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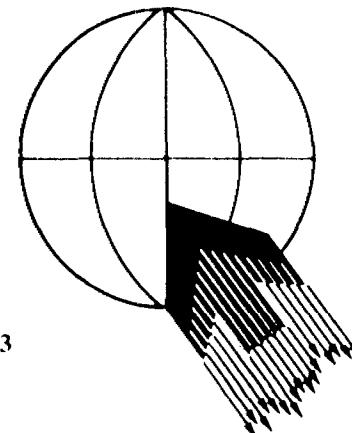
AIRBORNE ELECTROMAGNETIC SURVEY
BENTON RESOURCES INC.
OSWAY RESOURCES INC.
MALLARD RESOURCES INC.
AND
THE 4 X 4 SYNDICATE
PROJECT #23006 JULY 1981

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MINING LANDS SECTION





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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 Surveys 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 fiducial 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 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 formation zones and graphite has to be considered as a cause of these formation 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 formation 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 formation 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 JNPUT 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.

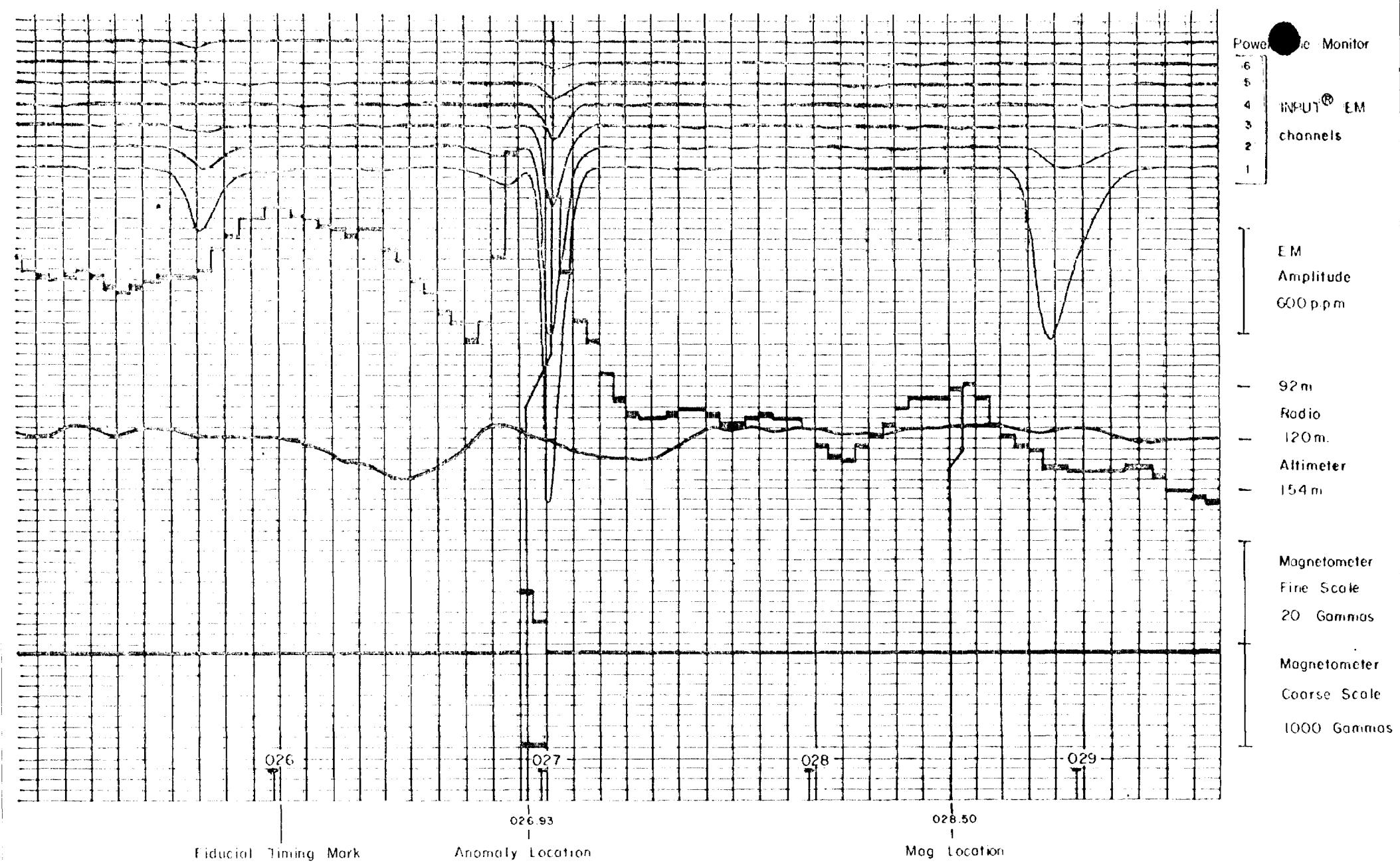
Railroad and pipeline responses are recognized by studying the film strips.

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.

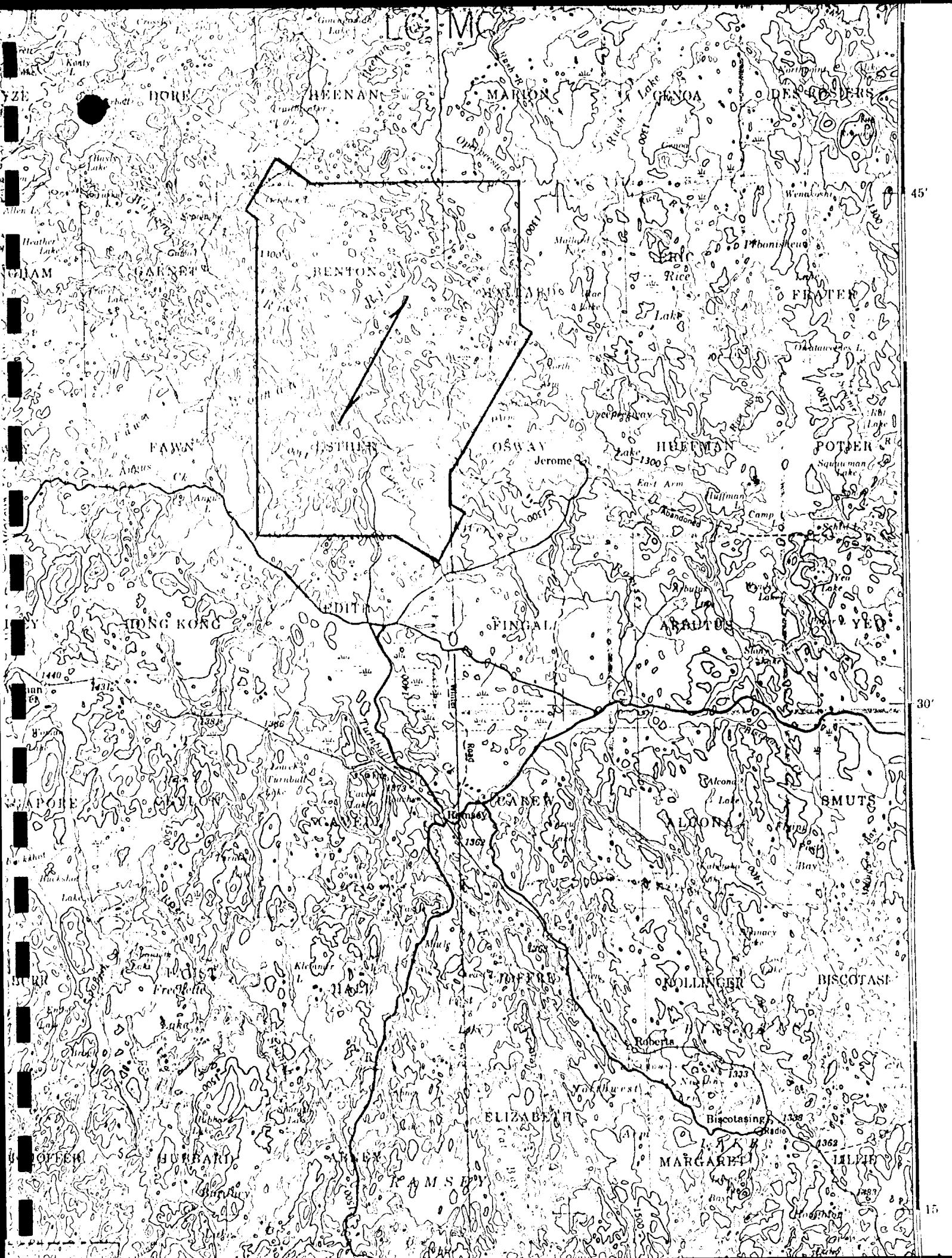
Contact zones can often be predicted when anomaly trends coincide with the lines of maximum gradient along a flanking magnetic anomaly. It is unfortunate that graphite can also occur as relatively short conductors and produce attractive looking anomalies. With no other information than the airborne results,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



FINAL MALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10010A	435.933	2		56	NC	-	
10040A	420.214	4		130	6	-	
10050A	419.646	2		33	NC	-	
10091A	348.595	3		138	16	348.60	575
10091B	349.666	2		48	NC	349.35	297
10100A	344.601	2		50	NC	344.20	619
10100B	344.795	2		59	NC	344.95	14
10100C	345.742	2		44	NC	345.70	30
10110A	336.356	4		252	3	-	
10110B	336.591	6		521	4	336.55	225
10110C	340.082	3		146	3	-	
10110D	342.040	3		65		-	
10120A	330.809	3		76		-	
10120B	331.003	3		64		331.15	62
10120C	332.825	3		130	12	333.05	25
10120D	333.843	2		33	NC	-	
10120E	336.076	6		746	12	335.95	577
10130A	322.579	4		172	4	-	
10130B	322.873	5		391	7	322.80	579
10130C	325.379	2		44	NC	-	
10130D	326.476	4		235	2	-	
10131A	327.048	2		63	NC	327.30	21
10131B	328.031	4		229	2	328.35	166
10131C	329.944	3		67		329.60	58
10140A	316.897	2		34	NC	-	
10140B	318.047	3		156	3	317.50	241
10140C	319.085	4		91	8	318.40	9
10140D	320.671	2		30	NC	-	
10140E	321.262	5		447	5	-	
10150A	310.538	2		39	NC	310.15	127
10150B	310.858	3		68		311.15	38
10150C	311.932	3		105	11	312.30	235

FINAL MALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10151A	313.092	4		115	1	313.40	273
10151B	314.232	2		30	NC	314.60	66
10160A	301.292	2		30	NC	300.85	70
10160B	302.514	4		179	4	301.95	287
10160C	303.613	4		167	7	303.15	36
10160D	305.053	2		42	NC	304.50	574
10160E	305.341	2		39	NC	305.10	227
10170A	293.395	2		31	NC	-	
10170B	293.621	2		68	NC	293.55	75
10170C	294.009	2		59	NC	294.40	531
10170D	295.547	3		87	32	295.90	50
10170E	296.759	4		234	3	297.25	159
10170F	297.802	2		50	NC	-	
10180A	286.882	3		77	68	-	
10180B	287.026	3		49	50	287.25	112
10180C	288.014	5		471	5	287.85	390
10180D	288.461	3		124	2	288.30	180
10190A	272.558	4		113	5	272.70	20
10190B	275.895	2		47	NC	275.85	126
10190C	276.179	3		76	2	-	
10190D	276.355	3		129	11	276.30	382
10190E	277.564	3		91	9	-	
10190F	278.902	2		38	NC	279.00	5
10200A	262.962	2		30	NC	263.25	52
10200B	265.298	2		34	NC	265.15	239
10200C	267.242	4		249	1	267.40	8
10200D	268.230	4		137	3	268.10	432
10200E	268.756	3		34	1	-	
10210A	255.693	2		30	NC	-	
10210B	256.041	3		57	42	-	
10210C	256.271	3		89	12	256.20	691
10210D	257.349	4		229	1	-	
10210E	259.206	2		30	NC	259.45	378
10220A	247.187	3		153	4	247.05	11
10220B	248.162	3		134	5	248.05	365
10230A	236.144	3		77	40	236.05	595
10230B	237.217	3		114	6	237.20	31
10230C	238.715	2		30	NC	238.50	10

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10240A	223.356	2		30	NC	223.30	11
10240B	224.637	3		63	12	224.40	37
10240C	225.603	3		50		225.50	559
10240D	228.596	2		30	NC	228.55	12
10240E	228.794	4		82	10	229.25	178
10250A	210.322	4		79	3	-	
10250B	210.588	3		42	1	210.55	53
10250C	213.956	2		39	NC	213.80	527
10250D	214.989	2		30	NC	214.95	46
10250E	216.492	2		30	NC	216.55	4
10250F	218.101	2		30	NC	218.40	117
10260A	198.698	2		50	NC	198.90	8
10260B	199.938	2		30	NC	199.80	48
10260C	201.197	2		30	NC	200.90	860
10260D	202.170	6		375	20	202.15	19
10260E	203.014	3		50	1	-	
10260F	204.087	6		266	21	204.05	77
10270A	187.258	2		30	NC	-	
10270B	187.989	6		208	15	187.70	27
10270C	188.119	6		467	21	188.05	74
10270D	189.202	2		36	NC	189.30	714
10270E	190.653	3		30	1	190.55	14
10270F	191.966	3		105	23	191.60	17
10280A	174.580	4		156	1	174.70	7
10280B	175.808	3		37	1	175.90	7
10280C	176.665	6		456	11	176.70	2141
10280D	176.827	4		219	1	-	
10280E	177.062	4		300	1	-	
10280F	177.895	6		672	7	177.90	89
10280G	178.016	6		894	15	-	
10290A	162.813	6		1092	10	162.80	92
10290B	163.607	2		30	NC	-	
10290C	163.913	4		320	1	-	
10290D	164.139	3		111	5	164.10	1947
10290E	164.333	3		64		-	
10290F	165.425	4		174	2	165.55	36
10290G	166.668	5		277	2	166.55	6
10290H	167.029	2		30	NC	-	
10290J	167.521	3		86	2	167.55	1186
10300A	143.399	2		30	NC	143.35	1030
10300B	147.043	3		46	1	147.05	333
10300C	147.259	3		46	1	-	
10300D	148.022	3		93	97	148.00	9

FINAL NUMBER	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10300E	148.929	3		68		148.85	29
10300F	149.168	6		375	15	149.45	80
10300G	150.273	3		50	1	150.20	180
10300H	150.485	6		981	7	150.35	174
10300J	151.162	3		75		-	
10300K	151.329	6		428	6	151.30	71
10310A	134.226	3		30	1	134.30	33
10310B	134.388	4		132	6	-	
10310C	135.173	4		195	4	-	
10310D	135.372	6		788	9	135.35	734
10310E	136.870	5		320	3	137.05	27
10310F	138.307	2		30	NC	138.40	4
10310G	139.097	2		30	NC	139.20	111
10310H	142.190	2		30	NC	142.35	72
10310J	142.646	2		30	NC	-	
10320A	113.729	6		167	14	113.80	4000
10320B	114.323	1	60		NC	-	
10320C	115.267	2		30	NC	-	
10320D	116.638	1	60		NC	116.55	7
10320E	117.834	1	86		NC	117.60	244
10320F	118.642	2		30	NC	118.10	6
10320G	118.831	2		30	NC	119.10	49
10320H	119.923	3		111	28	119.65	23
10320J	121.112	6		558	12	121.00	-417
10320K	121.518	3		30	1	-	
10330A	104.533	2		103	NC	-	
10330B	104.682	4		128	8	-	
10330C	104.957	6		435	12	104.90	381
10330D	106.338	3		88		106.50	33
10330E	107.843	3		30	1	107.85	19
10330F	108.818	5		191	17	108.85	150
10330G	111.703	3		48	1	-	
10340A	83.200	2		30	NC	83.10	149
10340B	83.493	3		147	4	-	
10340C	85.632	3		57	1	-	
10340D	85.835	3		82		85.80	16
10340E	86.866	2		30	NC	86.75	38
10340F	88.197	2		30	NC	-	
10340G	88.603	2		32	NC	88.45	14
10340H	89.361	5		229	4	89.20	180
10340J	89.686	2		42	NC	-	
10350A	73.243	2		105	NC	-	
10350B	73.622	4		127	4	73.60	120
10350C	74.475	3		37	1	74.50	22
10350D	74.922	3		65		75.00	11

FINAL	MALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
		10350E	76.467	1	107	NC	76.30	34
		10350F	77.600	4	190	2	77.45	19
		10350G	80.314	5	325	2	80.50	223
		10350H	81.045	2	30	NC	81.35	65
		10360A	50.618	2	37	NC	50.60	289
		10360B	50.857	4	118	6	-	
		10360C	53.198	2	31	NC	-	
		10360D	53.424	2	30	NC	-	
		10360E	54.311	2	30	NC	54.40	62
		10360F	55.664	3	81	39	55.80	43
		10360G	56.030	3	206	1	-	
		10360H	56.842	6	513	8	56.60	46
		10360J	57.210	2	30	NC	57.35	13
		10371A	40.537	2	98	NC	-	
		10371B	40.650	5	148	15	-	
		10371C	40.889	6	470	9	41.15	15
		10371D	41.855	3	142	1	41.95	47
		10371E	42.319	3	161	5	-	
		10371F	43.897	2	30	NC	43.50	38
		10371G	44.375	2	30	NC	44.20	12
		10371H	44.835	3	52	1	44.40	7
		10371J	47.888	4	140	3	48.05	154
		10371K	48.560	2	30	NC	48.50	35
		10380A	10.899	3	69	5	-	
		10380B	11.057	3	166	1	11.00	21
		10380C	11.445	3	57	1	11.35	154
		10380D	11.621	4	169	1	-	
		10380E	14.475	2	30	NC	-	
		10380F	14.602	4	76	18	14.85	6
		10380G	15.161	3	79	3	15.35	5
		10380H	16.118	2	30	NC	-	
		10380J	16.442	3	142	76	16.30	8
		10380K	16.894	3	120	1	16.60	45
		10380L	17.731	4	245	1	17.55	56
		10390A	902.090	2	78	NC	906.85	9
		10390B	907.605	4	175	3	907.65	53
		10390C	908.494	2	30	NC	908.70	9
		10390D	909.009	4	196	3	-	
		10390E	910.445	4	371	1	910.20	9
		10390F	910.923	2	30	NC	-	
		10390G	911.085	3	68	1	911.10	7
		10390H	914.424	4	869	1	914.60	146
		10390J	915.056	3	322	1	914.95	9
		10400A	881.376	2	39	NC	-	
		10400B	881.438	2	45	NC	881.55	92

FINAL

OMALY

	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10400C	881.976	3		120	1	882.00	365
10400D	882.152	4		314	1	-	
10400E	885.087	3		77	3	885.10	7
10400F	885.236	4		155	6	-	
10400G	885.692	3		105	1	-	
10400H	885.967	3		274	1	886.25	155
10400J	882.027	3		62	1	-	
10400K	887.217	3		130	6	887.40	15
10400L	887.763	2		30	NC	887.75	9
10400M	888.492	5		433	1	888.00	20
10400N	888.871	3		46	1	-	
10400P	889.160	2		46	NC	889.05	9
10411A	861.122	3		126	1	861.00	7
10411B	861.357	3		101	1	-	
10411C	861.795	3		129	1	-	
10411D	862.160	2		30	NC	862.25	64
10411E	862.674	2		30	NC	862.60	14
10411F	863.004	6		298	14	-	
10411G	864.420	4		163	2	-	
10411H	864.996	2		48	NC	-	
10411J	868.261	4		254	6	868.50	159
10412A	871.232	2		30	NC	-	
10412B	871.485	3		70	1	-	
10412C	871.895	3		114	1	-	
10412D	872.635	2		30	NC	-	
10412E	872.825	2		58	NC	-	
10412F	873.095	6		426	11	-	
10412G	874.386	3		226	1	-	
10412H	875.144	2		39	NC	875.15	4
10412J	875.573	4		192	2	875.60	8
10412K	878.350	4		155	9	878.35	364
10412L	878.878	3		139	1	878.80	72
10420A	829.877	2		30	NC	-	
10420B	830.166	2		30	NC	830.15	8
10420C	830.635	2		31	NC	830.55	837
10420D	834.125	2		30	NC	-	
10420E	834.441	3		56	1	834.55	45
10420F	835.434	2		53	NC	-	
10420G	835.646	3		112	7	-	
10420H	835.966	3		434	1	835.90	94
10420J	836.267	3		87	1	836.10	8
10420K	837.029	4		172	2	837.10	9
10420L	837.417	2		30	NC	-	
10420M	837.742	3		172	1	837.75	3
10430A	819.050	2		40	NC	-	
10430B	819.362	3		206	2	819.30	5
10430C	819.610	3		81	1	819.95	5

FINAL ANOMALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10430D	820.119	3		109	2	820.10	12
10430E	820.909	3		118	1	821.00	189
10430F	821.094	3		277	1	-	
10430G	821.441	4		152	5		
10430H	822.761	3		168	1	822.40	50
10440A	797.628	2		45	NC	797.75	26
10440B	798.972	3		124	12	-	
10440C	799.153	6		1005	5	799.15	177
10440D	799.342	6		577	8	-	
10440E	800.163	5		536	5	799.95	14
10440F	800.626	2		30	NC	-	
10440G	800.861	4		305	3	800.95	4
10440H	803.135	2		30	NC	803.40	14
10450A	781.809	3		201	1	-	
10450B	781.980	3		189	1	781.90	5
10450C	782.228	3		117	2	-	
10450D	782.472	5		492	5	782.55	14
10450E	783.130	6		301	23		
10450F	783.302	6		954	17	783.35	183
10450G	783.491	4		239	5	-	
10450H	785.141	3		120	1	784.80	43
10450J	789.723	2		30	NC	789.60	18
10460A	754.396	2		56	NC	754.30	12
10460B	758.527	2		63	NC	758.60	129
10460C	760.064	2		91	NC	760.00	147
10460D	760.231	5		375	5	-	
10460E	760.993	6		963	12	760.75	6
10460F	761.097	6		910	7		
10460G	761.688	3		128	1	761.90	8
10470A	742.306	2		40	NC	742.25	8
10470B	742.707	3		206	1	-	
10470C	743.213	6		1021	12		
10470D	743.362	6		518	11	743.45	8
10470E	744.205	4		225	6	744.25	108
10470F	745.995	2		75	NC	745.60	116
10470G	750.356	4		240	1	750.55	99
10481A	715.595	3		86	1	715.45	75
10481B	715.816	4		398	1	715.75	4
10481C	720.064	3		46	14	720.20	90
10481D	721.452	2		36	NC	721.45	10
10481E	721.831	3		180	1	721.75	87
10481F	722.332	3		36	1	722.30	12
10481G	722.626	6		596	15	-	
10481H	723.194	3		130	1	-	

FINAL OMALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10490A	701.371	2		64	NC	-	
10490B	701.714	2		85	NC	-	
10490C	701.984	3		204	3	-	
10490D	702.124	4		289	4	702.10	81
10490E	702.305	5		376	11	-	
10490F	702.792	2		51	NC	-	
10490G	702.972	4		173	14	702.90	153
10490H	704.715	4		239	2	704.35	160
10490J	705.045	3		92	32	-	
10490K	705.984	2		30	NC	706.25	102
10490L	709.344	5		1014	1	709.25	10
10500A	673.759	2		30	NC	-	
10500B	674.409	3		59	1	674.15	96
10500C	678.403	4		147	10	-	
10500D	678.557	2		72	NC	-	
10500E	678.737	3		91	1	678.85	69
10500F	680.303	3		66	7	680.10	103
10500G	680.578	2		47	NC	680.55	9
10500H	680.912	3		200	1	-	
10500J	681.034	4		166	10	-	
10500K	681.313	4		203	5	-	
10500L	682.094	2		44	NC	682.10	7
10510A	661.651	2		37	NC	-	
10510B	661.993	2		75	NC	-	
10510C	662.255	3		196	1	-	
10510D	662.697	3		137	1	-	
10510E	663.365	2		59	NC	-	
10510F	664.893	3		75	7	664.55	61
10510G	665.254	4		125	20	665.15	5
10510H	669.317	2		30	NC	-	
10510J	669.560	2		30	NC	669.50	112
10520A	634.492	2		30	NC	634.45	86
10520B	634.759	2		33	NC	-	
10520C	638.686	4		186	1	-	
10520D	639.262	2		42	NC	639.15	21
10520E	640.408	3		108	9	640.55	156
10520F	641.107	6		508	12	641.00	10
10520G	641.577	6		427	19	-	
10520H	642.447	2		36	NC	-	
10520J	646.121	2		30	NC	646.30	125
10530A	613.129	2		32	NC	613.15	99
10530B	622.470	3		79	-	-	
10530C	622.727	5		354	22	622.80	10
10530D	623.011	3		129	3	-	
10530E	623.196	4		439	2	-	
10530F	623.706	2		51	NC	623.50	89
10530G	623.927	4		241	3	-	

FINAL ANOMALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10530H	625.186	2		30	NC	625.05	31
10530J	625.416	2		42	NC	-	
10530K	625.752	4		198	2	-	
10530L	629.856	2		30	NC	629.80	119
10530M	630.050	2		30	NC	-	
10540A	595.703	2		50	NC	595.55	52
10540B	599.667	2		35	NC	-	
10540C	600.019	2		35	NC	600.10	41
10540D	601.111	5		532	5	601.15	114
10540E	602.260	6		785	6	602.20	11
10540F	603.058	2		30	NC	602.95	23
10550A	581.016	2		31	NC	581.10	6
10550B	582.920	2		30	NC	582.75	23
10550C	583.525	4		200	6	-	
10550D	583.755	4		350	4	583.75	7
10550E	584.786	3		144	2	584.75	116
10550F	584.958	4		309	3	-	
10550G	586.158	2		30	NC	585.95	11
10550H	590.830	2		30	NC	590.90	17
10560A	556.333	2		30	NC	556.35	51
10560B	556.576	3		192	1	-	
10560C	557.901	2		30	NC	557.75	15
10560D	561.025	2		33	NC	560.90	14
10560E	562.009	2		30	NC	561.95	253
10560F	563.168	4		130	4	-	
10560G	563.979	2		30	NC	564.30	64
10570A	541.675	3		83	2	542.15	82
10570B	544.152	2		30	NC	543.75	21
10571A	550.638	3		186	1	550.70	46
10580A	514.887	3		125	1	514.70	83
10580B	518.306	2		30	NC	-	
10580C	518.770	2		30	NC	-	
10580D	518.906	3		110	1	518.95	45
10580E	520.706	4		147	9	-	
10580F	520.873	5		416	7	-	
10580G	521.570	2		41	NC	-	
10580H	521.823	2		47	NC	522.15	174
10580J	528.915	2		30	NC	529.05	12
10590A	415.691	2		30	NC	-	
10590B	415.994	2		30	NC	416.00	106
10590C	425.104	3		78	7	-	

FINAL NAME	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10590D	425.276	3		66	1	425.25	5
10590E	425.799	3		153	1	425.70	19
10590F	426.002	4		250	3	-	
10590G	426.246	3		97	3	-	
10590H	427.513	2		30	NC	-	
10590J	428.186	3		116	1	427.95	46
10590K	432.572	2		59	NC	432.65	74
10600A	399.905	1	63		NC	400.05	24
10600B	401.159	2		31	NC	401.30	2
10600C	403.761	4		216	4	403.80	82
10600D	405.380	6		413	2B	-	
10600E	405.791	2		56	NC	-	
10600F	406.579	3		84	1	406.80	151
10610A	385.620	2		69	NC	385.70	22
10610B	385.783	4		109	18	-	
10610C	386.667	3		109	5	-	
10610D	386.888	5		356	10	387.20	270
10610E	388.623	6		669	9	388.35	81
10620A	365.089	3		147	2	-	
10620B	365.297	5		413	10	365.35	39
10620C	366.407	3		75	3	366.35	131
10620D	366.682	5		234	12	-	
10620E	367.724	1	63		NC	367.85	22
10630A	348.129	2		47	NC	-	
10630B	348.391	3		88	11	-	
10630C	348.657	6		400	20	348.55	34
10630D	349.131	1	60		NC	-	
10630E	349.541	1	100		NC	349.50	6
10630F	349.992	6		450	13	349.80	31
10640A	327.641	3		103	1	-	
10640B	327.894	5		300	7	327.90	25
10640C	328.945	4		206	10	-	
10640D	329.121	5		372	14	329.05	82
10640E	329.383	2		34	NC	-	
10651A	312.143	2		109	NC	-	
10651B	312.324	3		209	3	-	
10651C	312.531	6		344	15	312.70	67
10651D	313.343	2		31	NC	313.60	31
10651E	313.862	5		278	11	-	
10661A	291.826	3		97	2	-	
10661B	292.074	4		334	2	292.15	31

FINAL MALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10661C	293.216	4		222	3		
10661D	293.351	4		203	10	293.30	13
10671A	241.379	2		103	NC	241.20	5
10671B	241.619	3		163	1	241.60	5
10671C	241.970	2		47	NC	241.95	34
10671D	243.392	5		456	5	243.15	48
10680A	218.086	3		131	7	-	
10680B	218.289	5		350	11	218.35	40
10680C	219.584	3		78	2	219.40	27
10680D	219.796	6		813	12	-	
10690A	198.569	2		56	NC	198.50	210
10690B	205.292	5		350	16	-	
10690C	205.477	5		488	14	205.45	6
10690D	207.142	5		272	16	-	
10702A	184.713	3		44	26	184.45	28
10702B	186.274	3		181	3	-	
10702C	186.554	2		59	NC	186.70	7
10702D	187.594	3		88	9	187.45	84
10710A	158.610	2		47	NC	158.50	228
10710B	164.103	3		56	22	164.10	90
10710C	165.283	3		116	7	-	
10710D	165.595	4		147	10	166.00	81
10710E	168.006	2		53	NC	168.30	54
10720A	145.104	3		88	7	145.25	16
10720B	147.365	5		369	12	147.30	6
10720C	148.470	5		400	10	148.10	145
10730A	127.041	2		66	NC	126.95	187
10730B	132.688	3		103	4	132.65	399
10730C	136.255	2		75	NC	136.15	44
10730D	136.471	2		91	NC	136.80	108
10730E	137.270	2		100	NC	137.20	11
10740A	113.084	3		78	63	-	
10740B	113.368	2		75	NC	113.50	18
10750A	96.881	2		66	NC	96.80	226
10750B	104.788	2		50	NC	104.80	7
10750C	106.466	3		109	7	106.55	81
10750D	106.710	3		94	8	-	

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10750E	106,931	4		184	17	-	
10760A	83,173	2		88	NC	83.25	12
10760B	83,340	4		325	4	-	
10760C	83,547	3		44	1	83.55	61
10760D	83,764	5		213	19	-	
10760E	84,246	3		78	16	84.55	12
10760F	87,534	2		53	NC	87.35	552
10760G	92,493	2		63	NC	92.30	202
10771A	68,815	2		75	NC	68.75	185
10771B	70,055	2		56	NC	69.80	15
10771C	74,001	2		59	NC	74.15	587
10771D	75,371	1	106		NC	75.25	21
10771E	76,625	2		41	NC	76.50	11
10771F	78,157	3		103	9	78.05	14
10771G	78,401	5		338	13	78.40	80
10771H	78,866	4		331	2	-	
10780A	52,851	2		72	NC	-	
10780B	53,149	5		344	10	53.05	84
10780C	56,815	2		75	NC	-	
10780D	56,995	3		125	6	57.00	461
10780E	60,846	2		47	NC	60.85	30
10780F	61,848	2		50	NC	61.75	208
10790A	129,176	2		30	NC	129.00	198
10790B	130,132	2		30	NC	130.25	12
10790C	133,970	5		201	45	134.05	938
10790D	137,888	3		103	3	-	
10790E	138,069	5		291	7	138.05	84
10800A	115,873	2		30	NC	115.95	102
10800B	118,533	2		30	NC	118.45	13
10800C	120,009	5		139	20	120.05	665
10800D	125,419	2		30	NC	125.30	141
10810A	102,562	2		40	NC	102.45	150
10820A	94,166	2		30	NC	-	
10830A	81,393	3		48	1	-	
10830B	81,538	5		151	16	81.70	40
10830C	81,921	3		48	2	82.10	77
10870A	55,321	2		31	NC	55.45	91

FINAL ANALY	FID	CHS	CH1,AMP	CH2,AMP	SIEMENS	MAG	VALUE
10890A	45.222	3		75	8	45.20	288
10903A	35.337	6		185	49	35.35	314
10903B	37.963	2		45	NC	-	-
10903C	38.112	3		73	58	38.05	385
19030A	15.348	2		75	NC	-	-
19030B	15.678	2		53	NC	15.65	71
19030C	16.305	4		156	13	16.00	12
19030D	16.643	3		122	1	-	-
19030E	17.057	2		63	NC	17.00	5
19030F	17.580	2		75	NC	17.55	19
19030G	18.775	2		88	NC	18.95	10
19030H	19.366	2		88	NC	19.40	17
19030J	20.560	2		103	NC	20.35	18
19030K	20.966	3		97	4	-	-
19030L	22.816	3		84	9	-	-
19030M	23.087	2		47	NC	23.00	11
19030N	23.640	2		44	NC	23.60	8
10720B	147.20	2		50	NC	-	-
10720D	148.27	2		30	NC	-	-



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2.4261

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

Dear Sir:

RE: Airborne Geophysical (Electromagnetic & Magnetometer)
Survey on Mining Claims P 576319 et al in the Townships
of Esther, Osway, Mallard, and Benton.

The Airborne Geophysical (Electromagnetic & Magnetometer) Survey
assessment work credits as listed with my Notice of Intent dated
August 9, 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

D. Kinvig:sc

cc: Canadian Gold & Metals Inc
Timmis, Ontario
Attn: Mrs. Mary Charbonneau.

cc: Questor Services Limited
Mississauga, Ontario

cc: Resident Geologist
Timmis, Ontario



Ministry of
Natural
Resources

Aug 30, 1983

Your file:

1983 08 09

Our file: 2.4261

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

D. Kinzig:sc

cc: Canadian Gold & Metals Inc
3 Pine Street South
Suite 204
Timmins, Ont Attn: Mrs. Mary Charbonneau.

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

cc: Questor Services Limited
6380 Viscount Road
Mississauga, Ont
L4V 1H3
Encls:



Ministry of
Natural
Resources
Ontario

Notice of Intent
for Technical Reports

1983 08 09

2.4261

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

Technical Assessment
Work Credits

File

2.4261

Mining Recorder's Report of
Work No. 389

Date
1983 08 09

Recorded Holder

TROUTILY RESOURCES INC

Township or Area

MALLARD & MARION

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ 40 days	P 605059 to 64 incl 605067 to 71 incl 605073 605079 to 86 incl
Magnetometer _____ 20 days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/>	Airborne <input checked="" type="checkbox"/>
Special provision <input type="checkbox"/>	Ground <input type="checkbox"/>
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> 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

P 605065-66
605072

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77 (19) — 60;



Ministry of
Natural
Resources

Mallard & Marion Twp.
Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

#389

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

The Mining Act

Type of Survey(s)

AIRBORNE ELECTROMAGNETIC SURVEY

Township or Area

Mallard & Marion

Claim Holder(s)

Troutly Resources Inc.

Prospector's Licence No.

T-1151

Survey Company

Questor Surveys Limited

Survey Dates (line cutting to office)

27	04	81	30	04	81
Day	Mo.	Yr.	Day	Mo.	Yr.

Total Miles of Line Cut

Name and Address of Author (of Geo-Technical report)

D. Watson, 6380 Viscount Rd., Mississauga, Ontario

Special Provisions Credits Requested

Instructions	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	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P-	605059				
	605060				
	605061				
	605062				
	605063				
	605064				
	605065 ←				
	605066 ←				
	605067				
	605068				
	605069				
	605070				
	605071				
	605072 ←				
	605073				
	605079				
	605080				
	605081				
	605082				
	605083				
	605084				
	605085				
	605086				

*Sale revised
with statement*

RECEIVED
OCT 2 2 1981
MINING LANDS SECTION

Man Days

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.	Geophysical	Days per Claim
	Electromagnetic (E.M.)	40
	Magnetometer (Mag.)	20
	Radionometric	

Expenditures (excludes power, pumping, diving, etc.)

Type of Work Performed	RECEIVED
Performed on Claim(s)	SEP 16 1981
	AM 7 8 9 10 11 12 1 2 3 4 5 6

Calculation of Expenditure Days Credits

Total Expenditures	\$	RECORDED	Total Days Credits

Instructions

Total Days Credits may be apportioned by claim holder's choice. Enter number of days credits per claim selected in columns at right.

Receipt No.

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

23

Report Completed

Date of Report *Sept 16 1981* Recorded Holder or Agent (Signature) *Cecil D. Boissonault*

For Office Use Only		
Total Days Cr. Recorded	Date Recorded	<i>Sept 30/81</i>
1380	Date Approved as Recorded	<i>Aug 30/81</i>

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

John Boissonault

3 Pine Street, S., Suite 204, Timmins

Date Certified Sept. 14/81

Certified by (Signature) *J. Boissonault*

Continued...

Canadian Gold & Metals Inc.
Mallard Township & Benton Township

P- 596707	P - 595771	P- 596604.
596708	595772	596605
596709	595773	596606
596710	595774	596607
596711	595775	596614
596716	595776	596615
596717	595777	596616
596718	595778	596617
596719	595779	596624
596720	595780	596625
596721	595781	
596726	595782	596703
596727	595783	596704
596728	595784	596705
596729		596706
596730		
596731		596712
596801		596713
596802		596714
596803		596715
596804		
596805		596722
596806		596723
596807		596724
596808		596725
596809		
596810		596732
596811		596733
596812		
596813		
596814		
611332		
611333		
611334		

(cont'd.)

Esther, Osway, Mallard

P-530556

530557

530558

530559

530560

530807

530808

584513

584514



Ministry of
Natural
Resources

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

Osway & Cother Imp.

P-576228

Instructions: — Please type or print.

- If number of mining claims traversed exceeds space on this form, attach a list.

Note: — Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
— Do not use shaded areas below.

— Do not use shaded areas below.

Type of Survey(s) Airborne Electromagnetic Survey	Township or Area Osway, Esther	
Claim Holder(s) Canadian Gold & Metals	Prospector's Licence No. T-932	
Survey Company Questor Surveys Limited	Survey Dates (linecutting to office) 27 04 81 30 04 81 Day Mo. Yr. Day Mo. Yr.	Total Miles of Line Cut
Name and Address of Author (of Geo-Technical report) D. Watson 6380 Viscount Rd. Mississauga Ontario		

Special Provisions Credits Requested

Mining Claims Traversed (List in numerical sequence)

Instructions	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

Instructions	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.	<u>Meteorological</u>	Days per Claim
	<u>Electromagnetic F.M.</u>	40
	<u>Magnetometer Mag</u>	20
	<u>Radiometric</u>	

Expenditures (excludes power stripping)

Expenditures (excludes power stripping)	
Type of Work Performed	PORCUPINE MINING DIVISION
Performed on Claim(s)	R E C E I V E D
	SEP 16 1981
Calculation of Expenditure	AM PM 7 8 9 10 11 12 1 2 3 4 5 6
Total Expenditures	Days Credits
\$	15
Instructions	R E C O R D E D
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits for each selected in columns at right.	SEP 16 1981

For Office Use Only		claims covered by this report of work.	14
Total Days Cr. Recorded	Date Recorded	Timing Recorder	
840	<u>Sept 20/81</u>	<u>Tremblay</u>	
Date Approved as Recorded		Regional Branch Director	
<u>Aug 5/83</u>		<u>H. Gaudet</u>	

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

John Boissoeault

3 Pine Street S., Suite 204, Timmins

Date Certified

[Signature]

1362 (81/2)

Benton Hwy.

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

~~H 425~~

The Mining Act

~~2.4261~~

- P-596403
- Instructions:** Please type or print.
Note: 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.

Type of Survey(s)	Airborne Electromagnetic Survey	Township or Area	BENTON
Claim Holder(s)	Canadian Gold & Metals Inc.	Prospector's Licence No.	T-932
Survey Company	Questor Surveys Limited	Survey Dates (line cutting to office)	
Name and Address of Author (of Geo-Technical report)	Mr. D. Watson, 6380 Viscount Rd., Mississauga, Ontario	27 Day	04 Day
		81	30 Day
		81	81

Special Provisions Credits Requested

Instructions	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

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.	Days per Claim
Electromagnetic EM	40
Magnetometer Mag	20
Radiometric	

Expenditures (excluding power stripping)		
Type of Work Performed	48	URQUHART MINING DIVISION
Performed on Claim(s)	3	RECEIVED
OCT 2 1981	10	SEP 26 1981
Calculation of Expenditures Days Credits	18900	12123450
Total Expenditures	\$	Days Credits
	+ 15	=

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.

Report Completed	Recorded Holder or Agent (Signature)
Sept. 26/81	<i>[Signature]</i>

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
John Boissonneault 3 Pine Street S., Suite 204, Timmins

Mining Claims Traversed (List in numerical sequence)	
Prefix	Mining Claim Number
P	596423
	596424
	596425
	596426
	596427
	596428
	596429
	596430
	596431
	596432
	596433
	596434
	596435
	596436
	596437
	596438
	596439
	596440
	596441
	596442
	596443
	596444
	596445
	596446
	596447
	596472 (cont'd)

For Office Use Only	
Total Days Cr. Recorded	Date Recorded
24, 960	Oct 14/81
Date Approved as Recorded	
Aug 5/83	
Regional Branch Director	
<i>[Signature]</i>	

Canadian Gold & Metals (Benton Township)

P - 596529	P - 596564	P - 596598	P - 596734	P - 596769
596530	596565	596599	596735	596770
596531	596565	596600	596737	596771
596532	596566		596738	596772
596533	596567		596739	596773
596534	596568		596740	596774
596535	596569		596741	596775
596536	596570		596742	596776
596537	596571		596743	596777
596538	596572		596744	596778
596539	596573		596745	596779
596540	596574		596746	596780
596541	596575		596746	596781
596542	596576		596747	596782
596543	596577		596748	596783
596544	596578		596749	596784
596545	596579		596750	596785
596546	596580		596751	596786
596547	596581		596752	596787
596548	596582		596753	596788
596549	596583		596754	596789
596550	596584		596755	596790
596551	596585		596756	596791
596552	596586		596757	596792
596553	596587		596758	596793
596554	596588		596759	596794
596555	596589		596760	596795
596556	596590		596761	596796
596557	596591		596762	596797
596558	596592		596763	596798
596559	596593		596764	596799
596560	596594		596765	596800
596561	596595		596766	
596562	596596		596767	596815
596563	596597		596768	596816

cont'd. . .

596817	P -	596857	P -	596896	P -	596935	P -	596974	P -	597257
596818		596858		596897		596936		596975		597258
596819		596859		596898		596937		596976		597259
596820		596860		596899		596938		596977		597260
596821		596861		596900		596939		596978		597261
596822		596862		596901		596940		596979		597262
596823		596863		596902		596941		596980		597263
596824		596864		596903		596942		596981		597264
596825		596865		596904		596943		596982		597265
596826		596866		596905		596944		596983		
596827		596867		596906		596945		596984		609853
596828		596868		596907		596946		596985		609854
596829		596869		596908		596947		596986		609855
596831		596870		596909		596948		596987		609856
596832		596871		596910		596949		596988		609857
596833		596872		596911		596950		596989		609858
596834		596873		596912		596951		596990		609859
596835		596874		596913		596952		596991		609860
596836		596875		596914		596953		596992		609861
596837		596876		596915		596954		596993		609862
596838		596877		596916		596955		596994		597236
596839		596878		596917		596956		596995		597236
596840		596879		596918		596957		596996		597237
596841		596880		596919		596958		596997		597238
596842		596881		596920		596959		596998		597239
596843		596882		596921		596960		596999		597240
596844		596883		596922		596961		597000		597241
596845		596884		596923		596962				597242
596846		596885		596924		596963		597246		597243
596847		596886		596925		596964		597247		597244
596848		596887		596926		596965		597248		597245
596849		596888		596927		596966		597249		
596850		596889		596928		596967		597250		
596851		596890		596929		596968		597251		
596852		596891		596930		596969		597252		
596853		596892		596931		596970		597253		
596854		596893		596932		596971		597254		
596855		596894		596933		596972		597255		
596856		596895		596934		596973		597256		



Ministry of
Natural
Resources

Mallard Twp.
Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

P-564862

#378

The Mining Act 2.4261

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

Type of Survey(s)

Airborne Electromagnetic Survey

Claim Holder(s)
Ronald Ross Blusson

Township or Area

Mallard

Prospector's Licence No.
M-20604

Survey Company

Questor Surveys Limited

Survey Dates (linecutting to office)

27 Day 04 Mo. 81 30 Day 04 Mo. 81

Total Miles of line Cut

Name and Address of Author (of Geo-Technical report)

D. Watson, 6380 Viscount Rd., Mississauga, Ontario

Special Provisions Credits Requested

Instructions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Number	Expend. Days Cr.	Mining Claim Prefix	Number	Expend. Days Cr.
P			P	576119	
				576120	
				576121	
				576122	
				576123	
				576124	
				576125	
				576126	
				576127	
				576128	
				576129	
				576130	
				576131	
				576132	
				576133	
				576134	
				576135	
				576136	
				576137	
				576138	
				576155	
				576156	
				576157	
				Cont'd/see list att'd	

Man Days

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic (E.M.)	Days per Claim
		40
	Magnetometer (MAC)	20
	Radiometric	

Expenditures (excludes power strippling)

Type of Work Performed	RECEIVED
Performed on Claim(s)	SEP 16 1981
	AM 7.30 10.11.12.1.2.3.4.5.6 PM

Calculation of Expenditure-Days Credits

Total Expenditures	Days Credits
\$ + 15 =	

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.

Report Completed

Date of Report: Sept. 16/81 Recorded Holder or Agent (Signature): Joe Deschler

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

90

For Office Use Only	
Total Days Cr. Recorded	Date Recorded
54.00	Sept 21/81

Mining Recorder

Regional/Branch Director

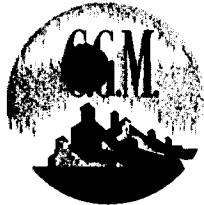
Certification Verifying Report of Work

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.	RECORDED
--	----------

Name and Postal Address of Person Certifying	SEP 21 1981	Date Certified	Certified by (Signature)
John Boissoeault		Sept. 14/81	J. Boissoeault
3 Pine Street S., Suite 204, Timmins, Ont.			

Ron Ross Blusson/Mallard Township

P - 576158	P - 576205
576159	576206
576160	576207
576161	576208
576162	576209
576163	576210
576164	576211
576165	576212
576166	576213
576167	576214
576168	576215
576169	576216
576170	576217
576171	576218
576172	576219
576173	576220
576174	576221
576175	576222
576176	
576177	576139 } <i>Recess and this place</i>
576178	576140 } <i>Class in</i>
576179	576141 }
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576184	
576185	
576186	
576187	
576188	
576189	
576190	



CANADIAN GOLD & METALS INC.
EXPLORATION OFFICE:
3 Pine Street South, Suite 204,
Timmins, Ontario P4N 2T9
Phone: (705) 267-7105

*Certificate
to be applied
may also involve
File # 2.3559*

January 26th, 1981

RECEIVED

FEB 2 1982

Mr. Fred Matthews,
Mining Lands Section,
Room 6450,
Whitney Block, Queen's Park,
Toronto, Ontario
M7A 1W3

Dear Sir:

townships ^F w
under surve

Ge
Da

Qu
Da

Qu
Da

*G. Leleever told in person
on Jan 28/83 that maps
missing - He will provide
new ones by week of Feb 7th.
- if not, call him & remind
him!*

F.

... duly, 1981

Your reference files for some of these claims are:

2.4261

2.3559

Please advise if the claims involved qualify for
an airborne certificate. Thank you.

Yours truly,

CANADIAN GOLD & METALS INC.

M Charbonneau
Mary Charbonneau

/mc
Attach.

c.c. S. Guest

L.D.

BENTON TOWNSHIPRECORDING DATE

P-633915 - 633920 Dec. 30/81

P-633925 - 633938 Dec. 30/81

ESTHER TOWNSHIP

P-633939 - 633956 Dec. 30/81

GARNET TOWNSHIP

P-633921 - 633924 Dec. 30/81

GROVES TOWNSHIP

P-624701 - 624702 Sept. 17/81

P-624951 - 624980 Sept. 17/81

HUFFMAN TOWNSHIP

P-624801 - 624828 Sept. 17/81

MALLARD TOWNSHIP

P-624518 - 624537 Oct. 19/81

P-624670 - 624676 Oct. 19/81

P-624839 - 624850 Oct. 19/81

P-628384 - 628411 Oct. 19/81

P-628711 - 628750 Oct. 19/81

P-624829 - 624838 Nov. 6/81

P-628412 - 628433 Nov. 6/81

P-633024 - 633039 Nov. 6/81

P-633078 - 633105 Nov. 6/81

P-633108 - 633129 Nov. 6/81

<u>OSWAY TOWNSHIP</u>	<u>RECORDED DATE</u>
P-591001 - 591020	Aug. 27/81
P-591058	Aug. 27/81
P-591372 - 591374	Aug. 26/81
P-619195 - 619200	Aug. 27/81
P-619481 - 619490	Aug. 26/81
P-622501 - 622514	Aug. 27/81
P-622692 - 622711	Aug. 27/81
P-624310 - 624334	Aug. 27/81
P-633957 - 633962	Dec. 30/81

ST. LOUIS TOWNSHIP

P-622380 - 622394	Sept. 17/81
P-624643 - 624669	Sept. 17/81
P-624704 - 624748	Sept. 17/81

YEO TOWNSHIP

P-624179 - 624180	Aug. 28/81
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1982 04 28

2.4261

Mrs. Mary Charbonneau
c/o Canadian Gold & Metals Inc.
3 Pine Street South
Suite 204
Timmins, Ontario
P4N 2T9

Dear Madam:

Re: Airborne Geophysical (Electromagnetic and Magnetometer)
Survey submitted on Mining Claims P.576319 et al, in
the Townships of Esther, Osway, Mallard and Benton

As per our telephone conversation this morning, I am
returning one set of maps for the above-mentioned survey.
In order to complete your submission, the following
information is needed.

- 1) The north direction indicated on all maps.
- 2) The outside boundaries of the claim group shown with
the claim numbers in the corner claims.
- 3) Maps returned to this office in duplicate.
- 4) The numbers of miles flown over the claims only.

For further information, 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

A. Barr/amc

cc: Mining Recorder
Timmins, Ontario

Encl.



Mining Lands Comments

- need north directions - L.D.
- need outside boundary lines of claim groups.
- need 40 miles flown over claims only.
- anything else

 To: GeophysicsMr. Bailew.

Comments

antennae on a mdc map missing

 Approved Wish to see again with corrections

Date

Feb 22/82

Signature

Ryan Blair To: Geology - Expenditures

Comments

 Approved Wish to see again with corrections

Date

Signature

 To: Geochemistry

Comments

L.D. Approved Wish to see again with corrections

Date

Signature

 To: Mining Lands Section, Room 6462, Whitney Block.

(Tel: 5-1380)

1981 11 10

2.4261

Mining Recorder's Office
Ministry of Natural Resources
199 Larch Street
Sudbury, Ontario
P3E 5P9

Dear Sir;

We have reports and maps for an Airborne Geophysical (Electromagnetic and Magnetometer) survey submitted on mining claims P 576319 et al in the Townships of Esther, Osway, Mallard, & Benton.

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

J. Skura

cc: Canadian Gold & Metals Inc.,
Timmins, Ontario



CANADIAN GOLD & METALS INC.
EXPLORATION OFFICE:
3 Pine Street South, Suite 204,
Timmins, Ontario P4N 2T9
Phone: (705) 267-7105

November 4, 1981

Mr. Fred Matthews
Mining Lands Section
Room 6450
Whitney Block, Queen's Park
Toronto, Ontario
M7A 1W3

Dear Sir:

RE: GEOPHYSICAL REPORTS

Please find enclosed duplicate copies of the Airborne Electromagnetic Survey (Benton, Osway, Mallard 4X4 Syndicate Resources Inc.).

Also, Mr. David Watson informed me that his resume showing his qualifications is already on file in your office.

Thank you.

Yours very truly,

Cec Boucher

Cec Boucher
Clerk

/cab

RECEIVED

NOV 10 1981

MINING LANDS SECTION

For [unclear] D [unclear]

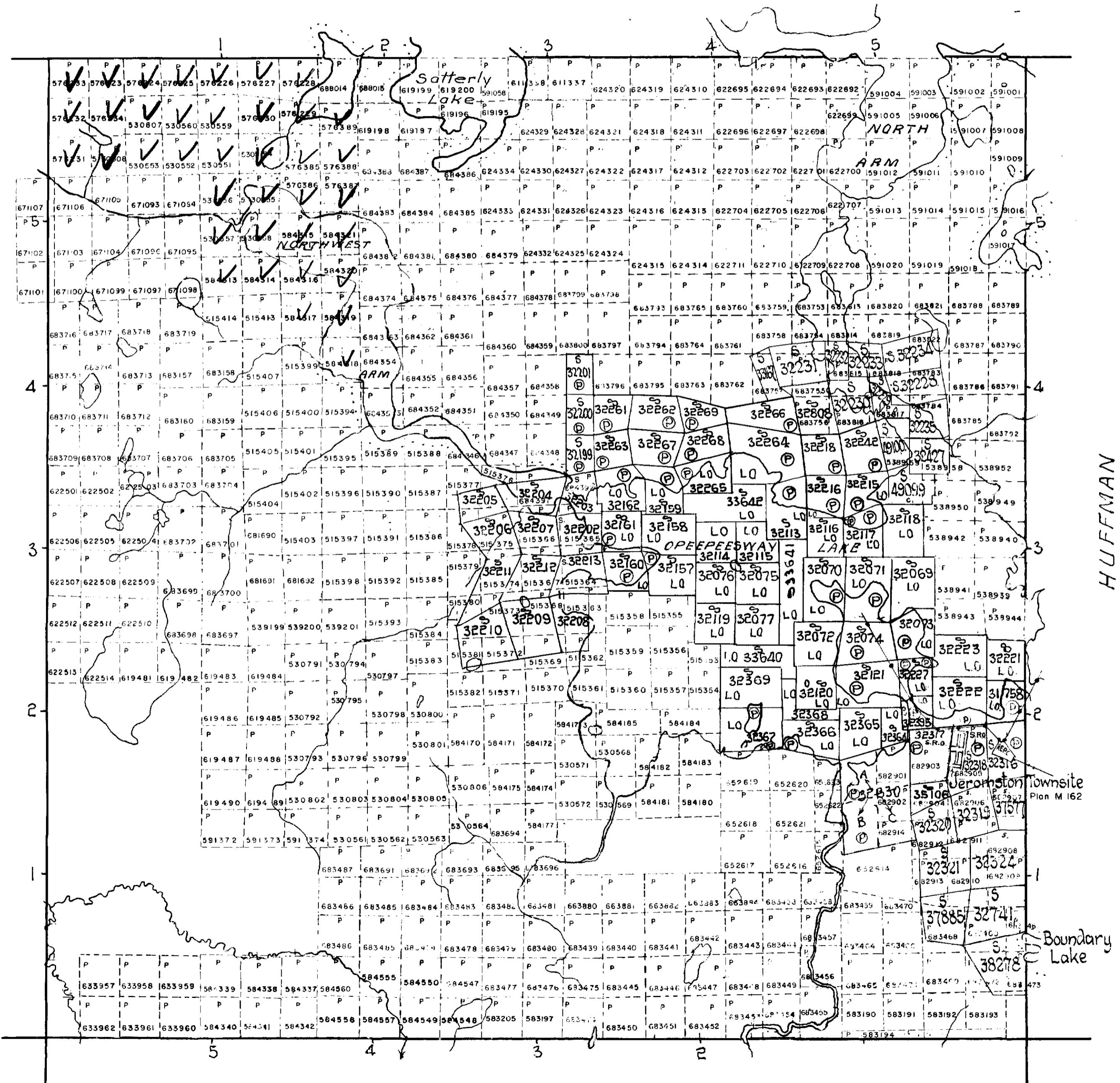
DATE OF ISSUE
JUL - 8 1983

**Ministry of Natural Resources
TORONTO**

PORCUPINE MINING DIVISION

Scale 40 Chains = 1 inch

MALLARD



400' surface rights reservation around all lakes & rivers

FINGAL



DISPOSITION OF CROWN LANDS

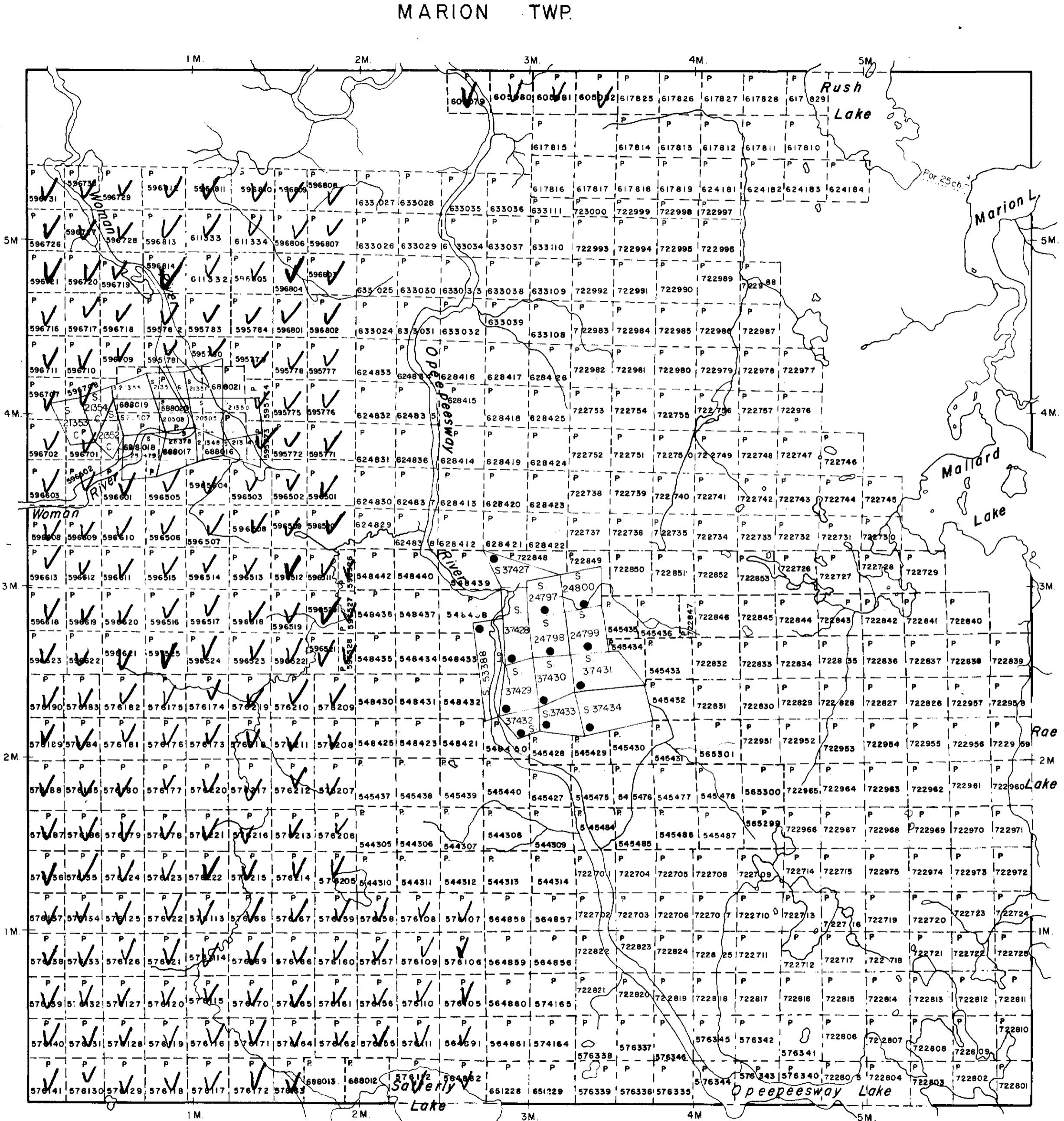
TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	■
LEASE SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	□
" MINING RIGHTS ONLY	□
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	R
CANCELLED	X
SAND & GRAVEL	G

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.

BENTON TWP.



O SWAY 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	

DATE OF ISSUE
JUL - 8 1988
Ministry of Natural Resources
TORONTO

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 2000 (2 KM)

ACRES 40 HECTARES 16

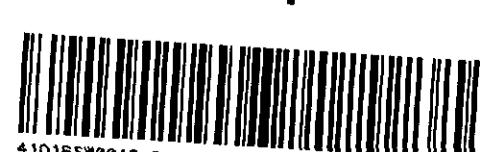
TOWNSHIP OF
MALLARD
DISTRICT OF
SUDBURY
MINING DIVISION
PORCUPINE

Ministry of Natural Resources Surveys and Mapping Branch Ontario

Date 13/2/1980 Plan No.

National Topographic Series

M. 849

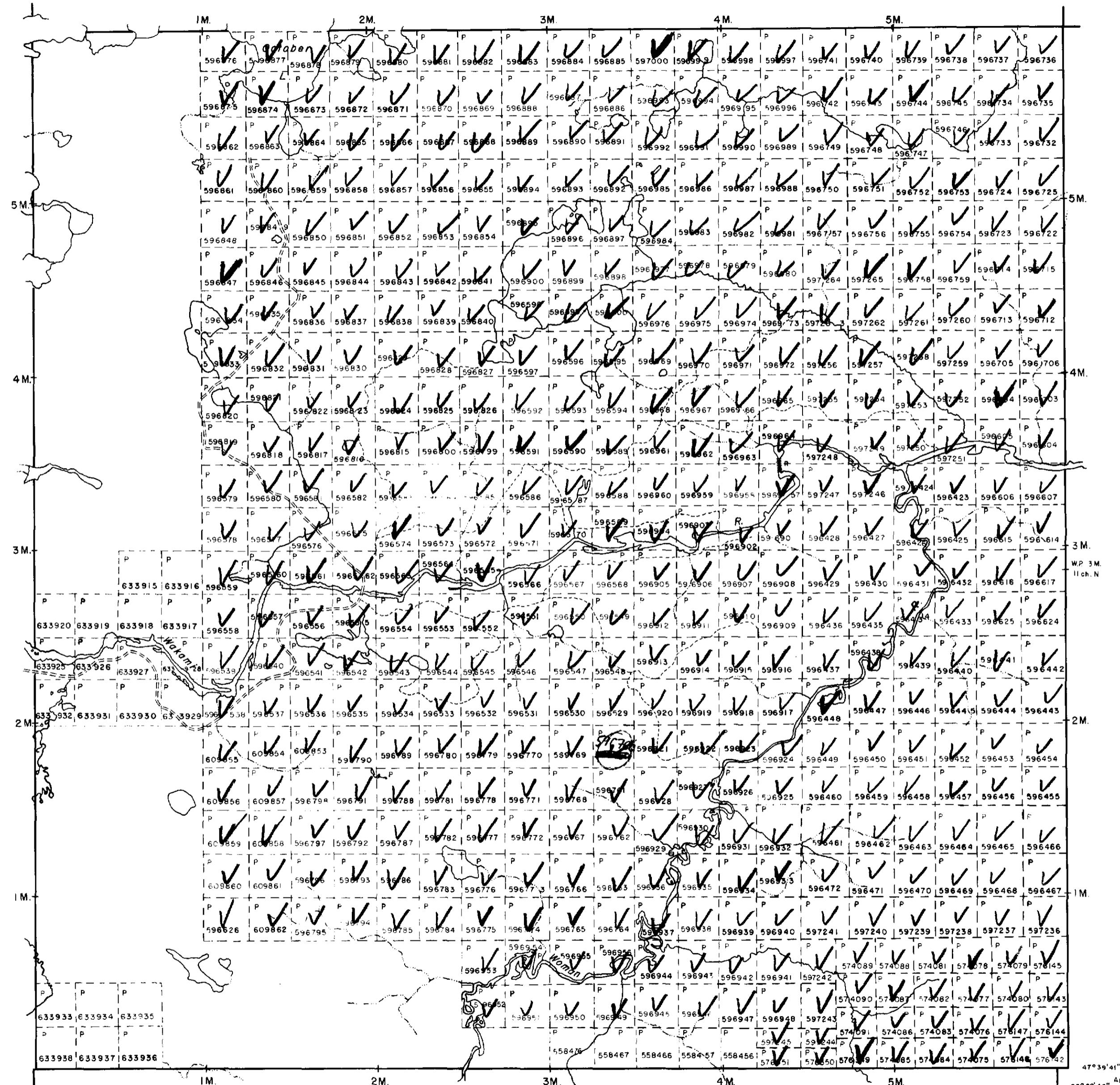


410165W0012 2.4261 OSWAY

NOTES

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

HEENAN TP. M. 925



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

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

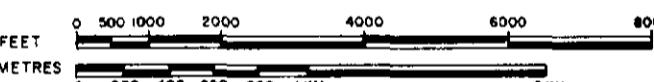
CANCELLED

SAND & GRAVEL

SYMBOL



SCALE : 1 INCH 40 CHAINS



ACRES HECTARES

40

16

TOWNSHIP

BENTON

DISTRICT

SUDBURY

MINING DIVISION

PORCUPINE

Ministry of Natural Resources

Ontario Surveys and Mapping Branch

Date April 27th, 1973

Plan No.

Whitney Block
Queen's Park, Toronto

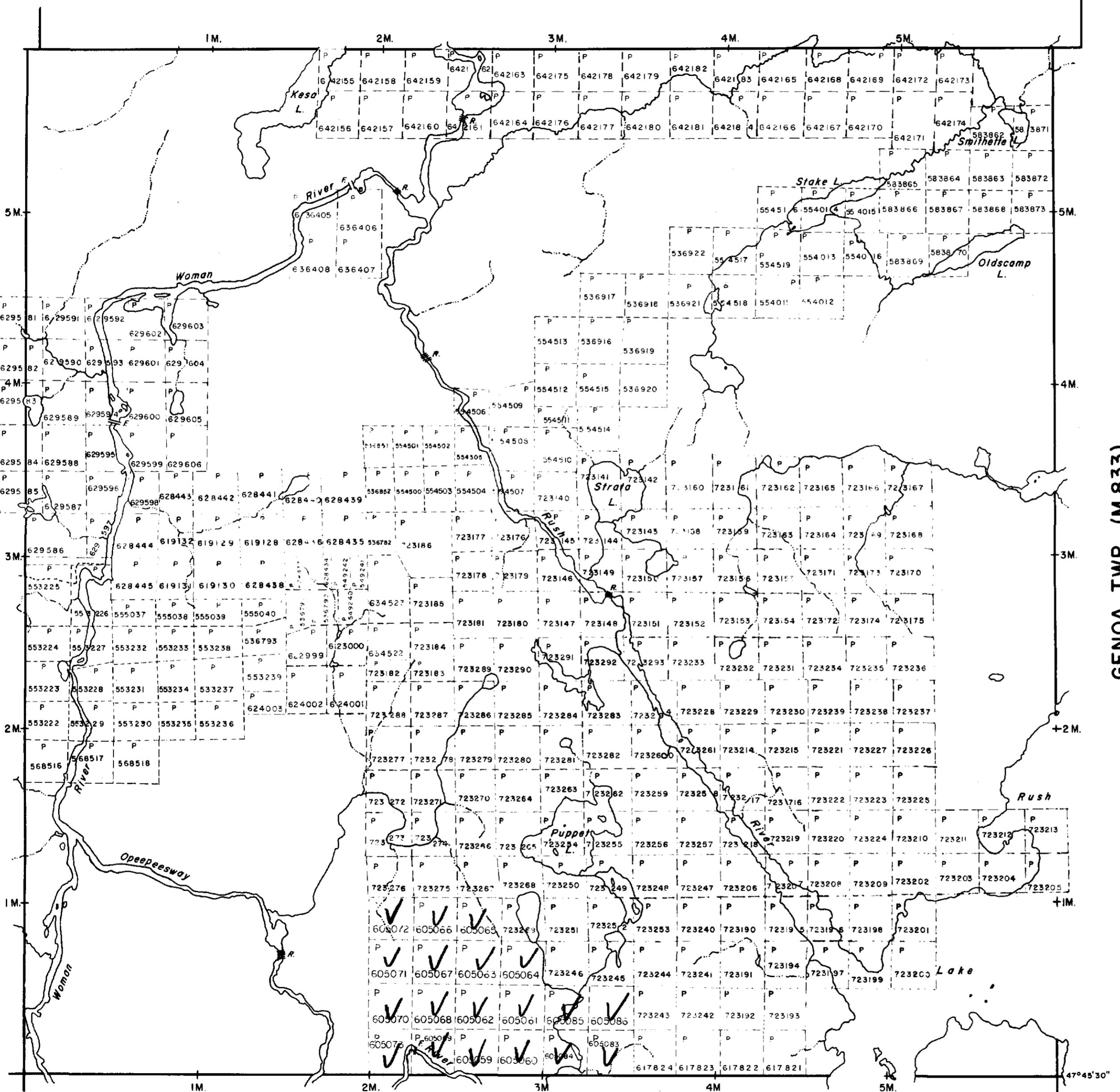
M. 659



41016SW0012 2.4261 OSWAY

DALE TWP.

HEENAN TWP. (M.925)



MALLARD TWP. (M.849)



41016SW0012 2.4261 OSWAY

240

THE TOWNSHIP
OF

MARION

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

(P)	PATENTED LAND
(C.S.)	CROWN LAND SALE
(L.)	LEASES
(Loc.)	LOCATED LAND
(L.O.)	LICENSE OF OCCUPATION
(M.R.O.)	MINING RIGHTS ONLY
(S.R.O.)	SURFACE RIGHTS ONLY
—	ROADS
—	IMPROVED ROADS
—	KING'S HIGHWAYS
—	RAILWAYS
—	POWER LINES
—	MARSH OR MUSKEG
X	MINES
C.	CANCELLED
(S.R.O.)	PATENTED S.R.O.

NOTES

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

DATE OF ISSUE
JUL - 8 1983


Ministry of Natural Resources
TORONTO

PLAN NO. M. 853

ONTARIO


MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH



QUESTIONS AND ANSWERS





MALLARD TWP.
OSWAH TWP.

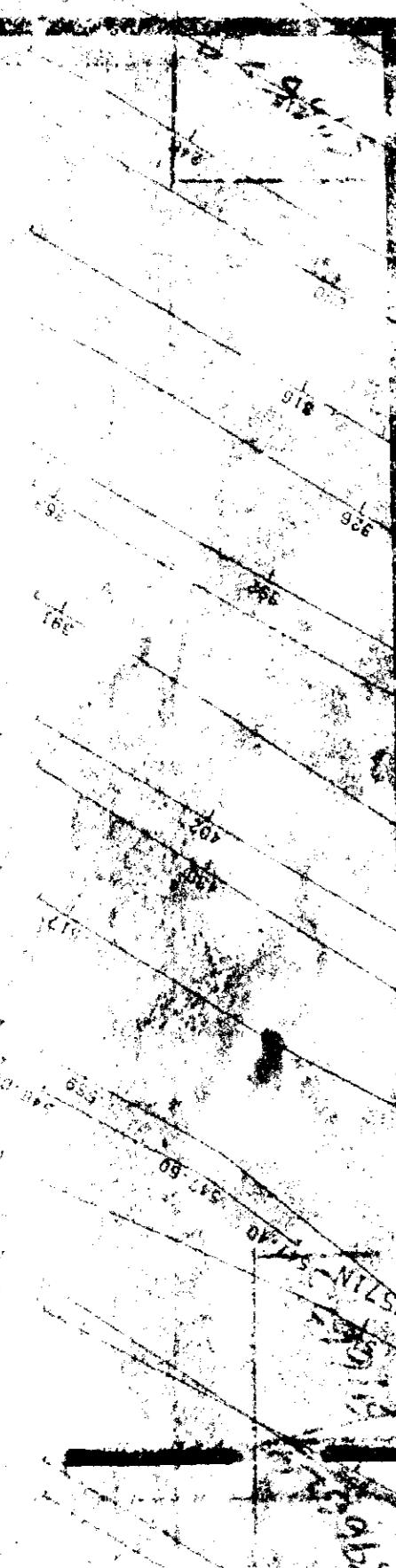
BENTON
CISTERNS TWP.


28

24
23
22
25

31

32





QUESTOR SURVEYS LIMITED
RENTON & FISHER TAMS AREA



290

