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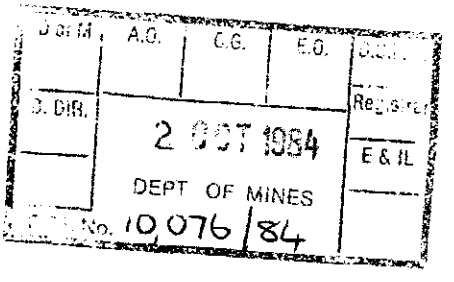
FINAL REPORT ON

A GRADIENT ARRAY ELECTRICAL INDUCED POLARIZATION SURVEY OVER THE WEST SEDGWICK (LAKE MARGARET) GRID

ON BEHALF OF

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.



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PRIVATE AND CONFIDENTIAL

FINAL REPORT ON
A GRADIENT ARRAY ELECTRICAL INDUCED POLARIZATION SURVEY
OVER THE WEST SEDGWICK (LAKE MARGARET) GRID
ON BEHALF OF
THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

BY

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SYDNEY, N.S.W.

DECEMBER, 1973

TAS - 018B

CONTENTS

Formerly
SEIGEL ASSOCIATES AUSTRALASIA PTY. LTD.
GEOPHYSICAL CONSULTANTS AND CONTRACTORS

SUMMARY

Some three dozen anomalous induced polarization responses were defined over the 21 miles of grid surveyed using reconnaissance gradient array at West Sedgwick. Of these, four are considered of major significance.

All sources are considered to be either disseminated sulphides or, if massive, electrically discontinuous, and all are considered to be within 200 feet of the surface, the majority not being deeper than 100 feet.

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INTRODUCTION

At the request of Mr. K. Reid, Chief Geologist, of the Mount Lyell Mining and Railway Company Ltd., Scintrex Pty. Ltd. carried out induced polarization surveys over the West Sedgwick (Lake Margaret) grid in the Queenstown area, Tasmania, on behalf of the Mount Lyell Mining and Railway Company Ltd.

The first phase of the work was carried out between the 7th and 15th December, 1973 by a two operator crew under the direction of Mr. B. Ekstrom. Progress was slow and was eventually abandoned due to excessive noise from the DC trams operating in the Mt. Lyell underground mine. The task was completed during the Christmas break between 21st and 30th December, 1973, using a three operator crew. In all, the grid area consisting of some 20 lines having a total length of about 21 miles and 1200 stations, was completed in 16 days. However, the bulk of this work was actually carried out in six, triple crew days, between the 23rd and 29th December, 1973.

Geological field supervision was carried out by Mr. K. Wells, Senior Exploration Geologist, while Mr. A.W. Howland-Rose provided technical supervision for the project. Mt. Lyell also provided all logistical support and field assistants. It was the efficient provision of these support services that facilitated the rapid execution of this survey.

In addition to the geological data and basemaps kindly provided by Mt. Lyell, the results of a total field magnetometer survey were also provided, the results of which have been incorporated into the body of this report.

The objective of the survey was to carry out a rapid reconnaissance induced polarization survey over the grid area, to investigate and map zones of anomalous induced polarization response of disseminated pyrite haloes, typical of orebodies known to exist around the Mt. Lyell type orebodies, such as the Cape Horn, as well as to define zones of conductive sulphides. In addition, attention was paid to the apparent resistivity as an aid to geological mapping.

The induced polarization method is briefly described in Appendix 'IP'.

THE METHOD

The method employed in this survey was a gradient array, employing large current dipoles of 7000 feet to 10,000 feet with a potential dipole of 100 feet moved at 100 feet or 50 feet intervals, as required, to define the extent of any anomalous responses.

The reasoning for employment of these techniques is set out in report TAS-016 on pages two to four.

DISCUSSION OF RESULTS

The resistivity and chargeability data profiles, together with the magnetometer data, are presented on the two sheets of Plate 1 at the horizontal scale of 200 feet = 1 inch. The vertical scales employed were as follows:

Chargeability	1 inch = 10 milliseconds
Magnetics	1 inch = 250 gammas
Resistivity	2 inches = 1 log cycle (expressed in ohm-metres)

The base levels used for the plotting were 0 milliseconds, 62,500 gammas and 10000 ohm-metres.

Plates 2 and 3 display contour interpretations of the resistivity and chargeability data while Plate 4 displays

a contour interpretation of the magnetometer data, all at scales of 1 inch = 500 feet (1:6000).

Line	Electrodes	Dipole	Lines Surveyed
1200S	1000W and 7000E	8000 ft.	00, 600S, 1200S, 1800S, 2400S
4200S	1400W and 6600E	8000 ft.	3000S, 3600S, 4200S, 4800S, 5400S
7200S	2500W and 7500E	10000 ft.	6000S, 6600S, 7200S, 7800S 8400S
10200S	1800W and 5200E	7000 ft.	9000S, 9600S, 10200S, 10800S 11400S

The magnetic contour map clearly shows the most magnetically active rock unit to be the extrusive and intrusive "Andesitic Porphyritic Sills and Flows" carrying hornéblende. This unit obviously also carries anomalous quantities of magnetite, which may in part account for the slightly higher than average chargeability background observed over this unit.

Narrow but significant rises of 300 to 500 gammas from the 62,500 gamma background were observed centred on the following lines.

00 at 1800E

1200S at 5700E

3600S at 4100E

6600S at 5300E

8400S at 5000E

On the south eastern edge of the grid, over Comstock type massive grained Lapilli Tuffs, the magnetic profiles show a sharp and substantial rise, indicating that this unit also contains appreciable quantities of magnetite.

On the whole the magnetic data did not enable the area to be defined on a basis of the magnetics, as the rock units (with the exception of the two described above), did not exhibit markedly different magnetic characteristics.

The apparent resistivities as recorded on the gradient array remained for the most part above 1000 ohm-metres, with local increases in excess of 15,000 ohm-metres. The area did not show the extreme changes recorded in the Mt. Tyndall area. This may indicate a uniform degreee of silicification as well as a more limited range of rock types. The contour interpretation of the resistivity data certainly has not produced clearly defined zones as did the resistivity data at Mt. Tydnall. Nevertheless broad zones can be identified. To the east, particularly on 6600S to 7800S and 600S to 1200S, the highest apparent resistivities in the area were recorded, approaching the Owen Conglomerates. These highly silicified, electrically

resistive conglomerates showed the highest apparent resistivities at Mt. Tyndall. Other generally resistive sections to over 10,000 ohm-metres were recorded within a 2000 to 3000 ohm-metres base level over the rock unit mapped as "Massive Andesitic Porphyritic Sills and Flows". The rock unit mapped as "Massive Andesitic Lavas and coarse grained Crystal Tuffs" on the geological map shows the lowest background apparent resistivities recorded.

The trend of the resistivity data appears to infer a grid north strike in the central and southern sections and a grid north-north-east to north strike in the northern section. However, this impression may be due, in part, to contour bias.

On the whole, the changes in resistivity recorded in the grid area are thought to be characteristic of local, compositional variations within rock units, or to the degree of silicification in localised areas, rather than to be diagnostic of the rock units themselves.

The background chargeabilities are likewise not considered to be capable of distinguishing one rock unit from the next. The background over the whole area varied between 10 and 15 milliseconds, rarely falling below 10 milliseconds. As the Owen Conglomerates are approached, however, apparent chargeabilities reached, are amongst the lowest, being as

low as 5 milliseconds.

Within the high chargeability background a number of zones of twice background or greater stand out. These are:

(i) Lines 7800S to 9000S West of 1600E

This zone consists of two parallel north-south zones both of which reach maximum development on line 8400S at 300E and 1100E within a zone mapped as "massive medium grained Tuffs". The apparent resistivity over this zone, although marginally reduced against local background, clearly infers either a disseminated or, if massive, electrically discontinuous source. A zone of "pyritic shales" was recorded between lines 7800S and 8400S, which from geological mapping are the probable source of the anomaly centred on line 8400S at 1100E.

(ii) Lines 3600S to 5400S at about 600E

This zone strikes north south and is contained within a zone mapped as "Foliated coarse grained Lapilli Tuffs with minor Acid to Intermediate Lavas". A substantial chargeability anomaly was recorded at 550E and is described later in the text.

(iii) Line 3000S West of 3200E

This response lies wholly within the tuffs mentioned under (ii) above. However, shales have been noted in the vicinity

and it is therefore not unlikely that the source is graphitic and/or pyritic shales.

(iv) Line 00 to 1800S East of 5200E for about 1000 feet

This area occurs wholly within a zone marked as "Cleaved Acid Lavas" but significantly, pyrite has been recorded in this unit in the north eastern portion of the grid. The lack of material depression in the resistivity clearly infers the source to be of a disseminated origin.

(v) Line 00 and 600S at about 1200E and 2800E

These two zones again occur within the "Cleaved Acid Lavas" as (iv) above, and therefore probably are due to pyritic segregations within these units.

The remainder of the grid can, however, be considered of background only.

The salient features of each line are briefly described below:

Line 00 A broad zone of about 10 milliseconds above background was recorded between 750E and 1350E with a minor depression in the high resistivity. Disseminated pyrites are the most likely source as such have been recorded

in this unit. The depth is difficult to assess, but the eastern flank of the anomaly is less than 100 feet.

A minor broad response over 100 feet was recorded centred at 2350E with no material depression in resistivity.

The response of 10 milliseconds above background centred at 2825E has a width of less than 60 feet, an apparent east dip and is less than 50 feet to the top of the zone. Lack of any depression in the apparent resistivity profile infers a disseminated source or, if massive, electrically discontinuous sulphide source.

The last significant response on this line was observed between 5300E and 5575E. This zone is wide and is not considered to be deep. As before, there is no appreciable reduction in the observed apparent resistivity, and therefore the source is electrically discontinuous, probably disseminated sulphides.

The main feature observed on the resistivity profile was the relatively low apparent resistivities between 100E and 400E. As the area is covered with alluvium and/or moraine, the rock unit causing this feature is unknown. The background chargeabilities recorded over this zone were a normal 10 milliseconds.

Line 600S A seven millisecond above background chargeability high was recorded between 2600E and 2850E. The apparent resistivity is slightly depressed over this zone but the absolute level of 2000 ohm-metres remains high.

Between 5600E and 6300E the chargeability reaches 27 and 23 milliseconds at 5750E and 6100E respectively. Although somewhat lower than to the west, the resistivities remain a high 1500 ohm-metres inferring a disseminated origin. (It is understood that disseminated sulphides have been recorded in the area). To the immediate east the chargeability falls rapidly and the resistivity increases sharply as the Owen Conglomerates are approached.

Line 1200S East of 5000E to 6000E the apparent chargeabilities recorded were up to three times background. A narrow sharp peak of 29 milliseconds coincident with a slight increase in resistivity is considered to be due to a zone some 50 to 60 feet in width, centred at 5450E. Between 5600E and 6000E the chargeability reaches a high 20 to 27 milliseconds. Disseminated sulphides are considered to be the source of this induced polarization response.

Line 1800S A broad 10 milliseconds above background response was recorded between 5400E and 5900E to correlate with the

zones defined on the eastern flanks of lines 00 to 1200S described above. Again disseminated sulphides are considered to be the source.

To the west, a narrow shallow 10 millisecond response coincident with a 60% depression in the resistivity profile was defined at 1250E with a second respone of even lesser importance at 1500E. Although some conductivity is indicated, the high apparent resistivities of 1500 ohm-metres infer a disseminated sulphide source.

Line 2400S Only broad chargeability background of 15 milliseconds or so was recorded over the low resistivity unit centred at 1200E. Apart from this feature there are no other significant induced polarization responses on this line. Minor responses of 5 to 6 milliseconds were, however, recorded between 2650E and 4050E.

Line 3000S Between 600E to 3000E apparent chargeabilities of about twice the background of those recorded to the immediate north and south were recorded. Superimposed on this, centred at 1050E, 2250E and 2900E responses of 6, 6 and 11 milliseconds were recorded respectively. Although the former does show some reduction in apparent resistivity, the latter two do not. All are considered to be caused by disseminated sulphides or graphitic shales which have been

observed in the vicinity. The maximum depth to the sources is guesstimated to be 70 to 100 feet.

A broad zone of some 10 milliseconds between 5200E and 5550E is also considered to be due to disseminated sulphides.

Line 3600S The only significant induced polarization response was centred at 800E where a broad 100 feet wide zone in excess of 10 milliseconds above background was recorded on two stations. The dip of the source is suspected to be east, and there is no sign of any increase in conductivity. The source is therefore considered to consist of disseminated chargeable material.

Line 4200S The main feature on this line was a substantial chargeability anomaly situated at 550E. The width is less than 100 feet and the dip of the source is steep, probably to the east. The maximum depth is considered to be less than 50 feet. Although there is a light depression over the peak, the anomaly is considered to be due mainly to disseminated sulphides or graphites. This anomaly, from a purely geophysical point of view, is considered to be among the most significant located on this grid. Careful ground follow-up is therefore recommended.

Line 4800S A ten millisecond induced polarization anomaly

was recorded at 1650E. This response is considered to come from a source which is less than 50 feet in width, less than 30 feet to the top, and dips steeply to the east. Some reduction in apparent resistivity infers minor conduction within the chargeable zone. Geochemical follow-up is strongly recommended.

An 8 millisecond response at 2950E, again with some reduction in apparent resistivity, is inferred to have an east dip to the source. The maximum depth is considered to be 100 feet or so. A broad response between 3250E and 3450E is coincident with increased apparent resistivity, inferring the host to the disseminated chargeable material to be resistive. The depth to source is difficult to estimate.

Line 5400S There are no truly significant individual chargeability anomalies on this line. However, minor responses centred at 550E and 1600E are worthy of mention. Both show slight signs of increased conductivity within the zone of anomalous chargeability.

Line 6000S A broad zone of induced polarization response of 15 milliseconds was recorded between about 800E and 2800E. This is coincident with the "Massive Andesitic Porphyritic Sills and Flows" unit. The magnetic data also

shows increased levels over this same unit. There are, however, no induced polarization highs worthy of mention.

Line 6600S In both apparent chargeability and resistivity this line represents a similar picture to the previous line. However, two broad chargeability responses of 8 and 6 milliseconds above background were recorded between 650E to 850E and 3250E to 3450E respectively.

Line 7200S Superimposed on the higher apparent chargeabilities recorded over the andesitic flows and sills referred to above, are a number of minor definitive chargeability anomalies of 6 to 8 milliseconds. These were defined at 450E, 650E, 2150E and 2475E. Only the first named shows any sign of lower apparent resistivities and all therefore are considered to be due to a disseminated sulphide source. The first and last mentioned are less than 50 feet in width.

Line 7800S There are a number of minor chargeability highs on this line, but the main feature is a rapid change in observed induced polarization response from less than 10 milliseconds at 050E to over 23 milliseconds centred at 400E. This response is not associated with any reduction in apparent resistivity and is therefore considered to be due to disseminated sulphides.

Line 8400S The feature referred to immediately above correlates with a most significant response extending from 225E to 380E. This 16 milliseconds above background response is due to disseminated, or if massive, electrically discontinuous sulphide or graphite source. An east dip to the source is inferred by the asymmetry.

One of the most significant responses recorded in the area was defined between 1050E and 1200E. Here a 25 millisecond response above background was recorded with some depression in resistivity. The dip appears to be near vertical at this point. This zone may be due to pyritic shales which are known to occur along strike to the north.

A zone of some 4 milliseconds above background was recorded centred at 5200E. This zone is considered of minor interest only.

Line 9000S Over the substantial induced polarization anomalies described on the previous line, only a broad increase in background chargeability to 20 milliseconds east and west to reach a peak at about 1050E, was noted. The resistivity patterns on lines 8400S and 9000S are very similar in detail, inferring an almost identical geological sequence between 0 and 1600E. To the north this section has been mapped as "medium grained Lapilli" while to the south,

coarse grained variety of the same.

Line 9600S The zone of anomalous induced polarization on the west flank of this line is much reduced compared to the lines to the immediate north. Some 7 milliseconds above background were observed centred at 1150E, coincident with a minor increase in resistivity.

A second 150 feet wide zone between 2650E and 2800E is associated with only the slightest depression in apparent resistivity. The maximum depth is considered less than 50 feet on the eastern margin.

A substantial rise in chargeability was noted east of 4300E, allied to a depression in the observed resistivity. This appears to be associated with the unit classified as "Massive medium grained Lapilli Tuffs" which on the western flanks of lines 7200S to 9000S gave a significant increase in chargeable response. This unit then probably contains appreciable quantities of disseminated pyrite, of ½% to 1% by volume, depending on the degree of dissemination.

(It should be noted that ~~west~~ east of and including station 1400E, pegs are misnumbered. The co-ordinates used above are corrected)

Line 10200S A small response of some 6 milliseconds associated with a depression in the observed resistivity was recorded at 350E. The absolute levels of the apparent resistivity are of the order of 1000 ohm-metres and as usual the source is considered to be disseminated in form.

An increase in observed apparent chargeability was noted between 2450E and 3050E with two local peaks at 2650E and 3000E. At 2650E the resistivity is as low as 600 ohm-metres against over 2000 ohm-metres to the west of this response. A similar response was recorded from 3650E to 4050E. These two zones lie wholly within the rock unit mapped as "Massive Andesitic Lavas and coarse grained Crystal Tuffs". It is interesting to note that the massive quartz porphyry situated from 3100E to 3300E is marked by lower chargeabilities in spite of mention being made of it containing massive and disseminated sulphides. It is quite possible that the increased chargeability seen on this line could be due to the influence of this intrusive. The distinct narrow peak of 9 milliseconds situated at 4150E may be due to shales which have been recorded at this stratigraphic horizon along strike to the south on line 10800S. The maximum depth is estimated to be 30 feet.

Line 10800S The only significant chargeability response recorded on this line was centred at 4050E and extending

from 3800E to 4350E. This is the correlative of the anomaly recorded between 3650E and 4050E on line 10200S. Again the source is considered to be disseminated sulphides.

A change in the level of apparent resistivity from about 2000 ohm-metres to 1000 ohm-metres at about 2100E marks a change in rock type from coarse grained Lapilli and Crystal Tuffs to the east. This contact is even more marked on line 11400S at 2150E.

Line 11400S There are no significant anomalies on this line.

CONCLUSIONS

1 - The observed apparent resistivities on the West Sedgwick grid are not as variable as those recorded on Tyndall and therefore the contour interpretation of this data has not defined areas of like characteristics equivalent to the rock units recorded in each area.

2 - Similarly those high chargeability background observed in the area show variation between rock units, but their distribution cannot be mapped solely using this characteristic.

3 - With the sole exception of the unit mapped as "Massive

Andesitic Porphyritic Sills and Flows" the magnetometer data was likewise of little help in mapping the extent of each rock unit.

4 - Superimposed on the moderate to high induced polarization background of 10 to 15 milliseconds recorded in the area, some three dozen zones of anomalous induced polarization response were defined of which four are considered to be of major geophysical interest.

These are summarised as follows, those underlined being of major interest.

Line	Station
00	750/1350E, 2825E, 5300/5575E
600S	2600/2800E, 5700/5850E, 6050/6200E
1200S	5450E, 5650/6000E
1800S	1250E, 1500E, 5450/5900E
2400S	-
3000S	1050E, 2250E, 2900/3350E, 5200/5550E
3600S	800E
4200S	550E
4800S	1650E, 2950E, 3250/3450E
5400S	-
6000S	-
6600S	-

Line	Station
7200S	450E, 650E, 2150E, 2475E
7800S	400E
8400S	350E, 750E, 1140E, 5200E
9000S	600/1550E
9600S	1150E, 2650/2800E, 4300/4500E
10200S	350E, 2450/3050E, 3650/4050E, 4150E
10800S	4050E
11400S	-

For the most part these responses are associated with little, if any, depression in the observed apparent resistivity. The source is therefore inferred to be disseminated sulphides. In no case were conductive chargeable zones typical of the Cape Horn mineralisation defined anywhere on the grid area. Often zones defined can be related to known occurrences of pyritic shales, or units known to contain disseminated sulphides.

RECOMMENDATIONS

It is recommended that each of the locations listed under (4) above receive careful geological investigation and those areas found to be of interest are recommended for geochemical sampling.

Most of the zones are sufficiently well defined that should

they prove of potential economic interest, they can be investigated by diamond drilling without additional geophysical detailing.

I would value additional discussions on these results as soon as you have studied the data.

Respectfully submitted on behalf of:

SCINTREX PTY. LTD.

A.W. HOWLAND-ROSE, MSc,DIC,AMAusIMM,FGS.

GEOPHYSICIST

APPENDIX 'I.P.'

INTRODUCTION

For the benefit of those who are unfamiliar with the Induced Polarization method in general, or with the pulse-type method in particular, a few introductory remarks will be directed on the Induced Polarization, or overvoltage, phenomenon. Those who wish a fuller treatment of the subject are directed to Seigel (1962), which paper also includes an extensive list of references.

Induced Polarization in its broadest sense means a separation of charge to form an effective dipolar (polarised) distribution of electrical charges throughout a medium under the action of an applied electric field. When current is caused to pass across the interface between electrolyte and a metallic conducting body, double layers of charge are built up at the interface, in the phenomenon known to electrochemists as "overvoltage". This is the phenomenon which can be utilised for the detection of metallic conducting, rock-forming, minerals such as most sulphides, arsenides, a few oxides and, unfortunately, graphite. In addition, effective dipolar charge distribution occurs to some extent in all rocks, due to ion-sorting in the fine capillaries in which the current is passing.

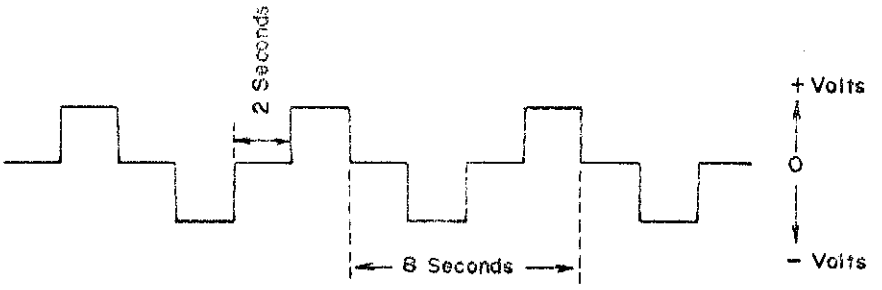
Induced Polarization responses may therefore arise from metallic or non-metallic agencies. Fortunately, the latter generally falls within fairly low and narrow limits for almost all rock types, although there is still no reliable criterion for differentiating overvoltage responses from graphite and metallic sulphides, or for distinguishing between the responses of one type of sulphide and another. Despite these limitations the Induced Polarization method has amply demonstrated its value in mineral exploration since its initial development as a useful exploration tool in 1948 (ed. Wait, 1959).

DESCRIPTION OF METHOD AND EQUIPMENT

For the present programme the pulse or time domain system was employed, using a Scintrex Induced Polarization unit. The standard current-wave form with the unit is two seconds on-time and two seconds off-time. (see Figure 1). This unit features the Newmont type self-triggered receiver which operates remote from the current transmitting equipment. Three fundamental quantities are measured with this unit - the chargeability of 'M' measurement, the 'L' measurement and the resistivity.

The receiver integrates the area under the decay curve during the time interval from 0.45 seconds to 1.1 seconds

MEASUREMENTS TAKEN



Energising frequency is a square wave having a frequency of 0·125 cps.

FIELD MEASUREMENTS MADE

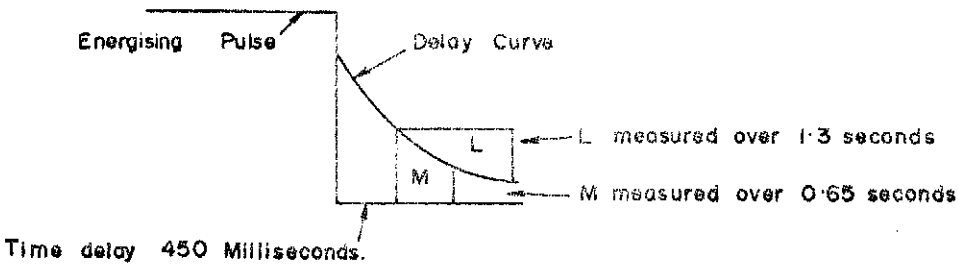


Fig. 1

after termination of the primary current pulse. This integral normalised with respect to its corresponding primary voltage is the chargeability or 'M' measurement, that is, the fundamental Induced Polarization characteristic. It is in units of milliseconds. The Induced Polarization phenomena is dependent on the existence of electronically conducting material within the matrix of ionically conducting material. The chargeability is therefore a measure of the presence of electronically conducting material within the ground being tested.

The second quantity measured is the area over the transient decay curve between 0.45 seconds and 1.75 seconds of the current off-time. This measurement is designated the 'L' measurement and is also in units of milliseconds. The ratio L/M gives a curve factor related to the shape of the transient voltage curve, and is a measure of the rate of decay of the transient voltage. This is of secondary diagnostic value in that the rate of decay of the transient voltage is partially a function of particle size. A large L/M ratio reflects a short time constant, commonly associated with finely disseminated sulphide or graphite, whereas a small L/M ratio reflects the longer time constants associated with the larger sized metallic particles.

The L/M ratio is also effective in determining the presence of electromagnetic coupling effects. With the Scintrex Induced Polarization unit, electromagnetic coupling effects are essentially eliminated by an 0.45 second delay-time following termination of the primary current pulse before measurement of the transient voltage commences. However, in extremely low resistivity areas coupling may occur. Under these conditions the presence of electromagnetic coupling can distort the Induced Polarization response, and it is extremely important to know when this occurs. The presence of such coupling is immediately recognizable from the L/M ratios.

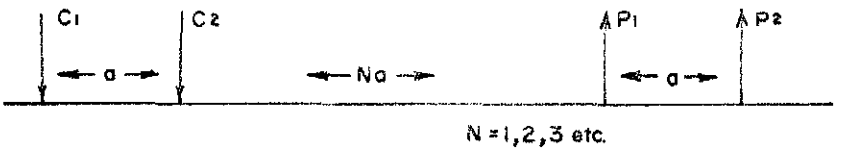
Resistivity measurements are also made as an integral part of all Induced Polarization measurement using the Scintrex Induced Polarization unit. The resistivity values are of primary importance in determining subsurface geological features such as contact zones, faulting, etc., and are of assistance in mapping the geology in general.

Electrode geometries (see Figure 2) utilised in obtaining field measurements are important and no one electrode array is applicable for all conditions. In areas where a low resistivity oxidised surface layer overlies a much higher resistivity freshrock, a high degree of

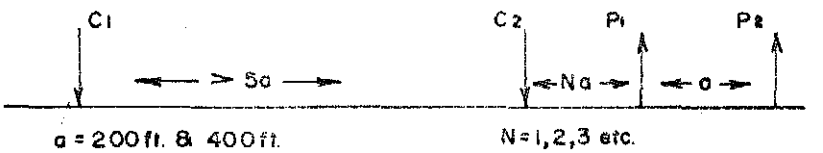
COMMONLY USED ELECTRODE ARRAYS

CLOSE – COUPLED ARRAYS

DIPOLE – DIPOLE



POLE – DIPOLE



GRADIENT ARRAY

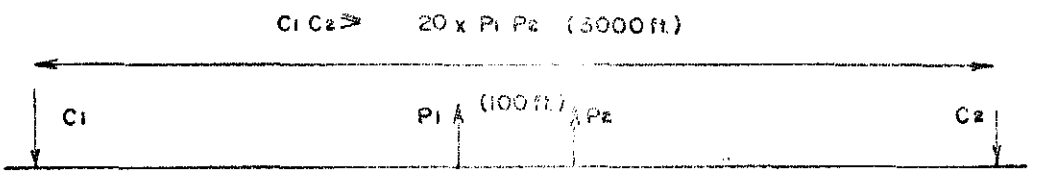


Fig. 2

masking occurs using any of the close-coupled arrays, such as pole-dipole or dipole-dipole. An electrode spacing many times greater than the depth to freshrock must be used in order to obtain responses reasonably representative of the freshrock. With such large electrode spacings the physical properties are effectively averaged over so large a volume that we lose the ability to detect moderate sized bodies of polarizable material. However, under these conditions the gradient array is both feasible and desirable in that it minimises the effects of masking and at the same time has a high degree of resolution for small targets.

In the present areas of investigation, abnormal induced polarization responses may be expected to arise from the electronically conducting sulphide minerals such as pyrite, pyrrhotite, chalcopyrite and pentlandite, plus graphite and magnetite. The response from magnetite has been found to be quite variable and somewhat unpredictable, reflecting the great variation in the mode of electrical conduction in this material. It is not always possible to differentiate between these potential sources of high chargeability from the Induced Polarization and resistivity data alone. Complementary geophysical, geochemical and geological data enable a more complete interpretation to be made of the Induced Polarization data.

REFERENCES

Seigel, 1962 — "Induced Polarization and Its Role in Mineral Exploration" H.O. Seigel, Canadian Mining and Metallurgical Bulletin, April, 1962.

ed. Wait, 1959 — "Overvoltage Research and Geophysical Applications" editor J.R. Wait, Pergamon Press, London, 1959.

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SECTION II

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L 600 S

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L 1800 S

L 2400 S

L 3000 S

L 3600 S

L 4200 S

L 4800 S

L 5400 S

0 200E 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 E

5 cm

20
10
0

CHARGEAB
RESISTIVIT
MAGNETIC

THE MOUNT
RAILWAY

WEST S
WEST CO

ELECTRICAL INDUC
& MAGN
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SURVEYED
SCINTRE

DEC

200

JOB No. TAS. 018 B

001

800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 6200 6400 E

L 0

L 600 S

L 1200 S

L 1800 S

L 2400 S

L 3000 S

L 3600 S

L 4200 S

L 4800 S

L 5400 S

800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 E

CHARGEABILITY IN MILLISECONDS
20
10
0

RESISTIVITY IN OHM-METRES
10,000
5000
3000
1000
500
300
100

MAGNETIC INTENSITY IN GAMMAS
63,000
62,500
62,000

LEGEND

CHARGEABILITY SCALE 1" = 10 Milliseconds
BASE LEVEL = 0 Milliseconds
SYMBOL = · ——— ·

RESISTIVITY SCALE 2" = 1 Logarithmic cycle
BASE LEVEL = 10,000 Ohm-metres
SYMBOL = · — — — · — — — ·

MAGNETIC SCALE 2" = 500 Gammas
BASE LEVEL = 62,500 Gammas
SYMBOL = x —— x —— x

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

WEST SEDGWICK GRID
WEST COAST, TASMANIA

ELECTRICAL INDUCED POLARIZATION SURVEY & MAGNETIC INTENSITY DATA PROFILES

333036

SURVEYED AND COMPILED BY
SCINTREX PTY. LTD.

DECEMBER 1973

5 cm

200 0 200 400 feet
Scale 1:2400

84-2227 vol 2

JOB No. TAS. 018 B SHEET 1 of 2 PLATE 1 001

002

800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 E

L 6000 S

L 6600 S

NO READING

L 7200 S

L 7800 S

L 8400 S

L 9000 S

L 9600 S

L 10,200 S

L 10,800 S

L 11,400 S

800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 E

CHARGEABILITY IN MILLISECONDS
20
10
0

RESISTIVITY IN OHM-METRES
10,000
5000
3000
1000
500
300
100

MAGNETIC INTENSITY IN GAMMAS
63,000
62,500
62,000

LEGEND

CHARGEABILITY SCALE 1" = 10 Milliseconds
BASE LEVEL = 0 Milliseconds
SYMBOL =

RESISTIVITY SCALE 2" = 1 Logarithmic cycle
BASE LEVEL = 10,000 Ohm-metres
SYMBOL = ·—·—·—·—·

MAGNETIC SCALE 2" = 500 Gammas
BASE LEVEL = 62,500 Gammas
SYMBOL = x——x——x

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

WEST SEDGWICK GRID
WEST COAST, TASMANIA

ELECTRICAL INDUCED POLARIZATION SURVEY & MAGNETIC INTENSITY DATA PROFILES

333037

SURVEYED AND COMPILED BY
SCINTREX PTY. LTD.

DECEMBER 1973

5 cm

200 0 200 400 feet
Scale 1:2400

84-2227 Vol 2

JOB No. TAS. 018 B SHEET 2 of 2 PLATE I 002

0 200E 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 E

L 6000 S

L 6600 S

NO READING

L 7200 S

L 7800 S

L 8400 S

L 9000 S

L 9600 S

L 10,200 S

L 10,800 S

L 11,400 S

CHARGEABILITY IN MILLISECONDS
20
10
0

RESISTIVITY IN OHM-METRES
10,000
5000
3000
1000
500
300
100

LEGEND

CHARGEABILITY SCALE 1" = 10 Millise
BASE LEVEL = 0 Millise
SYMBOL =

RESISTIVITY SCALE 2" = 1 Logarith
BASE LEVEL = 10,000 O
SYMBOL = ----

MAGNETIC SCALE 2" = 500 Gar
BASE LEVEL = 62,500
SYMBOL = x——x

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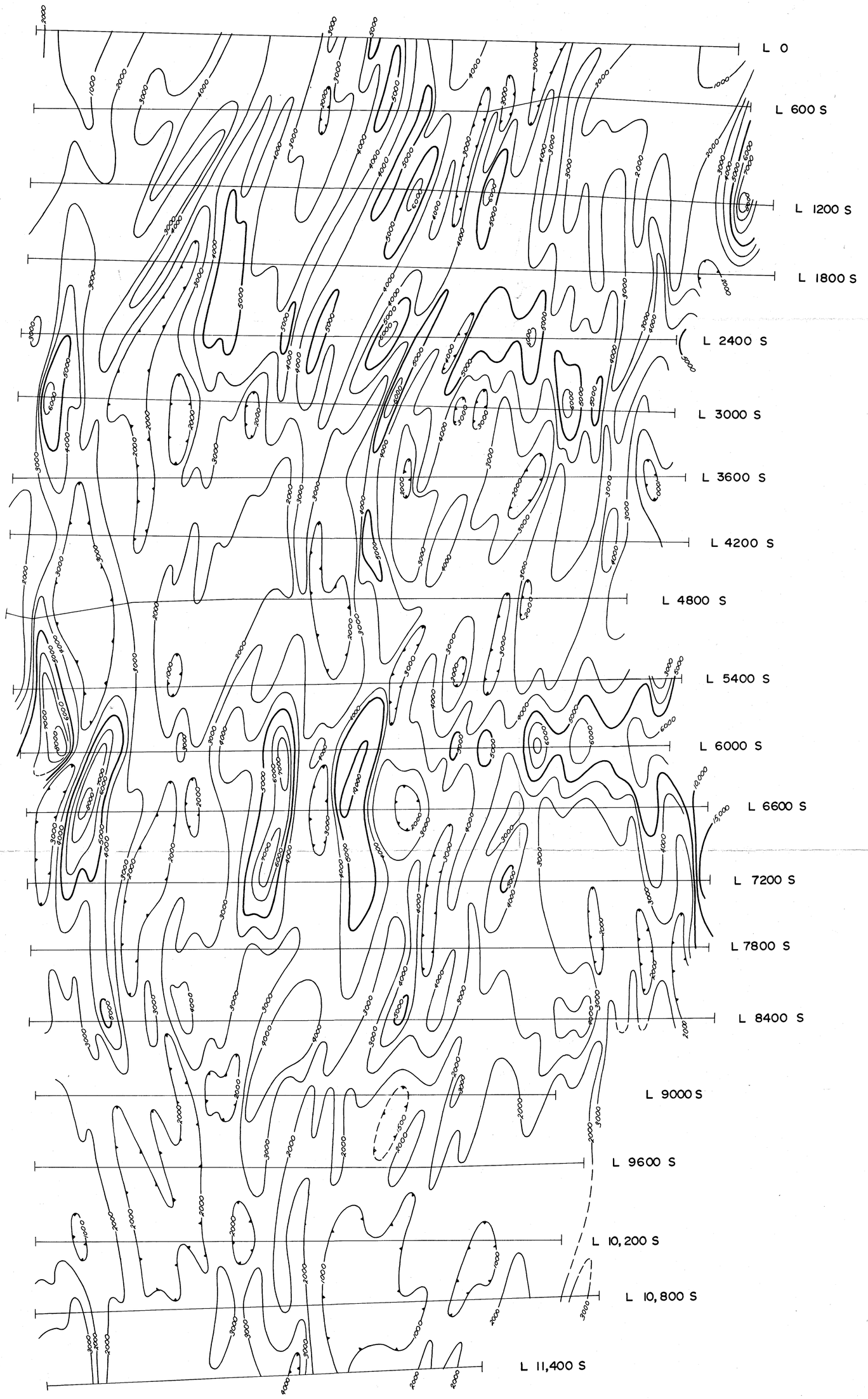
SC

200

JOB No. TAS

0 200E 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000E

5 cm



LEGEND

CONTOUR VALUES IN OHM-METRES

5000 5000 OHM-METRES

4000 1000 OHM-METRES

LINES SURVEYED

RESISTIVITY LOW

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

WEST SEDGWICK GRID
WEST COAST, TASMANIA

RESISTIVITY CONTOUR MAP

333038

SURVEYED AND COMPILED BY
SCINTREX PTY. LTD.

DECEMBER 1973

5 cm

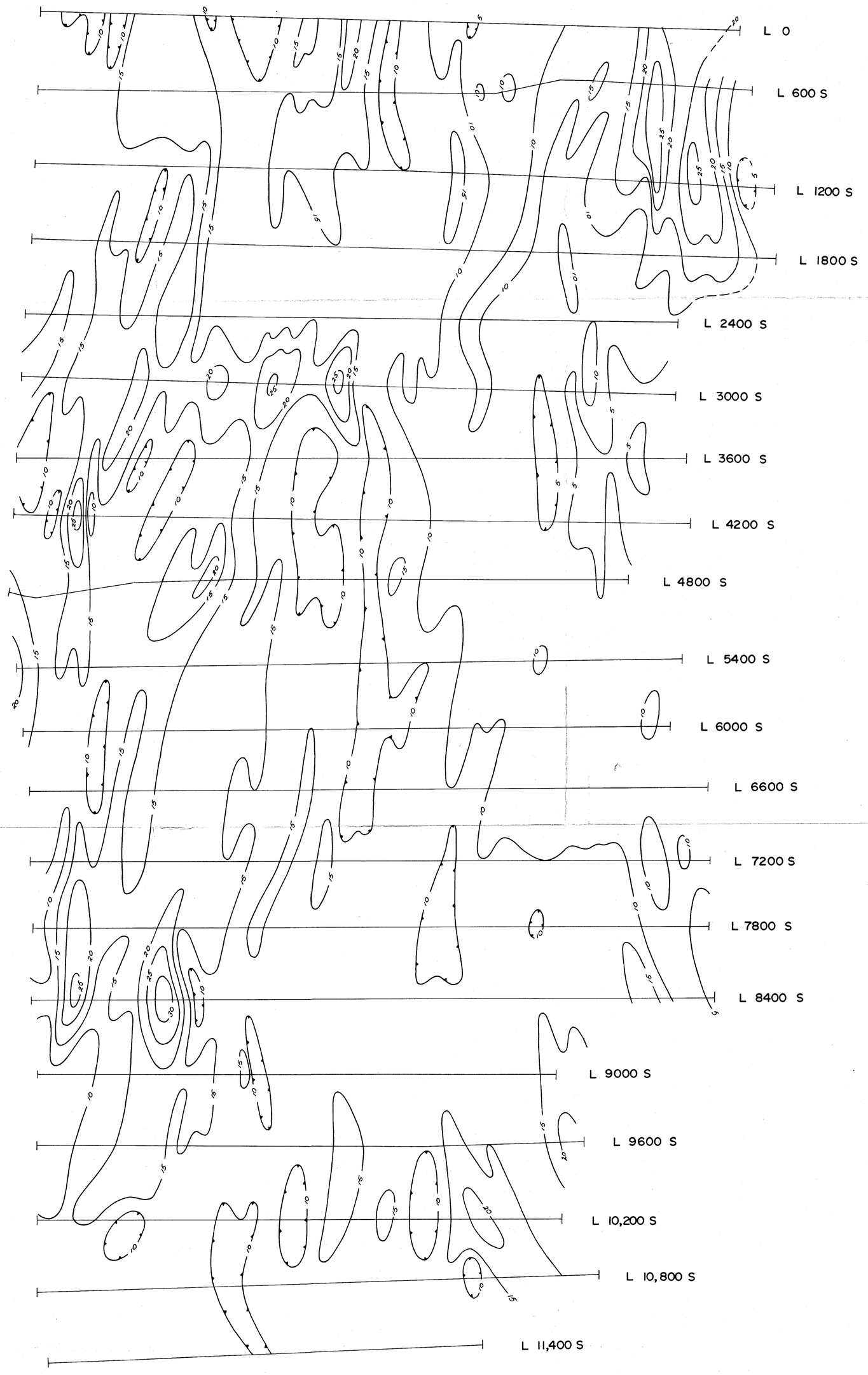
500 0 500 1000 feet

Scale, 1:6000

003

RL-2227 vol 2

JOB No. TAS. 018 B SHEET 1 of 1 PLATE 2



LEGEND

CONTOUR VALUES IN MILLISECONDS

——— @ 5 MILLISECONDS

LINES SURVEYED

CHARGEABILITY LOW

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

WEST SEDGWICK GRID
WEST COAST, TASMANIA

CHARGEABILITY CONTOUR MAP

333039

SURVEYED AND COMPILED BY
SCINTREX PTY. LTD.

DECEMBER 1973

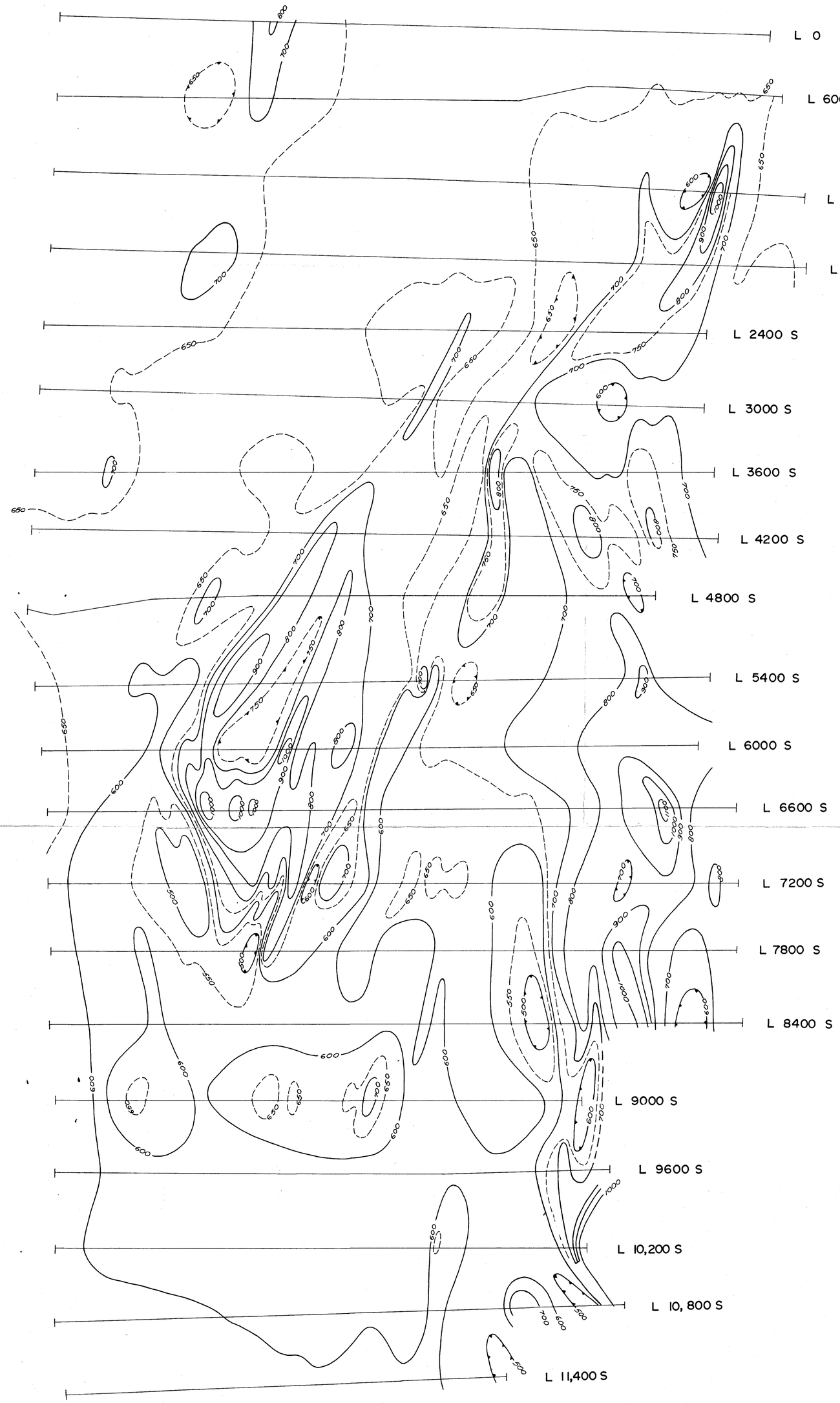
5 cm

500 0 500 1000 feet
Scale, 1:6000

004

84-2227 Vol 2

JOB No. TAS. 018 B SHEET 1 of 1 PLATE 3



LEGEND

CONTOUR VALUES IN GAMMAS

700 100 GAMMAS

750 50 GAMMAS

LINES SURVEYED

MAGNETIC LOW

THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.

WEST SEDGWICK GRID
WEST COAST, TASMANIA

MAGNETIC INTENSITY CONTOUR MAP

333040

SURVEYED AND COMPILED BY
SCINTREX PTY. LTD.

DECEMBER 1973

5 cm

500 0 500 1000 feet

Scale, 1:6000

JOB No. TAS. 018 B SHEET 1 of 1 PLATE 4

000

EL9/66

333041

FINAL REPORT ON
A GRADIENT ARRAY ELECTRICAL INDUCED POLARIZATION SURVEY
OVER THE WEST SEDGWICK (LAKE MARGARET) GRID
ON BEHALF OF
THE MOUNT LYELL MINING AND RAILWAY COMPANY LTD.
SECTION III

001

333042

ELECTRICAL INDUCED POLARIZATION SURVEY

AND

TOTAL FIELD MAGNETIC SURVEY

TABLE OF MEASUREMENTS

STATION INTERVAL	IN	FEET
RESISTIVITY	IN	OHM-METRES
CHARGEABILITY	IN	MILLISECONDS
TOTAL MAGNETIC FIELD	IN	GAMMAS

NOTE: Stations intervals are listed every 100 feet in the left hand column. Chargeability and resistivity data in line with this co-ordinate represent the electrical characteristics of the material contained within the 100 feet dipole centred at this point. Readings displayed between these co-ordinates represent intermediate stations.

The magnetic data was invariably taken every 100 feet and represents the total magnetic field at that point.

002

333043

GRADIENT ARRAY

CURRENT ELECTRODES ON LINE 1200S
AT 1000W AND 7000E

LINES 00
600S
1200S
1800S
2400S

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 00				
50E	2570	10.1	1.12	61,125 - 62,605
150E	203	14.4	1.01	62,660 - 62,685
250E	324	9.4	0.45	62,697 - 62,692
350E	220	9.9	0.75	62,682 - 62,677
450E	500	7.8	0.77	62,678 - 62,676
550E	860	13.8	0.58	62,675 - 62,671
650E	1090	7.7	0.79	62,674 - 62,669
750E	1520	13.1	0.66	62,670 - 62,676
850E	1870	16.9	0.67	62,673 - 62,717
950E	2100	15.0	0.97	62,807 - 62,760
1050E	2820	17.3	0.72	62,694 - 62,667
1150E	2330	18.3	0.66	62,661 -
1250E	2190	19.0	0.66	
1350E	2240	17.5	0.67	
1450E	2880	8.9	0.66	
1550E	3130	10.8	0.69	
1650E	3900	10.6	0.74	
1750E	4600	10.6	0.80	
1850E	4880	7.8	0.69	
1950E	4950	7.5	0.84	
2050E	3470	8.3	0.82	
2150E	3330	9.5	0.63	
2250E	3000	9.9	0.74	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	2560	15.4	0.71	62,654 - 62,653
2450E	3260	14.5	0.69	- 62,648
2550E	2950	12.6	0.78	- 62,646
2650E	3100	12.3	0.68	- 62,646
2750E	2650	12.9	0.84	-
	3120	20.8	0.70	62,643
2850E	3320	20.4	0.75	-
	3440	16.5	0.72	62,641
2950E	3340	13.9	0.85	- 62,644
3050E	3540	12.8	0.77	- 62,658
3150E	5900	10.8	0.65	- 62,643
3250E	4440	9.8	0.71	- 62,640
3350E	4600	9.5	0.77	- 62,622
3450E	5250	10.0	0.70	- 62,647
3550E	4060	9.5	0.69	- 62,645
3650E	3270	11.5	0.72	- 62,643
3750E	5030	11.8	0.72	- 62,641
3850E	4100	8.6	0.70	- 62,645
3950E	3220	8.5	0.65	- 62,645
4050E	4180	8.0	0.66	- 62,641
4150E	4440	4.4	0.86	- 62,639
4250E	4460	8.3	0.70	- 62,639
4350E	3500	8.5	0.74	- 62,646
4450E	3380	8.8	0.77	- 62,636
4550E	3120	8.5	0.82	- 62,640
4650E	2750	9.0	0.81	-

Station	Resistivity	Chargeability	L/M	Magnetics
4750E	2720	9.8	0.80	62,630 - 62,633
4850E	3120	10.4	0.82	62,633 - 62,633
4950E	2500	12.0	0.78	62,632 - 62,622
5050E	3040	12.1	0.87	62,622 - 62,627
5150E	2970	13.8	0.76	62,625 - 62,628
5250E	2200	11.4	0.88	62,629 - 62,629
	1640	16.4	0.98	62,630 - 62,632
5350E	1630	18.0	0.88	
	1940	19.4	0.85	
5450E	1590	20.5	0.92	
5550E	1500	19.8	0.81	
5650E	1170	14.6	0.89	
5750E	1330	15.3	0.93	
5850E	505	16.6	0.80	
LINE 600S				
50E	1990	13.6	0.99	62,692 - 62,687
150E	1770	13.8	0.80	62,685 - 62,685
250E	1313	12.6	0.86	62,685 - 62,685
350E	1350	11.9	0.76	62,685 - 62,685
450E	902	12.3	0.81	62,684 - 62,685
550E	1685	12.5	0.80	62,683 - 62,679
650E	1806	12.0	0.83	
	2600	14.8	0.74	
750E	2840	16.4	0.79	
	2970	17.4	0.78	
850E	2840	6.1	2.46	
	2960	16.3	0.86	

Station	Resistivity	Chargeability	L/M	Magnetics
950E	3210	4.5	2.44	-
	3480	13.7	0.73	62,667
1050E	3460	12.3	0.80	-
				62,644
1150E	3060	15.3	0.85	-
				62,642
1250E	3960	17.7	0.82	-
				62,636
1350E	4940	16.0	0.83	-
				62,641
1450E	4860	15.8	0.70	-
				62,669
1550E	4520	14.8	0.81	-
				62,721
1650E	3300	12.9	0.80	-
				62,737
1750E	4960	13.8	0.87	-
				62,697
1850E	3530	10.6	0.85	-
				62,673
1950E	4490	14.3	0.86	-
				62,663
2050E	3460	13.9	0.78	-
				62,657
2150E	4360	15.1	0.86	-
				62,652
2250E	3780	12.7	0.88	-
				62,655
2350E	2480	14.3	0.81	-
				62,649
2450E	2620	13.6	0.88	-
				62,650
2550E	1910	13.8	0.82	-
	2680	16.4	0.85	62,650
2650E	2420	20.0	0.83	-
				62,647
2750E	2350	19.9	0.88	-
				62,650
2850E	3160	16.5	0.97	-
				62,645
2950E	3060	11.0	1.03	-
				62,635
3050E	4640	10.1	0.97	-
				62,640
3150E	5620	9.3	1.00	-
				62,642
3250E	4500	10.4	0.94	-
				62,644

Station	Resistivity	Chargeability	L/M	Magnetics
3350E	3860	11.6	1.03	-
				62,646
3450E	4570	12.0	0.96	-
3450E	4448	12.7	1.01	-
				62,643
3550E	5250	10.5	1.00	-
3550E	4875	11.8	0.85	-
				62,646
3650E	5513	13.0	0.88	-
				62,645
3750E	3835	10.4	0.78	-
				62,643
3850E	4069	14.2	0.97	-
				62,641
3950E	3488	11.0	0.98	-
				62,640
4050E	3589	9.1	0.77	-
				62,644
4150E	3033	10.0	0.93	-
				62,637
4250E	3005	10.1	0.94	-
				62,635
4350E	3157	8.4	0.99	-
				62,639
4450E	4008	8.8	0.89	-
				62,627
4550E	2329	10.8	0.79	-
				62,641
4650E	3338	9.8	0.85	-
				62,643
4750E	2831	10.0	0.83	-
				62,642
4850E	4076	11.0	0.82	-
				62,642
4950E	2937	10.9	0.92	-
				62,639
5050E	3353	13.0	0.91	-
				62,635
5150E	3101	11.3	0.97	-
				62,632
5250E	1843	15.5	0.89	-
				62,630
5350E	1879	15.5	0.94	-
				62,644
5450E	1719	13.3	0.96	-
				62,654
5550E	1523	13.8	0.96	-
	1520	17.0	0.78	62,645

Station	Resistivity	Chargeability	L/M	Magnetics
5650E	1584	20.3	0.91	-
	1802	24.5	0.93	62,636
5750E	1621	27.0	0.92	-
	1599	26.5	0.91	62,640
5850E	1280	23.3	0.88	-
				62,645
5950E	1638	18.4	0.91	-
				62,652
6050E	1388	21.9	1.05	-
				62,647
6150E	1442	21.9	0.96	-
				62,651
6250E	1551	16.3	0.92	-
				62,647
6350E	1558	11.1	1.06	-
				62,651
6450E	4976	6.3	0.92	-
				62,633
LINE 1200S				
				62,683
50E	1270	13.5	0.81	-
				62,680
150E	1560	11.9	0.87	-
				62,680
250E	1930	13.1	0.84	-
				62,678
350E	2700	11.6	0.99	-
				62,674
450E	2060	11.3	0.88	-
				62,676
550E	2070	12.6	0.75	-
				62,670
650E	2080	13.7	0.79	-
				62,672
750E	2570	14.5	0.88	-
				62,681
850E	2680	13.8	0.96	-
				62,680
950E	2960	11.1	0.88	-
				62,675
1050E	4280	10.1	0.91	-
				62,691
1150E	3930	10.3	1.10	-
				62,691
1250E	2460	14.3	0.84	-
				62,677

Station	Resistivity	Chargeability	L/M	Magnetics
1350E	3930	11.9	0.91	- 62,671
1450E	3960	15.4	0.73	- 62,662
1550E	4400	12.9	1.03	- 62,657
1650E	5230	13.9	0.85	- 62,649
1750E	3180	14.9	0.76	- 62,649
1850E	4320	12.1	0.69	- 62,643
1950E	4330	17.0	0.82	- 62,639
2050E	3390	15.0	0.89	- 62,640
2150E	3170	16.1	0.93	- 62,639
2250E	2670	16.0	0.80	- 62,643
2350E	2820	16.8	0.82	- 62,637
2450E	3430	13.3	1.00	- 62,634
2550E	3220	12.8	0.74	- 62,633
2650E	4700	12.0	0.84	-
2650E	4631	12.9	0.89	- 62,635
2750E	3780	14.0	0.71	-
2750E	3775	14.9	0.76	- 62,640
2850E	3934	13.5	1.02	- 62,642
2950E	5610	11.2	0.94	- 62,649
3050E	5610	9.9	0.75	- 62,629
3150E	6727	10.5	0.98	- 62,630
3250E	5411	10.3	0.76	- 62,623
3350E	3637	14.9	0.99	- 62,617
3450E	4302	14.2	0.74	- 62,620
3550E	3251	15.8	0.91	- 62,663

333051

Station	Resistivity	Chargeability	L/M	Magnetics
3650E	2820	14.5	0.99	-
				62,637
3750E	5263	11.9	0.87	-
				62,629
3850E	4899	10.6	0.88	-
				62,629
3950E	6762	8.3	0.77	-
				62,628
4050E	6396	8.4	0.83	-
				62,625
4150E	4839	7.3	0.82	-
				62,678
4250E	4520	7.8	0.87	-
				62,681
4350E	5106	9.5	1.00	-
				62,686
4450E	3655	11.1	0.86	-
				62,699
4550E	2240	5.8	0.86	-
				62,674
4650E	3296	9.0	0.94	-
				62,699
4750E	2863	7.0	0.83	-
				62,664
4850E	3177	7.5	0.71	-
				62,656
4950E	2975	8.2	0.95	-
				62,671
5050E	3838	10.8	0.74	-
				62,736
5150E	3787	14.0	0.86	-
	2840	14.8	0.88	62,659
5250E	1623	18.5	0.85	-
				62,638
5350E	1533	13.5	0.87	-
	2318	24.5	1.01	62,616
5450E	2365	29.3	1.08	-
				62,582
5550E	1837	18.8	1.01	-
				62,590
5650E	1726	24.5	0.82	-
				63,009
5750E	1872	27.5	0.84	-
				62,723
5850E	2389	22.5	1.00	-
	2352	22.9	1.00	62,673
5950E	2563	21.3	1.09	-
	3069	16.0	0.86	62,652

Station	Resistivity	Chargeability	L/M	Magnetics
6050E	3789	6.3	0.71	- 62,649
6150E	9112	4.3	1.05	- 62,640
6250E	7094	6.6	0.95	- 62,635
6350E	5699	7.4	0.92	- 62,635
LINE 1800S				
50E	2280	16.0	0.80	62,705 - 62,688
150E	2490	14.0	0.74	- 62,674
250E	2630	12.6	0.78	- 62,670
350E	3550	14.4	0.76	- 62,668
450E	3430	13.1	0.79	- 62,664
550E	3070	14.8	0.73	- 62,670
650E	2930	16.0	0.78	- 62,676
750E	2130	13.1	0.84	- 62,667
850E	2540	14.5	0.83	- 62,667
950E	2420	7.9	0.76	- 62,668
1050E	3200	10.5	0.84	- 62,675
1150E	4680	13.0	0.77	- 62,705
1250E	1780	20.3	0.86	-
	1600	15.4	0.97	62,708
1350E	1525	14.3	0.65	- 62,741
1450E	2520	16.5	0.75	- 62,725
1550E	4370	16.3	0.71	- 62,673
1650E	6220	10.4	0.70	- 62,647
1750E	6350	11.0	0.64	- 62,646

Station	Resistivity	Chargeability	L/M	Magnetics
1850E	4300	11.8	0.79	- 62,644
1950E	3920	12.3	0.69	- 62,642
2050E	4130	14.8	0.68	- 62,633
2150E	3930	11.9	0.88	-
2150E	3780	14.6	0.72	- 62,634
2250E	3860	13.4	0.82	-
2250E	3800	12.3	0.69	- 62,642
2350E	4320	-	-	-
2350E	4200	14.0	0.68	- 62,629
2450E	3740	14.1	0.85	- 62,623
2550E	3700	15.0	0.52	- 62,634
2650E	4970	14.6	0.65	- 62,619
2750E	4920	11.3	0.60	-
2750E	4956	9.8	0.77	- 62,623
2850E	5080	11.2	0.63	-
2850E	4725	12.3	0.73	- 62,642
2950E	5135	11.0	0.82	- 62,635
3050E	4345	14.5	0.66	- 62,644
3150E	3806	13.0	0.68	- 62,638
3250E	4043	11.0	0.77	- 62,637
3350E	3863	10.9	0.83	- 62,644
3450E	3558	14.9	0.70	- 62,636
3550E	5000	13.3	0.72	- 62,641
3650E	4900	11.4	0.82	- 62,639
3750E	5142	8.3	0.88	- 62,637
3850E	4999	8.5	0.88	- 62,642
3950E	4838	9.0	0.76	- 62,657

Station	Resistivity	Chargeability	L/M	Magnetics
4050E	4133	11.5	0.78	-
4150E	4079	9.0	0.87	62,667 -
4250E	4619	7.3	0.75	62,656 -
4350E	3348	10.3	0.83	62,688 -
4450E	3826	7.6	0.87	62,687 -
4550E	3536	6.1	0.90	62,672 -
4650E	2931	8.0	0.75	62,682 -
4750E	2984	8.8	0.80	62,679 -
4850E	3563	8.5	0.80	62,723 -
4950E	3471	6.8	0.74	62,783 -
5050E	2980	8.9	0.79	62,777 -
5150E	2297	11.0	0.73	62,764 -
5250E	5372	10.5	0.71	62,835 -
5350E	1684	11.6	0.78	62,893 -
	2146	13.1	0.99	62,733 $\pm$3
5450E	2469	16.0	0.84	-
5550E	2405	19.5	0.90	62,681 -
5650E	1836	19.0	0.89	62,654 -
5750E	2010	19.5	0.82	62,648 -
5850E	2239	16.5	0.97	62,665 $\pm$3 -
5950E	2886	14.0	0.89	62,666 -
6050E	717	8.0	0.88	62,661 -
6150E	1277	7.5	0.80	62,655 -
6250E	1182	9.3	0.86	62,649 -

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 2400S				
50E	2360	17.5	0.91	62,681 -
150E	3260	13.6	0.92	62,681 -
250E	2710	13.8	0.86	62,661 -
350E	4750	15.3	0.82	62,674 -
450E	5300	12.1	0.79	62,672 -
450E	4921	11.4	0.88	-
550E	3483	14.0	0.88	62,669 -
650E	2051	15.4	0.94	62,663 -
750E	3465	16.7	0.84	62,647 -
850E	3795	14.9	0.89	62,657 -
950E	3133	14.8	0.81	62,671 -
1050E	2219	15.6	0.76	62,684 -
1150E	1263	15.6	0.92	62,677 -
1250E	1340	15.6	0.88	62,668 -
1350E	2633	14.6	0.84	62,659 -
1450E	3170	12.8	0.82	62,654 -
1550E	3723	15.4	0.91	62,654 -
1650E	5119	11.5	0.90	62,655 -
1750E	5413	12.4	0.83	62,646 -
1850E	5346	10.9	0.90	62,643 -
1950E	5625	10.6	0.90	62,641 -
2050E	4877	12.2	0.86	62,641 -
2150E	4603	11.4	0.90	62,642 - 62,637

Station	Resistivity	Chargeability	L/M	Magnetics
2250E	4562	12.1	0.99	- 62,634
2350E	4242	11.3	0.82	- 62,639
2450E	5702	12.9	0.85	- 62,638
2505E	3950	10.5	0.84	- 62,638
2650E	5707	15.1	0.78	- 62,640
2750E	6192	10.3	0.95	- 62,640
2850E	4055	9.9	0.99	- 62,648
2950E	4785	12.5	0.92	- 62,664
3050E	4930	13.4	0.78	- 62,675
3150E	3911	11.9	1.01	- 62,680
3250E	5184	11.5	1.16	- 62,684
3350E	6420	14.6	0.96	- 62,676
3450E	6208	13.4	0.90	- 62,677
3550E	4312	12.1	0.89	- 62,674
3650E	5747	11.1	1.06	- 62,671
3750E	4964	13.4	0.60	- 62,733
3850E	4208	7.8	0.96	- 62,687
3950E	4107	5.8	1.03	- 62,672
4050E	3750	11.8	0.96	- 62,667
4150E	6197	7.5	1.04	- 62,648
4250E	5530	6.9	0.99	- 62,640
4350E	5911	6.3	1.19	- 62,656
4450E	5256	7.8	0.90	- 62,619
4550E	6340	8.4	1.07	- 62,638

Station	Resistivity	Chargeability	L/M	Magnetics
4650E	4556	7.3	1.07	- 62,720
4750E	4951	7.8	1.09	- 62,759
4850E	4359	9.8	1.02	- 62,775
4950E	4793	8.4	1.13	- 62,772
5050E	4064	10.1	1.07	- 62,780
5150E	4684	8.1	1.15	- 62,780
5250E	4543	8.1	1.15	- 62,761
5350E	2637	9.1	1.04	- 62,742
5450E	4523	9.1	1.15	- 62,739
5550E	4921	7.9	1.20	- 62,724
5650E	4966	8.8	1.19	- 62,699
5750E	5580	7.6	1.22	- 62,652

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GRADIENT ARRAY

CURRENT ELECTRODES ON LINE 4200S
AT 1400W AND 6600E

LINES 3000S
3600S
4200S
4800S
5400S

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 3000S				
50E	2052	14.0	0.86	62,668 - 62,655
150E	2687	15.3	0.85	62,653 - 62,663
250E	6969	12.8	0.78	62,652 - 62,651
350E	6138	11.3	0.88	62,654 - 62,644
450E	4153	15.5	0.74	62,648 - 62,643
550E	4282	15.3	0.93	62,638 - 62,631
650E	2280	18.3	0.85	62,629 - 62,622
750E	2624	18.3	0.84	62,626 - 62,634
850E	1997	17.1	0.82	62,644 - 62,601
950E	1849	17.1	0.89	62,610 - 62,624
1050E	1464	13.8	0.98	
1050E	1522	14.1	0.89	
1150E	2534	10.3	0.90	
1150E	2722	8.6	1.08	
1250E	1929	6.1	0.70	
1250E	2075	5.4	0.89	
1350E	1664	10.9	0.73	
1350E	1755	9.8	0.85	
1450E	1593	10.9	0.87	
1450E	1781	9.6	0.86	
1550E	2539	10.5	0.86	
1550E	2893	10.3	0.92	
1650E	3850	12.5	0.72	
1650E	3630	11.9	0.92	
1750E	3156	10.3	0.87	
1850E	3680	9.8	0.92	

Station	Resistivity	Chargeability	L/M	Magnetics
1950E	3636	9.8	0.87	- 62,610
2050E	1717	8.8	0.91	- 62,613
2150E	2394	10.4	0.87	- 62,619
2250E	3179	16.6	0.89	-
	3317	15.3	0.87	62,613
2350E	4073	10.3	0.95	- 62,612
2450E	3352	10.6	0.90	- 62,620
2550E	3977	7.9	0.95	- 62,616
2650E	4474	6.1	1.11	- 62,613
2750E	3476	9.1	0.97	- 62,612
2850E	4690	15.6	0.95	- 62,621
2950E	3546	15.8	0.95	- 62,614
3050E	3749	14.3	0.93	- 62,612
3150E	3457	11.1	0.86	- 62,653
3250E	2674	14.3	0.94	- 62,650
3350E	2519	15.5	0.92	- 62,648
3450E	6763	8.8	1.02	- 62,639
3550E	5940	9.4	0.96	- 62,730
3650E	3536	11.1	0.95	- 62,638
3750E	4270	7.8	0.96	- 62,640
3850E	4236	9.4	0.96	- 62,645
3950E	5066	6.9	1.09	- 62,645
4050E	3848	6.6	1.11	- 62,673
4150E	2989	9.5	1.03	- 62,656
4250E	3124	9.8	1.05	- 62,669

Station	Resistivity	Chargeability	L/M	Magnetics
4350E	2580	11.9	0.99	- 62,697
4450E	3260	7.8	1.00	- 62,706
4550E	2964	7.4	0.88	- 62,694
4650E	3411	8.6	1.15	- 62,682
4750E	4430	7.9	1.08	- 62,666
4850E	3696	4.4	1.02	- 62,657
4950E	3579	8.0	0.98	- 62,631
5050E	4479	8.1	0.99	- 62,607
5150E	6669	4.0	1.25	- 62,591
5250E	5403	8.6	0.97	- 62,593
5350E	4783	12.0	0.94	- 62,548
5450E	5733	10.7	0.96	- 62,626
5550E	3293	6.3	0.87	- 62,691
5650E	4780	0.75	1.67	- 62,676
5750E	2976	1.9	1.47	- 62,697
5850E	2866	4.5	1.00	- 62,684
5950E	3419	3.0	1.00	- 62,667
6050E	4029	3.3	1.06	- 62,652
LINE 3600S				
50E	2268	15.5	0.83	62,658 - 62,657
150E	2116	8.0	0.85	- 62,657
250E	2684	12.4	0.85	- 62,658

Station	Resistivity	Chargeability	L/M	Magnetics
350E	4334	13.4	0.75	- 62,658
450E	3445	11.8	0.79	- 62,661
550E	3033	15.6	0.74	- 62,713
650E	3891	14.5	0.76	- 62,655
750E	2390	21.6	0.74	- 62,651
850E	2492	20.1	0.72	- 62,644
950E	2652	12.4	0.77	- 62,641
1050E	2070	9.7	0.88	- 62,643
1150E	1874	10.8	0.74	- 62,642
1250E	2378	11.4	0.86	- 62,642
1350E	2061	10.6	0.74	- 62,642
1450E	3317	8.0	0.69	- 62,647
1550E	2983	11.0	0.73	- 62,645
1650E	3086	11.4	0.61	- 62,647
1750E	2989	11.3	0.75	- 62,654
1850E	2876	11.5	0.81	- 62,662
1950E	2730	13.5	0.70	- 62,668
2050E	2250	15.4	0.70	- 62,661
2150E	2516	13.0	0.69	- 62,658
2250E	1490	12.6	0.90	-
2250E	1324	11.1	0.99	- 62,652
2350E	1878	10.3	0.78	-
2350E	1811	9.0	0.74	- 62,642
2450E	2254	8.0	1.00	- 62,640
2550E	3047	6.6	1.00	- 62,631

Station	Resistivity	Chargeability	L/M	Magnetics
2650E	2709	6.5	1.08	- 62,649
2750E	2254	11.9	1.05	- 62,650
2850E	3018	12.3	0.93	- 62,685
2950E	3421	13.4	0.99	- 62,670
3050E	4357	7.9	1.08	- 62,651
3150E	3715	10.0	1.00	- 62,660
3250E	3150	10.9	0.96	- 62,656
3350E	2054	12.5	1.04	- 62,651
3450E	1993	10.8	1.16	- 62,644
3550E	4918	7.1	1.19	- 62,638
3650E	4847	6.4	1.14	- 62,641
3750E	3317	7.3	1.03	- 62,643
3850E	3177	6.5	1.00	- 62,640
3950E	3526	8.9	1.07	- 62,633
4050E	3279	7.3	1.07	- 62,852
4150E	3844	7.3	1.14	- 62,690
4250E	3350	6.3	1.19	- 62,676
4350E	2229	7.4	1.12	- 62,694
4450E	2022	6.6	1.21	- 62,760
4550E	2060	8.3	1.18	- 62,758
4650E	1863	7.5	1.13	- 62,719
4750E	1248	4.8	1.35	- 62,705
4850E	3160	4.9	1.33	- 62,705
4950E	2188	5.0	1.40	- 62,699

Station	Resistivity	Chargeability	L/M	Magnetics
5050E	3401	5.8	1.29	-
				62,700
5150E	3298	4.0	1.33	-
				62,696
5250E	3425	4.4	1.48	-
				62,752
5350E	2667	5.0	1.26	-
				62,773
5450E	3590	4.3	1.40	-
				62,756
5550E	2139	5.3	1.28	-
				62,728
5650E	1487	3.6	1.33	-
				62,718
5750E	918	2.9	1.66	-
				62,686
5850E	1757	2.5	1.72	-
				62,676
5950E	1163	5.0	1.30	-
				62,666
LINE 4200S				
				62,645
50E	1466	11.8	0.87	-
50E	1384	14.1	0.82	-
				62,646
150E	1720	10.0	0.95	-
150E	1628	12.0	0.88	-
				62,646
250E	2800	10.5	0.95	-
250E	2904	12.0	0.83	-
				62,649
350E	2860	9.0	0.94	-
350E	2550	11.3	0.84	-
	2556	13.0	0.81	62,644
450E	3118	12.3	1.10	-
450E	2819	16.7	0.83	-
				62,640
550E	2068	27.0	0.89	-
550E	1504	33.8	0.80	-
	2296	27.0	0.78	62,643
650E	2652	18.1	0.88	-
650E	2550	20.0	0.90	-
	2671	17.5	0.89	62,632
750E	3557	12.5	0.92	-
750E	3223	14.5	0.86	-
				62,626

Station	Resistivity	Chargeability	L/M	Magnetics
850E	2574	10.5	0.90	-
850E	2394	10.5	0.90	-
				62,627
950E	1991	12.5	0.72	-
950E	1926	13.0	0.92	-
				62,632
1050E	1783	11.0	0.73	-
				62,627
1150E	2331	7.8	0.71	-
				62,632
1250E	2611	9.9	0.81	-
				62,634
1350E	2099	12.1	0.91	-
				62,635
1450E	2116	12.5	0.89	-
				62,636
1550E	1857	14.0	0.79	-
				62,642
1650E	2024	12.8	0.86	-
				62,647
1750E	2004	15.1	0.91	-
				62,647
1850E	2158	15.0	0.75	-
				62,643
1950E	1027	15.5	0.86	-
1950E	945	15.0	0.92	-
				62,656
2050E	1285	13.5	0.85	-
				62,664
2150E	1503	12.8	0.86	-
				62,682
2250E	1688	12.8	0.77	-
				62,694
2350E	2348	11.3	0.91	-
	3375	8.5	0.92	62,785
2450E	3720	6.6	0.91	-
	3386	7.0	0.83	62,842
2550E	2065	8.3	0.70	-
				62,721
2650E	2099	11.0	0.91	-
				62,732
2750E	2638	10.6	0.83	-
				62,709
2850E	2649	14.0	0.86	-
				62,684
2950E	2649	12.5	0.90	-
				62,672
3050E	5882	8.8	0.91	-
				62,658

Station	Resistivity	Chargeability	L/M	Magnetics
3150E	4929	9.6	0.91	- 62,660
3250E	3360	10.1	0.97	- 62,658
3350E	2671	10.7	0.87	- 62,655
3450E	2491	10.4	1.05	- 62,648
3550E	2796	12.0	0.92	- 62,647
3650E	3356	11.0	1.00	-
	4389	8.0	1.00	62,644
3750E	5379	6.5	1.00	- 62,653
3850E	4476	3.9	1.10	- 62,677
3950E	3526	7.5	1.04	- 62,782
4050E	3591	6.1	1.07	- 62,700
4150E	3992	7.5	1.20	- 62,680
4250E	2652	6.5	1.23	- 62,678
4350E	2951	8.0	1.19	- 62,689
4450E	3309	6.8	1.15	- 62.718
4550E	3147	4.3	1.35	- 62,774
4650E	2927	4.0	1.50	- 62,803
4750E	3248	6.0	1.33	- 62,822
4850E	2483	4.6	1.37	- 62,753
4950E	2890	4.5	1.51	- 62,781
5050E	2267	4.5	1.33	- 62,774
5150E	4741	5.2	1.35	- 62,749
5250E	4443	4.0	1.45	- 62,803
5350E	3501	3.9	1.49	- 62,757
5450E	2244	4.4	1.36	- 62,745

Station	Resistivity	Chargeability	L/M	Magnetics
5550E	2206	4.6	1.37	- 62,710
5650E	1606	1.9	2.00	- 62,680
5750E	3761	3.9	1.54	- 62,652
LINE 4800S				
50E	1065	17.3	0.78	62,648 - 62,640
150E	2078	12.9	0.78	- 62,633
250E	4335	12.6	0.79	- 62,637
350E	3160	14.9	0.83	- 62,645
450E	2116	16.3	0.80	- 62,645
550E	2448	16.8	0.83	- 62,637
650E	2517	15.8	0.84	- 62,663
750E	2635	13.9	0.94	- 62,631
850E	2951	14.5	0.79	- 62,626
950E	3280	14.3	0.79	- 62,619
1050E	2735	10.8	0.58	- 62,619
1150E	2733	12.4	0.71	- 62,623
1250E	2050	16.3	0.67	- 62,637
1350E	1855	17.0	0.64	- 62,682
1450E	1237	16.6	0.67	- 62,782
1550E	1790	15.3	0.92	-
	2138	17.8	0.81	62,682
1650E	1215	24.5	0.63	-
	1233	18.8	0.72	62,683
1750E	1196	16.0	1.02	- 62,683
1850E	1048	14.3	0.91	- 62,663

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Station	Resistivity	Chargeability	L/M	Magnetics
1950E	1512	14.5	0.88	- 62,654
2050E	1543	16.8	0.71	- 62,710
2150E	2026	13.5	0.85	- 62,838
2250E	2185	16.5	0.70	- 62,814
2350E	2683	16.4	0.76	- 62,820
2450E	1961	12.1	1.16	- 62,792
2550E	2934	8.1	0.96	- 62,751
2650E	1862	8.5	0.86	- 62,851
2750E	2029	8.2	0.89	- 62,783
2850E	1844	6.9	0.84	- 62,705
2950E	1490	14.8	0.91	-
2950E	1722	10.3	0.90	- 62,682
3050E	2832	12.8	0.67	-
3050E	3377	10.3	0.78	- 62,660
3150E	3107	8.2	0.85	-
	3819	12.6	0.86	62,652
3250E	3780	14.8	0.73	-
	5196	16.0	0.75	62,646
3350E	5444	16.3	0.79	- 62,649
3450E	3587	13.8	0.83	- 62,650
3550E	3086	9.6	0.89	- 62,650
3650E	3729	7.0	1.00	- 62,675
3750E	3227	7.4	0.78	- 62,708
3850E	3434	8.8	0.91	- 62,784
3950E	3680	9.3	0.97	- 62,786
4050E	3591	7.1	0.92	- 62,680
4150E	3623	7.5	0.87	- 62,679

Station	Resistivity	Chargeability	L/M	Magnetics
4250E	3629	8.1	0.93	- 62,678
4350E	2557	9.6	0.78	- 62,675
4450E	3922	6.3	0.84	- 62,666
4550E	1831	6.4	0.83	- 62,679
4650E	2395	6.9	0.91	- 62,703
4750E	2559	7.5	0.84	- 62,728
4850E	2663	6.8	0.88	- 62,734
4950E	2147	7.3	0.86	- 62,749
5050E	2645	6.6	0.91	- 62,716
5150E	3195	7.1	0.82	- 62,721
5250E	3333	4.4	0.91	- 62,689
5350E	3418	6.5	0.85	- 62,695
5450E	2543	5.8	0.74	- 62,722
5550E	2875	5.4	0.89	- 62,710
LINE 5400S				
50E	1368	19.8	0.83	62,685 - 62,666
150E	3762	18.5	0.73	- 62,648
250E	8476	14.0	0.81	- 62,632
350E	5346	16.0	0.68	- 62,619
450E	4776	9.8	0.90	- 62,606
550E	3048	16.9	0.76	- 62,617
650E	2888	13.3	0.62	- 62,608

Station	Resistivity	Chargeability	L/M	Magnetics
750E	3339	10.8	0.81	- 62,597
850E	3495	14.4	0.76	- 62,598
950E	3471	14.5	0.76	- 62,600 ±3
1050E	2627	14.8	0.65	- 62,589
1150E	1352	14.8	0.73	- 62,593
1250E	1052	14.8	0.63	- 62,595
1350E	968	13.5	0.74	- 62,620
1450E	1468	15.5	0.77	- 62,836
1550E	1414	19.0	0.68	- 62,973
1650E	1683	19.1	0.65	- 62,970
1750E	1995	16.5	0.78	- 62,850
1850E	3220	18.3	0.67	- 62,777
1950E	3284	17.8	0.79	- 62,750
2050E	2325	15.1	0.72	- 62,741
2150E	2648	14.5	0.72	- 62,818
2250E	3546	13.3	1.00	- 62,819
2350E	3333	13.9	0.78	-
2350E	2888	14.3	0.77	- 62,721
2450E	2756	14.3	0.84	- 62,706
2550E	2237	12.6	0.75	- 62,730
2650E	1939	14.4	0.80	- 62,697
2750E	2123	12.6	0.74	- 62,667
2850E	2296	10.1	0.72	- 62,660
2950E	3179	7.1	0.75	- 62,681

Station	Resistivity	Chargeability	L/M	Magnetics
3050E	3749	8.3	0.72	- 62,611
3150E	2468	10.6	0.71	- 62,707
3250E	3284	10.3	0.76	- 62,575
3350E	4140	10.5	0.77	- 62,658
3450E	4396	10.1	0.87	- 62,645
3550E	3520	11.4	0.77	- 62,649
3650E	3000	10.4	0.82	- 62,659
3750E	1875	10.3	0.76	- 62,667
3850E	3530	10.0	0.80	- 62,680
3950E	2923	10.3	0.83	- 62,681
4050E	2816	8.3	0.84	- 62,687
4150E	3434	8.5	0.80	- 62,690
4250E	3038	7.4	0.88	- 62,708
4350E	2829	7.9	0.92	- 62,714
4450E	3180	10.7	0.78	- 62,717
4550E	2736	6.9	0.84	- 62,730
4650E	3629	8.9	0.82	- 62,744
4750E	3876	6.4	0.91	- 62,759
4850E	4356	7.9	0.80	- 62,776
4950E	4144	6.6	0.91	- 62,816
5050E	3941	6.8	0.88	- 62,905
5150E	4446	7.5	0.80	- 62,794
5250E	4911	8.0	0.75	- 62,755
5350E	5261	8.8	0.80	- 62,741

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Station	Resistivity	Chargeability	L/M	Magnetics
5450E	2665	9.5	0.79	- 62,754
5550E	3145	2.9	1.03	- 62,750
5650E	6953	2.5	0.92	- 62,703

032

333073

GRADIENT ARRAY

CURRENT ELECTRODES ON LINE 7200S
AT 2500W AND 7500E

LINES 6000S
6600S
7200S
7800S
8400S

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 6000S				
50E	5533	15.1	0.91	62,669 - 62,662
150E	6545	10.6	1.04	62,645 - 62,632
250E	8119	12.6	0.90	62,619 - 62,606
350E	8975	10.6	0.99	62,603 - 62,608
450E	3114	13.6	0.90	62,614 - 62,599
550E	6641	8.3	0.94	62,602 - 62,625
650E	8015	11.3	0.88	62,780 - 62,720
750E	5784	14.0	0.93	62,866 - 62,736
850E	5777	15.8	0.92	62,708 - 62,733
950E	2282	16.4	0.95	62,712 - 62,707
1050E	2160	14.0	0.93	62,787
1150E	2415	13.4	1.12	62,845
1250E	2277	16.8	0.86	62,038 - 62,751
1350E	3155	14.9	0.93	62,805
1450E	2102	18.4	0.82	
1550E	2144	17.4	0.80	
1650E	3491	15.5	0.86	
1750E	5170	18.0	0.83	
1850E	4943	16.1	0.93	
1950E	4467	16.4	0.91	
2050E	4357	16.1	0.96	
2150E	5393	13.0	0.91	
2250E	8010	11.5	0.90	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	5140	13.3	0.90	- 62,747
2450E	3042	15.2	0.91	- 62,806
2550E	4446	13.4	0.92	- 62,830
2650E	3427	14.8	0.93	- 62,685
2750E	3953	11.1	0.84	- 62,676
2850E	7190	10.3	0.68	- 62,558
2950E	10192	8.1	0.86	- 62,555
3050E	5764	8.9	1.01	- 62,579
3150E	3295	9.4	0.96	- 62,643
3250E	3471	8.8	1.08	- 62,655
3350E	3563	10.2	1.08	- 62,661
3450E	3430	12.9	0.88	- 62,652
3550E	4625	12.6	0.82	- 62,667
3650E	4115	10.8	1.00	- 62,667
3750E	5357	9.6	0.94	- 62,682
3850E	4635	9.3	0.89	- 62,689
3950E	4893	10.5	1.00	- 62,703
4050E	5757	7.1	1.06	- 62,709
4150E	4423	10.5	1.05	- 62,723
4250E	4222	8.1	0.96	- 62,728
4350E	5406	8.1	0.99	- 62,743
4450E	5564	8.8	1.06	- 62,756
4550E	7958	6.8	1.10	- 62,769
4650E	5983	7.4	1.08	- 62,800

Station	Resistivity	Chargeability	L/M	Magnetics
4750E	5890	8.1	1.02	-
4850E	5936	7.1	1.06	62,834 -
4950E	7426	6.3	1.19	62,860 -
5050E	6533	7.4	1.08	62,877 -
5150E	6090	7.6	1.09	62,872 -
5250E	6300	8.6	1.02	62,847 -
5350E	7056	8.8	1.14	62,837 -
5450E	5680	10.8	1.02	62,844 -
5550E	6252	6.4	1.09	62,840 - 62,843
LINE 6600S				
50E	3708	11.1	0.81	62,664 -
150E	2248	10.0	0.90	62,679 -
250E	2258	12.0	0.86	62,640 -
	3022	11.8	0.89	62,624
325E	3497	10.3	0.97	-
350E	4254	24.5	0.51	-
350E	4538	12.3	0.73	-
450E	8504	10.0	0.85	62,599 -
550E	7360	7.9	0.82	62,570 -
650E	4100	13.0	0.77	62,563 -
750E	3287	16.5	0.79	62,552 -
850E	3154	16.1	0.86	62,560 -
950E	3219	12.0	0.88	62,529 -
1050E	2299	14.9	1.01	62,589 - 62,530

Station	Resistivity	Chargeability	L/M	Magnetics
1150E	1782	18.9	0.77	- 62,604
1250E	1714	14.9	0.94	- 62,805
1350E	2012	16.2	0.83	63,019 63,028
1450E	1677	17.0	0.88	62,997 62,970
1550E	2180	15.8	0.79	62,983 63,007
1650E	2362	15.5	0.89	63,012 62,996
1750E	3023	14.5	0.99	63,005 62,988
1850	3070	14.0	0.93	62,928 62,932
1950E	3671	15.8	0.84	- 62,813
2050E	5726	13.3	0.83	- 62,810
2150E	6742	11.0	0.91	- 62,847
2250E	7030	12.0	0.92	- 62,745
2350E	3289	14.3	0.87	- 62,749
2450E	3516	16.0	0.78	- 62,718
2550E	2274	13.3	0.75	- 62,650
2650E	2704	13.3	0.83	- 62,634
2750E	3127	11.0	0.86	- 62,655
2850E	12040	8.0	0.91	- 62,581
2950E	11930	6.3	1.00	- 62,603
3050E	5882	8.3	1.00	- 62,619
3150E	2373	10.0	0.95	- 62,625
3250E	1649	14.2	0.77	- 62,628
3350E	1552	14.3	0.91	- 62,626
3450E	1519	14.6	0.77	- 62,628

Station	Resistivity	Chargeability	L/M	Magnetics
3550E	2709	11.0	1.03	- 62,634
3650E	3081	10.1	0.95	- 62,634
3750E	3121	10.0	0.98	- 62,627
3850E	3148	10.0	1.00	- 62,622
3950E	4196	10.4	1.01	- 62,633
4050E	4440	9.5	0.89	- 62,644
4150E	4063	8.5	1.09	- 62,635
4250E	3441	6.8	1.44	- 62,668
4350E	2854	7.3	1.30	- 62,670
4450E	3570	5.8	1.69	- 62,697
4550E	2507	6.3	1.48	- 62,726
4650E	3318	6.4	1.41	- 62,786
4750E	3064	6.4	1.41	- 62,838
4850E	2743	5.8	1.55	- 62,899
4950E	2763	5.9	1.61	- 62,910
5050E	3035	6.6	1.41	- 62,928
5150E	3892	6.4	1.56	- 62,952
5250E	3038	6.4	1.41	- 63,174
5350E	6006	8.3	1.33	- 62,910
5450E	4473	8.6	1.51	- 62,828
5550E	3432	7.5	1.53	- 62,793
5650E	3146	9.0	1.31	- 62,769
5750E	4447	5.1	1.24	- 62,753
5850E	9298	3.5	2.00	- 62,748
5950E	13550	3.5	2.00	- 62,745

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 7200S				
50E	3885	8.3	0.76	62,627 - 62,613
150E	2846	10.5	0.55	62,598 - 62,580
250E	4417	8.4	0.77	62,575 - 62,575
350E	6155	9.3	0.59	62,552 - 62,550
450E	5939	18.1	0.76	- - 62,531
	4210	14.4	0.78	- 62,485
550E	5215	14.0	0.71	- 62,428
650E	5011	18.0	0.77	- 62,515
750E	2362	15.6	0.72	- 62,690
850E	1387	14.4	0.69	- 62,699
950E	1710	15.9	0.82	- 62,717
1050E	2009	17.3	0.75	- 62,815
1150E	2874	19.0	0.65	- 62,656
1250E	2967	19.0	0.70	- 62,703
1350E	2443	17.2	0.80	- 62,618
1450E	2448	18.2	0.77	- 62,853
1550E	2187	15.1	0.60	- 62,731
1650E	2825	17.2	0.74	- 62,598
1750E	4419	16.3	0.67	- 62,765
1850E	7037	14.5	0.61	
1950E	7373	13.5	0.63	
2050E	6063	12.0	0.79	
2150E	4378	16.6	0.78	
2250E	3843	14.8	0.70	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	3648	12.4	0.73	- 62,751
2450E	3513	16.3	0.66	-
	3588	17.6	0.71	62,677
2550E	3585	12.5	0.74	- 62,613
2650E	3865	11.8	0.64	- 62,597
2750E	4768	12.6	0.87	- 62,626
2850E	6827	12.1	0.70	- 62,611
2950E	5597	12.5	0.92	- 62,697
3050E	4147	13.1	0.65	- 62,647
3150E	3677	11.3	0.53	- 62,677
3250E	4285	11.3	0.73	- 62,651
3350E	3548	11.3	0.69	- 62,657
3450E	2894	12.2	0.76	- 62,653
3550E	4330	9.5	0.68	- 62,625
3650E	4092	10.7	0.59	- 62,609
3750E	3145	11.2	0.71	- 62,592
3850E	3564	10.1	0.82	- 62,576
3950E	5208	11.4	0.73	- 62,559
4050E	5346	11.1	0.75	- 62,599
4150E	3287	10.7	0.79	- 62,665
4250E	3444	10.6	0.75	- 62,750
4350E	2818	10.0	0.71	- 62,818
4450E	2628	11.2	0.79	- 62,868
4550E	2121	12.5	0.70	- 62,860
4650E	2248	10.8	0.72	- 62,819

Station	Resistivity	Chargeability	L/M	Magnetics
4750E	1931	11.5	0.68	- 62,789
4850E	2348	11.1	0.79	- 62,813
4950E	2298	11.3	0.78	- 62,865
5050E	2331	10.4	0.70	- 62,896
5150E	2198	9.1	0.69	- 62,900
5250E	3033	11.3	0.62	- 62,887
5350E	4182	10.4	0.70	- 62,846
5450E	3750	10.8	0.72	- 62,778
5550E	3420	9.8	0.77	- 62,743
5650E	2852	10.6	0.78	- 62,808
5750E	2499	6.9	0.70	- 62,774
5850E	16434	6.6	0.68	- 62,735
5950E	12376	7.0	0.76	- 62,716
LINE 7800S				
50E	3827	9.3	0.59	62,607 - 62,601
150E	3302	11.8	0.75	- 62,600
250E	3629	16.0	0.75	- 62,597
350E	3403	23.3	0.67	- 62,599
450E	4178	22.2	0.73	- 62,589
550E	4541	18.0	0.74	- 62,581
650E	3346	18.6	0.75	- 62,602
750E	1746	15.3	0.75	- 62,617
850E	1443	16.4	0.73	- 62,583

Station	Resistivity	Chargeability	L/M	Magnetics
950E	2608	19.5	0.77	- 62,558
1050E	2817	17.6	0.74	- 62,557
1150E	2376	18.3	0.64	- 62,538
1250E	3366	20.8	0.64	- 62,544
1350E	2767	15.1	0.76	- 62,514
1450E	3225	16.1	0.71	- 62,518
1550E	3171	18.3	0.68	- 62,514
1650E	3037	16.8	0.58	- 62,507
1750E	3160	16.0	0.66	- 62,441
1850E	3210	13.5	0.67	- 62,571
1950E	3318	13.0	0.62	- 62,733
2050E	2219	16.9	0.64	- 62,648
2150E	3179	14.5	0.76	- 62,631
2250E	3199	11.5	0.78	- 62,630
2350E	2777	12.1	0.66	- 62,590
2450E	2857	13.3	0.75	- 62,598
2550E	3589	14.0	0.71	- 62,606
2650E	3080	11.5	0.72	- 62,622
2750E	4509	11.4	0.75	- 62,624
2850E	4984	11.8	0.81	- 62,598
2950E	4939	13.1	0.71	-
2950E	5440	10.4	0.87	- 62,588
3050E	3670	12.8	0.90	- 62,579
3150E	3209	9.9	0.96	- 62,590

Station	Resistivity	Chargeability	L/M	Magnetics
3250E	2611	11.5	0.87	- 62,598
3350E	4050	9.3	0.97	- 62,609
3450E	2246	8.4	0.95	- 62,628
3550E	2580	8.8	0.87	- 62,625
3650E	4087	9.9	0.94	- 62,615
3750E	3428	10.5	0.95	- 62,586
3850E	2851	12.5	0.96	- 62,563
3950E	3909	10.8	0.95	- 62,546
4050E	3885	10.2	1.11	- 62,543
4150E	3421	13.3	0.83	- 62,560
4250E	3492	10.9	0.86	- 62,632
4350E	3641	10.0	0.95	- 62,744
4450E	3289	9.8	1.07	- 62,837
4550E	3133	10.3	1.00	- 62,846
4650E	2212	10.0	1.00	- 62,836
4750E	2419	11.8	0.97	- 62,975
4850E	2591	12.0	0.96	- 63,044
4950E	1794	11.3	0.97	- 62,991
5050E	2091	11.9	0.97	- 62,829
5150E	2104	14.3	1.05	- 62,762
5250E	2646	13.5	1.07	- 62,706
	2171	11.5	1.04	
5350E	1884	7.1	1.24	- 62,672
5450E	1941	5.5	1.24	- 62,666
5550E	2262	9.1	1.04	- 62,694

Station	Resistivity	Chargeability	L/M	Magnetics
5650E	1644	7.1	1.17	-
				62,743
5750E	4840	4.6	1.30	-
				62,741
5850E	9655	4.9	1.29	-
				62,714
LINE 8400S				
				62,605
50E	3931	10.9	0.94	-
				62,611
150E	2693	10.8	1.02	-
				62,604
250E	2484	22.3	0.94	-
	2735	25.0	0.92	62,601
350E	2692	25.5	0.87	-
	2493	17.5	0.91	62,594
450E	3633	13.9	1.07	-
				62,591
550E	3500	10.9	0.85	-
				62,594
650E	5405	15.0	1.02	-
				62,594
750E	3123	19.8	0.92	-
				62,598
850E	2450	15.3	0.87	-
				62,604
950E	2467	16.1	0.98	-
950E	2714	17.8	0.72	-
				62,599
1050E	3177	25.8	0.76	-
1050E	3622	24.3	0.66	-
1100E	2148	30.8	0.88	
1100E	2964	36.0	0.56	62,583
1150E	2023	34.8	0.70	-
1150E	2350	36.5	0.68	-
	2777	28.8	0.73	62,575
1250E	2410	20.8	0.93	-
1250E	2812	21.4	0.72	-
	4204	17.6	0.73	62,571
1350E	5281	16.1	0.73	-
	4925	10.4	0.72	62,574
1450E	3574	6.9	0.77	-
				62,575
1550E	3216	10.5	0.74	-
				62,571

Station	Resistivity	Chargeability	L/M	Magnetics
1650E	3345	12.0	0.58	- 62,575
1750E	2954	11.5	0.77	- 62,579
1850E	2546	10.9	0.64	- 62,580
1950E	3635	12.5	0.74	- 62,578
2050E	3822	11.8	0.75	- 62,582
2150E	4237	14.2	0.62	- 62,578
2250E	4341	12.4	0.65	- 62,578
2350E	4361	12.0	0.92	- 62,580
2450E	4680	12.5	0.66	- 62,581
2550E	3276	12.1	0.81	- 62,592
2650E	3972	13.5	0.63	- 62,582
2750E	3798	12.2	0.84	- 62,593
2850E	3775	11.5	0.73	- 62,599
2950E	2752	11.5	0.72	- 62,585
3050E	3716	12.3	0.88	- 62,572
3150E	5316	12.1	0.81	- 62,605
3250E	5318	14.5	0.85	- 62,591
3350E	3927	11.0	0.71	- 62,619
3450E	5074	11.5	0.70	- 62,655
3550E	2803	11.0	0.59	- 62,659
3650E	2195	11.0	0.66	- 62,611
3750E	2076	10.8	0.69	- 62,583
3850E	2350	11.8	0.89	- 62,557
3950E	2224	12.0	0.85	- 62,521

Station	Resistivity	Chargeability	L/M	Magnetics
4050E	2776	14.0	0.70	- 62,455
4150E	3108	12.8	0.77	- 62,456
4250E	3355	12.3	0.69	- 62,646
4350E	3299	14.0	0.71	- 62,655
4450E	4487	11.8	0.85	- 62,891
4550E	4844	12.5	0.80	- 62,634
4650E	4321	11.7	0.85	- 62,885
4750E	4617	12.4	0.75	- 62,924
4850E	2329	14.2	0.74	- 62,961
4950E	3101	13.6	0.79	- 63,028
5050E	2710	13.3	0.68	- 62,807
5150E	3575 2016	16.9 17.0	0.79 0.76	- 62,627
5250E	2268	17.5	0.80	- 62,585
5350E	3708	12.1	0.70	- 62,578
5450E	3635	10.1	0.72	- 62,584
5550E	1843	7.5	0.91	- 62,724
5650E	1530	8.6	0.85	- 62,715
5750E	1278	4.5	0.96	- 62,727

046

333087

GRADIENT ARRAY

CURRENT ELECTRODES ON LINE 10200S
AT 1800W AND 5200E

LINES 9000S
9600S
10200S
10800S
11400S

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 9000S				
50E	1674	9.5	0.63	62,609 - 62,632
150E	1737	9.5	0.61	62,624 - 62,600
250E	1881	8.5	0.74	62,599 - 62,611
350E	2912	8.3	0.70	62,646 - 62,655
450E	2138	10.9	0.60	62,638 - 62,632
550E	2430	13.3	0.79	62,616 - 62,603
650E	2032	16.0	0.70	62,597 - 62,610
750E	2142	17.3	0.64	62,624 - 62,616
850E	2103	18.6	0.71	62,649 - 62,653
950E	2011	19.8	0.68	62,686 - 62,619
1050E	2554	19.8	0.71	62,681 - 62,618
1150E	1465	19.4	0.67	62,615 - 62,618
1250E	1322	15.6	0.70	
1350E	2065	17.1	0.69	
1450E	1720	16.6	0.65	
1550E	1774	14.3	0.63	
1650E	1573	11.3	0.80	
1750E	2401	15.4	0.67	
1850E	4675	7.3	0.92	
1950E	3276	7.9	0.73	
2050E	2268	11.6	0.69	
2150E	2202	8.7	0.78	
2250E	2614	10.8	0.83	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	1741	13.1	0.72	-
2450E	2884	12.0	0.69	62,626 -
2550E	1956	13.5	0.73	62,685 -
2650E	2142	12.0	0.82	62,655 -
2750E	1682	13.6	0.65	62,753 -
2850E	2261	13.5	0.69	62,654 -
2950E	2106	14.3	0.72	62,612 -
3050E	1248	14.0	0.63	62,596 -
3150E	1134	12.5	0.66	62,586 -
3250E	1158	11.6	0.67	62,583 -
3350E	1784	11.9	0.70	62,568 -
3450E	1417	14.5	0.68	62,619 -
3550E	3006	11.9	0.67	62,679 -
3650E	2941	12.8	0.73	62,638 -
3750E	2677	14.6	0.72	62,640 -
3850E	1984	12.8	0.84	62,637 -
3950E	1762	11.8	0.75	62,634 -
4050E	1904	12.9	0.72	62,606 -
4150E	2261	13.6	0.68	62,582 -
4250E	2030	17.0	0.66	62,624 -
4350E	1335	14.3	0.69	62,585 -
4450E	1834	16.8	0.73	-
4550E	1539	16.5	0.73	-
4650E	3096	17.0	0.76	-
				-
				-
				-
				-
				-
				-
				-

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 9600S				
50E	2194	13.6	0.88	62,606 - 62,611
150E	1576	8.9	0.93	62,604 -
250E	1652	9.0	1.03	-
250E	1606	10.5	0.70	62,600 -
350E	1222	10.1	0.94	-
350E	1369	9.6	0.83	62,602 -
450E	1566	10.8	0.65	62,597 -
550E	1784	11.9	0.63	62,592 -
650E	2605	12.3	0.61	62,591 -
750E	2600	13.0	0.73	62,595 -
850E	1841	14.7	0.71	62,588 -
950E	1296	17.4	0.72	62,585 -
1050E	1773	18.4	0.65	62,592 -
	1885	19.5	0.68	
1150E	2130	19.3	0.65	62,589 -
1250E	1755	13.4	0.66	62,588 -
1350E	1714	16.1	0.73	62,583 -
1450E	1446	11.4	0.92	62,581 -
1550E	2058	13.8	0.60	62,570 -
1650E	2767	12.3	0.61	62,568 -
1750E	2657	13.0	0.69	62,568 -
1850E	3062	12.5	0.54	62,569 -
1950E	3374	12.6	0.48	62,572 -
2050E	2570	11.4	0.61	62,577 -
2150E	2106	13.0	0.54	62,578

Station	Resistivity	Chargeability	L/M	Magnetics
2250E	1855	11.3	0.62	- 62,575
2350E	1873	11.6	0.65	- 62,582
2450E	1717	12.4	0.71	- 62,582
2550E	2122	14.0	0.64	- 62,581
2650E	1710	18.0	0.56	- 62,576
2750E	1679	16.5	0.61	-
	1459	16.2	0.70	62,559
2850E	1427	10.5	0.71	- 62,564
2950E	2088	12.0	0.58	- 62,564
3050E	2282	12.4	0.63	- 62,557
3150E	1989	13.0	0.75	- 62,561
3250E	1193	11.0	0.75	- 62,590
3350E	2261	12.0	0.83	- 62,549
3450E	897	15.4	0.70	- 62,586
3550E	1995	15.0	0.67	- 62,595
3650E	1836	14.6	0.74	- 62,565
3750E	1833	15.0	0.75	- 62,553
3850E	1596	13.8	0.69	- 62,551
3950E	1672	12.8	0.73	- 62,688
4050E	1775	10.8	0.74	- 62,692
4150E	1281	10.1	0.77	- 62,725
4250E	1188	11.3	0.73	- 62,619
4350E	1053	19.8	0.70	- 62,649
4450E	1100	20.6	0.70	- 62,721
4550E	1755	18.3	0.66	- 62,740

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 10200S				
50E	1392	10.0	0.95	62,610 - 62,605
150E	1460	10.0	0.95	62,602 - 62,595
250E	1109	13.8	0.95	62,592 - 62,589
350E	970	15.8	0.89	62,590 - 62,589
450E	1090	15.8	0.84	62,589 - 62,588
550E	1310	10.6	0.87	62,585 - 62,582
650E	1772	10.8	0.91	62,580 - 62,582
750E	2162	9.9	0.99	62,579 - 62,576
850E	2058	11.0	0.91	62,574 - 62,573
950E	1316	12.0	0.92	62,572 - 62,574
1050E	1336	11.3	0.98	62,572 - 62,573
1150E	1668	13.5	0.96	62,582 - 62,581
1250E	2040	12.3	1.00	
1350E	1498	11.4	0.96	
1450E	1767	11.0	0.98	
1550E	2757	9.8	0.92	
1650E	2422	8.5	1.00	
1750E	1509	9.8	1.08	
1850E	1496	8.8	1.03	
1950E	2541	9.9	1.01	
2050E	2656	12.0	0.96	
2150E	1672	8.6	1.17	
2250E	2616	7.0	1.07	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	2131	10.0	0.95	- 62,576
2450E	1224	14.5	0.90	- 62,575
2550E	1294	16.3	0.95	- 62,578
2650E	639	17.8	1.01	- 62,597
2750E	680	16.5	1.00	- 62,585
2850E	655	14.6	0.95	- 62,584
2950E	972	15.1	0.93	- 62,582
3050E	948	15.3	0.90	- 62,588
3150E	739	10.0	1.03	- 62,586
3250E	952	8.5	0.76	- 62,655
3350E	1508	7.5	0.91	- 62,610
3450E	1522	9.9	1.01	- 62,608
3550E	1344	11.6	0.95	- 62,594
3650E	1275	15.0	0.87	- 62,575
3750E	1368	19.5	0.87	- 62,574
3850E	942	20.8	0.89	- 62,568
3950E	1282	19.3	0.88	- 62,546
4050E	1568	16.6	1.01	- 62,540
4150E	1783	18.8	0.85	- 62,551
4250E	1479	9.8	0.97	- 62,604
4350E	1344	12.8	1.00	62,680 62,923
4450E	1650	11.0	1.05	62,119 63,213

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 10800S				
50E	2394	11.3	0.93	62,630 - 62,601
150E	2627	11.3	0.95	62,626 - 62,628
250E	2601	11.5	0.94	62,624 - 62,621
350E	3667	10.8	1.00	62,612 - 62,615
450E	1566	10.9	0.92	62,633 - 62,635
550E	1235	11.9	0.84	62,622 - 62,622
650E	2171	12.0	0.98	62,610 - 62,602
750E	2070	12.3	0.88	62,601 - 62,596
850E	2704	13.4	0.88	62,598 - 62,598
950E	2035	14.6	0.89	62,588 - 62,591
1050E	2442	14.0	0.89	62,596 - 62,591
1150E	2233	10.7	0.91	62,591 - 62,584
1250E	2036	11.3	1.04	
1350E	2320	12.7	0.91	
1450E	2350	11.6	0.92	
1550E	2425	9.4	0.96	
1650E	3690	7.9	0.99	
1750E	2804	10.9	0.85	
1850E	3675	12.8	0.96	
1950E	2820	13.9	0.90	
1950E	2820	14.4	0.76	
2050E	2285	13.8	0.80	
2150E	1544	12.0	1.00	
2250E	2439	12.0	1.00	

Station	Resistivity	Chargeability	L/M	Magnetics
2350E	1305	13.3	1.02	- 62,592
2450E	907	12.4	1.00	- 62,597
2550E	718	11.3	0.97	- 62,599
2650E	750	12.3	0.98	- 62,573
2750E	782	12.4	0.98	- 62,593
2850E	796	13.1	0.92	- 62,592
2950E	835	14.0	0.96	- 62,590
3050E	1002	12.4	1.03	- 62,610
3150E	918	11.8	1.00	- 62,581
3250E	1342	10.8	1.06	- 62,560
3350E	1137	12.3	0.98	- 62,555
3450E	860	9.4	1.01	- 62,544
3550E	1146	8.8	1.17	- 62,571
3650E	1173	10.9	0.94	- 62,784
3750E	1034	11.2	1.03	- 62,722
3850E	2940	15.0	0.97	- 62,708
3950E	2356	18.5	0.89	- 62,639
4050E	1842	20.0	0.90	- 62,547
4150E	1830	16.0	0.97	- 62,511
4250E	1890	14.3	1.01	- 62,421
4330E	-	-	-	62,359
4350E	2058	13.9	0.90	- 62,355
4450E	3696	10.3	1.02	62,781 62,985
4550E	2515	12.6	0.99	63,196 63,338

Station	Resistivity	Chargeability	L/M	Magnetics
LINE 11400S				
50E	3477	11.6	0.91	62,644 - 62,640
150E	3377	11.0	0.95	62,636 - 62,635
250E	3383	11.1	0.93	62,634 - 62,627
350E	3224	13.0	0.92	62,627 - 62,626
450E	1879	13.3	0.85	62,624 - 62,622
550E	2295	11.6	1.02	62,625 - 62,624
650E	2172	13.6	0.92	62,623 - 62,623
750E	2677	12.1	0.99	62,619 - 62,620
850E	2251	12.9	0.84	62,613 - 62,611
950E	2770	13.3	0.94	62,603 - 62,606
1050E	2786	12.3	0.93	62,605 - 62,603
1150E	2614	11.7	0.98	62,609
1250E	2924	11.4	0.92	
1350E	2956	11.4	0.99	
1450E	2662	11.5	0.94	
1550E	2434	11.4	0.92	
1650E	2236	10.5	0.95	
1750E	2691	9.1	0.82	
1850E	3575	10.9	0.92	
1950E	3194	14.8	0.90	
2050E	4860	14.9	0.94	
2150E	2563	14.4	0.97	

Station	Resistivity	Chargeability	L/M	Magnetics
2250E	1188	14.6	0.92	- 62,616
2350E	1238	13.5	0.99	- 62,622
2450E	987	14.9	0.94	- 62,625
2550E	1033	14.6	0.85	- 62,636
2650E	1142	14.1	0.94	- 62,611
2750E	1156	11.7	0.94	- 62,607
2850E	1215	13.0	0.90	- 62,623
2950E	1166	15.3	0.85	- 62,610
3050E	1279	15.6	0.91	- 62,582
3150E	2388	17.8	0.95	- 62,559
3250E	1824	15.3	0.87	- 62,547
3350E	2470	14.6	0.88	- 62,535
3450E	1575	13.8	0.91	- 62,511
3550E	1052	14.4	0.94	- 62,486