MATTAGAMI LAKE MINES LIMITED
EXPLORATION DIVISION

INDUCED POLARIZATION
& RESISTIVITY SURVEY

CARLSON CLAIMS

OGDEN TOWNSHIP

TIMMINS AREA, ONTARIO

D.B. SUTHERLAND
GEOPHYSICAL CONSULTANT

OCTOBER, 1978

INTRODUCTION:

An induced polarization survey has been carried out on five N-S traverses on the four claim Carlson Property in Ogden Township, Ontario. The purpose of the survey was to locate and delineate any metallic mineralization that might correlate with important gold values intersected by previous drilling.

The surveying was carried out under contract by Phoenix Geophysics Ltd. in two periods: - August 25 and September 16 to 18, 1978.

GEOLOGY & PREVIOUS WORK:

The southern half of the property is underlain by mafic volcanics and the north by metamorphosed ultramafic intrusives. The contact between the rock types, strikes slightly north of east and is clearly indicated on the magnetic maps.

Initial work on the property consisted of trenching by D. Sandford. In 1916, Tonmac Porcupine Mines Ltd., reported good gold values, but no assays were given. Subsequently, magnetics and electromagnetics were done by Globe Exploration and Mining Co. Ltd., but no details are available.

In 1964, electromagnetic and magnetics were carried out by Tex-Sol Explorations Limited and reported by S.S. Szetu. No recognizeable conductors were reported in the electromagnetic data. The magnetics appear to outline the contact very well

and an interesting magnetic low was delineated at 8N on 21E. This target was tested in 1965 by three drill holes totalling 1,095 feet. Interesting gold values (0.35 oz/ton) were reported for 3 five foot sections in hole No. 1 but were not confirmed in holes No. 2 and No. 3 in the same section. The host rock is described as mineralized, siliceous, fragmental, andesite with "fine pyrite throughout" in sections up to 75 feet thick.

LOCATION & ACCESS:

The claims are located about 1.5 miles northeast of the confluence of the Mattagami and Grassy Rivers in the southwest portion of Ogden Township.

Access is via the Wawaitin Falls road approximately 6 miles southwest of Timmins.

METHODS & INSTRUMENTS:

A Phoenix frequency type induced polarization unit was used for the survey. Operating frequencies were 0.25 and 5.0 hz. The dipole-dipole configuration, with 200 foot separation, was used for the survey with values of n = 1, 2, 3 and 4.

PRESENTATION OF RESULTS:

The induced polarization and resistivity results are shown on the accompanying psuedo-sections.

12E 200' dipoles
18E 200' "
21E 200' "
24E 200' "
30E 200' "

Maps 1 and 2 are plan maps of part of the property and show the Metal Factor and Frequency Effects for the n = 2 observation in contour form. Both are at a scale of 1" = 200' and also show the location of previous drilling.

DISCUSSION OF RESULTS:

There are no strong I.P. effects on the data that are typical of zones of highly concentrated or massive sulphides. There are, however, a number of weaker effects that could be representative of the fine pyrite encountered in previous drilling.

Three zones, Zones A, B and C have been interpreted from the data. All three appear to be due to sources of low metallic content.

ZONE A:

Both the Metal Factor and frequency effect data show that Zone A extends from 8E to 30E with a width of 400 to 600 feet. The Metal Factor on 21E (drilled section) indicate the centre of the zone to be near 3N while the PFE shows the peak

values near 6N which correlates with the sulphides in previous drilling.

While either location may be the center of the zone, experience has shown the Metal Factor to be the better parameter for zone location. Consequently, the most logical target location for Zone A would be vertically below 3N on 21E. The source appears to be shallow (i.e. 100 feet or less).

Slightly stronger values give a target of 3N on 24E as an alternate location. However, drilling on 21E combined with previous holes, would give a better geologic section.

Zone A appears to be due to a broad area of weak metallic mineralization such as described in the previous drilling. Note that D.D.H. No. 1 occurs on the north flank of both the Metal Factor and PFE anomalies.

ZONE B:

Zone B is a stronger response than Zone A, but is based chiefly on a single reading. It may be a shallow source of somewhat higher metallic content that may extend farther southeast. It appears to be underlain by mafic volcanics and may warrant a drill test.

However, an extension of the grid southward and additional I.P. detailing are recommended prior to drilling this anomaly.

ZONE C:

Zone C occurs in the ultramafic rocks on the north part of the property. It is based chiefly on a single isolated value and a repetition of the survey would be required to firmly establish the existence of this zone.

Zone C is regarded as a low priority target from both geological and geophysical considerations.

SUMMARY & RECOMMENDATIONS:

Three I.P. zones, Zones A, B and C have been outlined by the survey. All three are typical of sources of low metallic content.

Zone A is a 400 to 600 foot wide source extending from 18E to 30E with the previous drill holes lying on its northern flank. Zone A may be representative of the pyrite encountered in three drill holes and suggests the centre of the mineralized zone lies near 3N on 21E. If further testing of the pyrite zone is desirable, then a hole near 2N on 21E is recommended. Slightly stronger values on 24E show an alternate target near 3N on this line. At both locations, the source appears to be less than 100 feet deep.

Zone B lies south of Zone A but in the same geologic unit. It may also represent similar weak pyrite mineralization. However, the data are far from complete and the lines should be extended south and surveyed to outline this apparently stronger source.

Zone C is based chiefly on a single, isolated reading and lies in the less favourable ultramafic rocks. Zone C is a low priority target at present.

Respectfully submitted,

D. B. Sutherland
Consulting Geophysicist

October, 1978.

Ontario

Ministry of Natu

GEOPHYSICAL – GEOLOG
TECHNICAL DAT

42A06NW0228 2.3034 OGDEN

900

TO BE ATTACHED AS AN APPENDIX TO
FACTS SHOWN HERE NEED NOT BE
TECHNICAL REPORT MUST CONTAIN

Type of Survey(s) Geophysical (I.P.)
Township or Area OGDEN
Claim Holder(s) H.D. CARLSON

Survey Company Phoenix Geophysics Ltd.
Author of Report D.B. Sutherland.
Address of Author 1110, 8 King St. E., Toronto.
Covering Dates of Survey August 25 - October 4, 19
(linecutting to office)

Total Miles of Line Cut

SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical
	–Electromagnetic
	–Magnetometer
	–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: _____ SIGNATURE: _____
Author of Report or Agent

L.D.

Res. Geol. _____ Qualifications 63.1168

Previous Surveys

File No.	Type	Date	Claim Holder

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

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

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

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

RESISTIVITY

Instrument Phoenix frequency type I.P. unit

Method ☐ Time Domain ☒ Frequency Domain

Parameters – On time _____ Frequency 2.5 and 5.0 hz.

– Off time _____ Range _____

– Delay time _____

– Integration time _____

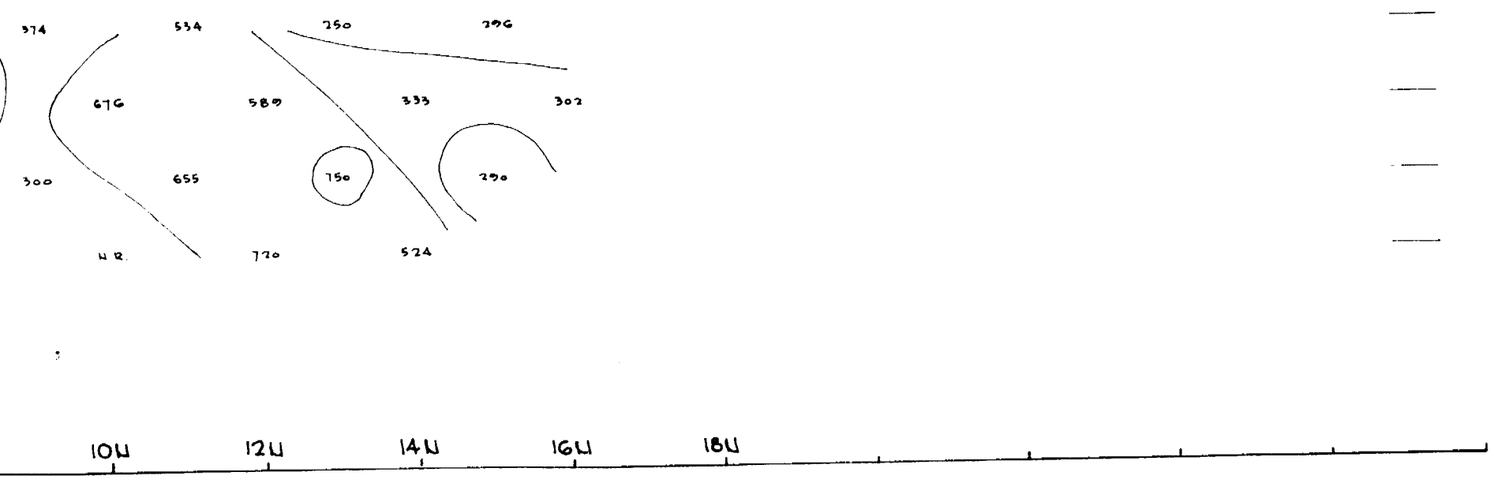
Power _____

Electrode array dipole-dipole configuration with values of n=1, 2, 3 and 4.

Electrode spacing 200 ft.

Type of electrode _____

RESISTIVITY (APP.) IN OHM FEET/2 π



— N - 1

— N - 2

— N - 3

— N - 4

FREQUENCY EFFECT (APP.) IN %

— N - 1

— N - 2

— N - 3

— N - 4

METAL FACTOR (APP.)

— N - 1

— N - 2

— N - 3

— N - 4

MATTAGAMI LAKE MINES LTD.

EXPLORATION DIVISION

CARLSON PROPERTY

LINE NO. - 21 E

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
0·5, ·75, 1, 1·5, 2, 3, 5, 7·5, 10

DATE SURVEYED : AUG. 1978

FREQUENCIES : 0·31 - 5·0 HZ

INDUCED POLARIZATION AND RESISTIVITY SURVEY

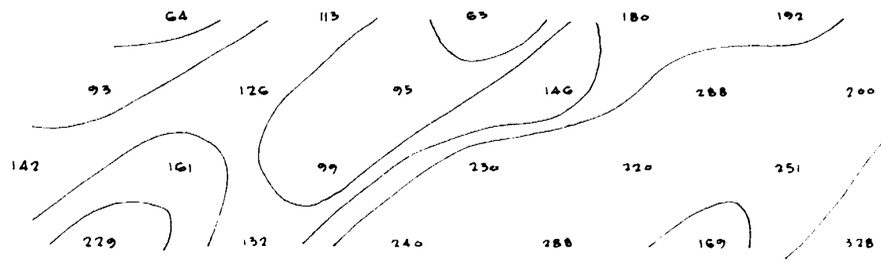
RESISTIVITY (APP.) IN OHM FEET/ 2 π

P 1 ——

N - 2 ——

N - 3 ——

N - 4 ——



85 65 45 25 00 2N 4N 6N 8N

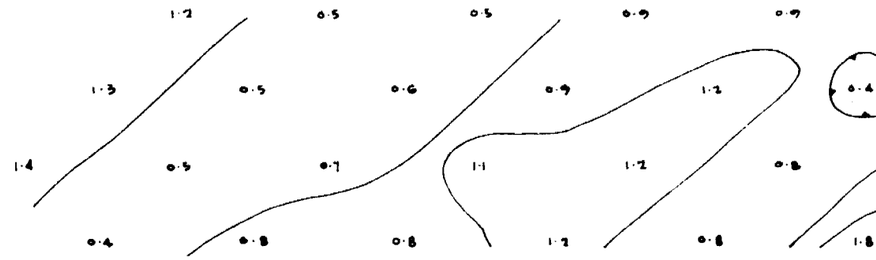
FREQUENCY EFFECT (APP.) IN %

N - 1 ——

N - 2 ——

N - 3 ——

N - 4 ——



85 65 45 25 00 2N 4N 6N 8N

?

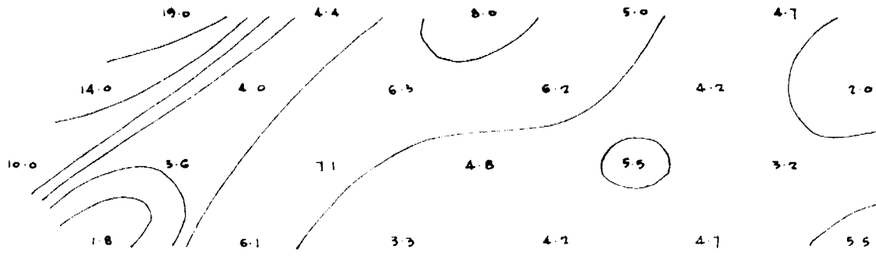
METAL FACTOR (APP.)

N - 1 ——

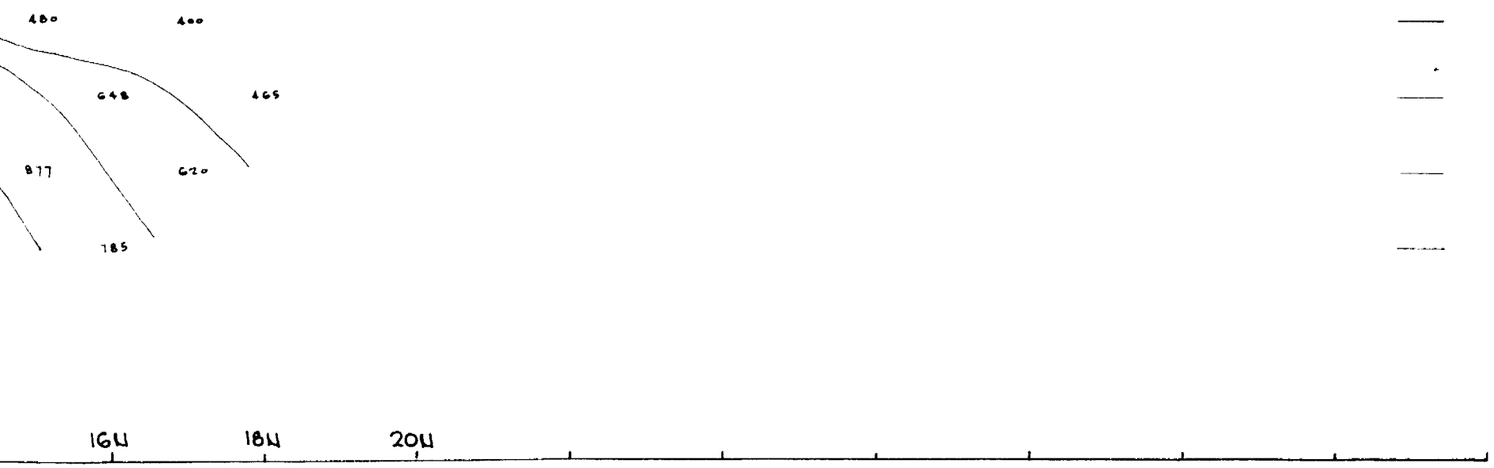
N - 2 ——

N - 3 ——

N - 4 ——



RESISTIVITY (APP.) IN OHM FEET/2 π



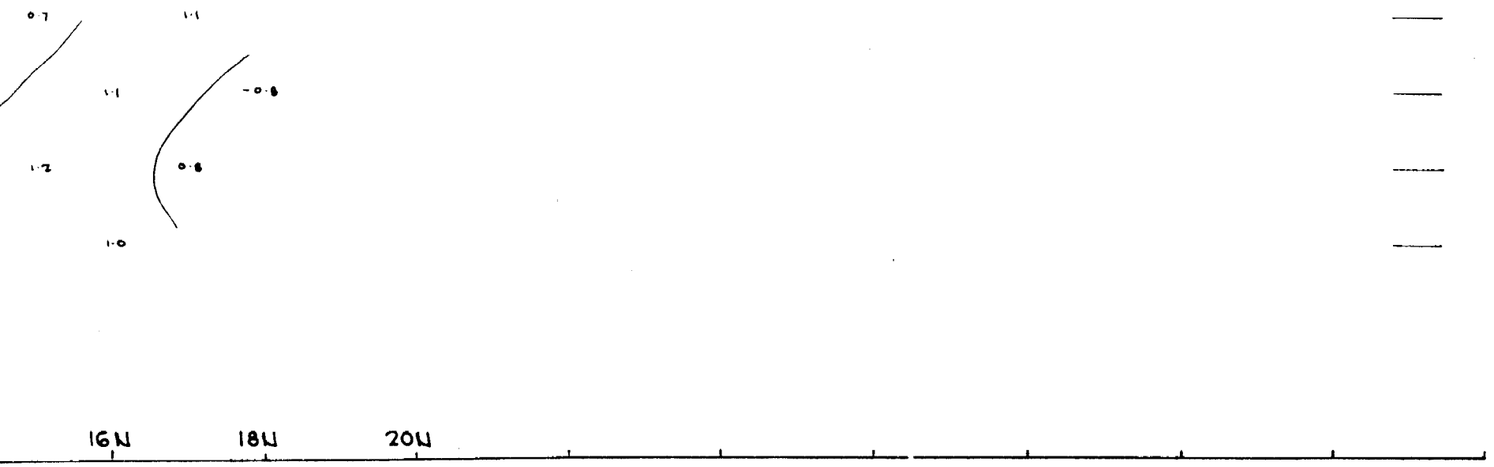
— N - 1

— N - 2

— N - 3

— N - 4

FREQUENCY EFFECT (APP.) IN %



— N - 1

— N - 2

— N - 3

— N - 4

METAL FACTOR (APP.)

— N - 1

— N - 2

— N - 3

— N - 4

MATTAGAMI LAKE MINES LTD.

EXPLORATION DIVISION

CARLSON PROPERTY

LINE NO. - 30 E

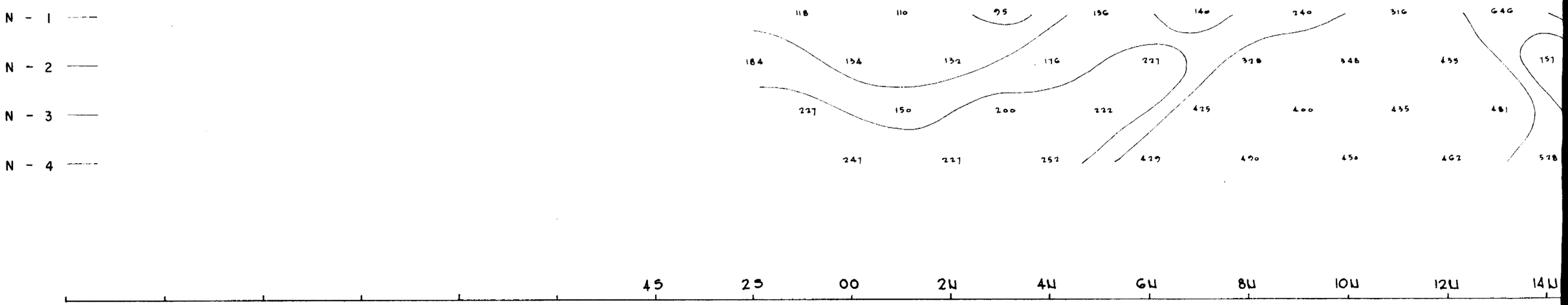
NOTE: CONTOURS AT LOGARITHMIC INTERVALS
0·5, ·75, 1, 1·5, 2, 3, 5, 7·5, 10

DATE SURVEYED : AUG. 1978

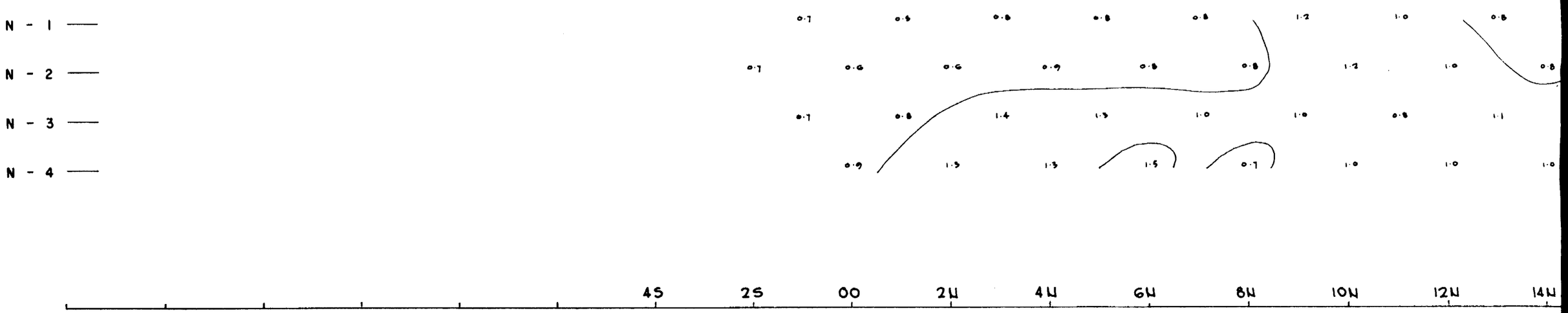
FREQUENCIES : 0·31 - 5·0 HZ

INDUCED POLARIZATION AND RESISTIVITY SURVEY

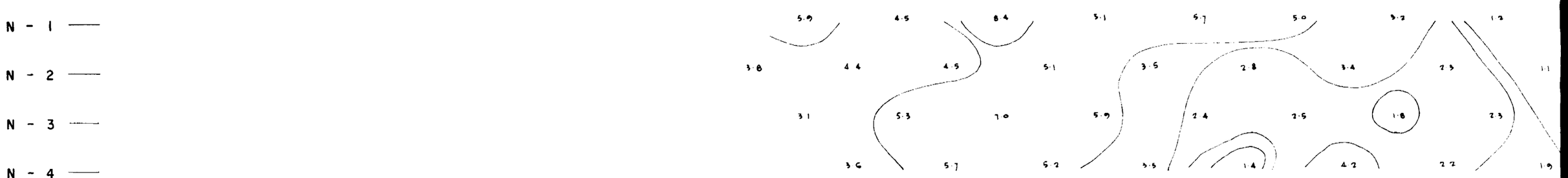
RESISTIVITY (APP.) IN OHM FEET/ 2π



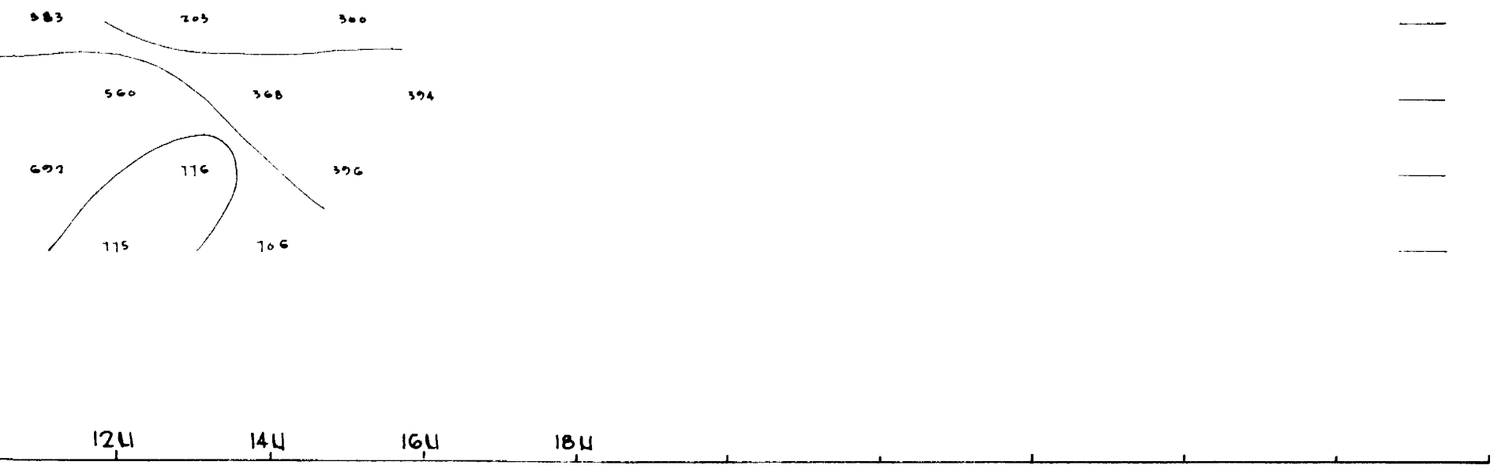
FREQUENCY EFFECT (APP.) IN %



METAL FACTOR (APP.)

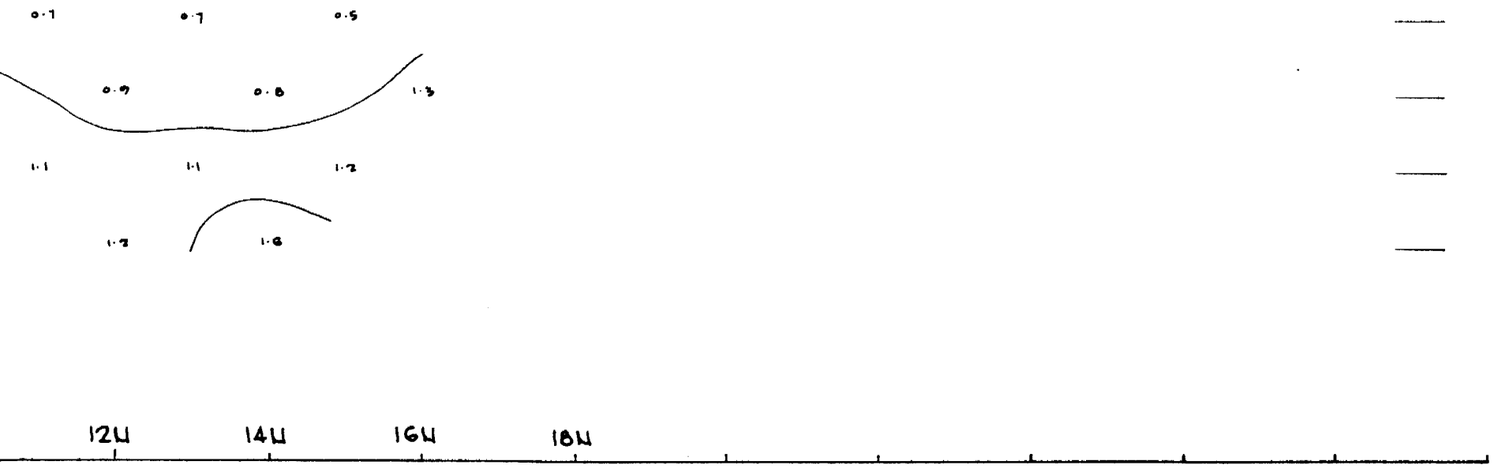


RESISTIVITY (APP.) IN OHM FEET/2 π



— N - 1
— N - 2
— N - 3
— N - 4

FREQUENCY EFFECT (APP.) IN %



— N - 1
— N - 2
— N - 3
— N - 4

METAL FACTOR (APP.)

— N - 1
— N - 2
— N - 3
— N - 4

MATTAGAMI LAKE MINES LTD.

EXPLORATION DIVISION
CARLSON PROPERTY

LINE NO. - 24 E

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
0·5, ·75, 1, 1·5, 2, 3, 5, 7·5, 10

DATE SURVEYED : AUG. 1978

FREQUENCIES : 0·31 - 5·0 HZ

INDUCED POLARIZATION AND RESISTIVITY SURVEY

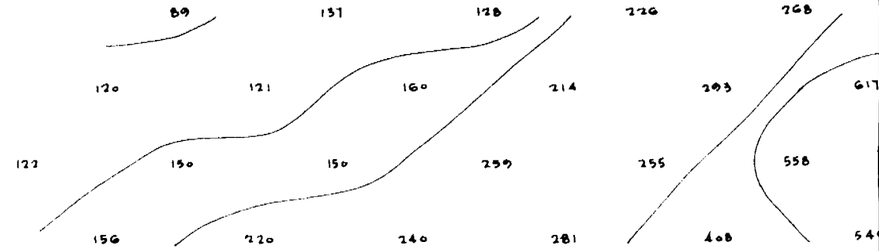
RESISTIVITY (APP.) IN OHM FEET/ 2π

N - 1 ——

N - 2 ——

N - 3 ——

N - 4 ——



25 00 2W 4W 6W 8W 10

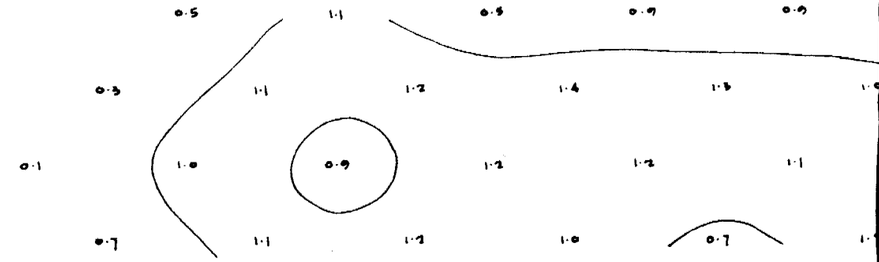
FREQUENCY EFFECT (APP.) IN %

N - 1 ——

N - 2 ——

N - 3 ——

N - 4 ——



25 00 2W 4W 6W 8W 10

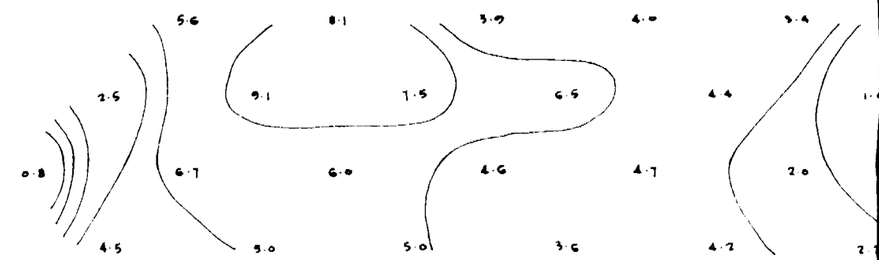
METAL FACTOR (APP.)

N - 1 ——

N - 2 ——

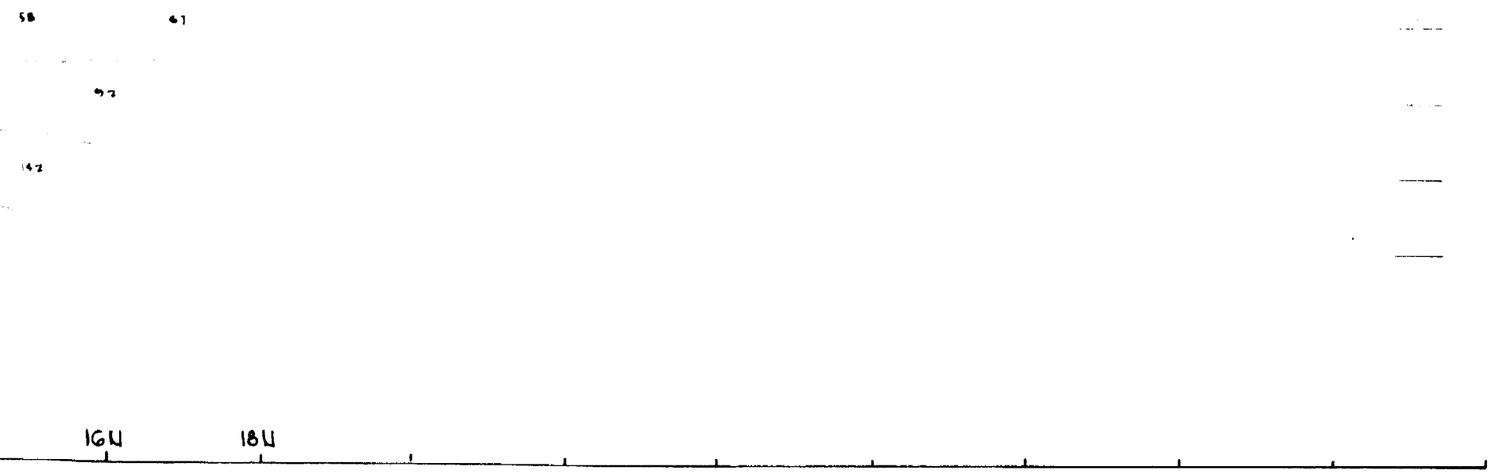
N - 3 ——

N - 4 ——



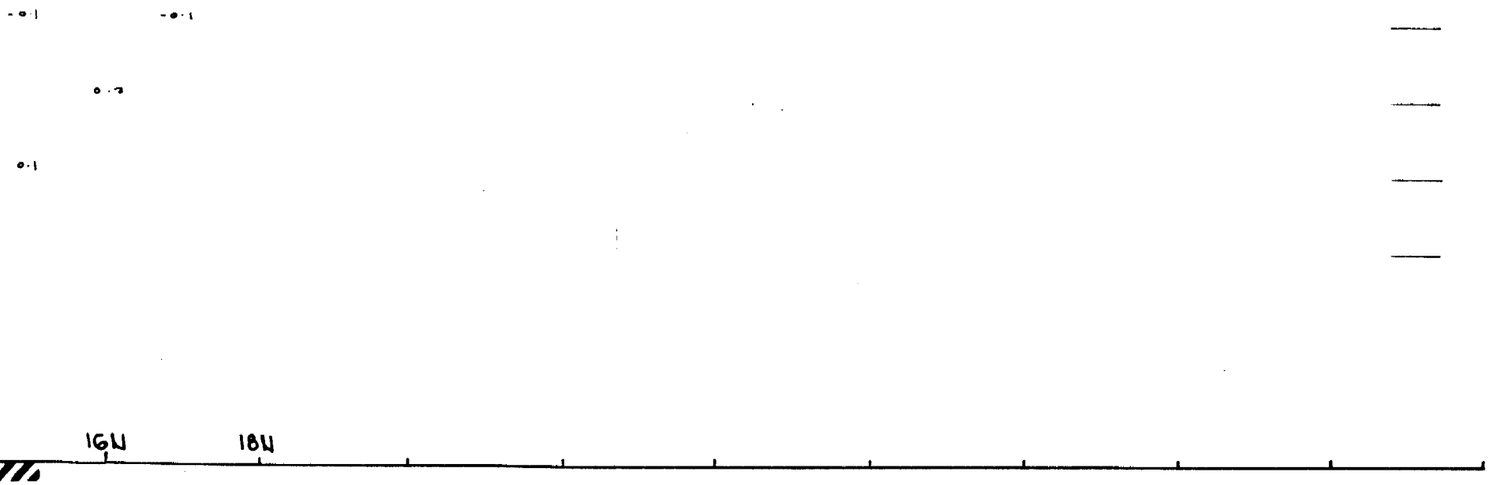
RESISTIVITY (APP.) IN OHM FEET/2 π

N - 1
N - 2
N - 3
N - 4



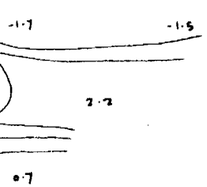
FREQUENCY EFFECT (APP.) IN %

N - 1
N - 2
N - 3
N - 4



METAL FACTOR (APP.)

N - 1
N - 2
N - 3
N - 4



MATTAGAMI LAKE MINES LTD.

EXPLORATION DIVISION
CARLSON PROPERTY

LINE NO. - 12 E

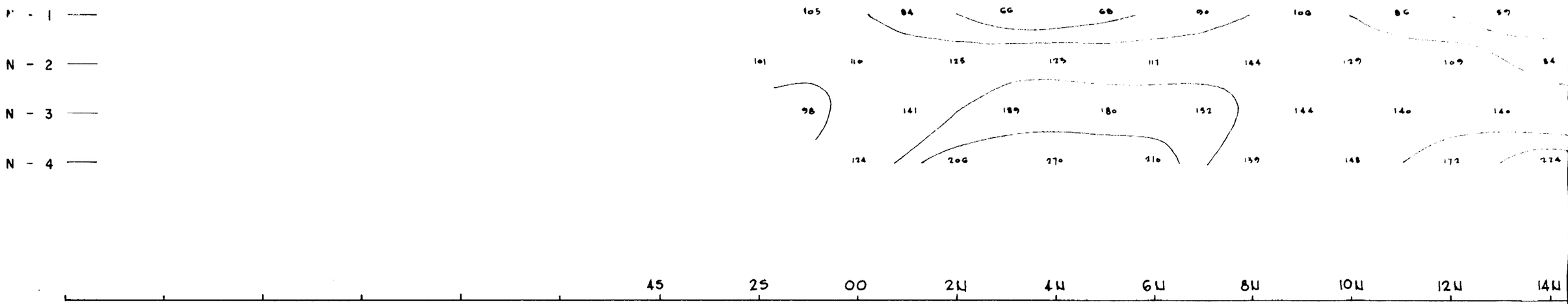
NOTE: CONTOURS AT LOGARITHMIC INTERVALS
0·5, ·75, 1, 1·5, 2, 3, 5, 7·5, 10

DATE SURVEYED : AUG. 1978

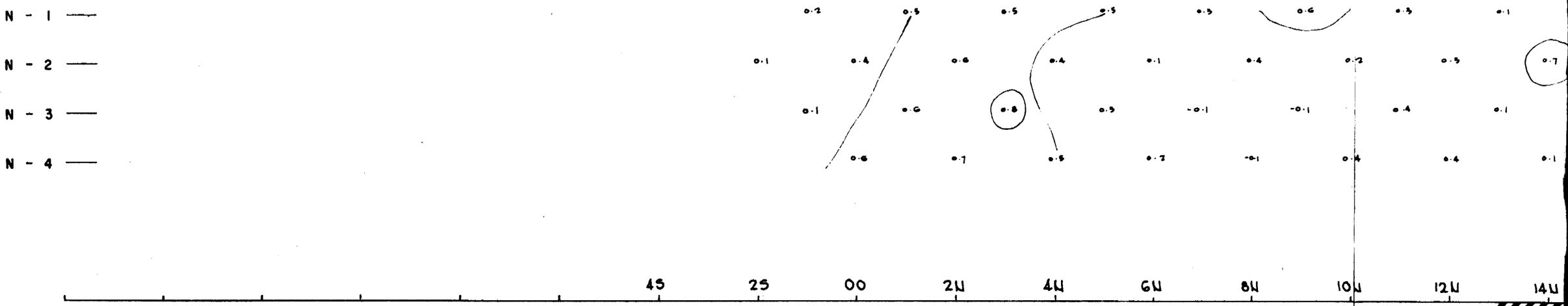
FREQUENCIES : 0·31 - 5·0 HZ

INDUCED POLARIZATION AND RESISTIVITY SURVEY

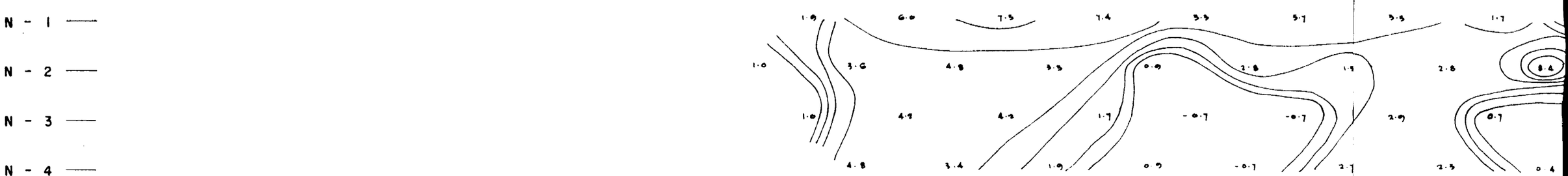
RESISTIVITY (APP.) IN OHM FEET/2π



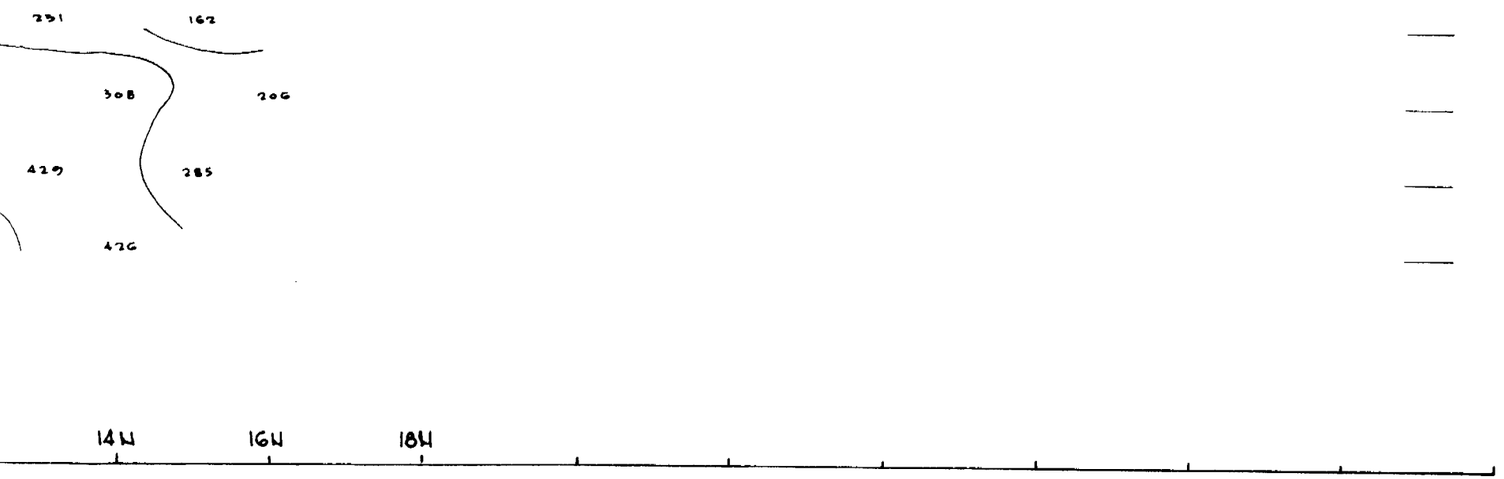
FREQUENCY EFFECT (APP.) IN %



METAL FACTOR (APP.)

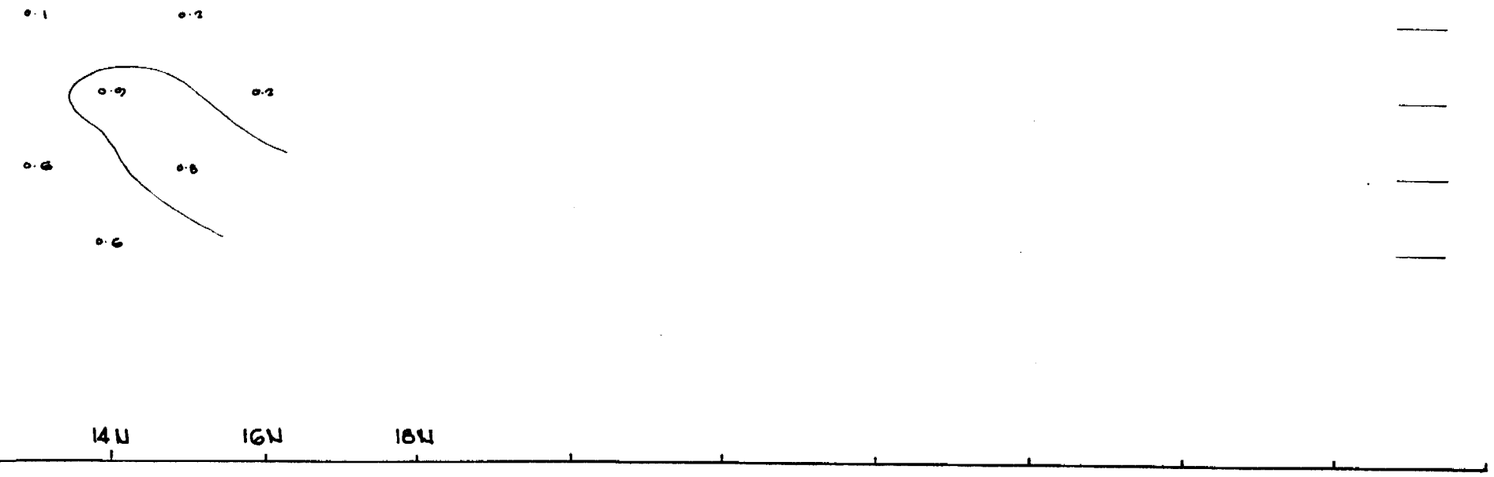


RESISTIVITY (APP.) IN OHM FEET / 2 π



— N - 1
— N - 2
— N - 3
— N - 4

FREQUENCY EFFECT (APP.) IN %



— N - 1
— N - 2
— N - 3
— N - 4

METAL FACTOR (APP.)

— N - 1
— N - 2
— N - 3
— N - 4

MATTAGAMI LAKE MINES LTD.

EXPLORATION DIVISION
CARLSON PROPERTY

LINE NO. - 18 E

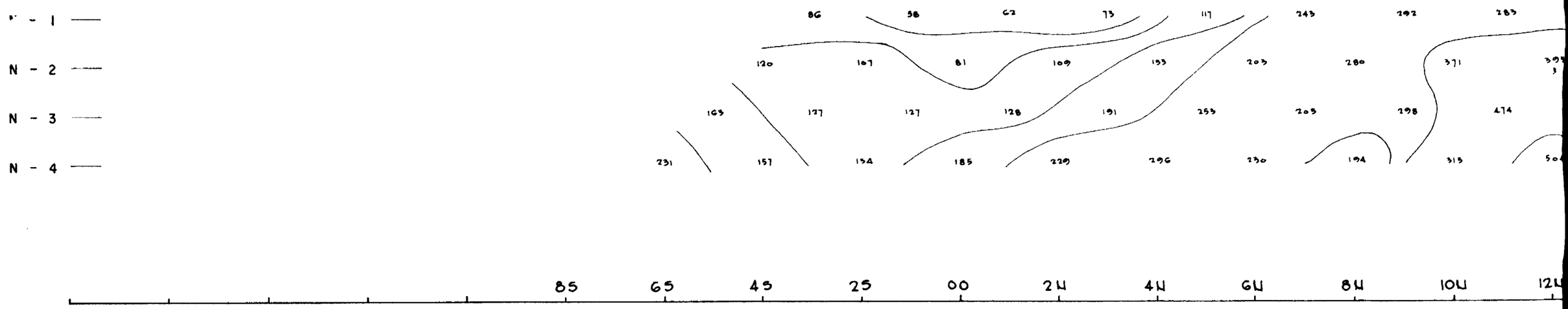
NOTE: CONTOURS AT LOGARITHMIC INTERVALS
0·5, ·75, 1, 1·5, 2, 3, 5, 7·5, 10

DATE SURVEYED : AUG. 1978

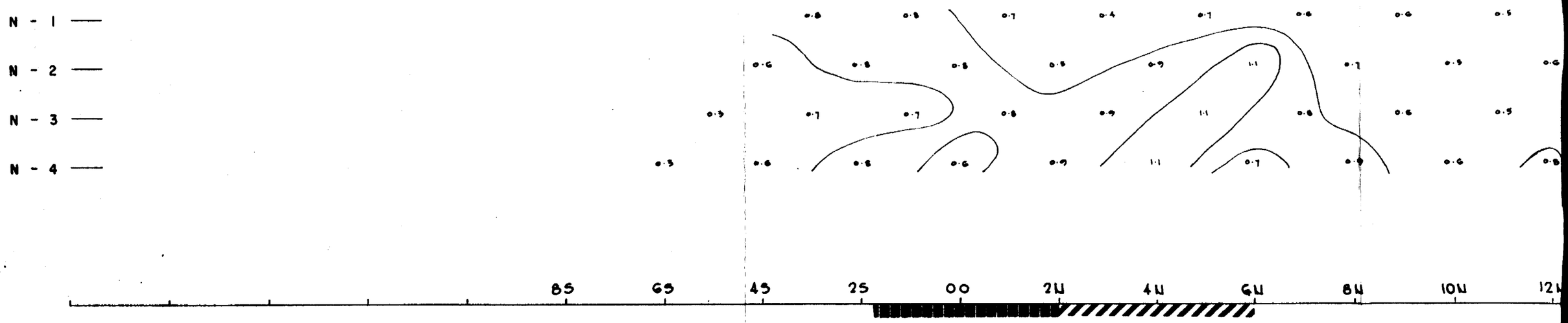
FREQUENCIES : 0·31 - 5·0 HZ

INDUCED POLARIZATION AND RESISTIVITY SURVEY

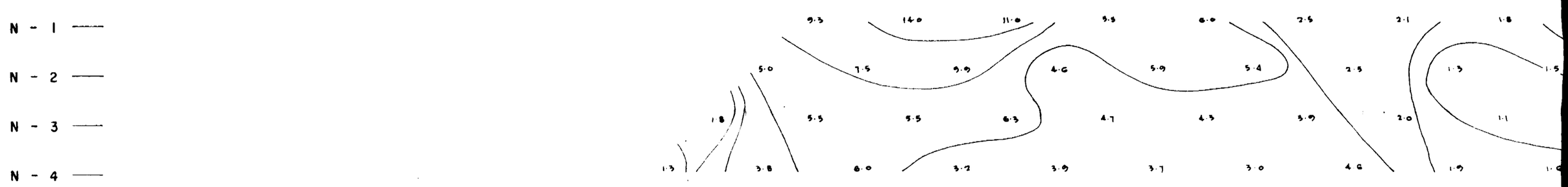
RESISTIVITY (APP.) IN OHM FEET/ 2 π



FREQUENCY EFFECT (APP.) IN %



METAL FACTOR (APP.)



MOUNTJOY TWP. M-302

BRISTOL TWP. M-264

DELORO TWP. M-272

PRICE TWP. M-307

THE TOWNSHIP OF

OGDEN

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 20 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.
QUARRY PERMIT	QP

NOTES

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

L.O. 6613 - Booming Grounds - covers the westerly half of the bed of the Mattagami River flowing through this township. File: 73543.

This township lies within the Municipality of CITY of TIMMINS.

Areas withdrawn from staking under Section 43 of the Mining Act

	File	Date	Disposition
43	W.55/74	189427	S.R.O.
43	W.17/76	138801	2/4/76 S.R.O.
R	W.25/78	108545	26/5/78 S.R.O.

DATE OF ISSUE SEP - 6 1979 SURVEYS AND MAPPING BRANCH

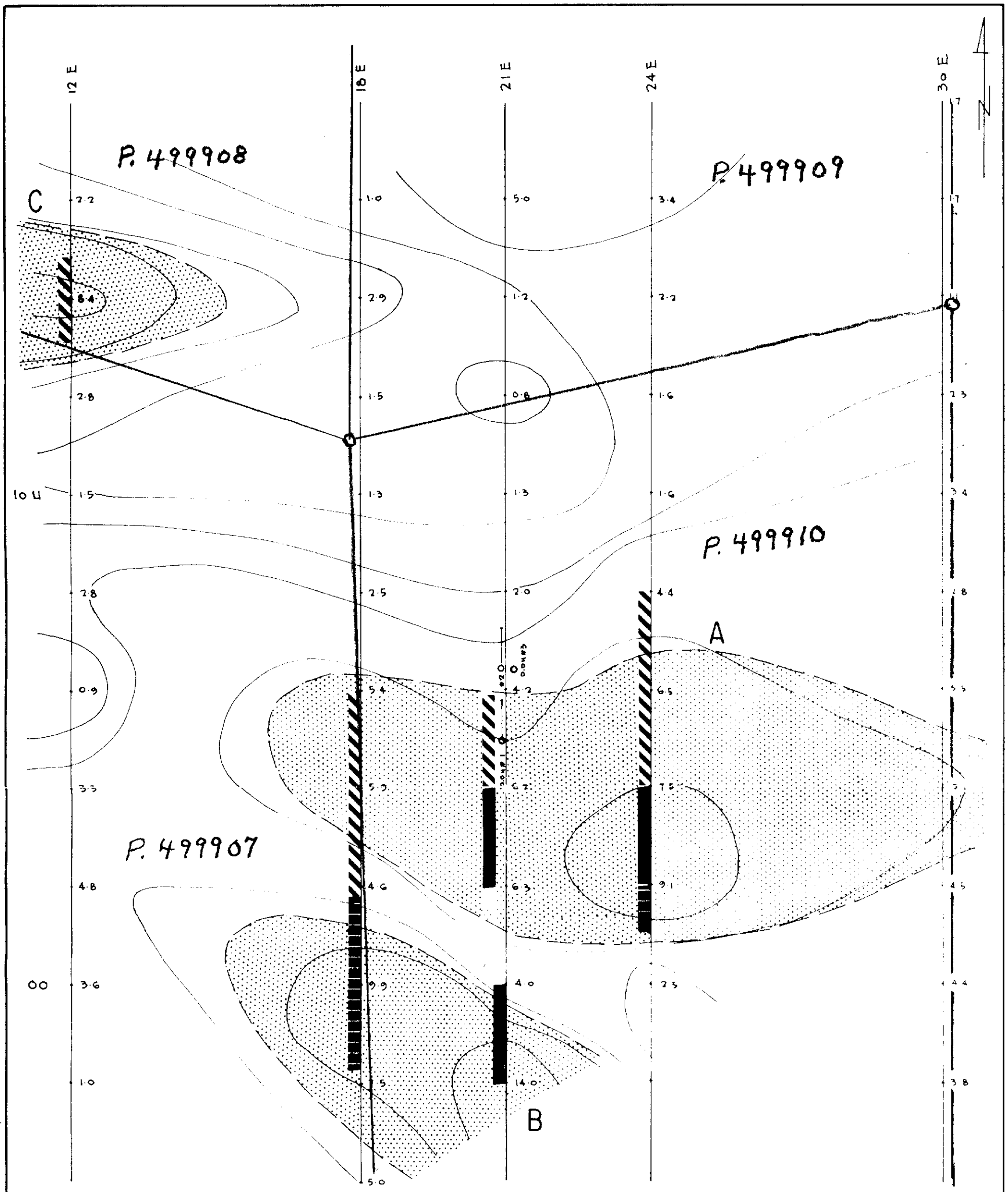
PLAN NO. M-305

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

200



MAP # 1

INDUCED POLARIZATION SURVEY

CARLSON GROUP

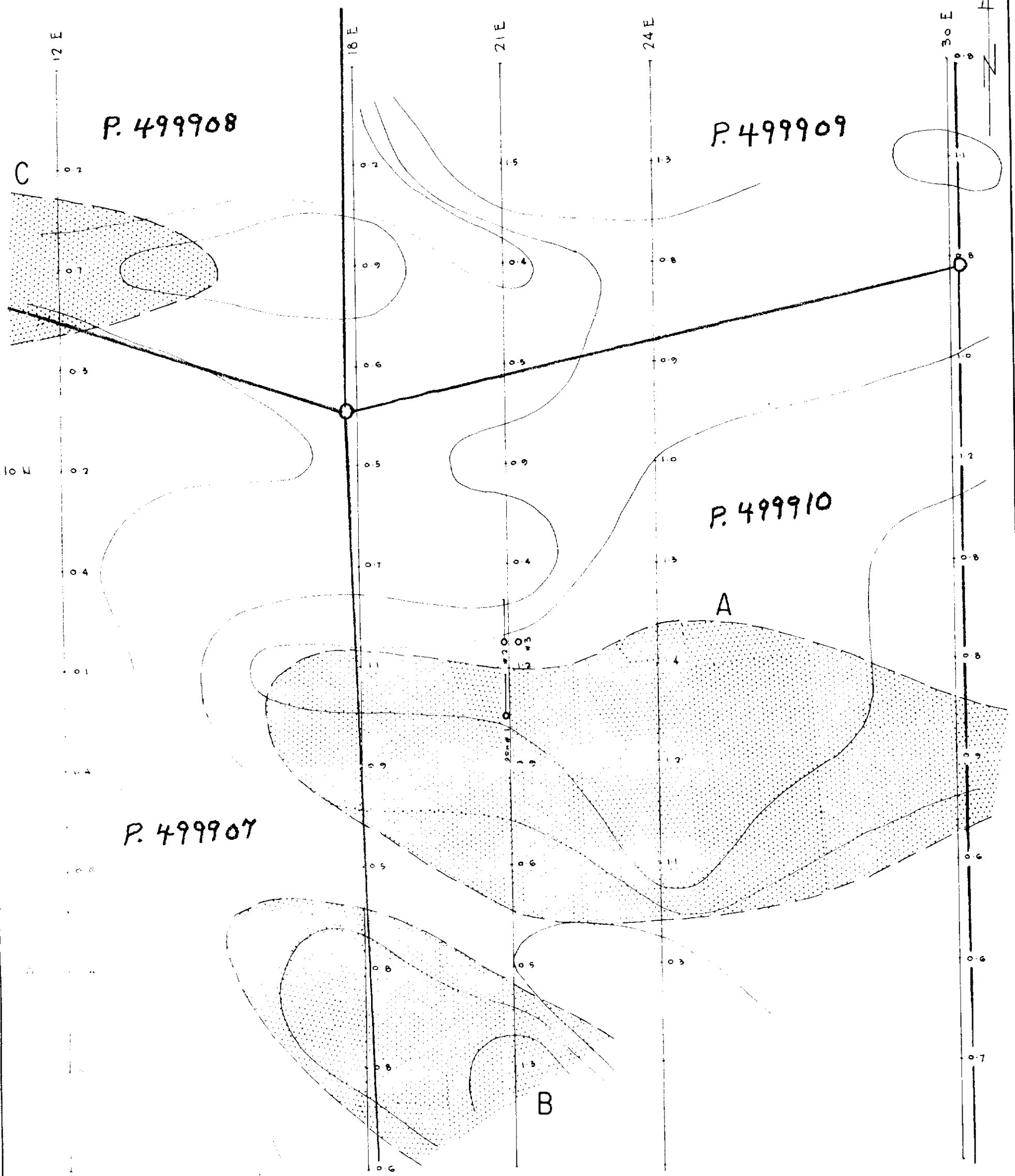
OGDEN TWP., ONTARIO

METAL FACTOR

N = 2 CONTOUR PLAN

SCALE : 1" = 200'

2.3034



220

MAP # 2

INDUCED POLARIZATION SURVEY

CARLSON GROUP

OGDEN TWP., ONTARIO

FREQUENCY EFFECT

N = 2 CONTOUR PLAN

SCALE : 1" = 200'

for D.B Sutherland

2.3034