

42A01NW0042 2.13745 BOMPASS

010

REPORT on  
MAGNETIC, VLF ELECTROMAGNETIC and  
SELF-POTENTIAL SURVEYS

**RECEIVED**

LADY LOU PROPERTY

DEC 10 1990

BOMPAS TOWNSHIP

MINING LANDS SECTION

LARDER LAKE MINING DIVISION

ONTARIO

**2.13745**

LARDER LAKE  
MINING DIVISION

NOV 19 PM 12 42

RECEIVED

M. Leahy *2,12624*  
Kirkland Lake, Ontario  
October, 1990



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## INTRODUCTION

The property herein described consists of one unpatented mining claim, L-1110266, located about 1 1/4 mile north of the SE corner of Bompas Township, Larder Lake Mining Division, Ontario. The claim lies just west of the north end of Kenogami Lake and 1/2 mile northwest of Hotchkin (Little Kenogami) Lake. The town of Kirkland Lake lies about 11 miles to the east.

## ACCESS

Grenfell Road leads west from Highway 11 at Kenogami and passes within 2000' of the property along the eastern boundary of Bompas Twp. The road is maintained year-round for about 3 miles from the Trans-Canada where it becomes passable only by pickup truck. A blazed line leads from Grenfell road to the property.

## HISTORY

The property covers the old Lady Lou shaft area which was first discovered and worked around 1940. At that time, two shallow shafts (50'?) were sunk and some surface trenching was done.

## GEOLOGY - REGIONAL

The property lies near Kirkland Lake in the Abitibi super-group of steeply dipping Archean metavolcanics and metasediments which straddles the Ontario - Quebec border. The famed E-W striking Larder - Cadillac break passes about 2 1/2 miles to the south. The property lies on a thin, 5 mile wide, N-S trending outlier of flat lying Huronian sediments bound on the east by mafic Kinojevis metavolcanics and on the west by the Watabeag batholith (Algomian).

## GEOLOGY - LADY LOU CLAIM

The property is underlain by Huronian sediments 1/4 mile west of the eastern edge of the above mentioned Huronian outlier. Mineralization and geology were described by Lovell, 1980.

"Mineralized rock in dumps consists of quartz veins cutting Cobalt Group Gowganda Formation Coleman Member feldspathic sandstone (arkose). The quartz veins are vuggy in places, with euhedral crystals of quartz as drusy linings of gas spaces. Metallic minerals in the veins are chalcopryrite, pyrite, sphalerite and gold.

Quartz veins of an aggregate width of about 0.6m (2') strike N 30° W and dip 75 SW, and cut

GEOLOGY - LADY LOU CLAIM, cont'd.

Cobalt Group arkose. The veins contain pyrite, chalcopyrite and gold. A brecciated fracture zone containing pyrite, chalcopyrite and galena strikes across about perpendicular to the quartz band."

GEOPHYSICAL SURVEYS

During the summer of 1990, 1.7 miles of picket lines were cut on the property by M. Leahy, A. Black and P. Midtskogen. A base line 1650' long with a bearing of 45° was cut, joining the #1 and #3 posts. One and four tenths miles of transverse lines were cut at 200' intervals with a bearing of 135° and stations were established at 100' intervals. (Grid orientation was designed to cut the regional magnetic trend at 90° with transverse lines.) Readings for all surveys were taken at 50' intervals and plotted on maps with a scale of 1" = 200'. Magnetic and Self-Potential readings were corrected for diurnal variations and contoured. VLF readings were plotted as profiles and contours using the Fraser method.

SELF POTENTIAL METHOD

On July 7,8,9, 1990, a self potential survey was carried out over the property using the fixed base station technique. The ground (-) pot was based at BL +8 and all the other readings are potentials relative to the base value at that point. The pots used were of the porcelain type with metal handles, all salvaged from McPhar SP-1 spare parts. A single reel of wire was sufficient to reach all stations on the grid without moving the base station. A total of 177 readings (1.5 miles of line), were taken at 50' intervals. The instrument used was a Micronta Digital Multimeter (22-185A) with an accuracy of +/- 0.6 Mv. Conductors respond as strong negative readings on high ground and as weaker negative readings in wet ground.

RESULTS OF SELF POTENTIAL SURVEY

Nearly all the readings taken were between +50 MV and -50 Mv. An area of wet ground along the creek west of L8 conforms very nearly with the zone of low positive readings bound by the 0 contour. Most of the higher ground gave low negative readings. Only two anomalies were outlined by the survey. The first is a weak one-line anomaly just west of the shaft. The second is slightly stronger and runs between L12 and L8, two to three hundred feet west of the base line.

## MAGNETIC SURVEY

On October 8, 1990, a magnetic survey was carried out over the property with readings taken at fifty foot intervals. The instrument used was a McPhar GP-81 Magnetometer with an accuracy of +/- 1 gamma. (A total of 1.7 miles of line were traversed and 157 readings were taken.) The sensor was mounted on a five foot aluminum pole which was held against the picket at each station. Contours were drawn at 50 gamma intervals. Two readings (in brackets, on map) in the shaft area are suspect due to the scrap iron pipe, etc. littered about, and were not contoured.

## RESULTS OF MAGNETIC SURVEY

Magnetic relief over the property varies from 58,315 gammas to 58,636 gammas with numerous, small, one-line highs and lows. The regional trend appears to parallel the base line with one cross fault indicated between L6 and L8 west of the base line. Since no stripping or drilling was performed the responses recorded cannot be attributed to either the Huronian or underlying Archean rocks. A string of isolated highs (500 - 600 gammas) parallel to the south boundary may be a linear feature that is not contourable because it cuts the lines obliquely. Narrow Matachewan Diabase dikes, common in the area, normally strike N-S, although magnetic diabase was observed by Lovell in dump material near L12 + 2005 near one of the small isolated highs near the south boundary.

## VLF - EM SURVEY

On October 8, 1990, a VLF electromagnetic survey was conducted over the property. Readings were taken at fifty foot intervals, facing south. The station used was Cutler, Maine. A total of 1.5 miles of line were read and 189 readings were taken. Both dip angles (%) and quadrature readings were noted and plotted with a vertical scale of 1" = 50%. Dip angle readings were also contoured on a separate map using the Fraser method. The instrument used was a Ronka VLF - EM16.

## RESULTS OF VLF - EM

Several zones of weak to moderate electromagnetic conductivity were outlined by the survey. Two parallel zones of moderate conductivity near BL + L4 split and weaken along their southerly extensions. A weak, discontinuous conductor striking NE - SW traverses lines 6, 8 and 12 near the northwest corner of the property. When interpreting these results, it should be noted, the grid orientation did not allow proper station to baseline alignment.

### CONCLUSIONS

Both positive and negative conclusions can be drawn from the results of the surveys performed. Among the positive conclusion are: a) two self potential anomalies were identified, b) both SP anomalies are associated with weak VLF conductors, (probably not graphitic), and c) the SP anomaly on L12 at 150'-200' S is in an area of known sulphide mineralization.

The negative conclusions are: a) VLF station to conductor angle is poor, b) VLF conductors without SP response are probably overburden effects, (wet ground along creek), and c) complex, weak magnetic responses do not clearly define the geology.

### RECOMMENDATIONS

- 1/ Cut detailed grids over SP anomalies - lines 50' or 100' apart - about 2500', total.
- 2/ Read detailed grids with SP.
- 3/ Read L4, 6, 8, 10, 12 with Max Min II to better define EM conductors.
- 4/ Read Mag over detailed grids and shaft area.
- 5/ Strip and wash showings at and near shaft - 10 hours with 2-yard hoe.
- 6/ Map and sample stripped areas.
- 7/ Strip and wash SP anomaly north of baseline - 5 hours with 2-yard hoe.

*Michael Leahy*

REFERENCES

- 1/ " A Guide to Prospecting by the Self Potential Method" ,  
S.V. Burr, OGS, MP 99, 1982.
- 2/ "Spontaneous Polarization, or Self Potential Method",  
Sherwin F. Kelly, Mining Geophysics, pg 53-59.
- 3/ "Lady lou Au Occurrence", Howard Lovell, 1981, Kirkland  
Lake Resident Geologist files.

Appendix 1

CERTIFICATE

THIS IS TO CERTIFY:

1. I am a graduate in Prospecting Techniques from the Northern College of Applied Arts and Technology, Haileybury campus, 1976. I have been active as a prospector and exploration contractor since 1974.
2. I have completed the Haileybury School of Mines, Geophysical Field School, June, 1990
3. I am a member in good standing of the P.D.A., C.I.M.M., and I am president of the N.P.A. and a director of O.M.E.F.
4. I reside and hold office at 139 Carter Ave., Kirkland Lake, Ontario.
5. I have a 50% interest in the Lady Lou Property.
6. My report is based upon having personally performed the Self Potential and VLF-EM Surveys and having supervised the Magnetic Survey, a review of published information on the property and upon my familiarity and experience as a prospector in the Kirkland Lake camp.

*Michael Leahy*

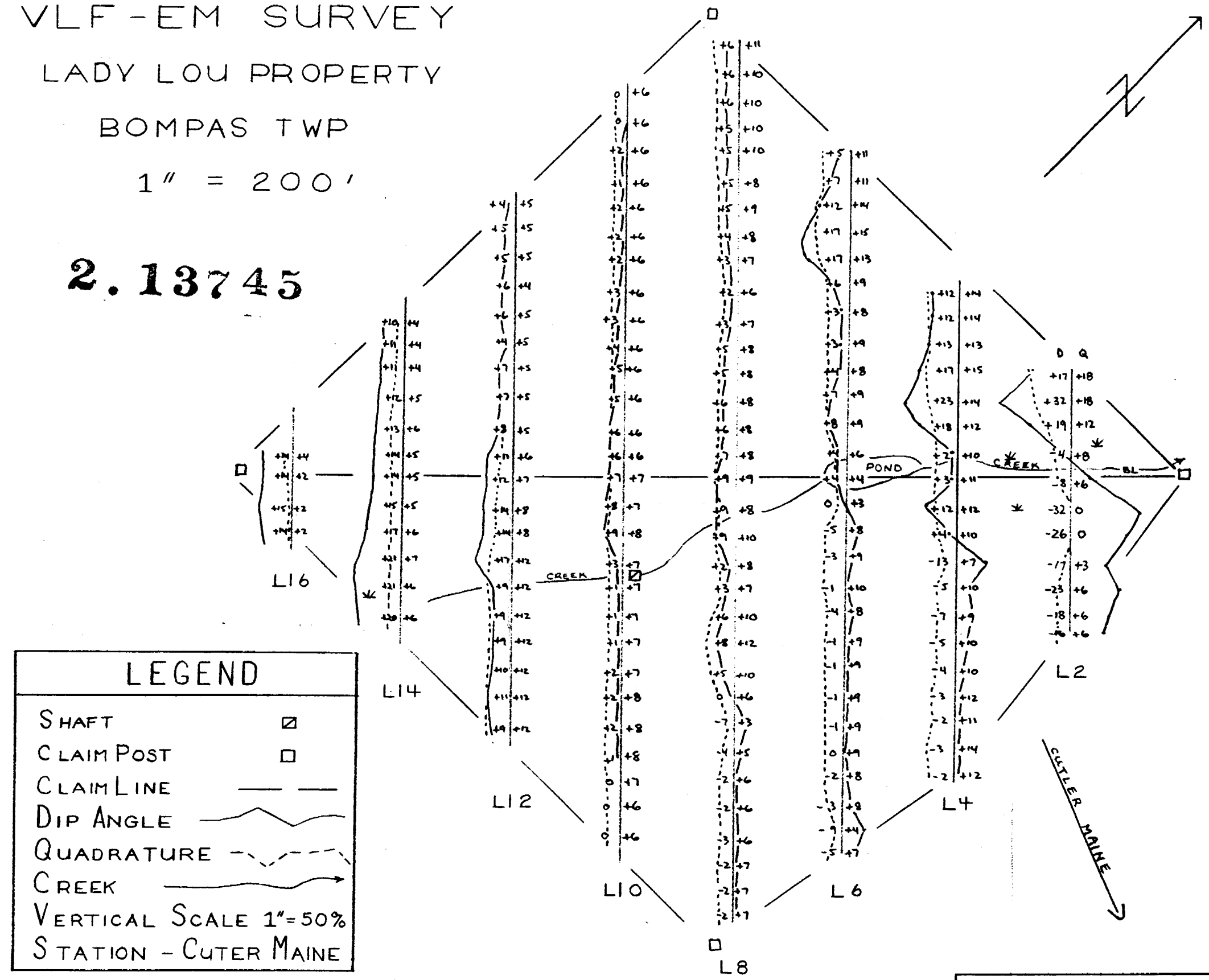
Michael Leahy  
Prospector  
Kirkland Lake, Ontario  
October, 1990



RECEIVED

VLF-EM SURVEY  
LADY LOU PROPERTY  
BOMPAS TWP  
1" = 200'

2.13745



LEGEND	
SHAFT	☐
CLAIM POST	□
CLAIM LINE	— — —
DIP ANGLE	~~~~~
QUADRATURE	- - - - -
CREEK	~~~~~>
VERTICAL SCALE 1" = 50%	
STATION - CUTLER MAINE	

Michael Leahy Nov/90

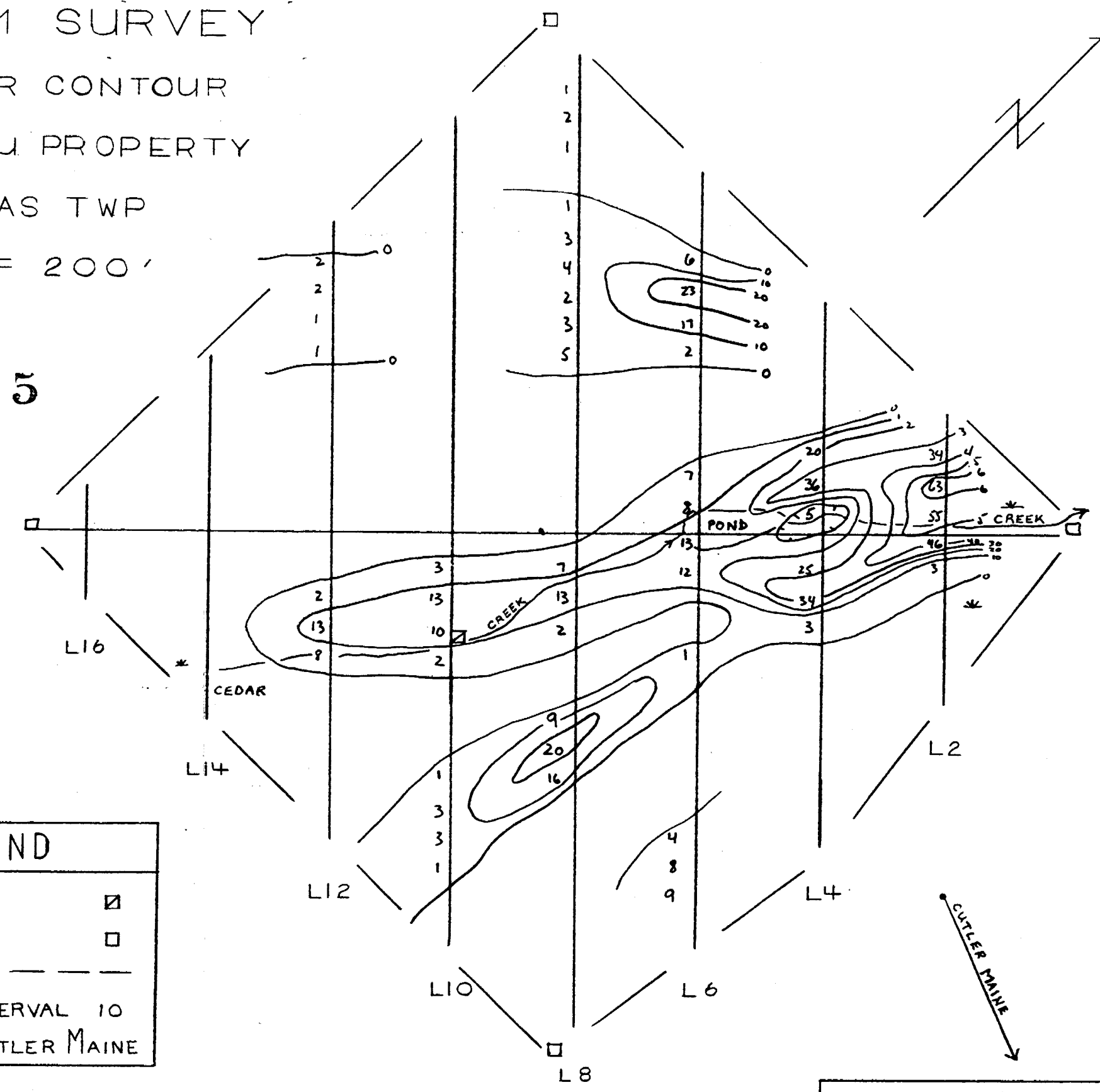
RECEIVED

VLF-EM SURVEY  
FRASER CONTOUR  
LADY LOU PROPERTY  
BOMPAS TWP

1" = 200'

2.13745

LEGEND	
SHAFT	☐
CLAIM POST	□
CLAIM LINE	---
CONTOUR INTERVAL 10	
STATION - CUTLER MAINE	



Michael Leahy Nov/90

RECEIVED

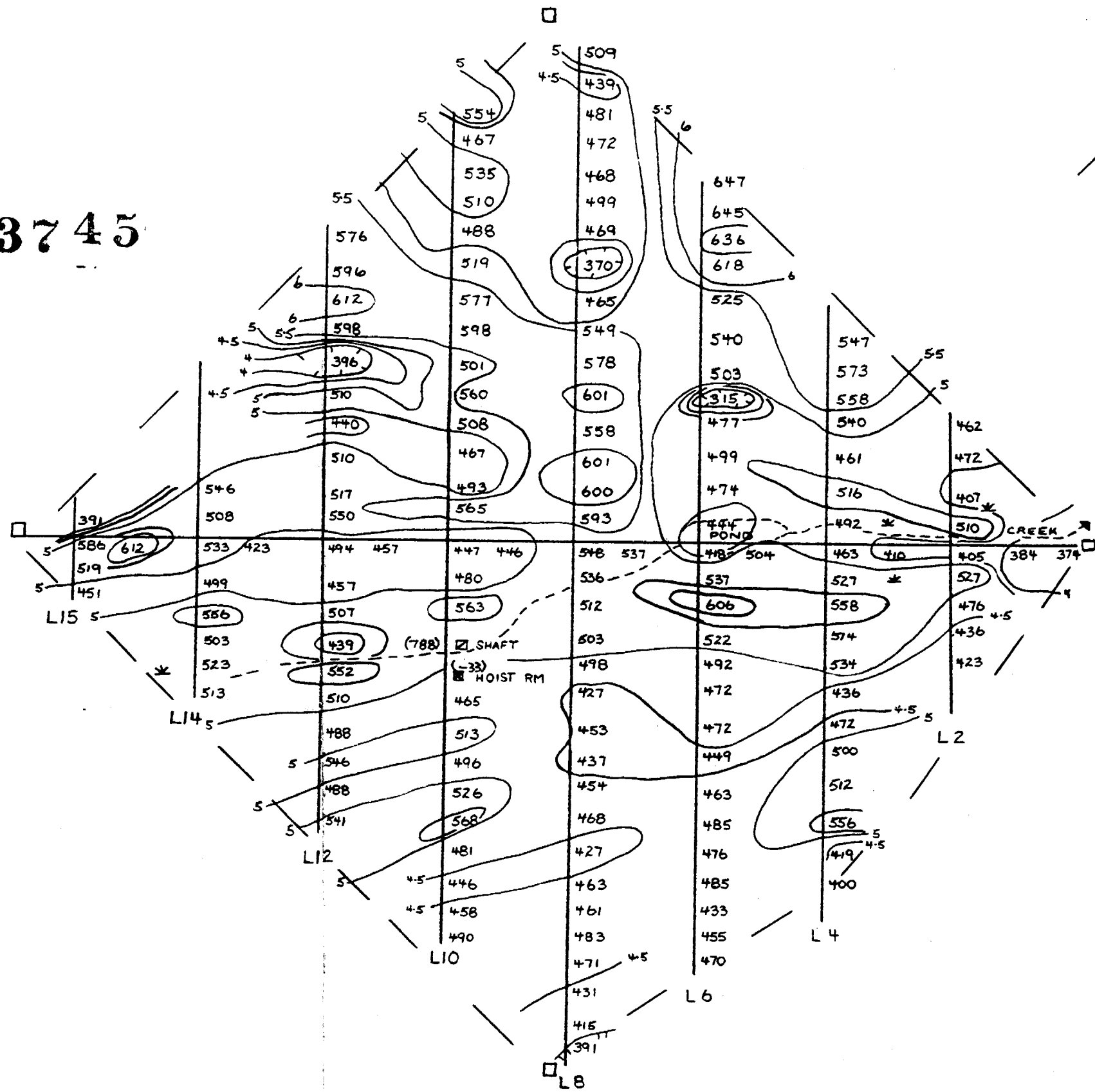
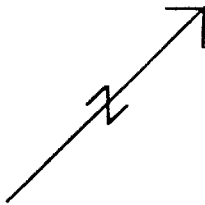
# MAGNETIC SURVEY

LADY LOU PROPERTY

BOMPAS TWP

1" = 200'

## 2.13745



LEGEND	
SHAFT	☐
CLAIM POST	□
CLAIM LINE	---
CREEK	- - - -
CONTOUR INTERVAL	50 ♂
* ADD 58,000 ♂ TO ALL READINGS	
READINGS	

Michael Leahy Nov/90

**DOCUMENT NO.**  
**9008-00632**

- Instructions**
- Please type or print.
  - Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
  - If number of mining claims traversed exceeds space on this form, attach a list.
  - Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

**Mining Act (Geophysical, Geological and Geochemical Surveys)**

Type of Survey(s) <b>MAGNETIC + ULF ELECTROMAGNETIC</b>	Mining Division <b>Larder Lake</b>	Township or Area <b>Bompas Twp.</b>
Recorded Holder(s) <b>Michael Leahy</b>	Prospector's Licence No. <b>K18263</b>	
Address <b>139 CARTER AVE. Kirkland Lake Ont P2N 2A1</b>		Telephone No. <b>705-567 4696</b>
Survey Company <b>M. LEAHY 2.13745</b>		
Name and Address of Author (of Geo-Technical Report) <b>M. LEAHY</b>		Date of Survey (from & to) 08 10 90 08 10 90 Day Mo. Yr. Day Mo. Yr.

**Credits Requested per Each Claim in Columns at right**

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

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

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

**Mining Claims Traversed (List in numerical sequence)**

Mining Claim		Mining Claim		Mining Claim	
Prefix	Number	Prefix	Number	Prefix	Number
L	1110266				

**RECEIVED**  
DEC 10 1990  
MINING LANDS SECTION  
ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILES  
OFFICE  
FEB 5 1991  
RECEIVED

Total miles flown over claim(s). \_\_\_\_\_

Date **Nov 19 / 90** Recorded Holder or Agent (Signature) **Michael Leahy**

Total number of mining claims covered by this report of work. 1

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

Name and Address of Person Certifying  
**M. Leahy 139 Carter Ave Kirkland Lake Ont P2N 2A1**

Telephone No. **705-567-4696** Date **Nov 19, 1990** Certified By (Signature) **Michael Leahy**

**For Office Use Only**

Total Days Cr. Recorded <b>40</b>	Date Recorded <b>Nov 19 / 90</b>	Mining Recorder <i>[Signature]</i>
	Date Approved as Recorded <b>Jan 30 / 91</b>	Principal Manager, Mining Lands <b>[Signature]</b>

Received Stamp  
**RECEIVED**  
90 NOV 19 PM 12 38  
MINING DIVISION  
LARDER LAKE

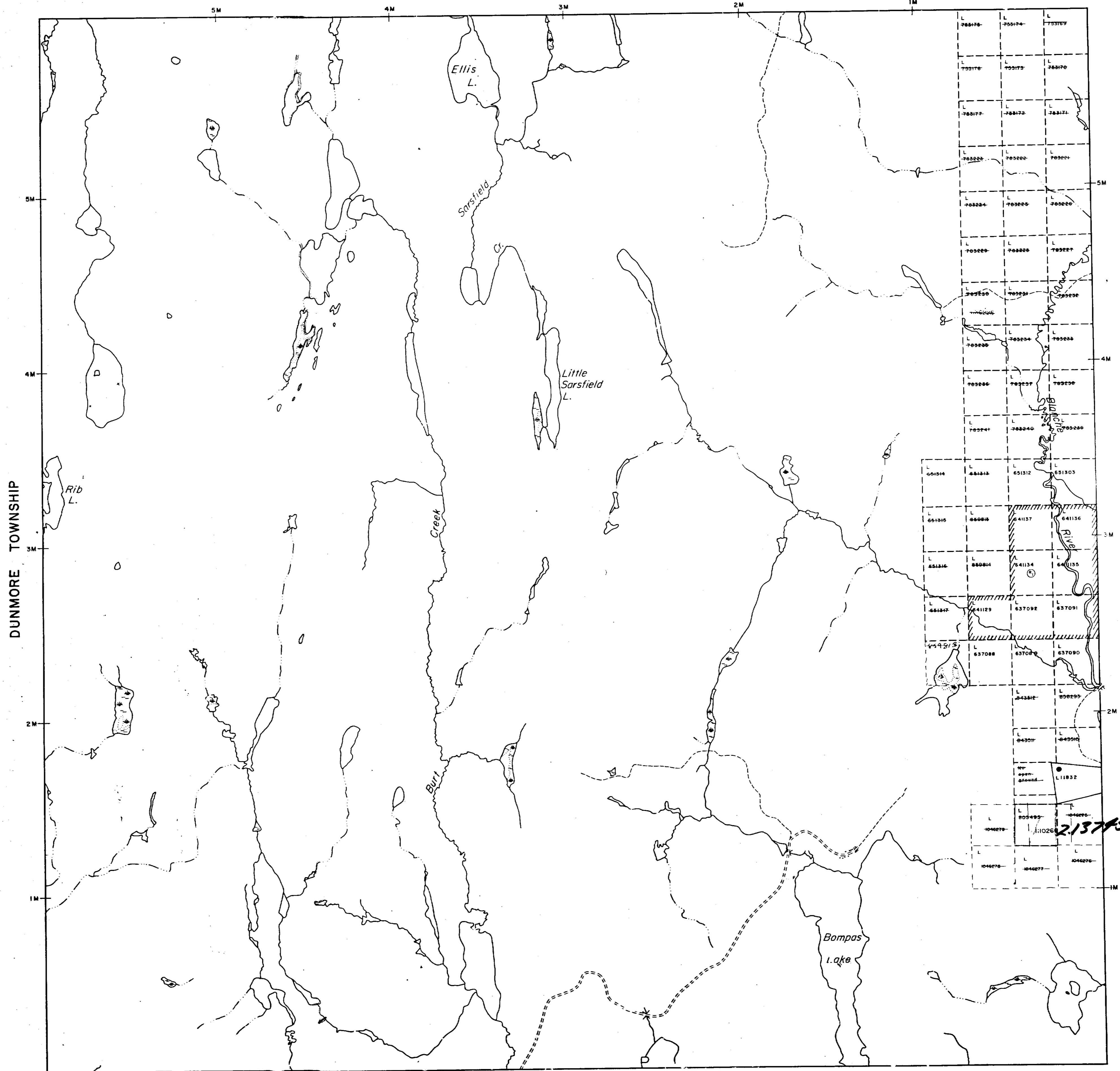
1362 (89/08)  
Technical Report sold - 50

**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
SEC. 36/80	89/86	24/01/86	M.+S.	

**LEE TOWNSHIP**



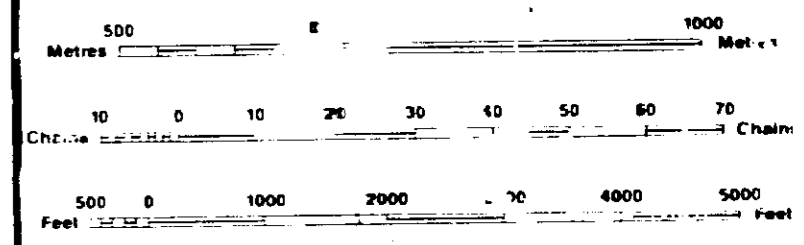
**LEGEND**

- 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	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

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.



SCALE 1:20 000

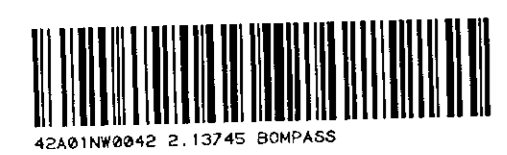
**DATE OF ISSUE**  
 OCT 1 1986  
 LARDER LAKE  
 MINING RECORDER'S OFFICE

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

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

Ministry of Natural Resources Ontario  
 Ministry of Northern Development and Mines

Date: AUGUST, 1986  
 Number: G-3605



**BURT TOWNSHIP**

DOCUMENT NO. 9008.00632



vents  
form.  
ad to

**Report of Work**  
(Geophysical, Geological and Geochemical Surveys)  
Mining Act Mining Lands Section, Mineral Development and Lands Branch: 900

Type of Survey(s) <b>MAGNETIC + VLF ELECTROMAGNETIC</b>	Mining Division <b>Larder Lake</b>	Township or Area <b>Bompas Twp.</b>
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	- Magnetometer	20
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	Geological	
	Geochemical	
<b>Man Days</b> Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Other	
	Geological	
	Geochemical	
<b>Airborne Credits</b> Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
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	Other	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Mining Claim		Mining Claim	
Prefix	Number	Prefix	Number	Prefix	Number
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<b>RECEIVED</b>					
DEC 10 1990					
MINING LANDS SECTION					
ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE					
FEB 5 1991					
RECEIVED					

Total miles flown over claim(s).		Total number of mining claims covered by this report of work.	1
Date <b>Nov 19 / 90</b>	Recorded Holder or Agent (Signature) <b>Michael Leahy</b>		

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

Name and Address of Person Certifying <b>M. Leahy 139 Carter Ave Kirkland Lake Ont P2N 2A1</b>			
Telephone No. <b>705-567-4696</b>	Date <b>Nov 19, 1990</b>	Certified By (Signature) <b>Michael Leahy</b>	

For Office Use Only

Total Days Cr. Recorded <b>40</b>	Date Recorded <b>Nov 19 1990</b>	Mining Recorder <b>[Signature]</b>
Date Approved as Recorded <b>Jan 30 / 91</b>		Principal Manager, Mining Lands <b>[Signature]</b>

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90 NOV 19 PM 12 38  
**LARDER LAKE MINING DIVISION**