



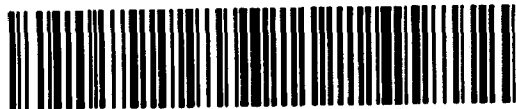
320055E0031 2.12894 BEN NEVIS

010

REPORT ON A
GROUND VLF
ELECTROMAGNETIC SURVEY
BEN NEVIS TOWNSHIP

RECEIVED
NOV 21 1989
MINING LANDS SECTION

by D. R. BOUCHER
November 1989



32D055E0031 2.12894 BEN NEVIS

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1.0 INTRODUCTION

On the 19th of September 1989 Mr. P. Labbe contacted the author requesting assistance in the drafting, interpreting and preparing a geophysical report for assessment work purposes. Mr. P. Labbe had carried out a VLF survey using a Geonics EM-16 instrument rented from Exploration Services.

The survey was carried out by Mr. Labbe from the 11th to the 16th of September 1989. The data was recorded in a field note book in the standard format with line number, station, inphase and quadrature readings tabulated.

The only discrepancy noted in the data was in regards to the facing direction while taking a reading. The first three lines surveyed by Mr. Labbe were done facing West while the remainder were surveyed facing East. This was rectified by changing the sign (+,-) of the readings on the first three lines. The magnitude of the readings do not change.

After the three lines were corrected, the data was plotted as is in profile format. See figure 2 back pocket.

2.0 PROPERTY, LOCATION AND ACCESS

The property consists of 9 contiguous unpatented mining claims numbered 979925, 979926, 979927, 979928, 979929, 979930, 979931, 980472, and 983359.

The claims are located approximately 23 kilometres North of Larder Lake in the South East quarter of Ben Nevis Township. An all weather forest access road from Larder Lake bisects the Western half of the property in a North South direction. See figure 1a and 1b.

3.0 SURVEY PROCEDURE

The survey was carried out using a Geonics EM-16 VLF receiver. Cutler Main transmitting station was used, emitting at 24 kHz to provide a field approximately parallel to the traverse direction for optimum conductor coupling.

Readings were then taken at 100 foot intervals along lines 200 feet apart. All inphase and quadrature readings were measured facing East and/or corrected to an East facing direction.

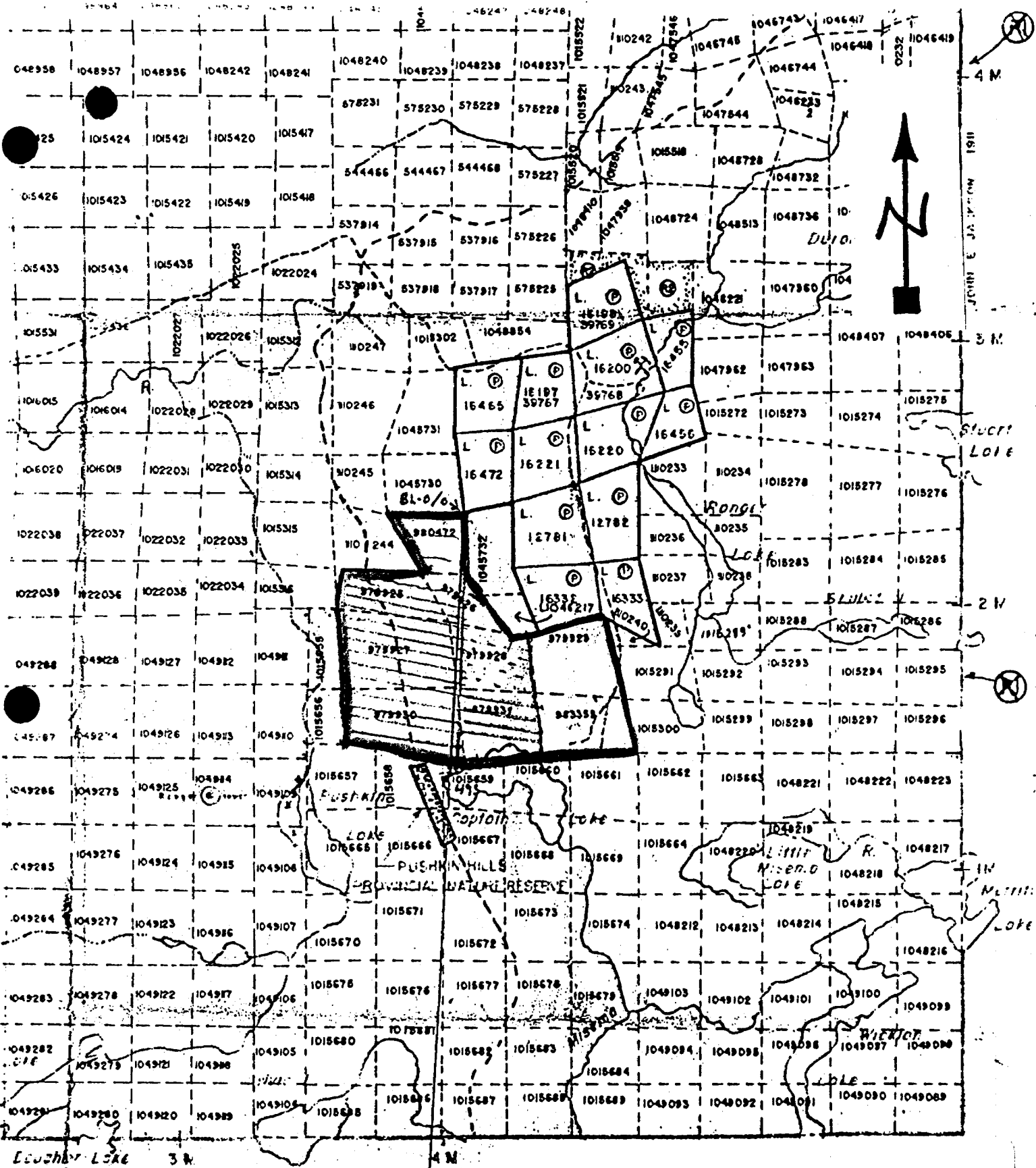


Property Location Map

580000m.E. Englehart 9 45' 0

ALTITUDE

Scale 1:250,000 Fig 1a



Katrine Twp. (M.357)

Claim Location Map

Ben Nevis Tp.

Scale 1" = 1/2 mile Fig 1b

4.0 RESULTS

From the results of the survey the grid can be subdivided into two areas. The northern half from line 0 to line 34 South, low amplitude anomalies were located. These are mostly due to overburden effects.

From line 36 to 46 South the background values are very high and very low indicating changing high and low overburden and or bedrock conductivities. A number of very large amplitude anomalies were also located within this area of very complex EM-16 readings. A filter should be applied to the data to enhance anomalies of economic interest. A Hjelt or more specifically a Fraser filter would be usefull in filtering out long and short wave length anomalies which are of no interest See J. L. Wright 1988.

A geophysical survey using a more discriminating instrument should used to determine the nature of these anomalies. A Max-Min horizontal loop EM or an IP survey is recommended over the southern half of the property.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The ground VLF EM-16 survey has located a number of anomalies which may be of economic interest. The data should be treated further by the use of filters to better define areas of interest. In addition the southern half of the grid should be surveyed with a horizontal loop EM system or IP system.

Following the above survey a geological mapping program should be carried out to identify the nature and significance of these anomalies.

Donald R. Barcher



REFERENCES

Fraser D. C.

1969: Contouring of VLF-EM data; Geophysics, v. 34, no. 6, p. 917-936.

Jensen L. S.

1975: Geology of Clifford and Ben Nevis Townships, District of Cochrane; Ontario Div. of Mines, GR 132, 55p. Accompanied by Map 3384, scale 1 inch to 1/2 mile.

Ontario Geological Survey

1979: Airborne Electromagnetic and Total Intensity Magnetic survey, Kirkland Lake Area, Ben Nevis Township, District of Cochrane; By Questor Surveys Limited for the Ontario Geological Survey, Prelim. Map P.2254 Geophys. Ser., Scale 1:20,000. Survey and Compilation February and March 1979.

Paterson N. R. Ronka V.

1971: Five years of surveying with the VLF EM Method; Geoexploration, v. 9, p.7-26

Telford W. M., King W. F., Becker A.

1977 VLF mapping of geological structures; Geological Survey of Canada, paper 76-25.

Wolfe W. J.

1977: Geochemical Exploration of Early Precambrian Sulfide Mineralization in Ben Nevis Township, District of Cochrane; Ontario Geological Survey Study 19, 39p.

Wright J. L.

1988: VLF Interpretation Manual by James L. Wright for EDA Instruments Inc.



Mining Act

Report of Work (Geophysical, Geological and Geochemical Surveys)

Technical reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

Type of Survey(s) VLF-EM	Mining Division LARDER LAKE	Township or Area BENNEVIS
Recorded Holder(s) PASCAL J. LABBE	Prospector's Licence No. K-21877	
Address LARDER LAKE, ONTARIO		Telephone No. x643-2555
Survey Company Donald R. Boucher		
Name and Address of Author (of Geo-Technical Report) DONALD R. BOUCHER Box 214, 14th Ave		Date of Survey (from & to) 11 9 89 16 9 89 Day Mo Yr Day Mo Yr

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	
	- 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		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys	Electromagnetic	
	Magnetometer	
	Other	
Total miles flown over claim(s)		
Date	Recorded Holder or Agent (Signature)	
22/9/89	Pascal Labbe	

Mining Claim		Mining Claim		Mining Claim	
Prefix	Number	Prefix	Number	Prefix	Number
	L-979915				
	L-979916				
	L-979927				
	L-979928				
	L-979929				
	L-979930				
	L-979931				
	L-980472				
	L-983359				

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE:
JAN 29 1990
RECEIVED

LARDER LAKE
D R B
SEP 22 1989
AM
718-01011 2131415
Total number of mining claims covered by this report of work: **9**

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 after its completion and annexed report is true.

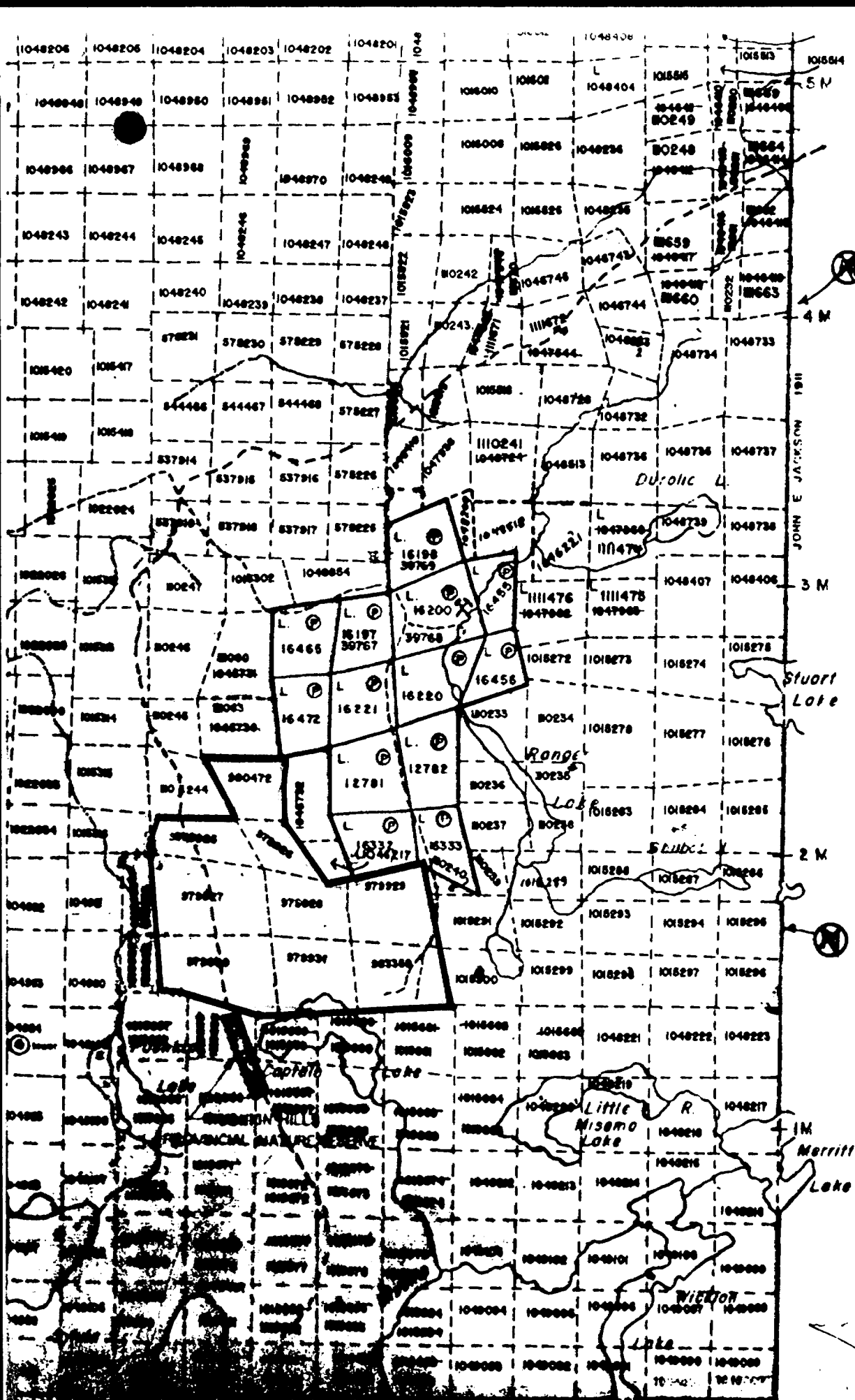
Name and Address of Person Certifying:
PASCAL J. LABBE

Telephone No: **643-2555** Date: **22/9/89** Certified By (Signature): **Pascal Labbe**

Received Stamp

For Office Use Only

Total Days Cr Recorded 180	Date Recorded Sept 22/89	Mining Recorder M. A. Wainwright
	Date Approved as Recorded 26 Jan 90	Provincial Manager, Mining Lands [Signature]



Pontiac Twp. (M.382)

Ben Nevis

PATENT
 CROWN
 LEASES
 LOCATED
 LICENSE
 MINING
 SURFACE
 ROADS
 IMPROVE
 KING'S H
 RAILWAY
 POWER
 MARSH
 MINES
 CANCELL
 TRAILS

400' S
 shores

(R) SURFACE
 FROM STAKE
 3.45pm Sept
 O-LT
 RIGHTS NOT

(P) PENDING
 NOT OPEN T

circulated

PUN

MINISTRY ACTIVITY
 FALLS WITHIN THE



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) VLF
Township or Area Ben Nevis
Claim Holder(s) Pascal Labbe'

Survey Company Pascal Labbe'
Author of Report D. R. Boucher
Address of Author Box 814 Kirkland Lake Ont.
Covering Dates of Survey 11/19/89 - 10/9/89
(linecutting to office)
Total Miles of Line Cut 15.9

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

979925

979926

979927

979928

979929

979930

979931

980472

983359

**SPECIAL PROVISIONS
CREDITS REQUESTED**

DAYS
per claim

Geophysical

-Electromagnetic 20

-Magnetometer _____

-Radiometric _____

-Other _____

Geological _____

Geochemical _____

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

ENTER 20 days for each
additional survey using
same grid.

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

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

DATE: 20/11/89 SIGNATURE: Daniel R. Boucher
Author of Report or Agent

Res. Geol. _____ Qualifications 2.5921

Previous Surveys

File No. Type Date Claim Holder

File No.	Type	Date	Claim Holder

TOTAL CLAIMS _____

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations _____ Number of Readings _____
Station interval _____ Line spacing _____
Profile scale _____
Contour interval _____

MAGNETIC

Instrument _____
Accuracy – Scale constant _____
Diurnal correction method _____
Base Station check-in interval (hours) _____
Base Station location and value _____

ELECTROMAGNETIC

Instrument Geonics VLF-EM-16
Coil configuration _____
Coil separation _____
Accuracy ± 1%
Method: Fixed transmitter Shoot back In line Parallel line
Frequency Cuttler Maine 24 KHz
(specify V.L.F. station)
Parameters measured _____

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 _____

TOWNSHIP SUBJECT
TO
FORESTRY OPERATIONS

Tannahill Twp.(M.390)

THE TOWNSHIP
OF
BEN NEVIS

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
- CANCELLED
- TRAILS

NOTES

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

(R) SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING SECT.36 ORDER W 01/88L 3.45pm Sept 28/88 D-L7/89NR OPENS WD1/88L

(M) MUSKIE HILLS NATURE RESERVE SURFACE AND MINING RIGHTS NOT OPEN TO STAKING

(P) PENDING PROCEEDINGS SURFACE AND MINING RIGHTS NOT OPEN TO STAKING

DATE OF ISSUE
NOV 6 1989
LARDER LAKE
MINING RECORDER'S OFFICE

circulated march 17,1989

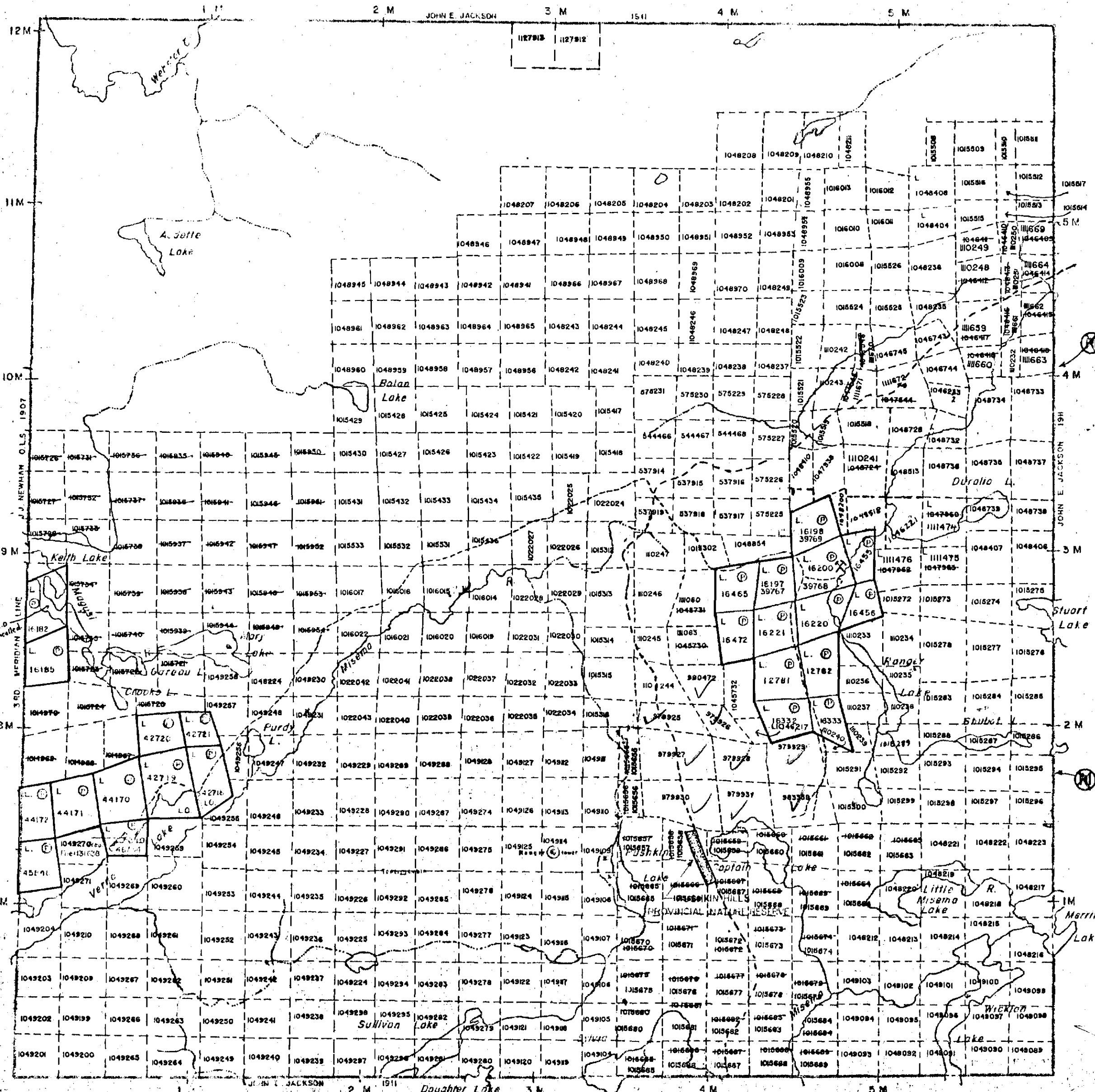
PLAN NO. M.325

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

Clifford Twp.(M.338)

Pontiac Twp.(M.382)

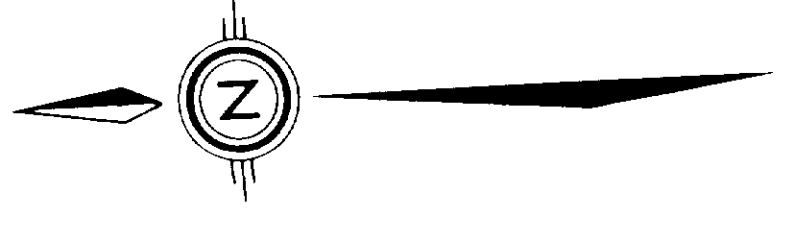


Katrine Twp.(M.357)

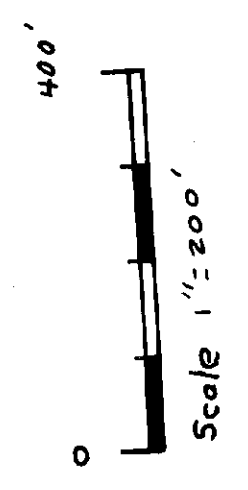
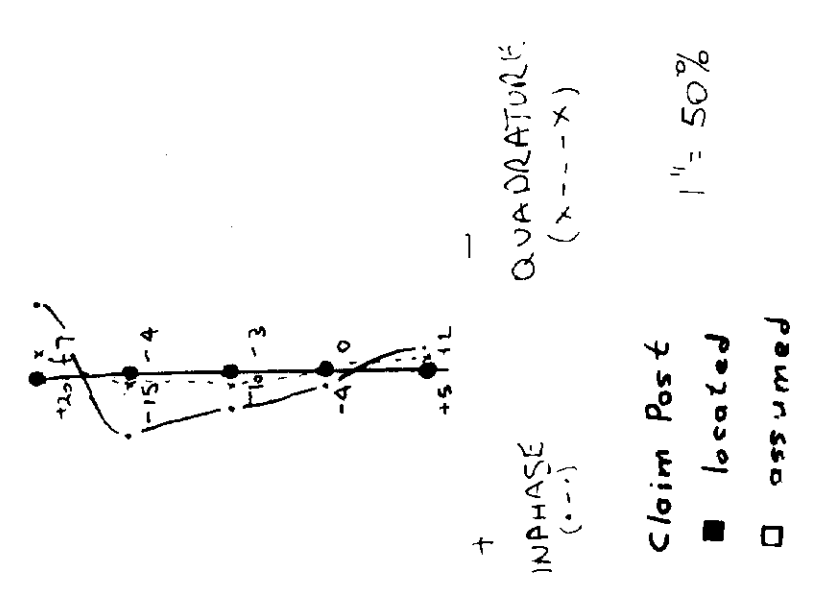
NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE
TIMISKAMING MANAGEMENT UNIT
AND MAY BE SUBJECT TO FORESTRY OPERATIONS.
THE MNR UNIT FORESTER FOR THIS AREA CAN BE
CONTACTED AT: P.O. BOX 129
SWASTIKA, ONT.
P0K 1T0
705-642-3222





LEGEND



Donald R. Baur

2. 12894

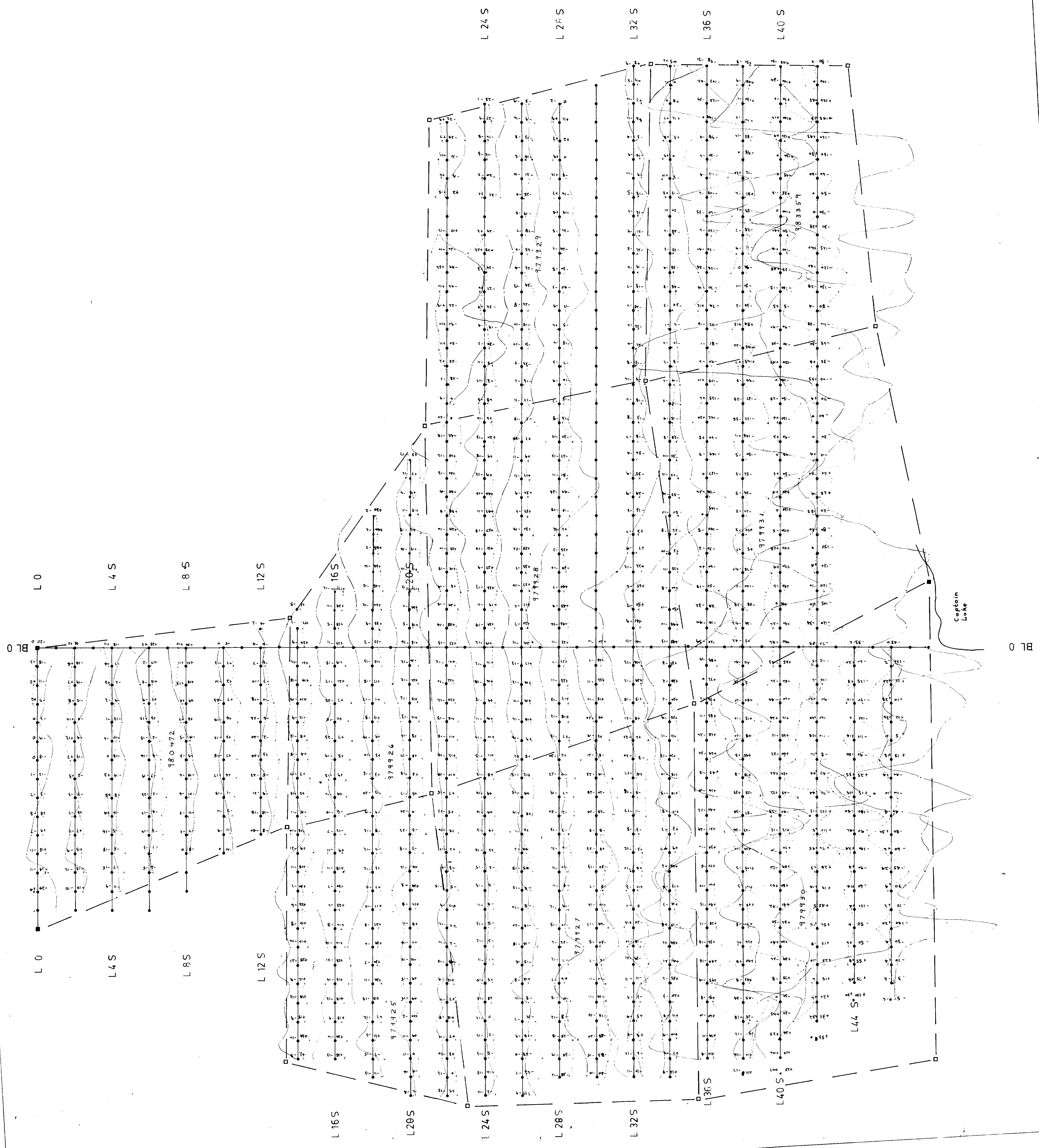
PASCAL-LABBE

BEN NEVIS TOWNSHIP

VLF-EM

SURVEY

Fig. 2



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