

LANGIS SILVER & COBALT MINING CO. LTD.  
Smye and McGillis Townships Property,  
Sturgeon-Savant Lakes Area, Ontario  
Ronka 16 & Magnetometer Survey

INTRODUCTION

During January and February of 1971 a combined magnetic and electromagnetic survey was made of a group of 23 claims. located in Smye and McGillis Townships, Sturgeon-Savant Lakes Area, and held by Langis Silver & Cobalt Mining Co. Ltd.

The following report and accompanying maps describe the results of the survey and give an interpretation of them.

PROPERTY AND LOCATION

The property consists of 23 mining claims straddling the boundary of Smye and McGillis Township, Patricia Mining Division, Ontario. The claims are numbered as follows:

Pa 254506 to Pa 254518 inclusive, and  
Pa 261210, and  
Pa 285961 to Pa 285967 inclusive, and  
Pa 285972, and  
Pa 285927.

The property is accessible from Highway 599 by boat on Savant Lake.

GEOLOGY

The geology of the area is shown on Map P352, Savant-Caribou Lakes Sheet, published by the Ontario Department of Mines.

**DUPLICATE COPY  
POOR QUALITY ORIGINAL  
TO FOLLOW**



**LANGIS SILVER & COBALT MINING CO. LTD.****Smye and McGillis Townships Property,****Sturgeon-Savant Lakes Area, Ontario****Ronka 16 & Magnetometer Survey****INTRODUCTION**

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PA254506 to PA254518 inclusive, and  
PA261210, and  
PA285961 to PA285967 inclusive, and  
PA285972, and  
PA285927.

The property is accessible from Highway 599 by boat on Savant Lake.

**GEOLOGY**

The geology of the area is shown on Map P352, Savant-Caribou Lakes Sheet, published by the Ontario Department of Mines.

RECEIVED

APR 27 1971

PROJECTS  
SECTION

In general, the claim group straddles a volcanic-granite contact, with the bulk of the claim area lying on the volcanic side of the contact. Details of the property, its geology and mineral deposits, have been described by C.D. Huston, P. Eng.

#### SURVEY METHODS AND INSTRUMENT DATA

The surveys were carried out on a network of picket lines striking N35W at 400 foot intervals. Survey readings were taken every 50 feet along each line. Altogether 24.5 line miles were surveyed with a total of 7,780 magnetic and electromagnetic readings recorded.

The magnetic survey was made using a Sharpe PMF 3 magnetometer. The instrument measures the vertical component of the earth's magnetic field. Readings were plotted as gammas after correction for diurnal variations.

The electromagnetic survey was made using a Ronka EM 16 electromagnetic unit. This instrument utilizes the United States Very Low Frequency transmitting stations for its signal. The VLF stations set up a series of concentric horizontal magnetic fields about their vertical antennae and when their magnetic fields encounter conductive bodies in the ground, secondary magnetic fields are set up which radiate from these bodies. The EM 16 measures the vertical components of these secondary fields by means of 2 coils.

For this survey signals from the station located at Cutler, Maine, were used. Two readings, the In-Phase and the Quadrature were measured at each station.

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## SURVEY RESULTS AND INTERPRETATION

### A. Magnetic Survey

Over the claim area background magnetic intensity varies from about 1,000 to 1,300 gammas. There are several long slender "ridges" where the magnetic intensity rises above the 1,500 gamma level. Within each "ridge" magnetic intensities between 3,000 and 5,000 gammas are fairly common and in a few places the intensities rise above 10,000 gammas. The highest magnetic intensity recorded was 13,400 gammas.

One magnetic anomaly requires special mention. It is a substantial sized anomaly with a core of low magnetic intensity and lies between lines 32 and 60 East about 2,000 feet south of the baseline. This area warrants particularly close examination.

All other magnetic features of interest will be discussed in conjunction with their associated electromagnetic conductors.

### B. Electromagnetic Survey

Eleven conductors, of which 9 might be classed as strong, were located during the survey. For convenience in description, these have been named from "A" to "K" inclusive.

#### Conductor "A"

Conductor "A" is located in the immediate vicinity of the known lead, zinc and copper mineralization. On the 400 scale plan, the conductor length is about 1400 feet. The general area of the shoeing was detailed on lines 100 feet apart with readings at 50 feet. The detail survey shows that the conductor, which appears to be a single large conductor on the 200 scale plan, is

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really a series of echeloned conductors which show considerable variation in In-Phase strength along strike. In some places there appears to be two parallel conductors. There is no significant magnetic association with the conductor. The anomaly requires surface investigation.

#### Conductors "B" and "I"

Conductor "B" may actually be an echelon of conductor "A". The reliability of its linkage with conductor "I", which underlies Silver Lake, is questionable. The only ways of investigating conductor "I" further is by geophysical surveying or diamond drilling. It is also possible that conductor "B" has a linkage with conductor "E". In short, in the vicinity of conductor "B" the available geophysical data does not allow a positive interpretation. More detail is needed.

#### Conductor "C"

This is a broad strong conductor which tends to lie on the flank of a series of small magnetic anomalies. Geophysically the area is promising and further investigation is needed.

#### Conductor "D"

This is one of the prime targets located. The echeloned nature of the conductor is apparent on the 200 scale plan. The conductor intensity is strong and the conductor width is over 150 feet. Conductive overburden is associated. The largest and strongest magnetic anomaly on the property is associated with the conductor. It is possible that the magnetic anomaly is indicative of a small basic intrusive, in which case the EM conductor is well located on its flank. A drill test is recommended.

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Conductor "E"

This conductor is also an important target for further investigation. The conductor has good In-Phase and Quadrature characteristics and occurs on the north flank of a modest magnetic anomaly. Further investigation, in addition to diamond drilling is definitely warranted.

Conductor "F"

This conductor lies under the south bay of Pride Lake. It has a weak associated magnetic anomaly. This conductor requires checking by a vertical loop survey before diamond drilling should be considered.

Conductor "G"

This conductor lies under the eastern extremity of the very long and narrow east-west bay on Pride Lake. The conductor is probably a fault zone. The conductor is strong and may or may not have associated mineralization. The magnetic associations are weak and erratic.

Conductor "H"

This small conductor may be regarded as a land based echelon of conductor "F". As such it warrants a surface examination. There is no close magnetic association.

Conductor "J"

This conductor lies within the granite area of the claims and is probably a fault zone. It has no associated magnetism.

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Conductor "K"

This small conductor lies near or at the contact between granite and volcanics and may represent an open area along that contact. It has no magnetic association.

CONCLUSIONS AND RECOMMENDATIONS

1. Magnetic and electromagnetic surveys have been completed over the land and water areas of Langis' 23 claim group located in Smye and McGillis Townships.
2. Several strong electromagnetic conductors were located by the survey and some of these have good magnetic relationships.
3. Conductor "A" is closely associated with known base metal mineralization. A drill test is warranted and should be carried out after geological mapping.
4. Conductors "D" and "E" also warrant immediate diamond drilling while conductor "C" is almost in the same category. Surface exploration (mapping, prospecting, geochemical testing, detailed surveying) prior to drilling would allow drill holes to be spotted with better precision.
5. Conductors "B" and "H", both land based, require further geophysical investigation.
6. Conductors "F", "I" and "G" occur under water and should be checked by vertical loop methods when the ice returns.
7. Conductors "J" and "K" are in granite areas and are of little immediate interest.

My report is respectfully submitted,

Willowdale, Ontario  
April 19/71

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

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POOR QUALITY ORIGINAL  
TO FOLLOW**

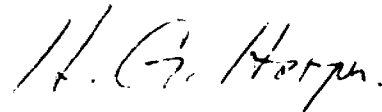
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Willowdale, Ontario  
April 19, 1971

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



ASSESSMENT DATA

Sponsor: Langis Silver & Cobalt Mining Co. Ltd.  
416 - 25 Adelaide St. West, Toronto.

Location: Snye and McGillis Townships, Patricia Mining Division

Instruments: Ronka EM16 electromagnetic unit  
Sharpe PMP 3 magnetometer

Starts: Jan. 15, 1971  
Finish: April 20, 1971

Line Miles: 24.5  
Readings: 7,780

LINE CUTTING

P. Hureault, Ignace	Jan. 15 - Feb. 20	37 days	
G. Huston, Elliot Lake	Jan. 15 - Feb. 20	37 days	
H. Stack, Kirkland Lake	Jan. 15 - Feb. 20	<u>37 days</u>	111 days

GEOPHYSICAL SURVEY

Operator: R. Mercier, Cardiff	Jan. 31-Feb. 22	23 days	
Assistant: P. Morin, Cobalt	Jan. 31-Feb. 22	<u>23 days</u>	
	Factor (7)	46 days	322 days

OFFICE WORK

Draftings: R. Mercier	Feb. 24-28	4 days	
H.G. Harper, Toronto	April 1 - 11	11 days	
Interpretation & Reports: H.G. Harper	April 12 - 16	4 days	
Typing: J.H. Perry, Toronto	April 19	<u>1 day</u>	
	Factor (7)	20 days	<u>140 days</u>
	TOTAL DAYS		573 days

*H.G. Harper*

April 19, 1971

H. Grant Harper, P.G.A.C., P.Eng.







AREA CODE — 416  
TELEPHONE — 365-6918



2.381

WHITNEY BLOCK,  
QUEEN'S PARK,  
TORONTO 182, ONT

DEPARTMENT OF MINES AND NORTHERN AFFAIRS  
MINING LANDS BRANCH

December 1, 1971

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

Dear Sir:

Re: Mining Claims Pa. 254506 et al,  
McGillis and Smye Townships  
File 2.381

The Geophysical (Magnetometer and Electromagnetic) assessment work credits as shown on the attached list 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

OJ/mw

encl.

- cc: Langis Silver & Cobalt Mining Co., Ltd.,
- cc: Mid-North Engineering Services Ltd.,
- cc: Mr. G. Harper P. Eng.
- cc: Resident Geologist,  
Kenora, Ontario.



TECHNICAL ASSESSMENT WORK CREDITS

Recorder Holder ..... Mid-North Engineering Services Limited .....

Township or Area ~~XXXXX~~ ..... McGillis and Snye Townships. .....

Type of Survey and number of Assessment Days Credits per claim

**GEOPHYSICAL**

Magnetometer ..... 20 ..... days

Electromagnetic ..... 40 ..... days

Radiometric ..... days

..... days

**GEOLOGICAL** ..... days

**GEOCHEMICAL** ..... days

Man days

Ground

Special Provision

Airborne

NOTICE OF INTENT TO BE ISSUED

Credits have been reduced because of partial coverage of claims.

Credits have been reduced because of corrections to work dates and figures of applicant.

NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

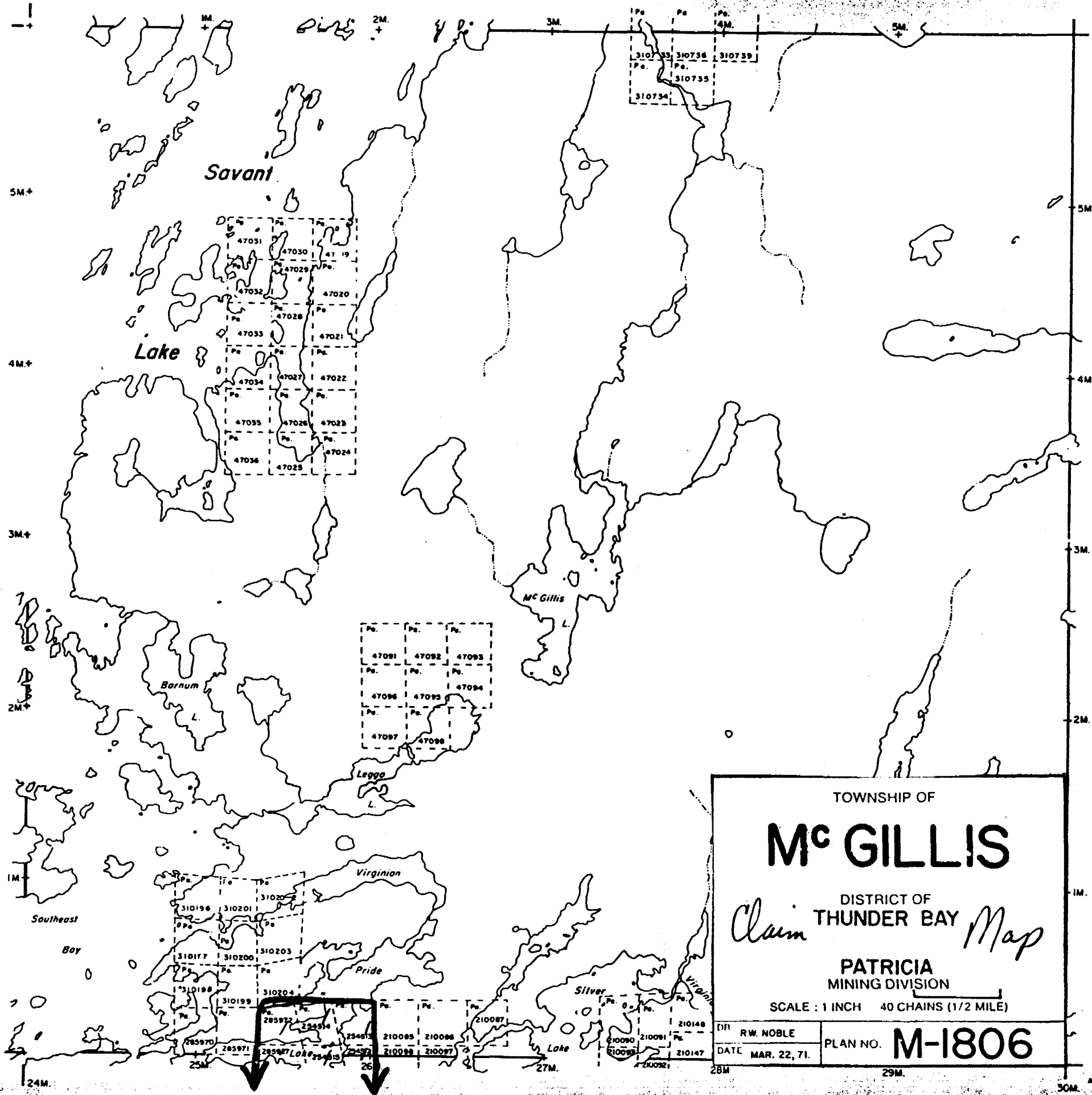
Mining Claims	
Pa. 254506 to 18 inclusive	
261210	
285927	
285961 to 67 inclusive	
285972	

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40;

SAVANT TWP. M-1882

POISSON TWP. M-1865

BULMER TWP. M-1667



TOWNSHIP OF

# Mc GILLIS

DISTRICT OF THUNDER BAY

*Claim* *Map*

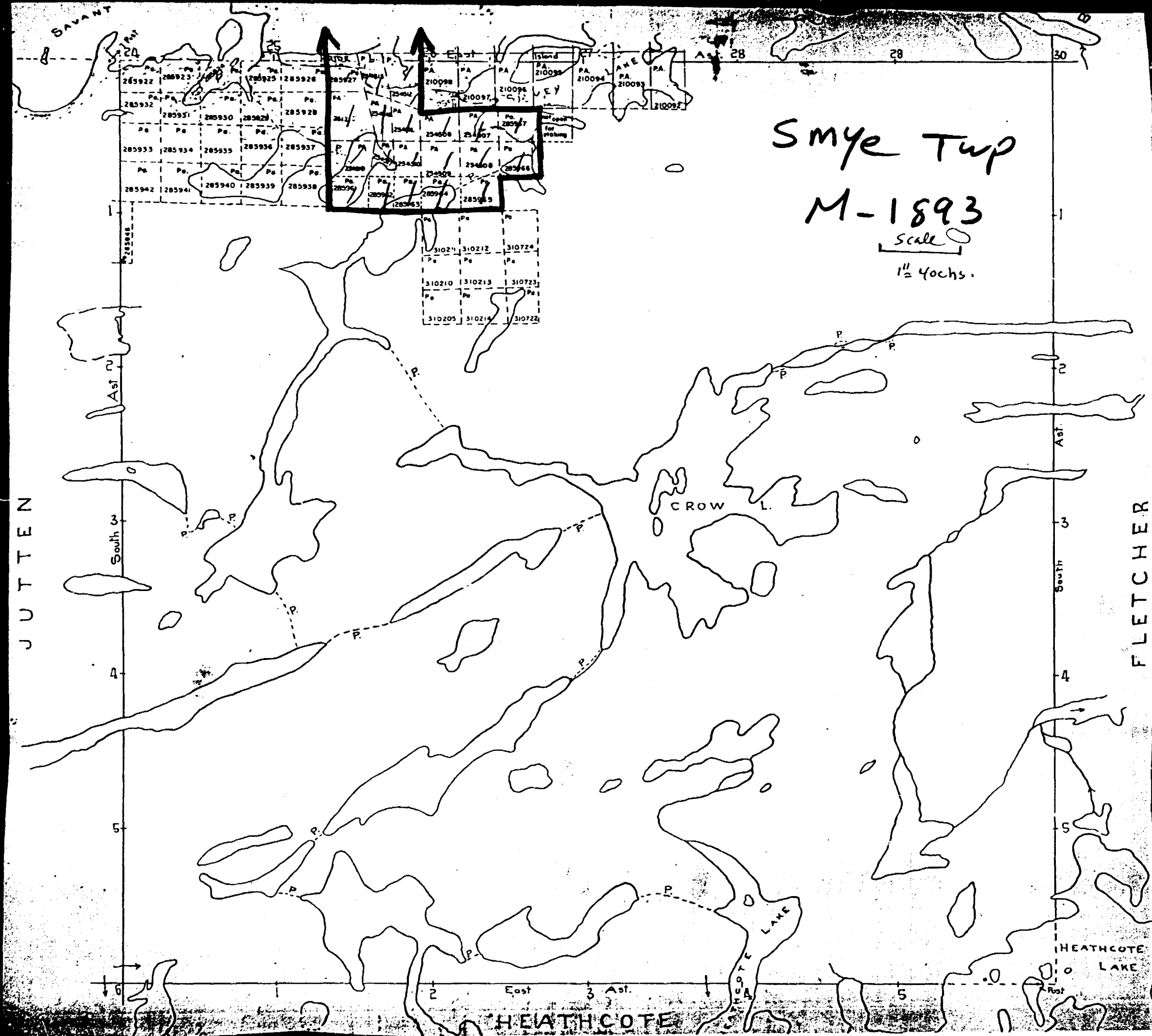
PATRICIA  
MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR	R.W. NOBLE	PLAN NO. <b>M-1806</b>
DATE	MAR. 22, 71.	

SAVANT TWP. M-1882

30M APPROX. 99° 17' 05"



Smye Twp

M-1893

Scale

1" = 40chs.

JUTTEN

FLETCHER

HEATHCOTE

HEATHCOTE LAKE

CROW L.

SAVANT

AST

South

AST

South

AST

AST

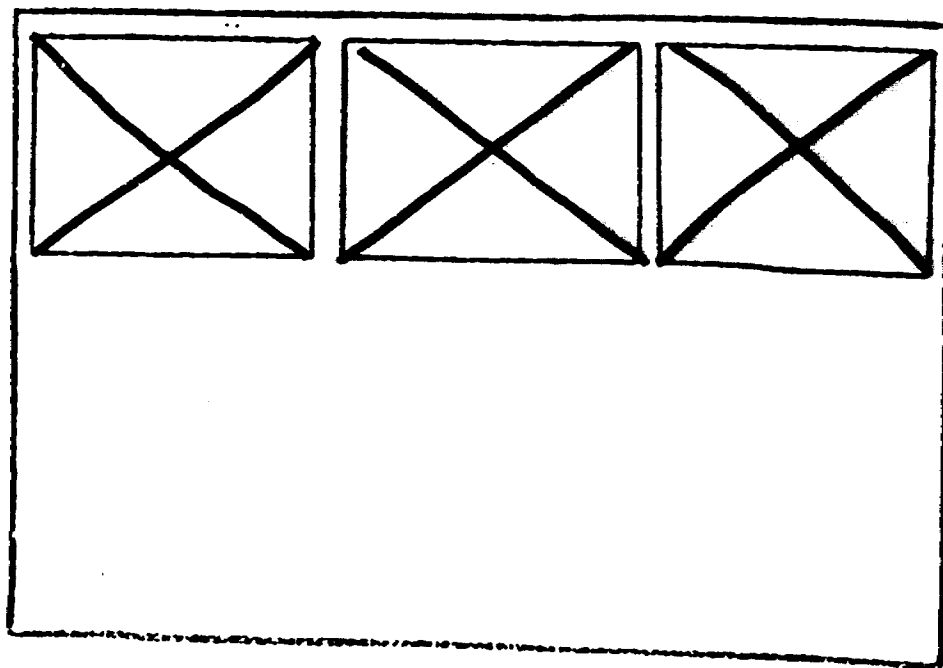
SEE ACCOMPANYING  
MAP(S) IDENTIFIED AS

52 J/08 NW-0019 #1

52 J/08 NW-0019 #2

52 J/08 NW-0019 #3

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


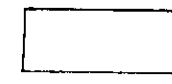

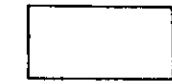
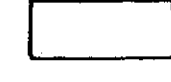


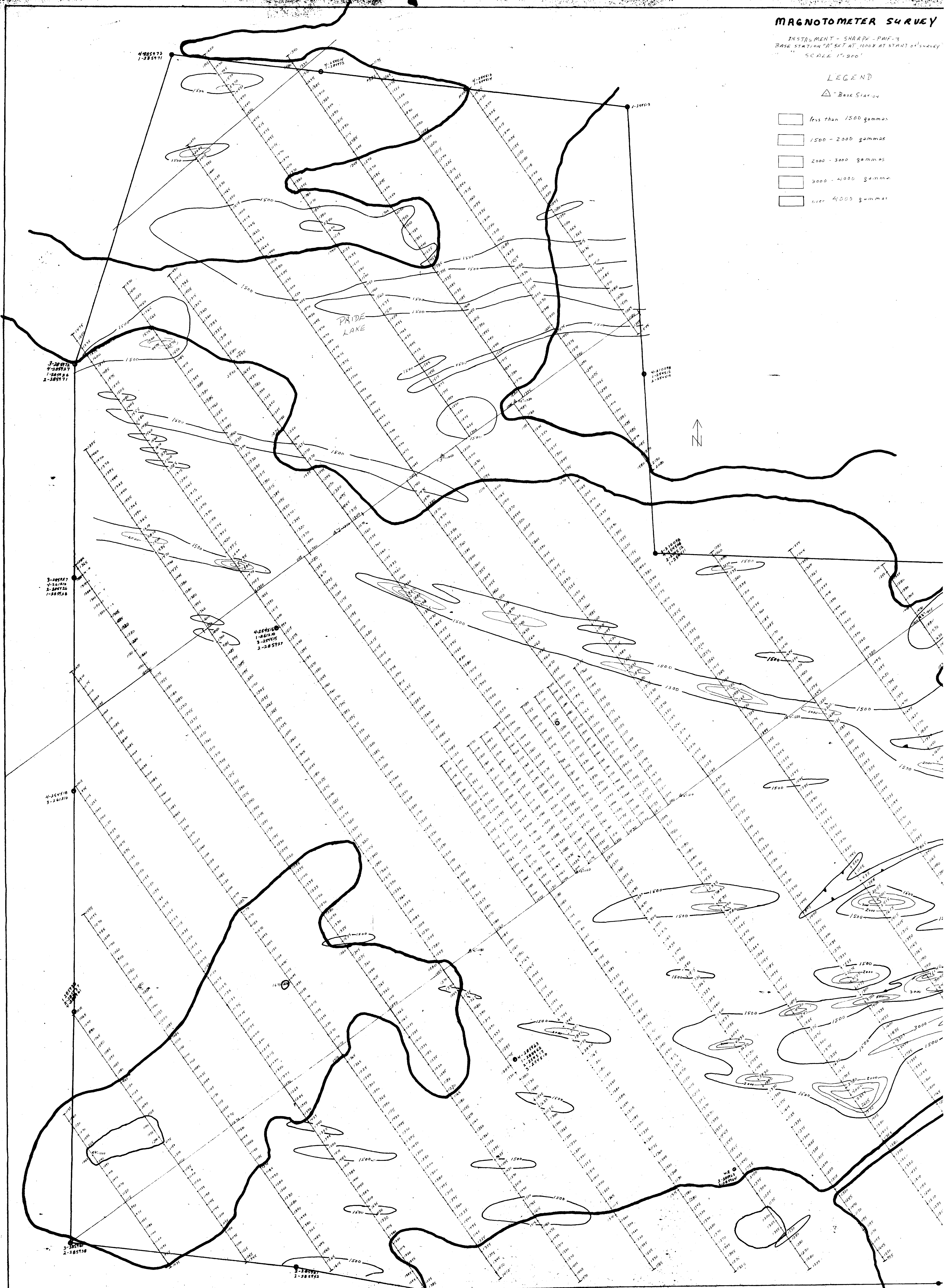
MAGNETOMETER SURVEY

INSTRUMENT - SHARPE - PWF-3  
BASE STATION "A" SET AT 1000 AT START of survey  
SCALE 1" = 200'

LEGEND

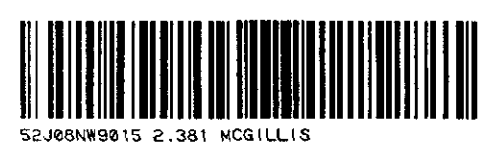
△ Base Station

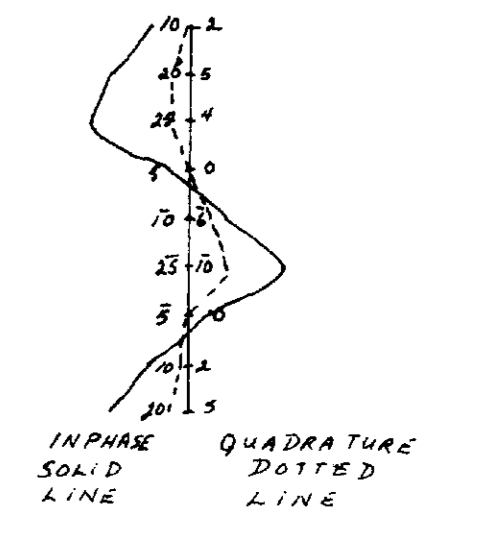
-  less than 1500 gammas
-  1500 - 2000 gammas
-  2000 - 3000 gammas
-  3000 - 4000 gammas
-  over 4000 gammas



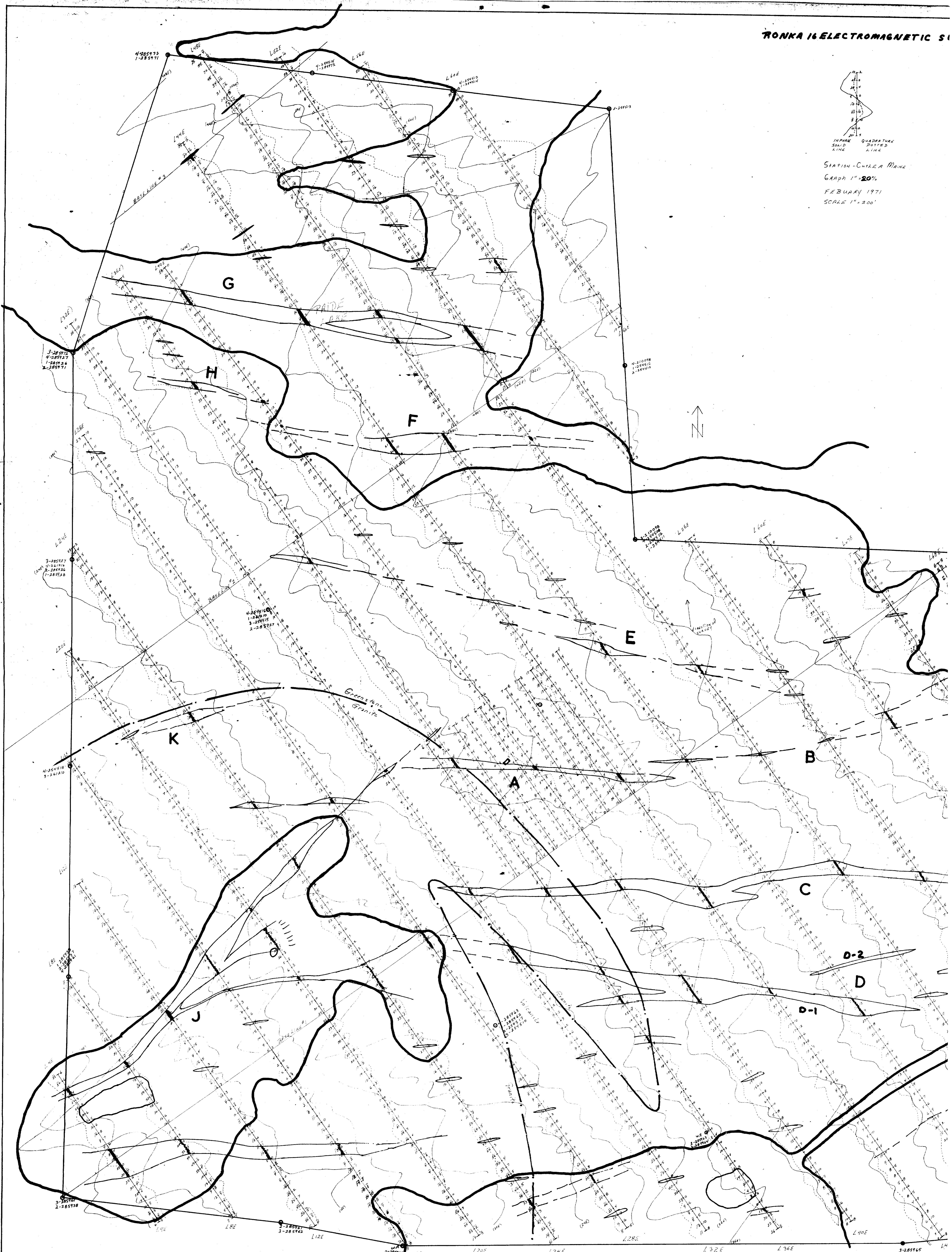
2.381.

**LANGIS SILVER AND COBALT MINING CO. LTD.**  
**SMYE AND MCGILLIS TOWNSHIPS**  
**DISTRICT OF THUNDER BAY**  
**PATRICIA MINING DIVISION OF ONTARIO**





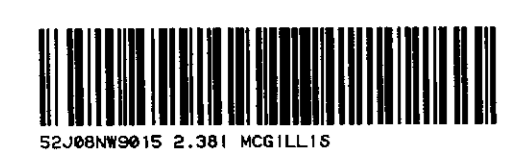
STATION - CUTLER MAINE  
GRAPH 1" = 20'  
FEBRUARY 1971  
SCALE 1" = 200'

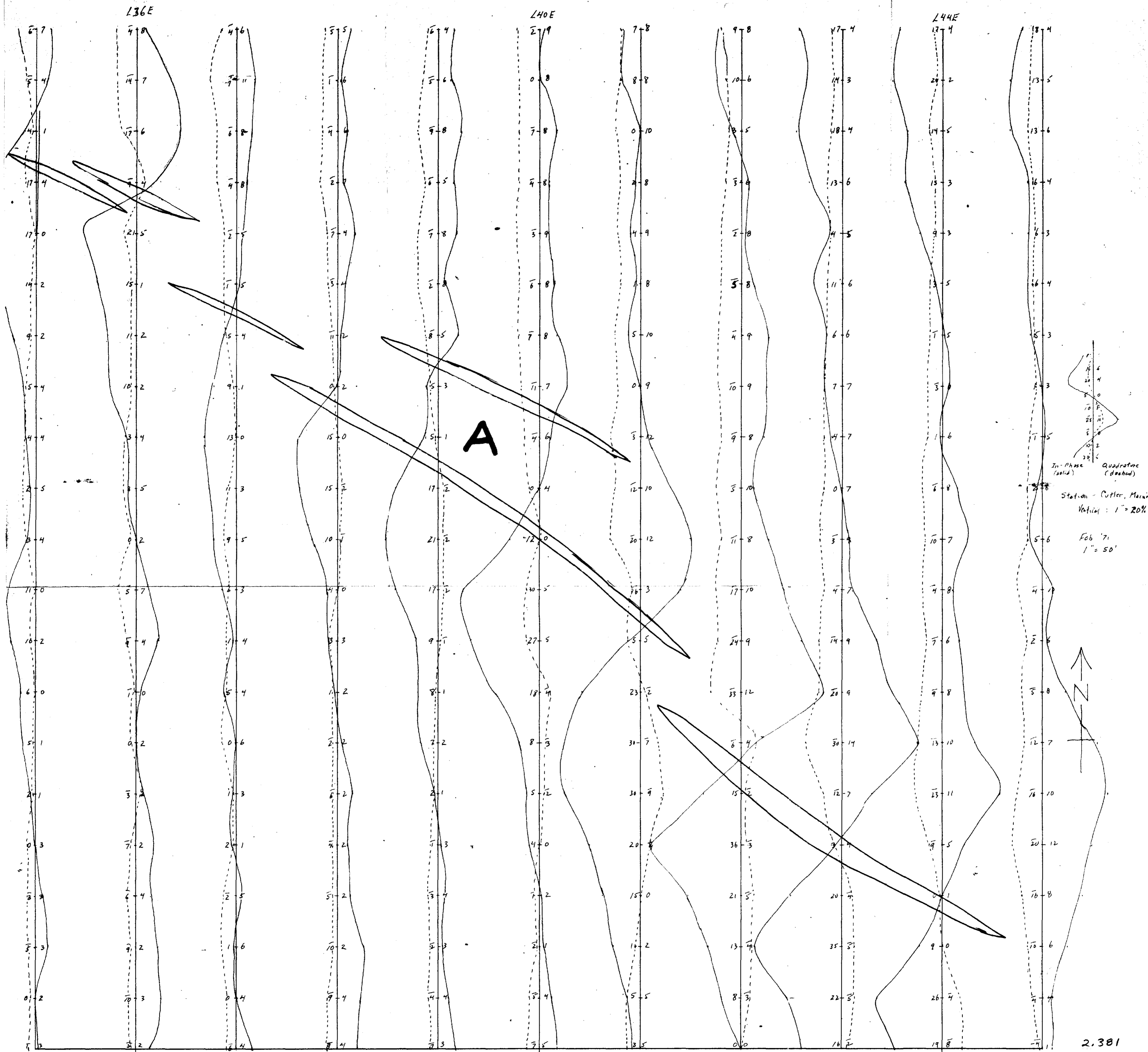


ONT. DEPT. OF MINES  
DEC 7 - 1971  
Patricia Mining Division

LANGIS SILVER AND COBALT MINING CO. LTD.  
SMYE AND MCGILLIS TOWNSHIPS  
DISTRICT OF THUNDER BAY  
PATRICIA MINING DIVISION OF ONTARIO

Volcanic Granite





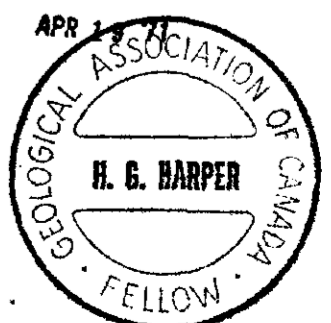
Langis Silver & Cobalt Mining Company Ltd.

Detail Area

Smye & McGillivray Top Claims.

Ronko EM 16 Survey.

1" = 50'



H. G. Harper

52 J/08NW-0019 #3



52J08NW015 2.381 MCGILLIVRAY

220



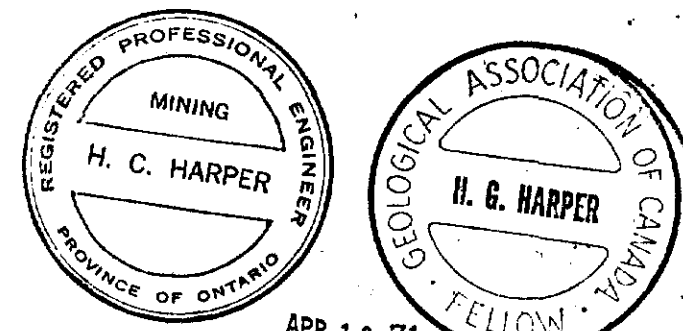
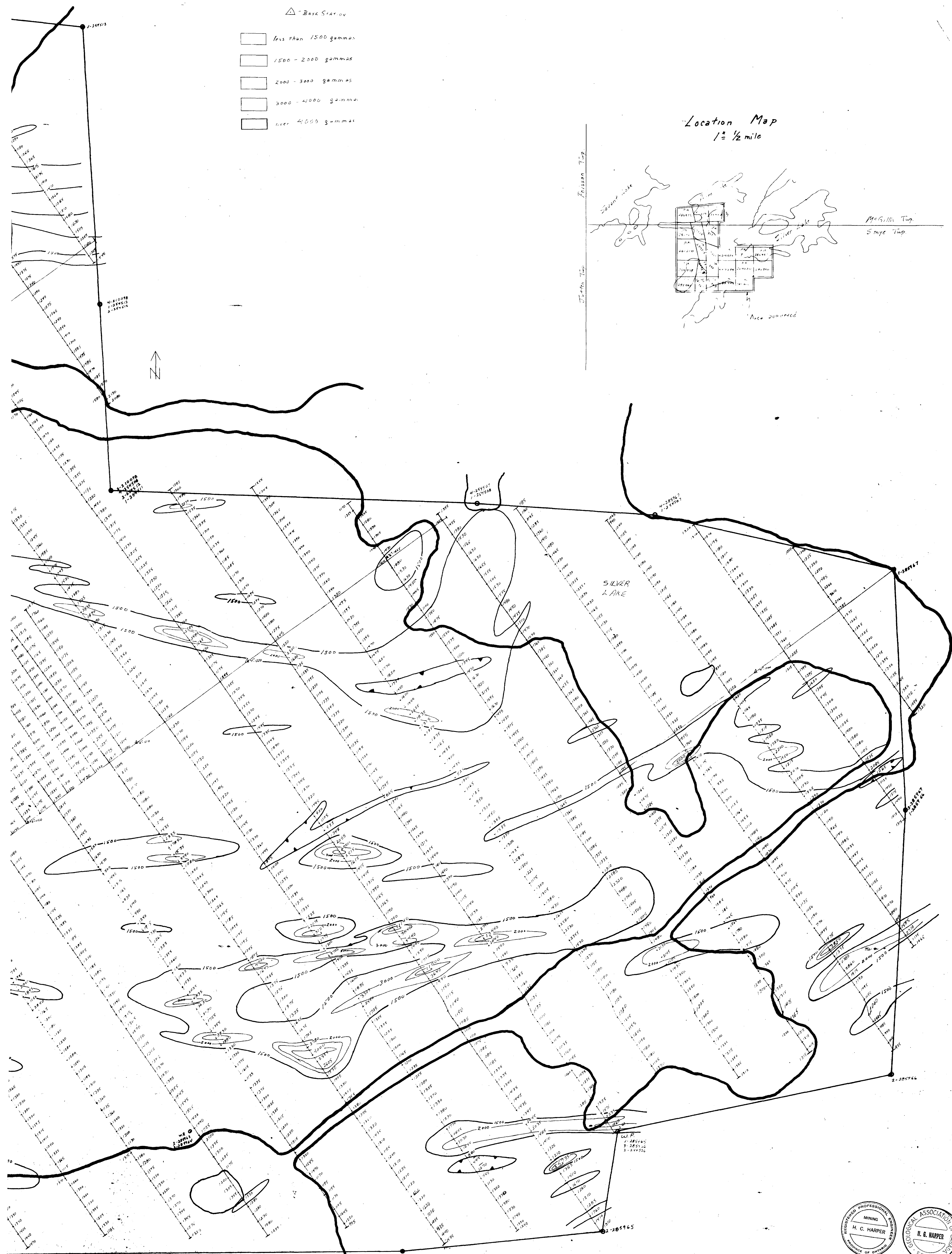
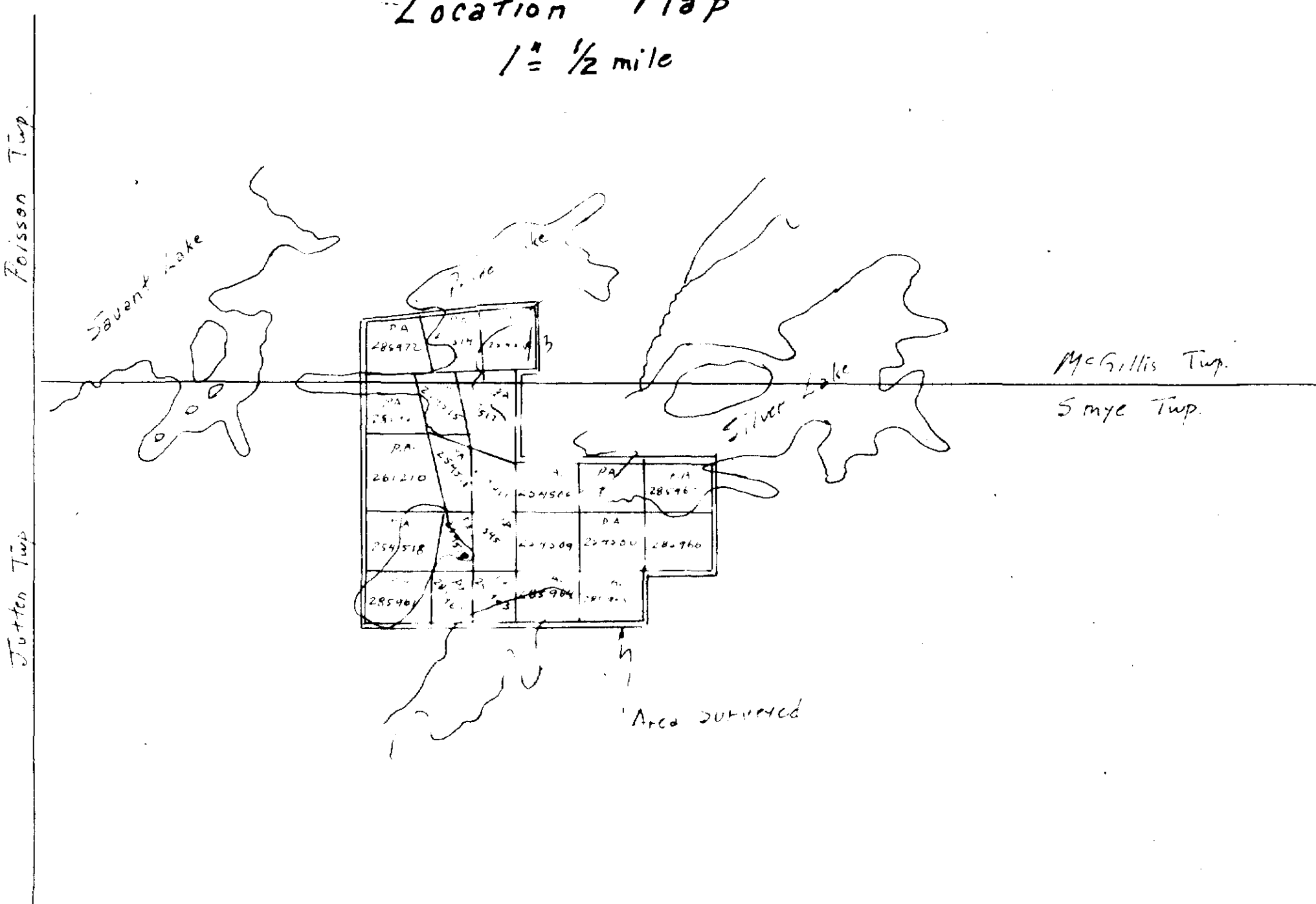
**MAGNETOMETER SURVEY**

INSTRUMENT - SHARPE - PAIF-3  
 BASE STATION "A" SET AT JONOP AT START OF SHAWLEY  
 SCALE 1" = 200'

**LEGEND**

- △ - Base Station
- less than 1500 gammas
- 1500 - 2000 gammas
- 2000 - 3000 gammas
- 3000 - 4000 gammas
- over 4000 gammas

Location Map  
 1/2 1/2 mile



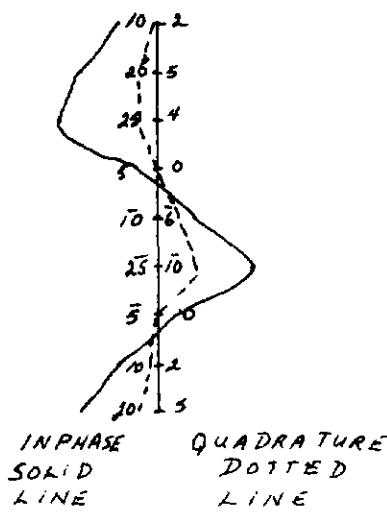
H. G. Harper

2381.  
**SILVER AND COBALT MINING CO. LTD.**  
 Snye and McGillis Townships  
 District of Thunder Bay  
 Patricia Mining Division of Ontario

52 J/08 NW-0019 #1

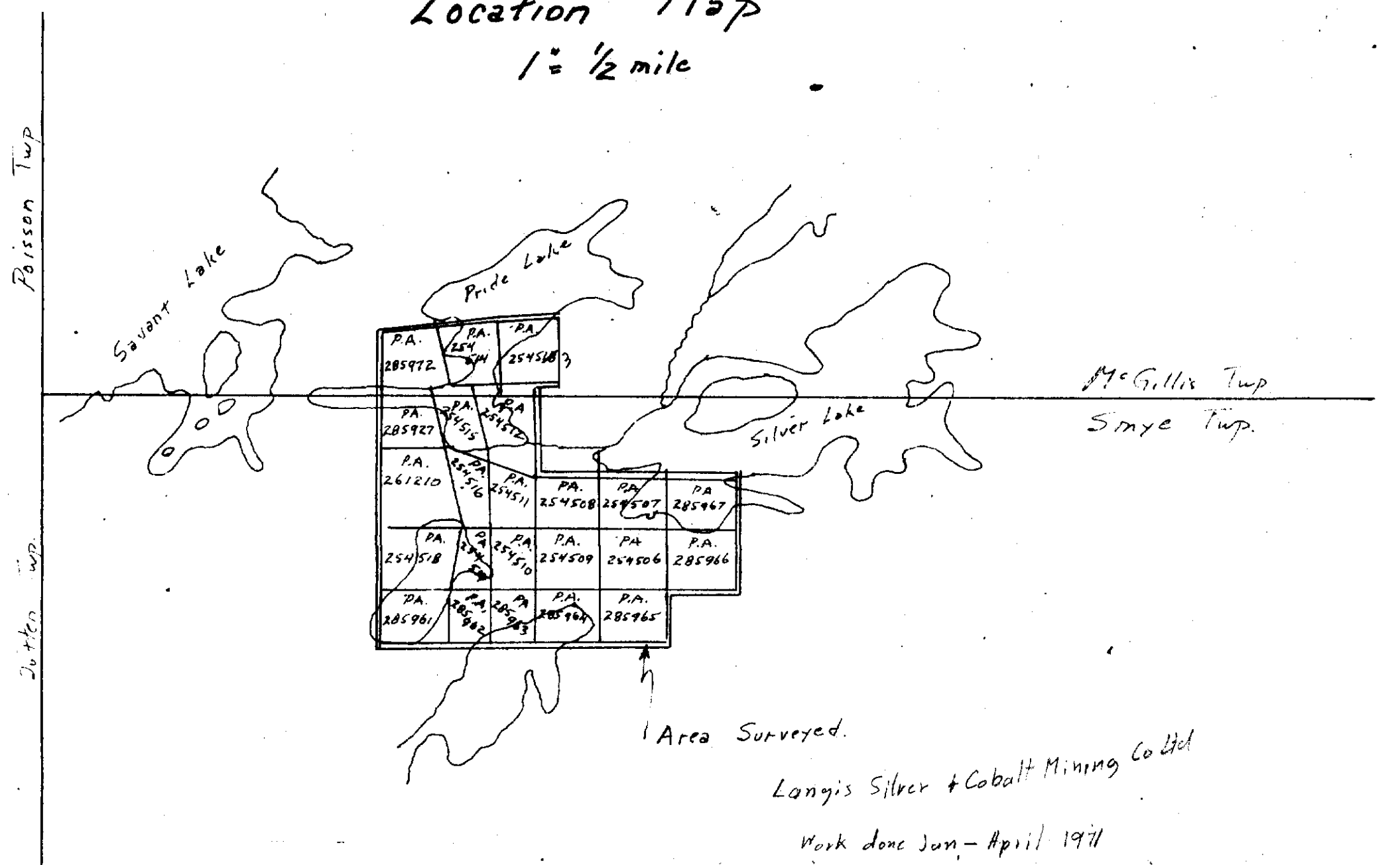
DATE - FEBRUARY 24, 1971

RONKA 16 ELECTROMAGNETIC SURVEY

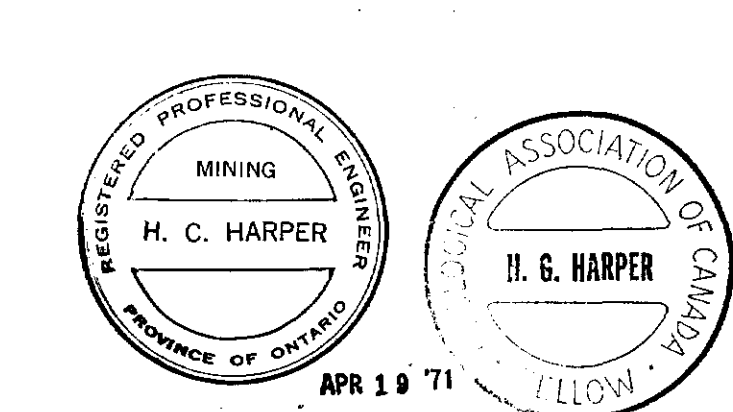


STATION-CUTLER MAIN  
 GRAPH 1" = 20'  
 FEBRUARY 1971  
 SCALE 1" = 200'

Location Map  
 1" = 1/2 mile



**615 SILVER AND COBALT MINING CO. LTD.**  
 SMYE AND MCGILLIVRAY TOWNSHIPS  
 DISTRICT OF THUNDER BAY  
 PATRICIA MINING DIVISION OF ONTARIO



H. G. Harper  
 52 J/08 NW-0019 #2  
 DATE - FEBRUARY 24, 1971 S. G. H. H.