SHOULD BE FILE #32L04SW0026

2.2897

ELECTROMAGNETIC - MAGNETIC SURVEY

on the property of

GOLD SHIELD SYNDICATE

Area West of Sunday Lake

"West Group"

Ontario,

1978.

R. J. Bradshaw, P. Eng.,

Consulting Geologist.

INTRODUCTION

Magnetic and electromagnetic surveys have been conducted on the Gold Shield Syndicate property, termed the West Group, in the area west of Sunday Lake, Ontario. The picket lines and survey work were completed during the month of August, 1978.

Amoco Canada are currently undertaking feasibility studies on their large gold-copper deposit, eight miles west of the claim group. The property was staked as a gold prospect.

PROPERTY, LOCATION AND ACCESS

Staked in February, 1978, the contiguous 20 claim block is numbered P508560 to P508579 inclusive.

Situated a few miles east of Hopper Lake and 120 miles northeast of Timmins, Ontario, the property is presently accessible by float or ski-equipped aircraft to Hopper Lake. The Ontario government and Amoco, jointly, are tentatively planning a road from Cochrane to the Amoco site, a distance of about 85 miles.

PREVIOUS WORK

The writer is not aware of any previous work which has been conducted on the claim group.

GEOLOGY

Airborne magnetic plans 2369G and 2370G, published by the Ontario government, provide the only government geological information for the area.

These maps, together with previous work in the area, indicate that the property is situated on the nose of a major eastward plunging syncline. A few miles to the east exposures of metamorphosed volcanic pyroclastics to the north are in contact with a granitoid intrusive to the south. There is no apparent rock exposure in the area of the claim group. The topographic pattern related to the magnetic pattern indicates a dominant north-northwest trending fault system.

According to Amoco drill logs, the gold-copper mineralization is located in volcanic tuffs altered to chlorite and biotite-rich zones with the quartz veining associated with cherty horizons. Mineralization consists of visible gold, pyrrhotite, chalcopyrite, and sphalerite in quartz stringers. These mineralized zones, characteristically are adjacent to talc-carbonate serpentinized rocks.

MAGNETOMETER SURVEY RESULTS AND INTERPRETATION

The magnetometer survey data is plotted and contoured on the accompanying plan at a scale of one inch to three hundred feet. The instrument and survey method are described in the Appendix to this report.

The magnetic background on the property is generally in the range of 300 to 700 gammas. The peak magnetic value is about 1700 gammas and there are no prominent depressions.

Lensoidal magnetic highs strike either generally north or east with the north trending features most prominent.

The lensoidal magnetic high along the base line in the northeast sector of the property may be caused by amphibolitization in an otherwise granitoid terrane; amphibolite mineralization accounts for nonconductive magnetic anomalies on surveyed areas to the east. Less well defined lensoidal magnetic highs striking north or east may simply represent less intense amphibolitization.

The north-northwest trending creek in the northeast sector of the property roughly coincides with an interruption of the isomagnetics and, therefore, may represent one of the typical faults of the area.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

The electromagnetic survey data is plotted and profiled on the accompanying plan at a scale of one inch to three hundred feet. The instrument and survey method are described in the Appendix to this report.

The weak conductive zones on the property strike either east or northeast and none of the conductors coincides with a magnetic high. Although the conductors are generally of limited length, they most likely represent faults. Conductor A shows the best definition but is not considered important because of the lack of magnetic correlation.

CONCLUSIONS AND RECOMMENDATIONS

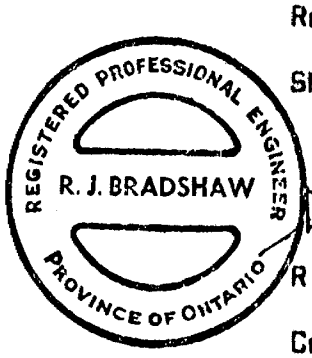
The apperent lack of rock exposure in the immediate area combined with a seemingly complex magnetic pattern makes difficult a reasonable geological interpretation. At this stage it appears that the magnetic highs are caused by amphibolitization perhaps within a granitoid terrane.

None of the conductive zones appear strong enough to represent sulphides.

A limited amount of prospecting in the vicinity of the magnetic highs is advisable to confirm or disprove their interpretation.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED,



Timmins, Ontario,
October 6, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

C E R T I F I C A T E

I, Ronald J. Bradshaw, residing at 480 Howard Street, Timmins, Ontario, a consulting geologist with office at 480 Howard Street, Timmins, Ontario, do hereby certify that:

I attended Queen's University, Kingston, Ontario, and graduated with an Honours B.A. degree in Geological Sciences in 1958.

I am a Fellow of the Geological Assocation of Canada, a Member of the Canadian Institute of Mining and Metallurgy and of the Association of Professional Engineers of the Province of Ontario.

Shield Geophysics Limited retains a ten per cent management interest in the Gold Shield Syndicate.

Timmins, Ontario,
October 6, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

APPENDIX

SURVEY METHOD AND INSTRUMENT DATA

Electromagnetic Survey

A Ronka EM 16, number 36, was used for the survey.

This instrument is simply a sensitive receiver covering the frequency of the new VLF-transmitting stations with means of measuring the vertical field components. The VLF-transmitting stations operate for communications with submarines at frequencies between 17.8 and 24.0 Khz. The vertical antenna current of these transmitting stations creates a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary field radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal.

The signal from the coil with vertical axis is first minimized by tilting the instrument. The tilt angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil.

After a suitable station is selected, at right angles to the direction of the survey lines, readings are made of the in-phase and quadrature components where the signal has been minimized to its greatest degree. The VLF-transmitting station at Jim Creek, Washington, has been used for this survey.

The lower end of the handle will, as a rule, point towards the conductor and the instrument is so calibrated that when approaching a conductor, the angles are positive to the in-phase component.

As with any electromagnetic unit, the largest and best conductors give the highest ratio of the in-phase and quadrature components.

Magnetometer Survey

A Sharpe M.F.-1 fluxgate magnetometer was used in the magnetic survey. This instrument measures the vertical component of the earth's magnetic field in gammas. Base stations for determining the magnetic diurnal variations were established along the main base line at 400 foot intervals. Magnetic readings were taken at 100 foot intervals, along the cross lines.

SHOULD BE FILE #32L04SW0026

020

MAGNETIC - ELECTROMAGNETIC SURVEY

on the

GOLD SHIELD SYNDICATE PROPERTY

Area west of Sunday Lake, Ontario

Timmins, Ontario,
August 15, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

INTRODUCTION

Magnetic and electromagnetic surveys have been conducted on the Gold Shield Syndicate property of eight claims, termed the North Group, in the area west of Sunday Lake, Ontario. The picket lines and survey work were completed during the month of July, 1978.

An interpretation of the geology, particularly with respect to the potential of gold-copper mineralization on the property, is provided in the report and accompanying maps. Amoco Canada are currently undertaking feasibility studies on their large gold-copper deposit, four miles east of the claim group.

PROPERTY, LOCATION AND ACCESS

Staked in February, 1978, the eight claims are numbered P508552 to P508559 inclusive.

Situated two miles north of Hopper Lake and 122 miles northeast of Timmins, Ontario, the property is presently accessible by float or ski-equipped aircraft to nearby lakes. The Ontario government and Amoco, jointly, are tentatively planning a road from Cochrane to the Amoco site, a distance of about 85 miles.

PREVIOUS WORK

Noranda recently held the five westernmost claims and completed magnetic and vertical loop electromagnetic surveys on these and adjacent claims. Generally weak to moderate strength conductors were detected flanking or coinciding with lenticular magnetic highs.

In 1974, Amoco Petroleum drilled a 350 foot hole on the north boundary of claim P508552 apparently to investigate a magnetic-electromagnetic anomaly. Approximately 50 feet of disseminated sulphides were intersected in intermediate volcanics. A 15 foot section averaged 30 per cent pyrite-pyrrhotite and within this section, 5 feet assayed 0.02 oz. gold and 0.04 per cent copper.

GEOLOGY

Airborne magnetic plans 2369G and 2370G published by the Ontario government provide the only government geological information for the area. These maps, however, together with numerous holes drilled by Amoco east of the property, enable a reasonable interpretation of the regional geology. Moreover, the airborne magnetic plan indicates that the rock horizon hosting the Amoco ore deposit underlie the claim group.

The claim group is situated on the north flank, near the nose of an isoclinal syncline which plunges eastwards at least 12 miles and beyond the map area. Drag folds related to the syncline and north-northwest trending faults have further disrupted the rocks.

Along the north flank of the syncline, the rocks are dominantly intermediate pyroclastics metamorphosed to the garnet stage and generally schistose to varying degrees as indicated by the Amoco drilling to the east, and scattered rock exposure, considered unusual for the James Bay Lowlands. Granite and amphibolite stringers and veins apparently irregular but standing to follow the

foliation and minor folding of the rocks are common. A light grey granitoid intrusive occupies the core and axis of the syncline south of the claim group at Hopper Lake.

According to Amoco drill logs, the gold-copper mineralization is located in volcanic tuffs altered to chlorite and biotite-rich zones with the quartz veining associated with cherty horizons. Mineralization consists of visible gold, pyrrhotite, chalcopyrite and sphalerite, in quartz stringers. These mineralized zones, characteristically, are adjacent to talc carbonate serpentized rocks. Feasibility studies on this 10 million ton orebody averaging 0.20 oz. gold per ton plus copper will be completed in the Fall of 1978 when a production decision will be announced.

MAGNETOMETER SURVEY RESULTS AND INTERPRETATION

The magnetometer survey data is plotted and contoured on the accompanying plan at a scale of one inch to two hundred feet. The instrument and survey method are described in the Appendix to this report. Rock exposures found during the survey have been plotted on the plan to assist the interpretation.

The isomagnetics trend generally east-northeast corresponding to the foliation of the exposures of intermediate tuffs which dip south. In general, a series of lenticular magnetic highs form a tight fold concave eastwards with the nose located on claim P508559. The magnetic horizon is disrupted by north-northwest trending faults, the most significant apparently between Lines 8E and 12E; movement on the faults appears to be mostly vertical.

A traverse across the Amoco drill location indicates a peak magnetic value of 4900 gammas apparently caused by heavily disseminated pyrrhotite. Other magnetic anomalies to the west coincident with conductivity are interpreted to represent pyrrhotite mineralization perhaps associated with chalcopyrite and gold mineralization. These include anomalies A, B, C and D, approximately 400, 800, 400 and 800 feet long respectively.

Anomaly E in the southeast sector of P508552 peaking at 955 gammas corresponds to an outcrop of fresh black amphibolite with granite stringers.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

The electromagnetic survey data is plotted and profiled on the accompanying plan at a scale of one inch to two hundred feet. The instrument and survey method are described in the Appendix to this report.

Most zones of conductivity are associated with the lenticular magnetic anomalies. A comparison of the vertical loop electromagnetic survey previously completed by Noranda on the westernmost five claims with the EM 16 data enables a classification of the relative strength of conductivity. Generally the better conductivity corresponds to magnetic highs. The well defined crossover, indicated by the traverse across the Amoco drill location, shows the excellent definition of conductive zones detected by the EM 16 survey.

Four conductive zones, corresponding with magnetic highs designated A, B, C and D are interpreted to represent sulphides probably pyrrhotite and pyrite perhaps associated with copper and gold mineralization. The significance of the cross faults cannot be ascertained at this time although a spatial relationship is obvious at least in the case of anomalies A, B and C.

CONCLUSIONS AND RECOMMENDATIONS

The shape and attitude of the magnetic horizon corresponds to that of the major fold described under Geology. Along the magnetic horizon concentrations of pyrrhotite sulphide mineralization are indicated by magnetic peaks corresponding to conductive zones.

To determine whether this postulated mineralization is associated with gold-copper mineralization as in the Amoco orebody to the east requires diamond drilling. Four holes each approximately 150 feet in depth are proposed for the investigation of these anomalies as shown on the enclosed plan.

The presence of shallow sandy overburden in this area enables the use of a light weight drill which of course will reduce costs. In conjunction with other drilling in the area an overall cost of $12 per foot including transportation, supervision and assaying may be possible. At $12 per foot a drill programme on this property would cost $7200.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED,

Timmins, Ontario,

August 15, 1978.

R. J. Bradshaw, P. Eng.,

Consulting Geologist.

C E R T I F I C A T E

I, Ronald J. Bradshaw, residing at 480 Howard Street, Timmins, Ontario, with office at 480 Howard Street, Timmins, Ontario, do hereby certify that:

I attended Queen's University, Kingston, Ontario, and graduated with an Honours B.A. degree in Geological Sciences in 1958.

I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining and Metallurgy and of the Association of Professional Engineers of the Province of Ontario.

Shield Geophysics Limited retains a ten per cent management interest in the holdings of the Gold Shield Syndicate.

Timmins, Ontario,
August 15, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

APPENDIX

SURVEY METHOD AND INSTRUMENT DATA

Electromagnetic Survey

A Ronka EM 16, number 36, was used for the survey.

This instrument is simply a sensitive receiver covering the frequency of the new VLF-transmitting stations with means of measuring the vertical field components. The VLF-transmitting stations operate for communications with submarines at frequencies between 17.8 and 24.0 Khz. The vertical antenna current of these transmitting stations creates a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary field radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal.

The signal from the coil with vertical axis is first minimized by tilting the instrument. The tilt angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil.

After a suitable station is selected, at right angles to the direction of the survey lines, readings are made of the in-phase and quadrature components where the signal has been minimized to its greatest degree. The VLF-transmitting station at Jim Creek, Washington, has been used for this survey.

The lower end of the handle will, as a rule, point towards the conductor and the instrument is so calibrated that when approaching a conductor, the angles are positive to the in-phase component.

As with any electromagnetic unit, the largest and best conductors give the highest ratio of the in-phase and quadrature components.

Magnetometer Survey

A Sharpe M.F.-1 fluxgate magnetometer was used in the magnetic survey. This instrument measures the vertical component of the earth's magnetic field in gammas. Base stations for determining the magnetic diurnal variations were established along the main base line at 400 foot intervals. Magnetic readings were taken at 100 foot intervals, along the cross lines.

MAGNETOMETER - ELECTROMAGNETIC SURVEY

on the

GOLD SHIELD SYNDICATE PROPERTY

Area West of Sunday Lake

SOUTH GROUP

Timmins, Ontario,
August, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

INTRODUCTION

Magnetic and electromagnetic surveys have been conducted on the Gold Shield Syndicate property of 48 claims, termed the South Group, in the area west of Sunday Lake. The picket lines and geophysical survey work were completed during the period mid-July to mid-August, 1978, on the land portion of the property. A magnetic survey of the lakes within the property was completed in mid-March, 1978.

During the geophysical survey, rock exposure was examined to assist an interpretation of the geophysical survey work particularly with respect to the potential of gold-copper mineralization. Amoco Canada are currently completing feasibility studies on their large gold-copper deposit, four miles east of the claim group.

PROPERTY, LOCATION AND ACCESS

Staked in February, 1978, the 48 claims are numbered P508542 to P508551 inclusive and P508580 to P508617 inclusive. Six claims, namely P508548, 508608, 508614, 508615, 508616 and 508617, were not covered by the survey.

Situated along the northeast shore of Hopper Lake and 122 miles northeast of Timmins, Ontario, the property is presently accessible by float or ski-equipped aircraft. The Ontario government and Amoco, jointly, are tentatively planning a road from Cochrane to the Amoco site, a distance of about 85 miles.

PREVIOUS WORK

Noranda recently held the three claims on the northwest edge of the group and completed magnetic and vertical loop electromagnetic surveys on these and adjacent claims. Their magnetic survey indicated an area of high magnetic gradient. No other work has been reported on the claim group.

GEOLOGY

Airborne magnetic plans 236G and 237G, published by the Ontario government, provide the only regional geological information for the area. These maps, however, together with numerous holes drilled by Amoco east of the property, enable a reasonable interpretation of the geology. Moreover, the airborne magnetic plans suggest that a faulted segment of the rock horizon hosting the Amoco deposits underlie the claim group.

The claim group is situated on the north flank, near the nose, of a major isoclinal syncline which plunges eastward. Generally easterly trending rock horizons have been disrupted and modified by drag folds related to the syncline and north-northwest trending faults.

Along the north flank of the syncline the rocks are dominantly intermediate pyroclastics, generally schistose and metamorphosed to the garnet stage as indicated by the Amoco drilling. The pyroclastics are amphibolitized and granitized to varying degrees.

Although amounting to less than 10 per cent, sufficient rock exposure is present in the survey area to considerably assist the interpretation of the geophysical data. West of a creek almost bisecting the property in a north-northwest direction, the odd outcrop related to the magnetic data indicates this area to be underlain by a medium grained light grey granitoid intrusive. East of the creek a little more rock exposure is present. Most of the outcrop is a fissile to schistose metamorphosed pyroclastic which strikes north-northwest and dips west at 50 to 70 degrees. Near the southeast shore of a lake on the northwest edge of the property, the rocks are highly amphibolitized with disseminated pyrite. A sample assayed 0.18 per cent copper. Just north of the small lake in the south part of the property, outcrops of gabbroic rock injected with granite stringers are exposed.

According to Amoco drill logs, the gold-copper mineralization is located in volcanic tuffs altered to chlorite and biotite-rich zones with the quartz veining associated with cherty horizons. Mineralization consists of visible gold, pyrrhotite, chalcopyrite and sphalerite in quartz stringers. These mineralized zones, characteristically, are adjacent to talc carbonate serpentinized rocks. Feasibility studies on this 10 million ton orebody, averaging 0.20 oz. gold per ton plus copper, will be completed in the Fall of 1978 when a development decision will be announced.

MAGNETOMETER SURVEY RESULTS AND INTERPRETATION

The magnetometer survey data is plotted and contoured on two accompanying plans at a scale of one inch to three hundred feet. The instrument and survey method are described in the Appendix to this report. Rock exposure noted during the survey has been plotted on the plan to assist the interpretation.

In the west half of the property the magnetic values are mostly within the 400 to 900 gamma range. A dominant trend of the isomagnetics is not apparent, except along the creek bisecting the property where the isomagnetics trend generally north-northwest corresponding to the direction of the creek. The contact, therefore, between the granite to the west and the mainly volcanic assemblage to the east is generally marked by a topographic low represented by the creek.

East of the creek the contoured magnetic values form a more complex display. To the northwest, where the rocks strike north to northwest, a series of lenticular magnetic highs and lows strike generally northwest and abruptly terminate along Line 24W. The magnetic characteristics appear to be caused by amphibolitization crosscutting the trend of the rocks.

In the northeast sector of the property in the centre of the lake a prominent lenticular magnetic anomaly, almost 4000 feet long, strikes generally east corresponding to the regional trend. South of this feature a series of magnetic highs strike generally north. The most prominent anomaly, crossing Line 12E, at 17N, is

apparently caused by amphibolite dykes and stringers. Disseminated pyrite occurs in the adjacent slaty tuffs. Narrow quartz stringers are exposed near the peak of the anomaly. Further south the anomalous highs, as a group, although offset to the west, strike generally north. Northwest faulting in the vicinity of the base line apparently accounts for the displacement of this amphibolitized horizon.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

The electromagnetic survey data is plotted and profiled on the accompanying plans at a scale of one inch to three hundred feet. The instrument and survey method are described in the Appendix to this report.

There are two main zones of conductivity on the property, termed A and B.

Conductor A is continuous across the property in a northwesterly direction for a length of more than two miles. It is interpreted to represent a fault with a right-hand displacement of several hundred feet. The displacement is shown in the east half of the property where the prominent north trending magnetic feature is offset near the base line.

Conductor B, less well defined and striking north-northwest, coincides with the contact between metavolcanics to the east and granite to the west. Near station 17N, Line 16W, an outcrop of brecciated and dragged metavolcanics indicates that conductor B represents the faulted granite-metavolcanic contact.

None of the other conductors on the property appear to be of particular significance, lacking either good definition or coincidence with a magnetic high.

CONCLUSIONS AND RECOMMENDATIONS

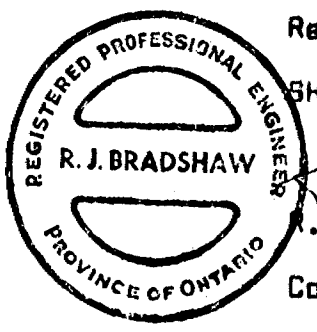
A creek extending between a lake to the northwest and one to the south marks approximately the faulted contact between a grey granitoid intrusive to the west and metavolcanics to the east.

Based on the characteristics of the Amoco gold deposit the granite is not an attractive geological environment in the search for gold mineralization. However, with the presence of some rock exposure in the vicinity of Hopper Lake, prospecting is advisable, particularly to determine the type of mineralization associated with the conductive zones.

The meta-pyroclastics to the east of the creek merit more attention particularly the magnetic highs which may be caused by pyrrhotite mineralization. The complex magnetic high in the northwest sector of the property is marked by a fair amount of rock exposure. A sample from Station 41N on Line 44W with heavy pyrite dissemination, assayed 0.18 per cent copper. Similarly the magnetic features between Line 0 and 28E should be carefully prospected.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED,



R. J. Bradshaw, P. Eng.,
Consulting Geologist.

Timmins, Ontario,
August, 1978.

C E R T I F I C A T E

I, Ronald J. Bradshaw, 480 Howard Street, Timmins, Ontario, a consulting geologist with office at 480 Howard Street, Timmins, Ontario, do hereby certify that:

I attended Queen's Univeriety, Kingston, Ontario, and graduated with an Honours B.A. degree in Geological Sciences in 1958.

I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining and Metallurgy and of the Association of Professional Engineers of the Province of Ontario.

Shield Geophysics Limited retains a ten per cent management interest in the holdings of the Gold Shield Syndicate.

Timmins, Ontario,
August, 1978.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

A P P E N D I X

SURVEY METHOD AND INSTRUMENT DATA

Electromagnetic Survey

A Ronka EM 16, number 36, was used for the survey.

This instrument is simply a sensitive receiver covering the frequency of the new VLF-transmitting stations with means of measuring the vertical field components. The VLF-transmitting stations operate for communications with submarines at frequencies between 17.8 and 24.0 Khz. The vertical antenna current of these transmitting stations creates a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary field radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal.

The signal from the coil with vertical axis is first minimized by tilting the instrument. The tilt angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil.

After a suitable station is selected, at right angles to the direction of the survey lines, readings are made of the in-phase and quadrature components where the signal has been minimized to its greatest degree. The VLF-transmitting station at Cutler, Maine, has been used for this survey.

The lower end of the handle will, as a rule, point towards the conductor and the instrument is so calibrated that when approaching a conductor, the angles are positive to the in-phase component.

As with any electromagnetic unit, the largest and best conductors give the highest ratio of the in-phase and quadrature components.

Magnetometer Survey

A Sharpe M.F.-1 fluxgate magnetometer was used in the magnetic survey. This instrument measures the vertical component of the earth's magnetic field in gammas. Base stations for determining the magnetic diurnal variations were established along the main base line at 400 foot intervals. Magnetic readings were taken at 100 foot intervals along the cross lines.

EM

SCHEDULE OF CLAIMS

Claim No.	Days	Claim No.	Days
P508542	40	P508592	40
508543	40	508593	40
508544	40 N/C	508594	40
508545	40 N.C	508595	40
508546	40 N.C	508596	40
508547	40 N.C	508597	40
508549	40	508598	40
508550	40	508599	40
508551	40	508600	40
508580	40	508601	40
508581	40 1/3	508602	40
508582	40	508603	40
508583	40	508604	40
508584	40	508605	40
508585	40	508606	40
508586	40 3/4	508607	40
508587	40	508609	40
508588	40 N C	508610	40
508589	40 1/4	508611	40
508590	40	508612	40
508591	40	508613	40 3/4

Ontario

Ministry of Natural

GEOPHYSICAL – GEOLOGICAL TECHNICAL DATA

32E13NW0027 2.2897 HOPPER LAKE

900

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) Magnetic-Electromagnetic

Township or Area Area West of Sunday Lake

Claim Holder(s) Claude Bertrand (M20319)
Denis Maillet (M20181)

Survey Company Shield Geophysics Limited

Author of Report R. J. Bradshaw

Address of Author P. O. Box 630, Timmins, Ontario

Covering Dates of Survey July 15 - August 15, 1978
(linecutting to office)

Total Miles of Line Cut 30.34

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	40
--Magnetometer	20
--Radiometric	
--Other	
Geological	
Geochemical	

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

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

DATE: Sept. 21. 78 SIGNATURE: _____
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

SEE ATTACHED SCHEDULE

If space insufficient, attach list

Submitted by R. J. Bradshaw of Shield Geophysics Limited

Claims: Denis Maillet Claude Bertrand

(together with R. J. Bradshaw are Gold Shiled Syndicate)

Area West of Sunday Lake M.3004.

TOTAL CLAIMS 42

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 2046 Number of Readings 2400 approx.

Station interval 100' Line spacing 400'

Profile scale 1" = 40%

Contour interval 100 gammas up to 1000 gammas; 1000 gammas over 2000 gammas

MAGNETIC

Instrument Sharpe M.F.-1 fluxgate

Accuracy – Scale constant + or - 10 gammas

Diurnal correction method

Base Station check-in interval (hours) less than 1 hour intervals

Base Station location and value along base line at 400 foot intervals

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration vertical

Coil separation infinite

Accuracy + or - 1%

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

Frequency Cutler, Maine 17.8 Khz.
(specify V.L.F. station)

Parameters measured vertical field component & quadrature field component

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

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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

Type of Survey(s) Magnetic & Electromagnetic

Township or Area West of Sunday Lake Area

Claim Holder(s) Gold Shield Syndicate
(Claude Bertrand M20319)

Survey Company Shield Geophysics Limited

Author of Report R. J. Bradshaw

Address of Author P. O. Box 630, Timmins, Ontario

Covering Dates of Survey July 1978
(linecutting to office)

Total Miles of Line Cut 9.49

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	40
--Magnetometer	20
--Radiometric	
--Other	
Geological	
Geochemical	

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

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

DATE: Aug. 18, 1978 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 3.1323+ on this File

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	508552
	508553
	508554
	508555
	508556
	508557
	508558
	508559

TOTAL CLAIMS 8

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 502 Number of Readings EM 560 approx. Mag 560 approx.

Station interval 100' Line spacing

Profile scale 1" = 20%

Contour interval 100 gammas to 1500 gammas; 500 gammas thereafter

MAGNETIC

Instrument Sharpe M.F.-1 fluxgate

Accuracy -- Scale constant + or - 10 gammas

Diurnal correction method Establishment of base stations @ cross lines on base line

Base Station check-in interval (hours) less than 2 hour intervals

Base Station location and value Along base line at 400' intervals

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration Vertical

Coil separation Infinite

Accuracy + or - 1%

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

Frequency Jim Creek, Washington 18.6 Khz. (specify V.L.F. station)

Parameters measured vertical field and quadrature components

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

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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

Type of Survey(s) Magnetic & Electromagnetic

Township or Area West of Sunday Lake Area

Claim Holder(s) Gold Shield Syndicate
(Claude Bertrand M20319)

Survey Company Shield Geophysics Limited

Author of Report R. J. Bradshaw

Address of Author P. O. Box 630, Timmins, Ontario

Covering Dates of Survey August, 1978 (linecutting to office)

Total Miles of Line Cut 17.35

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	40
–Magnetometer	20
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Oct. 10, 78 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 63.1323 on this File

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically L M

(prefix)	(number)
P	508560
	508561
	508562
	508563
	508564
	508565
	508566
	508567
	508568
	508569
	508570
	508571
	508572
	508573
	508574
	508575
	508576
	508577
	508578
	508579

TOTAL CLAIMS 20

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 905 Number of Readings EM - 900 approx. Mag 1000 approx.

Station interval 100' Line spacing 400'

Profile scale 1" = 40° EM

Contour interval 100 gammas Magnetic

MAGNETIC

Instrument Sharpe M.F.-1 fluxgate

Accuracy – Scale constant + or - 10 gammas

Diurnal correction method

Base Station check-in interval (hours) check of base station at less than one hour intefvals

Base Station location and value located at 400' intervals along base line

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration vertical

Coil separation infinite

Accuracy + or - 1%

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

Frequency 18.6 Khz Jim Creek, Washington (specify V.L.F. station)

Parameters measured vertical field and quadrature components

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

RESISTIVITY

Power

Electrode array

Electrode spacing

Type of electrode

May

SCHEDULE OF CLAIMS

Claim No.	Days
P508542	20
508543	20
~~508544~~	~~20~~
~~508545~~	~~20~~
~~508546~~	~~20~~
~~508547~~	~~20~~
508549	20
508550	20
508551	20
508580	20
508581	20 1/3
508582	20
508583	20
508584	20
508585	20
~~508586~~	~~20~~
~~508587~~	~~20~~
~~508588~~	~~20~~
508589	20
508590	20
508591	20

Claim No.	Days
P508592	20
508593	20
508594	20
508595	20
~~508596~~	~~20~~
508597	20
508598	20
508599	20
508600	20
508601	20
508602	20
508603	20
508604	20
508605	20
508606	20
508607	20
~~508608~~	~~20~~
508610	20
508611	20 N/C
508612	20
~~508613~~	~~20~~

AREA OF
2.2897

HOPPER LAKE

DISTRICT OF
COCHRANE

PORCUPINE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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' Reserve around all Lakes and Rivers to Dept. of Lands & Forests.

DATE OF ISSUE
MAY 29 1979
SURVEYS AND MAPPING BRANCH

NATIONAL TOPOGRAPHIC SERIES 32 E 13

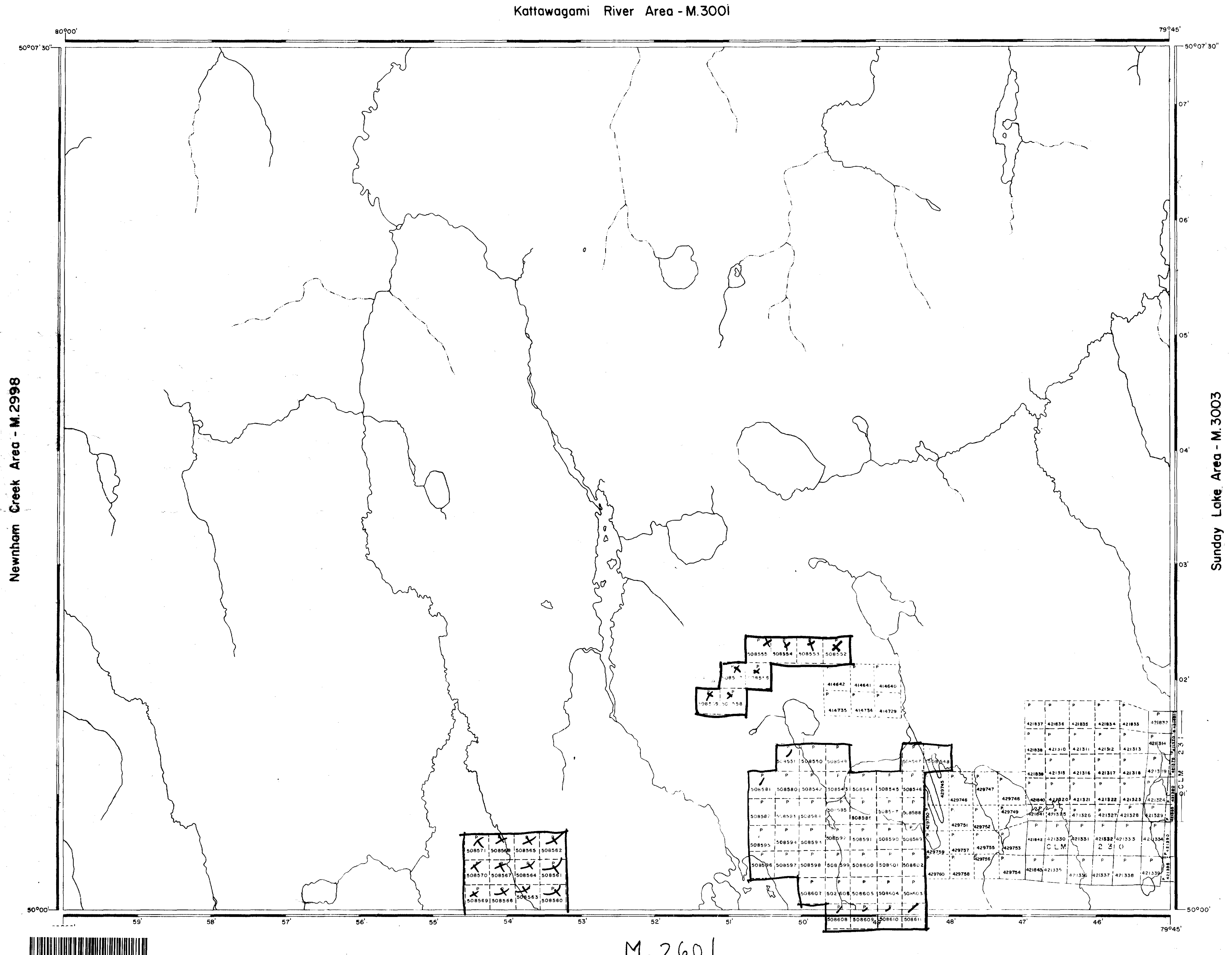
PLAN NO. M.2601

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

498794

32E13M9827 2.2897 HOPPER LAKE

200



AREA OF 2.2897

WEST OF SUNDAY LAKE

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND
CROWN LAND SALE
LEASES
LOCATED LAND
LICENSE OF OCCUPATION
MINING RIGHTS ONLY
SURFACE RIGHTS ONLY
ROADS
IMPROVED ROADS
KING'S HIGHWAYS
RAILWAYS
POWER LINES
MARSH OR MUSKEG
MINES
CANCELLED

NOTES

400' Surface Rights Reservation around all lakes and rivers.

DATE OF ISSUE
FEB 19 1979
SURVEYS AND MAPPING BRANCH

NATIONAL TOPOGRAPHIC SERIES 32 L

PLAN NO. M.3004

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

32E13NW0027 2.2897 HOPPER LAKE 210

501794

L a k e

508581

508544

L a k e

508586

508591

508606

H o p p e r

L a k e

LEGEND

- Measurement station along picket line
- "6" In-phase reading (%) plotted to left
- "17" Quadrature reading (%) plotted to right
- Profile scale: 1" = 40%
- In-phase profile
- Quadrature profile
- Conductor, well defined, weaker

INSTRUMENT: Ronka EM 16, No. 36

ELECTROMAGNETIC SURVEY

ON THE PROPERTY OF

GOLD SHIELD SYNDICATE

SOUTH GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

SCALE

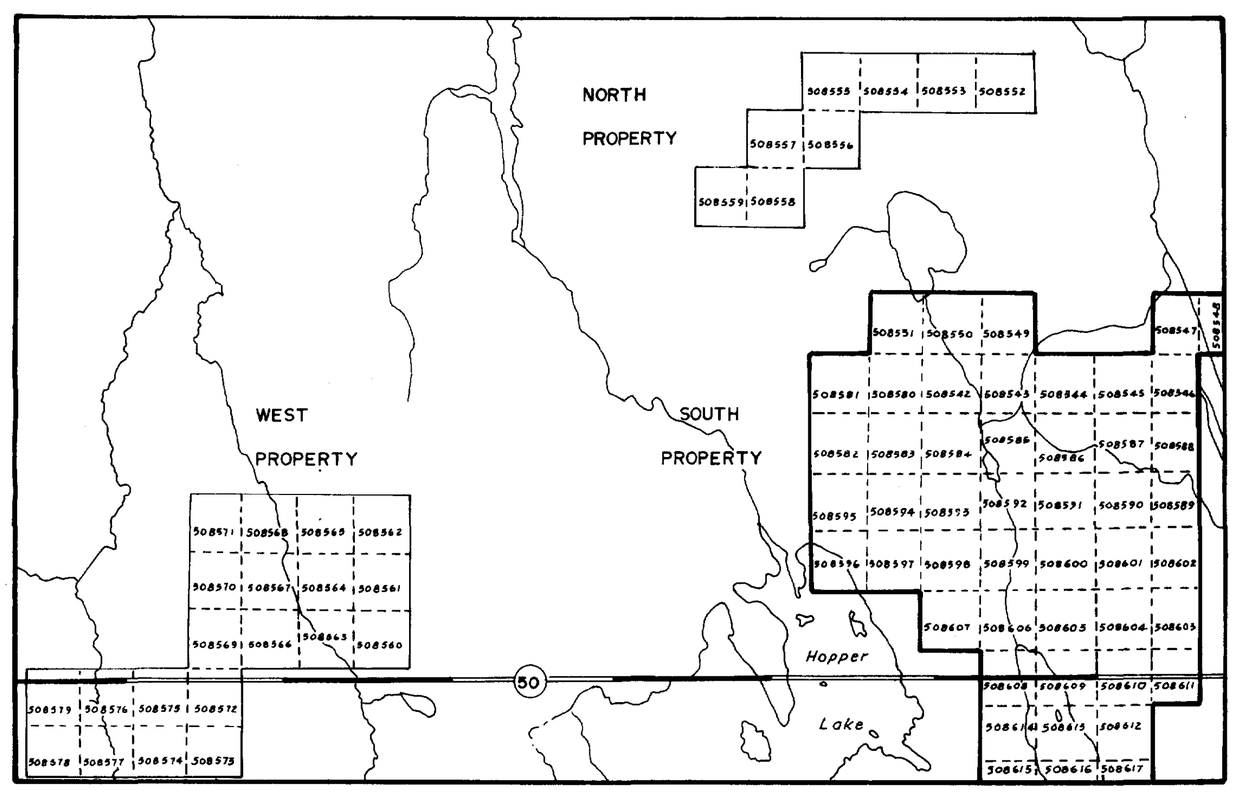
0 300 600 900 1200

FEET

AUGUST 1978

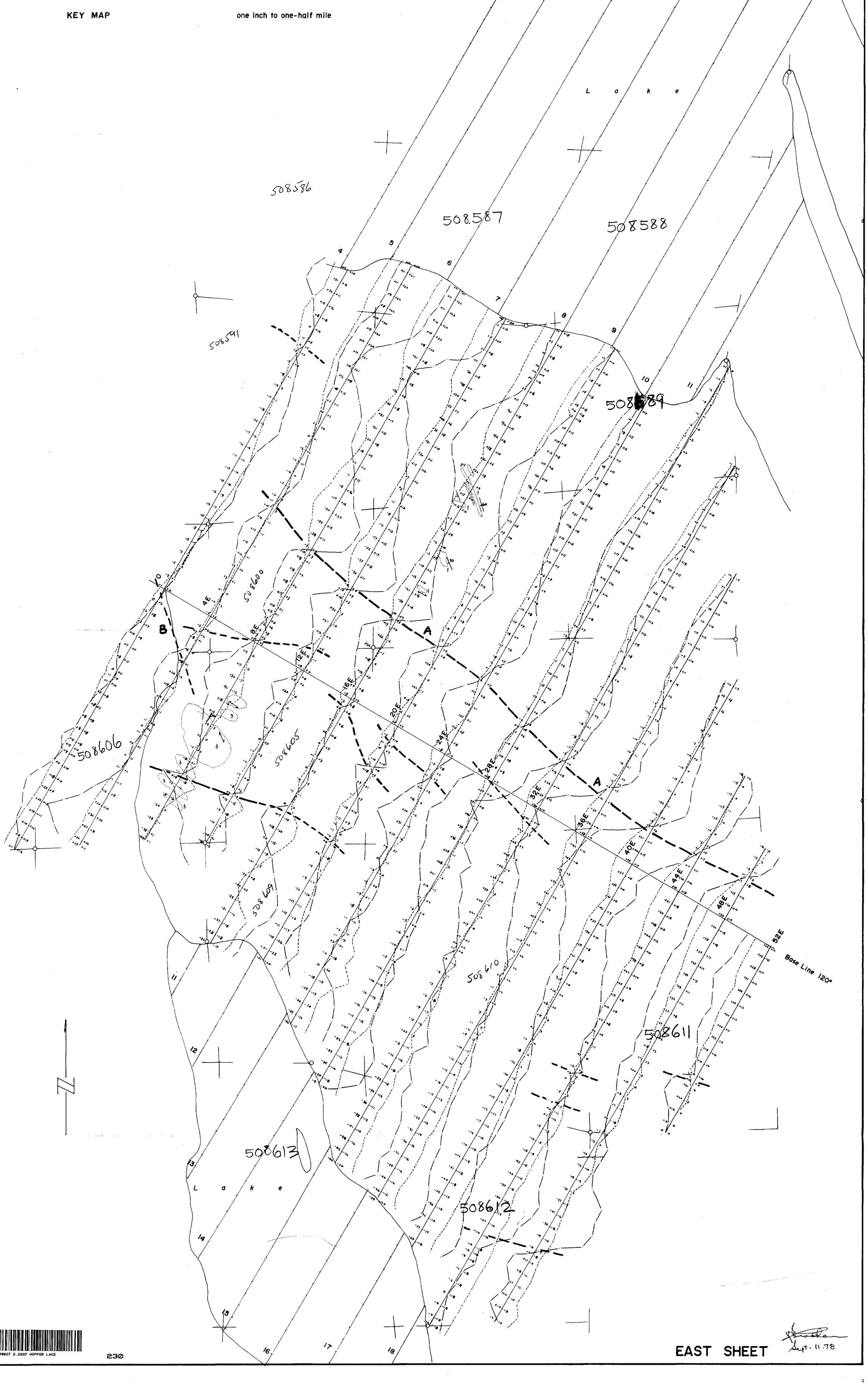
Sept. 11-78

WEST SHEET



KEY MAP

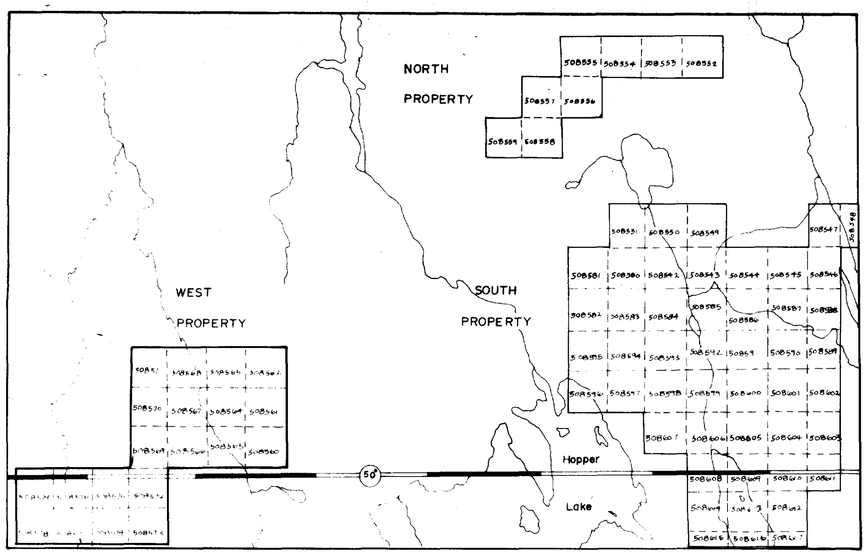
one inch to one-half mile



EAST SHEET

7-11-78

230



KEY MAP

one inch to one-half mile

LEGEND

Measurement station along picket line

In-phase reading (%) plotted to left

Quadrature reading (%) plotted to right

Profile scale: 1" = 40%

In-phase profile

Quadrature profile

Conductor, well defined; weaker

INSTRUMENT: Ronka EM 16, No. 36

ELECTROMAGNETIC SURVEY

ON THE PROPERTY OF

GOLD SHIELD SYNDICATE

WEST GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

SCALE

0 100 200 300 400 FEET

Oct. 4. 78

LEGEND

- Measurement station along picket line
- In-phase reading (%) plotted to left
- Quadrature reading (%) plotted to right
- Profile scale 1" = 20%
- In-phase profile
- Quadrature profile
- Conductor - well defined, weaker.

INSTRUMENT: Ronka EM 16, No. 36

ELECTROMAGNETIC SURVEY
ON THE PROPERTY OF
GOLD SHIELD SYNDICATE
NORTH GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

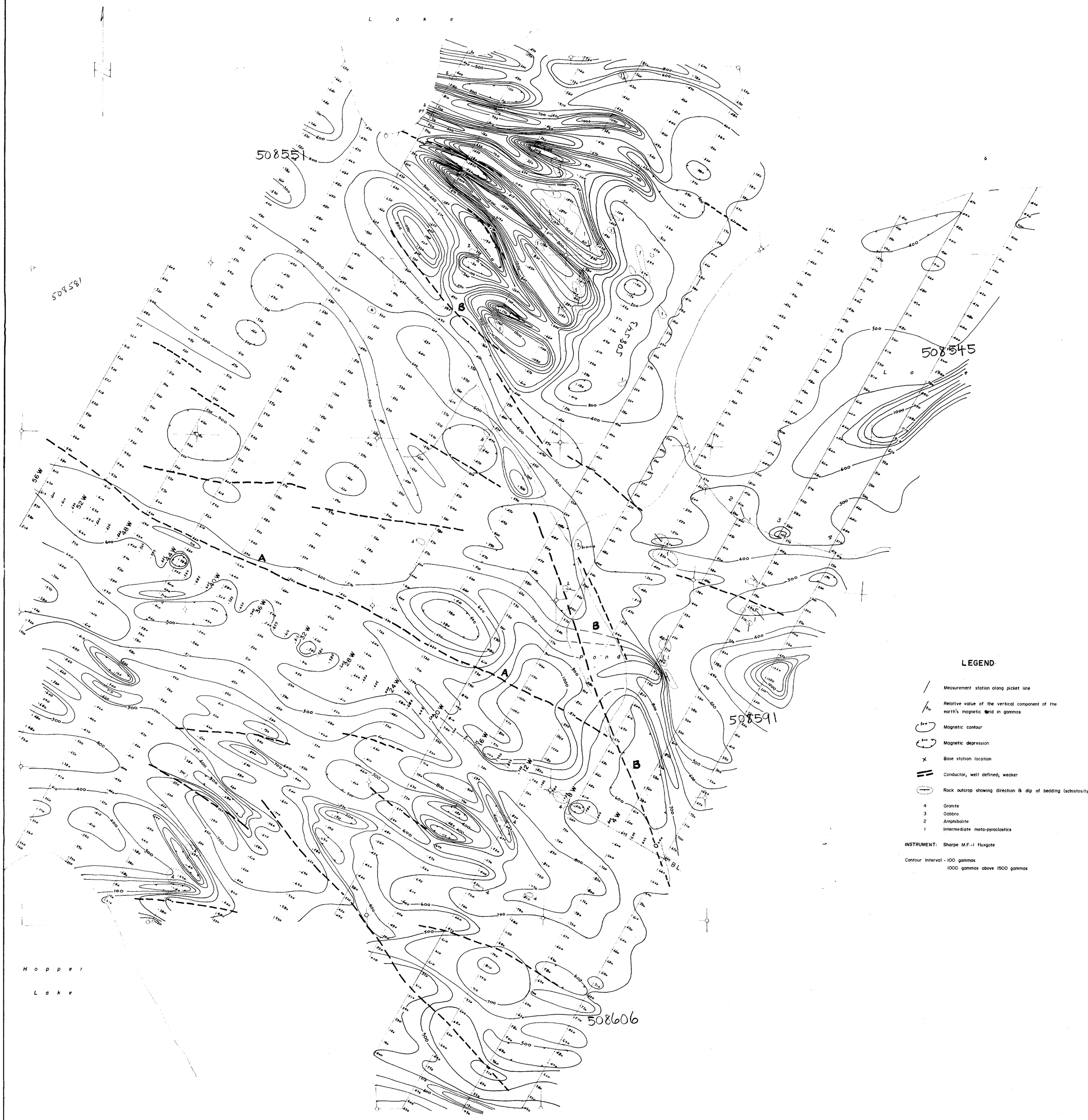
SCALE

0 200 400 600

FEET

AUGUST 1978

Aug. 18 '78



LEGEND

- Measurement station along picket line
- Relative value of the vertical component of the earth's magnetic field in gammas
- Magnetic contour
- Magnetic depression
- Base station location
- Conductor, well defined; weaker
- Rock outcrop showing direction & dip of bedding (schistosity)

4 Granite
3 Gabbro
2 Amphibolite
1 Intermediate meta-pyroclastics

INSTRUMENT: Sharpe M.F.-1 fluxgate

Contour Interval - 100 gammas
1000 gammas above 1500 gammas

MAGNETOMETER SURVEY

ON THE PROPERTY OF

GOLD SHIELD SYNDICATE

SOUTH GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

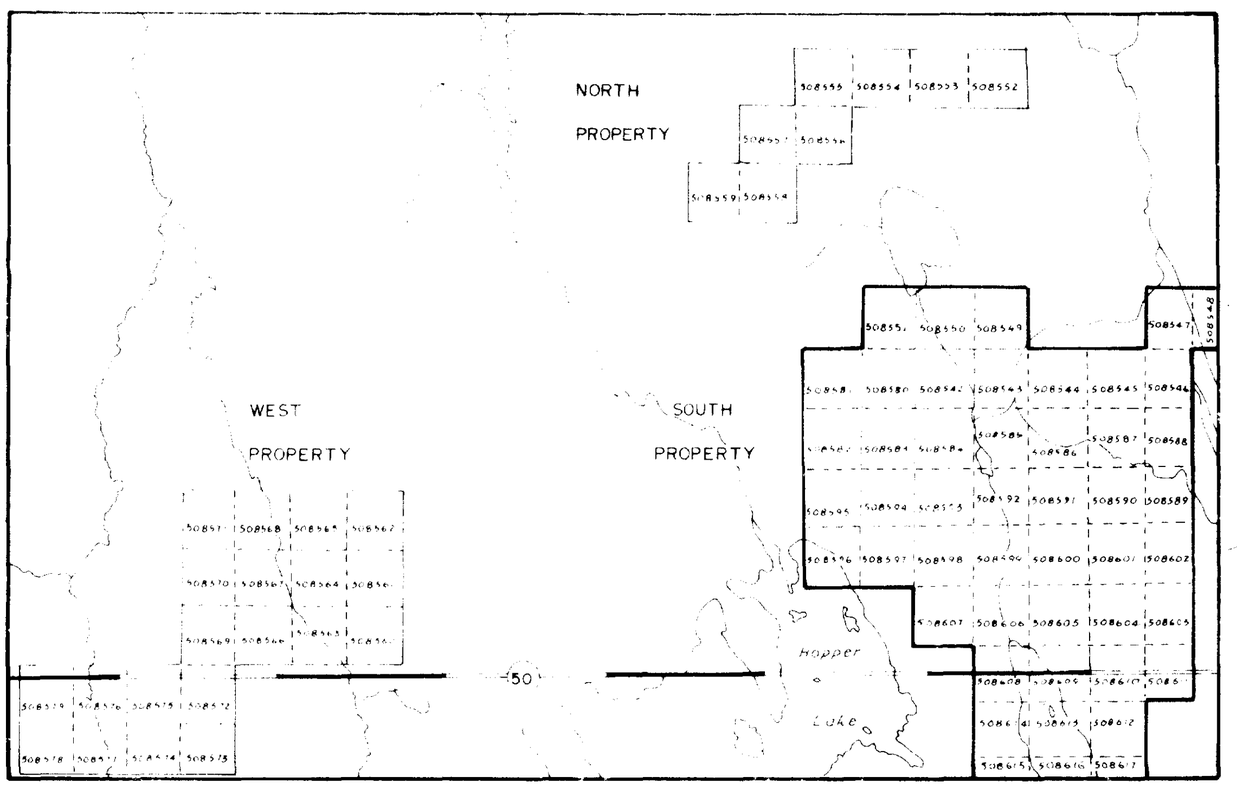
SCALE

0 300 600 900 1200
FEET

AUGUST 1978

Sept. 11 1978

WEST SHEET



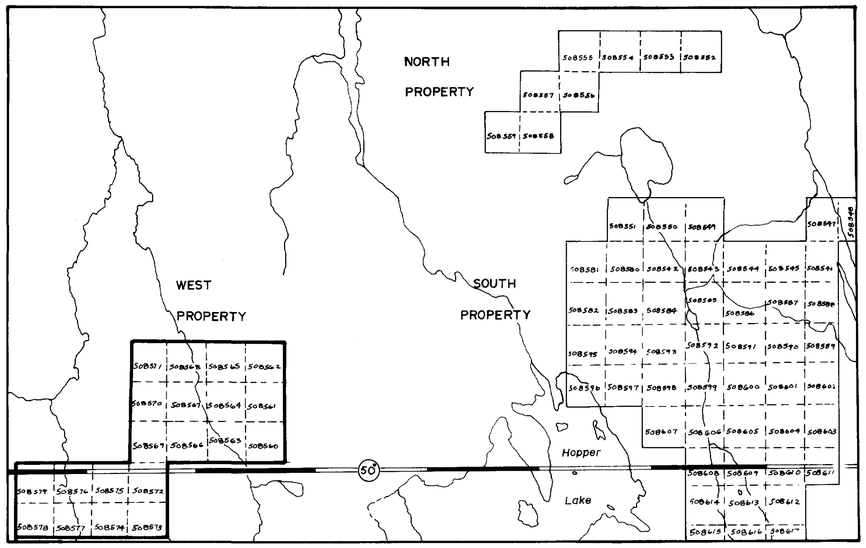
KEY MAP one inch to one-half mile

508547
508545
508586
508588
508590
508591
508599
508606
508610
508611
508613
508612
Base Line 120°
A
B
Lake

270

EAST SHEET

Sept. 11.78



KEY MAP

one inch to one-half mile

LEGEND

- Measurement station along picket line
- Relative value of the vertical component of the earth's magnetic field in gammas
- Magnetic contour
- Magnetic depression
- Base station location
- Conductor, well defined, weaker

INSTRUMENT Sharpe M.F.-1 fluxgate

MAGNETOMETER SURVEY

ON THE PROPERTY OF

GOLD SHIELD SYNDICATE

WEST GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

SCALE

0 300 600 900 1200

FEET

AUGUST 1978

Oct. 4. 78

LEGEND

- Measurement station along picket line
- Relative value of the vertical component of the earth's magnetic field in gammas
- Magnetic contour
- Magnetic depression
- Base station location
- Conductor - well defined, weaker
- Rock outcrop showing direction & dip of bedding (schistocity)

1.	Amphibolite
2.	Intermediate meta-pyroclastics
py	pyrite
po	pyrrhotite
Cu	copper
Au	gold

INSTRUMENT: Sharpe M.F.-1 fluxgate

Contour Interval: 100 gammas
1000 gammas above 1500 gammas

MAGNETOMETER SURVEY
ON THE PROPERTY OF
GOLD SHIELD SYNDICATE

NORTH GROUP

AREA WEST OF SUNDAY LAKE, ONTARIO

by SHIELD GEOPHYSICS LIMITED

Aug. 18, 1978

SCALE
0 200 400 600
FEET

AUGUST 1978

32E13NW0027 2.2897 HOPPER LAKE

290