



32D12SW0088 2.5245 HARKER

010

REPORT ON  
GEOLOGICAL SURVEY  
PERFORMED ON  
THE HARKER CLAIMS  
HARKER TOWNSHIP  
LARDER LAKE MINING DIVISION  
MATHESON AREA - ONTARIO

FOR

H. E. NEAL

BY

CHRIS CURRY

H. E. NEAL & ASSOCIATES LTD.

TORONTO - CANADA

October, 1982

**RECEIVED**  
OCT 9 1982  
MINING LANDS SECTION

*Qual.*  
*J. B. G. S.*



32D12SW0088 2.5245 HARKER

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1.0 SUMMARY:

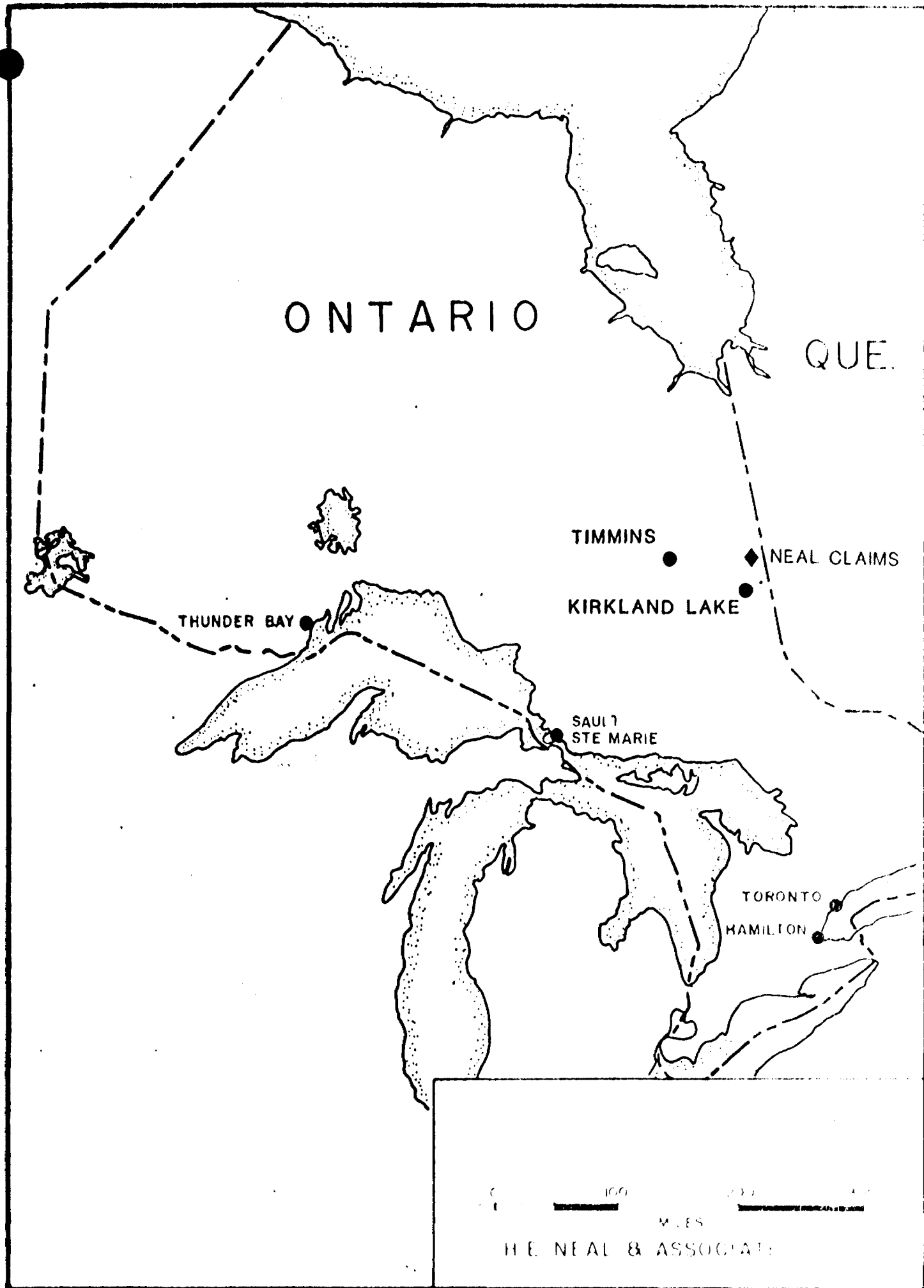
H.E. Neal & Associates Ltd. were contracted by Mr. H.E. Neal to conduct a geological survey over the eleven claim group in Harker Township. The survey was conducted using pace and compass and air photos for control. Less than 2% of the claim group is covered by outcrop.

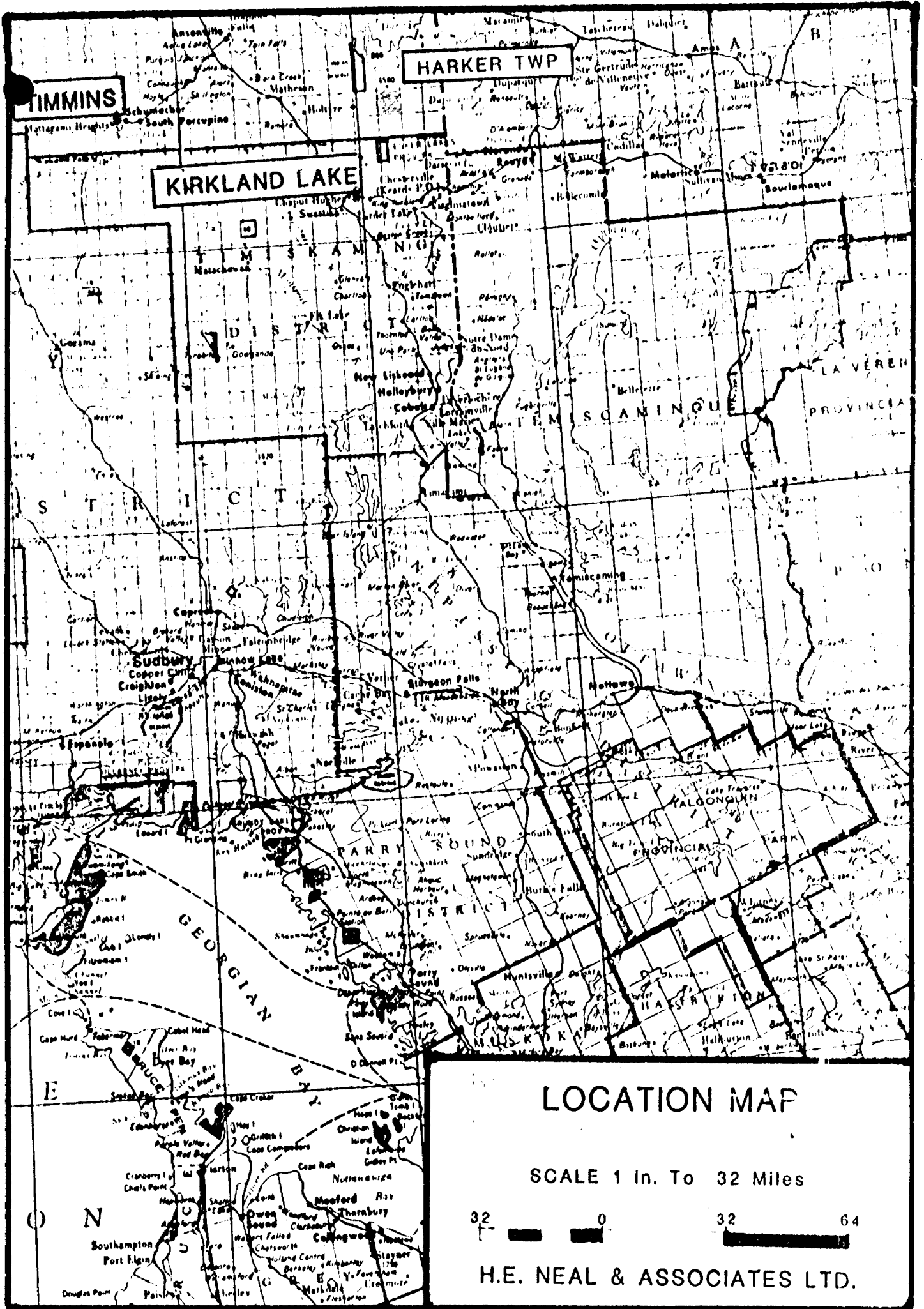
The central and west portions of the property are underlain by intermediate and mafic volcanics. The eastern portion is underlain by part of a large syenitic stock. No quartz veining was observed.

The area has potential for gold mineralization. The contact between the volcanics and the syenitic stock represents a favourable target.

A large heavily quartz veined erratic found on the property and of nearby but unknown origin is of interest.

Magnetometer and VLF-EM surveys are recommended to help define the geology and structure of the claim group.





HARKER TWP

TIMMINS

KIRKLAND LAKE

LOCATION MAP

SCALE 1 In. To 32 Miles



H.E. NEAL & ASSOCIATES LTD.

2.0 INTRODUCTION:

H.E. Neal & Associates Ltd. were contracted to conduct a geological survey over 11 claims held by Mr. H.E. Neal in Harker Township. All eleven claims are being submitted for assessment credits.

The survey was conducted using east-west pace and compass traverse lines every 400 feet. Airphotos were used to help establish control and to plot the data.

The geological survey was conducted by two geologists during parts of July and August, 1982. They were based near Holtyre, Ontario, located approximately 18.5 miles west of the property.

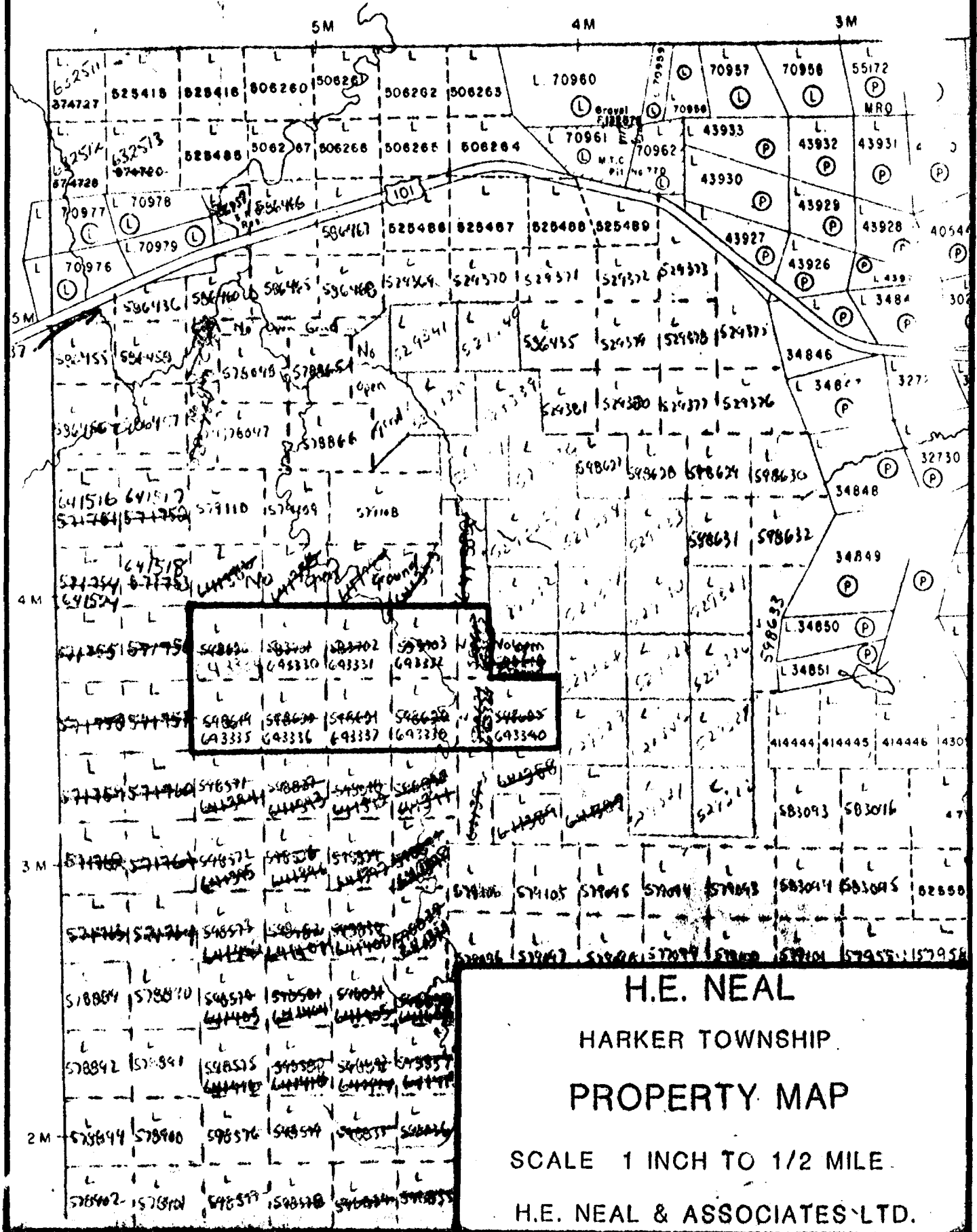
3.0 THE PROPERTY:

The property consists of 11 contiguous claims in Harker Township, District of Cochrane, Larder Lake Mining Division. The claims were staked during parts of June and July 1982 and are held by H.E. Neal, 124 Roxborough Drive, Toronto, Ontario.

The claims are listed below:

L643330 - L643340 inclusive.

# LAMPLUGH TW M



**H.E. NEAL**  
HARKER TOWNSHIP  
**PROPERTY MAP**  
SCALE 1 INCH TO 1/2 MILE  
H.E. NEAL & ASSOCIATES LTD.

4.0 LOCATION AND ACCESS:

The 11 claims are located in Harker Township, District of Cochrane in the Larder Lake Mining Division.

The west side of the claim group is located approximately 18.5 miles north-east of the town of Holtyre.

Access to the property is provided by dirt road south from Highway 101.



5.0 PREVIOUS WORK:

- 1946 American Yellowknife Gold Mines Ltd. conducted geological and ground magnetometer surveys over the northern-eastern portion of the claim group.
- 1946 Cortez Exploration Ltd. conducted a geological survey over most of the claim group.
- 1946 Greenlee Mines conducted geological and ground magnetometer surveys in the south-east corner of the claim group.
- 1946 St. Anthony Mines Ltd. conducted a ground magnetometer survey in the extreme north-east corner of the claim group.
- 1950 Cortez Explorations Ltd. conducted a geological survey over most of the claim group area.

6.0 GEOLOGY:

6.1 General Geology

The rocks in Harker Township are Archean in age and belong to the Abitibi Sub-Province of the Superior Province. The rocks are mainly Keewatin andesite and basalt with some interflow sediments. A wide band of sediments consisting of greywacke, arkose and iron formation roughly parallels Highway 101 across the township.

The northern part of the township is underlain by mafic to ultramafic intrusives that make up part of the Ghost Range Syncline. A wide band of acid volcanics also occurs in this region.

The major structural feature in the township is the Destor-Porcupine Fault Zone which is roughly parallel to and in the vicinity of Highway 101. Some north-east and north-west cross faulting occurs in the township but is usually obscured by extensive overburden.

Rocks south of the fault zone face south, dip south at  $80^{\circ}$  or steeper and generally trend east-northeast. Rocks north of the fault zone face north and dip north at  $80^{\circ}$  or steeper.

The overburden covers approximately over 95% of the township up to a thickness of 150 feet.

A table of formations from Satterly (1952) is shown on the following page.

TABLE OF FORMATIONS

CENOZOIC

Recent: Peat.  
Pleistocene: Sand, gravel, boulders; boulder clay;  
varved clay.  
Great unconformity

PRECAMBRIAN

Keweenawan (?); Olivine diabase  
Intrusive contact  
Matachewan (?); Quartz diabase, diabase.  
Intrusive contact  
Algoman (?); Syenite, feldspar porphyry, lamprophyre.  
Intrusive contact  
Haileyburian (?); Diabase, gabbro, peridotite and dunite  
(serpentinized), pyrozenite.  
Intrusive contact  
(Rhyolite; fragmental lava, porphyritic rhyolite.  
(Andesite, basalt; pillow lava, diabasic lava,  
Volcanics: (spherulitic lava, fragmental lava, tuff and  
(chert; talc-chlorite schist, carbonate-chlorite  
(schist.  
Faulted (?) contact  
Sediments: Greywacke, arkose, iron formation.

J. Satterly (1952)

## 6.2 Geology of the Claim Group

Less than 2% of the claim group area is exposed by outcrop. Where no outcrop or diamond drill hole information is available, the bedrock geology is largely a matter of conjecture.

The western and central portions of the claim group are underlain by intermediate to mafic volcanics consisting largely of massive and pillowed basalt and andesite. The eastern portion of the claim group is thought to be underlain by a large syenite stock.

Three outcrop areas were identified. All three occur in the western and central portions of the claim group and all consist of intermediate to mafic volcanics.

### 6.2.1 Pillowed Basalt/Andesite

Pillowed basalt/andesite is the most common rock exposed on the property. This unit weathers to a light grey to yellowish brown on the weathered surfaces. Fresh it is dark grey to greenish grey, fine to medium grained and contains fine grained disseminated pyrite throughout. Amygdules appear confined to the top of flows. When present they are rounded to oval shaped, approximately 1/8" in diameter and filled with quartz and calcite.

Pillows size ranges from less than one foot to greater than 3½ feet in diameter. Pillow rims are generally a light greyish brown, fine grained,

locally contain quartz and vary from one inch to  $1\frac{1}{2}$  inches in diameter.

The contact between pillowed and massive flows are weakly brecciated and contains some free quartz.

In one location a weak foliation (crenulation cleavage ?) accompanied by thin quartz stringlets was observed on the weathered surface orientated at  $120^{\circ}/83^{\circ}$  N.E.

Thin hairline fractures are commonly filled by quartz and calcite and may contain epidote and abundant sulphides.

Fracturing has occurred as follows:

$4^{\circ}/85^{\circ}$  S.E.,  $88^{\circ}/68^{\circ}$  S.E.,  $162^{\circ}/84^{\circ}$  S.W.

#### 6.2.2 Massive Basalt/Andesite

The Unit is virtually identical to the previous rock with the exception that it lacks pillows. One location displayed a flow top breccia approximately 5 feet or greater in width. The flow breccia weathers a light brown with dark and light grey breccia fragments. The fragments attain 3 inches in diameter and are angular to rounded. Some appear to fit together. Sulphides are absent within the flow breccia but occur as disseminations throughout the massive sections. No quartz veining was observed. Fracturing has occurred as follows:

$132-165^{\circ}/50^{\circ}$  E.,  $187^{\circ}/84^{\circ}$  E. and  $71^{\circ}/64^{\circ}$  N.W.

The most easterly massive, volcanic outcrop contains discontinuous syenite stringers at  $3^{\circ}/52^{\circ}$  W. and  $96^{\circ}/71^{\circ}$  S.W.

### 6.2.3 Diabasic Basalt/Andesite

The rock weathers a light to dark brown. Fresh the unit is a dark grey to blue grey, medium grained, weakly to moderately magnetic and displays thin prismatic feldspar crystals in a typical diabasic texture. Sulphides are abundant. Fracturing has occurred as follows:

$6^{\circ}/83^{\circ}$  E. and  $69^{\circ}/64^{\circ}$  N.W.

### 6.3. Surficial Geology

The overburden consists mainly of deposits of sand and gravel and boulders; and clay of glacial and glaciofluvial origin. Lake clays overlap the glaciofluvial deposits. More recent clay and silt deposits have formed in the Ghost River valley. Extensive deposits of peat have formed beneath the muskeg.

A large boulder, approximately  $15 \times 15 \times 10'$ , containing numerous blue quartz veins from 0.5 to one foot in diameter was observed on one elevated outcrop. The quartz veins were not mineralized. However a boulder that size has probably not travelled far. An area with similar quartz veining would represent a favourable target.

7.0 CONCLUSIONS:

Poor exposure and lack of geophysical information prohibit an extensive geological interpretation.

The eastern and central portions of the claim group appear to be underlain by intermediate and mafic volcanics. As interpreted by Satterly (1952), the eastern portion is underlain by part of a large syenitic stock. This is supported by the occurrence of syenite stringers in the most easterly volcanic outcrop.

Due to lack of information nothing can be said of the structure on the property. The potential for gold mineralization is good. The contact between volcanics and the syenitic intrusive represents a prime target.

The occurrence of a large, heavily quartz veined boulder that has obviously not travelled far is also encouraging.

Magnetometer and VLF-EM surveys to provide more information on structure, contacts and areas of potential mineralization are recommended.

An up-ice boulder train search may help to locate the origin of the heavily quartz veined boulder found on outcrop.

*Peter B. Atkinson B.Sc.*  
*For*  
*Chris Avery B.Sc.*

CERTIFICATE

I, Peter G. Atherton of 5425 Croydon Road, Burlington, Ontario, do hereby certify:

- 1) That I graduated from Brock University in 1975 and have practised my profession since that time.
- 2) That I have no interest directly or indirectly nor do I expect to have any interest in the properties held by H. E. Neal.
- 3) My report is based on personal examination of the property and supervision of the surveys being conducted on the property.

Toronto, Ontario

November, 1982

*Peter G. Atherton B.Sc.*

Peter G. Atherton B.Sc.



CERTIFICATE

I, Chris Curry of 4 Holton Road Scarborough, Ontario, do hereby certify

- 1) That I graduated from Carleton University in 1979 and have practised my profession since that time.
- 2) That I have no interest directly or indirectly nor do I expect to have any interest in the properties held by any clients of H.E. Neal and Associates.
- 3) My report is based on personal examination of the property and supervision of the surveys being conducted on the property.

Toronto, Ontario

October 1982

*Peter B. Altman B.Sc.*

*for* Chris Curry B.Sc.

ASSESSMENT WORK BREAKDOWN

1. Type of Survey Geological  
 2. Township or Area Harker  
 3. Numbers of Mining Claims Traversed by Survey I.643330, I.643331, I.643332, I.643333, I.643334, I.643335, I.643336, I.643337, I.643338, I.643339, I.643340.

4. Number of Miles of Line Cut \_\_\_\_\_ Flown \_\_\_\_\_  
 \*5. Number of Stations Established \_\_\_\_\_  
 \*6. Make and type of Instrument Used \_\_\_\_\_  
 \*7. Scale Constant or Sensitivity \_\_\_\_\_  
 \*8. Frequency Used and Power Output \_\_\_\_\_

9. Summary of Assessment Credits (details on reverse side) 32  
 Total 8 hour Technical Days (Include Consultants, Draughting etc.) \_\_\_\_\_  
 Total 8 hour Line-Cutting Days \_\_\_\_\_

Calculation

$$\frac{32}{\text{Technical}} \times 7 = \frac{224}{\text{Line-cutting}} + \frac{224}{\text{Line-cutting}} \div \frac{11}{\text{Number of claims}} = \frac{20.4}{\text{Assessment credits per claim}}$$

The dates listed on this form represent working time spent entirely within the limits of the above listed claims  Check  
 If otherwise, please explain \_\_\_\_\_ except for office work.

Dated: Nov 25, 1982 Signed: Peter G. Albert B.Sc.

- Note: (A) \* Complete only if applicable.  
 (B) Complete list of names, addresses and dates on reverse side.  
 (C) Submit separate breakdown for each type of survey.  
 (D) Submit in duplicate.

ASSESSMENT WORK BREAKDOWN

1. FIELD WORK

GEOLOGICAL SURVEY

<u>Type of Work</u>	<u>Name &amp; Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
C. Curry	4 Holton Road, Scarborough	July 7 to July 12, 1982	9
		Aug. 4 to Aug. 7, 1982	3½
P. Atherton	5425 Croydon Rd, Burlington	July 7 to July 12, 1982	9
		Aug. 4 to Aug. 7, 1982	3½

2. CONSULTANTS

<u>Name &amp; Address</u>	<u>Dates Worked (specify in field or office)</u>	<u>Number of 8 hour days</u>

3. DRAUGHTSMAN, TYPING, OTHERS (specify)

<u>Name &amp; Address</u>	<u>Type of Work</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
Doris Longman	17 Redwing Place, Don Mills	Typing Oct 18, 1982	1
C. Curry	4 Halton Rd, Scarborough	Draughting map, writing report Oct. 1 to Oct 8, 1982	6

TOTAL 8 HOUR TECHNICAL DAYS 32

4. LINE-CUTTING

<u>Name</u>	<u>Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>

TOTAL 8 HOUR LINE-CUTTING DAYS \_\_\_\_\_

HAR.



32D12SW0088 2.5245 HARKER

900

File # L 63330 #347

The #

Type of Survey(s) <b>GEOLOGY</b>		Township or Area <b>HARKER</b>	
Claim Holder(s) <b>PETER G. ATHERTON</b>		Prospector's Licence No. <b>K 19165</b>	
Survey Company <b>H.E. NEAL &amp; ASSOC. LTD.</b> <b>55 606 QUEEN ST. E. TORONTO</b>		Total Miles of line Cut	
Name and Address of Author (of Geo-Technical report) <b>C. CURRY SUITE 606 TORONTO ONT M5C 1R6</b>		Survey Dates (linecutting to office) Day   Mo.   Yr.   Day   Mo.   Yr. <b>07   07   82   28   10   82</b>	

Special Provisions Credits Requested

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	643330				
	643331				
	643332				
	643333				
	643334				
	643335				
	643336				
	643337				
	643338				
	643339				
	643340				

Man Days

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	20.4
	Geochemical	

Airborne Credits

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

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.

Report Completed

Date of Report: **Oct 15, 1982**

Recorded Holder or Agent (Signature): **Peter G. Atherton**

For Office Use Only

Total Days Cr. Recorded: **224.4**

Date Recorded: **Oct 22, 1982**

Date Approved as Recorded: **Oct 27, 1982**

Mining Record: **11**

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: **Peter G. Atherton 416 H.E. NEAL & ASSOC. 55 QUEEN ST. E. SUITE 606 TORONTO, ONT. M5C 1R6**

Date Certified: **Oct 15, 1982**

Certified by (Signature): **Peter G. Atherton**

RECEIVED  
OCT - 4 1982  
LANDS SECTION

Quah  
2.3665

LARDELL  
MINING DIV.  
RECEIVED  
OCT 21 1982  
AM  
7 18 19 10 11 12 1 2 3 4 5 10

H. E. NEAL & ASSOC. LTD.  
55 QUEEN ST. E. SUITE 606  
TORONTO, ONTARIO.

RECEIVED	
Land Management Branch	
CIRCULATE	
COMMENTS PLEASE	
BY	
NOV 29 1982	
E. F. ANDERSON	
J. M. MORTON	
J. D. SMITH	
G. SHEPHERD	

MR. E. F. ANDERSON  
DIRECTOR, LAND MANAGEMENT BRANCH,  
MINING LANDS SECTION,  
MINISTRY OF NATURAL RESOURCES  
WHITNEY BLOCK, RM 6450,  
QUEENS PARK  
TORONTO, ONTARIO  
M7A 1W3

NOV. 25, 1982

Dear Sir,

This letter is accompanying the following property reports submitted for assessment work credits by H. E. Neal & Associates Ltd on behalf of Mr. H. E. Neal

2. copies - Geological Survey performed on The Harker Claims, Harker Township, Garden Lake Mining Division, Matheson Area, Ontario. (1 geological maps - scale 1" to 400' accompany each report)

All correspondence regarding the above reports should be sent to the above address

Respectfully Submitted  
Peter G. Atkinson B.Sc.  
H. E. Neal & Associates Ltd.

*Jan 31/83*

Mining Lands Comments


To: Geophysics

Comments

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
-----------------------------------	---	------	-----------

To: Geology - Expenditures *Mr Kustra*

Comments
<i>very difficult to obtain clear readable photocopies</i>

<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date <i>March 8/83</i>	Signature <i>CKustra</i>
--	---	------------------------	--------------------------

To: Geochemistry

Comments
<i>LD</i>

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
-----------------------------------	---	------	-----------

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

1982 12 09

347

2.5245

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 Geological Survey submitted on Mining Claims L 643330 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: 416/965-1380

DW:sc

cc: H.E. Neal & Associates Limited  
Toronto, Ontario  
Attention: Peter G. Atherton.

LAMPLUGH TWP M-358

THE TOWNSHIP OF  
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
- PATENTED S.R.O.

**NOTES**

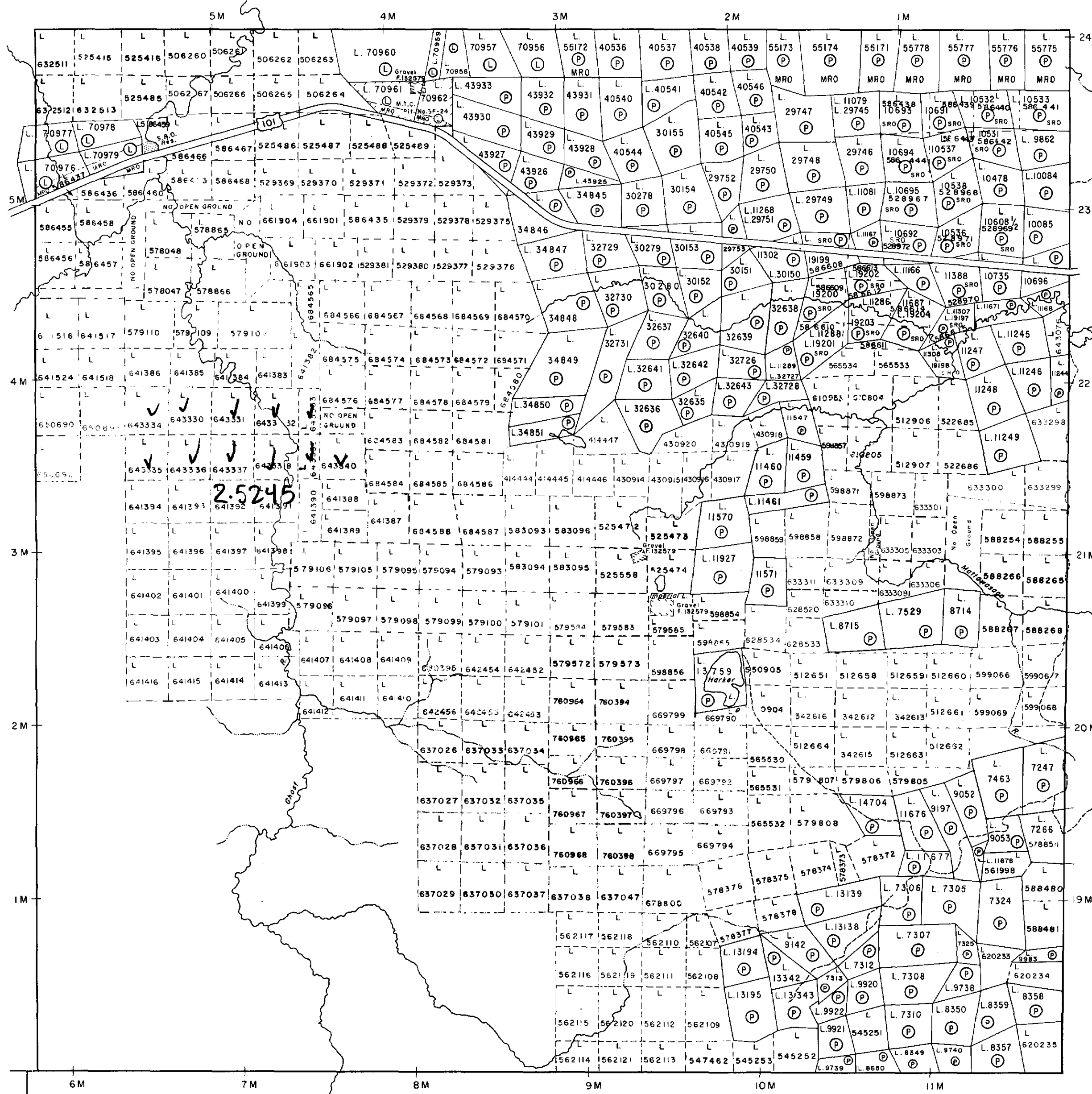
400' Surface Rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE  
**JUL - 8 1988**  
Ministry of Natural Resources  
TORONTO

PLAN NO. **M-353**  
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

GARRISON TWP M-349

HOLLOWAY TWP M-356



ELLIOTT TWP M-347



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