INTERIM REPORT ON GROUND ELECTROMAGNETIC AND MAGNETIC SURVEYS, MINNITAKI LAKE AREA, SIOUX LOOKOUT, ONTARIO FOR SHILO MINES LIMITED

BY

BARRINGER RESEARCH LIMITED

304 CARLINGVIEW DRIVE

METROPOLITAN TORONTO

REXDALE, ONTARIO

JUNE 1972

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1. INTRODUCTION

During the period of June 7 to 25, 1972, a combined horizontal loop ground electromagnetic and magnetic survey was carried out by Barringer Research Limited on behalf of Shilo Mines Limited in the Minnitaki Lake Area, Ontario.

The geophysical surveys were carried out on the recommendations contained in a report prepared by A. S. Bayne, P. Eng., A.S. Bayne & Company, Consulting Engineers, March 1972.

The survey covers in whole or part 13 contiguous claims numbered PA 331097 to PA 331109 inclusive. The majority of the claims lies over water and the present survey covers the land portions only. It is planned that the water covered areas will be surveyed after freeze-up.

The present survey occupies two land areas. One is Burnthut Island at the north shore of Minnitaki Lake, the second area is the east half mile of the main land point lying between Pickerel Arm and the main body of Minnitaki Lake. The survey area is located approximately eight miles southeast of Sioux Lookout, Ontario. The access to the area was by boat from Sioux Lookout.

The survey area is located on N.T.S. Map Sheet 52G/13 at a scale of 1:250,000. The topography is rugged on Burnthut Island with heavy vegetation, both deciduous trees and evergreen trees of varied types are present. The mainland area is less rugged with less vegetation. Both areas are generally steep along the lakeshore.

There is a great deal of outcrop in the area. When covered with overburden it is generally so shallow that picket lines could not be used. Hence station positions were marked on trees and with flagging tape. A total of 7.71 miles of lines were cut including base lines and grid lines. Altogether, 5.24 miles of EM surveying was carried out in the reconnaissance phase; detailed EM surveying covered 500 feet. It should be noted that 3600 feet of the reconnaissance EM surveying was carried out using 100 ft. coil separation due to the shortness of the lines. The balance was

surveyed with 300 ft. coil separation. The magnetometer survey covered 6.55 miles plus 1.59 miles of detail.

It should also be noted here that the two survey grids were not tied together with horizontal distance measurements but will have to wait until freeze-up. The survey work was carried out by J. Vyselaar, geophysicist, T. Hanson and N. A. Buist, geophysical operators.

2. SURVEY SPECIFICATIONS, PROCEDURES AND INSTRUMENTATION

2.1 GENERAL

The surveys were carried out over cut and chained lines located 200 feet apart. The bearing of the base line is 43° T. The basic station interval was 100 feet along the survey lines.

2.2 MAGNETOMETER SURVEY

A Barringer GM 102A proton precession magnetometer, measuring the total field to an accuracy of ±10 gammas was used for the survey. In order to establish the diurnal variations of the earth's magnetic field, base stations were established and then read periodically, usually within one hour. The measurements were corrected for any diurnal variation noted. The basic interval station was 100 feet. This was decreased to 50 feet or 25 feet in areas of steep magnetic gradients.

The magnetometer survey is referred to a base station located at Station 0+00 on Line 00, Burnthut Island. The magnetic survey on the mainland was tied to this base station. The base stations are indicated on the magnetic contour map.

2.3 ELECTROMAGNETIC SURVEY

The horizontal loop electromagnetic system used is a McPhar VHEM, measuring in-phase and quadrature components of the secondary electromagnetic field in terms of percentages of the primary exciting field at two frequencies, 600 Hz and 2400 Hz. Three coil separations are available, 100 feet, 200 feet and 300 feet.

In the reconnaissance phase of the survey, measurements were obtained at both frequencies using 300 feet coil separation, with the exception of short lines, where the use of the 300 feet coil separation was impossible or impractical. In those cases 100 feet coil separation was used. Anomalous areas were detailed using 100 feet coil separation and both frequencies.

3. PRESENTATION OF THE RESULTS

The results of the surveys are presented in the form of maps at a horizontal scale of 1" = 200 feet; the maps show survey lines, survey stations and numbers as a common base for each map. The electromagnetic data are presented in profile form and the readings are plotted midway between the transmitting and receiving coils. The vertical scale of the profiles is 1" = 20%. The results obtained at 600 Hz and 2400 Hz are shown on separate maps (Dwg. Nos. 5-320-2 & 3). The results at 100 feet coil separation are shown on Dwg. Nos. 5-320-4 & 5. In addition to the profiles, the electromagnetic readings are also shown at each station. The interpretation is shown on a copy of the magnetic contour map (Dwg. No. 5-320-7).

The magnetic data are presented in the form of contours of equal intensity of the earth's magnetic field. The contour interval is 50 gammas with suitable larger intervals in areas of steep magnetic gradients (Dwg. No. 5-320-6).
The value of the magnetic field is shown at each station.

4. KNOWN GEOLOGY

The only comprehensive field survey including Minnitaki was published by the Ontario Department of Mines (O.D.M.) in 1931, (Vol. XLI Pt. VI, 1932) by M.E. Hurst. In 1966 the O.D.M. published the Minnitaki-Sturgeon Lakes Sheet, Map P. 353. This map is a compilation of the general lithology and structure from the east side of Sturgeon Lake to 3/4 mile west of Burnthut Island on Minnitaki Lake.

"The underlying rocks are all Precambrian, overlain shallowly to a great extent by glacial deposits. The oldest formations are the Keewatin and Timiskaming volcanic-sedimentary rocks, which strike westward under a belt 15 miles wide through Minnitaki and Vermillion Lakes. These are intruded by igneous quartz and syenite porphyry, diorite, granodiorite and granite (Report by A.S. Bayne, P. Eng.)."

The Harvey Syndicate of Winnipeg prospected the north shore of Minnitaki Lake in 1897 and 1898 and sank a 7 feet by 9 feet shaft which is located on Burnthut Island on the current claim PA 331101. Ourgold Mines Limited drilled 21 and 18 core holes on the south part of Burnthut Island during the periods of 1947-48 and 1961-62 respectively.

"The mineralization consists of gold, pyrite, chacopyrite and galena. The sulphides are often disseminated in the gold-quartz veins and occur also as replacement blebs and fillings in chloritic schist. The strike of the main shears are N 55°E to N 70°E and dips 70° to 80° NW.

A strong shearing about 300 feet wide is exposed in places along the north shore of Pickerel Arm across Shilo's mainland claims PA 331105 and 331106 and continues across the south part of Burnthut Island. No work has been done on the mainland claims, but it is reported in 1930 that stripping and trenching of this shear, 3/4 mile west of PA 331105, exposed sheared, pyritized quartz porphyry containing stringers of quartz mineralized by chalcopyrite" (A.S. Bayne, P. Eng.).

For details of the drilling results and assays the reader is referred to the report by A.S. Bayne.

5. INTERPRETATION

5.1 ELECTROMAGNETIC SURVEY

The EM response over the two areas are not too dissimilar, the mainland is characterized by essentially flat out-phase response.

Four anomalies are noteworthy on Burnthut Island.

EM anomaly 1, on Line 24N at Station 11+00W (at low frequency) shows the characteristics of an anomaly caused by highly permeable material, usually magnetite, however this interpretation is not supported by the magnetic survey. The anomaly does not appear to have other than academic interest.

Anomaly 2 extends from L-18N to L-14N and is located east of the base line.

The anomaly appears to be a bedrock response although misorientation of the coils due to rugged topography may have influenced the in-phase response. The calculated conductivity thickness product is 9mhos, (poor to fair conductivity) and it may be at a depth of 60 to 70 feet.

A magnetic anomaly on L-14N correlates with the EM response which is not completely surveyed along this line because of the proximity of the shoreline. The conductor has no direct magnetic correlation on Lines 18N and 16N. The conductor appears to be located within a magnetically low region (Unit 4) which may include sediments and felsic volcanic rocks.

Anomaly 3 is located on L-2N and L-4N east of the base line. It is situated near an interpreted contact between mafic and felsic rocks, but there is every reason to believe that the anomaly is greatly influenced by topographic effects.

Anomaly 4 is only partially surveyed because it lies near the shoreline on Lines 6N-12N. It should be noted that the 100 coil separation was used because of the short grid lines; the conductor should be at a depth shallower than 50 feet. The

EM anomaly appears to have discontinuous magnetic correlation. The final interpretation of this conductor will be completed when the rest of the conductor is surveyed over the water covered areas.

There is only one possible conductor which needs mentioning on the mainland. It is located on L-20N east of the base line, it is a wide anomaly with minor out-phase response, which may be indicative of effects of conductive overburden. No particular significance can be attached to this conductor until further work is done off-shore.

5.2 MAGNETIC SURVEY

The magnetic contour map shows reasonable correlation with the limited amount geology indicated on the map accompanying the Bayne's report.

The mainland magnetic contour map is dominated by a magnetic unit centred within the grid (Unit 2). It is characterized by rapidly varying magnetic field at a number of locations and by a magnetic base level which is about 1500 - 2000 gammas higher than the surrounding units. The unit may represent intermediate to basic volcanic rocks; the rapid variations would be caused by inclusion of non-magnetic sedimentary rocks or magnetite deficient flows in the volcanic sequence and iron formation.

To the north and south, the magnetic field is gently varying and is believed that felsic volcanic rocks, rhyolites occupy these magnetic units. The magnetic field is similar on Burnthut Island to the mainland. The central, more magnetic unit, may be correlated with Unit 2 on the mainland. The magnetic field is more uniform here and the rapid variations which are frequent on the mainland are not in evidence. Intermediate to basic volcanic rocks are the likely rocks underlying the unit.

A magnetic anomaly south of Unit 2, striking nearly parallel to the base line is noteworthy. A basic volcanic flow or dyke maybe the cause.

The magnetic field is gently varying to the south of the anomaly discussed above.

Keewatin rhyolite and Algoman quartz porphyry and granite porphyry are mapped along the shoreline in this unit.

The magnetic field over the rest of the grid, north and west of Unit 2 are similar to the unit in the southeast of the island. The mapped rocks along the shores include Keewatin agglomerate, tuff and breccia, Timiskaming greywacke, slate, quartzite and Keewatin rhyolite. The magnetic characteristics of these rocks are very similar and cannot be separated on magnetic evidence alone.

Two shear zones, one on the mainland and one on Burnthut Island are shown on the Bayne's map.

If the location of these shear zones are correct, there seems to be no apparent magnetic signature representing the shear zones.

A number of northeast striking shear zones are interpreted from the magnetic map and shown on the interpretation map.

6. CONCLUSIONS AND RECOMMENDATIONS

The ground EM survey showed that the area is to a large extent covered by conductive overburden which may vary in thickness and conductivity. There is however also a great deal of outcrop, especially on Burnthut Island. An EM conductor related to bedrock was located on L-18N and L-16N on Burnthut Island. Also, the edge of a conductor which may develop into a significant anomaly, was located on L-12N, L-10N and L-8N on Burnthut Island and will be delineated during the winter survey. All other anomalies located are believed to be caused by a combination of conductive overburden and possible topographic effects.

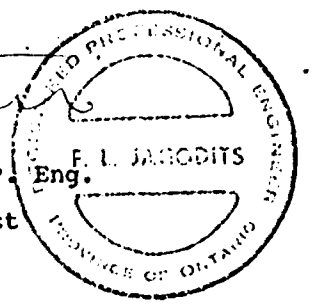
The magnetometer survey revealed anomalous areas on both grids. The geological interpretation of this data is only general and tentative due to scarcity of geologic information.

It is recommended that geologic mapping be carried over the grid. This will provide information to finalize the interpretation of the magnetic data and EM results. The geological mapping should emphasize mineralization and shearing in the areas of interest. The final interpretation of data and further recommendations will depend on the results obtained over water covered areas.

BARRINGER RESEARCH LIMITED

J. Vyselaar,
Geophysicist

F. L. Jagodits, P. Eng.
Chief Geophysicist



7. REFERENCES

1. Bayne, A.S., Report on Minnitaki Lake - Property of Shilo Mines Ltd., Area of Parnes Lake, Minnitaki-Sturgeon Lakes Map Area, Patricia Mining Division, Ontario, Canada.

2. Lowrie, W. and West, G.F. - The Effect of a Conducting Overburden on Electromagnetic Prospecting Measurements, GEOPHYSICS, Vol. XXX No. 4 (August 1965) PP 624-632.

3. Strangway, D. W. - Electromagnetic Parameters of Some Sulfide Ore Bodies, Mining Geophysics, Vol 1. PP 227-242.

REPORT ON THE GROUND MAGNETIC SURVEY MINNITAKI LAKE AREA SIOUX LOOKOUT, ONTARIO FOR SHILO MINES LIMITED

G/13 NW

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304 CARLINGVIEW DRIVE
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MARCH, 1973

LIST OF CONTENTS

LIST OF DRAWINGS

DWG.NO.	TITLE	SCALE
5-320-1	Locality Plan (follows page 1)	1" = ½ & 25M
5-340-1	Total Intensity Magnetics - contours	1" = 200'
5-340-2	Total Intensity Magnetics - readings	1" = 200'
5-340-3	Interpretation	1" = 200'

1. INTRODUCTION

During the period of January 19, to February 4, 1973, a ground magnetometer survey was carried out by Barringer Research Limited on behalf of Shilo Mines Limited in the Minnitaki Lake area, Ontario.

The present ground magnetometer survey constitutes the second phase of the geophysical surveys which commenced during the summer of 1972. The survey which was carried out in 1972, covered the land portions of the property, Burnthut Island and the mainland and consisted of ground electromagnetic and ground magnetic surveys. The results and the interpretation, were presented in a report by Barringer Research Limited (Ref. 1).

In this report, it was recommended that geological mapping of the property should be carried out. Mr. Wilfred Walker, Consulting Geologist, who visited the property during 1972, submitted his report directly to Shilo Mines Limited; his findings are incorporated in the interpretation of the present survey. His recommendations include that the magnetometer surveys should be carried out over the water covered areas of the property south and east of Burnthut Island including additional surveys on the island south of the old base line. The purpose of the magnetometer survey was to outline structural features. It is believed that gold mineralization may be associated with the structural features. The present survey covers all, or in part, the following claims:
PA 331097, PA 331100, PA 331101, PA 331102, PA 331107, PA 331108, and PA 331109.

The survey area is located approximately eight miles southeast of Sioux Lookout, Ontario. The access to the area was by road and by ski-doo. The area is located on the N.T.S. Map Sheet 52 G/13 on a scale of 1:250,000. The topography is rugged on Burnthut Island with heavy vegetation, both deciduous trees and evergreen trees of varied types are present. The survey was carried out by George Young, senior geophysical operator. The new survey covered 6.2 line miles, altogether 654 readings were obtained. Prior to the commencement of the magnetometric survey, the additional lines were cut and picketed by George Young.

2. SURVEYS SPECIFICATIONS, PROCEDURES AND INSTRUMENTATION

2.1 GENERAL

The survey was carried out over survey lines located 200 feet apart closing down to 100 feet in the bay. The station interval was 50 feet along the survey lines.

2.2 MAGNETOMETER SURVEY

The Barringer GM 102A proton precession magnetometer measuring the total field to an accuracy of ± 10 gammas was used for the survey. In order to establish the diurnal variations of the earth's magnetic field, base stations were established, and base station readings were obtained usually less than one hour apart. The measurements were corrected for any diurnal variations of the earth's magnetic field, assuming linear change with time.

The magnetometer survey is referred to a base station located at Station 0+00 on Line 00, Burnthut Island, which was the base station of the previous survey. The previous magnetometer survey and the present one are tied together and refer to the base station noted above. The base stations are indicated on the magnetic contour map.

3. PRESENTATION OF THE RESULTS

The results of the survey are presented in the form of a map on a horizontal scale of 1" = 200 feet; the map shows survey lines and survey stations. The results of the previous and present magnetometer surveys are presented together on one map in the form of contours of equal intensity of the earth's magnetic field. The contour interval is 25 gammas with suitably larger intervals in areas of steep magnetic gradients (Dwg. No. 5-340-1). The value of the magnetic field is shown at each station, but presented on a separate map with no magnetic contours (Dwg. No. 5-340-2). The interpretation of the data is presented on the Interpretation Map (Dwg. No. 5-340-3); a copy of the magnetometer contour map serves as the base for the interpretation map.

4. KNOWN GEOLOGY

The known geology was described in some detail in Section four of the previous report by Barringer Research Limited (Ref. 1). However, for the sake of completeness the section is included below.

The only comprehensive field survey including Minnitaki was published by the Ontario Department of Mines (O.D.M.) in 1931, (Vol. XLI Pt. VI, 1932) by M. E. Hurst. In 1966 the O.D.M. published the Minnitaki-Sturgeon Lakes Sheet, Map P. 353. This map is a compilation of the general lithology and structure from the east side of Sturgeon Lake to 3.4 mile west of Burnthut Island on Minnitaki Lake.

"The underlying rocks are all Precambrian, overlain shallowly to a great extent by glacial deposits. The oldest formations are the Keewatin and Timiskaming volcanic-sedimentary rocks, which strike westward under a belt 15 miles wide through Minnitaki and Vermillion Lakes. These are intruded by igneous quartz and syenite porphyry, diorite, granodiorite and granite." (Report by A.S. Bayne, P. Eng.; Ref. 2).

The Harvey Syndicate of Winnipeg prospected the north shore of Minnitaki Lake in 1897 and 1898 and sank a 7 feet by 9 feet shaft which is located on Burnthut Island on the current claim PA 331101. Ourgold Mines Limited drilled 21 and 18 core holes on the south part of Burnthut Island during the periods of 1947-48 and 1961-62 respectively.

"The mineralization consists of gold, pyrite, chalcopyrite and galena. The sulphides are often disseminated in the gold-quartz veins and occur also as replacement blebs and fillings in chloritic schist. The strike of the main shears are N 55°E to N 70°E and dips 70° to 80° NW.

A strong shearing about 300 feet wide is exposed in places along the north shore of Pickerel Arm across Shilo's mainland claims PA 331105 and 331106 and continues across the south part of Burnthut Island. No work has been done on the mainland claims, but it is reported in 1930 that stripping and trenching of this shear,

3/4 mile west of PA 331105, exposed sheared, pyritized quartz porphyry containing stringers of quartz mineralized by chalcopyrite" (A.S. Bayne, P. Eng.).

For details of the drilling results and assays the reader is referred to the report by A.S. Bayne (Ref. 2).

Mr. Walker makes further notes on the geology: Several thin basic to acid volcanic cycles (of the order of tens of feet thick) outcrop on the south shore of the headland west of Burnthut Island. The acid phase is accompanied by pyritiferous (i.e. iron sulphide) sedimentary bands. The magnetic horizons on the island and headland may well be magnetite (i.e. iron oxide) sedimentary bands. The shearing is evidently post-sedimentation. Some of the magnetic and conductive features are presumably explained by the iron facies.

5. INTERPRETATION

The addition of the 25 gamma contours revealed some additional details on the mainland. The interpretation of the data on the mainland has not changed in essence but in detail additional fault and/or shear zones are interpreted.

The centre grid area is occupied by Magnetic Unit 3 (Unit 2 on the previous map) which is believed to represent intermediate to basic volcanic rocks. The rapid variations in the unit may be caused by non-magnetic sedimentary rocks or magnetite deficient flows in the volcanic sequence and iron formation. A magnetic unit, unit 2, separates the gently varying magnetic field in Unit 1 from Unit 3. It is more than likely that the rocks in Unit 2 are similar to the rocks in Unit 3 but less mafic in composition. Magnetic Unit 2 in the north has the appearance of being caused by a dyke. In the south, Unit 2 may represent small intrusions.

The detailed magnetic survey on Burnthut Island revealed an interesting magnetic feature in the bay south of the base line.

The magnetic anomaly which peaks at station 5E on Line 6N, is abruptly terminated between Lines 6N and 8N by an interpreted fault or shear. However, the anomaly reoccurs with a much reduced intensity just north of the anomaly discussed above. This low intensity anomaly more or less strikes east-west and occupies the central part of the bay. It is more than likely that this anomaly is caused by the same rocks as occur in magnetic Unit 3, namely basic to intermediate volcanic rocks, probably a dyke. The rocks may sub-outcrop on the bottom of the bay.

Rocks underlying magnetic Unit 3 are believed to be intermediate to basic volcanic rocks. Anomalies which represent more basic members of the unit are outlined on Burnthut Island and indicated by the symbol 3a.

Magnetic Unit 4 occupies most of the northern and central part of the Island south of the base line. Sediments, metasediments, including felsic volcanic rocks, are believed to underlie the area.

A number of northeast-striking faults or shear zones are interpreted crossing the bay. These faults are reasonably well indicated by the magnetic contours but their actual location is uncertain.

6. CONCLUSIONS AND RECOMMENDATIONS

The additional ground magnetometer survey south of the base line on Burnthut Island revealed two significant features. The first is the magnetic anomaly which occurs in the central part of the bay and it may represent an intermediate to basic dyke. The second feature is interpreted northeast-striking faults which cross the bay. Although the exact location of these faults is uncertain they may have significance when their relation to precious metal occurence is considered. If their relationship to precious metal occurrence is established their exact location may become critical. Assuming that these shear zones are conductive an electromagnetic survey may determine the r location.

The electromagnetic survey would also detect any conductors which may be caused by massive sulphide mineralization which may be associated with the precious metal occurrence. The survey would also detect massive sulphide mineralization which may occur at the contacts of the intermediate to basic volcanic rocks represented by the magnetic anomaly under the bay.

More specific recommendations will be made after the completion of the current geologic study by Messrs. Walker and Hammerstrom.

BARRINGER RESEARCH LIMITED

Frank L. Jagodits, P. Eng.
Chief Geophysicist.

REGISTERED PROFESSIONAL ENGINEER
F. L. JAGODITS
PROVINCE OF ONTARIO

7. REFERENCES

1. Interim Report on Ground Electromagnetic and Magnetic Surveys, Minnitaki Lake Area, Sioux Lookout, Ontario, for Shilo Mines Limited, by Barringer Research Limited (1972).

2. Bayne, A. S., Report on Minnitaki Lake - Property of Shilo Mines Limited, Area of Parnes Lake, Minnitaki-Sturgeon Lakes Map Area, Patricia Mining Division, Ontario, Canada.

900

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 Electromagnetic

Township or Area Minnitaki Lake - Sioux Lookout, Ont.

Claim holder(s) Shilo Mines Ltd.,
Ste. 203, 350 Bay Street, Toronto, Ont.

Author of Report F. L. Jagodits

Address 304 Carlingview Drive, Rexdale, Ontario.

Covering Dates of Survey June 18 - 24, 1972
(linecutting to office)

Total Miles of Line cut 12.03 miles

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	20
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: March 28rd, 1973 SIGNATURE: F. L. Jagodits
Author of Report

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
PA	331098
PA	331101
PA	331104
PA	331105
PA	331106
PA	331108

If space insufficient, attach list

TOTAL CLAIMS 6

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. _____ Qualifications _____

Previous Surveys _____

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 300 Number of Readings 300

Station interval 100 feet

Line spacing 200 feet

Profile scale or Contour intervals 1" = 20%
(specify for each type of survey)

MAGNETIC

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base station location _____

_____

ELECTROMAGNETIC

Instrument McPhar

Coil configuration Horizontal

Coil separation 300 feet and 100 feet

Accuracy _____

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

Frequency 600 and 24000 cps
(specify V.L.F. station)

Parameters measured In-phase - quadrature

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION – RESISTIVITY

Instrument _____

Time domain _____ Frequency domain _____

Frequency _____ Range _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

RECEIVED
MAR 28 1973
PROJECTS SECTION

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

Type of Survey Magnetic

Township or Area Minnitaki Lake - Sioux Lookout, Ont.

Claim holder(s) Shilo Mines Ltd.
Ste. 203, 350 Bay St., Toronto, Ont.

Author of Report F. L. Jagodits

Address 304 Carlingview Drive, Rexdale, Ontario.

Covering Dates of Survey June 10 - 24, 1972 & Jan. 19 - Feb.4 ~~1973~~
(linecutting to office)

Total Miles of Line cut 12.03 miles

SPECIAL PROVISIONS CREDITS REQUESTED		DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical	
	-Electromagnetic	
	-Magnetometer	40
	-Radiometric	
ENTER 20 days for each additional survey using same grid.	-Other	
	Geological	
	Geochemical	

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

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

DATE: March 23rd. 1973 SIGNATURE: F. L. Jagodits
Author of Report

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
PA	331098
PA	331100
PA	331101
PA	331104
PA	331105
PA	331106
PA	331108
PA	331109

If space insufficient, attach list

TOTAL CLAIMS 8

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. _____ Qualifications _____

Previous Surveys _____

_____

Checked by _____ date _____

GEOLOGICAL BRANCH _____

_____

Approved by _____ date _____

GEOLOGICAL BRANCH _____

_____

Approved by _____ date _____

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 624 Number of Readings 892

Station interval 100 feet

Line spacing 200 feet (100 feet in Bay)

Profile scale or Contour intervals 25 γ
(specify for each type of survey)

MAGNETIC

Instrument GM 102 (Barringer)

Accuracy - Scale constant ± 10 γ

Diurnal correction method Base station

Base station location Station 0 + 00 Line 0 Burnthut Island

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

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

Frequency
(specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

PARNES LAKE
M-2150

ONTARIO

THE MINING ACT REPORT OF WORK

A separate form is required for each type of work to be recorded.

#39

To the Recorder of ..... Patricia ..... Mining Division

I, ... Shilo Mines Ltd. ..... T-500 .....
name of Recorded Holder — Miner's Licence

..... Ste. 203 350 Bay Street, Toronto, Ontario .....
Post Office Address

do hereby report the performance of ....40.... days of .....Magnetic.....
type of work

not before reported to be applied on the following contiguous claims

Claim No.	Days	Claim No.	Days	Claim No.	Days
331098	40	331108	40		
331100	40	331109	40		
331101	40				
331104	40				
331105	40				
331106	40				

All the work was performed on Mining Claim (s) ..... As above .....
(In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations – Names and addresses of the men who performed the work and the dates and hours of their employment.
For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.
For Compressed Air or Other Power Driven or Mechanical Equipment
Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.
For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.
With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.
For Geophysical, Geological, Geochemical Surveys and Expenditure Credits - the name of author of report. Covering dates of survey (linecutting & office). Type of instrument used. Total amount of expenditure. Technical reports, maps, expenditure breakdown, receipts must be filed in duplicate with the Minister within 60 days of recording.
For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows: (Attach a list if this space is insufficient)

J. Vyselaar	- Geophysicist	June 10 - 24, 1972	304 Carlingview Dr. Rexdale, Ontario.
T. Hannon	- Operator	June 10 - 18, 1972	
J. Dulat	- Helper	June 10 - 18, 1972	
G. Young	- Operator	Jan. 19 - Feb. 4, 1973	
A. Carpenter	- Helper	Jan. 19 - Feb. 4, 1973	Sioux Lookout, Ontario.

Barringer GH 102 Magnetometer

Date ..February 22, 1973.....

.....
Signature of Recorded Holder or Agent

The Mining Act
Certificate Verifying Report of Work

I, ... F.L. Jagodits .....

..... 304 Carlingview Drive, Rexdale, Ontario. .....
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2. That the annexed report is true.

Dated ..February 23..... 19 73

Signature

PATRICIA MINING DIV. RECEIVED MAR 5 1973 PM

331097

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND/OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

N. Shore PARNES LAKE
M-2150

ONTARIO

THE MINING ACT REPORT OF WORK

A separate form is required for each type of work to be recorded.

#38

To the Recorder of ..... Patricia ..... Mining Division

I, ... Shilo Mines Ltd. ..... T-500 .....
name of Recorded Holder Miner's Licence

..... Ste. 203, 350 Bay Street, Toronto, Ontario .....
Post Office Address

do hereby report the performance of ..... 20 ..... days of ..... Electromagnetic .....
type of work

not before reported to be applied on the following contiguous claims

Claim No.	Days	Claim No.	Days	Claim No.	Days
331098	20				
331101	20				
331104	20				
331105	20				
331106	20				
331108	20				

MAR 30 1973
ASSESSMENT WORK

All the work was performed on Mining Claim (s) ..... As above .....
(In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations – Names and addresses of the men who performed the work and the dates and hours of their employment.
For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.
For Compressed Air or Other Power Driven or Mechanical Equipment
Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.
For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.
With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.
For Geophysical, Geological, Geochemical Surveys and Expenditure Credits - the name of author of report. Covering dates of survey (linecutting & office). Type of instrument used. Total amount of expenditure. Technical reports, maps, expenditure breakdown, receipts must be filed in duplicate with the Minister within 60 days of recording.
For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows: (Attach a list if this space is insufficient)

J. Vyselaar - Geophysicist June 18/72)
T. Lansen - Operator June 20 - 24/72) 304 Carlingview Dr., Rexdale, Ont.
H. Laist - Helper ")

McPhar VLF-1 Unit

Date ..... February 22, 1973 .....

..... Signature of Recorded Holder or Agent

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND/OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

The Mining Act
Certificate Verifying Report of Work

I, ... F.L. Jagodits .....

..... 304 Carlingview Drive, Rexdale, Ontario. .....
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2. That the annexed report is true.

Dated ..... February 22 ..... 19 73

Signature

PROFESSIONAL ENGINEERS ASSOCIATION OF ONTARIO
F. L. JAGODITS

PROVINCE OF ONTARIO
MINISTRY OF NATURAL RESOURCES
RECEIVED
MAR 30 1973
2.31007

Ontario

Ministry of
Natural
Resources

W 1617, Parliament Buildings
Toronto, Ontario M7A 1X1

:one: 965-6918

June 19, 1973

Our file number 2.1182

Your file number

Mr. J. R. Oatway
Regional Director
Ministry of Natural Resources
808 Robertson Street
Kenora, Ontario P9N 1X9

Attn: Mr. W. A. Buchan

Dear Sir:

Re: Mining Claims Pa. 331098 et al, Parnes Lake, File 2.1182

The Geophysical (Electromagnetic and Magnetometer) assessment work credits as listed with my Notice of Intent dated June 4, 1973 have been approved as of the date above.

The mining recorder should inform the recorded holder of these mining claims and so indicate on his records.

Yours very truly,

Fred W. Matthews
Supervisor
Projects Unit

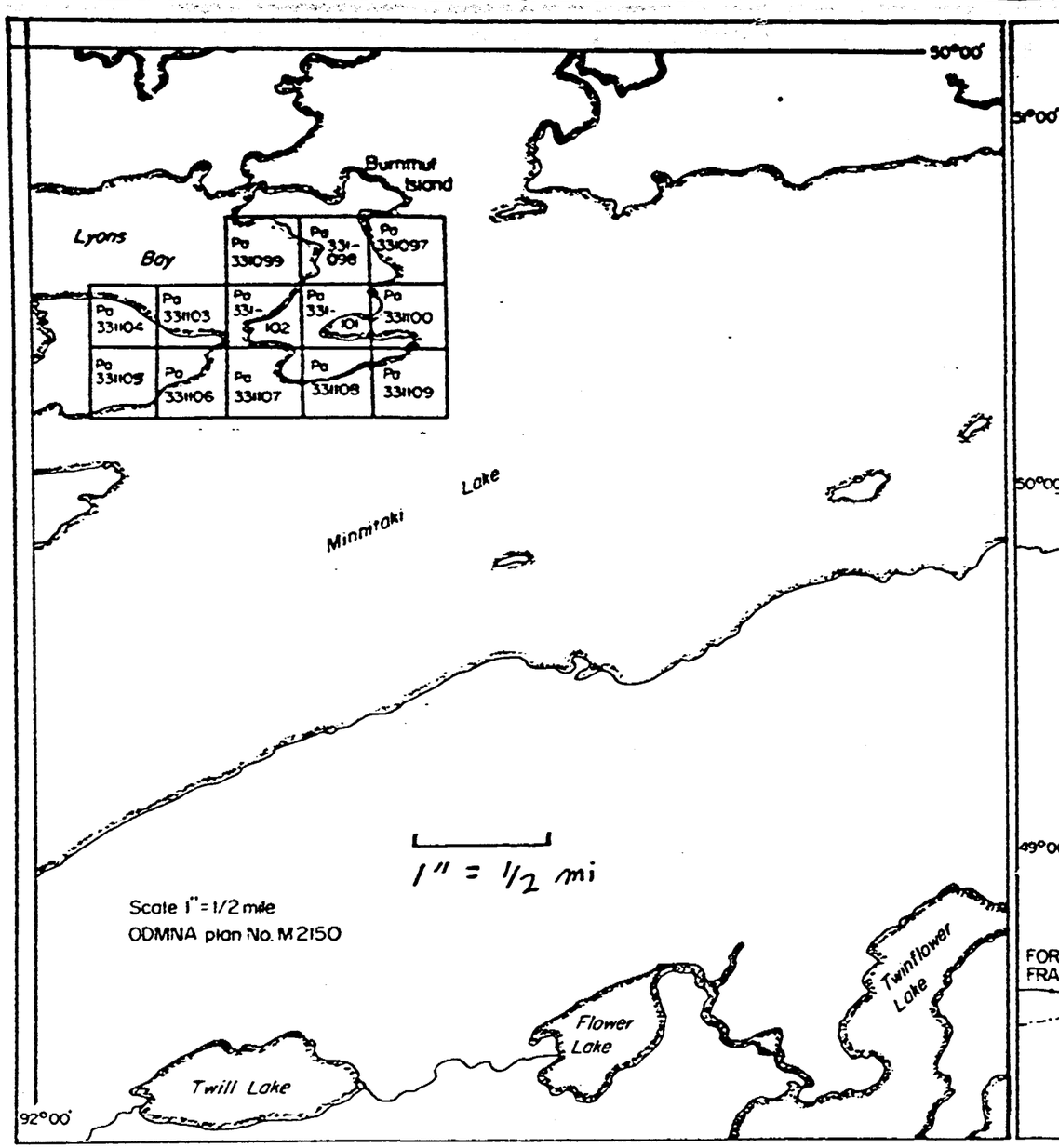
OJ/mw

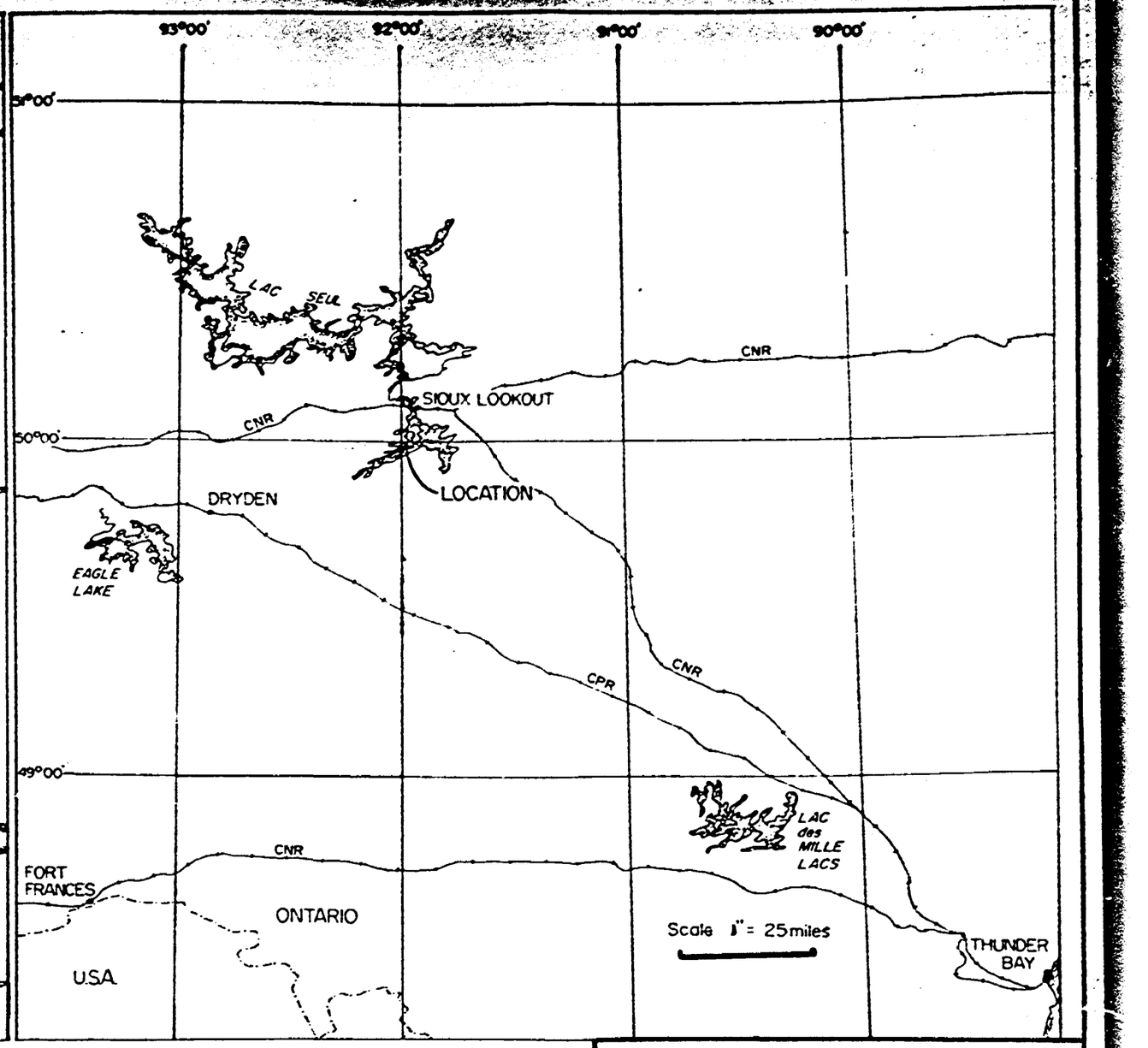
cc: Shilo Mines Limited

cc: F. L. Jagodits

cc: Barringer Research

cc: Resident Geologist
Kenora, Ontario





N

A

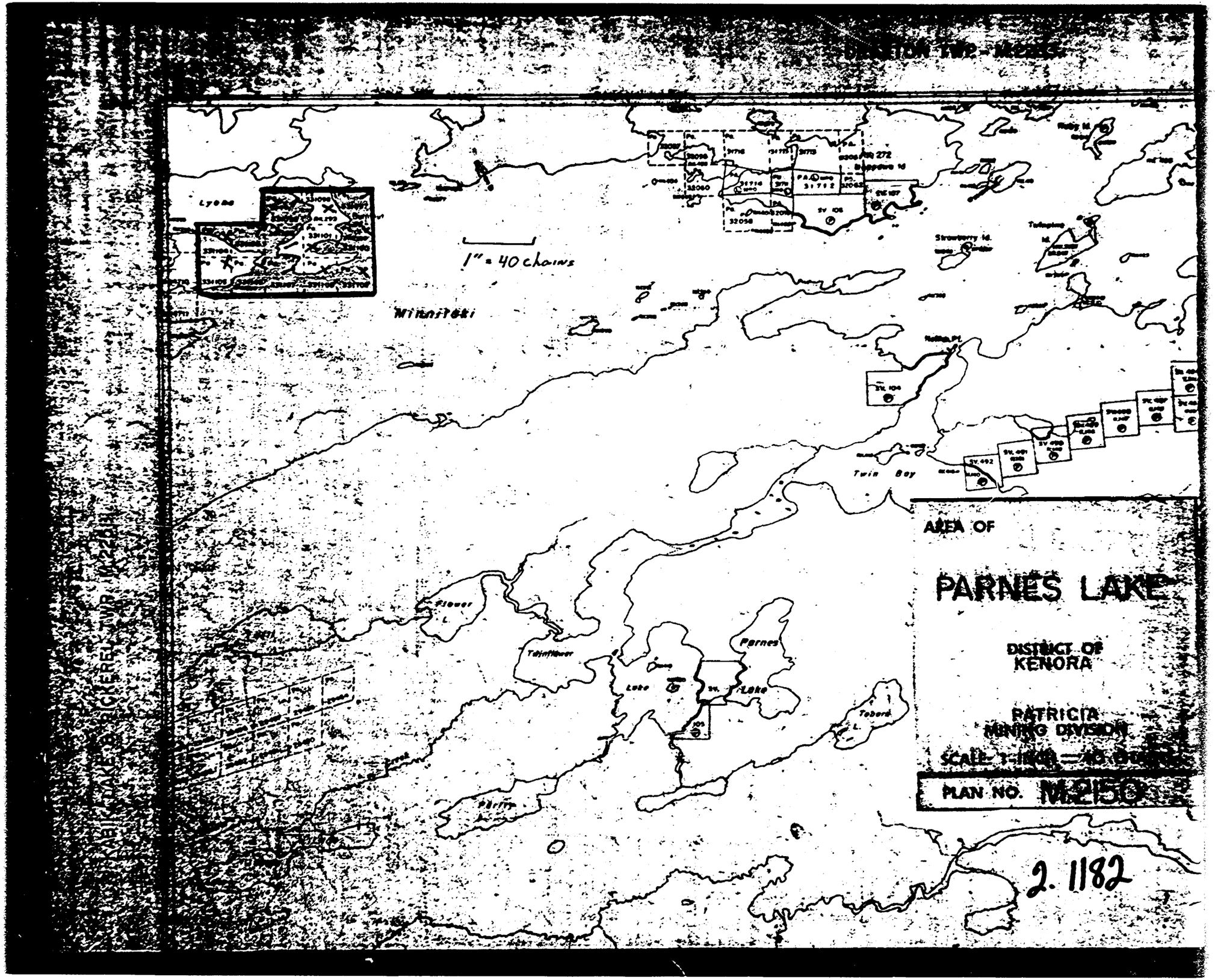
Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

LOCALITY PLAN

JUNE 1972 | | DWG.5-320-1


1" = 40 chains
Winnipeg
Lyons
Strawberry Id.
Twin Bay
Flower L.
Twinflower
Parnes
Lake
Lake
Toboni L.
Parlin L.
AREA OF
PARNES LAKE
DISTRICT OF
KENORA
PATRICIA
MINING DIVISION
SCALE 1" = 40 CHAINS
PLAN NO. M.2150
2.1182

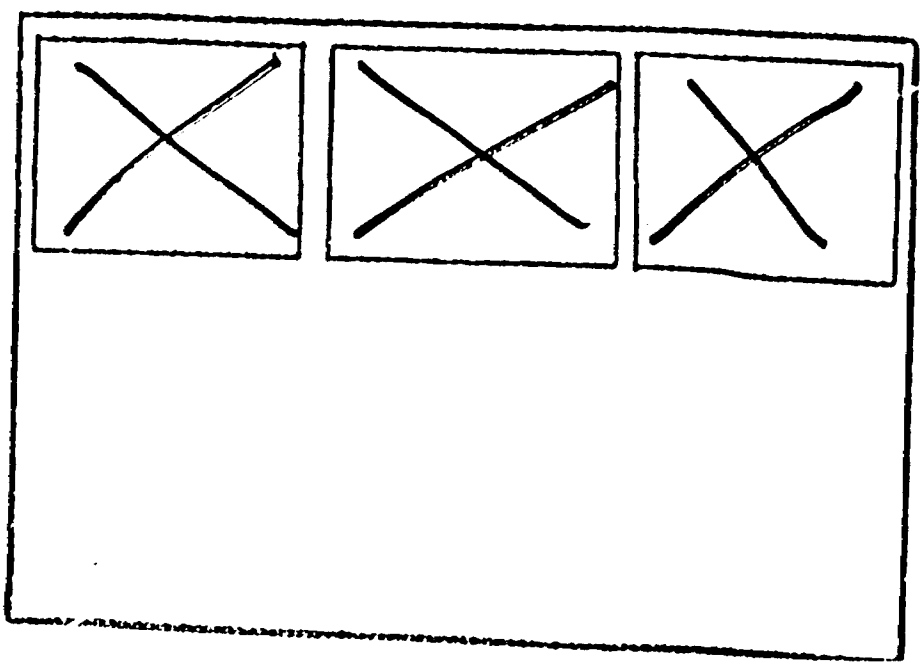
SEE ACCOMPANYING MAP(S) IDENTIFIED AS

52G/13NW-0025-#1

_____ #2

_____ #3

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

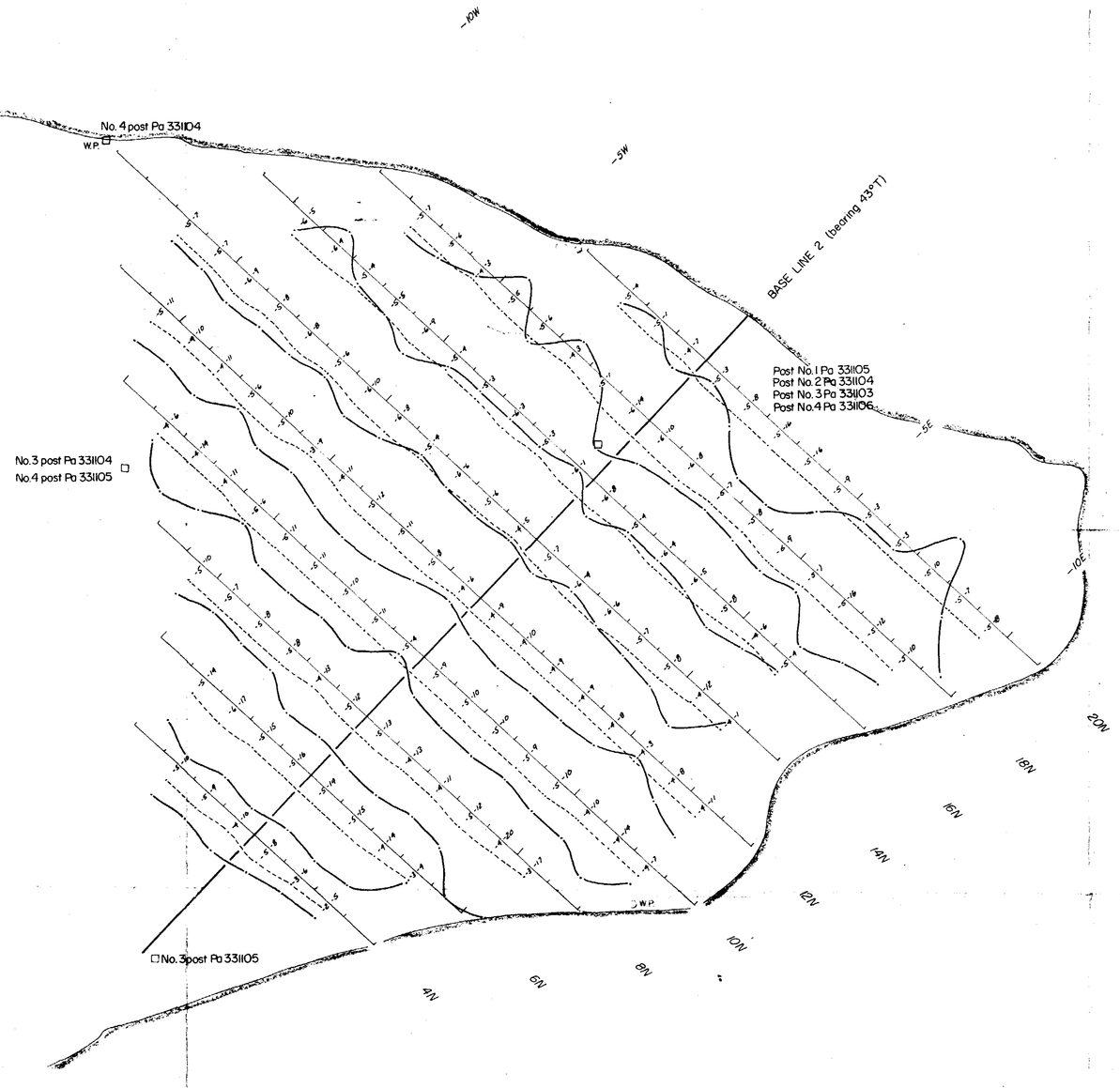


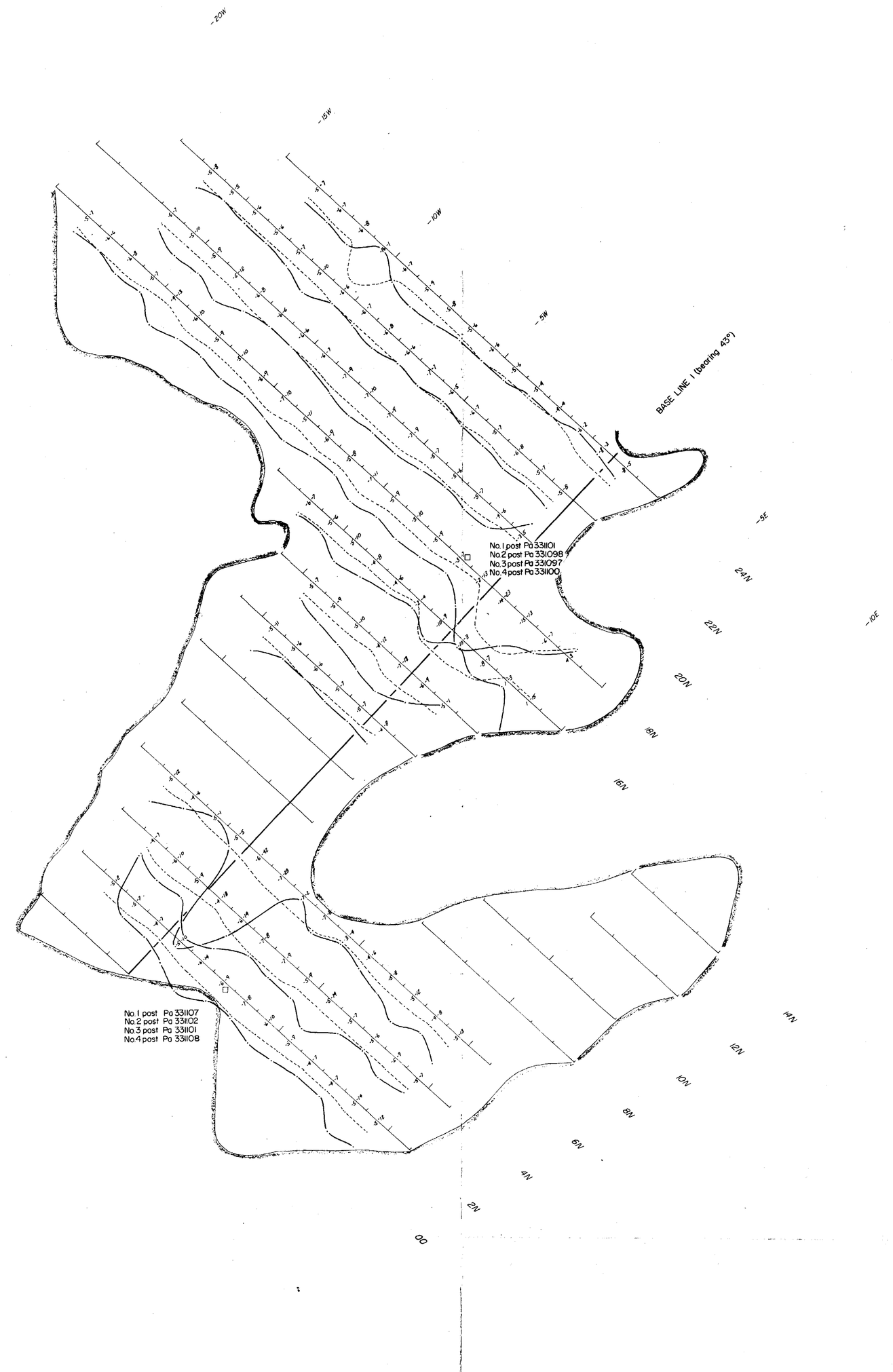
FOR ADDITIONAL

INFORMATION

SEE MAPS:

52G/13NW-0025 #4-#7





LEGEND

IN-PHASE — QUADRATURE ----------

Profile scale 1" = 20%

Reading – plotted at midpoint of coil separation

Plotting configuration

□ Claim post-located, unlocated ○

N

—A—

52G/13 NW-0025 #1

SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

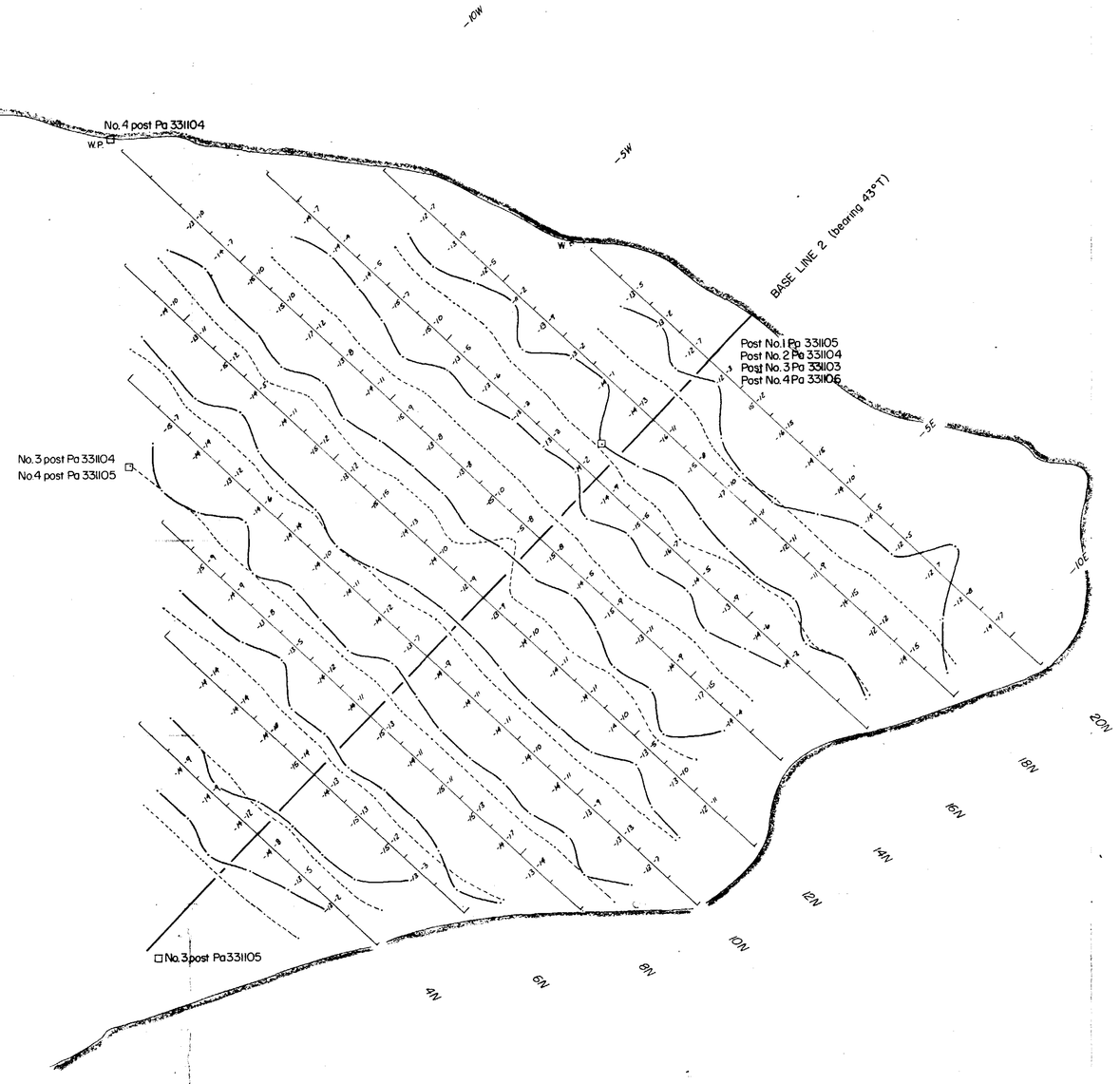
HORIZONTAL LOOP
EM SURVEY
FREQUENCY 600Hz, COIL SEPARATION 300'

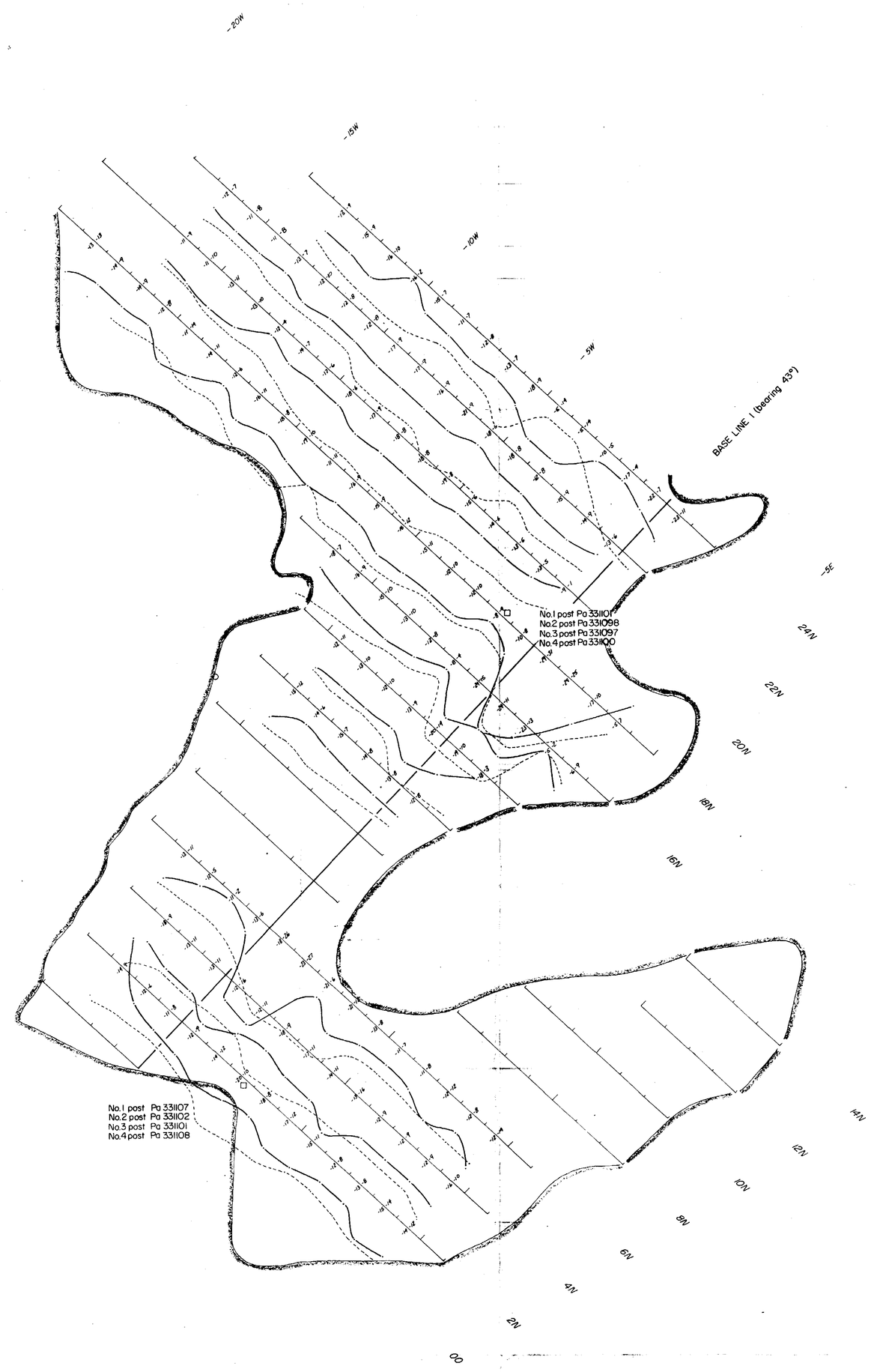
JUNE 1972 | Scale 1" = 200' | DWG. 5-320-2

F. L. JAGODITS — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

200





LEGEND

IN-PHASE — QUADRATURE ----------

Profile scale 1" = 20%

Reading – plotted at midpoint of coil separation

\+ / −

Plotting configuration

□ Claim post-located, unlocated ○

N

A

52G13NW0025 52G13NW0025 PARNES LAKE

210

52 G/13 NW-0025 #2

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

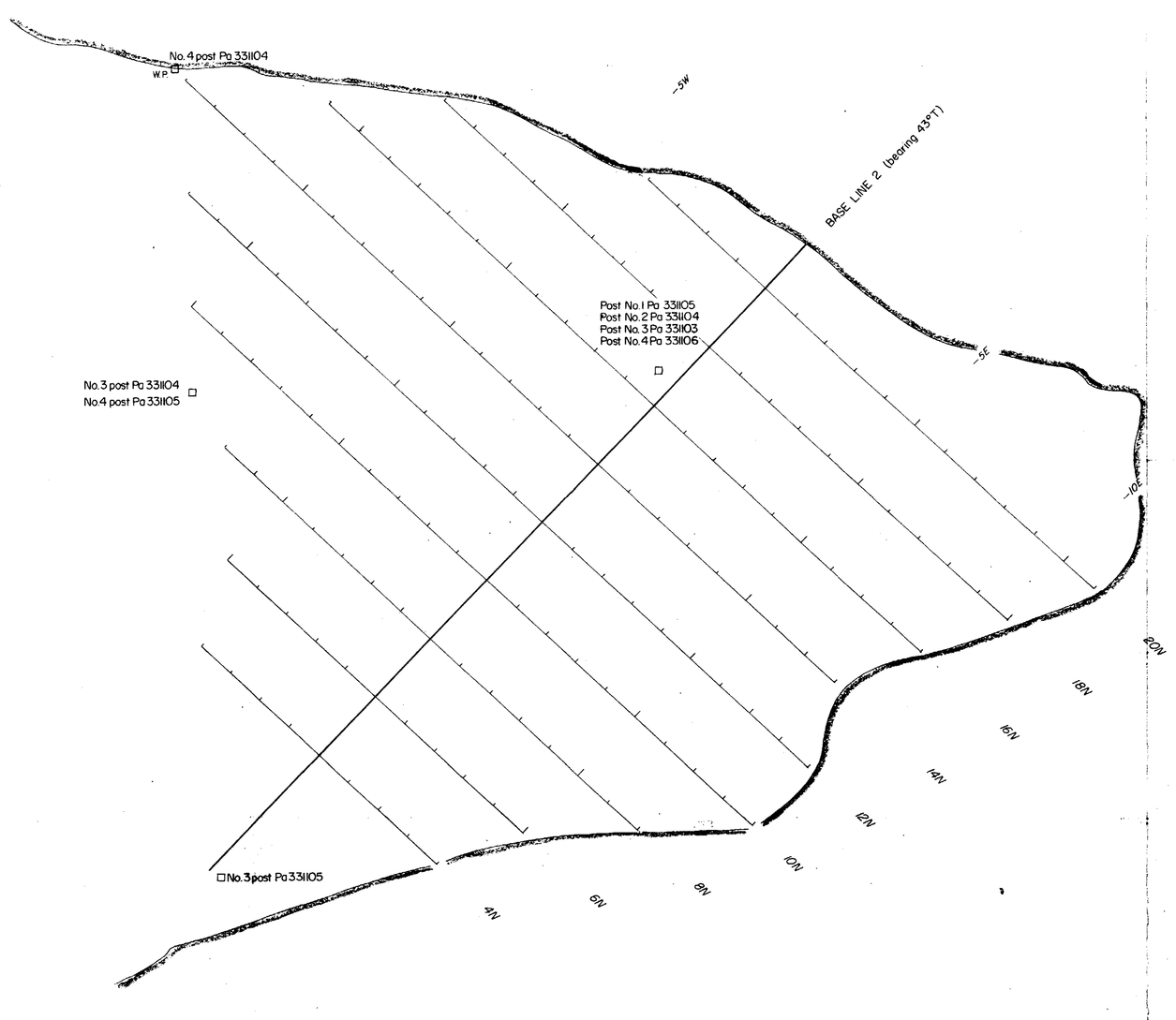
REGISTERED PROFESSIONAL ENGINEER F. L. VAGOOTTS PROVINCE OF ONTARIO

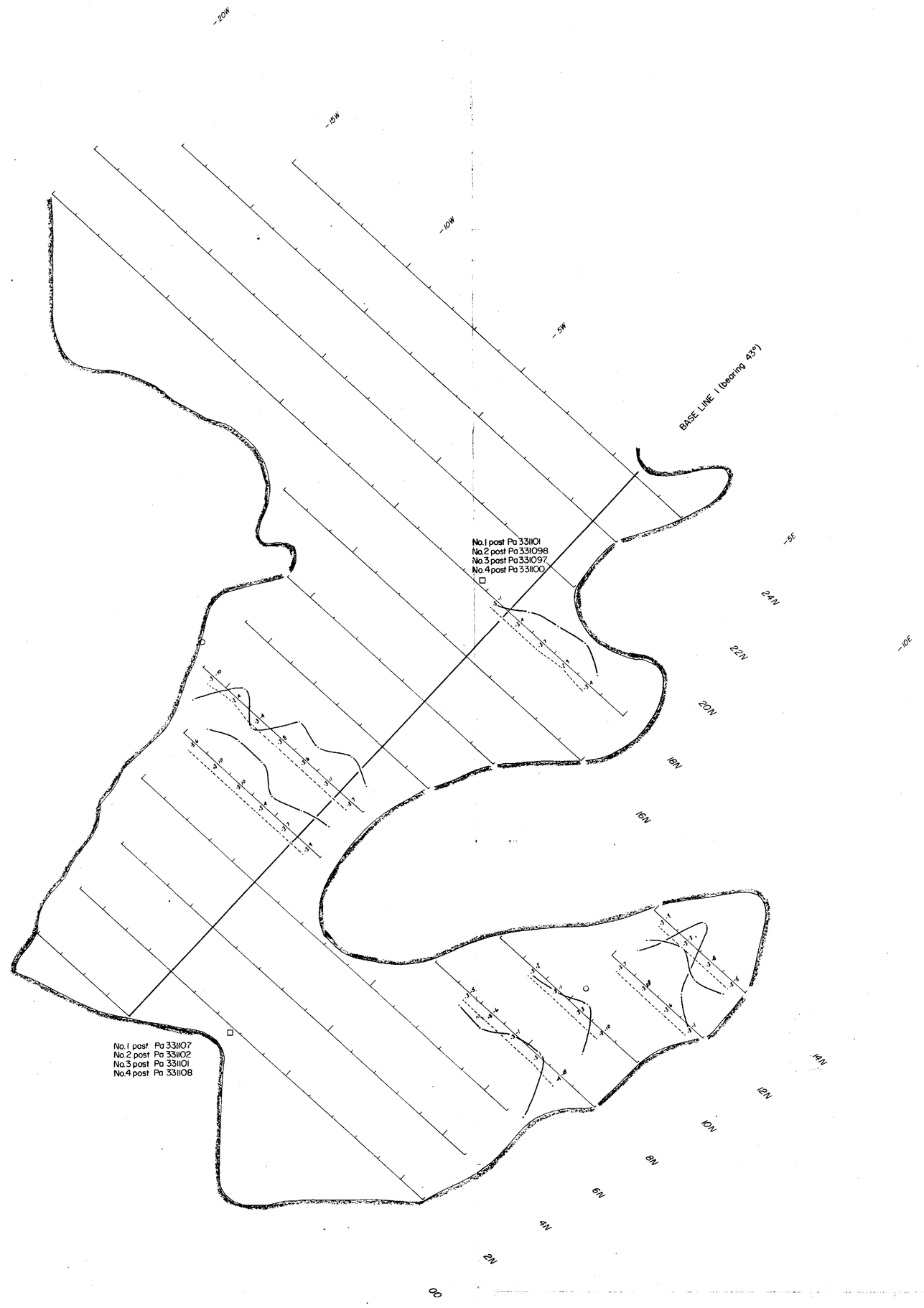
SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

HORIZONTAL LOOP
EM SURVEY
FREQUENCY 2400Hz, COIL SEPARATION 300'

JUNE 1972	Scale 1" = 200'	DWG. 5-320-3





52 G/13 NW-0025 #3

LEGEND

IN-PHASE — QUADRATURE - - -

Profile scale 1" = 20%

Reading – plotted at midpoint of coil separation

Plotting configuration

□ ○ Claim post-located, unlocated

N

—A—

220

SHILO MINES LIMITED

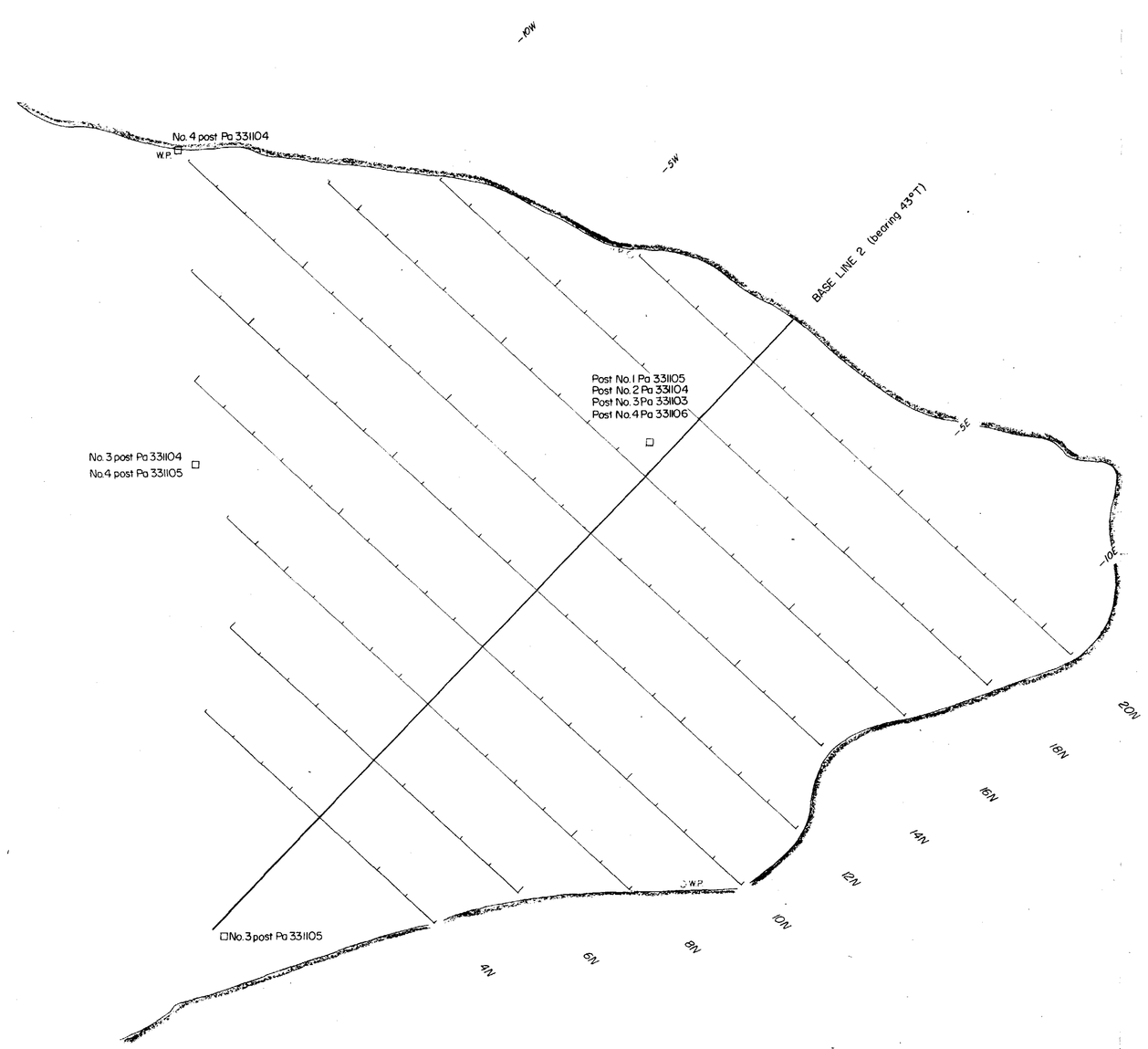
MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

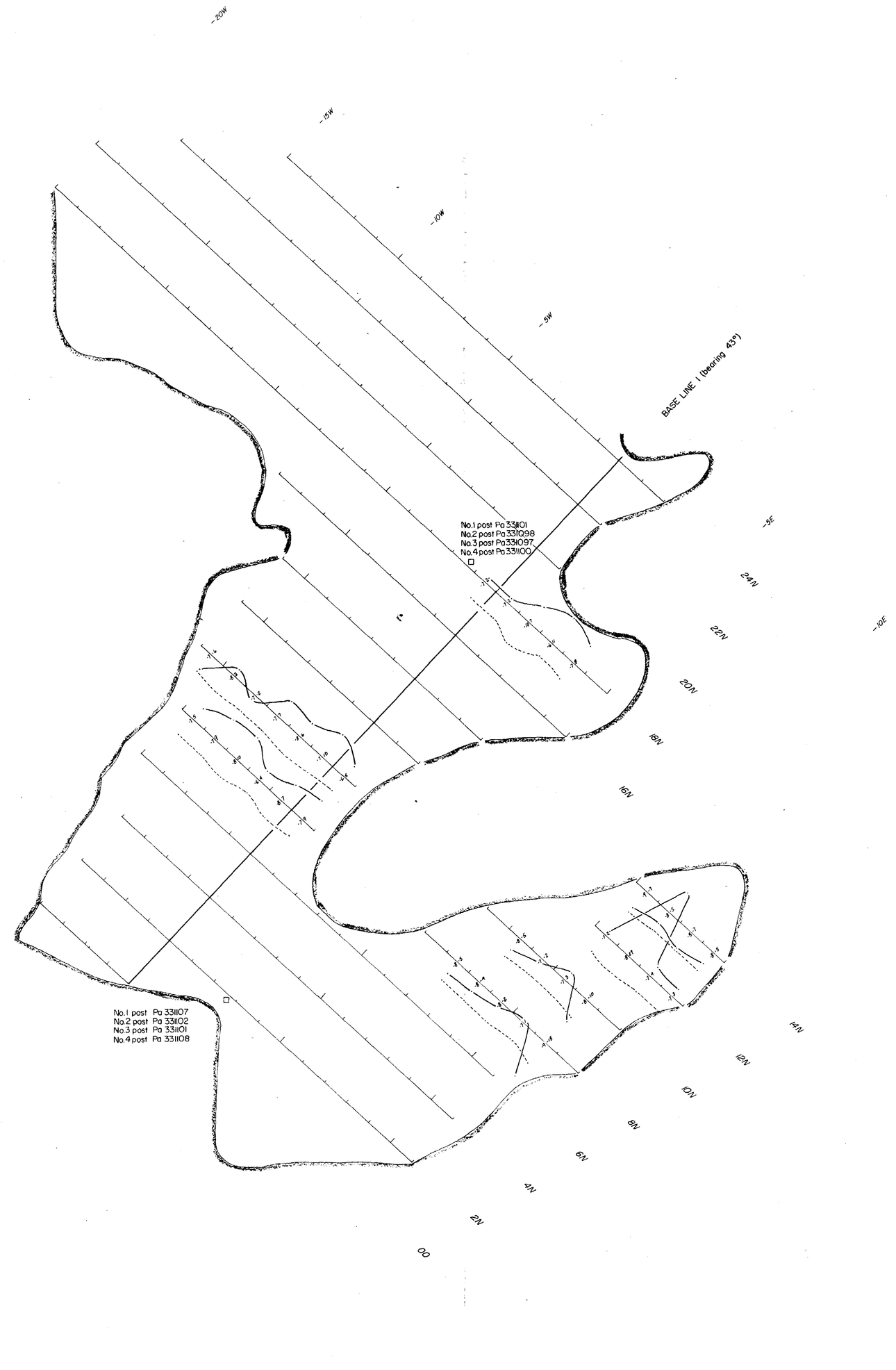
HORIZONTAL LOOP
EM SURVEY
FREQUENCY 600Hz, COIL SEPARATION 100'

JUNE 1972	Scale 1"=200'	DWG. 5-320-4

REGISTERED PROFESSIONAL ENGINEER F. L. JACOBITS PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.





N

—A—

LEGEND

IN-PHASE — QUADRATURE - - - - Profile scale 1"=20%

Reading – plotted at midpoint of coil separation

\+ Plotting configuration

□ ○ Claim post-located, unlocated

52 G/13 NW-0025 #4

SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

HORIZONTAL LOOP
EM SURVEY
FREQUENCY 2400Hz, COIL SEPARATION 100'

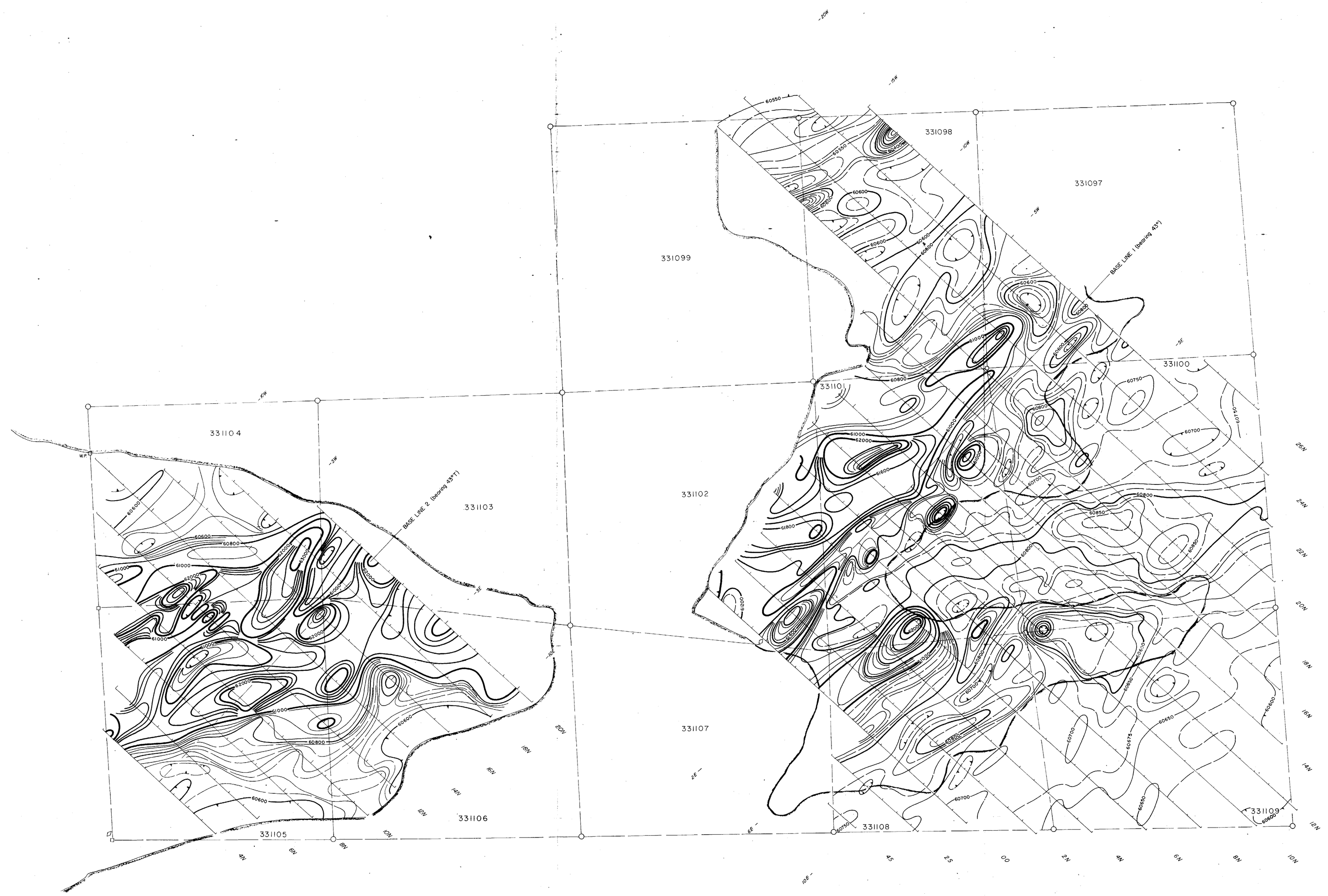
JUNE 1972 | Scale 1"=200' | DWG.5-320-5

JAGODITS — PROFESSIONAL ENGINEERS — PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

52G13NW0025 52G13NW0025 PARNES LAKE

230



52G/13 NW-0025 #5

—LEGEND—

Contour interval 25 gammas
1000 gamma contour
200 gamma contour
50 gamma contour
25 gamma contour
Depression
Base station
Claim post - located, unlocated

N

—A—

240

REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
F. L. JAGODITS

Work undertaken by
BARRINGER RESEARCH LTD, *Toronto, Canada.*

SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

TOTAL INTENSITY MAGNETICS CONTOURS

FEB. 1973	Scale 1"=200'	DWG.5-340-1

331098

331097

331099

331100

331101

331104

331103

331102

331107

331106

331105

331108

331109

BASE LINE 1 (bearing 45°)

BASE LINE 2 (bearing 45°T)

W.P.

52G/13 NW-0025 #6

F. L. JAGODITS
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

SHILO MINES LIMITED	
MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO	
TOTAL INTENSITY MAGNETICS READINGS	
JUNE 1972	Scale 1"=200' DWG.5-340-2

52G13NW0027 52G13NW0025 PARNES LAKE

250

LEGEND

Contour interval 25 gammas
1000 gamma contour
200 gamma contour
50 gamma contour
25 gamma contour
Depression
Base station
Claim post - located, unlocated

1. Felsic volcanic rocks (rhyolite)
2. Intermediate volcanics
3. Intermediate to basic volcanic rocks
3a. Basic phase within Unit 3
4. Sediments, metasediments may include felsic volcanic rocks
5. Felsic intrusive rocks

Approximate limit of magnetic unit
Interpreted fault and/or shear zone
? Uncertain interpretation

N

52G13NW0027 52G13NW0025 PARNES LAKE

260

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

F. L. JAGODITS
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

52G13-NW-0025 M17

SHILO MINES LIMITED

MINNITAKI LAKE, PATRICIA MINING DIVISION, ONTARIO

INTERPRETATION

FEB.	1973	Scale 1"=200'	DWG.5-340-3