



41P12SW0104 63.3920 CHESTER

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# McPHAR GEOPHYSIC

MEMORANDUM ON THE  
VLF-EM SURVEY  
THREE DUCK LAKE AREA  
CHESTER TOWNSHIP  
SUDBURY M.D., ONTARIO  
FOR  
KINGS BRIDGE MINES LIMITED

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## 1. INTRODUCTION

At the request of Mr. W. Walker and Mr. R. Miller of Kings Bridge Mines Limited, we have analyzed the results of the VLF-EM survey in three areas of Chester Township, Sudbury Mining Division, Ontario.

The purpose of the analysis was to try and select areas of definite bedrock conductors for possible follow up with an induced polarization and resistivity survey.

The principle targets of interest in the area are large deposits of disseminated mineralization within the granite. It was hoped that the VLF-EM anomalies might correspond with areas of fracturing and mineral emplacement.

## 2. DISCUSSION OF RESULTS

The results of induced polarization and resistivity surveying

over several strong VLF-EM anomalies coinciding with lakes in the area, has been disappointing. The anomalies appear to be caused by conductive lake bottom sediments.

The most interesting areas of follow up appear to be where the conductors cannot be explained by overburden effects.

### 3. RECOMMENDATIONS

The following program of induced polarization and resistivity surveying is recommended for consideration.

#### Gosselin Lake

<u>Line</u>	<u>Stations</u>	<u>Electrode Interval</u>
0	20+00S to 20+00N	200 feet
4E	20+00S to 20+00N	200 feet
8E	20+00S to 20+00N	200 feet
12E	20+00S to 20+00N	200 feet
16E	20+00S to 20+00N	200 feet
20E	20+00S to 20+00N	200 feet
24E	20+00S to 20+00N	200 feet
28E	20+00S to 20+00N	200 feet
30E	20+00S to 20+00N 36000	200 feet

#### Mill Pond

<u>Line</u>	<u>Stations</u>	<u>Electrode Interval</u>
4W	0 to 32+00N	200 feet
0	0 to 32+00N	200 feet

Hill Pond (Continued)

<u>Line</u>	<u>Stations</u>	<u>Electrode Interval</u>
1E	0 to 32+00N	200 feet
2E	0 to 32+00N	200 feet
3E	0 to 32+00N	200 feet
5E	0 to 32+00N	200 feet
7E	0 to 32+00N	200 feet
4E	0 to 32+00N	200 feet
6E	0 to 32+00N	200 feet
8E	0 to 32+00N	200 feet

Merthusa Lake

<u>Line</u>	<u>Stations</u>	<u>Electrode Interval</u>
1E	12+00S to 12+00N	200 feet
2E	12+00S to 12+00N	200 feet
3E	12+00S to 12+00N	200 feet
5E	12+00S to 12+00N	200 feet
7E	12+00S to 12+00N	200 feet
4E	12+00S to 12+00N	200 feet
6E	12+00S to 12+00N	200 feet
8E	12+00S to 12+00N	200 feet

Measurements should be taken to  $n = 4$  to give an effective depth of coverage of 400 feet. If strong shallow anomalies appear at the  $n = 1$  level, they should be detailed with 100' spreads for better evaluation.

14, 000' from west.

McPHAR GEOPHYSICS LIMITED

William H. Peaton

William H. Peaton,  
Geophysicist.



41P12SW0104 63.3920 CHESTER

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## McPHAR GEOPHY:

REPORT ON THE  
INDUCED POLARIZATION  
AND RESISTIVITY SURVEY  
IN THE  
THREE DUCK LAKE AREA  
CHESTER TOWNSHIP  
SUDBURY M. D., ONTARIO  
FOR  
KINGS BRIDGE MINES LIMITED

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### 1. INTRODUCTION

At the request of Kings Bridge Mines Limited, we have carried out an induced polarization and resistivity survey in the Three Duck Lake Area of Chester Township, Sudbury Mining Division, Ontario.

Disseminated copper mineralization within granitic rock has been observed on the property. The induced polarization and resistivity survey was carried out in three different areas in an attempt to reveal any mineralization which could be of economic interest. As shown in Appendix A, the induced polarization method has been used to successfully outline many deposits of disseminated mineralization of the "porphyry copper" type. The total sulphide content of some of these deposits has been extremely low.

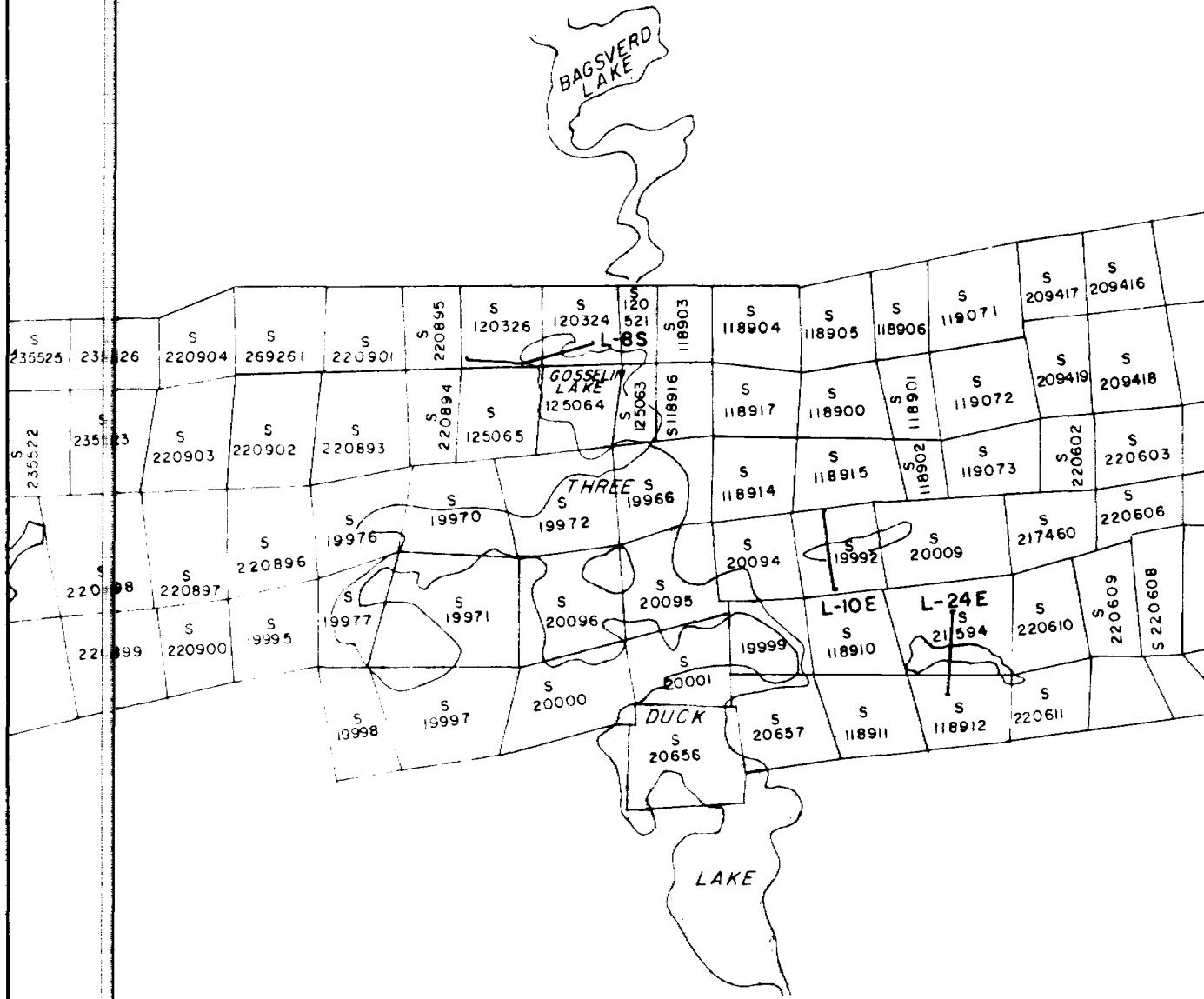
### 2. PRESENTATION OF RESULTS

The induced polarization and resistivity results are shown on the following data plots in the manner described in the notes preceding this report.

# Mc PHAR GEOPHYSICS

NEVILLE TOWNSHIP

CHESTER TOWNSHIP



KINGS BRIDGE MINES LIMITED

THREE DUCK LAKE AREA, CHESTER TWP., SUDBURY M. D., ONTARIO.

SCALE: 1 INCH = 40 CHAINS

<u>Line</u>	<u>Electrode Intervals</u>	<u>Dwg. No.</u>
8	200 feet	IP 5585-1
10 E	200 feet	IP 5585-2
10 E	100 feet	IP 5585-3
20 E	200 feet	IP 5585-4
24 E	100 feet	IP 5585-5

Enclosed with this report are Dwgs. I. P. P. 3453-1, -2, -3, plan maps of the Three Duck Lake Area at a scale of 1" = 100 feet. The definite and possible induced polarization anomalies are indicated by solid and broken bars respectively on these plan maps as well as the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the induced polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the spread length; i. e., when using 200' spreads the position of a narrow sulphide body can only be determined to lie between two stations 200' apart. In order to locate sources at some depth, larger spreads must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

### 3. DISCUSSION OF RESULTS

#### Line 8S

The survey has indicated very weak, disseminated mineralization over a width of about 600 feet. The mineralization appears shallow near 5+00W and about 200' deep beneath 1+00E. It may dip beneath the lake. Drilling from the opposite shore has revealed disseminated mineralization at depth.

The resistivities are generally quite high, suggesting tight, non-porous rock. A flat-lying low resistivity source coinciding with the lake is probably due to conductive lake bottom sediments. These sediments also appear to be the source of the VLF-EM anomaly.

#### Line 10E

The survey with 200' spreads revealed a shallow source near 19+00N. A deep source, or a source lying off the line, is suggested near 25+00N.

Detailing with 100' spreads again indicated the presence of a narrow source at a depth of about 50' near 19+00N. In addition, another narrow source at a depth of 50' has been indicated near 22+00N. The dips both appear to be to the south.

#### Line 24E

A narrow source at a depth of about 200' near 6+00N has been indicated by the survey with 200' spreads. Detail work with 100' spreads also indicated a source at a depth of 200 feet. It may be centred near 5+00N.

The prominent VLF-EM anomaly running down the centre of Arethusa Lake appears to be caused by conductive lake bottom sediments. There is a

definite resistivity pattern which suggests a flat-lying conductive layer. There are no associated frequency effects.

#### 4. SUMMARY AND RECOMMENDATIONS

The Metal Factor values revealed by the survey are very low. No large, concentrated metallic sources have been indicated. In a high resistivity area such as this, however, weak Metal Factor anomalies may indicate disseminated mineralization of interest. (See Appendix B).

The weak zone of disseminated mineralization revealed on Line 8S may be tested by drilling a 100' vertical hole near 3+00W (perhaps with packack drill) or by drilling a deeper hole to test a source 300' beneath 1+00E. If the mineralization is of interest it may be traced to the north and south by surveying adjacent lines.

On Line 24E, a shallow drill hole near 4+00N encountered disseminated mineralization. If this mineralization is considered important, the indicated source beneath 6+00N should be outlined by surveying adjacent lines.

McPHAR GEOPHYSICS LIMITED

*William H. Pelton*

William H. Pelton,  
Geophysicist.

*Robert A. Bell*

Robert A. Bell,  
Geologist.

Dated: November 9, 1970

# McPHAR GEOPHYSICS

## APPENDIX A

### EXPECTED IP ANOMALIES FROM "PORPHYRY COPPER" TYPE ZONES OF DISSEMINATED SULPHIDE MINERALIZATION

Our experience in other areas has shown that the induced polarization method can be successfully used to locate and outline zones of disseminated sulphide mineralization of the "porphyry copper" type. In most cases the interpretation of the IP results is simple and straightforward. The results shown in Figures 1 and Figure 2 are typical.

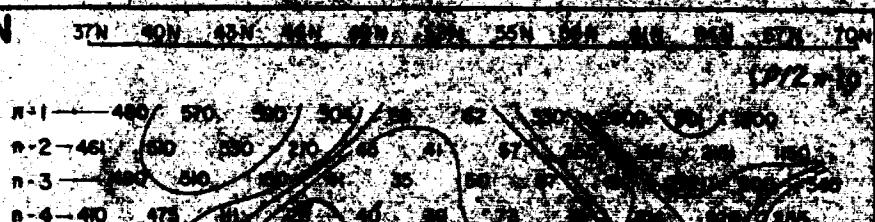
#### INDUCED POLARIZATION

AND

#### DRILLING RESULTS

FROM

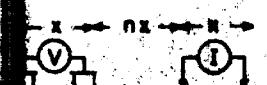
COPPER MOUNTAIN AREA  
GASPÉ, QUEBEC



LINE - 31N



FREQUENCIES - 0.318 & 2.5 CPS



X EQUALS 300 FEET

DISSEMINATED  
SULPHIDE

MINERALIZATION  
COPPER  
TYPE

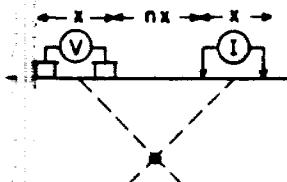
FIG. 1

The source of the moderate magnitude IP anomaly shown in Figure 1 contains approximately 4% metallic mineralization. The zone is of limited lateral extent and enough copper is present to make the mineralization "ore grade". The presence of the surface oxidation can be seen in the fact that the apparent IP effects increase for  $n = 2$ .

**INDUCED POLARIZATION  
AND  
DRILLING RESULTS  
FROM**

**WESTERN NEW MEXICO  
U.S.A.**

FREQUENCIES - 0.31 & 2.5 CPS.



19S 17S 15S 13S 11S 9S 7S 5S 3S 1S IN 3N

$(P/2\pi)a$

n-1	—	91	54	50	26	42	43	50	50	38	85	44
n-2	—	91	90	65	47	47	45	64	50	44	79	66
n-3	—	77	83	56	71	44	62	68	51	61	70	69
n-4	—	75	77	82	82	62	61	71	58	82	67	89

19S 17S 15S 13S 11S 9S 7S 5S 3S 1S IN 3N

$(Fe)a$

n-1	—	15	25	25	50	4.5	6.0	4.5	3.0	20	3.5	3.0
n-2	—	20	3.5	3.5	65	60	7.0	8.4	7.5	5.5	5.0	4.6
n-3	—	4.0	4.7	6.0	7.0	8.5	8.4	8.9	7.0	7.0	5.5	5.5
n-4	—	5.0	4.5	7.0	7.0	7.6	9.0	9.0	9.0	7.0	6.0	6.5

LINE - 40W

19S 17S 15S 13S 11S 9S 7S 5S 3S 1S IN 3N

$(Mf)a$

n-1	—	17	46	50	192	107	139	90	70	53	54	68
n-2	—	22	39	54	117	128	155	133	150	125	63	61
n-3	—	52	51	107	98	193	136	132	137	86	79	62
n-4	—	67	58	86	86	123	148	126	155	86	90	73

X EQUALS 200 FEET

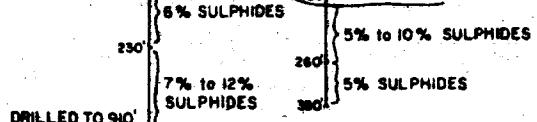


FIG. 2

The IP anomaly shown in Figure 2 has about the same magnitude as that described above. It should be noted that appreciably greater concentrations of metallic mineralization are present; further, there is little or no copper present. These results illustrate the fact that IP results can not be used to determine the exact amount of metallic mineralization present or to determine the economic importance of a mineralized zone. In some geologic situations zoning is present; the zones of mineralization of greatest economic value may contain less total metallic mineralization than other zones in the same general area.

In the proper geologic environment, the method will detect even very low concentrations of metallic mineralization. The IP results shown in Figure 3 located the ore zone at the Brenda Property near Peachland, B.C. The zone contains 1.0 to 1.5 per cent metallic mineralization; however, the mineralization is "ore grade" because only molybdenite and chalcopyrite are present.

## INDUCED POLARIZATION

AND

## DRILLING RESULTS

FROM

BRENDA AREA

PEACHLAND, B.C.

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E

( $\rho/2\pi$ )a

n-1	267	222	242	287	245	396	850	238
n-2	420	200	228	272	310	346	387	334
n-3	320	100	242	302	356	280	236	247
n-4	322	297	192	270	322	368	246	196

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E

(Fe)a

n-1	0.9	1.5	4.0	4.3	3.5	3.0	2.6	1.4
n-2	0.5	0.6	5.0	3.5	3.0	3.0	2.0	1.2
n-3	0.3	3.7	2.5	3.2	3.0	3.0	1.8	1.0
n-4	0.3	1.7	3.1	3.0	5.0	1.0	(N)	1.5

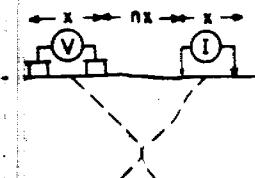
LINE - 8S

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E

(Mf)a

n-1	33	67	17	15	14	7.5	2.9	5.8
n-2	0.7	3.0	2.2	1.3	9.8	8.7	6.3	3.6
n-3	0.9	3.6	1.0	1.0	8.4	1.0	7.6	4.0
n-4	0.9	5.7	1.6	1.1	1.5	1.2	(N)	7.9

FREQUENCIES - 0.318 & 5.0 CPS



: EQUALS 100 FEET

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E

DISSEMINATED  
SULPHIDE ZONE

13% to 15%  
SULPHIDES

FIG. 3

# McPHAR GEOPHYSICS

## APPENDIX B

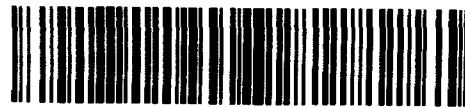
As requested by Kings Bridge Mines Limited, we carried out IP Laboratory measurements on three mineralized drill cores from the Three Duck Lake Area. The results are as follows:

Sample	PFE	$\rho/2\pi$	MF
1	9.4	1150	8.2
2	4.6	1780	2.6
3	19.0	255	74.0

Each of the drill cores contained easily observable quantities of pyrite mineralization. What is significant, is that the measured Metal Factor values are so low (apparently due to the high resistivities).

The tests suggest that very low amplitude Metal Factor anomalies may still indicate significant mineralization.

WILLRED WALKER  
CONSULTING GEOLOGIST



41P12SW0104 63.3920 CHESTER

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22V 7330

164 NIPIGON AVENUE  
WILLOWDALE, ONTARIO  
CANADA

The President and Directors  
Kingbridge Mines Limited  
Suite 314, 77, York Street  
Toronto 1, Ontario.

18 November 1970

Chester Township, property

Gentlemen,

Several items of interest are beginning to form a cohesive picture in the search for porphyry copper type mineralization in the adjoining Rush Lake and Three Duck lakes areas. Your property is in the Three Duck lakes area.

Prospecting in recent months at Rush Lake has turned up many showings of pyrite, chalcopyrite, bornite and molybdenite, both disseminated in granitic intrusive rocks and as veinlets in the brecciated cover rocks.

A week ago, before the ground was snow covered, I called in Dr. Paul Gilmour, consulting geologist of Tucson, Arizona, and we visited many of the showings together. Dr Gilmour is familiar with many of the major porphyry copper deposits of the American Southwest, and he confirms my opinion that the mineralization associated with the late tectonic acid intrusive at Rush Lake is of porphyry copper type. In this type of deposit the grade of ore is usually extremely low, and the tonnages comparably immense.

# WILFRED WALKER

At Three Duck Lake, 40 km west-southwest of Rush Lake, the similar Lake Lecoton was intrusive in the same volcanic belt but yielded pyrite, chalcopyrite, bornite, molybdenite mineralization. The main difference is that at Three Duck Lakes there is more faulting, and in this respect Three Duck Lakes is more like the usual porphyry copper deposit.

Because faults commonly act as channelways for mineralization, we have utilized this factor to start survey work with an inexpensive electromagnetic (EM) technique by which the entire properties have been covered. Induced polarization is a much more expensive technique, and on three properties in the area, EM conductive zones have been checked with this more discriminatory tool. This method appears to be working, for in their report dated 9 November 1970, to Kingbridge Mines' Pelton and Gold of Cefhar Geophysics make the following remarks:

1. "Disseminated copper mineralization within granitic rock has been observed on the property"
2. "Nowhere "the induced polarization method has been used successfully to outline many deposits of disseminated sulphide of the "porphyry copper" type. The total sulphide content of some of these deposits has been extremely low". (the word 'total' should read 'percentage').
3. "The Metal Factor values revealed by the survey are very low. No large, concentrated metallic sources have been indicated. In a high resistivity area such as this, however, weak Metal Factor anomalies may indicate disseminated mineralization of interest.  
" (see Appendix B)".
4. "Appendix B. As requested by Kingbridge Mines Limited

# WILFRED WALKER

view more and further borehole measurements on three mineral-size control cores from outside the Three Duck Lakes area. (A table of results follows.)

Most of the drill holes contained easily observable evidence of pyrite mineralization. What is significant, is that the measured metal factor values are so low (approximately due to the low resistivities).

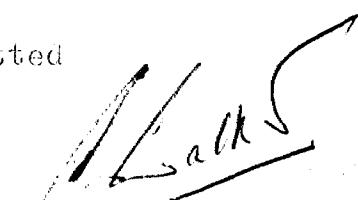
The tests suggest that very low amplitude metal factor anomalies may still indicate significant mineralization\*.

These remarks require no further comment, and we may consider the tenth IP survey as highly successful.

It is proposed that a full scale IP survey of the Mi contour of the Three Duck Lakes area now be carried out. I am presently compiling the last of the EM surveys which have been done in recent months, and expect to turn these over to you for their determination of IP survey lines by the end of this week.

It seems probable that we will go ahead with drilling on the test lines immediately, as drill results here will provide guidance to the other geophysicists in making their recommendations for a full drill programme on completion of the IP surveys.

Respectfully submitted



W. Walker F.G.A.C. P.Eng.

WILFRED WALKER

CONSULTING GEOLOGIST

AREA CODE 416-TORONTO  
OFFICE 223-4443  
RESIDENCE 222-2317

164 NIPIGON AVENUE  
WILLOWDALE, ONTARIO  
CANADA

Nov 24 1970

Kinchbeape Miner Ltd.,  
Suite 4B, 77 York St.,  
Toronto 1, Ont.

Gentlemen:

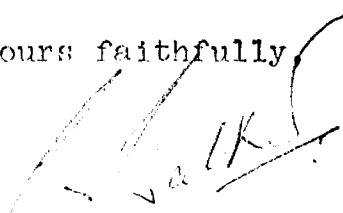
I understand that assessment is due shortly on several of your claims in Chester Township, Sudbury Mining Division.

A Bowline EIK 16 Survey has now been completed on the land section of the claims, and I am currently reviewing the data. Some test IP work has been carried out and as a result I recommend that 29, 200 ft. of further IP survey be undertaken at an estimated cost of \$2000.00. No Phar Geophysics are prepared to move into the area during the first week of Dec.

A drill contract has been signed and I understand that a drill is also to be on site during the first week of Dec.

In view of the foregoing, I would suggest that you request a short extension of time for filing work for assessment.

Yours faithfully,



W. Walker

F.G.A.C. P.ENG.

cc: S. Vail  
A. Walcer  
M. Goudie  
Accounting  
File ✓

November 26, 1970

King Bridge Mines Limited,  
314 - 77 York Street,  
Toronto, Ontario.

Dear Sirs:

We wish to confirm that we will supply consultant services, geophysical interpretation, reporting, equipment, field technicians and supplies to carry out the Induced Polarization survey as outlined below. It is understood that this work will take place in Chester Township, Sudbury area, Ontario at a date to be arranged and estimated to be about the second week of December, 1970. The expected duration of the survey is 5 to 7 days.

Interpretation and Reporting

Recommendations regarding additional geophysical or geological investigations and exploratory drilling will be made as indicated by our interpretation of survey results. This presentation will be made in quadruplicate and will include maps and drawings showing the geophysical measurements, the location of anomalous zones and any surface features recorded by our field staff.

Field Crew

McPhar will supply two geophysical technicians trained in the operation of the IP apparatus.

Field Help

Two additional helpers will be required to carry out the field operations. These men may be either supplied by the client, or if necessary, hired by McPhar and charged for at salary cost plus 20% to cover such items as workmen's compensation, unemployment benefits, vacation pay, pension plans and handling expenses.

### Equipment

McPhar will supply one induced polarization unit with normal field operating spares.

### Supplies

McPhar will supply batteries, field wire and drafting supplies.

Materials for electrode preparation and gasoline for the motor-generator will be invoiced at cost plus 10%.

### Field Control

The preparation of control lines for the survey is the responsibility of the client. The lines should be prepared and marked in such a way as to allow easy location and access by the IP crew. Delays caused by unsuitable lines or by unfinished lines will be charged at the standby rate. Improperly cut or marked lines will impede the progress of the survey.

It is the responsibility of the client to submit a base map of each survey grid, a station map and, if possible, a location sketch.

### Charges

The standard fee charged for the Induced Polarization survey is as follows:

#### Full Service Survey

Operating day - 1st 20 operating days - \$265.00/day plus expenses  
- 2nd 20 operating days - \$250.00/day plus expenses

The lower current operating day rate will be charged for subsequent work done for the client during the following 6 month period.

In the event that the survey involves less than 10 operating days, there will be an additional charge of \$200.00.

Travel, standby and bad weather days - \$100.00/day plus expenses.

There will be no charge for time off or breakdown time, other than field expenses for the crew.

The above rates include field work, drafting, maps, interpretation of results and reporting.

### Transportation.

Crew transportation expenses from Toronto to the field area and return plus travel expenses incurred while working in the field will be invoiced at cost plus 10%. All freight and brokerage charges will be from Toronto at cost plus 10%. Where applicable, the cost of transportation, freight and brokerage will be prorated with other clients in the area.

### Local Transportation.

If local transportation is not provided by the client, McPhar will arrange for rental vehicles. It is understood that all time and expenses pertaining to renting, operating and maintaining these vehicles will be invoiced at cost plus 10%.

### Expenses

Living expenses incurred while travelling and in the field and other expenses such as telephone and telegraph, etc., will be invoiced at cost plus 10%.

### Field Consulting Services

Field consulting by senior professional personnel will be supplied at your request at the rate of \$150.00 per day, plus expenses.

### Insurance

McPhar will supply a letter from the Workmen's Compensation Board evidencing coverage under the Act when so requested.

McPhar carries the following insurance at its expense covering its operation under the contract.

I) Comprehensive General Liability including Employee Liability, Non-Owned (Contingent) Automobile Liability for a single limited D.L. and P.L. of \$1,000,000.00.

II) Non-Owned (Contingent) Aircraft Liability coverage for a single limited D.L. and P.L. of \$1,000,000.00.

I. Certificates of insurance are available on request and details of any specific policy may be obtained from our Insurance Brokers, Morris & L. McKeon Ltd.

Terms.

All charges are stated in Canadian funds, payable in Toronto.

Payment is requested according to the following schedule:

\$500.00 on signing the contract.

Interior monthly billings will be submitted thereafter for the duration of the survey and until all charges have been received and invoiced.

McPhar reserves the right to discontinue the survey if payments are not received according to the above schedule.

McPhar will endeavor to initiate this survey as close to the agreed starting date as possible. However, due to factors beyond our control (i.e., extended periods of bad weather, equipment malfunction, or previous survey extensions) it may not be possible to meet a specified date.

Overdue accounts will bear interest at the rate of 1% per month.

If the foregoing meets with your approval, please signify by signing and returning the enclosed copy.

The signed contract and advance payment should be returned to Mr. J. A. Braid, Comptroller.

Yours very truly,

McPHER GEOPHYSICS LIMITED

McPHER

Marion A. Goudie,  
Geologist.

KING F RIDGE MINES LIMITED

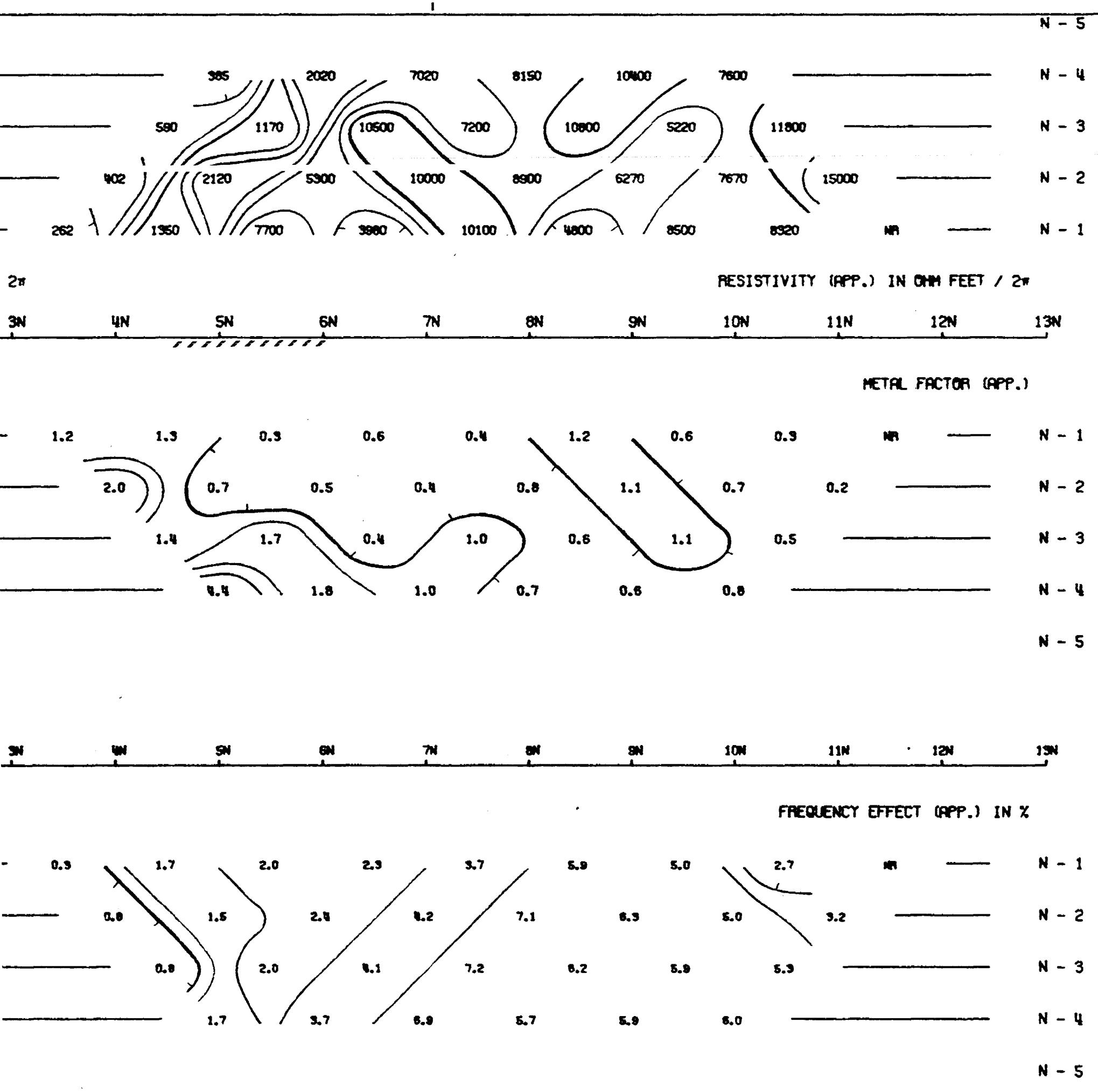
SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT NO: G-6383

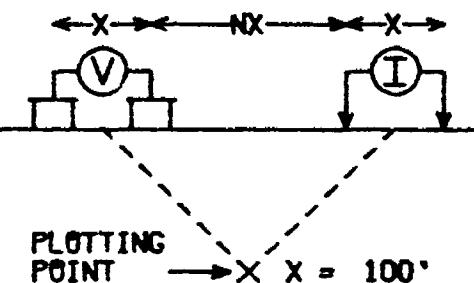
## KINGS BRIDGE MINES

ARETHUSA LAKE, CHESTER TWP.  
SUDBURY M.D., ONTARIO



LINE NO.- 24E

ELECTRODE CONFIGURATION

SURFACE PROJECTION  
OF ANOMALOUS ZONES

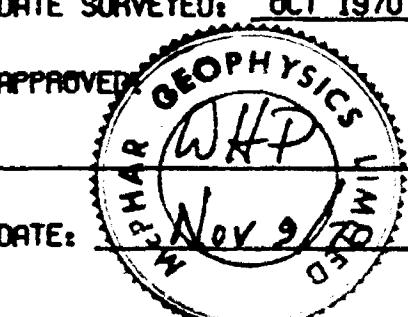
DEFINITE —  
PROBABLE .....  
POSSIBLE // / /

FREQUENCIES: 0.31-5.0 Hz

DATE SURVEYED: OCT 1970

APPROVED:

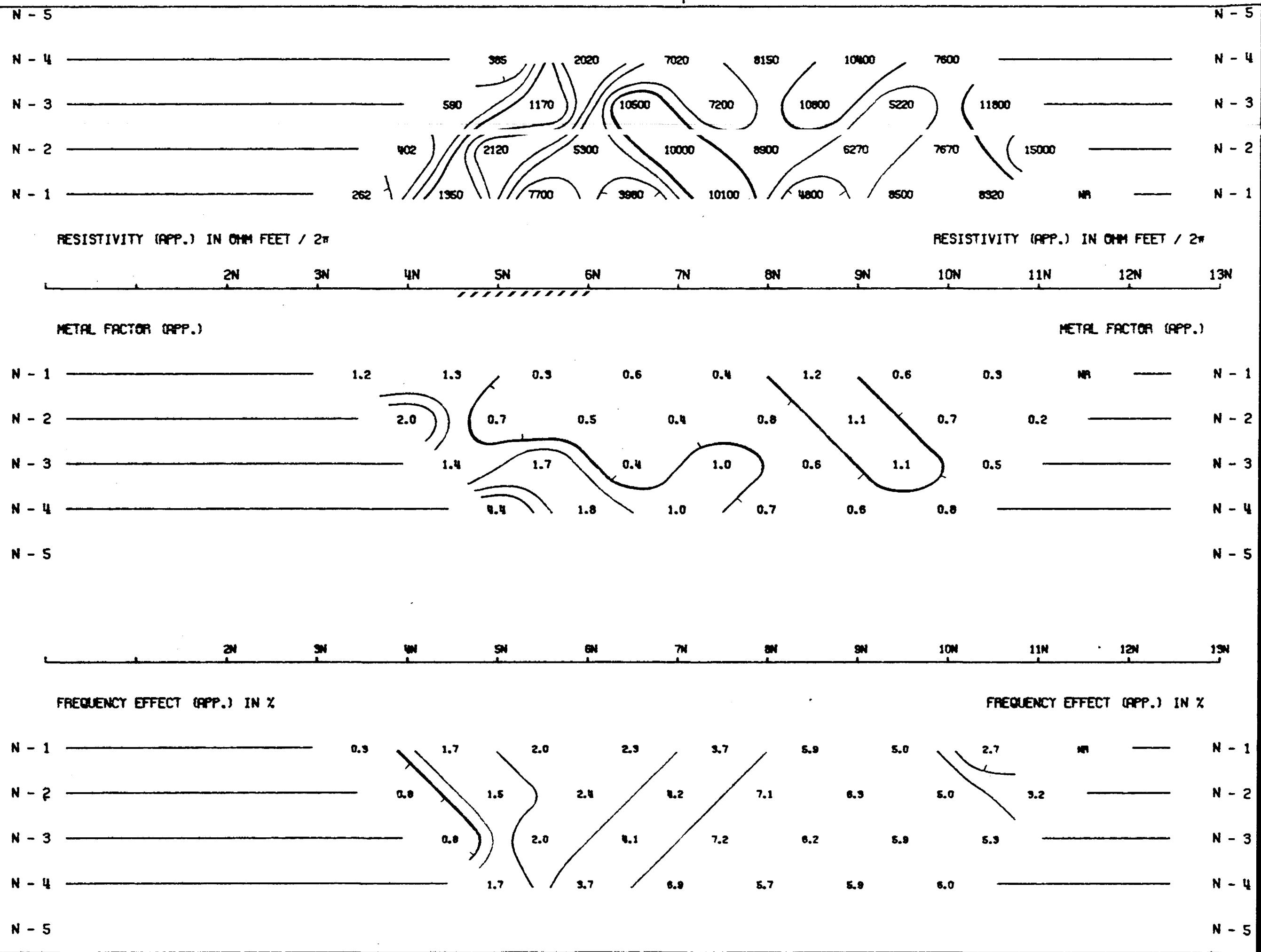
DATE:

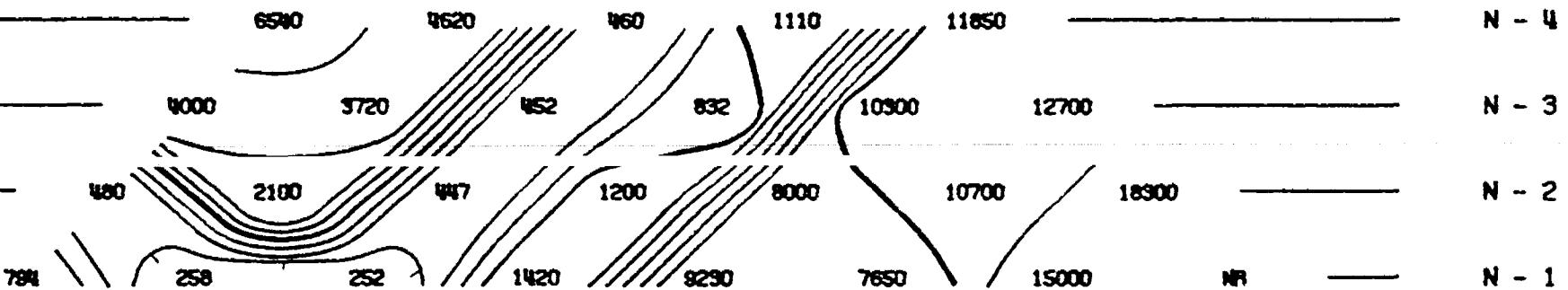


McPHAR GEOPHYSICS

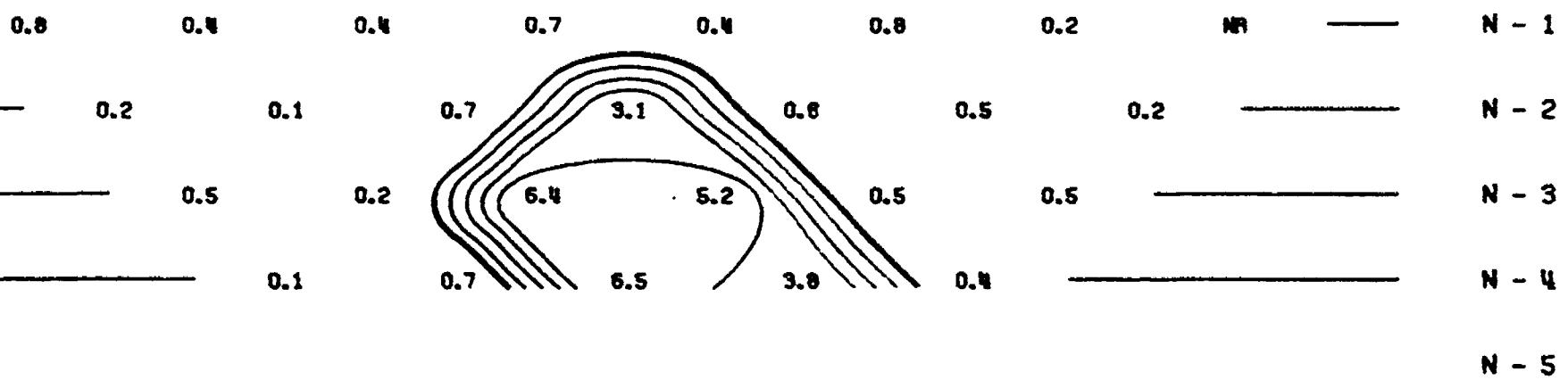
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/85 COMPUTER AND A CALCOMP PLOTTER



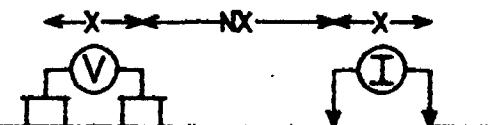


METAL FACTOR (APP.)



LINE NO.- 24E

## ELECTRODE CONFIGURATION

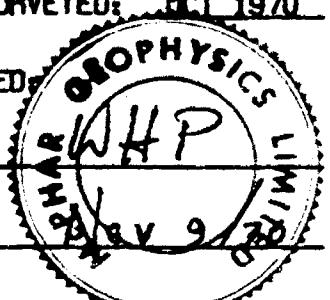
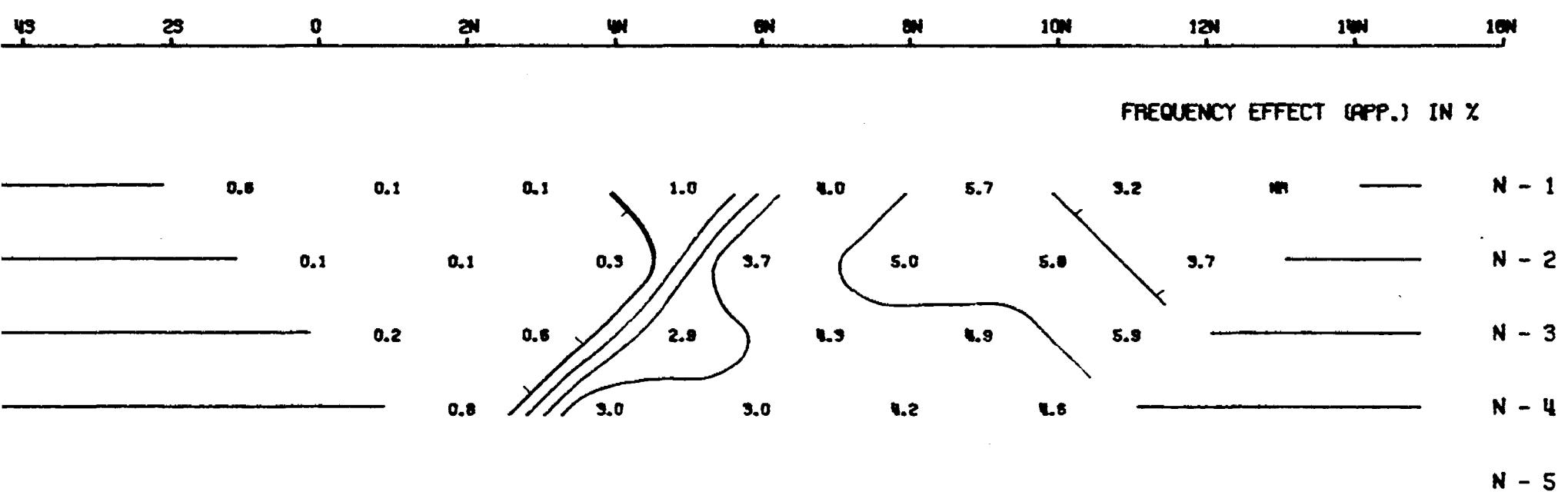
SURFACE PROJECTION  
OF ANOMALOUS ZONESDEFINITE —  
PROBABLE ■■■■■  
POSSIBLE // / /

FREQUENCIES: 0.31-5.0 Hz

DATE SURVEYED: OCT 1970

APPROVED:

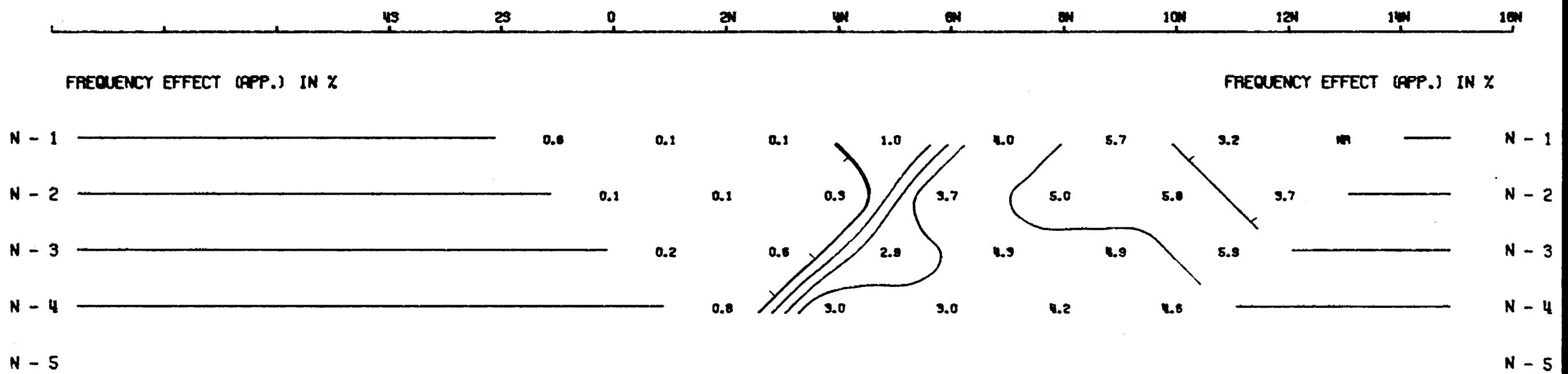
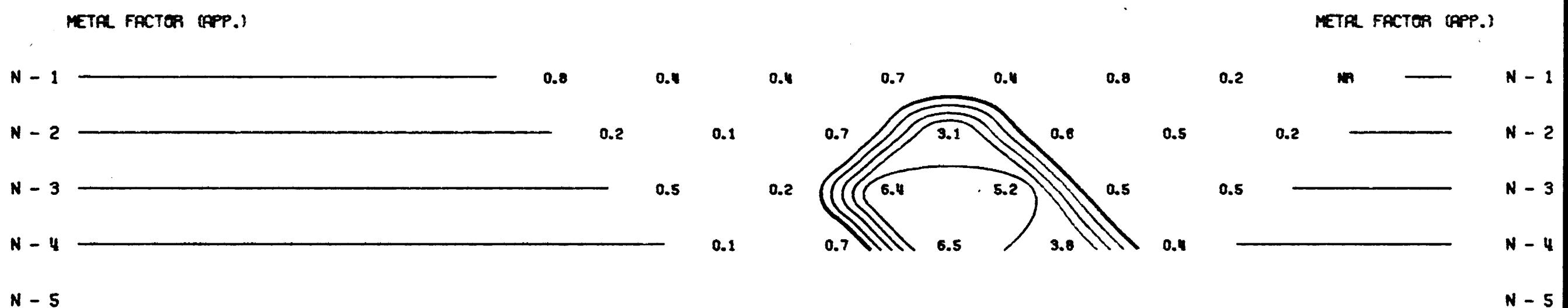
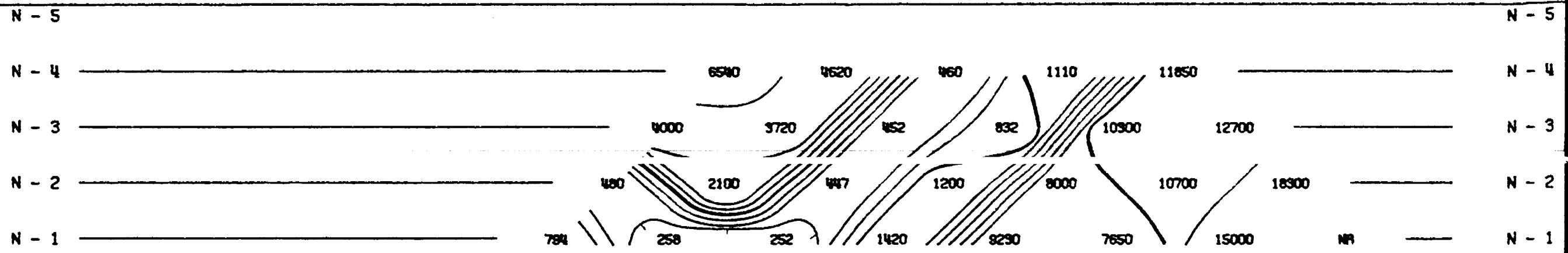
DATE:

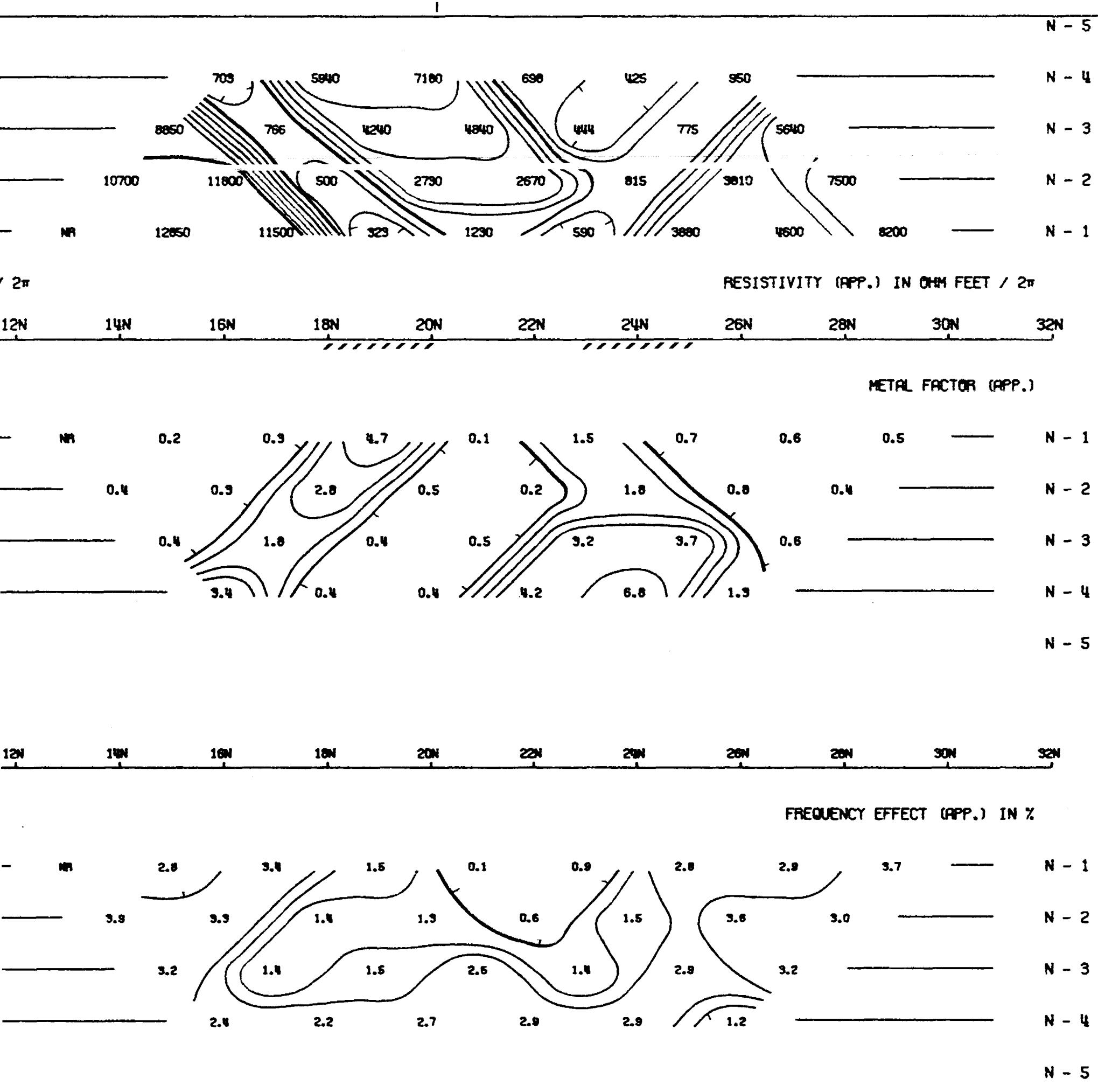
NOTE: CONTOURS AT  
LOGARITHMIC INTERVALS  
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



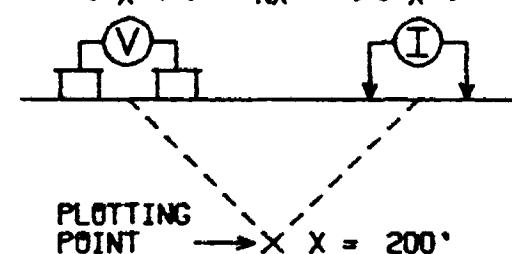


## KINGS BRIDGE MINES

ARETHUSA LAKE, CHESTER TWP.

SUDBURY M.D., ONTARIO

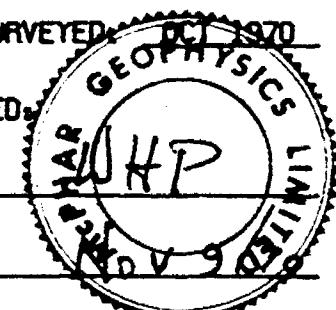
LINE NO.- 10E

ELECTRODE CONFIGURATION  
↔X↔NX↔X↔SURFACE PROJECTION  
OF ANOMALOUS ZONESDEFINITE —  
PROBABLE .....  
POSSIBLE //

DATE SURVEYED: OCT 1970

APPROVED:

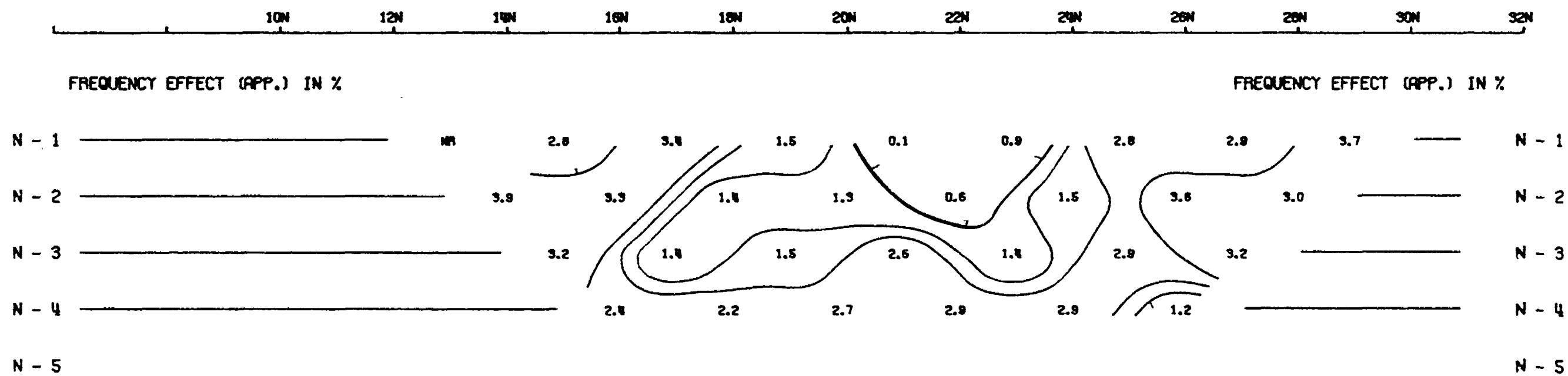
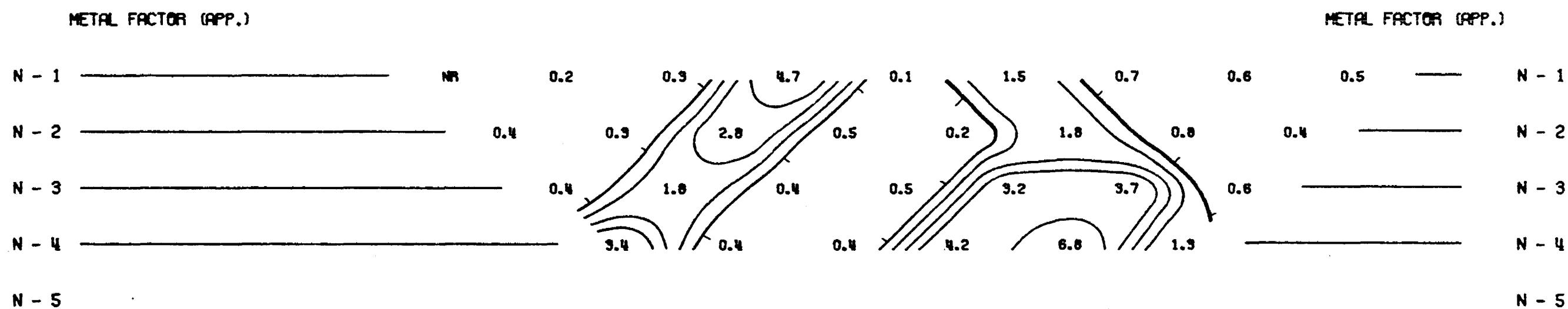
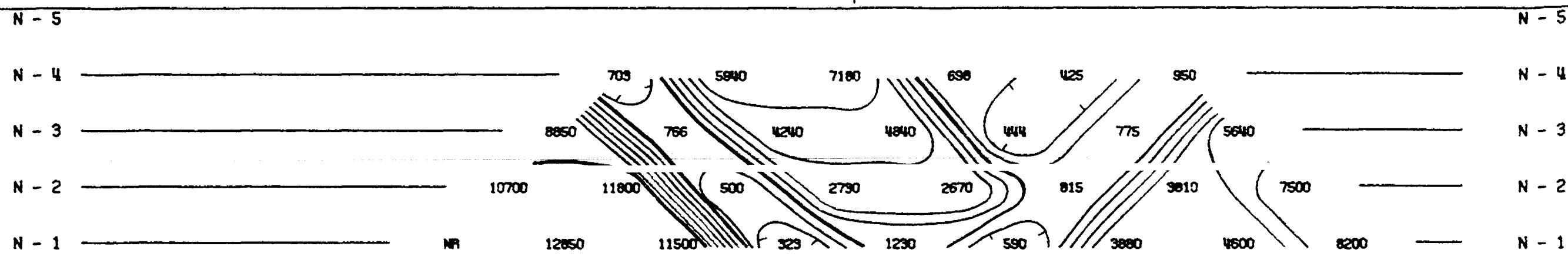
DATE: NOV 9 1970

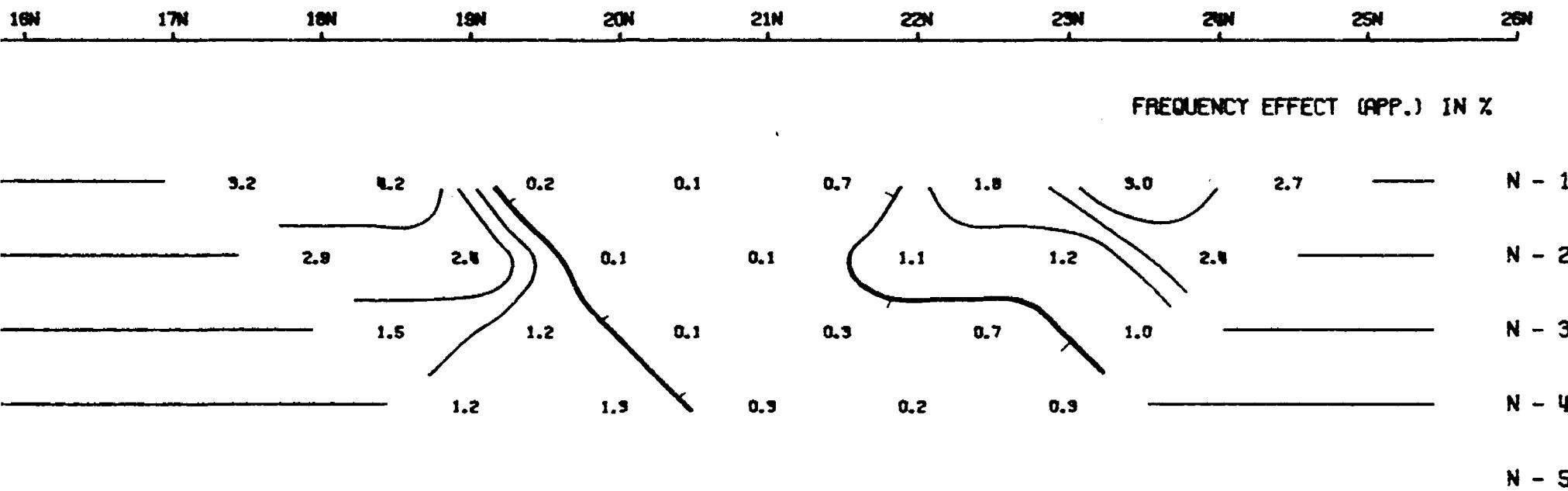
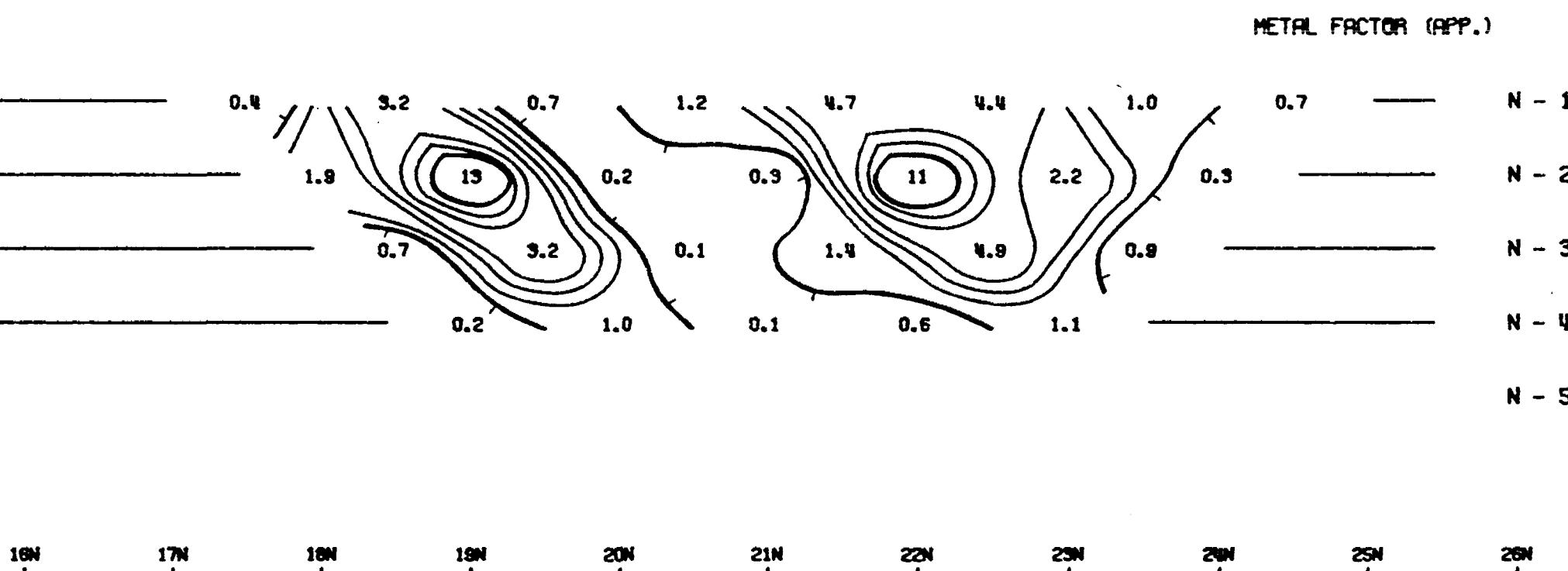
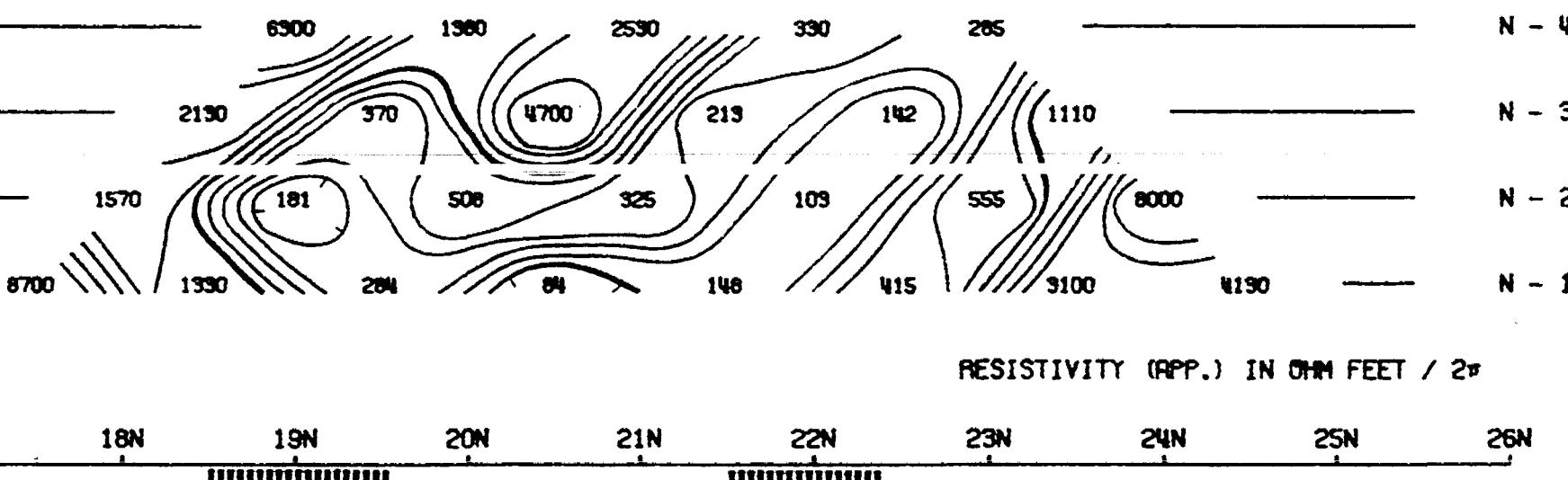


McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

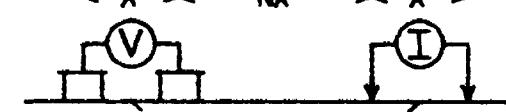




## KINGS BRIDGE MINES

ARETHUSA LAKE, CHESTER TWP.  
SUDBURY M.D., ONTARIO

LINE NO.- 10E

ELECTRODE CONFIGURATION  
—X— NX —X—

PLOTTING POINT → X X = 100'

SURFACE PROJECTION  
OF ANOMALOUS ZONESDEFINITE —  
PROBABLE :::::::  
POSSIBLE //:://

FREQUENCIES: 0.31-5.0 Hz

DATE SURVEYED: OCT 1970

APPROVED:

McPHAR GEOPHYSICS  
SHP  
NOV 9/70

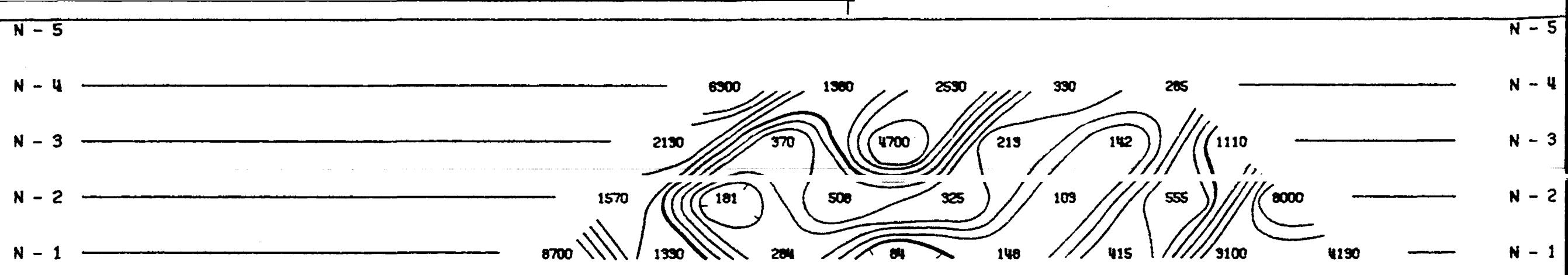
DATE:

NOTE: CONTOURS AT  
LOGARITHMIC INTERVALS  
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

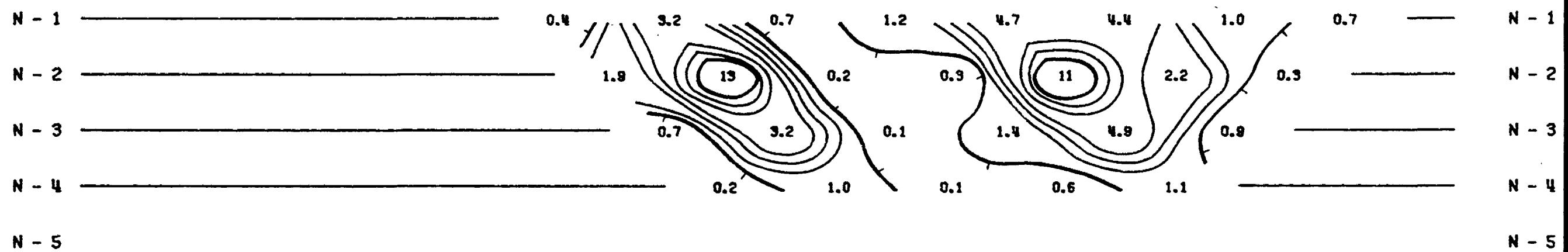


**RESISTIVITY (APP.) IN OHM FEET / 2**

RESISTIVITY (APP.) IN OHM FEET / 2<sup>o</sup>

**METAL FACTOR (APP.)**

**METAL FACTOR (APP.)**



16N 17N 18N 19N 20N 21N 22N 23N 24N 25N 26N

## FREQUENCY EFFECT (APP.) IN :

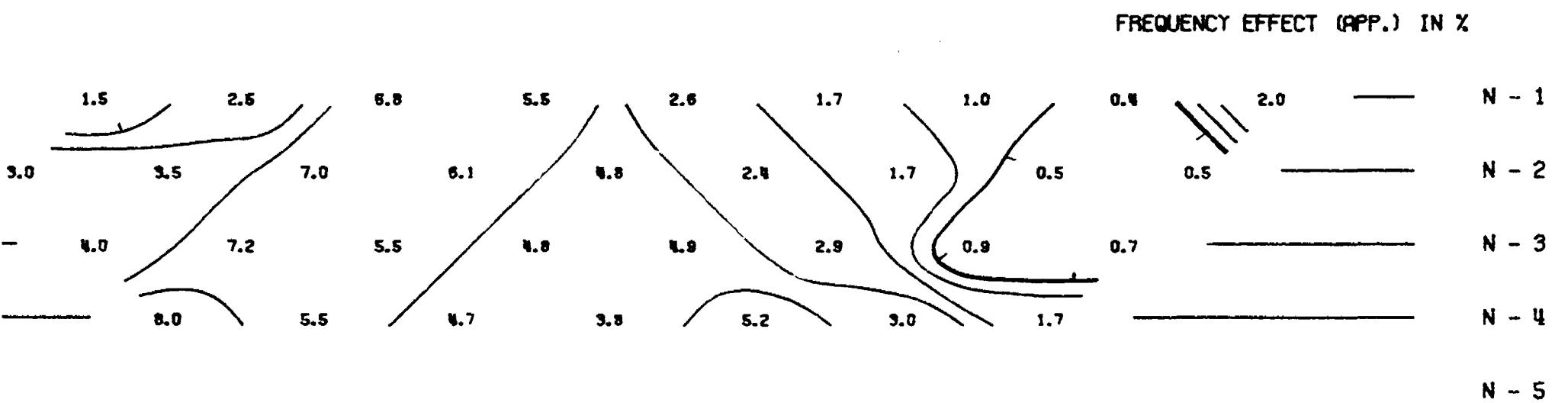
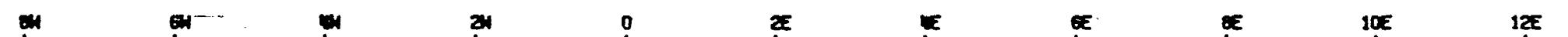
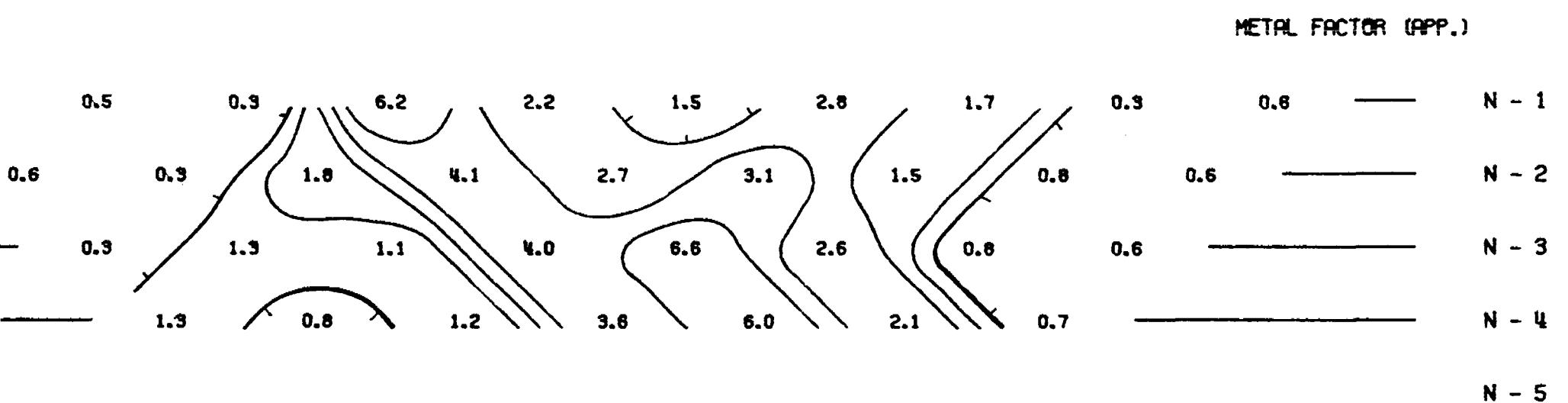
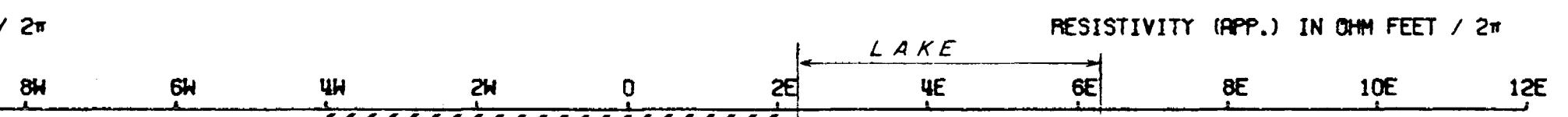
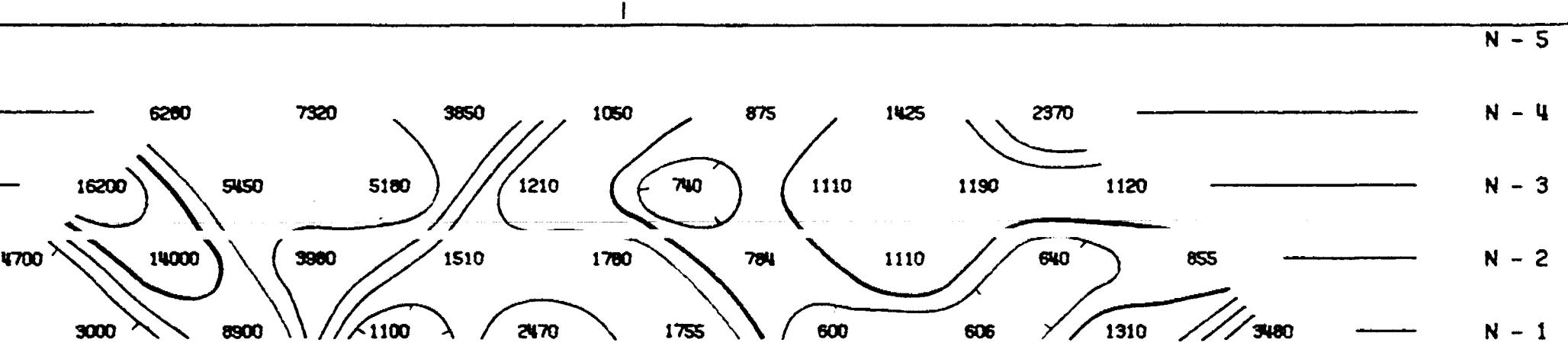
### FREQUENCY EFFECT (APP.) IN %

Detailed description: The figure consists of two columns of five horizontal lines each, labeled N-1 through N-5. Each line is a thick black segment. Arrows indicate transitions between adjacent lines. Numerical values are placed near the arrows to represent the magnitude of the transitions. In the left column, N-1 has an arrow to N-2 (value 3.2) and from N-2 to N-1 (value 0.2). N-2 has arrows to N-1 (value 2.9) and N-3 (value 2.4), and from N-3 to N-2 (value 1.5). N-3 has an arrow to N-4 (value 1.2) and from N-4 to N-3 (value 1.3). N-4 has an arrow to N-5 (value 0.3) and from N-5 to N-4 (value 0.9). In the right column, N-1 has an arrow to N-2 (value 0.7) and from N-2 to N-1 (value 1.8). N-2 has arrows to N-1 (value 1.1) and N-3 (value 1.2), and from N-3 to N-2 (value 0.3). N-3 has an arrow to N-4 (value 0.7) and from N-4 to N-3 (value 0.9). N-4 has an arrow to N-5 (value 0.2) and from N-5 to N-4 (value 0.9).

## KINGS BRIDGE MINES

ARETHUSA LAKE, CHESTER TWP.

SUDBURY M.D., ONTARIO

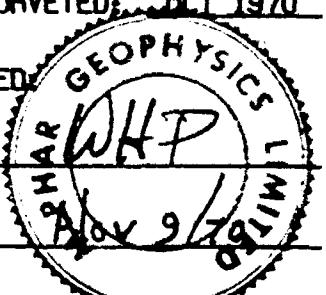


FREQUENCIES: 0.31-5.0 Hz

DATE SURVEYED: OCT 1970

APPROVED: McPHAR GEOPHYSICS

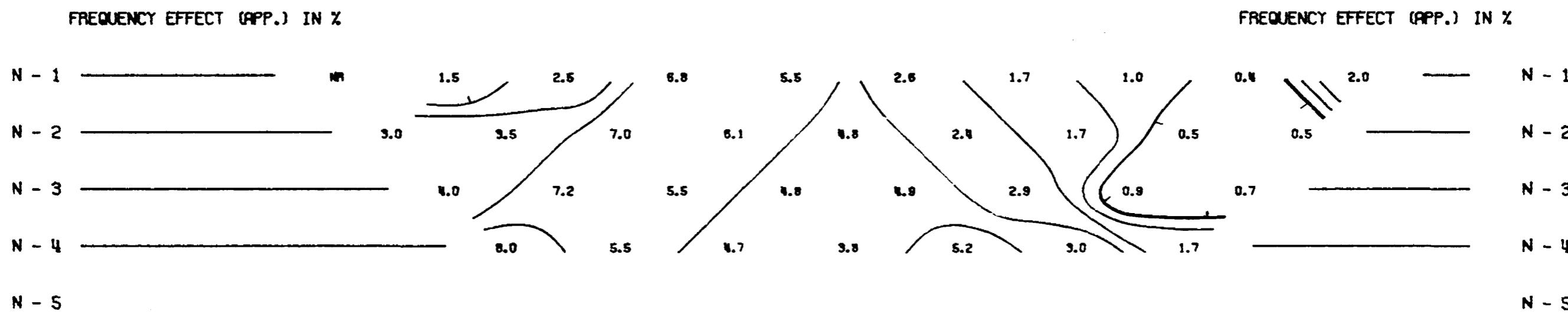
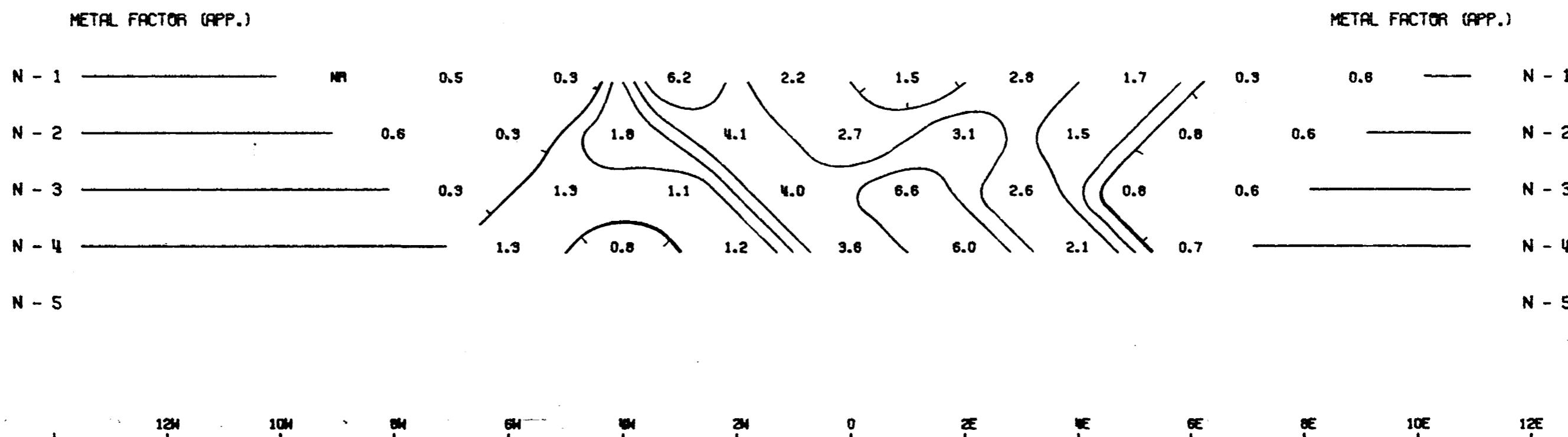
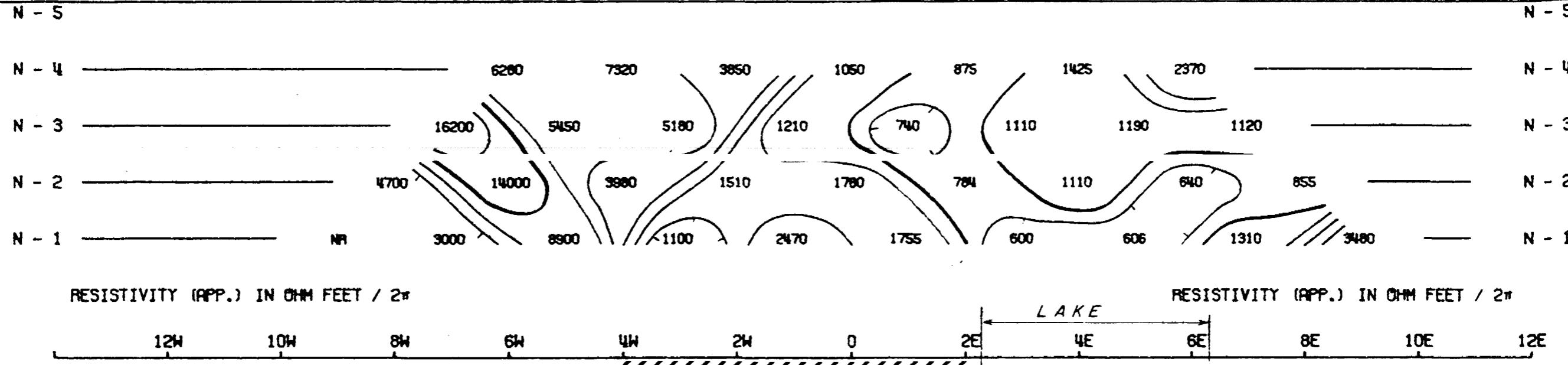
DATE: Oct 9/70



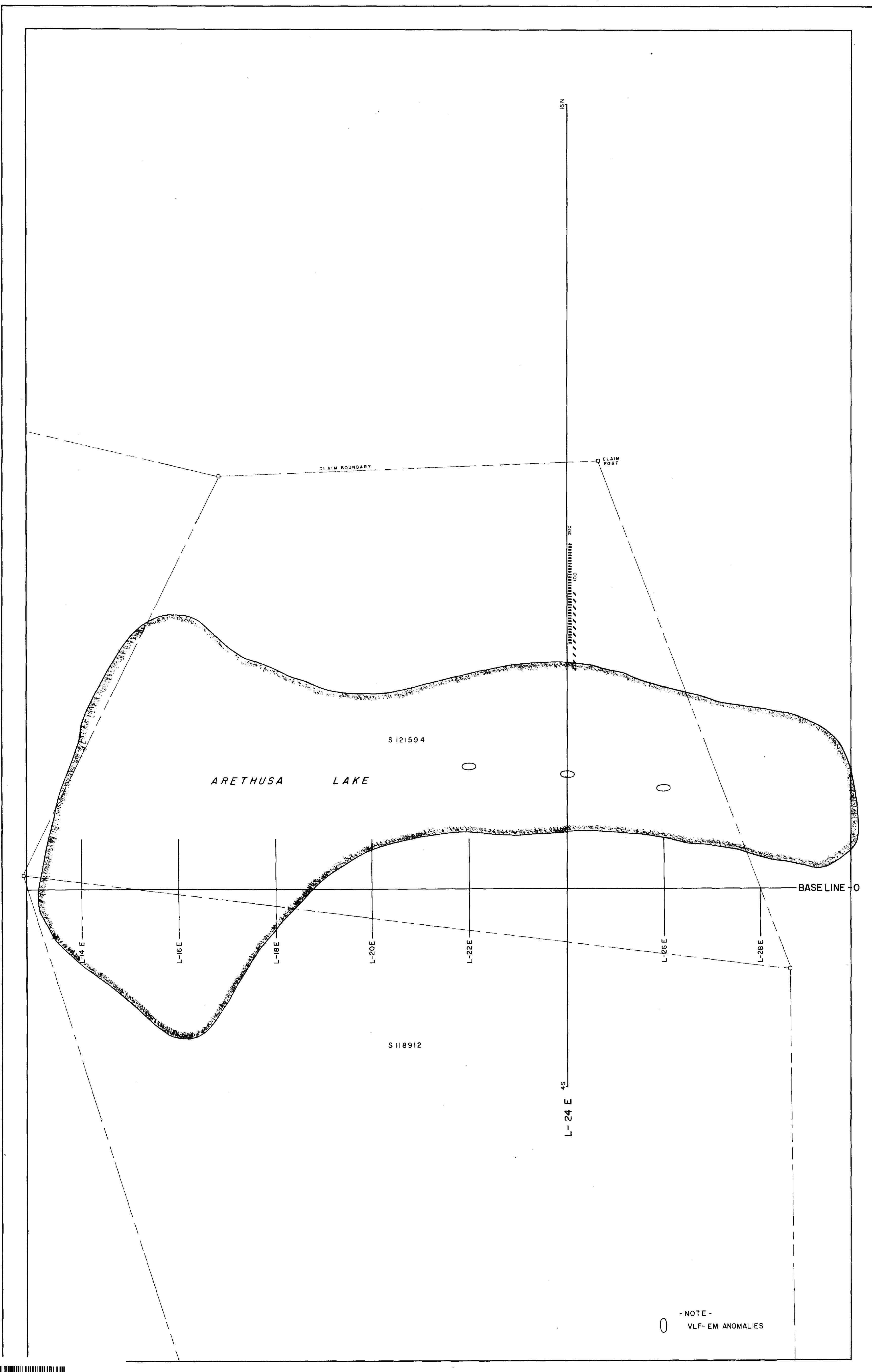
McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



McPHAR GEOPHYSICS  
INDUCED POLARIZATION AND RESISTIVITY SURVEY  
PLAN MAP



41P12SW0104 63.392E CHESTER

200

SURFACE PROJECTION  
OF ANOMALOUS ZONES  
DEFINITE   
PROBABLE   
POSSIBLE   
Numbers at the end of the  
anomalies indicate spread used.

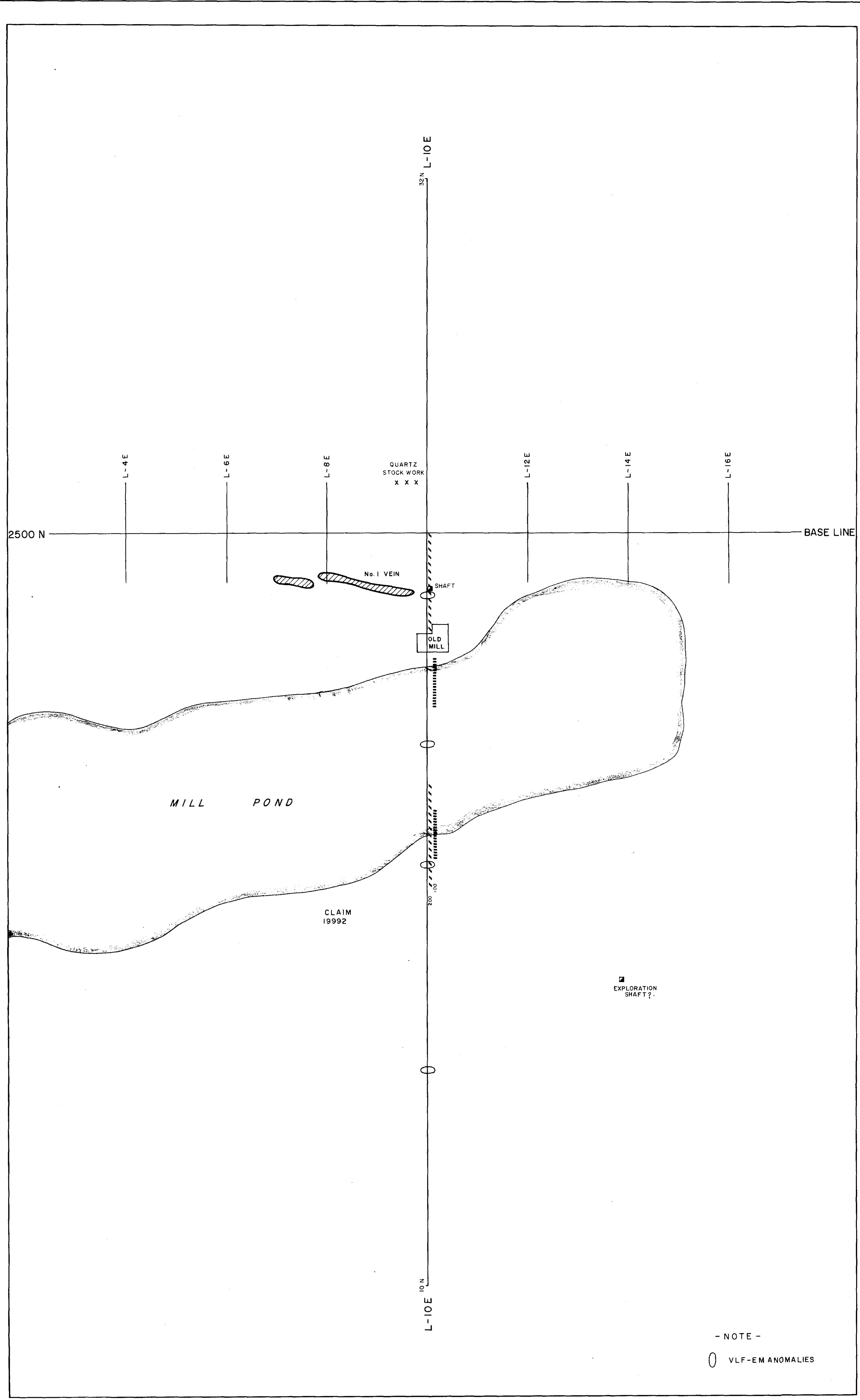
KINGS BRIDGE MINES LIMITED  
THREE DUCK LAKE AREA, CHESTER TOWNSHIP, SUDBURY M.D., ONTARIO.

SCALE  
ONE INCH EQUALS ONE HUNDRED FEET.

DRAWN: V.T.Y.  
DATE: NOVEMBER 1970  
APPROVED: W.H.P.  
DATE: NOV 9 1970

DWG. I.P.P.-3453-3

**McPHAR GEOPHYSICS**  
INDUCED POLARIZATION AND RESISTIVITY SURVEY  
PLAN MAP



41P128W2104 63.3920 CHESTER

210

SURFACE PROJECTION  
OF ANOMALOUS ZONES

DEFINITE —————

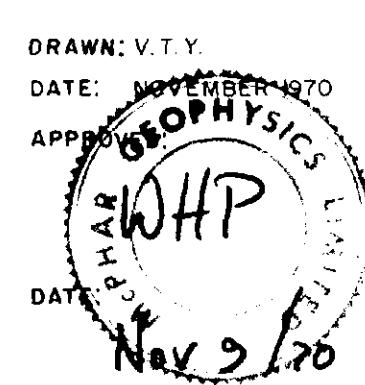
PROBABLE .....:::

POSSIBLE \\\\\\

Numbers at the end of the anomalies indicate spread used.

**KINGS BRIDGE MINES LIMITED**

THREE DUCK LAKE AREA, CHESTER TOWNSHIP, SUDBURY M.D., ONTARIO.

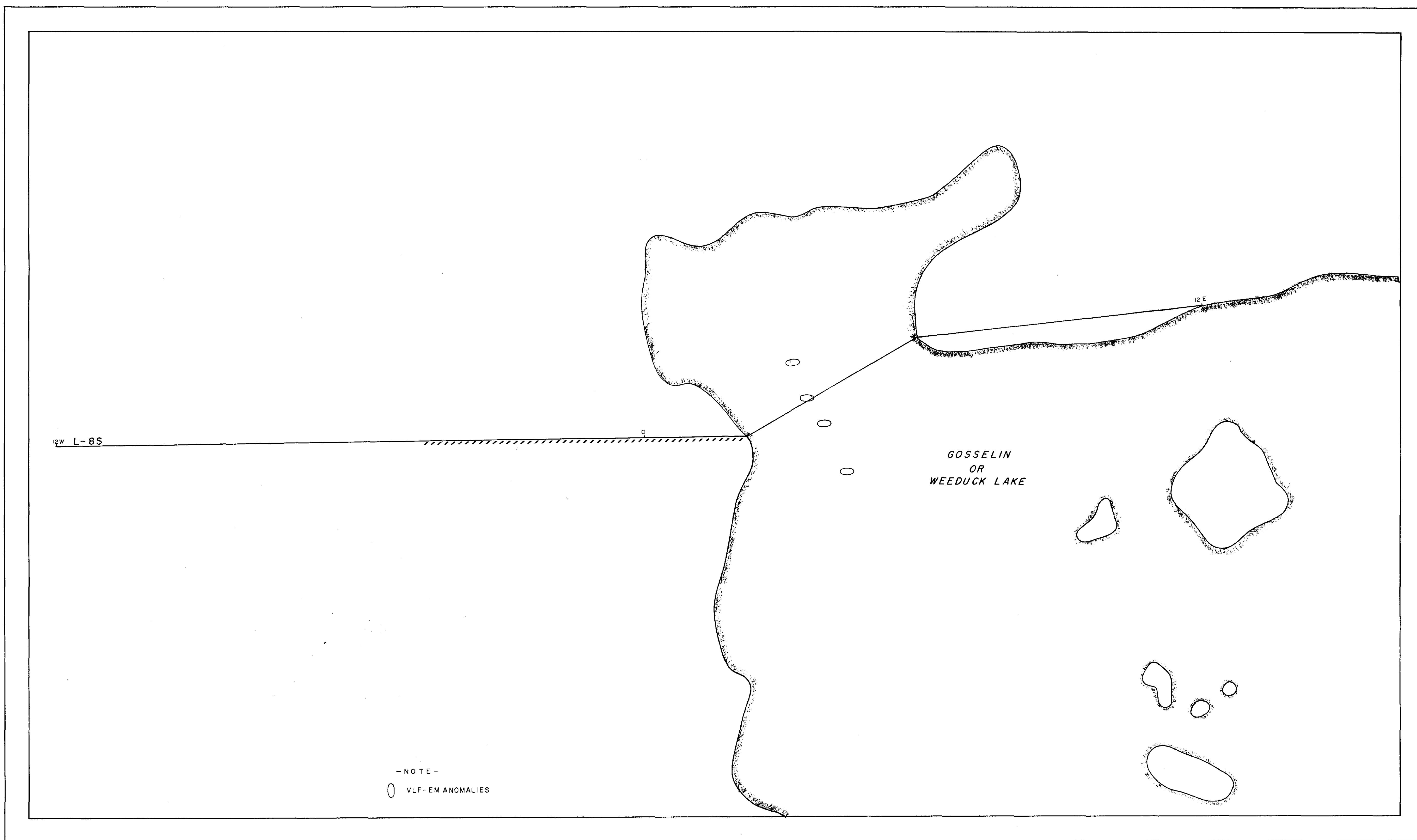
SCALE  
ONE INCH EQUALS ONE HUNDRED FEET.

DWG.I.PP-3453-2

## McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

PLAN MAP

SURFACE PROJECTION  
OF ANOMALOUS ZONES

DEFINITE —————

PROBABLE .....

POSSIBLE ~~~~~~

Number at the end of anomaly  
indicates spread used.

KINGS BRIDGE MINES LIMITED

THREE DUCK LAKE AREA, CHESTER TOWNSHIP, SUDBURY M.D., ONTARIO.

SCALE

ONE INCH EQUALS ONE HUNDRED FEET.



41P12SN0104 63.3020 CHESTER

220

DRAWN: V.T.Y.  
DATE: NOVEMBER 1970  
APPROVED: J.W.H.P.  
DATE: NOV. 2/70

J.W.H.P.

DWG.IPP-3453-1