GEOPHYSICAL REPORT
For
PACIFIC NORTH WEST CAPITAL CORP.
On The
TIMMINS WEST PROJECT
BELFORD, MONTCALM, WATSON TOWNSHIPS
PORCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO

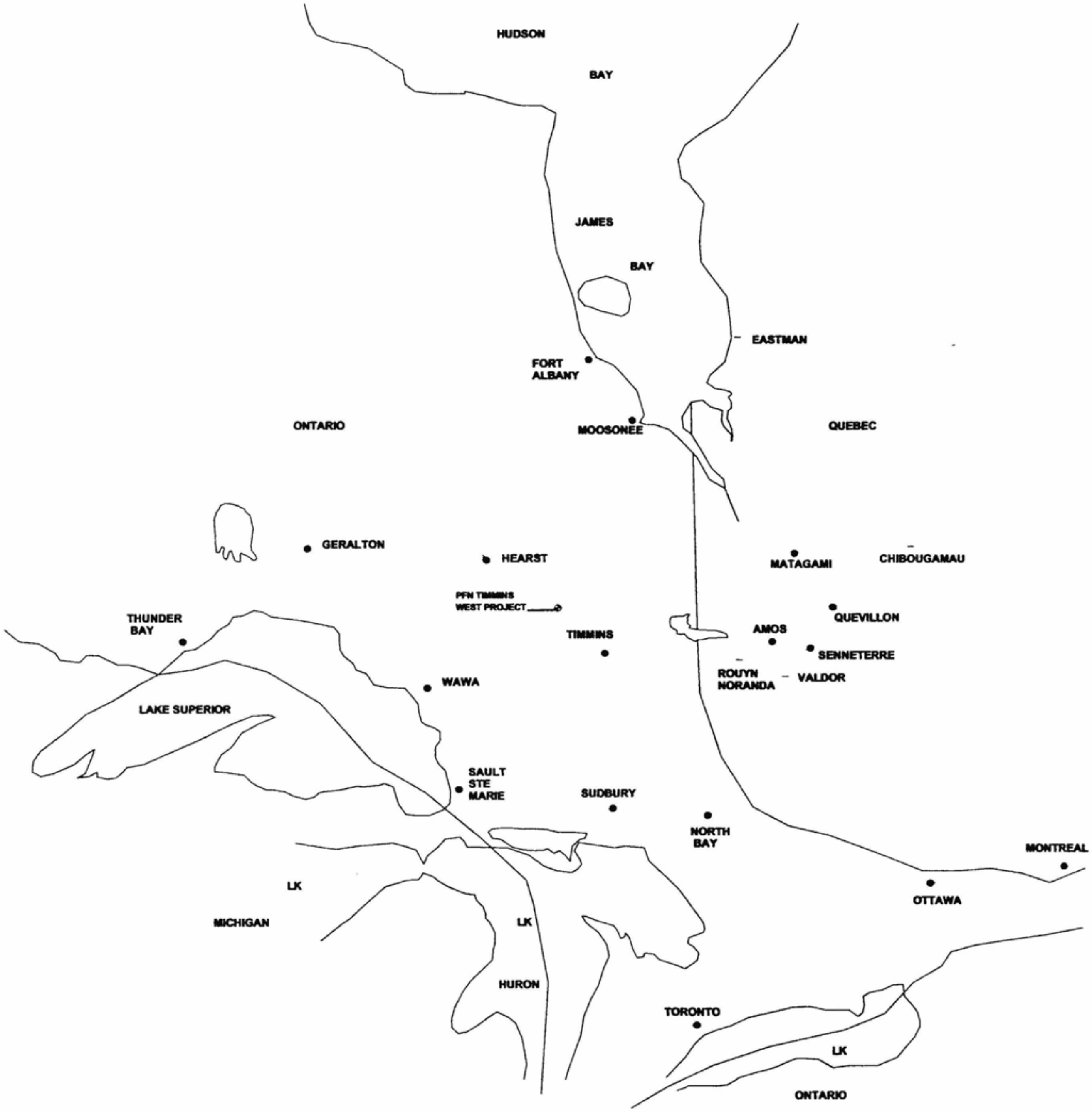
RECEIVED
NOV 23 2005
GEOSCIENCE ASSESSMENT OFFICE

2.30938

Prepared by: J.C.Grant, CET, FGAC
NOVEMBER, 2005

GEOLOGICAL ASSOCIATION OF CANADA
JOHN GRANT
FELLOW

TABLE OF CONTENTS



N

EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424

CLIENT: PACIFIC NORTH WEST CAPITAL CORP.

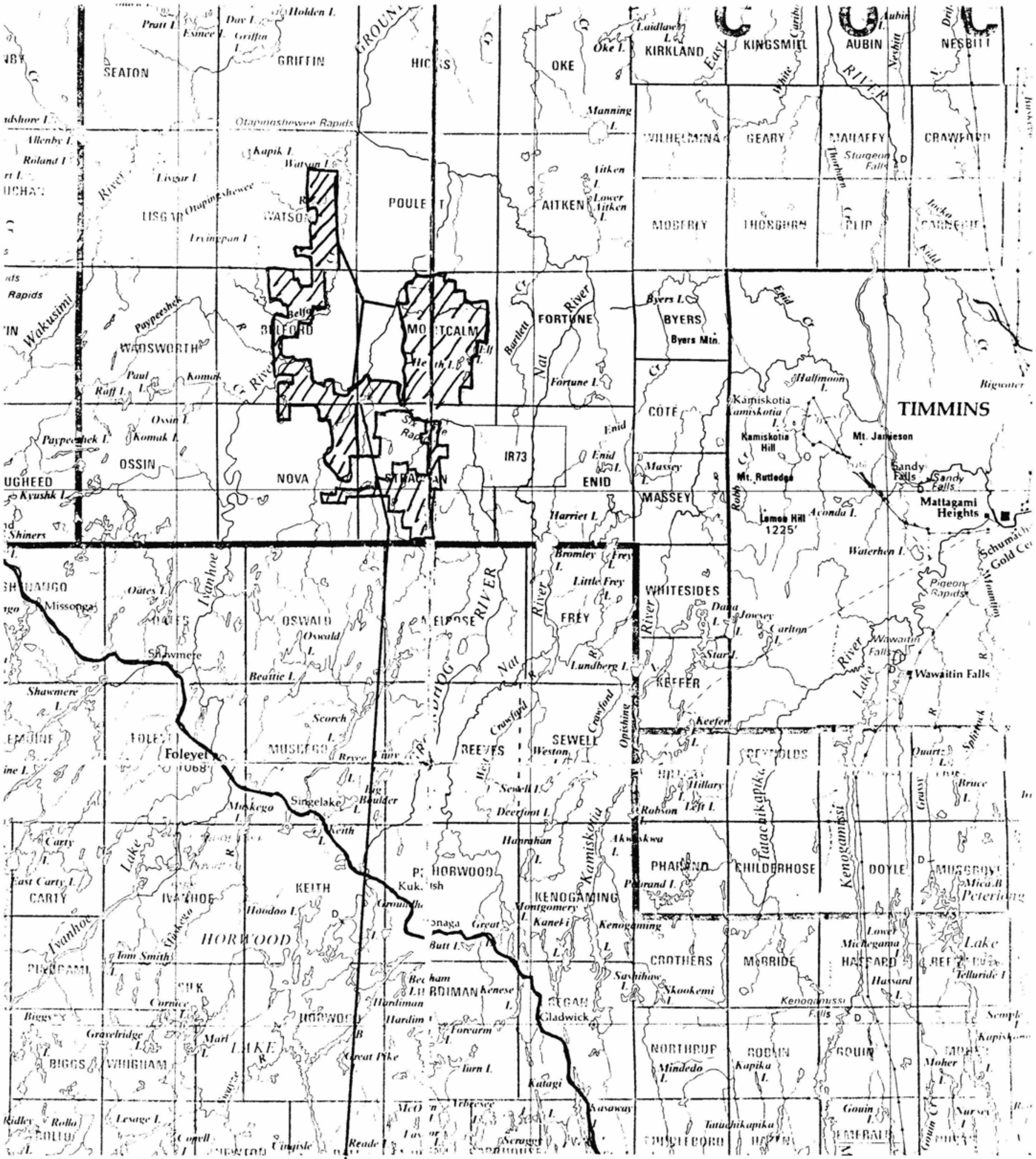
PROPERTY: MONTCALM WEST PROJECT

TITLE:

LOCATION MAP

Fig. 1

Date: Nov./05	Scale: 1"=125miles	NTS:
Drawn: J.C.Grant	Interp: J.C.Grant	Job No.: 490



N

EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424

CLIENT: PACIFIC NORTH WEST CAPITAL CORP.

PROPERTY: MONTCALM WEST PROJECT

TITLE:

PROPERTY LOCATION MAP

Fig. 2

Date: Nov./05	Scale: 1:600,000	NTS:
Drawn: J.C.Grant	Interp: J.C.Grant	Job No.: 490

INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. John Londry, on behalf of the Company, Pacific North West Capital Corp, to complete a detailed ground geophysical program on the Timmins West Property, which is located in Belford, Montcalm and Watson Townships of the Porcupine Mining Division of Northeastern Ontario.

The purpose of this ground program was to locate and outline a number of airborne Electromagnetic conductors that had been noted on a recent airborne survey undertaken by the Company earlier in the year. The intent was to locate the conductors through a series of 8 grids that had been laid out by the Company over the best responses with the intent of defining new base metal horizons that would lend themselves to the possibility of larger and more economical deposits. The Montcalm nickel-copper deposit is situated in the northeast section of Montcalm Township

The ground program commenced on the first week of ~~April~~ May, 2005, with the commencement of the line cutting, which was followed up about 6 weeks later with a detailed total field magnetic survey and a Horizontal Loop electromagnetic, (HLEM) survey.

In all, a total of 131.50 kilometers of grid lines were cut across a total of 8 separate grids that were scattered across the above mentioned three townships and represent a portion of the Timmins West property. All of the grid lines were covered by the surveys.

PROPERTY LOCATION AND ACCESS:

The Timmins West Property covers a number of Townships situated approximately 80 kilometers northwest of the City of Timmins. These Townships are Griffin, Watson, Belford, Nova, Montcalm , Strachan and Melrose, all of which are within the Porcupine Mining Division of Northeastern, Ontario.

Grid 6 is situated in Watson, Grids 7, 2 and 1 are located in Belford and Grids 3, 4 and 5 are located in Montcalm Township.

Access to the grids during the survey period was relatively easy with the exception of grid 7. Highway 101 travels west from Timmins for 15 kilometers where it crosses the mouth of a good all weather gravel road that is locally called the Montcalm mine road or the main logging road. This gravel road runs north to northwest off of 101 and provides good access to the Montcalm Mine site as well as a number of other townships in the area. This road also provides access to Kapuskasing by way of a number of good gravel roads that cut off of the main road. Grid 6 was the farthest grid removed from Timmins and generally requires approximately 2.5 hours to reach it by vehicle. The remainder of the grids are generally 1.5 to 2 hours from Timmins. Grid 7 was accessible by helicopter to a pad on the north end of the baseline which was cut previously to allow for the cutting crew and the geophysical crew. Flying time from Timmins to the grid was about 20 minutes, one way.

Refer to figures 1 and 2 for the project area in relation to Timmins.

CLAIM BLOCK:

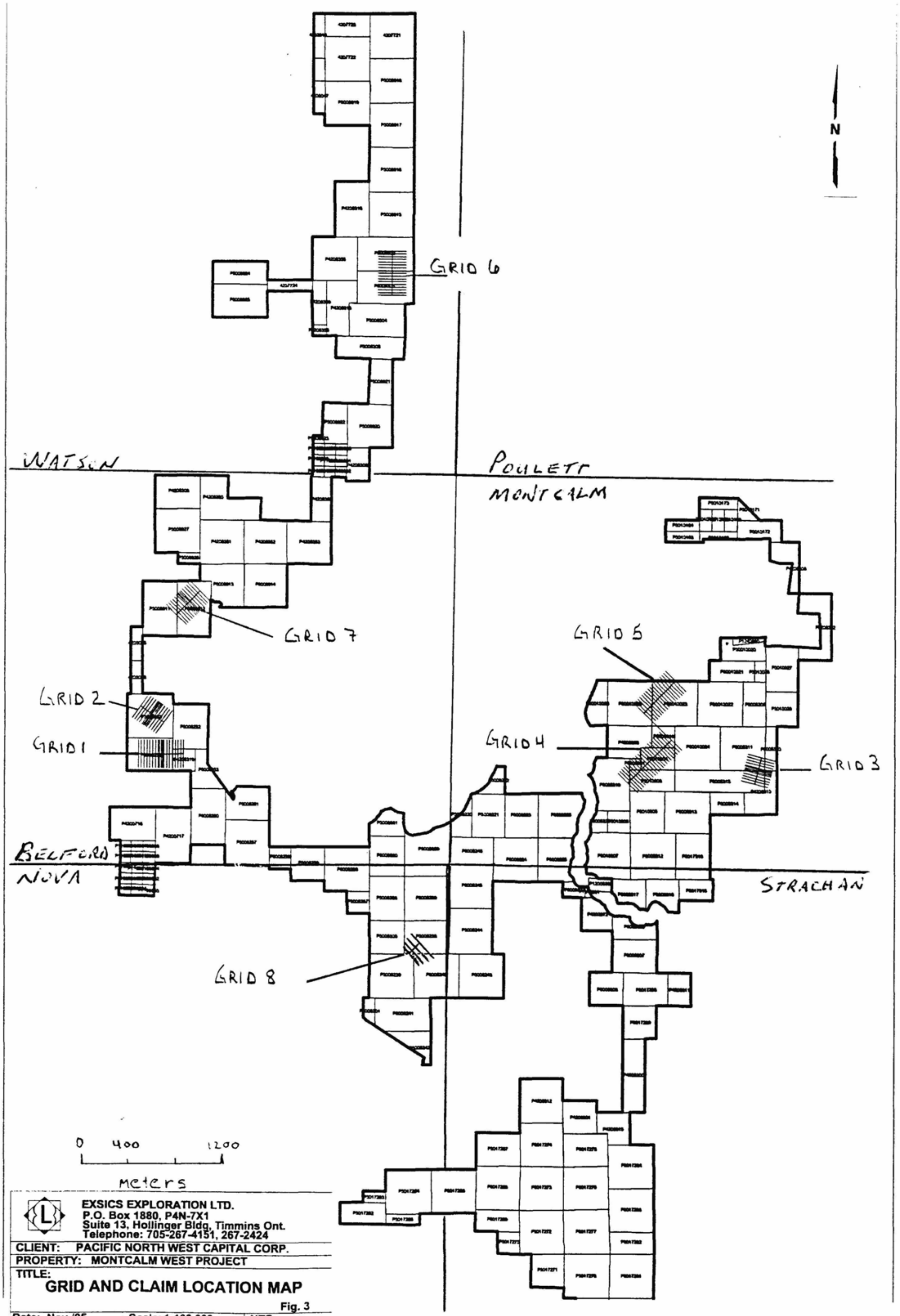
The claim numbers that represent the portion of the property that was covered by this current ground program are as follows.

Belford Twp, (G-1042)			Montcalm Twp, (G-1182)			Watson Twp,(M-1178)		
Grid 1:	3006252	12 Units	Grid 3:	3005310	4 Units	Grid 6:	3006302	15 Units
							3006303	15 Units
	3006251	12 Units		3005311	16 Units			
	4206319	4 Units		3005315	16 Units			
				4206310	8 Units			
Grid 2:	3006250	16 Units	Grid 4:	3005318	4 Units			
				3005319	15 Units			
Grid 7:	3008911	15 Units		3005321	1 Unit			
	3008912	15 Units		3010803	8 Units			
				3010804	6 units			
				30010024	16 Units			
				4203855	11 Units			
			Grid 5:	30010025	16 Units			
				30010023	16 Units			

Refer to Figure 3 of this report, which was copied from MNDM Plan Maps of Belford, Montcalm and Watson Townships for the positioning of the claims within the townships.

Nova Twp

3006238	12 Units
3006239	16 Units
3006240	16 Units



EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424

CLIENT: PACIFIC NORTH WEST CAPITAL CORP.

PROPERTY: MONTCALM WEST PROJECT

TITLE:

GRID AND CLAIM LOCATION MAP

Fig. 3

Date: Nov./05	Scale: 1:100,000	NTS:
Drawn: J.C.Grant	Interp: J.C.Grant	Job No.: 490

PERSONNEL:

The field crew directly responsible for the collection of all of the raw field data was as follows.

E. Jaakkola	Timmins, Ontario
J. Grant	Timmins, Ontario
C. Grant	Timmins, Ontario
E. Huisson	Timmins, Ontario
S. Lessard	Timmins, Ontario
R. Bradshaw	Timmins, Ontario
D. Collins	Timmins, Ontario

The entire program was completed under the direct supervision of J.C.Grant and all of the plotting; compilation, interpretation and reports were completed by in-house staff.

GROUND PROGRAM:

The ground program was completed in two stages. The first stage was to cut detailed metric grids across each of the eight grids. The start point of the base lines for each of the eight grids was initially spotted by field personnel employed by Pacific North West Capital. Each point was flagged and then their co-ordinates were given to the line cutting crew. All of the grids were then cut according to specific grid orientations, which was usually 100 meter spaced lines that were turned off perpendicular to the base lines. In some case, the grids had 50 meter spaced lines over possible airborne target areas for better definition of conductive zones. All of the cut lines were chained with 25 meter station intervals.

Once the line cutting was completed, Exsics then commenced a total field magnetic survey, which was done in conjunction with an HLEM survey.

The magnetic survey was completed over all of the cut lines for each of the eight grids. The survey was completed using the Scintrex Envi Mag system for both the base station unit and the field unit. Specifications for the system can be found as Appendix A of this report. The following parameters were kept constant throughout the survey period.

MAGNETIC SURVEY:

Line spacing	100 meters
Station spacing	25 meters
Reading interval	12.5 meters
Reference field	57,500 nT
Datum subtracted	57,000 nT
Diurnal monitoring	Base station recorder
Base station record interval	30 seconds
Contour interval	25 gammas

Upon the completion of the magnetic survey, the raw data was merged with the base station data, corrected and then had a background of 57000 nT removed from this corrected data for ease in plotting purposes only. This corrected and leveled data was then plotted onto a base map at a scale of 1:2500 and then contoured at 25 gamma intervals wherever possible. A copy of this contoured base map is included with this report.

The HLEM survey was completed on all of the cross lines using the Apex Parametrics MaxMin II system. Specifications for this unit can be found as Appendix B of this report. The following parameters were kept constant throughout the survey period.

HLEM SURVEY:

Line spacing	100 meters
Station spacing	25 meters
Reading intervals	25 meters
Coil separation	150 meters/200 meters
Theoretical search depth	75 meters/125 meters
Frequencies recorded	1777Hz, 444Hz and 222 Hz frequencies
Parameters measured	In-phase and quadrature components of the Secondary field

Upon the completion of the surveys, the collected data for each frequency was then plotted onto individual base map at a scale of 1:2500 and then profiled at 1 cm to +/- 10 and or 20 percent.

Any and all conductive zones were then placed on these base maps. A copy of each profiled map is included in the back pocket of this report.

SURVEY RESULTS:

GRID 1:

This grid consisted of a detailed metric grid that was cut off of a baseline established by the line cutting crews. The baseline was cut at 090 degrees from line 0 to and including 1600ME. All of the cross lines were at 100 meter intervals except for lines 750 and 850ME which were turned off at 50 meter intervals. All of the cross lines were chained from 500MS to 500MN resulting in a total of 20.6 kilometers for the grid.

The ground surveys were successful in locating and outlining a good magnetic high trend that appears to emanate from a more massive and broad magnetic high along the base line on the eastern edge of the grid. The northern limb of this magnetic high unit is host to the strong HLEM conductor that was traced across the grid from line 400ME to and including 1600ME and continues off of the grid to the east.

The zone has a depth range of 38 to 60 meters with a conductivity range of 16 to 70 mhos. The conductor appears to be near vertical to slightly north dipping. The strongest portion of the zone lies between 750ME and 1200ME. Offsets in the strike of the zone may be due to minor faulting and or shearing along the conductor axis.

In fact, there may be a more predominant cross structure running northwest southeast across the western tip of the magnetic zone between lines 0 and 300ME. This may be due to a fault zone. The cross feature has a possible dike like zone paralleling it to the east. This is represented by a series of small magnetic highs.

GRID 2:

This grid consisted of 14.0 kilometer of lines that were turned off perpendicular to a baseline cut at 310 degrees from line 0 to and including 1000MW. The cross lines were turned off at 100 meter intervals from line 0 to 1000MW with the exception of line 450 and 550MW that were turned off at 50 meter intervals. All of these cross lines were chained with 25 meter picket intervals from 500MS to 500MN.

The surveys were successful in locating and outlining one good conductive zone and one weak zone. The weak zone strikes across lines 600MW and 550MW at 25MN and lies at the west edge of a broad magnetic high unit.

The stronger bedrock conductor strikes across lines 500MW to and including 200MW at 112 to 150MS and is directly associated with the broad magnetic high unit across the same area.

This zone is a t a depth range of 40 to 67 meters and has good conductivity of 4 to 18 mhos, going from east to west. The zone also appears to dip near vertical to slightly grid north.

GRID 3:

This grid consisted of 13.5 kilometers of grid lines which were turned off of a baseline initially cut at 015 degrees. The cross lines were turned off perpendicular to the baseline at 100 meter intervals from line 0 to and including 1000MN with the exception of lines 450 and 550MN which were turned off at 50 meter intervals. All of the cross lines were then chained with 25 meter picket intervals form 500ME to 500MW or until they encountered a lake.

The initial survey completed on this grid was done with a 150 meter coil separation for the HLEM survey along with a detailed total field magnetic survey. The grid is covered by a sand esker which is quite evident in the topographical characteristics of the grid. The HLEM survey did not return any significant conductive zone across the detailed section of the grid.

The magnetic survey outlined a very strong magnetic structure situated at the baseline between lines 300MN and 700MN and may extend as far as line 800MN just to the west of the baseline. This magnetic unit may represent an ultramafic flow unit and as should have been detected in the HLEM survey. The lack of EM response over this magnetic target was probably due to the depth of the overlying esker and the maximum depth penetration of the HLEM's 150 meter coil separation. Therefore, it was decided to try a larger coil separation to better define the magnetic target.

Lines 450MN and 500MN were reread with a 200 meter coil separation and a moderate conductor with a conductivity value of 25 mhos and at a depth of 120 meters was located at the baseline which correlated directly with the magnetic high unit. This zone appears to be near vertical to slightly grid west dipping.

GRID 4:

This grid consisted of a total of 25.5 kilometers of cut lines that were turned off of a baseline initially cut at 225 degrees. Cross lines were then cut perpendicular to the baseline at 100 meter intervals from line 0 to and including line 2200MW. All of the cross lines were then chained at 25 meter picket intervals from 500MS to 500MN.

The magnetic survey was successful in outlining several magnetic high structures striking east across the grid. The first such high of about 900 gammas above the background was noted striking into the grid from line 200MW/500MN to line 1500MW/350MN. This high also hosts a weak HLEM conductor across most of it's strike length.

This isolated mag high is parallel to a much longer, stronger and broader magnetic unit that strikes west to east from line 2000MW/150MN to 1300MW/225MS where it then strikes northeast to line 800MW/350MS and may extend as far as line 400MW at 350MS. This unit is about 1200 gammas above the background.

Initially, the HLEM survey outlined several weak questionable conductive zones under a possible conductive overburden layering. This conductive layering can be seen by observing the spread in readings between the in phase and quadrature values. The larger the spread the more conductive the overburden layering.

Several grid lines from #4 were reread using a 200 meter coil separation for better depth penetration. Lines 400MW, 500MW, 1000MW, 1100MW, 1600MW and 1700MW were done to better define the weak conductors as well as to cross several strong magnetic high units.

A conductor outlined by the 200 meter HLEM survey is situated between lines 1000MW and 1100MW at 12.5 meters south which lies to the immediate south of the isolated magnetic high unit and the zone has a magnetic low association suggesting a possible contact zone.

Another conductive zone was noted striking across lines 1600 and 1700MW at 25 to 37MS. This zone correlates directly with the strong, broad magnetic high unit that runs across the grid. Interpretation put this zone at a depth of 60 meters and with a moderate conductivity of 5 to 7 mhos.

A northern zone on these two same lines lies along the southern flank of the isolated mag high in the same area.

A good isolated mag high between lines 500MW and 700MW at 150MN is host to a conductive zone between 112 and 125MN which lies along the southern flank of the high suggesting a possible contact and or shear zone.

GRID 5:

Grid 5 lies to the northeast of Grid 4 and consists of 19 kilometers of grid lines that were turned off of a baseline cut at 045 degrees. Cross lines were then turned off of this baseline at 90 degrees at 100 meter intervals from line 0 to 1600MN. All of these cross lines were then cut and chained with 25 meter picket intervals from 900MW to 1900MW.

The magnetic survey outlined several areas of high magnetic activity the most predominant feature represented by a broad magnetic high of 1500 to 2000 gammas above the general background that covers the eastern sections of lines 500MN to 1050MN. This may suggest that the underlying geology is comprised of ultramafics. There are no apparent EM conductors within this magnetic high.

The magnetics also outlined two parallel mag highs , one between lines 200MN and 600MN at 1500MW to 1400MW and another between lines 300MN to 800MN at 1600MW to 1400MW. These two highs, in turn, appear to have been cross cut on their southern tips by a north-south striking mag high unit which may be a dike like structure.

The HLEM survey also noted at least 4 or 5 conductive zones across the grid. The first strikes from 1600MN to 1400MN at 1050MW and appears to be near vertical to slightly west dipping. It lies within a moderate magnetic low area.

A second zone lies across lines 1300MN to 1100MN at 1225MW that also dips slightly to the west and may be a continuation of the first zone. This conductor strikes into the north flank of the broad magnetic high covering the ends of lines 500MN to 1050MN.

A third zone strikes across lines 1500MN to 1000MN from 1425MW to 1600MW and may extend to line 800MN on the south side of the flooded area. The zone correlates to the south edge of a magnetic high unit striking northeast-southwest across the west ends of lines 1600MN to 800MN.

A fourth zone lies between line 400MN and 200MN at 1650MW and may be part of the third zone. It appears to dip slightly to the west and appears to strike southward away from the same magnetic high that zone 3 is associated with.

The last zone strikes from 600MN to 500MN but may extend as far as 300MN from 1300MW to 1350MW. It appears to be near vertical in dip and correlates with a mag high striking northeast-southwest across lines 600MN to 100MN at 1400MW to 1500MW.

All of the HLEM zones appear, for the most part, to correlate to either the edges of the mag highs or the magnetic lows situated between the mag highs. This may suggest the zones are either contact and shear zones.

Most of the HLEM responses were weak and therefore it was decided to reread several of the grid lines with the 200 meter coil separation. These were lines 1200MN, 1100MN, 600MN and 500MN.

Weak conductors were noted on lines 1100MN and 1200MN at 1200MW and 1525 to 1550MW that correlate to known zones from the 150 meter cable.

Another zone on line 600MN at 1275MW was interpreted to be at a depth of 80 meters and with a moderate conductivity of 5 mhos. This zone appears to dip near vertical. A second zone at 1300MW to 1350MW was also noted striking across lines 600MN and 500MN.

GRID 6:

Grid 6 consisted of 18.6 kilometers of grid lines that were turned off of a baseline cut at 360 degrees. Cross lines were turned off of this baseline at 90 degrees in 100 meter intervals from line 0 to line 1600MN and then cut and chained with 25 meter pickets from 500ME to 500MW.

The HLEM survey did not return any conductive zones across the cut grid. The only suggestion from the survey is that the grid is underlain by extremely conductive overburden, possibly heavy varve clays.

Two lines, 900MN and 1000MN were reread with the 200 meter cable and they also returned no significant conductors.

As a final test, two lines were read with a moving coil pulse electromagnetic survey which would provide a deeper penetration and a wider frequency range. Lines 1200MN and 1300MN were read to test for conductors at depth as well as to check an MMI copper anomaly situated on the west side of the baseline. This survey did not return any significant results.

GRID 7:

This was the only grid of 8 that had to be accessed by helicopter. A pad was cut on line 1100MN at the baseline to accommodate the line cutting crew and the geophysical crew. This grid consisted of 18.6 kilometers of grid lines that were turned off of a baseline cut at 45 degrees. The cross lines were turned off at 100 meter intervals from line 0 to 1200MN with the exception of lines 550Mn and 650MN that were cut at 50 meter intervals. All of the cross lines were cut and chained with 25 meter pickets from 500ME to 500MW. Two tie lines were also cut at 500ME and 500MW to control the cross lines. Line 1200MN was not read with the HLEM survey due to flooding of the creek.

The HLEM survey was successful in locating and outlining two bedrock conductors across the grid. These zones have been labeled Zones A and B.

Zone A is a well-defined bedrock conductor striking northeast to southwest from line 550MN to 1100MN and continues off of the grid to the northeast. The zone is at a depth range of 36 to 60 meters and has a conductivity range of 4 to 21 mhos. This zone appears to follow the northern flank of the main magnetic high unit that strikes northeast-southwest across the eastern section of the grid.

Zone B is also a well-defined bedrock conductor striking across lines 550MN to 300MN at 200 to 275ME. This zone ranges in depth from 50 to 72 meters and has a conductivity range of 18 to 28 mhos. This zone lies along the northern flank of the same magnetic high as A. The southern tip of this magnetic high appears to have been cut off or terminated by a northwest striking magnetic high trend.

The magnetic survey also noted a moderate magnetic high paralleling just to the west of the baseline and crossing lines 100MN to 800MN. Two moderate and parallel highs were also noted striking first across lines 1100MN to 700Mn and continues off of the grid to the southwest and a second zone from 1100MN to 1200MN that continues off of the grid to the northeast. Neither of these two features responded to the HLEM survey.

GRID 8:

This grid consisted of 3.5 kilometers of grid lines that were turned off of a baseline cut at 45 degrees. Cross lines were turned off of this base line at 100 meter intervals form line 0 to line 300MN and cut from 400ME to 400MW.

The HLEM survey outlined a moderate conductive zone striking across lines 100MN to 300MN from 50MW to 125MW and it continues off of the grid to the northeast. The zone is a depth of 25 to 30 meters with a modest conductivity of 5 mhos and it dips near vertical.

The entire zone lies within a good magnetic high unit that is about 4000 to 5000 gammas above the background which may suggest that the zone relates to an iron rich formation.

CONCLUSIONS AND RECOMMENDATIONS:

Generally, the ground program was successful in locating and outlining a number of conductive horizons and or magnetic high zones across the grids. Certainly, Grids 1, 2, 3, 4, 5, 7 and 8 should be followed up further with both diamond drilling and an MMI survey. The MMI survey would enhance any and all weak and or strong conductive horizons as well as possibly explain any of the magnetic high zones.

At this writing, Grid 3 would be considered a priority target due mainly to it's magnetic signature and it's close proximity to the Montcalm deposit. Grid 1, 2, 4, 5, 7 and 8 would also be considered as prime drill targets at this writing based on their magnetic structures, HLEM responses and any and all follow-up data obtained through detailed mapping and or MMI surveys that were carried out during the ground survey program.

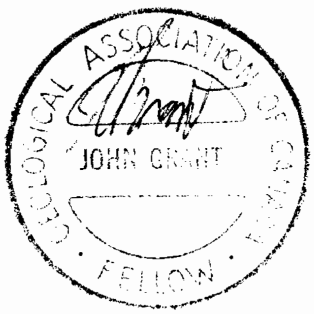
Grid 6 is the only Grid that did not return any encouraging results, but it does have a string of airborne targets that have not been ground located by the current survey method. This grid is the furthest removed from the Minesite area and a decision to drill the magnetic and or airborne targets should considered before snow fall makes it expensive to reach due to the amount of plowing required to reach the site from the mine.

This grid may require a deeper penetrating EM survey which would have better luck in penetrating the high conductive overburden layering. Visually the road that provides access to the grid and cross cuts the western section of the grid is generally covered by very wet clay material. The baseline generally represents the lowest and wettest portion of the grid with the eastern portion coming up onto higher ground and the western section generally being covered by a heavy clay rich soil.

Grid 7 would also be a better zone to drill during the winter months due to creeks and swamps that would have to be crossed to reach the area.

Further drilling and or follow-up surveys would be based on the results of the drilling program

Respectfully submitted:



J. C. Grant, CET, FGAC
November, 2005

CERTIFICATION

I, John Charles Grant, of 108 Kay Crescent, in the City of Timmins, Province of Ontario, hereby certify that:

1). I am a graduate of Cambrian College of Applied Arts and Technology, 1975, Sudbury Ontario Campus, with an Honors Diploma in Geological and Geophysical Technology.

2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years), and currently as Exploration Manager and Geophysicist for Exsics Exploration Limited, since 1980.

3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984

4). I am a Fellow of the Geological Association of Canada, (FGAC), since 1986.

5). I have been actively engaged in my profession since the 15^{th} of May of 1975, in all aspects of ground exploration programs, including the planning and execution of field programs, project supervision, data compilation, interpretations and reports.

6). I have no specific or special interest in the herein described property. I have been retained by the property holders and or their Agent as a Geophysical Consultant and Contract Manager.

John Charles Grant, CET., FGAC.

APPENDIX A

SCINTREX

ENVI-MAG Environmental Magnetometer/Gradiometer

Locating Buried Drums and Tanks?

The ENVI-MAG is the solution to this environmental problem. ENVI-MAG is an inexpensive, lightweight, portable "WALKMAG" which enables you to survey large areas quickly and accurately.

ENVI-MAG is a portable, proton precession magnetometer and/or gradiometer, for geotechnical, archaeological and environmental applications where high production, fast count rate and high sensitivity are required. It may also be used for other applications, such as mineral exploration, and may be configured as a total-field magnetometer, a vertical gradiometer or as a base station.

The ENVI-MAG

- easily detects buried drums to depths of 10 feet or more
- more sensitive to the steel of a buried drum than EM or radar
- much less expensive than EM or radar
- survey productivity much higher than with EM or radar

Main features include:

- select sampling rates as fast as 2 times per second
- "WALKMAG" mode for rapid acquisition of data
- large internal, expandable memory
- easy to read, large LCD screen displays data both numerically and graphically
- ENVIMAP software for processing and mapping data

ENVI-MAG comprises several basic modules; a lightweight console with a large screen alphanumeric display and high capacity memory, a staff mounted sensor and sensor cable, rechargeable battery and battery charger, RS-232 cable and ENVIMAP processing and mapping software.

For gradiometry applications an upgrade kit is available, comprising an additional processor module for installation in the console, and a second sensor with a staff extender.

ENVI-MAG Proton Magnetometer in operation

For base station applications a Base Station Accessory Kit is available so that the sensor and staff may be converted into a base station sensor.

Features and Benefits

"WALKMAG" Magnetometer/Gradiometer

The "WALKMAG" mode of operation (sometimes known as "Walking Mag") is user-selectable from the keyboard. In this mode, data is acquired and recorded at the rate of 2 readings per second as the operator walks at a steady pace along a line. At desired intervals, the operator "triggers" an event marker by a single key stroke, assigning coordinates to the recorded data.

True Simultaneous Gradiometer

An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

Selectable Sampling Rates

0.5 second, 1 second and 2 second reading rates user selectable from the keyboard.

Large-Key Keypad

The large-key keypad allows easy access for gloved-hands in cold-weather operations. Each key has a multi-purpose function.

Front panel of ENVI-MAG showing a graphic profile of data and large-key keypad

Large Capacity Memory

ENVI-MAG with standard memory stores up to 28,000 readings of total field measurements, 21,000 readings of gradiometry data or 151,000 readings as a base station. An expanded memory option is available which increases this standard capacity by a factor of 5.

Easy Review of Data

For quality of data and for a rapid analysis of the magnetic characteristics of the survey line, several modes of review are possible. These include the measurements at the last four stations, the ability to scroll through any or all previous readings in memory, and a graphic display of the previous data as profiles, line by line. This feature is very useful for environmental and archaeological surveys.

Highly Productive

The "WALKMAG" mode of operation acquires data rapidly at close station intervals, ensuring high-definition results. This increases survey productivity by a factor of 5 when compared to a conventional magnetometer survey.

"Datacheck" Quality Control of Data

"Datacheck" provides a feature wherein at the end of each survey line, data may be reviewed as a profile on ENVI-MAG's screen. Datacheck confirms that the instrument is functioning correctly and allows the user to note the magnetic relief (anomaly) on the line.

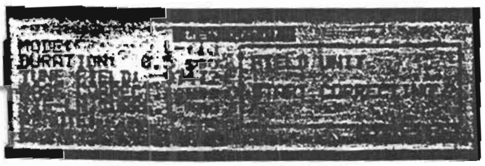
Large Screen Display

"Super-Twist" 64 x 240 dot (8 lines x 40 characters), LCD graphic screen provides good visibility in all light conditions. A display heater is optionally available for low-temperature operations below 0°C.

Close-up of the ENVI-MAG screen showing data presented after each reading

Interactive Menus

The set-up of ENVI-MAG is menu-driven, and minimizes the operator's learning time, and on-going tasks.



Close-up of display of ENVI-MAG showing interactive set-up menu

Rechargeable Battery and Battery Charger

An "off-the-shelf" lead-acid battery and charger are provided as standard. The low-cost "Camcorder" type battery is available from electronic parts distributors everywhere.

HELP-Line Available

Purchasers of ENVI-MAG are provided with a HELP-Line telephone number to call in the event assistance is needed with an application or instrumentation problem.

ENVIMAP Processing and Mapping Software

Supplied with ENVI-MAG, and custom designed for this purpose, is easy-to-use, very user-friendly, menu driven data processing and mapping software called ENVIMAP. This unique software appears to the user to be a single program, but is in fact a sequence of separate programs, each performing a specific task. Under the menu system, there are separate programs to do the following:

a) read the ENVI-MAG data and reformat it into a standard compatible with the ENVIMAP software
b) grid the data into a standard grid format
c) create a vector file of posted values with line and baseline identification that allows the user to add some title information and build a suitable surround
d) contour the gridded data
e) autoscale the combined results of the posting/surround step and the contouring step to fit on a standard 8.5 ins. wide dot-matrix printer
f) rasterize and output the results of step e) to the printer

ENVIMAP is designed to be as simple as possible. The user is required to answer a few basic questions asked by ENVIMAP, and then simply toggles "GO" to let ENVIMAP provide default parameters for the making of the contour map. The user can modify certain characteristics of the output plot. ENVIMAP'S menu system is both keyboard and mouse operable. HELP screens are integrated with the menu system so that HELP is displayed whenever the user requests it.

Options Available

- True simultaneous gradiometer upgrade
- Base station upgrade
- Display heater for low temperature operations
- External battery pouch

Specifications

Total Field Operating Range
20,000 to 100,000 nT (gammas)

Total Field Absolute Accuracy
+/- 1nT

Sensitivity
0.1 nT at 2 second sampling rate

Tuning
Fully solid state. Manual or automatic, keyboard selectable

Cycling (Reading) Rates
0.5, 1 or 2 seconds, up to 9999 seconds for base station applications, keyboard selectable

Gradiometer Option
Includes a second sensor, 20 inch (½m) staff extender and processor module

"WALKMAG" Mode
.5 second for walking surveys, variable rates for hilly terrain

Digital Display
LCD "Super Twist", 240 x 64 dots graphics, 8 line x 40 characters alphanumerics

Display Heater
Thermostatically controlled, for cold weather operations

Keyboard Input
17 keys, dual function, membrane type

Notebook Function
32 characters, 5 user-defined MACRO's for quick entry

Standard Memory

Total Field Measurements:	28,000 readings
Gradiometer Measurements:	21,000 readings
Base Station Measurements:	151,000 readings

Expanded Memory

Total Field Measurements:	140,000 readings
Gradiometer Measurements:	109,000 readings
Base Station Measurements:	750,000 readings

Real-Time Clock
Records full date, hours, minutes and seconds with 1 second resolution, +/- 1 second stability over 12 hours

Digital Data Output
RS-232C interface, 600 to 57,600 Baud, 7 or 8 data bits, 1 start, 1 stop bit, no parity format. Selectable carriage return delay (0-999 ms) to accommodate slow peripherals. Handshaking is done by X-on/X-off

Analog Output
0 - 999 mV full scale output voltage with keyboard selectable range of 1, 10, 100, 1,000 or 10,000 nT full scale

Power Supply
Rechargeable "Camcorder" type, 2.3 Ah, Lead-acid battery.

12 Volts at 0.65 Amp for magnetometer, 1.2 Amp for gradiometer,

External 12 Volt input for base station operations

Optional external battery pouch for cold weather operations

Battery Charger
110 Volt - 230 Volt, 50/60 Hz

Operating Temperature Range
Standard 0° to 60°C
Optional -40°C to 60°C

Dimensions
Console - 10 x 6 x 2.25 inches (250 mm x 152 mm x 55 mm)
T.F. sensor - 2.75 inches dia. x 7 inches (70 mm x 175 mm)
Grad. sensor and staff extender - 2.75 inches dia. x 26.5 inches (70 mm x 675 mm)
T.F. staff - 1 inch dia. x 76 inches (25 mm x 2 m)

Weight
Console - 5.4 lbs (2.45 kg) with rechargeable battery
T. F. sensor - 2.2 lbs (1.15 kg)
Grad. sensor - 2.5 lbs (1.15 kg)
Staff - 1.75 lbs (0.8 kg)

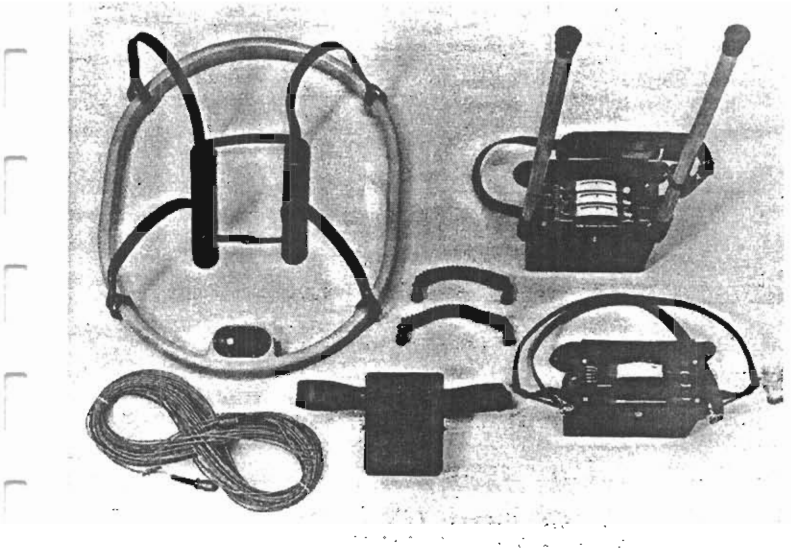
SCINTREX

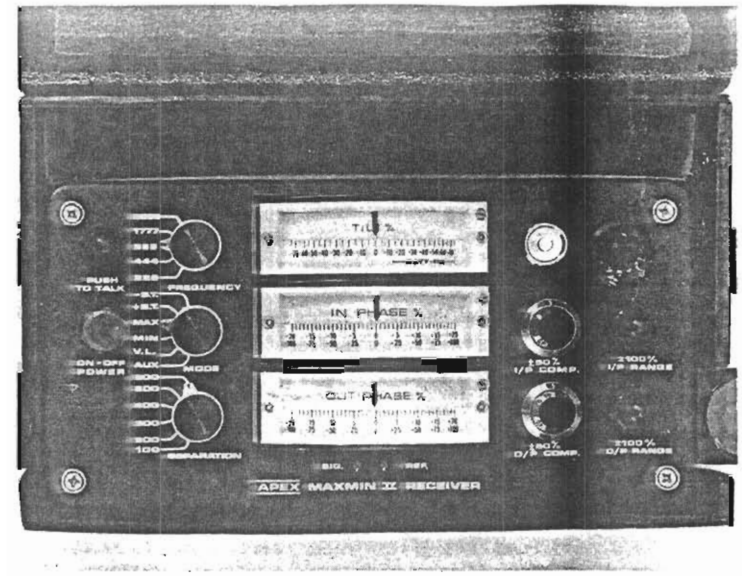
Head Office
222 Snidercroft Road
Concord, Ontario, Canada L4K 1B5
Telephone: (905) 669-2280
Fax: (905) 669-6403 or 669-5132
Telex: 06-964570

In the USA:
Scintrex Inc.
85 River Rock Drive
Unit 202
Buffalo, NY 14207
Telephone: (716) 298-1219
Fax: (716) 298-1317

APEX MAXMIN II PORTABLE EM

- Five frequencies: 222, 444, 888, 1777 and 3555 Hz.
- Maximum coupled (horizontal-loop) operation with reference cable.
- Minimum coupled operation with reference cable.
- Vertical-loop operation without reference cable.
- Coil separations: 25, 50, 100, 150, 200 and 250 m (with cable) or 100, 200, 300, 400, 600 and 800 ft.
- Reliable data from depths of up to 180 m (600 ft).
- Built-in voice communication circuitry with cable.
- Tilt meters to control coil orientation.





SPECIFICATIONS :

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation

- MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer.cable.
- MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
- V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250m (MMII) or 100, 200, 300, 400, 600 and 800 ft. (MMIIF). Coil separations in V.L.mode not restricted to fixed values.

Parameters Read:

- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:

- Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90mm edgewise meters in V.L.mode.

Scale Ranges:

In-Phase: ±20%, ±100% by push-button switch.
Quadrature: ±20%, ±100% by push-button switch.
Tilt: ±75% slope.
Null (V.L.): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25% to 0.5%; Tilt: 1%.

Repeatability: ±0.25% to ±1% normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:

- 222Hz : 220 Atm²
- 444Hz : 200 Atm²
- 888Hz : 120 Atm²
- 1777Hz : 60 Atm²
- 3555Hz : 30 Atm²

Receiver Batteries: 9V trans. radio type batteries (4). Life: approx. 35hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: 12V 6Ah Gel-type rechargeable battery. (Charger supplied)

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range. -40°C to +60°C (-40°F to +140°F)

Receiver Weight: 6kg (13 lbs.)

Transmitter Weight: 13kg (29 lbs.)

Shipping Weight. Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases

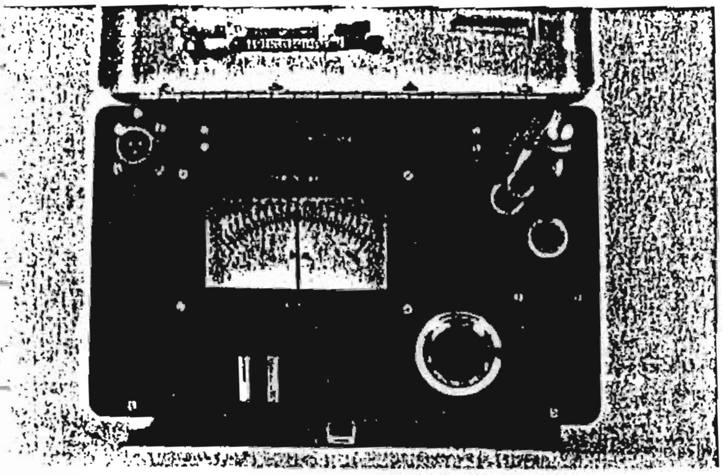
Specifications subject to change without notification

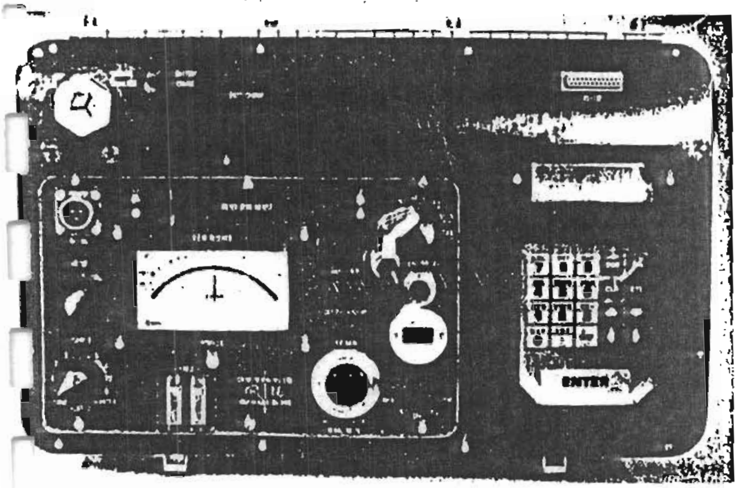
APEX PARAMETRICS LIMITED
200 STEELCASE RD. E., MARKHAM, ONT., CANADA, L3R 1G2

Phone: (416) 495-1612 Cables: APEXPARA TORONTO Telex: 06-966773 NORDVIK TOR

APPENDIX B

CRONE GEOPHYSICS LIMITED
PEM RECEIVER





Proven Reliability & Flexibility

- In use since 1973.
- Compatible with surface and borehole systems.
- Can be used in a fixed or moving source operating mode.
- Discriminates targets in areas of surficial conductivity.
- Operates under adverse environmental conditions (desert, arctic, jungle).

Optional Datalogger Receiver

- A/D convertor for digital storage
- Memory capacity for 140 stations DEEPEM or 280 readings Borehole
- LCD good to −50°C
- Filtered readings in areas of spheric and powerline noise

- Instrument Sales, Rental and Repair Services
- Contract Survey Services
- Consulting Services
- Computer Plotting and Processing Services

HEAD OFFICE: 3607 Wolfedale Rd.
MISSISSAUGA, Ontario
CANADA L5C 1V8
PHONE: (416) 270-0096
TELEX: 06-961260

SPECIFICATIONS*

1. STANDARD RECEIVER

BATTERY SUPPLY:
±12 VDC, two internal, rechargeable, 12V gel type batteries

MEASURED QUANTITIES:
Primary shut-off voltage pulse (PP). Time derivative of the transient magnetic field by integrative sampling over eight, contiguous time gates (microseconds).

CH. NO.	WINDOW	WIDTH	MID PT.	REL. GAIN	WINDOW	WIDTH	MID PT.
PP	-100 to 0	100	-50	1.00	-200 to 0	200	-100
1	100 to 200	100	150	1.00	200 to 400	200	300
2	200 to 400	200	300	1.39	400 to 800	400	600
3	400 to 700	300	550	1.93	800 to 1400	600	1100
4	700 to 1100	400	900	2.68	1400 to 2200	800	1800
5	1100 to 1800	700	1450	3.73	2200 to 3600	1400	2900
6	1800 to 3000	1200	2400	5.18	3600 to 6000	2400	4800
7	3000 to 5000	2000	4000	7.20	6000 to 10K	4000	8000
8	5000 to 7800	2800	6400	10.00	10K to 15.6K	5600	12.8K
	10.8ms. Time Base				21.6ms. Time Base		

READOUT:
Readings are output on an analog meter (6V FSD), over three sensitivity ranges (X1, X10, X100). Data retrieval made by channel select switch.

TIMING:
A telemetry link ("sync.") is maintained by radio signal, or a back-up cable, between the transmitter and the receiver, and is meter monitored.

SENSITIVITY:
Adjustable through a ten turn, calibrated gain pot.

SAMPLING MODES:
"S & H" (Sample & Hold)
The receiver averages 512 (10.8 ms), or 256 (21.6ms), readings for all channels, and stores the results for display.
"CONT" (Continuous)
A running average for all channels is stored, enabling the operator to reject thunderstorm spikes and power line noise by visual inspection.

OPERATING TEMPERATURE RANGE:
-40°C - 50°C (-40°F - 122°F)

DIMENSIONS: 28cm x 18cm x 27cm (11" x 7" x 10½")

SHIPPING DIMENSIONS: 37cm x 27cm x 35cm (14½" x 10½" x 14")

WEIGHT: 7kg (16lb)

SHIPPING WEIGHT: 14.5kg (32lb)

2. OPTIONAL DATALOGGER RECEIVER

— Uses above receiver in conjunction with Omnidata Polycorder.®
— Data is A/D converted and stored in 32k memory.
— RS-232C serial interface allows for connection to modem.
— Continual monitoring of readings through LCD.
— Spheric and powerline rejection through software filter.
— Operating temp range from -40°C - 50°C (-40°F - 122°F)

WEIGHT: 14.5kg (32lb)

SHIPPING WEIGHT: 21.8kg (48lb)

DIMENSIONS: 22cm x 28cm x 46cm (8¾" x 11" x 18")

SHIPPING DIMENSIONS: 35cm x 30cm x 53cm (14" x 11¾" x 21")

* Specifications subject to change without notice.