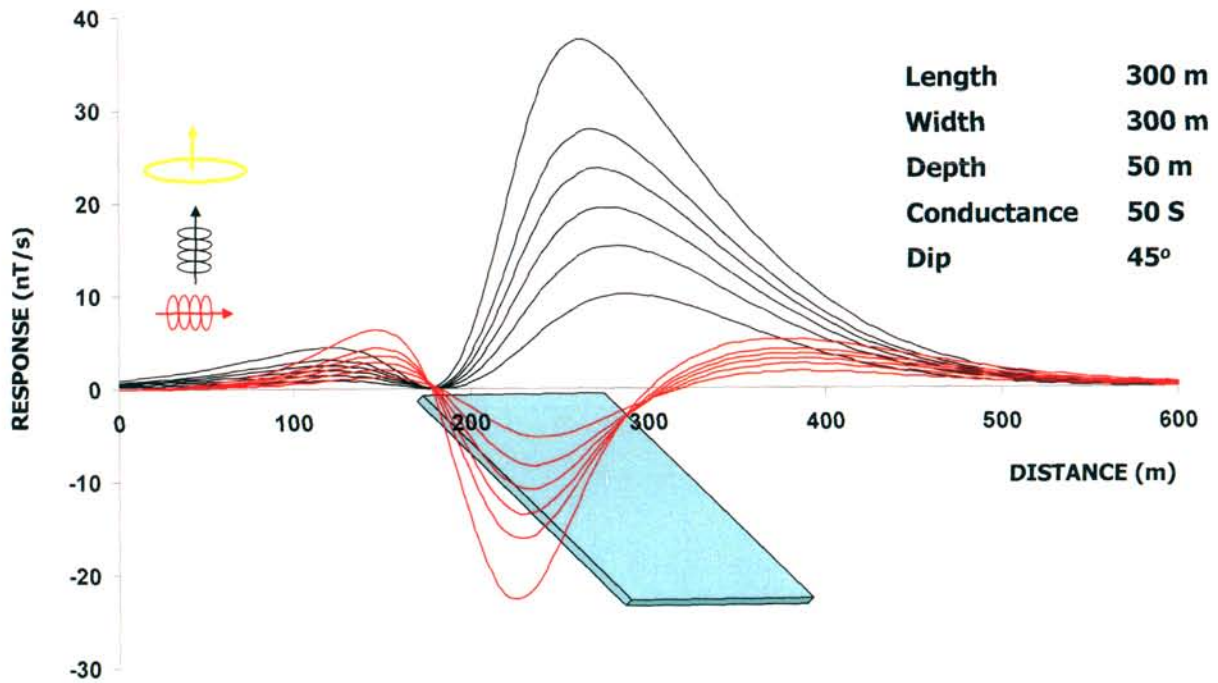


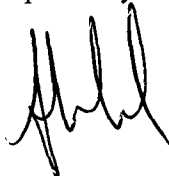
Figure 8. AeroTEM response over a 'thick' dipping conductor.

(Figure 8). 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.

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.

The coincident EM and magnetic anomaly is consistent with the weathered upper layer of a kimberlite pipe and represents a high priority target for follow-up.

Respectfully submitted,



Jonathan Rudd, P.Eng.
Aeroquest Limited
June, 2006

APPENDIX 1 – PROJECT CORNER COORDINATES

The Lapointe Project AeroTEM survey was flown to the following survey boundary. Coordinates are in UTM Zone 17 – NAD83.

Easting (m)	Northing (m)
-------------	--------------

562350	5306450
--------	---------

562350	5308950
--------	---------

564950	5308950
--------	---------

564950	5306450
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APPENDIX 2 - 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".

Database (05012_ final.gdb):

Column	Units	Description
emfid		AERODAS Fiducial
utctime	hh:mm:ss.ss	UTC time
X	m	UTM Easting (NAD83, zone 17N)
Y	m	UTM Northing (NAD83, zone 17N)
Lat_wgs84	dd.dddddd	Raw WGS84 Latitude
Long_wgs84	dd.dddddd	Raw WGS84 Longitude
bheight	m	Terrain clearance of EM bird
galtf	m	GPS altitude (WGS 84)
dtm	m	Digital Terrain Model
magf	nT	Final leveled total magnetic intensity
basemagf	nT	Base station total magnetic intensity
ZOn	nT/s	Processed Streaming On-Time Z component Channels 1-16
ZOff	nT/s	Processed Streaming Off-Time Z component Channels 0-16
XOn	nT/s	Processed Streaming On-Time X component Channels 1-16
XOff	nT/s	Processed Streaming Off-Time X component Channels 0-16
Anom_labels		Letter label of conductor pick
on_con	S	On-time conductance
off_con	S	Off-time conductance
grade		Classification from 1-7 based on conductance of conductor pick

APPENDIX 3: AeroTEM Design Considerations

Advantage 1 – Spatial Resolution

Helicopter-borne EM systems offer an advantage that cannot be matched from a fixed-wing platform. The ability to fly depth penetration, advantageonlyhelicopter-borne high-moment time domain EM systems the fixed-wing platforms are losing their especially important in areas of complex geology and in the search for discrete conductors. With the advent of systems provide more detail than any other EM configuration, airborne or ground-based. Spatial resolution is at a slower speed and collect data with high spatial resolution, and with great accuracy, means that helicopter EM –

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 The footprint of a fixed-wing system is roughly 150 m roughly 50 m on either side of transmitter. on either side of the transmitter.

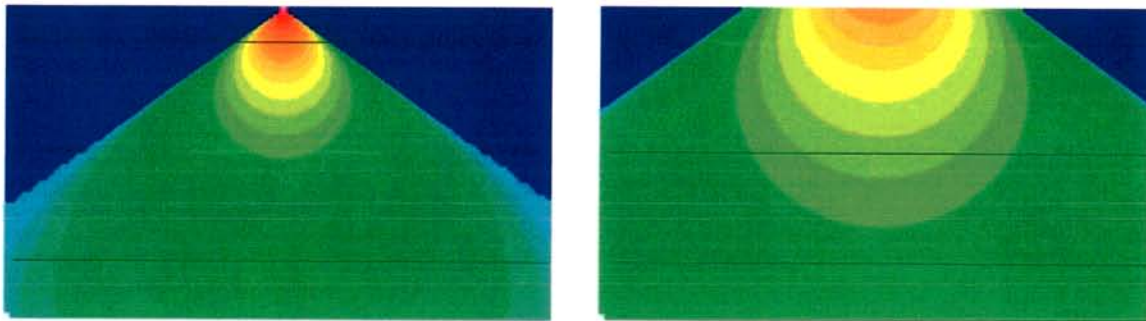


Figure 1. A comparison of the footprint between AeroTEM and a fixed-wing system, highlights the greater resolution that is achievable with a transmitter located closer to the earth's surface. The AeroTEM footprint is one third that of a fixed-wing system and is symmetric, while the fixed-wing system 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 favor 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.

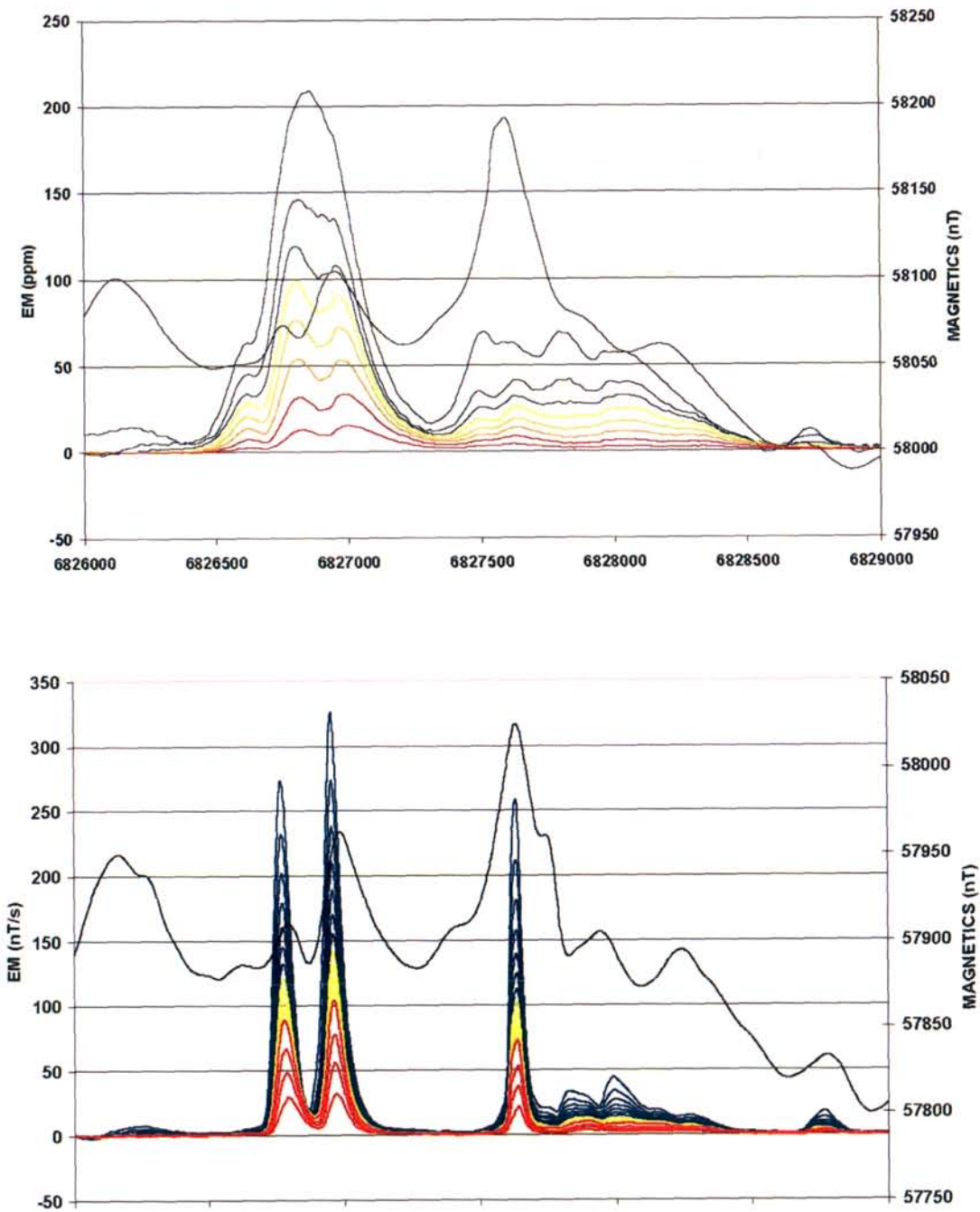


Figure 2. Fixed-wing (upper) and AeroTEM (lower) comparison over the eastern limit of the Mesamax Deposit, a Ni-Cu-PGE zone located in the Raglan nickel belt and owned by Canadian Royalties. Both systems detected the Deposit further to the west where it is closer to surface.

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 favorable 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.

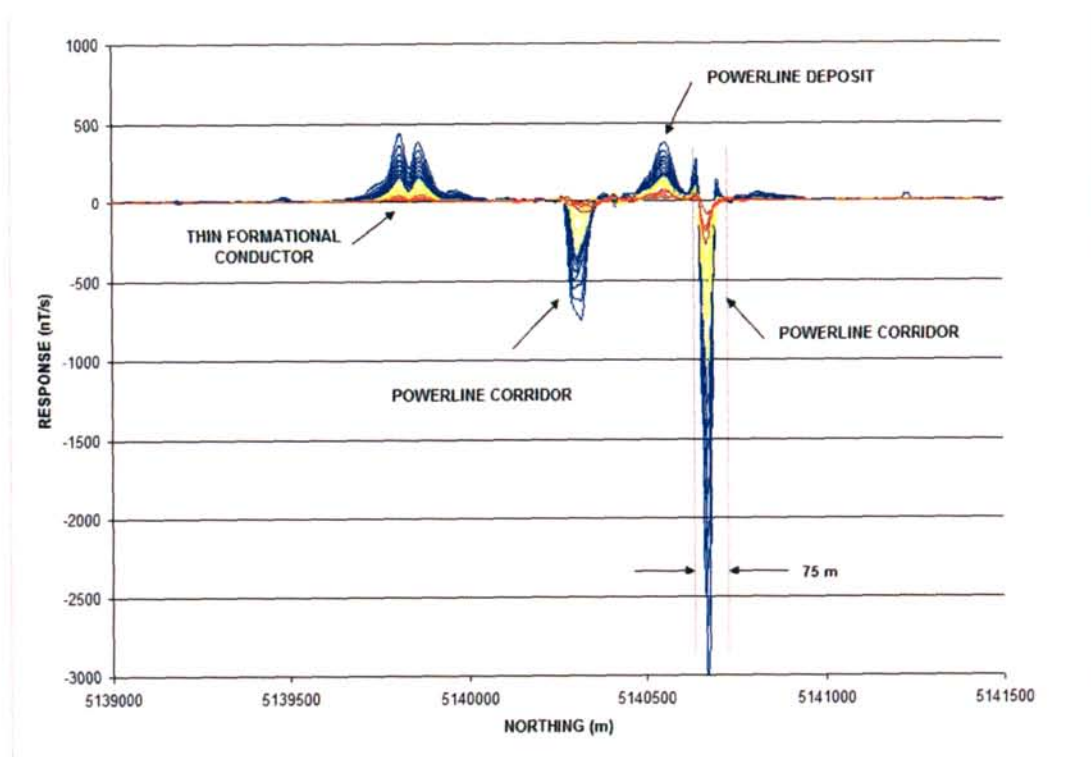


Figure 3. The Powerline Deposit is located between two major power line corridors, which make EM surveying problematic. Despite the strong response from the power line, the anomaly from the Deposit is clearly detected. Note the thin formational conductor located to the south. The only way to distinguish 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.

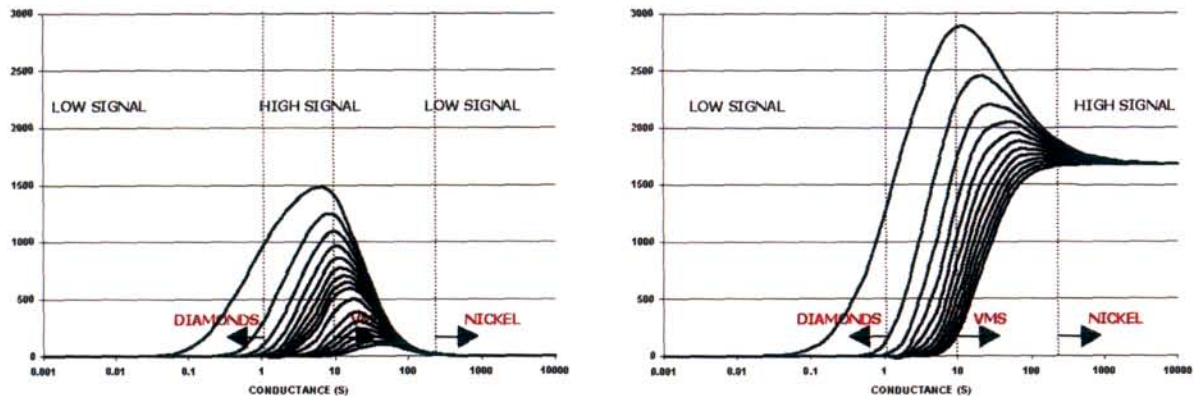
The peak response of a conductive target to an EM system is a function of the target conductance and the EM system base

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 inphase 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:

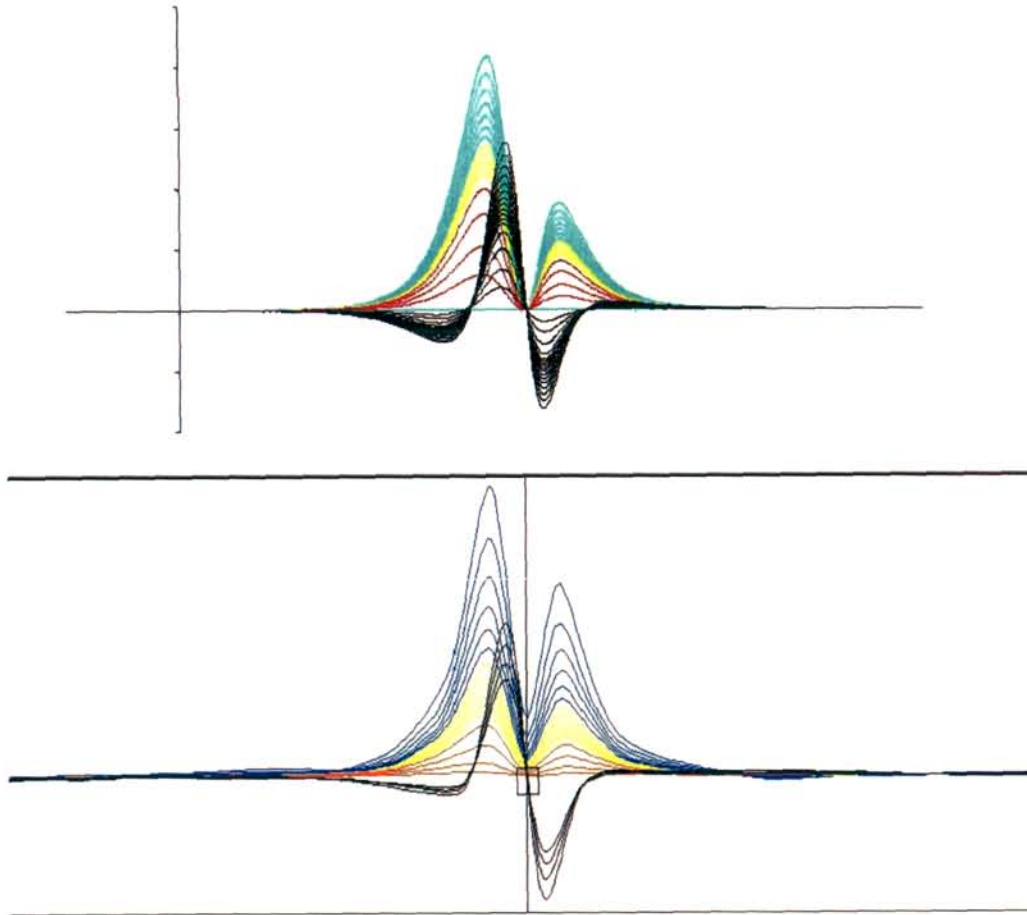


Figure 5. Measured (lower) and modeled (upper) AeroTEM responses are compared for a thin steeply dipping conductor. The response is characterized by two peaks in the Z-axis coil, and a cross-over in the X-axis coil that is centered between the two Z-axis peaks. The conductor dips toward the higher amplitude 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 (Zaxis) 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.

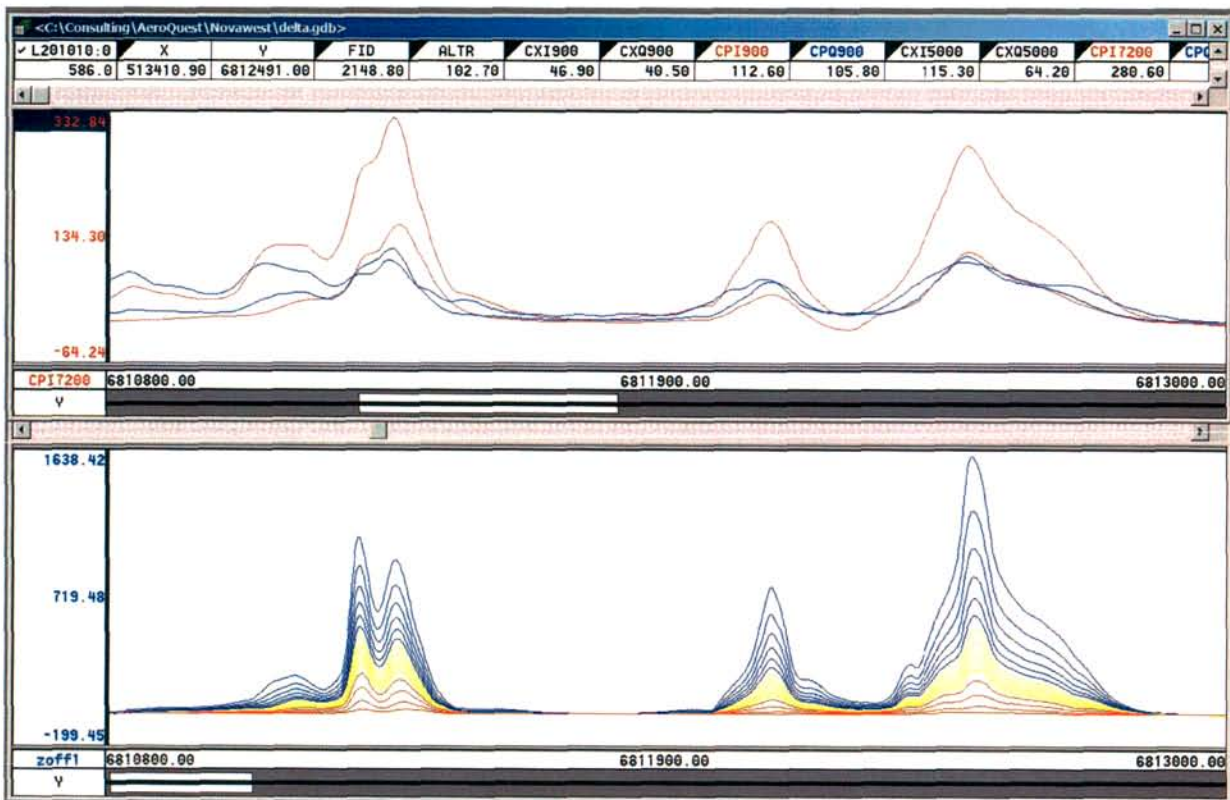


Figure 6. Comparison between Dighem HEM (upper) and AeroTEM (lower) surveys flown in the Raglan area. The AeroTEM responses appear to be more discrete, suggesting that the data is not as heavily filtered as the HEM data. The S/N advantage of AeroTEM over HEM is about 5:1.

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 4: AeroTEM Instrumentation Specification Sheet

AEROTEM Helicopter Electromagnetic System

System Characteristics

- Transmitter: Triangular Pulse Shape Base Frequency 30 or 150 Hz
- Tx On Time - 5,750 (30Hz) or 1,150 (150Hz) μ s
- Tx Off Time - 10,915 (30Hz) or 2,183 (150Hz) μ s
- Loop Diameter - 5 m
- Peak Current - 250 A
- Peak Moment - 38,800 NIA
- Typical Z Axis Noise at Survey Speed = 8 ppb peak
- Sling Weight: 270 Kg
- Length of Tow Cable: 40 m
- Bird Survey Height: 30 m or less nominal

Receiver

- Three Axis Receiver Coils (x, y, z) positioned at centre of transmitter loop
- Selectable Time Delay to start of first channel 21.3 , 42.7, or 64.0 ms

Display & Acquisition

- PROTODAS Digital recording at 126 samples per decay curve at a maximum of 300 curves per second (26.455 μ s channel width)
- RMS Channel Widths: 52.9, 132.3, 158.7, 158.7, 317.5, 634.9 μ s
- 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 40,000 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.

Tel: +1 905 878-5616. Fax: +1 905 876-0193.
Email: sales@aeroquestsurveys.com

APPENDIX 5: Statement of Cost

The following equivalent costs apply to the AeroTEM survey as described in this report.

Lapointe AeroTEM Survey:

Mobilization/Demobilization Costs		\$ 1,000.00
Survey Costs		\$10,879.00
Report Costs		\$ 1,000.00
Total Project Costs		\$12,879.00
Total Cost per survey kilometre	(\$12,879/98.9 km)	\$ 130.22

APPENDIX 6: Statement of Qualifications

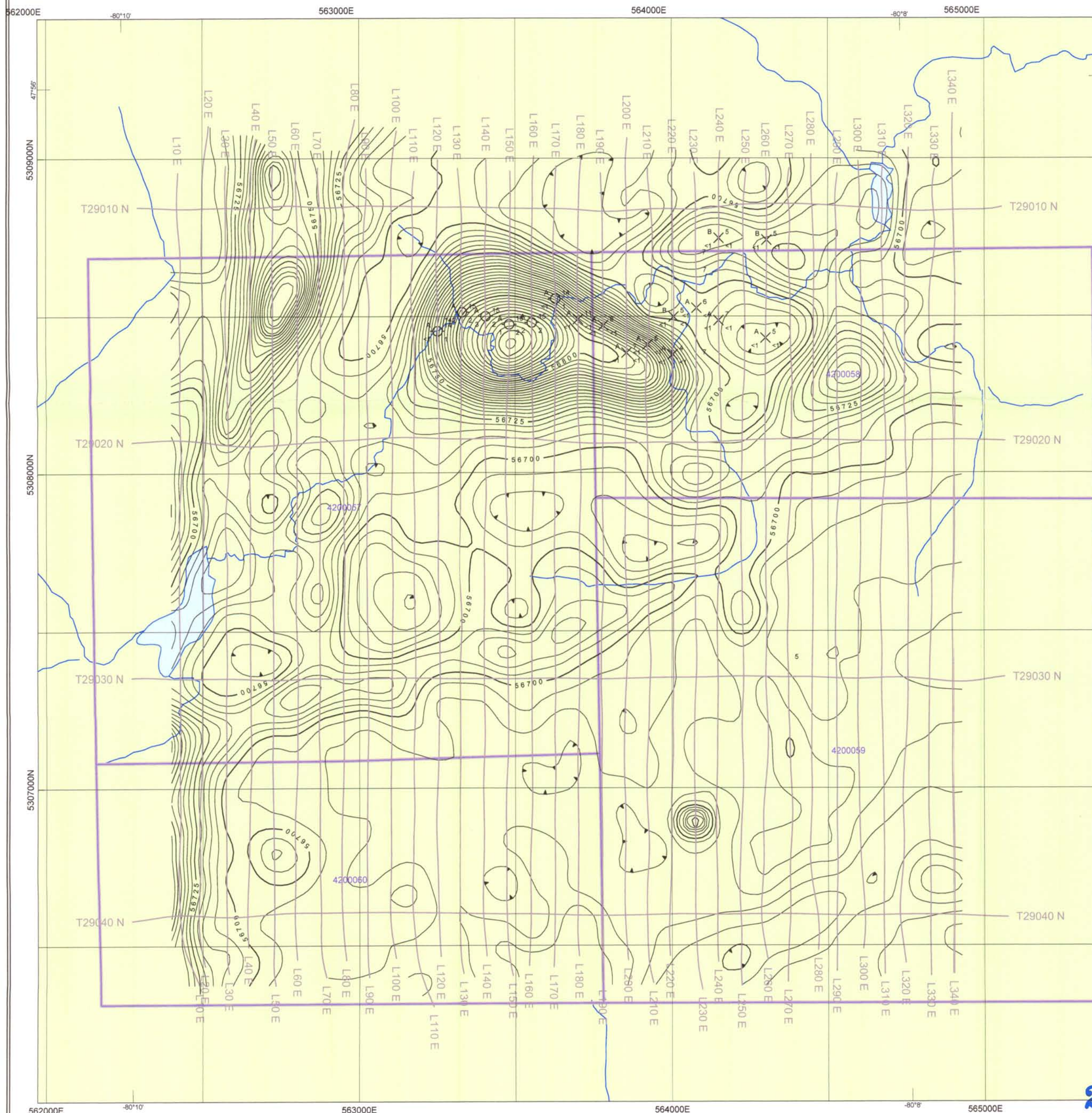
Jonathan Rudd, P.Eng.

1. I am a full-time employee of Aeroquest Limited, based in Milton, Ontario, Canada.
2. My residence is at 54 Alona Avenue, Cambridge, Ontario, N3C 3Y4.
3. I graduated with an honours B.Sc.E. in Geological Engineering in Geophysics, 1988, from Queen's University, Kingston, ON.
4. I have been practicing continuously as an exploration geophysicist for 17 years.
5. I am a registered as a Professional Engineer and am entitled to engage in the practice of professional engineering in the province of Ontario under the terms of the Professional Engineers Act, Revised Statutes of Ontario, 1990, Chapter p 28 .
6. Non-professional affiliations : Society of Exploration Geophysicists, Prospectors and Developers Association of Canada, Canadian Exploration Geophysical Society, Sudbury Prospectors and Developers Association, Sudbury Geological Discussion Group, Ontario Prospectors Association
7. I directly supervised the airborne geophysical work as described in this report.

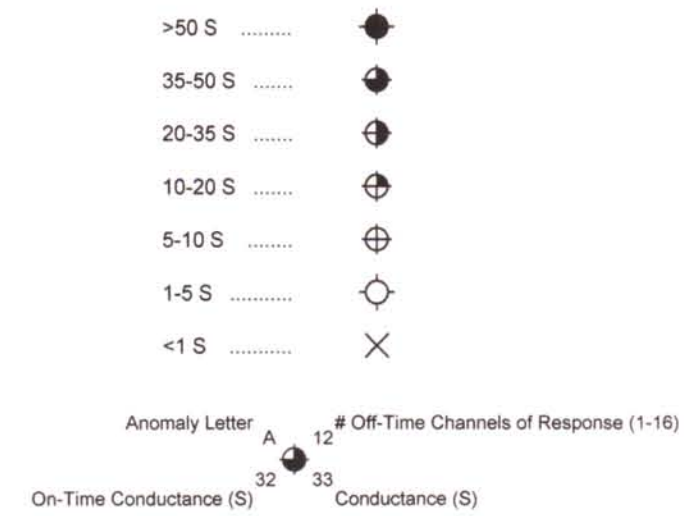


Grid North
NAD83-UTM Zone 17

The topographic base was derived from the 1:20,000 OBM Digital Topographic Data Base
This map accompanies the technical report entitled 'Report on a Helicopter-Borne
Magnetic and Electromagnetic Survey' by Aeroquest Limited, January/2005.



AEROTEM Off-time Conductance Symbols:



SURVEY SPECIFICATIONS:

Survey flown: January 7, 2005
Traverse line spacing: 75 metres
Traverse line direction: N-S
Nominal EM bird height: 30 metres
Aircraft: Aerospatiale AStar 350BA (C-GVDE)

INSTRUMENTATION:

Data acquisition: ProtoDAS & RMS DGR-33
Magnetometer: Geometrics G-823A cesium vapour
Installation: Towed bird 21 m above EM bird
Resolution: .001 nanoTesla
Electromagnetics: AEROTEM IIC System
Configuration: Towed bird

NAVIGATION:

Navigation: Global Positioning System (DGPS)
Navigation equipment: Trimble AgGPS132
Radar Altimeter: Terra TRA3000/TRI-30

DATA PROCESSING

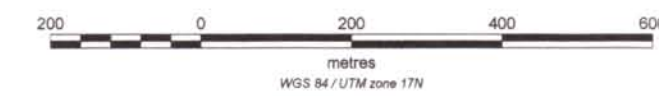
Magnetics: Diurnal and microlevelling applied
EM smoothing: Non-linear and Low Pass

POSITIONING

Ellipsoid: NAD83
Major Axis: 6378137.000
Eccentricity: 0.081819191
Projection: Universal Transverse Mercator
Central Meridian: 81°W (Zone 17)
Central Scale Factor: 0.9996
False Easting/Northing: 500,000m/0m

Contour interval: 5, 25 & 100 nT

scale 1:10,000



Tres-Or Resources Ltd.
Temagami North Project, New Liskeard Area, Ontario

TOTAL MAGNETIC INTENSITY
Round Lake Block

NTS 41P/16

Survey flown by:

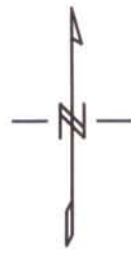


4-845 Main St East
Milton, Ont., CANADA L9T 3Z3
Tel: (905) 693-9129 Fax: (905) 693-9128
www.aeroquestsurveys.com

2.32737

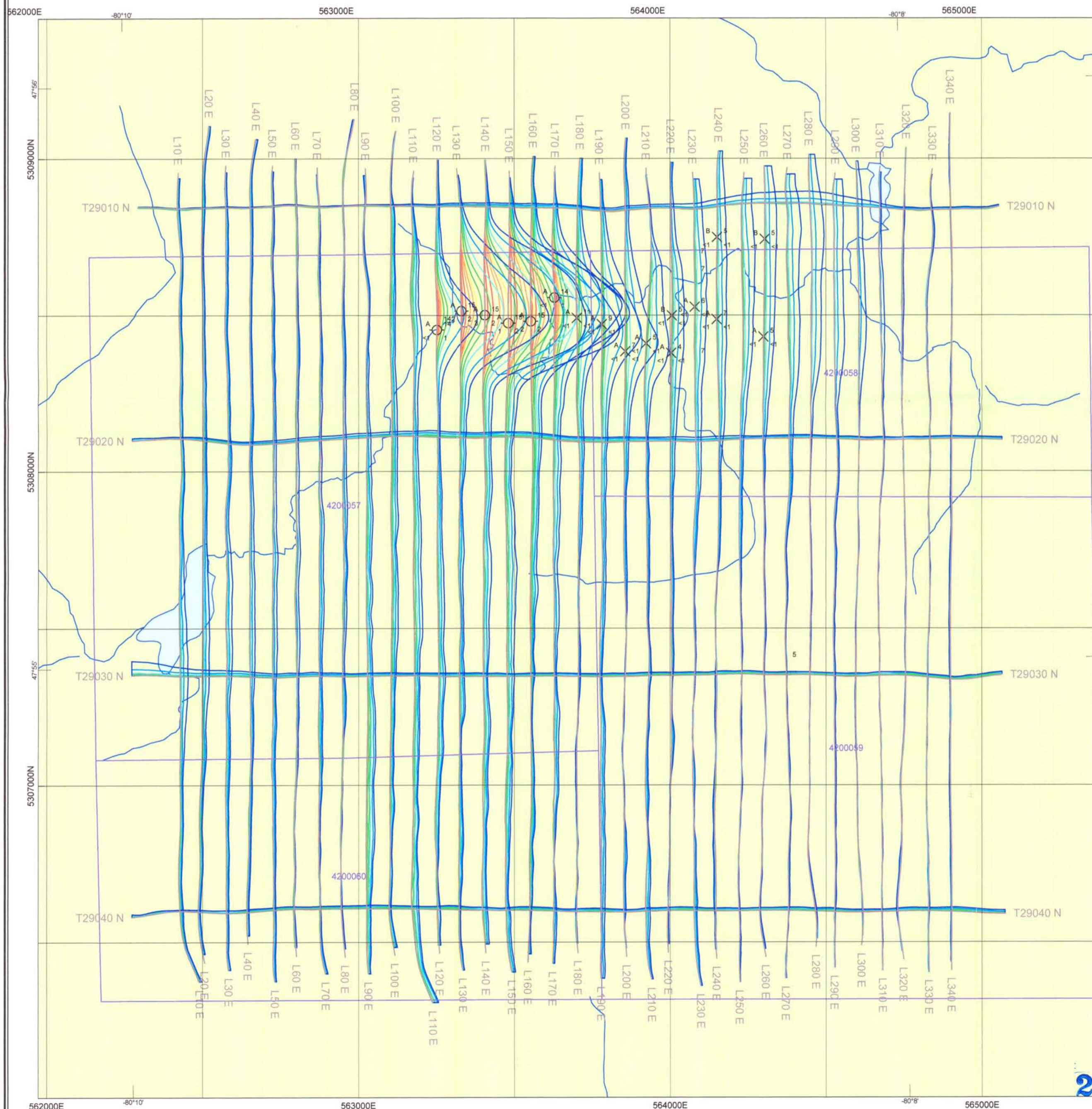
January, 2005

Plate 1



Grid North
NAD83-UTM Zone 17

The topographic base was derived from the 1:20,000 OBM Digital Topographic Data Base
This map accompanies the technical report entitled 'Report on a Helicopter-Borne
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AeroTEM Profiles
positive excursion to top and right, 1mm=10 nT/sec

- Z1 Off-Time Channel
- Z3 Off-Time Channel
- Z5 Off-Time Channel
- Z7 Off-Time Channel
- Z9 Off-Time Channel
- Z11 Off-Time Channel
- Z13 Off-Time Channel
- Z15 Off-Time Channel

AEROTEM Off-Time Conductance Symbols:

- >50 S ●
- 35-50 S ●
- 20-35 S ●
- 10-20 S ⊕
- 5-10 S ⊕
- 1-5 S ⊕
- <1 S ×

Anomaly Letter A 12 # Off-Time Channels of Response (1-16)
32 33
On-Time Conductance (S) Off-Time Conductance (S)

SURVEY SPECIFICATIONS:

Survey flown: January 7, 2005
Traverse line spacing: 75 metres
Traverse line direction: N-S
Nominal EM bird height: 30 metres
Aircraft: Aerospaciale AStar 350BA (C-GVDE)

INSTRUMENTATION:

Data acquisition: ProtoDAS & RMS DGR-33
Magnetometer: Geometrics G-823A cesium vapour
Installation: Towed bird 21 m above EM bird
Resolution: .001 nanoTesla
Electromagnetics: AEROTEM IIC System
Configuration: Towed bird

NAVIGATION:

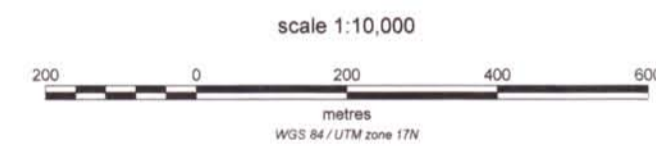
Navigation: Global Positioning System (DGPS)
Navigation equipment: Trimble AgGPS132
Radar Altimeter: Terra TRA3000/TRI-10

DATA PROCESSING

Magnetics: Diurnal and microlevelling applied
EM smoothing: Non-linear and Low Pass

POSITIONING

Ellipsoid: NAD83
Major Axis: 6378137.000
Eccentricity: 0.081819191
Projection: Universal Transverse Mercator
Central Meridian: 81°W (Zone 17)
Central Scale Factor: 0.9996
False Easting/Northing: 500,000m/0m



Tres-Or Resources Ltd.
Temagami North Project, New Liskeard Area, Ontario

AEROTEM OFF-TIME PROFILES

Round Lake Block

NTS 41P/16

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January, 2005

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