GEOPHYSICAL REPORT

FOR

KINGS BAY GOLD

ON THE

MENARY GOLD PROPERTY

GALBRAIGHT NORTH AND SOUTH GRIDS

AND THE HELENA LAKE GRIDS

KENORA MINING DIVISION

RAINY RIVER DISTRICT

NORTHWESTERN ONTARIO

Prepared by: J. C. Grant,

May 2011

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INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. J. Archibald on behalf of the company, Kings Bay Gold Corporation, to complete the plotting and reports for a ground geophysical program that was completed across two properties, the Menary Gold Property that consisted of the Galbraith North and South grids and the Helena Lake Property. Both of these properties represent a portion of their claim holdings located in the Brooks Lake Area, Dash Lake Area, Claxton Township and Menary Township of the Kenora Mining Division in western Ontario.

The purpose of the program was to locate and define a geological setting that would be considered a favorable environment for possible base metal and or gold deposition.

The surveys were completed by and independent contract crew that was hired directly by the company.

PROPERTY LOCATION AND ACCESS:

The Menary Gold Property, Galbraith North and South Grids, is situated in the southeast section of Claxton Township and the northeast section of Menary Township approximately 2.4 kilometers northwest of Panorama lake and about 5 kilometers southeast of Caliper lake. Highway 71 lies to the west of the grid area.

The Helena Lake Property is situated in the southeast section of the Brooks Lake Area and the northeast section of the Dash Lake Area. Pipestone Lake lies along the eastern and northern boundaries of the grid and Helena Lake lies at the southern tip of the grid.

Access to the Galbraith North and South properties during the survey period was relatively easy. Highway 71 connects Highway 11 to Highway 17 and runs between Caliper Lake and Panorama Lake. The property is easily reached via logging road 404 which extends to the east off of Highway 71 between the town of Nestor Falls and the Village of Finland, about half way along the route from Fort Frances to Kenora.

Access to the Helena Lake property was along a good gravel road, locally called the Pipestone road that runs east from Nestor Falls. The claim block is about 25 kilometers east of Nestor Falls and a series of logging roads provided good access to the central west section of the survey area. Refer to Figures 1 and 2.

Traveling time from Nestor Falls to the grids is about 30 to 60 minutes. Figures 1 and 2

CLAIM BLOCK:

The claim numbers that were covered by the geophysical survey are listed below.

Galbraith North and South:

4205640	7 units	4256394	4 units
4247110	8 units	4256398	12 units
3014054	4 units	4256397	3 units
4256392	2 units	K1079876	1 unit

EXSICS EXPLORATION LTD.

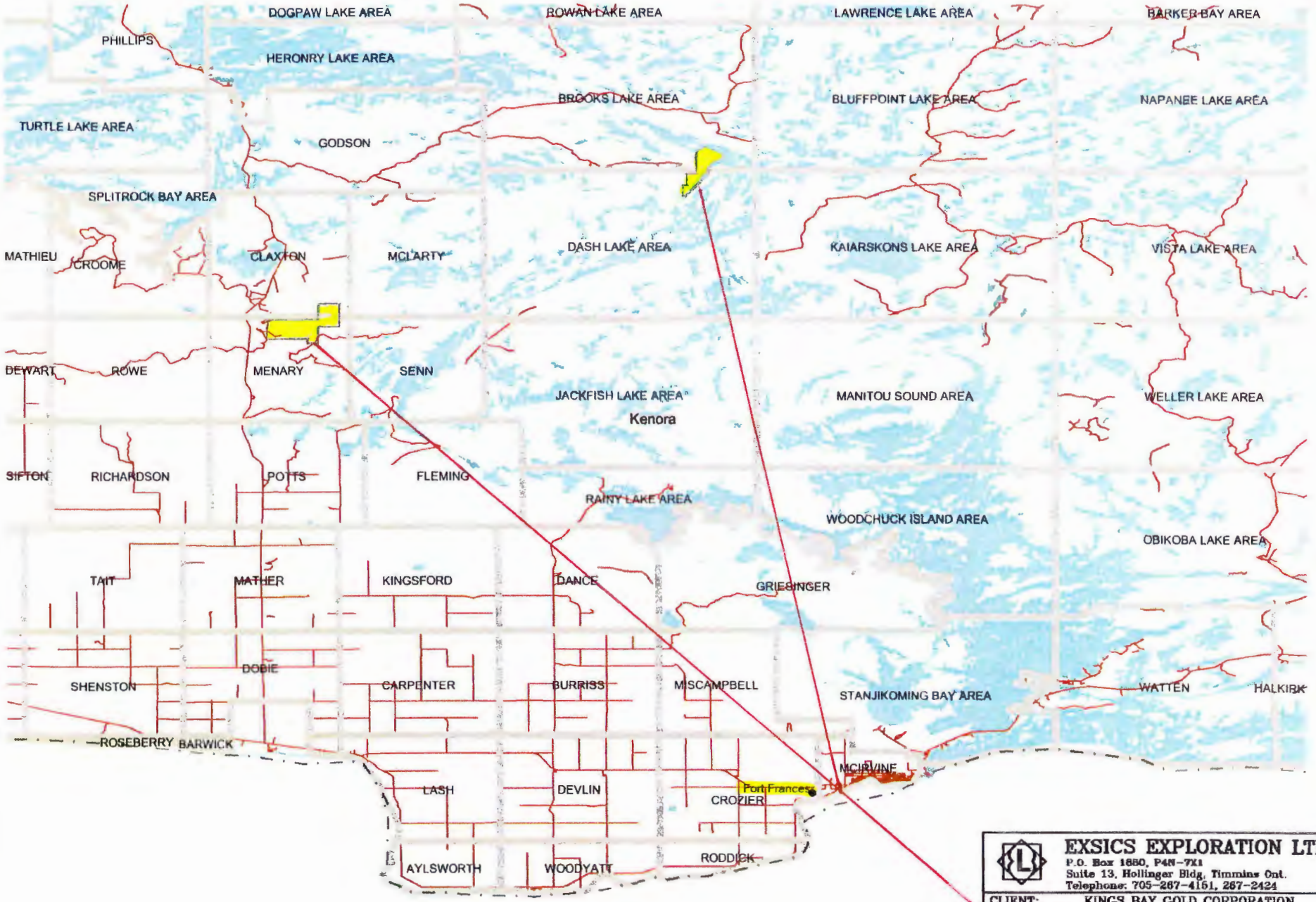
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424

CLIENT:	KINGS BAY GOLD CORPORATION
PROPERTY:	MENARY GOLD & HELAENA LAKE PROPERTY
TITLE:	DASH LAKE, BROOKS LAKE AREA, MENARY TWP.

LOCATION MAP

Fig. 1

Date: MAY 2011	Scale:	NTS:
Drawn: J.C.Grant	Interp:	Job No.: KBG-1



NAD 83
5 degree grid

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PROPERTY LOCATION MAP

Fig. 2

Date: MAY 2011	Scale: 1:600,000	NTS:
Drawn: J.C.Grant	Interp:	Job No.: KBG-1

ONTARIO CANADA

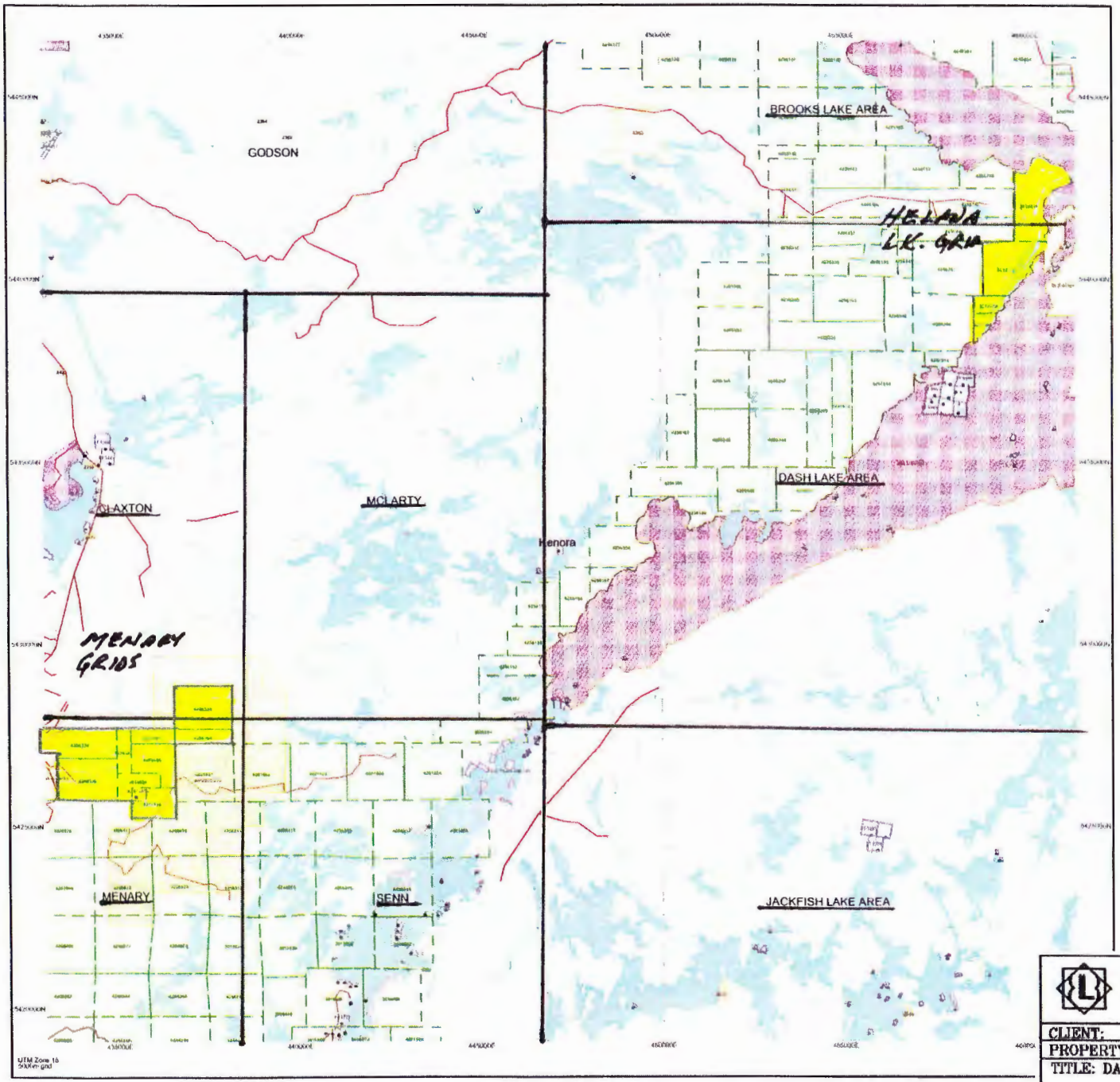
Mining Land Tenure Map

Date / Time of Issue: Mon Jul 04 13:55:30 EDT 2011

TOWNSHIP / AREA	PLAN
DASH LAKE AREA	G-2671

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division	Kenora
Land Titles/Registry Division	RAINY RIVER
Ministry of Natural Resources District	FORT FRANCES



LAND TENURE WITHDRAWAL DESCRIPTIONS

IMPORTANT NOTICES

General Information and Limitations

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PROPERTY:	MENARY GOLD & HELAENA LAKE PROPERTY
TITLE:	DASH LAKE, BROOKS LAKE AREA, MENARY TWP.

KINGS BAY GOLD CLAIMS

Fig. 2a

Date: MAY 2011	Scale: 1:60,000	NTS:
Drawn: J.C.Grant	Interp:	Job No.: KBG-1

Helena Lake Property:

3016914	16 units	3012330	12 units
3012329	3 units	4257509	4 units

Refer to Figure 3, 3a, 4 and 4a copied from MNDM Plan Maps of Brooks lake Area, G-2670, Claxton Township, G-3799, Dash Lake Area, G-2671 and Menary Township, G-3819 for the positioning of the claim numbers and grid lines within the Township.

PERSONNEL:

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

D. Clement	Timmins, Ontario
C. Fadden	Timmins, Ontario
Josee Lafreniere	Notre Dame de Nord, Quebec

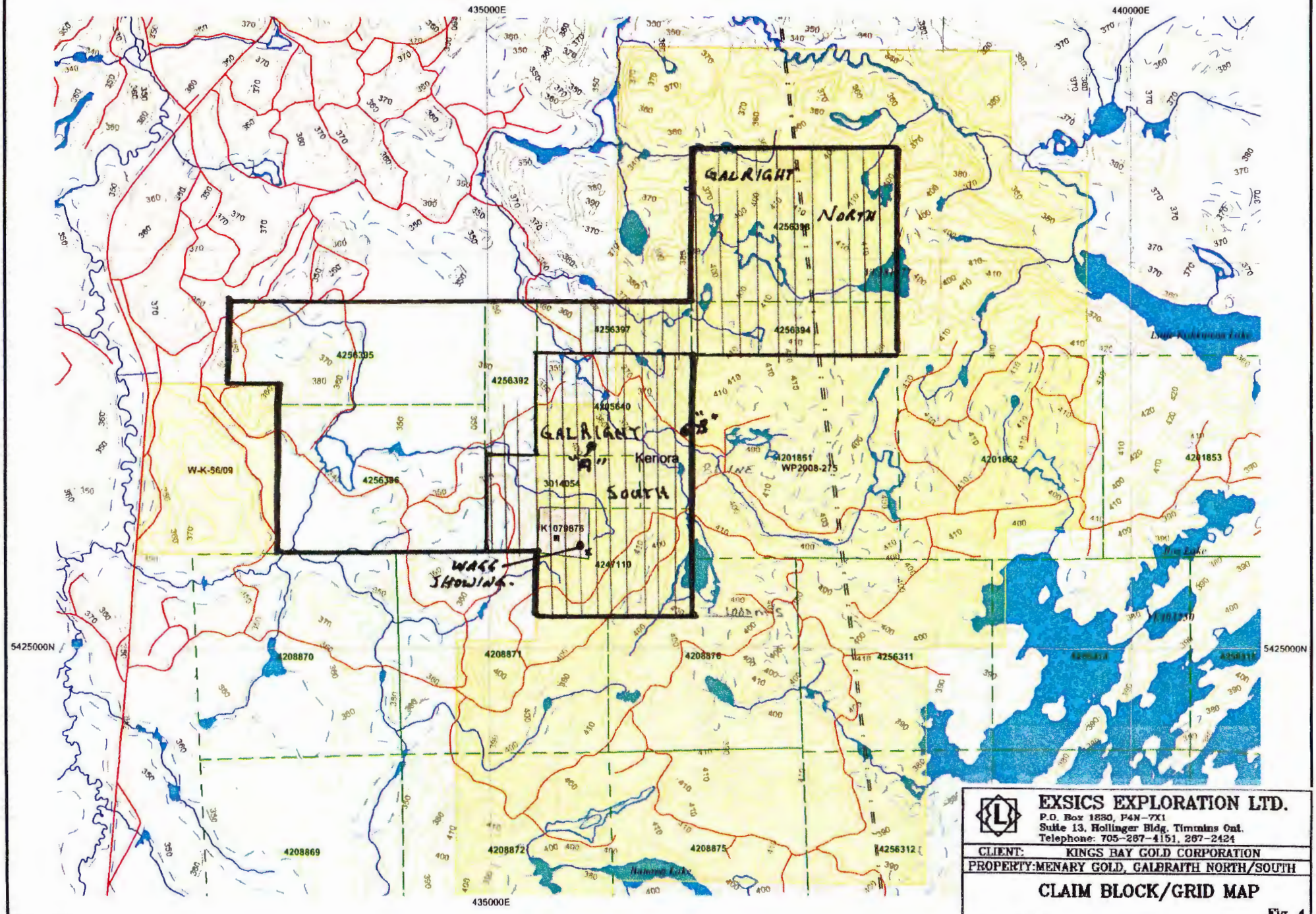
The color plotting, interpretation as well as the report were completed by J. C. Grant of Exsics Exploration Limited.

GROUND PROGRAM:

The ground program was completed in two phases for each of the properties. The first phase consisted of the cutting of a detailed metric grid across the claim blocks. For the Galbraith South grid a base line was first cut east-west across the center of the claim block. Cross lines were then turned off of this base line at 100 meter intervals from 900ME to 700MW. Lines 900ME to 300ME were then cut 1200MN and 1000MS from the base line. Tie lines were cut parallel to the base line at 1200MN and 1000MS to control the cross lines. Lines 200ME to 200MW were cut from tie line 1000MN to 1000MS and the remaining lines were cut from 300MS to about 650MN.

The Galbraith North grid is an extension of the Galbraith South Grid and it consisted of grid lines 300ME to 900ME being extended from 1200MN to 1800MN and adding lines 1000ME to 2600ME from tie line 1400MN to tie line 3000MN. All of these grid lines were chained with 25 meter pickets. In all a total of 53.65 kilometers of grid lines were cut and chained across both grids.

The Helena Lake grid consisted of a base line being cut north from the northern tip of Helena Lake and the southern boundary of claim 3016914 to the north boundary of claim. Cross lines were then turned off of this base line from 950MS to 500MN at 100 meter intervals and then from 500MN to 1250MN at 150 meter intervals. All of these cross lines were then cut to the east and west boundaries of the claim block. All of these cut lines were then chained with 25 meter picket intervals. In all a total of 20.5 kilometers of grid lines were cut and chained across this property.



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P.O. Box 1630, P4N-7X1
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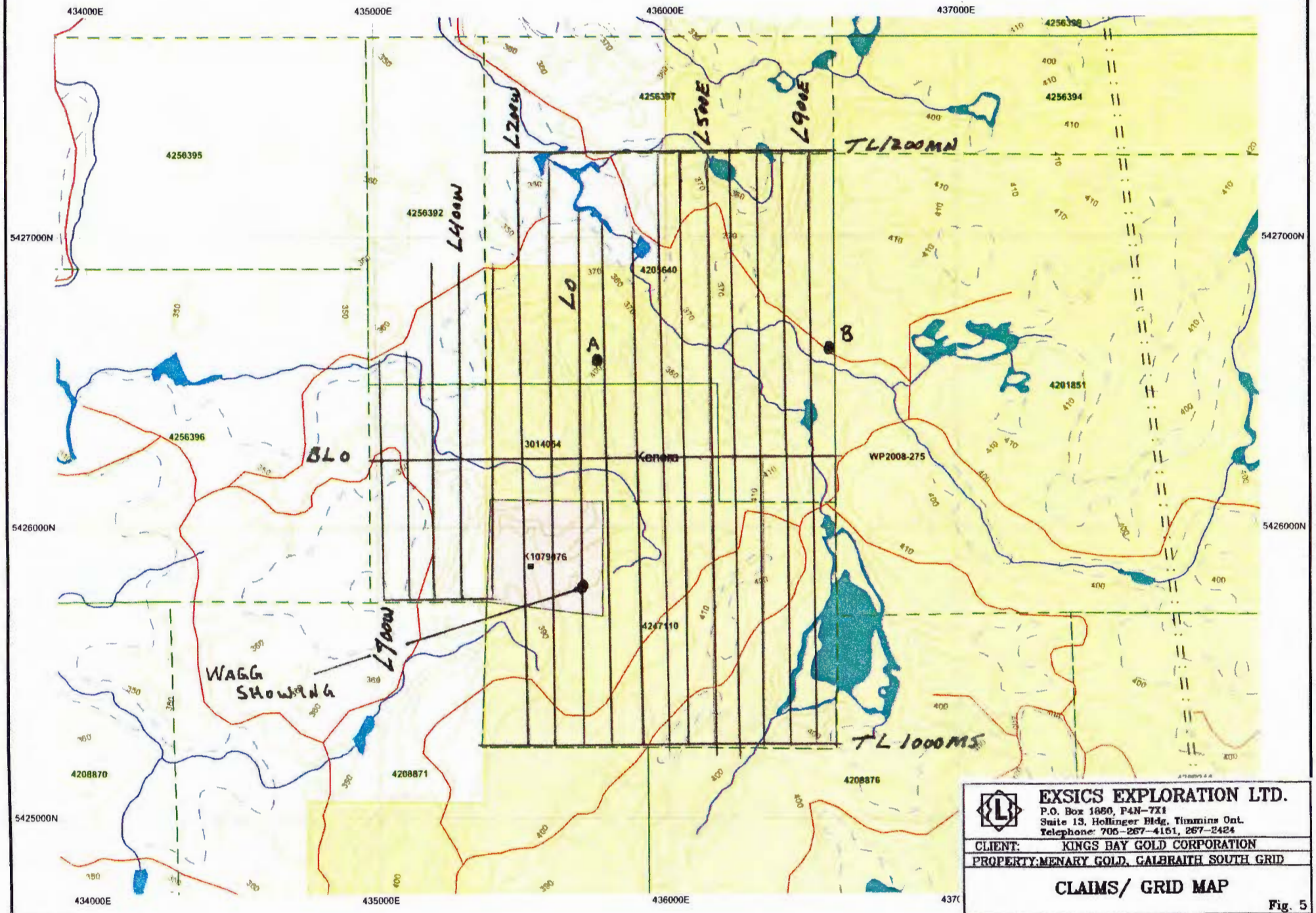
CLIENT: KINGS BAY GOLD CORPORATION

PROPERTY: MENARY GOLD, GALBRAITH NORTH/SOUTH

CLAIM BLOCK/GRID MAP

Fig. 4

Date: MAY 2011	Scale:	NTS:
Drawn: J.C.Grant	Interp:	Job No.: KBG-1



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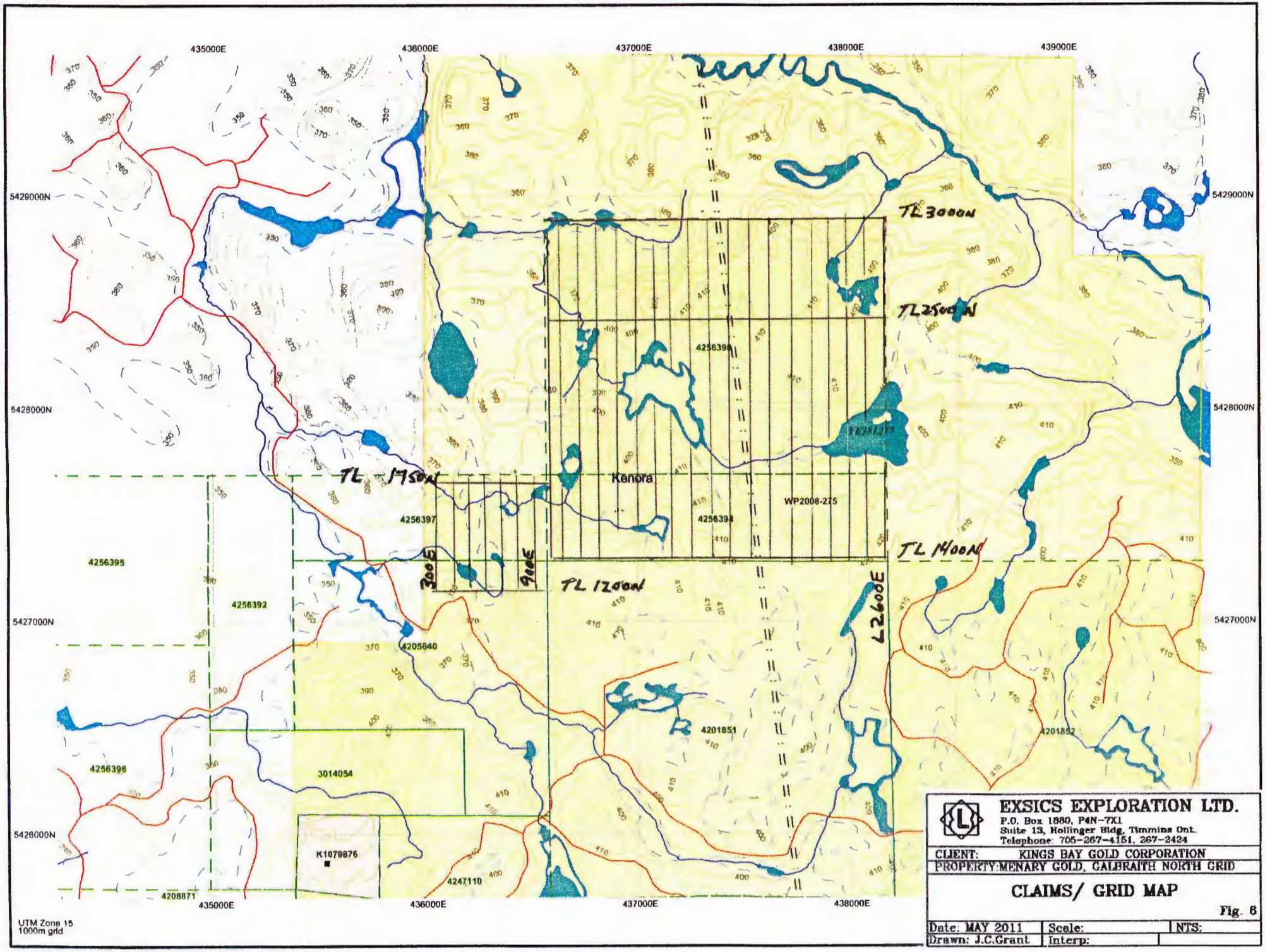
CLIENT: KINGS BAY GOLD CORPORATION

PROPERTY: MENARY GOLD, GALBRAITH SOUTH GRID

CLAIMS/ GRID MAP

Fig. 5

Date: MAY 2011	Scale: 1:600,000	NTS:
Drawn: J.C.Grant	Interp:	Job No.: KHG-1



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CLIENT: KINGS BAY GOLD CORPORATION
PROPERTY: MENARY GOLD, GALBRAITH NORTH GRID

CLAIMS/ GRID MAP

Fig. 6

Date: MAY 2011	Scale:	NTS:
Drawn: J.C.Grant	Interp:	

A total of 74.15 kilometers of grid lines were cut across the properties prior to November 6th when the survey crew arrived on site.

The second phase of the ground program consisted of a total field magnetic survey that was completed in conjunction with a Horizontal Loop Electromagnetic, (HLEM), survey.

The magnetic 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 magnetic surveys.

Magnetic Survey:

Line spacing.....	100 meters
Station spacing.....	25 meters
Reading intervals.....	12.5 meters
Diurnal monitor.....	base station
Base record intervals	30 seconds
Reference field.....	57,500 gammas
Datum subtracted.....	57,000 gammas
Unit accuracy.....	+/- 0.1 gamma

Once the survey was completed, the field data was plotted directly onto a base map at a scale of 1:2500. A datum level of 57000 gammas was removed from the data before it was plotted onto the base map. The data was then contoured at 20, 25 and 100 gamma intervals wherever possible. A copy of these color base maps are included in the back pocket of this report.

HLEM Survey:

The HLEM survey was completed across the cross lines using the Apex Parametrics MaxMin II system. Specifications for this system can be found as Appendix B of this report.

Line spacing.....	100 meters
Station spacing.....	25 meters
Reading intervals.....	25 meters
Parameters measured.....	In phase and quadrature components of the secondary field
Frequencies recorded.....	1777Hz and 444Hz
Coil separation.....	100, 150 meters
Parameters plotted.....	In phase component and quadrature component
Unit accuracy.....	+/- 0.5%

Upon the completion of the HLEM survey the collected data was then plotted directly on a base map, one base map for each frequency recorded, at a scale of 1:2500. The data was then profiled at 1cm = +/- 10 % and any and all conductor axis were then placed on the maps. A copy of each of these profiled plan maps is included in the back pocket of this report.

The geophysical portion of the program was completed between November 5th and December 2nd 2010. During that time period a total of 74 1 kilometers of surveys were completed.

PROPERTY GEOLOGY:

Generally the western section of the property lies along the contact between the massive rocks of the Sabaskong Batholith to the west and the well foliated metavolcanics to the east. The contact cuts across the property in a northeast to southwest direction and dips steeply to the east. Adjacent to the batholith there are massive to pillowed metabasalts exposed for a thickness of 400 meters in the southwest part of the property that expands to about 1000 meters along the northern claim line. Granitic dikes and numerous small bodies of feldspar and quartz-feldspar porphyry are positioned sub parallel to the northeasterly trend of individual flows and foliation. Shear zones up to two and a half meters wide displaying varying degrees of chloritization, calcite alteration, pyrite mineralization and quartz veining or silicification are common. These shears are best developed immediately adjacent to the porphyries

A mixture of metasedimentary horizons, gabbroic flows with porphyritic varieties occur in places along the eastern boundary. The bulk of the underlying rocks are mafic to intermediate metavolcanics comprised of basaltic and andesitic lavas and gabbroic lavas. These rocks are then cross cut by a series of northwest-southeast striking mafic dikes. Refer to OGS map 2325, Off lake-Burditt Lake map, Rainy River District.

Regional geology of the Helena Lake Property is characterized by Archean Age greenstone volcanics inter-layered with meta-sediments and intrusives rocks such as diorites, quartz-feldspar porphyries and gabbros. The main structural feature in the area is the Pipestone Fault that transects the property in a northeast to southwest direction and is likely closely linked to the emplacement of the gold mineralization in the area. Several north to northeast faults and or shears may also cut across the grid area. Refer to OGS Map 2430, Bethune Lake map, Rainy River and Kenora District.

MAGNETIC AND HLEM SURVEY RESULTS:

HELENA LAKE PROPERTY:

Generally the ground program outlined at least three north-south to northeast-southwest conductive zones that strike across the entire cut grid and continue off of the grid in both directions. These conductive horizons for the most part appear to correlate to the flanks of the magnetic high trends that also cross cut the grid area in the same direction. These magnetic high trends are comprised of a series of elongated and bull's eye type highs that appear to have been cross cut by a series of faults and or shear zones that have interrupted the strike of the highs and in places distorted the shape of the highs.

The first conductive trend outline is a moderate zone striking north from line 950MS at 537MW to 400MN at 450MW. This zone generally correlates to the eastern edge of a good magnetic high unit that covers the western ends of the same lines. The zone has been offset to the east between lines 400MS and 100MS. The zone is a modest conductor and probably represents a contact zone.

The magnetic trend associated with this conductive zone appears to have been folded and or cross cut by an east-west zone that has cut off the high between 100MN and 200MN. The cross structure has folded the high to the west along line 50MS and line 0+00 from an original strike of northeast-southwest. The northern extension of the high then seems to strike to the northwest and continues off of the grid to the northwest.

The second conductive zone strikes parallel to the first zone and can be traced from 400MS at 150MW to line 650MN at 50MW. Again this zone appears to correlate to the western flank of a second magnetic high trend that comes into the grid from the southwest and can be followed to line 0+00 just to the west of the base line. The high then seems to deepen and or has been faulted off between lines 100MN and 400MN where the high continues to the north and off of the grid. Interpretations put the zone at a depth of 25 to 33 meters and with a modest conductivity range of 5 to 7 mhos.

Another conductive trend can be traced from line 800MS at 200MW to 100MN at 225ME. This zone generally correlates to a magnetic high trend that is represented by a narrow and distorted unit that strikes northeast across the same grid lines. The magnetic unit appears to have been cross cut by at least one east and one northeast striking structure that may be indicative of faulting and or shearing. That portion of the conductor between lines 0+00MN and 100MN has been shifted by a possible northeast striking shear and or fault zone. The zone appears to correlate to a modest and shallow zone.

A final conductive zone appears to strike northwest from line 300MN at 325MW to 1000MN at the base line and may continue off of the grid to the northwest. The southern tip of the zone correlates to a good magnetic high but the remainder of the zone lies between the two flanking magnetic high zones. Again the zone represents a modest shallow zone.

CONCLUSIONS AND RECOMMENDATIONS HELENA LAKE :

The ground surveys completed on the Helena Lake property correlate to the underlying geology. The magnetic highs appear to correlate to the intrusive units that strike northeast to north across the western edge of the claim block and the eastern central section of the block. The magnetic low that generally strikes northeast from the southwest corner of the grid to the eastern end of line 800MN may represent a fault unit outlined on the OGS Map 2430. A second fault may have been outlined by the series of small magnetic lows that strike across lines 800MS at 200MW to 300MN at 450ME. These cross faults have interrupted the strike of the magnetic highs as well as the conductive zones. The area of the offsets in the highs and conductive zones may be areas to consider for further follow up.

MENARY GOLD PROPERTY:

The Menary Gold property is represented by the Galbraith North and South grids. The Galbraith South grid covers the Wagg Showing and the Agassiz Gold showings. The Agassiz is the original gold showing that is represented by deformed quartz lenses and stringers that occur with north-south striking, discontinuous, chloritized and calcite altered shear zone mineralized with minor pyrite. The shear is up to 3 meters wide in places and dips near vertical. Grab samples of the quartz lenses have returned gold values up to 1.65 o.p.t. and chip samples have returned values up to 0.666 o.p.t over 2 meters and 0.427 o.p.t over 4 meters. The showing contains ore-grade gold mineralization within the quartz veins but are narrow and discontinuous.

The Wagg showing is a significant occurrence of gold. A number of quartz lenses cross cut or truncated by small pods of porphyry have been exposed by stripping and were found to contain ore grade concentrations of native gold and trace quantities of sulphides. Kings Bay Gold has put several drill holes into the Wagg showing and have intersected high grade gold intersections within a 6.25 meter interval containing 12.23 grams of gold per ton.

The Galbraith South grid covers the Galbraith A and B showings. The original samples of the A showing were obtained from a poorly exposed 5 to 10 cm wide vein similar in color and texture to those of the Wagg Showing. The best sample was a grab sample from the reddish quartz vein and returned values of 3.038 o.p.t.

At the Galbraith B showing the initial sample was collected from the rubble adjacent to a metavolcanic outcrop. Hand stripping uncovered several red sugary quartz stringers less that 10 cm wide occurring within a meter of a small porphyry dike. Two grab samples consisting of quartz and lesser volcanic wall rock assayed 2.859 and 1.868 o.p.t gold. Visible gold was observed in the latter sample.

MAGNETIC AND HLEM SURVEY RESULTS:

GALBRAITH NORTH GRID:

The ground program outlined several areas of magnetic activity across the grid area. The first area is a distorted magnetic high unit that strikes north into the southeast corner of the grid. This high appears to have been cut off by a cross structure represented by a magnetic low striking west across lines 2500ME to 2100ME and it may continue as far as line 1000ME at 2000MN. The magnetic high then continues east to northeast across lines 2300ME to 2600ME and out under them lake. There may be evidence of a conductive zone at the extreme ends of lines 2300ME and 2400ME that appears to correlate to the southern edge of the suspected cross fault.

Another area of interest would be the magnetic high unit that strikes east across lines 300ME to 900ME between 1400MN and 1500MN. The high may be part of the magnetic high outlined on the south grid that starts on the north end of line 200MW. This structure may represent a fold structure. There does not appear to be any conductive zone associated with the fold.

There may be a second cross fault cutting across the grid in a north to northwest direction that can be followed from the south end of line 1700ME to line 1350ME at 2600MN where it seems to get cut off by another magnetic low striking northeast across lines 1000ME to 1800ME between 2600MN and 2900MN. There is a good broad magnetic high that covers the central section of line 1000ME and 1100ME that narrows as it continues to the east to line 1300ME where it is cut off by the fault coming in from the southeast. This high then continues east across lines 1400ME to 1600ME and then swings to the northeast and across lines 1700ME.

There is a weak conductive zone striking along the southern portion of the magnetic high that commences on line 1500ME and continues off of the grid to the west. A second parallel conductive zone strikes across lines 1400ME to 1000ME and it also continues off of the grid to the west. This zone is also a modest and shallow zone that seems to correlate to the magnetic low that may represent the northeast striking cross fault.

GALBRAITH SOUTH GRID:

The most predominant feature on this grid is the broad north-south striking magnetic high that covers the northern sections of lines 700ME to 400ME that may extend to the base line on line 700ME and 600ME. At this point the high appears to be folded and or faulted to the west and northwest across lines 700ME to 300ME. This faulting and or folding may correlate to a suspected northwest striking fault zone that is represented by a broad magnetic low striking west across lines 900ME to 400ME that then swings to the northwest and continues across lines 300ME to 400MW. A narrow magnetic high unit lies along the southern edge of this low and it is represented by a series of magnetic high bulls eyes that can be traced from line 600ME at 450MS to 200MW at 50MS where it then swings to the north along line 200MW to 300MN and then again swings to the northwest and continues northwest across lines 250MW to 600Mw and may continue off of the grid to the west. A similar narrow magnetic high may lie just to the south of the above mentioned zone that can be traced from 800ME to line 0+00.

Another narrow magnetic unit lies between lines 0+00 at 300MS to line 300MW at 225MS. This high may represent the main gold showing and the Wagg showing.

These distorted narrow magnetic high units may be indicative of an area that has numerous cross faulting and or shearing that has interrupted the strike of each of the highs.

Another cross structure may strike northeast to southwest across the northern ends of lines 300MW to 700ME between 700MN and 900MN. This structure is represented by a narrow magnetic low that has offset the magnetic highs. A weak conductive zone parallels the northern edge of this northeast-southwest low.

Another weak conductive zone strikes northwest across lines 500ME to 700ME that lies along the western edge of a broad magnetic high.

A final conductive zone strikes east to west across lines 700ME to 500ME at about 800MS. This zone is a moderate conductive zone at a depth of 30 to 35 meters with a conductivity of 15 to 18 mhos and it lies along the southern edge of a good magnetic high unit. A weak zone parallels this main zone and it also lies along the edge of a narrow magnetic high.

CONCLUSIONS AND REOMMENDATIONS:

The magnetic survey was successful in locating and outlining the geological characteristics of the grid area. The grid area is cross cut by a number of faults, shears and or folds that have distorted the original strike direction that was probably east-west to northwest-southeast. The electromagnetic survey outlined several weak conductive zones that are generally associated with the edges of the magnetic high units. One zone appears to be a legitimate bedrock zone, striking across lines 700ME to 500ME at 800MS and it should be followed up further.

Generally the area is known to host quartz veins that have carried good gold values but only have minimal disseminated sulphides. These type of targets are not easily located by conventional electromagnetic surveys like the HLEM method because the sulphides are not in stringer type environments.

Kings Bay drilling has returned ore grade gold intersections at the Wagg showing and the Agassiz showing has returned ore grade gold from grab samples. The Galbraith showings have also returned encouraging gold results that have warranted follow up stripping, trenching and drilling programs. A follow up program of detailed mapping and soil sampling should help in explaining the conductive zones and magnetic highs that cross cut all of the grid areas. If further geophysics is planned for the grid areas I would suggest an IP survey be conducted in the areas of the more predominant conductive zones and associated magnetic highs. This method of geophysical follow up is good in areas of disseminated sulphides and gold rich veining.

Respectfully submitted

J. C. Grant
May 2011

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.

JOHN GRANT

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW ·

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

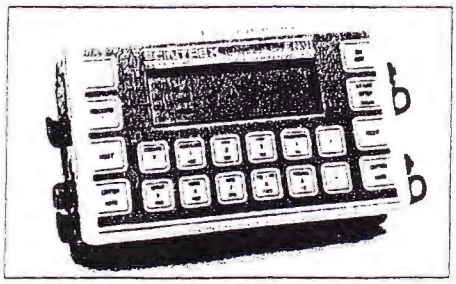
An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

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.

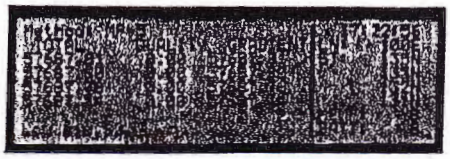
"Datacheck" Quality Control of Data

"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

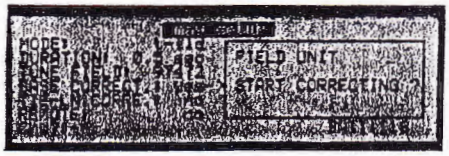
"Super-Twist" 64 x 240 dot (8 lines x 40 characters), LCD graphic screen provides good visibility in all light conditions. A display heater is optionally available for low-temperature operations below 0°C



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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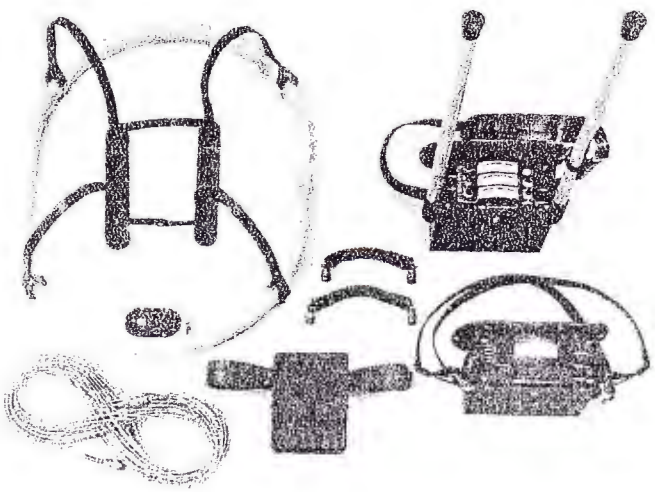
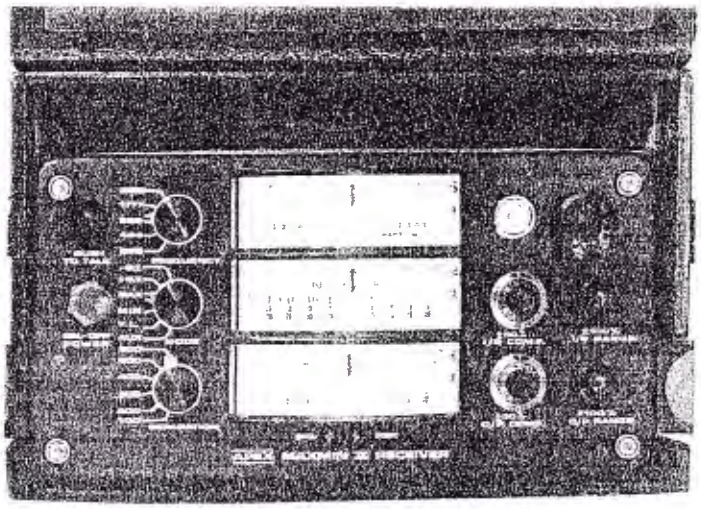
APPENDIX B

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.
Coil Configurations:	MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with reference 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.
Readout:	- 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 Power:	- 222Hz : 220 Atm^2 - 444Hz : 200 Atm^2 - 888Hz : 120 Atm^2 - 1777Hz : 60 Atm^2 - 3555Hz : 30 Atm^2
Receiver Batteries:	9V trans radio type batteries (4) Life: approx. 35 hrs. 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 NORDMK TOR