



32D04SE0162 2.11368 HEARST

010

MAGNETOMETER & VLF-EM SURVEYS

Hearst Township, Ontario

by

R.A. MacGregor, P. Eng.

June 30, 1988

RECEIVED

JUL 4 1988

MINING LANDS SECTION

I. INTRODUCTION

Linecutting followed by magnetometer and VLF-EM surveys were carried out in Hearst Township by Colex Exploration Inc. The results are shown on the enclosed plans.

II. LOCATION, ACCESS AND OWNERSHIP

The claims covered by the survey are located in the south central part of the Township. There are 2 claims numbered L892077 and L892078 recorded in the name of R.A. MacGregor, 28 Ford Street, Sault Ste. Marie, Ontario.

Access to the property is by logging roads running east from Highway 624. These logging roads leave highway 624 about 8 miles south of the town of Larder Lake.

III. PREVIOUS EXPLORATION

No previous exploration is known to have been carried out on the property. Most of the northern part of the claims is covered by swampy ground or open water. Gold showings have been found in the general area.

IV. TOPOGRAPHY

The major part of the property is covered by swampy ground, overburden or open water. There is outcrop on some hills rising to some 50 to 75 feet in height in the south-east part of the claims. Higher ground is covered by small poplar and maple trees or bushes. It appears to have been logged over in the past. The remainder of the claims are covered by spruce, balsam and alder or open swamp.

V. SURVEY PROCEDURE

A base line was cut along the north boundary of the claims. Lines were run by pace and compass north from this baseline every 400 feet. Stations were flagged with ribbon.

Magnetometer readings were taken with a Sharpe MF-1 fluxgate magnetometer at 100-foot intervals. The looping method was used for control of diurnal variation. In this method a base station is selected and readings taken along lines describing a loop, arriving back at the starting base station in less than two hours. A second loop is then started using either the same base station or another which is tied to the previous loop. Readings are then corrected for diurnal variation by assuming the time between readings is the same and distributing any variation equally among the intervening readings. No correction was applied less than the accuracy of the base station reading.

A VLF-EM survey was carried out using a Crone Radem instrument set to the signal from Cutler, Maine (17.8KHz). Readings were taken at 100-foot intervals using the procedure outlined in Appendix I. The looping method was used for control of variation, the same as described for the magnetometer survey, excepting that the time was noted for each station. Results were plotted on 1" = 400 ' scale plans.

VI. GENERAL GEOLOGY

The general geology of Hearst Township has been described by J.E. Thomson ⁽¹⁾. The claims are underlain by sediments of the

(1) O.D.M. Report Vol 56 part 8 1947

General Geology (Continued)

Larder Lake group cut by lamprophyre dykes. Cobalt series sediments overly the Larder Lake group in the north-west. The approximate trend of the Larder Lake group sediments is north-south.

VII. DISCUSSION OF RESULTSMagnetometer

The magnetometer survey shows the highest readings in the north-west and a small area in the south-central part of the claims. There are no strong magnetic features.

VLF-EM

There is a cross-over on the westerly claim about the central part. It is strongest on the west boundary and appears to die out to the east. This may be caused by greater depth of overburden on the swampy east claim.

VIII. CONCLUSIONS

There is a VLF-EM cross-over of possible interest on the west boundary of the claim. The anomaly could extend east under swampy overburden. The magnetics are relatively flat.

Respectfully submitted



Robert A. MacGregor, P.Eng.


June 30, 1988

CERTIFICATE

I, Robert A. MacGregor, Certify:

1. I am a Mining Engineer residing at 134 Palace Drive Sault Ste. Marie, Ontario. I have worked as a mining engineer and geologist for the past 17 years.
2. I am a member of the Association of Professional Engineers of the Province of Ontario and a member of the Canadian Institute of Mining and Metallurgy.
3. I attended Queen's University for two years in the Mining Geology course.
4. I am the recorded holder of the mining claims in this report and have personal knowledge of the work performed.

June 30/88
Date


Robert A. MacGregor
PROVINCE OF ONTARIO



July 4

Lands Management
Type of Survey(s) **Mini**

Claim Holder(s) **Magnetometer & VLF-EM 2.1**

Address **R.A. MacGregor**



32D045E0162 2.11368 HEARST

900

Survey Company **Colex Exploration Inc.** Date of Survey (from & to) **25.04.88** | **08.05.88** Total Miles of line Cut **2 miles**

Name and Address of Author (of Geo-Technical report) **R.A. MacGregor, P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7**

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

Mining Claims Traversed (List in numerical sequence)			Mining Claims Traversed (List in numerical sequence)		
Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
L	892077				
	892078				

RECEIVED

MAY 26 1988

MINING LANDS SECTION

RECEIVED
MAY 1 1988
AM 7:18:01

RECORDED
MAY 11 1988
Receipt # Total number of mining claims covered by this report of work

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.

Date **May 9/88** Recorded/holder or Agent (Signature) *[Signature]*

For Office Use Only
Total Days Cr. Recorded **1290** Date Recorded **May 16/88** Mining Recorder **M.C. Weerne**
Date Approved as Recorded **See revised statement** Branch Director

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 **R.A. MacGregor, P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7**

Date Certified **May 9/88** Certified by (Signature) *[Signature]*



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) Magnetometer & VLF-EM
Township or Area Hearst
Claim Holder(s) R.A. MacGregor
Survey Company Colex Exploration Inc.
Author of Report R.A. MacGregor
Address of Author 28 Ford St., Sault Ste. Marie, Ont.
Covering Dates of Survey 25-04-88 to June 30, 1988
Total Miles of Line Cut _____

Table with 2 columns: SPECIAL PROVISIONS CREDITS REQUESTED, DAYS per claim. Rows include Geophysical (Electromagnetic: 20, Magnetometer: 40, Radiometric, Other), Geological, and Geochemical.

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)
Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: June 30/88 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. _____ Qualifications 2.1102

Table with 4 columns: File No., Type, Date, Claim Holder. Includes 'OFFICE USE ONLY' label on the left.

MINING CLAIMS TRAVERSED
List numerically
Table with columns for prefix and number. Entries: L892077, L892078. TOTAL CLAIMS 2.

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 85 Number of Readings 85 Mag Mag
85 VLF
 Station interval 100 ft Line spacing 5 400 ft
 Profile scale 1" = 40'
 Contour interval _____

MAGNETIC

Instrument Sharpe MF-1
 Accuracy – Scale constant 5 gammas on lowest scale
 Diurnal correction method Corrected in time along a loop from base station
 Base Station check-in interval (hours) 2 hours
Various along base line
 Base Station location and value _____

ELECTROMAGNETIC

Instrument Crone Radem
 Coil configuration N/A
 Coil separation N/A
 Accuracy ± 4'
 Method: Fixed transmitter Shoot back In line Parallel line
 Frequency Cutler Maine 17.8 KHz
(specify V.L.F. station)
 Parameters measured Dip angle of resultant field

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 _____



Recorded Holder **R.A. MacGregor**

Township of ~~XXXX~~ **Hearst**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical 20 days	L 892077-78
Electromagnetic _____ days	
Magnetometer 20 days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input checked="" type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey insufficient technical data filed

No line cutting credits allowed for flagged lines.



Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

August 2, 1988

Your file: W8808-204
Our file: 2.11368

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Re: Notice of Intent dated July 15, 1988
Geophysical (Electromagnetic and Magnetometer) Survey
submitted on Mining Claims L 892077-78
in the Township of Hearst

The assessment work credits, as listed with the above-mentioned
Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so
indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines & Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

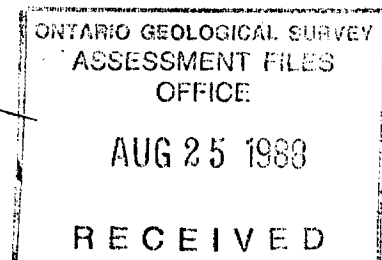
Telephone: (416) 965-4888

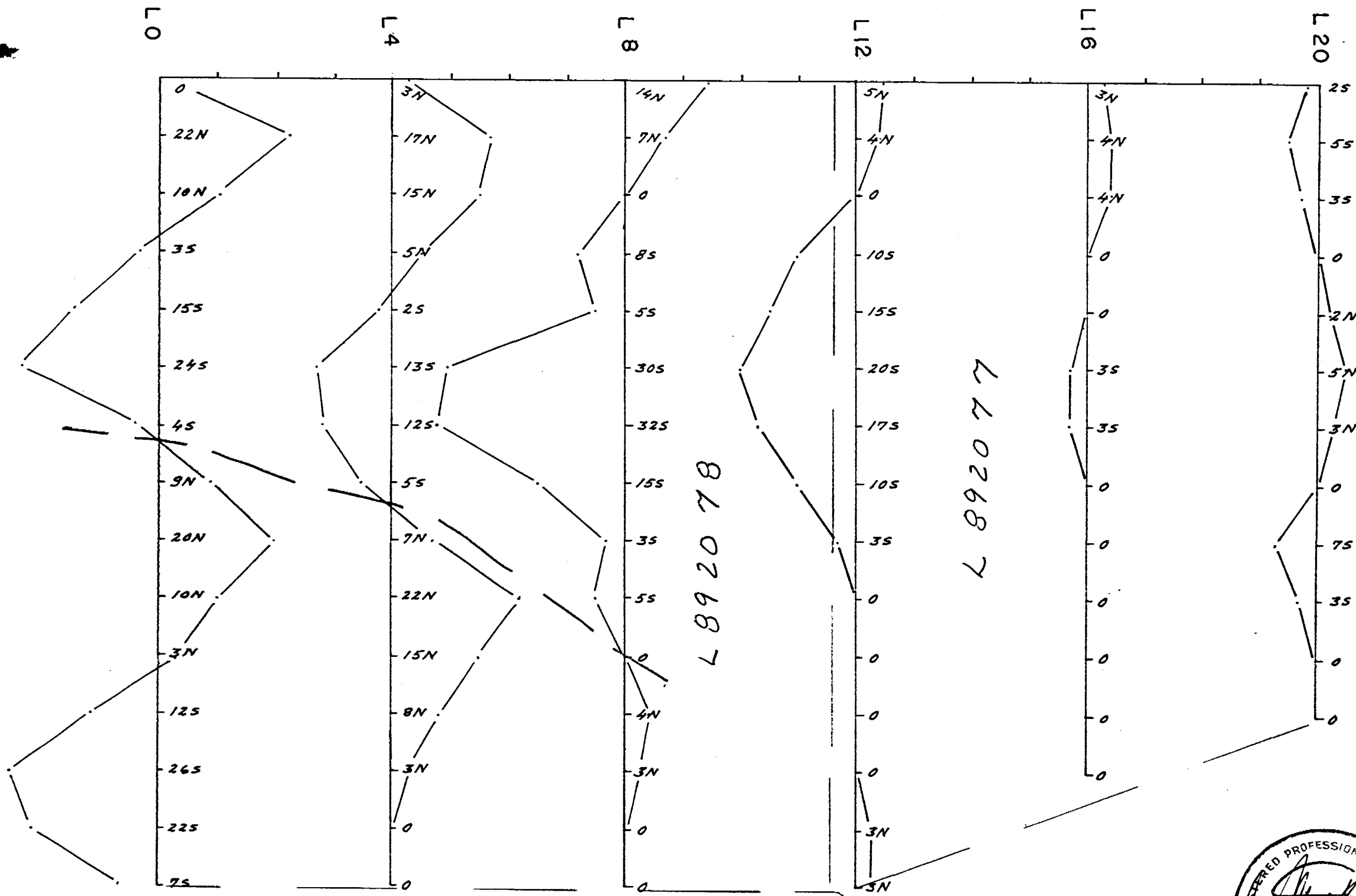
AB AB:p1
Enclosure

cc: Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

Mr. R.A. MacGregor
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

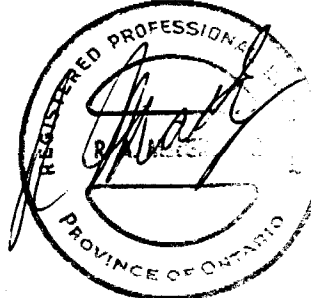




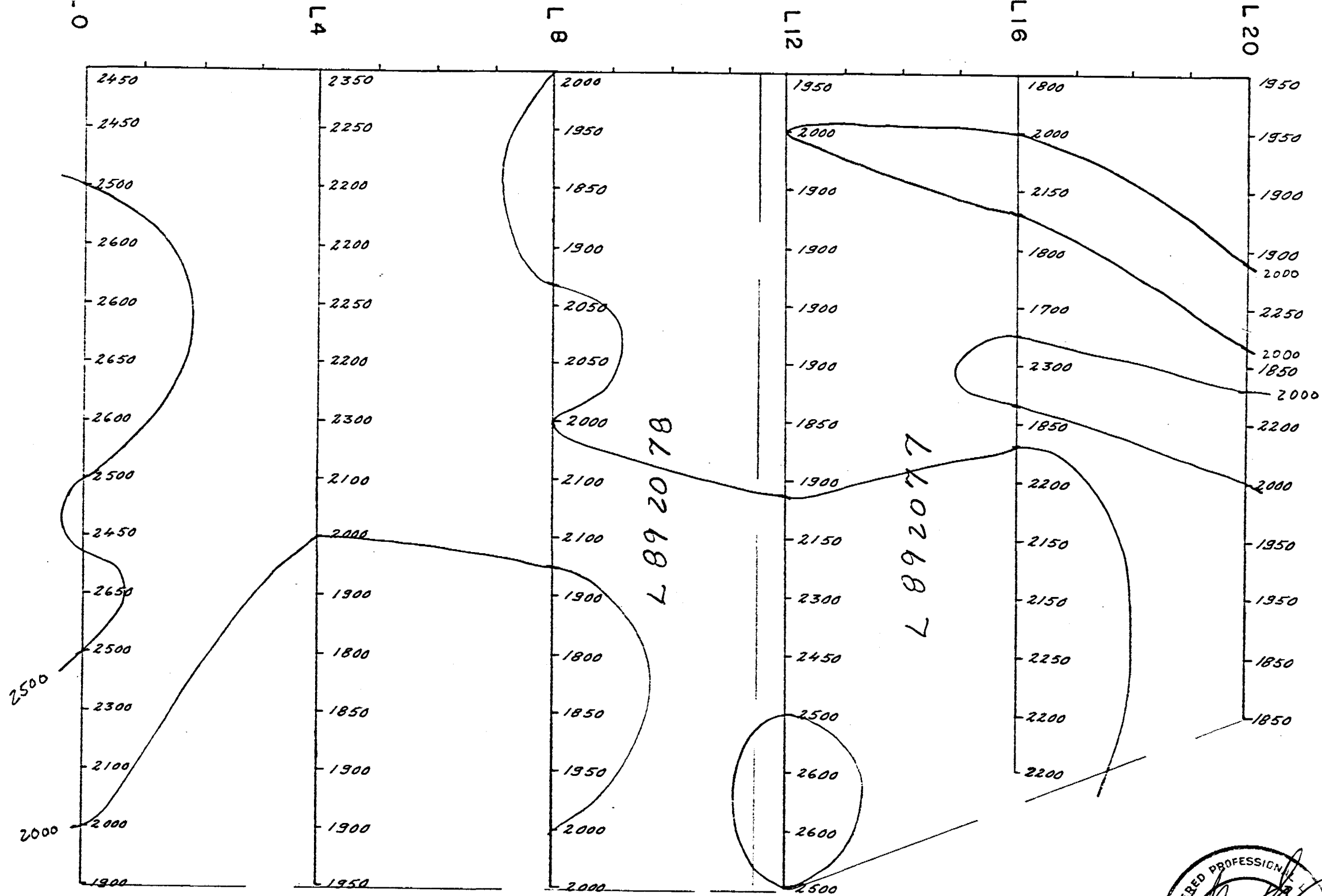
VLF-EM SURVEY
 HEARST TOWNSHIP
 ONTARIO

SCALE 1" = 200'

Crone Radem
 Station Cutler, Moine 29.0 KHz
 Scale 1" = 20'



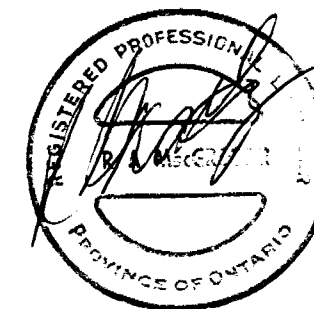
2.11368



MAGNETOMETER SURVEY
 HEARST TOWNSHIP
 ONTARIO

SCALE 1" = 200'

Sharpe MF-1
 Contour - 500 gamma



2.11368

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

11 SURFACE RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W 14/80

12 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 65/82

13 MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36 / 80 ORDER NO. W 9 L 85

14 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 17/85

O 32 / 85 OPENS W 17 / 85.

15 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 36/85

O 22 / 85 OPENS W 36 / 85

16 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 38/85

O 24 / 85 OPENS PART OF W 38 / 85.

O 25 / 85 OPENS PART OF W 38 / 85.

O 26 / 85 OPENS PART OF W 38 / 85.

O 27 / 85 OPENS PART OF W 38 / 85.

O 28 / 85 OPENS PART OF W 38 / 85.

17 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 7/86

O 74 / 86 OPENS PART OF W 7 / 86.

O 96/87 OPENS PART OF W 7/86.

18 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 8/86

O 64 / 87 OPENS PART OF W 8 / 86.

O 23/88 OPENS PART OF W 8/86.

19 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 9/86

O 75 / 86 OPENS W 6 / 86.


20 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W 50/86

O-8/88 OPENS PART OF W 50/86

O 60 / 87 OPENS PART OF W 50 / 86.

NOTES

Township of Hearst lies entirely within the CORPORATION of the TOWNSHIP of LARDER LAKE. File 29282

Staking of mining claims within the Town of Larder Lake shown thus  subject to Sec. 37(b) of the Mining Act (R.S.O.1970)

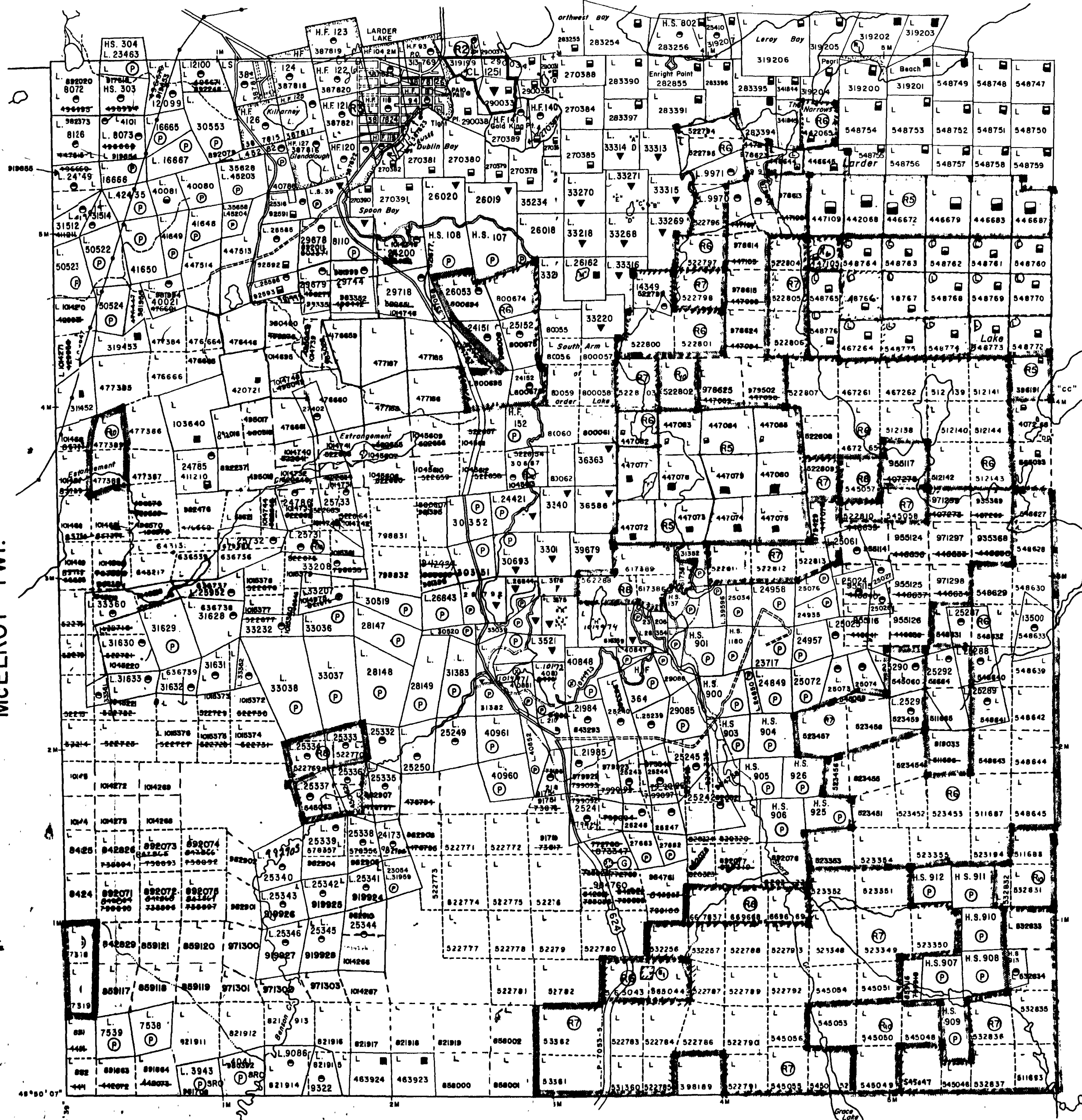
NOTICE OF FORESTRY ACTIVITY



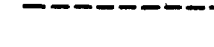



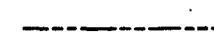
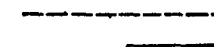
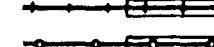

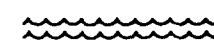






THIS TOWNSHIP / AREA FALLS WITHIN THE



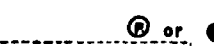

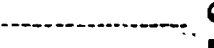
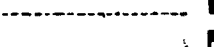

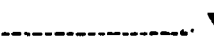
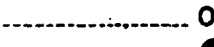
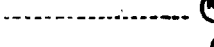
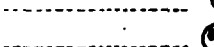

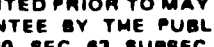
32045E9162 2.11368 HEARST

McVITTIE TWP.



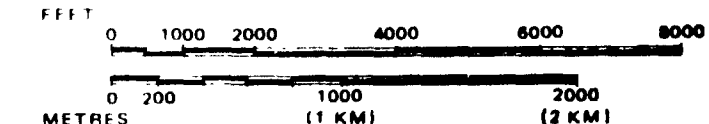
- HIGHWAY AND ROUTE No. 
- OTHER ROADS 
- TRAILS 
- SURVEYED LINES:
 - TOWNSHIPS, BASE LINES, ETC. 
 - LOTS, MINING CLAIMS, PARCELS, ETC. 
- UNSURVEYED LINES:
 - LOT LINES 
 - PARCEL BOUNDARY 
 - MINING CLAIMS ETC. 
- RAILWAY AND RIGHT OF WAY 
- UTILITY LINES 
- NON-PERENNIAL STREAM 
- FLOODING OR FLOODING 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 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC.

SCALE: 1 INCH = 40 CHAINS



Replaced on Aug 19, 1987

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



Date: FEBRUARY, 1985
 Number: **G-3213**

SKEAD TWP.