



42A09NE0331 2.5098 MCCOOL

010

REPORT ON  
AN AIRBORNE ELECTROMAGNETIC AND MAGNETOMETER SURVEY

MATHESON CLAIMS  
McCOOL-7  
PROJECT 839-28

NTS: 42-A-9

AMAX MINERALS EXPLORATION  
Timmins, Ontario

December 1979  
Revised: August 1982

A. Watts, Geophysicist  
B. Groves, Geophysicist



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T A B L E O F

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	In Back Pocket

## SUMMARY

A detailed, radar navigation controlled, helicopter electromagnetic survey, performed by Aerodat Limited for Amax of Canada Limited in April 1979, has outlined a conductive bedrock trend which closely follows the approximate trace of the Centre Hill Fault. This trend is made up of two zones which should be treated on an individual basis when following up on the ground.

## I. INTRODUCTION

During the period between April 10 and April 19, 1979, Aerodat Limited carried out a combined helicopter-borne, radar-controlled electromagnetic and magnetic survey over 13 claims in McCool township for Amax of Canada Limited.

The purpose of the survey was to follow-up in detail, conductive zones of interest previously located by a regional INPUT A.E.M. survey over the area.

## II. PREVIOUS EXPLORATION

### Observed in Field:

Three generations of staking were seen on or around the present ground, evidenced by old claim posts, and part of an old grid and winter camp were found on the property. No old drilling sites were found.

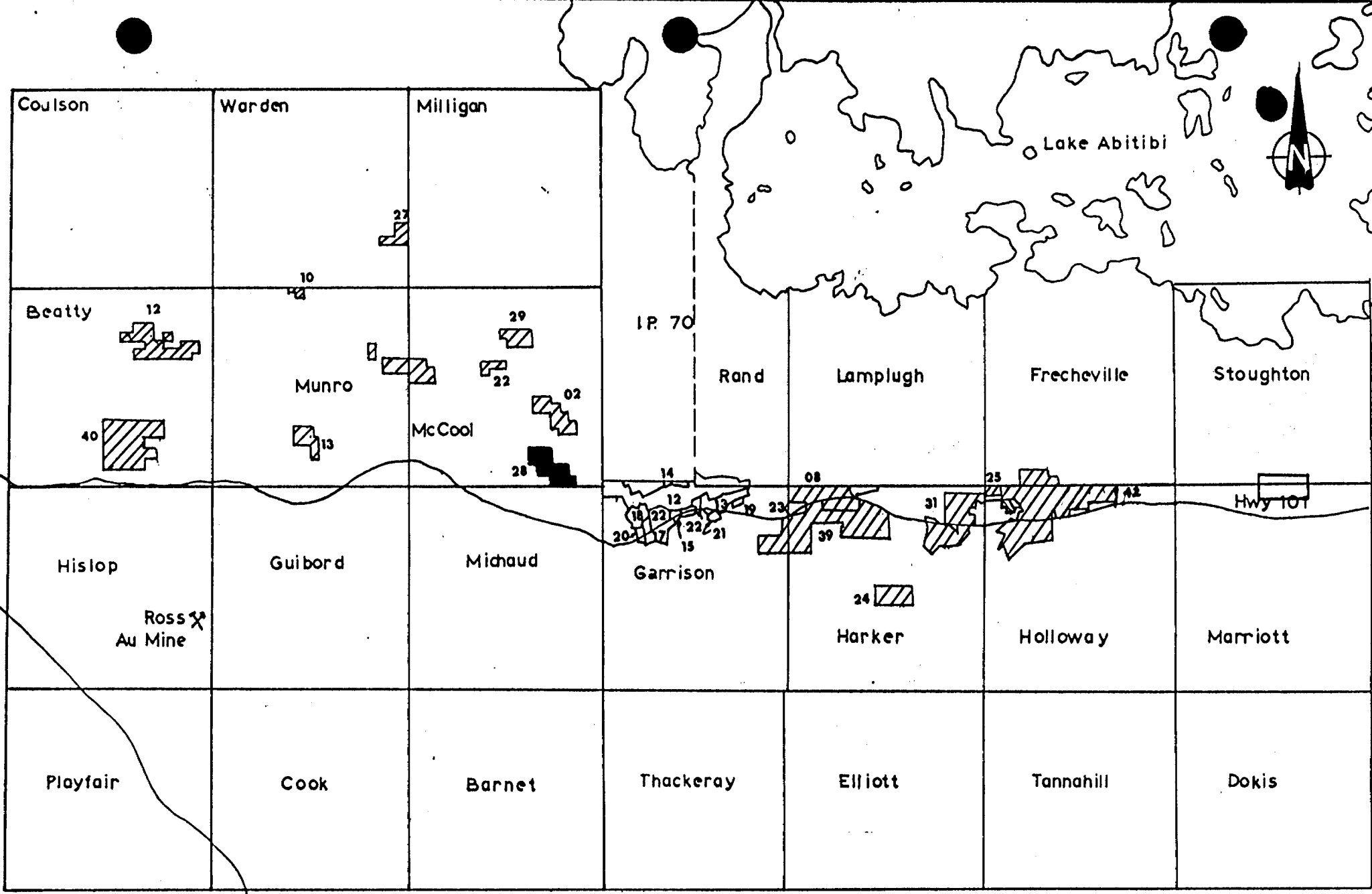
### Assessment Files:

Abstracts of the above mentioned claims show no record of work for two of the generations; the third shows the ground to have been held in part by Bonnacord Exploration Ltd. in the early 1970's. Compilation maps of work filed with the regional geologist's office in Kirkland Lake show ground, electromagnetic, magnetometer and geological/prospecting surveys to have been conducted. Three holes were drilled to the northwest of the present property, apparently associated with the major syncline which lies to the northwest, rather than the conductor of present interest.

## III. GEOLOGY

### General Geology

McCool township lies in the central part of the Abitibi Greenstone Belt. The most striking feature of the geology of the township is



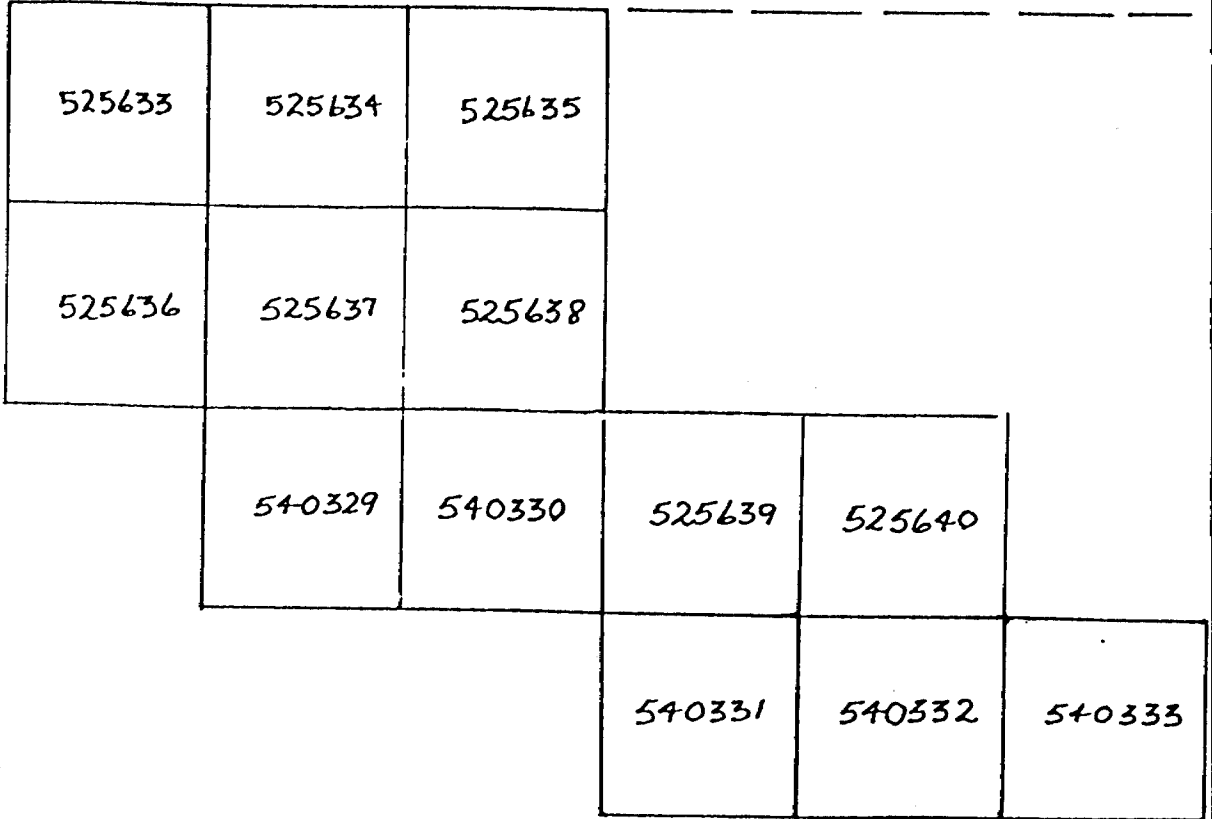
LOCATION SKETCH  
 Project 010-23  
 McCool-7  
 Scale: 1" = 4 miles

Highway 11

FIG. 1

III

I



LOTS

LOT 4

LOT 3

LOT 2

CLAIM MAP

Project 839-28

McCOOL-7

McCool Township

1" = 1/4 mile

FIG. 2

a large isoclinally folded syncline, closed to the southeast, striking northwest-southeast, and pitched to the northwest. The rock consists of mafic volcanic rock (andesite and basalt) overlain by ultramafic rock of uncertain origin (intrusive or extrusive gabbro, peridotite and dunite). (taken from Satterly, 1952).

#### Property Geology

Although only two areas of outcrop were found on the property, it appears to be underlain by the thick assemblage of mafic volcanic rocks of the above mentioned syncline, with the axial plane of the fold passing through the west part of the claim group (Satterly, 1952). The small area of outcrop in the northwest corner consists of massive basalt and a predominantly mafic tuff, containing some felsic or intermediate fragments. The other outcrop, in the southeast corner, is of massive, fine to medium grained, highly sericitized andesite, with occasional trace pyrite. Some quartz veins are present, locally carbonatized, with epidote present around the larger veins.

Satterly (1952), postulates an extension of the Centre Hill Fault (of Munro township), striking at about  $285^{\circ}$  through the south part of the claim group. The conductor follows this fault very closely, and may be related to it.

IV.

SURVEY EQUIPMENT AND PROCEDURES

Survey equipment consisted of a dual frequency Aerodat/Perle electromagnetic system operating at 915 Hertz and 3800 Hertz, a Barringer AM-104 proton precession magnetometer, a Motorola Mini-Ranger III positioning system (MRS III), an Aerodat-Perle navigational guidance and data acquisition system, a Hoffman radar altimeter, a Geocam 35 mm flight path camera, and a Barringer 8-channel analogue recorder. This system was installed in a Bell Jet-Ranger helicopter.

The survey was flown at a line spacing of 125 metres. Survey airspeed averaged about 70 mph, and the aircraft maintained an average terrain clearance of 235 feet, with the magnetometer sensor located on a tow cable 50 feet below the aircraft and the EM bird 100 feet below, or approximately 135 feet above the ground.

Survey navigation was controlled by an MRS III positioning system. The MRS III, operating on the basic principle of pulse radar, uses a transmitter (located in the aircraft) to interrogate the reference station transponders. The elapsed time between the transmitted interrogation produced by the transmitter and the reply received from each transponder is used as the basis for determining the range to each transponder. This range information, displayed by the MRS III together with the known location of each transponder, is trilaterated to provide a position fix of the helicopter. The MRS III operates at line-of-sight ranges up to approximately 39 kilometers and, with appropriate calibration, the probable range measurement accuracy is better than 3 metres (10 feet).

Processing of the range information is automatically accomplished by microprocessor in the DAC-NAV system to produce a flight-line direction, distance along the flight-line and deviation from proposed line. On completion of a proposed line, the guidance system indicates a turn and the next line at a predetermined line spacing.

MRS III range information is recorded digitally on tape and is subsequently computer processed and plotted to produce maps showing the actual flight-path. Flight-path was also recorded manually by the operator-navigator, and automatically by a 35 mm Geocam sequence camera.



Aerodat personnel involved in the survey were:

W. P. Boyko  
Fraser Skoreyko  
E. B. Morrison  
John Hall

Party chief  
Field assistant  
Systems consultant  
Pilot

## V. DATA REDUCTION AND PRESENTATION

The airborne magnetometer and electromagnetic data are presented in Maps 1 and 2 respectively, at a scale of 1:5000. Numbered flight lines and Amax claim boundaries are shown.

Initially, a flight-path map was created from the edited and smoothed MRS III data. Manual fiducials recorded over recognizable terrain features are shown, together with principal topographic features and the claim boundaries.

The in-phase and quadrature EM readings (at the 915 Hertz frequency) are then plotted as profiles along each flight-line, using a vertical scale of 1 ppm of the primary field equal to 1 mm. The zero level for each trace is set using the background observed at the end of each line.

The locations of significant anomalous responses are shown as a circle, with the in-phase amplitude displayed in ppm and the computed apparent conductivity-thickness shown by a graphic representation.

It should be noted that the apparent conductivity-thickness ( $\sigma t$ ) is computed using the phasor diagram for a narrow vertical dyke of infinite extent in free space, shown as an inset in Figure 2. The relationship of apparent  $\sigma t$  to the true value depends upon how closely the body approximates a sheet-like form, and upon how nearly at right angles its strike direction is to the flight-line of the aircraft.

For ease of comparison, the derived conductivity-thickness value is divided into 3 ranges (as shown on the map legend) and the range (rather than the actual value) is indicated graphically on the AEM map. While high conductivity-thickness values are generally associated with good bedrock conductors such as graphite or massive sulphides and low values with overburden sources, anomaly amplitude, shape and persistence are equally important in the subsequent evaluation of the AEM anomalies.

Individual zones of interest have been outlined and numbered. The interpreted axis of a particular conductor is indicated by heavy dashed lines.

The magnetometer data is presented in computer contoured plan form with a contour interval of 20 nT. No filtering has been performed on the data.

## VI. DISCUSSION OF RESULTS

### Magnetic Survey

The aeromagnetic map is dominated by a strong regional gradient caused by highly magnetic northwest trending ultramafic (serpentinite) units to the north. Magnetic relief in the southern portion of Lots 5 and 4 indicate several east-north-east trending features. These features appear to terminate against the postulated trace of the Centre Hill Fault.

### Electromagnetic Survey

The Aerodat survey has outlined a trend several kilometres long which is intermittently conductive along strike. The break in conductivity between Lines 13 and 16 is sufficient to warrant dividing the trend into 2 discrete zones which have been denoted F and G. The most interesting feature regarding this conductive trend is its close coincidence with the assumed trace of the Centre Hill Fault.

The characteristic anomaly shape over most of the trend is weak and broad, suggesting a depth of overburden of at least 50 metres.

Best conductivity is indicated by Intercept 13D at the western edge of Zone G and follow-up should be initiated here. The isolation of Zone F, its short strike length, and a possible weak (20 gamma) coincident magnetic anomaly on Line 17 all point to Zone F being an interesting exploration target. On Line 17 the broadness of the response suggests the presence of a second conductor.

VII. CONCLUSIONS AND RECOMMENDATIONS

The Aerodat survey has accurately resolved a conductive trend previously located by a regional INPUT survey.

At least two zones of interest, F and G, are recommended for minimal ground follow-up in the vicinity of Lines 17 and 13 respectively.

Respectfully submitted,

*B. J. Groves*

B. J. Groves, B. Sc.  
Geophysicist

And:

Respectfully submitted,

*A. H. Watts*

A. H. Watts, B.Sc.  
Geophysicist

Timmins, Ontario

August 1982

APPENDIX A

SCHEDULE OF CLAIMS

PROJECT 839-28  
McCool-7

Claim Group	Township	Number	Claim Numbers	Recording Date
839-28	McCool	13	L-525633	February 15, 1979
			L-525634	February 15, 1979
			L-525635	February 15, 1979
			L-525636	February 15, 1979
			L-525637	February 15, 1979
			L-525638	February 15, 1979
			L-525639	February 15, 1979
			L-525640	February 15, 1979
			L-540329	September 26, 1979
			L-540330	September 26, 1979
			L-540331	September 26, 1979
			L-540332	September 26, 1979
			L-540333	September 26, 1979

STATEMENT OF QUALIFICATIONS

I, Brian J. Groves, residing at 1214 Riverside Drive, Timmins, Ontario, hereby certify that:

1. I am a graduate of the University of Sydney, Sydney, New South Wales, Australia, having received a B.Sc. (Hons.) in Exploration Geophysics in 1976.
2. I have been practising as a geophysicist since joining Amax Exploration (Australia) Inc. of 55 Macquarie Street, Sydney, N.S.W., 2000, Australia, in February 1977.
3. I have been employed as a mineral exploration geophysicist by Amax Minerals Exploration since my transfer from Australia in May, 1980.
4. I am a Member of the Canadian Institute of Mining and Metallurgy and an Associate Member of both the Society of Exploration Geophysicists and the Australian Society of Exploration Geophysicists.

  
\_\_\_\_\_  
Brian J. Groves, B.Sc.

Timmins, Ontario  
August 1982

I, Anthony H. Watts, residing at 306 Bogert Avenue,  
Willowdale, Province of Ontario, hereby certify that:

- 1) I am a graduate of Rhodes University, Grahamstown,  
South Africa, having received a B.Sc. in Geology and  
Chemistry in 1972.
- 2) I have been practising as a geophysicist since  
joining Geoterrex Limited, of 2060 Walkley Road,  
Ottawa, Ontario, in January, 1973.
- 3) I have been employed as a mineral exploration  
geophysicist by Amax Minerals Exploration since  
November, 1978.
- 4) I am an Associate Member of the Society of  
Exploration Geophysicists.

Timmins, Ontario  
August 1982

Signed: A. Watts

A. H. Watts, B.Sc.

Resources  
 Ontario  
 Admin *gmm*

Geophysical, Geological,  
 Geochemical and Expenditures #260

File

010-28 (filed 525633) The Mining



42A09NE0331 2.5098 MCCOOL

900

Type of Survey(s) **Airborne Electromagnetic and Magnet**

Claim (s) **Amax of Canada Limited**

Address **255 Algonquin Blvd. West, Timmins, Ontario. P4N 2R8**

Survey Company **Aerodat Limited**

Date of Survey (from & to) **10/04/79 to 19/04/79**

Name and Address of Author (of Geo-Technical report) **A. Watts and B. Groves, 255 Algonquin Blvd. West, Timmins, Ontario. P4N 2R8**

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	
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days  Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
Airborne Credits  Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	40
	Magnetometer	40
	Radiometric	

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	525633	80			
	525634	80			
	525635	80			
	525636	80			
	525637	80			
	525638	80			
	525639	80			
	525640	80			
	540329	80			
	540330	80			
	540331	80			
	540332	80			
	540333	80			

**RECEIVED**  
 AUG 20 1982  
 MINING LANDS SECTION

*qualif.*  
 0.3655

LARDER LAKE  
 MINING DIV.  
**RECEIVED**  
 AUG 13 1982  
 AM PM  
 7|8|9|10|11|12|1 2|3|4|5|6

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.

Total number of mining claims covered by this report of work. **13**

Date **August 11, 1982**

Recorded Holder or Agent (Signature) *Rosemary Vitting*

For Office Use Only

Total Days Cr. Recorded **1040**

Date Recorded **AUG 13 1982**

Date approved as Recorded *July 25/83*

Mining Recorder *[Signature]*

Branch Director *[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 **B. J. Groves**

**255 Algonquin Blvd. W., Timmin, Ont. P4N 2R8**

Date Certified **August 11, 1982**

Certified by (Signature) *[Signature]*





Ministry of Natural Resources

File \_\_\_\_\_

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) Aeromagnetic - Electromagnetic

Township or Area McCool Township

Claim Holder(s) Canamax Resources Inc.

Survey Company Aerodat Ltd.

Author of Report B. Groves/A. Watts

Address of Author 255 Algonquin Blvd. W., Timmins, Ont.

Covering Dates of Survey April 1979  
(linecutting to office)

Total Miles of Line Cut \_\_\_\_\_

MINING CLAIMS TRAVERSED  
List numerically

(prefix)	(number)
L	525633
L	525634
L	525635
L	525636
L	525637
L	525638
L	525639
L	525640
L	540329
L	540330
L	540331
L	540332
L	540333

If space insufficient, attach list

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

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

Magnetometer 40 Electromagnetic 40 Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: July 7/83 SIGNATURE: [Signature]  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED

JUL 8 1983

MINING LANDS SECTION

TOTAL CLAIMS 13

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) Aeromagnetic - Electromagnetic

Instrument(s) Barringer AM-104 Proton Precession Mag - Aerodat-Perle E.M. System

Accuracy Mag - 1 gamma - A.E.M. 1 ppm  
(specify for each type of survey) 915 Hz - 3800 Hz

Aircraft used Helicopter - Bell Jet Ranger  
(specify for each type of survey)

Sensor altitude 50 metres

Navigation and flight path recovery method MRS III Radar

- photo mosaic - Aerodat Perle navigation guidance

Aircraft altitude 70 metres Line Spacing 125 metres

Miles flown over total area Approximately 500 kilometres Over claims only 20.8 line kilometres

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 \_\_\_\_\_

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

**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 \_\_\_\_\_

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



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) Airborne Electromagnetic and Magnetometer

Township or Area McCoo1

Claim Holder(s) Amax of Canada Limited

Survey Company Aerodat Ltd.

Author of Report A. Watts and B. J. Groves

Address of Author 255 Algonquin Blvd. West, Timmins, Ont.

Covering Dates of Survey April 1979  
(linecutting to office)

Total Miles of Line Cut \_\_\_\_\_

MINING CLAIMS TRAVERSED  
List numerically

(prefix)	(number)
L.....	525633
L.....	525634
L.....	525635
L.....	525636
L.....	525637
L.....	525638
L.....	525639
L.....	525640
L.....	540329
L.....	540330
L.....	540331
L.....	540332
L.....	540333

If space insufficient, attach list

SPECIAL PROVISIONS  
CREDITS REQUESTED

DAYS  
per claim

ENTER 40 days (includes  
line cutting) for first  
survey.

ENTER 20 days for each  
additional survey using  
same grid.

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

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

Magnetometer 40 Electromagnetic 40 Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Sept 6, 1982 SIGNATURE: B. J. Groves  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

Previous Surveys

File No.	Type	Date	Claim Holder
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

TOTAL CLAIMS 13

OFFICE USE ONLY



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) Magnetometer and Electromagnetic

Instrument(s) E.M. : Aerodat/Perle Dual Frequency (915 & 3800 Hz); Mag: Barringer AM104 Proton Precession  
(specify for each type of survey)

Accuracy E.M. : 1ppm ; Mag: 1nT  
(specify for each type of survey)

Aircraft used Bell Jet Ranger Helicopter

Sensor altitude E.M. : 40 metres ; Mag: 56 metres

Navigation and flight path recovery method MRS III radar positioning system - location information

is digitally recorded and flight paths computer plotted. Flight paths also manually recorded using 1:15000 photomosaics and 35 mm tracking camera

Aircraft altitude 70 metres Line Spacing 125 metres

Miles flown over total area 180 line kilometers Over claims only 15.6 line kilometers

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

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





# CANAMAX RESOURCES INC.

TIMMINS, ONTARIO  
255 ALGONQUIN BLVD. WEST  
P4N 2R8  
TELECOPIER 705-264-5247  
TELEPHONE 705-264-5247

July 7, 1983

Our File: 010-28

Your File: 2.5098

Ontario Ministry of Natural Resources,  
Room 6450, Whitney Block,  
Queen's Park,  
Toronto, Ontario.  
M7A 1W3

**RECEIVED**

JUL 8 1983

**MINING LANDS SECTION**

Attention: Mr. R. Pichette

Dear Mr. Pichette,

Further to our telephone conversation of July 6, 1983, I am enclosing herewith a revised Technical Data Statement with the correct (20.8 line kilometres) amount of work shown.

Appropriate changes on the plan maps to illustrate the proper size of the recorded claims on which the work was completed are also enclosed.

I trust that these documents will satisfy your requirements and that we will be allowed our full assessment credits.

Yours truly,

CANAMAX RESOURCES INC.

R. J. Roussain  
Assistant Manager

RJR/rt

Encs.

c.c. K. Clemis/E. Barclay

Jan 20/83

Mining Lands Comments


To: Geophysics *Mr Barlow*

Comments


<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date <i>May 11/83</i>	Signature <i>R Barlow</i>
--	---	-----------------------	---------------------------

To: Geology - Expenditures

Comments


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

To: Geochemistry

Comments

*LD*


<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
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To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1982 10 22

2.5098

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 Airborne Geophysical (Electromagnetic and Magnetometer) Survey submitted on Mining Claims L 525633 et al in the Township of McCool.

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: Amax of Canada Limited  
Timmins, Ontario  
Attn: Mr. A. Watts,  
Mr. B. Groves.



**MINERALS EXPLORATION**  
(A Division of AMAX OF CANADA LIMITED)

255 Algonquin Blvd. West  
Timmins, Ontario  
P4N 2R8

Telephone: (705) 264-5247

October 4, 1982

Our File: 010-28

Mr. F. W. Matthews,  
Ontario Ministry of Natural Resources,  
W1617 Whitney Block,  
Queen's Park,  
Toronto, Ontario.  
M7A 1W3

**RECEIVED**

OCT 7 1982

MINING LANDS SECTION

Dear Sir:

Re: Mining Claims L-525633 et al, McCool Twp.

Please find enclosed herewith two copies of a report on an Airborne Electromagnetic and Magnetometer Survey which was carried out over the below listed contiguous mining claims located in McCool Township.

L-525633	L-525634	L-525635	L-525636	L-525637
L-525638	L-525639	L-525640	L-540329	L-540330
L-540331	L-540332	L-540333		

A "Report of Work" concerning the above survey has been filed with Mr. George Koleszar, Mining Recorder for the Larder Lake Mining Division.

Thank you.

Yours truly,  
AMAX OF CANADA LIMITED

*Rosemary Tittley*  
Rosemary Tittley (Mrs.)  
Land Recorder

Encs. 2

c.c. K. Clemis/E. Barclay, Toronto

2.5098

1983 07 26

2.5098

Mr. George J. Koleszar  
Mining Recorder  
Ministry of Natural Resources  
4 Government Road East  
P.O. Box 984  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

RE: Airborne Geophysical (Electromagnetic and Magnetometer)  
Survey submitted on mining claims L 525633 et al in the  
Township of McCool.

---

Please disregard my Notice of Intent dated June 30, 1983.  
The Airborne Geophysical (Electromagnetic and Magnetometer)  
Survey assessment work credits as shown on the attached  
statement have been approved.

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

R. Pichette:mc

Encl.

cc: Canamax Resources Inc.  
255 Algonquin Boulevard West  
Timmins, Ontario  
P4N 2R8

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

**NOTES**

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

**SAND & GRAVEL**

- ① M.T.C. Gravel Pit No 1565
- ② " " " No 1215
- ③ " " " No 761

**RESERVES**

- ④ Surface Rights reserved to Ministry of Natural Resources under Section 39(d) R.S.O. 50 of The Mining Act File: 41322

**Areas withdrawn from staking under Section 45 of the Mining Act (R.S.O. 1970)**

Order No.	File	Date	Disposition
⑤	Sec. 42 (R.S.O. '60) 164586		S.R.O.

DATE OF ISSUE

JUN 16 1983

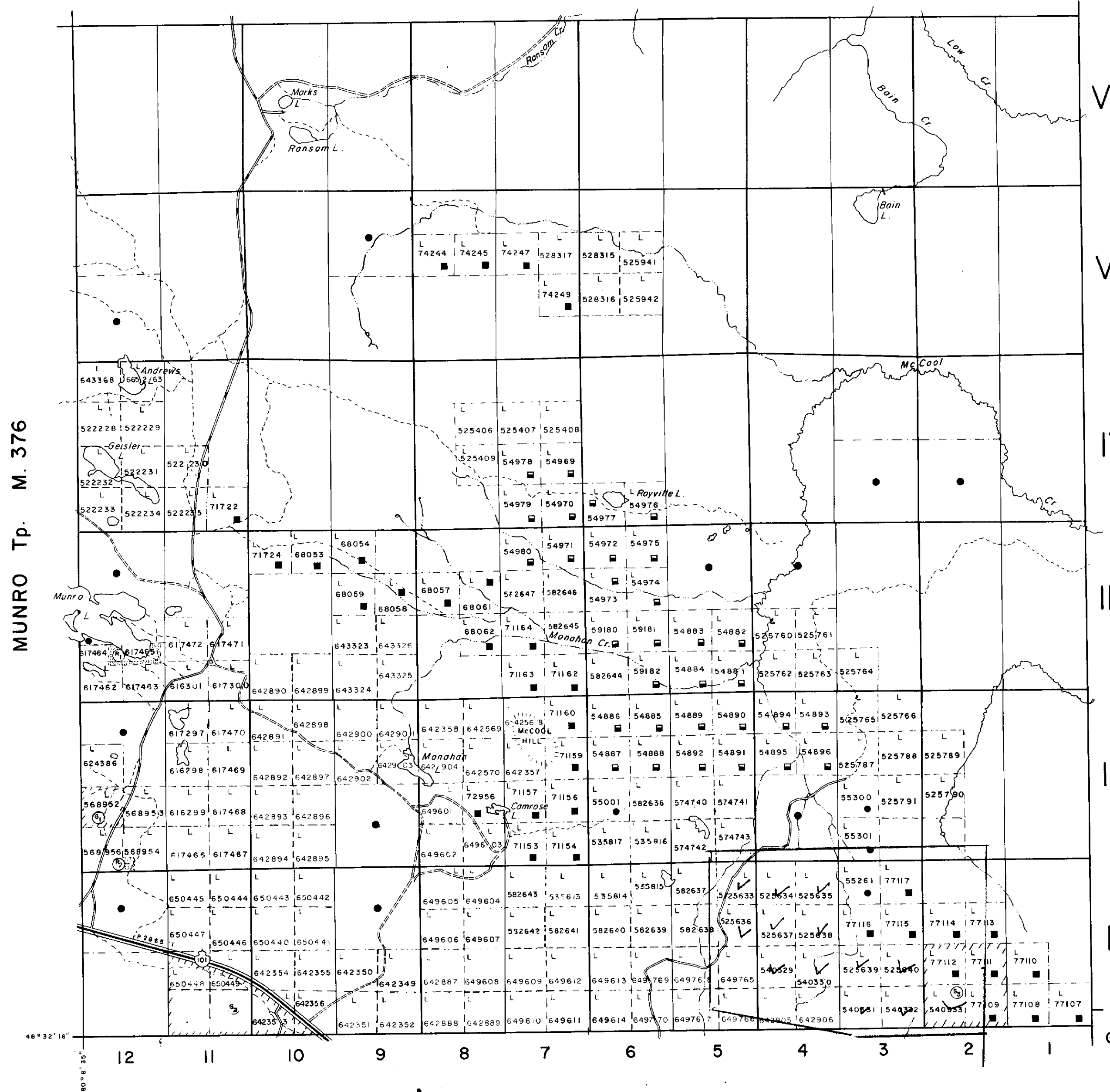
Ministry of Natural Resources  
TORONTO



42A09NE0331 2.5098 MCCOOL

200

**MILLIGAN Tp. M. 375**



MUNRO Tp. M. 376

VI  
V  
IV  
III  
II  
I

GARRISON Tp. M. 349

**MICHAUD Tp. M. 372**

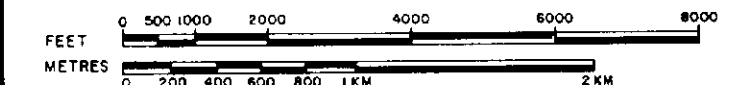
**LEGEND**

- 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	C.S.
ORDER-IN-COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊗
SAND & GRAVEL	⊕

SCALE: 1 INCH = 40 CHAINS



ACRES      HECTARES

40	16
----	----

TOWNSHIP

**McCOOL**

DISTRICT

**COCHRANE**

MINING DIVISION

**LARDER LAKE**



Ministry of Natural Resources

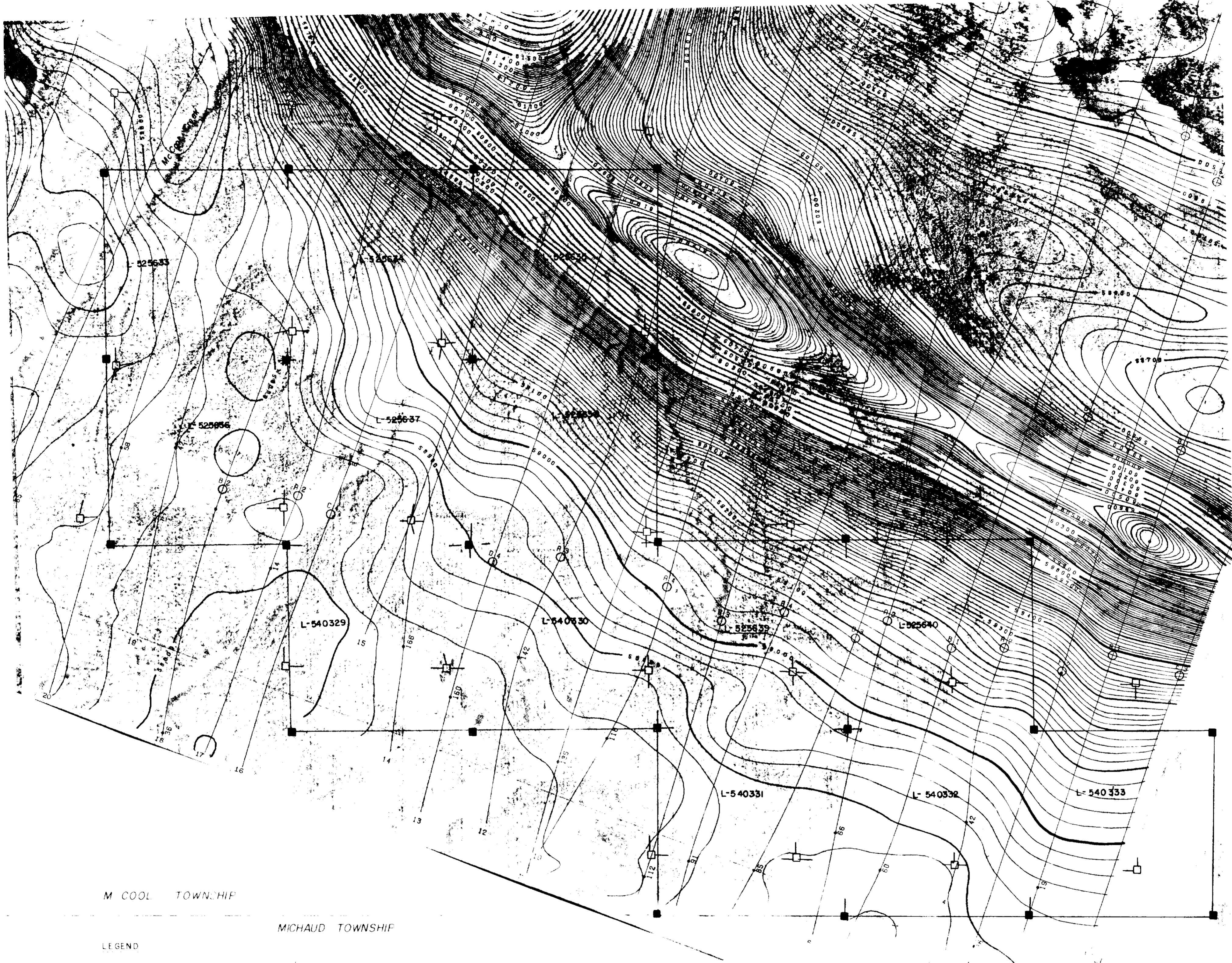
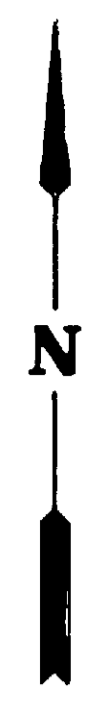
Ontario Surveys and Mapping Branch

Date 5-74

Plan No.

Whitney Block  
Queen's Park, Toronto

**M. 365**



CON 1

M COOL TOWNSHIP

MICHAUD TOWNSHIP

LEGEND

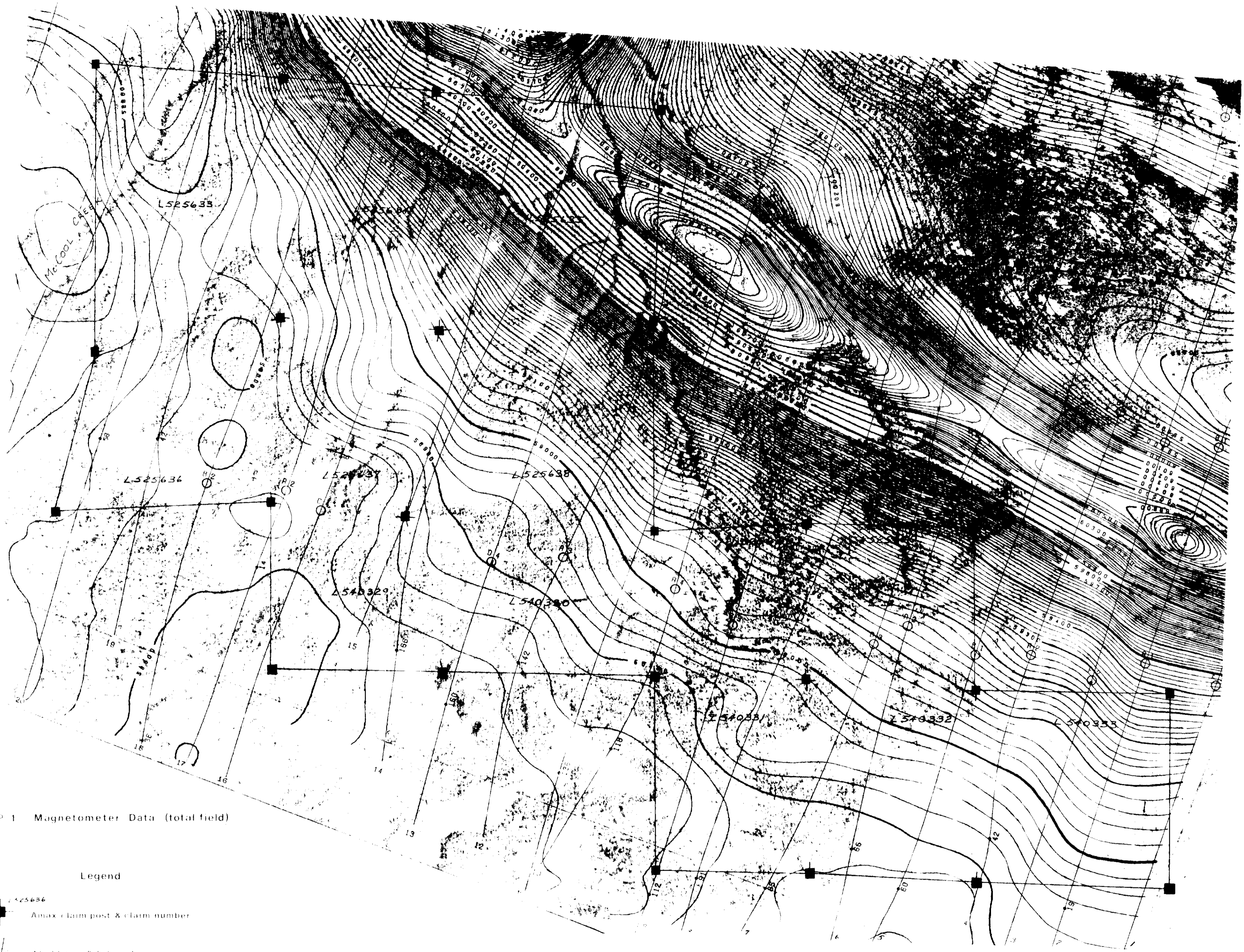
- 1) Area claim post located in field
- claim post location as per township survey
- Eight line B fiducial
- Magnetic intensity contours (Contour interval: 10nT)

LOT 4

10/1/20




MAP 1 - MAGNETOMETER DATA (TOTAL FIELD)





MAP 1 Magnetometer Data (total field)

Legend

- 
L525636  
 Amax claim post & claim number
- 
P12  
 Flight line & fiducial
- 
5800  
 Magnetic intensity contours. (contour interval - 20nT)



4249NE8331 2.5096 MCCOOL

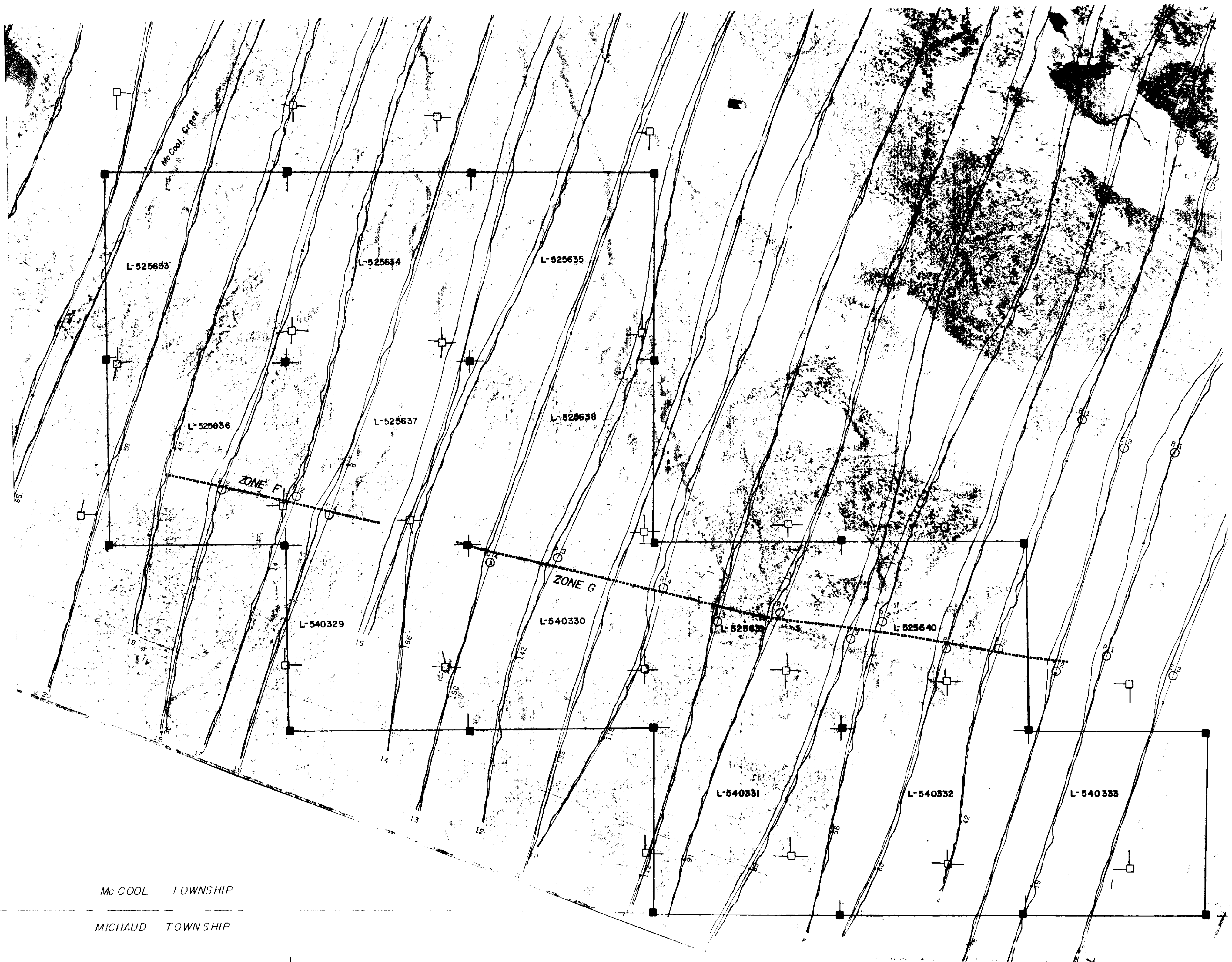
220

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*15/1/2000*





CON 1

Mc COOL TOWNSHIP

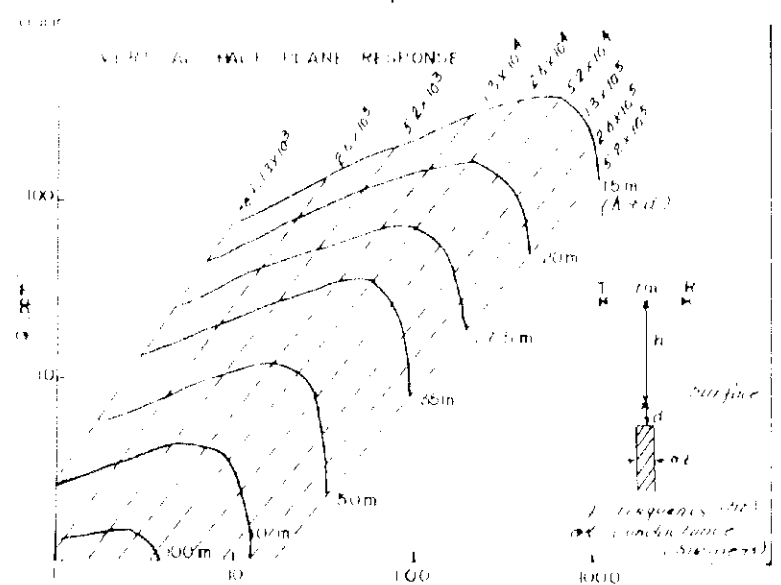
MICAUD TOWNSHIP

LOT 5

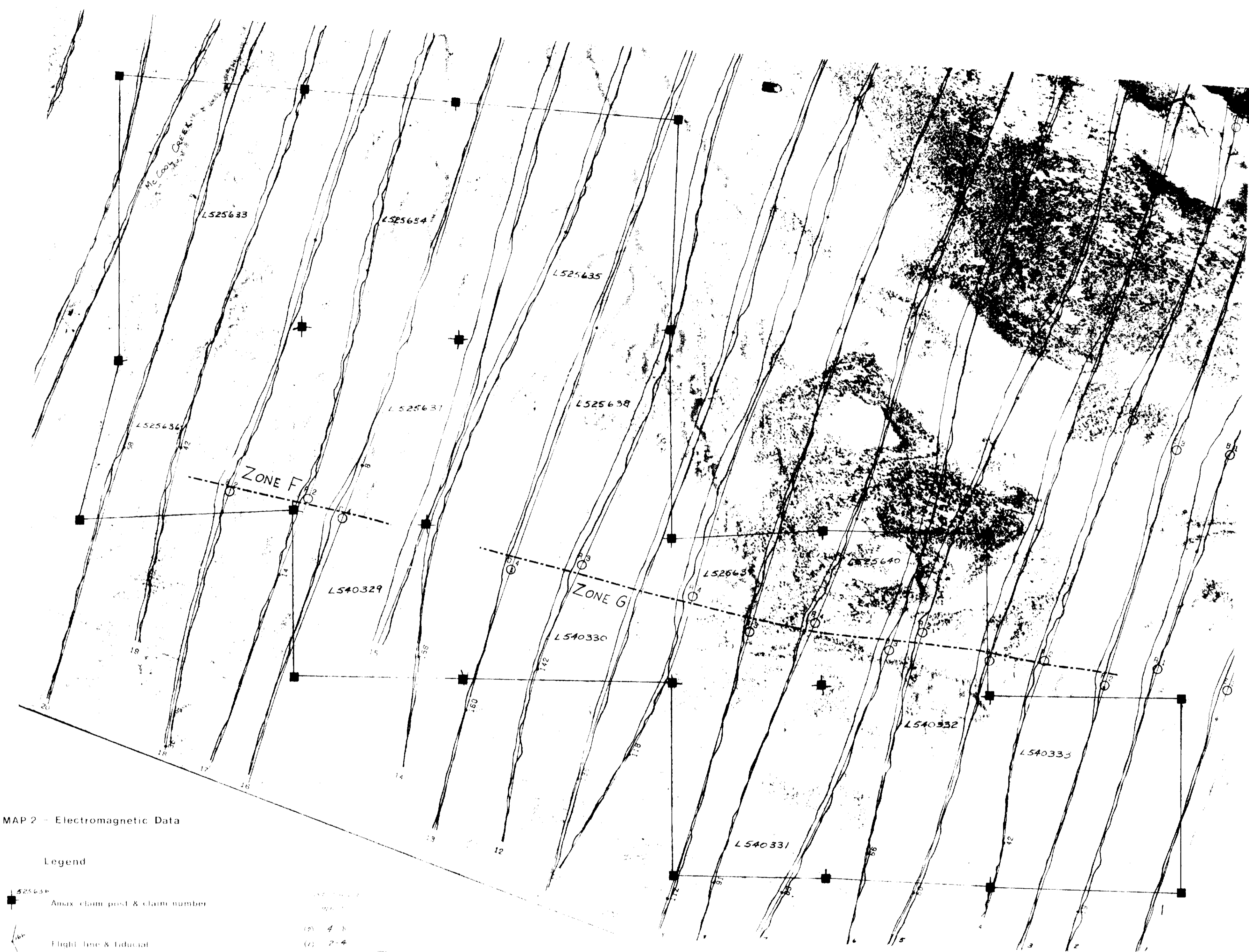
LOT 4

**LEGEND**

- Flight line and fiducial
  - Quadrature
  - E.M. component profiles, 1mm = 1ppm
  - E.M. anomaly location
  - F.M. conductor axis
  - Amax claim post located in field
  - Claim post location as per township survey
- at RANGE (mhos)
- (1) 4.8
  - (2) 2.9
  - (3) 1.2








MAP 2 - ELECTROMAGNETIC DATA



MAP 2 - Electromagnetic Data

Legend

-  Anax claim post & claim number
-  Flight line & fiducial
-  EM component profiles, 1mm = 1ppm
-  EM anomaly location
-  EM conductor axis

scale - 1:5000

