010

2.264

INTRODUCTION

During the period from March 22nd to April 1st, 1970, a programme of electromagnetic and magnetic surveying was carried out over The Richan Lake group of claims in the Sturgeon Lake area of northwestern Ontario. This claim group lies on the north end of an arc of lakes including Beckington, Vanessa and Vista Lakes four miles east to eight miles northeast of the north arm of Sturgeon Lake. The group has been named according to its location southwest of Richan Lake. (DWG. NO. 5-240-1)

Access is by air from Sioux Lookout 65 miles to the west. Sioux Lookout is on Highway 72, 40 miles northeast of the Trans-Canada Highway. The claim group may be reached overland by winter trail to Beckington Lake from Savant Lake, a distance of about 7 miles. Savant Lake is accessable from the Trans-Canada Highway by Highway 599. The Trans-Canada line of the Canadian National Railway passes two miles north of the claim group which lies between Beckington and Richan Lakes.

The recent discovery of a massive copper-zinc deposit by Mattagami Lake Mines at Sturgeon Lake 28 miles southwest of the group has brought about intense activity over all volcanic rocks common to the discovery area. The rocks of the area under discussion here form a belt of volcanics contiguous to the volcanics of the discovery area.

Ground exploration was carried out over all or parts of the following claims:- PA245725 - 28, PA245730 - 42. The grid is situated on N.T.S. sheet 52J, and the claims located on O.D.M. claim map M-1740, in the Thunder Bay District of the Patricia Mining Division.

The grid, prepared by Richan Exploration Limited, is on a four hundred foot line separation, chained and picketed every 100 feet. Line mileages covered are as follows:-

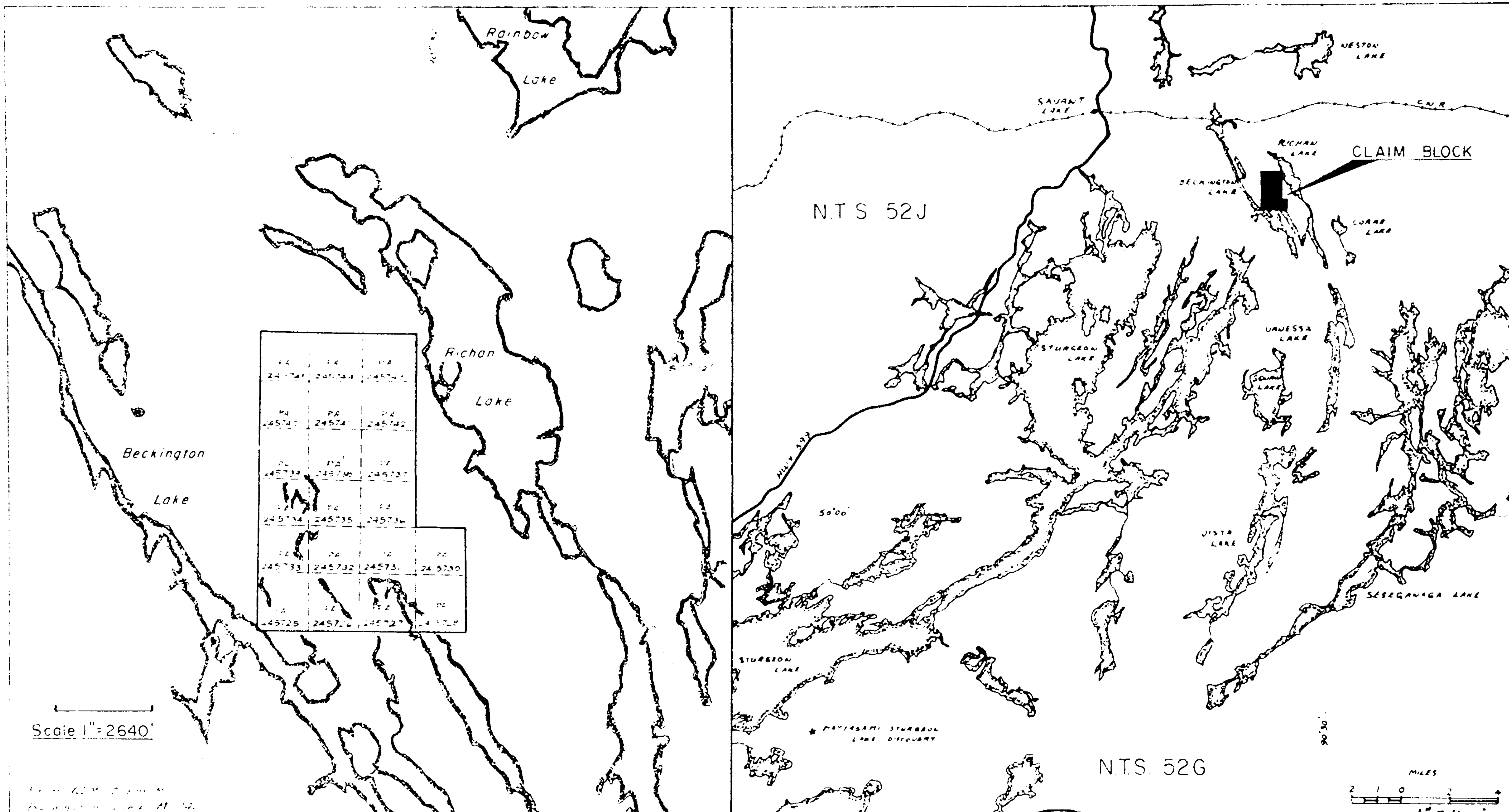
Grid 1	Line Miles
E.M.	13.9

Detail E.M.	1.72
Magnetics	13.9

Electromagnetic reconnaissance, using the Barringer Research L.E.M. 2 vertical loop dip angle electromagnetic unit, was carried out using the broadside method. A number of conductor indications were detailed using fixed transmitter set-ups. All stations were read at 100 foot intervals.

Magnetic readings to ±10 gammas were taken using a Barringer Research GM 102A proton precession total field magnetometer. Readings were taken on a 100 foot interval with closures to 25 feet where possible in areas of high magnetic activity.

Geophysical surveying compilation and interpretation of data was carried out by Barringer Research Limited.



N

A

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

RICHAN EXPLORATION LTD.		
GRID 1 - RICHAN LAKE, ONTARIO.		
LOCALITY PLAN		
APRIL 1970		DWG. 5-240-1

GENERAL DISCUSSION

The regional geology of the Sturgeon Lake area may be seen on the Sioux Lookout Armstrong compilation map 2169. The rocks over most of the area consist of Archean granites, felsic to mafic intrusives, metasediments and felsic to mafic volcanics. The granites form the major rock unit in the area. Proterozoic rocks, mostly diabase, occupy an extensive area on the east of the sheet. Greenstone belts, for the most part located on the west half of the sheet tend to follow the east-west trends common throughout the Superior Province of the Canadian Shield. The copper - zinc discovery at Sturgeon Lake is located on one of these trends and is in an acid to intermediate volcanic contact environment.

An exception to this major trend is the large formation of volcanics, intrusives and metasediments trending northeast from the discovery area at Sturgeon Lake. This formation exhibits a number of structural trends from northeast to north to northwest with all of these being identified in the large arcuate formation marking the easterly contact of the volcanics to the granites east of the northeast arm of Sturgeon Lake. The series of acid to intermediate volcanic flows extend north through Savant Lake. Mafic metavolcanics lie through the grid area which lies across the major arcuate structure. Major granitic rocks lie to the east with minor granites likely on the grid area.

The rocks of the grid area, while not clearly related to the felsic and mafic rocks at the Mattagami-Sturgeon Lake deposit, do form one common rock unit with the rocks of the deposit. Felsic rocks have not been mapped on the property, however, they could be present if in small units and be unrecorded on the regional mapping.

Various reports from individuals working in the area suggest the presence of sulphides along the trends through the area. Such a report has suggested a copper showing near the south of Vanessa Lake.

The topography in the area is quite rugged in places with lakes controlled by the major structural trend. Rock outcrops are quite extensive and often rise sharply as cliffs of fifty to one hundred feet.

The regional magnetics (G.S.C. Geophysics Paper 7122 Sheet 52J) exhibit the arcuate trend seen in the geology with north-northwest and north-northeast trends being evident. The easterly contact of the volcanics with the granites is marked by a series of magnetic highs. Grid 1 is essentially in a low flat area although a minor high on a crosscutting northeast feature touches the southeast of the claims. Surrounding magnetics generally follow a northwest trend on Grid 1.

The ground geophysics has revealed a number of magnetic and conductive horizons generally following the structural trends indicated by the land forms and regional geology. Electromagnetic conductors vary in response from moderate to weak. The strongest response is along the easterly side of the area.

The magnetics often identify with the electromagnetic responses. In places these are narrow with strong shallow responses. Narrow short strike, near surface, zones occur throughout the area. Everywhere flat background levels seem to reflect a common rock type.

The magnetic and electromagnetic activity on the grid suggests the presence of quite a number of minor shears and fractures. Resolution of the nature of magnetic conductors is of interest as a magnetic conductor may indicate pyrrhotite which may be in association with base metal sulphides. In a shear zone, however, the conductor may have its source in graphite possibly mixed with sulphides while the magnetic response has its source in either pyrrhotite or magnetite or both.

DETAILED INTERPRETATION

(DWG. NOS. 5-240-2 & 3)

This grid of lines lies across volcanics between Beckington and Richan Lakes. Gabbro may occur to the northeast.

The electromagnetic response is uninteresting over most of the grid. Conduction appears to relate to minor shears and fractures occasionally identified with structure defined by lakes. Detail on these sites has failed to resolve any notable conduction. Exceptions to this picture are in the southeast where somewhat stronger conductors appear suggestably more off the property than on. The zone of conduction to the east on lines 16S to 24S has some interest for its magnetic response.

Outside of the southeast corner the magnetics are for the most part scattered with near surface erratics, possibly boulders being a common source. Some continuity of narrow sources identifies narrow shears of fractures in places.

For the most part these magnetics indicate no economic interest. Background levels are generally subdued with certain areas being quite flat. In other areas activity consists of irregular highs and lows of several hundred gammas. While no clear definition of separate rock types is apparent from this, moderate phase differences in a generally uniform volcanic may occur.

CONCLUSIONS AND RECOMMENDATIONS

In this event certain areas would require further investigation. This investigation might take the form of a geologic investigation along favourable horizons coupled with a feasability study to determine if geochemical soil samples would provide useful information. Considerable outcrop in the area will aid the geologic mapping.

A location which recommends itself for further investigation is Line 16S, 23+50E to Line 24S, 26+50E.

BARRINGER RESEARCH LIMITED

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Laurie Reed, P. Eng.
Senior Geophysicist

REPORT OF THE

GROUND E.M., MAGNETIC AND GRAVITY SURVEY

ON THE VANESSA LAKE GROUP OF CLAIMS

IN THE STURGEON LAKE AREA, ONTARIO

FOR

RICHAN EXPLORATIONS LIMITED

BY

BARRINGER RESEARCH LIMITED

304 CARLINGVIEW DRIVE

METROPOLITAN TORONTO

REXDALE, ONTARIO

JUNE 1970

LIST OF CONTENTS

	Page
Introduction	1
General Discussion	3
Detailed Interpretation on Grid 2 - Vanessa Lake	5
Conclusions and recommendations	10

LIST OF DRAWINGS

DWG. NO.	TITLE	SCALE
5-240-4	Locality plan (follows page 2)	
5-240-5A	Vertical loop electromagnetic survey	1"=200'
5-240-5B	Vertical loop electromagnetic survey	1"=200'
5-240-5C	Vertical loop electromagnetic survey	1"=200'
5-240-6A	Total intensity magnetic survey	1"=200'
5-240-6B	Total intensity and vertical field magnetic survey	1"=200'
5-240-6C	Total intensity and vertical field magnetic survey	1"=200'
5-240-10	Gravity and elevation survey	1"=200'

INTRODUCTION

During the period from February 16th to April 17th, 1979, a programme of electro-magnetic and magnetic surveying was carried out over the Vanessa Lake group of claims the Sturgeon Lake area of northwestern Ontario. In addition a limited amount of gravity surveying was carried out over certain E.M. conductors. This claim group lies along an arc of lakes including Beckington, Vanessa and Vista Lakes four miles east to eight miles northeast of the north arm of Stugeon Lake. The group has been named according to its location, at Vanessa Lake. (DWG. NO. 5-240-4)

Access is by air from Sioux Lookout 65 miles to the west. Sioux Lookout is on Highway 72, 40 miles northeast of the Trans-Canada Highway. The claim group may be reached overland by winter trail through Beckington Lake to Vanessa Lake from Savant Lake, a distance of about 12 miles. Savant Lake is accessable from the Trans-Canada Highway by Highway 599. The trans-Canada line of the Canadian National Railway passes 9 miles north of the group.

The recent discovery of a massive copper-zinc deposit by Mattagami Lake Mines at Sturgeon Lake 26 miles southwest of the group has brought about intense activity over all volcanic rocks common to the discovery area. The rocks of the areas under discussion here form a belt of volcanics contiguous to the volcanics of the discovery area.

Ground exploration was carried out over all or parts of the following claims:- PA245799 - 827; PA245830 - 37; PA245840 - 43. The grid is situated on N.T.S. sheets 52J/1 and 2, and the claims located on O.D.M. Claim Maps M-1904 and M-2878. All are in the Thunder Bay District of the Patricia Mining Division.

The grid prepared by Richan Exploration Limited is on a four hundred foot line separation, chained and picketed every 100 feet. Line mileages covered are as follows:-

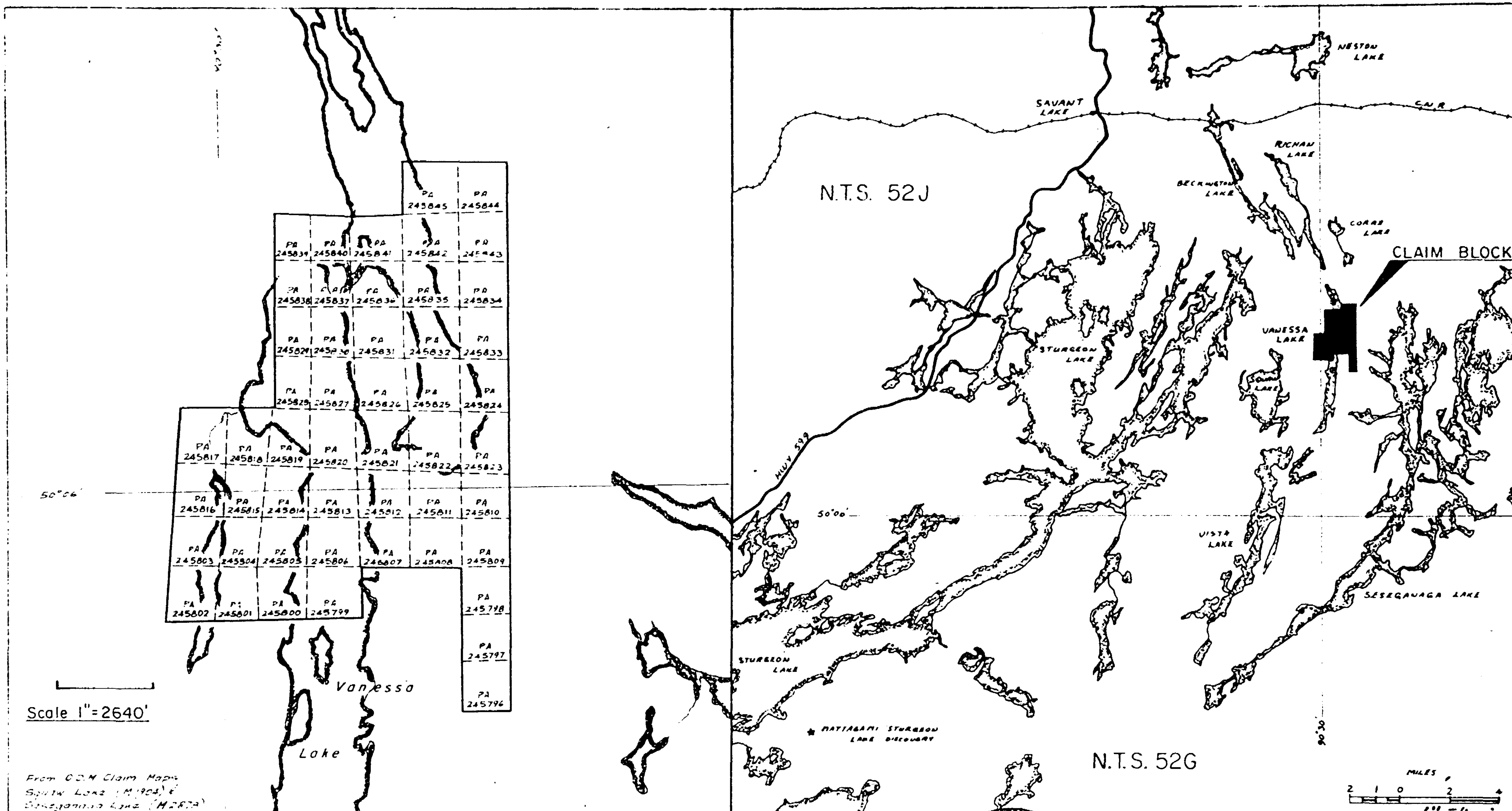
	LINE MILES
E.M.	38.00
Detail E.M.	3.50
Magnetics	38.00
Gravity and level	2.86

Electromagnetic reconnaissance, using the Barringer Research L.E.M. 2 vertical loop dip angle electromagnetic unit, was carried out using the broadside method. A number of conductor indications were detailed using fixed transmitter set-ups. All stations were read at 100 foot intervals.

Magnetic readings to ±10 gammas were taken using a Barringer Research GM 102A proton precession total field magnetometer and a McPhar M700 fluxgate vertical field magnetometer. Readings were taken on a 100 foot interval with closures to 25 feet where possible in areas of high magnetic activity.

The limited gravity survey was carried out using a Scintrex CG2 gravity meter. Gravity stations were read along the lines on a 100 foot interval. Levelling of the gravity stations was carried out coincident with this survey.

Geophysical surveying compilation and interpretation of data was carried out by Barringer Research Limited.



N

L. E. REED

REGISTERED PROFESSIONAL ENGINEER

PROVINCE OF ONTARIO

Work undertaken by

BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.	
GRID 2, VANESSA LAKE, ONTARIO	
LOCALITY PLAN	
APRIL 1970	DWG. 5-240-4

GENERAL DISCUSSION

The regional geology of the Sturgeon Lake area may be seen on the Sioux Lookout - Armstrong compilation map 2169. The rocks over most of the area consist of Archean granites, felsic to mafic intrusives, metasediments and felsic to mafic volcanics. The granites form the major rock unit in the area. Proterozoic rocks, mostly diabase, occupy an extensive area on the east of the sheet. Greenstone belts, for the most part located on the west half of the sheet tend to follow the east-west trends common throughout the Superior Province of the Canadian Shield. The copper-zinc discovery at Sturgeon Lake is located on one of these trends and is in an acid to intermediate volcanic contact environment.

An exception to this major trend is the large formation of volcanics, intrusives and metasediments trending northeast from the discovery area at Sturgeon Lake. This formation exhibits a number of structural trends from northeast to north to nothwest with all of these being identified in the large arcuate formation marking the easterly contact of the volcanics to the granites east of the northeast arm of Sturgeon Lake. The series of acid to intermediate volcanic flows extends north through Savant Lake. Mafic metavolcanics lie through the grid area which lies across the major arcuate structure. Major granitic rocks to the east may be present with minor granites likely.

The rocks of the grid area, while not clearly related to the felsic and mafic rocks at the Mattagami-Sturgeon Lake deposit, do form one common rock unit with the rocks of the deposit. Felsic rocks have not been mapped on the property, however, they could be present if in small units and be unrecorded on the regional mapping.

Various reports from individuals working in the area suggest the presence of sulphides along the trends through the property. A similar report has suggested a copper showing south of this grid.

The topography on the grid is quite rugged in places with lakes controlled by the major structural trend. Rock outcrops are quite extensive and often rise sharply as cliffs of fifty to one hundred feet.

The regional magnetics (G.S.C. Geophysics Paper 7122 Sheet 52J) exhibit the arcuate trend seen in the geology with north-northwest and north-northeast trends being evident. The easterly contact of the volcanics with the granites is marked by a series of magnetic highs, the strongest of these being on Grid 2.

The ground geophysics has revealed a series of magnetic and conductive horizons generally following the structural trends indicated by the land forms and regional geology. Electromagnetic conductors vary in response from very strong to weak. Some of the stronger conductors are indicated to be on surface. The strongest response tends to be along the easterly sides of the area.

The magnetics often identify with the electromagnetic responses with long linear features predominating. The stronger and more consistent zones are seen to the east relating to the stronger zone. In places this is narrow with strong shallow responses. In others the zone reflects a broad formational appearance. Narrow short strike, near surface, zones occur throughout the area. Everywhere flat background levels seem to reflect a common rock type.

Major conductive and magnetic shears dominate the environment with a few minor shears and fractures being evident. This picture of major shear zones which extend over several miles provides a difficult environment in which to isolate possible mineral occurrances. The longer more continuous zones, while less likely as targets for economic minerals, provide the major geophysical activity. These will need to be further evaluated geologically on the ground. Points of interest on these zones are sites of discontinuity, offsets of flexures which might indicate traps for mineralization. Resolution of the nature of magnetic conductors is also of interest as a magnetic conductor may indicate pyrrhotite which may be in association with base metal suphides. In a shear zone, however, the conductor may have its source in graphite possibly mixed with sulphides while the magnetic response has its source in either pyrrhotite or magnetite or both. It is apparent that some situations will need to be drilled to fully evaluate their potential.

DETAILED INTERPRETATION

Grid 2 Vanessa Lake (DWG. NOS. 5-240-5A, B, C, 6A, B, C, & 10)

This large grid which crosses two arms of Vanessa Lake has two major sets of electromagnetic conductors. One of these follows the east arm of the lake and is multiple and quite variable in its response. The other zone lies west of the lake and is more uniform in its appearance. Both likely define major shear zones passing through the property. Elsewhere scattered weak conduction is indicative of minor shears and fractures. These weaker conductors have no magnetic association and have no economic interest.

The westerly zone consists of conductive horizons about two to three hundred feet apart trending in a north-south direction. Detail indicates widths of up to thirty feet on each zone. Steeply dipping fairly conductive sheets are indicated to come close to surface over much of its length. Toward the north the strike turns northwest with the duality possibly disappearing, toward the south the easterly member of the zone is magnetic possibly due to pyrrhotite or magntite. As the appearance of the conductor is not greatly changed here, it is presumed that the main contributor to the conductivities is graphite in a shear. 700 feet to the west a minor subsidiary conductor is seen to follow the edge of a small lake and is apparently defining a minor structural break.

The major easterly zone is complex, exhibiting strong near surface multiple conduction to the south and deeper more subdued conduction further north. This zone might be separated into two major horizons. One, the weaker follows the westerly lake edge almost continuously from north to south and continues south of the lake beyond the southern margin of the property. For the most part the response is fairly weak and deep seated. The exception to this is just south of the lake from lines 16S to 24S where the conduction improves markedly to identify a fairly strong near surface response. Except for a single station magnetic high on line 20S the strong portion of this zone has no magnetic activity.

The other portion of this zone follows the central part of the lake over its length and extends south of the lake off the property to the south. The response in the lake is variable and broken with moderate to strong conduction being noted. Detail in some sections indicate moderate depth of cover.

The appearance of the zone is markedly changed south of the lake. Moderate conductor indications in the lake suddenly change to strong near surface sources with three strong horizons being noted. This sudden change may be due to faulting through the rocks close to the surface. Such a conclusion is also inferred from the sudden emergence of the westerly zone noted above. The magnetics also show this sudden change of character.

The dips of these likely narrow conductors are unclear due to the multiplicity of conductor, however, very steep dips are implied.

The magnetics across much of the grid are flat and unvarying suggesting a common rock type across the area. This background is interrupted in a few places by local magnetic sources mostly close to surface of small dimension. While these may be bedrock sources they could just as likely be float sources. Of more certain bedrock origin are the long narrow magnetic highs often identified with structural trends and conductor horizons. A good example of a narrow magnetic trend indentifying structure is seen to the west of the small elongated lake in the southwest of the grid. While no electromagnetic conduction is identified with this zone the narrow near surface magnetics 1800 feet to the west do have a closely flanking conductive response. These represent narrow shear zones carrying magnetite or pyrrhotite in insufficient quantities in themselves to make an electromagnetic conductor.

Of seemingly different origin is the long, high amplitude response extending along the east arm of Vanessa Lake and south to the southern boundary. The response over much of the length of zone is smoothed, as from a uniformally magnetized body possibly iron formation. Yet the length, direction and location in the topographically weak lake suggests this may be a very wide shear zone with some of the smooth response resulting from greater depth of burial. The southern end of the zone is sharply erratic from very narrow sources quite likely massive pyrrhotite. Just to the north in the lake the zone has very much reduced amplitude. Moving north the response increases suggestive of decreasing depth to the body. The form of the profiles indicate the shallowest depths in the central area are from line 24N to line 32N where depths are of the order of 30 feet. Moving north the zone deepens to line 44N then re-emerges on 52N.

The E.M. response directly relates to the magnetics, in places in flanking association in other places in direct correlation. The strength of the E.M. response is also directly related to the strength of the magnetics with shallow conductors identifying with shallow magnetics as at the south end of the lake. While the main source of conduction is likely graphite in shears. Conductive sulphides in the form of pyrrhotite likely contribute to the conductive response, situations at the north, middle and south ends of the zone have this possibility.

A complementary magnetic zone to the west identifying with the E.M. conductor along the lake edge is more likely of shear zone origin. Over most of its length the magnetic zone lies several hundred feet west of the E.M. conductor and is often fairly broad. Near the south end the magnetics reflect a source closer to surface having more erratic magnetization.

In all magnetic activity seen on this grid magnetite is likely a contributing factor. Amplitudes of a few thousand gammas without electromagnetic conduction would support this. In places where larger values identify with E.M. conduction massive pyrrhotite is very likely present although this doesn't preclude the possibility of considerable magnetite being present also. On the assumption of a possible base metal association with pyrrhotite then the three magnetic and electromagnetic conductive centres would make targets for further investigation.

The gravity profiles over the westerly zone on lines 16S and 20S do not provide any outstanding anomalous response. A geologic contrast is apparent with rocks of different densities noted east and west of the conductive zone. The conductors apparently mark the contact between these two units but at this site do not have indications of either extensive sulphides which would show a positive anomaly or graphite which would show a negative response. The westerly conductors are on a slight depression which likely identifies shearing or faulting.

To the south on lines 36S the gravity results are rather similar with the contrast east and west of the conductors being less marked. Local gravity effects are minor with small lows possibly identifying with the conductors.

The gravity results on line 40S are changed with a possibly local gravity high of .5 milligals flanking the strong conduction. If real, this response could indicate the presence of sulphides. Lack of exact coincidence of the responses is somewhat discouraging. Particular interest in further ground investigations might be paid here.

The gravity profiles over the strong magnetic and electromagnetic zone to the east provide evidence of considerable excess mass. This is particularly true of the lines 12S and 16S where gravity anomalies of .6 to .9 milligals identify with the northern end of the conductive zone. Clearly the conductors are contained in a rock more dense than its surroundings. The suggestion of an iron formation at this site now has more credance, certainly a large shear zone through the area would more likely carry less dense rocks and produce a gravity low. Shearing in association with an iron formation would be compatable, massive sulphides providing both conductor and gravity highs also are suggested. That not all conductive zones identify with the gravity high is apparent in the easterly member which has no gravity response.

The smaller zone to the west is identified with the major zone through the small gravity high on line 16S at 16+50E which marks the conductor axis at this point. The zone is apparently narrower but likely of similar origin to the major zone.

Gravity on lines 32S and 36S confirm the gravity high in association with the magnetic conductive zone. The response here is somewhat subdued and spread out with a maximum amplitude of .5 milligals.

All readings show a strong regional gradient low to the east. This is likely reflecting the large granite area to the east contrasting with the volcanics of the survey area and to the west.

CONCLUSIONS AND RECOMMENDATIONS

Strong to moderate conductive and magnetic response has been indicated on long zones crossing the grid. Essentially a major system of shear zones is being described in the data. One of these, the strongest may be an iron formation with associated shearing. In certain locations magnetic and conductive sources are coincident promoting the suggestion of massive pyrrhotite which may indicate the presence of economic sulphides.

In this event certain areas would require further investigation. This investigation might take the form of a geologic investigation along favourable horizons coupled with a feasability study to determine if geochemical soil samples would provide useful information. Considerable outcrop in the area will aid the geologic mapping.

Locations which recommend themselves are as follows: Line 12S, 23E - 29E to line 36S, 21E - 29E; Line 16S, 30W to line 44S, 29W.

For certain situations it will be necessary to drill to discover the source of the anomaly as the system is completely covered by water. Such a situation is in the lake on Grid 2. It is recommended that this situation be drilled.

1. Collar: line 20N, 16 + 75E dip 45° directed grid east to a depth of 375 feet.

Shorter holes on the surficial zone to the south might more properly be located in conjunction with the geology. The gravity highs on line 12S and 16S would receive primary interest here.

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

BARRINGER RESEARCH LIMITED

Laurie Reed

Laurie Reed, P. Eng.
Senior Geophysicist

DECLARATION

I Laurie Egbert Reed of the town of Georgetown, County Halton, Ontario do hereby certify:

1. That I am a geophysicist and reside at 30 Water Street, Georgetown, Ontario.

2. That I am a graduate of the University of Waterloo and have been practicing my profession as a mining geophysicist for the past 6 years.

3. That I have made a personal examination of the properties covered in this report.

4. That this report is based on a study of the records of the present survey as well as of reports of past investigations on the property, both geologic and geophysical, together with available government maps and reports.

5. That I am a member of the Association of Professional Engineers of Manitoba, the Association of Professional Engineers of Ontario and the Society of Exploration Geophysicists.

Dated at Toronto, Ontario this 9th day of July 1970

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Laurie Reed

Laurie Reed, P. Eng.

REPORT OF THE GROUND E.M., AND MAGNETIC SURVEY ON THE VISTA LAKE GROUP OF CLAIMS IN THE STURGEON LAKE AREA, ONTARIO FOR RICHAN EXPLORATIONS LIMITED

BY

BARRINGER RESEARCH LIMITED
304 CARLINGVIEW DRIVE
METROPOLITAN TORONTO
REXDALE, ONTARIO

JUNE 1970

LIST OF CONTENTS

	PAGE
Introduction	1
General Discussion	3
Detailed Interpretation on Grid 3 -- Vista Lake	5
Conclusions and Recommendations	7

LIST OF DRAWINGS

DWG. NO.	TITLE	SCALE
5-240-7	Locality plan (follows page 2)	
5-240-8A	Vertical loop electromagnetic survey	1"=200'
5-240-8B	Vertical loop electromagnetic survey	1"=200'
5-240-9A	Vertical field magnetics	1"=200'
5-240-9B	Vertical field magnetics	1"=200'

INTRODUCTION

During the period February 14th to March 6th, 1970, a programme of electromagnetic and magnetic surveying was carried out over the Vista Lake group of claims in the Sturgeon Lake area of northwestern Ontario. This claim group lies on an arc of lakes including Beckington, Vanessa and Vista Lakes four miles east to eight miles northeast of the north arm of Sturgeon Lake. The group has been named according to it's location, at the north end of Vista Lake and the grid is referred to as Grid 3. (DWG. NOS. 5-240-7)

Access is by air from Sioux Lookout 65 miles to the west. Sioux Lookout is on Highway 72, 40 miles northeast of the Trans-Canada Highway. The claim group may be reached overland by winter trail through Beckington Lake and Vanessa Lake from Savant Lake, a distance of about 17 miles. Savant Lake is accessable from the Trans-Canada Highway by Highway 599. The Trans-Canada line of the Canadian National Railway passes 14 miles north of the claim group at Vista Lake.

The recent discovery of a massive copper-zinc deposit by Mattagami Lake Mines at Sturgeon Lake 22 miles southwest has brought about intense activity over all volcanic rocks common to the discovery area. The rocks of the areas under discussion here form a belt of volcanics contiguous to the volcanics of the discovery area.

Ground exploration was carried out over all or parts of claims PA246066 - 83 (inclusive). These claims are situated on N.T.S. sheets 52J/2. Grid 3 is on O.D.M. Claim Map M-1904 in the Thunder Bay District of the Patricia Mining Division.

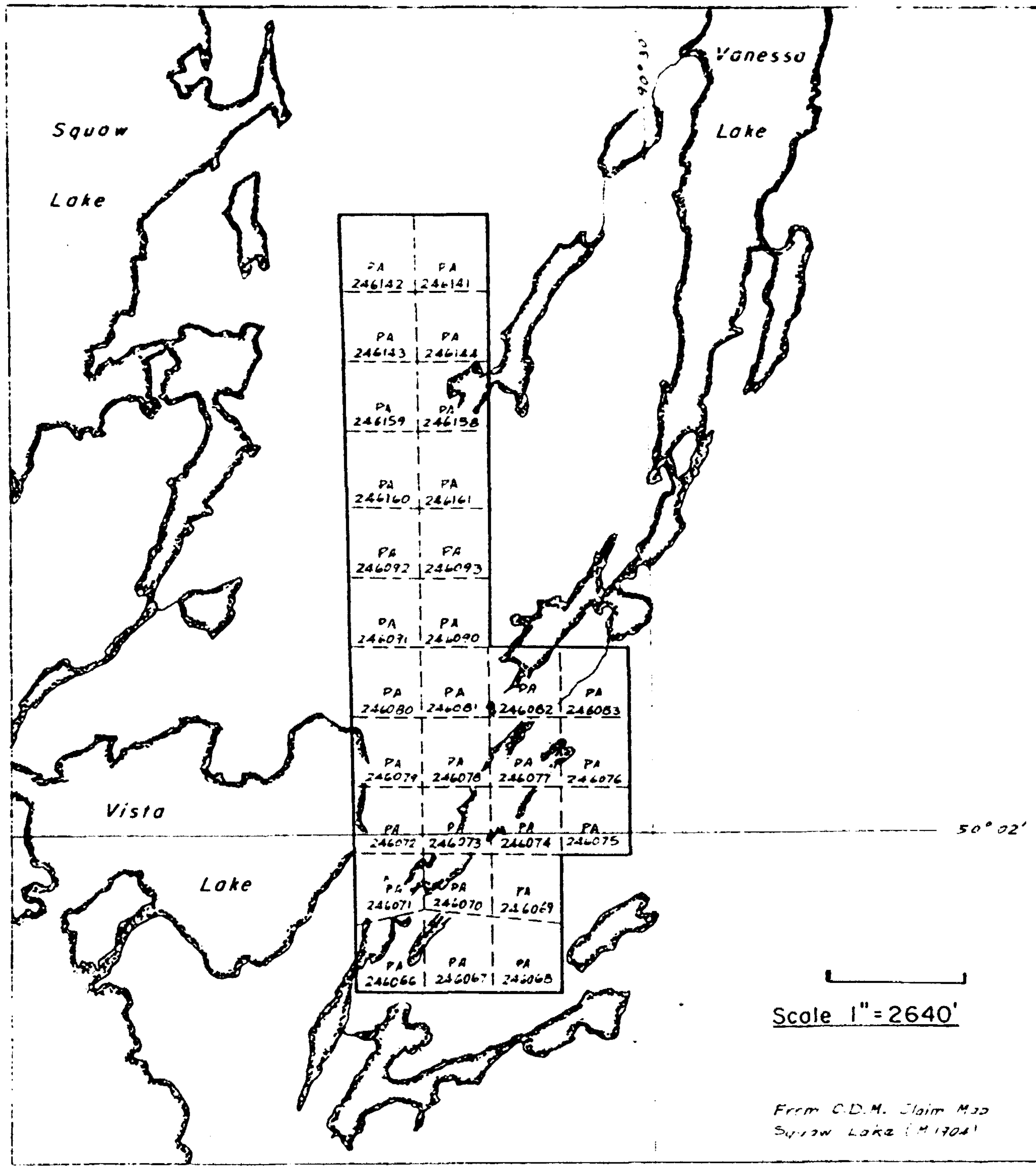
The grid, prepared by Richan Exploration Limited, is on a four hundred foot line separation, chained and picketed every 100 feet. Line mileages covered are as follows:-

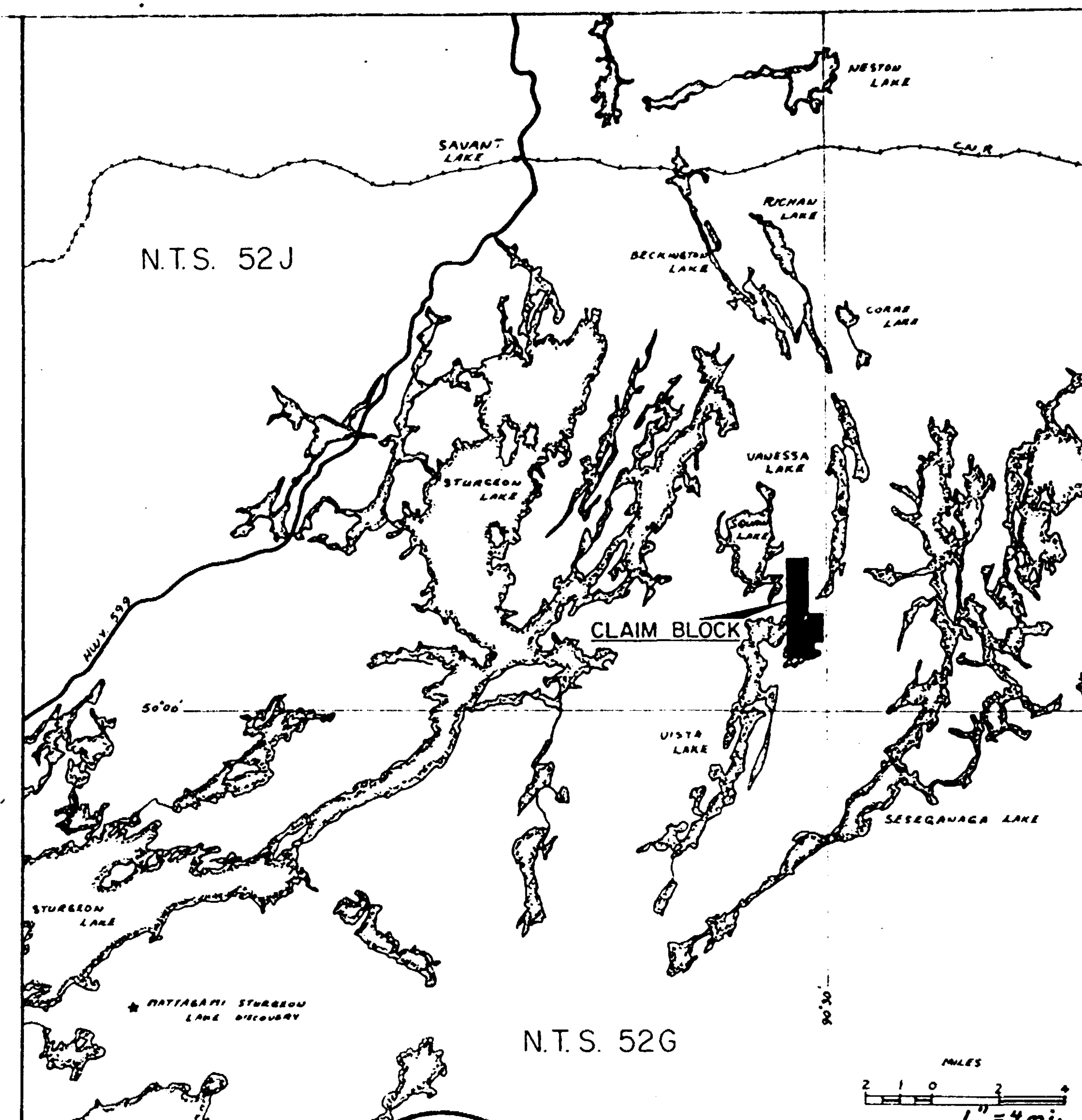
	Line Miles
E.M.	14.85
Detail E.M.	1.99
Magnetics	15.75

Electromagnetic reconnaissance, using the Barringer Research L.E.M. 2 vertical loop dip angle electromagnetic unit, was carried out using the broadside method. A number of conductor indications were detailed using fixed transmitter set-ups. All stations were read at 100 foot intervals.

Magnetic readings to ± 10 gammas were taken using a McPhar M700 fluxgate vertical field magnetometer. Readings were taken on a 100 foot interval with closures to 25 feet where possible in areas of high magnetic activity.

Geophysical surveying, compilation and interpretation of data was carried out by Barringer Research Limited.





N

A

Jamie Reed

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.	
GRID 3 - VISTA LAKE, ONTARIO.	
LOCALITY PLAN	
APRIL 1970	DWG. 5-240-7

GENERAL DISCUSSION

The regional geology of the Sturgeon Lake area may be seen on the Sioux Lookout - Armstrong compilation map 2169. The rocks over most of the area consist of Archean granites, felsic to mafic intrusives, metasediments and felsic to mafic volcanics. The granites form the major rock unit in the area. Proterozoic rocks, mostly diabase, occupy an extensive area on the east of the sheet. Greenstone belts, for the most part located on the west half of the sheet tend to follow the east-west trends common throughout the Superior Province of the Canadian Shield. The copper-zinc discovery at Sturgeon Lake is located on one of these trends and is in an acid to intermediate volcanic contact environment.

An exception to this major trend is the large formation of volcanics, intrusives and metasediments trending northeast from the discovery area at Sturgeon Lake. This formation exhibits a number of structural trends from northeast to north to northwest with all of these being identified in the large arcuate formation marking the easterly contact of the volcanics to the granites east of the northeast arm of Sturgeon Lake. The series of acid to intermediate volcanic flows extends north through Savant Lake. Mafic metavolcanics lie through the grid area which lies across the major arcuate structure. Major granitic rocks to the east may be present on Grid 3 with minor granites likely.

The rocks of the grid area while not clearly related to the felsic and mafic rocks at the Mattagami-Sturgeon Lake deposit, do form one common rock unit with the rocks of the deposit. Felsic rocks have not been mapped on the property, however, they could be present if in small units and be unrecorded on the regional mapping.

Various reports from individuals working in the area suggest the presence of sulphides along the trends through the property. One report has suggested a copper showing near this grid.

The topography on the grid is quite rugged in places with lakes controlled by the major structural trend. Rock outcrops are quite extensive and often rise sharply as cliffs of fifty to one hundred feet.

The regional magnetics (G.S.C. Geophysics Paper 7122 Sheet 52J) exhibit the arcuate trend seen in the geology with north-northwest and north-northeast trends being evident. The easterly contact of the volcanics with the granites is marked by a series of magnetic highs with evidence of the ridge being seen at the south end of Grid 3.

The ground geophysics has revealed a series of magnetic and conductive horizons generally following the structural trends indicated by the land forms and regional geology. Electromagnetic conductors vary in response from very strong to weak. Some of the stronger conductors are indicated to be on surface. The strongest response tends to be along the easterly side of the area.

The magnetics often identify with the electromagnetic responses with long linear features predominating. The stronger and more consistent zones occur throughout the area. Everywhere flat background levels seem to reflect a common rock type.

Major conductive and magnetic shears dominate the environment with a few minor shears and fractures being evident. This picture of major shear zones which extend over several miles provides a difficult environment in which to isolate possible mineral occurrances. The longer more continuous zones while less likely as targets for economic minerals provide the major geophysical activity. These will need to be further evaluated geologically on the ground. Points of interest on these zones are sites of discontinuity, offsets or flexures which might indicate traps for mineralization. Resolution of the nature of magnetic conductors is also of interest as a magnetic conductor may indicate pyrrhotite which may be in association with base metal sulphides. In a shear zone, however, the conductor may have its source in graphite possibly mixed with sulphides while the magnetic response has its source in either pyrrhotite or magnetite or both. It is apparent that some situations will need to be drilled to fully evaluate their potential.

DETAILED INTERPRETATION ON GRID 3 -- VISTA LAKE (DWG. NOS. 5-240-8A, B & 9A, B)

Electromagnetic conduction presents a picture of strong narrow near surface conductive zones at times having considerable length. A major zone is seen extending across the property from northeast to southwest. For the most part singular, the zone suggests a steeply dipping sheet coming near surface over most of its length.

Two lesser zones are seen on the grid, one of these to the north extends in a northeasterly direction along a lake exhibiting a width of about 40 feet. This conductor is weaker and apparently more deeply buried than the conductor of the main zone.

To the west a fairly strong conductor exhibits a radically different strike direction. The north-south direction identifies with the edge of Vista Lake and likely reflects local shearing. It is suggested that the intersection of the two major trends crosses this grid east of this conductor. The cross line of detail at right angles to the conductor indicates a fairly shallow source possibly steeply dipping.

Elsewhere weak conduction indicates minor fracturing. Little consistancy has developed in these weaker indications.

Magnetic activity generally falls into zones for the most part narrow and near surface. The major magnetic formation identifies with the strong conductive horizon, however, magnetic sources are much more variable in their occurance than the E.M. sources. Occasionally E.M. and magnetic responses are exactly coincident such as the section from line 40N, 22+50E to line 52N, 24+25E. A similar correlation occurs from line 4S to 8N. Suggestably in these places pyrrhotite is present to contribute both to the magnetics and conductivities. An alternate possibility is the coincidence of graphite and magnetite in a shear zone.

A broad magnetic zone lies in the lake west of the major horizon. Lacking E.M.

response this formation has little interest.

Other magnetic zones suggestably relate to the shear zones. One of these identifies with the north-south conductor along Vista Lake. An exception to this general pattern is the broad imperfectly resolved magnetic high to the east on lines 8N and 12N. The source of this high is not immediately apparent although a more basic intrusive rock could exist here. This body may be responsible for terminating the southward movement of the implied shear along Vista Lake.

Outside of the main magnetic zone, a few individual erratic highs and the broad area noted above, magnetics are generally flat with a common background level suggestive of a common rock type through which are shears carrying graphite, pyrrhotite and magnetite. In this setting economic minerals may occur with specific targets of interest being coincident magnetics and conductors. As well as the several cases noted on the main zone, the cross cutting feature at Vista Lake has this interest.

CONCLUSIONS AND RECOMMENDATIONS

Strong to moderate conductive and magnetic response has been indicated on long zones crossing the grid investigated. Essentially a major system of shear zones is being described in the data. One of these,the strongest may be an iron formation with associated shearing. In certain locations magnetic and conductive sources are coincident promoting the suggestion of massive pyrrhotite which may indicate the presence of economic sulphides.

In this event certain areas would require further investigation. This investigation might take the form of a geologic investigation along favourable horizons coupled with a feasability study to determine if geochemical soil samples would provide useful information. Considerable outcrop in the area will aid the geologic mapping.

Locations which recommend themselves are as follows:-

Line 28N, 10+50W to line 12N,BL

Line 56N, 23E - 25E to line 4S, 22+50E (caution; line numbering starts from 0 at new base line south from 18E on line 8N)

For certain situations it will be necessary to drill to discover the source of the anomaly.

On Grid 3, the north-south zone might be thus tested.

1. Collar: line 20N, 6W dip 45° bearing 90° azimuth to a depth of 200 feet.

The main zone might be tested by drilling with determination of holes being made in conjunction with the geology.

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

BARRINGER RESEARCH LIMITED

Laurie Reed

Laurie Reed, P. Eng.
Senior Geophysicist

DECLARATION

I Laurie Egbert Reed of the town of Georgetown, County Halton, Ontario do hereby certify:

1. That I am a geophysicist and reside at 30 Water Street, Georgetown, Ontario.

2. That I am a graduate of the University of Waterloo and have been practicing my profession as a mining geophysicist for the past 6 years.

3. That I have made a personal examination of the properties covered in this report.

4. That this report is based on a study of the records of the present survey as well as of reports of past investigations on the property, both geologic and geophysical, together with available government maps and reports.

5. That I am a member of the Association of Professional Engineers of Manitoba, the Association of Professional Engineers of Ontario and the Society of Exploration Geophysicists.

Dated at Toronto, Ontario this 9th day of July 1970

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Laurie Reed

Laurie Reed, P. Eng.

52J02NE0460 52J02SE0051 SQUAW LAKE

900

2.264

PERFORMANCE & COVERAGE CREDITS

ASSESSMENT WORK DETAILS

Township or Area: Squaw Lake - Vista Lake

Type of Survey: Magnetic
A separate form is required for each type of survey

Chief Line Cutter or Contractor: A. Tremblay (Name)
Chibougamau, P.Q. (Address)

Party Chief: E. Reeves (Name)
304 Carlingview Drive, Rexdale, Ont. (Address)

Consultant: L. E. Reed (Name)
30 Water Street, Georgetown, Ontario. (Address)

COVERING DATES

Line Cutting: Jan.20 - Feb. 5, 1970

Field: Feb.2-7, 1970
Instrument work, geological mapping, sampling etc.

Office: Apr. 22 - May 5, 1970

INSTRUMENT DATA

Make, Model and Type: McPhar M700 Fluxgate

Scale Constant or Sensitivity: 10 gamma
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count:

Number of Stations Within Claim Group: 838

Number of Readings Within Claim Group: 838

Number of Miles of Line cut Within Claim Group: 13.9

Number of Samples Collected Within Claim Group:

MINING CLAIMS TRAVERSED

List numerically

PA246066, 246067, 246068,
246069, 246070, 246071,
246072, 246073, 246074,
246075, 246076, 246077,
246078, 246079, 246080,
246081, 246082, 246083,
246090, 246091, 246092,
246093, 246141, 246142,
246143, 246144, 246158,
246159, 246160, 246161.

If space insufficient, attach list

TOTAL 30

CREDITS REQUESTED

	20 DAYS per claim	40 DAYS per claim	Includes (Line cutting)
Geological Survey	☐	☐	
Geophysical Survey	☒	☐	Show Check ✓
Geochemical Survey	☐	☐	

DATE Nov 18-70

SIGNED [signature]

Send in duplicate to:
FRED W. MATTHEWS
SUPERVISOR-PROJECTS SECTION
DEPARTMENT OF MINES & NORTHERN AFFAIRS
WHITNEY BLOCK
QUEEN'S PARK
TORONTO, ONTARIO

PERFORMANCE & COVERAGE CREDITS

ASSESSMENT WORK DETAILS

Township or Area: Squaw Lake - Vista Lake

Type of Survey: Electromagnetic
A separate form is required for each type of survey

Chief Line Cutter or Contractor: A. Tremblay
Name
Chibougamau, P.Q.
Address

Party Chief: E. Reeves
Name
304 Carlingview Drive, Rexdale.
Address

Consultant: L. E. Reed
Name
30 Water Street, Georgetown, Ontario.
Address

COVERING DATES

Line Cutting: Jan 20 - Feb 5, 1970

Field: Feb. 14-17: Feb.21-22; Mar.1, 1970
Instrument work, geological mapping, sampling etc.

Office: Apr.22 - May.5, 1970

INSTRUMENT DATA

Make, Model and Type: Barringer LEM 2

Scale Constant or Sensitivity:
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count:

Number of Stations Within Claim Group: 750

Number of Readings Within Claim Group: 849

Number of Miles of Line cut Within Claim Group: 13.9

Number of Samples Collected Within Claim Group:

CREDITS REQUESTED

	20 DAYS per claim	40 DAYS per claim	Includes (Line cutting)
Geological Survey	☐	☐	
Geophysical Survey	☐	☒	Show Check ✓
Geochemical Survey	☐	☐	

DATE: Nov 19.70

SIGNED:

MINING CLAIMS TRAVERSED

List numerically

PA246066, 246067, 246068,
246069, 246070, 246071,
246072, 246073, 246074,
246075, 246076, 246077,
246078, 246079, 246080,
246081, 246082, 246083,
246090, 246091, 246092,
246093, 246141, 246142,
246143, 246144, 246158,
246159, 246160, 246161.

If space insufficient, attach list

PROJECTS SECTION
TORONTO
NOV 19 1970
AM

TOTAL: 30

Send in duplicate to:
FRED W. MATTHEWS
SUPERVISOR-PROJECTS SECTION
DEPARTMENT OF MINES &
NORTHERN AFFAIRS
WHITNEY BLOCK
QUEEN'S PARK
TORONTO, ONTARIO

Performance and Coverage credits do not apply to airborne surveys

2.264

PERFORMANCE & COVERAGE CREDITS

ASSESSMENT WORK DETAILS

Township or Area: Seseganaga Lake - Vanessa Lake

Type of Survey: Magnetic
A separate form is required for each type of survey

Chief Line Cutter or Contractor: A. Tremblay (Name)
Chibougamau, P.Q. (Address)

Party Chief: J. Petrak (Name)
304 Carlingview Drive, Rexdale, Ont. (Address)

Consultant: L. E. Reed (Name)
30 Water Street, Georgetown, Ontario. (Address)

COVERING DATES

Line Cutting: January 20 - February 28, 1970

Field: February 17, March 10, 1970
Instrument work, geological mapping, sampling etc.

Office: April 2 - May 20, 1970

INSTRUMENT DATA

Make, Model and Type: Barringer GM102 Precession
McPhar M700 Fluxgate

Scale Constant or Sensitivity: 10 gamma
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count: ______

Number of Stations Within Claim Group: 2345

Number of Readings Within Claim Group: 2345

Number of Miles of Line cut Within Claim Group: 38

Number of Samples Collected Within Claim Group: ______

CREDITS REQUESTED

	20 DAYS per claim	40 DAYS per claim	Includes (Line cutting)
Geological Survey	☐	☐	
Geophysical Survey	XX	☐	Show Check ✓
Geochemical Survey	☐	☐	

DATE: Nov 18.70

SIGNED: [signature]

MINING CLAIMS TRAVERSED

List numerically

PA245796, 245797, 245798,
245799, 245800, 245801,
245802, 245803, 245804,
245805, 245806, 245807,
245808, 245809, 245810,
245811, 245812, 245813,
245814, 245815, 245816,
245817, 245818, 245819,
245820, 245821, 245822,
245823, 245824, 245825,
245826, 245827, 245828,
245829, 245830, 245831,
245832, 245833, 245834,
245835, 245836, 245837,
245838, 245839, 245840,
245841, 245842, 245843,
245844, 245845.

If space insufficient, attach list

TOTAL: 50

Send in duplicate to:

FRED W. MATTHEWS
SUPERVISOR-PROJECTS SECTION
DEPARTMENT OF MINES & NORTHERN AFFAIRS
WHITNEY BLOCK
QUEEN'S PARK
TORONTO, ONTARIO

PERFORMANCE & COVERAGE CREDITS

ASSESSMENT WORK DETAILS

Township or Area: Seseganaga Lake - Vanessa Lake

Type of Survey: Electromagnetic
A separate form is required for each type of survey

Chief Line Cutter or Contractor: A. Tremblay (Name)
Chibougamau, P.Q. (Address)

Party Chief: J. Petrak (Name)
304 Carlingview Drive, Rexdale, Ont. (Address)

Consultant: L. E. Reed (Name)
30 Water Street, Georgetown, Ontario. (Address)

COVERING DATES

Line Cutting: January 20 - February 28, 1970

Field: February 16 - March 13, 1970
Instrument work, geological mapping, sampling etc.

Office: April 2 - May 20, 1970

INSTRUMENT DATA

Make, Model and Type: Barringer LEM 2Vertical Loop

Scale Constant or Sensitivity: 1000 cps
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count:

Number of Stations Within Claim Group: 2131

Number of Readings Within Claim Group: 2321

Number of Miles of Line cut Within Claim Group: 38

Number of Samples Collected Within Claim Group:

CREDITS REQUESTED

	20 DAYS per claim	40 DAYS per claim	Includes (Line cutting)
Geological Survey	☐	☐	
Geophysical Survey	☐	☒ XX	Show Check ✓
Geochemical Survey	☐	☐	

DATE: Nov 18-70

SIGNED: [signature]

MINING CLAIMS TRAVERSED

List numerically

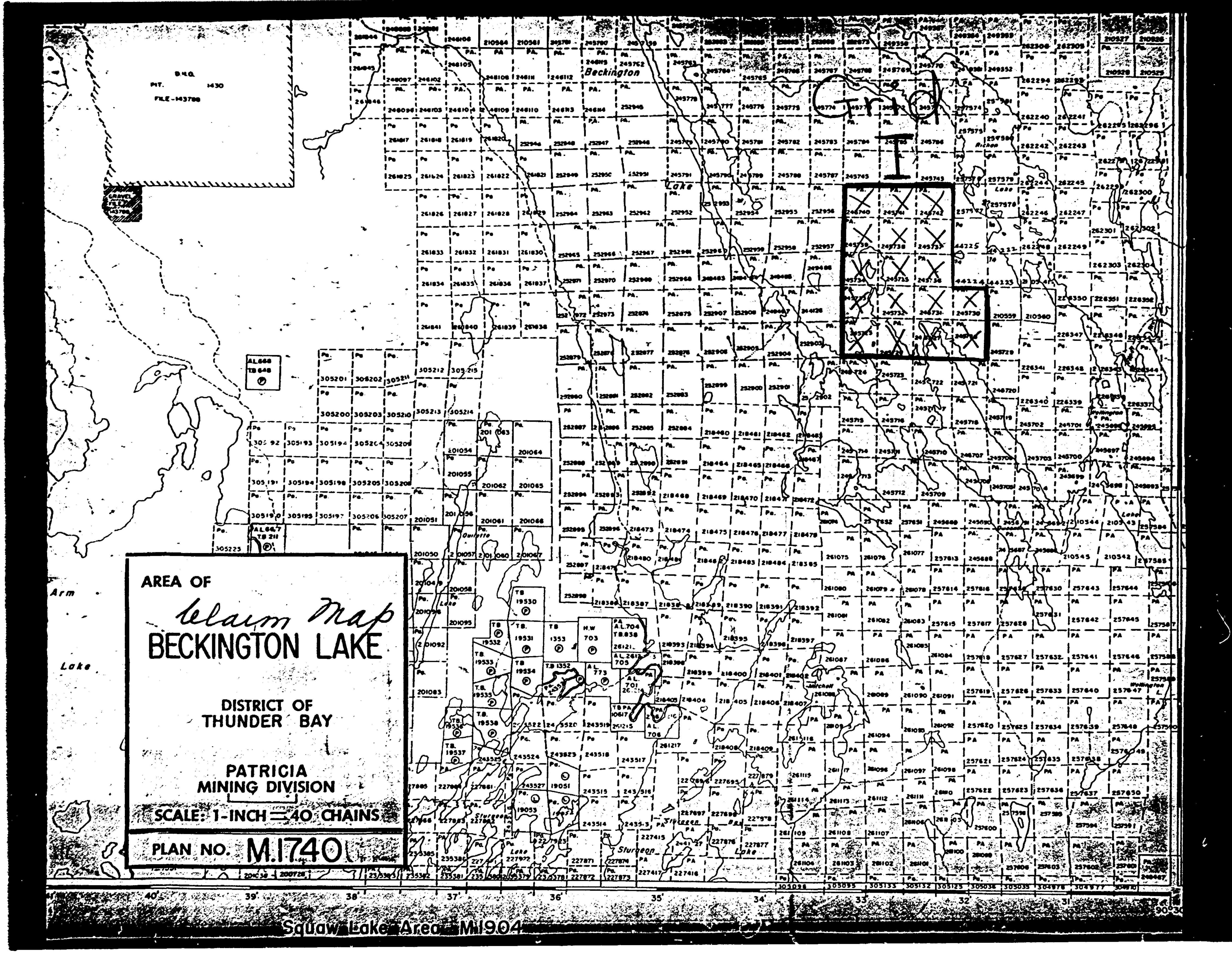
PA245796, 245797, 245798,
245799, 245800, 245801,
245802, 245803, 245804,
245805, 245806, 245807,
245808, 245809, 245810,
245811, 245812, 245813,
245814, 245815, 245816,
245817, 245818, 245819,
245820, 245821, 245822,
245823, 245824, 245825,
245826, 245827, 245828,
245829, 245830, 245831,
245832, 245833, 245834,
245835, 245836, 245837,
245838, 245839, 245840,
245841, 245842, 245843,
245844, 245845.

TORONTO
RECEIVED
NOV 19 1970
AM 7,8,9,10,11,12,1,2,3,4,5,6 PM

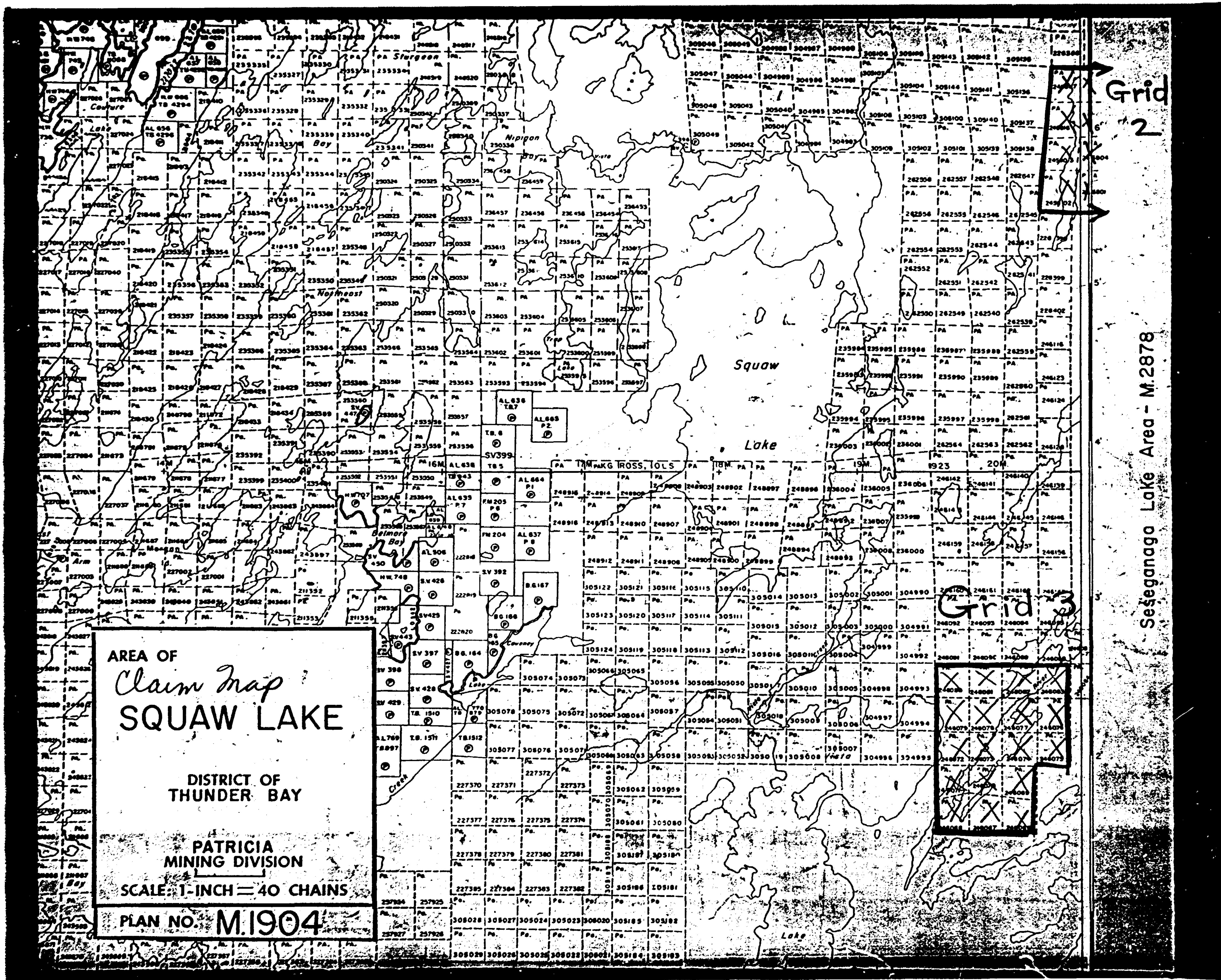
TOTAL 50

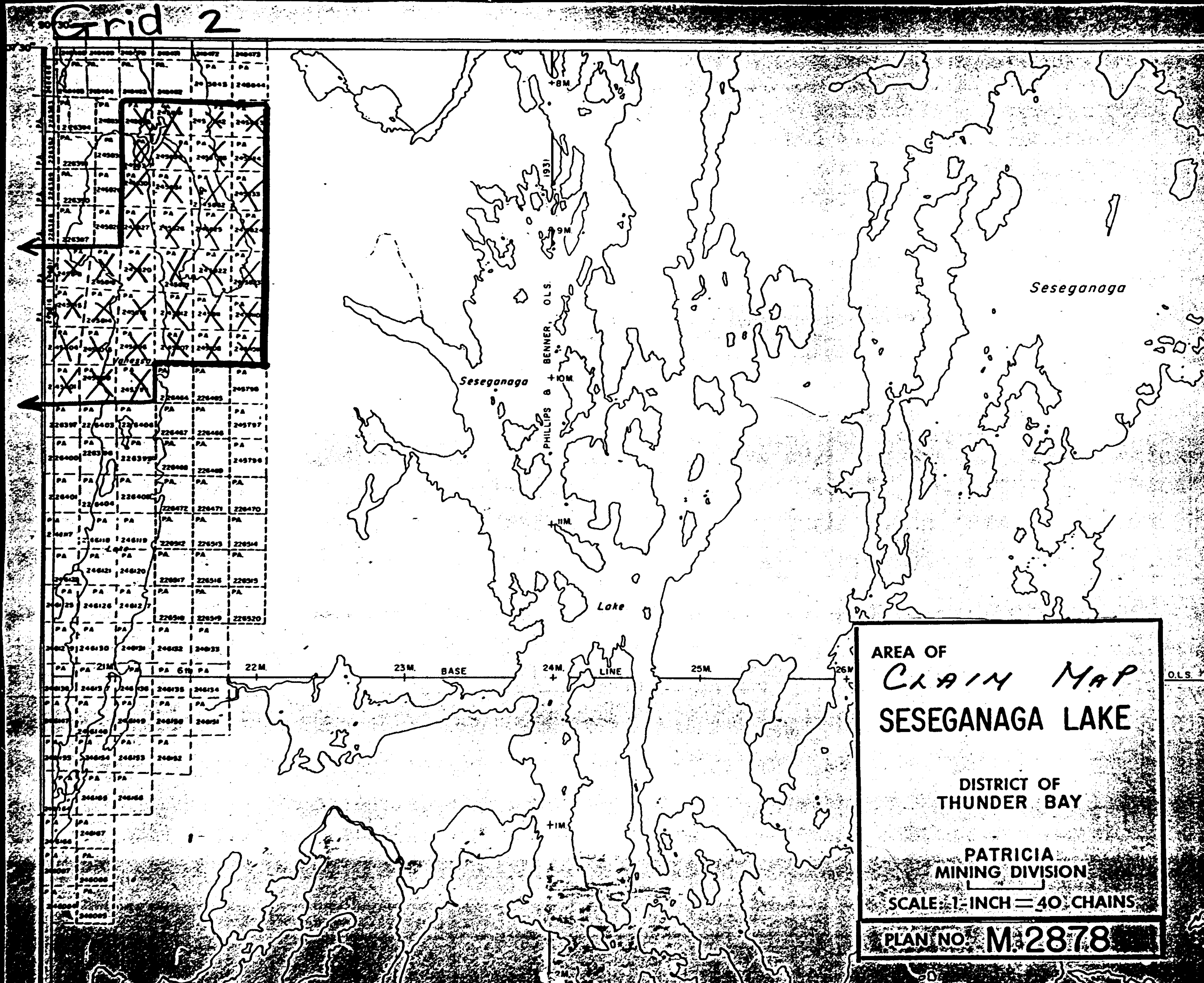
Send in duplicate to:
FRED W. MATTHEWS
SUPERVISOR-PROJECTS SECTION
DEPARTMENT OF MINES &
NORTHERN AFFAIRS
WHITNEY BLOCK
QUEEN'S PARK
TORONTO, ONTARIO

Performance and coverage credits do not apply to airborne surveys



AREA OF
Claim Map
BECKINGTON LAKE
DISTRICT OF
THUNDER BAY
PATRICIA
MINING DIVISION
SCALE: 1-INCH = 40 CHAINS
PLAN NO. M.1740
Grid I
Beckington
Lake
Sturgeon
Lake
Arm
Squaw Lake Area M.1904

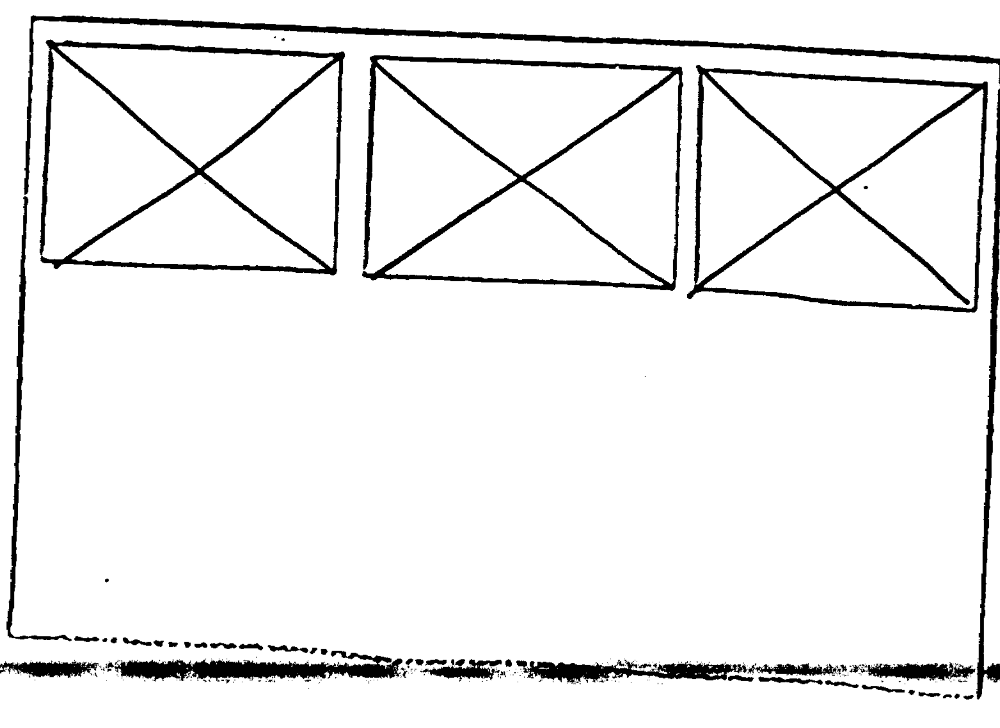

AREA OF
Claim Map
SQUAW LAKE
DISTRICT OF
THUNDER BAY
PATRICIA
MINING DIVISION
SCALE: 1-INCH = 40 CHAINS
PLAN NO. M.1904
Grid 2
Grid 3
Squaw
Lake
Nipigon
Bay
Northeast
Belmore Bay
Sturgeon
Creek
Seseganaga Lake Area - M.2878


Grid 2
Seseganaga
Seseganaga
Lake
PHILLIPS & BENNER O.L.S.
1931
22M.
23M.
BASE
24M.
LINE
25M.
26M.
O.L.S.
AREA OF
CLAIM MAP
SESEGANAGA LAKE
DISTRICT OF
THUNDER BAY
PATRICIA
MINING DIVISION
SCALE: 1-INCH = 40 CHAINS
PLAN NO. M.2878

SEE ACCOMPANYING MAP(S) IDENTIFIED AS

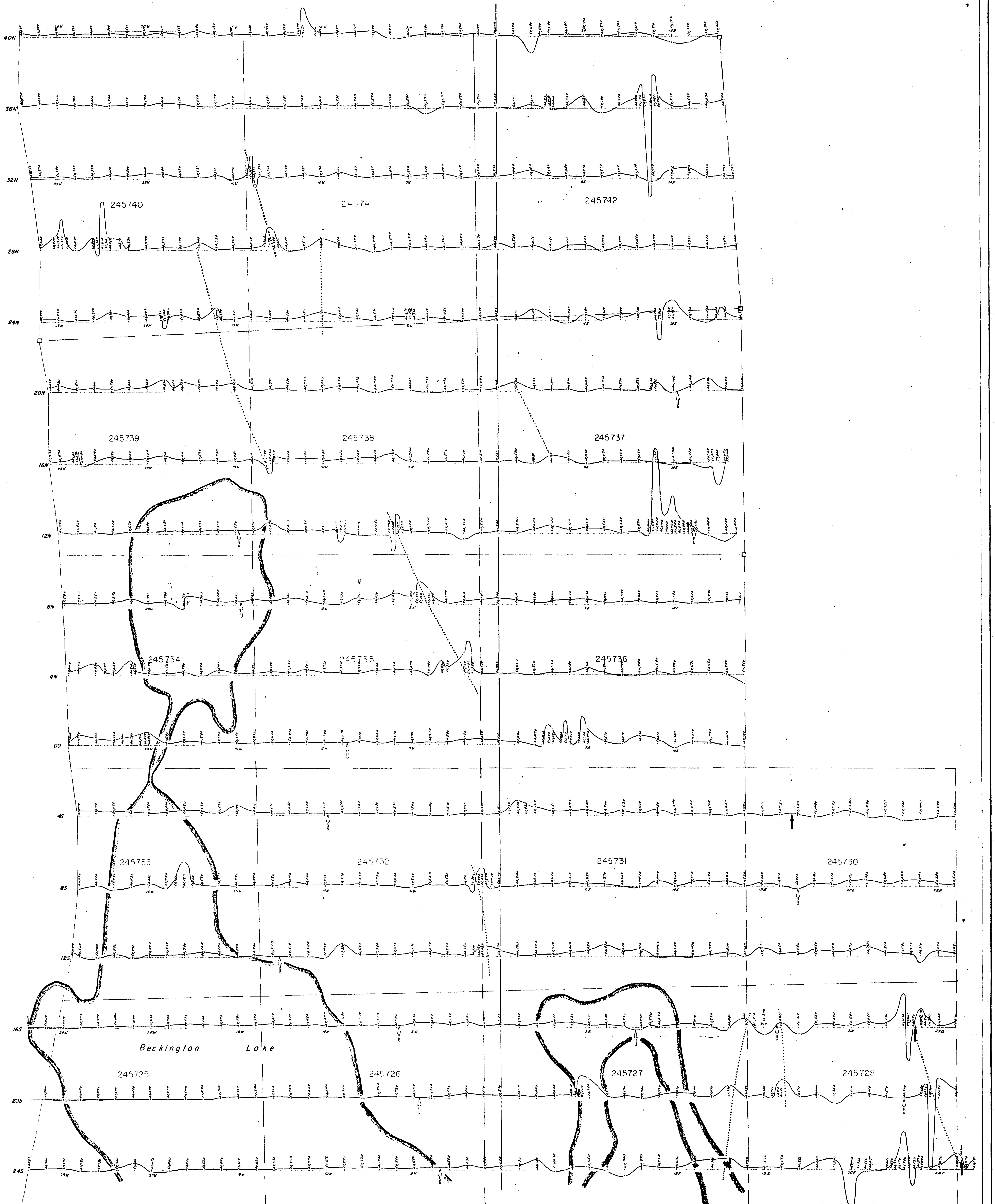
52J/02SE-0051, #1-3

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)



FOR ADDITIONAL INFORMATION SEE MAPS:

52J/02SE-0051 #4-13



52J/02SE-0051,#1

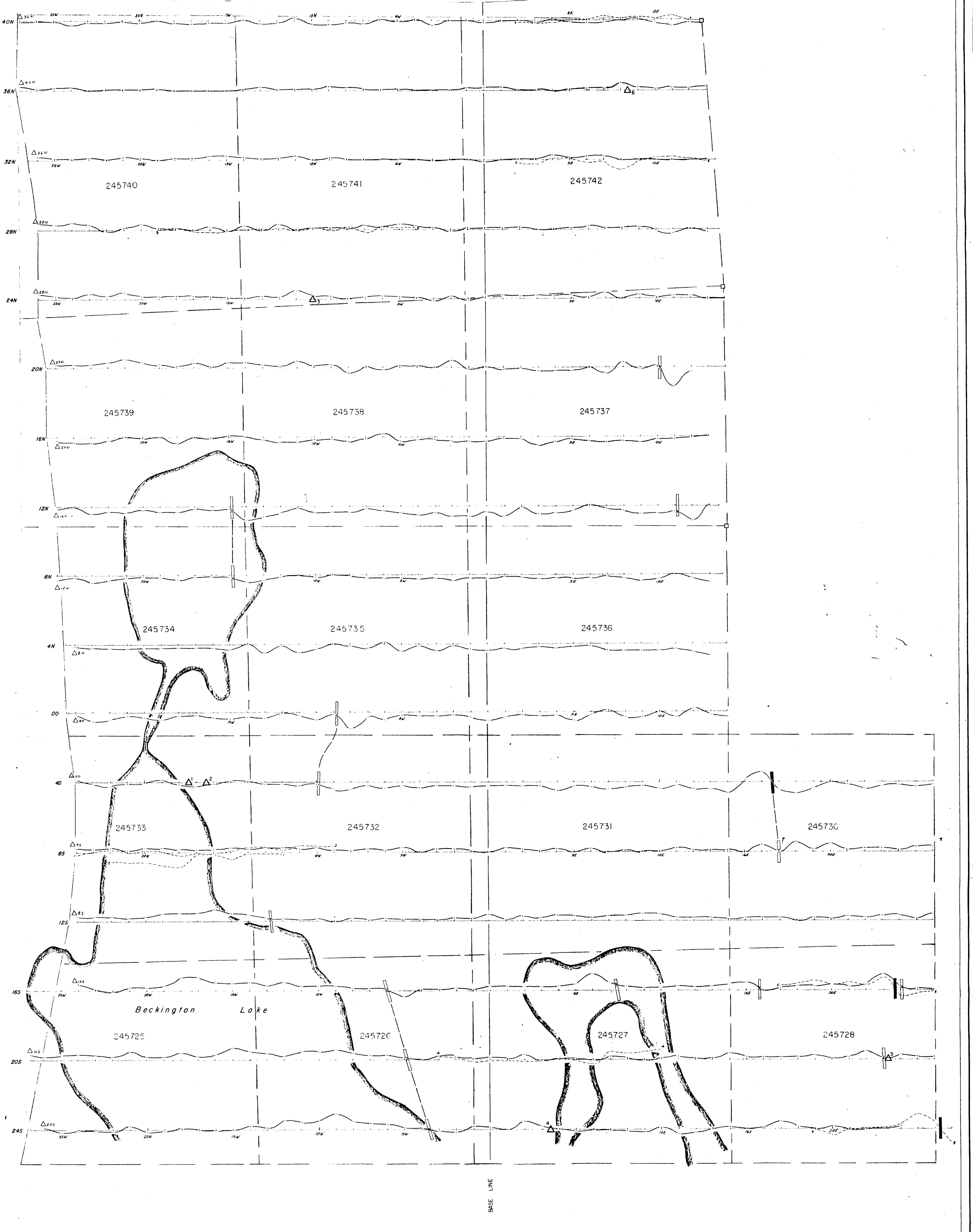
LEGEND

- □ Located Claim Post
- Profile
- Profile scale - 1" = 1000γ
- Datum level - 60,500γ
- Conductor - definite, indication
- Magnetic Lineation

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

RICHAN EXPLORATION LTD.		
GRID 1, RICHAN LAKE AREA, ONT.		
TOTAL INTENSITY MAGNETICS		
APR. 1970	Scale 1" = 200'	DWG. 5-240-3



★ 52J/02SE-0051,#2

PLOTTING CONFIGURATION

LEGEND

Parallel Line	Detail	
		Profile Scale 1" = 20°
△12S	△2	Transmitter location.
		Conductor indicated, definite.
□		Located claim posts.

REGISTERED PROFESSIONAL ENGINEER L. E. REED PROVINCE OF ONTARIO

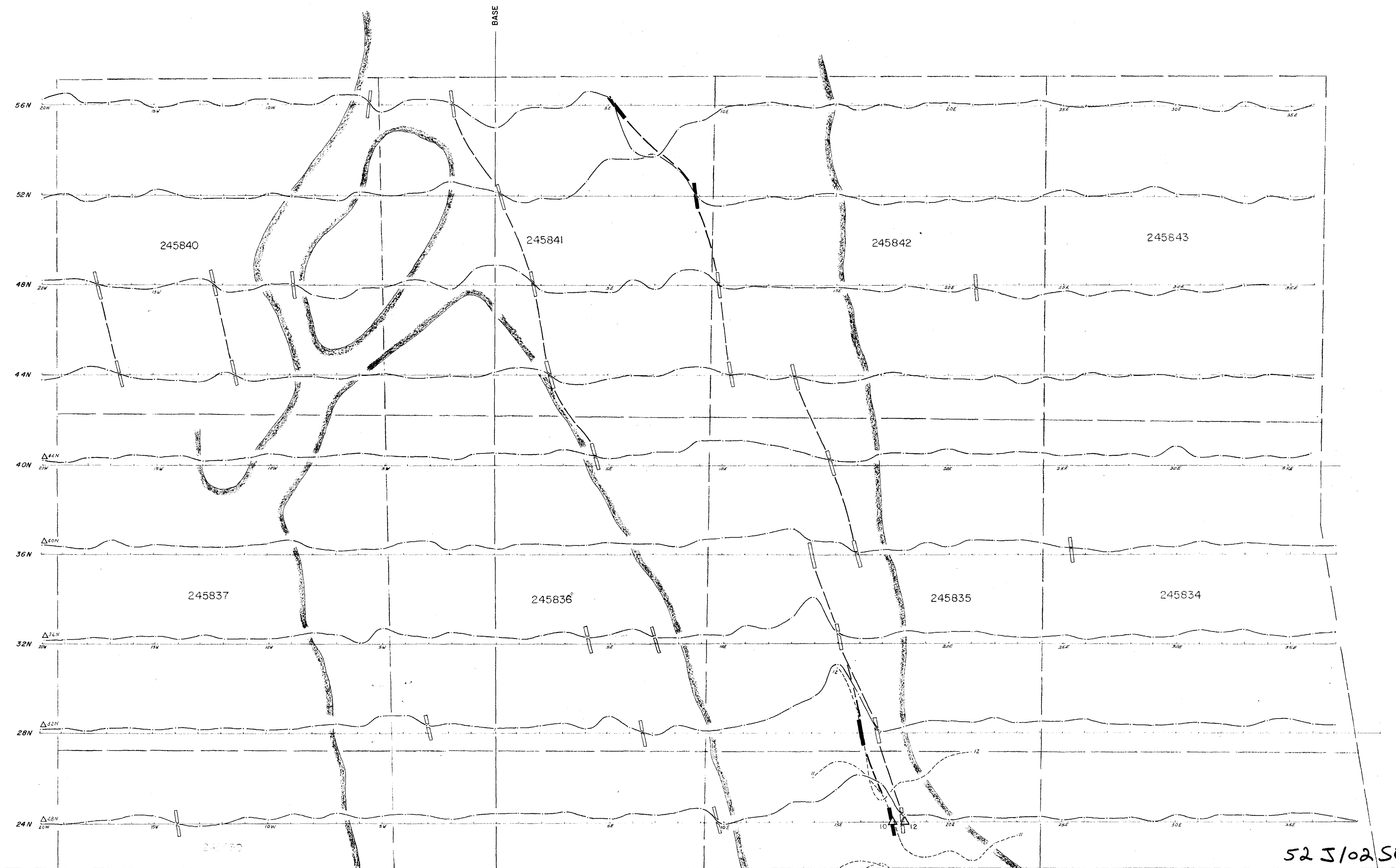
Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.

GRID 1 RICHAN LAKE AREA, ONT.

VERTICAL LOOP
ELECTROMAGNETIC SURVEY

APR. 1970 | Scale 1" = 200' | DWG. 5-240-2



PLOTTING CONFIGURATION

LEGEND

Parallel Line — Detail — Profile Scale 1" = 20°

Transmitter Location

Conductor - definite, indication

Located Claim Posts

INDEX

A

B C

52 J/02 SE-0051 #3

RICHAN EXPLORATION LTD.

GRID 2. VANESSA LAKE, ONTARIO.

VERTICAL LOOP ELECTROMAGNETIC SURVEY

APR. 1970	Scale 1" = 200'	DWG. 5-240-5A

L. E. REED — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

Work undertaken by BARRINGER RESEARCH LTD, Toronto, Canada.

220

52J02SE-0051 #4

N
A

PLOTTING CONFIGURATION

LEGEND

Parallel Line	Detail	
		Profile Scale 1" = 20°
△ 205	△9	Transmitter Location
		Conductor - definite, indicated
□		Located Claim Posts

INDEX

A
B
C

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

RICHAN EXPLORATION LTD.
GRID 2, VANESSA LAKE, ONTARIO
VERTICAL LOOP
ELECTROMAGNETIC SURVEY

APR. 1970	Scale 1" = 200'	DWG. 5-240-5B

52J02NE0460 52J02SE0051 SQUAW LAKE

230

52J02SE-0051 #5

PLOTTING CONFIGURATION

W.

E.

LEGEND

Parallel Line	Detail	
		Profile Scale 1"=20°
△ 20S	△4	Transmitter Location
		Conductor definite, indication
□		Located Claim Posts

INDEX

A

B

C

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

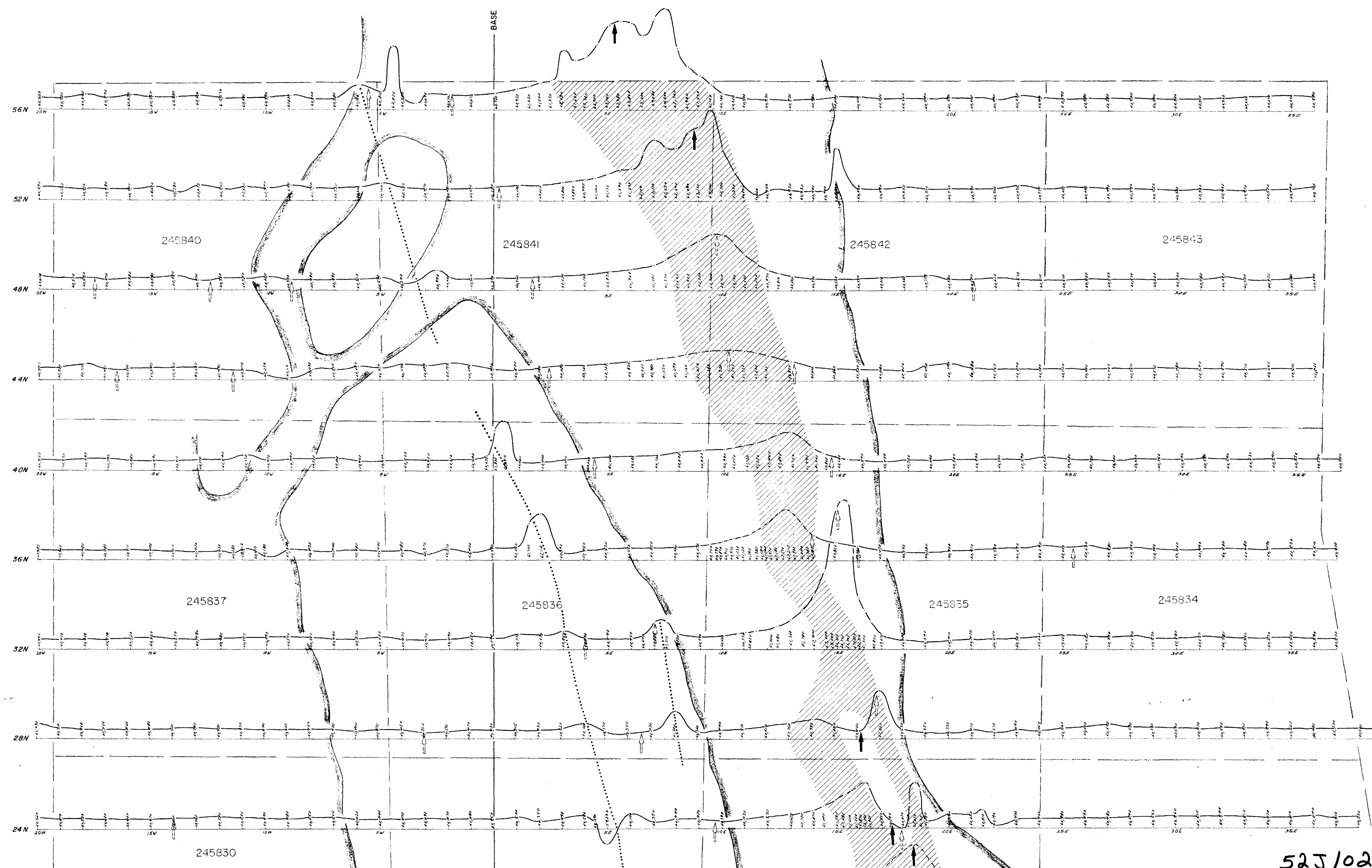
RICHAN EXPLORATION LTD.

GRID 2, VANESSA LAKE, ONTARIO.

VERTICAL LOOP
ELECTROMAGNETIC SURVEY

APR. 1970	Scale 1"= 200'	DWG. 5-240-5C

240



52J02SE-0051 #6

LEGEND

Profile Scale 1" = 2000 ɣ
Datum Level 60,000 ɣ
Located Claim Post
Conductor - definite, indication
Magnetic Zone, Magnetic Lineation

INDEX

A
B C

L. E. REED

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.
GRID 2, VANESSA LAKE, ONTARIO.

TOTAL INTENSITY MAGNETICS

APR. 1970	Scale 1" = 200'	DWG.5-240-6A

250

52J102SE-0051 #7

LEGEND

Profile Scale 1" = 2000 ४

Total Field Base Level 60,000 ४

Located Claim Post

Conductor - definite, indication

Magnetic Zone, Magnetic Lineation

N

A

52J02NE0460 52J02SE0051 SQUAW LAKE

260

INDEX

A

B

C

REGISTERED PROFESSIONAL ENGINEER L. E. REED PROVINCE OF ONTARIO

Work undertaken by BARRINGER RESEARCH LTD, Toronto, Canada

RICHAN EXPLORATION LTD.

GRID 2, VANESSA LAKE, ONTARIO

MAGNETIC SURVEY
TOTAL & VERTICAL FIELDS

APR. 1970 | Scale 1" = 200' | DWG. 5-240-6B

52J/02SE-0051 #8

LEGEND

Profile Scale 1" = 2000 γ

Total Field Base Level 60,000 γ

Located Claim Post

Conductor - definite, indication

Magnetic Zone, Magnetic Lineation

INDEX

A
B C

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by,
BARRINGER RESEARCH LTD, Toronto, Canada

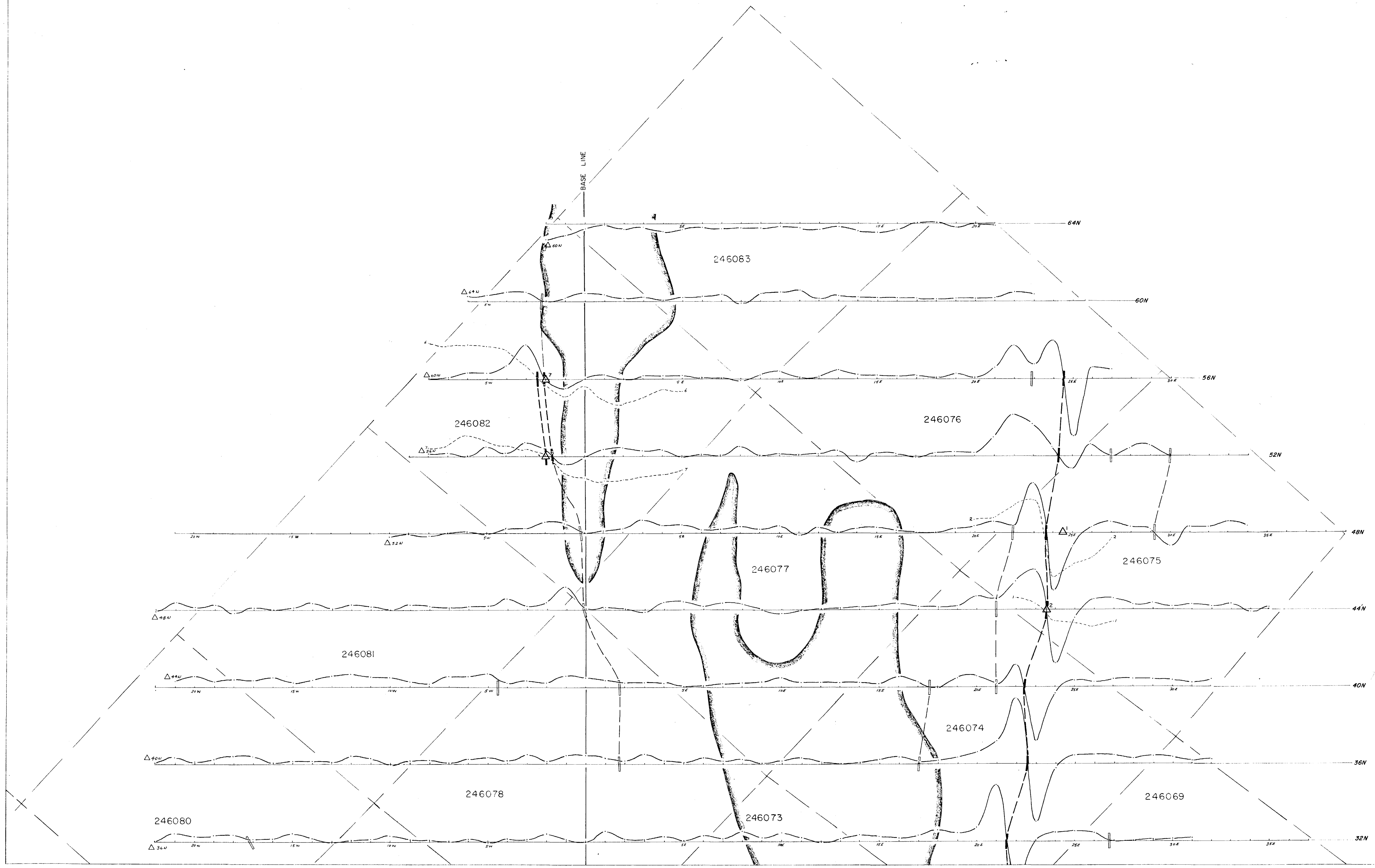
RICHAN EXPLORATION LTD.

GRID 2, VANESSA LAKE, ONTARIO.

MAGNETIC SURVEY
TOTAL & VERTICAL FIELDS

APR. 1970	Scale 1" = 200'	DWG 5-240

270



52J02SE-0051 #9

PLOTTING CONFIGURATION

LEGEND

Parallel Line | Detail
Profile Scale 1" = 20°
Transmitter location
Conductor indicated, definite
Located claim post

INDEX

A
B

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

RICHAN EXPLORATION LTD.
GRID 3, VISTA LAKE, ONTARIO.
VERTICAL LOOP
ELECTROMAGNETIC SURVEY

APR. 1970	Scale 1" = 200'	DWG. 5-240-8A

280

52J02SE-0051 #10

PLOTTING CONFIGURATION

LEGEND

Parallel Line	Detail	
		Profile Scale 1" = 20°
Δ_{20S}	Δ^6	Transmitter location
		Conductor indicated, definite
□		Located claim post

INDEX

A

B

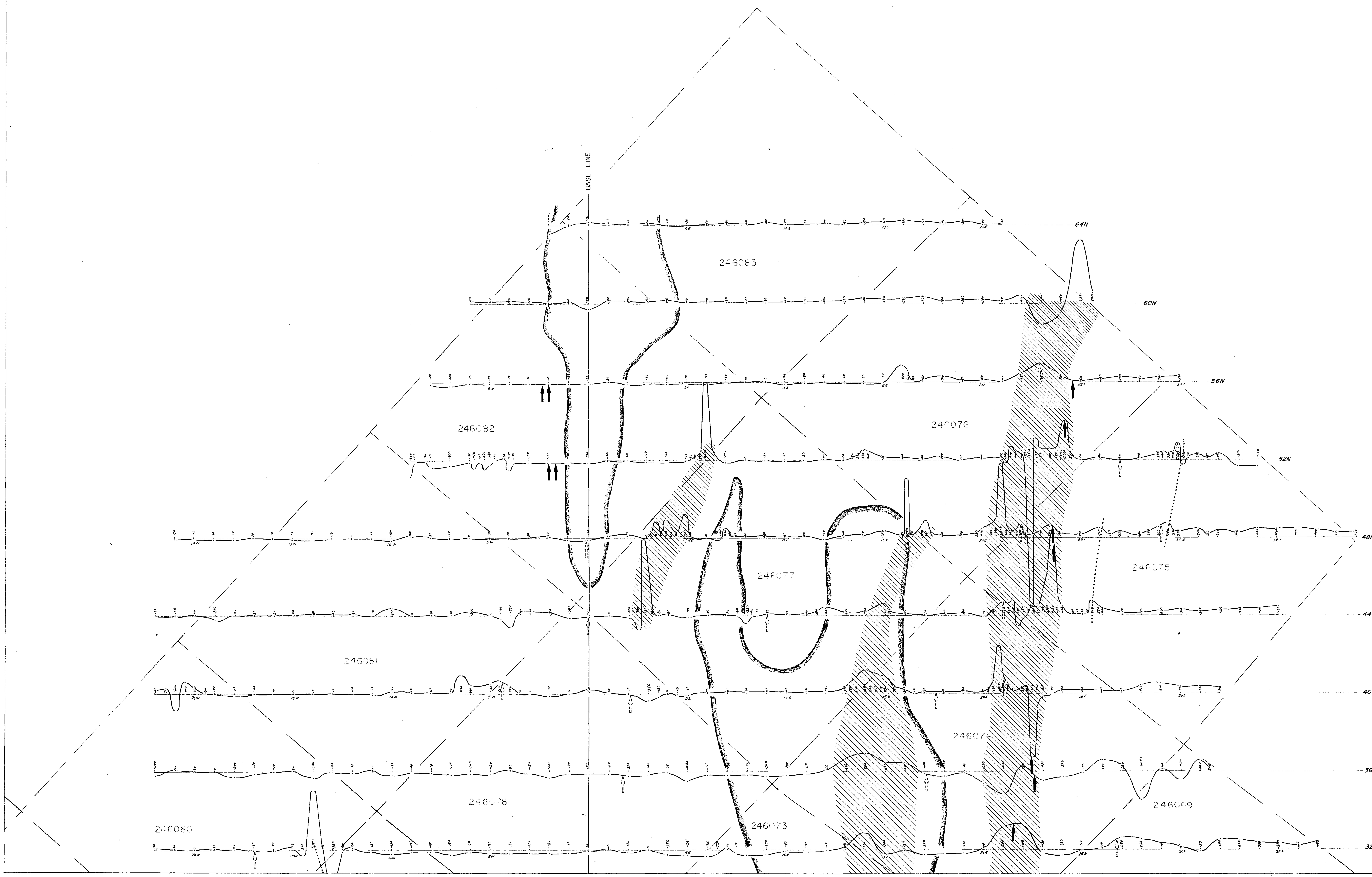
Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

RICHAN EXPLORATION LTD.
GRID 3, VISTA LAKE, ONTARIO.
VERTICAL LOOP
ELECTROMAGNETIC SURVEY

APR. 1970	Scale 1" = 200'	DWG. 5-240-8B

290



LEGEND

-Magnetic Zone, Magnetic Lineation.

-Vertical Magnetic Profile – Scale 1" = 2000 γ

-Conductor - Definite, Indicated.

-Located Claim Post

INDEX

A
B

300

52 J/02 SE-0051 #11

REGISTERED PROFESSIONAL ENGINEER
L. E. REED
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.

GRID 3, VISTA LAKE, ONTARIO.

VERTICAL FIELD MAGNETICS

APR. 1970	Scale 1" = 200'	DWG. 5-240-9A

52 J/02 SE-0051 #12

LEGEND

- Magnetic Zone, Magnetic Lineation.
- Vertical Magnetic Profile — Scale 1" = 2000 ɣ
- Conductor - Definite, Indicated.
- Located Claim Post

INDEX

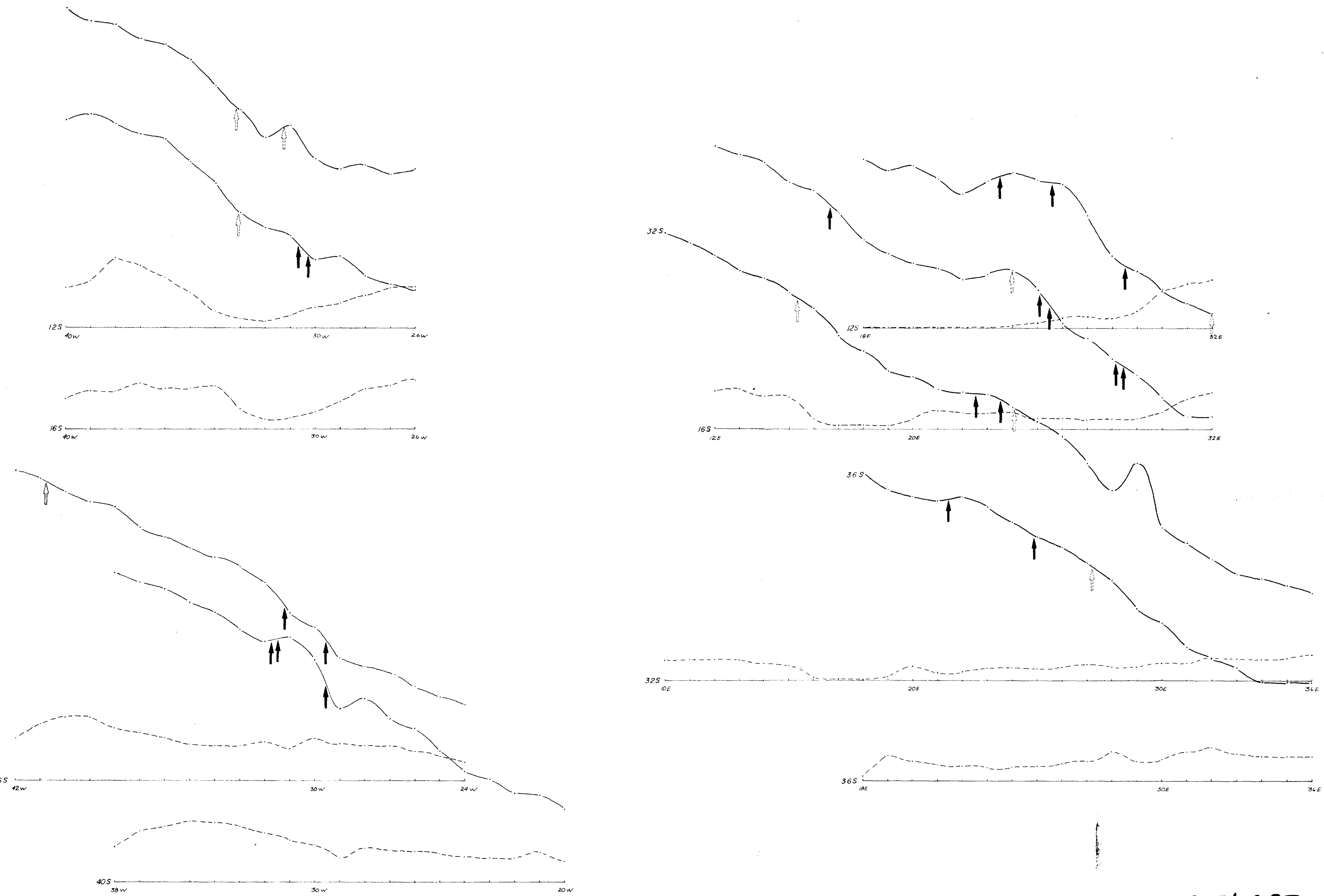
B

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.		
GRID 3, VISTA LAKE, ONTARIO.		
VERTICAL FIELD MAGNETICS		
APR. 1970	Scale 1" = 200'	DWG. 5-240-98

310



52J/02SE-0051 #13

LEGEND

Gravity profile Scale 1" = 1 milligal

Elevation profile Scale 1" = 50'

Conductor, definite, indication

L. E. REED
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

RICHAN EXPLORATION LTD.		
GRID 2, VANESSA LAKE, ONTARIO		
GRAVITY AND ELEVATION SURVEY		
APR. 1970	Scale 1" = 200'	DWG.5-240-10

N
A

52J02NE0460 52J02SE0051 SQUAN LAKE

320