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AIRBORNE ELECTROMAGNETIC SURVEY

NORANDA EXPLORATION LTD.

CASUMMIT LAKE AREA, ONTARIO

PROJECT #23009 APRIL, 1981

urveys Limited, 6380 Viscount Road, Mississauga, Ontario L4V 1H3

INTRODUCTION

This report contains an interpretation of the results of an airborne electromagnetic survey flown in the Birch Lake Area, Northwestern Ontario on February 15, 1981. In the report is a brief description of the survey procedures followed by recommendations for ground follow-up.

A total of 483 line kilometres were flown by Questor Surveys Limited using a specially modified Shorts Skyvan C-FQSL. Dryden, Ontario was used as an operating base.

The area outline is shown on a 1:250,000 map at the end of this report. This is part of National Topographic Series sheet number 52N.

The personnel on the aircraft were as follows:

Pilot	Don Reynolds
Navigator	Ralph Webster
Operator	Bill Hutchinson
Engineer	Pat Melen
Crew Manager	Ken Cuomo

MAP COMPILATION

The base maps are uncontrolled mosaics constructed from 1:69,600 N.A.P.L. photographs. The mosaics were reproduced at a scale of 1:25,000 on stable transparent film from which white prints can be made.

Flightpath recovery was accomplished by comparison of the 35mm continuous strip film with the mosaic in order to locate the fiducial points. These points are approximately 1370 metres apart.

SURVEY PROCEDURE

Terrain clearance was maintained as close to 122 metres as possible, with the E.M. Bird at approximately 45 metres above the ground. A normal S-pattern flight path using a tight turn was used. The equipment operator logged the flight details and monitored the instruments.

A line spacing of 300 metres was used.

INTERPRETATION AND RECOMMENDATIONS GENERAL

The survey area lies 109 kilometres northeast of Red Lake, and is within the area covered by the Ontario Geological Survey's 1:253,440 and 1:126,720 Geological Compilation Series (Maps 2175 and P. 406 respectively). The survey consists of two blocks which overlap in the area of Casummit Lake. Both blocks are contained on the Geological Survey of Canada's Aeromagnetic Series sheets 52(8)N and 88(4)G.

The bedrock, in the area flown, is Archean in age and part of the Birch-Uchi Lakes metavolcanic - metasedimentary belt. The major lithologies of the area are as follows:

(1) A sequence of mafic metavolcanics which include massive and pillow lavas, agglomerates and their metamorphic equivalents. Within this sequence are minor intercalations of oxide, silicate and sulphide facies of iron formation.

(2) A lens of felsic to intermediate metavolcanics and, associated chert horizons, which lies northwest of Birch Lake.

(3) Various isolated lenses and pods of metasediments, which appear to overlie the metavolcanics.

(4) Felsic intrusives and undifferentiated granitic rocks.

The geological structure of the area is complex especially in the region of Casummit Lake. Here a synclinal axis is truncated by a granitic intrusive in the vicinity of three lithological contacts.

The major fault zones in Block B, which to some degree have been interpreted from magnetics, were placed on the interpretation map sheet for reference purposes. Minor shear zones associated with the faults, inferred from INPUT data, have not been plotted since this would be highly subjective and could prove misleading.

The magnetic contour map of the survey area is complicated owing to the presence of iron formation. The relief of magnetic intensity is very high which tends to distort and mask out the more subtle geologic features. The absolute total magnetic field measurements range from 60,540 gammas to more than 69,000 gammas.

The aeromagnetic map show faults as linear zones of lower magnetic intensity or horizontal displacement. The roughly circular areas of low to medium magnetic intensity correspond to granitic rocks. The belts of higher magnetic intensity in proximity to these lows represent boundaries of metavolcanics and metasedimentary units. Short linear magnetic features of highest magnetic intensity are possibly due to iron formation. These features occur throughout the metavolcanics near the contacts with the metasediments. An example of this would be the magnetic high on line 20200N in fid 117. Using these criterions it can be seen that magnetics define some boundaries which do not always agree with mapped lithological units.

Several areas on both blocks have been outlined and assigned a number for reference purposes. Those anomalies plotted, which have not been assigned a number, are probably due to magnetite, graphite (especially near shear zones wherever an associated magnetic peak is absent) pyrite or lake bottom sediments and are believed to be of no economic significance.

ZONE 1

Zone 1 consists of several conductors lying near major lithological contacts. Conductor A lies just beyond the edge of the survey and as a result is only picked up on several of the survey lines which extend furthest north. It demonstrates a conductivity - thickness varying between 2-14 siemens and appears to dip to the north. The magnetic contour map does not cover this area but there is an indication that the contact between the metavolcanics and metasediments lies in this area.

Conductor B extends over six lines to the edge of the block. The apparent conductivity - thickness ranges from 25 siemens to 4 siemens in the east. Using a vertical half plane model, a depth in the order of 18 metres was derived. A curved magnetic trend in this vicinity may indicate the contact between the metavolcanic and metasediments. The conductor follows this magnetic trend and may also be related to this contact.

Conductor C represents two parallel zones, in the range of 1-2 siemens. Anomaly shape would indicate that these conductors are deeper than those adjacent to them. The geology is predominately mafic metavolcanics which are in proximity to a felsic intrusive. Zone 1 is given a medium priority status and should be examined at intercepts A, B and C, line 10360S.

ZONE 2

Zone 2 is marked by a weak, east-west striking conductor which dips to the south at a shallow angle, and demonstrates a conductivity - thickness of 1 siemen. The conductor extends over four lines and is located on the flank of a magnetic high which may be due to iron formation. A small magnetic shoulder, of 20 gammas, also occurs on the flank of this magnetic trend and appears to be related to the conductor. The geology is uncertain as the conductor lies in water, however, it is in the immediate vicinity of a contact between metasediments and metavolcanics. A sulphide showing in this general location may be related to a facies of the above-mentioned iron formation. This zone should be considered a medium priority follow-up target.

ZONE 3

Zone 3 is marked by a major six line conductor flanked to the north by a weaker two line conductor. The major conductor strikes east-west, dips to the north at approximately 50° and has a conductivity - thickness in the order of 10 siemens. A major fault trending roughly parallel with this zone is indicated by both the magnetics and geology. For this reason the zone is believed to be fault related and should be examined at intercept B line 10210N. This zone is recommended on a medium priority level.

ZONE 4

Zone 4 has provided several weak INPUT responses which trend roughly east-west and are of short strikelength. The one channel responses in this zone lie over lakes and are probably due to lake bottom sediments. The other conductors lie in mafic metavolcanics with the anomalies on lines 10090N and 10010S near a contact with a granitic body. This is a low priority area for further examination.

ZONE 5

Zone 5 is located along a linear magnetic low which is associated with a fault zone. Some of the INPUT responses are broad indicating the conductor axis is intersecting the flight lines at an oblique angle. Most of the responses in this zone are weak with conductivity - thicknesses ranging from 2-5 siemens however, a strong 6 channel response is located at intercept A line 10060S which shows a conductivity - thickness of 23 siemens. The geological enviroment and geophysical responses possibly indicate the presence of graphite but due to the gold showings related to this fault system and strong 6 channel response zone 5 should be given a medium priority follow-up status.

ZONE 6

Zone 6 is marked by an abrupt change in the magnetic trend from northeast to south by southwest. Conductor A appears to follow this change in strike. This is evident from the much stronger INPUT response (intercepts A and B line 19020E) on an easterly flown line. The double peak, which this response shows, indicates that Conductor A is dipping to the west at approximately 70° and a derived depth, using a vertical half plane model, is in the order of 31 metres. The conductor is located on the flank of a magnetic high and is associated with a fault zone. This zone is considered a high priority target for follow-up work because of the favourable structural location and associated gold showing.

BLOCK B

This block lies immediately east of Block A. The geology is similar to that of Block A with the exception of a lens of felsic - intermediate volcanics which exist in Block B north of Birch Lake.

ZONE 7

Zone 7 contains several conductors which strike northwest. Conductor A extends across the entire length of the block and demonstrates a conductivity - thickness varying from 1-38 siemens. The dip is variable along strike but is in the order of 40° northeast. This trend appears to line up with Conductor B of Zone 1 and may be part of the same geological feature. A linear, northwest trending magnetic high which is probably related to the volcanic -

granite contact coincides with the conductor.

Conductor B appears to be a separate conductor which is located on the flank of a strong magnetic high. This magnetic body distorts the linear magnetic trend assocaited with volcanic-granite contact, near intercepts A and C lines 20100N and 20110S respectively. The conductivity - thickness of the conductor is 19 siemens. This coupled with the strong magnetic response suggests pyrrhotite mineralization as part of a sulphide facies of iron formation.

Conductor C is a weak conductor of short strike length which lies within the metavolcanics. The conductor is of some interest due to the association with a major lithological contact and possible iron formation.

Conductor D strikes northwest across 6 survey lines and appears to closely parallel Conductor A. The strongest anomaly is at intercept B line 20210S where the INPUT response displays a conductivity - thickness of 17 siemens. In this location there is a possible shearing or folding of both conductors A and D. Zone 7 may be regarded as a high priority target at intercepts B and C line 20110S and intercepts A and B line 20210S.

ZONE 8

Zone 8 consists of a single conductor of moderately short strike length which dips to the north at approximately 45°. The zone lies in mafic metavolcanics and has no distinct magnetic association. The strongest anomaly in this zone is a 6 channel response with a conductivity - thickness of 10 siemens. This response lines up with a possible shear break affecting conductors A and D in zone 7. This zone should be regarded as a low priority follow-up target.

ZONE 9

Zone 9 has revealed a short weak conductor which strikes northwest. The geology consists of mafic metavolcanics and there is no distinct related magnetic response. This zone is given a medium priority follow-up status.

ZONE 10

Zone 10 is marked by a single weak conductor which is located on the flank of a small magnetic high. The INPUT responses are sharp indicating a conductor close to surface. An outcropping of iron formation as well as two gold showings are located in the immediate vicinity of these anomalies. The favourable geological setting rank this as a high priority target.

ZONE 11

Zone 11 displays a single 5 channel response with a conductivity - thickness of 12 siemens. The anomaly lies on the flank of a strong magnetic high which is probably due to the presence of iron formation. The isolated nature of this anomaly indicates it should be examined as a high priority follow-up target.

ZONE 12

Zone 12 displays the same conductor as in zone 2. This conductor appears weaker in zone 12 due to the different orientation of the flight lines.

ZONE 13

Zone 13 provides a short weak conductor which corresponds with a one channel anomaly at intercept E line 10360S. The conductor appears to be close to an apparent metasediment-metavolcanic contact and lies on the flank of the same magnetic trend as the old Argosy Gold Mine. The zone is given a high priority follow-up status though the area should be checked out on the ground to determine whether the responses are due to cultural effects.

ZONE 14

Zone 14 lies to the north of zone 7 and is represented by a short conductor which increases in conductivity - thickness towards the northwest. The maximum conductivity - thickness attained is 11 siemens. This response lies at the peak of a small magnetic high adjacent to a contact between metasediments and granitic rocks. The zone is given a medium priority follow-up status.

During the survey, flight lines were flown in alternate directions in order to facilitate interpretation of dipping conductors. Double peaks occur on up-dip flight lines. The degree of dip is estimated from the ratio of channel 2 amplitude of the first and second anomaly on up-dip flights.

Conductor axes plotted on the maps should be used as a guide only. Ground geophysical surveys are needed to accurately locate them.

QUESTOR SURVEYS LIMITED

Ken Cuomo

Ken Cuomo,
Geologist.

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.

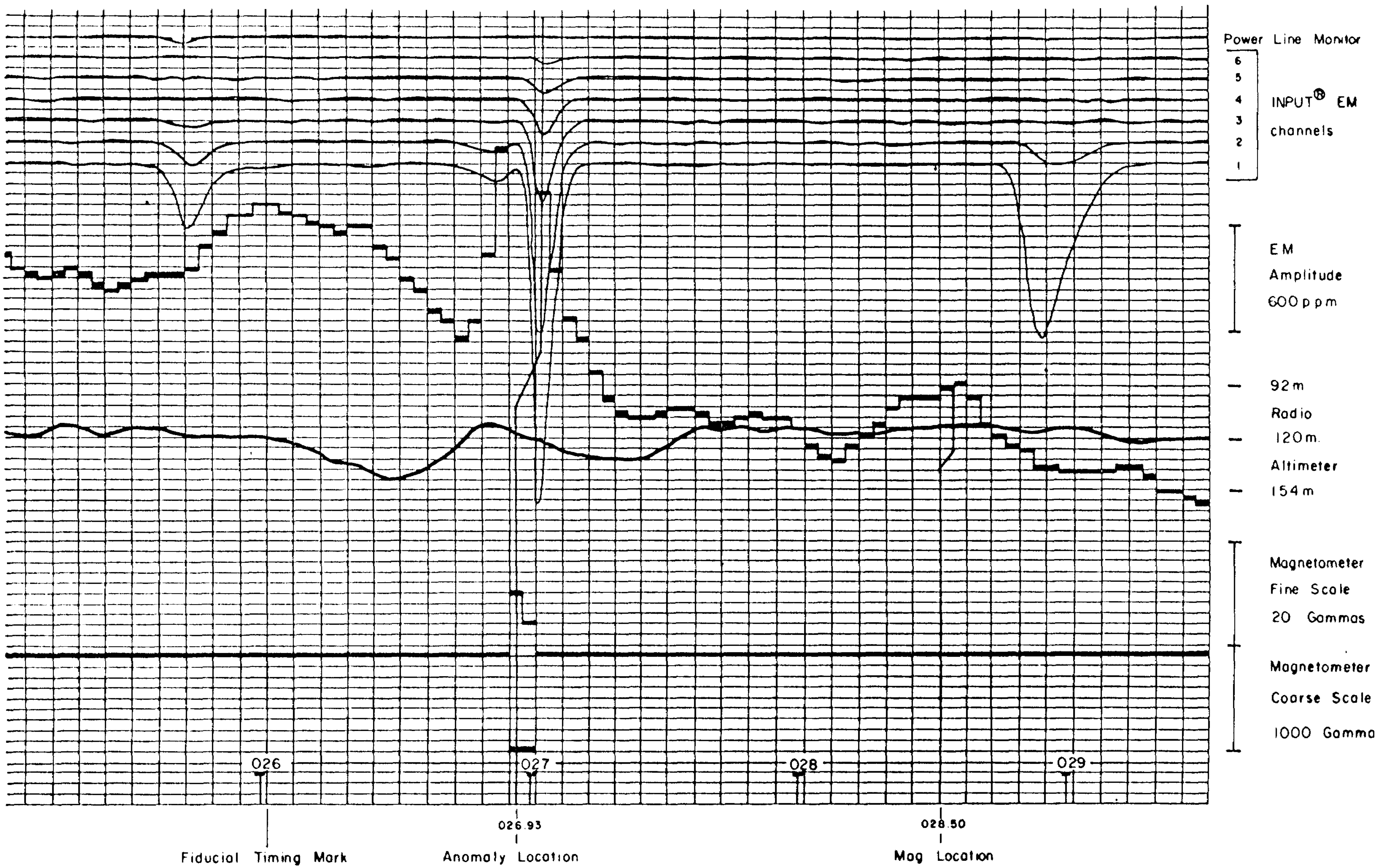
Railroad and pipeline responses are recognized by studying the film strips.

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.

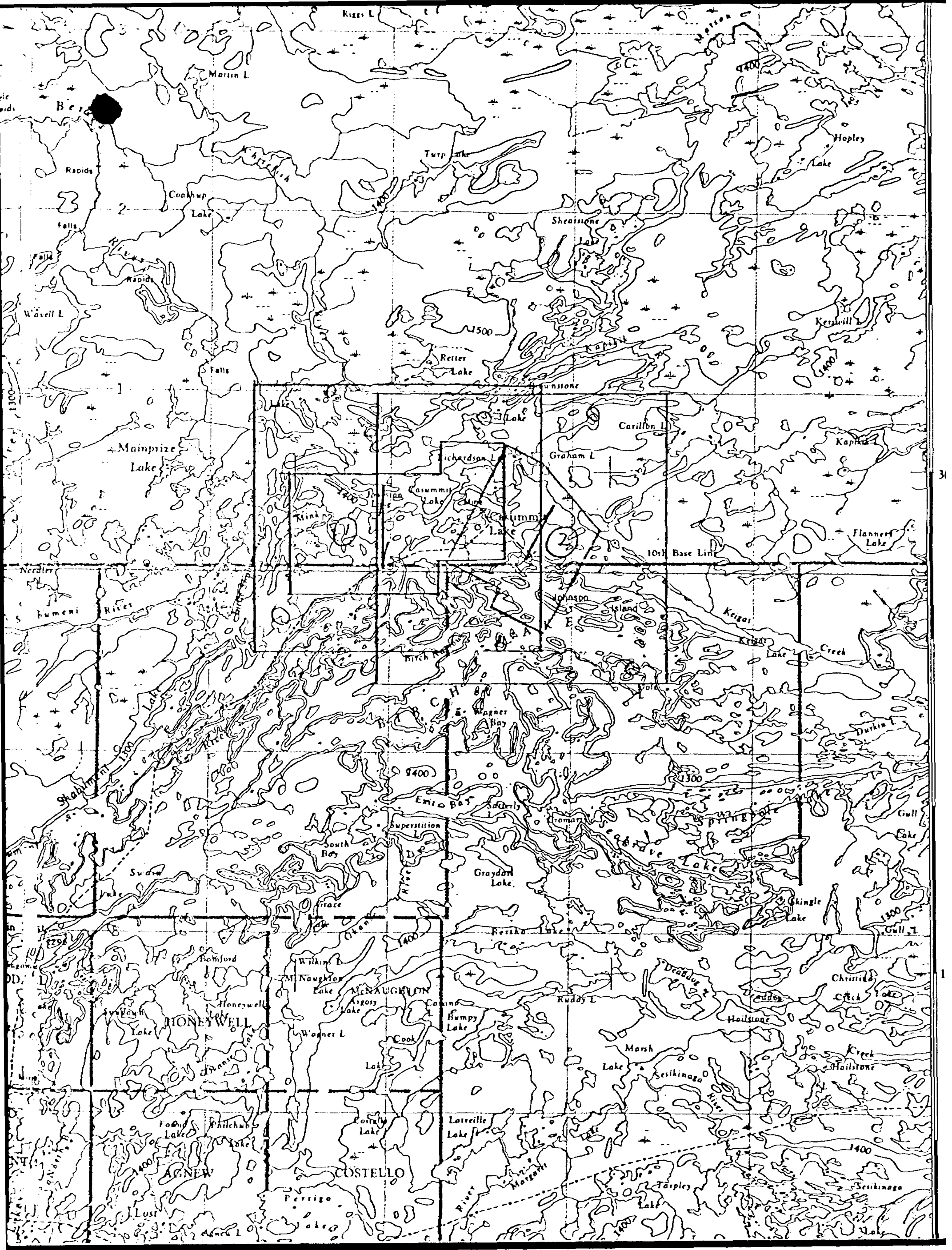
Contact zones can often be predicted when anomaly trends coincide with the lines of maximum gradient along a flanking magnetic anomaly. It is unfortunate that graphite can also occur as relatively short conductors and produce attractive looking anomalies. With no other information than the airborne results,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



Riggs L
Mattin L
Rapids
Coathup Lake
Turp Lake
Falls
Rapids
Wavell L
Shearstone Lake
Hopley Lake
1400
1500
Retter Lake
Kerswill L
Mainprize Lake
Carillon L
Graham L
Richardson L
Kaptik L
Casummit Lake
Mine
Mink
Flanners Lake
10th Base Line
Johnson Island
Keigat Lake
Creek
Birch Narrows
Wagner Bay
Durkin L
Shabumeni River
Lake
1300
Exit Bay
Superstition L
South Bay
Springpole
Seagrave Lake
Gull Lake
Graydon Lake
Swain Lake
Skingle Lake
Bertha Lake
Wilkins L
McNaughton Lake
McNAUGHTON
Bamford
Honeywell Lake
HONEYWELL
Argosy Lake
Humpy Lake
Ruddy L
Deaddog
Christine
Creek
Hailstone
Wagner L
Cook Lake
Marsh Lake
Sesikinaga
Costello Lake
Latreille Lake
Fond Lake
Whitchub Lake
AGNEW
COSTELLO
Margaret River
Tarpley Lake
Perrigo Lake
Lost

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10010A	517.200	1	60		NC	517.25	135
10010B	518.425	1	60		NC	518.30	795
~~10010C~~	~~518.850~~	~~2~~		~~49~~	~~NC~~		
10010D	519.450	2		49	NC	–	
10020A	509.575	1	50		NC	509.70	360
10020B	510.110	2	33		NC		
10040A	497.625	3		74	5	–	
10050A	492.400	2		41	NC	492.55	158
10050B	494.100	2			NC	493.80	148
~~10050C~~	~~497.375~~	~~2~~		~~45~~	~~NC~~	~~–~~	
~~10060A~~	~~485.500~~	~~6~~		~~184~~	~~23~~		
~~10070A~~	~~484.975~~	~~4~~		~~78~~	~~3~~	~~–~~	
~~10080A~~	~~474.150~~	~~4~~		~~129~~		~~–~~	
10080B	474.800	2		35	NC	–	
10090A	471.600	2		30	NC	471.90	7
10090AX	473.220	1		50	NC		
~~10090B~~	~~473.775~~	~~3~~		~~79~~	~~3~~	~~473.65~~	~~89~~
10100A	462.900	1	63		NC	463.10	5
~~10100B~~	~~465.475~~	~~2~~		~~45~~	~~NC~~	~~–~~	
~~10110A~~	~~459.600~~	~~2~~		~~35~~	~~NC~~	~~459.30~~	~~77~~
10110B	462.050	2		34	NC	–	
10120A	452.500	2		30	NC	452.70	458
10120B	454.350	2		37	NC	454.10	243
~~10120C~~	~~454.650~~	~~3~~		80	5	~~454.50~~	~~3~~
~~10130A~~	~~448.450~~	~~1~~	~~338~~		~~NC~~	~~448.30~~	~~200~~
~~10140A~~	~~440.750~~	~~1~~	~~44~~		~~NC~~	~~–~~	
10140B	441.275	1	38		NC	–	
10140C	443.900	1	44		NC	443.90	120
10150A	436.750	1	94		NC	436.90	242

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10150B	437.750	1	56		NC	437.60	222
10160A	432.100	2		30	NC	432.15	582
10180A	418.675	1	31		NC	–	
~~10180B~~	~~419.025~~	~~1~~	~~56~~		~~NC~~	~~419.25~~	~~154~~
~~10190A~~	~~416.375~~	~~2~~		~~30~~	~~NC~~	~~416.25~~	~~239~~
10190B	416.700	1	50		NC	417.10	1500
10200A	407.900	2		60	NC	407.45	1590
10200B	408.175	4		105	10	408.20	142
10210A	405.300	2		31	NC	405.10	314
~~10210B~~	~~405.475~~	~~6~~		~~631~~	~~13~~	~~405.35~~	~~122~~
~~10220A~~	~~397.350~~	~~5~~		~~187~~	~~8~~	~~397.05~~	~~148~~
10220B	397.500	5		384	13	397.50	18
10230A	394.800	2		30	NC	394.70	11
10261A	535.575	2		34	NC	535.80	114
10340A	319.150	3		178	1	319.30	5
10340B	319.600	2		72	NC	–	
~~10340C~~	~~321.500~~	~~1~~	~~52~~		~~NC~~	~~321.40~~	~~545~~
~~10360A~~	~~306.225~~	~~5~~		~~261~~	~~14~~	~~–~~	
10360B	306.375	4		117	14	306.35	60
10360C	306.800	6		339	35	306.55	4
~~10360D~~	~~306.900~~	~~6~~		~~448~~	~~33~~	~~–~~	
10360E	310.175	1	47		NC	310.30	583
10370A	303.425	2		57	NC	303.30	95
10370B	303.700	2		54	NC	–	
~~10370C~~	~~305.675~~	~~3~~		~~114~~	~~1~~	~~305.65~~	~~305~~
~~10380A~~	~~293.625~~	~~6~~		~~369~~	~~22~~	~~–~~	
10380B	294.050	3		66	1	–	
10380C	294.350	3		122	1	294.25	973
~~10380CX~~	~~294.500~~	~~2~~		~~40~~	~~NC~~		

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
10380D	294.675	2		63	NC	294.90	98
10380E	296.525	4		~~257~~	~~1~~	~~296.80~~	~~195~~
10390A	291.100	2		~~37~~	~~NC~~	~~290.95~~	~~183~~
10390B	291.475	3		72	1	291.20	20
10390C	292.925	3		94	1	292.50	200
~~10390D~~	~~293.100~~	~~2~~		~~44~~	~~NC~~		
10390E	293.400	5		419	4	293.30	1397
10400A	281.075	5		355	17	-	
10400B	282.075	2		77	NC	282.10	1705
~~10400C~~	~~282.625~~	~~4~~		~~108~~	~~1~~	~~282.60~~	~~763~~
10400D	284.075	3		136	1	-	
10400E	284.500	1	23		NC	284.45	125
10410A	279.700	3		80	1	279.85	1307
~~10410B~~	~~280.325~~	~~3~~		~~205~~	~~1~~	~~280.15~~	~~385~~
10410C	280.650	2		42	NC	-	
19020A	520.650	4		205	5	520.50	1205
19020B	520.825	6		696	17	521.20	694
19020D	527.050	2		52	NC	526.65	763
20010A	246.925	2		82	NC	-	
~~20010B~~	~~247.325~~	~~2~~		~~73~~	~~NC~~	~~247.35~~	~~2357~~
20020A	243.550	2		~~63~~	~~NC~~	~~243.35~~	~~100~~
20020B	243.725	2		63	NC	-	
20020C	244.975	2		47	NC	245.15	2488
~~20020D~~	~~245.550~~	~~4~~		~~229~~	~~2~~	~~-~~	
20030A	233.825	3		68	1	~~233.70~~	~~1878~~
20030B	235.600	3		124	1	235.65	317
20030C	236.825	2		62	NC	236.70	80
20040A	228.900	2		39	NC	228.55	592
20040B	229.850	2		~~55~~	~~NC~~	~~229.65~~	~~280~~
20040C	230.275	2		52	NC	230.05	12
20040D	231.550	3		137	3	231.50	2774
~~20040E~~	~~231.975~~	~~5~~		~~290~~	~~11~~	~~231.95~~	~~2317~~
20050A	219.325	5		~~119~~	5	~~219.35~~	~~1979~~
20050B	220.075	5		354	6	-	
20050C	220.250	4		173	2	220.20	2025

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
20050D	221.500	2		45	NC	221.20	234
20060A	217.500	6		341	14	217.25	761
~~20060B~~	~~218.150~~	~~2~~		~~60~~	~~NC~~	~~-~~	
~~20070A~~	~~206.350~~	~~3~~		~~102~~	~~1~~	~~-~~	
20070B	206.675	6		387	11	-	
20070C	206.800	5		390	8	206.75	620
20080A	203.425	6		939	19	203.40	1117
~~20080B~~	~~204.300~~	~~2~~		~~42~~	~~NC~~	~~204.55~~	~~67~~
~~20090A~~	~~192.475~~	~~2~~		~~41~~	~~NC~~	~~192.35~~	~~28~~
20090AX	193.000	6		450	7		
20090B	193.175	6		1007	22	193.15	3081
20100A	189.900	6		263	39	-	
20100B	190.050	6		556	38	190.00	8021
20110A	179.875	6		327	25	-	
~~20110B~~	~~180.000~~	~~6~~		~~411~~	~~12~~	~~179.95~~	~~8642~~
20110C	180.150	6		374	17	180.50	325
20110D	181.700	2		30	NC	-	
20120A	175.400	2		30	NC	175.35	36
~~20120B~~	~~176.425~~	~~2~~		~~30~~	~~NC~~	~~176.25~~	~~226~~
20120C	177.100	6		474	16	177.10	3606
20130A	165.000	2		38	NC	-	
20130B	165.175	4		103	9	-	
~~20130C~~	~~165.400~~	~~6~~		~~232~~	~~3~~	~~165.30~~	~~3739~~
20130D	166.000	2		30	NC	166.25	405
20140A	159.800	2		30	NC	159.85	2394
20140B	161.875	3		63	4	161.70	105
~~20140C~~	~~162.075~~	~~3~~		~~56~~	~~4~~	~~161.95~~	~~139~~
20140D	162.375	4		112	1	162.30	645
20151A	268.600	2		69	NC	-	
20151B	268.975	3		91	1	268.95	626
~~20151C~~	~~269.125~~	~~2~~		~~75~~	~~NC~~	~~-~~	
20151CX	269.26	2		45	NC		
20151D	271.950	2		44	NC	271.70	1715
20160A	146.100	3		30	1	146.15	1051
20160AX	198.28	2		90	NC		
~~20160B~~	~~148.475~~	~~6~~		~~476~~	~~43~~	~~148.45~~	~~699~~

FINAL ANOMALY	FID	CHS	CH1.AMP	CH2.AMP	SIEMENS	MAG	VALUE
~~20170A~~	~~137.300~~	~~4~~		~~90~~	~~20~~		
20170B	137.500	6		300	11	137.45	525
20170C	137.575	6		75	29	–	
20170D	140.100	~~2~~		~~30~~	~~NC~~	~~140.10~~	~~757~~
20170E	140.400	2		30	NC	140.55	465
20180A	132.725	2		30	NC	132.45	897
20180B	134.225	5		30	21	134.50	1608
20180C	134.925	~~3~~		~~30~~	~~7~~	~~–~~	
20180D	135.075	4		131	1	–	
20190A	124.125	2		25	NC	–	
20190B	124.300	3		65	2	–	
20190C	124.550	~~2~~		~~30~~	~~NC~~	~~–~~	
20190D	125.075	3		30	1	124.85	1288
20190E	125.300	3		36	1	–	
20200A	118.975	2		30	NC	118.90	347
20200B	121.100	~~6~~		~~670~~	~~10~~	~~–~~	
20200C	121.550	3		51	1	121.35	1319
20200D	121.700	6		301	10	121.65	453
20210A	46.300	3		60	2		
20210B	46.475	5		222	13	46.55	991
20210C	46.650	~~6~~		~~679~~	~~17~~	~~46.95~~	~~282~~
20210D	47.380	3		50	7		
~~20220A~~	~~40.950~~	~~5~~		~~127~~	~~12~~	~~40.75~~	~~6400~~
20220B	44.100	4		91	23	43.75	1107
20220C	44.300	6		285	15	44.25	1008
20230A	32.350	3		64	5	–	
~~20230B~~	~~32.625~~	3		~~46~~	5	~~32.75~~	~~1723~~
20240A	28.050	2		~~36~~	~~NC~~	~~27.65~~	~~162~~
20240B	29.975	2		36	NC	30.15	1549
29010A	258.650	2		52	NC	–	

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Ontario

Ministry of Natura

GEOPHYSICAL – GEOLOGIC/
TECHNICAL DATA

52N09SW0007 2.4100 CASUMMIT LAKE

900

RECEI\ AUG 2 8 19 MINING LANDS

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) AIRBORNE MAGNETIC

Township or Area Casummit (M.2695) & Brownstone (M2149)

Claim Holder(s) Noranda Exploration Co., Ltd. and Terry Byberg

Survey Company Questor Surveys Limited

Author of Report Ken Cuomo

Address of Author 6380 Viscount Road, Mississauga, Ontario

Covering Dates of Survey February 15-April, 1981
(linecutting to office)

Total Miles of Line Cut

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 40 Electromagnetic ___ Radiometric ___
(enter days per claim)

DATE: August 24/81 SIGNATURE: [signature]
Author of Report or Agent

OFFICE USE ONLY

Res. Geol. ___ Qualifications 2,3297

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
AS PER ATTACHED	
SCHEDULES	609,611,622 and 634
A.N.D	
KRL	540752
KRL	540753
KRL	540754
KRL	540756
KRL	540757
KRL	540758
KRL	540760
KRL	540761

If space insufficient, attach list

TOTAL CLAIMS 245

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations ______ Number of Readings ______

Station interval ______ Line spacing ______

Profile scale ______

Contour interval ______

MAGNETIC

Instrument ______

Accuracy -- Scale constant ______

Diurnal correction method ______

Base Station check-in interval (hours) ______

Base Station location and value ______

______

ELECTROMAGNETIC

Instrument ______

Coil configuration ______

Coil separation ______

Accuracy ______

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

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

Parameters measured ______

GRAVITY

Instrument ______

Scale constant ______

Corrections made ______

______

Base station value and location ______

______

Elevation accuracy ______

INDUCED POLARIZATION RESISTIVITY

Instrument ______

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time ______ Frequency ______

– Off time ______ Range ______

– Delay time ______

– Integration time ______

Power ______

Electrode array ______

Electrode spacing ______

Type of electrode ______

SELF POTENTIAL

Instrument ______ Range ______

Survey Method ______

Corrections made ______

RADIOMETRIC

Instrument ______

Values measured ______

Energy windows (levels) ______

Height of instrument ______ Background Count ______

Size of detector ______

Overburden ______

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ______

Instrument ______

Accuracy ______

Parameters measured ______

Additional information (for understanding results) ______

AIRBORNE SURVEYS

Type of survey(s) Airborne Magnetic Survey

Instrument(s) Sonotek P.M.H. 5010 Proton Magnetometer

(specify for each type of survey)

Accuracy 1 gamma

(specify for each type of survey)

Aircraft used Shorts Skyvan C-FQSL

Sensor altitude 122 meters

Navigation and flight path recovery method 1:25,000 uncontrolled mosaics; 35 mm continuous strip film

Aircraft altitude 122 meters Line Spacing 300 meters

Miles flown over total area 483 km Over claims only ______

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken ____________________

____

____

Total Number of Samples ____________________

Type of Sample ____________________
(Nature of Material)

Average Sample Weight ____________________

Method of Collection ____________________

____

Soil Horizon Sampled ____________________

Horizon Development ____________________

Sample Depth ____________________

Terrain ____________________

____

Drainage Development ____________________

Estimated Range of Overburden Thickness ____________________

____

____

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

Mesh size of fraction used for analysis ____________________

____

____

____

General ____________________

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ANALYTICAL METHODS

Values expressed in: per cent ☐ p. p. m. ☐ p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others ____________________

Field Analysis (____________________ tests)

Extraction Method ____________________

Analytical Method ____________________

Reagents Used ____________________

Field Laboratory Analysis

No. (____________________ tests)

Extraction Method ____________________

Analytical Method ____________________

Reagents Used ____________________

Commercial Laboratory (____________________ tests)

Name of Laboratory ____________________

Extraction Method ____________________

Analytical Method ____________________

Reagents Used ____________________

General ____________________

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SCHEDULE 609

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL5[illegible]9642		KRL541828		KRL580259			
KRL509643		KRL541829		KRL580260			
KRL509644		KRL541830		KRL580261			
KRL509645		KRL541831		KRL580262			
KRL509646		KRL541832		KRL580263			
KRL509647		KRL541833		KRL580264			
KRL509648				KRL580265			
KRL509649		KRL580201		KRL580266			
KRL509650		KRL580202		KRL580267			
KRL509651		KRL580203		KRL580268			
KRL509652		KRL580204		KRL580269			
KRL509653		KRL580205		KRL580270			
KRL509654		KRL580206		KRL580271			
KRL509655		KRL580207		KRL580272			
KRL509656		KRL580208		KRL580273			
KRL509657		KRL580209		KRL580274			
KRL509658		KRL580210		KRL580275			
KRL509659		KRL580211		KRL580276			
KRL509660		KRL580212		KRL580277			
KRL509661		KRL580213		KRL580278			
		KRL580214		KRL580279			
KRL509664		KRL580215		KRL580280			
KRL509665		KRL580216		KRL580281			
KRL509666		KRL580217		KRL580282			
		KRL580218		KRL580283			
KRL541799		KRL580219		KRL580284			
		KRL580220		KRL580285			
KRL541801		KRL580221					
KRL541802		KRL580222		KRL587276			
KRL541803		KRL580223		KRL587277			
KRL541804				KRL587278			
KRL541805		KRL580226		KRL587279			
KRL541806		KRL580227		KRL587280			
KRL541807		KRL580228		KRL587281			
KRL541808		KRL580229		KRL587282			
KRL541809		KRL580230		KRL587283			
KRL541810				KRL587284			
KRL541811		KRL580242		KRL587285			
KRL541812		KRL580243		KRL587286			
KRL541813		KRL580244		KRL587287			
KRL541814		KRL580245		KRL587288			
KRL541815		KRL580246		KRL587289			
KRL541816		KRL580247		KRL587290			
KRL541817		KRL580248		KRL587291			
KRL541818		KRL580249		KRL587292			
KRL541819		KRL580250		KRL587293			
KRL541820		KRL580251		KRL587294			
KRL541821		KRL580252		KRL587295			
KRL541822		KRL580253		KRL587296			
KRL541823		KRL580254		KRL587297			
		KRL580255		KRL587298			
KRL541825		KRL580256		KRL587299			
KRL541826		KRL580257		KRL587300			
KRL541827		KRL580258					

TOTAL CLAIMS = 153

SCHEDULE 611

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL526635							
KRL541834							
KRL541835							
KRL541836							
KRL541837							
KRL541838							
KRL541839							
KRL541840							
KRL541841							
KRL541842							
KRL541843							
KRL541844							
KRL541845							
KRL541846							
KRL541847							
KRL541848							
KRL541849							
KRL580231							
KRL580232							

TOTAL CLAIMS = 19

SCHEDULE 622

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL580224							
KRL580225							
KRL580233							
KRL580234							
KRL580235							
KRL580236							
KRL580237							
KRL580238							
KRL580239							
KRL580240							
KRL580241							

TOTAL CLAIMS = 11

SCHEDULE 634

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL502587		KRL541408					
KRL502588		KRL541409					
KRL502589		KRL541410					
KRL502590		KRL541411					
KRL502591		KRL541412					
KRL502592		KRL541413					
KRL502593		KRL541414					
KRL502594		KRL541415					
		KRL541416					
KRL502601		KRL541417					
KRL502602		KRL541418					
KRL502603		KRL541419					
KRL502604		KRL541420					
		KRL541421					
KRL502625		KRL541422					
		KRL541423					
KRL502752							
KRL502753							
KRL502754							
KRL502755							
KRL502756							
KRL502757							
KRL503247							
KRL503248							
KRL503249							
KRL503250							
KRL503251							
KRL503252							
KRL503253							
KRL503254							
KRL503255							
KRL503256							
KRL503257							
KRL503258							
KRL503259							
KRL503260							
KRL503261							
KRL503262							
KRL503263							
KRL503264							
KRL503265							

TOTAL CLAIMS = 54

File

Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL
TECHNICAL DATA STATEMENT

RECEIVED
AUG 28 1981
MINING LANDS SECTION

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) AIRBORNE ELECTROMAGNETIC

Township or Area Casummit (M.2695) & Brownstone (M.2149)

Claim Holder(s) Noranda Exploration Co., Ltd. and Terry Byberg

Survey Company Questor Surveys Limited

Author of Report Ken Cuomo

Address of Author 6380 Viscount Road, Mississauga

Covering Dates of Survey February 15-April, 1981 (linecutting to office)

Total Miles of Line Cut

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 ____ Electromagnetic 40 Radiometric ____
(enter days per claim)

DATE: Aug.24/81 SIGNATURE: [signature]
Author of Report or Agent

OFFICE USE ONLY

Res. Geol. ____ Qualifications ____

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

AS PER ATTACHED SCHEDULES

(prefix)	(number)
609, 611, 622 and 634	
A N D	
KRL	540752
KRL	540753
KRL	540754
KRL	540756
KRL	540757
KRL	540758
KRL	540760
KRL	540761

If space insufficient, attach list

TOTAL CLAIMS 245

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations ______ Number of Readings ______

Station interval ______ Line spacing ______

Profile scale ______

Contour interval ______

MAGNETIC

Instrument ______

Accuracy – Scale constant ______

Diurnal correction method ______

Base Station check-in interval (hours) ______

Base Station location and value ______

______

ELECTROMAGNETIC

Instrument ______

Coil configuration ______

Coil separation ______

Accuracy ______

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

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

Parameters measured ______

GRAVITY

Instrument ______

Scale constant ______

Corrections made ______

______

Base station value and location ______

______

Elevation accuracy ______

INDUCED POLARIZATION
RESISTIVITY

Instrument ______

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time ______ Frequency ______

– Off time ______ Range ______

– Delay time ______

– Integration time ______

Power ______

Electrode array ______

Electrode spacing ______

Type of electrode ______

SELF POTENTIAL

Instrument ________ Range ________

Survey Method ________

Corrections made ________

RADIOMETRIC

Instrument ________

Values measured ________

Energy windows (levels) ________

Height of instrument ________ Background Count ________

Size of detector ________

Overburden ________

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ________

Instrument ________

Accuracy ________

Parameters measured ________

Additional information (for understanding results) ________

AIRBORNE SURVEYS

Type of survey(s) Airborne Electromagnetic Survey

Instrument(s) Mark VI Input

(specify for each type of survey)

Accuracy ________

(specify for each type of survey)

Aircraft used Shorts Skyvan C-FQSL

Sensor altitude 45 meters

Navigation and flight path recovery method 1:25,000 uncontrolled mosaics; 35 mm continuous strip film

Aircraft altitude 122 meters Line Spacing 300 meters

Miles flown over total area 483 km Over claims only ________

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken ______________________

____

____

Total Number of Samples ______________________

Type of Sample ______________________
(Nature of Material)

Average Sample Weight ______________________

Method of Collection ______________________

____

Soil Horizon Sampled ______________________

Horizon Development ______________________

Sample Depth ______________________

Terrain ______________________

____

Drainage Development ______________________

Estimated Range of Overburden Thickness ______________________

____

____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis ______________________

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General ______________________

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ANALYTICAL METHODS

Values expressed in: per cent ☐ p. p. m. ☐ p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others ______________________

Field Analysis (______________________ tests)

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

Field Laboratory Analysis

No. (______________________ tests)

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

Commercial Laboratory (______________________ tests)

Name of Laboratory ______________________

Extraction Method ______________________

Analytical Method ______________________

Reagents Used ______________________

General ______________________

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SCHEDULE 609

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL509642		KRL541828		KRL580259			
KRL509643		KRL541829		KRL580260			
KRL509644		KRL541830		KRL580261			
KRL509645		KRL541831		KRL580262			
KRL509646		KRL541832		KRL580263			
KRL509647		KRL541833		KRL580264			
KRL509648				KRL580265			
KRL509649		KRL580201		KRL580266			
KRL509650		KRL580202		KRL580267			
KRL509651		KRL580203		KRL580268			
KRL509652		KRL580204		KRL580269			
KRL509653		KRL580205		KRL580270			
KRL509654		KRL580206		KRL580271			
KRL509655		KRL580207		KRL580272			
KRL509656		KRL580208		KRL580273			
KRL509657		KRL580209		KRL580274			
KRL509658		KRL580210		KRL580275			
KRL509659		KRL580211		KRL580276			
KRL509660		KRL580212		KRL580277			
KRL509661		KRL580213		KRL580278			
		KRL580214		KRL580279			
KRL509664		KRL580215		KRL580280			
KRL509665		KRL580216		KRL580281			
KRL509666		KRL580217		KRL580282			
		KRL580218		KRL580283			
KRL541799		KRL580219		KRL580284			
		KRL580220		KRL580285			
KRL541801		KRL580221					
KRL541802		KRL580222		KRL587276			
KRL541803		KRL580223		KRL587277			
KRL541804				KRL587278			
KRL541805		KRL580226		KRL587279			
KRL541806		KRL580227		KRL587280			
KRL541807		KRL580228		KRL587281			
KRL541808		KRL580229		KRL587282			
KRL541809		KRL580230		KRL587283			
KRL541810				KRL587284			
KRL541811		KRL580242		KRL587285			
KRL541812		KRL580243		KRL587286			
KRL541813		KRL580244		KRL587287			
KRL541814		KRL580245		KRL587288			
KRL541815		KRL580246		KRL587289			
KRL541816		KRL580247		KRL587290			
KRL541817		KRL580248		KRL587291			
KRL541818		KRL580249		KRL587292			
KRL541819		KRL580250		KRL587293			
KRL541820		KRL580251		KRL587294			
KRL541821		KRL580252		KRL587295			
KRL541822		KRL580253		KRL587296			
KRL541823		KRL580254		KRL587297			
		KRL580255		KRL587298			
KRL541825		KRL580256		KRL587299			
KRL541826		KRL580257		KRL587300			
KRL541827		KRL580258					

TOTAL CLAIMS = 153

SCHEDULE 611

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL526635							
KRL541834							
KRL541835							
KRL541836							
KRL541837							
KRL541838							
KRL541839							
KRL541840							
KRL541841							
KRL541842							
KRL541843							
KRL541844							
KRL541845							
KRL541846							
KRL541847							
KRL541848							
KRL541849							
KRL580231							
KRL580232							

TOTAL CLAIMS = 19

SCHEDULE 622

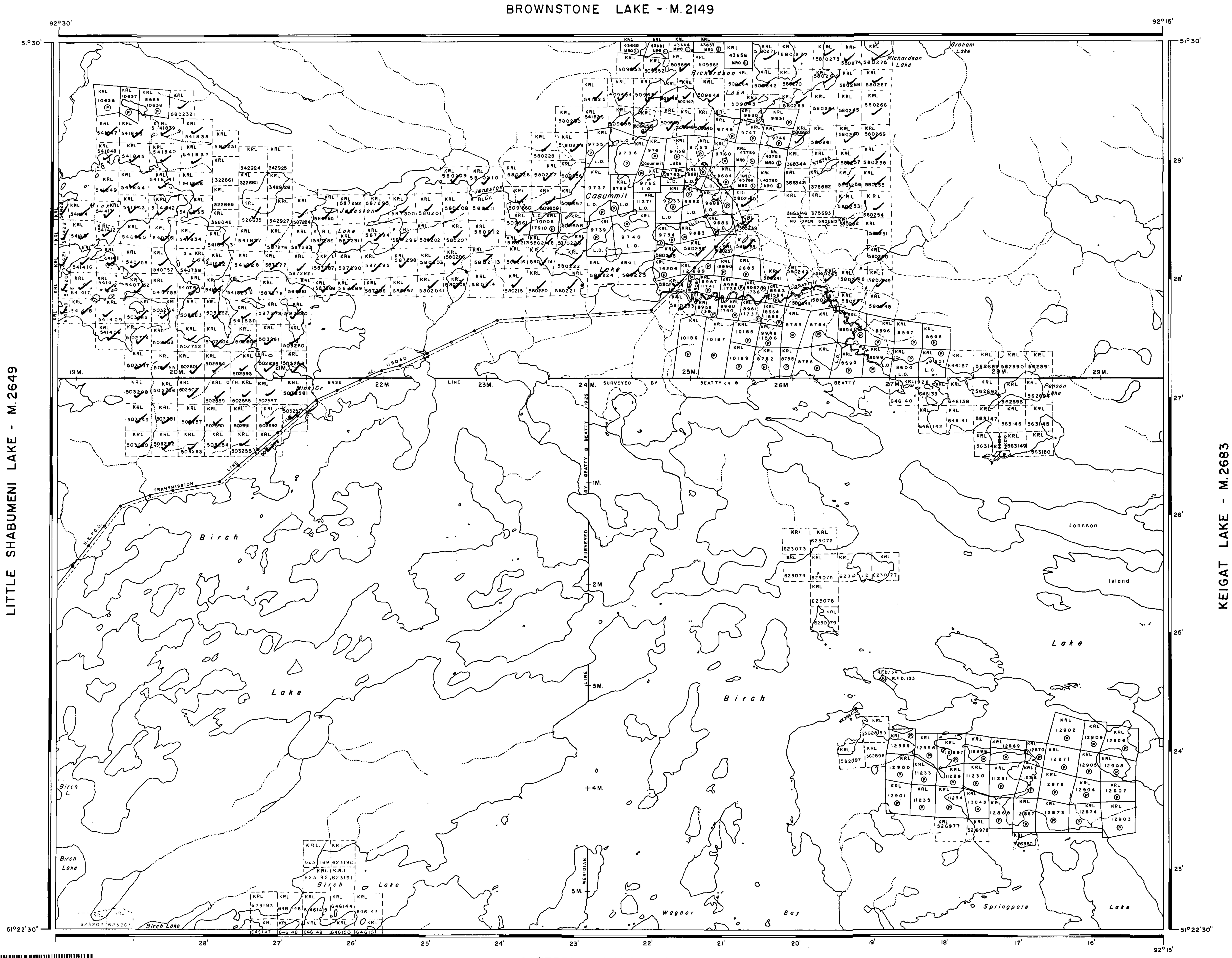
CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL580224							
KRL580225							
KRL580233							
KRL580234							
KRL580235							
KRL580236							
KRL580237							
KRL580238							
KRL580239							
KRL580240							
KRL580241							

TOTAL CLAIMS = 11

SCHEDULE 634

CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS	CLAIM NO.	DAYS
KRL502587		KRL541408					
KRL502588		KRL541409					
KRL502589		KRL541410					
KRL502590		KRL541411					
KRL502591		KRL541412					
KRL502592		KRL541413					
KRL502593		KRL541414					
KRL502594		KRL541415					
		KRL541416					
KRL502601		KRL541417					
KRL502602		KRL541418					
KRL502603		KRL541419					
KRL502604		KRL541420					
		KRL541421					
KRL502625		KRL541422					
		KRL541423					
KRL502752							
KRL502753							
KRL502754							
KRL502755							
KRL502756							
KRL502757							
KRL503247							
KRL503248							
KRL503249							
KRL503250							
KRL503251							
KRL503252							
KRL503253							
KRL503254							
KRL503255							
KRL503256							
KRL503257							
KRL503258							
KRL503259							
KRL503260							
KRL503261							
KRL503262							
KRL503263							
KRL503264							
KRL503265							

TOTAL CLAIMS = 54



AREA OF

CASUMMIT LAKE

DISTRICT OF KENORA
PATRICIA PORTION

RED LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

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

NOTES

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

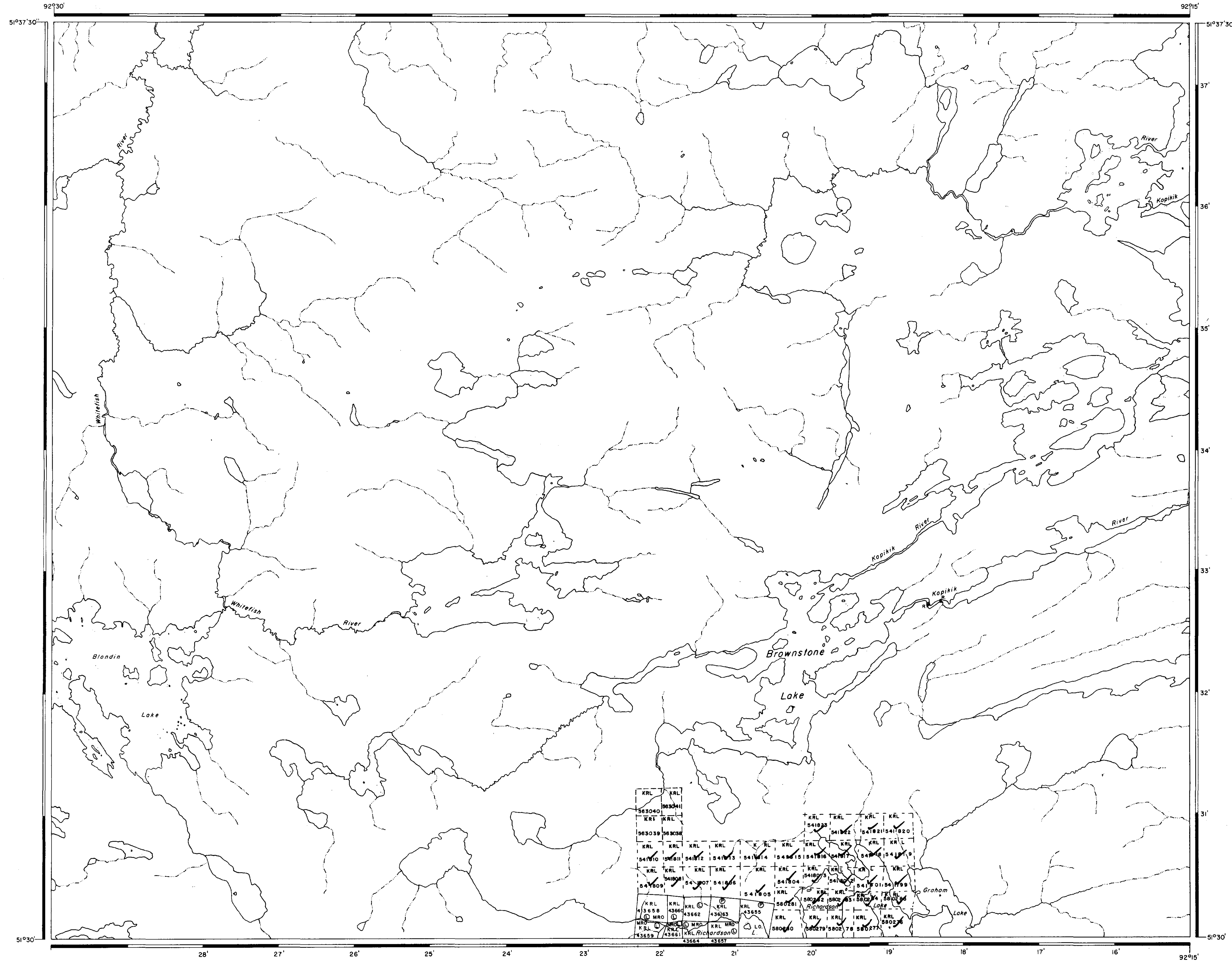
NATIONAL TOPOGRAPHIC SERIES 52 N 8

PLAN NO. M-2695

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

52N08SW0007 2.4100 CASUMMIT LAKE 200

514922



Wavell Lake Area - M.1808

Carillon Lake Area - M.1973

Casummit Lake Area - M.2695

52N09SW0007 2.4100 CASUMMIT LAKE

210

515922

AREA OF

BROWNSTONE LAKE

DISTRICT OF
KENORA
PATRICIA PORTION

RED LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

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

NOTES

400' Surface Rights Reservation along the shores of all lakes and rivers.

DATE OF ISSUE
NOV 19 1982
Ministry of Natural Resources
TORONTO

2.4100

NATIONAL TOPOGRAPHIC SERIES 52N

PLAN NO. M.2149

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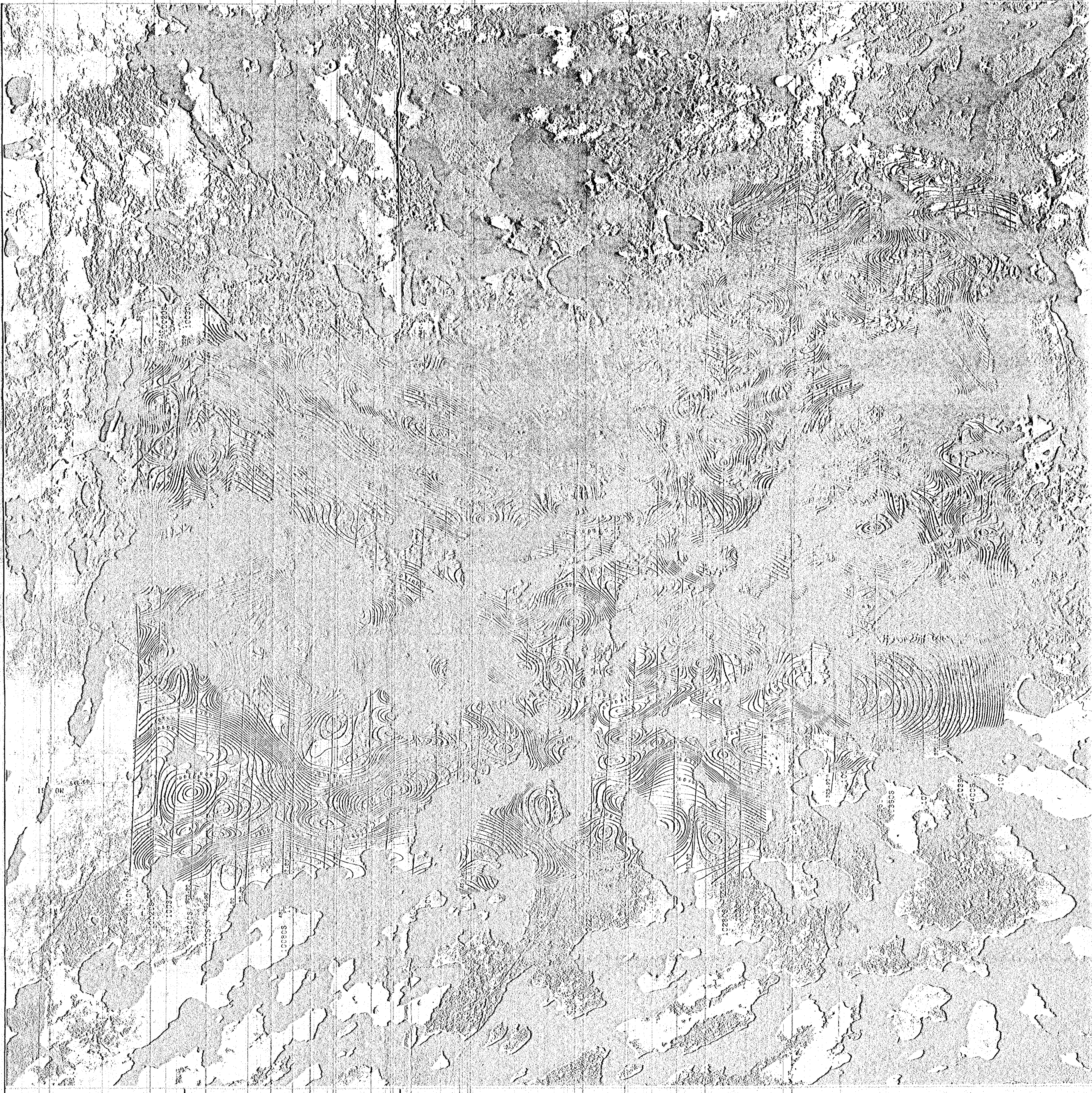


R.J. de Carle

CASUMMIT LAKE

Map 1 of 1 Scale: 1:25,000 23009BLKA

ISOMAGNETIC INTERVAL

(TOTAL FIELD)

10 GAMMA CONTOUR LINE

50 GAMMA CONTOUR LINE

500 GAMMA CONTOUR LINE

MAGNETIC DEPRESSION

FLIGHT ALTITUDE 400' ABOVE TERRAIN

240

2.4100

23009 BLK1
Master 1 of 1
1:25,000 map

R. J. de Carle

CASUMMIT LAKE

Map 1 of 1 Scale: 1:25,000 23009 BLK.B

ISOMAGNETIC INTERVAL

(TOTAL FIELD)

10 GAMMA CONTOUR LINE

50 GAMMA CONTOUR LINE

500 GAMMA CONTOUR LINE

MAGNETIC DEPRESSION

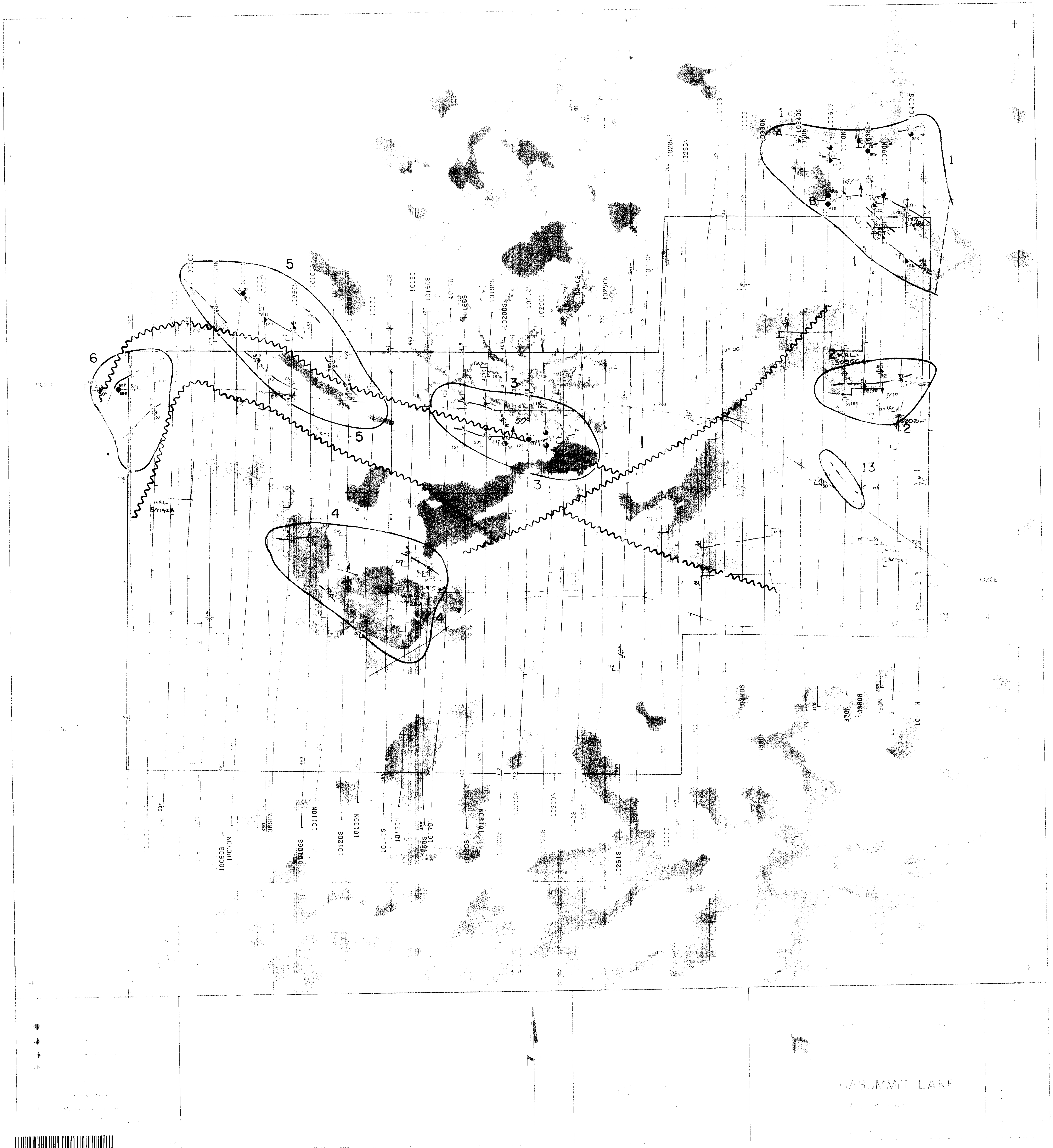
FLIGHT ALTITUDE 400' ABOVE TERRAIN

1:25000 → 1.15840

x 1.578

23009 BLK.B
Master 1 of 1
1:25,000 map

52N05W0007 2.4100 CASUMMIT LAKE



260

A
B
C
D
7
8
9
10
11
12
13
14
132°
55°
52°
35°
45°
20030S
20050S
20060N
20070S
20140N
20151S
20160N
20170S
20180N
20203S
20210S
20220N
20230S
20240N
20010S
20020N
20040N
20060N
20080N
20090S
20100N
20110S
20120N
20130S
20190S
20200N
20221OS
20220N
28010E
28020W
QUESTOR SURVEYS LIMITED
CASUMMIT LAKE
R.J. de Carle
Legend
Magnetic Correlation

270