42A01SE0182 2.9944 EBY

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GEOPHYSICAL SURVEY REPORT

ON THE

PERRON PROPERTY

EBY 66 GROUP

EBY TOWNSHIP

LARDER LAKE MINING DIVISION

DISTRICT OF TIMISKAMING, ONTARIO

FOR

ALEXANDER H. PERRON

RECEIVED
APR 13 1987
MINING LANDS SECTION

APRIL 4, 1987

MARY GREER
GEOPHYSICAL TECHNICIAN

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ILLUSTRATIONS

CLAIM LOCATION MAP - (Figure 1a). . . . . 2a)

LOCATION MAP - (Figure 1b). . . . . 2b)

ACCOMPANYING PLAN MAP. . . . . IN BACK POCKET

Scale: 1 inch to 200 feet

Date: March, 1987

Eby 66

Ground VLF-EM Survey

Map No. 87-66-2a

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GEOPHYSICAL SURVEY REPORT
ON THE
PERRON PROPERTY
EBY 66 GROUP
EBY TOWNSHIP
LARDER LAKE MINING DIVISION
DISTRICT OF TIMISKAMING, ONTARIO

INTRODUCTION

The Eby 66 was recorded by Mary Greer on April 2, 1985.

A geophysical grid was established by Perrons during February, 1986, and two subsequent geophysical surveys (electromagnetic, magnetic) and a geological survey were completed.

On March 25, 1987, an electromagnetic survey using Annapolis, Maryland was performed over the grid. This work was conducted by Mary Greer with Anita Helin assisting. All drafting and interpretation was completed by Mary Greer.

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

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

PROPERTY DESCRIPTION

The Eby 66 Group consists of three (3) contiguous unpatented mining claims located in Eby township, SW 1/4 SE 1/4, Lot 4, Concession V, and NE 1/4

Lot 4, Concession IV, Larder Lake Mining Division, District of Timiskaming, Ontario, and are further described as follows:

Claim No.	No. of Claims
L-739256	1
L-799559-799560	2
	3

The recorded holder of the claims is Mary Greer of 49 McKelvie Avenue, Kirkland Lake, Ontario. (See Figure 1a).

LOCATION AND ACCESS

The Eby 66 Group is located in the central part of Eby township, on Highway No. 66. The property is found in Concession V and IV central part of Lot 4.

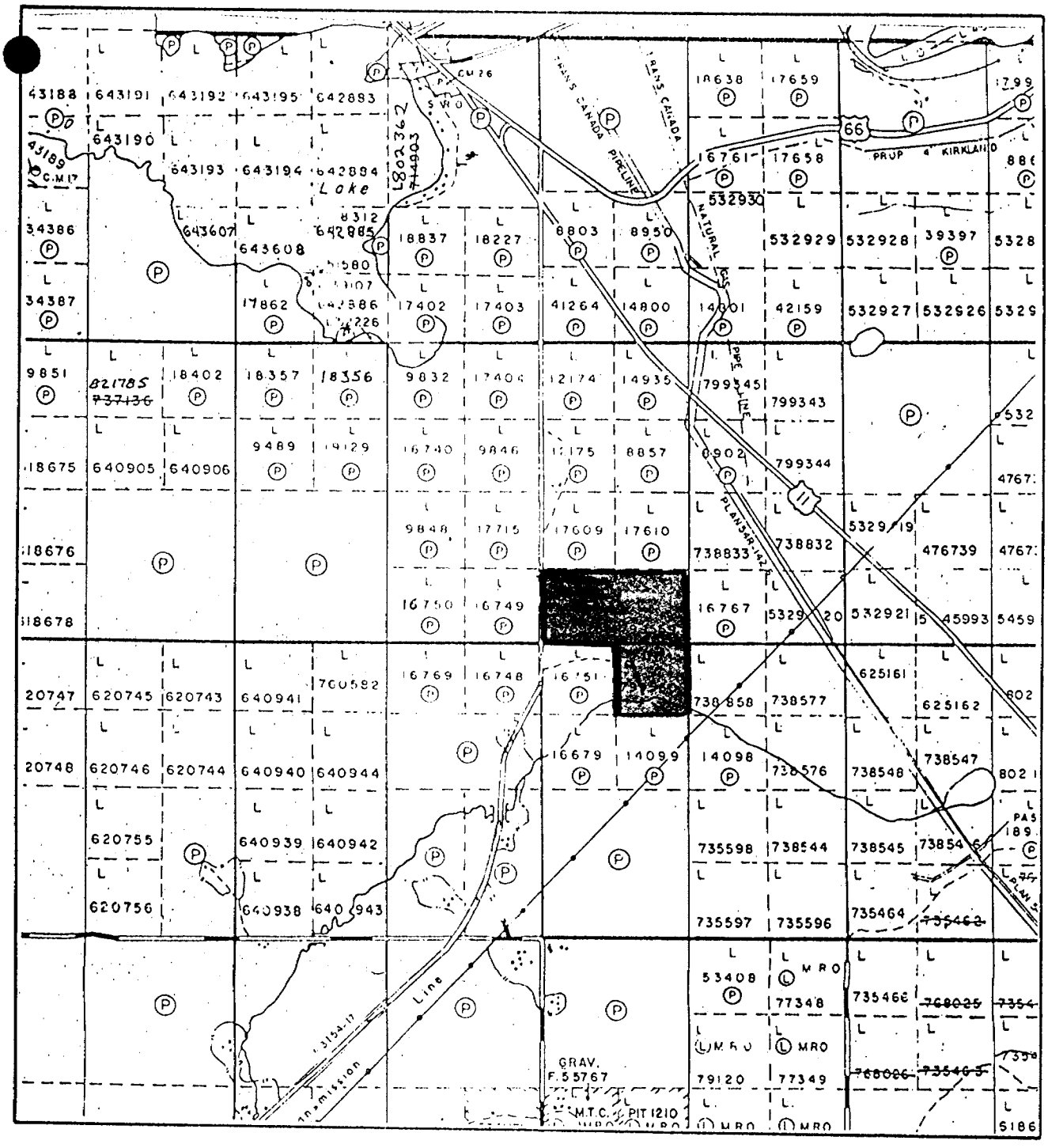
The property is eleven (11) miles west from the town of Kirkland Lake, Ontario, on Highway No. 66, then two (2) miles west to the Eby Concession III Line. (See Figure 1a and 1b).

PREVIOUS WORK

Old trenchings can be found on the claims, see the Regional Geologist Assessment Files for surveys previously performed on Claim Group.

SURVEY PROCEDURE

An east - west baseline was established from the number three post of L-739256 for 2,600 feet.

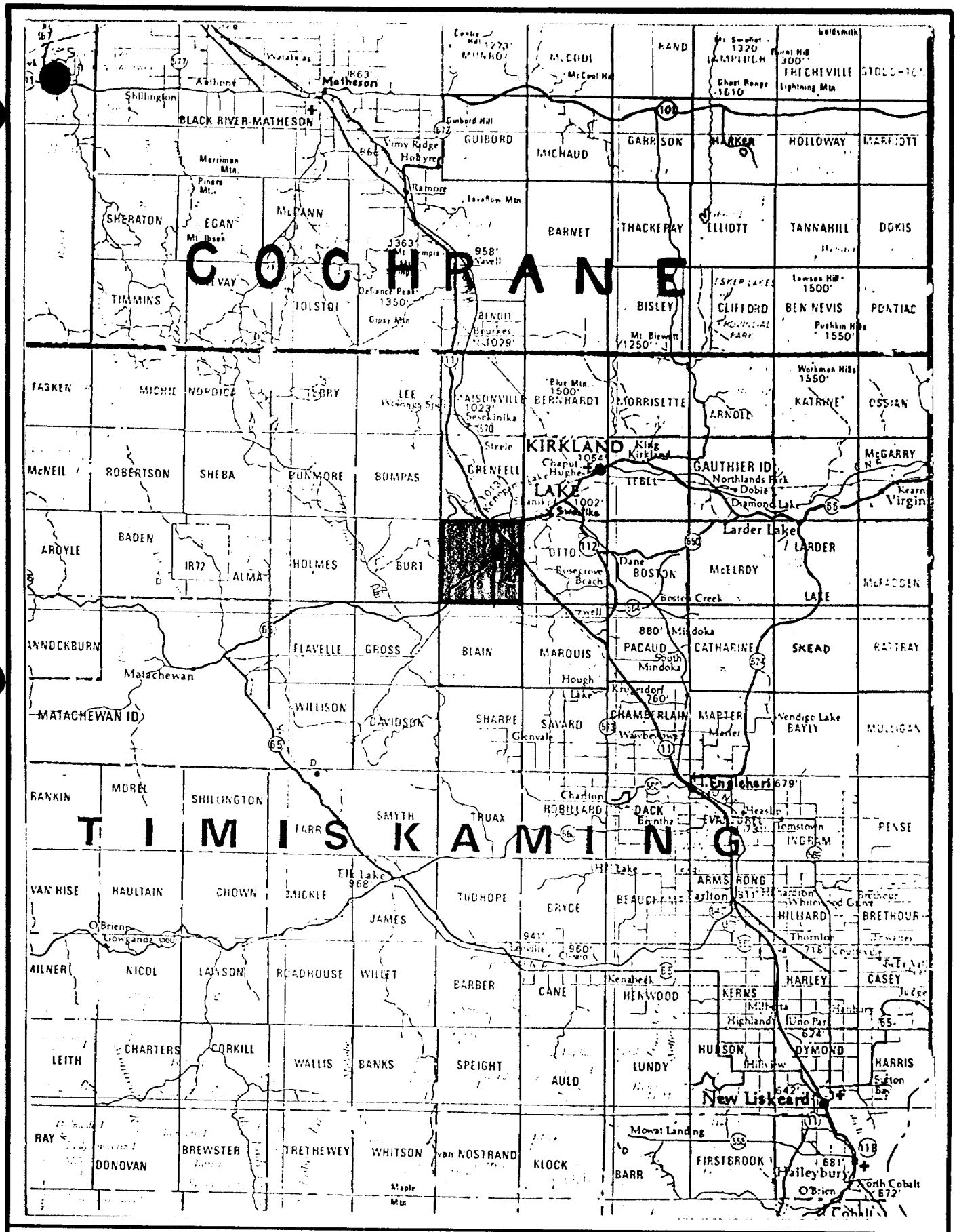


Claim Location Map

Scale: 1 inch to 1/2 mile

(Taken from a Mar. 1985 claim map)

Figure 1a



Location Map

Miles 10 0 10 20

Figure 1b

A grid system of picket lines 400 feet apart with stations every 100 feet, was established at right angles to the baseline.

Readings were taken at each 100 foot station on all picket lines.

TOPOGRAPHY

The claim group is covered by poplar and birch bush to the west, and areas of spruce, balsam fir and alder to the east. The areas of outcrop found in the centre of the group is dry and rugged, and covered with moss, spruce and poplar mixed bush. A creek and swampy area occurs on the southern claim L-799560.

GENERAL GEOLOGY

The O.D.M. Geological Report No. 99, Geology of the Eby and Otto area, District of Timiskaming, indicates that the underlying bedrock is predominantly mafic metavolcanics. The meta sediments of the Kirkland Lake-Larder Lake break occur to the north of the property, below Kenogami Lake.

ECONOMIC GEOLOGY

Gold is known to occur in carbonate rocks and these rocks are not confined to the area of the Kirkland-Larder Lake break area. These carbonate zones can be found by detailed geological mapping and magnetic surveys for formations under the overburden. The zones will form low areas between the magnetic highs that show up other formations such as iron formations.

INSTRUMENTATION

i) 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 interface.

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

For the purpose of this survey the station used was Annapolis, Maryland, which has a frequency of 21.4 kHz.

All readings were taken perpendicular to the station and the topography was noted for further use in the interpretation of the EM results.

PRESENTATION AND DISCUSSION OF FIELD OBSERVATIONS

i) Electromagnetic Survey:

The field data is presented on a map at a horizontal scale of one inch to 200 feet, Map No. 87-66-2a, found in the back pocket of this report.

The VLF-EM data is illustrated as profiled data along the survey lines and is plotted at a vertical scale of 1 inch to $\pm$ 40%, with the positive to the left and the negative to the right.

One prominate conductor was found on L 16 + 00 E and L 20 + 00 E at 5 + 00 N. This conductor shows every large inphase and a negative quadrature. This may indicate an anomalous zone at depth which also may be affected by conductive overburden.

CONCLUSIONS AND RECOMMENDATIONS

This conductor verifies the anomalous zones previously detected by the former VLF-EM and magnetic survey. This zone is close to areas accessible by a large back hoe. It is recommended that zone stripping and trenching be performed before any further work such as diamond drilling is considered.

This area would however be the target for future diamond drill consideration.

Respectfully submitted,



April 4, 1987

Mary Greer
Geophysical technician

BIBLIOGRAPHY

Ontario Department of Mines and Northern Affairs

Geological Report 99

Geology of the Eby and Otto Area
District of Timiskaming

by H. L. Lovell 1972

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 4 (87
Date

Mary Greer
Mary Greer
Geophysical Technician

Ontario — Geochemical and Expenditures

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Type of Survey(s)
GEOPHYSICAL ELECTROMAGNETIC

Claim Holder(s)
MARY GREER

K- 19410

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

Survey Company
PERRONS

Date of Survey (from & to): 23 03 87 (Day / Mo. / Yr.) — 25 03 87 (Day / Mo. / Yr.)

Total Miles of line Cut
APPROX. 3.5MILES

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

		Days per Claim
Special Provisions For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Electromagnetic	20
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits **Note:** Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	739256				
	799559				
	799560				

LARDER LAKE MINING DIVISION
RECEIVED
MAR 27 1987
9:15 AM

Total number of mining claims covered by this report of work: 3

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
60	MAR 27 1987	M. A. Wenman
	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) ELECTROMAGNETIC (NSS) SURVEY

Township or Area EBY

Claim Holder(s) MARY GREER, 103 GOVERNMENT ROAD E.
KIRKLAND LAKE, ONT. P2N IA9

Survey Company PERRONS

Author of Report MARY GREER

Address of Author 103 GOVERNMENT ROAD EAST, KIRKLAND LAKE, ONT.

Covering Dates of Survey MARCH 25, 1987
(linecutting to office)

Total Miles of Line Cut APPROXIMATELY 3.0 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	20
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: April 4/87 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-	739256
L-	799559
L-	799560

If space insufficient, attach list

TOTAL CLAIMS 3

OFFICE USE ONLY

B37 (85/12)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 139 Number of Readings 121

Station interval 100 FEET Line spacing 400 FEET

Profile scale 1 INCH = ± 40%

Contour interval

MAGNETIC

Instrument

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument GEONICS EM16

Coil configuration HORIZONTAL AND VERTICAL

Coil separation INFINITY

Accuracy ± 1

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

Frequency ANNAPOLIS MARYLAND 21.4 kHz (specify V.L.F. station)

Parameters measured INPHASE AND QUADRATURE

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 _____

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 _____

Grenfell Twp. M.351

Burt Twp. M.334

Otto Twp. M.379

Blain Twp. M.418

M.N.R. PILE 16864

Crooked Lake

T.N.O. Hydro Line

T.N.O. Hydro Line

L.U.P.

L.U.P.

L.U.P.

L.U.P.

M.T.C. PIT 1810

GRAVEL FILE 84569

GRAV. F.55767

Gravel F.55767

TRANS CANADA PIPE LINES

NATIONAL GAS

PASS

M.R.O.

S.R.O.

VI

V

IV

III

II

I

12 11 10 9 8 7 6 5 4 3 2 1

THE TOWNSHIP OF EBY

DISTRICT OF TIMISKAMING

LARDER LAKE MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

- PATENTED LAND — P
- CROWN LAND SALE — C.S.
- LEASES — L
- LOCATED LAND — Loc.
- LICENSE OF OCCUPATION — L.O.
- MINING RIGHTS ONLY — M.R.O.
- SURFACE RIGHTS ONLY — S.R.O.
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES — M.
- CANCELLED — C.

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

AREAS WITHDRAWN FROM STAKING
under Sec. 43 of The Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition

NE Lot 7, Con. 3 - Cert. of Forfeiture - Sept 17/85

DATE OF ISSUE

FEB 10 1987

LARDER LAKE MINING RECORDER'S OFFICE

PLAN NO. M-345

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

42A01SE0182 2.9944 EBY

200

Highway No. 66

L 739256

L 799559

L 799560

CON. V

CON. IV

L 4+00 E

L 8+00 E

L 12+00 E

L 16+00 E

L 20+00 E

L 24+00 E

Lot 4

Mag N10°W

N

SYMBOLS

Inphase

Quadrature

Claim post

Claim line

INSTRUMENTATION

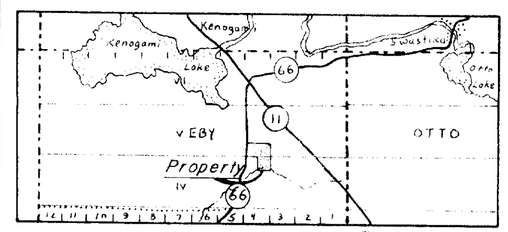
Geonics VLF-EM16

Annapolis, Maryland NSS
NSS 21.4 kHz

Vertical scale: 1 inch = ±40°

KEY MAP

(Scale: 1 inch to 2 miles)



EBY 66

GROUND VLF-EM SURVEY

EBY 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 | Map No. 87-66-2a | Date: April 1987

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