Report 314

314

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MINING RECORDER
PRINCETON, B. C.

GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL REPORT ON THE WHIP AND SAW GROUPS

WHIPSAW CK., 49° 120° S.W.

BY: W. R. BACON, TEXAS GULF SULPHUR CO.

OCTOBER 15, 1959 - JUNE 25, 1960

92H - 7E & 7W

TABLE OF CONTENTS

INTRODUCTION

The Whip (20 claims) and Saw (8 claims) groups are about 16 miles southwest of Princeton. The two groups form a solid block (4 x 7) of claims on the north side of Whipsaw Creek, near its head. They were located in 1959 during the course of geological exploration along the southwest margin of the Nicola (Upper Triassic) Group rocks, as it is indicated on Map 888A of the Geological Survey of Canada.

Routine geochemical sampling revealed an abnormal content of copper in the creek silts of what is now called the Whipsaw property. This, together with the fact that Pb-Zn-Au-Ag mineralization had long been known in the vicinity, was considered sufficient justification to locate 28 claims.

During October, 1959 a grid was cut for the purpose of doing a geophysical survey and geochemical sampling of the soils. This work was carried out in June, 1960.

The writer is responsible for locating the claims, and the geological and geochemical work done on the property. He is also responsible for the organization and supervision of every phase of the assessment work.

McPhar Geophysics Limited performed the geophysical work.

GEOLOGY

The Whip and Saw groups are in dense forest. The lack of geological knowledge of the property does not reflect the effort, for bedrock is exposed on less than one per cent of the property. Much of what information is known has come from a study of float that appears to be close to its source.

Outcrops of Eagle granodiorite are found on the westernmost claims. An examination of this rock on and to the west of these claims indicates that the Eagle is a strongly gneissic rock, and its general appearance suggests that this rock is not an intrusive but a paragneiss, formed by granitization of pre-existing rocks.

According to Memoir 243 (p.12) of the Geological Survey of Canada, the Whip and Saw groups should be largely in "a more or less continuous belt of mixed, fine-grained tuffs and argillaceous rocks (that) extends southeast from north of Tulameen River to Whipsaw Creek.......". Elsewhere these Nicola rocks are described as "sheared into chlorite and sericite schists".

Undoubted Nicola rocks, mainly chlorite-actinolite schists, were found in small outcrops on several of the easternmost claims, namely Saw No. 3, Saw No. 7, Pick No. 1 and Pick No. 3. Volcanic breccia was found in two outcrops, on Saw No. 3 and Saw No. 7 claims.

Between the Eagle granodiorite of the westernmost claims and the undoubted Nicola rocks of the easternmost claims, there is a general paucity of outcrop. On the following claims, however - Pick No. 2, Axe No. 1, Saw No. 8, Whip No. 7, Saw No. 6 and Whip No. 5 - there are several outcrops and considerable float of quartz-feldspar porphyry. Indications are that this rock type underlies much of the ground covered by the aforementioned claims. The nature and form of the quartz-feldspar porphyry is unknown but the writer considers the possibility that the porphyry may be essentially a sill-like mass between the Eagle and the Nicola, such as is found in the old Independence camp northwest of Tulameen.

Bedding and schistosity in the Nicola group rocks and gneissosity in the Eagle granodiorite conform, all trending west of north and dipping westward at angles of 50 degrees and more.

Fine disseminated pyrite is fairly common in both the Nicola rocks and the porphyry, particularly the latter. Economic mineralization is not evident at the surface of the claims and, were it not for the abnormal copper content found in the creek silts of the property, the claims would not have been staked. During the geological work, the writer found minute amounts of copper in the Nicola rocks and in the porphyry, as well as magnetite in the Eagle granodiorite.

July 18/60.

GEOCHEMISTRY (see Map 2)

Soil samples were taken at the stations on the geophysical grid and tested for copper content by the rubeanic acid method outlined by Warren and Delavault (Western Miner & Oil Review, January 1959, pp. 34 - 36). The purpose of this work was a check on the creek silt samples because the source of the silt and, more particularly, the abnormal copper content in the silt, could be miles from the property. In undertaking the soil survey, it was realized fully that the soil did not necessarily represent the underlying bedrock.

The samples were obtained by digging holes beneath the layer of organic litter and obtaining material from the A_1 horizon. The samples were placed in plastic bags and later treated in duplicate by the procedure outlined in the aforementioned method.

The results of the sampling indicate simply that some of the soil does indeed contain more copper than the "background" amount, as do the silts of the property - when compared to the numerous samples taken from streams in the general vicinity of the property. It is considered that the results of this work could only be used in conjunction with the geophysical results as far as determining targets for diamond drilling.

July 18/60

McPHAR GEOPHYSICS LIMITED

REPORT ON THE GEOPHYSICAL INVESTIGATIONS OF THE WHIPSAW PROPERTY, BRITISH COLUMBIA FOR TEXAS GULF SULPHUR CO., LTD.

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1. INTRODUCTION

Following the arrangements made with Dr. Walter Holyk of Texas Gulf Sulphur Company, Limited, we have carried out an Induced Polarization - Resistivity survey on the Company's Whipsaw property near Princeton, B. C. A portion of the property was also covered by an electromagnetic survey using a McPhar REM unit.

The purpose of the work was to locate the source of a strong geochemical anomaly outlined by the Company's exploration staff. Field work was carried out during June, 1960.

2. PRESENTATION OF RESULTS

A sketch of the grid is shown in Figure #1 at 1" = 1000' and the Induced Polarization and Resistivity results are shown on the accompanying data plots as follows.

Line A	200' spreads	Dwg. IP 2741-1
Line B	200' spreads	Dwg. IP 2741-2
Line C	200' spreads	Dwg. IP 2741-3
Line D	200' spreads	Dwg. IP 2741-4
Line E	200' spreads	Dwg. IP 2741-5
Line F	200' spreads	Dwg. IP 2741-6

The Electromagnetic survey results are presented on Dwg. #E-2740 at a scale of 1" = 200'.

3. DISCUSSION OF RESULTS

A. INDUCED POLARIZATION SURVEY

The IP survey was carried out on six east-west lines spaced at 1000 foot intervals, using 200 foot dipoles and frequencies of 1/4 and 2-1/2 cps. The results show three zones of anomalous Metal Factor; a strong zone in the southwest part of the property, a weaker zone in the south central sector, and a broad zone or series of zones in the north sector of the grid. (See Figure #1). All three appear to extend beyond the limits of the surveyed area. The results from each line are discussed below.

Line A

There is a strong anomaly centered at 22 W - 24 W on this line with weaker extensions to 18 W - 20 W and to at least as far west as 28 W - 30 W. The survey did not extend far enough west to establish the western edge of the zone. The feature appears to be shallow and steeply dipping. In addition, there is a weaker and deeper anomaly centered at about station 10 W.

Line B

The results from Line B are similar to those from Line A.

The main zone is centered at 26 W - 28 W, but is appreciably deeper; as on Line A the west edge has not been located and the east edge does not appear to be sharp. There is a weak anomaly at intermediate depth centered at 10 W - 12 W, similar to the one on Line A.

There is an abrupt change in both the M. F. and resistivity between stations 10 W and 8 W, with higher resistivities and lower M. F. to the east. This probably reflects a change of rock type. The section west of station 10 W may be all weakly anomalous with the two stronger zones as indicated above.

Line C

The data from Line C show a narrow moderate anomaly at intermediate depth centered at 32 W - 34 W. This probably correlates with the western anomalies on Lines A and B, but is smaller and weaker. The eastern anomaly on Lines A and B does not extend this far north.

Line D

There is a shallow anomaly of moderate strength near the east end of this line. While the pattern is not complete, the feature appears to be centered near station 0 or between 0 and 2 W. This anomaly does not correlate with those obtained on the lines farther south, nor is there any indication of the southern zone on the western part of Line D. However, the line may not extend far enough to the west to pick up the extension of the zone on Line C.

Line E

Anomalous Metal Factors were obtained over the entire length of this line. It is not clear whether this represents a single broad zone, a narrow zone parallel to the line, or a multiplicity of zones crossing the line. Since the other lines show the presence of several relatively shallow, narrow, steeply dipping features and the pattern on Line E can be resolved into three more-or-less distinct anomalies of this type, the third explanation appears to be the most likely. On this basis, we have shown an anomaly centered at 30 W, a second one at about 15 W and a third zone near 3 W. There is some ambiguity concerning the location of the third anomaly, and it would be necessary to extend the line farther east to complete the pattern.

Line F

Line F was only partially surveyed owing to equipment difficulties. Almost all of the observed Metal Factors are anomalous and while the patterns are incomplete, there is a suggestion of two closely spaced anomalies as indicated on the data plot. This interpretation is tentative only.

B. ELECTROMAGNETIC SURVEY

Three lines in the southern part of the grid were surveyed with an REM unit using the broadside method (i.e. receiver and transmitter moved simultaneously along parallel lines) in order to check the strongest IP indication obtained on Line A. The results indicated two zones of poor to fair conductivity trending in a north-westerly direction.

Zone A does not appear to correlate with the IP anomaly, but Zone B coincides with the main IP zone on Line A. Evidently the conductor does not extend as far as Line 4 S. There are also weak indications near station 15 W on Lines 4 S and 4 N, but these do not correlate with any of the IP anomalies.

4. SUMMARY AND RECOMMENDATIONS

Anomalous indications were obtained on each of the six lines covered by the IP survey. These indications appear to correlate into three zones; a strong shallow anomaly in the southwest section, a weak anomaly at intermediate depth in the south central section, and a broad zone or series of closely spaced zones in the north part of the grid. The limited electromagnetic survey indicated a zone of anomalous conductivity coincident with the principal IP anomaly on Line A, although the two features appear to have divergent trends.

Additional IP work is required to verify the continuity of the anomalies between the widely spaced lines, to trace the extensions of the zones and to resolve the complex results on Lines E and F. Since this would involve at least two to three weeks' work, it might be advisable to investigate the main anomalies by drilling first to determine whether or not they are related to mineralization of economic interest.

McPHAR GEOPHYSICS LIMITED

Robert A. Bell,
Geologist.

per

Philip G. Hallof,
Geophysicist.

Dated : July 11, 1960

McPHAR GEOPHYSICS LIMITED

GENERAL NOTES ON THE McPHAR ELECTROMAGNETIC METHOD

Electromagnetic measurements are made in terms of "dip angles" and are recorded in degrees. The dip angles measure the amount of distortion of the primary (applied) electromagnetic field caused by secondary fields associated with currents induced in sub-surface electrical conductors. These angles are plotted in degrees on the accompanying maps either beneath or to the right of the station from which each observation was taken. Where a minus sign precedes a number, the angle of dip is to the west or south; the absence of a sign preceding a number indicates an easterly or northerly dip angle.

Transmitting coil locations are termed "setups"; each one being marked on the maps with a triangle and bearing a code number. Several lines are traversed with the receiving coil when the transmitting coil is at any one location; the readings on these lines are related to the corresponding setup by the code at the end of each series of readings.

"Conductor-axes" are marked on the maps according to the legend. They are, in general, vertical projections to the surface of the upper extremities of electrically-conductive bodies.

Electromagnetic anomalies can result from sulphide mineralization, graphitic schists, carbonaceous sediments and, on occasion, fault zones. Apropos of this it is to be noted that disseminated sulphide mineralization consisting entirely of discrete particles is not a conductor at the normal frequencies used for practical geophysical exploration. Consequently, *exploration of a property subsequent to an electromagnetic survey* should be based not only on the indicated electromagnetic anomalies, but should take into account all the geologic and physiographic data that can be obtained.

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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 or 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.

For example, in one of the large porphyry copper pits, the resistivity contrast between the protore and the enriched zone was found to be only 180/18 or 10/1. The contrast in metal factor in the same pit was found to be 20/10,000. There was less than 1% sulphides in the protore and 5-9% sulphides in the enriched zones. As the sulphide content is increased the metal factor increases until for massive sulphides the values apparently are measured in hundreds of thousands.

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 Southwestern 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 rocks to be separated from the effects of vertical changes in the properties. Current is applied to the ground at one point, the sender location, and voltage difference measurements are made at several other spots, the receiver locations. The sender location is then changed and the procedure is repeated. The value of apparent resistivity and apparent metal factor for any given pair of sender and receiver locations is plotted on the map at the intersection of grid lines, one from the sender location and one from the receiver location. The resistivity values are plotted above the line and the metal factor values below the line. The lateral displacement of a given value is determined by the location along the survey line of the centre point between the sender and receiver locations. The distance of the value from the line is determined by the separation between the sender and receiver that gave that particular value.

The separation between sender and receiver 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.

In the field procedure, the interval over which the potential differences are measured is the same as the interval over which the sender is moved after a series of 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 interval over which the transmitter is moved each time. In the past, intervals have been used ranging from 100 feet to 1000 feet for the basic distance. In each case, the decision as to spread distance 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 speed at which measurements can be made along a line is directly related to the length of spread used. In some detailed surveys in which the area of interest had been outlined by previous drilling and/or geology, spreads of 200 feet have been used. In these cases, distances ranging from 2500 feet to 3500 feet may be covered in a normal day's operation by one crew. In reconnaissance work using a 1000 foot spread distances of 5000 to 8000 feet may be surveyed in one day.

ASSESSMENT DETAILS

PROPERTY: Whipsaw

MINING DIVISION: Similkameen

SPONSOR: Texas Gulf Sulphur Co., Ltd.

PROVINCE: British Columbia

LOCATION: Princeton, B. C.

DATE STARTED: June 15, 1960

TYPE OF SURVEY: Induced Polarization

DATE FINISHED: June 24, 1960

OPERATING MAN DAYS: 20

NUMBER OF STATIONS: 139

EQUIVALENT 8 HR. MAN DAYS: 30

MILES OF LINE SURVEYED: 2.7

CONSULTING MAN DAYS: 2-1/2

DRAUGHTING MAN DAYS: 2

TOTAL MAN DAYS: 34-1/2

CONSULTANTS:

Robert A. Bell, 12 Cottonwood, Don Mills, Ontario
Philip G. Hallof, 5 Minorca Place, Don Mills, Ontario

FIELD TECHNICIANS:

P. Beuden, c/o Forest Ranger's School, Dorset, Ontario
S. Krizmanich, 139 Bond Avenue, Don Mills, Ontario

DRAUGHTSMEN:

F. R. Peer, 38 Torrens Avenue, Toronto 6, Ontario
R. MacKenzie, 55 Shannon Drive, Scarborough, Ontario

McPHAR GEOPHYSICS LIMITED

A. W. Mullan,
Geologist.

REGISTERED PROFESSIONAL ENGINEER
MINING
A. W. MULLAN
PROVINCE OF ONTARIO

Dated: July 11, 1960

A P P E N D I X

ASSESSMENT DETAILS

PROPERTY: Whipsaw

SPONSOR: Texas Gulf Sulphur Co., Ltd.

LOCATION: Princeton, B. C.

TYPE OF SURVEY: Electromagnetic

OPERATING MAN DAYS: 2

EQUIVALENT 8 HR. MAN DAYS: 3

CONSULTING MAN DAYS: 0.5

DRAUGHTING MAN DAYS: 0.5

TOTAL MAN DAYS: 4

MINING DIVISION: Similkameen

PROVINCE: British Columbia

DATE STARTED: June 25, 1960

DATE FINISHED: June 25, 1960

NUMBER OF STATIONS: 60

MILES OF LINE SURVEYED: 1.08

CONSULTANTS:

Robert A. Bell, 12 Cottonwood, Don Mills, Ontario
Philip G. Hallof, 5 Minorca Place, Don Mills, Ontario

FIELD TECHNICIANS:

P. Beuden, c/o Forest Ranger's School, Dorset, Ontario
S. Krizmanich, 139 Bond Avenue, Don Mills, Ontario

DRAUGHTSMEN:

F. R. Peer, 38 Torrens Avenue, Toronto 6, Ontario
R. MacKenzie, 55 Shannon Drive, Scarborough, Ontario

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A. W. MULLAN
PROVINCE OF ONTARIO

Dated: July 11, 1960

McPHAR GEOPHYSICS LIMITED

139 Bond Avenue, Don Mills, Ontario

Phone: Toronto
Hickory 4-4451

Downtown Branch:
Room 1502 - 330 Bay St.
Toronto, Ontario
Phone: Empire 3-7437

GEOPHYSICAL SURVEY OF WHIPSAW PROPERTY

FOR

TEXAS GULF SULPHUR CO., LTD.

Statement Of Cost

1. **Induced Polarization Survey**

   Rate : $150.00 per day (2 geophysical operators, equipment, consulting, etc.)

   No. of days : 10

   Charge : $1,500.00

2. **Electromagnetic Survey**

   Rate : $100.00 per day (2 geophysical operators, equipment, consulting, etc.)

   No. of days : 2

   Charge : $200.00

Total charge for geophysical services* $1,700.00

R. A. Bell per SR

R. A. Bell,
Geologist.

A W Mullan

A. W. Mullan,
Geologist.

*** Exclusive of travel time and expenses.**

STATEMENT OF COSTS

Geological Work	
W. R. Bacon, P. Eng., 7 days @ $35.00	245.00
Geochemical Work	
W. R. Bacon, P. Eng., 6 days @ $35.00	210.00
S. Turner, Geological Student, 6 days @ $13.00	78.00
Grid Layout	
W. R. Bacon, P. Eng., 5 days @ $35.00	175.00
A. Claussen, Surveyor, 8 days @ $25.00	200.00
E. Mullen, Chainman, 9¼ days @ $23.00	212.75
R. Mullen, Axeman, 7¼ days @ $19.00	137.75
Helpers (for geophysical and geochemical work)	
A. Pratico, 14 days @ $16.00	224.00
R. North, 14 days @ $16.00	224.00
Geophysical Work	
W. R. Bacon, P. Eng., 12 days @ $35.00	420.00
McPhar invoice	1,700.00
	$ 3,826.50

Total Costs, Whip Group	$ 2,678.55
Total Costs, Saw Group	$ 1,147.95

July 15/60

W R Bacon

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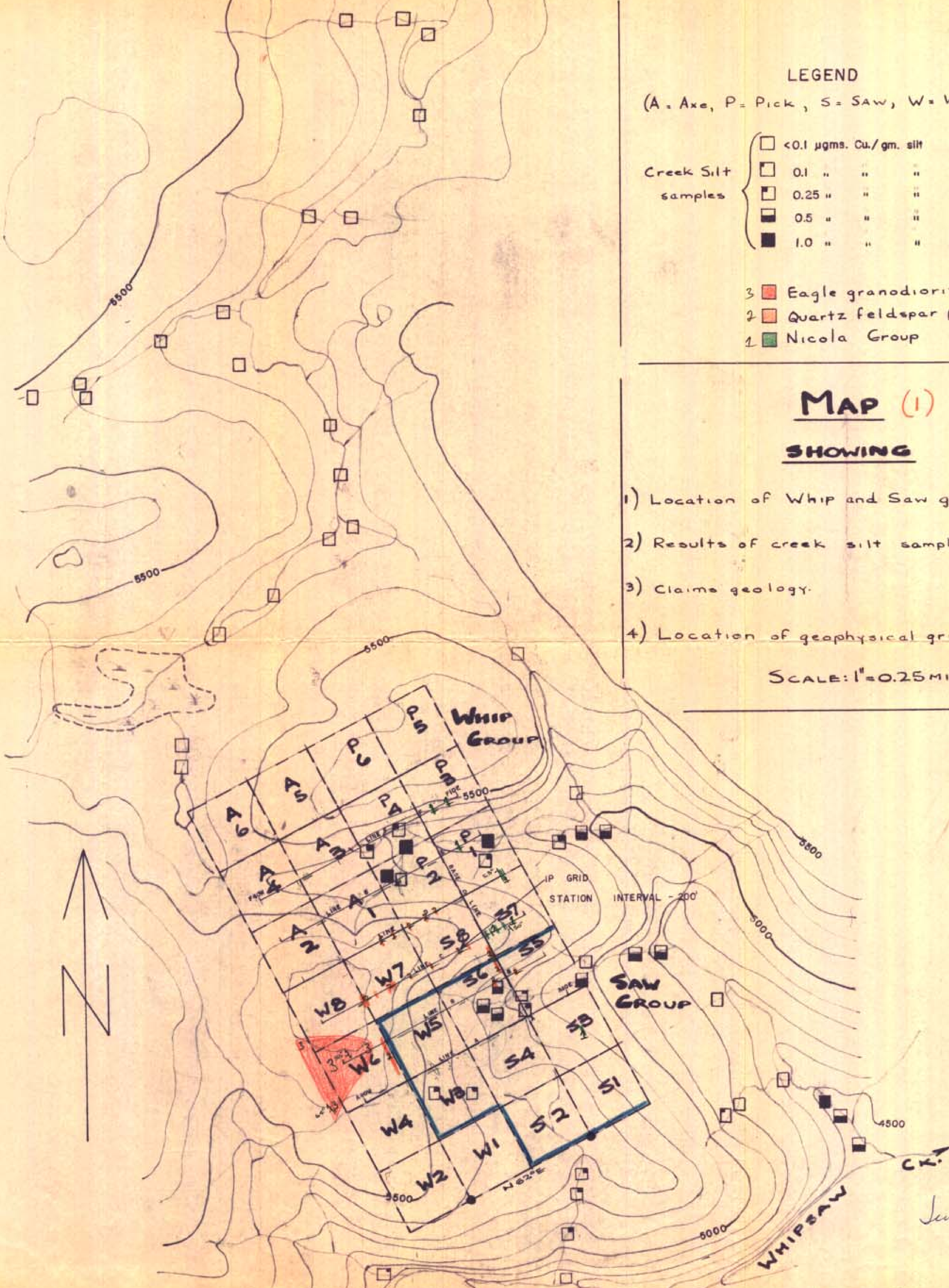

LEGEND

(A = Axe, P = Pick, S = Saw, W = Whip claims)

Creek Silt samples:
- ☐ <0.1 μgms. Cu./gm. silt
- 0.1 " " "
- 0.25 " " "
- 0.5 " " "
- 1.0 " " "

3 Eagle granodiorite
2 Quartz feldspar porphyry
1 Nicola Group

Department of Mines and Petroleum Resources
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MAP (1)

SHOWING

1) Location of Whip and Saw groups.
2) Results of creek silt sampling.
3) Claims geology.
4) Location of geophysical grid.

SCALE: 1" = 0.25 MI.

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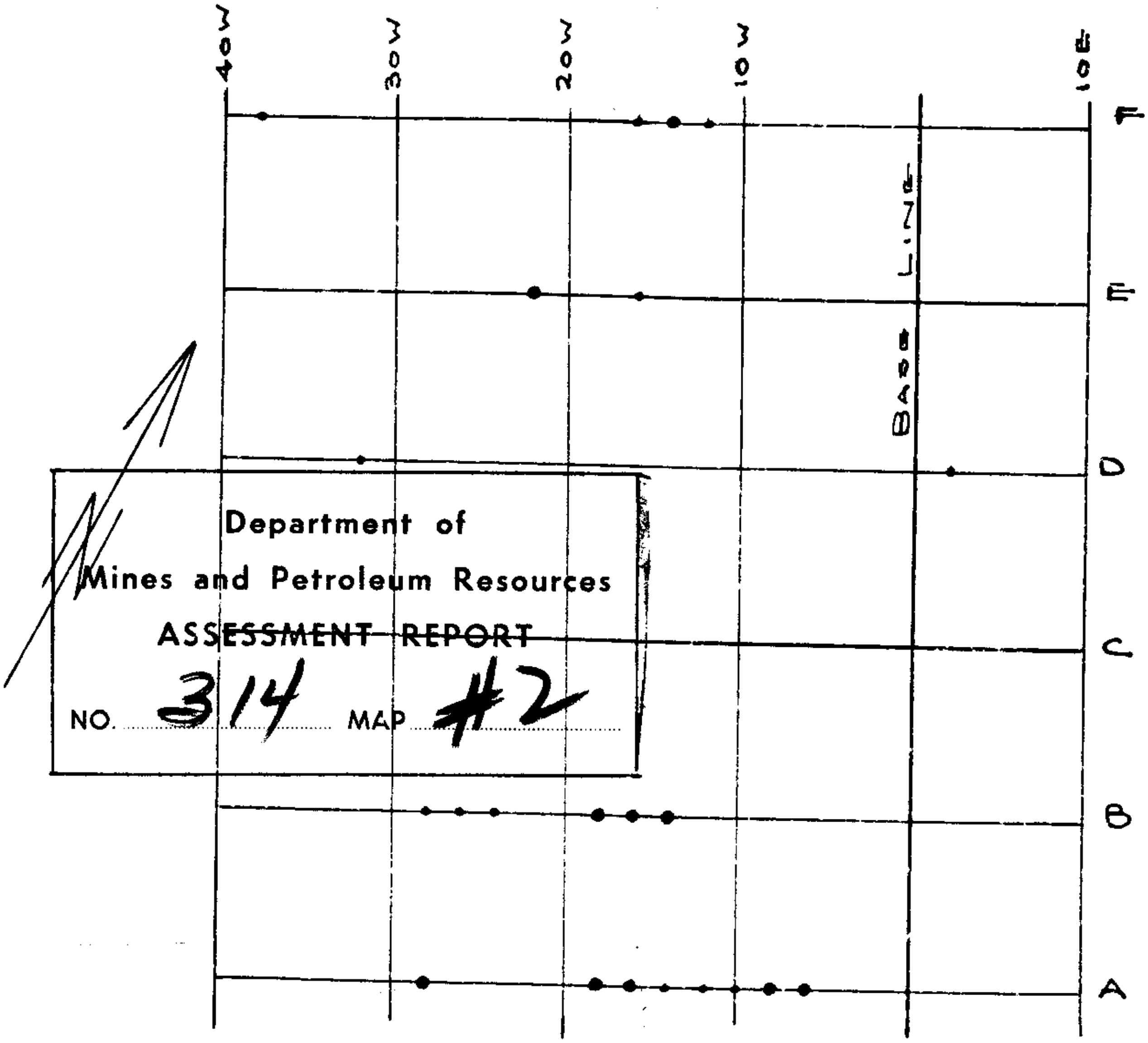
July 15/60, [signature]



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Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 314 MAP #2

MAP (2)

SHOWING RESULTS OF GEOCHEMICAL TESTING OF SOILS

- ● approx. 0.5 µgms. Cu/gm. soil.
- • < " " " " "

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Scale: 1" = 1000'

July 15/60 [signature]

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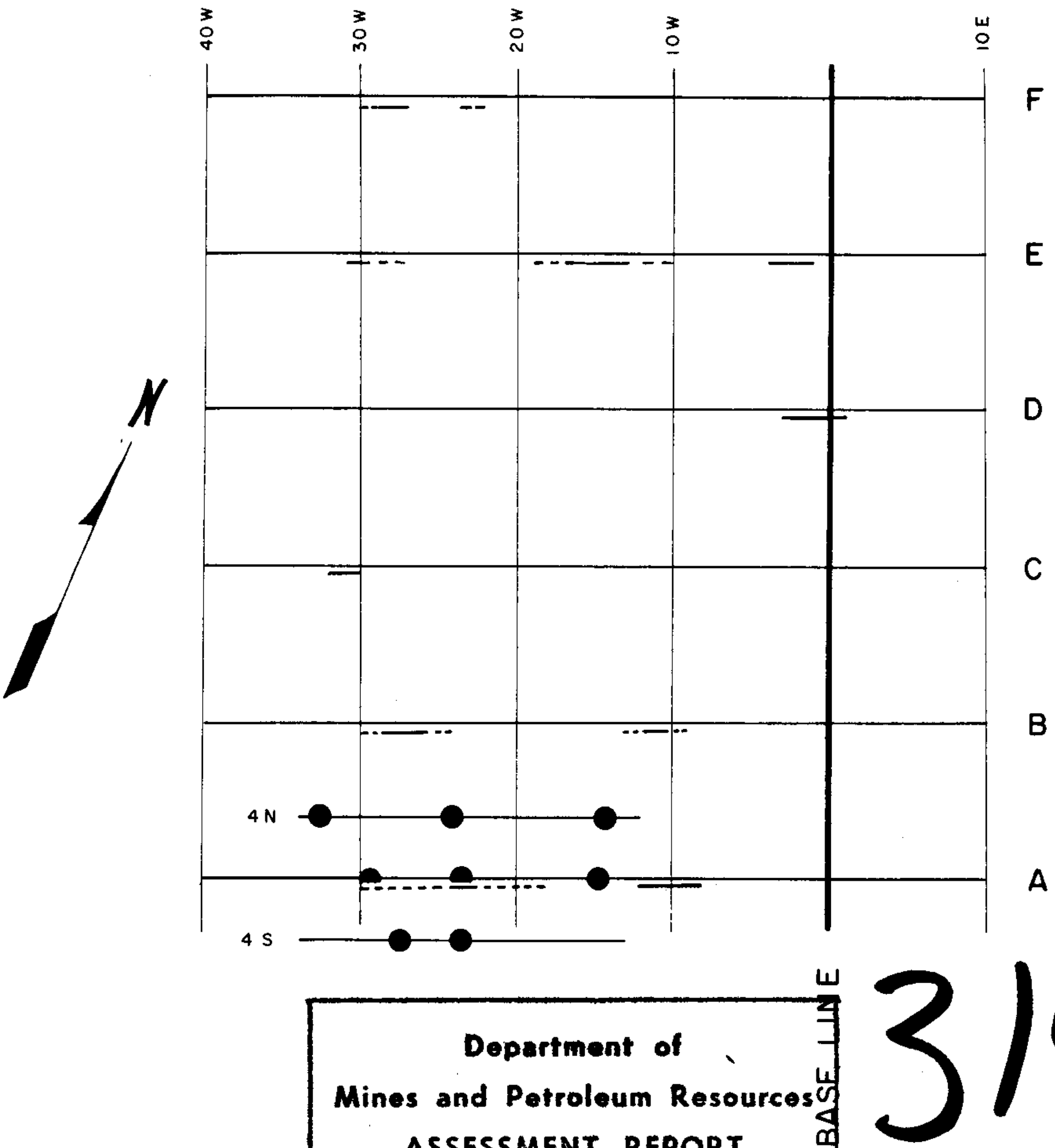
TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID—PRINCETON, B.C.

Scale — 1" = 1000'



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● E.M. ANOMALY

- - ——— - - I.P. ANOMALY

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Mines and Petroleum Resources
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FIG. 1

DWG. NO.-I.P.-2741-1

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

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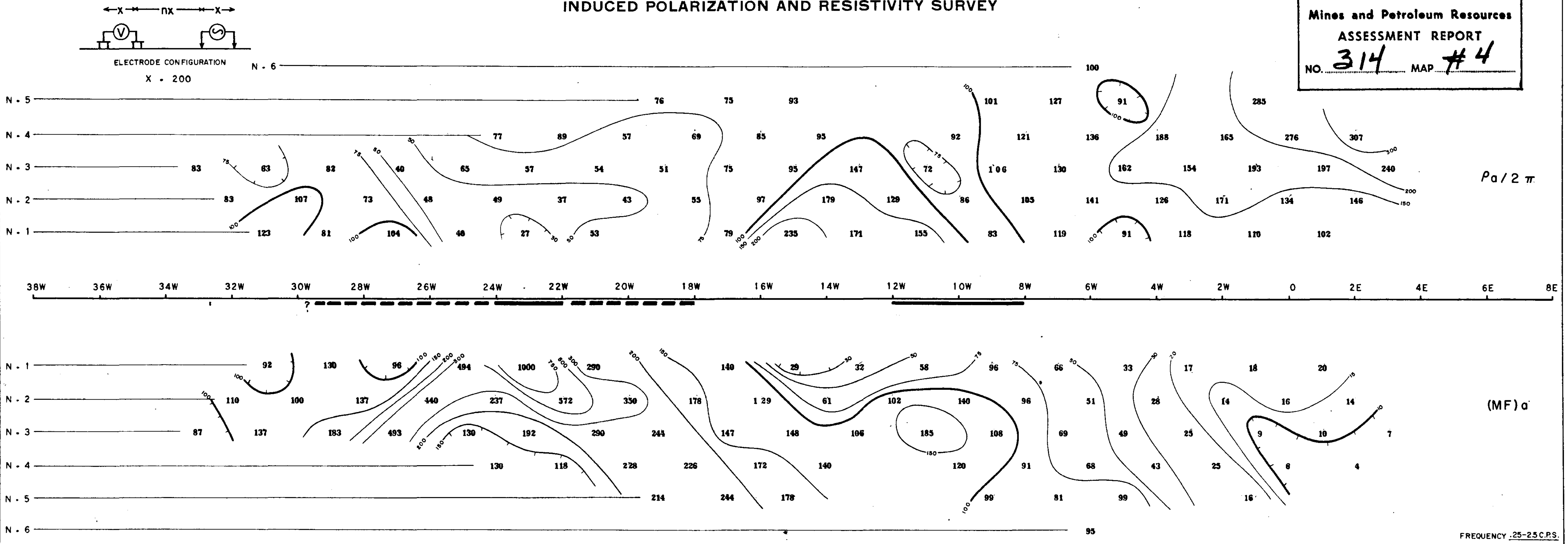

FREQUENCY .25–2.5 C.P.S.

DATE SURVEYED JUNE/60

APPROVED R.B.

DATE 7/7/60

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID – PRINCETON, B.C.

Scale-One inch = 200 Feet

DWG. NO.-I.P.-2741-2

Department of
Mines and Petroleum Resources
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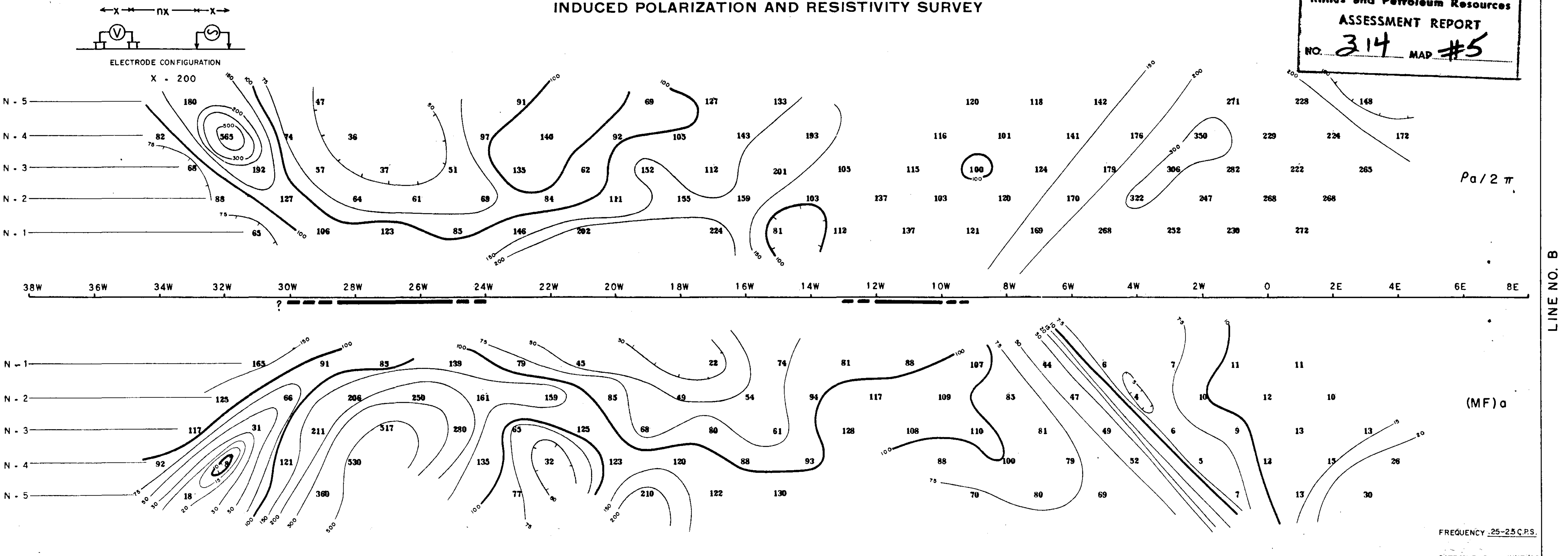
McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



ANOMALOUS ZONE ▬▬▬

POSSIBLE ANOMALOUS ZONE ▬ ▬ ▬

NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID – PRINCETON, B.C.

Scale-One inch = 200 Feet

FREQUENCY .25-2.5 C.P.S.

DATE SURVEYED JUNE/60

APPROVED R.A.B.

DATE 7/7/60

DWG. NO.-I.P.-2741-3

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
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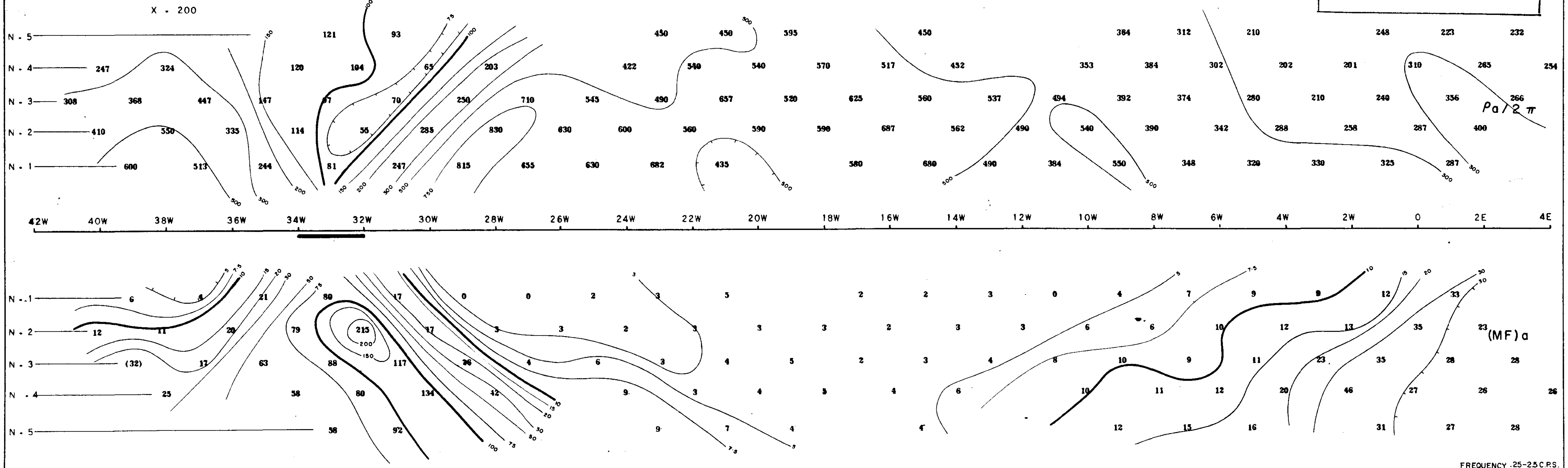
ELECTRODE CONFIGURATION

X - 200



LINE NO. C

ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE
NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID—PRINCETON, B.C.

Scale-One inch=200 Feet

FREQUENCY .25-2.5 C.P.S.
DATE SURVEYED JUNE/60
APPROVED RAB
DATE 7/7/60

DWG. NO.-I.P.-2741-4

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

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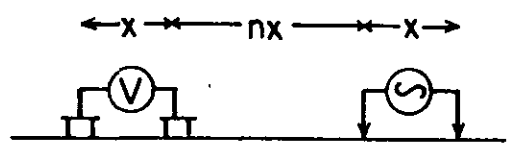
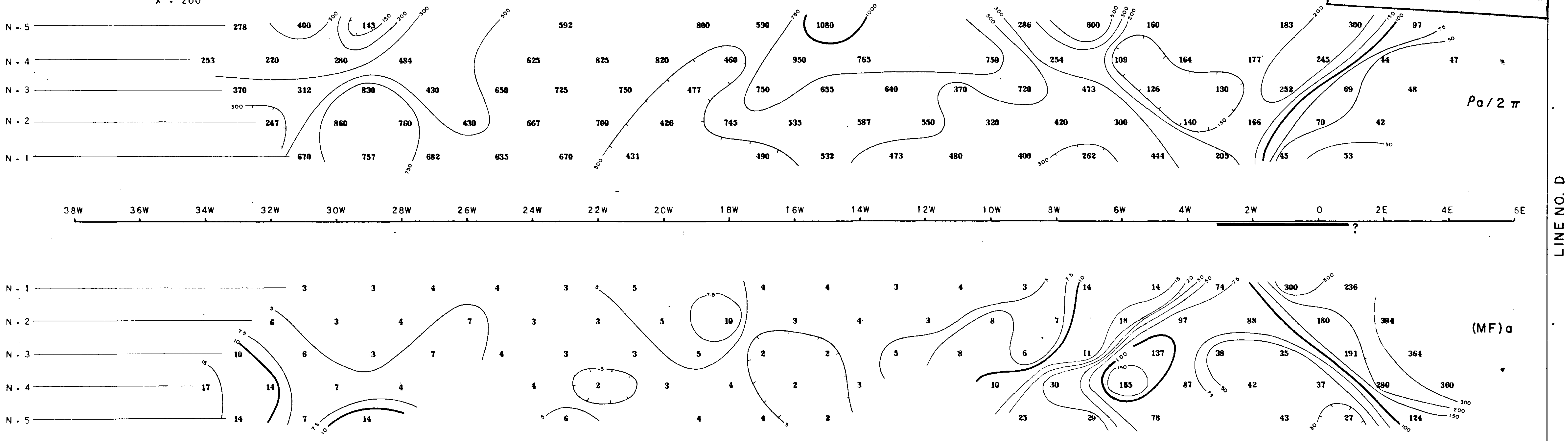


ELECTRODE CONFIGURATION

X - 200



FREQUENCY .25-2.5 C.P.S.

DATE SURVEYED JUNE/60

APPROVED R.A.B.

DATE 7/7/60

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID—PRINCETON, B.C.

Scale-One inch=200 Feet

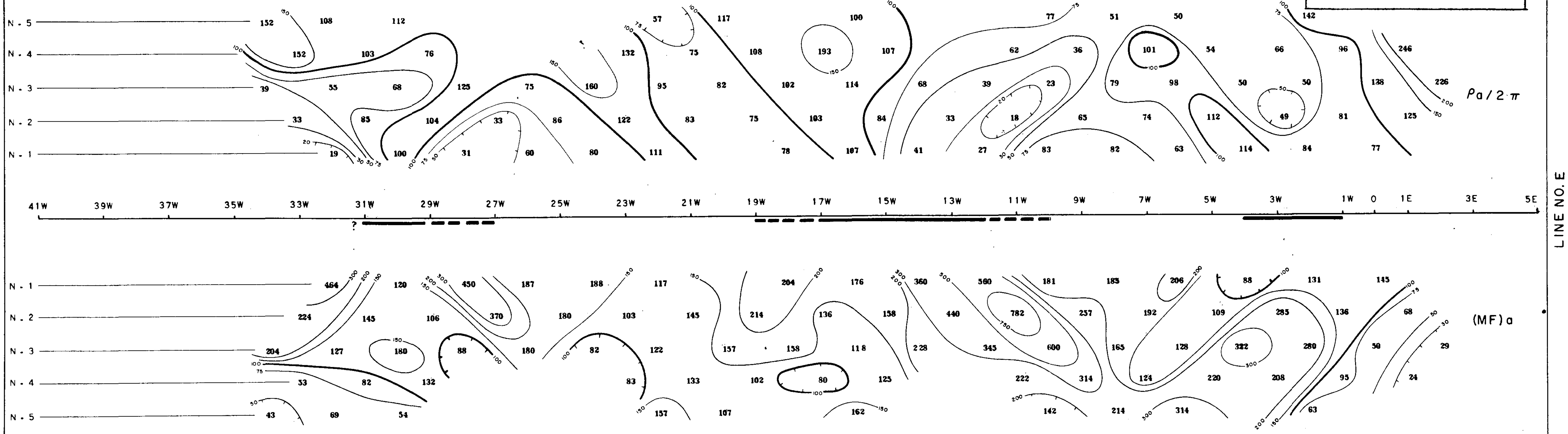
DWG. NO.-I.P.-2741-5

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 314 MAP #8

ELECTRODE CONFIGURATION
X = 200



ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE
NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID – PRINCETON, B.C.
Scale-One inch = 200 Feet

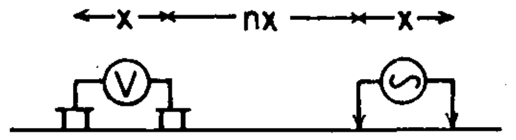
FREQUENCY .25-2.5 C.P.S.
DATE SURVEYED JUNE/60
APPROVED R.O.B.
DATE 7/7/60

DWG. NO.-I.P.-2741-6

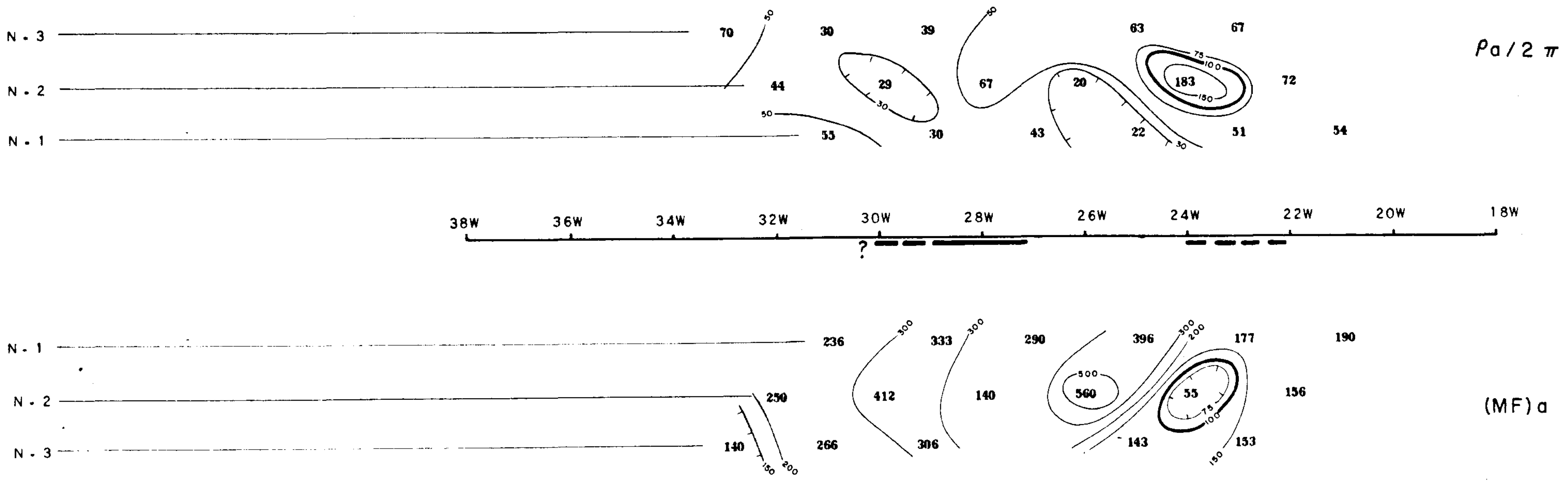
McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 314 MAP #9



ELECTRODE CONFIGURATION
X = 200



LINE NO. F

ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE
NOTE
LOGARITHMIC CONTOUR INTERVAL

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID – PRINCETON, B.C.
Scale – One inch = 200 Feet

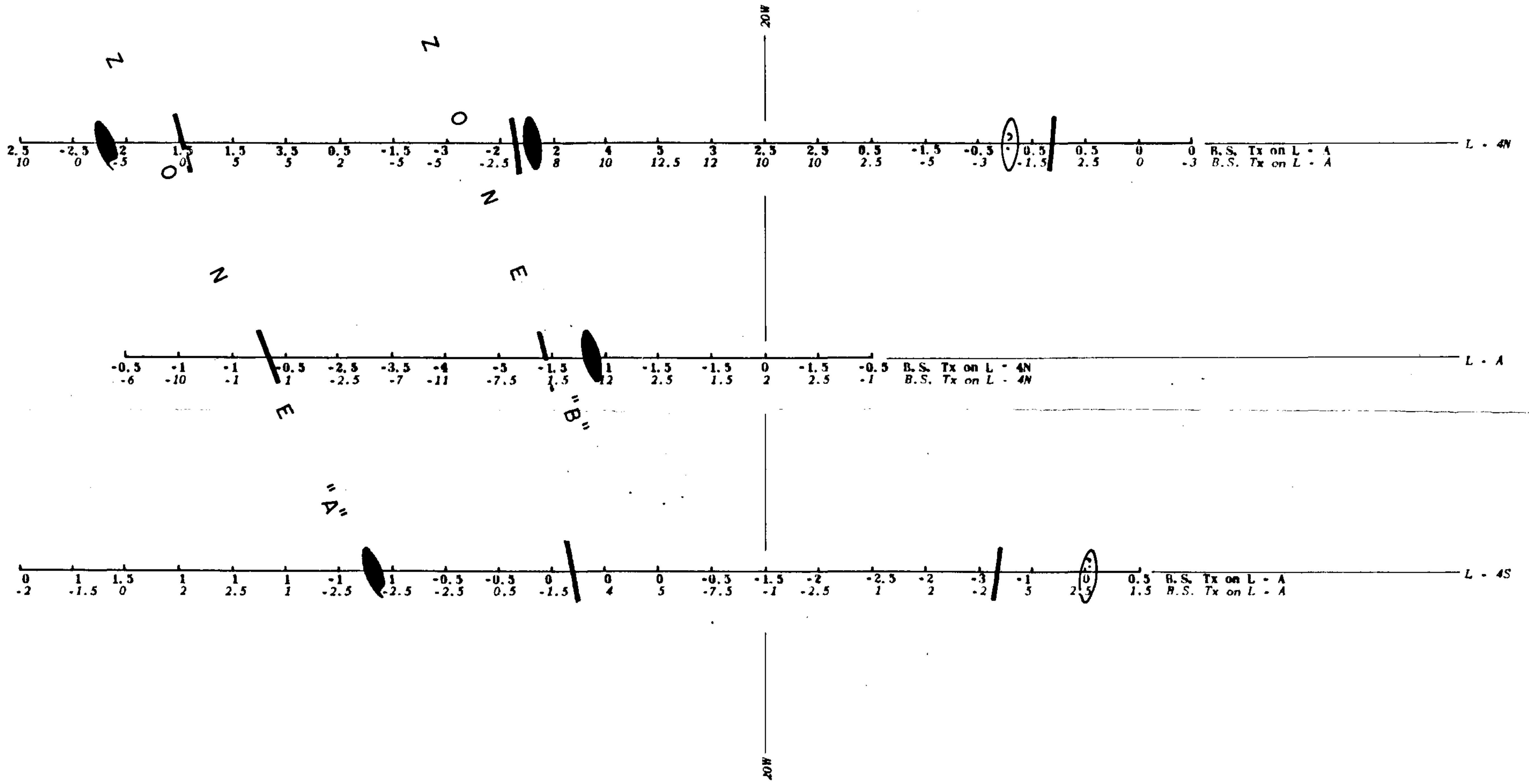
FREQUENCY .25-2.5 C.P.S.
DATE SURVEYED JUNE/60
APPROVED R.A.B.
DATE 7/7/60

DWG. E-2740

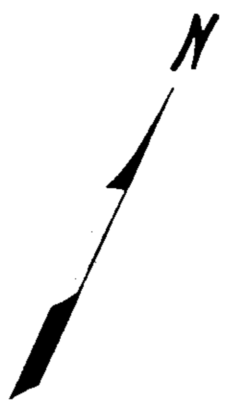
McPHAR GEOPHYSICS LIMITED

ELECTROMAGNETIC SURVEY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 314 MAP #10



314



LEGEND

- TRANSMITTER LOCATION
- RECEIVER TRAVERSE AND READINGS. (0 -0.5 / 0 -0.5)
- RECEIVER TRAVERSE AND READINGS

NOTE: CORRESPONDING TRANSMITTER IS INDICATED AT THE END OF EACH SERIES OF READINGS

B.S.—BROADSIDE SURVEY

TEXAS GULF SULPHUR COMPANY

WHIPSAW GRID—PRINCETON, B.C.

SCALE

200 150 100 50 0 200 400 600 800 1000 FEET

One Inch = Two Hundred Feet

SYMBOLS

1000 C.P.S. 5000 C.P.S.

- CONDUCTOR AXIS ESTABLISHED
- POSITION OF CONDUCTOR AXIS UNCERTAIN.
- EXISTENCE OF CONDUCTOR AXIS UNCERTAIN
- SUGGESTED TEST DRILL HOLE

DRAWN: F.R.P.
DATE: JULY/60.
APPROVED: RAB.
DATE: 7/7/60.