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REPORT ON THE ^{73-F-15}
INDUCED POLARIZATION &
RESISTIVITY SURVEY
COUNTS LAKE PROPERTY
FRASER LAKE AREA, BRITISH COLUMBIA
FOR
AMAX EXPLORATION INCORPORATED

93-F-15

REPORT ON THE
INDUCED POLARIZATION
AND RESISTIVITY SURVEY
COUNTS LAKE PROPERTY
FRASER LAKE AREA, BRITISH COLUMBIA
FOR
AMAX EXPLORATION INCORPORATED

by

D. B. SUTHERLAND, M. A.

AND

PHILIP G. HALLOF, Ph. D.

NAME AND LOCATION OF PROPERTY:

COUNTS LAKE PROPERTY, FRASER LAKE AREA
OMINECA MINING DIVISION, B. C. 53°N, 124°W - SE

DATE STARTED: JUNE 23, 1967

DATE FINISHED: JULY 6, 1967

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NOTES ON THE THEORY OF INDUCED POLARIZATION AND THE METHOD OF FIELD OPERATION

Induced Polarization as a geophysical measurement refers to the blocking action or polarization of metallic or electronic conductors in a medium of ionic solution conduction.

This electro-chemical phenomenon occurs wherever electrical current is passed through an area which contains metallic minerals such as base metal sulphides. Normally, when current is passed through the ground, as in resistivity measurements, all of the conduction takes place through ions present in the water content of the rock, or soil, i. e. by ionic conduction. This is because almost all minerals have a much higher specific resistivity than ground water. The group of minerals commonly described as "metallic", however, have specific resistivities much lower than ground waters. The induced polarization effect takes place at those interfaces where the mode of conduction changes from ionic in the solutions filling the interstices of the rock to electronic in the metallic minerals present in the rock.

The blocking action or induced polarization mentioned above, which depends upon the chemical energies necessary to allow the ions to give up or receive electrons from the metallic surface, increases with the time that a d. c. current is allowed to flow through

the rock; i. e. as ions pile up against the metallic interface the resistance to current flow increases. Eventually, there is enough polarization in the form of excess ions at the interfaces to effectively stop all current flow through the metallic particle. This polarization takes place at each of the infinite number of solution-metal interfaces in a mineralized rock.

When the d. c. voltage used to create this d. c. current flow is cut off, the Coulomb forces between the charged ions forming the polarization cause them to return to their normal position. This movement of charge creates a small current flow which can be measured on the surface of the ground as a decaying potential difference.

From an alternate viewpoint it can be seen that if the direction of the current through the system is reversed repeatedly before the polarization occurs, the effective resistivity of the system as a whole will change as the frequency of the switching is changed. This is a consequence of the fact that the amount of current flowing through each metallic interface depends upon the length of time that current has been passing through it in one direction.

The values of the "metal factor" or "M. F." are a measure of the amount of polarization present in the rock mass being surveyed. This parameter has been found to be very successful in mapping areas of sulphide mineralization, even those in which all other geophysical methods have been unsuccessful. The induced polarization measurement is more sensitive to sulphide content than other electrical measurements

because it is much more dependent upon the sulphide content. As the sulphide content of a rock is increased, the "metal factor" of the rock increases much more rapidly than the resistivity decreases.

Because of this increased sensitivity, it is possible to locate and outline zones of less than 10% sulphides that can't be located by E. M. Methods. The method has been successful in locating the disseminated "porphyry copper" type mineralization in the South-western United States.

Measurements and experiments also indicate that it should be possible to locate most massive sulphide bodies at a greater depth with induced polarization than with E. M.

Since there is no I. P. effect from any conductor unless it is metallic, the method is useful in checking E. M. anomalies that are suspected of being due to water filled shear zones or other ionic conductors. There is also no effect from conductive overburden, which frequently confuses E. M. results. It would appear from scale model experiments and calculations that the apparent metal factors measured over a mineralized zone are larger if the material overlying the zone is of low resistivity.

Apropos of this, it should be stated that the induced polarization measurements indicate the total amount of metallic constituents in the rock. Thus all of the metallic minerals in the rock, such as pyrite, as well as the ore minerals chalcopyrite, chalcocite, galena, etc. are responsible for the induced polarization effect. Some

oxides such as magnetite, pyrolusite, chromite, and some forms of hematite also conduct by electrons and are metallic. All of the metallic minerals in the rock will contribute to the induced polarization effect measured on the surface.

In the field procedure, measurements on the surface are made in a way that allows the effects of lateral changes in the properties of the ground to be separated from the effects of vertical changes in the properties. Current is applied to the ground at two points a distance (X) apart. The potentials are measured at two other points (X) feet apart, in line with the current electrodes. The distance between the nearest current and potential electrodes is an integer number (N) times the basic distance (X).

The measurements are made along a surveyed line, with a constant distance (NX) between the nearest current and potential electrodes. In most surveys, several traverses are made with various values of (N); i. e. (N) = 1, 2, 3, 4, etc. The kind of survey required (detailed or reconnaissance) decides the number of values of (N) used.

In plotting the results, the values of the apparent resistivity and the apparent metal factor measured for each set of electrode positions are plotted at the intersection of grid lines, one from the center point of the current electrodes and the other from the center point of the potential electrodes. The resistivity values are plotted above the line and the metal factor values below. The lateral displacement of a given value is determined by the location along the survey

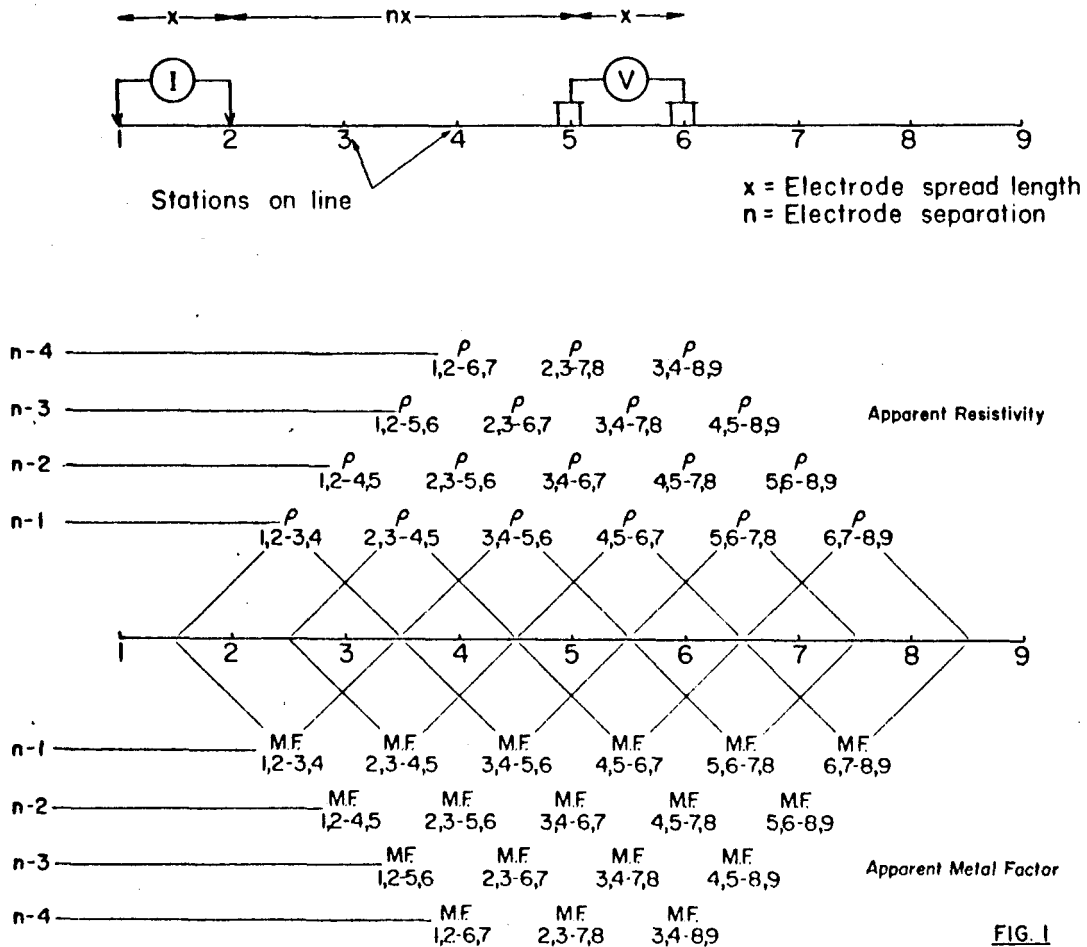
line of the center point between the current and potential electrodes. The distance of the value from the line is determined by the distance (NX) between the current and potential electrodes when the measurement was made.

The separation between sender and receiver electrodes is only one factor which determines the depth to which the ground is being sampled in any particular measurement. These plots then, when contoured, are not section maps of the electrical properties of the ground under the survey line. The interpretation of the results from any given survey must be carried out using the combined experience gained from field, model and theoretical investigations. The position of the electrodes when anomalous values are measured must be used in the interpretation.

In the field procedure, the interval over which the potential differences are measured is the same as the interval over which the electrodes are moved after a series of potential readings has been made. One of the advantages of the induced polarization method is that the same equipment can be used for both detailed and reconnaissance surveys merely by changing the distance (X) over which the electrodes are moved each time. In the past, intervals have been used ranging from 100 feet to 1000 feet for (X). In each case, the decision as to the distance (X) and the values of (N) is largely determined by the expected size of the mineral deposit being sought, the size of the expected anomaly and the speed with which it is desired to progress.

The diagram in Figure 1 below demonstrates the method used in plotting the results. Each value of the apparent resistivity and the apparent "Metal factor" is plotted and identified by the position of the four electrodes when the measurement was made. It can be seen that the values measured for the larger values of (n) are plotted farther from the line indicating that the thickness of the layer of the earth that is being tested is greater than for the smaller values of (n); i. e. the depth of the measurement is increased.

METHOD USED IN PLOTTING DIPOLE-DIPOLE
INDUCED POLARIZATION AND RESISTIVITY RESULTS



McPHAR GEOPHYSICS LIMITED

REPORT ON THE
INDUCED POLARIZATION
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COUNTS LAKE PROPERTY
FRASER LAKE AREA, BRITISH COLUMBIA
FOR
AMAX EXPLORATION INCORPORATED

1. INTRODUCTION

At the request of Mr. W. W. Shaw, geophysicist for the Company an induced polarization and resistivity survey has been carried out on the Counts Lake Property in the Fraser Lake Area of British Columbia for Amax Exploration Incorporated. The property lies in the Omineca Mining Division in the NW quadrant of the 1° quadrilateral whose SE corner is at 53°N, 124°W.

Overburden is reported to be quite heavy in the area but float indicates that the central part of the grid is underlain by Casey Granite. The Endako Quartz Monzonite occurs on the northern edge of the grid while most of the southern half of the property is underlain by diorite. A geochemical anomaly is located on the southern part of the Casey Granite near its contact with the diorite. Minor molybdenite mineralization is widely scattered in all rock types as smears on fracture planes and irregular quartz veinlets. Minor pyrite and traces

of chalcopyrite occur in the Casey Granite and diorite. Swarms of dikes cut the Casey Granite and some of the more basic ones are 5 to 15 feet wide and contain up to 5 percent disseminated pyrite.

The IP field surveying was carried out in June 1967. The purpose of the IP work was to outline areas of metallic mineralization that may be of economic importance.

2. PRESENTATION OF RESULTS

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

<u>Line</u>	<u>Electrode Interval</u>	<u>Dwg. No.</u>
50E	300 feet	IP 2716-1
40E	300 feet	IP 2716-2
30E	300 feet	IP 2716-3
20E	300 feet	IP 2716-4
10E	300 feet	IP 2716-5
0	500 feet	IP 2716-6
0	300 feet	IP 2716-7
10W	300 feet	IP 2716-8
20W	300 feet	IP 2716-9

Enclosed with this report is Dwg. Misc. 3262, a plan map of the grid at a scale of 1" = 500 feet. The definite and possible induced polarization anomalies are indicated by solid and broken bars respectively

on this plan map 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 300' spreads the position of a narrow sulphide body can only be determined to lie between two stations 300' 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 center 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

Most of the IP responses encountered on the property are typical of those obtained over areas of relatively weak mineralization. Experience in this area has shown that important deposits of molybdenum can be associated with weak sulphide mineralization and consequently unusual weak IP effects have been shown as anomalous.

The resistivity values on the north part of the grid are generally lower and more uniform than on the south and suggest a change in rock type,

such as the change near 3S on 40E and at the base line on 20E. This feature has been correlated from line to line and is shown on the plan map. There is no evidence of this change west of Line 0.

Line 50E

The weak IP effects between 6N and 18N indicate a complex source of low metallic content that is shallowest near 12N.

Line 40E

Narrow shallow sources may be the cause of the weak effects near 5N and 11N. Detailing with shorter spreads would be required to confirm these anomalies but they are too weak to warrant further work at present.

Line 30E

A weak shallow source is shown between 0 and 9N. It has been interpreted from metal factor values that are only twice background and probably represents a slight increase in metallic content.

Line 20E

As on Line 30E, a weak shallow source occurs just north of the base line, between 0 and 6N.

Weaker indications extend from 3S to 10S.

Line 10E

On this line, shallow sources are indicated from 3N to 6S

and from 15S to 24S, with weaker mineralization in the area between these two anomalies.

Line 0

This line was surveyed with both 300 and 500 foot spreads and the results are quite different.

On the 500 foot data, the IP effects are quite strong from 0 to 15S and suggest a complex source that may improve with depth near 12S. Weaker IP effects indicating less concentrated mineralization extend from 0 to 20N and also from 25S to 45S. A second strong source is indicated on the extreme south end of the line but the data is incomplete and the surveying would have to be extended to determine its importance.

The portion of the line between 33S and 21N was surveyed using 300 foot dipoles. A narrow, steeply dipping source is indicated between 3S and 6S. This anomaly could be caused by a narrow source of quite concentrated mineralization and should be detailed with shorter dipoles. A second narrow source is shown near 9N but the pattern is not as definite. The results on the remainder of the line are typical of those obtained over widespread weakly disseminated mineralization.

Line 10W

Anomalous effects extend over the entire length of this traverse. Indications of shallow, more concentrated mineralization extend from 14S to 22S and from 3N to 15N. Near 9S the results suggest a narrow, stronger source with some depth to its top.

Line 20W

This line is also anomalous over its entire length. Stronger metal factor values occur on the north part of the line and indicate that the source improves with depth.

4. SUMMARY AND RECOMMENDATIONS

Most of the IP responses encountered on the property are typical of those obtained over sources of very low metallic content. The results indicate that this material is quite extensive on the western portion of the grid but narrows and weakens to the east. Minor pyrite and molybdenite are reported to be quite widespread but it is not known if there is any direct association between these two minerals. Consequently the possible economic importance of the IP indications is difficult to assess. However, important molybdenite deposits are sometimes associated with very low sulphide content as illustrated by the results on Figure 1 over the weak sulphide zone at Brenda Mines. The following series of test drill holes is suggested to test sources of low metallic content:-

12S on Line 0, vertical, length 600 feet.

16S on Line 10W, vertical, length 400 feet.

13N on Line 10W, vertical, length 400 feet.

0 on Line 10E, vertical, length 400 feet.

In addition to the broad zones outlined on the property, there is a good indication of a narrow steeply dipping source between 3S and 6S on Line 0. Detailed surveying with shorter dipoles is recommended

INDUCED POLARIZATION

AND

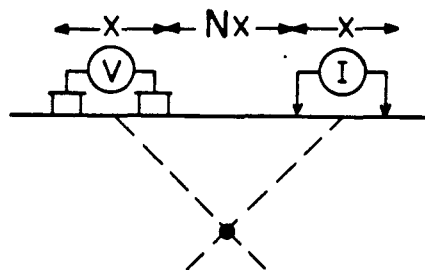
DRILLING RESULTS

FROM

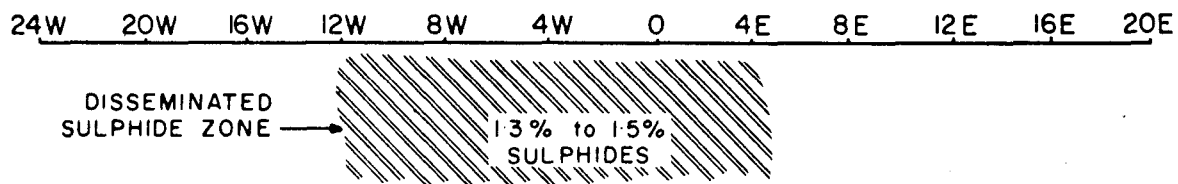
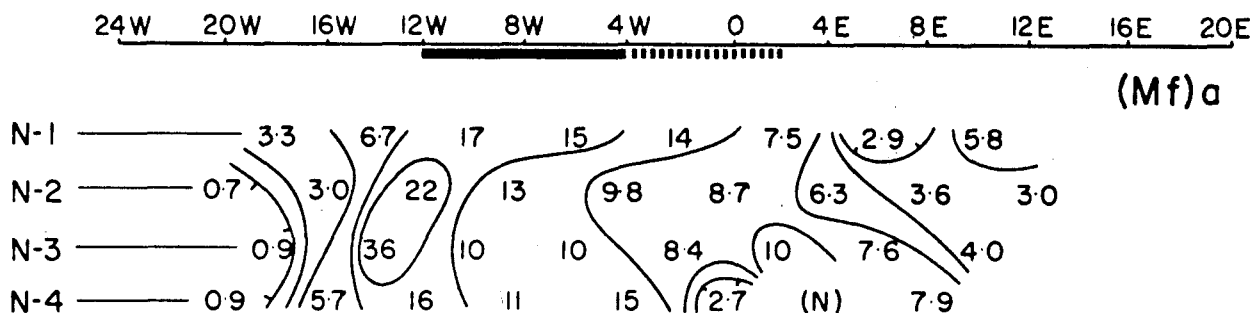
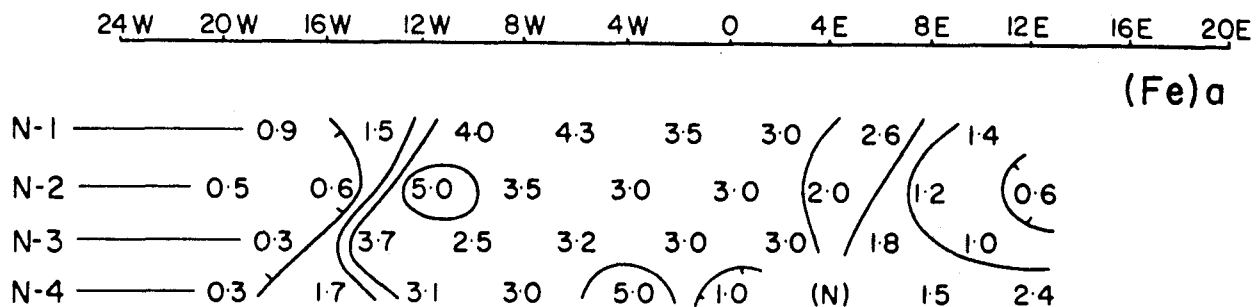
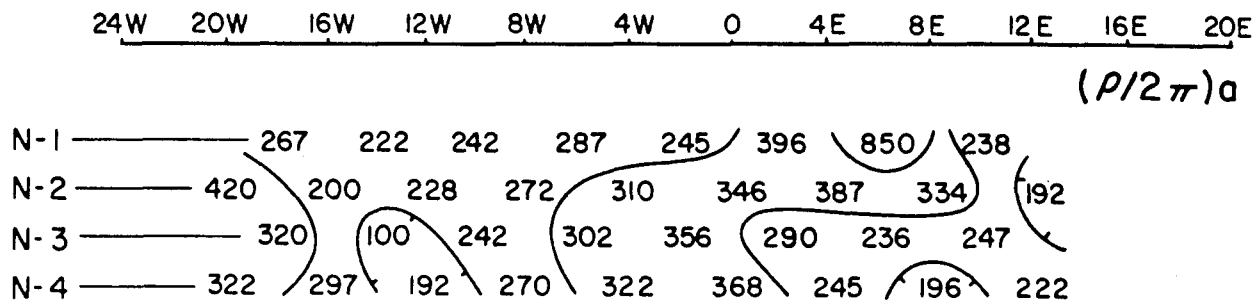
BRENDA AREA
PEACHLAND, B.C.

LINE - 8 S

FREQUENCIES - 0.31 & 5.0 CPS.



X EQUALS 400 FEET



to assess the metallic content of this source and pinpoint its location for drilling.

Most of the surveying was carried out with 300 foot dipoles but one line was repeated using a 500 foot interval. The results are quite different on the 500 foot data and the IP effects are notably stronger. This suggests that more concentrated mineralization occurs at greater depth and consideration should be given to some additional surveying with larger spreads.

McPHAR GEOPHYSICS LIMITED

D. B. Sutherland
D. B. Sutherland,
Geophysicist. *Per. U.S.*

Philip G. Hallof
Philip G. Hallof,
Geophysicist.

Dated: August 21, 1967

ASSESSMENT DETAILS

PROPERTY: Counts Lake Property MINING DIVISION: Omineca
SPONSOR: Amax Exploration Incorporated PROVINCE: British Columbia
LOCATION: Fraser Lake Area
TYPE OF SURVEY: Induced Polarization
OPERATING MAN DAYS: 42.5 DATE STARTED: June 23, 1967
EQUIVALENT 8 HR. MAN DAYS: 63.5 DATE FINISHED: July 6, 1967
CONSULTING MAN DAYS: 2 NUMBER OF STATIONS: 167
DRAUGHTING MAN DAYS: 7 NUMBER OF READINGS: 774
TOTAL MAN DAYS: 72.5 MILES OF LINE SURVEYED: 9.62

CONSULTANTS:

D. B. Sutherland, 47 Thorncliffe Park Drive, Apt. 2518, Toronto 17, Ontario.
P. G. Hallof, 5 Minorca Place, Don Mills, Ontario.

FIELD TECHNICIANS:

G. Trefananko, 651 Sheppard Avenue West, Toronto, Ontario.
T. Yeo, Box 355, Fort Saskatchewan, Alberta.
Plus 3 helpers supplied by client.

DRAUGHTSMEN:

I. Ayre, 219 Wilson Avenue, Toronto 12, Ontario.
B. Marr, 19 Kenewen Court, Toronto 16, Ontario.
P. Coulson, 38 Mafeking Crescent, Scarborough, Ontario.

McPHAR GEOPHYSICS LIMITED

D. B. Sutherland
D. B. Sutherland,
Geophysicist.

Per. H.L.

Dated: August 21, 1967

SUMMARY OF COST

Counts Lake Property

Crew

8-1/2 days	Operating	@ \$195.00	\$1,657.50
1 day	Bad Weather	@ \$ 75.00	75.00
1/2 day	Breakdown		N/C

Expenses

Transportation	99.90
Taxis	10.90
Freight & Brokerage	101.88
Meals and Accommodation	86.53
Telephone and Telegraph	27.23
	<u>\$2,058.94</u>

McPHAR GEOPHYSICS LIMITED

D. B. Sutherland
D. B. Sutherland,
Geophysicist.

Per. U. X.

Dated: August 21, 1967

CERTIFICATE

I, Don Benjamin Sutherland of the City of Toronto, Province of Ontario, do hereby certify that:

1. I am a geophysicist residing at 47 Thorncliffe Park Drive, Apartment 2518, Toronto 17, Ontario.
2. I am a graduate of the University of Toronto in Physics and Geology with the degree of Bachelor of Arts (1954); and a graduate of the University of Toronto in Physics with the degree of Master of Arts (1955).
3. I am a member of the Society of Exploration Geophysicists and a member of the European Association of Exploration Geophysicists.
4. I have been practising my profession for over eleven years.
5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly, in the property or securities of Amax Exploration Incorporated or any affiliate.
6. The statements made in this report are based on a study of published geological literature and unpublished private reports.
7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at Toronto

This 21st day of August 1967.

Don B. Sutherland
Don B. Sutherland, M.A.

Per. A. H.


CERTIFICATE

I, Philip George Hallof, of the City of Toronto, Province of Ontario, do hereby certify that:

1. I am a geophysicist residing at 5 Minorca Place, Don Mills, (Toronto) Ontario.
2. I am a graduate of the Massachusetts Institute of Technology with a B.Sc. Degree (1952) in Geology and Geophysics, and a Ph. D. Degree (1957) in Geophysics.
3. I am a member of the Society of Exploration Geophysicists and the European Association of the Exploration Geophysicists.
4. I have been practising my profession for ten years.
5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly, in the property or securities of Amax Exploration Incorporated or any affiliate.
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Dated at Toronto

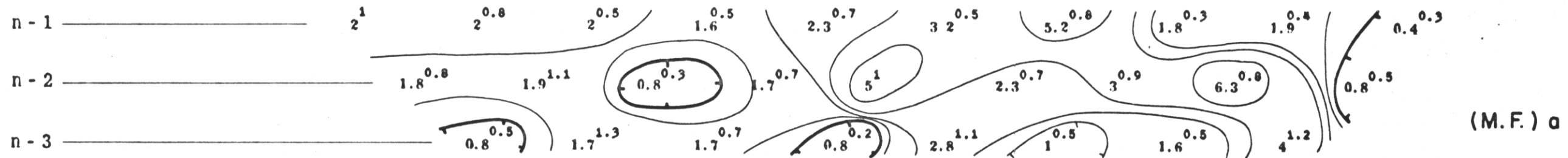
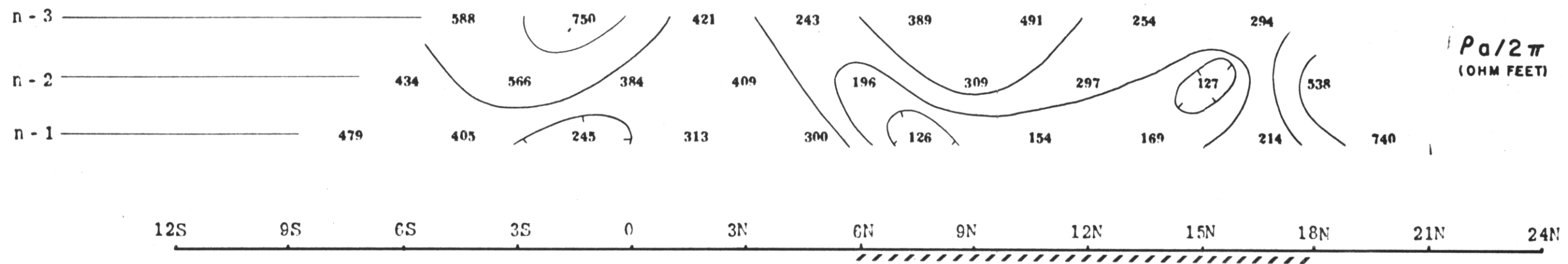
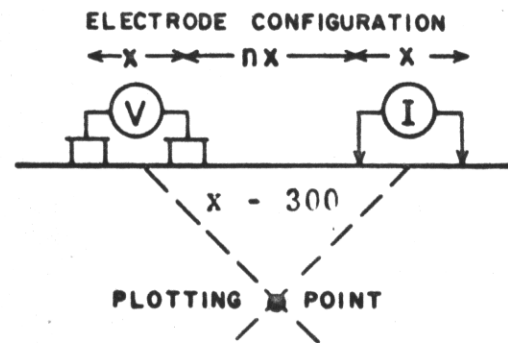
This 21st day of August 1967.


Philip G. Hallof, Ph. D.

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

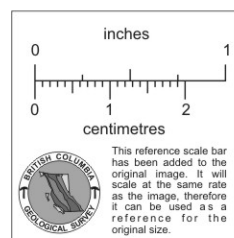
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LOGARITHMIC MULT
OF 10-15-20-30-50-7



LINE NO.- 50E

SURFACE PROJECTION
OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE



AMAX EXPLORATION, INC.
COUNTS LAKE PROPERTY - OMINECA M.D., B.C.
Scale - One inch = 300 Feet

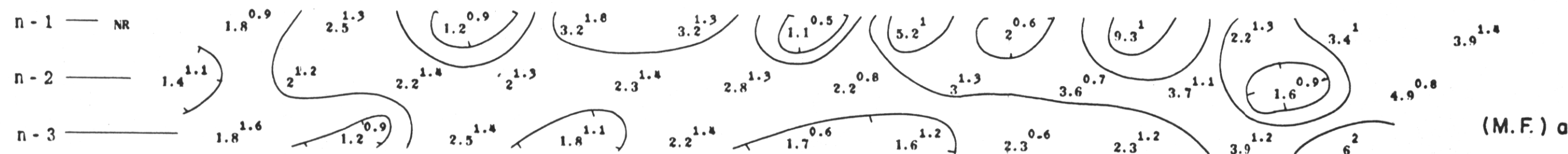
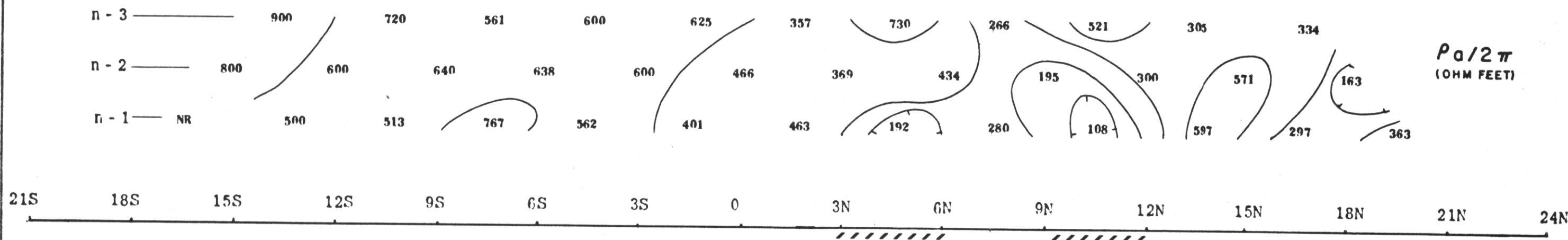
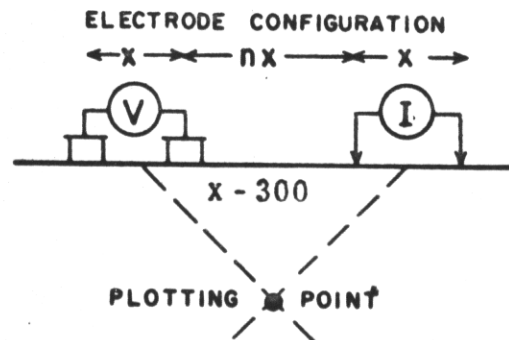
NOTE LOGARITHMIC CONTOUR INTERVAL

McPHAR GEOPHYSICS LIMITED
FREDERICK 02585
DATE SURVEYED JUNE - 1966
APPROVED
DATE 11/8/67

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100

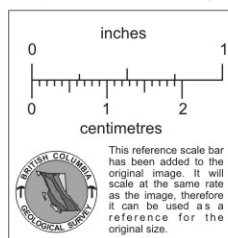


SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE



AMAX EXPLORATION, INC.

COUNTS LAKE PROPERTY - OMINECA M.D., B.C.

Scale - One inch = 300 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL

McPHAR GEOPHYSICS LIMITED

FREQUENCY 0.25 & 50 C.P.S.

DATE SURVEYED JUNE 1967

APPROVED

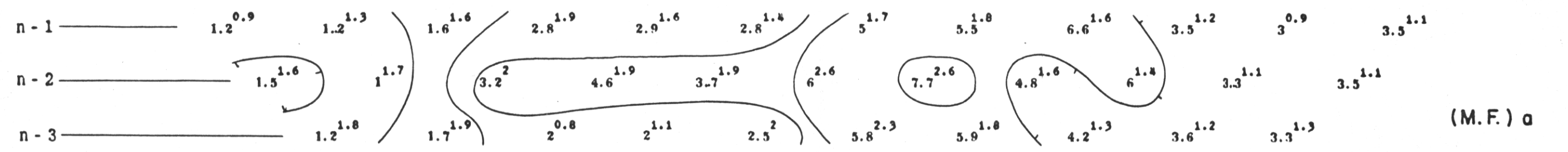
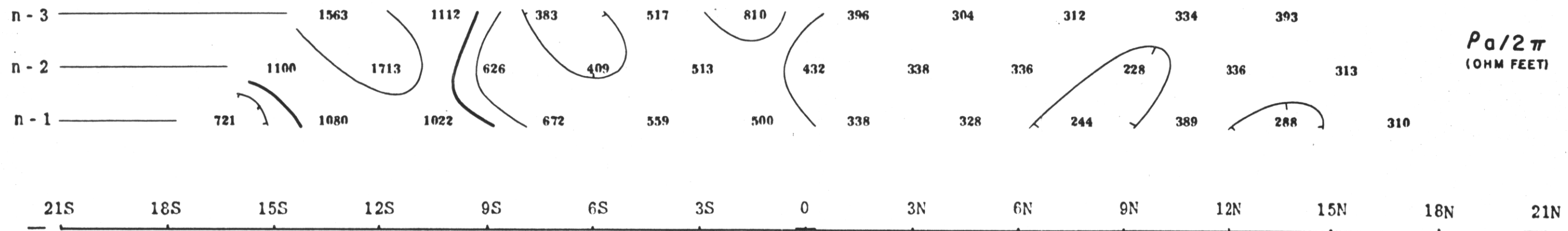
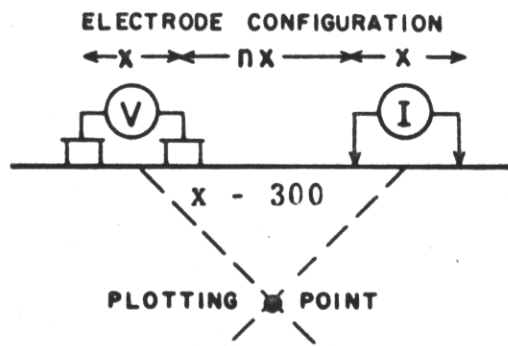
DATE 11/8/67

LINE NO.- 40E

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOUR
LOGARITHMIC MUL
OF 10-15-20-30-50-



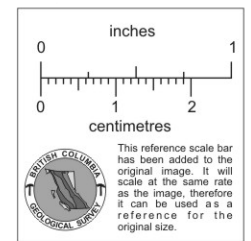
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SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE



AMAX EXPLORATION, INC.

COUNTS LAKE PROPERTY - OMINECA M.D., B.C.

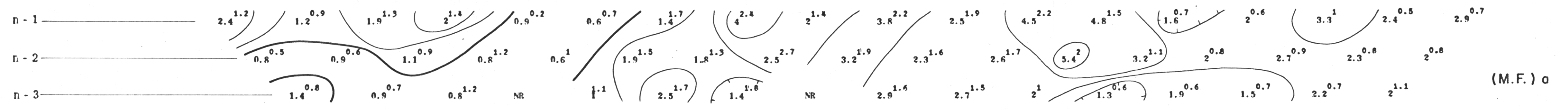
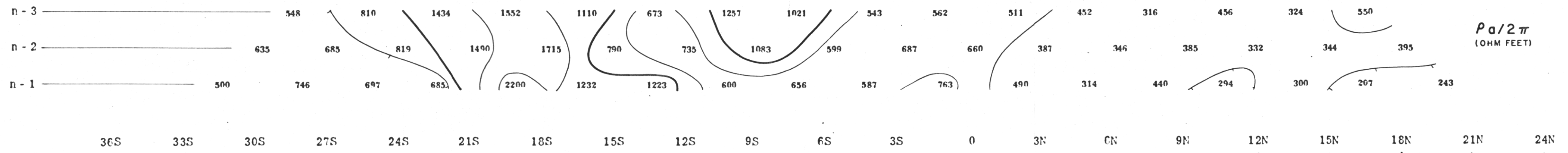
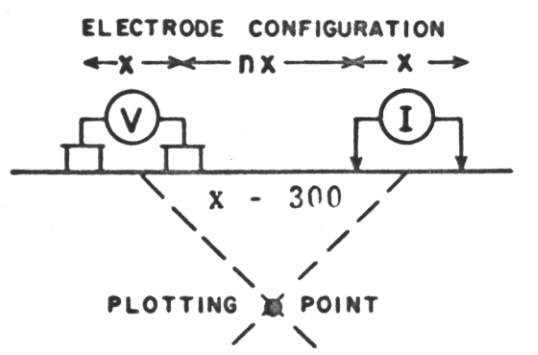
Scale - One inch = 300 Feet

NOTE: LOGARITHMIC CONTOUR INTERVAL

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100

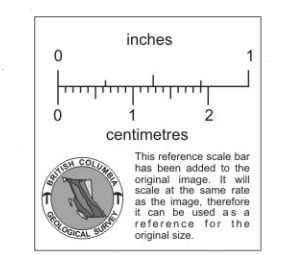


SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE



AMAX EXPLORATION, INC.

COUNTS LAKE PROPERTY - OMINECA M.D., B.C.

Scale - One inch = 300 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL

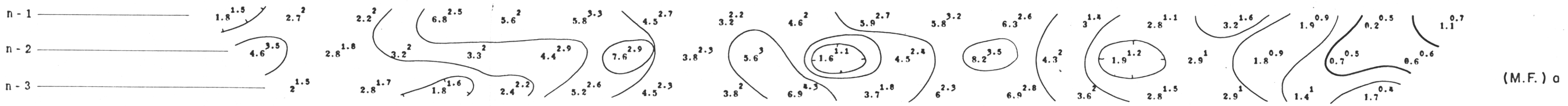
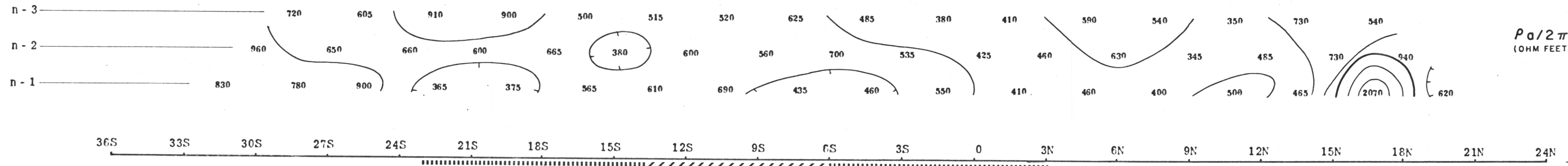
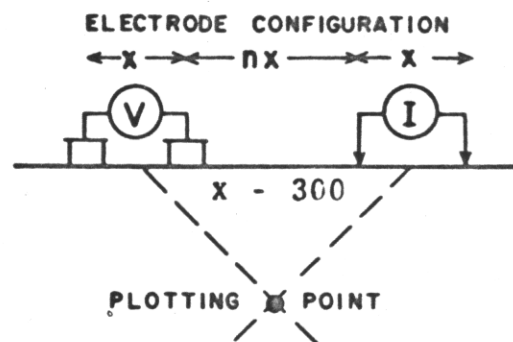
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LINE NO-20 E

McPHAR GEOPHYSICS LIMITED

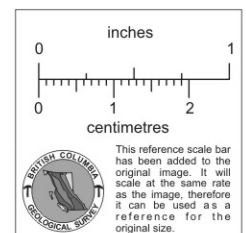
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

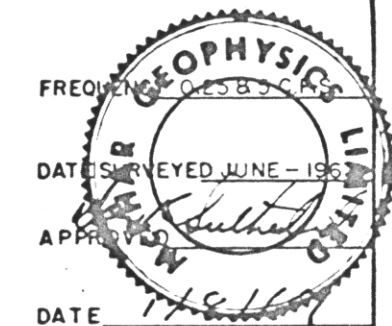


AMAX EXPLORATION, INC.

COUNTS LAKE PROPERTY - OMINECA M.D., B.C.

Scale - One inch = 300 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL

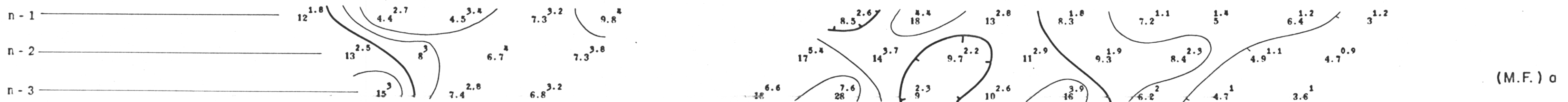
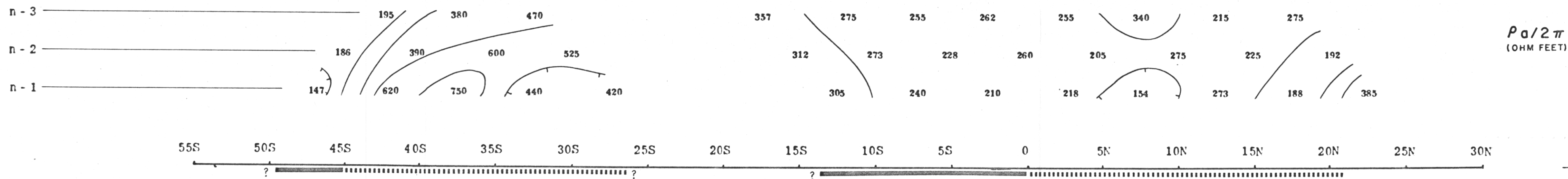
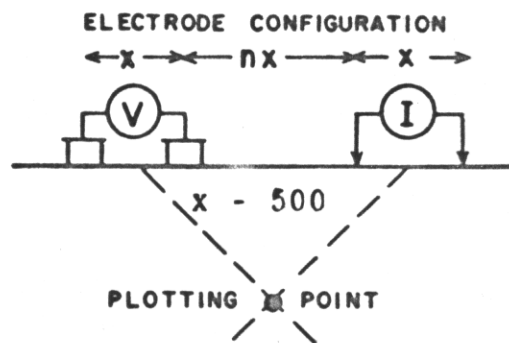


LINE NO.- IOE

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100



AMAX EXPLORATION, INC.

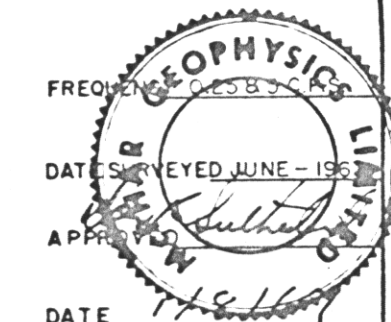
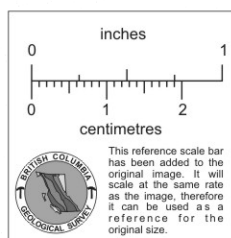
COUNTS LAKE PROPERTY - OMINCA M.D., B.C.

Scale - One inch = 500 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

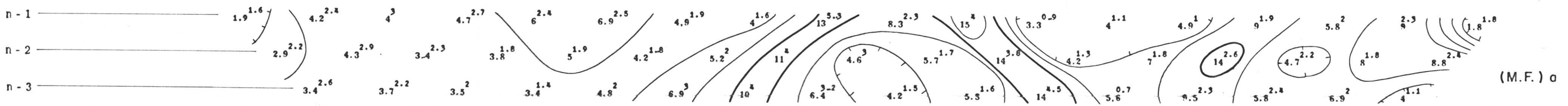
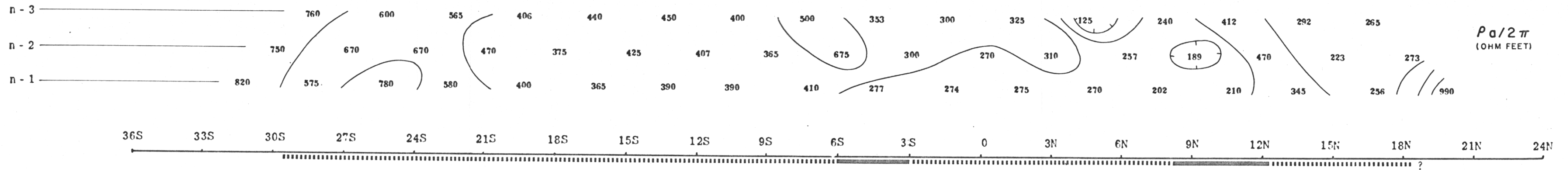
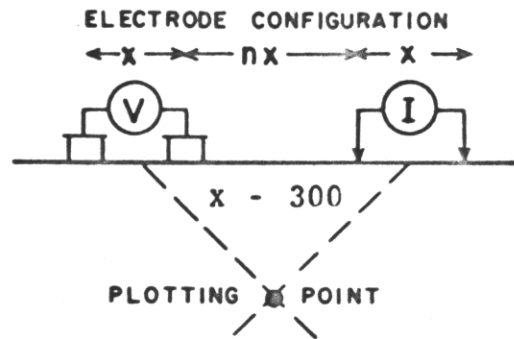


LINE NO.- 0

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100

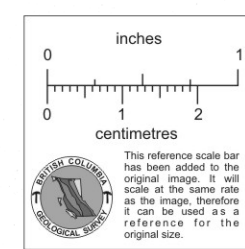


SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE



AMAX EXPLORATION, INC.
 COUNTS LAKE PROPERTY - OMINECA M.D., B.C.
 Scale - One inch = 300 Feet
 NOTE LOGARITHMIC CONTOUR INTERVAL

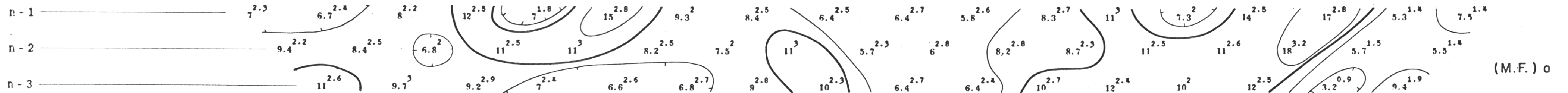
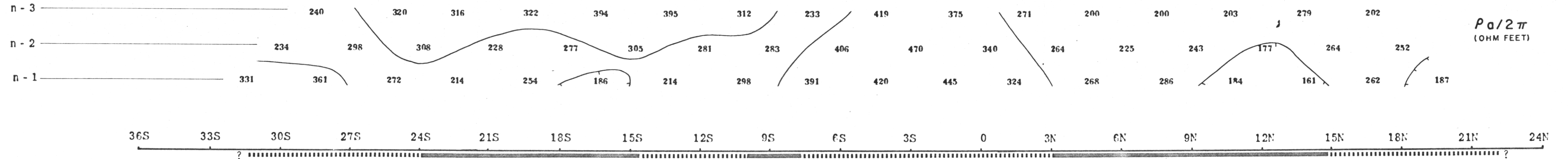
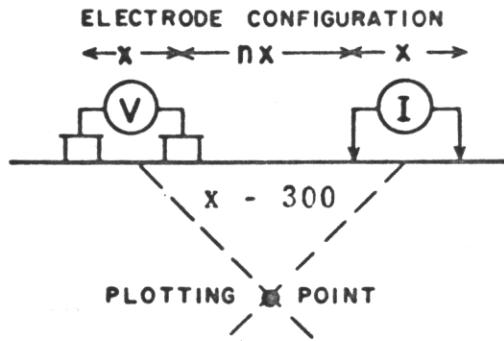
McPHAR GEOPHYSICS LIMITED
 FREQUENCY 0.25833 Hz
 DATE SURVEYED JUNE - 1966
 APPROVED BY
 DATE 1/8/66

LINE NO - 0

McPHAR GEOPHYSICS LIMITED

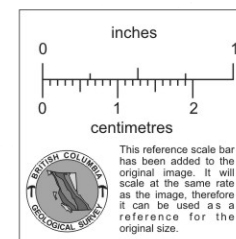
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100



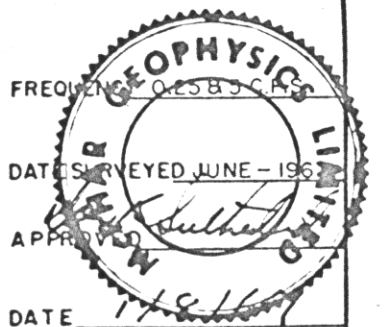
SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE



AMAX EXPLORATION, INC.
 COUNTS LAKE PROPERTY - OMINCA M.D., B.C.
 Scale - One inch = 300 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL

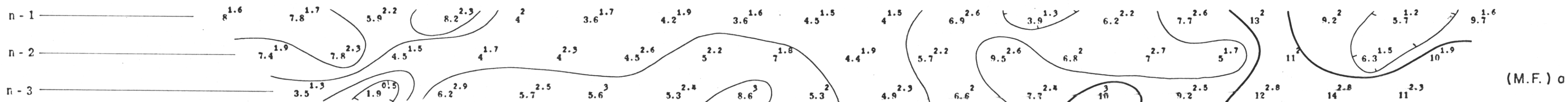
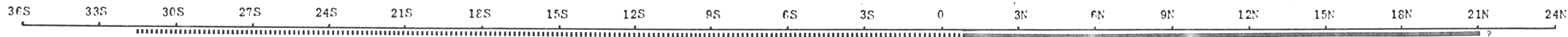
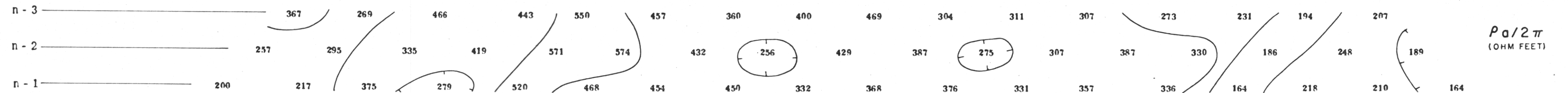
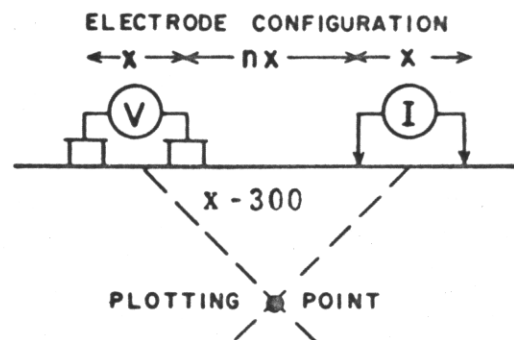


LINE NO. - 10W

McPHAR GEOPHYSICS LIMITED

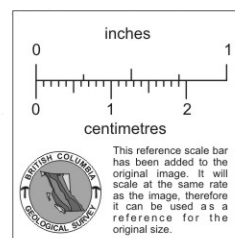
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: CONTOURS AT LOGARITHMIC MULTIPLES OF 10-15-20-30-50-75-100



SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE

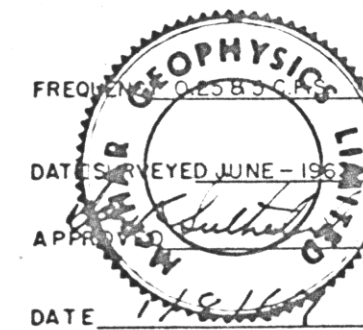


AMAX EXPLORATION, INC.

COUNTS LAKE PROPERTY - OMINECA M.D., B.C.

Scale - One inch = 300 Feet

NOTE LOGARITHMIC CONTOUR INTERVAL



LINE NO.- 20W