AIRBORNE ELECTROMAGNETIC SURVEYS

BENTON RESOURCES INC., OSWAY RESOURCES INC.

MALLARD RESOURCES INC., & THE 4 X 4 SYNDICATE

BENTON, OSWAY, ESTHER & MALLARD TOWNSHIPS AREA

PROJECT #23006 JULY, 1981

Questor Surveys Limited, 6380 Viscount Road, Mississauga, Ontario L4V 1H3

CONTENTS

INTRODUCTION..... 1

MAP COMPILATION..... 1

SURVEY PROCEDURE..... 2

RESULTS..... 2

APPENDIX

EQUIPMENT.....(i)

MARK VI INPUT(R) SYSTEM.....(i)

SONOTEK P.M.H. 5010
PROTON MAGNETOMETER.....(iii)

DATA PRESENTATION.....(iv)

GENERAL INTERPRETATION.....(iv)

SAMPLE RECORD

AREA OUTLINE

DATA SHEET

INTRODUCTION

This report contains the results of an airborne electromagnetic survey flown in the Benton, Osway, Esther and Mallard Townships area of North Eastern Ontario on April 27, 29 and 30, 1981 for Benton Resources Inc., Osway Resources Inc., Mallard Resources Inc., and The 4 x 4 Syndicate.

A brief description of the survey procedure is included.

The survey mileage was 814 line miles and the survey was performed by Questor Survevs Limited. The survey aircraft was a Britten-Norman Trislander C-GNKW and the operating base was Timmins, Ontario,

The area outline is shown on a 1:250,000 map at the end of this report. This is part of the National Topographic Series sheet number 410.

The following were the personnel involved with the airborne survey:-

Pilot	---	Victor Oetke
Co-Pilot	---	Clarmont Flamand
Operator	---	Dennis Borsoi
Engineer	---	Wilf Arbour
Crew Chief	---	Bill Droine

MAP COMPILATION

The base maps are semi-controlled mosaics constructed from 1" = 1320' Ontario Lands and Forests photographs. The mosaics were reproduced at a scale of 1" = 1320' on stable transparent film from which white prints can be made.

Flight path recovery was accomplished by comparison of 35mm film with the mosaic in order to locate the fudicial points. These points are approximately 400 feet apart.

SURVEY PROCEDURE

Terrain clearance was maintained as close to 400 feet as possible, with the E. M. Bird at approximately 150 feet above the ground. A normal S-pattern flight path using approximately one mile turns was used. The equipment operator logged the flight details and monitored the instruments.

A line spacing of 1/8 mile was used.

RESULTS

REFERENCE: Preliminary Map P.675 'Opeepeesway, Rocky Island Lakes Sheet.

This survey was flown to cover an area of economically favourable geology in parts of Benton, Esther, Mallard and Osway Townships in Northeastern Ontario. The area is underlain by felsic to mafic metavolcanics along with metasediments and ultra mafic intrusive rocks. There are no producing mines in the area, however, some mineral occurrences do exist.

This INPUT and Magnetic survey was flown in a north-easterly direction to accommodate a general southeasterly strike of the geology. Thirty five definite conductor zones were outlined by the survey. Some of these conductors are long formational zones and graphite has to be considered as a cause of these formational trends. There do, however, exist several attractive base metal targets that should be investigated.

In general, these top priority targets occur as strong conductors of limited strike extent (ie., less than 1 mile strike extent) and have magnetic correlation. This last criteria is however, of least importance as many producing base metal mines have little or no magnetic expression. Also gold exploration cannot be overlooked and some of the weaker conductors could have some significance in looking for gold.

In general, all of the outlined conductors should be explained by some means either by reference to assessment files, prospecting or ground geophysics along with diamond drilling.

There is very little conductive overburden in the area and with the exception of some very weak two-channel responses that have not been outlined, all of the anomalies are considered to have their source in the bedrock.

The following is a brief discription of each of the conductors that have been outlined by the survey.

ZONE 1

This weak conductor lies along the flank of a magnetic ridge and therefore probably along a geologic contact. The double response on line 10120S indicates a dip to the north. Graphite or minor sulphides could be the cause and it would rank as a low priority economic target.

ZONE 2

Moderate conductivity is exhibited by this conductor which has a strike length of approximately one mile. The conductor is in a magnetically low area which could reflect metasediments. Graphite or formational sulphides are likely the cause of the conduction. It would not rank as a high priority base metal target.

ZONES 3, 4 AND 5

These three conductive zones are all associated with a magnetically active area which is probably underlain by mafic to ultramafic intrusive rocks. There is some gabbro and diorite mapped in the area. The conductors are of low to moderate conductivity and in general, indicate a northerly dip. Of the three zones, ZONE 3 should be considered as a good base metal target.

ZONES 6, 7, 8, 9 AND 10

All of these conductors are attractive because of their short strike extent and by virtue of the fact that they are in an area underlain by felsic and mafic metasediments. The conductivities are not strong but the INPUT anomalies indicate a bedrock and possibly a sulphide source. With the exception of ZONE 10, all conductors indicate a dip to the north. An investigation is suggested on these conductors.

ZONE 11

This zone outlines conductance over a strike extent of approximately four miles and is within an area underlain by felsic metavolcanics. The length of the conductor is an unattractive feature of the zone and graphite and/or formational sulphides are the probable causes of the conductor. The conductivity appears consistently low along the strike but at least a cursory examination should be made along the entire length of the zone.

ZONE 12

This long conductor appears to lie along the contact of felsic metavolcanics and mafic metavolcanics. Contrary to ZONE 11, the conductivity of this zone does vary along strike and it is recommended that the stronger areas be given a serious investigation. The areas around intercept 10300 E and F, and the extreme southeast end should be detailed with ground geophysics.

ZONE 13

A high priority should be given to this conductor which exhibits moderate to high conductivity and has direct magnetic correlation. Massive sulphides could be the cause of the conduction. Felsic metavolcanics have been mapped in the area.

ZONE 14

The short strike extent of the conductor makes it an attractive feature even though the conductivity exhibited by the anomalies is not high. Sulphides could be the cause.

ZONE 15

This conductor is an exceptionally long conductor and graphite has to be considered as the probable cause of the conduction. For the most part, the conductivity is strong and is probably continuous throughout its strike extent. The conductor is related to a large circular magnetic feature at its north west extremity and this magnetic feature could outline an iron formation. The remainder of this conductor does not have any prominent magnetic correlation. A consistent dip to the south is shown by the anomalies. Prospecting should be at least carried out along the length of this conductor.

ZONE 16

The anomalies of this zone show a very weak conductor which is not recommended for follow-up.

ZONE 17

The west end of this conductor should definitely be examined as strong conductivity is shown by the INPUT responses. There also appears to be more than one conductor present at this west end. The eastern portion indicates lower conductivity.

ZONE 18

Conductor intercept 10520F of this zone is a sharp, well defined INPUT anomaly that is representative of those that result from massive sulphides. The remainder of the anomalies in this grouping are weaker but they are definite bedrock responses. A high priority should be given to this zone.

ZONE 19

Similar to ZONE 18, this conductor should be ranked as a high priority target. The central part of the zone exhibits high conductivity and sulphides could be the cause.

ZONE 20

This conductor which flanks ZONE 11 to the south should be considered as a medium priority target in the ground follow-up program. The anomalies are definite bedrock responses and there is a subtle magnetic anomaly related to the conductor. Sulphides could be the cause.

ZONE 21

This conductor is on strike with ZONE 11 and in fact, it may be continuous with it. The anomalies of this zone, however, are stronger than those of ZONE 11 and it could have a different cause. A medium priority should be given to this conductor and it should be followed-up with ground geophysics.

ZONES 22, 23, 24 AND 25

Copper and zinc sulphides have been found close to this grouping of conductors and for this reason, all of these conductors should be given an examination. ZONE 22 is quite weak whereas the other zones show moderate conductivity. Sulphides are probably the cause of all these conductors. Mafic and felsic metavolcanics have been mapped in the area.

ZONE 27

A high priority should be accorded this conductor. The anomalies are strong, there is magnetic correlation and it has limited strike extent. Metavolcanics and metasediments underlie the area.

ZONE 28

Similar to ZONE 27, this conductor should be ranked as a high priority target. It however, is not as strong as ZONE 27 and there appears to be two separate conductors in this zone. Since the anomalies have direct magnetic correlation, sulphides are likely the cause.

ZONE 29

This zone, which has two separate parallel conductors, flanks ZONE 15 which is to the north. The anomalies of ZONE 29 are low conductivity responses and would be considered low priority targets. Felsic metavolcanics have, however, been mapped in the area and a gold/silver showing has been noted on strike to the south-east.

ZONE 30

This grouping of weak anomalies occurs close to the gold/silver showing mentioned above and for this reason, ground work is recommended. The anomalies are however, quite weak and small conductors are expected on the ground. Felsic and mafic volcanics along with some sediments and ultra mafic rocks have been mapped in the vicinity of these anomalies.

ZONE 31

Conductor intercept 10720E is a sharp, well defined anomaly which exhibits a vertical dip. The anomalies on the adjacent lines are weaker and of poor quality. This conductor should rank as a medium priority target.

ZONE 32

This conductor corresponds to a magnetite, pyrite, chalcopyrite, asbestos and gold showing and is coincident with a high circular magnetic feature. The strongest INPUT anomalies (ie., intercepts 10790C and 10800C) are coincident with the strongest part of the magnetic feature. Sulphides along with the magnetite are the likely causes of this conduction. Since this zone has obviously been investigated, no further work is suggested.

ZONE 33

This conductor has not been fully defined because it occurs on the last two lines of this survey. The four anomalies on line 10830N do however, suggest a bedrock source and for this reason, ground work is recommended.

ZONES 34 AND 35

These two areas of weak conduction are considered to be low priority targets. The anomalies are weak, staggered and associated with a linear magnetic feature. It is possible that the INPUT system is responding to the edge of a magnetic body and it is felt that magnetite is the cause of these very weak responses. It would be difficult for ground E. M. systems to locate these conductors.

D. WATSON.

APPENDIX

EQUIPMENT

The aircraft is equipped with a Mark VI INPUT (R) airborne E.M. system and Sonotek P.M.H. 5010 Proton Magnetometer. Radar altimeters are used for vertical control. The outputs of these instruments together with fiducial timing marks are recorded by means of galvanometer type recorders using light sensitive paper. Thirty-five millimeter continuous strip cameras are used to record the actual flight path.

(I) BARRINGER/QUESTOR MARK VI INPUT (R) SYSTEM

The Induced Pulse Transient (INPUT) system is particularly well suited to the problems of overburden penetration. Currents are induced into the ground by means of a pulsed primary electromagnetic field which is generated in a transmitting loop around the aircraft. By using half sine wave current pulses and a loop of large turns-area, the high output power needed for deep penetration is achieved.

The induced current in a conductor produces a secondary electromagnetic field which is detected and measured after the termination of each primary pulse. Detection is accomplished by means of a receiving coil towed behind the aircraft on four hundred feet of cable,

and the received signal is processed and recorded by equipment in the aircraft. Since the measurements are in the time domain rather than the frequency domain common to continuous wave systems, interference effects of the primary transmitted field are eliminated. The secondary field is in the form of a decaying voltage transient originating in time at the termination of the transmitted pulse. The amplitude of the transient is, of course, proportional to the amount of current induced into the conductor and, in turn, this current is proportional to the dimensions, the conductivity and the depth beneath the aircraft.

The rate of decay of the transient is inversely proportional to conductivity. By sampling the decay curve at six different time intervals, and recording the amplitude of each sample, an estimate of the relative conductivity can be obtained. By this means, it is possible to discriminate between the effects due to conductive near-surface materials such as swamps and lake bottom silts, and those due to genuine bedrock sources. The transients due to strong conductors such as sulphides exhibit long decay curves and are therefore commonly recorded on all six channels. Sheet-like surface materials, on the other hand, have short decay curves and will normally only show a response in the first two or three channels.

The samples, or gates, are positioned at 310, 490, 760, 1120, 1570 and 2110 micro-seconds after the cessation of the pulse. The widths of the gates are 180, 180, 360, 360, 540, and 540 micro-seconds respectively.

For homogeneous conditions, the transient decay will be exponential and the time constant of decay is equal to the time difference at two successive sampling points divided by the log ratio of the amplitudes at these points.

(II) SONOTEK P.M.H. 5010 PROTON MAGNETOMETER

The magnetometers which measure the total magnetic field have a sensitivity of 1 gamma and a range from 20,000 gammas to 100,000 gammas.

Because of the high intensity field produced by the INPUT transmitter, the magnetometer results are recorded on a time-sharing basis. The magnetometer head is energized while the transmitter is on, but the read-out is obtained during a short period when the transmitter is off. Using this technique, the head is energized for 0.83 seconds while the precession frequency is being recorded and converted to gammas. Thus a magnetic reading is taken every 1.13 second.

For this survey, a lag factor has been applied to the data. Magnetic data recorded on the analogue records at fiducial 10.00 for example would be plotted at fiducial 9.95 on the mosaics.

DATA PRESENTATION

The symbols used to designate the anomalies are shown in the legend on each map sheet, and the anomalies on each line are lettered in alphabetical order in the direction of flight. Their locations are plotted with reference to the fiducial numbers on the analog record.

A sample record is included to indicate the method used for correcting the position of the E.M. Bird and to identify the parameters that are recorded.

All the anomaly locations, magnetic correlations, conductivity-thickness values and the amplitudes of channel number 2 are listed on the data sheets accompanying the final maps.

GENERAL INTERPRETATION

The INPUT system will respond to conductive overburden and near-surface horizontal conducting layers in addition to bedrock conductors. Differentiation is based on the rate of transient decay, magnetic correlation and the anomaly shape together with the conductor pattern and topography.

Power lines sometimes produce spurious anomalies but these can be identified by reference to the monitor channel.

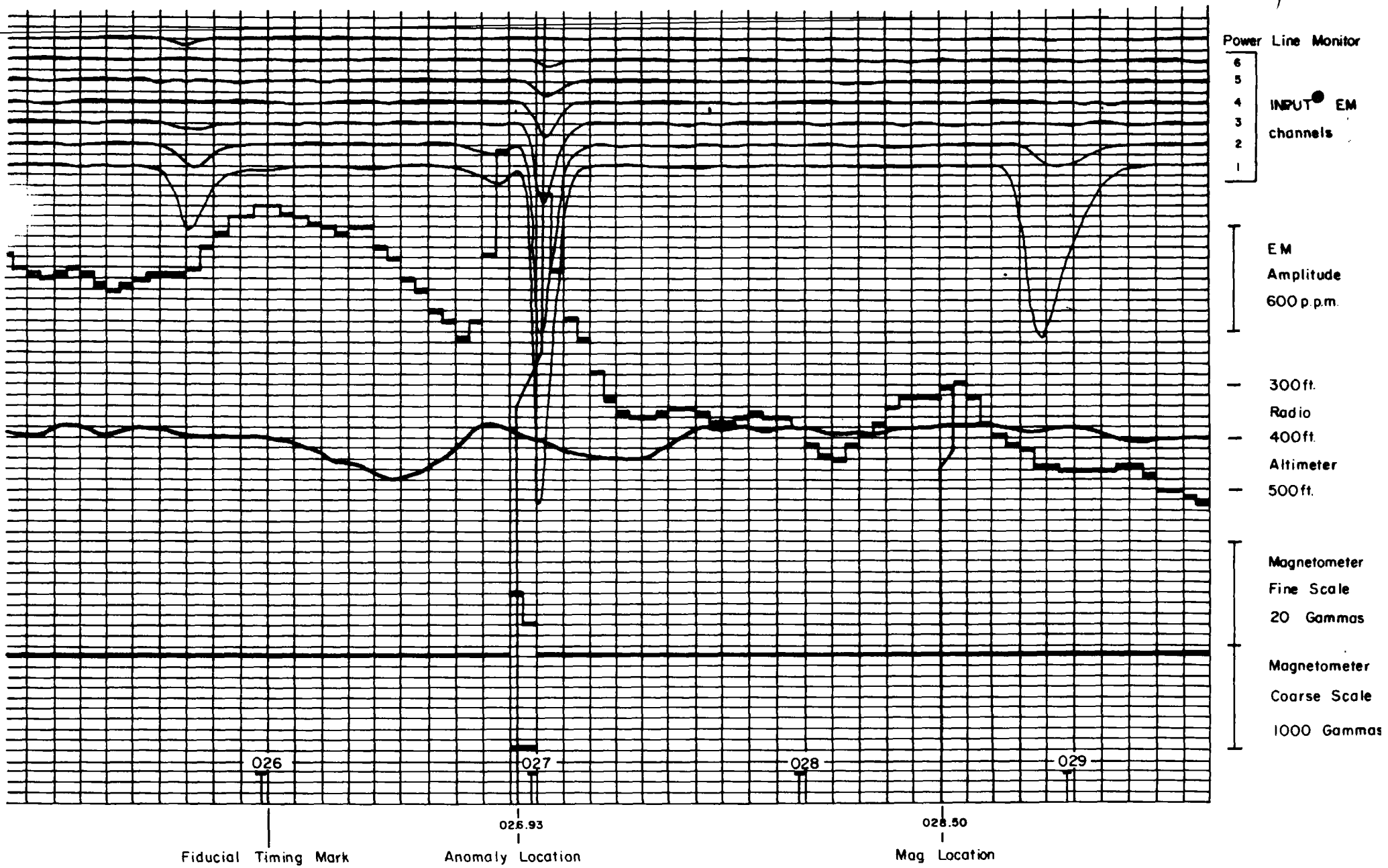
Railroad and pipeline responses are recognized by studying the film strips.

Graphite or carbonaceous material exhibits a wide range of conductivity. When long conductors without magnetic correlation are located on or parallel to known faults or photographic linears, graphite is most likely the cause.

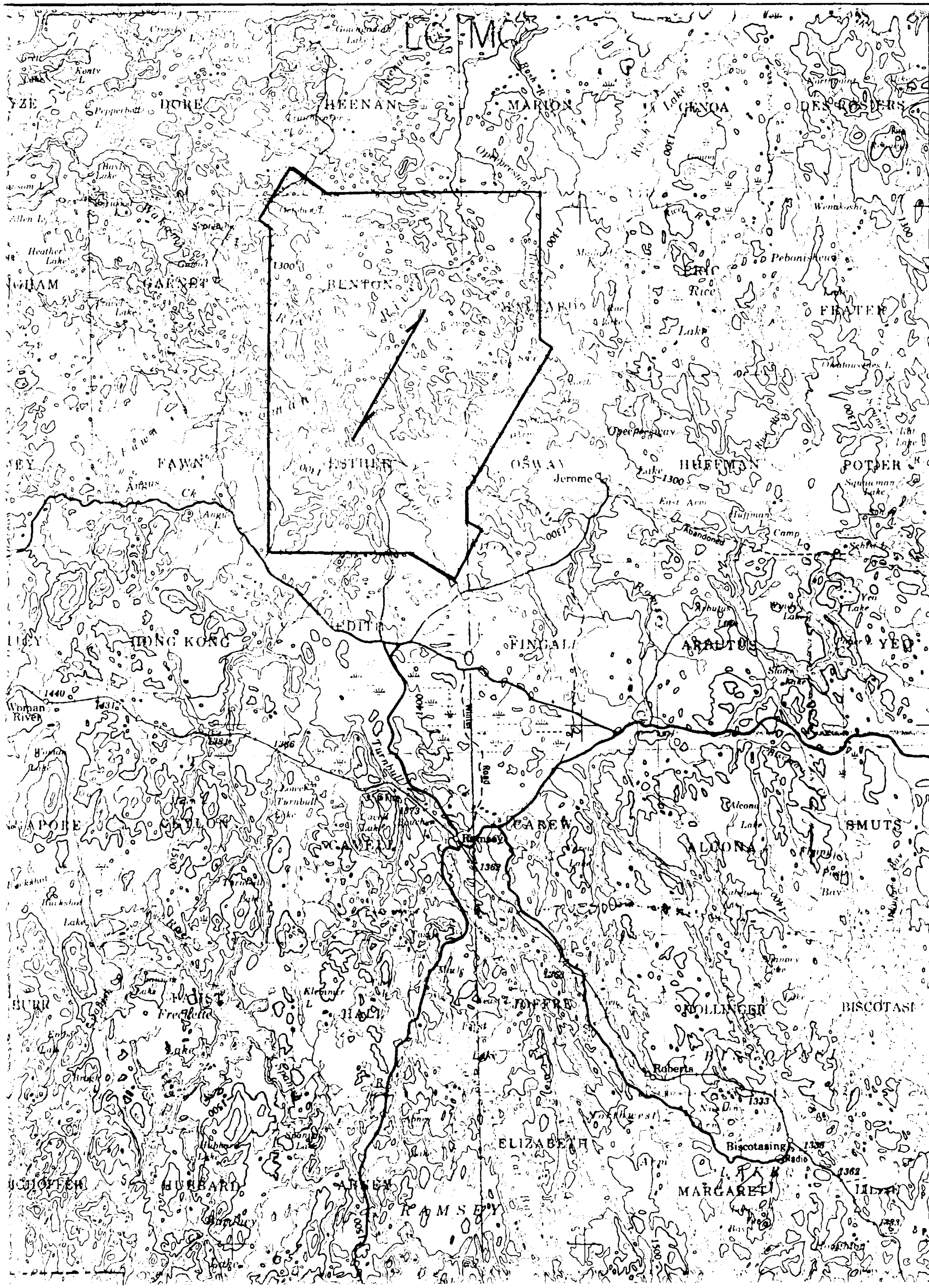
Contact zones can often be predicted when anomaly trends coincide with the lines of maximum gradient along a flanking magnetic anomaly. It is unfortunate that graphite can also occur as relatively short conductors and produce attractive looking anomalies. With no other information than the airborne results, these must be examined on the ground.

Serpentinized peridotites often produce anomalies with a character that is fairly easy to recognize. The conductivity which is probably caused in part by magnetite, is fairly low so that the anomalies often have fairly large response on channel #1; they decay rapidly, and they have strong magnetic correlation. INPUT E.M. anomalies over massive magnetites show a relationship to the total Fe content. Below 25 - 30%, very little or no response at all is obtained, but as the percentage increases the anomalies become quite strong with a characteristic rate of decay which is usually greater than that produced by massive sulphides.

Commercial sulphide ore bodies are rare, and those that respond to airborne survey methods usually have medium to high conductivity. Limited lateral dimensions are to be expected and many have magnetic correlation caused by magnetite or pyrrhotite. Provided that the ore bodies do not occur within formational conductive zones as mentioned above, the anomalies caused by them will usually be recognized on an E.M. map as priority targets.



Representative INPUT®, Magnetometer and Altimeter Recording



DORE
HEENAN
MARION
GENOA
DES ROSIERS
BENTON
GARNET
ERIC
FRATER
FAWN
ESTHER
OSWAY
HUFFMAN
POTTER
Jerome
HONG KONG
EDITH
FINGAL
ARBUTUS
CEYLON
CAREW
ALCONA
SMUTS
Ramsey
Turnbull
HOLLINGER
BISCOTASI
JOFFRE
Roberts
Biscotasing
ELIZABETH
MARGARET
HUBBARD
RAMSEY
1300
1400
1500

2.5285

1983 09 09 2.5285

Mr. William L. Good
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Airborne (Electromagnetic and Magnetometer) Survey on Mining Claims P 633108 et al in the Township of Mallard

---

The Airborne (Electromagnetic and Magnetometer) Survey assessment work credits as listed with my Notice of Intent dated August 18, 1983, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

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

cc: Canadian Gold and Metals Inc
1565 Brittania Road East
Mississauga, Ontario
L4W 2M4

cc: Resident Geologist
Timmins, Ontario

Ministry of Natural Resources
Ontario

41009NW0022 2.5285 MALLARD

900 1983 08 18

File 2.5285

Mining Recorder's Report of Work No. 463

Recorded Holder
CANADIAN GOLD & METALS INCORPORATED

Township or Area
MALLARD TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	P 633108 to 111 incl , 633024 to 39 incl 624829 to 38 incl 628411 to 426 incl
Electromagnetic 19 days	
Magnetometer 19 days	
Radiometric ____ days	
Induced polarization ____ days	
Other ____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological ____ days	
Geochemical ____ days	
Man days ☐ Airborne ☒	
Special provision ☐ Ground ☐	
☐ Credits have been reduced because of partial coverage of claims.	
☒ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

Ministry of
Natural
Resources

Ontario

Sept 8,83

Your file:

1983 08 18

Our file: 2.5285

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. F.W. Matthews at 416/965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

R. Pichette:sc

Encls:

cc: CanadaGold & Metals Inc
Mississauga, Ontario

cc: Questor Surveys Limited
Mississauga, Ontario

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1983 08 18

2.5285

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

#463 P-628411

The Mining Act

Instructions
- If number of mining claims traversed exceeds space on this form, attach a list.
- Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Note:

Type of Survey(s)	Township or Area
AIRBORNE GEOPHYSICS (ELECTROMAGNETIC)	Mallard Township

Claim Holder(s)	Prospector's Licence No.
Canadian Gold and Metals Inc.	

Address: 1565 Brittania Rd. E., Mississauga, Ontario. L4W 2M4

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
Questor Surveys Limited	27 04 81 (Day Mo. Yr.) 30 04 81 (Day Mo. Yr.)	

Name and Address of Author (of Geo-Technical report): D. Watson, Q.S.L. 6380 Viscount Rd. Mississauga, Ontario.

Credits Requested per Each Claim in Columns at right

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

RECORDED
DEC 10 1982
Receipt No. .....

RECEIVED
DEC 20 1982
MINING LANDS SECTION

Expenditures (exclude power stripping)

Type of Work Performed

Performed on

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.

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	633108	60
	633109	60
	633110	60
	633111	60
	633024	60
	633025	60
	633026	60
	633027	60
	633028	60
	633029	60
	633030	60
	633031	60
	633032	60
	633033	60
	633034	60
	633035	60
	633036	60
	633037	60
	633038	60
	633039	60
	624829	60
	624830	60
	624831	60

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	624832	60
	624833	60
	624834	60
	624835	60
	624836	60
	624837	60
	624838	60
	628411	60
	628412	60
	628413	60
	628414	60
	628415	60
	628416	60
	628417	60
	628418	60
	628419	60
	628420	60
	628421	60
	628422	60
	628423	60
	628424	60
	628425	60
	628426	60

Total number of mining claims covered by this report of work: 46

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
2760	Dec. 16/82	
	Date Approved as Recorded	Branch Director / Regional Mining Recorder

Date: Dec. 3/82 | Recorded Holder or Agent (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

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.5285

Feb 1/83

Mining Lands Comments

☑ To: Geophysics MR Barlow

Comments

☑ Approved ☐ Wish to see again with corrections | Date Feb 25/83 | Signature

☐ To: Geology - Expenditures

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Geochemistry

Comments

VD

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1982 12 21 2.5285

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for an Airborne (Electromagnetic and Magnetometer) Survey submitted on Mining Claims P 624829 et al in the Township of Mallard.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

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: Canada Gold & Metals Inc
Mississauga, Ontario

cc: Questor Surveys Limited
Mississauga, Ontario

Canadian Gold and Metals Inc.

addended claims list to geophysical technical data statement

Township of Mallard (Porcupine Mining Division)

Claims Numbered

P-633110

P-633111

File _____

Ontario

Ministry of Natural Resources

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) Geophysical (airborne Mk VI Input)
Township or Area Mallard (Porcupine Mining Div.)
Claim Holder(s) Canadian Gold and Metals Inc.
1565 Britannia Rd. E. Mississauga
Survey Company Questor Surveys Ltd.
Author of Report Questor Surveys Ltd.
Address of Author 6380 Viscount Rd., Mississauga, Ont.
Covering Dates of Survey April 27,29, and 30, 1981
(linecutting to office)
Total Miles of Line Cut N/A

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

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

Magnetometer 20 Electromagnetic 40 Radiometric _____
(enter days per claim)

DATE: Dec. 8/1982 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 2.2595

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P-624829	P-628423
624830	628424
624831	628425
624832	628426
624833	633024
624834	633025
624835	633026
624836	633027
624837	633028
624838	633029
628411	633030
628412	633031
628413	633032
628414	633033
628415	633034
628416	633035
628417	633036
628418	633037
628419	633038
628420	633039
628421	633108
628422	633109

TOTAL CLAIMS 46

If space insufficient, attach list

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) Electromagnetic and Magnetometer

Instrument(s) Mark VI INPUT (R) ... E.M., Sonotek P.M.H. 5010 Proton Mag...Mag

(specify for each type of survey)

Accuracy E.M. 6 channels recorded, Mag sensitivity of 1 gamma

(specify for each type of survey)

Aircraft used Britten-Normen Trislander C-GNKW

Sensor altitude E.M. Bird at 150 feet

Navigation and flight path recovery method Normal S-pattern flight path recovered by comparing 35 mm film with 1" = 1320' mosaics to locate Fiducials on analogue

Aircraft altitude as close to 400 feet as possible Line Spacing one eighth of one mile

Miles flown over total area 814 line miles Over claims only 21.9

Ontario

Mining and Lands Commissioner

416/965-1824

Box 330
24th Floor
700 Bay Street
Toronto, Ontario
M5G 1Z6

REFER OUR FILE #26182-3

December 7, 1982.

Canadian Gold & Metals Inc.,
1565 Britannia Rd. East, Suite 34,
Mississauga, Ontario.

Dear Sirs:

Re: Mining Claims P-624829 et al.
Township of Mallard

Your application herein has been received.

We hand you herewith an order allowing relief from forfeiture and an extension of time until the 31st day of December, 1982 for filing a proper report of work on the claims in question.

The order should be filed, at once, with the Mining Recorder at Timmins, Ontario.

It might be pointed out that the order cannot be recorded as required by the Act until the Recorder has received the required recording fees of $10.00 for each claim.

Yours very truly,

(Mrs. J. Kinsella)
Administrative Assistant

J/jk
Encl.

c.c. Mining Recorder

Box 330
24th floor, 700 Bay Street
Toronto, Ontario
M5G 1Z6

Ontario

The Mining and Lands Commissioner

In the matter of The Mining Act

AND IN THE MATTER OF Mining Claims P-624829, 624830, 624831, 624832, 624833, 624834, 624835, 624836, 624837, 624838, 628411, 628412, 628413, 628414, 628415, 628416, 628417, 628418, 628419, 628420, 628421, 628422, 628423, 628424, 628425, 628426, 633024, 633025, 633026, 633027, 633028, 633029, 633030, 633031, 633032, 633033, 633034, 633035, 633036, 633037, 633038, 633039, 633108, 633109, 633110 and 633111, situate in the Township of Mallard, in the Porcupine Mining Division, hereinafter referred to as "the Mining Claims";

AND IN THE MATTER OF an application in respect of the Mining Claims under section 86 of the Mining Act by or on behalf of the recorded holder.

UPON THE APPLICATION of or on behalf of the holder of the Mining Claims for relief from forfeiture and an extension of time in which to comply with the requirements of the Mining Act and upon reading material filed and hearing the allegations made;

I ORDER that upon filing the order herein and paying the fee therefor, the interest of the holder in the Mining Claims be relieved from forfeiture and the time for filing a proper report of work, be and the same is hereby extended until and including the 31st day of December, 1982, subject, however, to the right of any other licensee acquired in consequence of the forfeiture.

DATED this 7th day of December, 1982.

R. L. Ferguson

MINING AND LANDS COMMISSIONER.

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	▼
ORDER-IN-COUNCIL	OC
RESERVATION	(R)
CANCELLED	⊗
SAND & GRAVEL	(S)

NOTE MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R S O 1970, CHAP 380, SEC 63, SUBSEC 1

NOTES

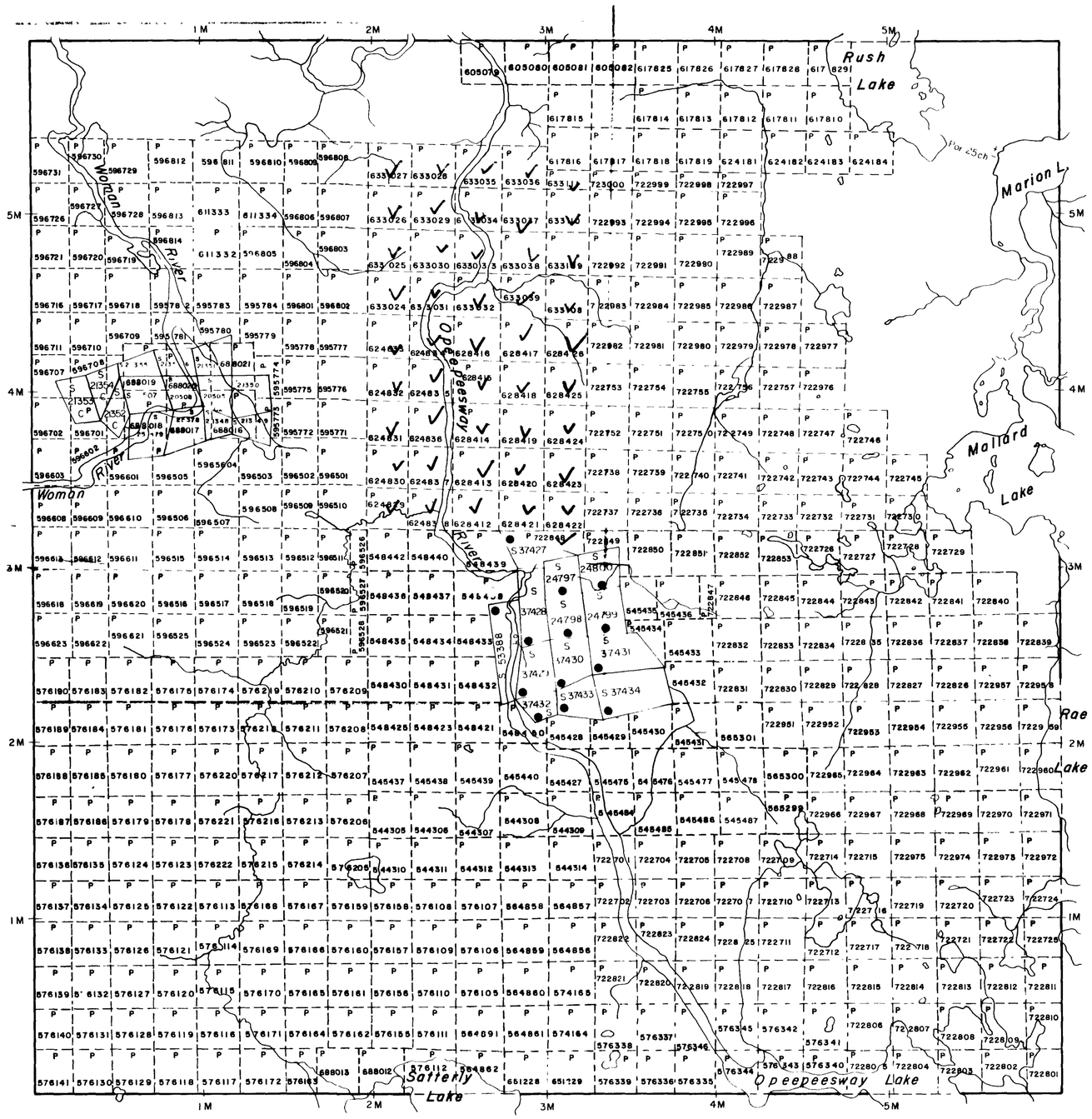
400' Surface Rights Reservation around all lakes and rivers

MARION TWP.

BENTON TWP.

ERIC TWP.

OSWAY TWP.



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 OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

ACRES	HECTARES
40	16

TOWNSHIP OF

MALLARD

DISTRICT OF

SUDBURY

MINING DIVISION

PORCUPINE

Ontario Ministry of Natural Resources — Surveys and Mapping Branch

Date 13/2/1980

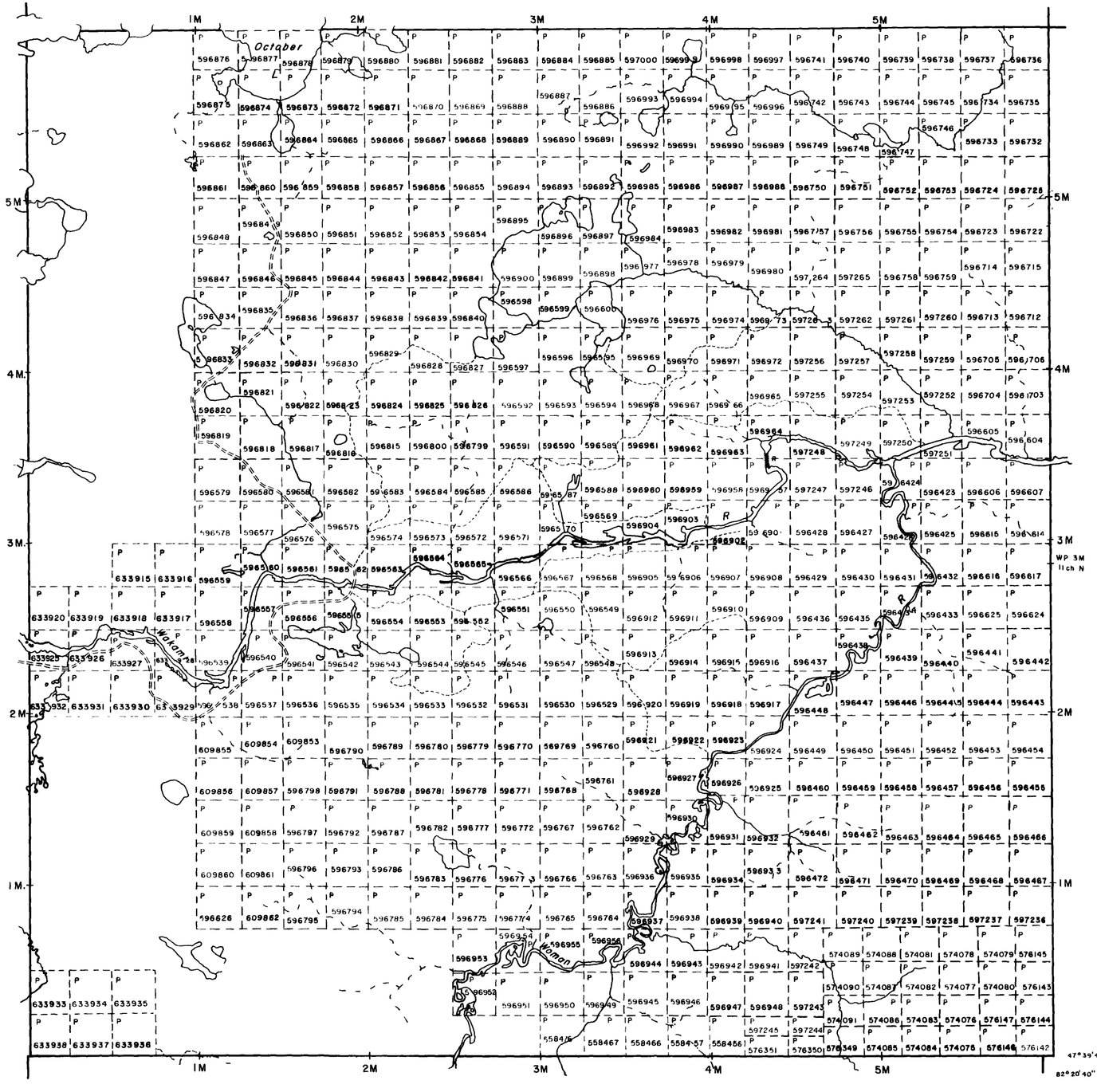
National Topographic Series

Plan No **M.849**

NOTES

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

HEENAN TP. M. 925



GARNET TP. M.829

MALLARD TP. M.849

ESTHER TP. M.793

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
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" MINING RIGHTS ONLY	◓
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◨
" MINING RIGHTS ONLY	◧
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	CS
ORDER-IN-COUNCIL	OC
RESERVATION	(R)
CANCELLED	(X)
SAND & GRAVEL	(G)

SCALE : 1 INCH 40 CHAINS

FEET 0 500 1000 2000 4000 5000 6000

METRES 0 200 400 600 800 1KM 2KM

ACRES	HECTARES
40	16

TOWNSHIP

BENTON

DISTRICT

SUDBURY

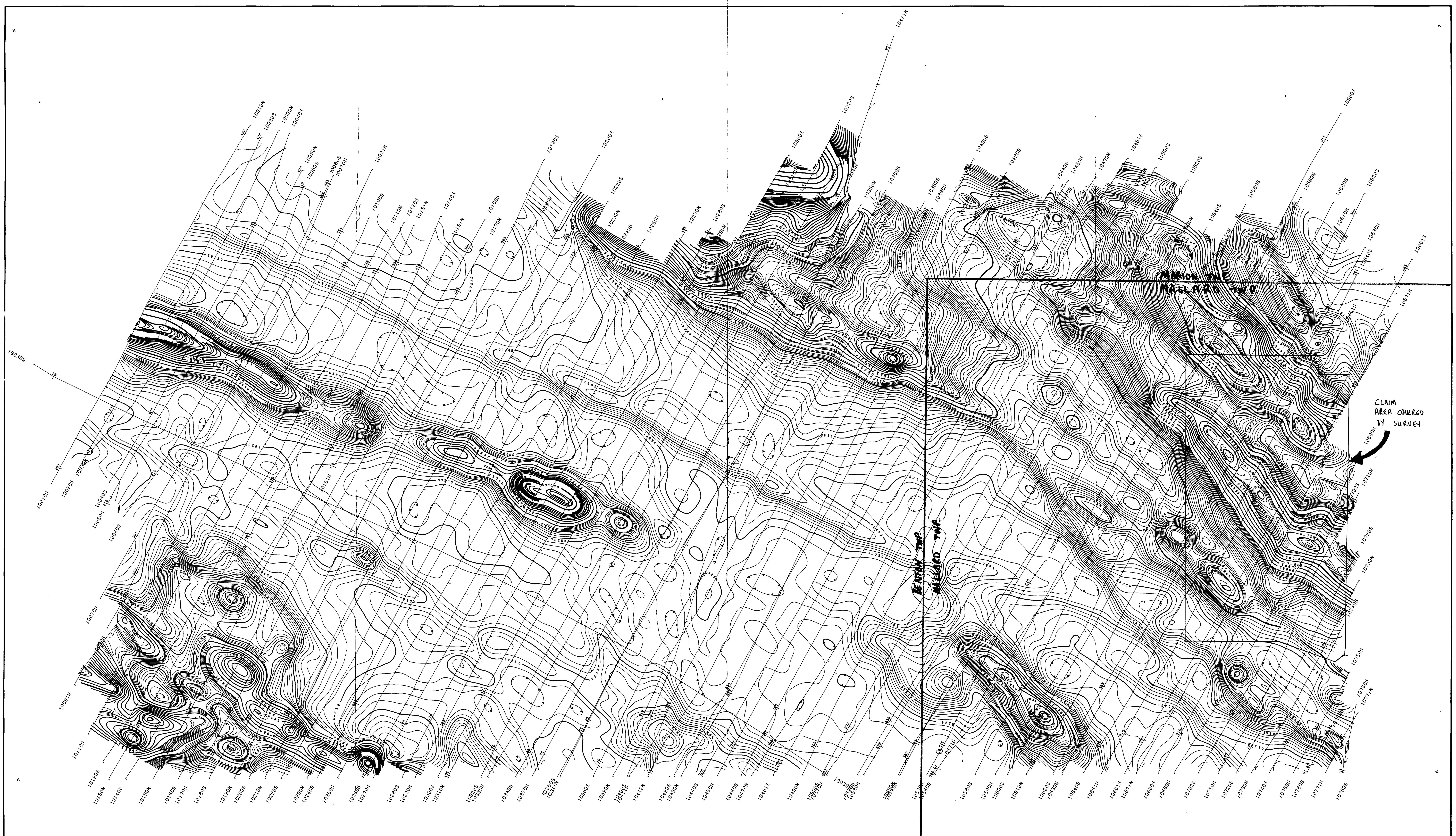
MINING DIVISION

PORCUPINE

47°39'41"
82°20'40" Approx

Ministry of Natural Resources
Ontario Surveys and Mapping Branch

Date	Plan No
April 27th, 1973	M. 659
Whitney Block Queen's Park, Toronto	



220

BENTON & ESTHER TWPS. AREA

ONTARIO

Map 1 of 3 Scale - 1" = 1320' 23006

ISOMAGNETIC INTERVAL

(TOTAL FIELD)

10	GAMMA CONTOUR LINE
50	GAMMA CONTOUR LINE
500	GAMMA CONTOUR LINE
MAGNETIC DEPRESSION	

FLIGHT ALTITUDE 400' ABOVE TERRAIN

Questor Surveys

2.5285

MARION TWP.
MALLARD TWP.

BENTON TWP.
MALLARD TWP.

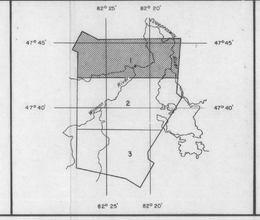
CLAIM
AREA SURVEY
BY
SURVEY

Legend

- 6 Channel Anomaly
- 5 Channel Anomaly
- 4 Channel Anomaly
- 3 Channel Anomaly
- 2 Channel Anomaly
- 1 Channel Anomaly
- Magnetic Correlation

Anomaly Letter — B, 5 — 1800 — Apparent Conductivity-Width — Ch. 2 Amplitude P.P.M.

N



QUESTOR SURVEYS LIMITED
Airborne Mk VI Input Survey

BENTON & ESTHER TWPS. AREA
ONTARIO

Questor Surveys

Scale - 1" = 1320 feet

Drawn By	Dataplotting Inc.
Dates Flown	April, 1981
Flight Path Recovery	D.M., B.D.
Data Reduction	B.M.
Completed	August, 1981
Checked	D.W.
File No.	23006
	Map 1 of 3

2.5258