



32D05NW0035 2.2650 THACKERAY

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APR 14 1978

PROJECTS UNIT

REPORT ON GEOLOGICAL SURVEY

MATHESON CLAIMS

THACKERAY-1

PROJECT 839-05

NTS: 32-D-5

AMAX MINERALS EXPLORATION

Timmins, Ontario
January 1978

R. J. Roussain

SUMMARY

An assessment file search of a location in Thackeray township containing occurrences of copper, lead and gold mineralization coupled with several untested electromagnetic conductors prompted the staking of four (4) claims in May, 1977.

Previous geological mapping by both Government geologists and by mining exploration companies revealed the presence of felsic volcanic rocks with which the mineralization appeared to occur.

On August 10 and 11, 1977, a geological-prospecting survey was carried out over the property in an attempt to relocate and sample the mineralized zones and to determine if the many indicated magnetic-conductive zones were previously diamond drilled.

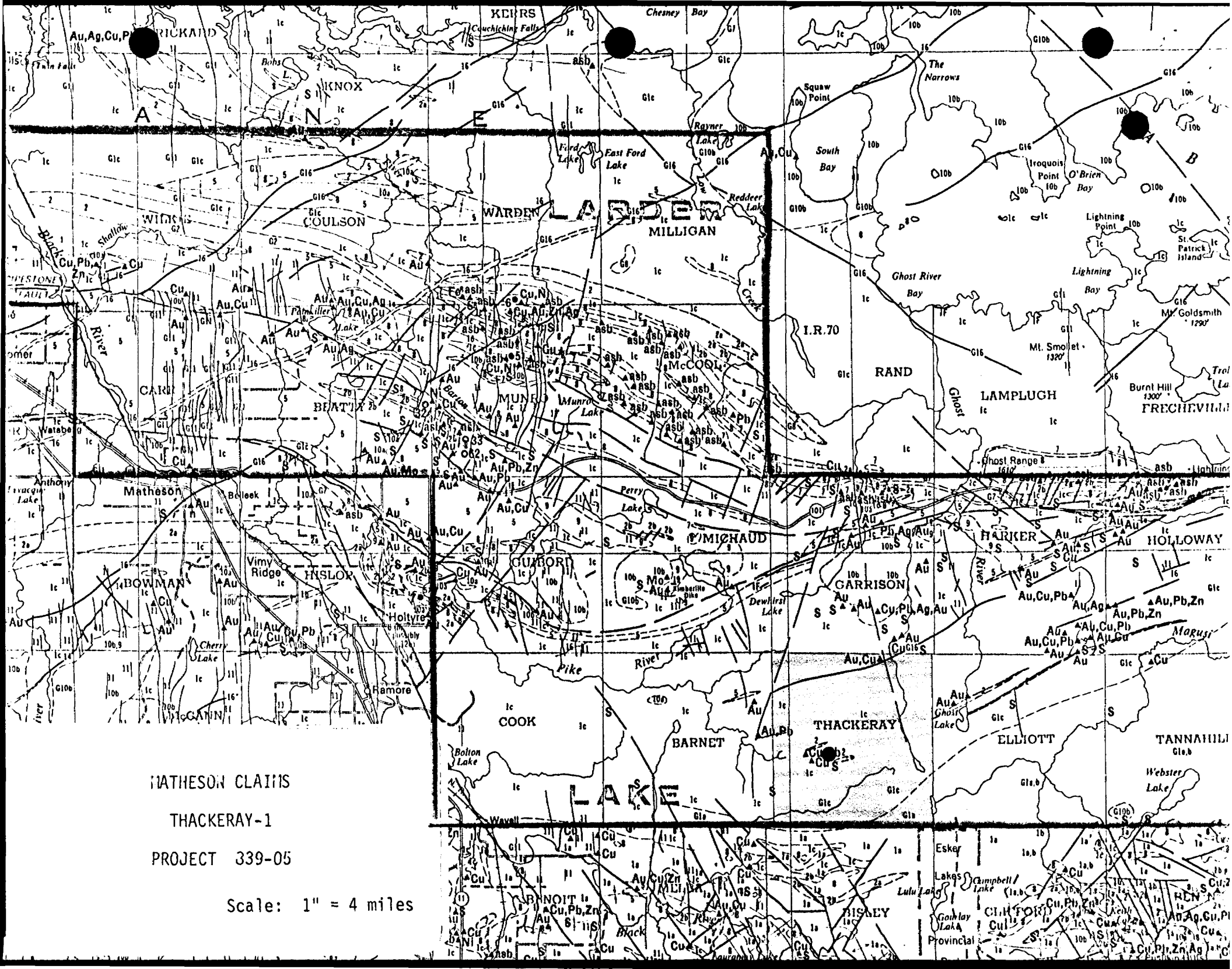
A 50' - 150' wide unit of cherty felsic rocks was found to extend across the property in an east-west direction banded by basic volcanics to the north and south.

Samples of several sulphide occurrences and of mineralized float were taken and sent for assay. Anomalous values in lead and copper were obtained.

Sample lines of electromagnetics should be completed across the property to determine the proximity of the conductive zones to the mapped felsic unit and mineral occurrences.

INTRODUCTION

The property is comprised of four (4) claims which encompass an area of gold and sulphide mineralization carrying anomalous base



MATHESON CLAIMS

THACKERAY-1

PROJECT 339-05

Scale: 1" = 4 miles



2M

3M



| | |
|--------|--------|
| 499491 | 499492 |
| 499498 | 499493 |

THACKERY

3M

2M

CLAIM MAP

PROJECT 839-05

THACKERY - 1

Thackery Township

1" = 1/4 mile

NTS: 32-D-5

metal values. Previous surveys on the property detected several magnetic-conductive zones which remain untested.

In August 1977, a geological-prospecting survey was carried out over the group of four (4) contiguous claims recorded in the name of Amax Potash Limited.

This report describes the methods and results of the geological survey.

LOCATION AND ACCESS

The property is located within the Larder Lake Mining Division near the exact centre of Thackeray township, about 25 miles east of Matheson and 6 miles south of Highway 101.

Access to the property is provided by a series of logging roads which extend south of Highway 101 along the Munro Esker. The turn-off point from Highway 101 is at Hewitt Lake on the Garrison-Michaud township boundary.

TOPOGRAPHY AND RESOURCES

The area covered by the claims occupies the highest point in that area and is known locally as Moose Mountain.

Surrounding the area of outcrop forming the hill are the sand hills and outwash plains which are part of the Munro Esker.

Logging activities have stripped the eastern part of the property through clear cutting. The western part of the property is composed primarily of steep birch hills with abundant outcrop.

An effort by the Ontario Ministry of Natural Resources to provide a winter haven for the local moose population was made by random slashing of the birch ridges to stimulate alder growth. These efforts have made the area very difficult to traverse due to the felled birches and thick alders.

Two small ponds border the east boundary of the property.

PREVIOUS WORK

Observed in Field:

There is much evidence of previous exploration activities in the area with many pits, trenches, stripped areas and old diamond drill holes with core on site. Old claims posts and cut lines were also observed in the field.

Assessment Files:

Earliest recorded work was in the 1920's when prospecting uncovered sulphides and associated gold values.

The present property was once held in part by Dominion Gulf in 1950, who completed a geological and ground magnetic survey.

The next recorded holder was International Bibis Tin. This company cut a grid, geologically mapped and carried out magnetic and

electromagnetic surveys in 1965. Subsequent to the surveys, three (3) holes were drilled for a total of 1153'. Best assays from the holes were as follows:

Drill Hole No. 1 .03% Cu over 1.5'
Drill Hole No. 2 .04% Cu and .02% Ni over 2'
Drill Hole No. 3 .01% Cu, 12 oz per ton Au over 4.5'
.04% Cu over 5' in cherty volcanic rock.

The targets selected by International Bibis Tin for the drilling appear unrelated to and not directed at the results of the geophysical surveys.

The most recent holder of the present claim group was M. H. Jourdain of Rouyn, Quebec.

Jourdain completed a geological map of a group of 9 claims, the most easterly four of which would correspond to the Amax claims.

Amax Exploration:

The area was first brought to the Company's attention by Mr. R. Duval, prospector, in 1969.

His property, located to the west of the present group, was examined in the field at that time.

The property was declined and no option taken.

SURVEY METHOD

Traverses were made at 400' intervals across the property from north to south. All claim posts were located and claim lines tra-

versed.

Ontario Government 1:15,000 scale air photo number 2.71-4817, 9-251 was used for control while traversing. A more recent (pre-slashing) photo was borrowed from the Ministry of Natural Resources in Matheson to confirm outcrop locations.

GENERAL GEOLOGY

The claims lie within the Abitibi Greenstone Belt, south of the Destor-Porcupine fault.

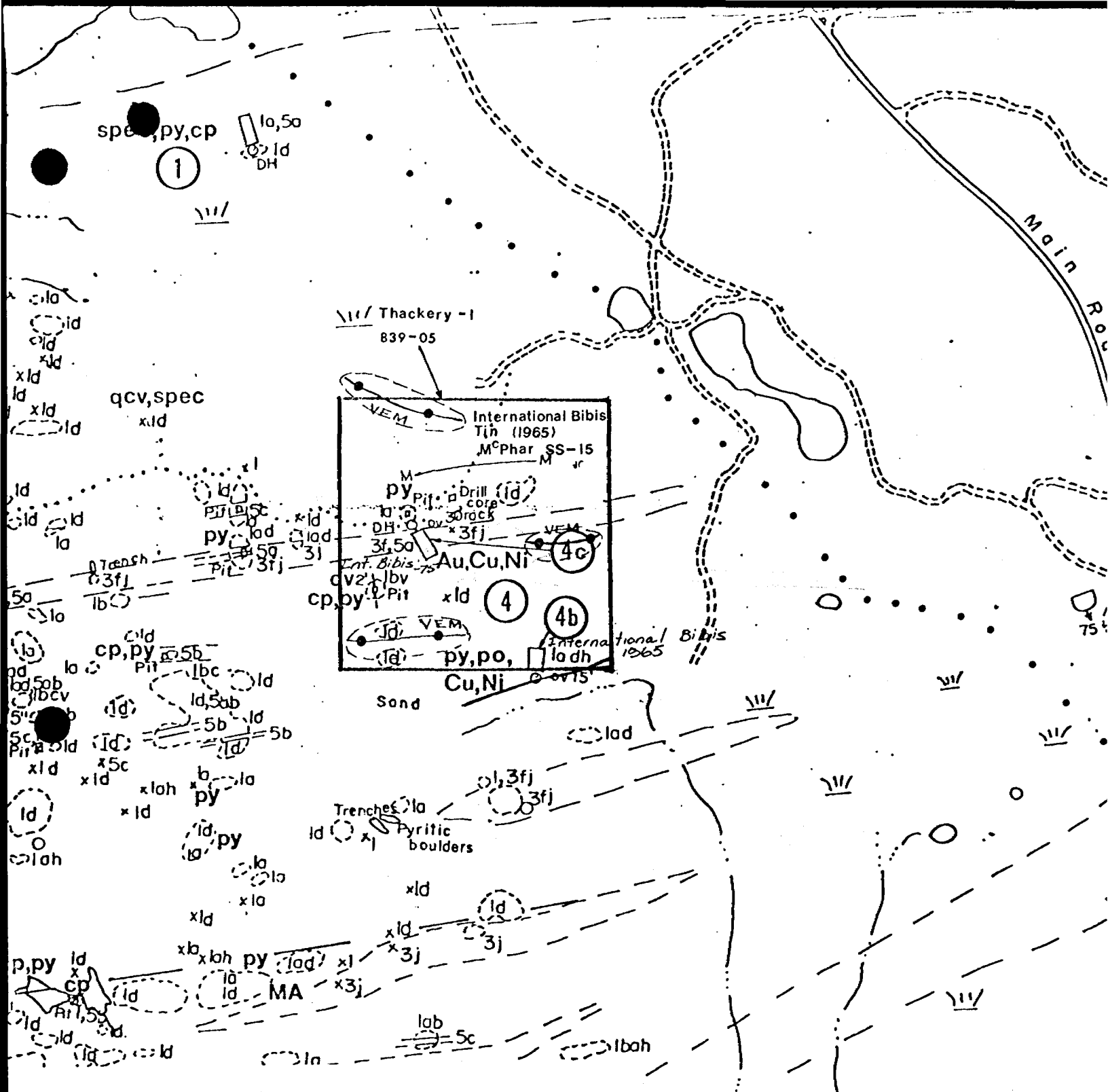
All bedrock is of precambrian (Archean age). The bedrock consists of intercalated mafic to intermediate volcanic rocks and felsic tuffs and cherty felsic tuffs. Numerous dykes and small stocks of syenite, feldspar porphyry and granite cut the volcanic rocks.

Reference: P-843 Thackeray Township L. Jensen, 1973

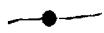


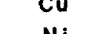







PROPERTY GEOLOGY

Geologic units present on the property include felsic and basic volcanic rocks varying from rhyolite to a diabase-basalt. Intrusive rocks are represented by a red syenite and a feldspar porphyry.

Rocks exposed on the property are primarily a dark green basic volcanic rock termed andesite. Bulldozed stripping has exposed large areas of this rock type. Occasional stockworks of white quartz veins have been blasted wherever exposed.



LEGEND

-  E M Conductor
-  DDH w direction
-  Au Gold
-  Cu Copper
-  Ni Nickel
-  Porphory
-  py Pyrite
-  qv Quartz Vein
-  cp Calcoppyrite
-  Outline of 839-05
-  Mag high

MATHESON CLAIMS

COMPILATION

THACKERY - 1

839-05

NTS: 32-D-5

1" = 1/4 mile

The geologic feature of greatest interest is an east-west Az 265° striking band of gray to purple cherty felsic volcanic rock. The unit is 50' to 150' wide where exposed and extends from the #1 post of claim L-499493 through to a point 400' west of the north-south claim line of claim L-499998.

Close to the south contact of the felsic band there are intermittent zones of intense fracturing and brecciation with quartz and syenite fracture filling. Along with the quartz and syenite veins is finely disseminated Py, cpy and galena mineralization. The fracture zones with the syenite and quartz veining occur wherever the contact is exposed. The north contact of the felsic unit was not exposed. Sampling of the sulphide rich fracture zones revealed the following results:

| <u>Sample</u> | <u>Au</u> | <u>Ag</u> | <u>Cu</u> | <u>Pb</u> | <u>Zn</u> | <u>Ni</u> |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 4354 - quartz and syenite vein material | .02 | .2 | 58 | 55 | 62 | 150 |
| 4355 - quartz and syenite vein material | .09 | 1.7 | 47 | 230 | 83 | 40 |

Small boulders of mineralized float were found along a logging road near claim post #1 - 499493. The float is made up of andesite with heavy quartz veining carrying blebs and small patches of pyrite and chalcopyrite. Samples of the float were assayed as listed below:

| <u>Sample</u> | <u>Au</u> | <u>Ag</u> | <u>Cu</u> | <u>Zn</u> |
|--|-----------|-----------|-----------|-----------|
| 4360 - quartz with specks of py, cpy | .04 | .5 | 2800 | 6 |
| 4361 - quartz veined andesite with specks of py, cpy | .03 | .2 | 2600 | 38 |

TABLE OF FORMATIONS

CENOZOIC

RECENT

Swamp and stream deposits

PLEISTOCENE

Glacial drift, gravel, sand and clay

Unconformity

PRECAMBRIAN

Diabase, later gabbro

ARCHEAN

FELSIC INTRUSIVE ROCKS

Granite

MAFIC INTRUSIVE ROCKS

Gabbro

SEDIMENTARY ROCKS

Greywacke, conglomerate, argillite, siltstone

FELSIC VOLCANIC ROCKS

Rhyolite, rhyodacite, agglomerate, felsic tuff

INTERMEDIATE VOLCANIC ROCKS

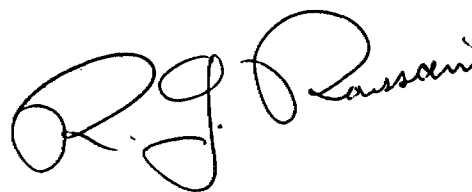
Dacite, intermediate tuff

BASIC VOLCANIC ROCKS

Andesite, basalt, basic tuff

CONCLUSIONS AND RECOMMENDATIONS

In view of the untested conductive-magnetic zones and widespread mineralization in proximity to the cherty felsic unit, it is recommended that the area of the felsic unit be tested with an electromagnetic survey.

A handwritten signature in black ink, appearing to read "R. J. Roussain". The signature is stylized with large, overlapping loops for the letters "R" and "J".

R. J. Roussain

APPENDIX A

SCHEDULE OF CLAIMS

PROJECT 839-05

| <u>Claim No.</u> | <u>Township</u> | <u>Con.</u> | <u>Lot</u> | <u>Acres</u> | <u>Staking Date</u> |
|------------------|-----------------|-------------|------------|--------------|---------------------|
| 499491 | Thackery | n.a. | n.a. | 40 | May 25, 1977 |
| 499492 | Thackery | n.a. | n.a. | 40 | May 25, 1977 |
| 499493 | Thackery | n.a. | n.a. | 40 | May 25, 1977 |
| 499498 | Thackery | n.a. | n.a. | 40 | May 25, 1977 |

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

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 _____

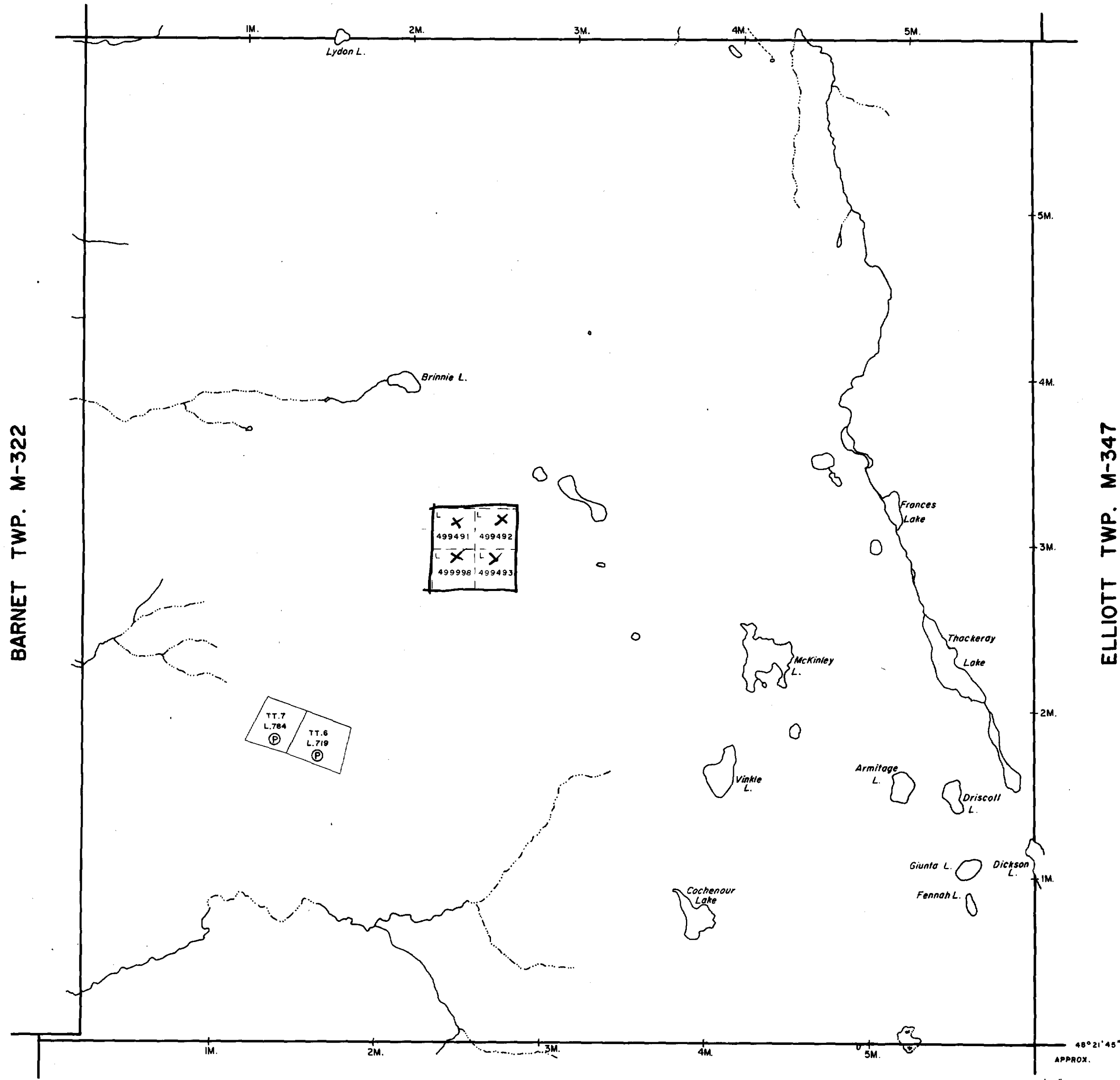
Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

GARRISON TWP. M-349



NOTES

400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
APR 14 1978
SURVEYS AND MAPPING
BRANCH

LEGEND

- PATENTED LAND P or *
- PATENTED FOR SURFACE RIGHTS ONLY L
- LEASE L.O.
- LICENSE OF OCCUPATION C.S.
- CROWN LAND SALES Loc.
- LOCATED LAND C.
- CANCELLED M.R.O.
- MINING RIGHTS ONLY S.R.O.
- SURFACE RIGHTS ONLY (17)
- HIGHWAY & ROUTE NO. ---
- ROADS ---
- TRAILS ---
- RAILWAYS ---
- POWER LINES ---
- MARSH OR MUSKEG ---
- MINES X

*used only with summer resort locations or when space is limited

TOWNSHIP OF

THACKERAY

DISTRICT OF COCHRANE 2.265D

LARDER LAKE
MINING DIVISION

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

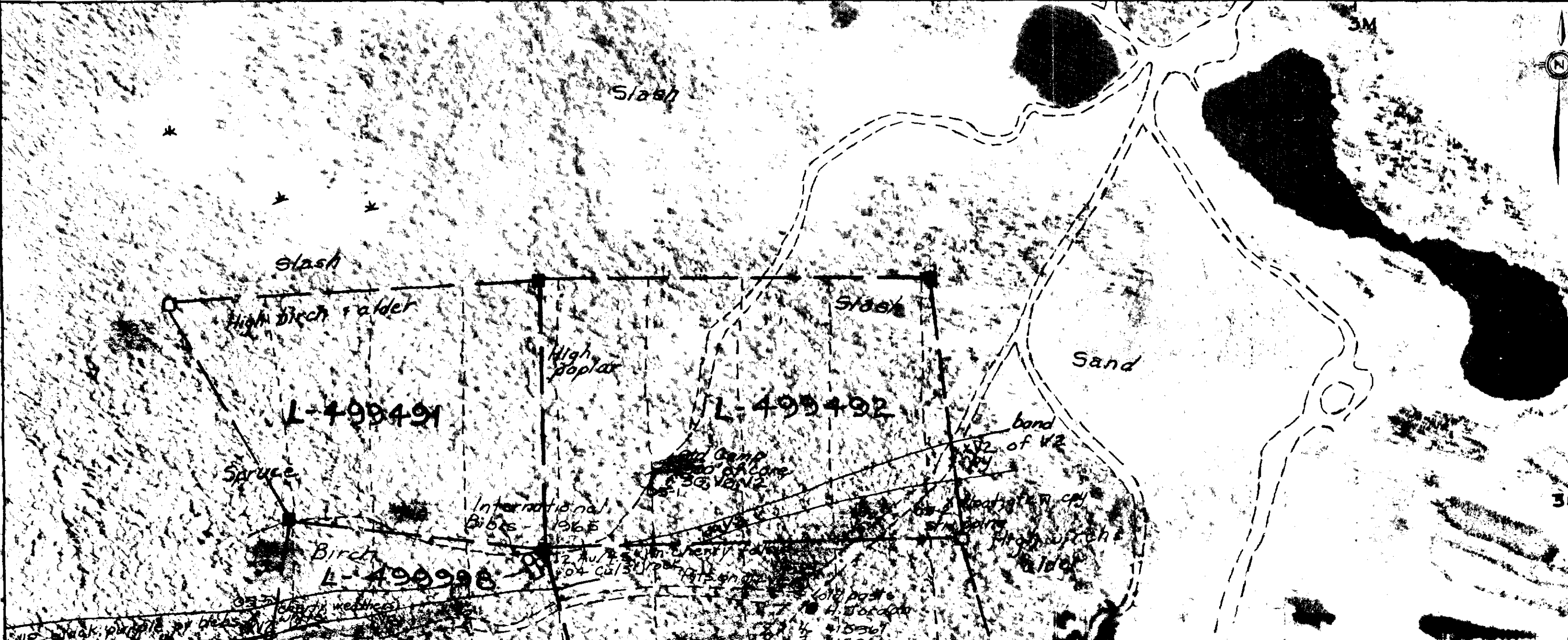
DR. R.W. NOBLE
DATE NOV. 4, 71. PLAN NO. **M-394**

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



32D05NW0035 2.2650 THACKERAY

BISLEY TWP. M-328



LEGEND

- Rhyolite
- Andesite
- Gabbro
- Foliation
- Bush road
- Claim post located
- Old posts
- Swamp
- Diamond Drill hole
- Air photo number
2.71-4817, 9-251
- Traverse lines

ROCK SAMPLES

| | CoVl ppm | Ag ppm | Cu ppm | Zn ppm | Ni ppm |
|------------------|-------------|-----------|-----------|-----------|-----------|
| (B-4354) 05-4 | .02 | 0.2 | 60 | 50 | 62 150 |
| (B-4355) 05-4 | .00 | 1.7 | 49 | 230 | 83 40 |
| (B-4360) 05-4 | .04 | 0.5 | 2850 | | 6 |
| (B-4361) 05-4 | .03 | 0.2 | 2600 | | 30 |



R.R. Thackeray
2.2650

| | | |
|--------------------------------|-------------------|-----------------|
| AMAX EXPLORATION INC. | | |
| TYPE OF SURVEY GEOLOGY | | |
| AREA MATHESON CLAIMS | | |
| LOCATION Thackeray Twp. 839-05 | | |
| DRAWN BY S.G. | SCALE 1" = 400 ft | DATE Jan '78 |
| TRACED BY | MAP No | REVISED |
| | N.T.S REF 32-D-5 | |
| TO ACCOMPANY | DATE | |