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ROBERTS & Associates

Property Evaluation
by R J. GARCIA

R.L. Redmond Copy.

August 29, 1963

To Whom It May Concern,

I, Raymond J. Garcia, acquired a B. S. degree in geology from the University of Kansas at Lawrence, Kansas in 1949. I have practiced geology and engineering continuously since that time for both federal and private agencies.

I feel that the work by Roberts and Associates on the properties discussed in the foregoing report was frugally and efficiently done. Very low overhead contributed to the high percentage of expenditure which was actually put "into the ground". There is a distinct contrast between the methods and accomplishment here and that of the mining promoter.

I certify that I have no interest or connection, financial or otherwise with any firms with holdings in the described properties. I have been retained for cash.

Raymond J Garcia

Raymond J. Garcia

MAGNETIC ANOMALIES ON THE WALKER RIVER INDIAN RESERVATION

By

Raymond J. Garcia

CONTENTS

ILLUSTRATIONS

Missing from original JT

INTRODUCTION

The three magnetic anomalies discussed in this report lie on the Walker River Indian Reservation. Two, the Calico and Hottentot, are in Mineral County. The third, the Aspiring, is about 1 3/4 miles north of the Mineral County line in the southwest corner of Churchill County.

The description of the land containing each of the anomalies follows:

Aspiring	W½ sec. 2, all sec. 3, NE¼ sec. 4, N½ sec. 10, and NW¼ sec. 11.	T. 14N.	R.29E.	MDBM
	S½ sec. 28, S½ sec. 29, all Sec. 33, S½ sec. 34.	T. 15N.	R 29E.	MDBM
Calico	W½ sec. 4, all sec. 5, E½ and E½ W½ sec. 6, NE¼ sec. 7, N½ and N½S½ sec. 8, NW¼ and NW¼ SW¼ sec. 9,	T. 13N.	R29E.	MDBM
	SE¼ sec. 31 and SW¼ sec. 32.	T. 14N.	R29E.	MDBM
Hottentot	W½W½ sec. 1, all sec. 2, E½ sec. 3.	T. 12N.	R30E.	MDBM
	SE¼ SE¼ sec. 34 and S½ S½ sec. 35.	T. 13N.	R30E.	MDBM

The anomalies are all easily accessable on roads traversable by passenger cars. Schurz, Nevada is the nearest town and the railhead point. To reach the Aspiring, drive 14 miles north of Schurz on Highway 95 and turn right onto a dirt road. Go 4 miles east to the Aspiring. One half mile north of Schurz, another graded dirt road intersects Highway 95. The Calico is 9 miles northeast on this road. The Hottentot is 12 miles out on a graded road extending eastward from the railroad crossing in the town. (See Walker Master Unit map in pocket.)

The topography of the areas is the typical basin and range terrain found throughout most of Nevada. Island-like hills and mountains are surrounded by lake beds dissected by shallow, sand-floored washes. The high

RJG

points have elevations of a little less than 6,000 feet, while the lake beds average about 4,100 feet.

Temperatures vary from over 100°F. in July to -20°F. in January. The averages for these months are 75°F. and 32°F. respectively. The annual precipitation varies from 5 to 6 inches. It is acquired during a few hard rains through the spring and late summer and a few light snows in winter. Continuous mining operations can be maintained without unusual hardship or expense.

Ground cover consists of sagebrush, a few desert weeds and some coarse grasses on the lower slopes. Juniper and pinon pine form irregular patches on the hills. The lake beds are nearly all barren.

Water is available nearly always at Double Springs, about 3 miles south of the Calico. It provides enough water for nominal drilling requirements. During exceptionally dry periods, water can be had at Schurz.

GEOLOGY

Outcrops in the vicinity of the anomalies consist of a few Cretaceous granitic intrusives, Late Tertiary volcanics and some Quaternary volcanics and alluvium. The Cretaceous intrusives are mostly quartz monzonite with some granodiorite and a little albite granite.

The Tertiary volcanics are of two types. The felsic volcanics are rhyolite flows and quartz latite tuff, usually welded. The intermediate volcanics consist of rhyodacite and andesite flows, tuffs and breccia. These commonly overlie the felsic volcanics, but some reversals and intercalation prevent the establishment of clear cut age relationships.

The Quaternary volcanics are flows including trachybasalt and ktite. The alluvium is mainly Pleistocene lake beds and valley fill with some slope wash and older gravels.

RJH

There are some significant limestone outcrops in the anomaly areas. On the Hottentot, the granite intrusives are surrounded by narrow bands of limestones (Triassic?) mineralized with magnettite, hematite, and copper carbonates. On the Aspiring a large limestone xenolith is embedded in the diorite mass which bounds the anomaly's east flank.

In areas adjacent to those containing the anomalies, rocks dating back to Permian time crop out. Interpretations of the rocks buried beneath the anomalies must be made from the limited outcrops at the anomalies and projections of evidence acquired in the adjacent areas.

STRUCTURE

Probably the most important structural feature near the anomalies is the Gillis thrust fault. The orogeny which fostered the thrust must have begun in Early Jurassic time concurrently with the deposition of the Dunlap formation. The early activity deformed the already deposited Luning, Gabbs, and Sunrise formations which total nearly 10,000 feet of thickness.

Folding, faulting and thrusting continued until nearly the end of the Jurassic as indicated by coarse conglomerates deposited high in the Dunlap. The precise close of this phase of tectonics is hard to determine because of the younger volcanics which mask so much of the region. It may have ended with the emplacement of the still undeformed granitic intrusives. These intrusives, as satellites of the Sierra Nevada batholith, place the end of the orogeny in the Cretaceous.

R&G

PROBABLE ORE CONTROLS

It is not surprising that the subject anomalies have such magnitude when one considers their environment. The Anaconda pit at Yerington and the United States Steel deposit at Lyon actually only hint at the potentialities of the region.

Ten miles southeast of the Calico, very near the Hottentot anomaly, lies the postulated edge of the Gillis thrust fault. Evidence in the Gillis range and the Garfield hills farther south indicates that the thrust is one of major proportions. The upper plate moved south and east over the region from a center some distance to the west. In several places the Middle Triassic Excelsior formation can be seen where it overrode the Late Triassic Luning formation.

The plane on which a thrust plate rides is, of course, a zone of tremendous shearing and abrading forces. Some less competent beds may deform plastically while harder material is pulverized. Whole formations can be cut out or left behind as the upper plate is forced along. Shear faults form whenever some resistant mass impedes the movement of a part of the moving plate.

All this crushing and fracturing form highly favorable loci for the collection of vagrant mineral solutions. The involvement of carbonate-rich rocks (Luning, Gabbs and Sunrise formations) and the common presence of post-thrust intrusives (Cretaceous granitics) increase the likelihood of emplacement of large mineral concentrations.

RGV

HISTORY OF EXPLORATION

Aspiring

In 1961, the field staff of the Idaho Mining Corporation began a magnetometer survey of an altered area seen some time previously from Highway 95. Preliminary ground surveys were made first with an Arvella magnetometer, then with a Jalander. Lines were run every 100 feet both north-south and east-west. Stations along the lines were spaced from 10 to 75 feet apart depending on progressive changes in magnetic intensities.

Roberts and Associates then acquired a sub-lease from Idaho Mining Company. Aero Service Corporation of Tulsa, Oklahoma was engaged to fly an aerial magnetometer survey. The ground anomaly was confirmed and a much larger potential area was delineated. Much ground work remains to be done in sections 28, 29, 33, 3, 4, 9 and 10. (See aero and ground magnetic maps of the Aspiring.)

Calico

The Calico anomaly was discovered by magnetometer survey run as part of an exploration program the United States Steel Corporation started in 1958. At that time, the Paiute Tribe did not own the mineral rights on the reservation. U. S. Steel staked claims and proceeded under the requirements of the statutes governing acquisition of mining rights on public land.

After considerable work had been done, the Indians won title to the mineral rights. U. S. Steel, their claims being automatically invalidated, had to begin acquisition negotiations with the tribal council. No agreement was reached.

RJG

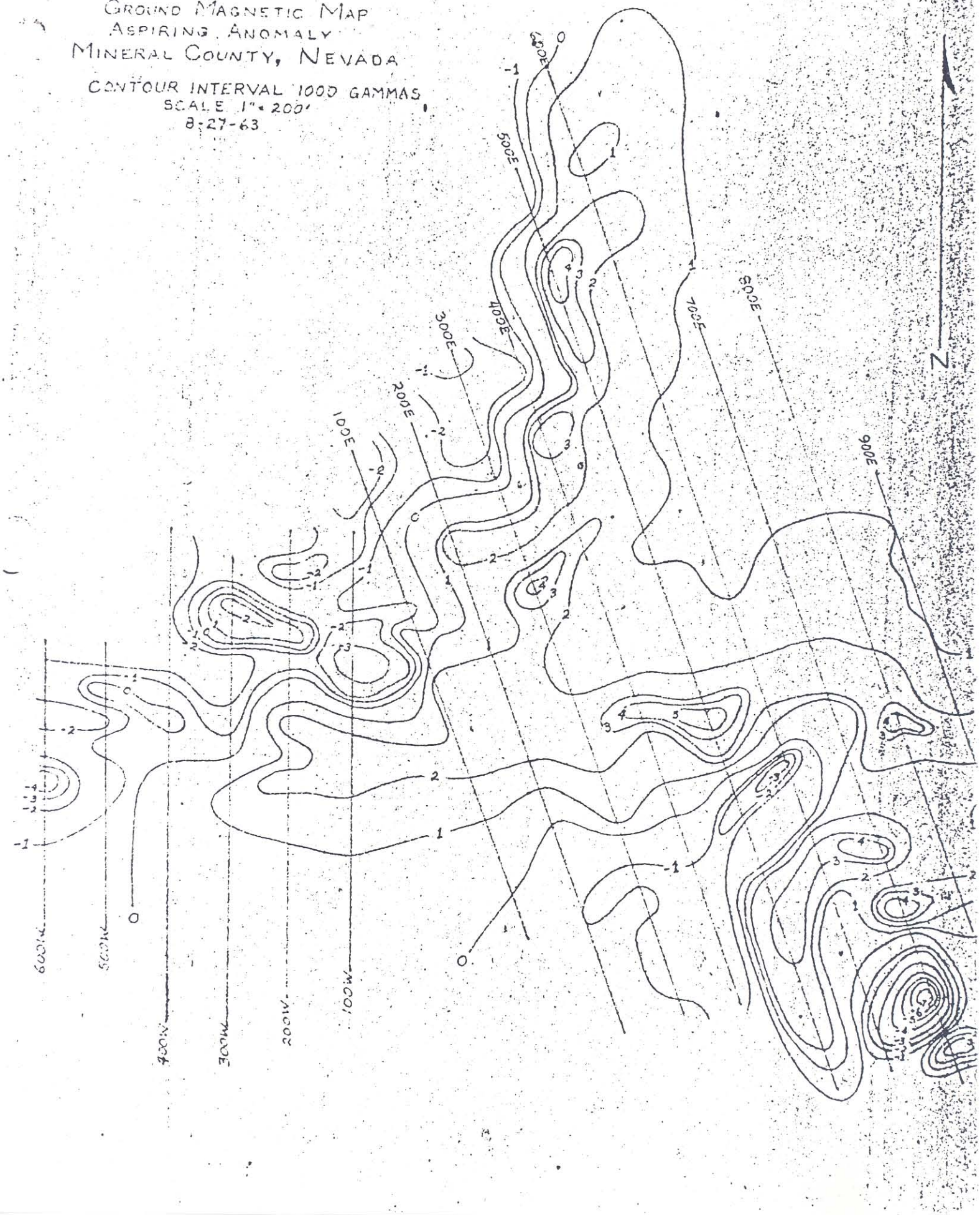
AEROMAGNETIC MAP OF ASPIRING ANOMALOUS AREA, CHURCHILL CO., NEVADA

FLIGHT ALTITUDE 500' CONTOUR INTERVAL 50 Gs.

INSET COVERS AREA OF DETAILED GROUND SURVEY.

Ground Magnetic Map
Aspiring Anomaly
Mineral County, Nevada

Contour Interval 100 Gammas
Scale 1" = 200'
8-27-63



U. S. Steel's activities in the Calico area were common knowledge. When they abandoned it, Roberts and Associates "rediscovered" the anomaly and secured a lease.

Aero Survey Corporation of Tulsa flew the area with a continuous recording magnetometer at 500 feet altitude on north-south lines spaced ½ mile apart. (See Calico anomaly map.)

The Roberts group then made a check survey on the ground using a portable Jalander vertical intensity magnetometer. Cross traverses were run on 750 feet spacing while longitudinal runs were made every 600 feet. Stations were spaced from 25 to 50 feet along the lines depending on rates of change in the magnetic intensities. The aerial anomaly was confirmed by the ground work.

Hottentot

The Hottentot anomaly was found in 1961 during an Idaho Mining Corporation survey initiated to check surface alteration and mineralization. North-south lines were run every 50 feet. Stations were spaced 25 feet apart along lines. Roberts and Associates acquired an interest and a Jalander magnetometer was run on north-south lines spaced 300 feet apart. Stations were spaced 150 feet apart along lines. (A smaller associated anomaly called Little Hottentot was found. Instrument stations were spaced very closely to provide detail on the smaller area. See Hottentot anomaly map.)

In 1963, Aero Service Corporation flew the area at 500 feet altitude on north-south lines spaced ½ mile apart with a continuous reading magnetometer. The deflection curves of the Jalander and Aero Service instruments are nearly identical.

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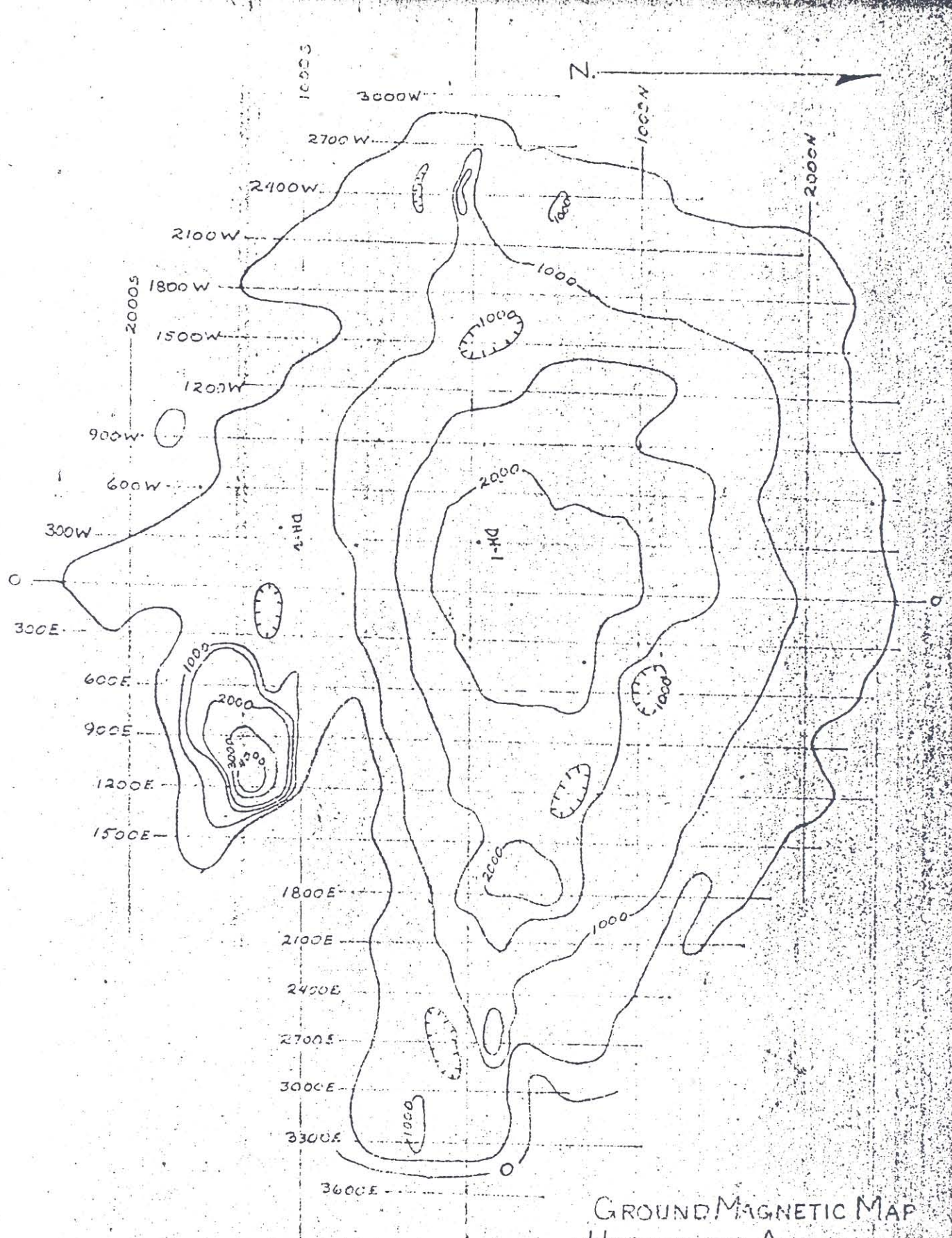
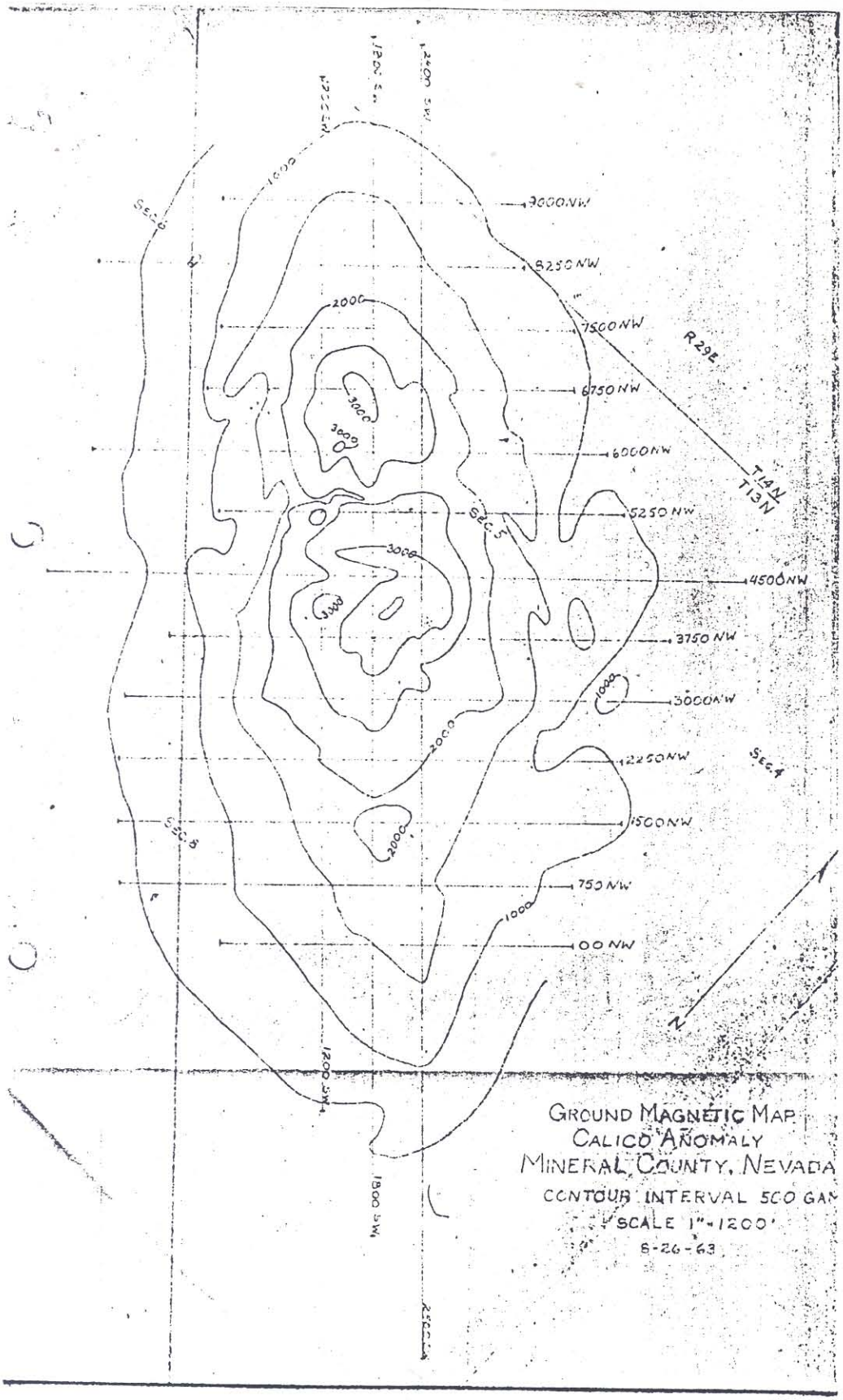


GROUND MAGNETIC MAP
HOTTENTOT ANOMALY
MINERAL COUNTY, NEVADA
CONTOUR INTERVAL 500 GAMMAS
SCALE 1" = 800'
8-26-63



GROUND MAGNETIC MAP
CALICO ANOMALY
MINERAL COUNTY, NEVADA
CONTOUR INTERVAL 500 GAM
SCALE 1" = 1200'
8-26-63

The results of the latest survey done with an audio frequency magnetometer (Afmag) are not yet available.

GEOPHYSICAL CONSIDERATIONS

In order to get some idea of what an anomaly means in terms of type of deposit, size, and depth of burial, several techniques are available. Comparison with known deposits and their anomalies gives one a fair idea of the type and size magnitude of the deposit.

Application of theoretical geophysical analyses allows one to choose the likeliest geometric shape, the depth parameters of the indicated deposit and to check on the estimated size.

Aspiring

The Aspiring has had less detailed interpretive work than the Calico or Hottentot. Thus, the ground anomaly map may not encompass all the magnetics required for an adequate analysis. The aerial map includes several broad deep peripheral lows which have not yet been ground checked. If these lows are significant they more than double the area of the ground map. They may also indicate a porphyry copper deposit.

The area of the ground magnetic map has had some qualitative appraisal. The strong magnetic lows adjacent to the highs indicate that the negative pole or "bottom" of the responding mass. It is probably tabular and dips westerly. It must be high in metallic content because of the relatively small areal extent and high magnetic deflection.

Seladonite, a green iron silicate, discolors extensive areas north and south of the anomaly. No copper minerals were found on the surface, but seladonite occurs at Lyon and Yerington. They both contain commercial quantities of disseminated copper.

RH

Calico

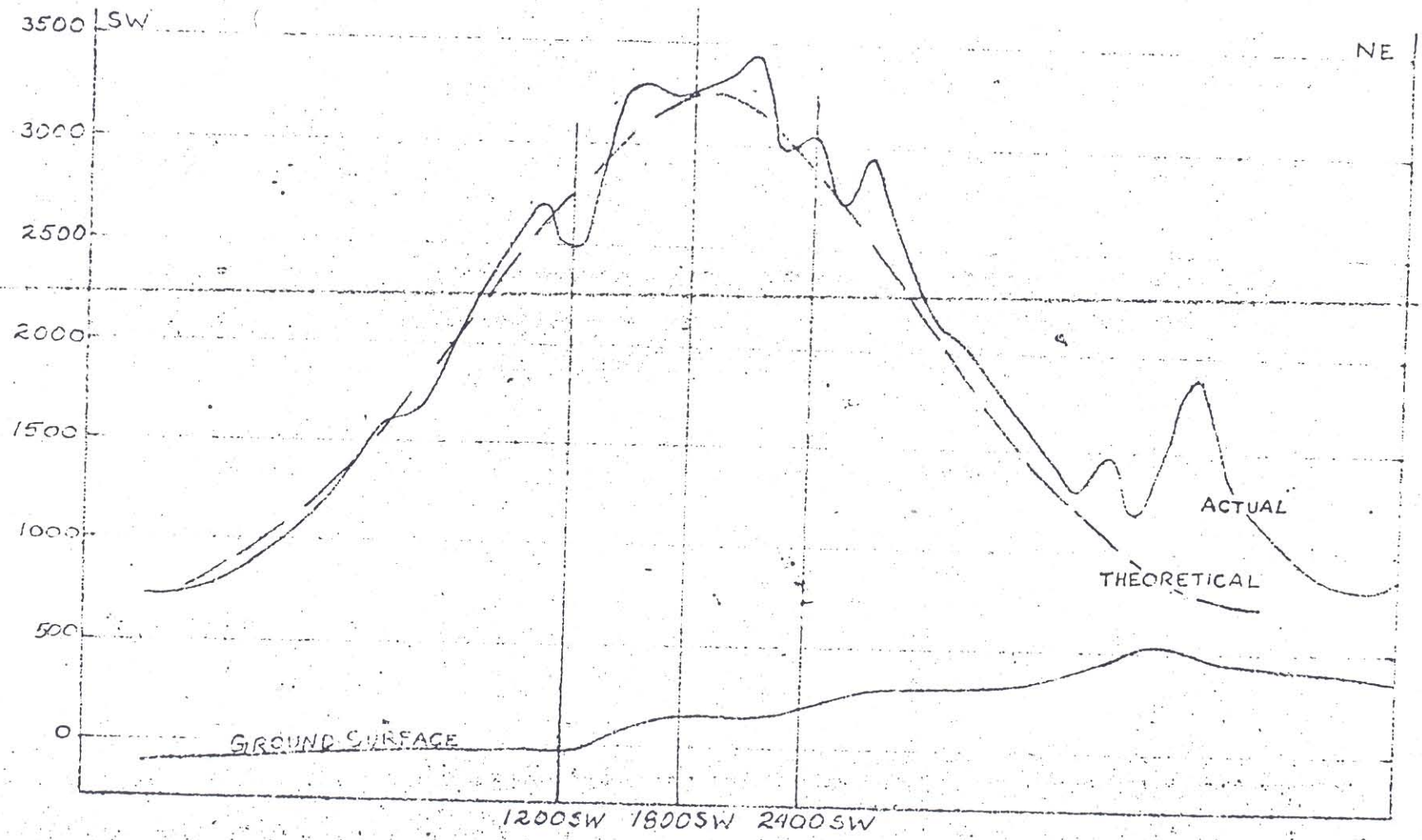
No zero gamma reading was obtained in the surveys of the Calico. This follows the pattern of infinite thickness type deposits. They may persist to great depth with constant ore grade, may have increasing grade with depth or may change to another mineral type at depth because of vertical zoning. In any case, the Calico is a very large deposit.

There is a striking similarity between the Calico and Lyon anomalies both in size and intensity. Drilling at Lyon has found an extensive deposit of 40% iron and about 1% copper. There may be higher grade copper on one or more flands.

A comparison was made between the 3750 NW line profile and a theoretical curve computed for a horizontal cylinder. (See profile sketch.) A magnetic susceptibility of .05 cgs, about right for a 20% magnetite body, was used for the first tonnage estimate. The depth to the top of the cylinder was estimated to be about 1,500 feet and the center at about 2,500 feet giving a radius of 1,000 feet. With a length of 3,000 feet and a tonnage factor of 10 cubic feet per ton, the astonishing figure of 900 million tons of iron mineralized material was obtained.

The same theoretical curve appears if the susceptibility is raised to .10 cgs (about 40% magnetite) and a radius of 700 feet is assumed. With other parameters the same, the tonnage falls to 450 million. Of course, the higher the susceptibility (ie grade of the deposit) assigned the lower the tonnage. But one must be governed by the grades of known deposits. Similarly if the radius is reduced the susceptibility must be increased disproportionately to account for the magnitude of deflection of the anomaly. It all boils down to a very large deposit.

RJ8



3750NW PROFILE SECTION

CALICO ANOMALY

Hottentot

The north-south magnetic profile of the Hottentot is very steep on the south and slopes more gradually to the north. It best fits the geometry of a tabular body dipping north.

The top is 300 to 500 feet below the surface and copper-iron mineralization, like U. S. Steel's Lyon deposit 21 miles west, is the most likely occurrence. Magnetite and hematite are common; malachite and azurite are less common around the anomaly. However, in the 40 geochemical samples taken, copper concentrations were much higher in those which contained both iron and copper.

Using a length of 3,000 feet, a width of 1,800 feet, a 100 foot thickness and a factor of ten cubic feet per ton, 54 million tons results. A thickness of 500 feet is not unreasonable for an anomaly of this magnitude in iron deposits. There is a possibility, however, that the deposit caps an intrusive mass from which it is magnetically indistinguishable. This is the reason for using the 100 foot thickness for the tonnage estimate.

RJB

RECOMMENDATIONS

There is a tendency among mining and oil companies to repeatedly postpone drilling a prospect. Drilling definitely determines whether preliminary exploration money was spent wisely. It tests the veracity and ability of the technical staff. An objective analysis of the data accumulated on the subject properties indicates that additional surface work would be superfluous. Therefore, I earnestly recommend the drilling of these anomalies now. The geologic environment is exceptionally favorable. For the occurrence of phorphyry copper deposits or equivalent and/or large magnetite replacement bodies. The anomalies are definitely established and two nearby deposits (Yerington and Lyon) indicate the possibilities of the region for copper and iron deposits of very large size.

These properties have potentials like those on which the great mining companies of today were founded.

RJB

I.P. & Resistivity on Calico & Hottentot Prospects

#2

PROPRIETARY

McPHAR GEOPHYSICS LIMITED

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 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 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

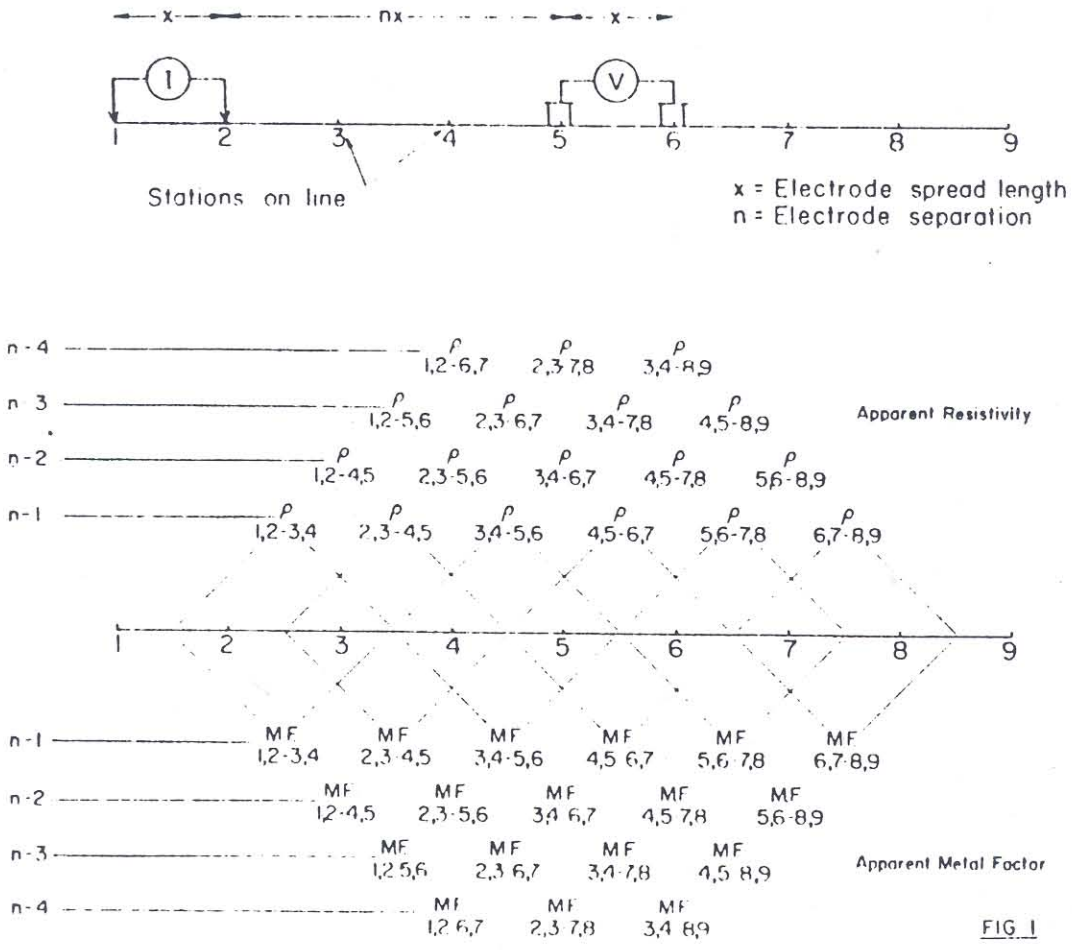


FIG 1

2. PRESENTATION OF RESULTS

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

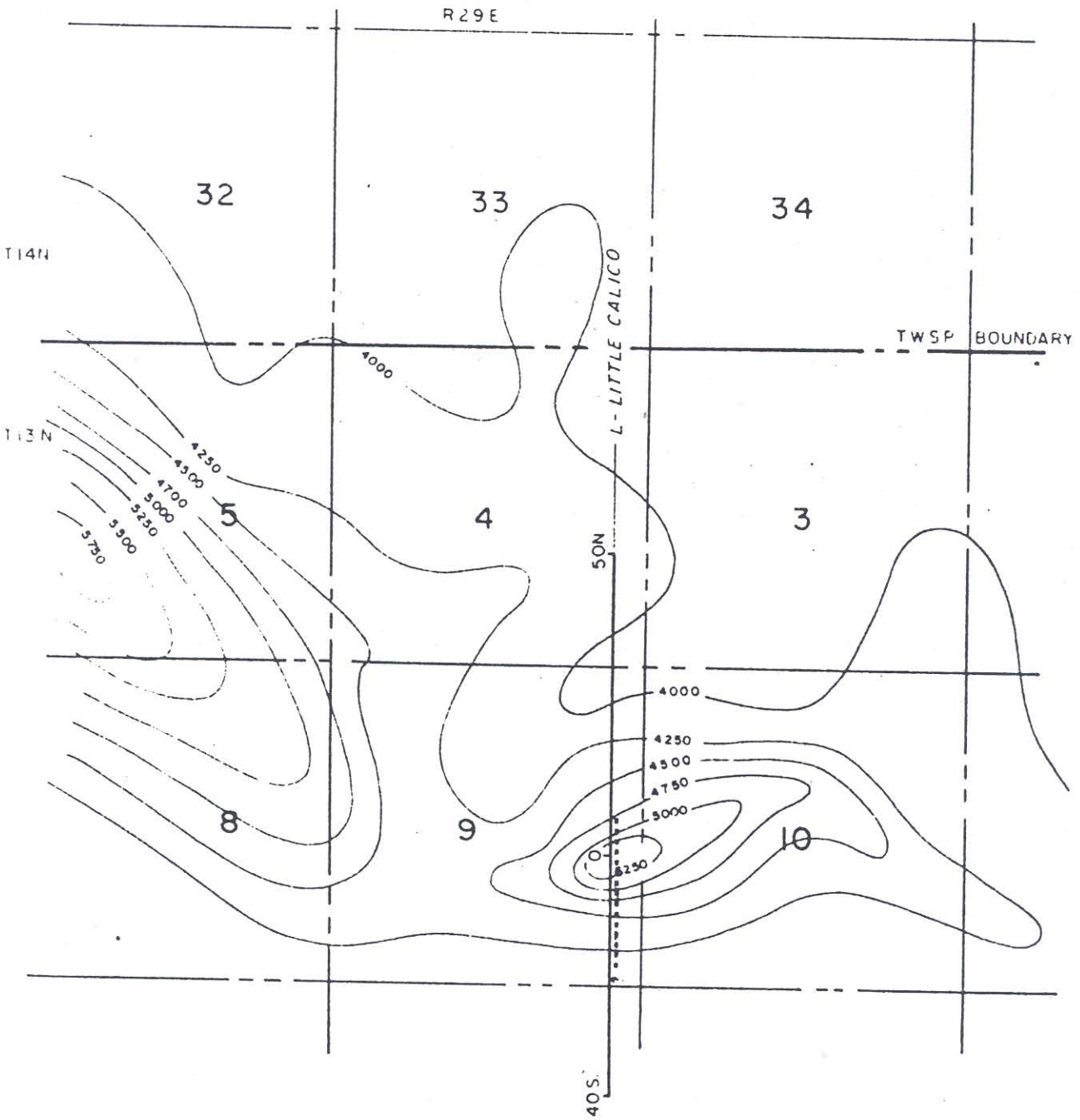
Little Calico Line	Dwg. I.P. 2106-1
Hottentot E-W Line	Dwg. I.P. 2106-2
Hottentot N-S Line	Dwg. I.P. 2106-3

Enclosed with this report are Figure 1 and Figure 2, sketch maps of the Calico Prospect and the Hottentot Prospect. 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 500' spreads the position of a narrow sulphide body can only be determined to lie between two stations 500' 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,

McPHAR GEOPHYSICS LIMITED

LOCATION MAP



NOTE

ANOMALOUS ZONE -

POSSIBLE ANOMALOUS ZONE - - - -

SECTION BOUNDARY - — — —

MAGNETIC CONTOUR -

N

MARTEL MINING COMPANY

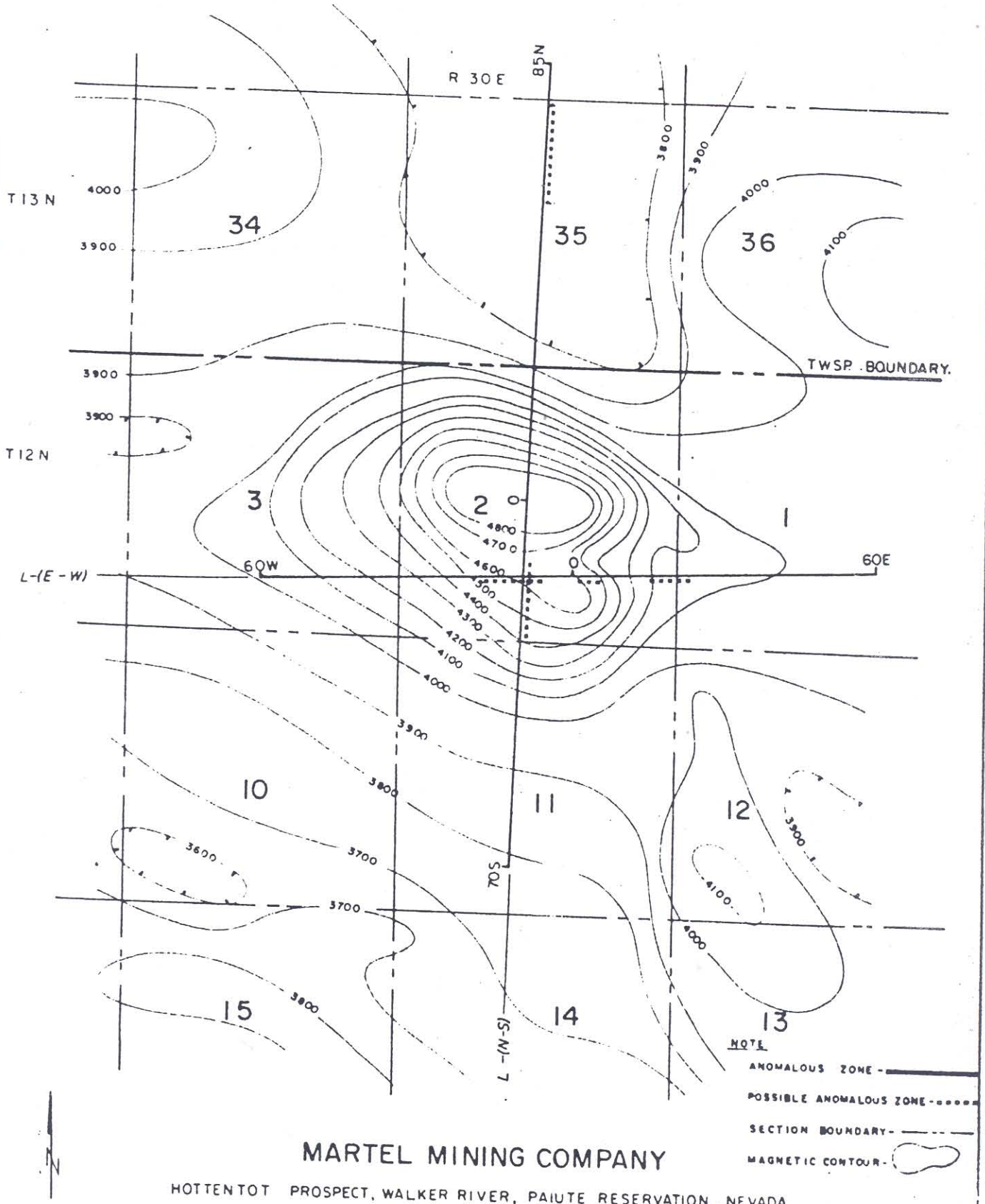
CALICO PROSPECT, WALKER RIVER, PAIUTE RESERVATION, NEVADA

Scale - 2 Inches = 1 Mile

FIG. 1

McPHAR GEOPHYSICS LIMITED

LOCATION MAP



MARTEL MINING COMPANY

HOTTENTOT PROSPECT, WALKER RIVER, PAIUTE RESERVATION, NEVADA

Scale - 2 Inches = 1 Mile

FIG. 2

the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The magnetic information, shown as contours on these sketches, was supplied by the staff of Martel Mining Company.

3. DISCUSSION OF RESULTS

The apparent resistivities shown on the accompanying data plots are appreciably lower than were encountered elsewhere in the area. On the Hottentot Prospect, these low resistivities are partially due to the highly conductive sediments in an old lake bed.

In low resistivity areas, such as these, the inductive coupling between the current and potential wires can become important. Since these extraneous voltages are frequency dependent, they can give rise to effects similar to I.P. effects. Under these conditions, the upper frequency used in the I.P. measurement must be lowered to reduce the coupling effects.

In these areas, the frequencies that must be used are 0.31 and 2.5 cps. If some anomalous effects are still suspected as being due to inductive coupling, they must be checked using d.c. and 1.0 cps.

Little Calico Line

The apparent resistivities are low on this line, particularly at the southern end. In this area, the frequency effects can be partially due to inductive coupling. However, in the area from 5N to 15S, the frequency effects measured are appreciably greater than would be

expected from inductive coupling. Further measurements are necessary to determine the lateral extent of the I.P. anomaly, which appears to be located on the south side of the magnetic anomaly.

Hottentot E-W Line

The apparent resistivities are very low on this line, and most of the frequency effects can be explained by inductive coupling effects. However, there are three locations where the frequency effects are greater than expected from coupling. The most important of these is centered at 15W to 10W.

Hottentot N-S Line

There is a relatively distinct I.P. anomaly at 25S to 15S on this line. This feature apparently correlates with a similar anomaly on the E-W Line. Also, there are some I.P. effects at the north end of the line that are appreciably greater than would be expected from coupling.

4. CONCLUSIONS AND RECOMMENDATIONS

Because of the low resistivities in the area, the I.P. tests carried out on the Calico Prospect and the Hottentot Prospect are confused by inductive coupling effects between the wires. There are some anomalous I.P. effects on each of the lines, but because of the coupling effects it is not possible to determine the lateral extent of the anomalies.

On the Calico Prospect, the anomalous I.P. effects seem to occur south of the magnetic anomaly. However, the information is not definite enough to determine whether the I.P. effects are due to the metallic magnetite or other metallic mineralization to the south.

The anomalies on the lines on the Hottentot Prospect do not appear to be as broad. The anomaly that is located southwest of the intersection of the two lines occurs in an alluvium covered area. It occurs just west of the magnetite outcrop, and must occur near the edge of the altered basalt.

Additional I.P. work is required to better evaluate the suggested anomalies. The further work should be done using 0.5 and 2.5 cps to reduce coupling, and provision must be made to check any resulting anomalies using d.c. and 1.0 cps to eliminate coupling. It would require more time to make the d.c. measurements in the low resistivity areas. However, if a high-powered transmitter is used for the detailed work, the results would be reliable.

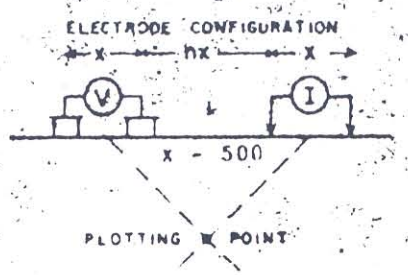
McPHAR GEOPHYSICS LIMITED.

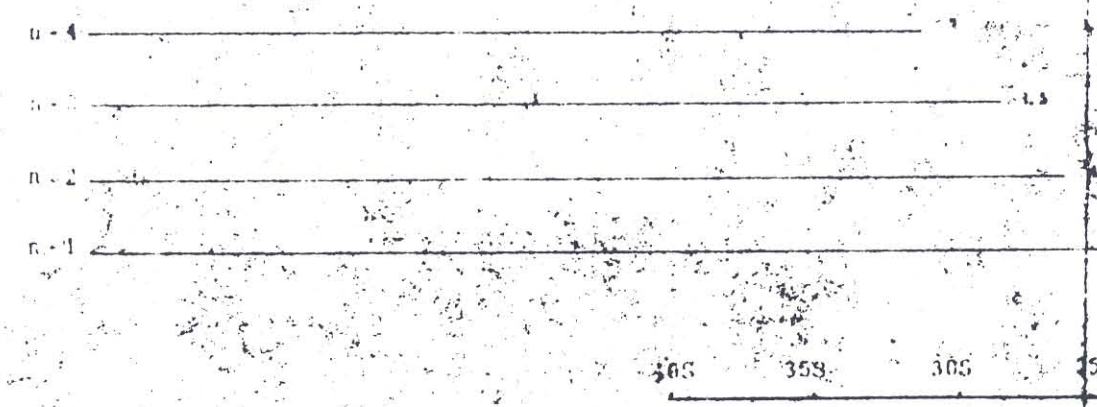
Philip G. Hallof.
Geophysicist.

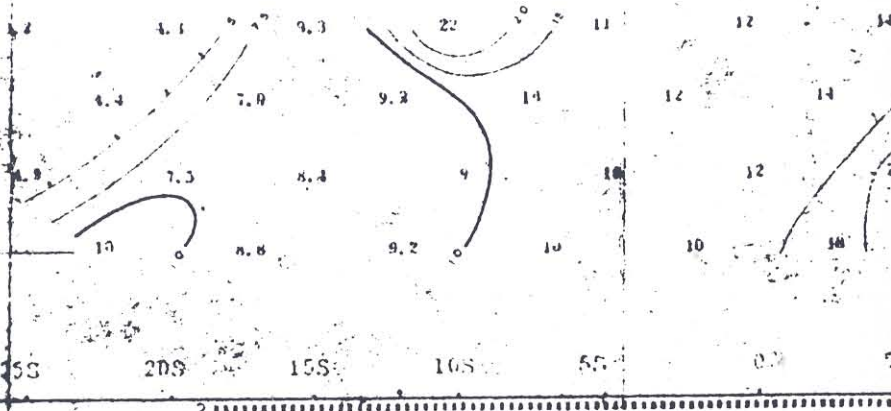
Dated: October 10, 1963.

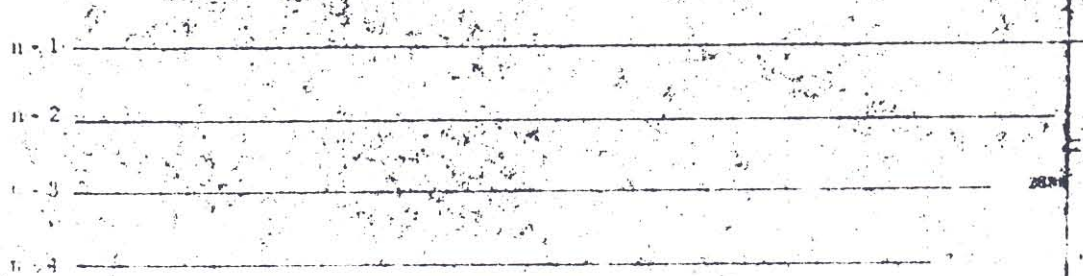
McPHAR GEOPH ICS LIM

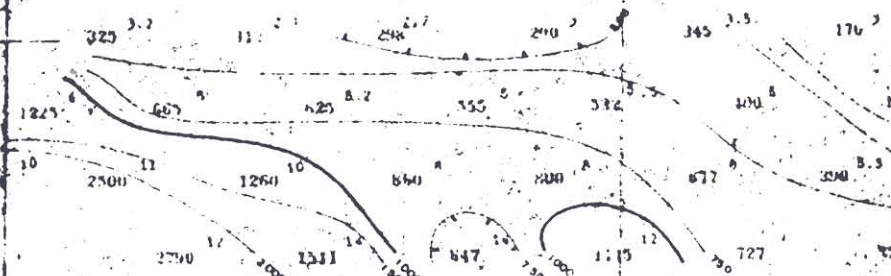
INDUCED POLARIZATION AND RESISTIVI











ANOMALOUS ZONE ——————

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMP

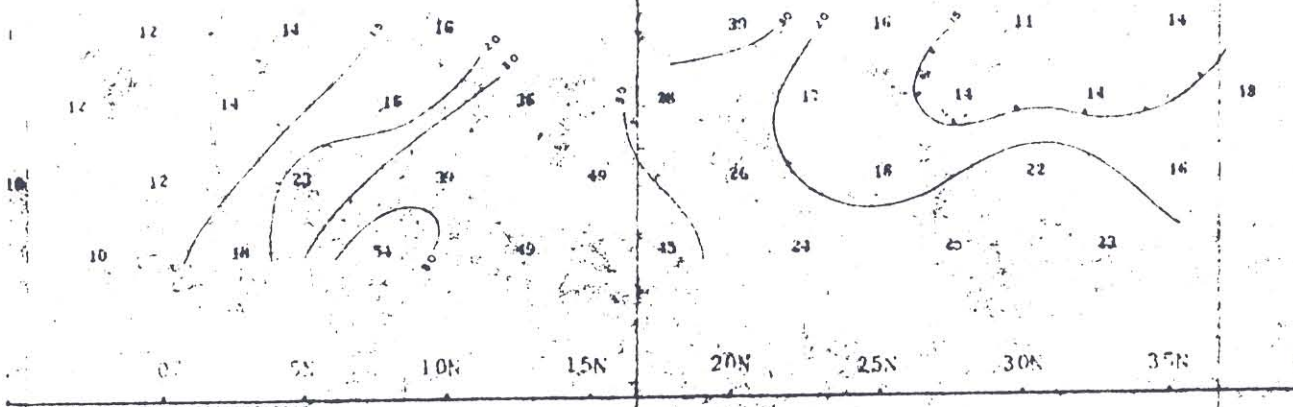
CALICO PROSPECT, WALKER RIVER, PAIUTE RESER

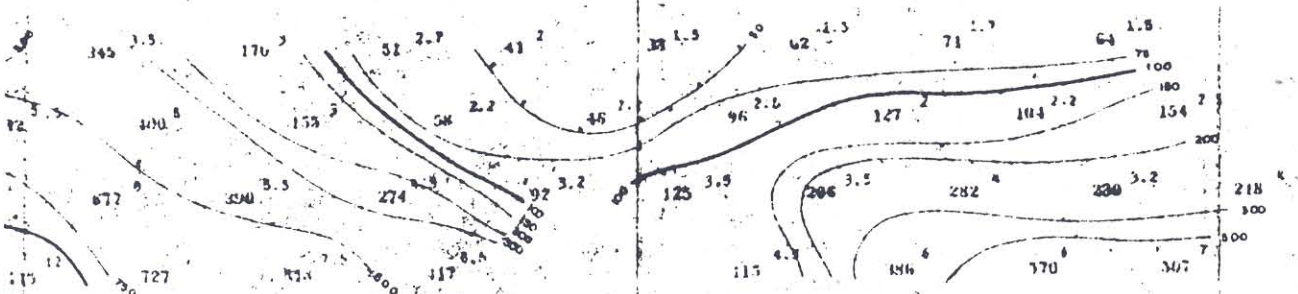
Scale-One Inch = 500 Feet

DWG. NO.-I.P.-2106-1

HYSICS MITED

AND RESISTIVITY SURVEY





LINE NO.-LITTLE CALICO

NING COMPANY

ER, PAIUTE RESERVATION, NEVADA.

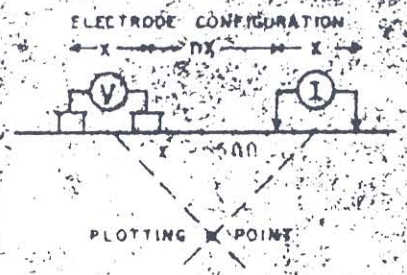
Inch = 500 Feet

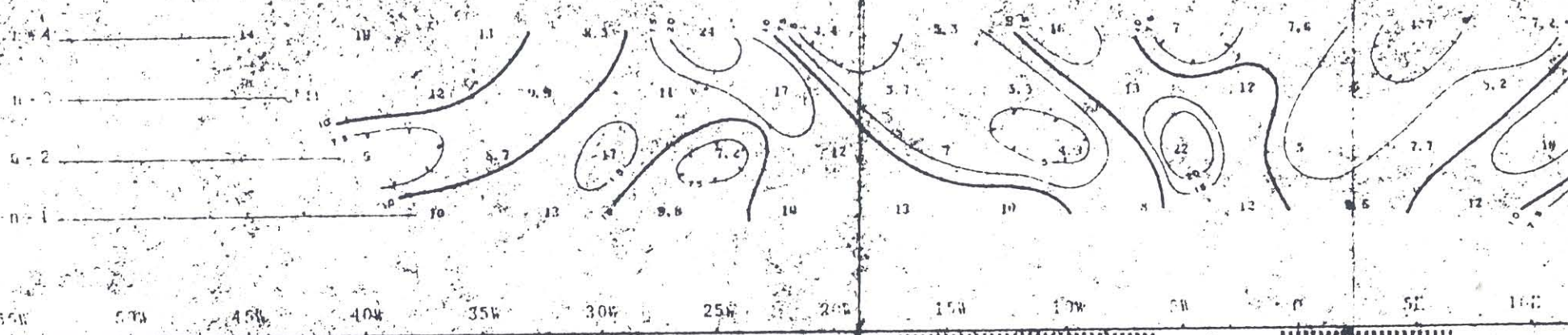
FREQUENCY 0.5 CPS
DATE SURVEYED - SEPT '63
APPROVED PA
DATE 10/4/63
PHOENIX GEOPHYSICS LIMITED

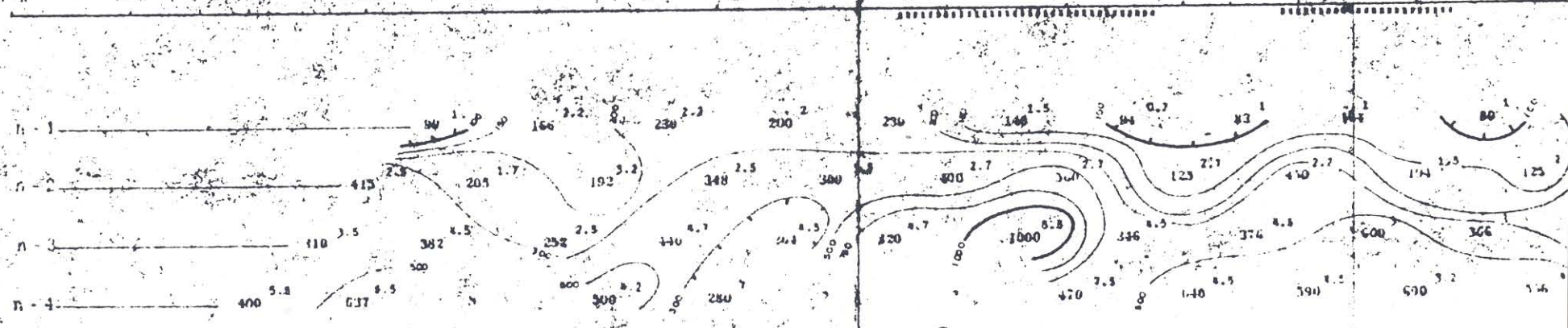
#2

McPHAR GEOPH ICS LIM

INDUCED POLARIZATION AND RESISTIVI







ANOMALOUS ZONE ——————

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMP

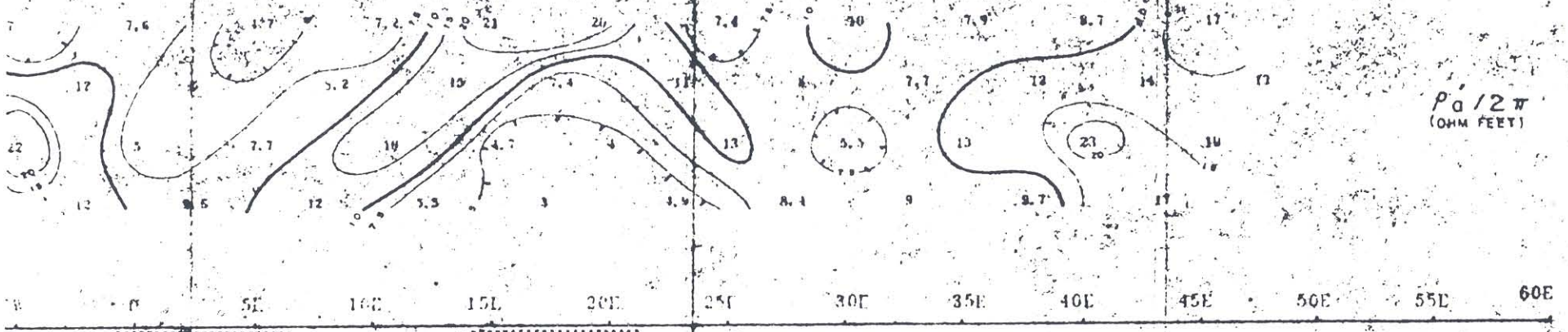
HOTTENTOT PROSPECT, WALKER RIVER, PAIUTE RE

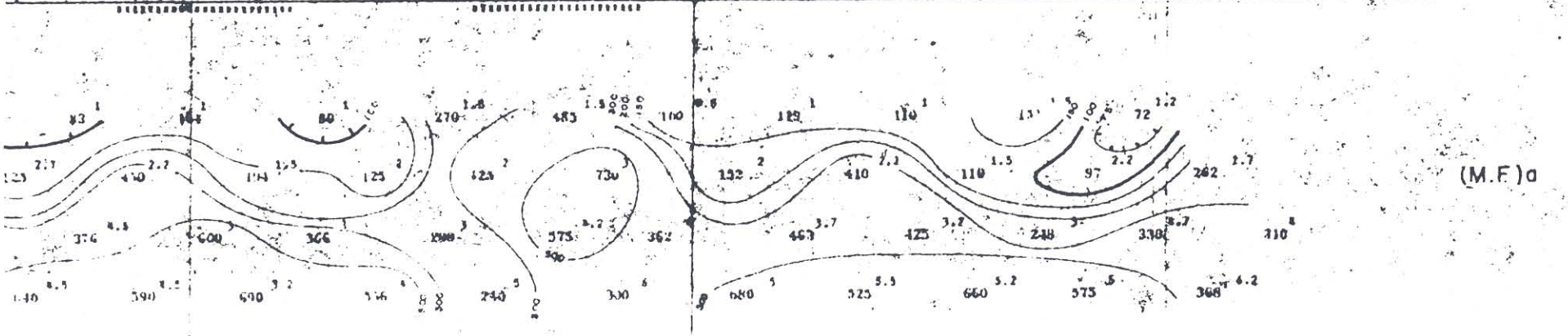
Scale-One inch = 500 Feet

DWG. NO.-I.P.-2186-2

R GEOP SICS LIMITED

ARIZATION AND RESISTIVITY SURVEY





LINE NO.-(E-W.)

TEL MINING COMPANY

T, WALKER RIVER, PAIUTE RESERVATION, NEVADA.

Scale-One inch = 500 Feet

FREQUENCY-3.125CPS

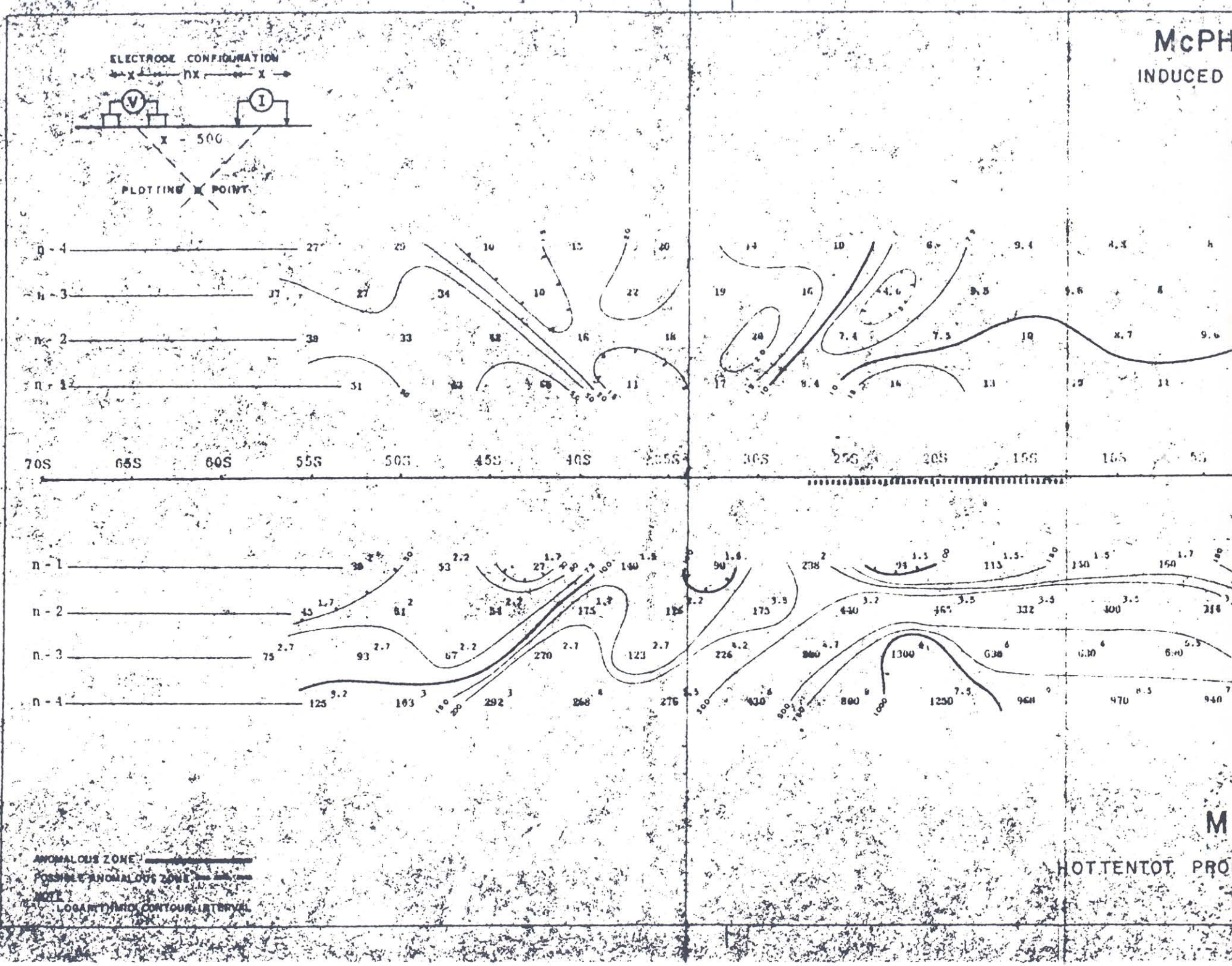
DATE SURVEYED-SEPT-OCT

APPROVED

DATE 10/9/63

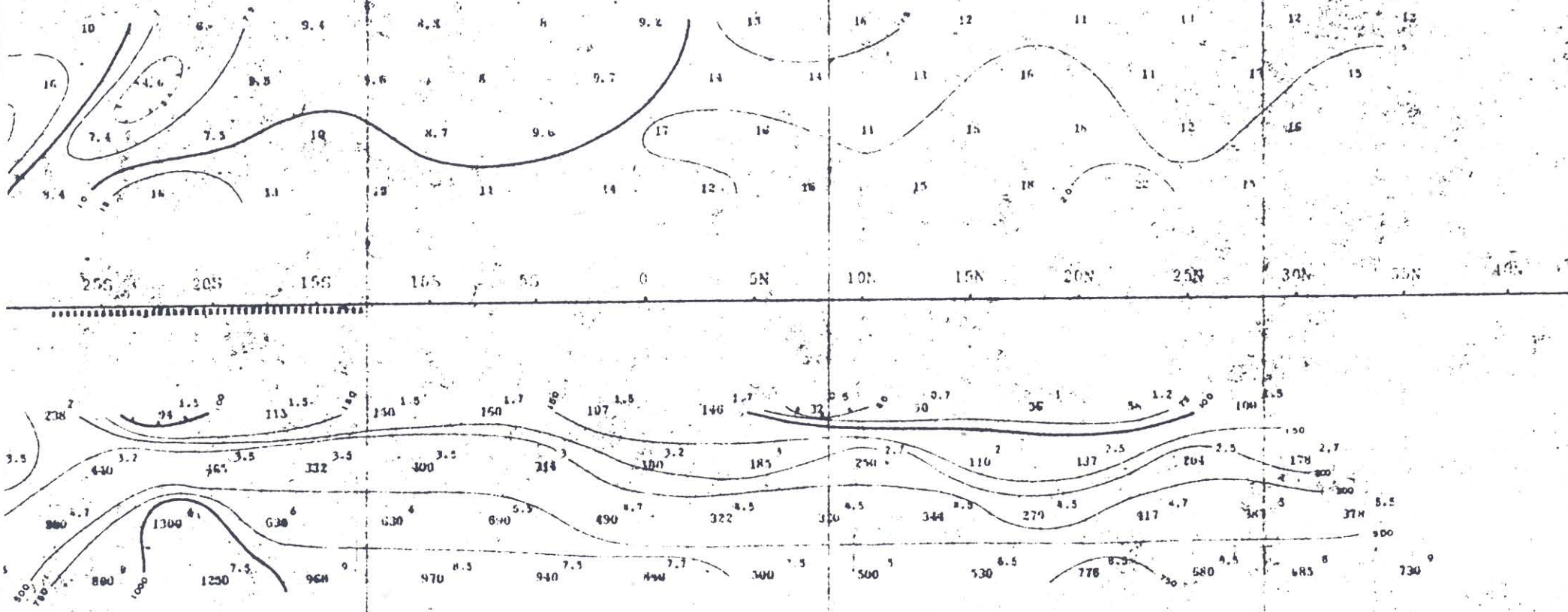
HAWK GEOPHYSICS LIMITED

#2


McPH
INDUCED
ELECTRODE CONFIGURATION
X
nX
X
V
I
X = 500
PLOTTING POINT
n = 4
n = 3
n = 2
n = 1
70S
65S
60S
55S
50S
45S
40S
35S
30S
25S
20S
15S
10S
5S
ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE
NOTE
LOGARITHMIC CONTOUR INTERVAL
M
HOTTENTOT PRO

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



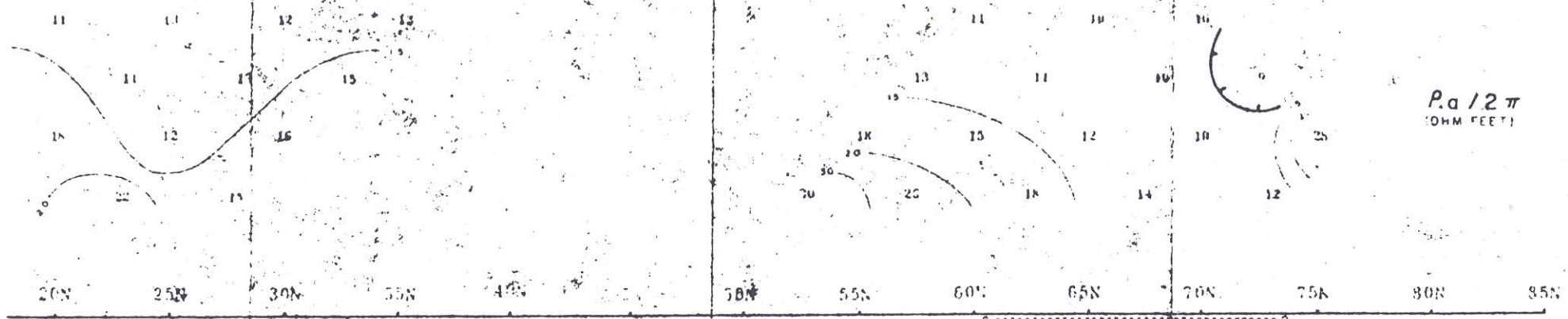
MARTEL MINING COMPANY

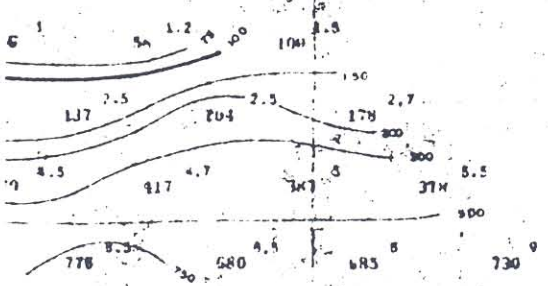
HOTTENTOT PROSPECT, WALKER RIVER PAIUTE RESERVATION, NEVADA.

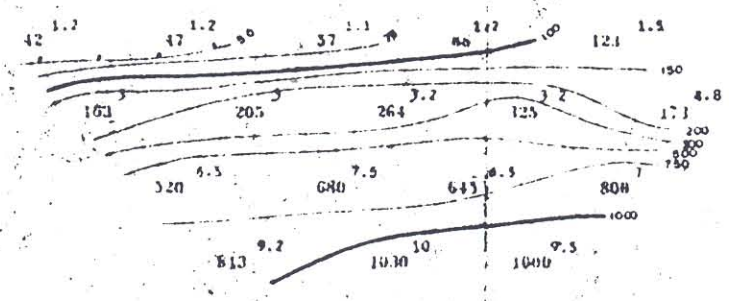
Scale—One inch = 500 Feet

DWG. NO. [illegible]

ITED
SURVEY







LINE NO.- (N-S)

NY

RVATION, NEVADA.

FREQUENCY - 31 - 5 CPS

DATE SURVEYED [illegible]

APPROVED

DATE 10/4/63

#2

6000 0136 (0540)
#4

REPORT ON
INDUCED POLARIZATION
AND RESISTIVITY SURVEYS
WALKER RIVER AREA
PAIUTE RESERVATION, NEVADA
FOR
MARTEL MINING COMPANY

#4

McPHAR GEOPHYSICS LIMITED

REPORT ON

INDUCED POLARIZATION

AND RESISTIVITY SURVEYS

WALKER RIVER AREA

PAIUTE RESERVATION, NEVADA

FOR

MARTEL MINING COMPANY

1: INTRODUCTION

In the last year, Martel Mining Company has been carrying out a mineral exploration program on the Paiute Reservation in the Walker River Area southeast of Reno, Nevada. Some of this work has centered about magnetic anomalies originally located by an airborne survey. In other areas exploration has been suggested by surface conditions indicated by geologic mapping.

The induced polarization method has been used in several areas to detect the presence of metallic mineralization. These results have been described in previous reports. The results described in this report were measured as a continuing part of the program.

2. PRESENTATION OF RESULTS

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

anomaly of moderate strength from about 5S to 10N-15N, with a stronger section near the north edge at 10N. The wide part of the zone appears to be shallow (i. e. less than the spread interval of 500 feet), but the stronger section at 10N is at somewhat greater depth. The southern edge of the zone is complicated by the higher values obtained for the wide separations. Either the zone is becoming broader at depth or there is a second source at considerable depth from 10S to 15S.

Line 600W

On this line there is a strong anomaly centered at 5N-10N . with weaker extensions to about 0 and 15N. As on the previous lines, the overall zone appears to be shallow, with a more concentrated source at somewhat greater depth within it.

Line 300W

The strong section now lies on the southern part of the zone, at 5N to 10N, and also shows some depth to the source. Weaker effects appear to continue to station 20N.

Line 0+00

This line was surveyed with 500 foot and 250 foot spreads. The data suggests a broad zone of weak effects at depth, probably greater than the 250 foot station interval. Within this broad zone there is a stronger and more definite section between 5N and 12. 5N. The small increase in the observed values on the wide separations suggests a possible weak source at 22. 5N to 25N. The data indicates that the source is too deep for

a station interval of 250 feet and hence all subsequent work employed a 500 foot interval.

Line 300 East

The 250 foot data indicates a strong anomaly at depth centered near 10N. There is a weak extension of the zone to about 15N with a possible second source at depth under 20N. In addition there is a definite increase in the effects on the south end of the line, but the pattern is incomplete.

The 500 foot spreads also show a strong anomaly centered at 10N with a weaker extension to the north. There still appears to be some depth to the top of the source even with the large spreads.

Line 600 East

Similar results were obtained on this line, with a definite source at moderate depth centered at 10N.

Line 900 East

The anomaly is broader and weaker on this traverse, with the main section at 5N to 10N.

b) Aspiring

A single line was surveyed on this grid using 500 foot spreads and low frequencies (0.1-1.25 cps). The results show a strong broad anomaly at considerable depth centered at 10N-15N. There is also a weaker anomaly at the south end of the line, but the pattern is incomplete.

Because of the low resistivity level at depth, the frequency effects at the north end of the line are very low. Coupling effects could account for most of these effects, but the measured frequency effects are somewhat greater than predicted by theory.

c) Hottentot

Two lines were surveyed on this grid to test a possible I.P. anomaly indicated by the earlier survey on the east flank of a prominent magnetic anomaly. The results on Line 200S show an incomplete anomaly at shallow to moderate depth increasing in magnitude to the east. This feature undoubtedly correlates with the possible anomaly previously indicated on Line EW at 15E-20E. On Line 400S there appear to be two sources, a shallow weak feature at 10E-12E and a stronger one at 16E extending beyond the end of the traverse.

Because of the short electrode intervals used on these lines, coupling effects can be ignored. The I.P. effects measured are only moderate in magnitude. Because the anomaly is broad on both lines, the apparent effects measured are probably nearly equal to the true effect in the source. Therefore, only a small amount of metallic mineralization would be required to cause the I.P. effects measured.

d) Calico

A previous line has been surveyed at the Little Calico Magnetic Anomaly using 500 foot electrode intervals and 5.0 cps. Some inductive coupling effects would have been expected due to the relatively low resistivities, but the frequency effects measured were large enough to

indicate the presence of some I.P. effect.

Part of the N-S Line at the Little Calico has been repeated using .07 and 1.25 cps. Using these frequencies, the inductive coupling effects would be small even for n=4. The resistivity plot for the repeated survey is exactly the same as for the previous survey. The frequency effects are smaller because inductive coupling effects have been removed, but two definite I.P. anomalies are indicated. The pattern is not complete, but the sources seem to be indicated to be at depth. The I.P. anomalies seem to be on the flanks of the magnetic high.

A long line has been surveyed along the northeast flank of the Calico Magnetic Anomaly. The line extends just past the center of the magnetic anomaly to the southeast, and well out into the magnetically flat area to the northwest. All of the measurements along the line indicate anomalous I.P. effects at depth.

The apparent resistivities are somewhat low, and because of the large electrode intervals used some frequency efforts would be expected from inductive coupling. However, for resistivities in the range 7.5 to 10 the frequency effects due to coupling for n=3 would be 3.5 to 4.5 per cent. The frequency effects measured are at least twice this magnitude.

4. CONCLUSIONS AND RECOMMENDATIONS

This latest series of lines surveyed on the Paiute Reservation on behalf of Martel Mining Company have indicated the advantages of using 1.25 cps and thereby reducing the extraneous effects due to inductive coupling. Several I.P. anomalies have been located; some of them may warrant drilling.

a) Afterthought

The definite anomalies located in the survey on this grid can be correlated into a zone, as shown on Dwg. Misc. 3053. The I.P. anomaly obviously extends further to the east and west; it is closely associated with a zone of contact metamorphism along the northern edge of an intrusive. The I.P. anomalies indicate relatively concentrated metallic mineralization, and drilling is indicated.

The anomaly varies from line to line, and the strongest anomalies are located on Line 900W, Line 600W, Line 300E and Line 600E. The most definite patterns indicate sources centered at 7+50N on Line 600W and at 10+00N on Line 300E. Because the sources of the largest I.P. effects could be relatively narrow, less than 300 feet wide, the lateral positioning may not be exact. Therefore, it would be most desirable to drill angle holes. The angle holes should pass beneath the center of the anomalies at a depth of 500 - 700 feet.

If it is not practical to drill angle holes, the first vertical hole should be spotted at the center of the anomalies. In this situation, it must be kept in mind that the first hole might not intersect the most concentrated mineralization. They should be drilled to a depth of 650 to 750 feet.

b) Aspiring

The single line surveyed in this area indicates zones of very low resistivities and appreciable I.P. effects. Inductive coupling effects would cause some complications in the interpretation in this area, because

of the very low resistivities. The I.P. effects measured should be correlated with the available geologic information in any attempt to determine their significance. If further work appears to be warranted, the lines should be extended and parallel lines surveyed.

c) Hottentot

The detailed measurements with short electrode intervals have indicated the presence of very low resistivity rocks at the surface. Broad, weak I.P. effects are associated with some of the areas. This situation is confirmed by the extension of Line 200S and Line 400S using .07 and 1.25 cps. The anomalous I.P. effects are wide spread, and relatively low in magnitude. They appear to indicate small amounts of metallic mineralization scattered irregularly through the rocks. Small zones of more concentrated mineralization may be located near-surface (some have been intersected in the drilling), but no large volume is indicated.

d) Calico

The line repeated using low frequencies at the Little Calico confirms the anomalous effects previously indicated. The results are not complete enough to permit rigid interpretation, but the source of the I.P. anomaly does not correlate with the magnetic high! If geologic evaluation of the area indicates that further investigation is warranted, additional measurements will be required to outline the sources.

The single line surveyed at the Calico Magnetic Anomaly indicates an extremely broad I.P. anomaly that extends well beyond the

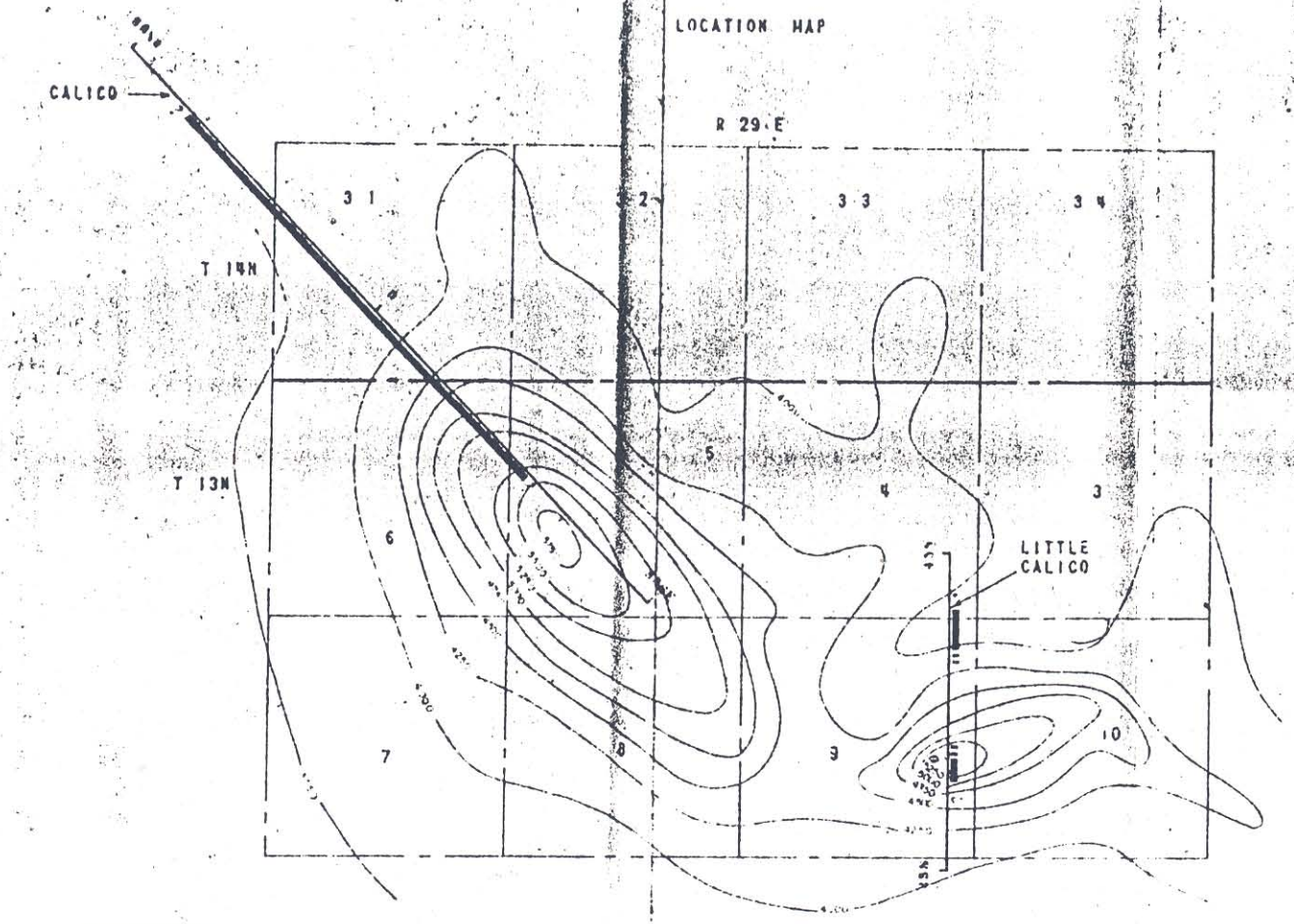
[illegible] high. The sound [illegible]

since the [illegible]

6000 0136 (0540)

McPHAR GEOPHYSICS LIMITED

LOCATION MAP



ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

SECTION BOUNDARY

MAGNETIC CONTOUR

MARTEL MINING COMPANY

LITTLE CALICO and CALICO PROSPECT, PAIUTE RESERVATION - NEVADA

SCALE 2" = 1 MILE

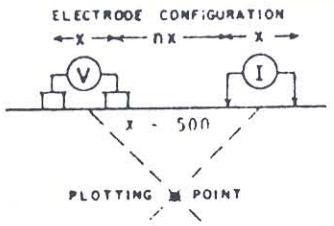
FIG. 1

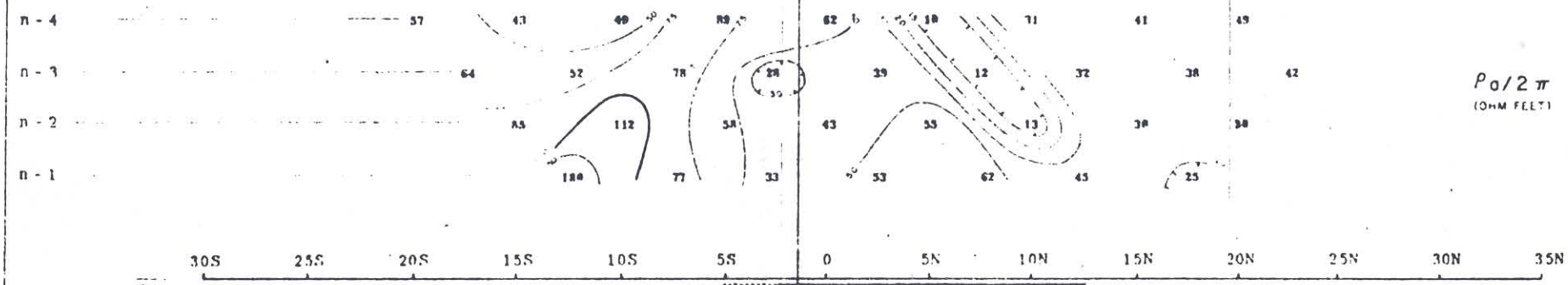
6000 0136 (0540)

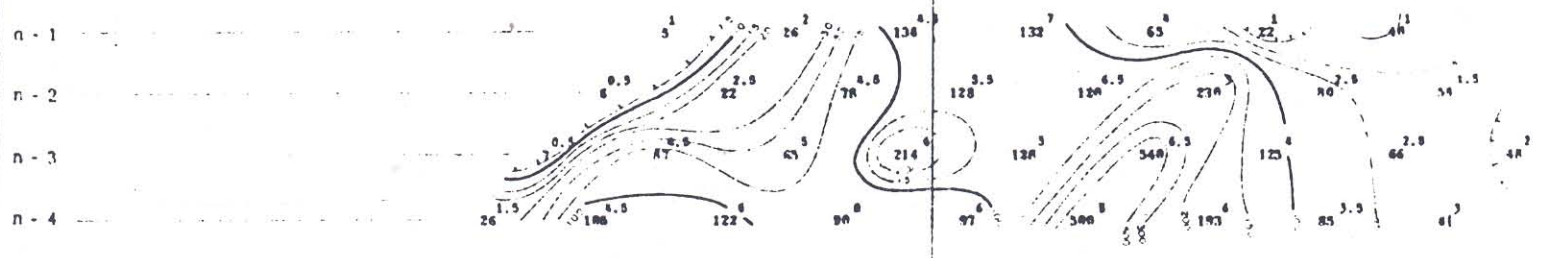
DWG. NO - I.P.-2170-1

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY







LINE NO.-900 W

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 500 Feet

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCY OCT. 1.2 CPS

DATE SURVEYED JUNE 1968

APPROVED PL

DATE 11/8/68

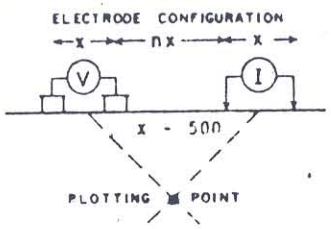
McPHAR GEOPHYSICS LIMITED

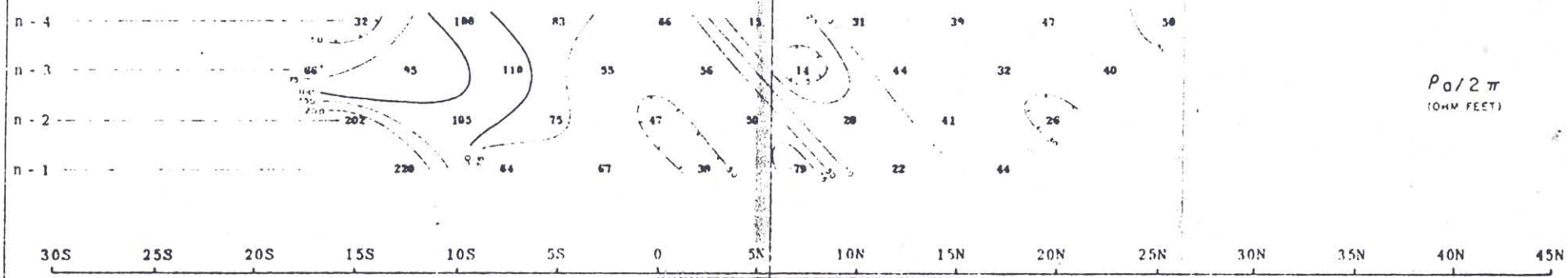
6000 0136 (0540)

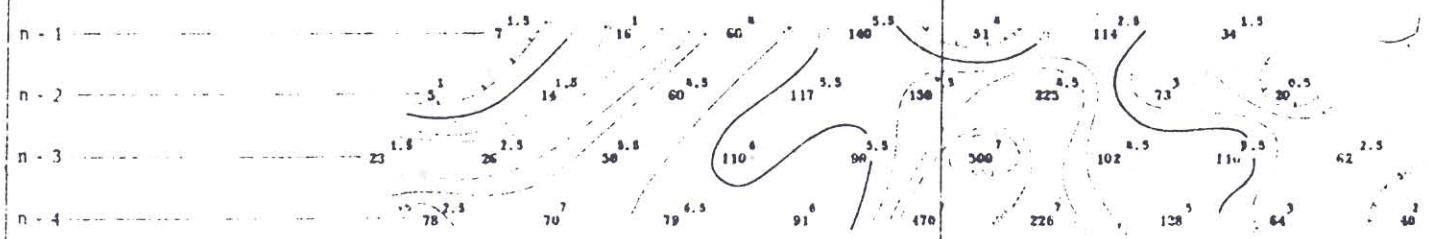
DWG. NO.-I.P.-2170-2

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY







LINE NO.-600W

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

.025 LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 500 Feet

APPROVED

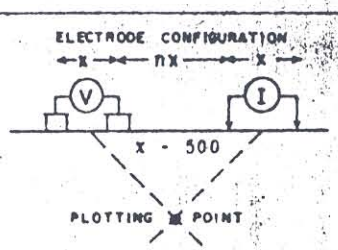
DATE 8/12/69

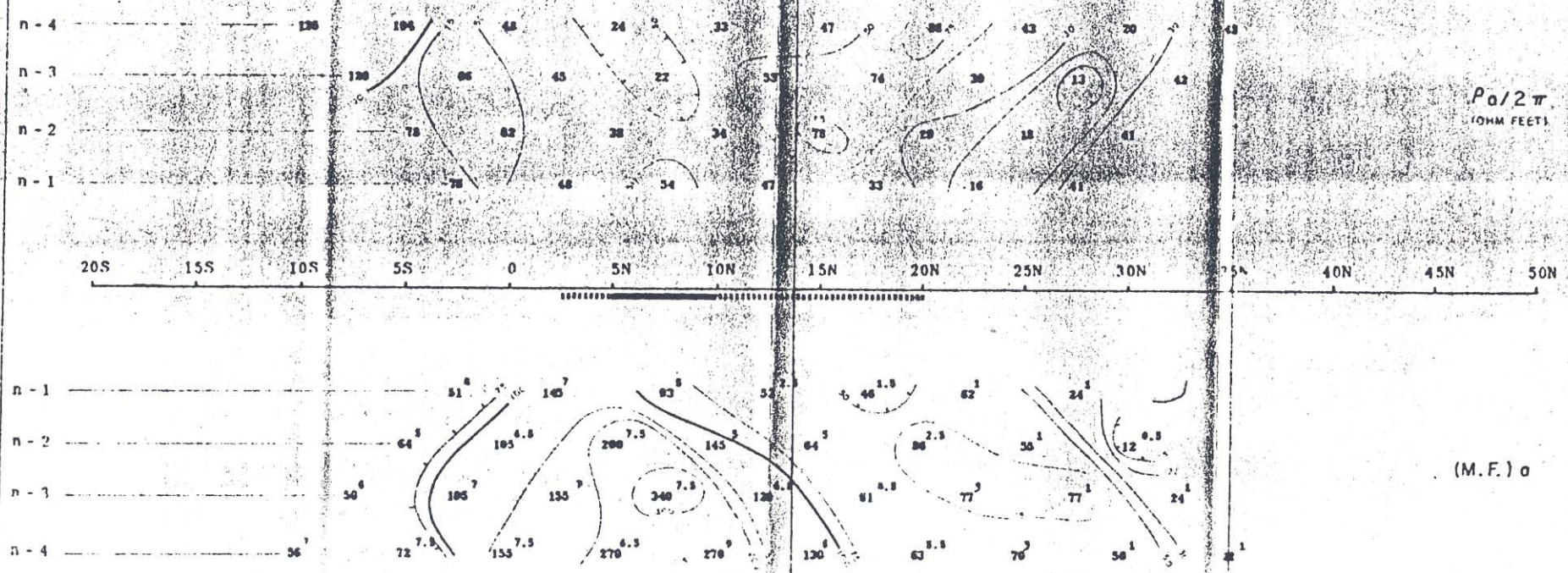
60000 0136 (0540)

DWG. NO.-I.P.-2170-3

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





LINE NO.-300W

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA.

Scale - One inch = 500 Feet

ANOMALOUS ZONE ———

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCIES

DATE SURVEYED

APPROVED

DATE 8/12/64

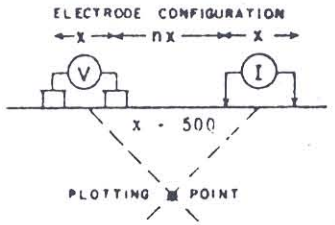
McPHAR GEOPHYSICS LIMITED

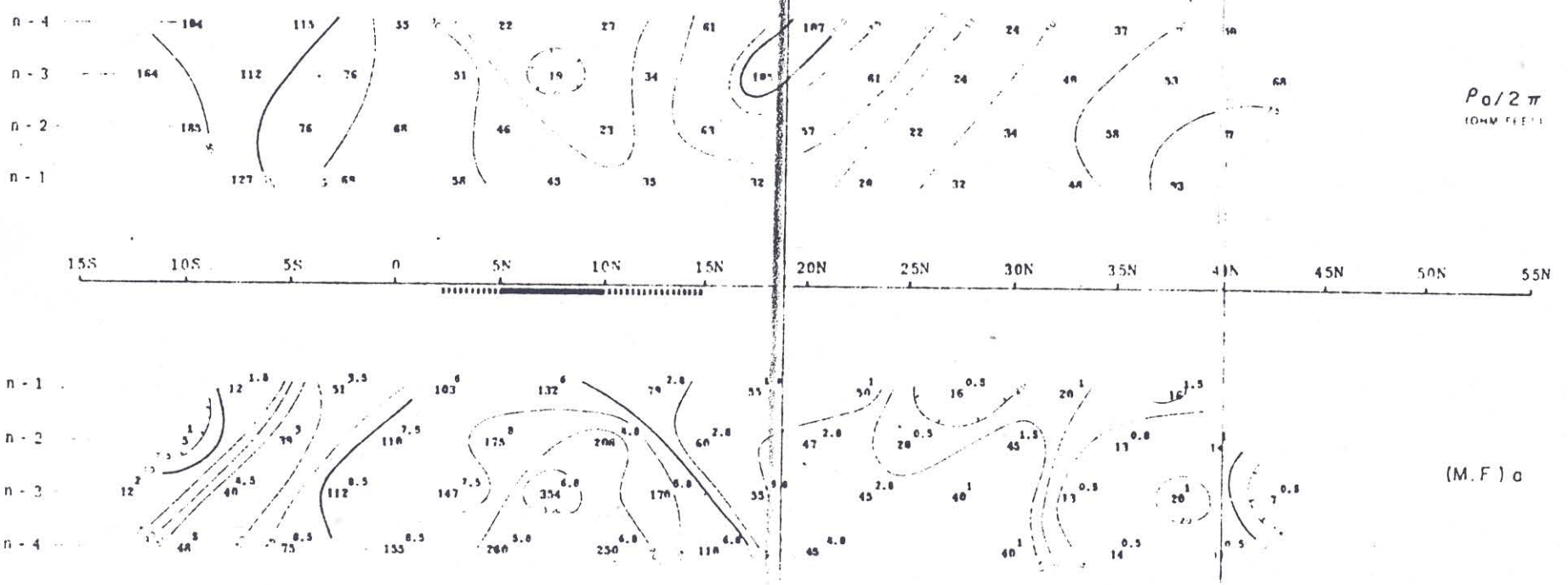
6000 0136 (0540)

DWG. NO.-I.P.-2170-4

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT [illegible] UTE RESERVATION, NEVADA

Scale- [illegible] = 500 Feet

McPHAR GEOPHYSICS LIMITED

APPROVED

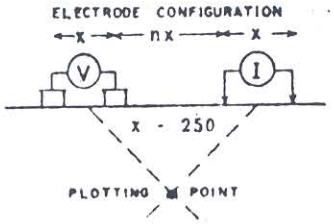
DATE 18/12/64

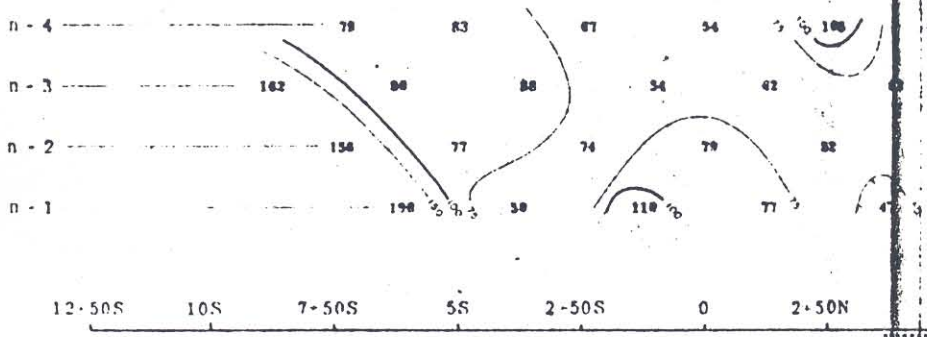
LINE NO - AFE (0)

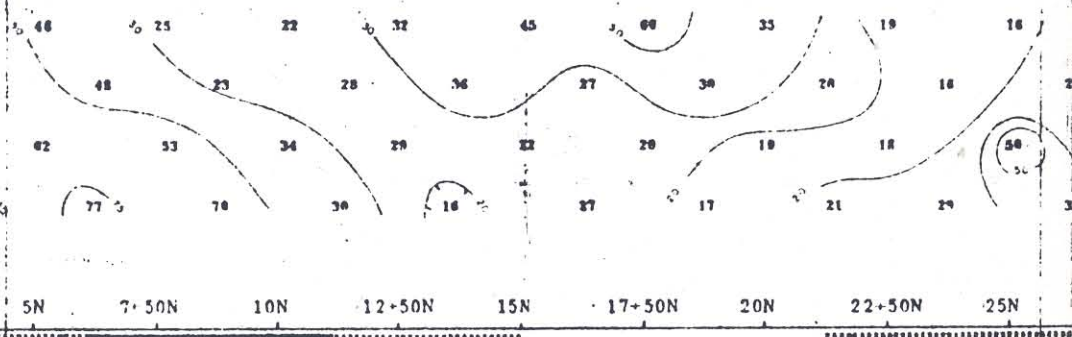
6000 0136 (0540)

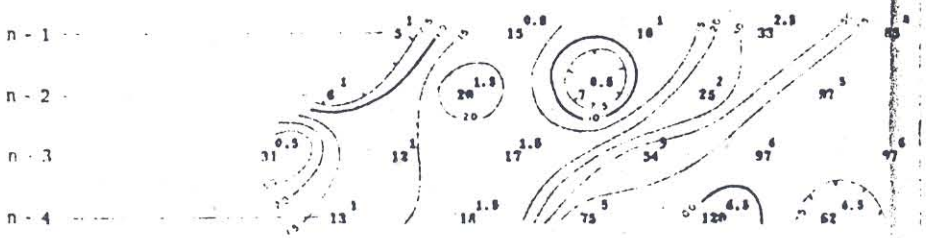
McPHAR GEOPHYSICS LIMITED

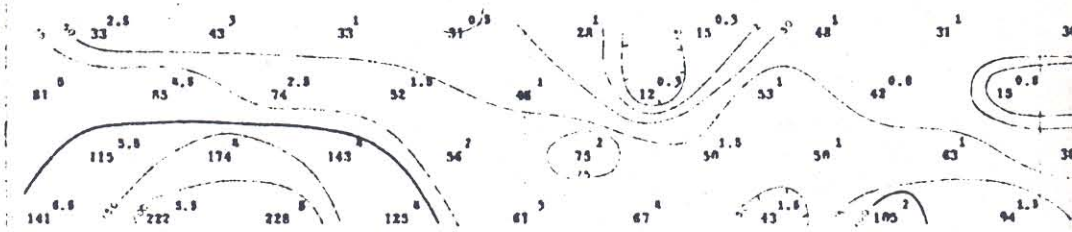
INDUCED POLARIZATION AND RESISTIVITY SURVEY











ANOMALOUS ZONE ——————

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT – PAIUTE RESERVATION, NEVADA

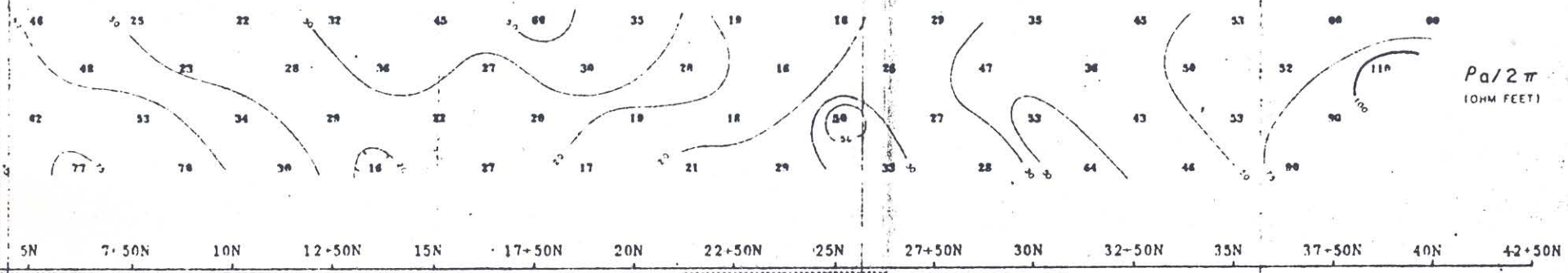
Scale-One inch = 250 Feet

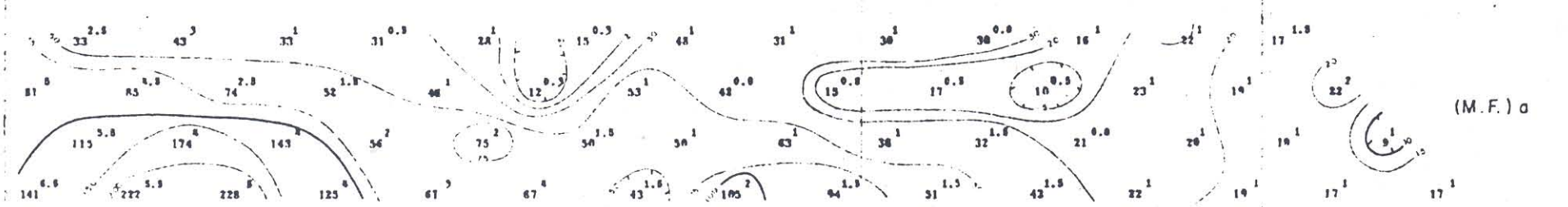
6000 0136 (0540)

DWG. NO.-I.P.-2170-5

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





LINE NO.—"O"

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT — PAIUTE RESERVATION, NEVADA

Scale-One inch=250 Feet

McPHAR GEOPHYSICS LIMITED

FREQUENCY CYCLES/SEC

DATE SURVEYED JUNE 64

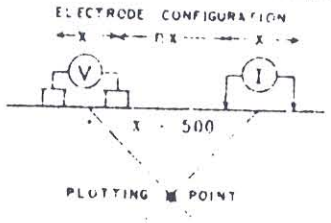
APPROVED PH

DATE 8/12/64

6000 0136 (0540)

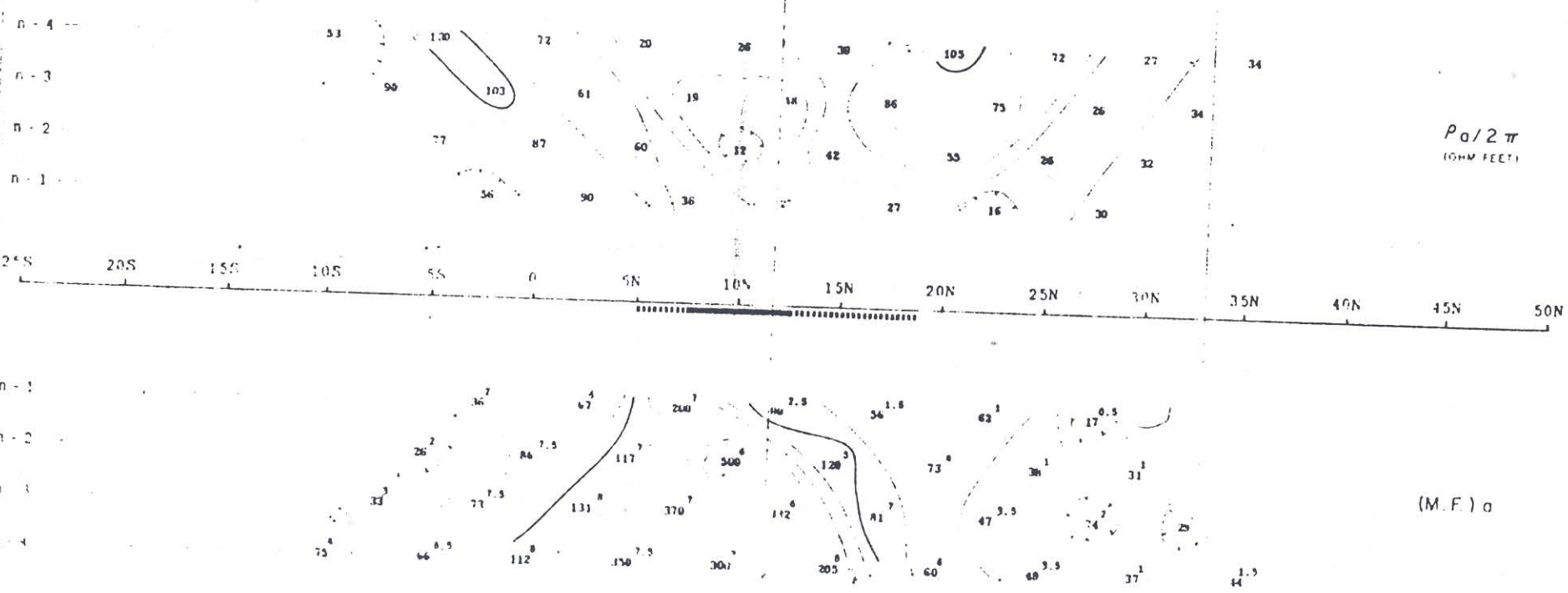
DWG. NO.-I.P-2170-6

ELECTRODE CONFIGURATION



McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



LINE NO. - 300E

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA

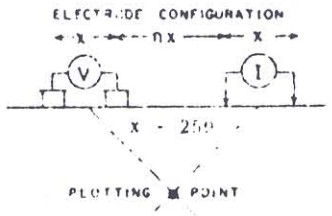
Scale: One inch = 500 Feet

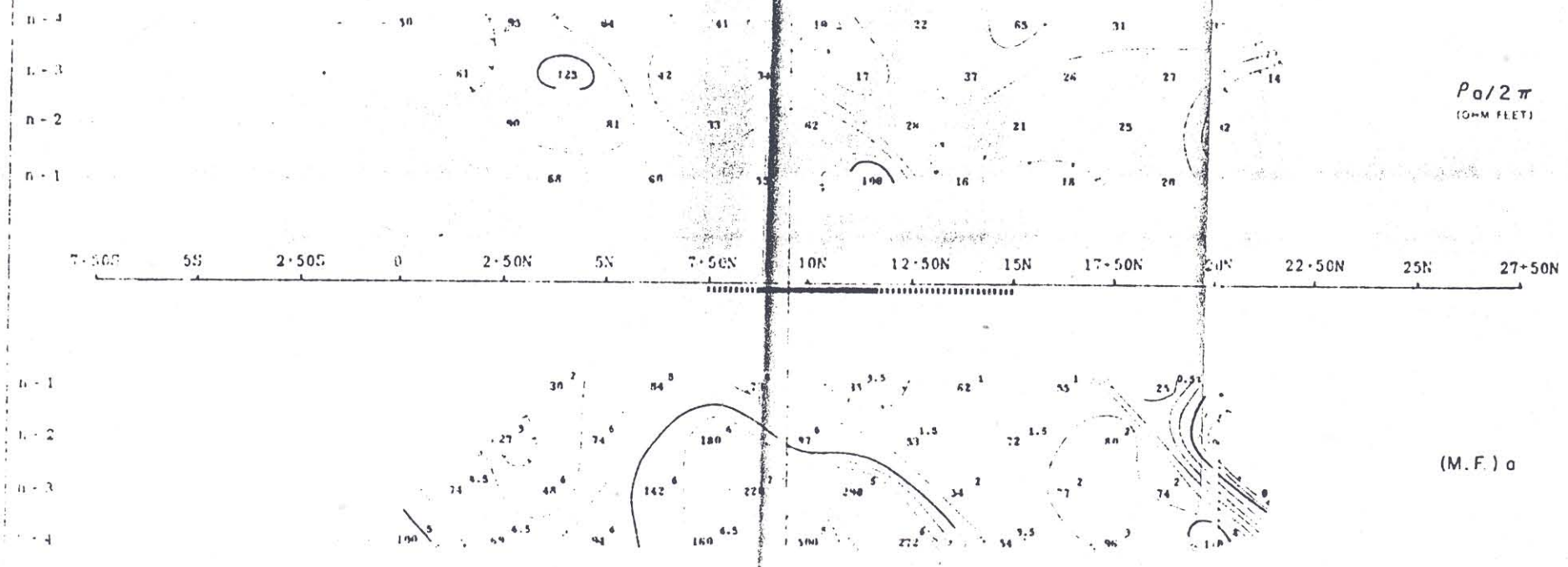
6000 0136 (0540)

DWG. NO. - I.P.-2170-7

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





LINE NO. - 300 E

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 250 Feet

FREQUENCY .01 - .3 CPS

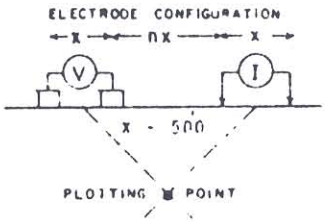
APPROVED PI

DATE 9/12/64

McPHAR GEOPHYSICS LIMITED

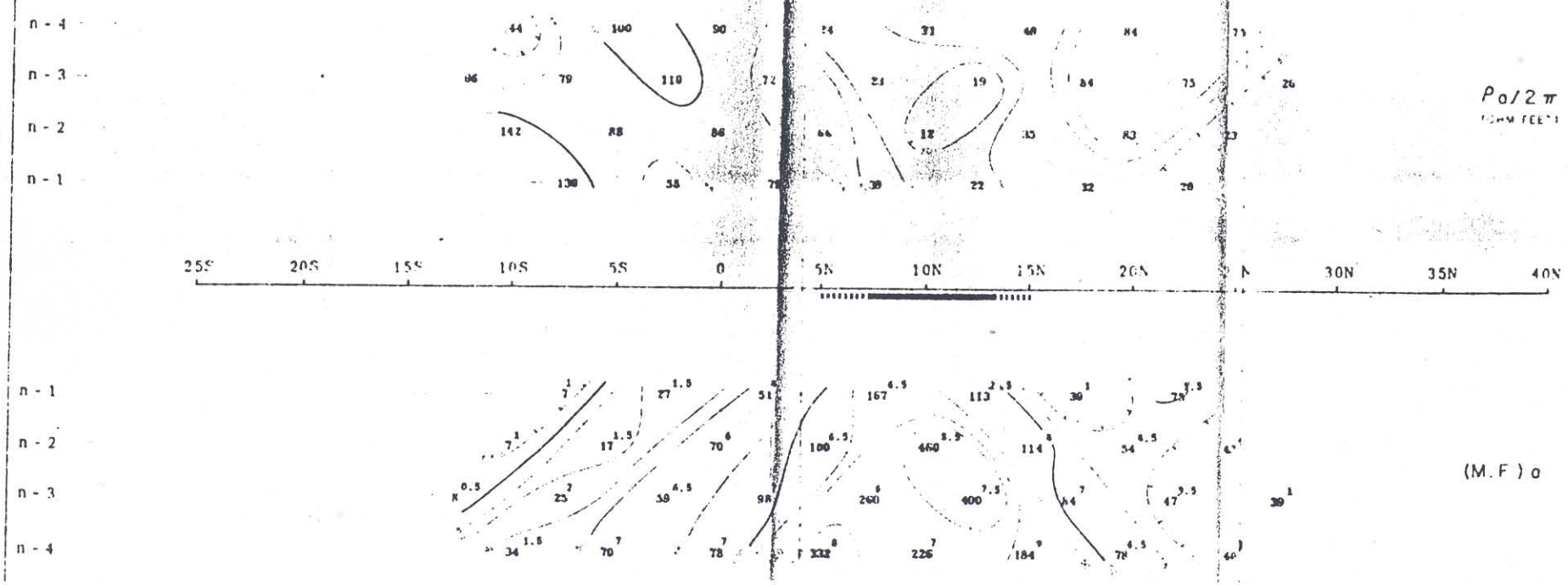
60000 0136 (0540)

DWG NO.-I.P-2170-8



McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



LINE NO.-600E

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

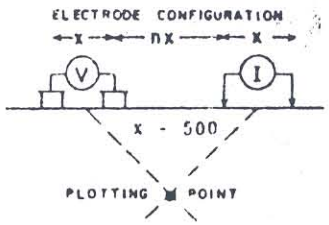
AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 500 Feet

McPHAR GEOPHYSICS LIMITED

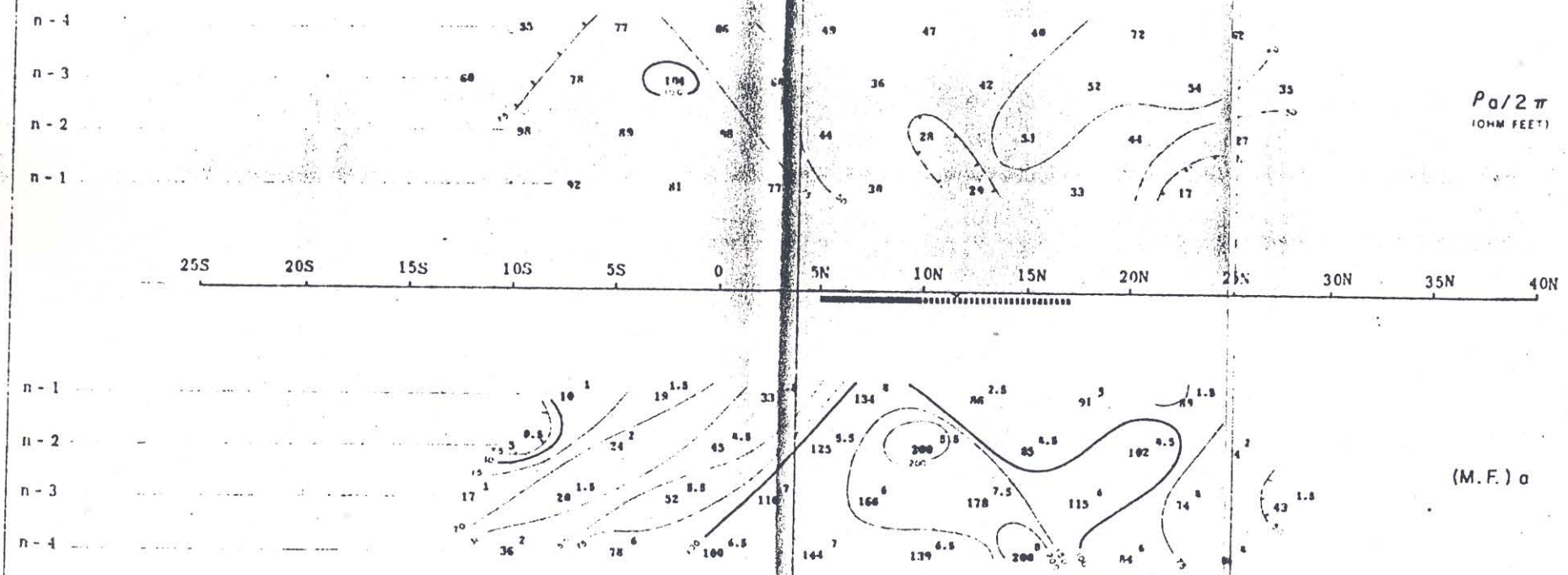
60000 0136 (0540)

DWG. NO.-I.P.-2170-9



McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



LINE NO.-900 E

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT - PAIUTE RESERVATION, NEVADA.

Scale - One inch = 500 Feet

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCY 0.3 - 2.5 c.p.s.

DATE SURVEYED JUNE 1966

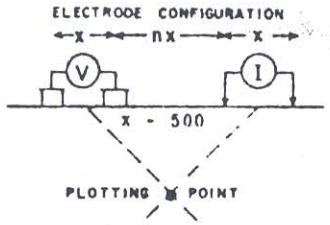
APPROVED

DATE 8/9/66

McPHAR GEOPHYSICS LIMITED

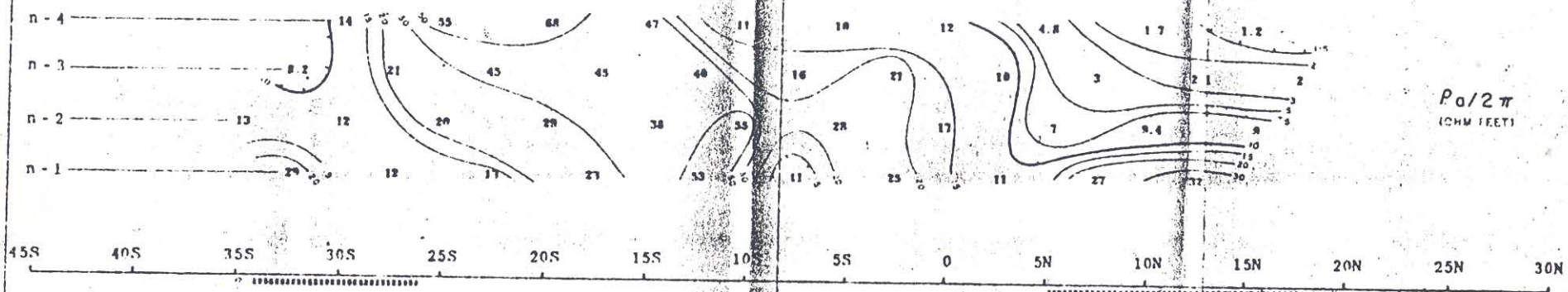
6000 0136 (0540)

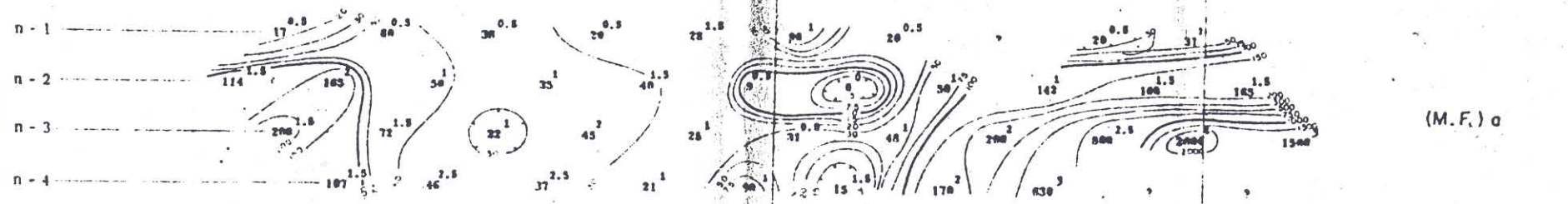
DWG. NO.-I.P.-2170-10



McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





LINE NO.-ASPIRING

ANOMALOUS ZONE ———

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

ASPIRING PROSPECT - PAIUTE RESERVATION, NEVADA.

Scale - One inch = 500 Feet

FREQUENCY 0.3 CYCLES

DATE SURVEYED JUNE 1964

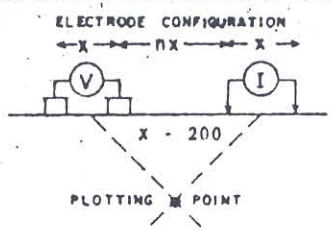
APPROVED

DATE 10/12/64

McPHAR GEOPHYSICS LIMITED

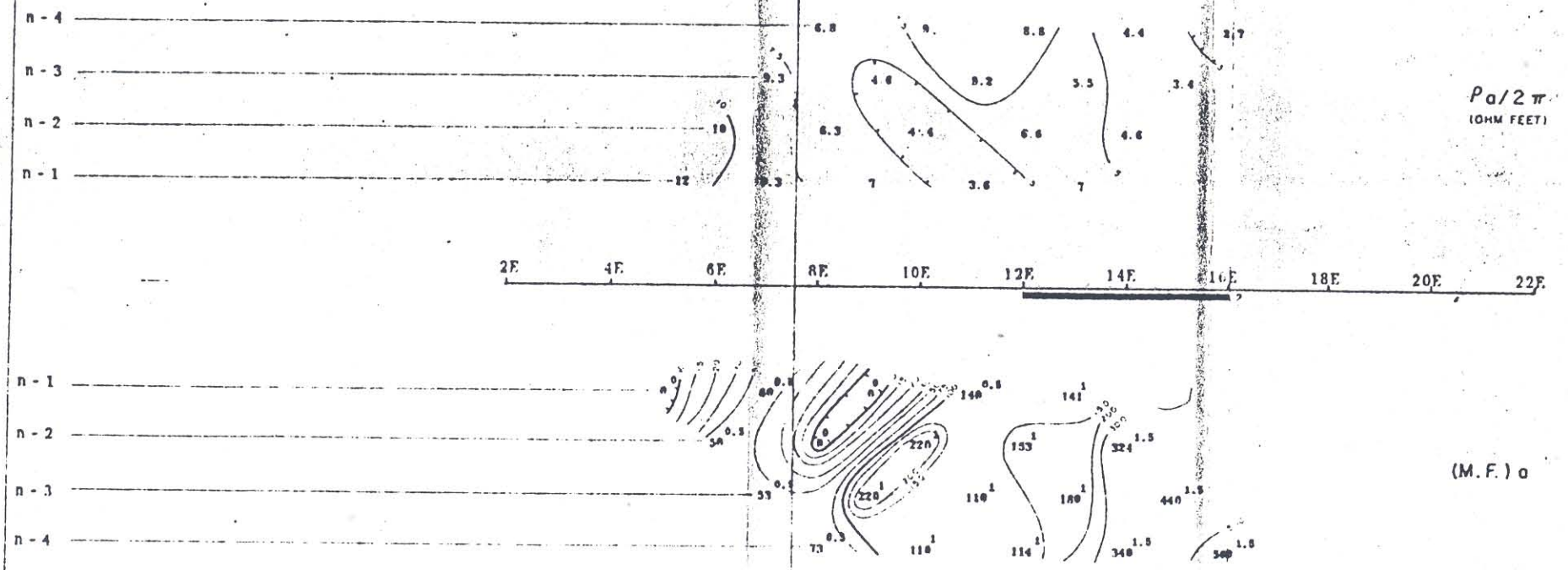
6000 0136 (0540)

DWG. NO.-I.P.-2170-11



McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY



LINE NO.-200 S

ANOMALOUS ZONE ——————

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

MARTEL MINING COMPANY

HOTTENTOT PROSPECT - PAIUTE RESERVATION, NEVADA.

Scale - One inch = 200 Feet

FREQUENCY [illegible]

DATE SURVEYED JUNE 64

APPROVED A

DATE 7/10/64

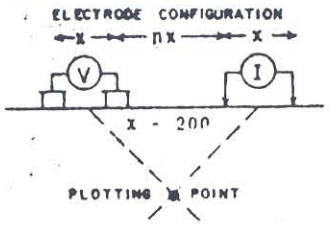
McPHAR GEOPHYSICS LIMITED

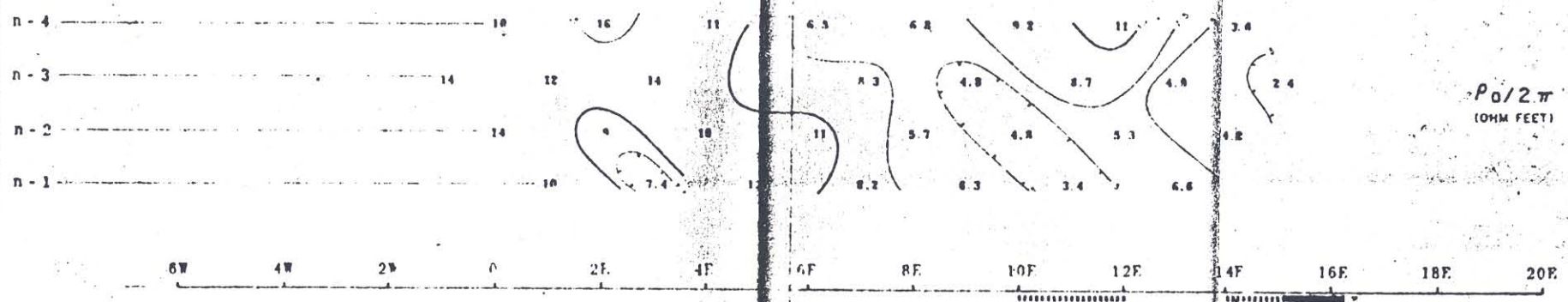
6000 0136 (0540)

DWG. NO.-I.P.-2170-12

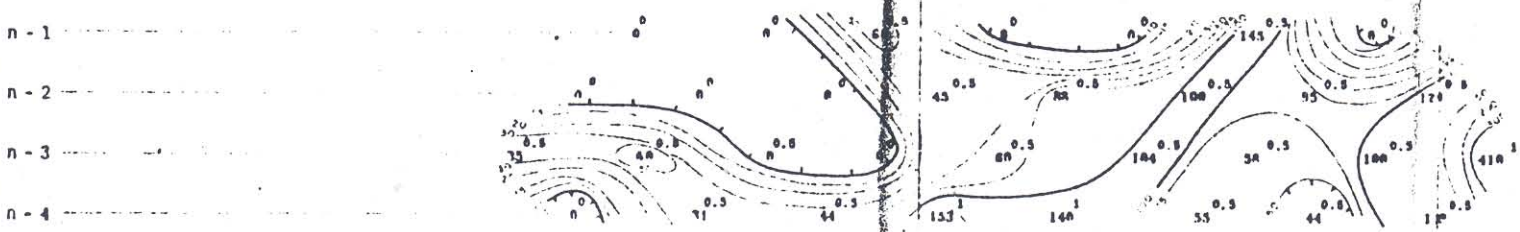
McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





$P_a/2\pi$ (OHM FEET)



(M.F.) a

LINE NO. - 400 S

MARTEL MINING COMPANY

HOTTENTOT PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 200 Feet

ANOMALOUS ZONE

POSSIBLE ANOMALOUS ZONE

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCY LOW CYCLE

DATE SURVEYED JUNE 62

APPROVED PL

DATE 8/12/62

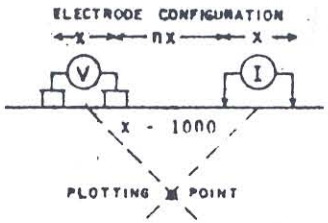
McPHAR GEOPHYSICS LIMITED

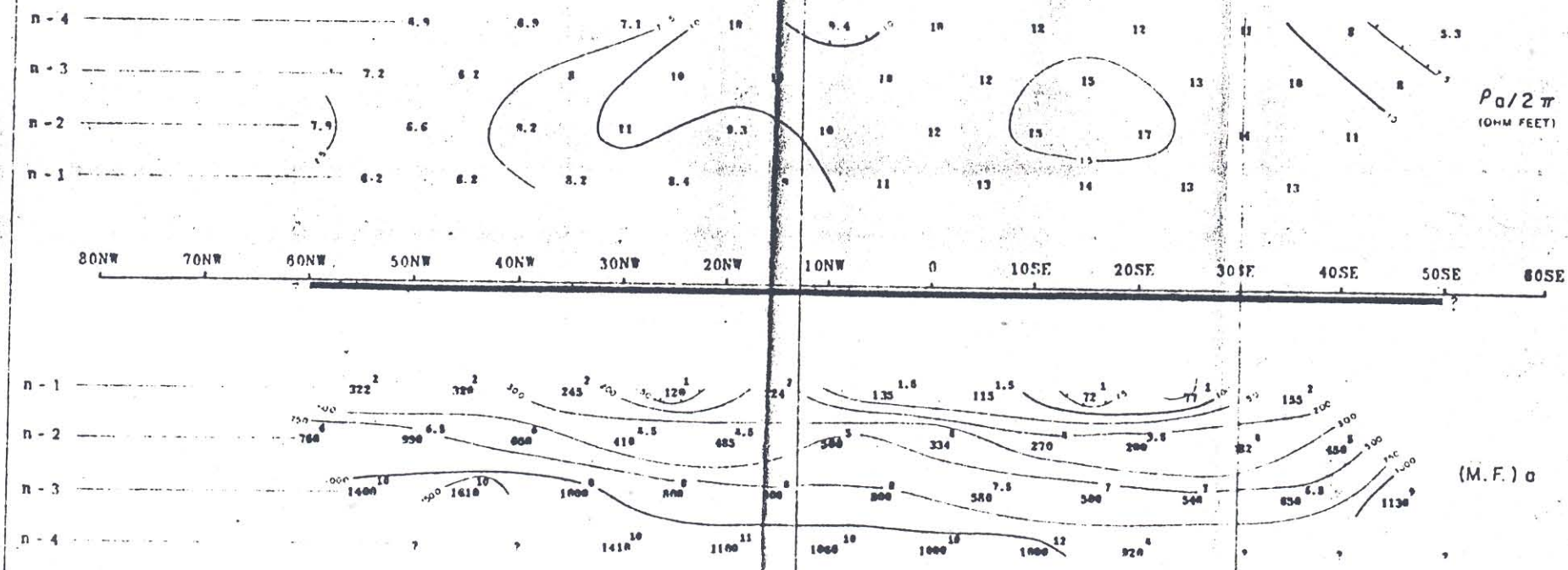
6000 0136 (0540)

DWG. NO.-I.P-2170-13

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY





LINE NO.-CALICO (O)

MARTEL MINING COMPANY

CALICO PROSPECT - PAIUTE RESERVATION, NEVADA

Scale- One inch = 1000 Feet

ANOMALOUS ZONE ———

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCY 0.07 - 1.25 CPS

DATE SURVEYED JUNE 1970

APPROVED PH

DATE 8/14/70

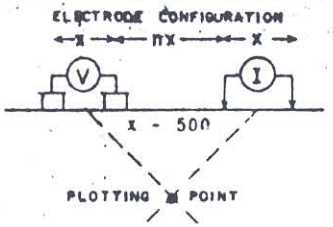
McPHAR GEOPHYSICS LIMITED

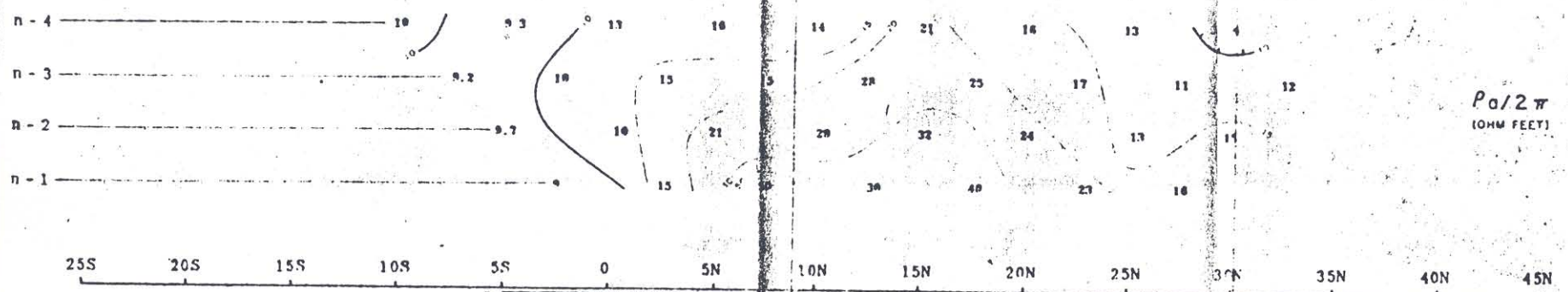
6000 0136 (0540)

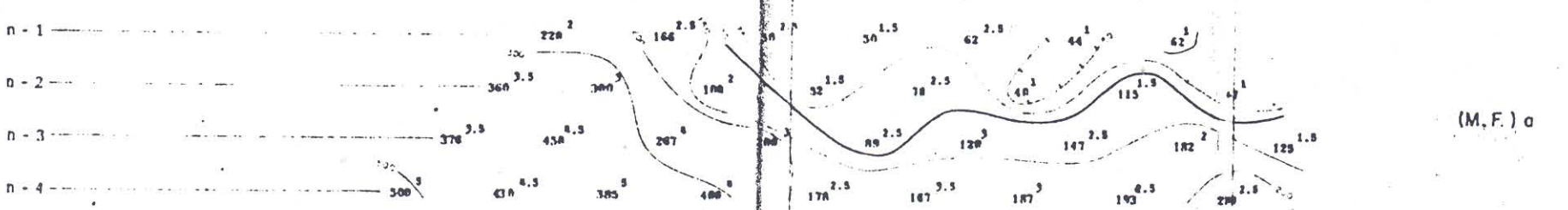
DWG. NO.- I.P.-2170-14

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY







LINE NO.- LITTLE CALICO (N/S)

MARTEL MINING COMPANY

LITTLE CALICO PROSPECT - PAIUTE RESERVATION, NEVADA

Scale - One inch = 500 Feet

ANOMALOUS ZONE ———

POSSIBLE ANOMALOUS ZONE — — —

NOTE
LOGARITHMIC CONTOUR INTERVAL

FREQUENCY 0.5 CPS

DATE SURVEYED JUNE 1964

APPROVED [signature]

DATE 10/1/64

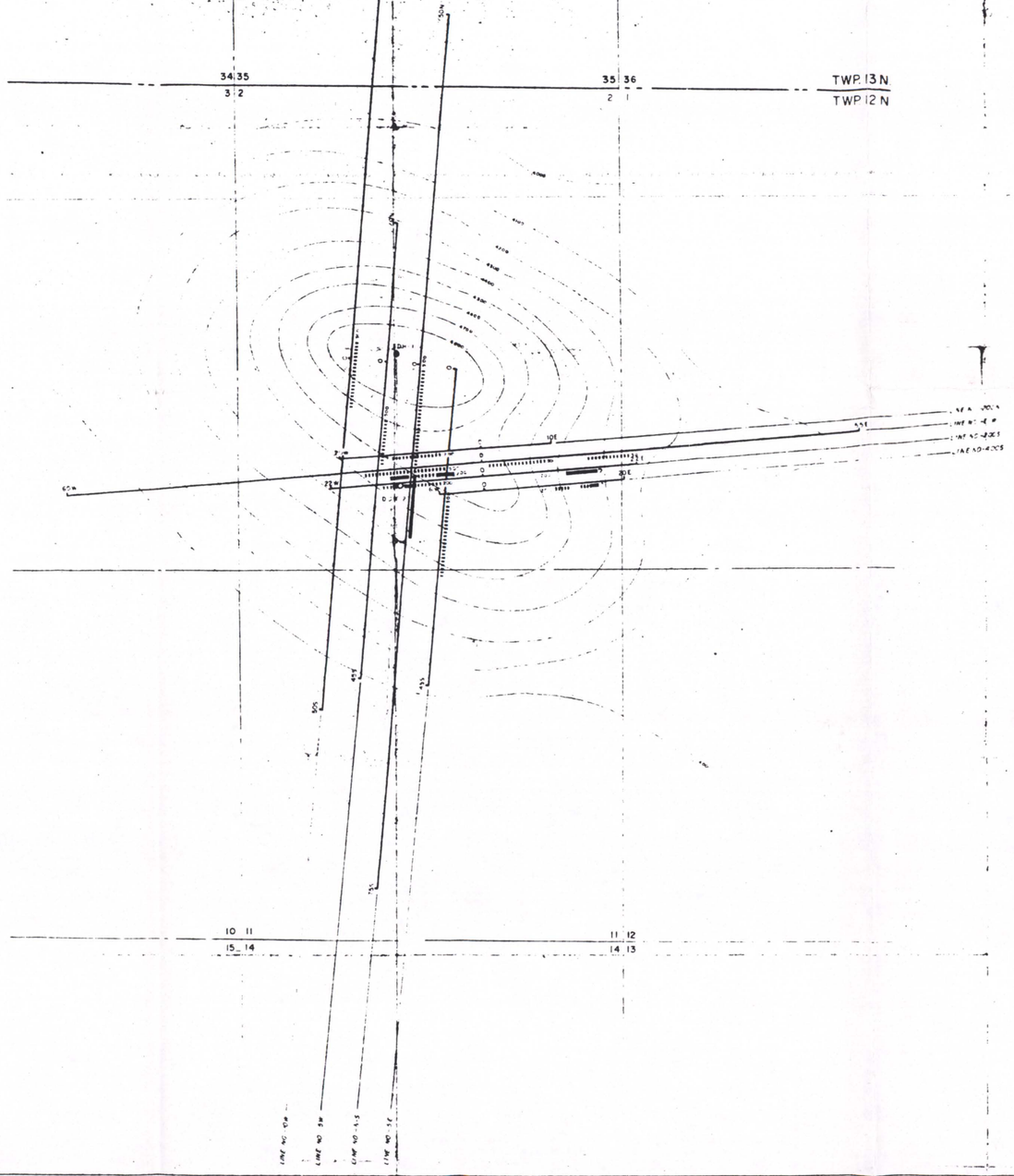
McPHAR GEOPHYSICS LIMITED

(6000 0136 (0540)

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

LOCATION MAP



NOTE:
ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE
SECTION BOUNDARY
TOWNSHIP BOUNDARY
MAGNETIC CONTOUR
DRILL HOLE
NUMBER AT END OF ANOMALOUS NO. AT SPREAD USED

MARTEL MINING COMPANY

HOTTENTOT PROSPECT, WALKER RIVER, PAIUTE RESERVATION, NEVADA

SCALE

One Inch Eight Hundred Feet

#4

McPHAR GEOPHYSICS LIMITED — REVISED — DATE 8/24/66

DRAWN — DATE — APPROVED — DATE 11/15/65

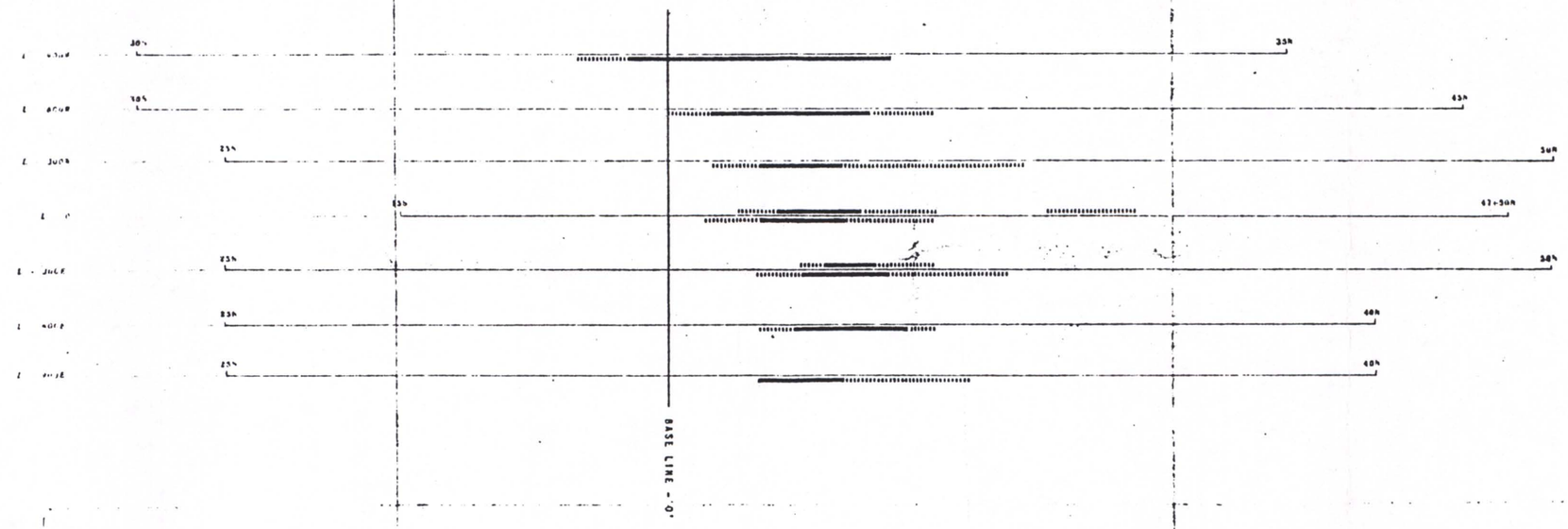
DWG. MISC-4079

60000 0136 (0540)

DWG.MISC.3053

McPHAR GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY
LOCATION MAP



ANOMALOUS ZONE
POSSIBLE ANOMALOUS ZONE .....
ANOMALIES FROM 500' SPREADS BELOW LINE
ANOMALIES FROM 250' SPREADS ABOVE LINE

MARTEL MINING COMPANY

AFTERTHOUGHT PROSPECT – PAIUTE RESERVATION, NEVADA.

SCALE

One Inch Four Hundred Feet

McPHAR GEOPHYSICS LIMITED
APPROVED
8/12/74

#4

DWG.MISC.3053

6000 0136 (0540)

LEGEND

Master Unit Boundary

Identified Existent Corner

Triangulation Station

R.25E. R.26E. R.27E. R.28E. R.29E. R.30E. R.31E.

T.16N. T.15N. T.14N. T.13N. T.12N. T.11N. T.10N. T.9N.

SHEET 1 SHEET 2 SHEET 3 SHEET 4

WALKER

DESERT MTNS

DESERT MOUNTAIN

SEVEN TROUGH MOUNTAINS

WHITE THRONE MOUNTAINS

FOURMILE FLAT

COCOON MTNS

BARNETT HILLS

ASPIRING

SUNSHINE FLAT

WALKER RIVER

AFTERTHOUGHT

CALICO

INDIAN

YERINGTON

LYON

RESERVATION

HOTTENTOT

GILLIS

RESERVATION

THRUST

WALKER LAKE

MOND DIVISION

TOIYABE

HAWTHORNE

NAVAL AMMUNITION

HAWTHORNE

NOTE: STATUS AS OF JANUARY 1962.

U.S DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SHEET NO. 1

WALKER MASTER UNIT

Scale 1/2" = 1 Mile

1962

#1