SCINTREX

A REPORT ON
EIP DETAIL AND MAGNETIC SURVEYS
OVER THE BEATRICE GRID
NEAR QUEENSTOWN, TASMANIA
ON BEHALF OF
THE MOUNT LYELL MINING & RAILWAY COMPANY LTD.

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PRIVATE AND CONFIDENTIAL

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EIP DETAIL AND MAGNETIC SURVEYS
OVER THE BEATRICE GRID
NEAR QUEENSTOWN, TASMANIA
ON BEHALF OF
THE MOUNT LYELL MINING & RAILWAY COMPANY LTD.

BY

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SYDNEY, N.S.W.

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TAS-073C

SCINTREX

CONTENTS

SCINTREX PTY. LTD.

GEOPHYSICAL CONSULTANTS AND CONTRACTORS

SUMMARY

Dipole-dipole, gradient array induced polarization surveys and magnetometer surveys were carried out over the north-west and south-east sections of the Beatrice grid.

Results in the north-west confirm the continuation of the chargeable zone C4 towards the north. There is no magnetic response associated with the chargeable zone.

Results in the south-east show a chargeable source overlain by a less chargeable resistive layer.

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EIP DETAIL AND MAGNETIC SURVEYS
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INTRODUCTION

At the request of Mr. K. Reid, Chief Geologist for the Mount Lyell Mining & Railway Company Ltd., Scintrex Pty. Ltd. executed electrical induced polarization and magnetic surveys over the Beatrice grid, near Queenstown, Tasmania. These surveys are a continuation of work conducted in the 1977/78 and 1978/79 seasons. Previous work is discussed in reports TAS-035D and TAS-062A.

The work in the north-western section was carried out by Scintrex party leaders Mr. B. Ekstrom and R. Malor,Ph.D. over 14½ production days between 27th November 1979 and 9th January, 1980. During this period 3/4 of a day was lost due to instrument breakdown and 13 days due to rain/snow. Further work was carried out in the south-east of the grid by Mr. A. James,B.Sc. over 13½ production days between 15th May and 3rd June, 1980.

METHOD AND EQUIPMENT

A Scintrex 3 kilowatt induced polarization transmitter was employed for the energisation during the gradient and pole-dipole surveys. A Scintrex IPR-8 induced polarization receiver was used to measure primary and secondary fields. For the magnetic survey two proton precession magnetometers were employed - one magnetometer was maintained as a base station to measure ambient variations in

the field while the other was used for measuring variations along the grid lines.

DISCUSSION OF RESULTS

EXTENSIONS TO NORTH-WEST SECTION

The data is presented at a horizontal scale of 1:2500 with vertical scales as follows:-

chargeability	1 centimetre = 4 millivolts/volt
resistivity	10 centimetre log cycle, expressed in ohm-metres
magnetics	1 centimetre = 40 gamma

The lines surveyed were as follows:

Gradient array:-	Line 20N	2415W to 1650W	
	Line 18N	2415W to 1425W	
Pole-dipole:-	Line 18N	2280W to 810W	n = 1 to 6
	Walking track	1000N to 2200N	n = 1 to 6
Mangetics:-	Line 20N	2400W to 600W	
	Line 18N	2600W to 850W	
	Line 16N	2300W to 1200W	
	Line 14N	2400W to 1500W	

LINE 20N

Magnetics:- Very little relief is exhibited on the magnetic field data, indicating the rocks have a very uniform content of magnetic minerals. A gradual rise of 125 gamma was recorded showing a west-east regional gradient of around 70 gamma per kilometre. A feature between 1200W and 1300W possibly indicates a change in rock

type.

Gradient Array:- A broad zone of anomalous chargeability was surveyed between 2310W and 1725W. This zone correlates with the anomaly designated C4 on the original survey. This anomalous zone therefore is still open to the north. The high resolution of the 10 metre gradient array employed is characterised by a number of sources.

2265W ..... A chargeable source with relatively lower resistivity lies at a maximum depth of 50 metres. Chargeability rises to a maximum of 28.4 millivolts/volt from a background of 0 to 10 millivolts/volt in the rocks to the west. Coincidentally resistivity drops from 5500 ohm-metres to 2800 ohm-metres. The source is steeply dipping, however, the influence of further chargeable sources to the east obscures accurate interpretation of dip.

2230W ..... An anomaly due to a chargeable source is largely obscured by responses from the east and west. The source is at a similar, slightly shallower depth to source causing the anomaly at 2265W. Resistivities down to 2200 ohm-metres are recorded.

2190W ..... A shallower chargeable source with a strong resistivity low is recorded. Chargeability peaks at 44 millivolts/volt with resistivity falling to around 1100 ohm-metres. Maximum depth to this source is considered to be 25 to 30 metres and a steep to vertical dip.

2165W ..... A shallow chargeable source has in this case a higher resistivity of around 3000 ohm-metres. Depth is considered to be less than 25 metres, however,

responses from other sources obscure the interpretation.

2140W ..... A chargeable source probably lies at similar or deeper depths to the source at 2140W. The source appears to be slightly more resistive that the surrounding rocks.

A source with a maximum depth of about 25 metres has an associated drop in resistivity. Chargeability is a maximum 46 millivolts/volt, the highest recorded on this line, however, resistivity remains high, with a drop of only 500 ohm-metres to around 2500 ohm-metres. This anomaly is recorded at 2495W.

Responses recorded over this section of the line show a series of minor sources which are not adequately resolved even by the close spacing employed. Chargeability drops away to a minimum of around 30 millivolts/volt at 1950W. The drop in chargeability can be interpreted as a decrease in the amount of polarizable material and/or a deepening of the sources involved. The lack of resolution of the region into specific anomalies lends weight to the second explanation. However, the resistivity data resolves two less resistive zones at 1975W and 1855W which are very near surface or to a depth of 10 metres. The second of these correlates with a chargeability peak.

1800W to 1675W ..... A series of chargeability anomalies up to a maximum of 44 millivolts/volt at 1785W were recorded over this region. Each chargeable zone appears to correlate well with a low resistivity response. The high resolution of the 10 metre array isolates five major sources which have these characteristics, at 1785W, 1760W, 1735W, 1710W with a minor source at 1685W. Maximum depth to each of these sources is considered to be around 15 to 20 metres.

1675W ..... The zone of high chargeability appears to close off east of this point.

SUMMARY ..... A zone of higher chargeability was recorded between 2300W and 1675W. The high resolution gradient array shows that the zone is made up of a number of discrete sources. The interaction of these sources creates a broad high chargeability zone on the profile. Depths of the sources of the chargeability are shallow, in the region of 15 to 50 metres. A number of the zones are less resistive as well as chargeable. The source of the anomalies is believed to be sulphides and/or graphite.

LINE 18N

Magnetics:- The magnetic field was measured along 18N between 2400W and 875W at an interval of 15 metres. The relief is flat except for a zone between 1550W and 1325W. A change in rock type in this region with higher concentrations of magnetic minerals causes a higher magnetic field to be measured. Two shallow sources were recorded at 1460W and 1360W. IP results show that this zone is of little significance.

Gradient Array:-

2270W ..... A shallow chargeable source with a maximum of 28 millivolts/volt was recorded from a background of 4 millivolts/volt. A low is recorded adjacent to the peak down to -8.2 millivolts/volt. This is due to the geometry of the source and indicates in this case an easterly dip. Maximum depth to the top of the source is 15 metres. An associated drop in resistivity indicates the source is less resistive than the surrounding rocks.

2012W ..... A sharp peaked anomaly of 60 millivolts/volt coincides with a drop

in resistivity to 1600 ohm-metres. The anomaly has a similar form to that at 2270W. A maximum depth of 15 metres with an easterly dip is interpreted for this source.

1975W to 1825W ..... A series of sources with a maximum depth of around 15 metres is located in this region. Each of these chargeability peaks coincides with a decrease in resistivity. The most significant of less resistive zones is centred at 1900W with a resistivity of around 1400 ohm-metres.

1810W ..... A shallow chargeable source at this point is associated with a decrease in resistivity. A maximum chargeability of around 56 millivolts/volt is measured coincident with a resistivity of 1600 ohm-metres. The maximum depth to the source of this anomaly is considered to be around 15 metres with a probable dip to the east of between 40° and 60°. The dip here appears to be less steep than that of the sources at 2270W and 2012W.

1775W to 1500W ..... A zone of high chargeability continues to the east. A number of discrete sources are still evident with principal anomalies being recorded at 1680W, 1635W and 1605W. These chargeability highs do not correlate with less resistive zones. The chargeability gradually decreases going eastward with bulk chargeability dropping from 40 millivolts/volt to around 25 millivolts/volt. These indicate either a decrease in polarizable material and/or an increase in depth of polarizable material.

SUMMARY ..... A zone of high chargeability lies between 2025W and 1500W. The zone is shown to be due to a large number of shallow chargeable sources with maximum depths of 15 to 25 metres. The dip of these sources appears to decrease eastwards along

the line and possibly flattens at depth in the region 1600W to 1500W where the results can be interpreted as being from deeper material. A number of the chargeable zones are associated with decreases in resistivity. Bulk chargeabilities of the zone are of the order of 40 to 50 millivolts/volt with maxima up to 60 millivolts/volt. Resistivities vary from minima of 1500 ohm-metres to backgrounds of 3000 to 4000 ohm-metres.

A number of discrete responses of some significance were isolated at 2270W, 2025W and 1812W. Each of these is associated with slight decreases in resistivity. The sources are believed to be sulphides/graphite.

LINE 18N

Pole-dipole:-

2250W ..... A shallow chargeable source with a maximum depth of around 30 metres has an associated resistivity low. Chargeabilities of the order of 20 to 25 millivolts/volt are recorded from a background of 10 millivolts/volt. The source dips steeply and appears to give a stronger response from depth in the east. However, the responses from another source at 1995W are believed to cause this effect.

1995W ..... Very high chargeabilities up to 1000 millivolts/volt were measured from a source located at this point. The source is shallow appearing to lie almost on the surface or at a maximum depth of 15 metres. Dip is steep to vertical, though results suggest there may be some inclination towards the east. Other sources complicate this intrpretation. Background chargeabilities to each side are high, up to 50 millivolts/volt, again, however, the interaction of a number of discrete sources which have not been properly resolved by this array cause this high background.

These sources consistute a broad zone of chargeable material from 2100W to 1920W. Resistivity to 1000 ohm-metres from background of around 1200 ohm-metres was recorded. Over the most anomalous region at 1995W the rocks are less resistivie, with resistivities down to 400 ohm-metres. These are the lowest resistivities measured on this line.

This anomalous zone is separated from further chargeable material to the east by a low chargeability feature with high resistivity around 1895W. The source appears near surface, but is at least 60 metres wide from 1845W to 1905W.

1815W ..... A further major source is located at 1815W. The response comes from shallow depths to a maximum of 30 metres. There appears to be a dip of around 45° or less towards the east, however, further sources in the east complicate the picture. A stronger response is recorded from depths of a maximum of 45 metres. This source appears to lie beneath 1785W.

Chargeability is 45 to 55 millivolts/volt from a background of 15 to 20 millivolts/volt. A slight decrease in resistivity is also recorded down to 1050 ohm-metres from background of 1700 ohm-metres.

1770W to 1560W ..... The chargeability decreases gradually over this zone and no individual sources are defined. The source of the chargeability deepens in an easterly direction. At surface, chargeability decreases to 3 millivolts/volt while responses from depth remain up to 27 millivolts/volt.

The rock unit containing the polarizable material appears therefore to have a shallow dip to the east. Maximum depths to source are 60 metres between 1710W and

1650W and 75 metres at 1620W.

1560W to 1260W ..... A zone of low chargeability from 2 to 5 millivolts/volt and resistivity of 1500 to 2000 ohm-metres is recorded. The zone correlates with a magnetic feature.

1200W ..... Increasing chargeability responses from depth at this point indicate an increase in polarizable material. Resistivities are high, up to 4000 ohm-metres. The gradual increase of chargeability from depth to surface going eastwards, indicates a body with a dip of less than 45° to the west. Multiple sources, however, could also create this pattern. Resistivities remain high as this parameter is more influenced by surface material. The polarizable rock unit reaches shallow depths of less than 30 metres at 1050W.

1050W to 750W ..... The observed chargeability and resistivity patterns in this region are complex. The main influence on this chargeability response comes from a broad source measured over six dipoles - 180 metres - between 900W and 1080W. The source or sources are considered to be shallow, to a maximum depth of 30 metres. A sharp boundary in the east at 900W indicates the source has a steep or westerly dip. The major anomaly is centred at 1005W. Resistivities are 50% lower over the anomalous zone than those recorded to the west. At 1005W they are of the order of 600 ohm-metres.

855W ..... A chargeable source at a maximum of 30 metres has associated resistivity slightly higher than background to either side. The source is of truly disseminated polarizable material.

SUMMARY ..... A broad chargeable zone occurs between 2250W and 1650W. Discrete sources are resolved within this region at 2250W, 1995W and 1815W. The sources are shallow, generally being of the order of one dipole length or less. Dip is steep in the west with an apparent easterly dip towards the eastern part of the zone. The chargeable anomalies appear to coincide with slight resistivity lows.

A second major zone of chargeability lies between 1050W and 750W of similar form to the western zone. Depths are shallow with an apparent westerly dip getting steeper towards the east.

A possible syncline is suggested by these results. Sources of anomalies are believed to be sulphide/graphitic material in a resistive host.

LINE 16N

Magnetics:- The magnetic field recorded on this line is mostly of low relief. Between 2300W and 1925W the rocks vary moderately in magnetism and show slight relief. The region 1925W to 1400W has a particularly 'flat' magnetic field, indicating a rock type which has little variation in content of magnetic or magnetically susceptible material.

A change in rock type around 1410W shows rocks with considerably more variation in magnetic field. This zone appears to correlate with the zone 1500W to 1325W on line 18N.

LINE 14N

Magnetics:- There appears to be a major change or break in rock type between

14N and 16N. A broad zone of higher magnetic relief between 2100W and 1525W does not correlate well with the field measured on line 16N.

CONTOUR MAPS

Contouring of data shows the chargeable zones recorded by pole-dipole and gradient methods extend across the lines towards the south consistent with previous surveys in the area known as C4. The magnetic field data shows the zones of high chargeability to have no magnetic relief, while the regions of low chargeability are more magnetic.

CONCLUSIONS

1 - A shallow chargeable zone occurs on line 20N which correlates well with a further source on line 18N. The gradient array surveyed with a 10 metre potential dipole, indicates that the zone can be divided into a number of sources.

2 - Both gradient array and pole-dipole data suggest that the source dips to the east on the western side, while pole-dipole results show that a further zone to the east on line 18N appears to dip to the west.

3 - Magnetic results show that the zones of high chargeability have no associated magnetic field while the zones of low chargeability generally show high magnetic relief.

4 - Resistivity results show that a number of the sources have lower resistivities than the surrounding rocks.

5 - The source of the anomalies is believed to be sulphide or graphite mostly in thin less resistive stringers. The lack of any magnetic anomaly makes a graphitic source likely.

WALKING TRACK - POLE-DIPOLE

1120N ..... A shallow chargeable source at around a maximum depth of 20 metres dips at a shallow angle to the west. Chargeability values are around 12 millivolts/volt for surface material and increase to 17 millivolts/volt at depth. Resistivities are lower at surface at around 1480 ohm-metres with resistivities less than background occurring at depth.

1140N to 1480N ..... The chargeability results recorded over this section show a gradual increase from depth to near surface at 1460N. Surface chargeabilities are around 9 millivolts/volt, while from depth, up to 31 millivolts/volt was measured. A maximum depth to the top of the source at 1460N is calculated to be 33 metres and at 1250N, 50 metres.

Resistivity over this section acts in a similar fashion, with lower resistivity recorded at depth and approaching the surface towards the east. Recorded resistivities are around 1600 ohm-metres compared with 5000 ohm-metres at the surface. The source is considered to be significantly less resistive than the surrounding rocks.

The observed effect in resistivity and chargeability is believed to be caused by a polarizable less resistive body which dips at a shallow angle to the west. Sulphides/graphite are the probable cause.

1480N to 2020N ..... A zone of low chargeability lies between 1480N and 2000N. The zone appears to be of no economic interest. However, changes in resistivity and chargeability indicate a gradual change in rock type towards the north.

In general the rock becomes less resistive and less chargeable. Resistivities decrease from 5500 ohm-metres recorded at surface at 1540N to 600 ohm-metres recorded at 1900N. Low resistivity measured on the larger n spacings at this point indicate a less resistive zone at depth below 1880N.

2020N to 2200N ..... Over this section the chargeability increases. At depth, significant chargeabilities of the order of 28 millivolts/volt are recorded with around 15 millivolts/volt at the surface. The results indicate another source similar to that surveyed to the south. The source is shallow, dipping towards the south with a depth of around 65 metres maximum calculated at 2120N.

2180N ..... A chargeable source with a resistivity low on its northern flank was recorded from this point. Interpretation of this source is complicated by the chargeable layer at depth. The source appears to come closer to the surface out of this chargeable layer. Chargeabilities of around 19 millivolts/volt from a background of 15 millivolts/volt were recorded at surface, indicating a maximum depth of 15 metres for the top of the source.

2220N ..... A resistivity low with significantly lower resistivities of up to 10% of background were recorded below this point. The most significant was 129 ohm-metres recorded on the n = 6 dipole.

Chargeabilities on both sides of this zone are higher than background. The source

is regarded as significant massive sulphides or graphite with a disseminated halo to either side. The zone of higher chargeability also appears to be open to the north.

SUMMARY ..... A shallow dipping less resistive and chargeable zone dominates the southern half of the section.

The northern part of the line has a similar feature between 2020N and 2320N. A less resistive zone was recorded below 2220N which has chargeable shoulders to both north and south. The source is regarded as significant.

SOUTH-EAST SECTION

On previous surveys a high chargeability area with low resistivity was found to lie on the eastern end of lines 400N and 600N. The zone extends to the south and north and is closed off in the west. However, in the east it is largely obscured by glacial sediments which make geological mapping impossible on the surface.

Pole-dipole surveys were conducted to discover whether the zone extends to the east under the glacial overburden.

Line 400N ..... A flat lying chargeable zone was recorded over the length of the line. The source is at or near surface at 900E and dips under a low chargeability cover towards the east. To the west of 900E lower background chargeability is recorded and the zone of higher chargeability is closed off. Depths to the chargeable layer are calculated to be 17 metres at 1020E and 13 metres at 1185E.

The strongest chargeabilities were recorded from a source at a depth of 13 metres

maximum below 1200E. The source dips at a shallow angle to the west. The source is significantly less resistive than the surrounding rocks. Resistivities recorded from depth are less than 5% of surface rocks.

Between 1260E and 1410E the chargeable layer is deeper - of the order of 20 to 25 metres maximum - and resistivies are high. The surface layer appears to be thinning east of this region with higher chargeabilities being recorded towards the surface.

SUMMARY ..... A flat to shallow dipping chargeable zone lies beneath a low chargeability resistive layer. Maximum depths of between 13 and 17 metres were calculated for the overburden with resistivity of the order of 1000 to 5000 ohm-metres. The chargeable layer is significantly less resistive and chargeable. A major source lies beneath 1170E to 1200E and dips west at a shallow angle from about 13 metres below surface.

The source of the anomalous zone is believed to be sulphides and/or graphite in disseminated form and stringers through the rock..

Line 600N ..... Results on this line show a generally high background chargeability for the section 570E to 1350E. This section of line appears to have little to no overburden compared to the region to the east and on line 400N. The results do, however, suggest layering east of 960E but with high chargeability in surface layers compared with the region east of 1350E. A major change is observed at 960E.

675E ..... Chargeabilities up to 27 millivolts/volt are recorded from a background of 18 millivolts/volt. The source appears to lie at a maximum depth of around 15 metres below 675E and dips at a shallow angle to the west. Low resistivities down

to 200 ohm-metres are associated with the source. The rock unit containing the main source appears to continue at depth to around 930E with high chargeabilities being recorded on the n = 5 and 6 dipoles. The interpretation is complicated somewhat by a near surface resistive feature at 705E.

1065E to end of line ..... A strong polarization response from depth was recorded at 1065E. Chargeabilities up to 60 millivolts/volt were recorded from a background of less than 20 millivolts/volt. Resistivity results are complicated by a number of other features in the area, including an apparently near surface less resistive zone at 960E. The chargeable source continues at depth towards the east and the end of the line, with chargeabilities of 20 to 25 millivolts/volt being recorded.

A layered effect becomes more evident in the east with higher resistivities at surface combined with lower chargeability. At depth, resistivities are low, down to 250 ohm-metres, combined with higher chargeabilities. This zone appears to be truncated by a low chargeability, high resistivity zone between 900E and 990E. As mentioned above, however, a less resistive zone near surface complicates the interpretation in this region.

Depths to the chargeable layer are calculated to be a maximum of 35 metres around 1440E.

Line 600N - 60 metres dipole ..... The line was repeated using a 60 metres dipole and a similar pattern was established. A layered structure becomes predominant east of 1065E with higher resistivities and low chargeabilities at surface. At depth the chargeability is up to 5 times and resistivities are 10% of those recorded at the surface. The 60 metres dipole clearly shows a broad chargeable zone which is

still open to the east.

SUMMARY ..... Results from the pole-dipole survey on lines 400N and 600N indicate a broad less resistive chargeable zone lying at depth beneath a resistive, low chargeability surface layer. Depths to the source of this chargeability are calculated to be of the order of 35 metres on 600N and around 15 metres on 400N. Some more significant sections are resolved by this array but the zone remains a broad feature as a whole.

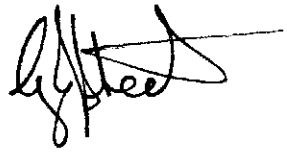
CONCLUSIONS

The area surveyed in the north-west section of the grid shows that the anomalous are known as C4 continues northwards and is still open on the most northerly line, 20N. Pole-dipole surveys on the Walking track to 220N confirm this. Gradient array surveys using a short 10 metre dipole show that this chargeable zone can be divided into a number of sources. Each of these sources is significantly more chargeable and are also less resistive than the surrounding rocks. Gradient and pole-dipole arrays suggest a synclinal formation developing towards the north. This, however, should be checked against geological information. Magnetic results show that the more chargeable material has a 'flat' magnetic response. The source of the anomalies is believed to be sulphides and/or graphite.

In the south-east section, surveys using pole-dipole indicate the presence of a flat lying broad chargeable and less resistive zone lying beneath a resistive, low chargeability surface layer. The source is believed to be sulphides and/or graphite beneath glacial overburden.

Respectfully submitted on behalf of:

SCINTREX PTY. LTD.



G.J. STREET, M.Sc., D.I.C.

Geophysicist

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INDUCED POLARIZATION AND RESISTIVITY SURVEY

POLE - DIPOLE ARRAY

DATE 4,6,7-12-1979	LINE No. WALKING TRACK
PLOTTED BY B.E.	PROSPECT BEATRICE
PULSE 2 sec. / Rx.	JOB No. TAS-073
DIPOLE SPACING 20 m.	

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INDUCED POLARIZATION AND RESISTIVITY SURVEY

DIPOLE - DIPOLE ARRAY

DATE 1-7-80		LINE No. 6N
PLOTTED BY A.J.		PROSPECT LAKE BEATRICE
PULSE 2 Sec	Rx. 708103	JOB No. TAS-073-C
DIPOLE SPACING 60m		

690E 750E 810E 870E 930E 990E 1050E 1110E 1170E 1230E 1240E 1350E 1410E 1470E 1530E

RESISTIVITY Ω m.

N-1
N-2
N-3
N-4

CHARGEABILITY

N-1
N-2
N-3
N-4

026

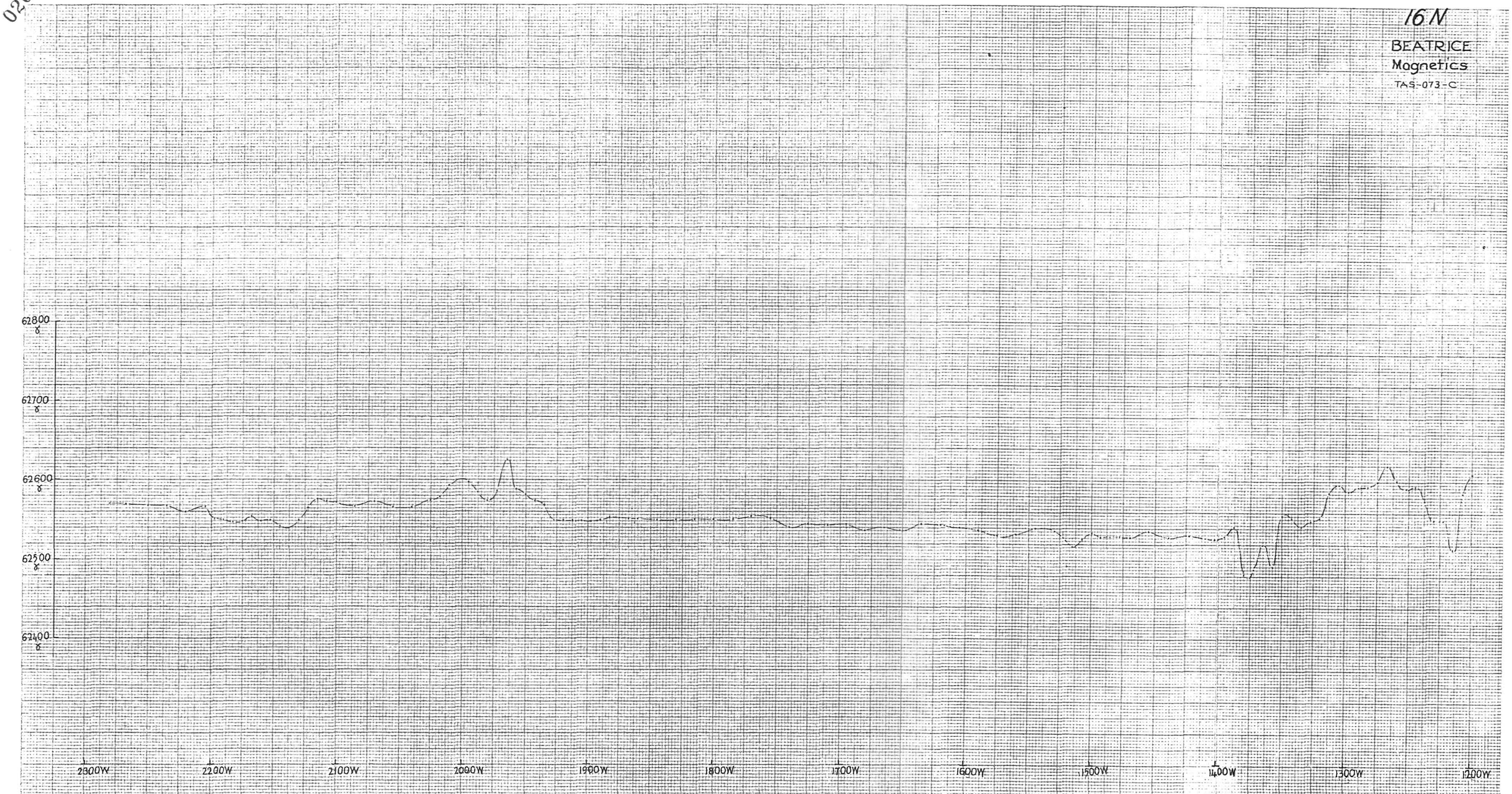
308025

16N

BEATRICE

Magnetics

TAS-073-C



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14N

BEATRICE

Magnetics

TAS-073-C

62800 γ

62700 γ

62600 γ

62500 γ

62400 γ

2400W 2300W 2200W 2100W 2000W 1900W 1800W 1700W 1600W 1500W

SCINTREX PTY. LTD. INDUCED POLARIZATION AND RESISTIVITY SURVEY POLE - DIPOLE ARRAY	DATE	PLOTTED BY	PULSE / Rx. / DIPOLE SPACING
LINE No.	PROSPECT	JOB No.	

SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
POLE - DIPOLE ARRAY
DATE
PLOTTED BY
PULSE Rx.
DIPOLE SPACING
LINE No.
PROSPECT
JOB No.
SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
POLE - DIPOLE ARRAY
DATE
PLOTTED BY
PULSE Rx.
DIPOLE SPACING
LINE No.
PROSPECT
JOB No.
SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
POLE - DIPOLE ARRAY

DATE 8,11,15,16,18,19-12-79 & 5-1-80	LINE No. 18 N
PLOTTED BY B.E. & R.M.	PROSPECT BEATRICE
PULSE 2 sec. / Rx.	JOB No. TAS-073
DIPOLE SPACING 30m.	

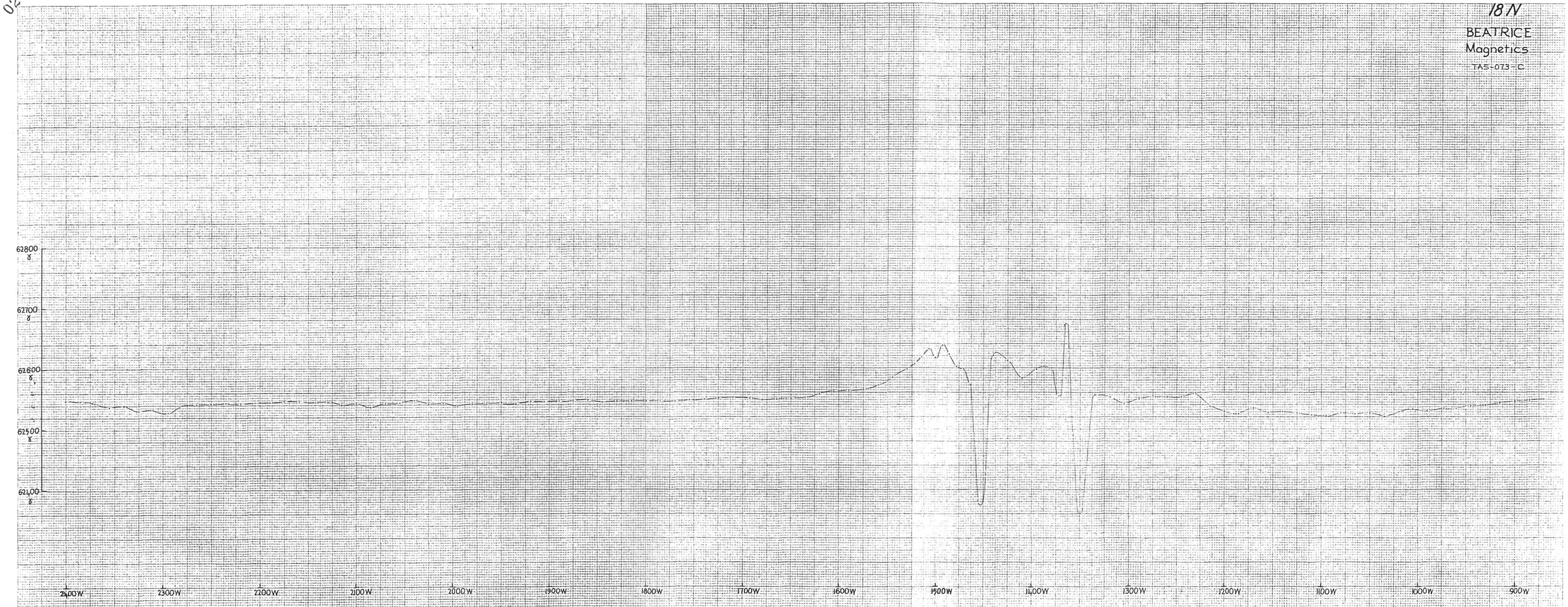
023

18N

BEATRICE

Magnetics

TAS-073-C



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18 N

BEATRICE

EIP Time Domain

GRADIENT ARRAY

TAS-073-C

Resistivity in ohm-meters

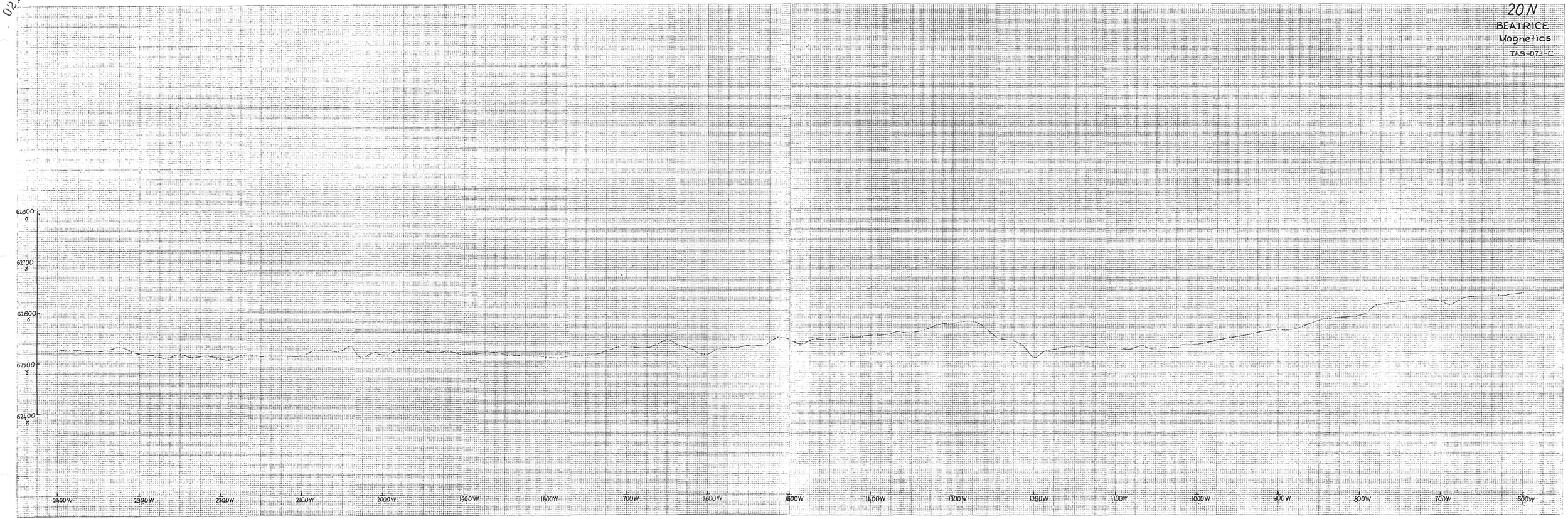
10,888
8000
6000
5000
4000
3000
2000
1500
1000
800
600
500

Chargeability in millivolts per volt

60
50
40
30
20
10
0

2400W
2300
2200W
2100W
2000W
1900W
1800W
1700W
1600W
1500W

20N
BEATRICE
Magnetics
TAS-073-C



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20N

EIP Time Domain

BEATRICE

Gradient Array

TAS-073-C

Resistivity in ohm-meters

Chargeability in milliseconds per volt

1000
6000
5000
4000
3000
2000
1500
50
1000
800
40
600
30
20
10
0

2400W
2300W
2200W
2100W
2000W
1900W
1800W
1700W
1600W

029

SCINTREX PTY. LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY

DIPOLE - DIPOLE ARRAY

DATE	30·5·80
PLOTTED BY	A.J
PULSE	2 Sec
Rx.	311147
DIPOLE SPACING	30m

SCINTREX PTY. LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY

DIPOLE - DIPOLE ARRAY

DATE	2·6·80
PLOTTED BY	A.J
PULSE	2 Sec
Rx.	708103
DIPOLE SPACING	30m

LINE No.	400N
PROSPECT	BEATRICE
JOB No.	TAS-073

840E 870E 900E 930E 960E 990E 1020E 1050E 1080E 1110E 1140E 1170E 1200E 1230E 1260E 1290E 1320E 1350E 1380E 1410E 1440E 1470E 1500E 1530E

RESISTIVITY Ω m.

N-1
N-2
N-3
N-4

CHARGEABILITY

N-1
N-2
N-3
N-4

308033

030

SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
DIPOLE - DIPOLE ARRAY

DATE 20-5-80
PLOTTED BY A.J.
PULSE 2 Sec | Rx. 311147
DIPOLE SPACING 30m

SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
DIPOLE - DIPOLE ARRAY

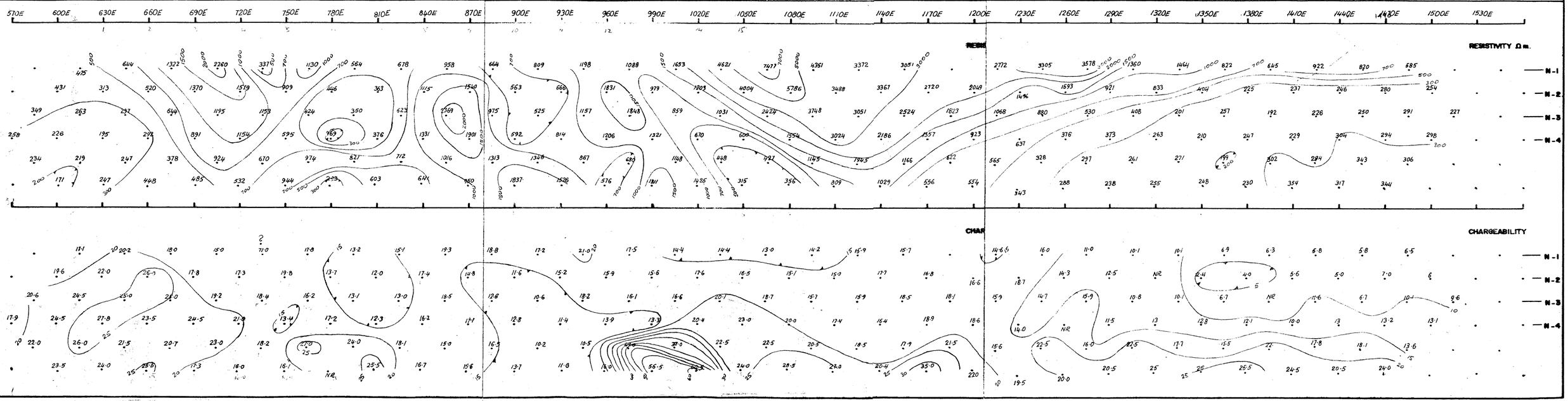
DATE 26-5-80
PLOTTED BY A.J.
PULSE 2 Sec | Rx. 708103
DIPOLE SPACING 30m

LINE No.
PROSPECT
JOB No.

SCINTREX PTY. LTD.
INDUCED POLARIZATION AND RESISTIVITY SURVEY
DIPOLE - DIPOLE ARRAY

DATE 28-5-80
PLOTTED BY A.J.
PULSE 2 Sec | Rx. 311147
DIPOLE SPACING 30m

LINE No. 600N
PROSPECT BEATRICE
JOB No. TAS-073-C



NOTE: (1980) 1979 work read in millivolts per volt but adjusted to correspond with original contours (in milliseconds)

1979 – 1980 — 1977

1977 — 1979

2000 m N
1800 m N
1600 m N
1400 m N
1200 m N
1000 m N
800 m N
600 m N
400 m N
200 m N
00 m N
00 Base Line

LEGEND

Chargeability contours in milliseconds

Gradient block boundary

MOUNT LYELL MINING & RAILWAY COMPANY LTD.

BEATRICE GRID

(NR.) QUEENSTOWN - WEST COAST TASMANIA

ELECTRICAL INDUCED POLARIZATION SURVEY
GRADIENT ARRAY
CHARGEABILITY CONTOUR PLAN

SURVEYED & COMPILED BY
SCINTREX PTY., LTD.

FEBRUARY 1977
Revised APRIL 1979

308034

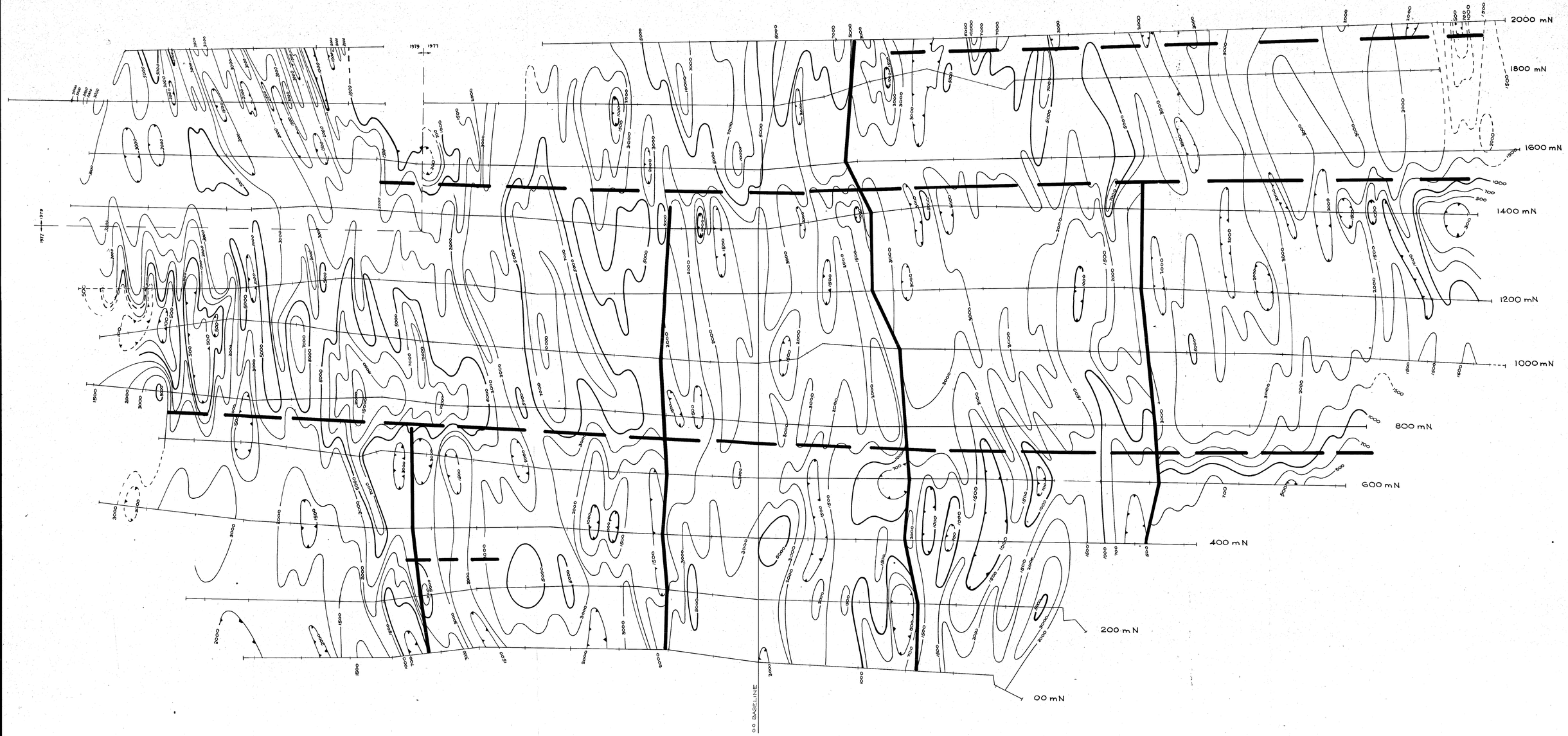
5 cm

240 180 120 90 60 30 00 120 240 (metres)

032

JOB Nº TAS-035-D. Sheet 1 of 1 PLATE 1.
-061-A
-072-C
RL-2252

FIG 38



LEGEND :

Resistivity contours in ohm-metres

Gradient block boundary

MOUNT LYELL MINING & RAILWAY COMPANY LTD.

BEATRICE GRID

(NR.) QUEENSTOWN - WEST COAST TASMANIA

ELECTRICAL INDUCED POLARIZATION SURVEY

GRADIENT ARRAY

RESISTIVITY CONTOUR PLAN

SURVEYED & COMPILED BY

SCINTREX PTY., LTD.

FEBRUARY 1977

Revised APRIL 1979

308035

5 cm

240 180 120 90 60 30 00 120 240 (metres)

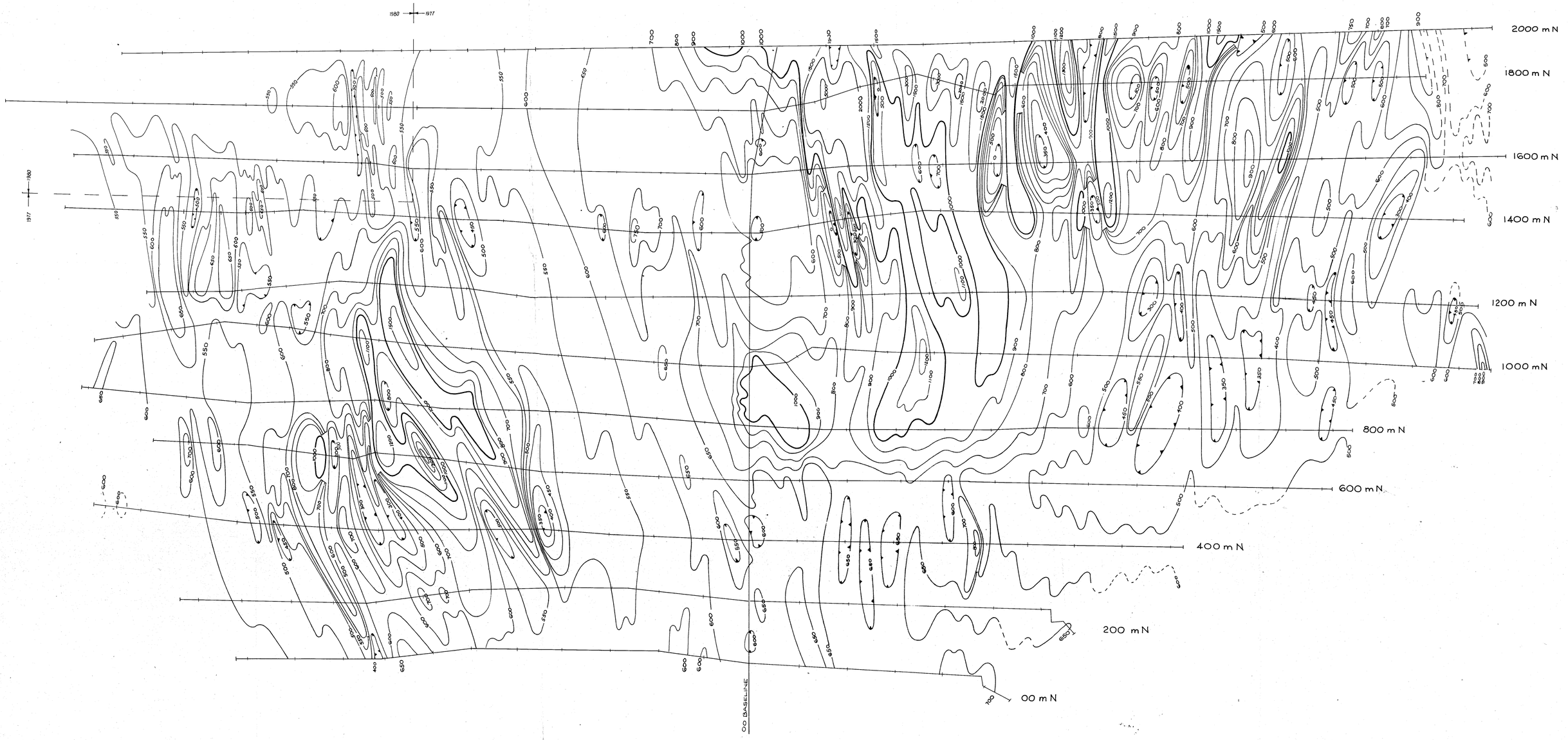
033

JOB Nº TAS-035-D -062-A -013-C

Sheet 1 of 1

PLATE 2.

84-2252



NOTE : For correct total magnetic field, add 62000 gammas to all values.

MOUNT LYELL MINING & RAILWAY COMPANY LTD.

BEATRICE GRID

(NR.) QUEENSTOWN - WEST COAST TASMANIA

TOTAL FIELD MAGNETOMETER SURVEY

CONTOUR PLAN

SURVEYED & COMPILED BY
SCINTREX PTY. LTD.

FEBRUARY 1977

308036

5 cm

240 180 120 90 60 30 00 120 240 (metres)

034

JOB Nº TAS-035-D
-073-C

Sheet 1 of 1

PLATE A.3

BH-2252