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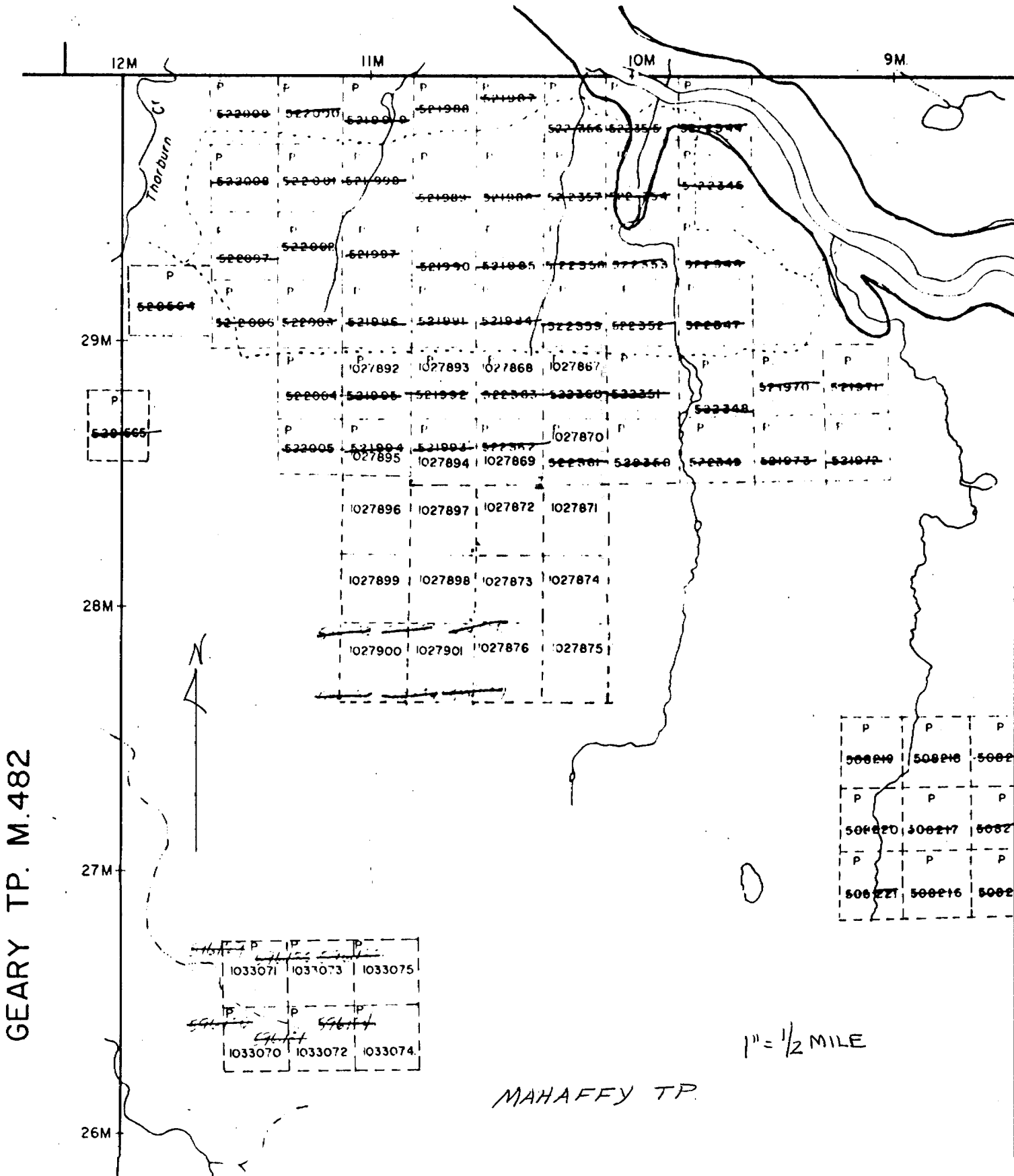
Geological Report
NW Mahaffy Claim Group
Mahaffy Township
Porcupine Mining Division

RECEIVED
JAN 6 1989
MINING LANDS SECTION

January, 1989

D. R. Pyke, Ph.D.

AUBIN TP. M.407





42A13SE0344 2.12021 MAHAFFY

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Contents

Introduction

Access

Previous Work

Present Survey

Geology

Recommendations

References

Geological Map (in pocket)

Geological Report
NW Mahaffy Claim Group

Introduction

The Property consists of 20 contiguous mining claims in the NW part of Mahaffy Township. The property, 29 miles NW of the Timmins city centre, is within the District of Cochrane, Porcupine Mining Division, and comprises the following claims:

P1027867 - P1027876 inclusive

P1027892 - P1027901 inclusive

Access

Access to the property is difficult, other than by helicopter. The property can be reached overland from the Mattagami River, a distance of approximately one mile, or alternatively from a winter road extending from the NE part of Geary Township.

Previous Work

Geological maps of the area consist of two government compilations by Bright and Hunt, (1972) and Hunt and Deosaran, (1980), respectively.

In 1964, Sunburst Exploration Ltd held a group of 24 claims in NW Mahaffy Township; 6 of the claims extended into the northern part of the current property. A ground magnetic and an electromagnetic (Ronkø Mark 1V horizontal loop) survey were done on the property; no significant conductors were detected.

In 1965, Canadian Aero Mineral Surveys Limited conducted a combined airborne electromagnetic and magnetic survey for Cincinnati - Porcupine Mines Limited in the north to NE part of Mahaffy Township. Part of the

survey extended into the NE corner of the current property, an area for which no conductors were detected.

In 1965, Canadian Aero Mineral Surveys Limited flew a combined airborne EM and magnetometer survey over a group of claims in Geary and Mahaffy townships for Silver - Men Mines Limited. The survey covered much of the southern 12 claims of the present property. Although a number of weak conductors were detected, none were considered to be of bedrock origin and no ground follow-up work was undertaken.

In 1979, Mattagami Lake Exploration Limited and Terra Nova Explorations Limited conducted an I.P. survey over 50 claims in north Mahaffy Township. Eight of the claims extended south into the current claim group. A number of good I.P. responses were outlined on the property, one of these being at the north boundary of the present claim group. This anomaly was subsequently drilled in 1980 (Hole T2-80-1; 637') and found to be caused by disseminated pyrrhotite and magnetite in a mafic volcanoclastic.

In 1981, Hudson Bay Exploration and Development Company Limited conducted a ground electromagnetic (Max-Min 11) survey on six claims in the SW corner of the current property. One good bedrock conductor, 800 meters in length, was delineated and tested with a 115.9 m diamond drill hole (MAH-1). Graphitic argillite was found to be the conductive material.

Present Survey

The present survey was done intermittently from June through August, 1988, by D. Pyke and B. Raine. Tie lines were established along the east and west boundaries of the claim group. All E-W claim lines were traversed and E-W pace and compass lines were traversed at

approximately 400 foot intervals between the claim lines.

Geology

The absence of outcrop on the property precludes any detailed description of the geology. However, available airborne magnetic data (OGS, 1988) and the record of two diamond drill holes on the claim group, allows for a few generalizations of the geology.

The two previous diamond drill holes primarily intersected mafic volcanic rocks. Hole T2-80-1 was largely within mafic volcanoclastic rocks and minor metasediments; hole MAH-1 was mainly confined to mafic flows. The airborne magnetics (OGS, 1988) suggest that mafic volcanics may underlie much of the remaining portion of the property. A magnetic high near the south boundary of the property is interpreted to be a diabase dike; the magnetics also suggest that the dike extends through the north part of the property, as depicted on the accompanying map.

The NNW trending Mattagami River Fault crosses the SW corner of the property and would account for the westward termination of the electromagnetic conductor. A second NW trending fault is interpreted, on the basis of linear magnetic lows (OGS, 1988), to trend across the south portion of the property.

Recommendations

The property is considered to have a gold potential and therefore the following recommendations are suggested; (1) a magnetic survey should be completed over the entire property to better delineate any subsidiary fault structures associated with the two main faults on the property, and (2) an I.P. survey of the S1/2 of the claim group; particularly to cover the general area formed by the wedge between the two intersecting faults.

DR Lyke

References

Bright, E. G., and Hunt, D. S.

1972: Mahaffy Township; Ontario Dept. Mines & Northern Affairs,
Preliminary Map P.740

Hunt, D. S. and Maharaj, Deosaran

1980: Mahaffy Township; Ontario Geological Survey, Preliminary
Map P. 740 (Rev)

Ontario Geological Survey (OGS)

1988: Airborne Electromagnetic and Total Intensity Survey,
Timmins Area, Mahaffy Township, Map 81045

Type of Survey(s) **GEOLOGICAL 2.**

Claim Holder(s) **D. R. PYKE**

Address **31 DELAIR CRES, THORNHILL ONT L3T 2M3**

Survey Company **D. R. PYKE & ASSOCIATES INC**

Date of Survey (from & to) **15 06 88** to **28 08 88**

Name and Address of Author (of Geo-Technical report) **D. R. PYKE 31 DELAIR CRES THORNHILL ONT L3T 2M3**



900

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	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	20
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	1027867				
	1027868				
	1027869				
	1027870				
	1027871				
	1027872				
	1027873				
	1027874				
	1027875				
	1027876				
	1027892				
	1027893				
	1027894				
	1027895				
	1027896				
	1027897				
	1027898				
	1027899				
	1027900				
	1027901				

RECEIVED
NOV 8 1988
1:05 PM.

RECEIVED
MAY 2 1988
MINING LANDS SECTION

RECORDED
NOV 08 1988

Expenditures (excludes power & fuel) **1007.00**

Type of Work Performed **ASSESSMENT FILES OFFICE**

Performed on Claim(s) **JAN 16 1989**

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ 15 = Days Credits

Total number of mining claims covered by this report of work. **20**

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.

For Office Use Only

Total Days Cr. Recorded **400**

Date Recorded **Nov 8/88**

Date Approved as Recorded **13 Jan 89**

Mining Recorder **[Signature]**

Branch Director **[Signature]**

Date **Nov 4/88**

Recorder Held 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 **D. R. PYKE, 31 DELAIR CRES THORNHILL ONT L3T 2M3**

Date Certified **Nov 4/88**

Certified by (Signature) **[Signature]**



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(s) GEOLOGICAL
Township or Area MAHAFFY
Claim Holder(s) D. R. Pyke

Survey Company D. R. Pyke Associates Inc
Author of Report D. R. Pyke
Address of Author 31 DELAIR CRES THORNHILL
Covering Dates of Survey JUNE/88 - JAN/89
(linecutting to office)
Total Miles of Line Cut _____

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	<u>DAYS per claim</u>
ENTER 40 days (includes line cutting) for first survey.	Geophysical -Electromagnetic _____ -Magnetometer _____ -Radiometric _____
ENTER 20 days for each additional survey using same grid.	-Other _____ Geological <u>20</u> Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Jan 4/88 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. _____ Qualifications 23899

Previous Surveys

File No.	Type	Date	Claim Holder

<u>MINING CLAIMS TRAVERSED</u>	
List numerically	
<u>P</u>	<u>1027867</u>
(prefix)	(number)
	<u>1027868</u>
	<u>1027869</u>
	<u>1027870</u>
	<u>1027871</u>
	<u>1027872</u>
	<u>1027873</u>
	<u>1027874</u>
	<u>1027875</u>
	<u>1027876</u>
	<u>1027892</u>
	<u>1027893</u>
	<u>1027894</u>
	<u>1027895</u>
	<u>1027896</u>
	<u>1027897</u>
	<u>1027898</u>
	<u>1027899</u>
	<u>1027900</u>
	<u>1027901</u>
TOTAL CLAIMS <u>20</u>	

If space insufficient, attach list

OFFICE USE ONLY

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 _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth -- include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY - PROCEDURE RECORD



Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

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 (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

NOTES

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

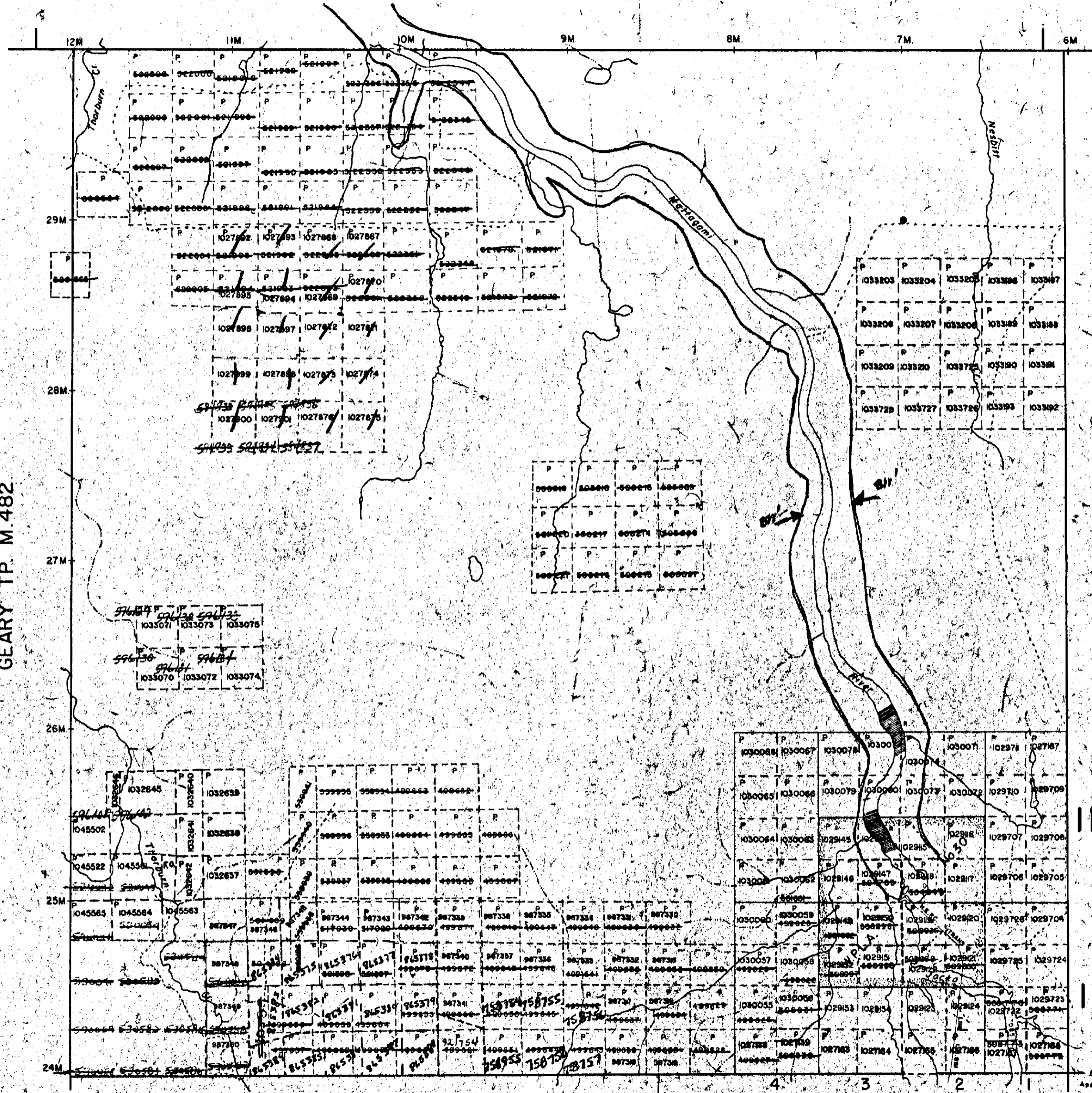
Subdivision of this township into lots and concessions is partially annulled July 2, 63.

L.O. 7085 - Flooding Rights in lots 1, 2 and 3, Con. 1 to H.E.P.C.

FLOODING RESERVATION TO THE TOWNSHIP OF AUBIN 511 FT ON EAST BANKS OF THE RIVER RESERVED TO ONTARIO HYDRO

W 208

AUBIN TP. M.407

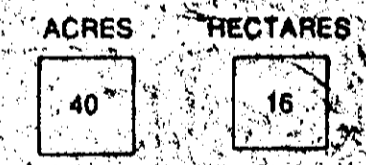
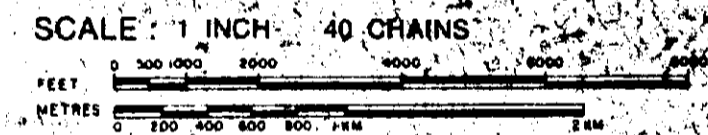


LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
 - TOWNSHIPS, BASE LINES, ETC.
 - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
 - LOT LINES
 - PARCEL BOUNDARY
 - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

- | TYPE OF DOCUMENT | SYMBOL |
|--------------------------------|--------|
| PATENT SURFACE & MINING RIGHTS | |
| SURFACE RIGHTS ONLY | |
| MINING RIGHTS ONLY | |
| LEASE SURFACE & MINING RIGHTS | |
| SURFACE RIGHTS ONLY | |
| MINING RIGHTS ONLY | |
| LICENCE OF OCCUPATION | |
| CROWN LAND SALE | |
| ORDER-IN-COUNCIL | |
| RESERVATION | |
| CANCELLED | |
| SAND & GRAVEL | |
| L.M.P. | |



TOWNSHIP

MAHAFFY

DISTRICT

COCHRANE MAY 3, 1988

MINING DIVISION

PORCUPINE

Received May 8/88

Ministry of Natural Resources

Ontario - Surveys and Mapping Branch

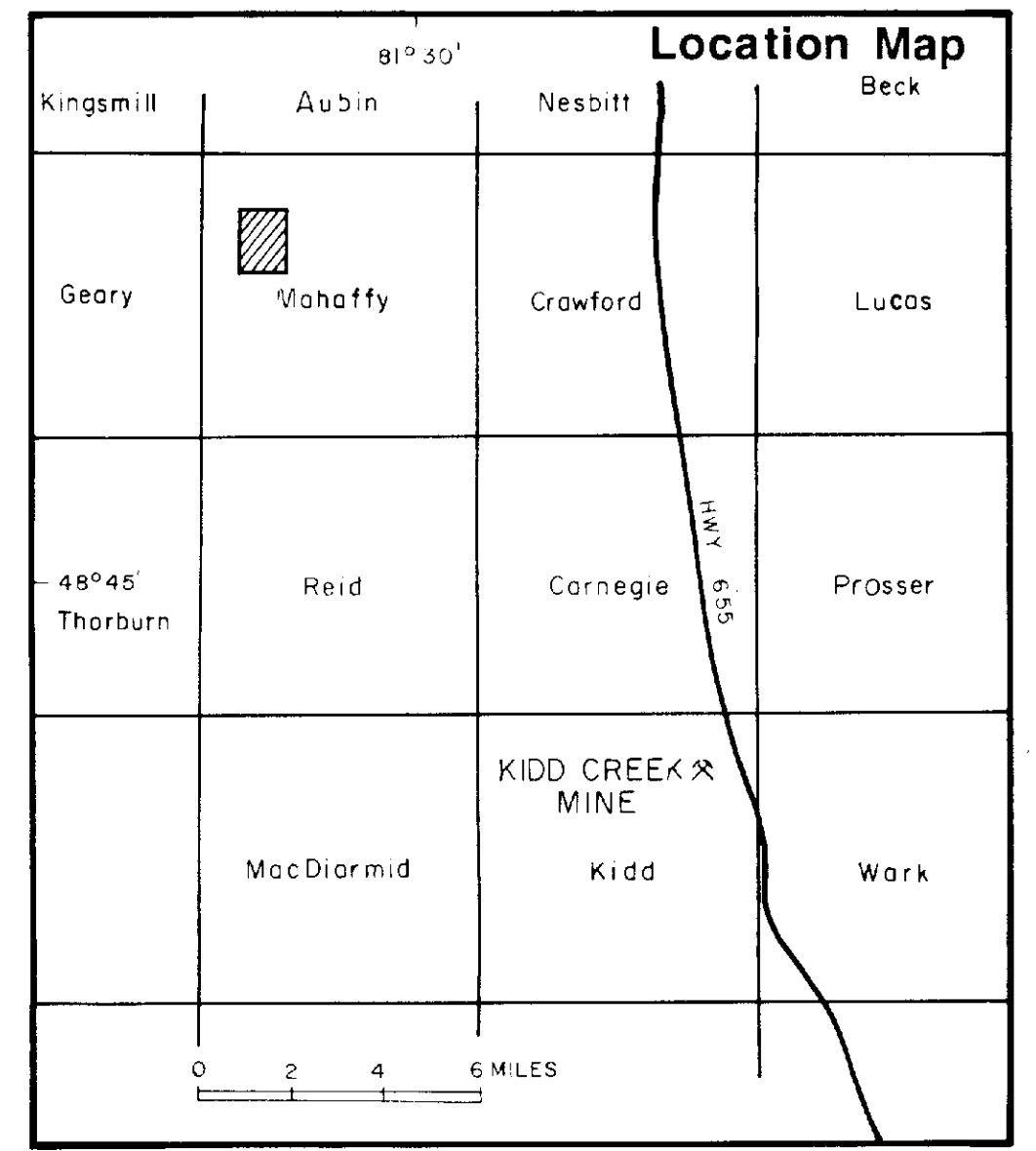
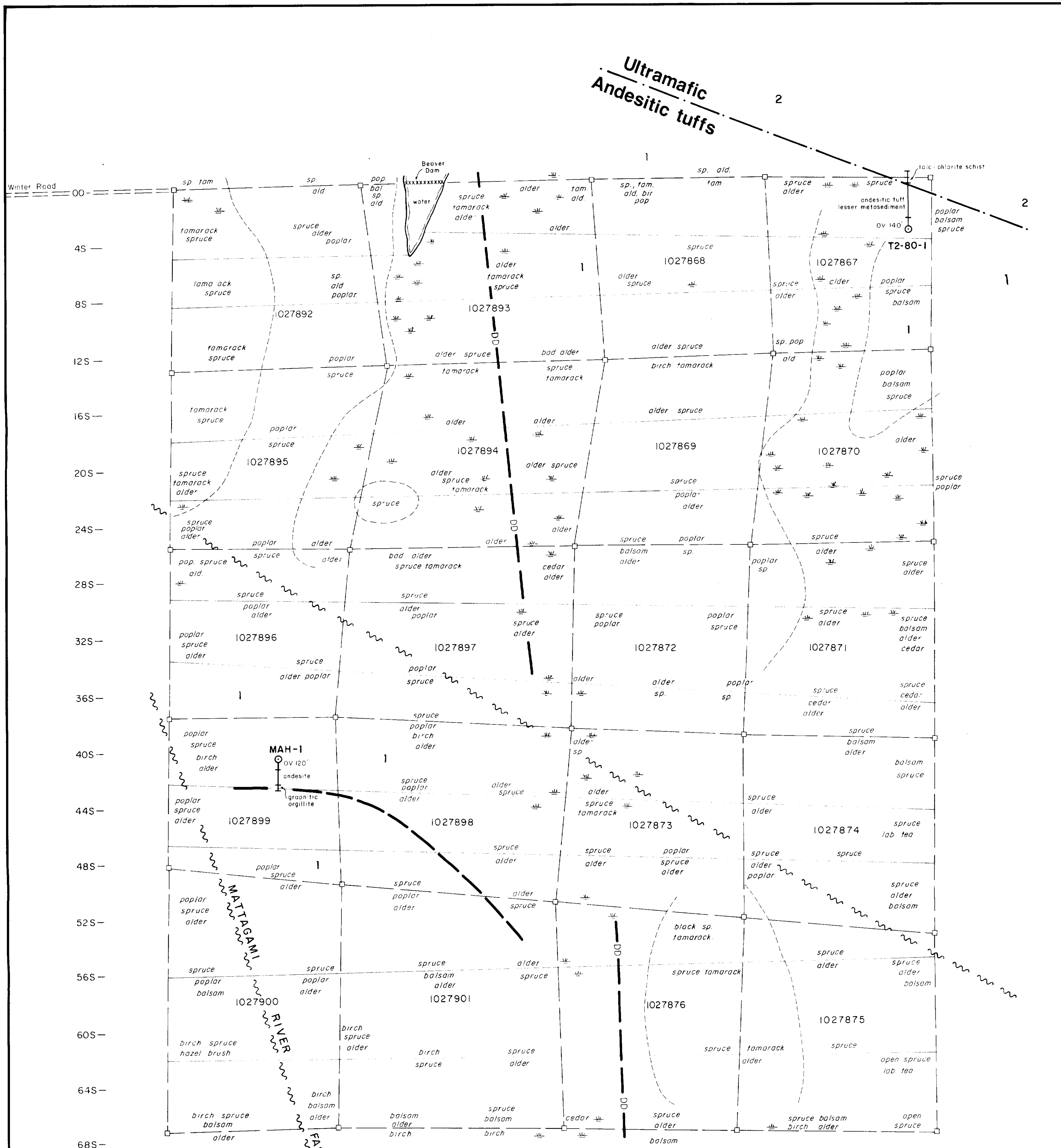
Date MAY 3, 1973 Plan No.

Whitney Block Queen's Park, Toronto **M.540**

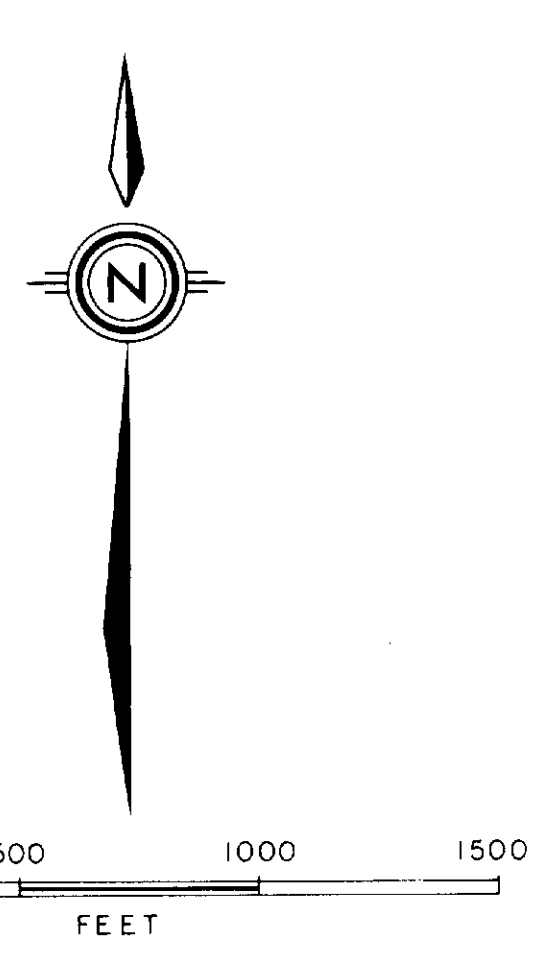
REID TP. M.575



42A135E0344 2.12021 MAHAFFY



- Legend**
- ARCHEAN**
- DD Diabase dike
 - 2 Ultramafic intrusion (peridotite)
 - 1 Andesitic tuffs and flow
- SYMBOLS**
- Geological boundary
 - Diamond drill hole (from assessment files)
 - Fault (from airborne magnetics)
 - Axis of electromagnetic conductor (from assessment files)
 - Claim post and claim line



NW MAHAFFY CLAIM GROUP
Mahaffy Township, Ontario
GEOLOGICAL MAP

SCALE 1 inch = 400 feet
2,12021

D.R. Pyke Property June-August 1988



D.R. Pyke