010

MAGNETOMETER AND VLF SURVEYS
N. HARLEY PROPERTY
HARKER TWP.

by

R.A.Bennet, P.Eng.

December 1982

Sudbury, Ont.

MAGNETOMETER AND VLF SURVEYS
N. HARLEY PROPERTY
HARKER TWP.

SUMMARY: Magnetometer and VLF EM surveys have been completed on the N. Harley claims in southern Harker Twp. Magnetic trends are easterly to northeasterly conformable with regional geological strikes but may also reflect changes in overburden depths. It is thought that the VLF anomalies detected may merely be due to surficial effects. Further work on the claims should include geological mapping and, perhaps further geophysical testing with equipment having deeper penetration capabilities.

PROPERTY: The group consists of 15 claims in Harker Twp., numbered L562107 to L562121 inclusive and adjoins the township's south boundary. Access is from Hwy 101 East by bush road to within about 1/2 mile of the group and the remainder by trail.

PROGRAMME: The favourable location of the Harley group with respect to gold bearing flows on the Harker mine property and the large granodiorite mass that occupies much of the western part of Harker Twp. indicates the possibility of discovering a tonnage of gold in or near the contact zone. Magnetic and electromagnetic surveys were therefore done as a first step toward establishing the location of any such zone as a guide to further exploration.

MAGNETOMETER SURVEY: Ten miles of picket line were read at 100 ft. intervals using a GEM GSM8 proton total field magnetometer. Diurnal corrections were made using the time/linear method. Base station locations are shown on an accompanying map. All readings are relative to base 58000 gammas.

The contoured survey results show linearity in an ENE direction. Lower magnetic readings in the central part of the property probably reflect deeper overburden relative to the higher readings in the southeast which are associated with high ground and outcrops of volcanic flow rock. In this latter area readings in the range of 3000 and 4000 gammas were obtained with an associated dipolar low lying parallel to and several hundred feet to the north. Whether these highs are associated with a magnetic flow or are merely reflecting outcrop proximity will not be known until geological mapping is done.

The rising readings in the northwest corner of the group may also be related to shallowing overburden or to some as yet unknown magnetic feature.

VLF EM SURVEY: Ten miles of line were read at 100 ft. intervals using a Geonics EM16 VLF(very low frequency) unit tuned to Cutler Me. An accompanying map with profiles of out-of-phase(OP) and in-phase(IP) dip angles shows the survey results.

Most of the claim group is underlain by lacustrian clays with a gravel ridge trending roughly east-west across the southern quarter. The ridge has apparently affected the dip angles observed, its base and interface with the clays to the north coinciding with a string of anomalies crossing lines 33E to 45E at about 10S. It is also observed that the creek crossing the clay section causes reverse crossover effects and is the most likely cause of many of the small anomalies in that section. (eg. 9E,9+50s;13E,11S;25E,16+50N). Furthermore standing water is associated with the anomalies at 37E,3+50N;33E,2+50N. The few scattered anomalies which remain unexplained by the above phenomenon are believed also to be due to surficial effects. A general rising in-phase response going south in the southwesterly quarter of the group is also possibly related to a gravel/clay interface.

None of the crossovers detected are obviously due to bedrock sources.

CONCLUSIONS:

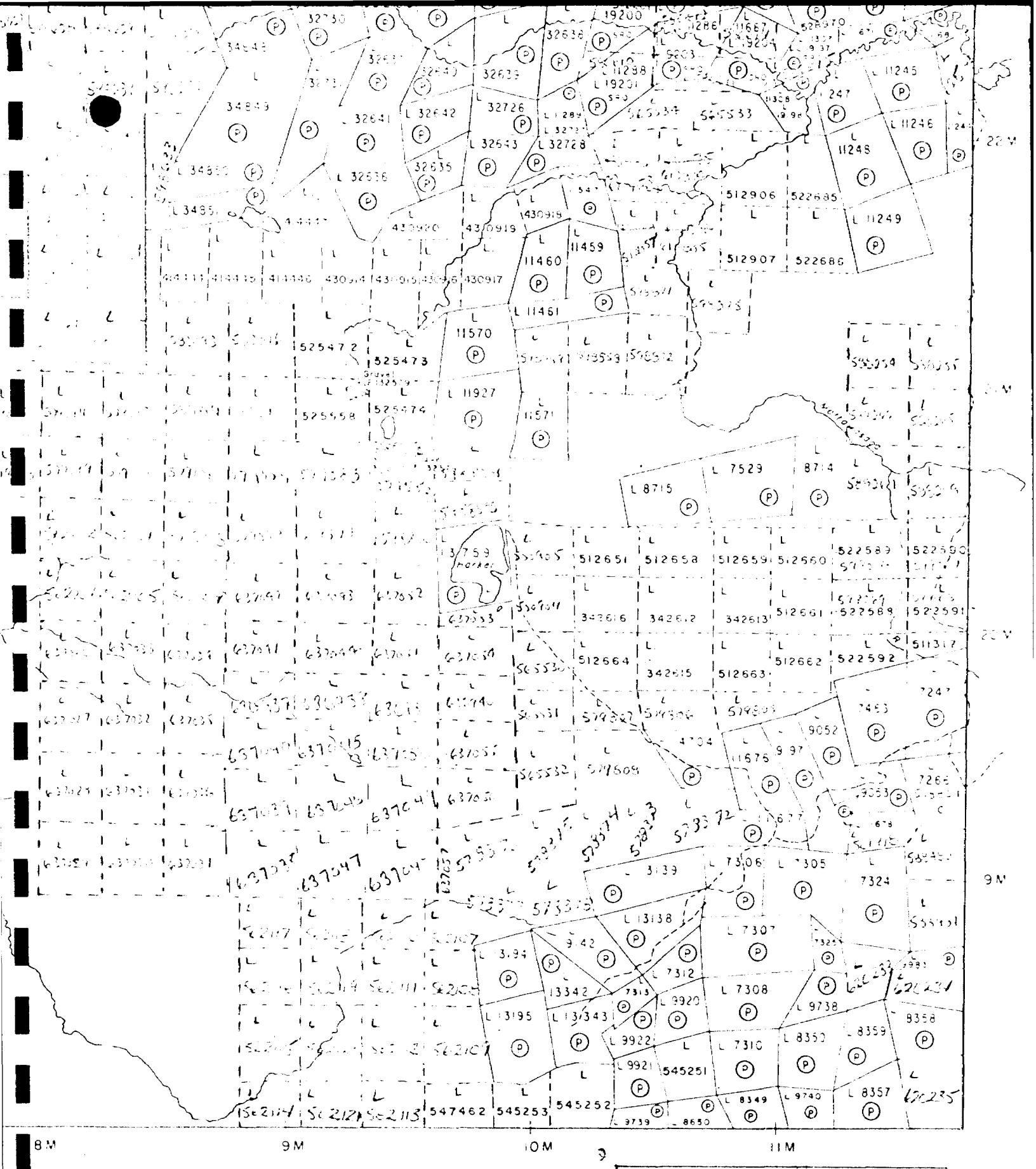
1. The magnetometer has not detected a strong contact metamorphic zone such as would be expected at the south edge of the large intrusive. The contact may, therefore, lie further north or may not be magnetically prominent.

2. None of the anomalous features are definitely attributable to bedrock sources.

3. Further exploration of the group should include a geological survey and possible deeper penetration geophysics.

Respectfully submitted,

R.A. Bennett P.Eng


8M
9M
10M
11M
9N
ELLIOTT TWP M-347
LOCATION MAP
HARLEY CLAIMS
1 in. = 1/4 mi

900

427

1983 02 24 2.5381

Mr. George J. Koleszar
Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer) survey submitted under Special Provisions (credit for Performance and Coverage) on mining claims L562107 et al in the Township of Harker.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3

Phone 416/965-1316
D. Wice:jh
cc: Mr. Robert Bennett
1312 Nesbitt Drive
Sudbury, Ontario
P3E 4E8

Ministry of Natural Resources
Ontario

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

Lands admin.

Instructions: Feb 10/83 – 83 #421

– 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.

2.5381

File # [redacted] 562107 W8303-427

The Mining Act

Type of Survey(s): MAGNETOMETER, ELECTROMAGNETIC

Township or Area: HARKER

Claim Holder(s): Nelson Harley

Prospector's Licence No.: K19565

Survey Company: ROBERT BENNETT

Survey Dates (linecutting to office): 01 08 82 (Day Mo. Yr.) – 09 11 82 (Day Mo. Yr.)

Total Miles of line Cut: 14 + 1 mile B. Line.

Name and Address of Author (of Geo-Technical report): 131 NESBITT DRIVE, SUDBURY ONTARIO. P3E 4E8

Special Provisions Credits Requested

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

Man Days

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

Airborne Credits

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

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures: $ DEC 14 1982 ÷ 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.

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.
L.	562107	
	562108	
	562109	
	562110	
	562111	
	562112	
	562113	
	562114	
	562115	
	562116	
	562117	
	562118	
	562119	
	562120	
	562121	

RECEIVED
DEC 21 1982
MINING LANDS SECTION

LARDER LAKE MINING DIV.
RECEIVED
DEC 13 1982
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Total number of mining claims covered by this report of work: 15

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	DEC 14 1982	
	Date Approved as Recorded: 83:08:10	Branch Director

Report Completed

Date of Report: Dec 10/82

Recorded Holder or Agent (Signature): [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: ROBERT BENNETT 131 NESBITT DRIVE SUDBURY ONT P3E 4E8

Date Certified: Dec 10/82

Certified by (Signature): [signature]

1362 (81/2)

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.5381

Mining Lands Comments

☑ To: Geophysics M. R. Barlow

Comments

☑ Approved ☐ Wish to see again with corrections | Date July 26/83 | Signature Douglas H. Pitcher

☐ To: Geology - Expenditures

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Geochemistry

Comments

(D)

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

File no. 2-5381

	Em	Mag.
L 562107	✓	✓
108	✓	✓
109	✓	✓
110	✓	✓
111	✓	✓
112	✓	✓
113	✓	✓

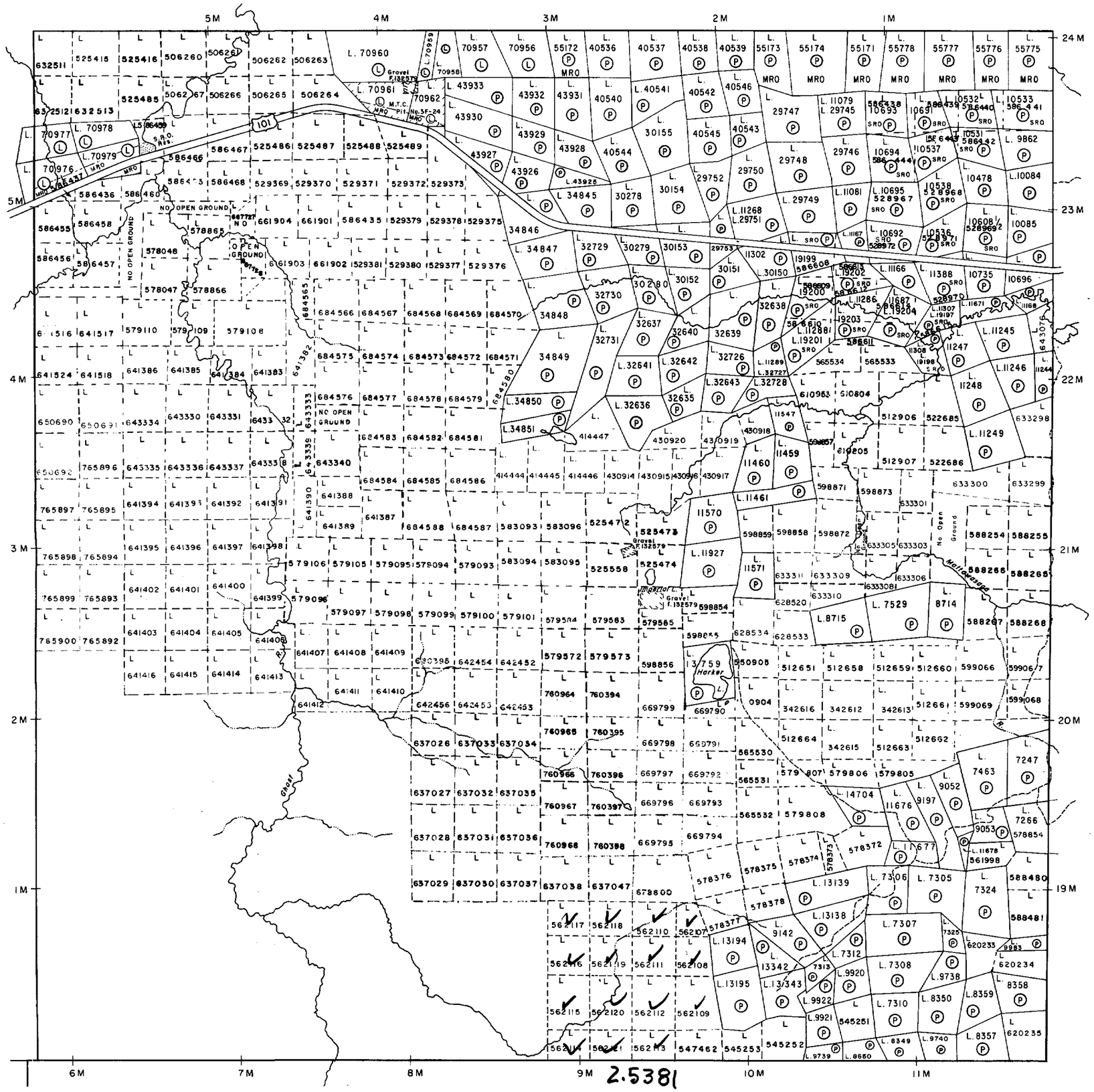
114	✓	✓
115	✓	✓
116	✓	✓
117	✓	✓
118	✓	✓
119	✓	✓
120	✓	✓
121	✓	✓

LAMPLUGH TWP. M-358

GARRISON TWP. M-349

HOLLOWAY TWP. M-356

ELLIOTT TWP. M-347



THE TOWNSHIP
OF

HARKER

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

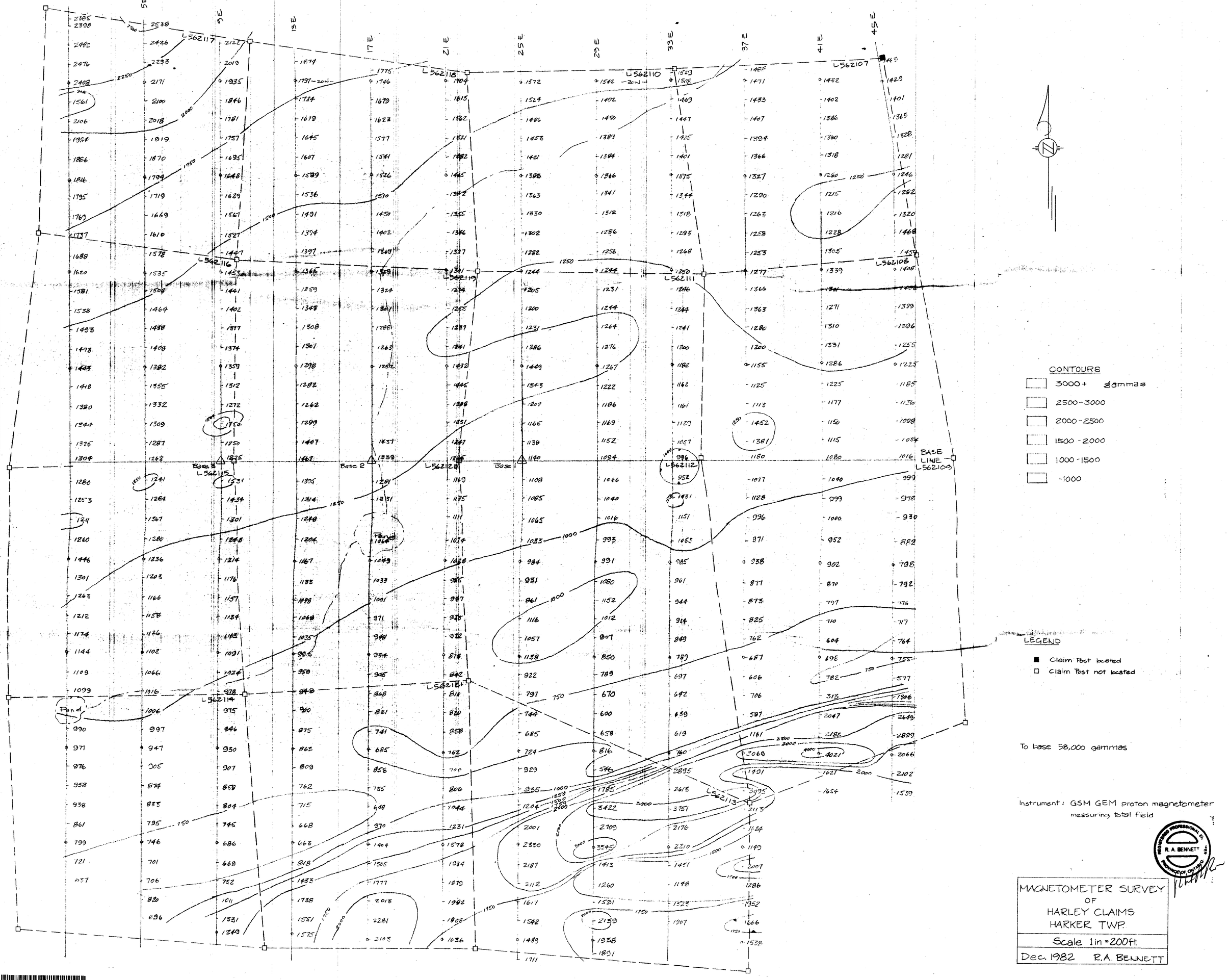
PATENTED LAND	● or (P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.
PATENTED S.R.O.	◒

NOTES

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

PLAN NO. M-353

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



MAGNETOMETER SURVEY
OF
HARLEY CLAIMS
HARKER TWP.

Scale 1 in = 200 ft.

Dec. 1982 R.A. BENNETT

2.5381

1E 5E 9E 13E 17E 21E 25E 29E 33E 37E 41E 45E

L562117 L562118 L562110 L562107

L562116 L562119 L562111 L562108

L562115 L562120 L562112 BASE LINE L562109

L562114 L562121 L562113

CREEK

CK

POND

POND

LEGEND

+7 0 — +7 = In Phase dip angle; 0 = Out of Phase dip angle

In Phase Profile

Out of Phase Profile

Profile amplitude : 1 in = 20°

Crossover

Claim Post located

Claim Post not located

Instrument : Geonics EM 16

Transmitter : Cutler Me.

REGISTERED PROFESSIONAL ENGINEER R. A. BENNETT PROVINCE OF ONTARIO

EM16 SURVEY OF HARLEY CLAIMS HARKER TWP.

Scale 1 in = 200 ft.

Dec. 1982 R.A. BENNETT