000

COMPAGNIE GÉNÉRALE DE GÉOPHYSIQUE

MICROFILMED

0-658

981001

THE MOUNT LYELL MINING

AND RAILWAY COMPANY

GEOPHYSICAL SURVEY
IN THE MOINA AREA

(TASMANIA)

E.L.8/65

MARCH 1970

C.G.G.
26-28 Manning Street, SOUTH BRISBANE.

AMG REFERENCE POINTS ADDED

001

981002

COMPAGNIE GÉNÉRALE DE GÉOPHYSIQUE

TABLE OF CONTENTS

		Page
ABSTRACT	.....	Ab 1
LIST OF PLATES AND FIGURES		
INTRODUCTION	.....	1
1. FIELD AND GEOPHYSICAL CONDITIONS	.....	4
1-1. Location - Access - Terrain Conditions	.....	4
1-2. Electrical Conditions	.....	4
2. FIELD OPERATIONS AND STATISTICS	.....	5
2-1. Field Operations	.....	5
2-2. Statistics	.....	5
2-2-1. Composition of the Crew	..	5
2-2-2. Equipment	.....	6
2-2-3. Measurement Output	.....	6
3. GEOPHYSICAL RESULTS IN OLIVERS HILL	....	8
3-1. Magnetometry	.....	8
3-2. Apparent Resistivity	.....	8
3-3. Induced Polarization	.....	8
3-4. Self Potential	.....	10
3-5. Conclusions and Recommendations	..	10

Page

4. GEOPHYSICAL RESULTS IN THE SHEPHERD AND MURPHY MINE AND IRIS RIVER AREAS 13

4-1. Magnetometry 13
4-2. Resistivity 13
4-3. Induced Polarization 14
4-4. Self Potential 15
4-5. Conclusions and Recommendations .. 15

5. GEOPHYSICAL RESULTS IN THE FLETCHERS ADIT AREA 17

5-1. Magnetometry 17
5-2. Resistivity 17
5-3. Induced Polarization 17
5-4. Self Potential 18
5-5. Conclusions and Recommendations .. 18

ABSTRACT

In March 1970, C.G.G. carried out a geophysical survey for the Mount Lyell Mining Company in the Moina region in Northern Tasmania. A total of fifteen miles was surveyed in three different areas.

In the Olivers Hill area where gossans and lead geochemical anomalies were known, 8 I.P. anomalies were detected. There are three types of anomalies.

(1). I.P. anomalies associated with conductive axes : A1, A4, a small part of A2.

(2). I.P. anomalies associated with resistant axes or zones : A2, A5, A6.

(3). I.P. anomalies which do not seem to be related to any apparent resistivity feature : A3, A7, A8.

A1 and A2 are more than 2000 feet long, A1 is undoubtedly associated with gossans. Two drill holes were recommended on A1, one drill hole was recommended on A2.

In the Shepherd and Murphy Mine and Iris River areas, the I.P. tests showed that the Gordon Limestone does not give rise to I.P. anomalies. — in the area tested at Moina.

The skarn mineralizations coincides with resistivity lows, magnetic anomalies and I.P. anomalies. The skarn mineralization near the Shepherd and Murphy Mine gives rise to a weak I.P. anomaly. On the eastern side of the Bismuth Creek fault a strong I.P. anomaly coincides with a magnetic anomaly and a resistivity low. One drill hole was recommended.

In the Fletchers Adit area, there is no apparent correlation between the magnetic, resistivity and I.P. measurements. Wide anomalous zones have been detected. Anomaly A1 coincides with a bismuth geochemical anomaly.

COMPAGNIE GÉNÉRALE DE GÉOPHYSIQUE

LIST OF PLATES AND FIGURES

Plate 1	:	Olivers Hill : Apparent Resistivity Map
Plate 2	:	Olivers Hill : Chargeability Map
Plate 3	:	Olivers Hill : Self Potential
Plate 4	:	Olivers Hill : Comprehensive Map
Plate 5	:	Fletchers Adit : Apparent Resistivity Map
Plate 6	:	Fletchers Adit : Chargeability Map
Plate 7	:	Fletchers Adit : Self Potential
Plate 8	:	Fletchers Adit : Comprehensive Map
Plate 9	:	Iris River and Shepherd and Murphy Mine : Geophysical grid lines - Results
Plate 10	:	Shepherd and Murphy Mine : Line 1 Chargeability, Resistivity and Self Potential
Plate 11	:	Shepherd and Murphy Mine : Line 1 Chargeability and Resistivity
Plate 12	:	Shepherd and Murphy Mine : Line 2 Chargeability, Resistivity and Self Potential

Plate 13	:	Iris River : Line 1 - Chargeability Resistivity and Self Potential
Plate 14	:	Iris River : Line 2 - Chargeability Resistivity and Self Potential
Figure 1	:	Location Sketch
Figure 2	:	Electrical Sounding
Figure 3	:	Electrical Sounding
Figure 4	:	Electrical Sounding
Figure 5	:	Electrical Sounding
Figure 6	:	Electrical Sounding

INTRODUCTION

From the 28th. of February 1970 to the 18th. of March 1970, COMPAGNIE GENERALE DE GEOPHYSIQUE carried out a geophysical survey for the MOUNT LYELL MINING AND RAILWAY COMPANY in Northern Tasmania.

Measurements were carried out in four different areas of Lease E.L. 8/65 near Moina (see Fig. 1).

- Olivers Hill
- Shepherd and Murphy Mine
- Iris River
- Fletchers Adit

All areas lie in an E-W Ordovician synclinorium intruded by the Devonian Dolcoath granite.

The Ordovician Moina sandstone outcrops in all areas. Most of the bedrock of the Shepherd and Murphy Mine area is sandstone, limestone and skarn. This ordovician horizon called the Gordon Limestone is younger than the Moina sandstone. Skarn outcrops occur also in the Fletchers Adit and Iris River areas.

In all areas patches of tertiary basalt lie over the paleozoic bedrock.

Showings and old workings exist in all areas.

008

AMG REFERENCE POINTS ADDED

FIG. 1

981009

LOCATION SKETCH

Scale : 1" = 1 mile

5 cm

AMG425350E,
5410850N

ERRIBA

Wilmot River

CETHANA

MOINA

SHEPHERD & MURPHY Mines

FLETCHERS

IRIS

FORTH River

OLIVERS HILL

Bull Ck.

AMG427350E,
5401750N

Loriinna

Paddock Creek

Olivers Hill is a ferro-manganese gossanous zone. Samples from outcrops gave values up to 8.8% lead and 2 oz./ton silver.

The mineralizations are likely to be narrow elongated and steeply dipping therefore a gradient array Induced Polarization and Resistivity coverage combined with Self Potential appeared to be the most advisable method.

The Shepherd and Murphy Mine is an old bismuth and wolfram mine in a skarn. A strong magnetic anomaly, undoubtedly due to the magnetite bearing skarn, coincides with the mine. It was decided to carry out I.P. tests to see if they could reveal more information than a simple magnetic coverage.

Skarn is also known at the Iris River and Fletchers Adit showings. The Gordon Limestone outcrops between the Shepherd and Murphy Mine and the Iris River skarn showings. In the Comstock area near Mount Lyell, the Gordon Limestone gives rise to I.P. anomalies.

One of the purposes of the I.P. tests was to check if it is possible to distinguish the skarn mineralizations from the barren limestone.

The double pole-dipole array was well adapted to the wide mineralizations and long reconnaissance profiles of the

Shepherd and Murphy Mine and Iris River area. A gradient array coverage was well adapted to the square Fletchers Adit area.

We wish to express our sincere gratitude to Mr. K.O. Reid, Chief Geologist, of the Mount Lyell Mining and Railway Company for his help and close co-operation.

1. FIELD AND GEOPHYSICAL CONDITIONS

1-1. Location - Access - Terrain Conditions

Access roads are indicated on Fig. 1. All areas except Olivers Hill are accessible by all types of vehicles. A four wheel drive vehicle is necessary to reach the surveyed area on Olivers Hill.

Terrain conditions were not particularly difficult except in some parts of the Iris River area. Weather was generally good.

1-2. Electrical Conditions

Neither resistivity nor I.P. measurements created any difficult problems.

meaning ?

On the Olivers Hill and Fletchers Adit areas, the resistance of the potential electrodes was sometimes larger than 100,000 ohms and the readings had to be corrected.

The current line (wire and steel rods) had generally a resistance of about 3,000 ohms with a single steel rod as the mobile current electrode.

Measured voltages varied from 3 - 4 millivolts on Olivers Hill with I = 2 Amp. to several tens of millivolts on other areas.

2. FIELD OPERATIONS AND STATISTICS

2-1. Field Operations

Two different types of arrays were used.

A gradient array with a 1200 foot or 6400 foot current line at Olivers Hill.

A gradient array with a 7600 foot current line at Fletchers Adit.

A double dissymmetrical pole-dipole was used at Shepherd and Murphy Mine and Iris River.

- one technician operated the transmitter.
- two receivers were used simultaneously for both arrays, each dipole was operated by one technician and one helper.
- two helpers moved wire and current electrode on the traverses when the pole-dipole array was being used, when the gradient array was used, these two helpers prepared the electrodes in advance.
- five one watt walkie-talkies were used for communications.

2-2. Statistics

2-2-1. Composition of the Crew

- one senior observer/party chief	C. BRUNEAU
- two junior observers	P. BAXTER
	T. PAYLING

- four helpers
- one cook

2-2-2. Equipment

Provided by CGG :

- two "Newmont type" IPR7 SCINTREX I.P. Receivers.
- one 7.5 KVA HUNTEC Transmitter.
- one SCHLUMBERGER Potentiometer
- five 1W TOKAI walkies-talkies.

Provided by the Mount Lyell Mining and Railway Company :

- one LANDROVER four wheel drive pick-up.
- one TOYOTA Landcruiser.
- camping facilities.

2-2-3. Measurement Output

From the 28th. of February to the 16th. of March.

Olivers Hill

- Electrical Sounding	:	1
- I.P. stations	:	254
- Apparent Resistivity stations	:	254
- S.P. stations	:	254
- Total length of profiles	:	4.8 miles

Shepherd and Murphy Mine and Iris River

- Electrical Soundings	:	2
- I.P. stations	:	201
- Apparent Resistivity stations	:	201
- S.P. stations	:	201
- Total length of profiles	:	4.96 miles

Fletchers Adit

- Electrical Soundings	:	2
- I.P. stations	:	274
- Apparent Resistivity Stations	:	274
- S.P. stations	:	274
- Total length of profiles	:	5.24 miles

Total length of profiles for the three areas : 15 miles.

3. GEOPHYSICAL RESULTS IN OLIVERS HILL

3-1. Magnetometry

The measurements of the vertical component of the magnetic field show that all anomalies coincide with the basalt outcrops, elsewhere there is strictly no anomaly.

3-2. Apparent Resistivity

The Electrical Sounding carried out at 00 - 1450S shows that the true resistivity of the sandstone is about 10,000 ohm.m.

Three narrow NW-SE conductive anomalies run across the area. The dissymmetry of the main one, A1, shows that the conductive lode dips steeply northeastward.

Two main resistant axes are parallel to the conductive axes.

A transverse fault interrupts and shifts the axes between profiles 32W and 40W.

A 1 is the only conductive axis which coincides with gossans.

3-3. Induced Polarization

The chargeability axes are parallel to the northwestward resistivity trends. The shapes of anomalies and the comparison of measurements carried out with two different current line lengths (profile 0) show that the polarizable

016

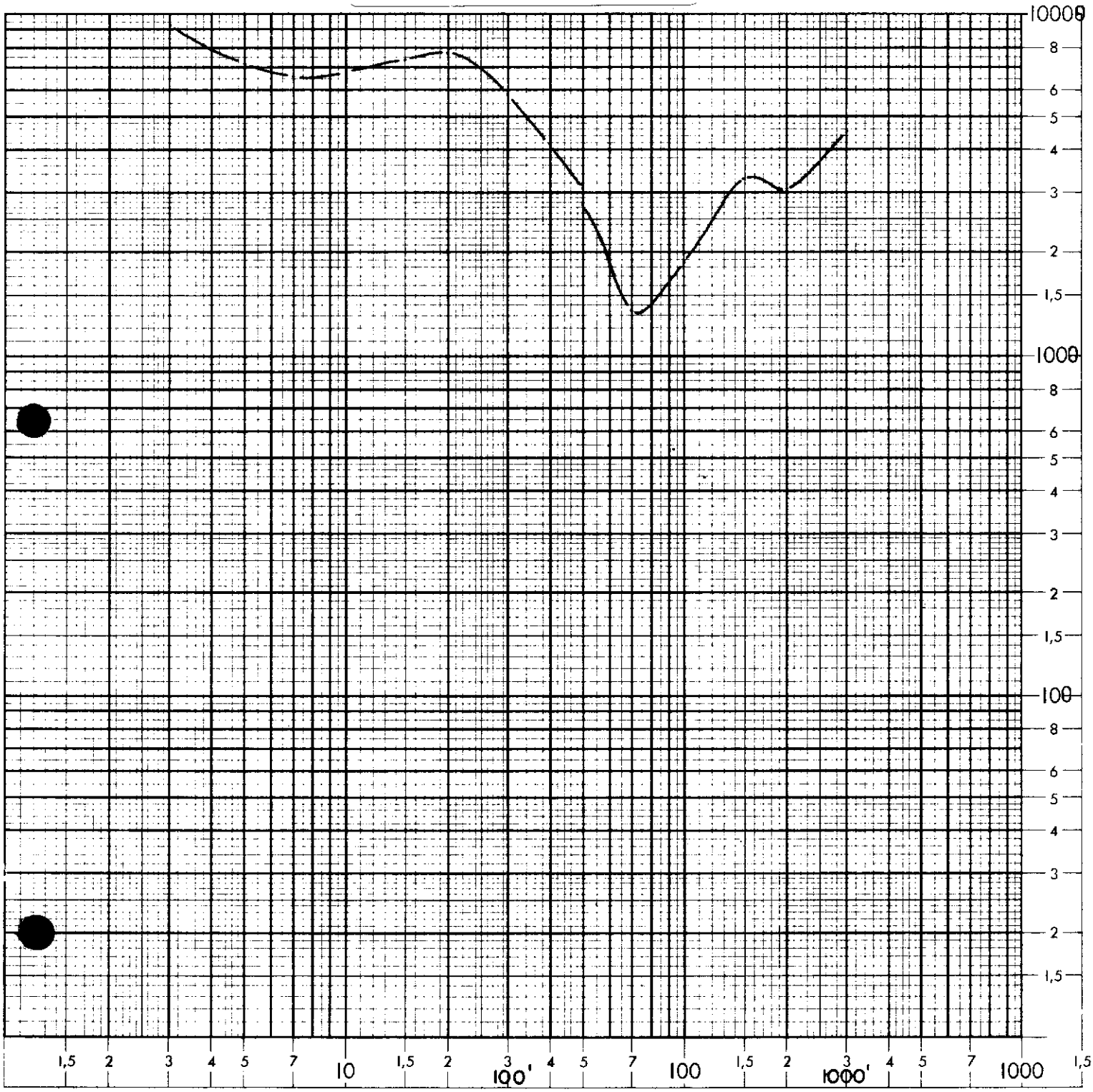
981017

FIG. 2.

OLIVERS HILL

00-1450S

5 cm



bodies are narrow lodes dipping steeply northeastward.

Eight main anomalies were detected.

A1 : A1 is the main anomaly with a maximum amplitude on profile 16W. It coincides with a strong conductive axis. A gossan lies along A1 between profiles 8W and 16W. The total length of the anomaly is 2,000 feet.

A2 : A2 coincides with a resistivity low on profile 56W but on profiles 48W and 40W there is no apparent correlation between the chargeability and apparent resistivity values. A2 extends outside the surveyed area, within the surveyed area it is more than 2,000 feet long.

A3 : A3 runs from profile 48W to profile 56W and probably extends outside the surveyed areas, there is no apparent correlation between chargeability and apparent resistivity values.

A4 : A4 coincides with a conductive axis on profile 56W on the northeastern limit of the surveyed area.

A5 : A5 coincides with a resistant axis on profile 56W. A5 probably extends outside the surveyed area.

A6 : A6 is well defined on profile 24W only. It coincides nearly with a resistant axis, a gossan lies 150 feet southwestward from A6. The gossan may be associated with the mineralization which gives rise to A6. The position of the

gossan may be explained by the complete oxidization of the upper part of the lode and by the northeastward dip.

A7 : A7 is well defined on profile 0 only, it is probably due to a shallow rooted small mineralization. It does not show up with the longer current line.

A8 : A8 on profile 0 has not a larger lateral extension than A7 but it is rooted deeper. A8 does not coincide with any resistivity anomaly.

3-4. Self Potential

A small -25mv anomaly coincides with a gossan near A1 on profile 16W. The amplitude is small but the anomaly appears to be well defined and its position fits with the northeastward dip of the conductive and polarizable lode. The S.P. anomaly is perhaps due to a sulfide mineralization electrically continuous but some manganese oxides also give rise to S.P. anomalies. The first possibility appears more likely because the amplitude of I.P. anomaly A1 is maximum on 16W and is not due to the gossan.

There is no other significant S.P. anomaly within the surveyed area.

3-5. Conclusions and Recommendations

Eight I.P. anomalies were detected, they fit in three different categories.

(1). I.P. anomalies associated with conductive axes :

A1, A4, small part of A2. A1 is also associated with a S.P. anomaly on profile 16W.

The conductive axes have a larger extension than the I.P. axes. This fact could be explained as follows : lower resistivities are due to both sulfides and clay minerals located in a stratum or shear zone although the extension of the sulfide mineralizations is smaller than the extension of the clayey shear zones or strata.

there could be shale horizons in the Kaniapiskau sandstone ?

(2). I.P. anomalies associated with resistant axes or zones :

A2, A5, A6.

These anomalies are probably due to disseminated sulfides, perhaps pyrite, in sandstone.

disseminated pyr. does occur in the sandstone but due to lack of adequate outcrop could not be mapped

(3). I.P. anomalies which do not seem to be related to any apparent resistivity feature :

A3, A7, A8.

Two anomalies, A1 and A2, inside the surveyed area are more than 2,000 feet long.

We would recommend to start drilling anomaly A1 (2 holes) and anomaly A2 (1 hole).

Anomaly	Profile	Position of rig	Dip	Length
A1	16W	600 feet from base line	45°SW	450 feet
A1	8W	350 feet from base line	45°SW	300 feet
A2	48W	650 feet from base line	45°SW	450 feet

4. GEOPHYSICAL RESULTS IN THE SHEPHERD AND MURPHY MINE AND IRIS RIVER AREAS

4-1. Magnetometry

(See Figs. 12 and 18 in "Progress Report on Activities in E.L. 8/65 (Moina Area) to March 1969" by M.J. Foster).

Both magnetic maps show a coincidence of strong magnetic anomalies with known skarn mineralization. Actually the main mineral of some samples at the Shepherd and Murphy Mine is magnetite.

All anomalies have a very irregular shape, the magnetic bodies are shallow and ~~they are outcropping or at depths~~ less than 30 feet. At Iris River and west from Shepherd and Murphy Mine part of the saw teeth on the magnetic profiles is due to the outcropping basalt.

Inside the skarn mineralization, the magnetite higher grade zones seem to follow a north south en echelon pattern.

4-2. Resistivity

ES 200W 1600S was carried out in the Gordon Limestone. The overburden has a resistivity of 150 ohm-m and a thickness of about 20 feet. The true resistivity of the Gordon Limestone is within the 500 - 1500 ohm-m range.

ES 3450E 1600S was carried out on the Shepherd and Murphy Mine skarn.

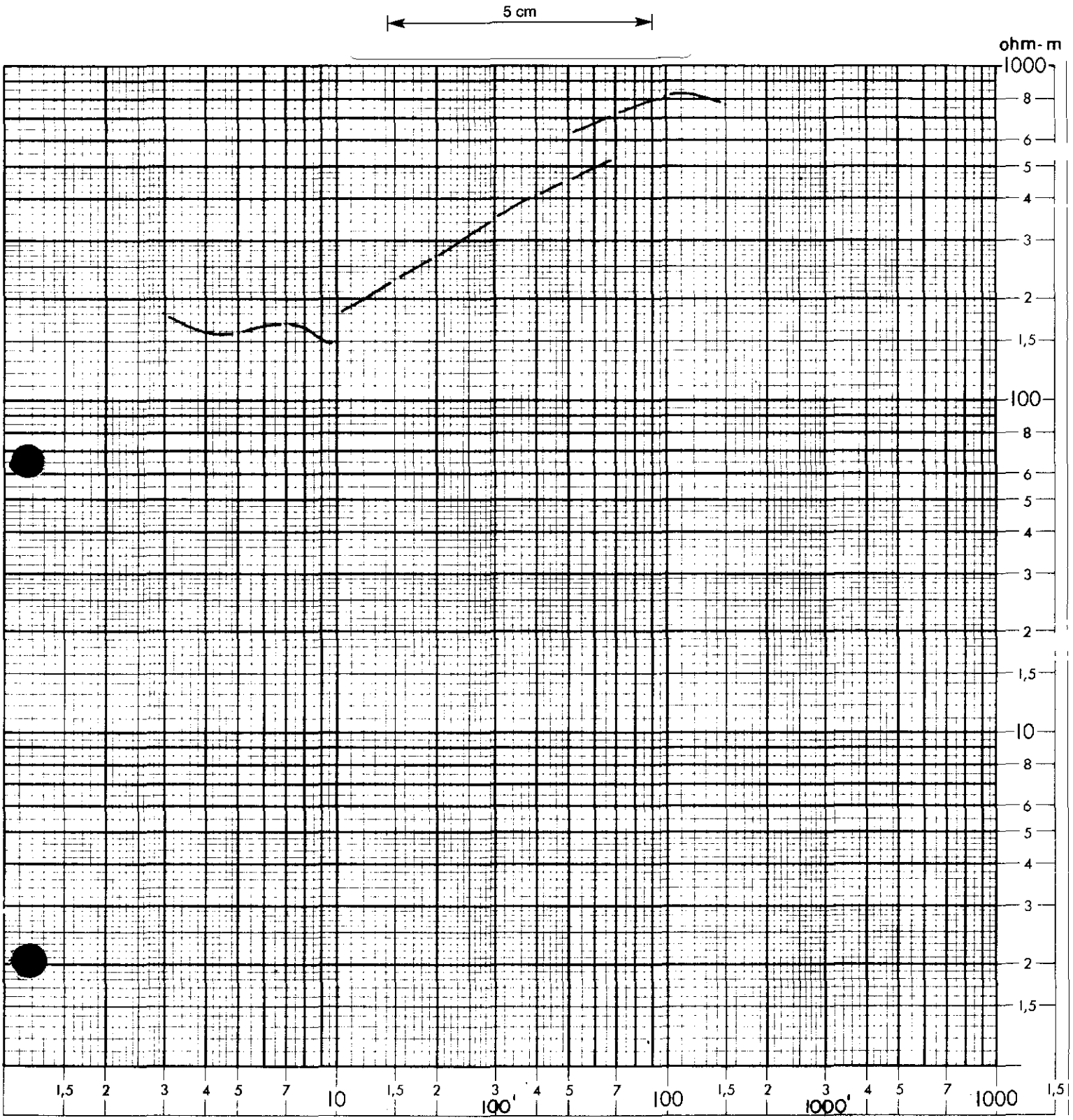
022

981023

FIG. 3.

SHEPHERD AND MURPHY MINE

200W - 1600S



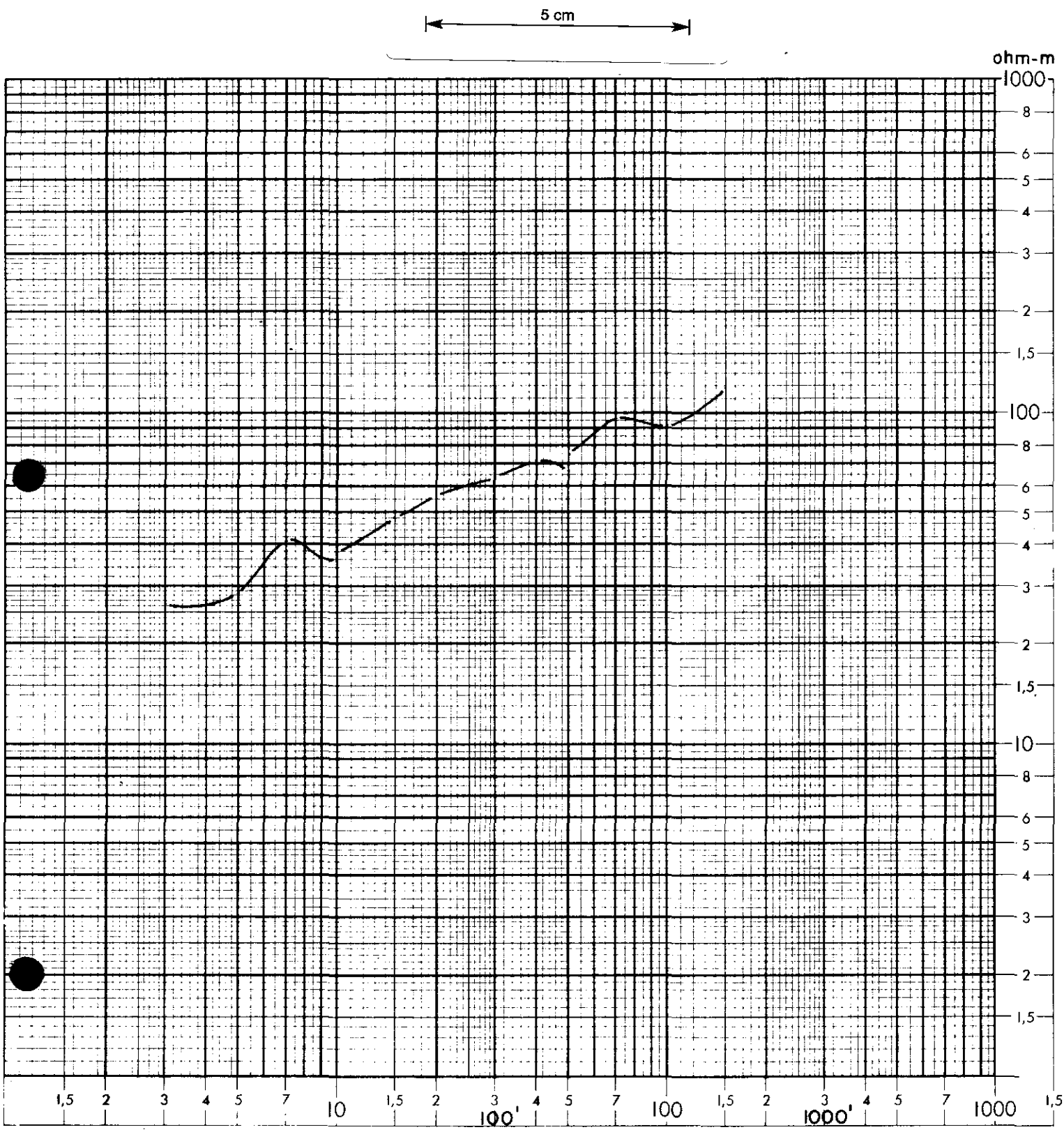
023

981024

FIG. 4

SHEPHERD AND MURPHY MINE

3450E - 1600S



The resistivity of bedrock increases gradually downward.

On Shepherd and Murphy line 1 the apparent resistivity is slightly lower on the skarn than on the Gordon Limestone (Plate 11). A well defined resistivity low coincides with a magnetic anomaly near 5000E on line 1, on the eastern side of the Bismuth Creek fault.

The Moina sandstone gives rise to apparent resistivity highs.

Correlations between lines 1 and 2 are poor although a resistivity low seems to follow the Bismuth Creek fault.

In the Iris River area apparent resistivities rise sharply east of peg 4000W, resistivity low seems to coincide with the magnetic anomaly.

It seems that as a rule apparent resistivities are lower on the magnetic anomalies of the Shepherd and Murphy Mine and Iris River area.

4-3. Induced Polarization

(See Plates 9, 10, 11, 12, 13 and 14).

Surprisingly enough there is only a weak anomaly above the Shepherd and Murphy Mine zone.

The barren Gordon Limestone does not give rise to any I.P. anomaly, the average level of the chargeability is even lower than on the Moina sandstone.

The largest I.P. anomaly is located near peg 5000E on line 1 (Shepherd and Murphy Mine) on a resistivity low and a magnetic anomaly. The polarizable body dips westward.

why ?

The high level of the chargeability at the eastern end of line 1, Shepherd and Murphy Mine, may be due to disseminated pyrite in the sandstone since some pyritic floats have been found near the road.

Three other polarizable bodies have been detected along line 1 (Shepherd and Murphy Mine), none of them seem to be very important.

The 5000E peg anomaly is perhaps due to a skarn mineralization where the proportion of sulfides is higher than at the Shepherd and Murphy Mine.

Seven intersections of polarizable bodies are located on lines 1 and 2 in the Iris River area. The most important are situated on both sides of peg 4000W on line 1.

4-4. Self Potential

There is no significant S.P. anomaly.

4-5. Conclusions and Recommendations

The I.P. and resistivity tests showed that the barren Gordon Limestone does not give rise to significant I.P. anomalies in the Shepherd and Murphy Mine and Iris River areas.

Magnetic anomalies due to skarn mineralizations coincide with apparent resistivity lows.

On line 1, the Shepherd and Murphy Mine skarn gives rise to a small I.P. anomaly. On the same line, east from the Bismuth Creek fault a strong I.P. anomaly coincides with a resistivity low and a magnetic anomaly.

We would recommend drilling a vertical hole on peg 5000E (line 1 - Shepherd and Murphy Mine area).

5. GEOPHYSICAL RESULTS IN THE FLETCHERS ADIT AREA

5-1. Magnetometry

(See Fig. 9 in the "Progress Report on Activities in E.L. 8/65 (Moina Area) to March 1969" by M.J. Foster).

The anomalies located in the southern part of the area are due to the basaltic overburden.

Another 400 gamma anomaly is parallel to the Lea River and runs southwestward from Fletchers Adit within a zone mapped as Moina Sandstone.

Northwestward from Fletchers Adit other high magnetic readings coincide with an area mapped as skarn.

5-2. Resistivity

The Electrical Soundings show that the Moina sandstone behaves like a resistant basement, its resistivity is larger than 500 ohm-m. The superficial resistant layer coincides with the basalt.

The conductive axes follow a SE-NW trend, they may be due to shear zones in the sandstone.

5-3. Induced Polarization

There are no well defined anomalies but rather anomalous zones

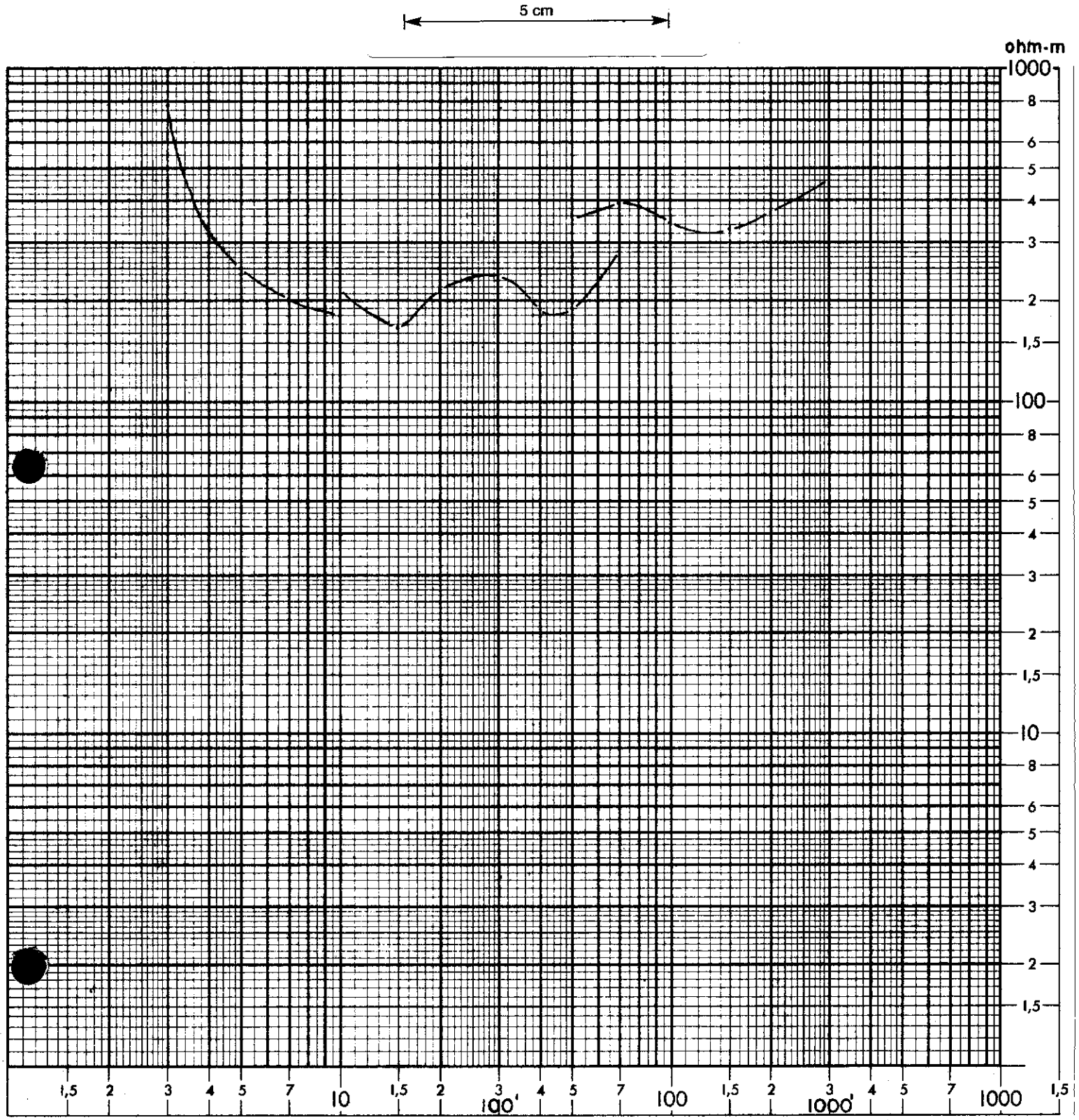
U28

981029

FIG. 5.

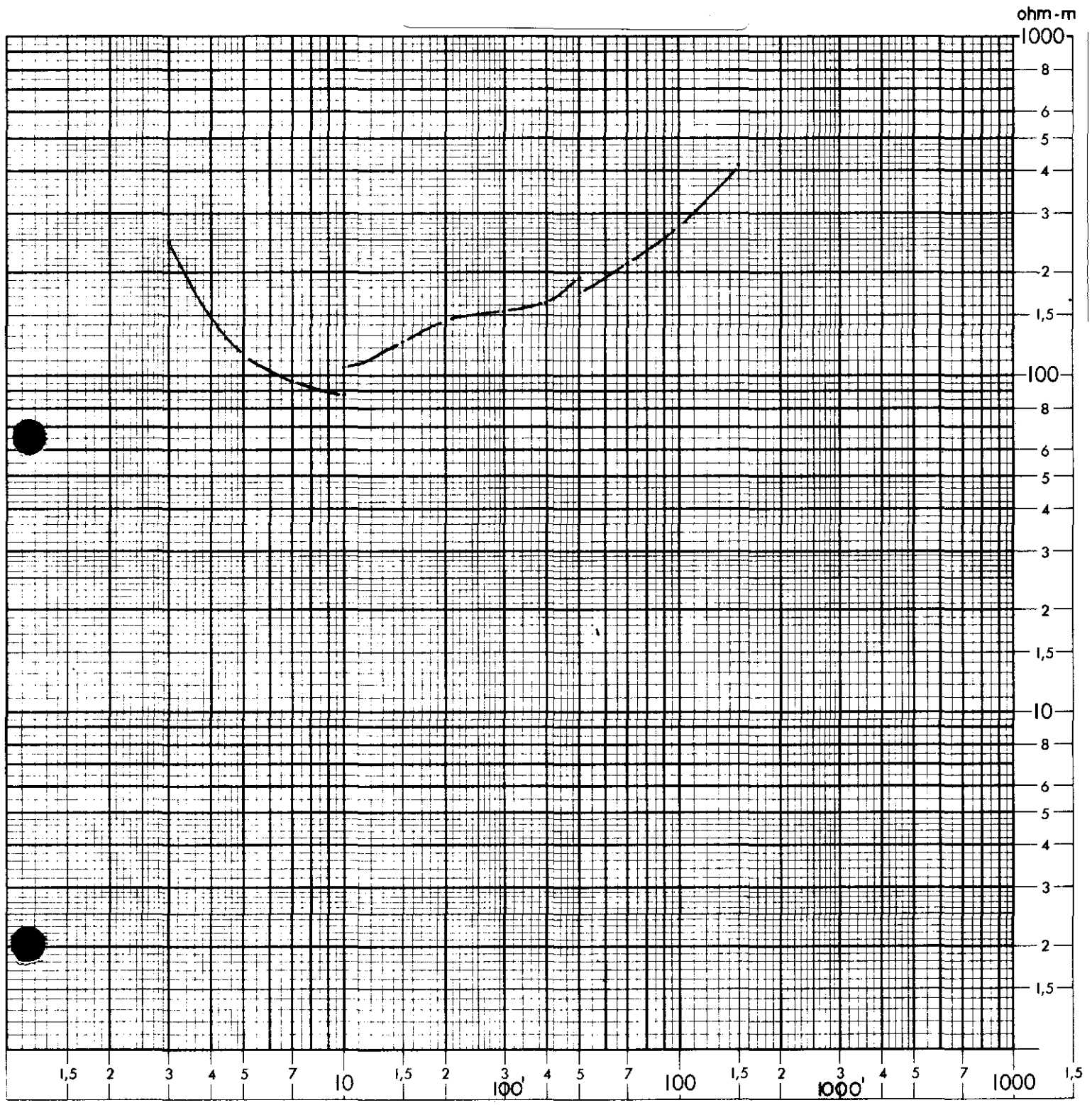
FLETCHERS ADIT

1400 N - 100 W



FLETCHERS ADIT

Intersection of road with current line



where the chargeability is larger than 20 ms. Their general trend is SE-NW, approximately parallel to the conductive axes but there is no apparent correlation between apparent resistivities values and chargeabilities.

The I.P. anomalies do not coincide either with the magnetic anomalies.

Three main anomalous axes A1, A2 and A3 were detected west from Fletchers Adit but none of them seem associated with the Fletchers Adit showings.

A1 coincides with a Bismuth geochemical anomaly.

5-4. Self Potential

No significant anomaly was detected.

5-5. Conclusions and Recommendations

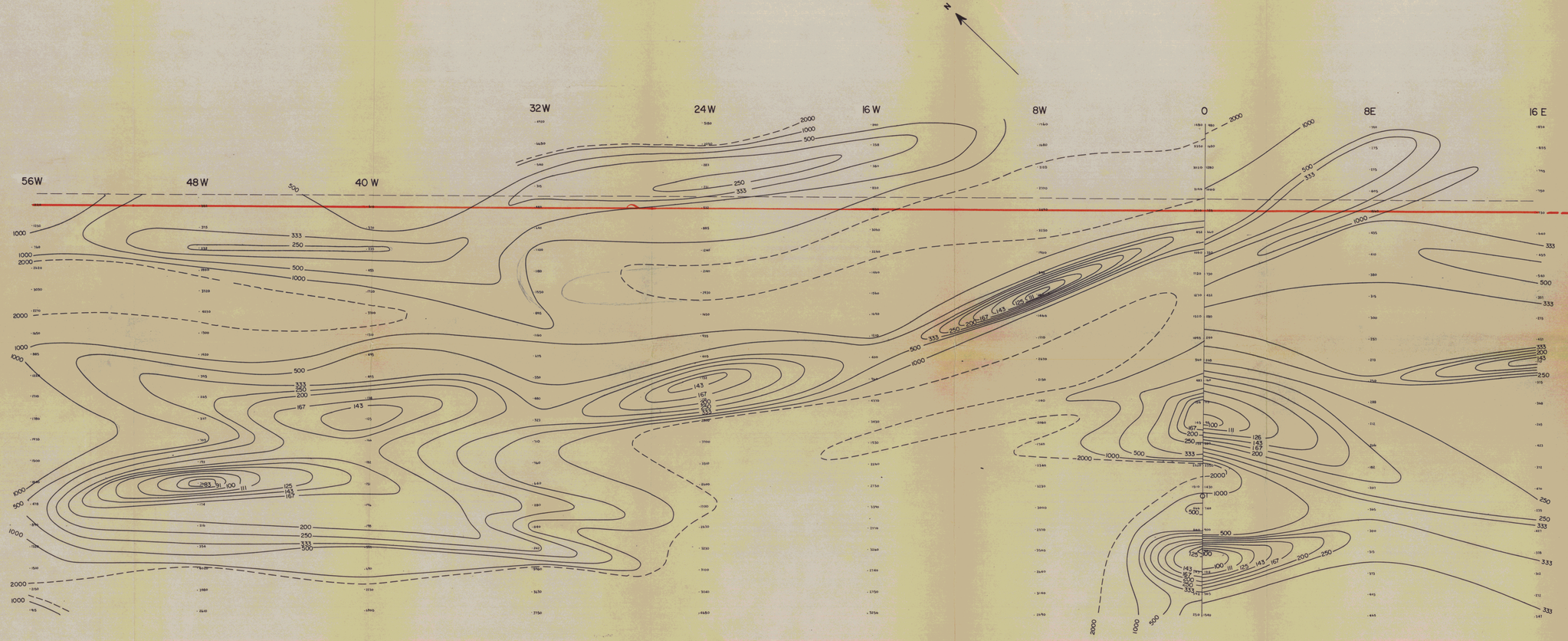
Three main anomalous I.P. axes were detected. All areas within the 20 ms contour may be considered as anomalous.

A1 coincides with a Bismuth geochemical anomaly. There is no apparent correlation between magnetic, resistivity and I.P. measurements.

We would recommend to start with geochemical sampling in trenches across A1 and A2.

G. OMNES
The Chief Geophysicist

Brisbane, 24th. July, 1970.



NOTE:
CORRECTED POSITION OF BASELINE
THEORETICAL GRID

MT. LYELL MINING AND RAILWAY COMPANY PL.I.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

OLIVERS HILL

APPARENT RESISTIVITY MAP

(gradient array AB = 12000' MN = 100' on lines 0 to 56W
AB = 6400' MN = 100' on lines 0 to 16E)

SCALE 1" = 200'

LEGEND

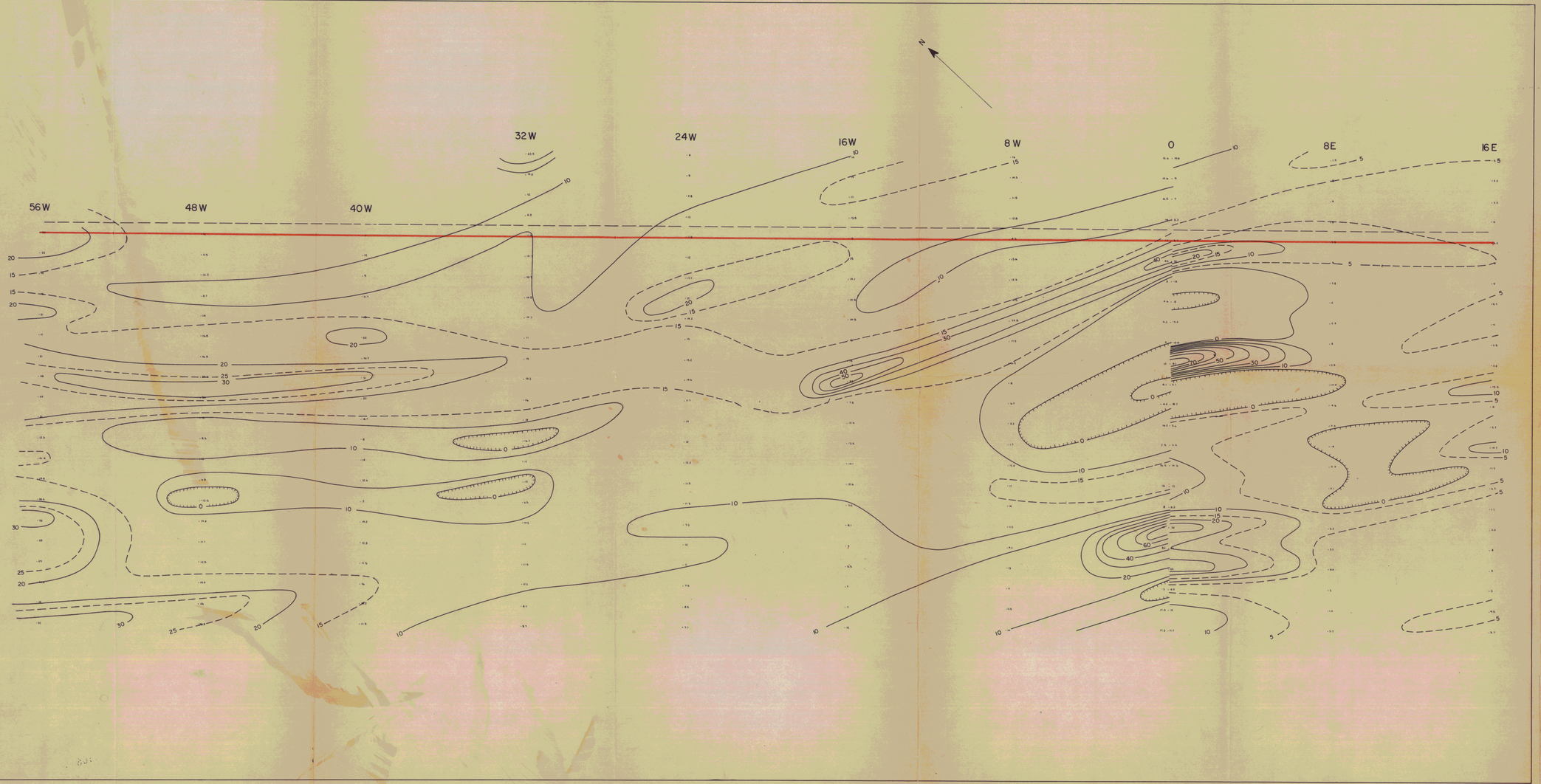
500 Contour of equal apparent resistivity and its value in ohm-m

O 1 Electrical Sounding and its number

981032

5 cm

C.G.G.
26-28 Manning Street, South BRISBANE 2306



MT. LYELL MINING AND RAILWAY COMPANY PL. 2.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

OLIVERS HILL

CHARGEABILITY MAP

(gradient array AB = 12000' MN = 100' on lines 0 to 56W
AB = 6400' MN = 100' on lines 0 to 16E)

981033

SCALE 1" = 200'

LEGEND

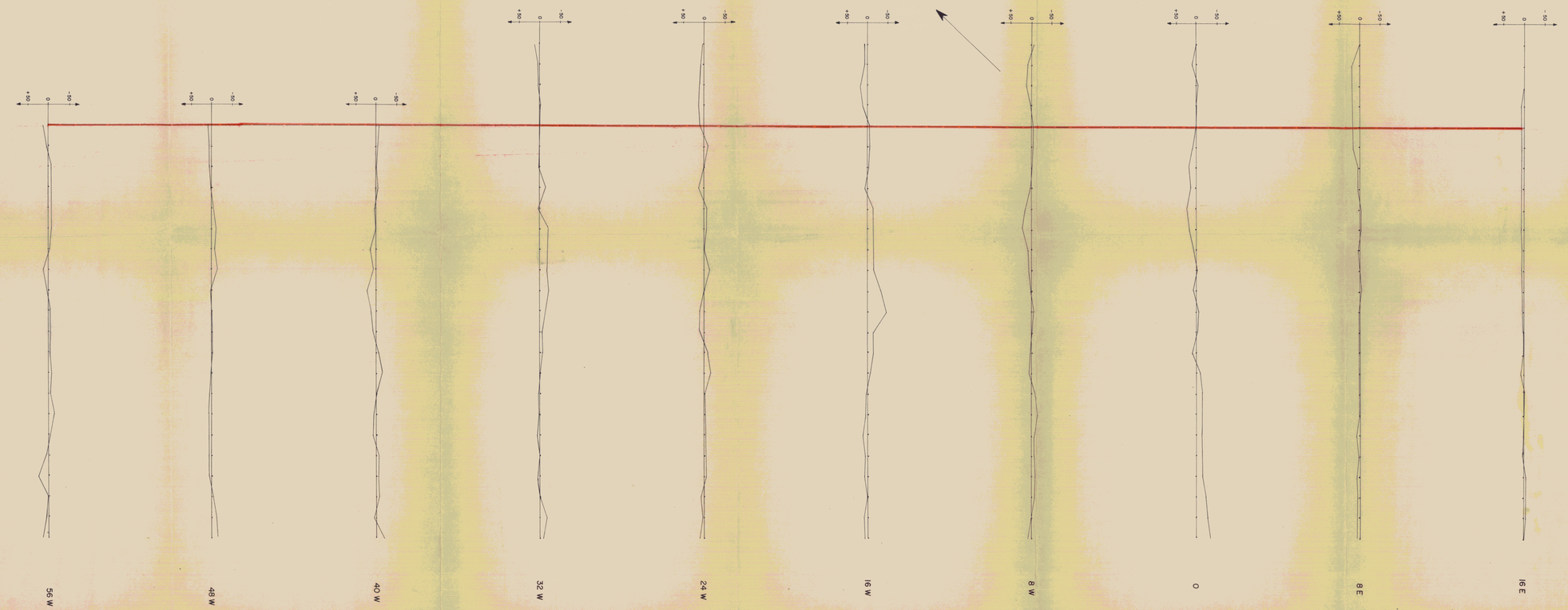
50 Chargeability in milliseconds

Integration 450 to 1150ms after cut off

5 cm

C.G.G.
26-28 Manning Street, South BRISBANE

2307



MT. LYELL MINING AND RAILWAY COMPANY PL. 3.

70-668

GEOPHYSICAL SURVEY AT MOINA EL 8/65

OLIVERS HILL

SELF POTENTIAL

981034

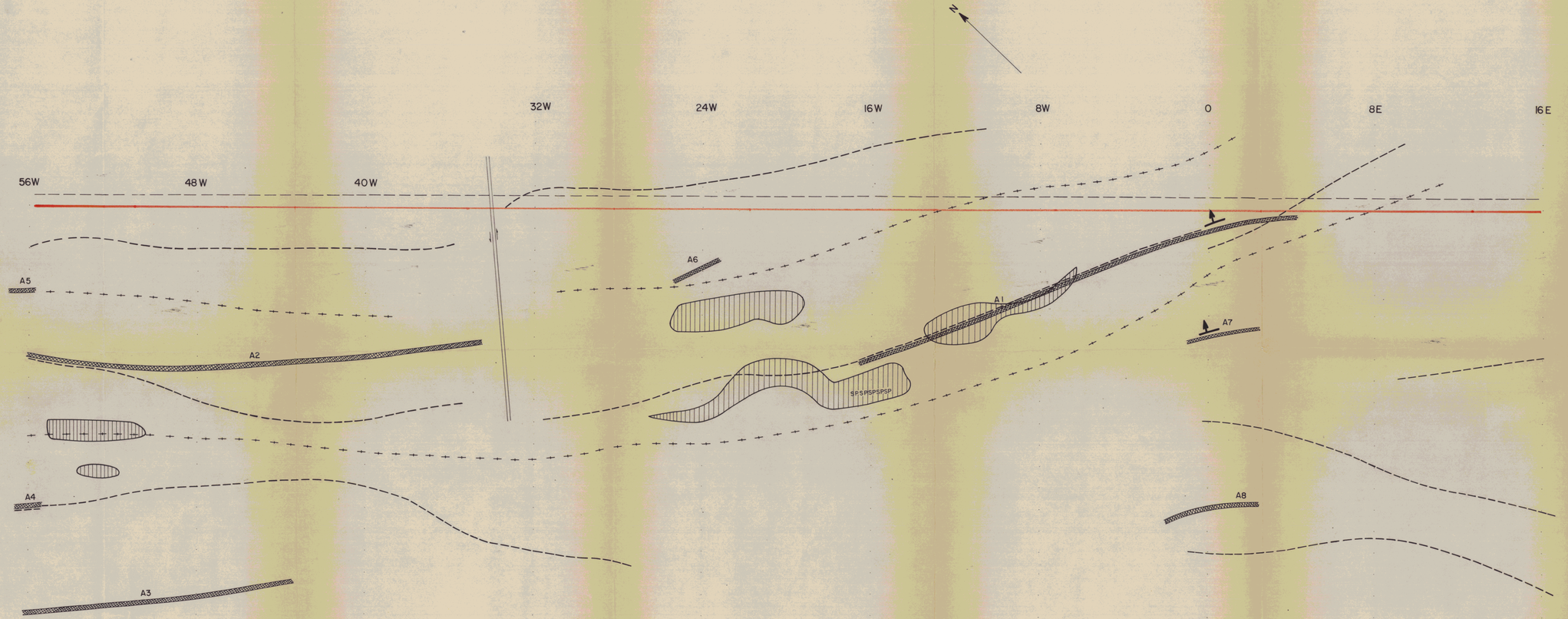
SCALE: 1" = 200'

LEGEND

Self Potential in mv.

5 cm

C.G.G.
26-28, Manning Street, South BRISBANE 2308



MT. LYELL MINING AND RAILWAY COMPANY PL. 4.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

S81035

OLIVERS HILL

COMPREHENSIVE MAP

5 cm

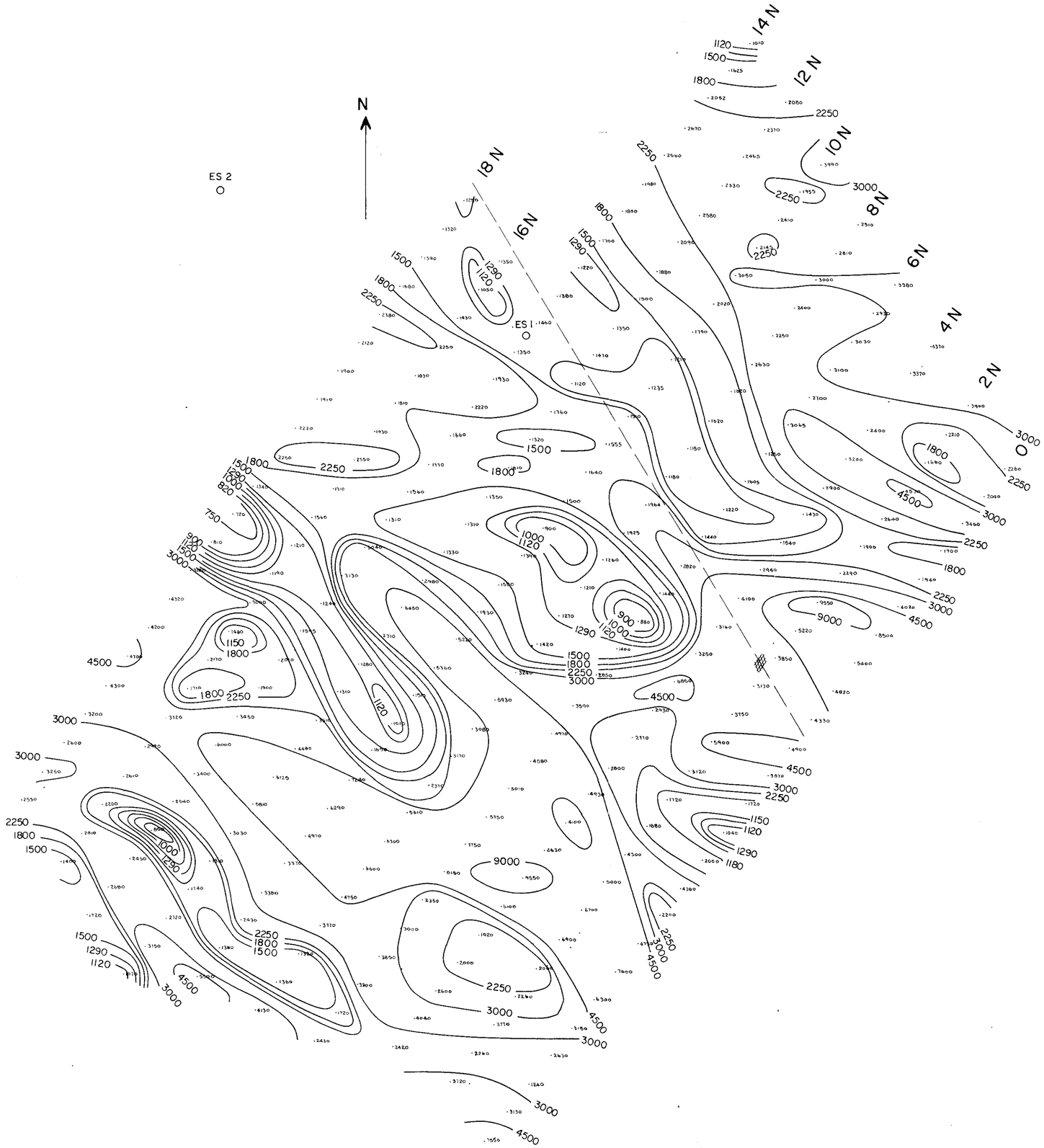
SCALE 1" = 200'

LEGEND

- Axis of polarizable body
- Conductive axis
- SPSP Self potential axis
- Fault
- Gossanous outcrop
- Dip

C.G.G.
26-28 Manning Street, South BRISBANE

2309



MT. LYELL MINING AND RAILWAY COMPANY PL.5.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

981036

FLETCHERS ADIT

APPARENT RESISTIVITY MAP

(gradient array AB=7600' MN = 100')

SCALE 1" = 200'

LEGEND

3000 — Contour of equal apparent resistivity and its value in ohm-m

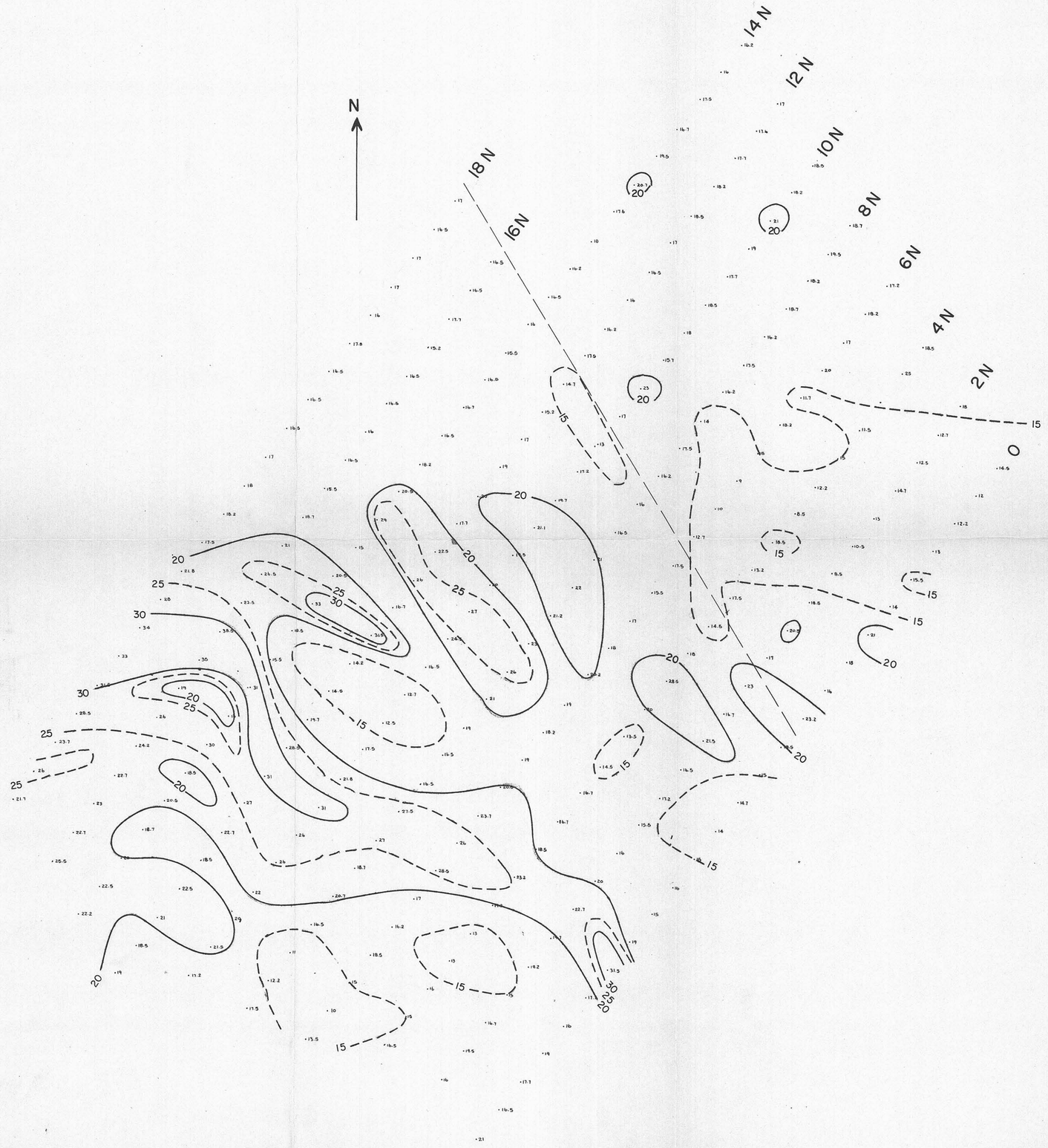
ES1 — Electrical Sounding and its number

Old workings

5 cm

C.G.G.
26-28 Manning Street, South BRISBANE

2310



MT. LYELL MINING AND RAILWAY COMPANY

PL. 6.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

981037

FLETCHERS ADIT

CHARGEABILITY MAP

(gradient array AB = 7600' MN = 100')

SCALE 1" = 200'

LEGEND

50 — Chargeability in milliseconds

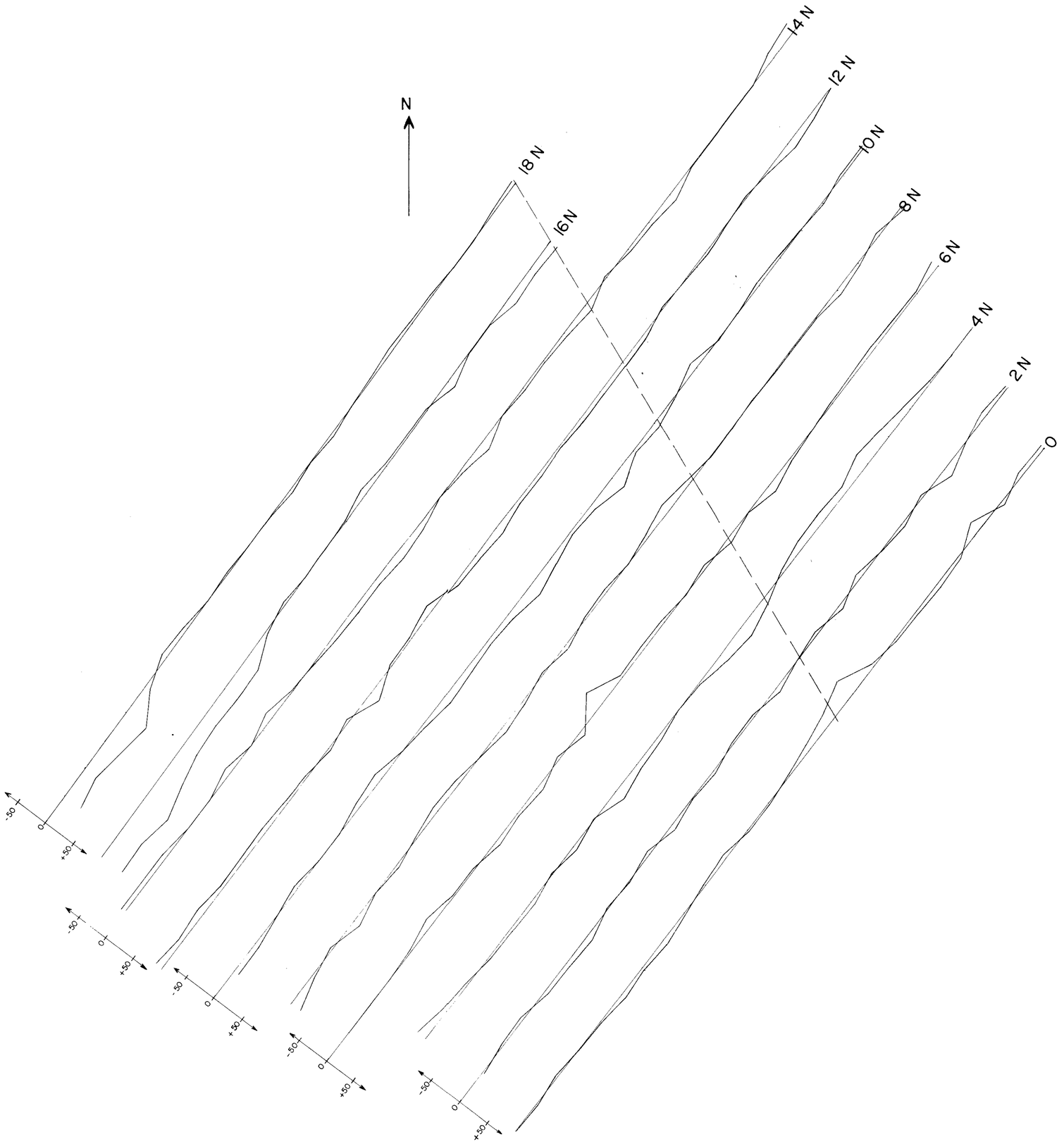
Integration 450 to 1150ms after cut off

5 cm

C.G.G.

26-28 Manning Street, South BRISBANE

2311



MINING AND RAILWAY COMPANY

PL. 7.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

981038

FLETCHERS ADIT

SELF POTENTIAL

SCALE 1" = 200'

LEGEND

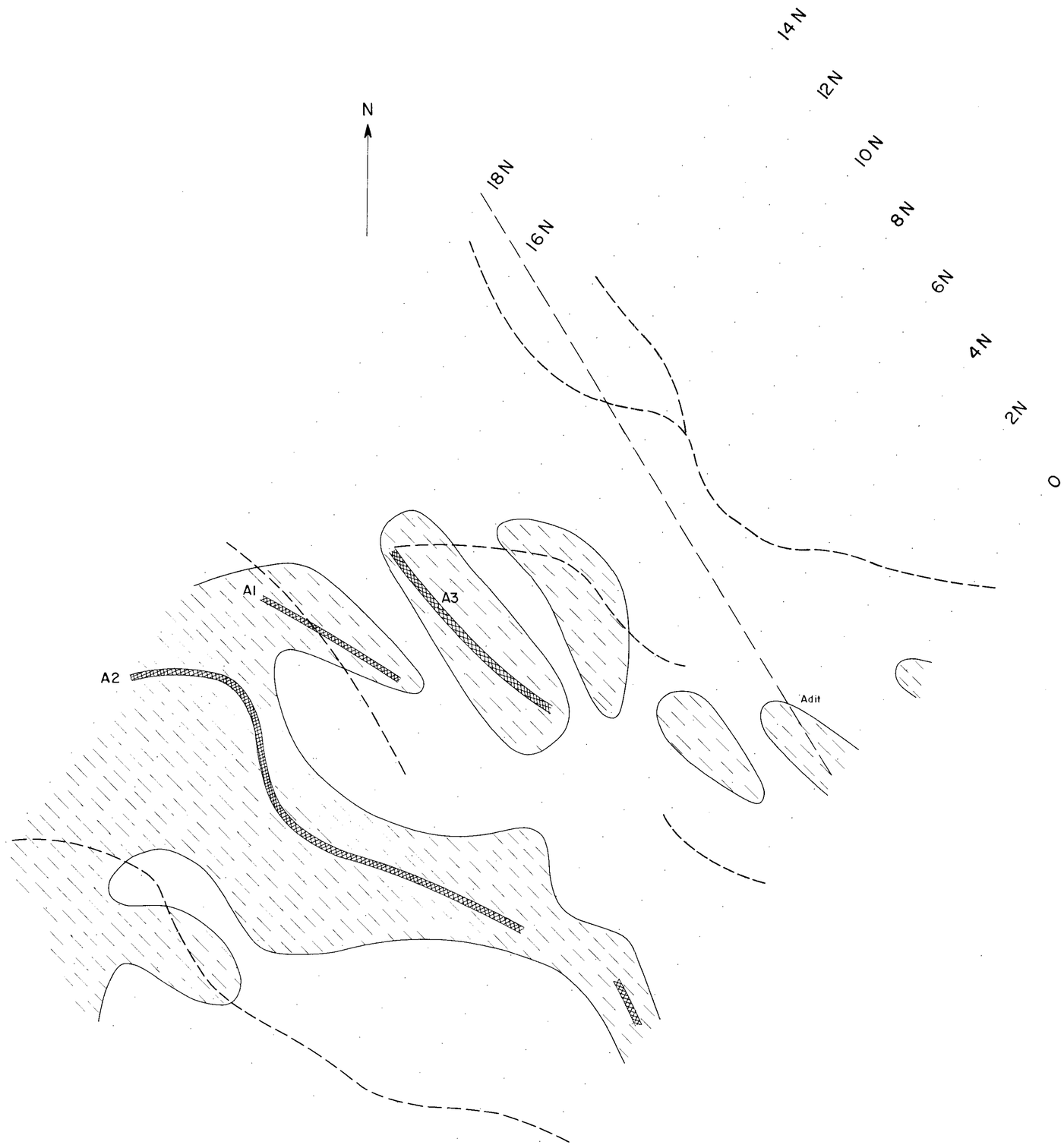
-50
0
+50

Self potential in millivolts

5 cm

C.G.G.
26-28 Manning Street, South BRISBANE

2312



MT. LYELL MINING AND RAILWAY COMPANY PL.8

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

981039

FLETCHERS ADIT

COMPREHENSIVE MAP

SCALE 1"=200'

LEGEND

Axis of polarizable body

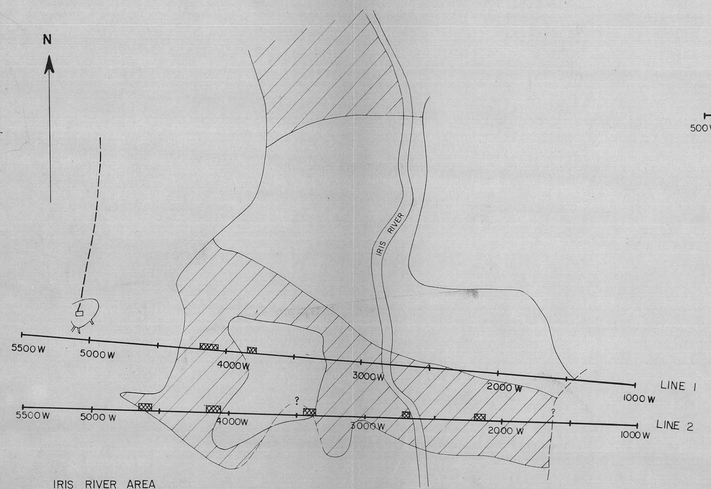
Conductive axis

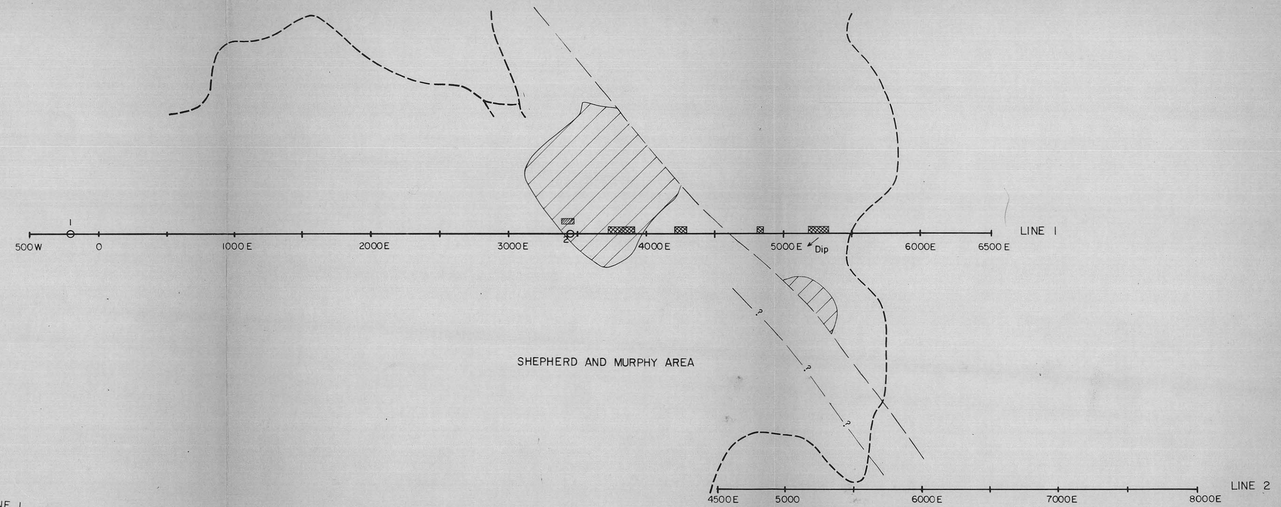
Anomalous zone

5 cm

C.G.G.
26-28 Manning Street, South BRISBANE

2313





MT. LYELL MINING AND RAILWAY COMPANY PL.9.

70-658

GEOPHYSICAL SURVEY AT MOINA EL 8/65

981040

IRIS RIVER AND SHEPHERD AND MURPHY MINE

GEOPHYSICAL GRID LINES

RESULTS

SCALE 1" = 500'

LEGEND

O_1 Electrical Sounding and its number

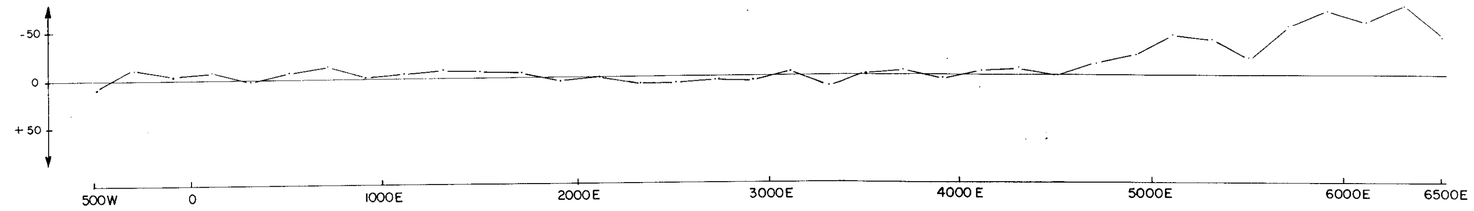
Polarizable body

5 cm

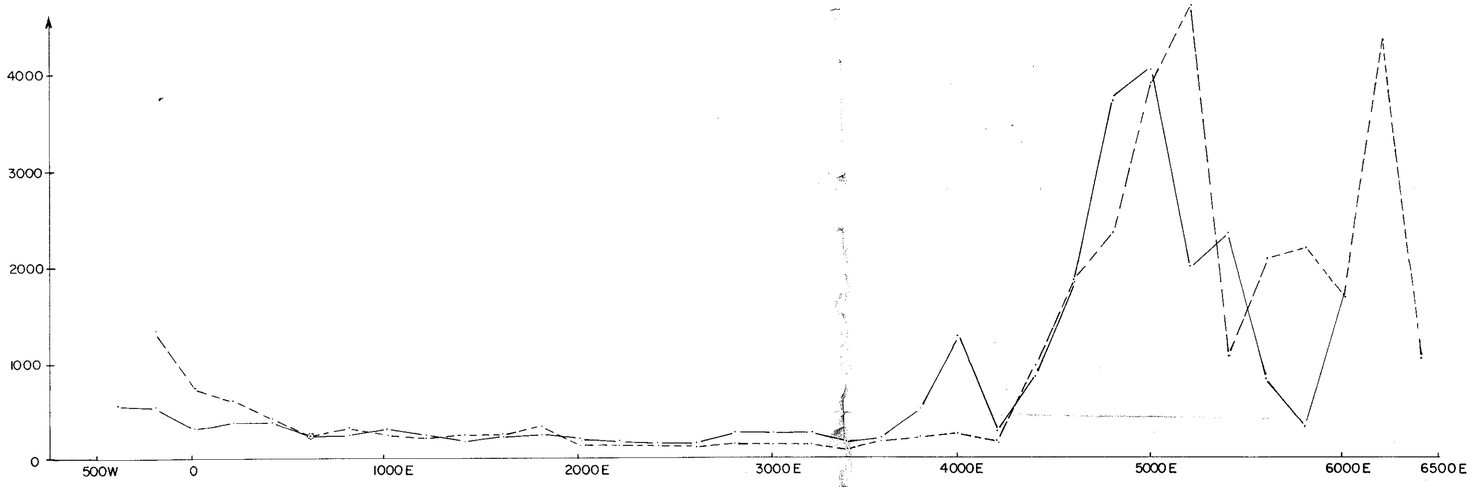
C.G.G.
26-28 Manning Street, South BRISBANE

231½

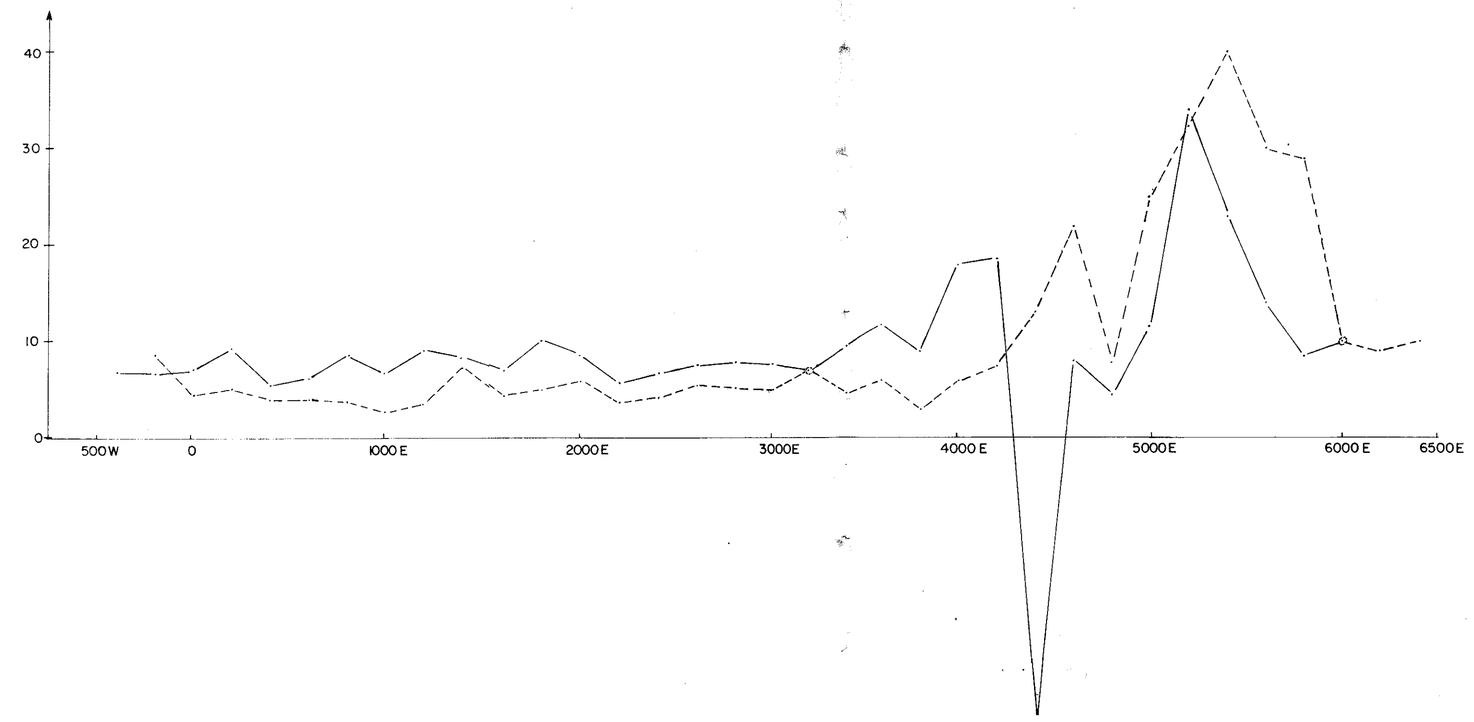
Self Potential



Resistivity



Chargeability



MT. LYELL MINING AND RAILWAY COMPANY

PL. 10.

70-658 981041

GEOPHYSICAL SURVEY AT MOINA EL 8/65

SHEPHERD AND MURPHY MINE

LINE I

CHARGEABILITY AND RESISTIVITY (Pole dipole)

SELF POTENTIAL

Scales

Distance	=	1"	= 500 feet
Chargeability	=	1"	= 10 milliseconds
Resistivity	=	1"	= 1000 ohm-m
Self Potential	=	1"	= 100 millivolts

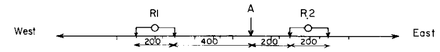
5 cm

LEGEND

——— Receiver 1 (R1)

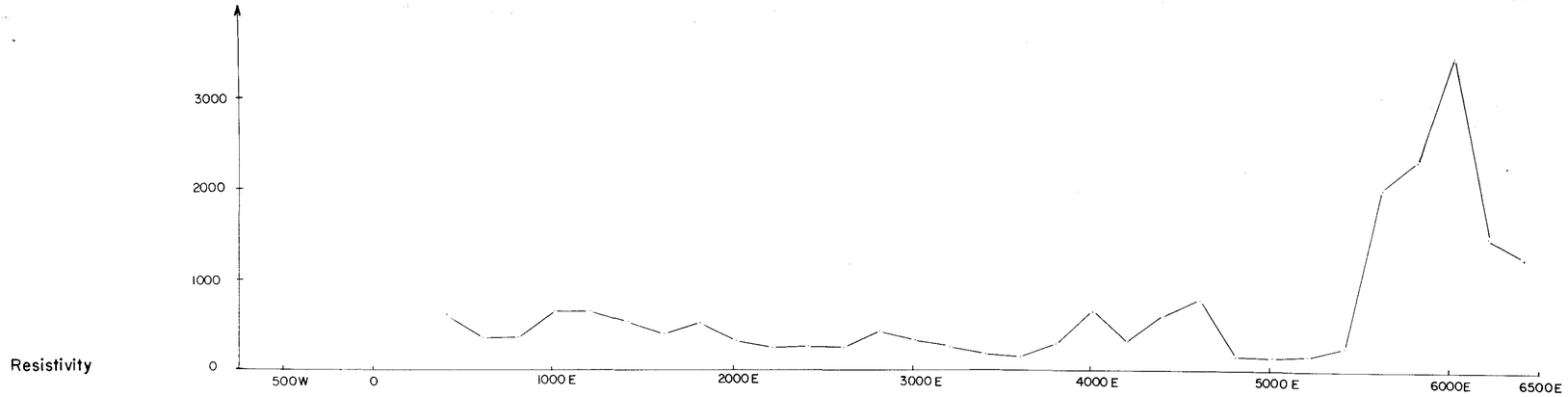
— — — Receiver 2 (R2)

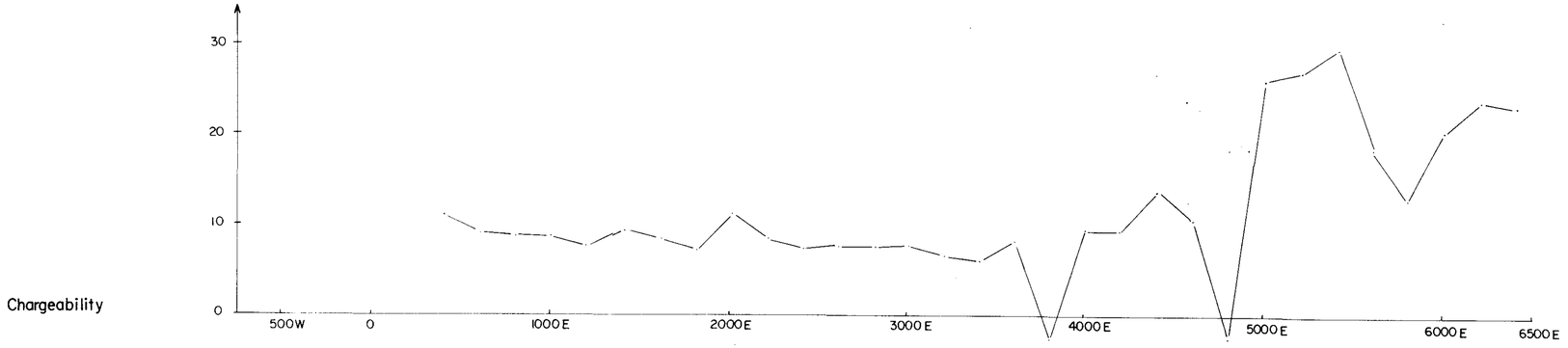
Electrode Array



C.G.G.
26-28 Manning Street South BRISBANE

2315





70-658

981042

GEOPHYSICAL SURVEY AT MOINA EL 8/65

SHEPHERD AND MURPHY MINE

LINE I

CHARGEABILITY AND RESISTIVITY (Pole dipole)

5 cm

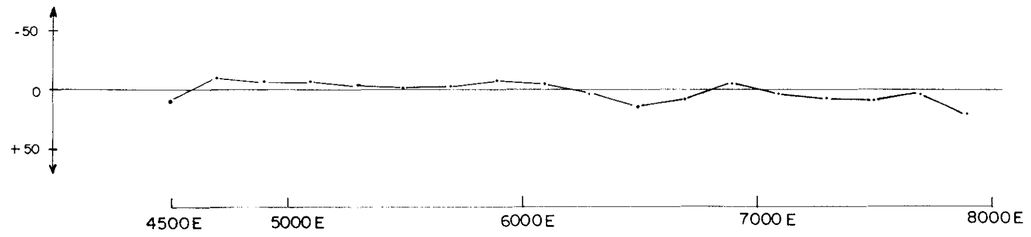
Scales

Distance	=	1"	= 500 feet
Chargeability	=	1"	= 10 milliseconds
Resistivity	=	1"	= 1000 ohm-m

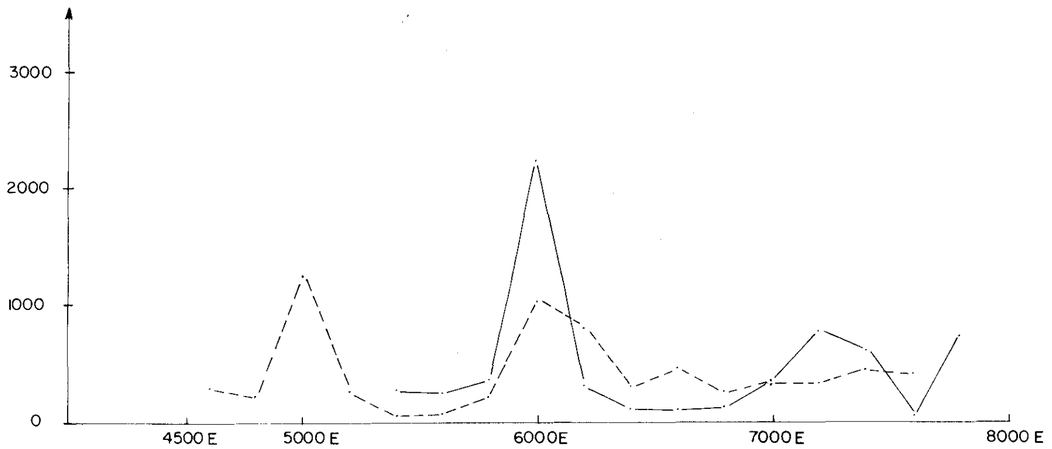
Electrode array

C.G.G
26-28 Manning Street South BRISBANE

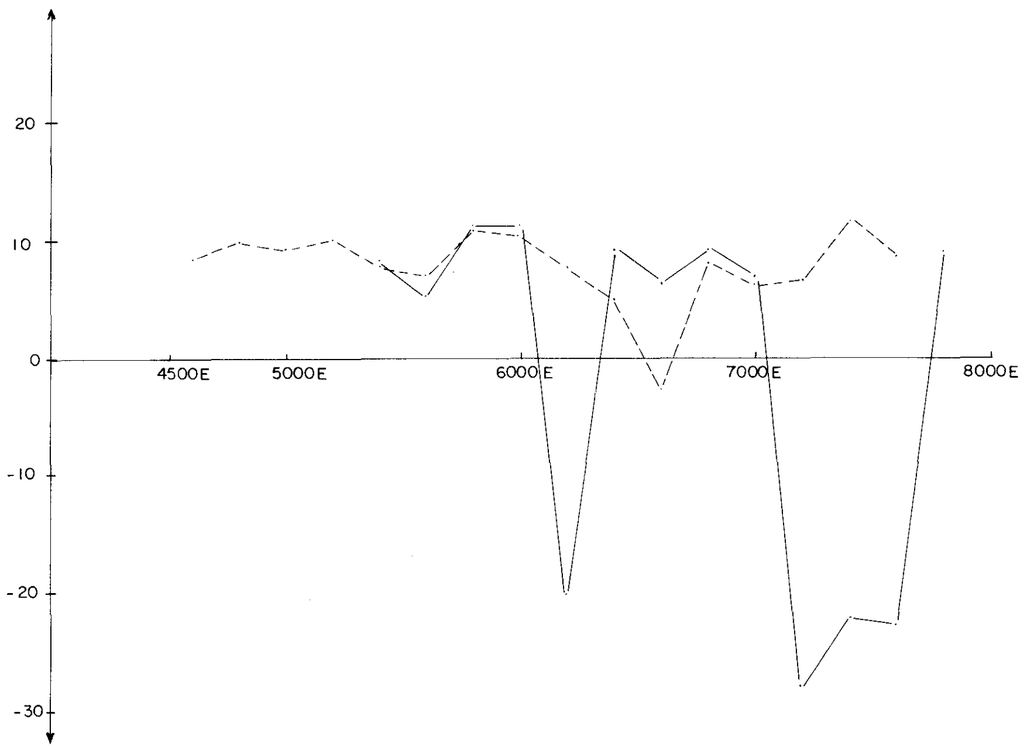
Self Potential



Resistivity



Chargeability



MT. LYELL MINING AND RAILWAY COMPANY PL. 12.

70-658 881043

GEOPHYSICAL SURVEY AT MOINA EL 8/65

SHEPHERD AND MURPHY MINE

LINE 2

CHARGEABILITY AND RESISTIVITY (Pole dipole)

SELF POTENTIAL

Scales

Distance	=	1"	= 500 feet
Chargeability	=	1"	= 10 milliseconds
Resistivity	=	1"	= 1000 ohm-m
Self Potential	=	1"	= 100 millivolts

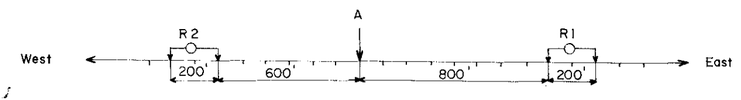
5 cm

LEGEND

——— Receiver 1 (R1)

— — — Receiver 2 (R2)

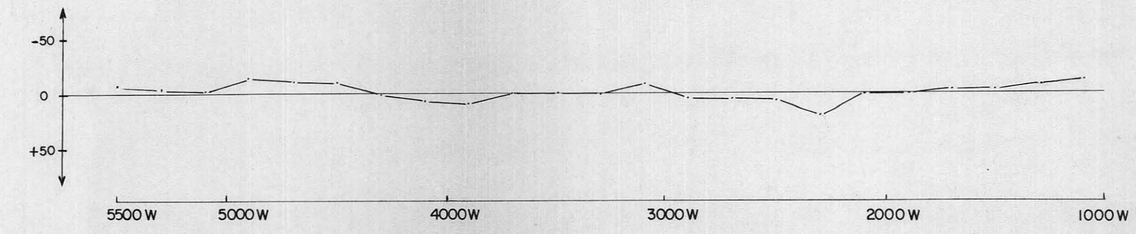
Electrode Array



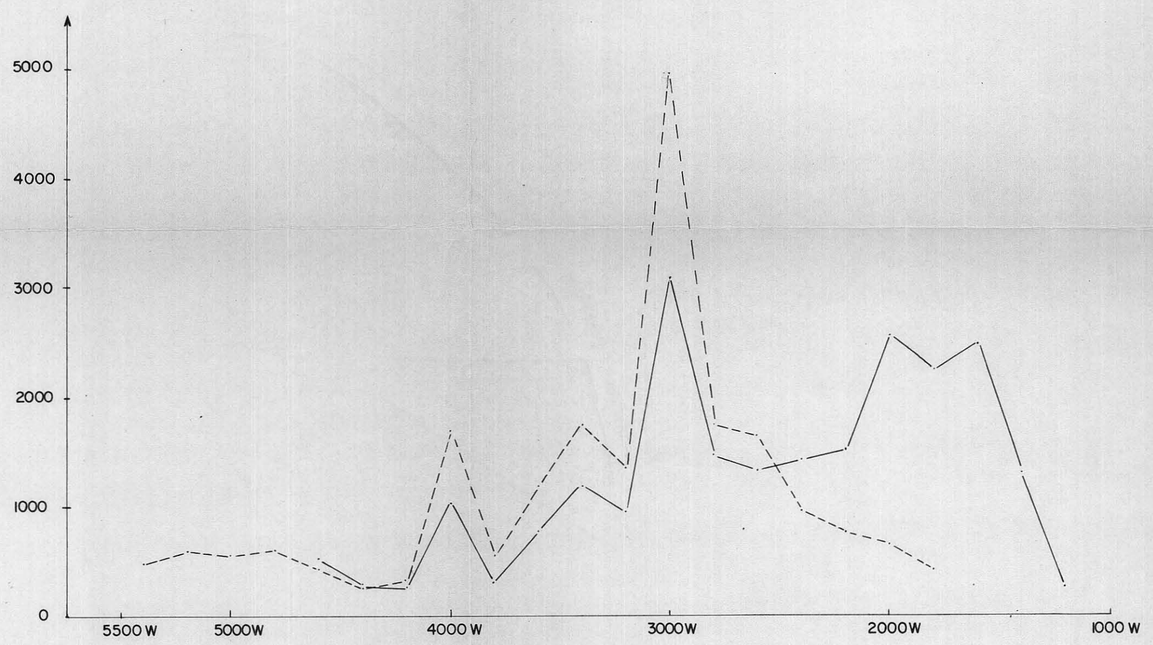
C.G.G.
26-28 Manning Street South BRISBANE

2317

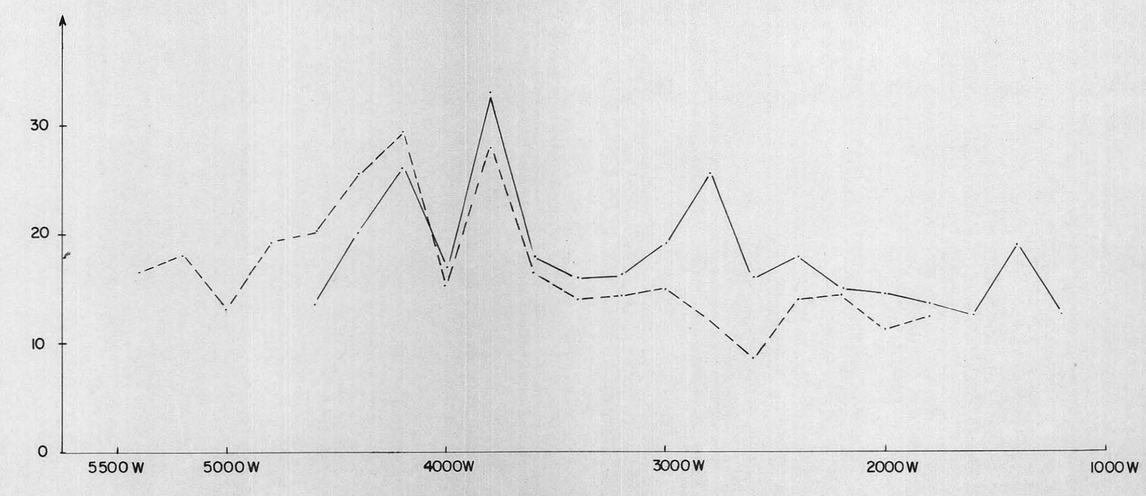
Self Potential



Resistivity



Chargeability



MT. LYELL MINING AND RAILWAY COMPANY PL. 13.

70-658 981044

GEOPHYSICAL SURVEY AT MOINA EL 8/65

IRIS RIVER

LINE I

CHARGEABILITY AND RESISTIVITY (Pole dipole)

SELF POTENTIAL

Scales

Distance	=	1"	= 500 feet
Chargeability	=	1"	= 10 milliseconds
Resistivity	=	1"	= 1000 ohm-m
Self Potential	=	1"	= 100 millivolts

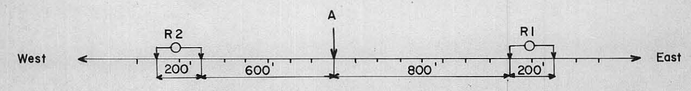
5 cm

LEGEND

——— Receiver 1 (R1)

— — — Receiver 2 (R2)

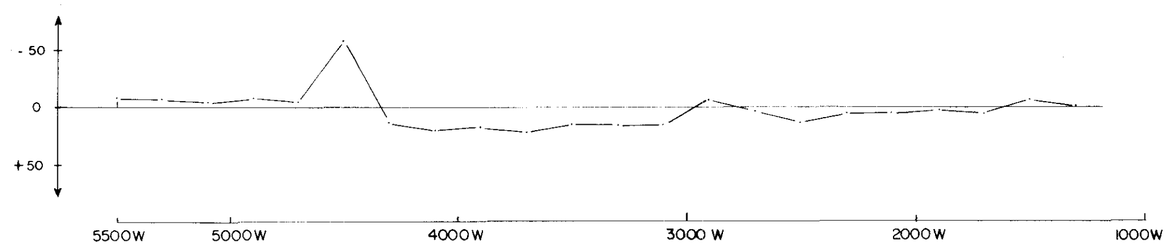
Electrode Array



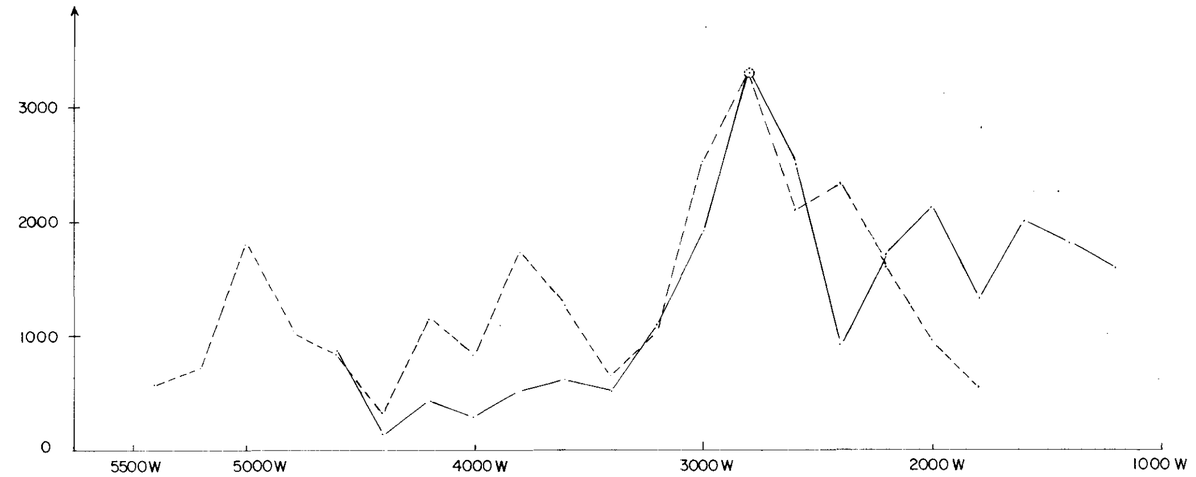
C.G.G.
26-28 Manning Street South BRISBANE

2318

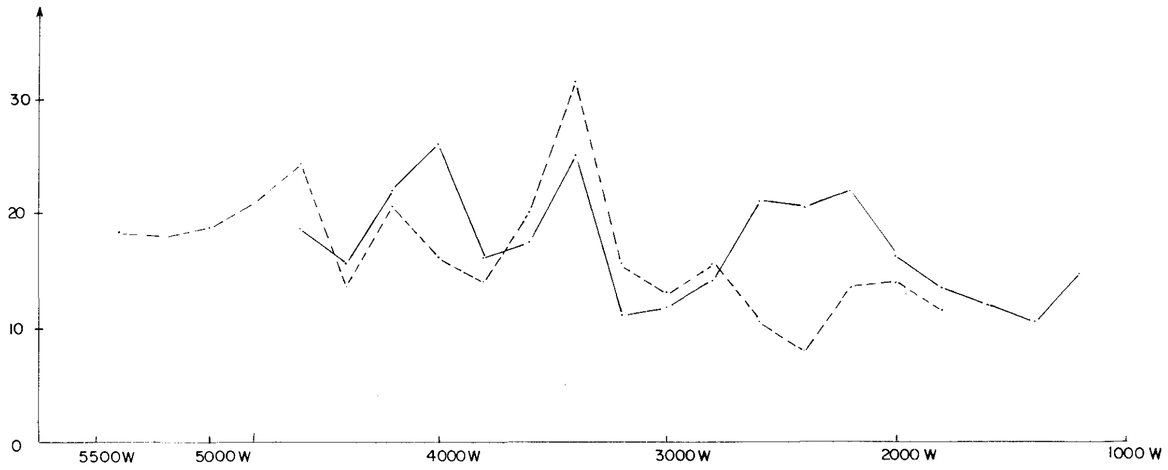
Self Potential



Resistivity



Chargeability



MT. LYELL MINING AND RAILWAY COMPANY PL.14

70-658 981045

GEOPHYSICAL SURVEY AT MOINA EL 8/65

IRIS RIVER LINE 2

CHARGEABILITY AND RESISTIVITY (Pole dipole)

SELF POTENTIAL

Scales

Distance	=	1"	= 500 feet
Chargeability	=	1"	= 10 milliseconds
Resistivity	=	1"	= 1000 ohm-m
Self Potential	=	1"	= 100 millivolts

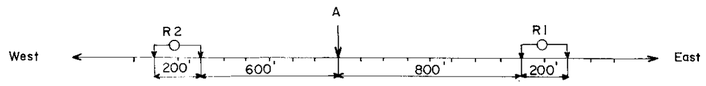
5 cm

LEGEND

——— Receiver 1 (R1)

— — — Receiver 2 (R2)

Electrode Array



C.G.G.
26-28 Manning Street South BRISBANE

2319