



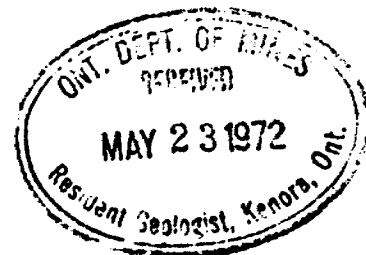
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M-3181

Report on
 ELECTROMAGNETIC SURVEY
 GROUP 2
 JAMES BAY MINING CORP. (N.P.L.)
 Pickle Lake Project

Toronto, Ontario
 February 9, 1972

Robert L. V. Ekstrom
 B.A.Sc., P. Eng.





52066570025 52066570011 LITTLE OCHIG LAKE

010C

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INTRODUCTION

On September 22, 1971, James Bay Mining Corp. (N.P.L.) (Suite 250, 620 St. James Street West, Montreal 101, P. Q.) requested Canadian Oresearch Inc. (Suite 10, 85 King Street, East, Toronto, Ontario) to carry out line cutting, geophysical surveys and reconnaissance geology and prospecting on their claims in the Pickle Lake Area, Patricia Mining Division, Northwestern Ontario.

Work in the area began on October 2nd and crews were removed for the holiday break on December 22nd.

PROPERTY, LOCATION, AND ACCESS

The 70 contiguous claims recorded in the name of James Bay Mining Corp. (N.P.L.) designated as group 2, are located on map M-3188 approximately 17 miles westsouthwest of Central Patricia, Ontario, in the Patricia Mining Division. A location map is included in the report. Central Patricia lies approximately 210 miles N 10° W of Thunder Bay.

The claim numbers are as follows:

Pa 294318 to 294325 incl.	35 claims
Pa 294158 to 294197 incl.	<u>35</u> "
Total	70 claims

Access to the property is by float or ski-equipt aircraft from Pickle Lake (three miles west of Central Patricia). A suitable landing lake lies in the centre of the group.

LINE CUTTING

A picket line grid was established with a base-line and two tie-lines traversing the property north to south with a grid of E-W lines

laid out at 400' intervals along the baseline and at right angles to it.

Line cutting commenced October 22, 1971, and was completed

November 17, 1971.

GEOLOGICAL RECONNAISSANCE

Reconnaissance geology and prospecting was carried out by the author and three assistants at various times from October 5 to October 15, 1971. Rock types and mineralization were noted. None of the picket lines were completed at the time of this survey and it was necessary to use claim lines and pacing for control.

Sparse outcrops and minor sulphide mineralization were noted in volcanic rocks in the eastern portion of the group. The western part and the area of the conductors are covered by overburden.

REGIONAL AND LOCAL GEOLOGY

The area is underlain by Keewatin volcanic rocks and sediments, post Keewatin granite, acid porphyry, aplite, rhyolite and felsite, (possibly Algoman).

The oldest rocks, the Keewatin, are generally basic flows (andesite to basalt) which have been altered and sheared. Interbedded are iron formation, quartzite, greywacke and argillite. Minor bands of rhyolite have been observed.

The rocks have been regionally folded and intruded by granite which in the Pickle Lake area create a ring of volcanics with granite in

the centre with branching off-shoots of volcanics extending to the north-east and southwest. Much of this structure has been interpreted from the airborne magnetic maps.

Two gold mines (Central Patricia and Pickle Crow) were past producers in the area. The gold bearing structures were composed of quartz veins with heavy sulphide mineralization injected into tension fracture zones in iron formation in the former case, and in quartz-carbonate veins in later fractures in the latter. Details of the gold mines can be found in Ontario Department of Mines' Reports Vol. XLII, Part VI⁽¹⁾, and Vol. XLVII, Part III⁽²⁾.

Chalcopyrite has been seen associated with the gold mineralization (1), (2) and more recently, copper mineralization has been found by Umex associated with nickel along the north side of the volcanic "ring".

Group 2 has been found to be underlain by Keewatin flows and fragmental sediments with some iron formation. Sulphides were observed in both volcanic and sedimentary rocks. Volcanic rocks underlie most of the group, but granitic rocks may exist along the western and eastern boundaries. The rocks strike N-S, but minor dragfolds and local changes in strike are common. The rocks dip to the west.

PREVIOUS WORK

Evidence of old prospecting and trenching was seen to the south of the claim group. This work was probably in the late 1930's and

1940's. Filed data at the Department of Mines and evidence observed in the field indicate that geophysical surveys and diamond drilling was carried out in more recent times. This work was done by C. C. Houston and was the ground follow-up after airborne geophysical surveys. Core observed on the property indicated that most of the conductors drilled were caused by pyrite-pyrrhotite mineralization with traces of copper.

ELECTROMAGNETIC SURVEY

Method

The electromagnetic survey was carried out using the Crone CEM unit on the middle frequency range (1830 c. p. s.) using the in-line horizontal shoot back method of survey with a coil separation of 400 feet. With this type of survey the operators traverse each grid line, taking readings at 100-foot intervals. Each coil is equipped to be a transmitter and receiver coil. At each station both operators, in turn, transmit while the other receives. The two readings are later averaged and the result plotted on the plan at the point midway between the two operators. Using the transmitting coil in the horizontal orientation with the receiving coil in a transverse vertical plain orientation, the method is said to have excellent depth penetration qualities compared to the standard horizontal loop methods. A second beneficial feature of this unit is that coil orientation errors will be averaged out at each station read. This is particularly important in areas of strong or erratic relief.

Three frequencies are available on the unit; high (5010 c. p. s.), medium (1830 c. p. s.), and low (390 c. p. s.). The medium frequency was used in this survey to eliminate spurious minor conductive zones such as wet shears and the low frequency would be used to detail anomalies where a distinction was required concerning the conductivity of a particular anomaly.

RESULTS

Plans of the results of the electromagnetic survey accompany this report. Conductors and conductive zones are marked with index numbers from west to east and are described as follows:

Conductor 2-1:

This is a good, discrete (three line - 800 feet plus) conductor which apparently has not been drilled. A weak electromagnetic and magnetic response was received in the earlier work and the conductor does not appear to have been drilled.

Conductor 2-2:

A long variable strength conductive zone (4,400 feet). The zone was located in the earlier work and a drill hole put down at the south end. A strong section to the north does not appear to have been drilled. There is a slight difference of interpretation of strike in the two surveys.

A possible conductor between 2-1 and the south end 2-2 does not appear to have been checked.

Conductor 2-3:

A short discrete conductor in the south part of the group east of 2-2. Correlation with the old work is difficult, however, this would appear to have been located in the earlier survey. This conductor might be better described as part of a zone including conductors 2-4 and 2-5. It is believed that this particular part of the zone has not been drilled.

Conductor 2-4:

This may be a re-commencement of 2-3 which also has been untested.

Conductor 2-5:

A long, probably formational conductive zone which appears to break up into en echelon lenses at the north end or because slightly bent, folded or offset. Diamond drilling has been done on various parts of this zone.

Conductor 2-6:

A strong multiple-conductor formational zone extending from north to south boundary. The zone appears to horse-tail at the south with off-shoots attaining a more east of southerly strike compared to the main zone. Zone has been drilled at the north end.

CONCLUSIONS AND RECOMMENDATIONS

It is known that drilling has been done on the most impressive conductors on the group. These formational conductors are not necessarily the most likely locations for base metal mineralization and it is recommended that a magnetometer survey be carried out to define local structures associated with the conductors. Detailed EM surveys should be done on several other conductors. Interpretation of the total data will then probably indicate preferred drill targets.

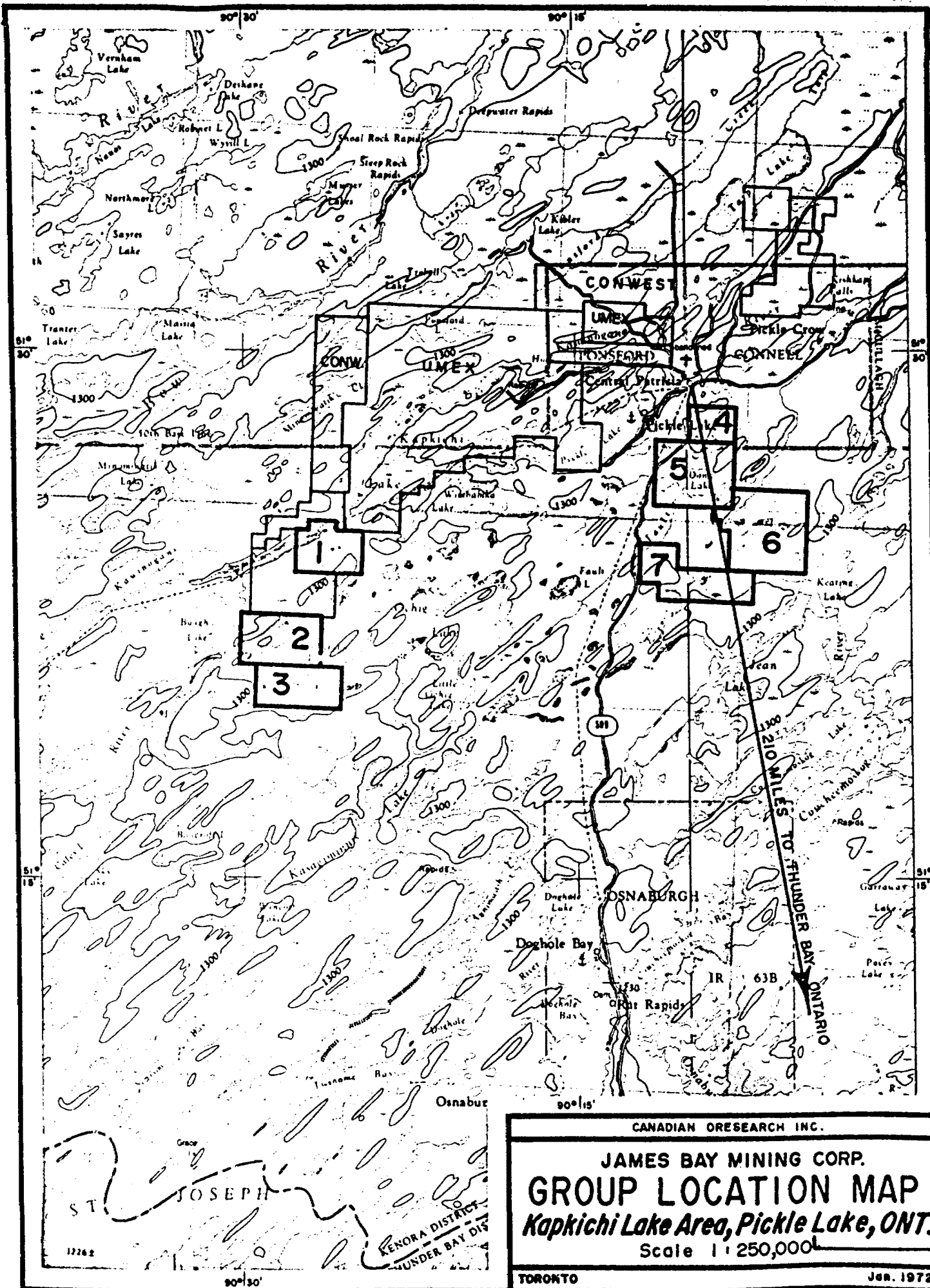
Respectfully submitted,



Robert L. V. Ekstrom.

BIBLIOGRAPHY

1. W. S. Dyer, Geology of the Pashkokogan-Misehkw Area, Ontario Dept. of Mines, Annual Report Vol. XLII, Part VI, 1933, Pages 1-20
2. Jas. E. Thomson, The Crow River Area, Ontario Department of Mines Annual Report, Vol. XLVII, Part III, 1938, Pages 1-65.



CANADIAN ORESEARCH INC.

JAMES BAY MINING CORP.
GROUP LOCATION MAP
Kapkichi Lake Area, Pickle Lake, ONT.
 Scale 1:250,000

TORONTO

Jan. 1972

C E R T I F I C A T E

I, Robert L. V. Ekstrom of 1 Rolph Road, Toronto 17, Ontario,
certify that:

1. I graduated from the University of Toronto with a Bachelor of Applied Science degree in Geological Engineering in 1956.
2. I have worked in my profession as a mining and exploration geologist continually for fifteen years.
3. I have supervised the work reported in this report and was on the property at the time the work was being done.
4. I have no interest in the claims or securities of James Bay Mining Corp. (N.P.L.) nor do I expect to receive any interest.
5. This report is based on personal observations while in the field, and intimate knowledge of the geophysics and published reports.
6. I am a registered member of the Professional Engineers of Ontario.

Dated at Toronto, Ont.
January 22, 1972.



Robert L. V. Ekstrom,
B.A.Sc. P. Eng.

**GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT**

RECEIVED
13
MAR 1972

**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.**

**PROJECTS
SECTION**

Type of Survey Electromagnetic
Township or Area Little Ochiq Lake - 173188
Claim holder(s) Venez Bay Mining Corp Ltd
Suite 250-640 St James St W Montreal
Author of Report Robert L.V. Ekstrom
Address 1 Ralph Rd, Toronto 17 Ont
Covering Dates of Survey Oct 22 - Dec 13 / 71
(linecutting to office)
Total Miles of Line cut 60 miles

MINING CLAIMS TRAVERSED
List numerically

P₂ 294310 to 294352
(prefix) (number)
inclusive
P₂ 294158 to 294192
inclusive

**SPECIAL PROVISIONS
CREDITS REQUESTED**

ENTER 40 days (includes
line cutting) for first
survey.
ENTER 20 days for each
additional survey using
same grid.

Geophysical
- Electromagnetic 40
- Magnetometer _____
- Radiometric _____
- Other _____
Geological _____
Geochemical _____

DAYS
per claim

of

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

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

DATE: Mar 10/72 SIGNATURE: Robert L.V. Ekstrom
Author of Report

PROJECTS SECTION

Res. Geol. _____ Qualifications This
Previous Surveys LD.

Checked by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

TOTAL CLAIMS 70

OFFICE USE ONLY

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations _____ Number of Readings _____
Station interval _____
Line spacing _____
Profile scale or Contour intervals _____
(specify for each type of survey)

MAGNETIC

Instrument _____
Accuracy - Scale constant _____
Diurnal correction method _____
Base station location _____

ELECTROMAGNETIC

Instrument Crone CEM
Coil configuration Horizontal shotback
Coil separation 400'
Accuracy $\pm \frac{1}{2}^\circ$
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 1830 cps
(specify V.L.F. station)
Parameters measured Residual field dip angles

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 _____



ONTARIO

Ministry
of Natural
Resources

Room W 1617
Parliament Buildings
Toronto 182

May 17, 1972

Dear Sir:

Re: Mining Claims Pa. 294158 et al,
Little Ochig Lake, File 2.784

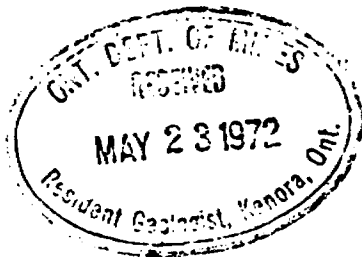
The Geophysical (Electromagnetic) assessment work credits as shown on the attached list have been approved as of the date above. Please inform the recorded holder and so indicate on your records.

Yours very truly,

Fred W. Matthews,
Supervisor
Projects Section

OJ/mw

encl.



- cc: James Bay Mining Corporation (NPL)
250 - 620 St. James St. W.,
Montreal 101, P.Q.
- cc: Canadian Oresearch Inc.
10- 85 King Street East
Toronto 210, Ontario
- cc: Resident Geologist
Kenora, Ontario

Telephone 416:965-6918 When reply kindly quote this file number

2.784

Mr. W. A. Buchan
Mining Recorder
P.O. Box 669
Sioux Lookout, Ontario

TECHNICAL ASSESSMENT WORK CREDITS

Recorder Holder . . . James Bay Mining Corporation (NPL)

Township or Area . . . Little Ochig Lake

Type of Survey and number of Assessment Days Credits per claim

Mining Claims

GEOPHYSICAL

Magnetometer days

Electromagnetic 40 days

Radiometric days

..... days

GEOLOGICAL days

GEOCHEMICAL days

Man days

Ground

Special Provision

Airborne

Pa. 294158 to 92 inclusive
294318 to 52 "

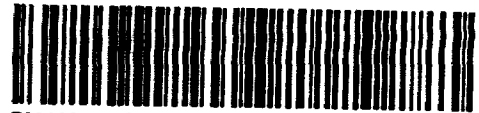
NOTICE OF INTENT TO BE ISSUED

Credits have been reduced because of partial coverage of claims.

Credits have been reduced because of corrections to work dates and figures of applicant.

NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:

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

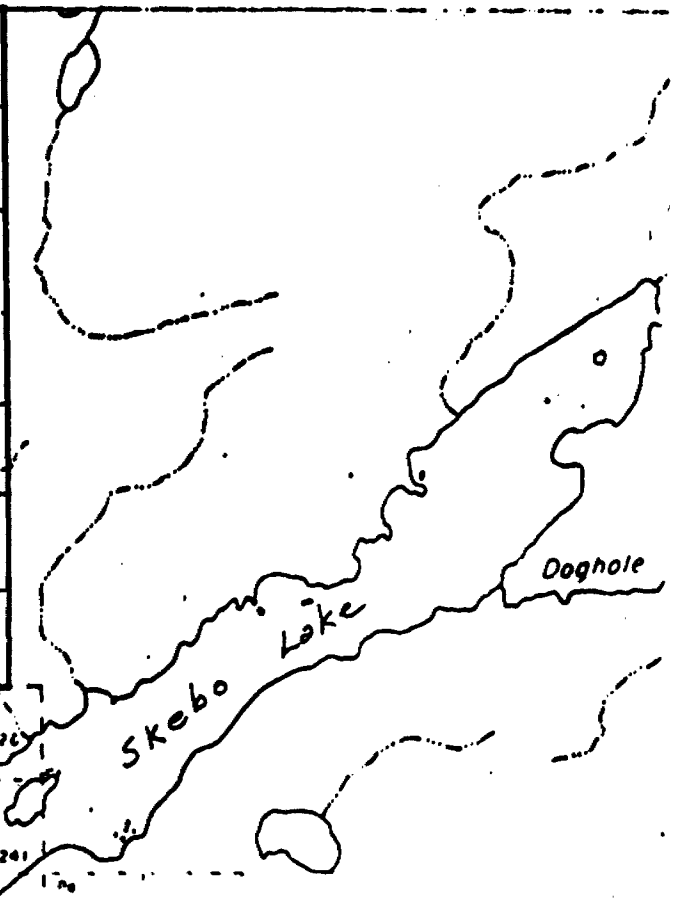
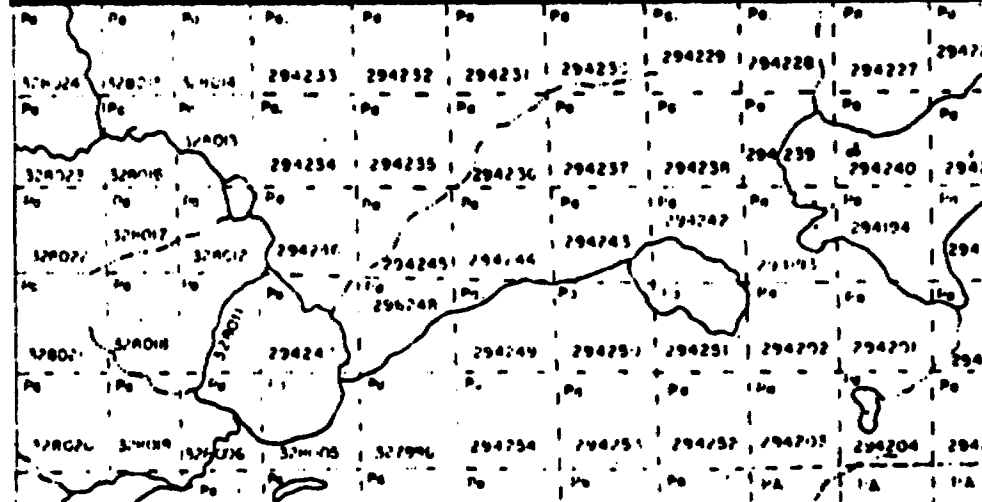
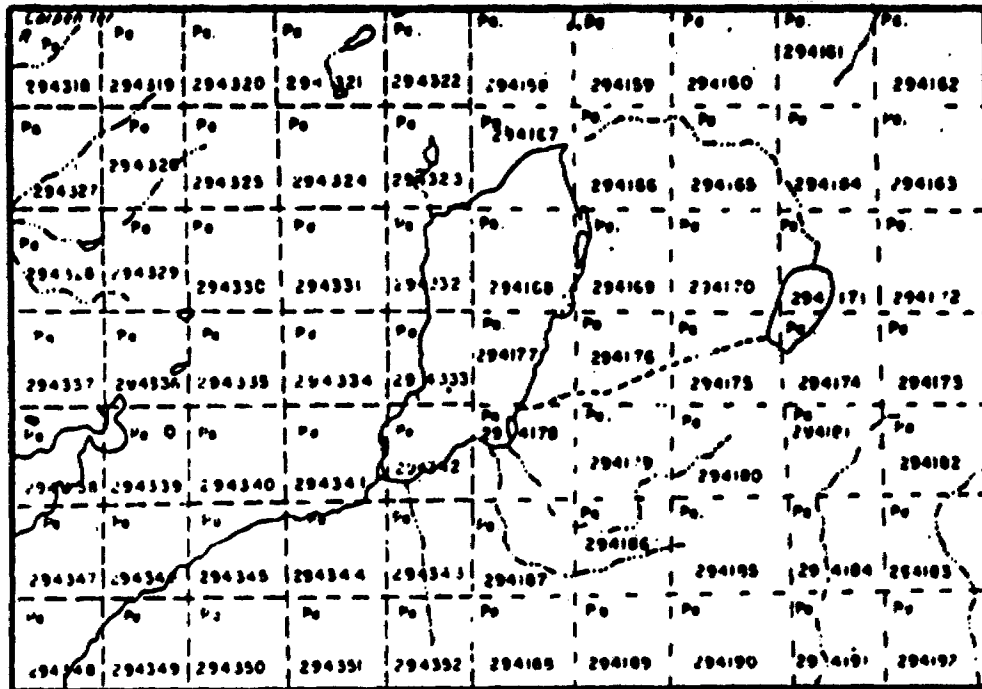


520885W0025 520885W0011 LITTLE OCHIG LAKE

900

90° 30' 00"

51° 22' 30"

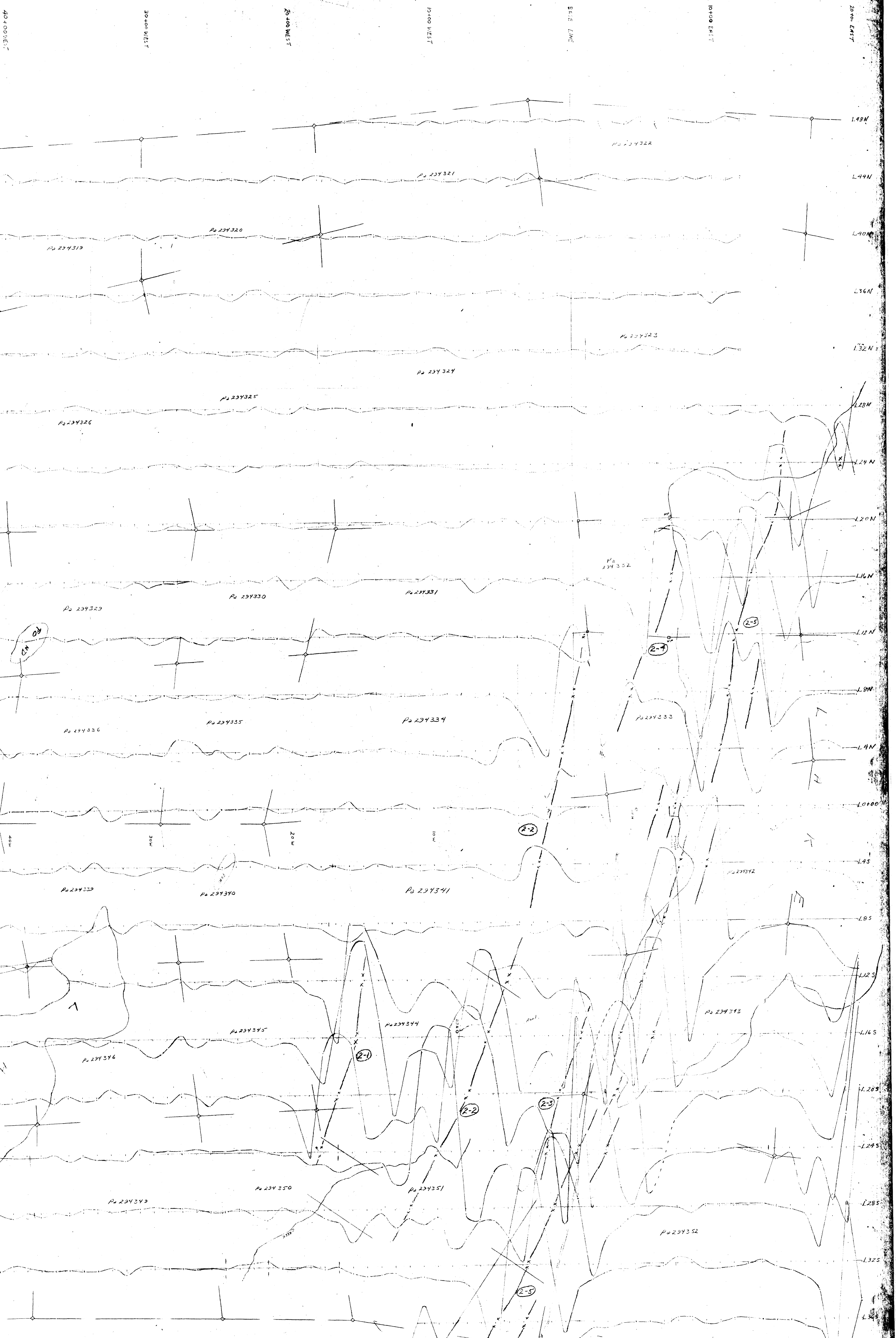


James Bay Mining Corp. (M.P.L.)
 Pickle Lake Project
 CLAIM LOCATION
 MAP
 GROUP 2
 Area of Little Ochig Lake
 Patricia Mining Div.
 Plan M-3108
 scale: 1" = 1/2 mile Mar 1972

FOR ADDITIONAL
INFORMATION

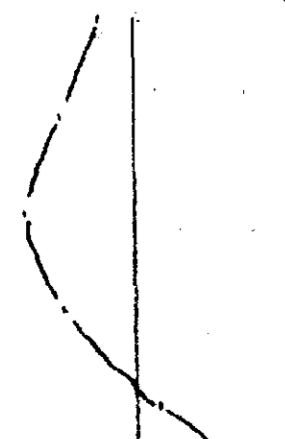
SEE MAPS:

520/08 SE-0011 #1, #2

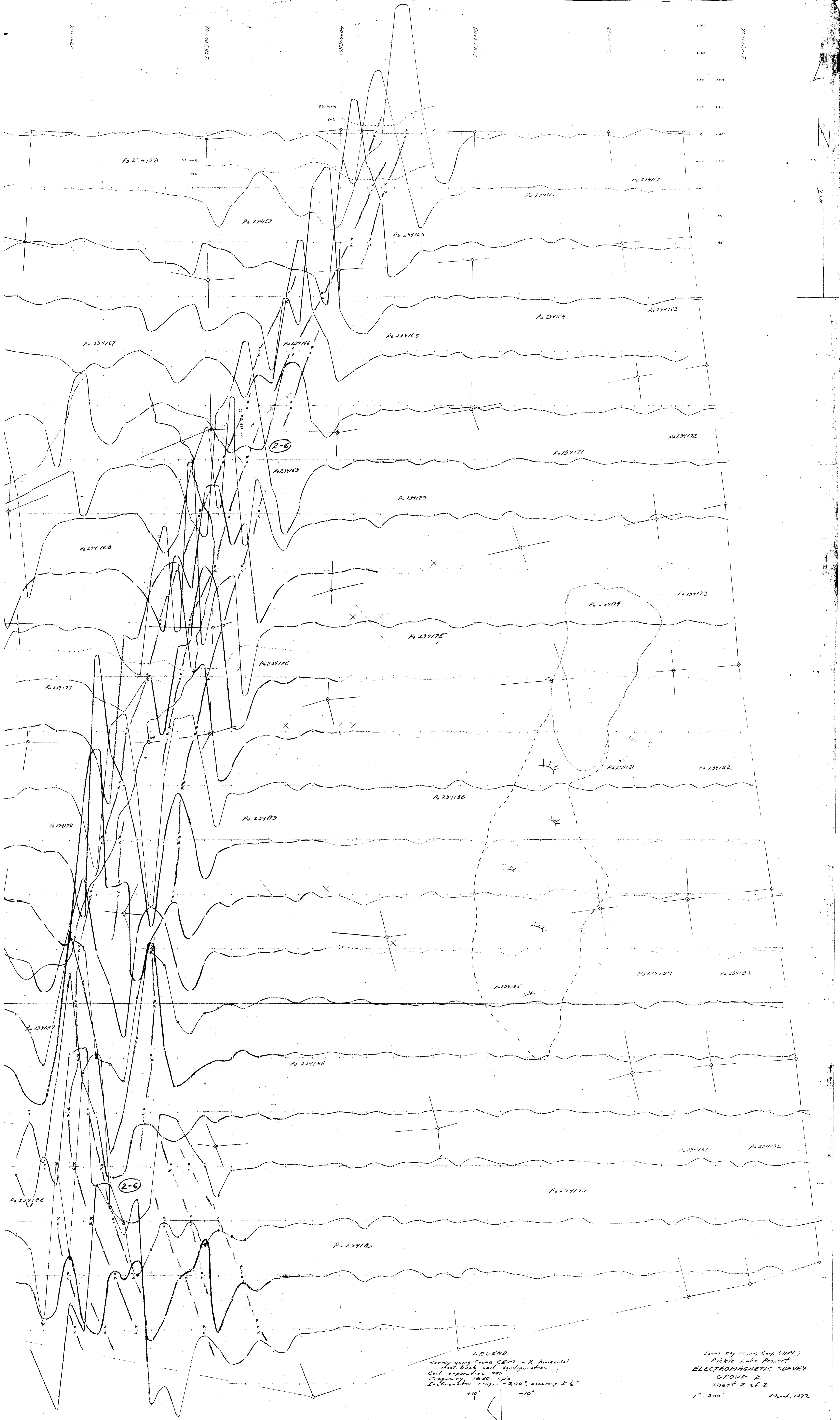


LEGEND

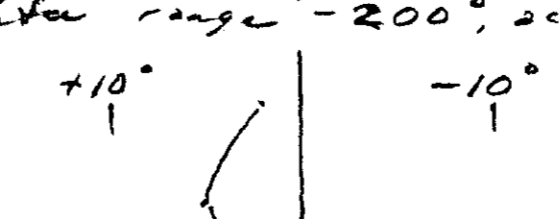
Survey using Crane CEM with horizontal
 short back coil configuration
 Coil separation 100'
 Frequency - 1830 cps
 Incl. meter range 200°, accuracy $\pm 4^\circ$



(2-2) Group 2, conductor 2
 -X- Conductor axis

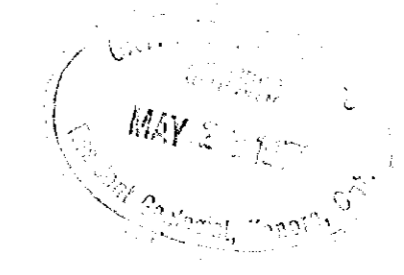


LEGEND
 Survey using Geac CE11 with horizontal
 shot back coil configuration
 Coil separation 400'
 Frequency 1000 cps
 Inclination range -200° accuracy $\pm 4^\circ$

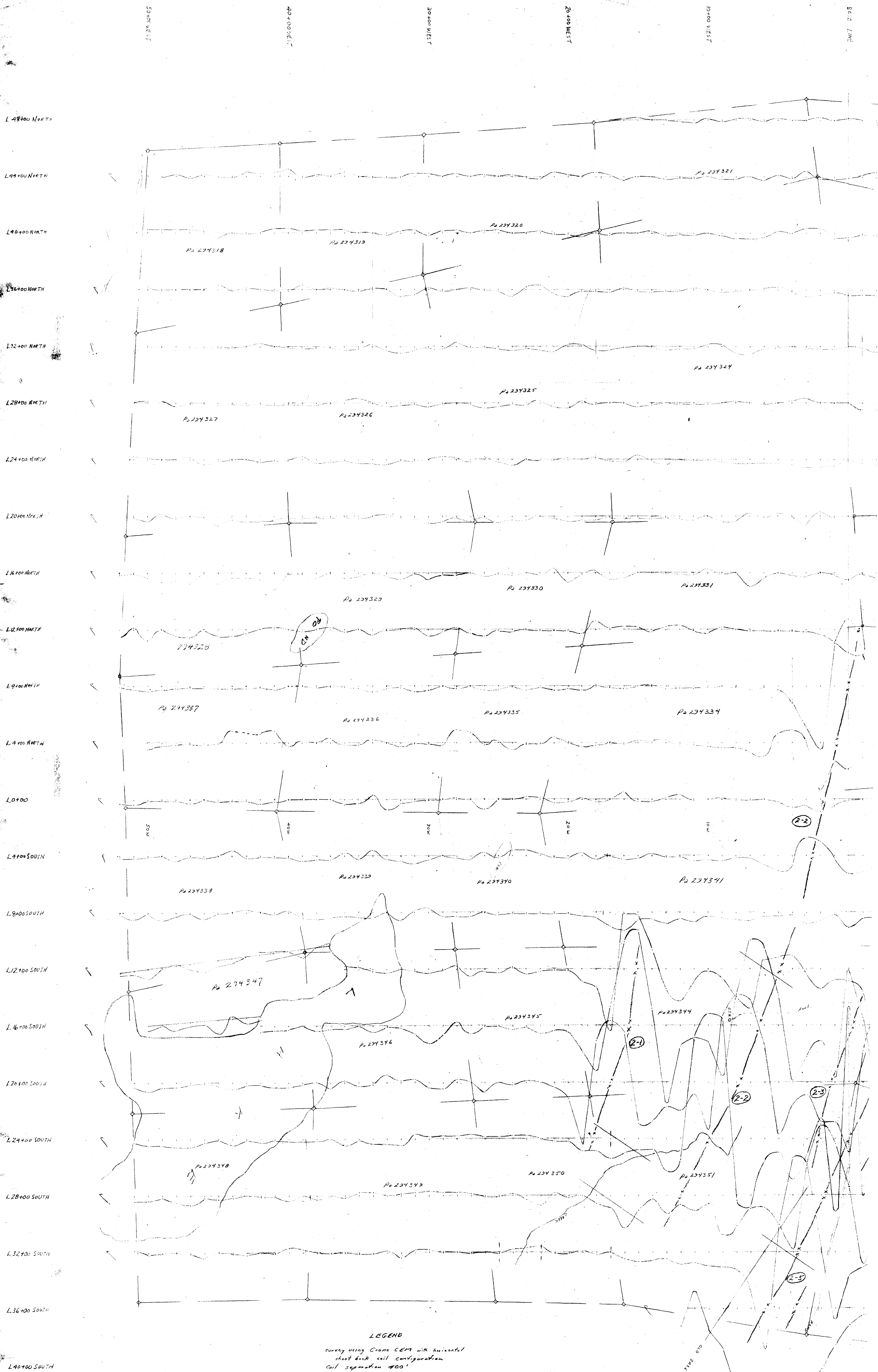


James Bay Mining Corp (NAC)
 Pickle Lake Project
 ELECTROMAGNETIC SURVEY
 GROUP 2
 Sheet 2 of 2
 1" = 200' 19 April, 1972

(2-2) Group 2, conductor 2
 x x Cross-over and conductor axis



520/08 SW-0011 #2

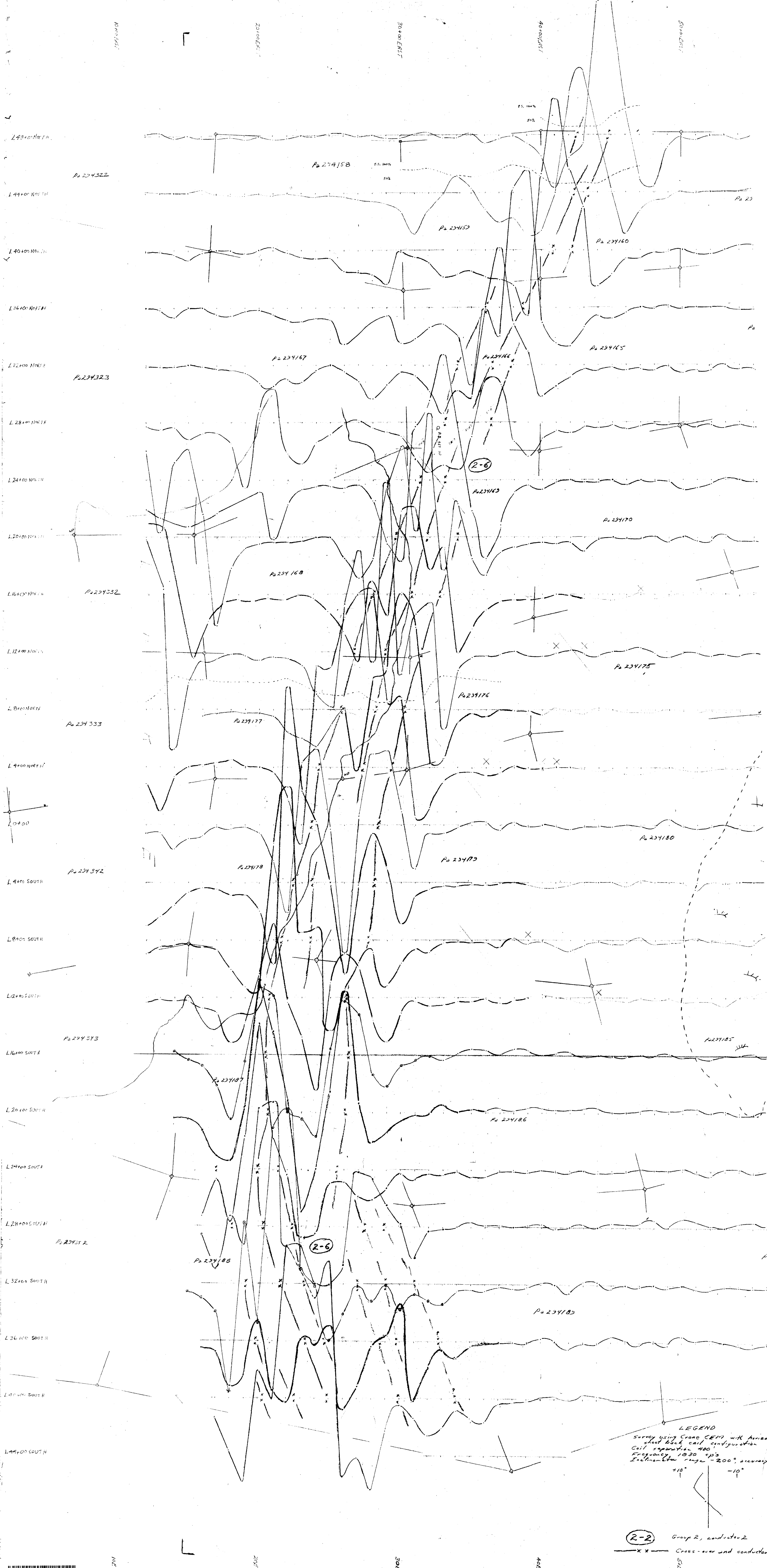


James Bay Mining Corp. (N.P.L.)
 Pickle Lake Project
 ELECTROMAGNETIC SURVEY
 GROUP 2
 Sheet 1 of 2
 1" = 200' March, 1972

LEGEND
 Survey using Crane CEM with horizontal
 short back coil configuration
 Coil separation 400'
 Frequency - 1830 cps
 Inclination range - 200°, accuracy ± 4°

(2-2) Group 2, conductor 2
 XX Conductor axis





LEGEND
 Survey using Crone CEM with American
 shoot back coil configuration
 Coil separation 400'
 Frequency 1000 cps
 Inclination range -200° accuracy
 +10° -10°

(R-2) Group 2, conductor 2
 X-Y Cross-over and conductor

