42A01SE0184 2.9042 EBY

010

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 21 1986
MINING LANDS SECTION

APRIL 17, 1986

MARY GREER
GEOPHYSICAL TECHNICIAN

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TABLE OF CONTENTS

INTRODUCTION. 1

PROPERTY DESCRIPTION. 1, 2

LOCATION AND ACCESS 2

PREVIOUS WORK 2

SURVEY PROCEDURE. 2, 3

TOPOGRAPHY. 3

GENERAL GEOLOGY 3

ECONOMIC GEOLOGY. 3

INSTRUMENTATION 4, 5

PRESENTATION AND DISCUSSION OF FIELD OBSERVATIONS 6

CONCLUSIONS AND RECOMMENDATIONS 6, 7

BIBLIOGRAPHY. 8

CERTIFICATE 9

ILLUSTRATIONS

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

ACCOMPANYING PLAN MAPS. . . . . IN BACK POCKET

Scale: 1 inch to 200 feet

Date: March, 1986

Eby 66

Ground VLF-EM Survey

Map No. 86-66-2

Eby 66

Ground Magnetometer Survey

Map No. 86-66-3

GEOPHYSICAL SURVEY REPORT

ON THE

PERRON PROPERTY

EBY 66 GROUP

EBY TOWNSHIP

LARDER LAKE MINING DIVISION

DISTRICT OF TIMISKAMING, ONTARIO

INTRODUCTION

The Eby 66 Group were 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) were completed over the entire three claims. The instruments used for these surveys were an EDA OMNIMAG PPM350 and a Geonics EM16 Unit.

This work was conducted by Mary Greer with Alexander Perron assisting. All drafting and interpretation was completed by Mary Greer.

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

Ownership of the aforementioned claims have been attested to by Mary Greer, 49 McKelvie Avenue, Kirkland Lake, Ontario, P2N 2K6. (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.

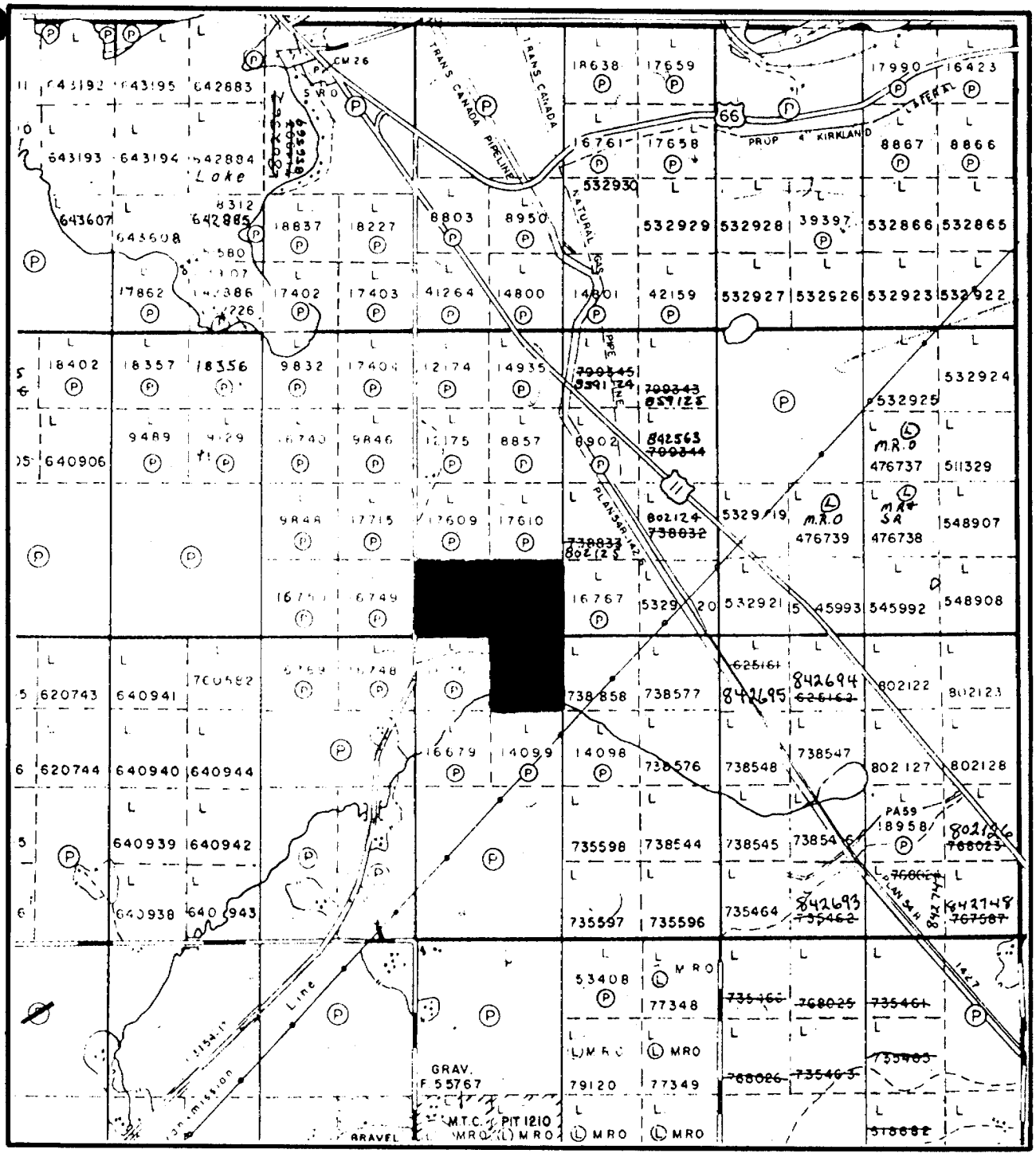
The property is eleven (11) miles west from the town of Kirkland Lake, Ontario, on Highway No. 66, then two (2) miles west on the Eby Concession III line. (See Figure 1a)

PREVIOUS WORK

Old trenchings can be found on the claims, during July 1985, a geological survey was completed by Perrons.

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 March 1986

Figure 1a

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 stations on all picket lines. The primary magnetic base station was set up at BL 4 + 00 E with secondary check stations established at 400 foot intervals along the baseline. The time interval between each check station was within thirty (30) minutes.

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 fround 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.

ii) 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 a Geometrics G-816 Proton Magnetometer, this instrument has a one gamma sensitivity.

The diurnal variation was monitored by closing each loop at any secondary check station, at a gridline-baseline intersection.

Diurnal corrections were applied by linear distribution of any observed variation over the time between base stations. The corrections were calculated by using a time vs drift graph.

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. 86-66-1, 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.

Two conductors were found on the property, one south of the baseline and one to the north.

The southern conductor outlines the creek and the northern one occurs over a dry area with little outcrop.

ii) Magnetic Survey:

The field data is presented on a map at a horizontal scale of one inch to 200 feet, Map No. 86-66-3.

The magnetic data is illustrated at isomagnetic values recorded at each station.

The magnetic survey shows an east west trend with a magnetic association with the north conductor.

CONCLUSIONS AND RECOMMENDATIONS

The north east west conductor may be associated with a magnetic

anomaly crossing the property in approximately the same area. Some trenches are found in this area and should be re-examined at a later date.

Respectfully submitted,

Mary Greer

April 17, 1986

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

CERTIFICATE

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 17/86
Date

Mary Greer
Mary Greer
Geophysical Technician

42A01SE0184 2.9042 EBY

900

Mining Lands Section

File No 2.9042

Control Sheet

TYPE OF SURVEY

_____ GEOPHYSICAL

_____ GEOLOGICAL

_____ GEOCHEMICAL

_____ EXPENDITURE

MINING LANDS COMMENTS:

<EBY>

Denis K.

Signature of Assessor

Apr. 21/86

Date

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

113/86
2.9042

Mining Act

May 21

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): GEOPHYSICAL SURVEY - ELECTROMAGNETIC - MAGNETIC	Township or Area: EBY
Claim Holder(s): MARY GREER	Prospector's Licence No.: K-19410
Address: 49 MCKELVIE AVENUE, KIRKLAND LAKE, ONTARIO P2N 2K6	
Survey Company: PERRONS INC.	Date of Survey (from & to): 18 03 86 (Day Mo. Yr.) – 20 03 86 (Day Mo. Yr.)
Name and Address of Author (of Geo-Technical report): MARY GREER, 49 MCKELVIE AVENUE, KIRKLAND LAKE, ONT. P2N 2K6	Total Miles of line Cut: 2.9 MILES

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	20
	Geophysical - Magnetometer	40
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	

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APR 15 1986
MINING LANDS SECTION

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	739256	
	799559	
	799560	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

LARDER LAKE MINING DIVISION
RECEIVED
APR 1 1986

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
180	APR 1 - 1986	
	Date Approved as Recorded: 86.4.23	Provincial Director

Date: APRIL 1,1986
Recorded Holder or Agent (Signature):

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, 49 MCKELVIE AVENUE, KIRKLAND LAKE, ONT. P2N 2K6

Date Certified: APRIL 1, 1986
Certified by (Signature):

1362 (81/91)

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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 SURVEYS - MAGNETIC - ELECTROMAGNETIC

Township or Area EBY

Claim Holder(s) MARY GREER
49 MCKELVIE AVE.,KIRKLAND LAKE,ONT.

Survey Company PERRONS P2N 2K6

Author of Report MARY GREER

Address of Author 49 MCKELVIE AVE., KIRKLAND LAKE,ONT. P2N 2K6

Covering Dates of Survey MAR.18/86 - MAR.20/86
(linecutting to office)

Total Miles of Line Cut APPROXIMATELY 2.9 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	40
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Apr. 17/86 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

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 139 Number of Readings MAG 139, VLF 121

Station interval 100 FEET Line spacing 400 FEET

Profile scale 1 INCH = ± 40%

Contour interval 100 GAMMAS

MAGNETIC

Instrument EDA OMNIMAG PPM 350

Accuracy – Scale constant ± .01 GAMMAS

Diurnal correction method CLOSED LOOPS

Base Station check-in interval (hours) 30 MINUTES

Base Station location and value BL 4 + 00 E 59907 GAMMAS

ELECTROMAGNETIC

Instrument GEONICS EM16

Coil configuration HORIZONTAL & VERTICAL

Coil separation INFINITY

Accuracy ± 1

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

Frequency CUTLER, MAINE 24.0 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 _____

PERRONS

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

April 17, 1986

REGISTERED MAIL

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

RECEIVED
APR 21 1986
MINING LANDS SECTION

Dear Sir:

RE: Technical Report for
Eby Township
Larder Lake Mining Division

Enclosed herewith please find a duplicate copy of the following:

- Report dated April 17, 1986, by Mary Greer entitled:

  Geophysical Survey Report
  on the Perron Property
  Eby 66 Group
  Eby Township
  Larder Lake Mining Division
  District of Timiskaming, Ontario

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

Yours truly,

PERRONS

Mary Greer

Mary Greer,
Geophysical Technician

MG/p
Encls. 2

Grenfell Twp. M.351

Burt Twp. M.334

Otto Twp. M.379

Blain Twp. M.418

Kenogami Lake

M.O.S. FILE 16864

TRANS CANADA PIPELINE

NATURAL GAS PIPE LINE

L.U.P. Hydro Line

Transmission Line

Crooked Cr.

M.T.C. PIT 1810

GRAVEL FILE 84568

GRAV. P.55767

VI V IV III II I

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

THE TOWNSHIP OF EBY

Jan. 8/86

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	66
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
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

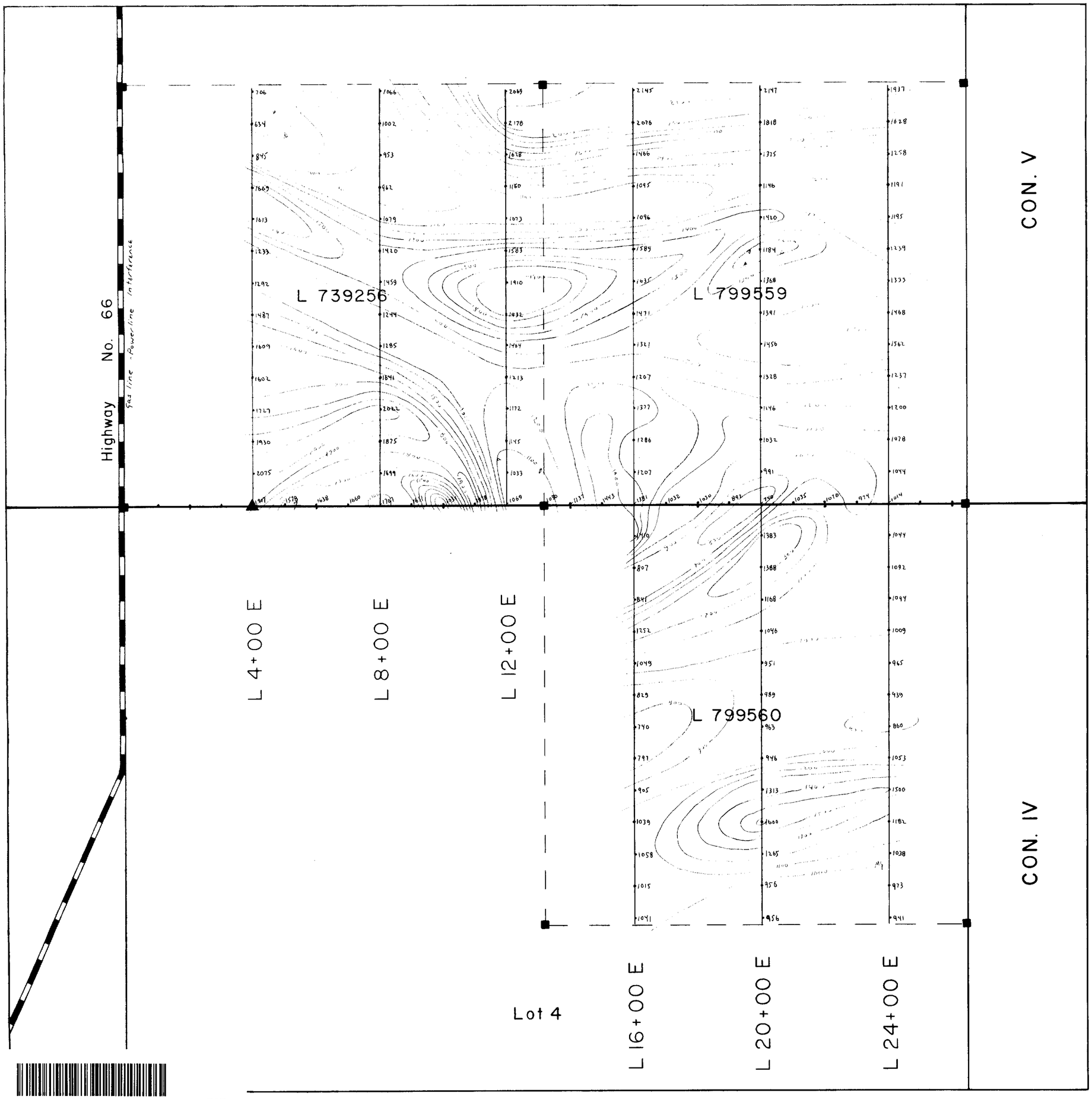
N½ Lot 7, Con. 3 - Cert. of Forfeiture - Sept 17/85

PLAN NO. M-345

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A01SE0184 2.9042 EBY

200



Mag. N10°W

N

SYMBOLS

Isomagnetic contours

Base station

Claim post

Claim line

Highway

INSTRUMENTATION

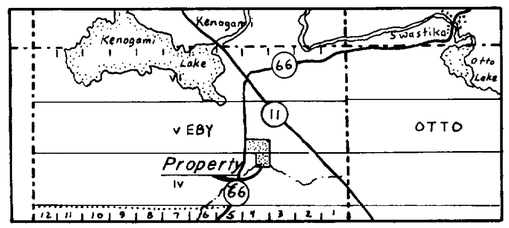
EDA OMNI 350 PPM

Contour interval - 100 8

Contour by: Mary Greer

KEY MAP

(Scale: 1 inch to 2 miles)



Mary Greer

EBY 66 2.9042

GROUND MAGNETOMETER 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.: 86-66-3	Date: March 1986

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Highway No. 66

CON. V

L 739256

L 799559

L 4+00 E

L 8+00 E

L 12+00 E

L 799560

CON. IV

Lot 4

L 16+00 E

L 20+00 E

L 24+00 E

Mag. N10°W

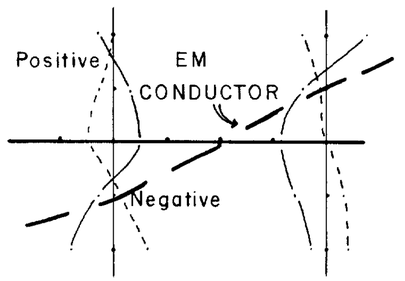
N

SYMBOLS

In-phase
Quadrature
Claim post
Claim line
Highway

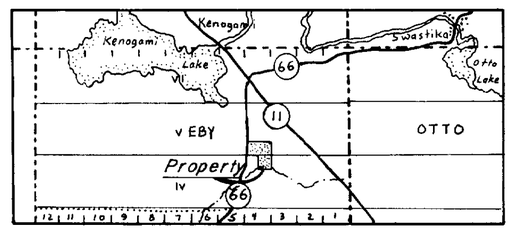
INSTRUMENTATION

GEONICS VLF-EMI6
Cutler, Maine 24.0 kHz
Vertical scale: 1 inch = ±40%



KEY MAP

(Scale: 1 inch to 2 miles)



Mary Greer

EBY 66 29042

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.: 86-662 | Date: March 1986

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