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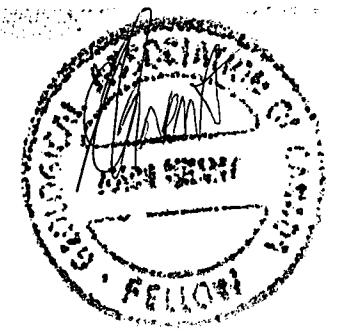
DUPLICATE

GEOPHYSICAL REPORT
For
GOLDEN CHALICE RESOURCES INC.
ON THE
TOTAL FIELD MAGNETIC AND VLF-EM SURVEYS
PENHORWWOD PROPERTY
PENHORWOOD TOWNSHIP
PORCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO

Prepared by: J.C.Grant, CET, FGAC
February 2010



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INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. K. Montgomery, on behalf of the Company, Golden Chalice Resources Inc., to complete a detailed ground geophysical program on the Penhorwood Property, which is located in the northeast portion of Penhorwood Township of the Porcupine Mining Division of Northeastern Ontario.

The purpose of this ground program was to follow up on an initial ground program completed in the fall of 2009 that was completed across a portion of the grid that had returned elevated gold values from a soil sampling program. This recent program consisted of expanding the original grid to the east and west to define and outline favorable horizons that would lend themselves to the possibility of larger and more economical gold deposits.

The ground program commenced on the last week of December 2009 with the commencement of the additional line cutting. This was followed up in late January 2010 with a total field magnetic survey that was completed in conjunction with a VLF-EM survey and later with a Time Domain IP survey using the pole-dipole array.

In all, a total of 26.5 kilometers of new cutting was added to the existing 8.5 kilometers for a total of 34.0 kilometers of grid lines that were cut across the property. Lines 700ME to 1300ME of the original cutting has been covered an IP survey to date. The remaining cross lines are currently being covered by the IP program and those results will be incorporated into this report once the survey is completed.

PROPERTY LOCATION AND ACCESS:

The Penhorwood property is situated in the northeast section of the Township, which is part of the Porcupine Mining Division. More specifically, the property is situated approximately 2.1 kilometers to the northeast of Steepe Lake that is the southern most lake of a chain of lakes that lie to the immediate southwest of the grid area. The main Kenogaming limber road cuts across the grid area in a northeast to southwest direction. Refer to Figures 1 and 2. The entire property is located approximately 60 kilometers southwest of the City of Timmins.

Access to the grid during the survey period was ideal. Highway 101 travels west from Timmins and crosses the north end of a good logging road locally called the Kenogaming lumber road. This gravel road travels south and southwest through Penhorwood and crosses the northern section of the grid area.

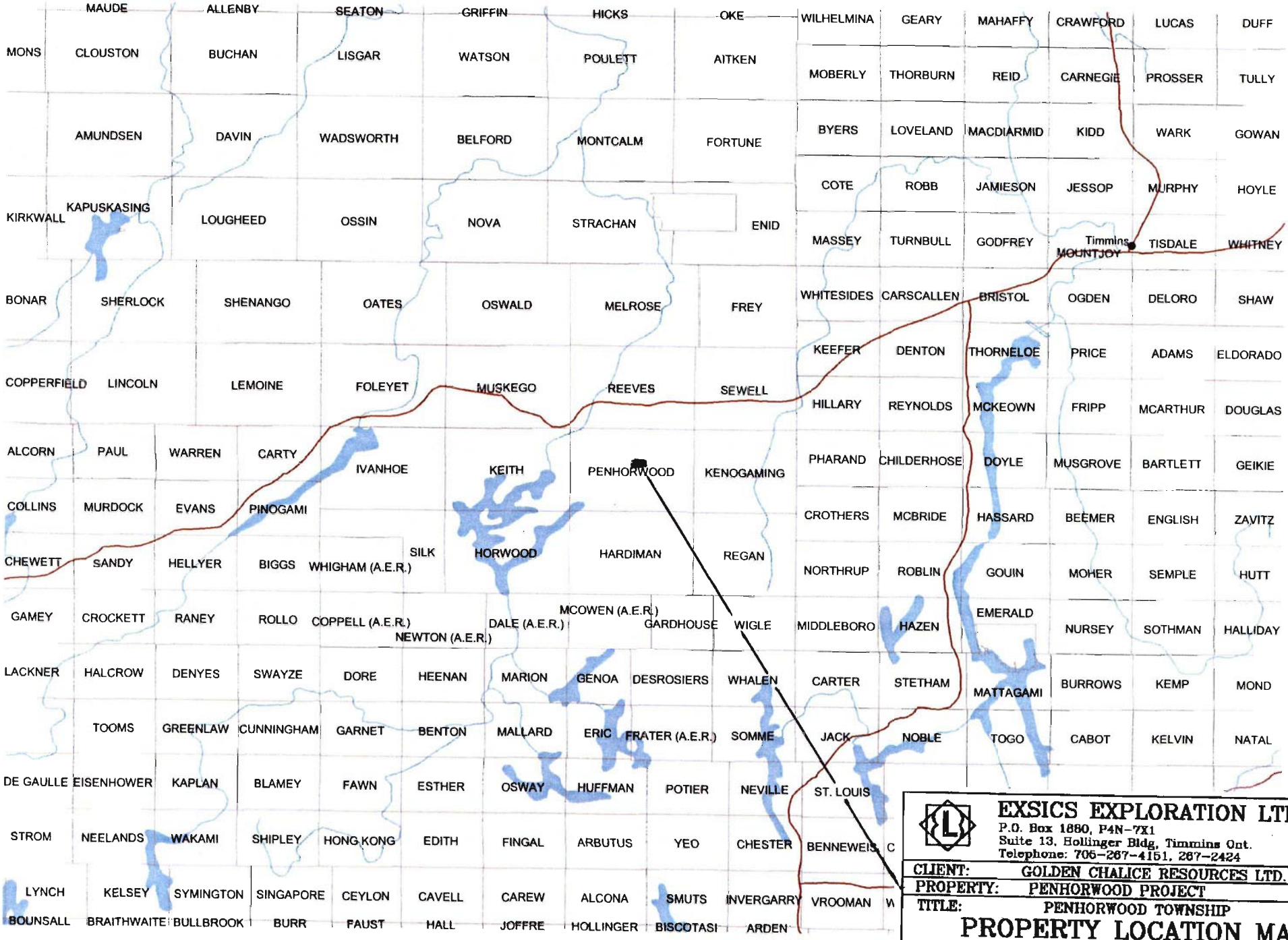
EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424

CLIENT:	GOLDEN CHALICE RESOURCES LTD.
PROPERTY:	PENHORWOOD PROJECT
TITLE:	PENHORWOOD TOWNSHIP

LOCATION MAP

Fig. 1

Date: FEB.10	Scale:1:600,000	NTS:
Drawn:J.C.Grant	Interp: J.C.Grant	Job No.: E-686



NAD 83
5 degree grid

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PROPERTY LOCATION MAP

Fig. 2

Date: FEB.10	Scale:1:200,000	NTS:
Drawn:J.C.Grant	Interp: J.C.Grant	Job No.: E-686

CLAIM BLOCK:

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

4207034,	16 units
4207036,	16 units
4207037,	10 units
4207042,	16 units
4207043,	16 units
4207044	16 units

Refer to Figure 3 of this report that was copied from MNDM Plan Map G-3244 of Penhorwood Township for the positioning of the claims within the Township.

PERSONNEL:

The field crew directly responsible for the collection of all of the raw magnetic and VLF-EM field data was as follows.

J. Francoeur	Timmins, Ontario,
R. Bradshaw	Timmins, Ontario,

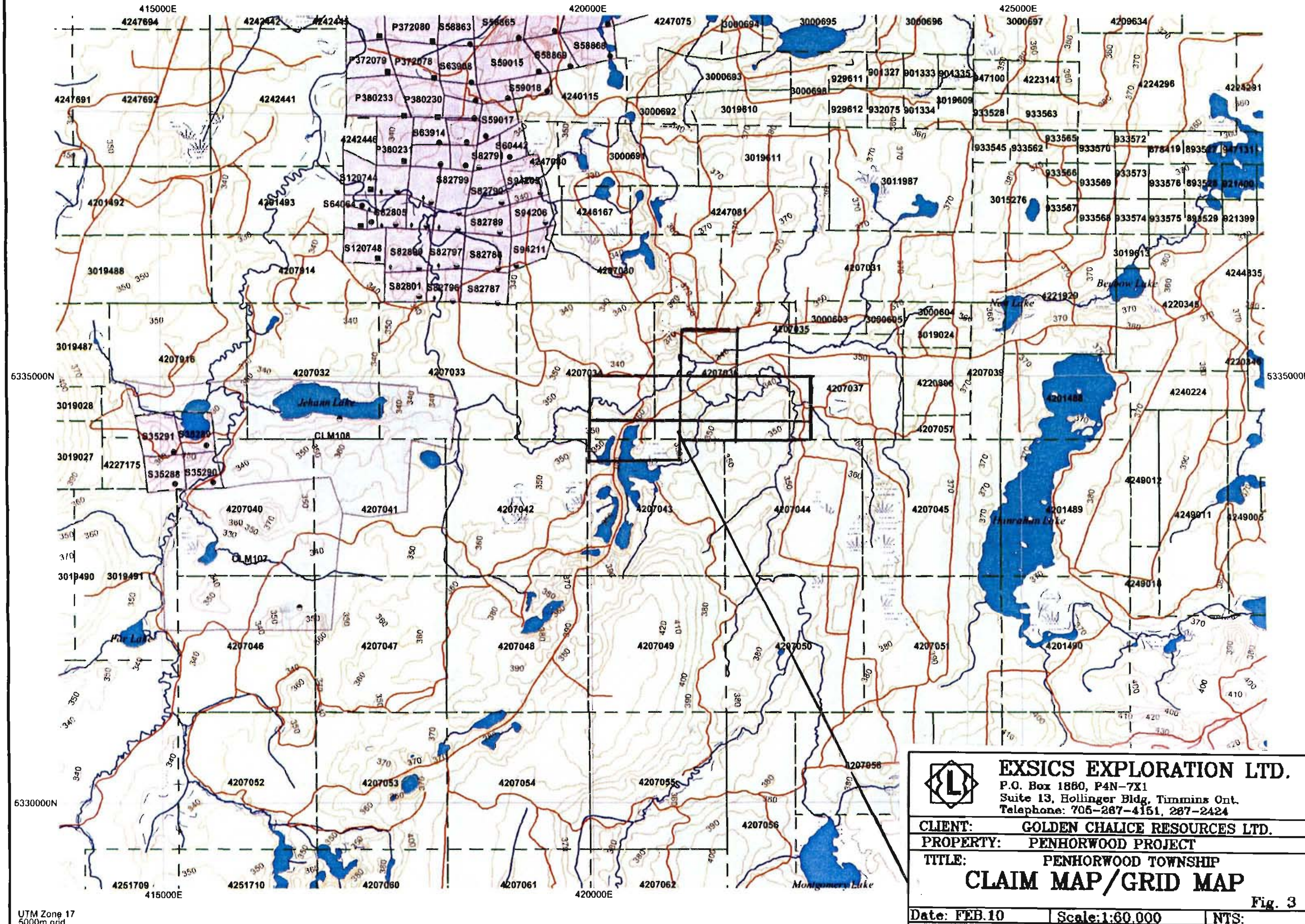
The entire program was completed under the direct supervision of J.C.Grant and all of the plotting, compilation, interpretation and reports were completed by in-house staff.

GROUND PROGRAM:

The ground program was completed in two stages. The first stage was to cut a detailed metric grid across the claim block.

The grid consisted of a series of east-west lines that were spaced 100 meters apart. These lines were turned off of a base line that was first cut across the grid at an azimuth of 090 degrees from a point that had been established by the client. This base line was cut and chained with 25 meter station intervals from line 0+00ME to and including 2700ME. All of the cross lines were also chained with 25 meter station intervals from 500MN to and including 500MS. Lines 700ME to 1100ME were cut from 500MS to 750MN and lines 1200ME to 1800ME were cut from 500MS to 1000MN. Line 2500ME was not cut due to the direction of the Nat River that cuts across the same area in a north to south direction.

Once the line cutting was completed, Exsics then commenced a Total field magnetic survey that was done in conjunction with a VLF-EM survey.



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PROPERTY:	PENHORWOOD PROJECT
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CLAIM MAP/GRID MAP

Fig. 3

Date: FEB.10	Scale:1:60,000	NTS:
Drawn:J.C.Grant	Interp: J.C.Grant	Job No.: E-686

LANGMUIR	4201284	2005-Nov-01	2010-Nov-01	A	100 %	$ 4,800	$ 14,400	$ 0	$ 0
LANGMUIR	4201289	2005-Nov-01	2010-Nov-01	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
LANGMUIR	4201290	2005-Nov-01	2010-Nov-01	A	100 %	$ 1,600	$ 4,800	$ 0	$ 0
LANGMUIR	4202744	2005-Jun-06	2011-Jun-06	A	100 %	$ 800	$ 3,200	$ 0	$ 0
LANGMUIR	4202748	2005-Jul-18	2014-Jul-18	A	100 %	$ 4,400	$ 30,800	$ 3,418	$ 0
LANGMUIR	4202814	2005-Jun-06	2011-Jun-06	A	100 %	$ 400	$ 1,600	$ 0	$ 0
LANGMUIR	4202815	2005-Jun-06	2011-Jun-06	A	100 %	$ 1,600	$ 6,400	$ 0	$ 0
LANGMUIR	4202816	2005-Jun-06	2011-Jun-06	A	100 %	$ 3,200	$ 12,800	$ 0	$ 0
LANGMUIR	4203498	2005-Jul-18	2014-Jul-18	A	100 %	$ 3,200	$ 22,400	$ 1,271,081	$ 0
LANGMUIR	4203563	2005-Feb-08	2011-Feb-08	A	100 %	$ 4,000	$ 16,000	$ 0	$ 0
LANGMUIR	4203564	2005-Feb-08	2011-Feb-08	A	100 %	$ 6,000	$ 24,000	$ 0	$ 0
LANGMUIR	4203567	2005-Feb-08	2011-Feb-08	A	100 %	$ 6,400	$ 25,600	$ 0	$ 0
LANGMUIR	4203568	2005-Feb-08	2011-Feb-08	A	100 %	$ 3,200	$ 12,800	$ 0	$ 0
LANGMUIR	4203569	2005-Feb-08	2011-Feb-08	A	100 %	$ 3,200	$ 12,800	$ 0	$ 0
LANGMUIR	4203570	2005-Feb-08	2011-Feb-08	A	100 %	$ 400	$ 1,600	$ 102,723	$ 0
LANGMUIR	4203571	2005-Feb-08	2011-Feb-08	A	100 %	$ 6,400	$ 25,600	$ 109,054	$ 0
LANGMUIR	4207038	2005-Jul-18	2011-Jul-18	A	100 %	$ 1,600	$ 6,400	$ 54,983	$ 0
LANGMUIR	4220197	2007-May-22	2010-May-22	A	100 %	$ 1,200	$ 1,200	$ 0	$ 0
LANGMUIR	4220210	2007-May-22	2011-May-22	A	100 %	$ 4,800	$ 9,600	$ 0	$ 0
LOVELAND	4224270	2008-Jan-07	2010-Sep-07	A	100 %	$ 4,000	$ 0	$ 0	$ 0
LOVELAND	4224271	2008-Jan-07	2010-Sep-07	A	100 %	$ 2,400	$ 0	$ 0	$ 0
LOVELAND	4224272	2008-Jan-07	2010-Sep-07	A	100 %	$ 4,000	$ 0	$ 0	$ 0
LOVELAND	4224273	2008-Jan-07	2010-Sep-07	A	100 %	$ 2,400	$ 0	$ 0	$ 0
MACDIARMID	4223960	2007-Jun-21	2010-Jun-21	A	100 %	$ 4,800	$ 4,800	$ 0	$ 0
MACDIARMID	4223961	2007-Jun-21	2010-Jun-21	A	100 %	$ 3,600	$ 3,600	$ 0	$ 0
MACDIARMID	4223962	2007-Jun-21	2010-Jun-21	A	100 %	$ 4,000	$ 4,000	$ 0	$ 0
MACDIARMID	4223963	2007-Jun-21	2010-Jun-21	A	100 %	$ 4,800	$ 4,800	$ 0	$ 0
MACDIARMID	4223964	2007-Jun-21	2010-Jun-21	A	100 %	$ 6,400	$ 6,400	$ 0	$ 0
MACDIARMID	4223965	2007-Jun-21	2010-Jun-21	A	100 %	$ 4,400	$ 4,400	$ 0	$ 0
MACDIARMID	4223966	2007-Jun-21	2010-Jun-21	A	100 %	$ 4,800	$ 4,800	$ 0	$ 0
MACDIARMID	4223969	2007-Jun-21	2010-Jun-21	A	100 %	$ 3,600	$ 3,600	$ 1,710	$ 0
MACKLEM	4220218	2007-May-22	2011-May-22	A	100 %	$ 6,000	$ 12,000	$ 0	$ 0
PENHORWOOD	3000603	2003-Oct-15	2010-Oct-15	A	100 %	$ 800	$ 4,000	$ 0	$ 0
PENHORWOOD	3000604	2003-Oct-15	2010-Oct-15	A	100 %	$ 800	$ 4,000	$ 0	$ 0
PENHORWOOD	3000605	2004-Jan-02	2011-Jan-02	A	100 %	$ 400	$ 2,000	$ 0	$ 0
PENHORWOOD	3019024	2006-Apr-24	2010-Apr-24	A	100 %	$ 800	$ 1,600	$ 0	$ 0
PENHORWOOD	3019487	2007-Nov-19	2010-Nov-19	A	100 %	$ 4,000	$ 4,000	$ 0	$ 0
PENHORWOOD	3019488	2007-Dec-18	2010-Dec-18	A	100 %	$ 6,400	$ 6,400	$ 0	$ 0
PENHORWOOD	3019490	2007-Dec-18	2010-Dec-18	A	100 %	$ 6,000	$ 6,000	$ 0	$ 0
PENHORWOOD	3019491	2007-Nov-19	2009-Nov-19	A	100 %	$ 1,230	$ 4,770	$ 0	$ 0
PENHORWOOD	4201492	2006-Mar-23	2010-Mar-23	A	100 %	$ 6,400	$ 12,800	$ 0	$ 0
PENHORWOOD	4201493	2006-Mar-23	2010-Mar-23	A	100 %	$ 3,200	$ 6,400	$ 0	$ 0
PENHORWOOD	4207030	2005-Jun-07	2010-Jun-07	A	100 %	$ 4,800	$ 14,400	$ 0	$ 0
PENHORWOOD	4207032	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207033	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207034	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 3,458	$ 0
PENHORWOOD	4207035	2005-Jun-07	2010-Jun-07	A	100 %	$ 400	$ 1,200	$ 0	$ 0

PENHORWOOD	4207036	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 1,526	$ 0
PENHORWOOD	4207037	2005-Jun-07	2010-Jun-07	A	100 %	$ 4,000	$ 12,000	$ 2,880	$ 0
PENHORWOOD	4207040	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,000	$ 18,000	$ 0	$ 0
PENHORWOOD	4207041	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207042	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207043	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 1,426	$ 0
PENHORWOOD	4207044	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207046	2005-Jun-07	2009-Nov-25	A	100 %	$ 2,727	$ 16,473	$ 0	$ 0
PENHORWOOD	4207047	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207048	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207049	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207050	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207052	2005-Jun-07	2011-Jun-07	A	100 %	$ 6,400	$ 25,600	$ 0	$ 0
PENHORWOOD	4207053	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207054	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207055	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207056	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207057	2005-Jun-07	2010-Jun-07	A	100 %	$ 400	$ 1,200	$ 0	$ 0
PENHORWOOD	4207058	2005-Jun-07	2010-Jun-07	A	100 %	$ 4,800	$ 14,400	$ 0	$ 0
PENHORWOOD	4207060	2005-Jun-07	2010-Jun-07	A	100 %	$ 5,600	$ 16,800	$ 0	$ 0
PENHORWOOD	4207061	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207062	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,400	$ 19,200	$ 0	$ 0
PENHORWOOD	4207914	2005-Jun-07	2010-Jun-07	A	100 %	$ 3,600	$ 10,800	$ 0	$ 0
PENHORWOOD	4207916	2005-Jun-07	2010-Jun-07	A	100 %	$ 6,000	$ 18,000	$ 0	$ 0
PENHORWOOD	4220806	2007-Apr-30	2010-Apr-30	A	100 %	$ 1,600	$ 1,600	$ 0	$ 0
PENHORWOOD	4227175	2007-Nov-19	2009-Nov-19	A	100 %	$ 1,200	$ 0	$ 0	$ 0
PENHORWOOD	4241832	2008-Jul-11	2010-Jul-11	A	100 %	$ 4,800	$ 0	$ 0	$ 0
SOTHMAN (PORC)	1226833	1998-May-13	2011-May-13	A	100 %	$ 1,333	$ 27,467	$ 0	$ 0
THOMAS	4220191	2007-May-22	2010-May-22	A	100 %	$ 6,400	$ 6,400	$ 0	$ 0
THOMAS	4220192	2007-May-22	2011-May-22	A	100 %	$ 6,400	$ 12,800	$ 0	$ 0
THOMAS	4220193	2007-May-22	2010-May-22	A	100 %	$ 6,400	$ 6,400	$ 0	$ 0
THOMAS	4220194	2007-May-22	2010-May-22	A	100 %	$ 6,400	$ 6,400	$ 0	$ 0
THOMAS	4220219	2007-May-22	2011-May-22	A	100 %	$ 6,400	$ 12,800	$ 0	$ 0
THOMAS	4220220	2007-May-22	2011-May-22	A	100 %	$ 6,400	$ 12,800	$ 0	$ 0
THORBURN	4224268	2008-Jan-07	2010-Sep-07	A	100 %	$ 4,800	$ 0	$ 0	$ 0
THORBURN	4224269	2008-Jan-07	2010-Sep-07	A	100 %	$ 3,600	$ 0	$ 0	$ 0
WHITNEY	4202630	2006-Oct-20	2010-Oct-20	A	100 %	$ 3,200	$ 6,400	$ 0	$ 0
WHITNEY	4202634	2006-Oct-20	2010-Oct-20	A	100 %	$ 5,600	$ 11,200	$ 0	$ 0
WHITNEY	4210987	2006-Oct-12	2010-Oct-12	A	100 %	$ 400	$ 800	$ 0	$ 0
WHITNEY	4211030	2006-Oct-20	2010-Oct-20	A	100 %	$ 1,600	$ 3,200	$ 0	$ 0
WHITNEY	4211031	2006-Oct-20	2010-Oct-20	A	100 %	$ 5,200	$ 10,400	$ 0	$ 0
WHITNEY	4213798	2007-Feb-14	2010-May-19	A	100 %	$ 3,200	$ 3,200	$ 0	$ 0
WHITNEY	4213968	2007-Feb-14	2010-May-19	A	100 %	$ 800	$ 800	$ 0	$ 0

This survey was completed using the Scintrex Envi Mag system. Specifications for this unit can be found as Appendix A of this report. The following parameters were kept constant throughout the survey.

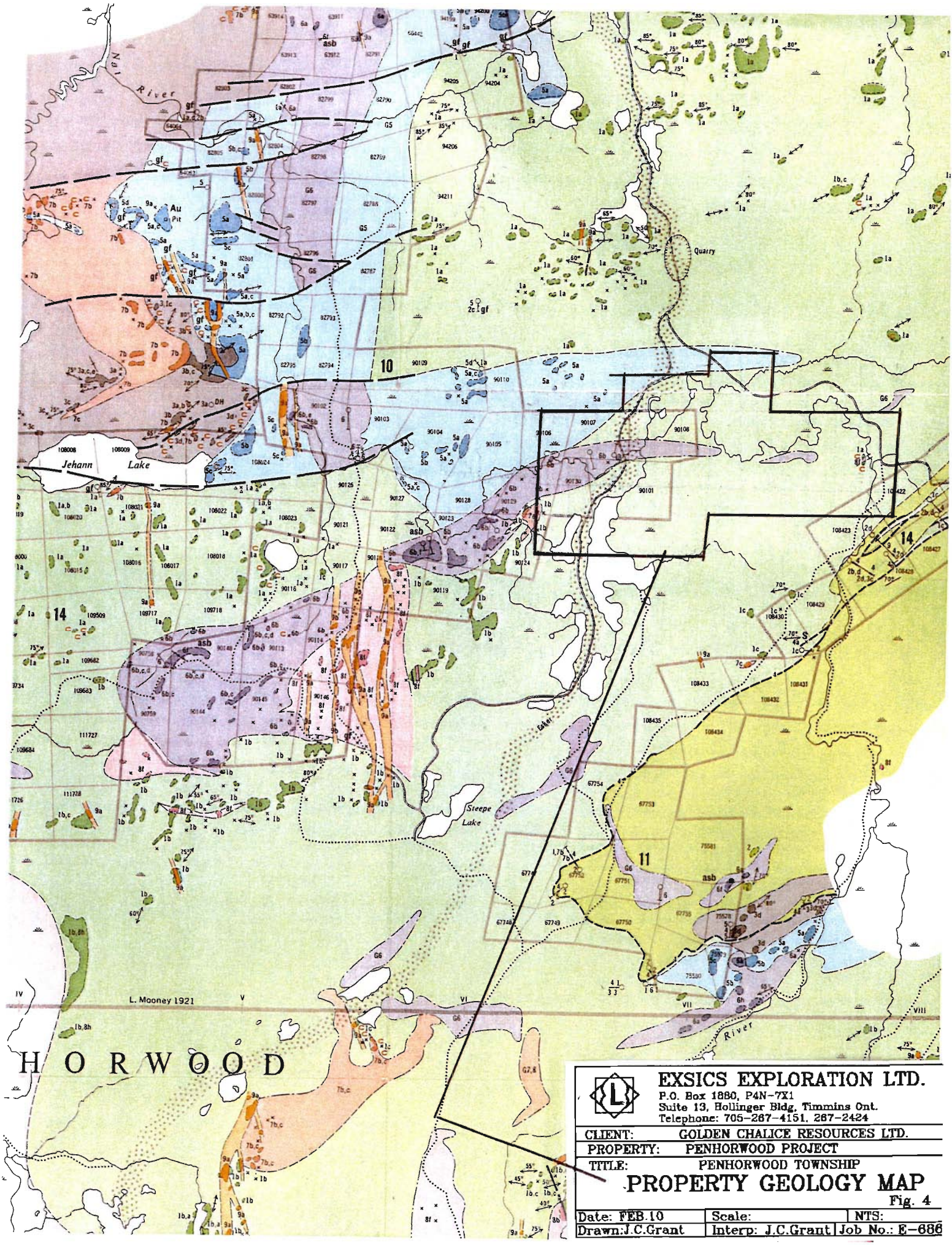
Line spacing	100 meters
Station spacing	25 meters
Reading intervals	12.5 meters
Diurnal monitoring	Base station recorder at 30 second record intervals
Reference field	56700 nT
Datum subtracted	56500 nT
Unit accuracy	+/- 0.1 gamma
VLF transmitting station	Cutler, Maine, 24.0kHz
Transmitter direction	115 degrees to the grids cross lines
Parameters measured	In phase and quadrature components of the secondary field The field strength of the transmitting station and the tilt of the field.
Parameters Plotted	In Phase component

Once the surveys were completed the collected data for each survey was then plotted onto base maps at a scale of 1:5000. The magnetic data has had a background of 56500 gammas removed from it before plotting. The data was then contoured at 50nT intervals where ever possible. The VLF data was plotted directly onto the base map and then profiled at 1cm to +/- 20%. Any and all conductor axis were then placed on the map and correlated to the magnetic survey.

Copies of these colored contoured and profiled base maps are included in the back pocket of this report.

PROPERTY GEOLOGY:

The property is underlain by mafic to intermediate metavolcanics that has been intruded by ultamafic intrusive rocks in the central west section of the grid and eastern central portion of the grid. The host rocks have also been intruded by mafic intrusives along the northwestern and central north sections of the grid area.



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PROPERTY:	PENHORWOOD PROJECT
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PROPERTY GEOLOGY MAP

Fig. 4

Date: FEB.10	Scale:	NTS:
Drawn:J.C.Grant	Interp: J.C.Grant	Job No.: E-686

MAGNETIC AND VLF-EM SURVEY RESULTS:

The magnetic and VLF-EM surveys were successful in locating and outlining the geological characteristics of the grid area. Generally the strike of the underlying geology is slightly east, northeast to west, southwest. Several areas of magnetic intensity were noted across the grid area and these zones have good VLF zones associated with them. The most predominant magnetic feature is the strong magnetic high trend that covers most of the central and southwest section of the grid. This trend correlates to the Ultramafic intrusive that is known to come into the grid in this area. The VLF zones correlate well to the edges of the strongest portions of this intrusive as is expected. There are several magnetic highs along strike with this main high. One covers line 1200ME to 1700ME between 350MN and 300MN and it has VLF zones correlating to its edges. Another of these highs lies between 1300ME and 1600ME from the base line to 150MN and a third lies between lines 1800ME and 2300ME and appears to be the eastern extension of the main zone.

The magnetic high that covers the northern sections of the grid from line 0+00 to 1800ME correlates to the mafic intrusive that is thought to cover this section of the grid. Again the VLF zones appear to correlate to the edges of the intrusive. The intrusives appear to be near vertical to slightly south dipping.

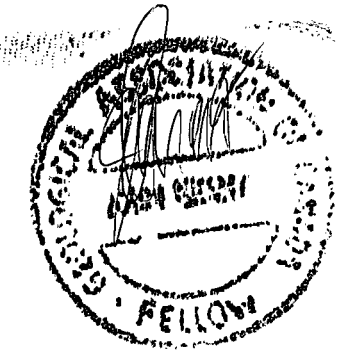
There are several minor narrow magnetic trend that appear to parallel the main features which may relate to the ultramafic intrusive and they have VLF zones associated with their edges as well.

There appears to be a minor and or deep narrow magnetic high trend striking into the grid in a southeast direction across lines 1600ME at the south end to line 2200ME at the base line. This zone has a VLF zone paralleling its southern edge from line 1600ME to 1800ME. The trend appears to continue off of the grid to the southwest possibly extending as far as the southern end of line 1300ME.

CONCLUSIONS AND RECOMMENDATIONS:

The surveys were successful in locating and outlining a number of conductive zones across the grid area that generally correlate to the edges of the magnetic high trends. These VLF zones will be verified by the ongoing IP survey that is presently being completed across the entire cut grid. Upon the completion of this IP survey, the collected data will be presented as individual line pseudo-sections that will be correlated to the results of the magnetic and VLF-EM survey. Once the two surveys are plotted and correlated to one another a drill program will then be considered to test the stronger of the zones.

Respectfully submitted:



J. C. Grant, CET, FGAC
February 2010.

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 a 3 year Honors Diploma in Geological and Geophysical Technology.

2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years, 1975 to 1980), and currently as Exploration Manager and Chief Geophysicist for Exsics Exploration Limited, since May, 1980.

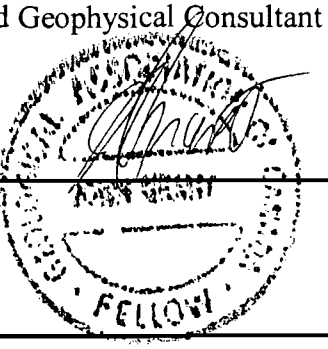
3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984.

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

5). I have been actively engaged in my profession since the 15th day of May, 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 nor do I expect to receive any such interest in the herein described property. I have been retained by the property holders and or their Agents as a Geological and 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

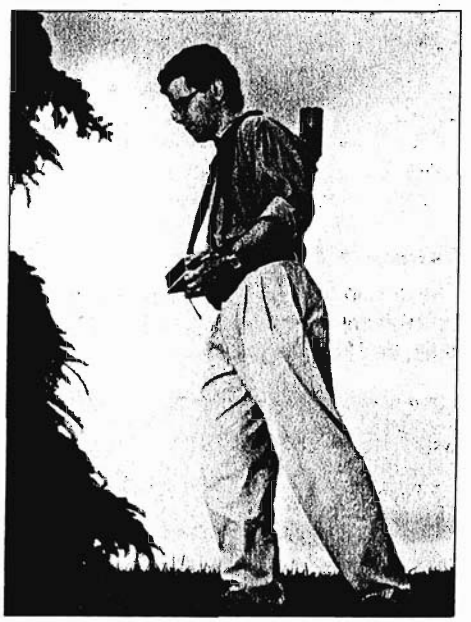
- easily detects buried drums to depths of 10 feet or more
- more sensitive to the steel of a buried drum than EM or radar
- much less expensive than EM or radar
- survey productivity much higher than with EM or radar

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

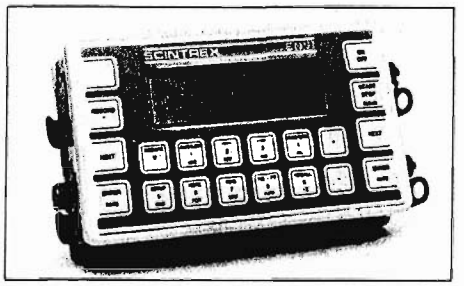
An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

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.

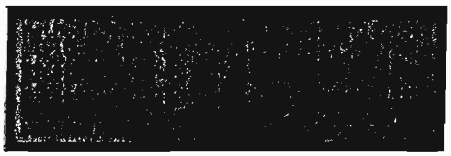
"Datacheck" Quality Control of Data

"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
0.5 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

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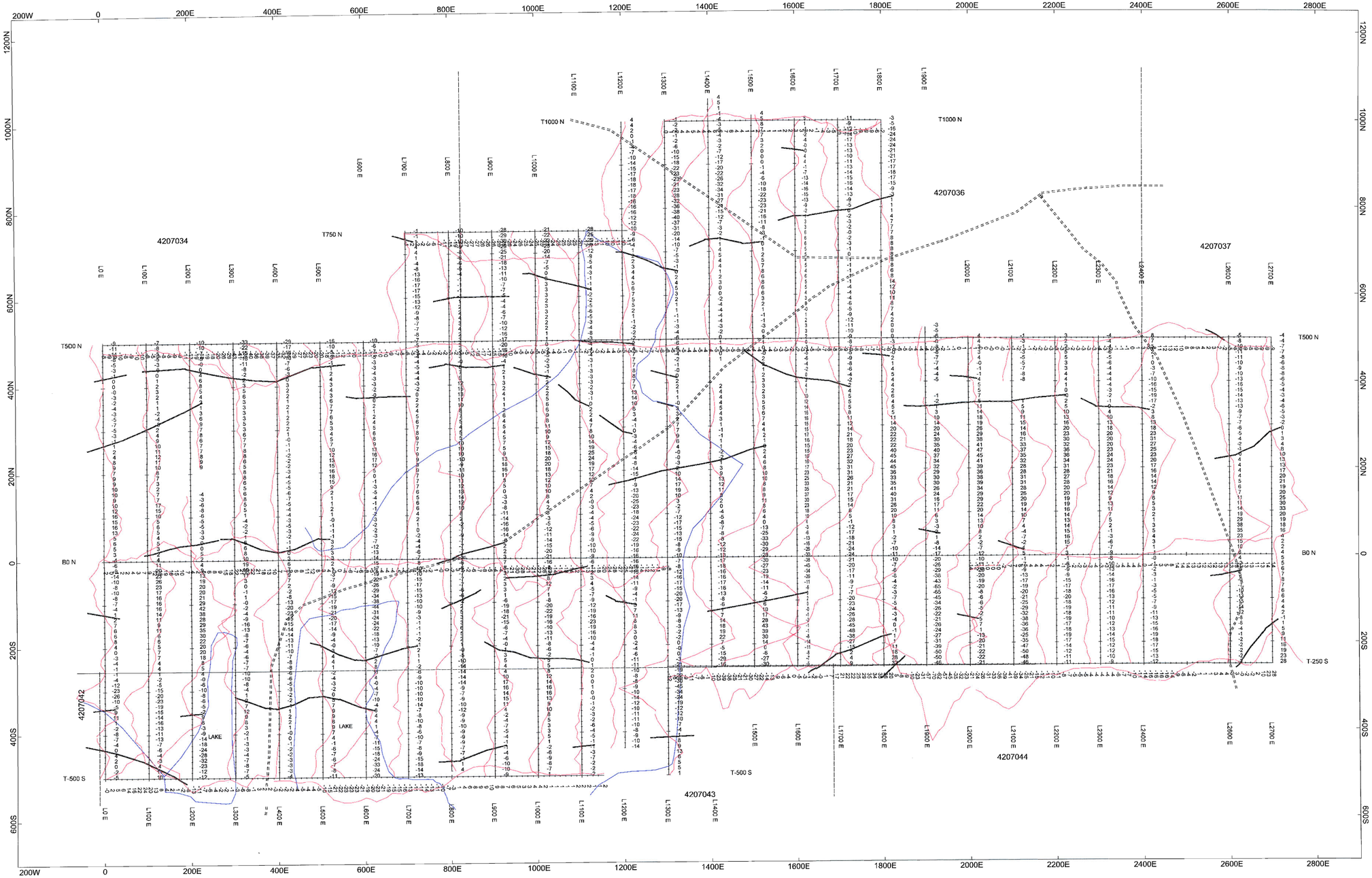
Fax: (716) 298-1317



2.44118

Scale 1:5000

100 0 100 200 300

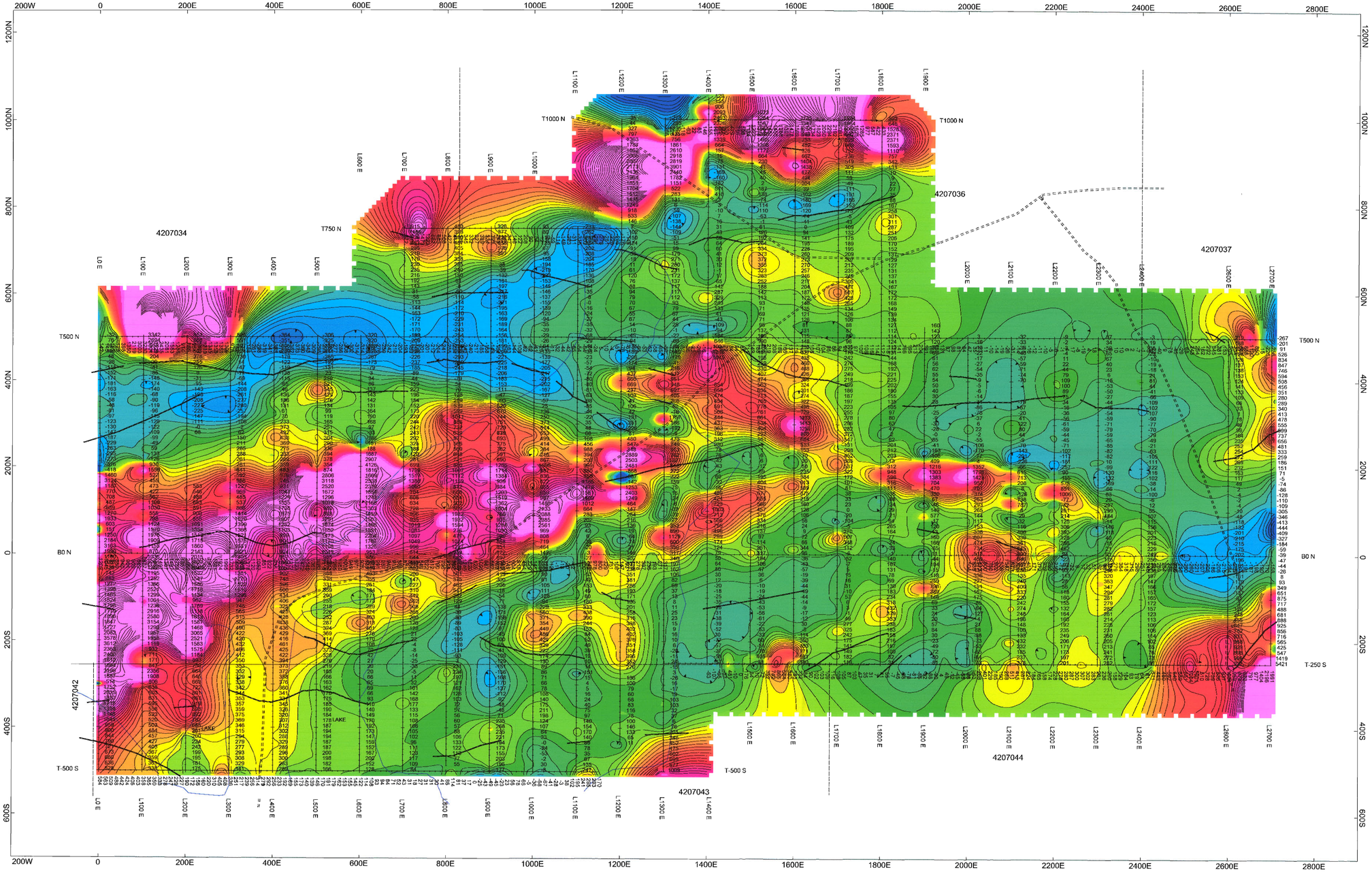
(meters)

GOLDEN CHALICE RESOURCES INC.

PENHORWOOD PROJECT-PENHORWOOD TOWNSHIP
VLF-EM SURVEY, CUTLER, MAINE 24.0KHZ

SCINTREX ENVI MAG SYSTEM
PROFILED: 1cm= +/- 20%

JAN/2010 EXSICS EXPLORATION LIMITED E-684



TOTAL FIELD MAGNETICS
BASE 56500nT

55800 55950 56100 56150 56250 56300 56350 56400 56450 56500 56550 56600 56650 56700 56750 56800 56850 56900 56950 57000 57050 57100 57150 57200 57250 57300 57350 57400 57450 57550 57650 57800

Scale 1:5000

100 0 100 200 300
(meters)

GOLDEN CHALICE RESOURCES INC.

PENHORWOOD PROJECT-PENHORWOOD TOWNSHIP
TOTAL FIELD MAGNETIC SURVEY

SCINTREX ENVI MAG SYSTEM
CONTOURED: 50 nT

JAN/2010 EXSICS EXPLORATION LIMITED E-684