010

GEOPHYSICAL SURVEY REPORT

ON THE

BARRY HOLLINGER JOINT VENTURE

BOSTON PACAUD TOWNSHIPS

LARDER LAKE MINING DIVISION

DISTRICT OF TIMISKAMING, ONTARIO

FOR

MORGAIN MINERALS LTD.
121 RICHMOND STREET WEST,
SUITE 904,
TORONTO, ONTARIO
M5H 2K1

APRIL 10, 1987

MARY GREER
GEOPHYSICAL TECHNICIAN

PERRONS', KIRKLAND LAKE, ONT.

ILLUSTRATIONS

Scale: 1 inch to 200 feet

Date: March 1987

Morgain Minerals Ltd.

Barry Hollinger Joint Venture

Ground Magnetometer Survey

Map No. BH-87-1

Morgain Minerals Ltd.

Barry Hollinger Joint Venture

Ground VLF-EM Survey

NAA - Contoured

Map No. BH-87-2

TABLE OF CONTENTS

GEOPHYSICAL SURVEY REPORT
ON THE
BARRY HOLLINGER JOINT VENTURE
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INTRODUCTION

The Barry Hollinger Joint Venture consists of eight (8) contiguous mining claims, being seven claims (three patented) in Pacaud township and one staked claim in Boston township. The Boston township claim, formerly known as the O'Donald Lake Claim, was recorded by Alexander Perron on September 2, 1981. The four claims located in Pacaud township, formerly known as the Barry Hollinger Four Group, was recorded on August 14, 1984, for claim L-737417 and April 13, 1984 for claims L-737418 to L-737420 inclusive.

A geophysical grid with a north south orientation and 100 foot line spacing was established in November 1986, by Perrons'.

Following the establishment of the grid, a magnetometer survey was performed using an EDA OMNI IV PPM magnetometer.

This field work was performed by Mary Greer with Kate Calberry assisting.

In March of 1987, a follow up electromagnetic survey was performed by Perrons' using a Geonics VLF-EM16 Unit at a 200 foot line spacing at 50 foot intervals.

This survey was conducted by Mary Greer with Anita Helin assisting. All drafting and interpretation of the data was by Mary Greer.

The purpose of this report is to briefly describe the results attained in said surveys.

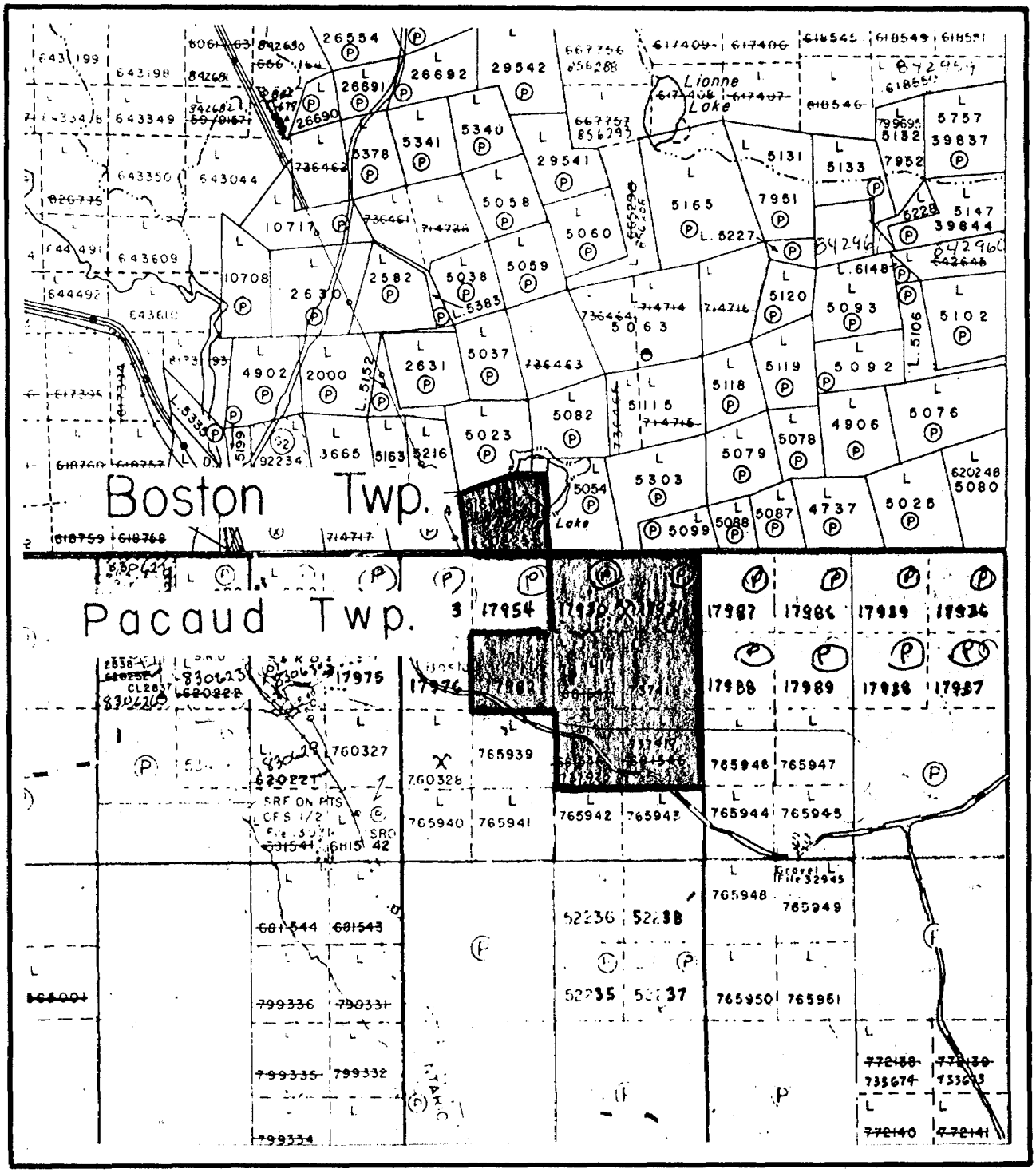
The anomalies detected therefrom, are shown on the accompanying plan maps, at a scale of one inch to 200 feet, that form an integral part of this report.

PROPERTY DESCRIPTION

The Barry Hollinger consists of 5 unpatented mining claims and 3 patented mining claims, all contiguous, located in Boston and Pacaud townships, Larder Lake Mining Division, District of Timiskaming, Ontario, and are further described as follows: (See Figure 1a).

Claim Number	Patented	Township	No. of Claims
L-17930 - L-17931	YES	Pacaud	2
L-17982	YES	Pacaud	1
L-620225	NO	Boston	1
L-737417-L-737420 (inclusive)	NO	Pacaud	4
		Total Number of Claims	8

Ownership of the aforementioned claims has been attested to by Alexander H. Perron of 103 Government Road East, Kirkland Lake, Ontario, and was not independently ascertained by the writer.



Claim Location Map

Scale: 1 inch to 1/2 mile

Taken from a June 1986

Figure 1a

LOCATION AND ACCESS

The claim group lies along the Boston-Pacaud township line approximately one half mile from the village of Boston Creek which is twelve (12) miles southeast of the town of Kirkland Lake.

The property is accessible via a secondary road that extends eastward from the village into the Barry Hollinger mine site, and may be reached via highway No. 112 and highway No. 564. (See figure 1b).

PREVIOUS WORK

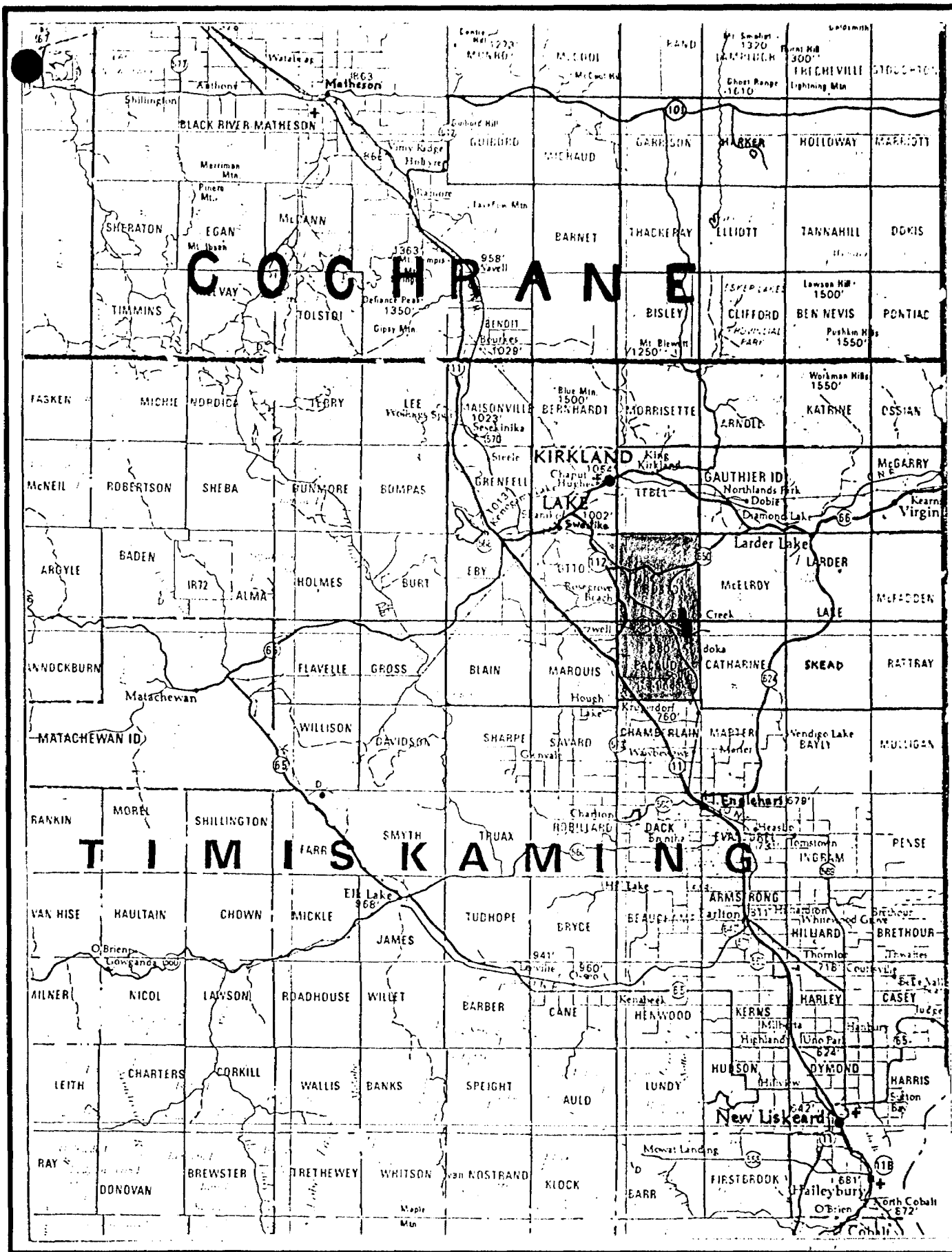
Scattered old trenchings can be found throughout the staked claims, no records are available to show any results found from these workings. Any assays, if obtained at the time these trenches were made, are not on record.

The work performed on the patent claims are associated with the mine workings of the Barry Hollinger Gold Mines. Some surface and underground workings maps are no longer available.

See the Regional Geologist office for any work filed in the Assessment files, including recent geophysical surveys filed by Perrons'.

SURVEY PROCEDURE

A baseline was established along the Boston- Pacaud township line which was turned off by a surveyor's transit from located surveyed patent pins. A grid system of picket lines 100 feet apart was established at right angles to the baseline, using a transit.



Location Map

Figure 1b

Two control tielines were established, one 1,320 feet south of the baseline, along the boundary of the patent claims, and one approximately 4,000 feet south of the baseline.

Stations 100 feet apart were picketed along the lines controlled by break chaining and readings were taken at 25 foot intervals on all picket lines. For the VLF-EM Survey readings were taken at 50 foot intervals on all lines 200 feet apart.

A primary magnetic base station was established at BL 24 + 00 E with secondary check stations located at each baseline-picket line intersection. Secondary check stations were also fixed along the 40 + 00 S tieline to keep tight control on the diurnal drift. The time interval between each secondary check station was within forty (40) minutes.

TOPOGRAPHY

The southern claims are covered by open swamp and a tailings pond surrounded by rough outcrop to the north, and a high glacial drift covered hill to the south.

A small lake, O'Donald Lake, is found in Boston township on the corner of L-620225.

Most of the property is covered by poplar and birch bush, particularly on the high areas. Some spruce and balsam mixed bush can be found in the areas of exposed outcrop. Most low and swampy areas are covered with spruce and alder or are open, covered with grass and cattails.

GENERAL GEOLOGY

According to the O.D.M. Annual Report covering Geology of Boston township and part of Pacaud township, Map No. 1957-4 indicates the underlying bedrock consists of basic volcanic lava flows of the Keewatin age. These rock types are primarily gabbroic lava flows and andesite, basalt and pillow lava. The flows appear to be trending northwest-southeast and are facing east. These lava flows lie in faulted contact with sheared and altered tuffs and tuffaceous sediments. The fault strikes southeast and is known as the Pacaud Fault.

ECONOMIC GEOLOGY

The patent claim group was the former Barry Hollinger Gold Mines, which was originally known as the Patricia property and was acquired in 1918. The mine was in operation until 1936 and 267,741 tons of ore was milled. Over $1.6 million in gold and $3,800. in silver was recovered.

Underground operations were carried out primarily on the No. 7 Vein, although twelve (12) veins were found on the property.

The No. 7 Vein strikes N 57° E and dips 70° SE. The presence of gold appears to depend largely on the quartz and is found as irregular lenses in the vein.

The mine workings are primarily in basic lavas and the shaft is in Keewatin diabase. The mine is developed to the 2,500 foot level, a two compartment shaft extends from surface to the 1,000 foot level with a three compartment winze from the 1,000 foot level to the 2,250 foot level.

Directly to the north of the Barry Hollinger lies the Bargnesi property which has a gold showing of a quartz-carbonate vein stockwork which occurs in massive dark green, dioritic lava. The property was worked through 1937 to 1956.

The area of Boston Creek saw a fury of gold prospecting and developing at the time of the Barry Hollinger Mine. An idle period over the years has been brought to an end by the recent exploration and redevelopment by Golden Shield Resources Ltd. on the old Mirado Mine property.

The property occurs along the northern township line of Catharine and McElroy and was developed and then closed. New development of a new zone involving open pit mining as well as further underground work has prompted new interest in similar properties such as the Barry Hollinger.

INSTRUMENTATION

Electromagnetic Survey:

The VLF-EM method uses as a source, one of the main submarine communications transmitters in the 15 to 25 kHz band found throughout the world. These submarine communication radio waves travel in a single mode parallel to the surface of the earth along the earth-air surface.

Without vertical conductors and travelling over flat ground, the magnetic field component of this radio or surface wave is horizontal and perpendicular to it's direction of travel.

VLF instruments are capable of picking up these structures that change the direction of the waves by measuring the tilt angle of the major axis of the polarization ellipse. This is illustrated by the tilt angle being zero on flat ground, but when a conductor is present the tilt angle will acquire a finite value. The direction of tilt indicates the direction of the conductor. Calculations of such parameters as depth, depth extent, dip and width of the conductor is very minimal.

The VLF easily illustrates the location of the upper limit of dipping structures which can be seen or plotted as VLF profiles as areas of greatest change in tilt angle per unit of distance.

The instrument used for this EM survey was a Geonics VLF-EM16 Unit. The sensitivity of this unit is $\pm$ 1% for the in-phase and $\pm$ 1% for the quadrature. The operating frequency for the EM16 is from 15-25 kHz and the station selection is made by plug-in units.

For the purpose of this EM survey the station used was Cutler, Maine, which has a frequency of 24.0 kHz.

All the readings were taken facing north at 50 foot intervals and the topography was noted for future use in the interpretation of the EM results.

Magnetic Survey:

This system uses a backward motion of spinning protons of a hydrogen atom within a fluid of hydrogen and carbon. These spinning magnetic protons are caused to have two opposite poles by applying a magnetic field using a current within a coil of wire. When the current is stopped, the protons precess about the earth's magnetic field and in turn generate a small current in the wire. This frequency of precession is proportional to the earth's total magnetic field.

This instrument is read directly in gammas which is the absolute value of the earth's total field for that station.

The instrument used for this survey was an EDA OMNI IV Tie-Line Proton Magnetometer, this instrument has a sensitivity of .01 gammas.

The diurnal variation was monitored by tieing in each line at a check station located at the ends of the lines on the baseline and the tie-line at 40 + 00 S.

This magnetometer has the ability to calculate and correct any diurnal variations. This is calculated by tieing in all lines to known

points on the ground and known tie-ins to the computer in the magnetometer.

PRESENTATION AND DISCUSSION OF RESULTS

i) Electromagnetic Survey:

The field data is presented on a map at a horizontal scale of one inch to 200 feet, Map No. BH-87-2, found in the back pocket of this report.

The VLF-EM data is illustrated in this report as contoured data using the Fraser Filter method. This was done as such to show simple clarity on the printed map. At such a close line spacing of 100 feet, it would be difficult to tell which profiled information belongs to their respective data numbers and lines. Also to help reduce the possibility of a large geologic noise component which can result from the high-transmitted frequency, again over close line spacing.

A method of contouring the data was devised by D.C. Fraser involving data manipulation to filter out the geologic noise. This method involves simple adding and subtracting of the in-phase values, eliminates the dynamic range problem and reduces the noise.

This method is the sum of the in-phases at two consecutive stations, subtracted from the sum at the next two stations. Negative values are not plotted or contoured since they do not aid in the interpretation of the conductors.

For the presentation of this report see the plan maps for conductor locations.

Several conductors were found on the property. All trending in an easterly direction and most occurring over areas of swamp or wet flat ground.

By comparing the field notes, most conductors can be identified as to their source.

Conductor 87-A is an abandoned collapsed hydro line, the conductor axis being the exact location of the wires.

Conductor 87-B follows the edge of a steeply sloping north face hill and a swamp. It is interrupted by the hydro line (Conductor A) which also occurs at the bottom of the hill at L 26 + 00 E 28 + 00 S.

Conductor 87-C occurs on the north side of the swamp (partially covered by tailings), along the edge of a south facing slope often being exposed outcrop.

Conductors 87-D are grouped together having the same topographical characteristics. They both occur over a swampy area having areas of dry flat ground, with some scattered outcrop.

Conductor 87-E is found on the top of the high north facing hill. It is associated with flat ground with some outcrop. The bush is poplar, birch and spruce and seems to be quite dry. There appears to be no topographical associations of any kind.

Conductor 87-F outlines the swamps and beaver ponds found to occur between the high rugged outcrop terrain.

Conductor 87-G is the only conductor that may have some association with geological structures. From L 24 + 00 E to L 30 + 00 E. The anomaly is found over rough terrain with areas of exposed outcrop and large boulders. From L 32 + 00 E to L 38 + 00 E the ground is flat, on the north side of exposed outcrop and even occurs over some swamp. The conductor appears to have the same intensity along the axis, so there may be an association between the rocky half of the conductor and the swampy half.

Conductor 87-H is a small zone occurring over the area of the shaft, core shack and muck pile. This is a small weak conductor and may be caused by pipes or related mining artifacts.

Most of the areas shown, as contoured VLF-EM anomalies, outline the low swampy areas, beaver ponds and flat ground probably consisting of conductive overburden.

To discover more about these conductive zones the data should be profiled. By comparing the in-phase and quadrature of the profiled data, it is possible to determine such responses as being caused by sulphides, faults or topographical features.

ii) Magnetic Survey:

The field data is presented on a map at a horizontal scale of one inch to 200 feet, Map No. BH-87-1, found in the back pocket of this report.

The magnetic data is illustrated as isomagnetic contours (contour interval 100 gammas) on a map of corrected magnetic values recorded at each station.

Working the magnetometer in the field was done with great care to ensure clean readings. With such closely spaced readings, it was difficult to avoid distorted values caused by iron bearing debris left behind by mining activities. The EDA magnetometer records automatically an error, which determines the accuracy of each reading. Due to accumulated snow some high errors could not be accounted for so these readings were omitted from the map if the error was over 2.0 gammas and a cleaner reading could not be obtained in the field. Only one reading on the map occurring at L 24 + 00 E 2 + 00 S could be questioned as a poor reading.

Three distinct magnetic anomalous areas are noted. One major structure occurs in the southern part of the claim group and trends in a southeast direction. The other major structure occurs in the northeast corner of the property and has a very high magnetic response, as much as 7,000 gammas above the background values. The third anomalous zone occurs as a narrow broken up response trending southeast with large wide low areas on either side.

With closely spaced readings and lines it is easy to accurately see any small changes in these major structures. Important structures noted from this survey are east west deviations of the magnetic trend. A large one occurs from L 23 + 00 E to L 30 + 00 E approximately 8 + 00 S. A structure can be seen to cross this high, indicated as a low, breaking the regularity of the higher response. There are similar zones at L 17 + 00 E to

L 22 + 00 E at 4 + 00 S; L 30 + 00 E to L 34 + 00 E 15 + 00 S; and 31 + 00 E to L 34 + 00 E 34 + 00 S.

These described areas occurring over claim L-17930 are in direct relationship with the known locations of the major gold veins, which gives cause to further consider the other zones as possible outlines for auriferous areas.

The heavily altered and shear zones of the Pacaud fault is clearly shown by the southern magnetic high, it is also shown to deviate from it's southeastern trend to bend nearly due south at L 28 + 00 E to L 30 + 00 E. This may show a shifting of the fault or a cross-cutting north south fault which may also show up in the mixed up, broken up magnetic trend which crosses the centre part of the property. This trend may be carried through to the bottom left corner of claim L-620225. This zone is just bending south at L 8 + 00 E and cannot be projected south of the baseline without further field work.

CONCLUSIONS AND RECOMMENDATIONS

Only Conductor 87-B appears to have any association with the magnetic trend and structure when overlayed with the magnetic survey map. It should be noted from the TL 13 + 20 S 10 + 00 E to L 26 + 00 E the VLF conductor axis is found to occur along the edge of a higher magnetic gradient. This gradient when compared with the local geology map shows the boundary of the Pacaud Fault. The EM conductor 87-B may be this fault, normally faults or shear zones do not give anomalies without a cause. Some conductivity must be associated with them, sulphide deposits may be one of the causes. Because of the conductive overburden found in the swamp, the EM response is influenced, causing a modification of the

profiled data. This gives cause for a geological interest in 87-B rather than passing it off as a topographical response.

Conductor 87-G has no relation with any known geology whem compared to the local geology map, nor does it have any magnetic associations.

The only point of interest occurs at L 28 + 00 E 15 + 00 S. Here the southeast-northwest magnetic trend is interrupted at this point by a magnetic low and this low is immediately south of the EM conductor axis. This low indicates a change in the structure, possibly caused by a fault which also may be indicated by the EM response. This conductor and magnetic zone should be tested with enough diamond drill footage, to completely test the cause for the magnetic trend and EM response. It may be possible that this structure may be found at depth, a deep hole should be considered.

Also the small magnetic east-west deviations should be tested by diamond drilling. These zones have been mapped out to have strong associations with the known gold veins. These zones have never been tested over the staked claims and may prove to be favourable gold zones. One good example would be found at L 29 + 00 E to L 34 + 00 E 14 + 00 S. This zone has the same characteristics as the known gold veins mapped and tested as the Barry Hollinger ore deposits.

Respectfully submitted,

Mary Greer

April 10, 1987

Mary Greer
Geophysical Technician

BIBLIOGRAPHY

Sixty-sixth Annual Report of the

Ontario Department of Mines

Volume LXVI, Part 5, 1957

Geology of Boston Township and part of

Pacaud Township by K.D. Lawton

C E R T I F I C A T E

I, Mary Greer, of Kirkland Lake, Ontario, do hereby certify:

1) That I am a Geophysical Technician and reside at:
49 McKelvie Avenue, Kirkland Lake, Ontario, P2N 2K6

2) That I graduated from Sir Sandford Fleming College at Lindsay, Ontario, in 1978, with a diploma as a Geological Technician.

3) That I have been continuously engaged in my profession for the past six (6) years and I am qualified to write this report.

4) That I supervised and participated in this survey.

April 10/87
Date

Mary Greer
Mary Greer
Geophysical Technician

Ontario and Mines

(Geophysical, Geological, Geochemical and Expenditures)

W8708.1320.0951

32D04SW0380 2.9951 PACAUD

900

Type of Survey(s)
MAGNETOMETER SURVEY

PACAUD

Claim Holder(s)
ALEXANDER H. PERRON

Prospector's Licence No.
K-19026

Address
103 GOVERNMENT ROAD EAST, KIRKLAND LAKE, ONTARIO P2N IA9

Survey Company
PERRONS

Date of Survey (from & to): 28 11 86 (Day Mo. Yr.) 23 12 86 (Day Mo. Yr.)

Total Miles of line Cut
12.5 MILES

Name and Address of Author (of Geo-Technical report)
MARY GREER, 103 GOVERNMENT ROAD EAST, KIRKLAND LAKE, ONTARIO P2N IA9

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	737417	
	737418	
	737419	
	737420	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

MINING LANDS SECTION

LARDER LAKE MINING DIVISION
RECEIVED
APR 1 1987
Y.554m

Total number of mining claims covered by this report of work: 4

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
80	APR 1 1987	M.C. Wenner
	Date Approved as Recorded: 6 May/87	Branch Director

Date: March 24/87 Recorded Holder or Agent (Signature): Mary Greer

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
MARY GREER, 103 GOVERNMENT ROAD EAST, KIRKLAND LAKE, ONT P2N IA9

Date Certified: March 24/87 Certified by (Signature): Mary Greer

1362 (85/12)

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOPHYSICAL SURVEY

Township or Area BOSTON - PACAUD TOWNSHIPS

Claim Holder(s) ALEXANDER H. PERRON, 103 GOV'T RD. EAST, KIRKLAND LAKE, ONT. P2N 1A9

Survey Company PERRONS'

Author of Report MARY GREER

Address of Author 103 GOV'T. RD. E., KIRKLAND LAKE, ONT.

Covering Dates of Survey NOVEMBER 1987 - MARCH 1987 (linecutting to office)

Total Miles of Line Cut 25 MILES

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	
–Magnetometer	20
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____ (enter days per claim)

DATE: April 10/87 SIGNATURE: Mary Greer
Author of Report or Agent

Res. Geol. _____ Qualifications 2.4529

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

	(prefix)	(number)
L-	(P)	17930
L-	(P)	17931
L-	(P)	17982
L-		620225
L-		737417
L-		737418
L-		737419
L-		737420

If space insufficient, attach list

TOTAL CLAIMS 8

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 1,328 Number of Readings VLF 1890 MAG 5312

Station interval 100 FEET Line spacing 100 FEET

Profile scale FRASER FILTER CONTOURED 10 UNITS

Contour interval 100 GAMMAS

MAGNETIC

Instrument EDA OMNI IV PPM

Accuracy – Scale constant +- .01 GAMMA

Diurnal correction method CLOSED LOOP - TIELINE METHOD

Base Station check-in interval (hours) 30 MINUTES

Base Station location and value BL 24 + 00 E 58,600 GAMMAS

ELECTROMAGNETIC

Instrument GEONICS EM16 UNIT

Coil configuration VERTICAL AND HORIZONTAL

Coil separation INFINITY

Accuracy +- 1%

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency CUTLER MAINE NAA 24.0 KHz (specify V.L.F. station)

Parameters measured INPHASED AND QUADRATURE - INPHASED CONTOURED USING FRASER FILTER METHOD

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken_____

_____

_____

Total Number of Samples_____

Type of Sample_____
(Nature of Material)

Average Sample Weight_____

Method of Collection_____

_____

Soil Horizon Sampled_____

Horizon Development_____

Sample Depth_____

Terrain_____

_____

Drainage Development_____

Estimated Range of Overburden Thickness_____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis_____

_____

_____

_____

General_____

_____

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_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others_____

Field Analysis (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Field Laboratory Analysis

No. (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Commercial Laboratory (_____tests)

Name of Laboratory_____

Extraction Method_____

Analytical Method_____

Reagents Used_____

General_____

_____

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_____

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_____

PERRONS

103 GOVERNMENT ROAD EAST - KIRKLAND LAKE, ONTARIO - P2N 1A9 - (705) 567-7057

April 10, 1987

REGISTERED

Mr. Arthur Barr,
Lands Administration Branch,
Mining Lands Section,
Ministry of Northern Development and Mines,
Room 6450, Whitney Block,
Queen's Park,
Toronto, Ontario
M7A IW3

Dear Mr. Barr:

RE: Geophysical Survey Report on the
Barry Hollinger Joint Venture
Larder Lake Mining Division

Enclosed herewith please find a duplicate copy of the following:

- Report dated April 10, 1987, by Mary Greer entitled:
  Geophysical Survey Report
  On the Barry Hollinger Joint Venture
  Boston/Pacaud Townships
  Larder Lake Mining Division
  District of Timiskaming, Ontario

I trust this is the information required to correspond with the Report of Work filed concerning the above noted township.

Yours truly,

PERRONS

Mary Greer
Geophysical Technician
MG/p
Encls.

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

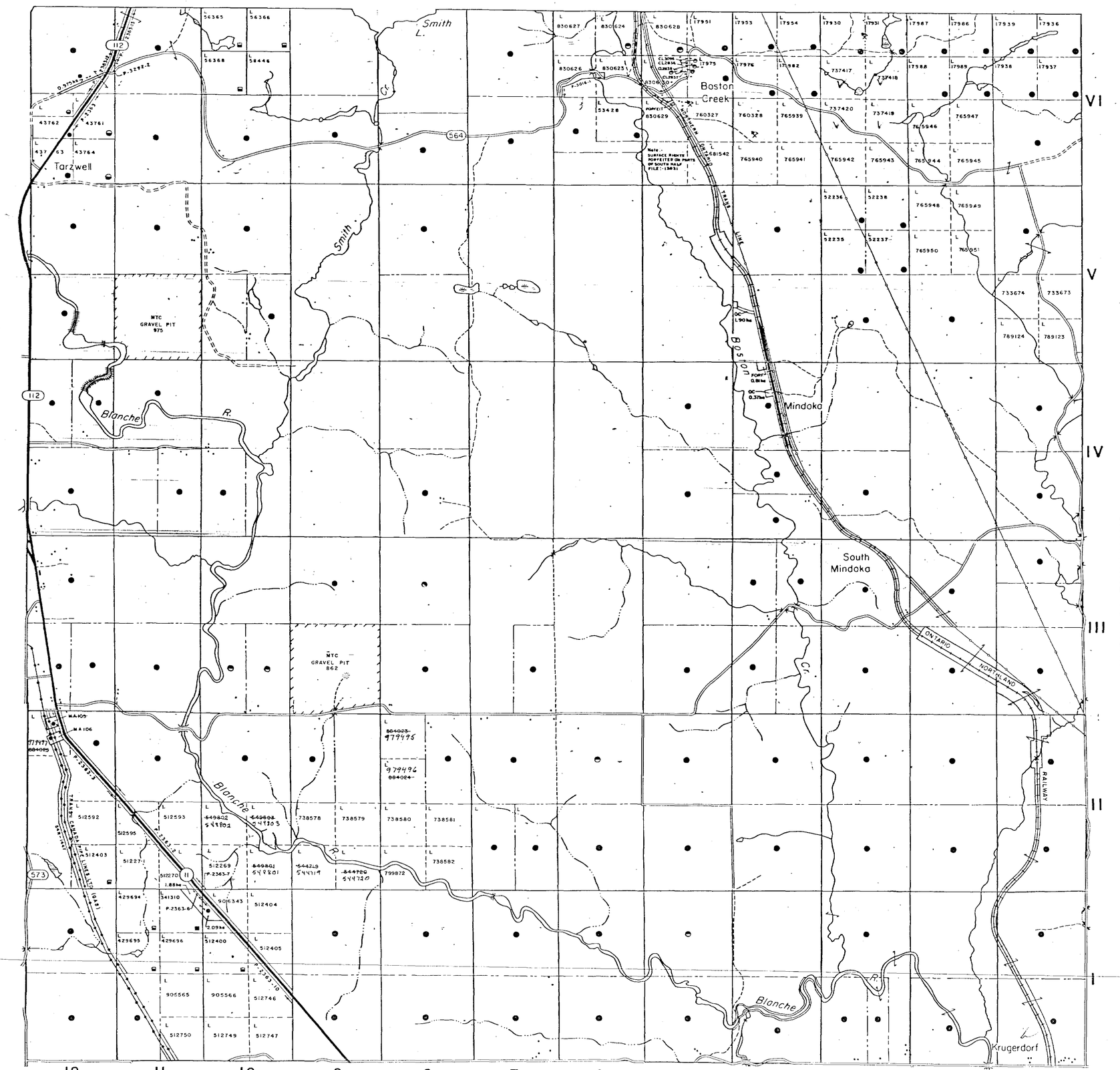
Description	Order No.	Date	Disposition	File

BOSTON TOWNSHIP

MARQUIS TOWNSHIP

CATHARINE TOWNSHIP

CHAMBERLAIN TOWNSHIP



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◒
" , MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	◨
" , MINING RIGHTS ONLY	◧
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	R
CANCELLED	⊗
SAND & GRAVEL	S

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1.

500 0 1000 Metres
10 0 10 20 30 40 50 60 70 Chains
500 0 1000 2000 3000 4000 5000 Feet

SCALE 1:20 000

DATE OF ISSUE
MAR 20 1987
LARDER LAKE MINING RECORDER'S OFFICE

Recd Nov 13, 1986

TOWNSHIP

PACAUD

M.N.R. ADMINISTRATIVE DISTRICT
KIRKLAND LAKE
MINING DIVISION
LARDER LAKE
LAND TITLES / REGISTRY DIVISION
TIMISKAMING

Ontario Ministry of Natural Resources
Ministry of Northern Development and Mines

Date OCTOBER, 1986
Number G-3697

200

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L 4+00 E
L 5+00 E
L 6+00 E
L 7+00 E
L 8+00 E
L 9+00 E
L 10+00 E
L 11+00 E
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L 39+00 E
L 40+00 E
L 41+00 E
L 42+00 E

12+00 N
10+00 N
8+00 N
6+00 N
4+00 N
2+00 N
B/L
2+00 S
4+00 S
6+00 S
8+00 S
10+00 S
12+00 S
T/L 13+20 S
14+00 S
16+00 S
18+00 S
20+00 S
22+00 S
24+00 S
26+00 S
28+00 S
30+00 S
32+00 S
34+00 S
36+00 S
38+00 S
T/L 40+00 S

620225
87·D
87·H
17930
17931
87·F
87·G
87·C
87·B
17982
L 737417
87·B
87·C
L 737418
87·F
87·A
L 737420
L 737419
87·B
87·E

SYMBOLS

Electromagnetic response

Fraser filter positive values 7 21

Old hyrdo line —H—

Claim post ■ Claim line — —

Township line —·—·—

Road .....

INSTRUMENTATION

GEONICS EM16 unit

Station used: Cutler, Maine NAA

Frequency: 24.0 kHz

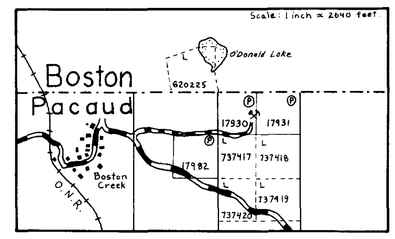
Contoured by: Mary Greer

EM conductor axis: ——87·A

Station direction:

N

KEY MAP



Mary Greer

MORGAIN MINERALS LTD.

BARRY HOLLINGER JOINT VENTURE

GROUND VLF-EM SURVEY
NAA-Contoured

BOSTON-PACAUD TOWNSHIP
LARDER LAKE MINING DIVISION
DISTRICT OF TIMISKAMING, ONTARIO

200 0 200 400 600

Scale: 1 inch to 200 feet

PERRONS'
Kirkland Lake Canada

Drawn by: Mary Greer | Date: March '87 | Map No.: BH-87-2

2.9951

L 3+00 E
L 4+00 E
L 5+00 E
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L 39+00 E
L 40+00 E
L 41+00 E
L 42+00 E

12+00 N
10+00 N
8+00 N
6+00 N
4+00 N
2+00 N
2+00 S
4+00 S
6+00 S
8+00 S
10+00 S
12+00 S
13+20 S
14+00 S
16+00 S
18+00 S
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22+00 S
24+00 S
26+00 S
28+00 S
30+00 S
32+00 S
34+00 S
36+00 S
38+00 S
40+00 S

620225
17930
17931
17932
737417
737418
737419
737420

LEGEND

- > 3500 ɣ
- 2500 - 3500 ɣ
- 2000 - 2500 ɣ
- 1500 - 2000 ɣ
- 1000 - 1500 ɣ
- 800 - 1000 ɣ
- 500 - 800 ɣ
- 300 - 500 ɣ
- 0 - 300 ɣ
- < 0 (58,000) gammas

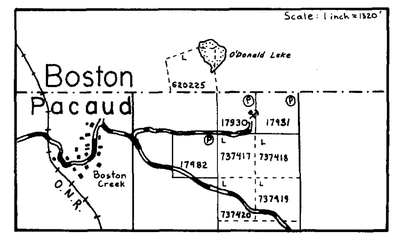
SYMBOLS

Isomagnetic contours
Base station
Claim post ■ Claim line — —
Township line

INSTRUMENTATION

EDA OMNI IV PPM
DATUM: 58000 ɣ
Contour interval: 100 gamma
Contoured by: Mary Greer

KEY MAP



Mary Greer

MORGAIN MINERALS LTD.

BARRY HOLLINGER
JOINT VENTURE

GROUND MAGNETOMETER SURVEY

BOSTON-PACAUD TOWNSHIP
LARDER LAKE MINING DIVISION
DISTRICT OF TIMISKAMING, ONTARIO

200 0 200 400 600
Scale: 1 inch to 200 feet

PERRONS'
Kirkland Lake Canada

Drawn by: Mary Greer | Date: March '87 | Map No.: BH-87-1

29951