

AMALGAMATED RARE EARTH MINES LTD.

GEOCHEMICAL SURVEY

SMYE TOWNSHIP PROPERTY

INTRODUCTION

Amalgamated Rare Earth Mines Ltd. owns a group of 37 claims in Smye and McGillis Townships, Patricia Mining Division, Ontario.

During the Fall of 1971 a geochemical survey for copper, zinc, and lead was carried out on 9 of these claims.

The soil sampling was done under the direction of Mr. Roger Mercer of Mid-North Engineering Services Ltd. The sampling was done by dug holes with soil collected from the "B" horizon from 8" to 14" below surface. The samples were analyzed by Bondar-Clegg using a hot acid leach followed by atomic absorption analysis.

PROPERTY AND LOCATION

The 9 claims surveyed are located in Smye Township and are numbered as follows:

Pa 254515 to Pa 254517 inclusive, and  
Pa 254506 to Pa 254511 inclusive.

The property is accessible from Savant Lake Station via Highway 599 and a boat on Savant Lake.

**DUPLICATE COPY  
POOR QUALITY ORIGINAL  
TO FOLLOW**



52J66NWS9646 2.854 MCGILLIS

AMALGAMATED RARE EARTH MINES LTD.

GEOCHEMICAL SURVEY

SMYE TOWNSHIP PROPERTY

RECEIVED

MAY - 1 1972

PROJECTS  
SECTION

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### GENERAL GEOLOGY

The claims surveyed straddle a contact between volcanic and granitic rocks with the bulk of the claims lying on the volcanic side of the contact. The volcanic rocks include andesite and dacitic flows with some beds of tuff.

A mineral deposit on the claims consists of a series of irregular shaped quartz segregations carrying varying amounts of copper, lead, zinc and silver.

Magnetic and VLF electromagnetic surveys have been made of the property. The magnetic survey indicates a north-easterly trend to the formation and a number of small bands of iron formation. Some large VLF conductors occur sometimes with and sometimes without close proximity to the magnetic anomaly.

### SURVEY METHODS

The purpose of the geochemical survey was to evaluate the magnetic and electromagnetic anomalies. Therefore, general policy was to soil sample over the known geophysical anomalies with the precise location of each sample being decided in the field after consideration of the local overburden conditions. Thus there is no regular sample pattern except when viewed in conjunction with the geophysical data and the overburden conditions.

The analytical results in parts per million are plotted on the accompanying map.

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The analytical results in parts per million are plotted on the accompanying map.

No attempt has been made to either contour or profile the results as it is the writer's experience that the work involved is seldom justified by the results. Instead, one visually appraises the overall geophysical and geochemical picture by superimposing the two maps. In this way those parts of a geophysical anomaly which are more likely to be rich in valuable mineral can be selected for drill testing.

Similarly, no attempt has been made to determine a background metal factor by any of the statistical methods. Background levels depend on the chemical and physical nature of the soil and whether, on the particular day that the sampling was collected, the soil conditions were oxidizing or reducing. Thus background levels fluctuated from day to day and from location to location.

#### SURVEY RESULTS

No widespread obviously strong geochemical anomalies were detected. Locally some of the values are from 2 to 5 times the local background level but these are rather isolated readings.

#### Copper

The copper results range from a low of 10 to a high of 172 parts per million with the bulk of the samples running between 30 and 80 parts per million. Of 284 analyses, 12, or just over 5% are over 100 parts per million. If these results are considered anomalous, then there is no consistent pattern between the geophysical and geochemical results.

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Zinc

The zinc results show less variation than the copper which is surprising when one considers the mobility of the metal. On the whole the zinc values are too low to be of interest.

Lead

130 of the 284 samples were analyzed for lead. These were done subsequent to the copper and zinc analyses and only in those areas which might be termed of slight geochemical interest in view of the copper and zinc results. Again the results were too low to be in any way conclusive.

CONCLUSIONS

1. The geochemical data has not supplied positive information to aid in the exploration of the property.
2. Some slight increase in copper content over some of the medium grade magnetic anomalies suggests that the more magnetic rocks may contain a higher content of copper.
3. The geochemical survey results are inconclusive.

My Report is respectfully submitted.

Willowdale, Ont.  
April 20, 1972

H. Grant Harper, F.G.A.C., P.Eng.  
Economic Geologist.

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*H. G. Harper*

Willowdale, Ontario  
April 20, 1972

H. Grant Harper, F.G.A.C., P.Eng.  
Economic Geologist





52J06NW9046 2.854 MCGILLIS

900

File 5854

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

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 Geochemical  
Township or Area Single & M. Gillis Twp.  
Claim holder(s) Mid-North Engineering Serv. Ltd.  
416 - 25 Adelaide St. W. Toronto  
Author of Report H. G. Harper, P. Eng.  
Address 314 Henden Ave Willowdale.  
Covering Dates of Survey Aug 25/71 - April 12/72  
(linecutting to office)  
Total Miles of Line cut 8.0

MINING CLAIMS TRAVERSED  
List numerically

PA 254515  
(prefix) (number)

254516

254517

PA 254506

254507

254508

254509

254510

254511

If space insufficient, attach list

SPECIAL PROVISIONS  
CREDITS REQUESTED

DAYS  
per claim

Geophysical  
- Electromagnetic \_\_\_\_\_  
- Magnetometer \_\_\_\_\_  
- Radiometric \_\_\_\_\_  
- Other \_\_\_\_\_  
Geological \_\_\_\_\_  
Geochemical 20

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: April 18/72 SIGNATURE: H. G. Harper.  
Author of Report

No. of samples less  
minimum 76 = 2 claim

$9 \times 20 = 180 \div (9 + 2)$   
 $= 16.4 \text{ days per claim}$

TOTAL CLAIMS 9

PROJECTS SECTION

Res. Geol. Kenora Qualifications 63.1058  
Previous Surveys LD

Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

OFFICE USE ONLY

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken PA 254515 - 254517  
PA 254506 - 254511 incl.

Total Number of Samples 284  
Type of Sample soil  
(Nature of Material)  
Average Sample Weight 4-5025  
Method of Collection dug holes  
Soil Horizon Sampled B  
Horizon Development poor to fair  
Sample Depth 8" to 14"  
Terrain sloping  
Drainage Development fair to good  
Estimated Range of Overburden Thickness 5' - 15'

ANALYTICAL METHODS

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn Ni, Co, Ag, Mo, As. (circle)

Others \_\_\_\_\_

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (698 tests)

Name of Laboratory Bondar - Clegg

Extraction Method hot HNO<sub>3</sub> HCl

Analytical Method A Abs.

Reagents Used \_\_\_\_\_

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis -80

70°C for 8 hrs.

S. steel screening

no crush - no ash.

General \_\_\_\_\_  
\_\_\_\_\_  
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General \_\_\_\_\_  
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ONTARIO

Ministry  
of Natural  
Resources

2.854

Room W 1617  
Parliament Buildings  
Toronto 182, Ontario

Telephone 416:965-6918

July 24, 1972

Mr. W. A. Buchan  
Mining Recorder  
Court House  
Sioux Lookout, Ontario

Dear Sir:

Re: Mining Claims Pa. 254506 et al, McGillis and Snye  
Townships, File 2.854

The Geochemical assessment work credits as listed with my Notice of Intent dated July 7, 1972 have been approved as of the date above. Please inform the recorded holder and so indicate on your records.

Yours very truly,

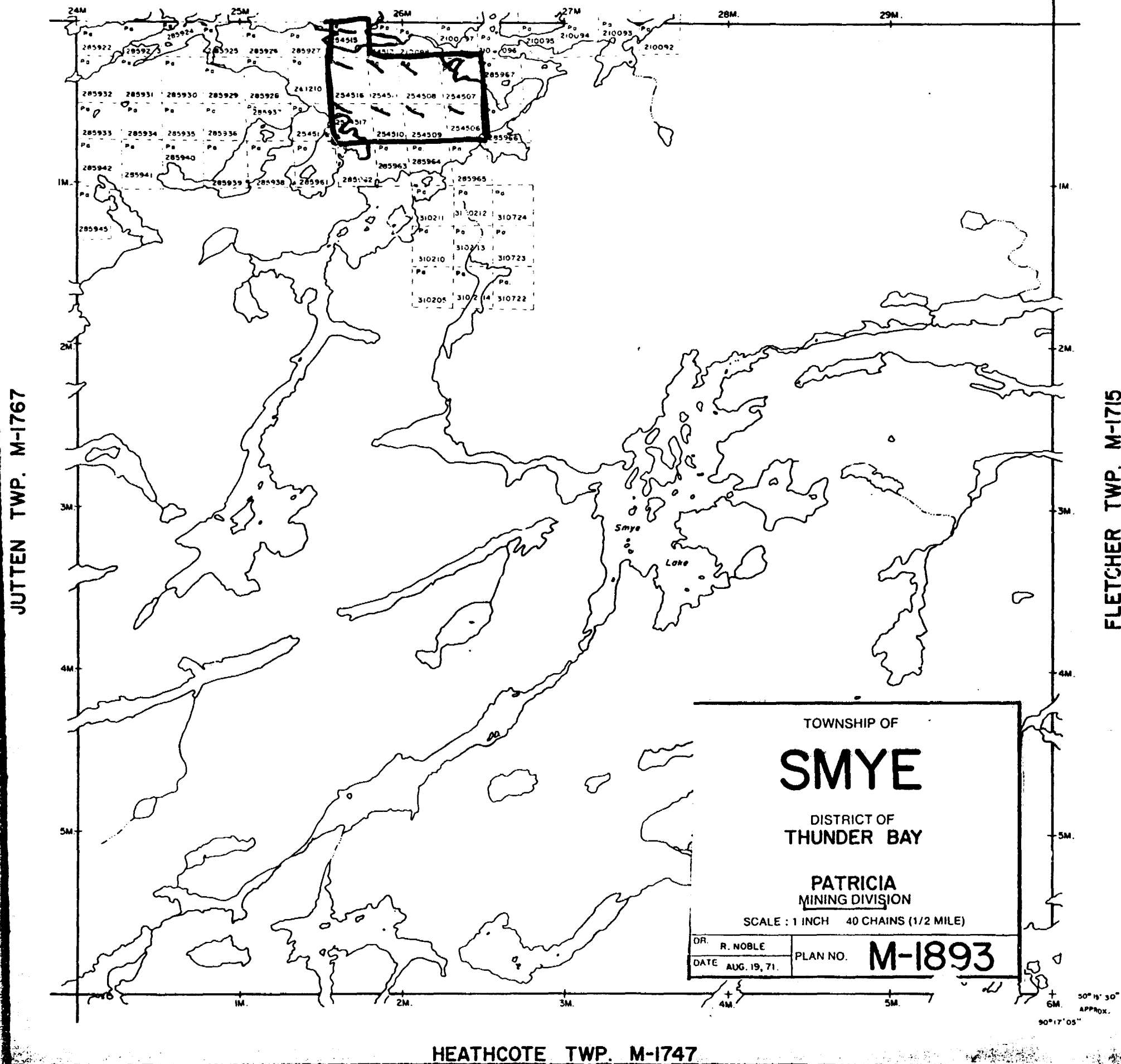
Fred W. Matthews  
Supervisor  
Projects Section

FWM/mw

- cc: Mid-North Engineering  
Toronto, Ontario
- cc: Amalgamated Rare Earth Mines  
Toronto, Ontario
- cc: H. Grant Harper P Eng.  
Willowdale, Ontario
- cc: Resident Geologist  
Kenora, Ontario ✓



M<sup>c</sup>GILLIS TWP. M-1806



TOWNSHIP OF  
**SMYE**  
DISTRICT OF  
THUNDER BAY  
**PATRICIA  
MINING DIVISION**  
SCALE : 1 INCH 40 CHAINS (1/2 MILE)

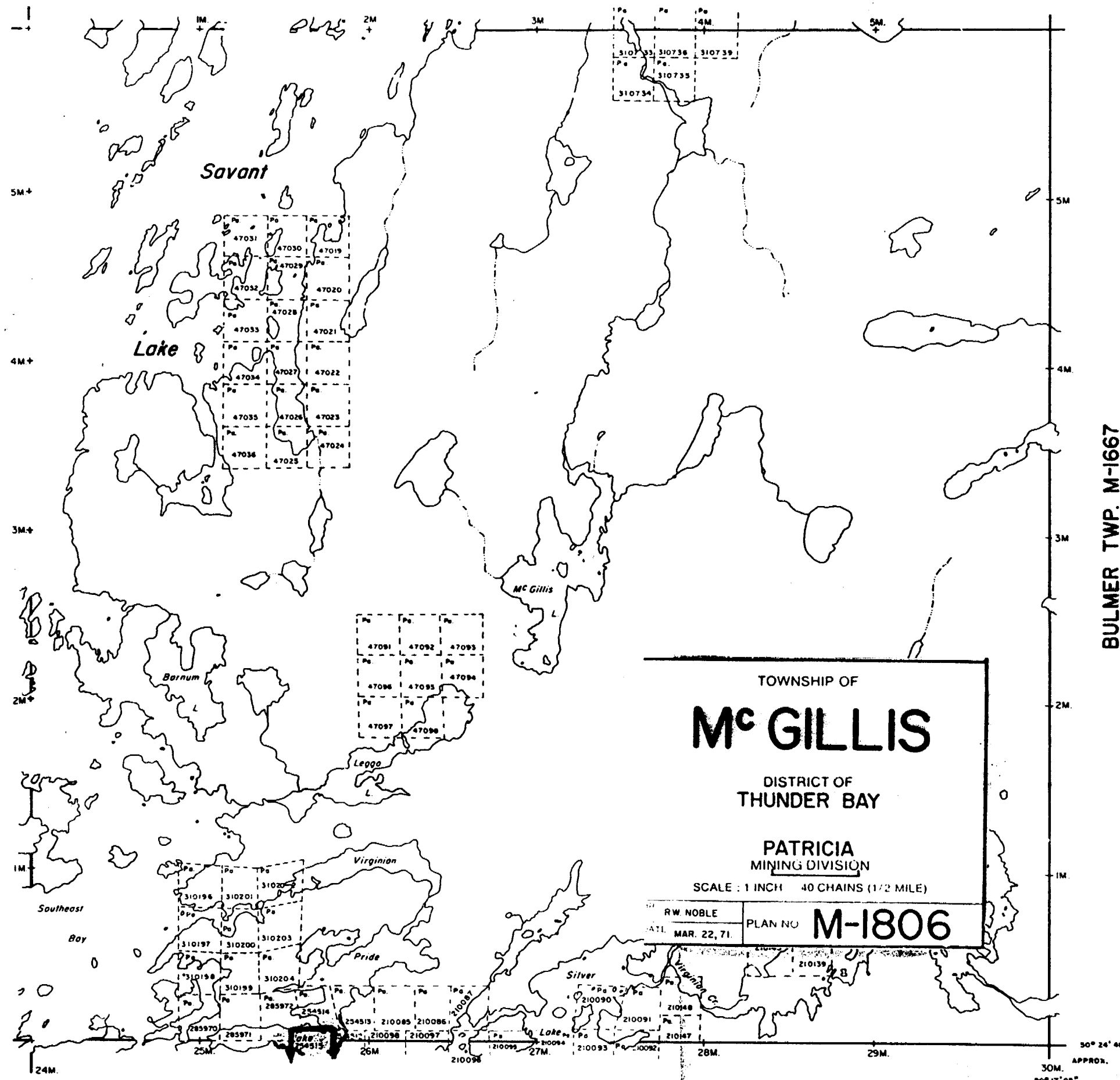
DR. R. NOBLE	PLAN NO. <b>M-1893</b>
DATE AUG. 19, 71.	

50° 19' 30"  
APPROX.  
90° 17' 05"

SAVANT TWP. M-1882

POISSON TWP. M-1865

BULMER TWP. M-1667

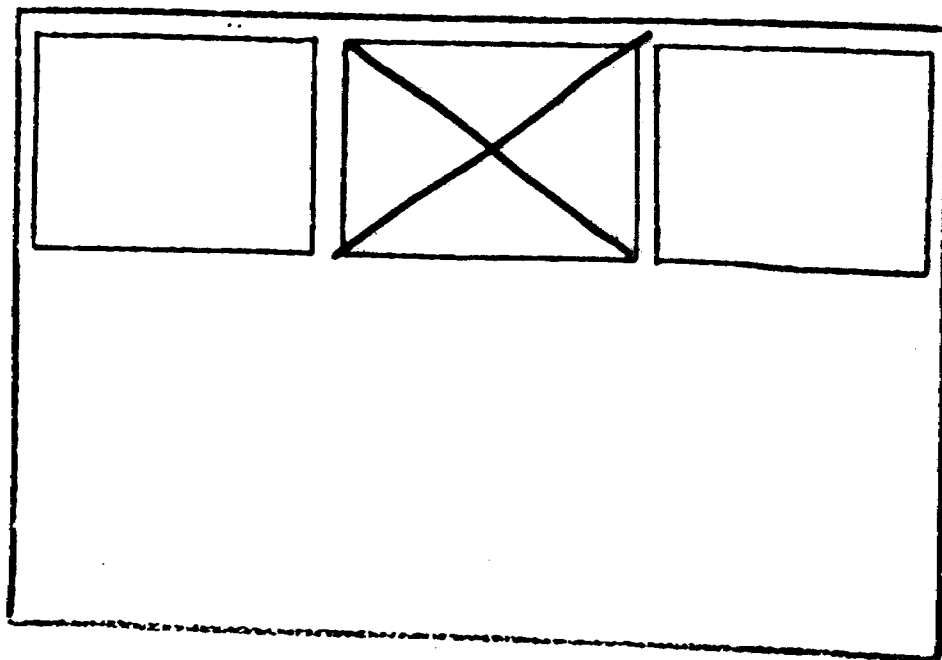


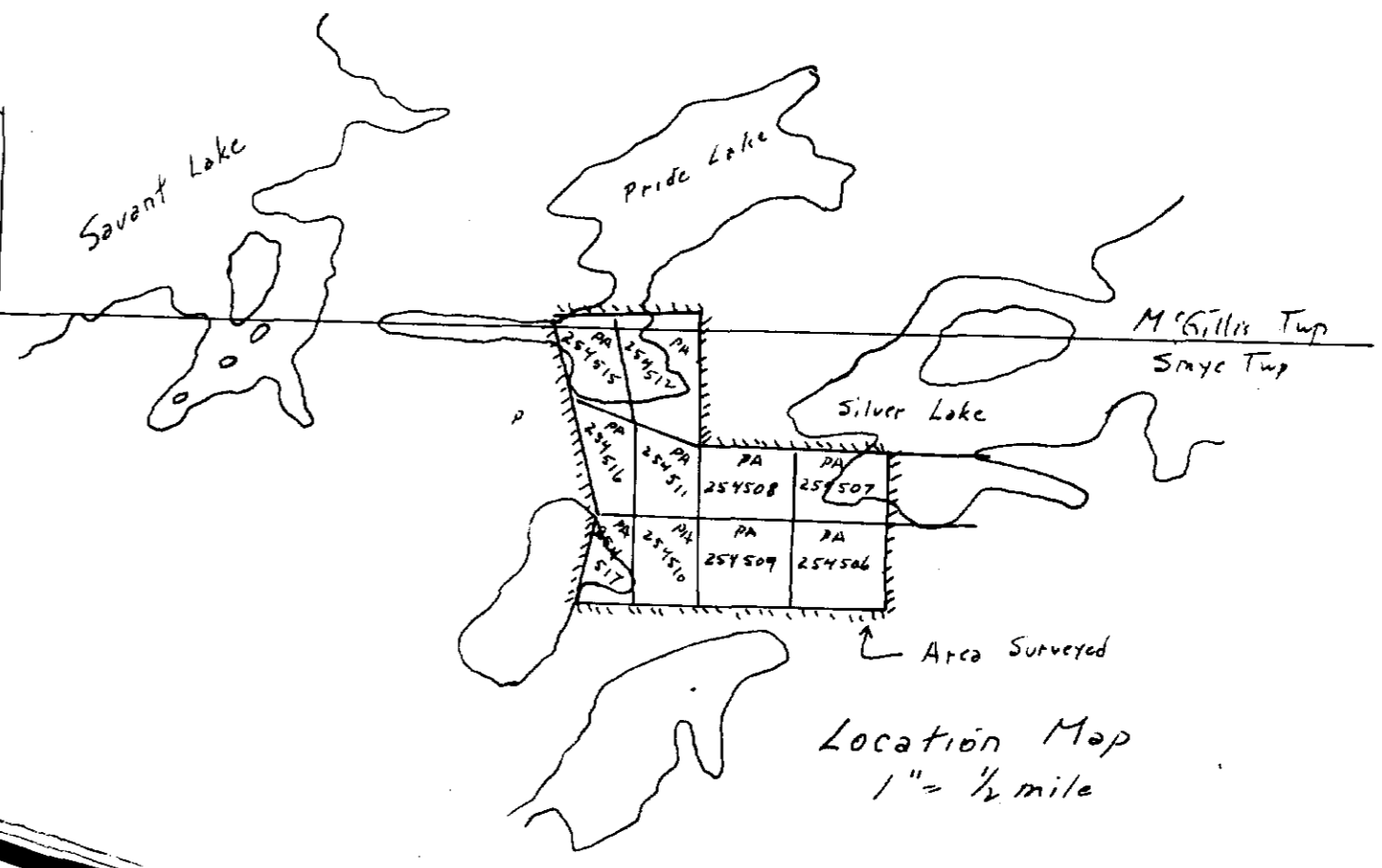
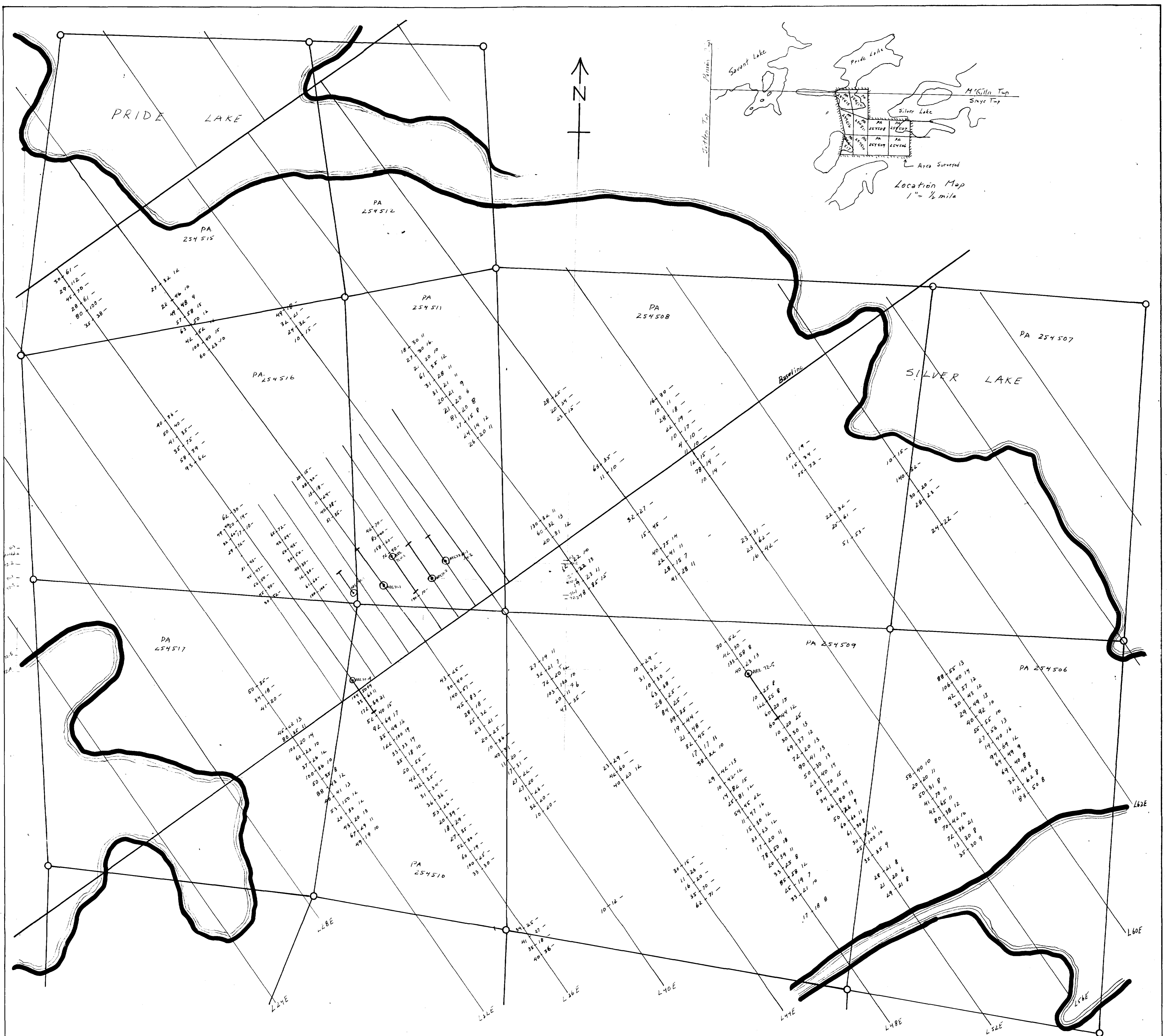
SMYE TWP. M-1893

SEE ACCOMPANYING  
MAP(S) IDENTIFIED AS

52 J/08 NW-0017-B1 #1

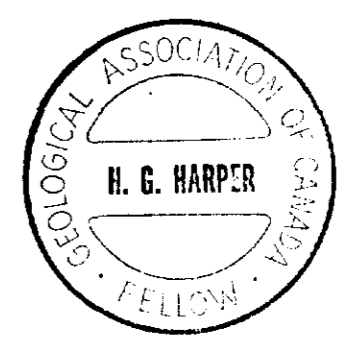
LOCATED IN THE MAP  
CHANNEL IN THE FOLLOWING  
SEQUENCE (X)





Legend

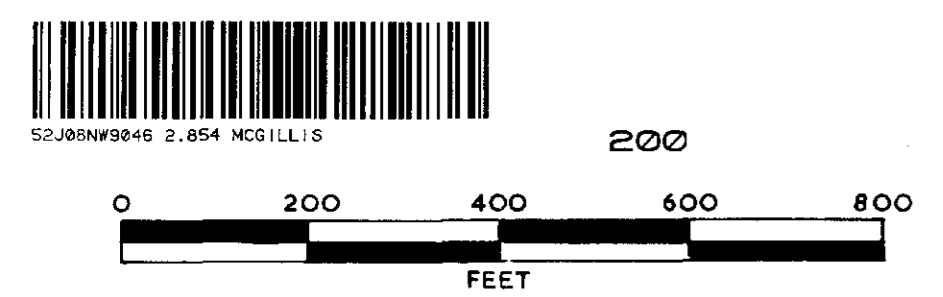
Cu	Zn	Pb	(ppm)
27	19	11	
32	21	7	
72	20	12	
103	160	10	
47	35	-	
23	29	-	



AMALGAMATED RARE EARTH MINES LTD  
 SMYE & MCGILLIS TWPS.  
 GEOCHEMICAL SURVEY



APR 20 72  
 DATE: APR 20 72  
 SIGNED: H. G. Harper



52J/08 NW-0017-B1 #1