

MAJOR MINING LIMITED

EXPLORATION LICENCE 34/88 - ZEEHAN

SECOND ANNUAL REPORT FOR PERIOD 1ST NOVEMBER, 1989 TO 31ST OCTOBER 1990

E.L. 34/88

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Major Mining Limited,
P.O. Box 510,
Rockdale NSW 2216

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EL 34/88

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Figure 1 Map of EL 34/88 1:100,000

INTRODUCTION

During the first year, on 19th May, 1989, Major Mining Limited acquired the Exploration Licences known as EL 34/88 and EL 4/89 (Mt. Zeehan) from His Grace, The Most Noble, the Duke of Avram. These licences have now been consolidated into one, namely, EL 34/88.

After the acquisition in the first year, a preliminary investigatory geophysical survey was carried out over the type deposit adjacent to Major Mining's EL 28/88, and over a section of EL 28/88 itself. These surveys were intended to act as pathfinder surveys for the subsequent geophysical surveys which were carried out between 29th November and 7th December, 1989.

EXPLORATION PHILOSOPHY

The main thrust of the company's exploration efforts was directed to locating deposits of the 'Comstock Lode' type with the objective of exploiting these small to medium tonnage but high grade deposits.

Geophysical methods were employed to search for such deposits. It was intended that any significant anomalies would be further investigated by trenching and/or drilling.

The basis for the above approach is derived from the following information:

Geology

A thick sequence of Proterozoic sediments in the form of a complex anticlinorium is exposed in the Zeehan area. The sequence is predominantly Onah quartzite. These sequences are followed by the Crimson Creek Formation and Dundas groups of sediments of Cambrian age. Sequences of Ordovician Gordon limestones followed.

Mineralisation

The Zeehan district has several distinct mineral deposit types:

Lead-silver-zinc The bulk of lodes occur as fracture fillings having a north-north-west strike and are most often adjacent to west-north-west faults. While the actual tonnages of individual deposits were recorded as small (50,000-200,000t), the grades were extremely high, with combined lead-zinc grades well in excess of 20% being common, with high silver content (e.g. 12 oz/ton from the Spray Mine).

Zinc Carbonate hosted lead zone deposits which some workers have inferred could be similar to the Irish type deposits, are a legitimate target within the Gordon Limestone areas.

Mining History

The Zeehan Field was the scene of active mining during the period 1886 until the end of World War I. The chief mines were Silver Queen, Western and Oceana with many smaller deposits also being mined such as Comstock, Sylvesters, Tasmania, Swansea etc. The majority of production was silver

and lead, with zinc not being able to be extracted from the ore. Production has been intermittent with the Oceana Mine within the Gordon Limestone closing in 1960.

Summary

- 1 The area is highly prospective for additional high grade zinc, lead, silver lode deposits of the Comstock type, and it is intended that geophysical methods will be applied to their discovery.
- 2 The Gordon Limestone areas will be explored for lead-zinc deposits of the "Irish" type, again using geophysical methods as the primary tool.

WORK CARRIED OUT DURING THE REPORTING PERIOD

During the first annual period the work carried out consisted of a study of the available data.

Also during that period, a geophysical test survey was conducted over an area within Major Mining's EL 28/88 together with several lines over the Comstock Lode. The results of this work provide a basis for designing appropriate exploration techniques for further work in the Major Mining lease areas.

The results of this geophysical work have been provided as an appendix to the first Annual Report on EL 28/88.

The second year's work consisted of gradient array reconnaissance surveys carried out over two areas, namely **Badger River** where an area 600m x 500 m was surveyed, and, **Queensberry Mine** area where a detailed gradient array was surveyed over a smaller area, 300m x 200m.

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THE RESULTS

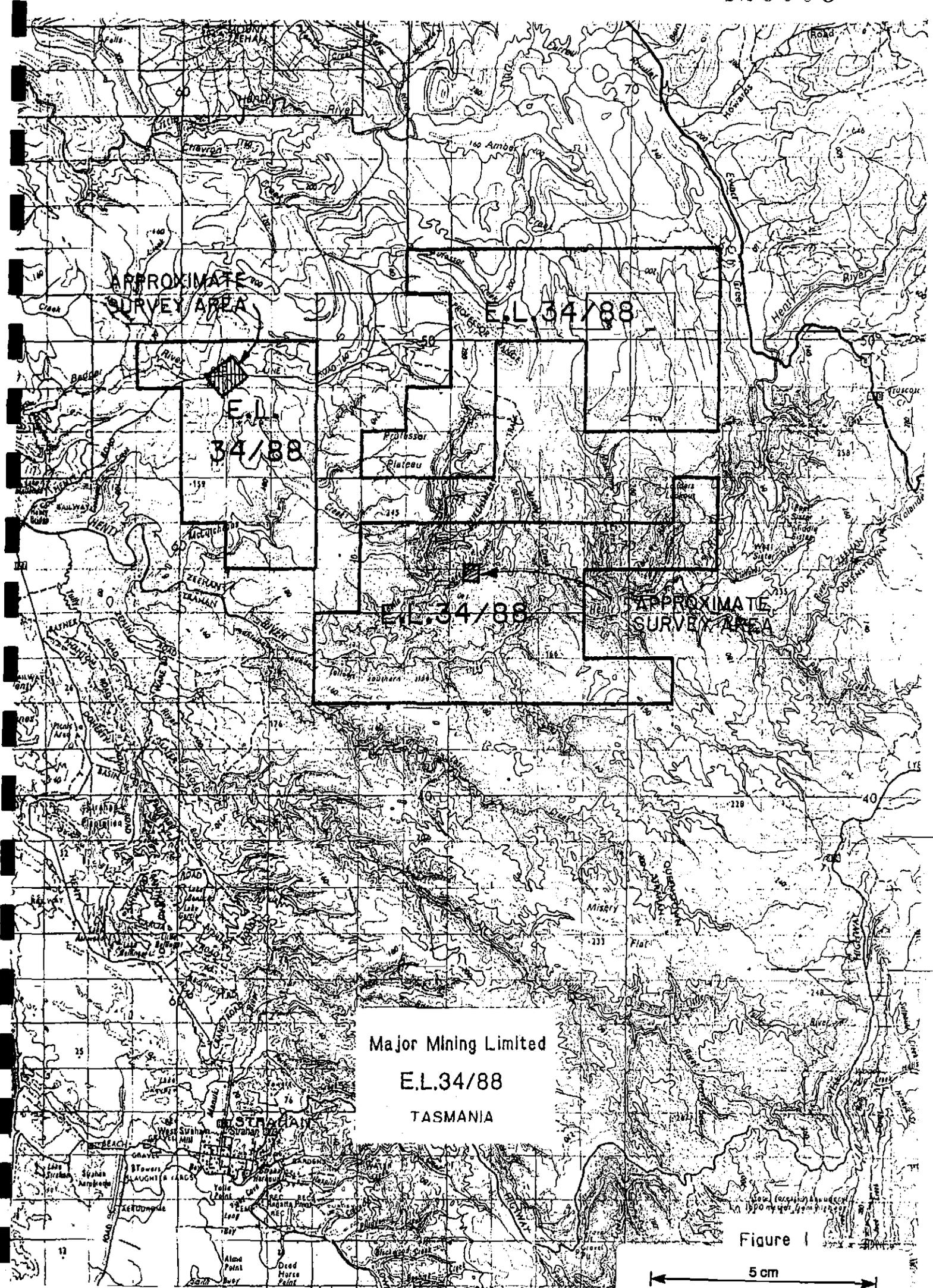
The results are discussed in the report prepared by Scintrex Pty. Ltd. for Major Mining Limited, but in brief, the conclusions for each area were as follows:

Badger River a series of electrical induced polarization responses striking grid east-west are considered worthy of further investigation. The source is either disseminated, or, if massive, electrically discontinuous sulphides (and/or graphite).

Queensberry Grid Only weak electrical induced polarization responses were defined. Further local site investigation is required to ascertain the possible importance of these responses.

PROPOSED FUTURE WORK

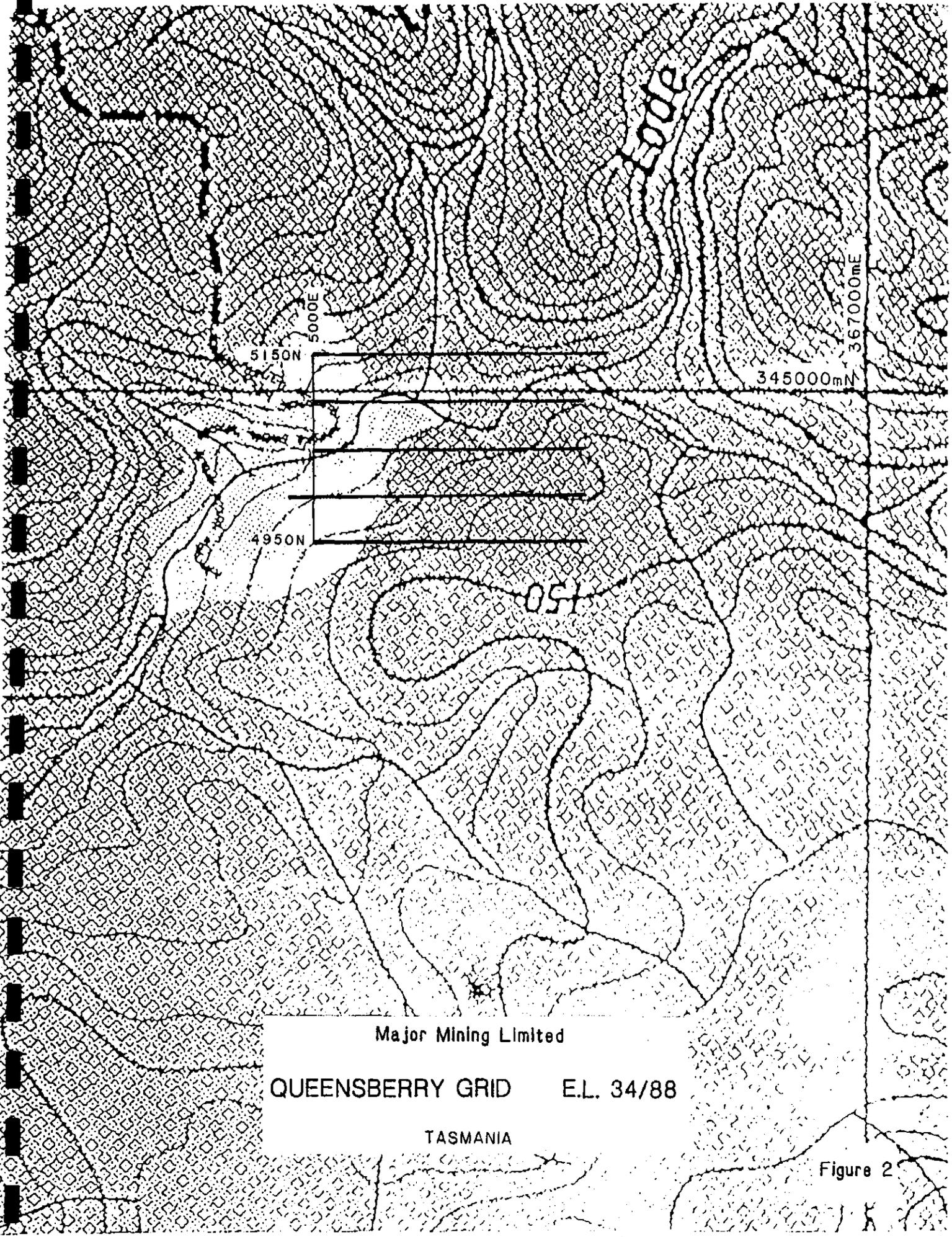
Future work should consist of follow-up on the geophysical anomalies defined to date and geological mapping over areas of interest.



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Figure 1

5 cm



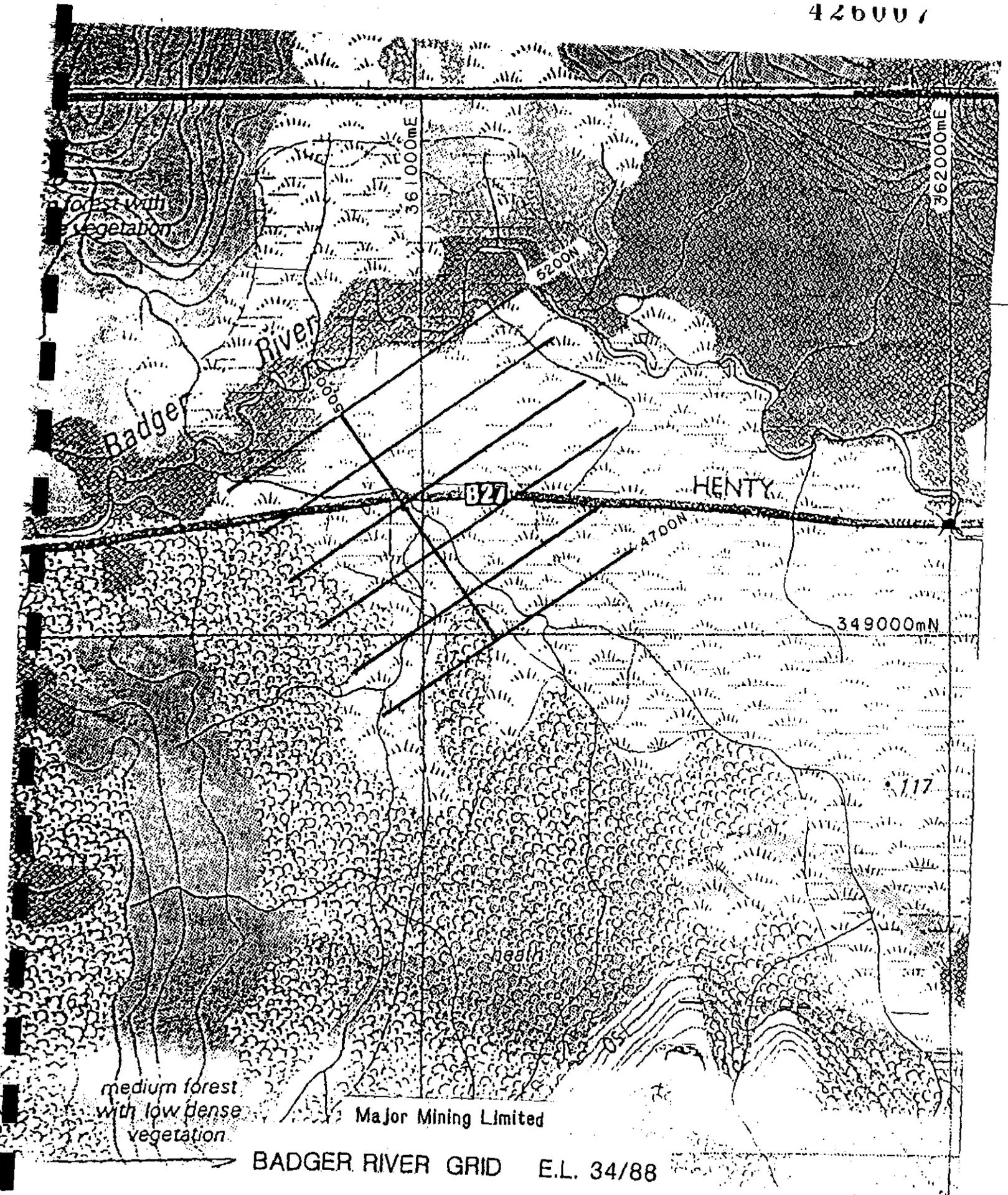
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QUEENSBERRY GRID E.L. 34/88

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Figure 2

5 cm



medium forest with low dense vegetation

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BADGER RIVER GRID E.L. 34/88

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5 cm

Figure 3

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A REPORT ON
 GEOPHYSICAL SURVEYS
 OVER THE EAST QUEENSBERRY AND BADGER RIVER AREA
 WITHIN EL 34/88 NEAR ZEEHAN, TASMANIA
 ON BEHALF OF
 MAJOR MINING LIMITED

OPEN FILE

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A REPORT ON
GEOPHYSICAL SURVEYS
OVER THE EAST QUEENSBERRY AND BADGER RIVER AREA
WITHIN EL 34/88 NEAR ZEEHAN, TASMANIA
ON BEHALF OF
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BY

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MSc, DIC, FIMM, FAusIMM, FAIG, FGS, CEng.
GEOPHYSICIST

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- 5 Badger River Area Resistivity Contour Plan
- 6 BADger River Area Interpretation Plan



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GEOPHYSICAL CONSULTANTS AND CONTRACTORS

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SUMMARY

Gradient array reconnaissance surveys over the area adjacent to the Queensberry Mine, have defined a series of moderate amplitude induced polarization responses worthy of follow-up by trenching and/or augering.

At Badger River, a similar reconnaissance survey has defined a series of anomalies from within the Gordon Limestones which are also worthy of follow-up by trenching and/or augering.

INTRODUCTION

At the request of Dr. F.J. Corbett, Chairman of Major Mining Limited, Scintrex Pty. Ltd. carried out reconnaissance gradient array electrical induced polarization and resistivity surveys over the East Queensberry Mine and Badger River areas within Exploration Licence 34/88.

The work was undertaken by Scintrex geophysicist Mr. P. Brown BSc, assisted by geophysicist Mr. M. Joint, BSc between 29th November and 7th December, 1989.

QUEENSBERRY MINE AREA

DISCUSSION OF RESULTS

A five line reconnaissance gradient array electrical induced polarization survey was carried out east of the Queensberry Mine in early December, 1989. The grid was pegged and geophysically surveyed between 3rd and 7th December, 1989.

The current dipole was placed on line 5100N at 4850E and 5450E, with lines being surveyed at 50 metre intervals from 4950N to 5150N at 25 metre intervals from 5000E to 5300E.

The resistivity data is presented at 1:2500, and shows a series of slightly higher than background axes trending within $\pm 25^\circ$ of grid north. The approximate projected position of the Queensberry Fault has been marked on the interpretation plan, and can be interpreted as terminating a number of the more resistive events which occur to the north of the supposed fault. The range in resistivities is from less than 250 ohm-metres to in excess of 1500 ohm-metres, while the background can be considered to be about 500 ohm-metres (\pm).

The induced polarization data is also shown at the scale of 1:2500. The range in values observed was from 10 to 20 millivolts/volt with the former representing the background values.

The **precise** location of the grid with respect to the mapped geology as presented in earlier reports is unknown, however, it would appear that the weak to moderate anomalies of 16 to 17 millivolts/volt seen on lines 4950N and 5050N may be related to the "No.1 Lode" (See New Consolidated Gold Fields Australasia Pty. Ltd. 200' = 1" maps dated 16.5.68). Also, the "East Lode" may relate to a slight increase in polarization seen as a "shoulder" at 5100E/5100N. Should this correlation be correct, the more significant anomalies at 5075E on lines 5050N and 5000N, and perhaps

5112E/5150N may represent further mineralised sections of the same zone. In spite of the fact that an anomaly of 19 millivolts/volt seen at 5075E/4950N is south of the projected position of the Queensberry Fault, it nevertheless warrants further investigation.

Also, south of the fault, significant polarization values of twice background at 5300E/5000N and 5275E/4950N were recorded. The maximum depth to source to all three anomalous zones, i.e., the No.1 Lode (?), the "East Lode" and the "South-east" anomaly, are shallower than the potential dipole used, i.e. shallower than 25 metres.

CONCLUSIONS AND RECOMMENDATIONS

The induced polarization zones defined on the East Queensberry grid, while being of weak to moderate amplitude only, may in some sections be related to known mineralisation. Thus further work is recommended,.

It is therefore recommended that the site be inspected and an attempt be made to relate the above three anomalies to the known zones prior to further work being carried out. If prospective, the anomalies should be investigated by trenching or perhaps auger sampling.

BADGER RIVER AREA

DISCUSSION OF RESULTS

The sketch map shows the location of the area with respect to the Zeehan Strahan road and the Badger River, approximately 16 kilometres from Zeehan Post Office. The 5000N/5000E centre of the grid has been marked with a star picket to the south-west of the bridge (349221mN/360980mE). The grid extends from 4700N to 5200N and from 47500E to 5350E. The lines were run at 100 metre intervals but with 50 metre infill over zones which, on the 100 metres lines appeared to be anomalous.

The area was selected as it lies wholly within the rock unit known as the Gordon Limestones - considered prospective for base metals.

The apparent resistivity data shows a range in the values from less than 200 ohm-metres to in excess of 1000 ohm-metres, with the average background being about 400 ohm-metres. The strike varies from about grid 000° to grid 015°. The central 250 metres to 300 metres is composed of a broad section of higher than average resistivities. The zone itself trends about grid 020°, while individual events have variable orientation from 010° to 020° grid. To the immediate east and west thereof, a series of relative conductors were observed which tend to trend north south.

The induced polarization data presents a quite different format, with the central resistivity referred to above showing high normal backgrounds of about 20 millivolts/volt, with only minor variation above this level.

To the east of 5100E (see interpretation plan) a marked increase in background to about 30 millivolts/volt was recorded with a number of distinct anomalies to 50% above this level being defined. Often, higher polarization values are associated with **slightly** lower resistivities.

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To the west of the broad resistivity zone, slightly lower backgrounds of 18 millivolts/volt (\pm) were recorded with narrow anomalies to about twice this background. Often the higher polarization values are associated with lower resistivity.

Significant Induced Polarization Responses

Eastern Section Significant local increases in polarization were located within a high background. These are as listed below, with the maximum depth to source being given for each anomaly.

<u>Coordinates</u>	<u>Anomaly/ Background</u>	<u>Maximum Depth</u>	<u>Electrical conductivity</u>
4850N/5250E	16/30	30 metres (\pm)	very weakly conductive
5050N/5325E	14/30	25 metres (\pm)	little contrast
4900N/5150E	10/30	25 metres (+)	contact

Western Section

5100N/4875E		20 metres	moderate conductor
5100N/4825E		20 metres	very weakly conductive

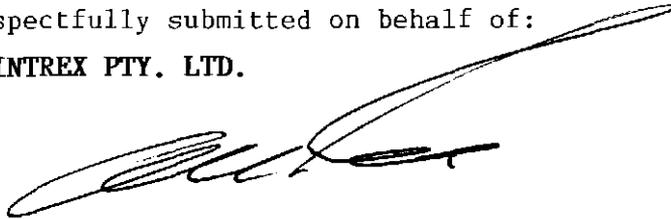
Central Section Only very weak responses were recorded such as the 25 millivolts/volt (5 millivolts/volt above background) at 5050E/4900N.

CONCLUSIONS

- 1 The EIP and resistivity data have mapped a 500 metres x 600 metres area which shows a broad central area of higher resistivity with a series of approximately grid north-south ($\pm 20^\circ$) striking features.
- 2 A series of induced polarization anomalies of moderate amplitude were defined which are considered to be due to sulphides (and/or graphite) of disseminated form within relatively resistive rocks.
- 3 It is recommended that the sites of these anomalies be investigated by auger sampling as the sources are unknown.

Respectfully submitted on behalf of:

SCINTREX PTY. LTD.



A.W. Howland-Rose, MSc, DIC, FIMM, FAusIMM, FAIG, FGS, CEng.

Geophysicist

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APPENDIX

BRIEF SIMPLE COMMENTS ON THE GRADIENT, DIPOLE-DIPOLE
AND POLE-DIPOLE ARRAYS AND ON DECAY FORM

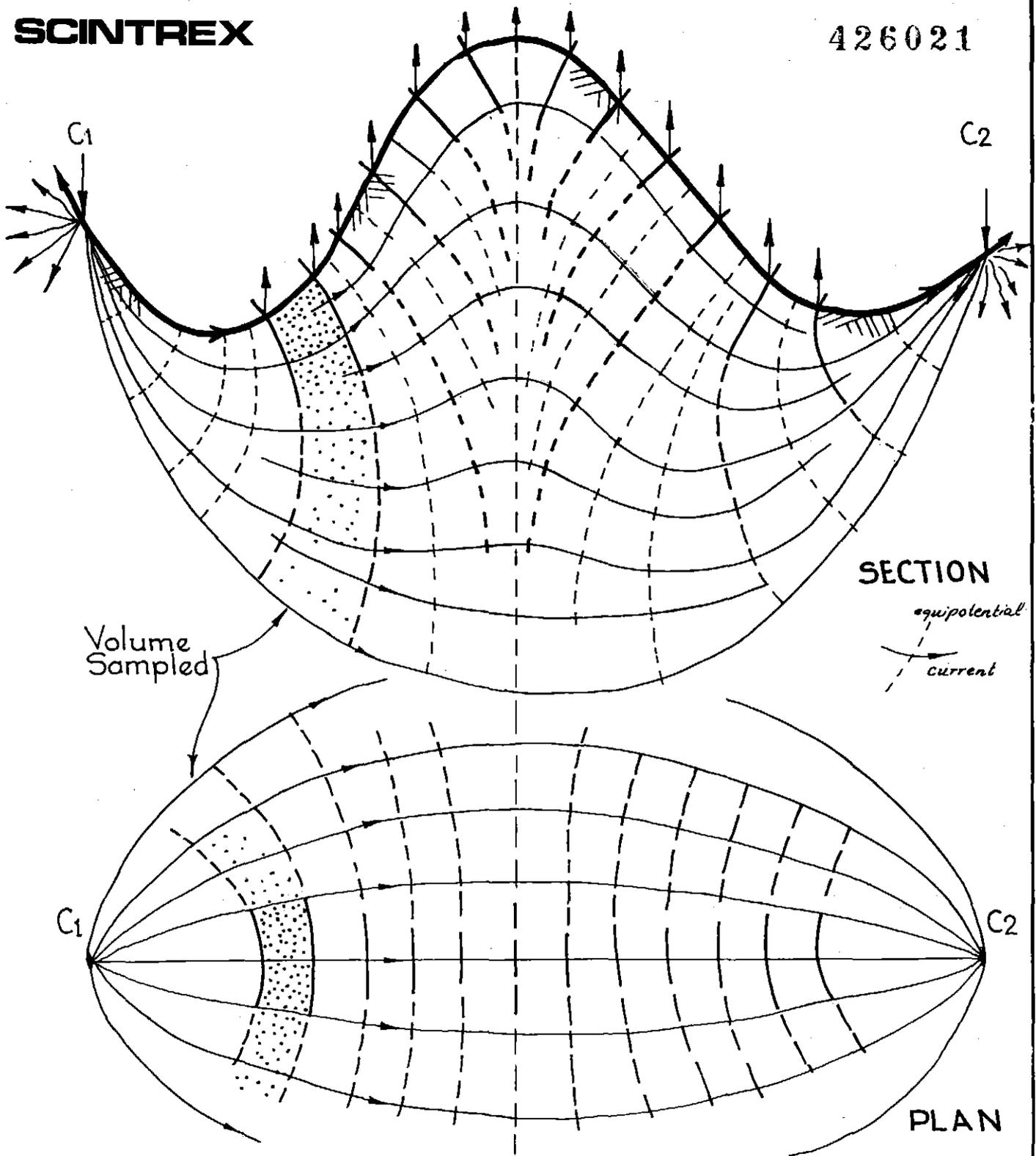
INTRODUCTION

In the case of the surveys discussed in this report, it is important that the geologist can relate the geophysical data to the underlying geology if he is to make the best use of this data. It is the author's opinion that **only** the geologist will be able to relate the data to geology. For this reason, brief simple comments follow on the salient features of the gradient, dipole-dipole and pole-dipole arrays. These comments show how the data relates to the volume of underlying rock which influences it. Comments are also made on the decay form.

DISCUSSION

Gradient Array:- In this array both current electrodes are distant from the potential dipole. Figure 1 displays the salient features of the **primary** current flow and primary equipotential field generated during energisation and shows the influence of terrain on the current paths. From this diagram it can be seen that the **apparent resistivity** measurement is a summation of a volume of material normal to the local slope, **beneath** the surface and at **right angles** to the line.

The apparent resistivity will be **biased** by the influence of each current electrode, but the **relative** values of **adjacent** readings can be considered to be **reliable**. As each electrode is approached, the readings become **increasingly biased** by that electrode.



Diagrammatic Representation of Primary Current and Potential Field in Steep Topography.

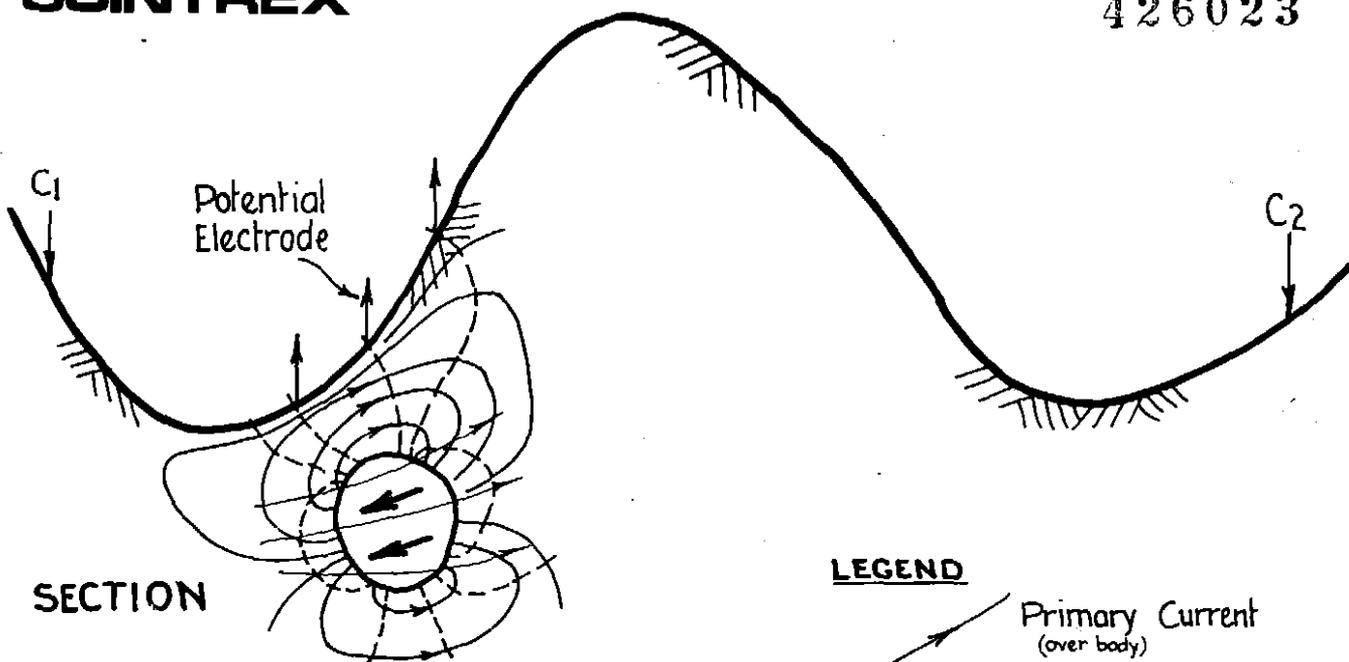
FIGURE 1.

Note particularly that the **source volume is normal to slope** and not vertically beneath the potential dipole. Therefore all *maximum depths* refer to depths below surface **normal to the slope**.

Note also that the volume of material **closest to the potential electrode** will influence the data most. It is difficult to easily quantify the complex relationship between the volume of material sampled and its distance from the potential dipole.

Figure 2 displays the secondary current pattern generated from the decay of induced polarization effect **within** a chargeable sulphide source, together with the equipotential field generated by that decay. Note that due to the necessarily curved nature of the current flow outside the body, the on-surface manifestation is **wider than the source width**. Note also that the volume sampled in the primary potential field (apparent resistivity) is not necessarily the same volume as is the secondary potential field (apparent chargeability). This is, of course, true for any array.

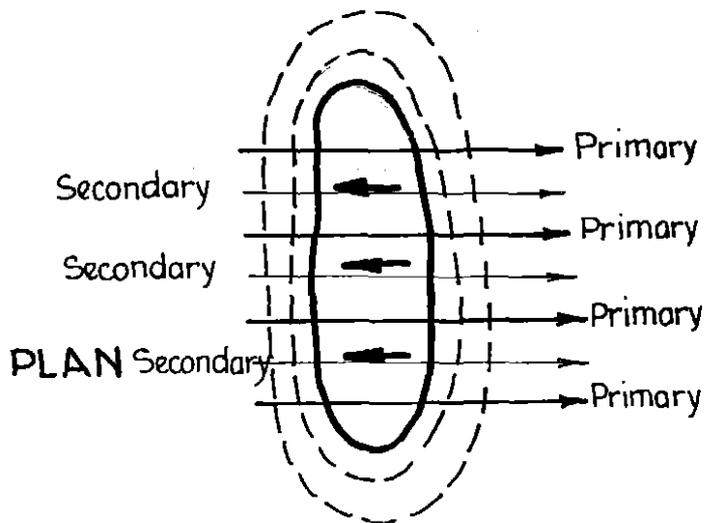
Dipole-Dipole:- In this array the current dipole is generally small, generally 20 to 100 metres. Figure 3 displays the current pattern in section and in plan for a dipole-dipole array. The equipotential P_1 and P_2 tap a volume as shown in this diagram whose characteristics are read on the $n = 1$ station and plotted as a single point midway between the transmitting dipole C_1 to C_2 and the potential dipole P_1 and P_2 . As progressively higher n values are read, a deeper and wider volume of material is sampled, this always being plotted midway between the transmitting and receiving



SECTION

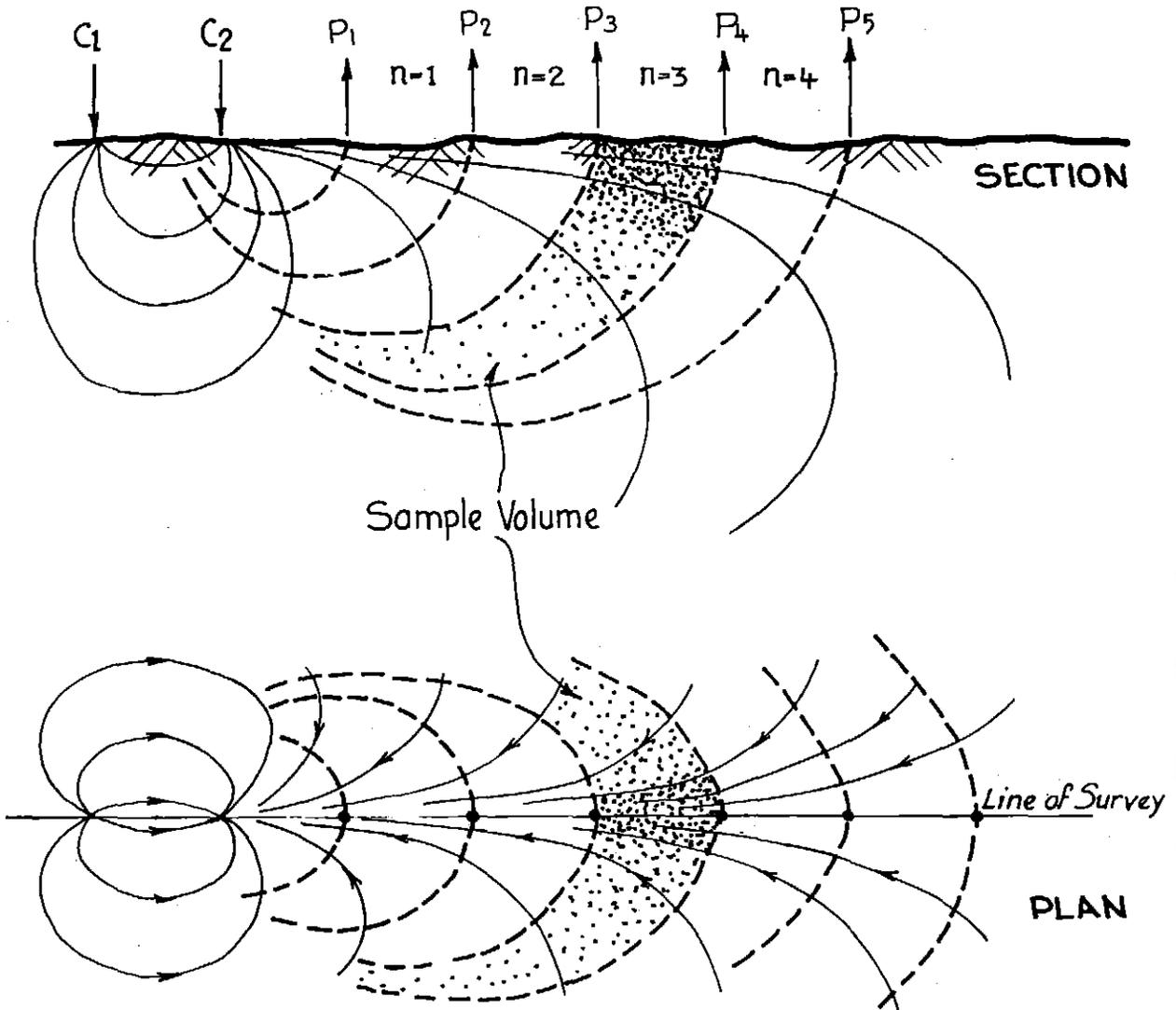
LEGEND

-  Primary Current (over body)
-  Internal Polarization (at depth within body)
-  Secondary Current (I.P.)
-  Secondary Potential Field



Diagrammatic representation of secondary current (I.P. effect) and secondary potential field in steep terrain.

FIGURE 2.

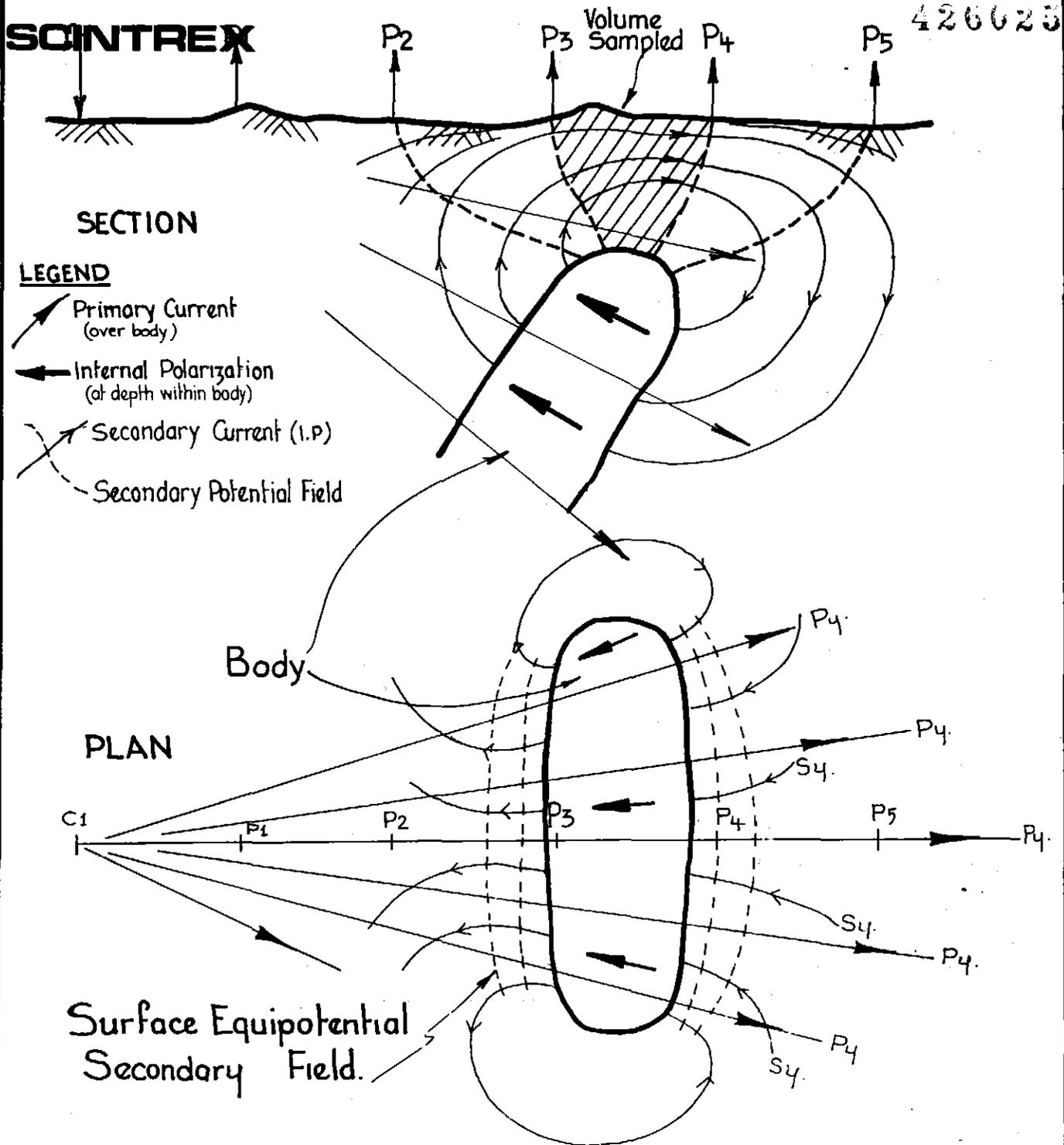


Dipole - Dipole Array
Primary current paths and equipotential field
Showing volumes sampled

FIGURE 3

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Current path and secondary equipotential field due to discharge of stored energy (I.P. effect) in the case of Pole-Dipole or Dipole-Dipole.

FIGURE 4.

dipole, and at a deeper level in the pseudo-section presentation used in this report. It is **vital** to realise that this data point does not represent the characteristics of the ground at the point plotted, but that of the **total volume** sampled.

A further characteristic of the array is that where the effective spacing ($n \times a$) is greater than the depth to the source, a 'high' (or 'low', depending on characteristics) will occur as each of the dipoles (i.e. transmitting C_1 and C_2 and potential P_1 and P_2) pass over the source of that anomaly. The resultant 45° patterns on the pseudo-section **DO NOT** represent dip, or even depth extent, but merely represent a complex interference pattern over the source due to the potential and current dipoles. For a single source, this **double peak effect** can be recognised as it tends to have two maxima displaced by $(n \times a + w)$ where w is the width of the source. For multiple bodies this is difficult if not impossible to resolve by dipole-dipole arrays alone.

The enclosed Figure 4 shows the discharge of the energy stored in the body. As can be seen, the area sampled in section is tapped between the equipotentials generated by the discharge of the stored energy. These will not necessarily be of the same form as those for the resistivity data, although they are, for convenience, plotted in the same format as for resistivity. Again, it is vital to note that they represent the volume sampled as shown in Figure 4, and **not** the characteristics of the point at which they are plotted. Double peaks also occur as each of the two sets of electrodes pass over a source, where $n \times a$ is greater than the depth to

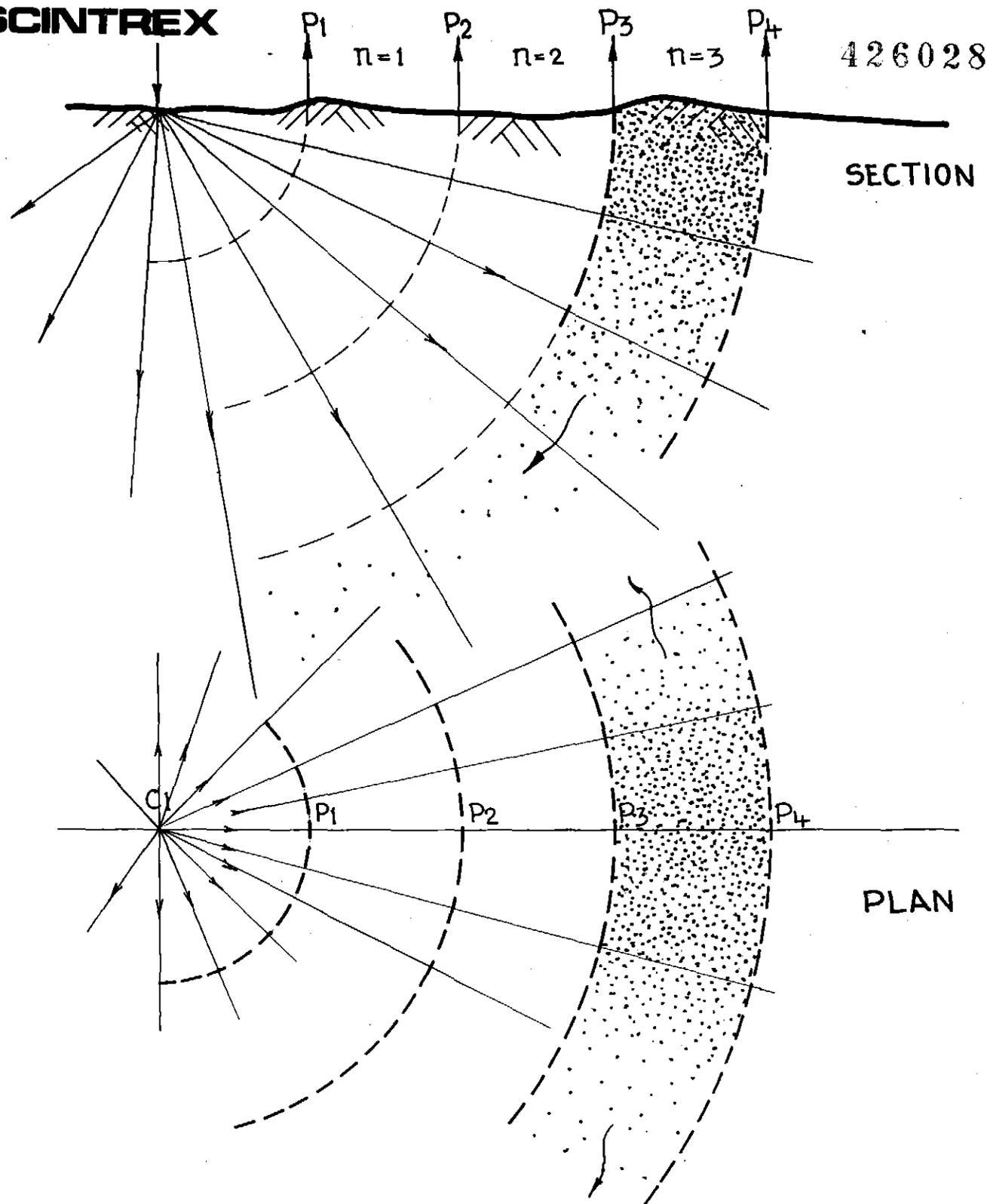
source. Where $n \times a$ is less than the depth to source, a single maximum will be produced midway between the energising and measuring dipoles C_1/C_2 and P_1/P_2 .

Pole-Dipole:- This array is similar in principle to the dipole-dipole array, except that a single electrode is placed 'close' to the potential dipole, with an 'infinite' electrode placed $10 \times n \times a$ away from the 'pole-dipole' set-up, and where practical, at right angles to it. The enclosed Figure 5 shows the distribution of current flow in section and in plan, about the pole source C_1 . The potential electrodes P_1 and P_2 tap off the volume between them, which is contained between spheres whose centres are the pole source. The primary current reading is normalised for the geometry and plotted in profile or pseudo-section format as per dipole-dipole, namely, midway between the closest potential and current dipoles, which in the pseudo-section format is 45° towards the pole source. The chargeability reading is generated in a similar fashion to that described for dipole-dipole (Figure 4).

As with the dipole-dipole array, a double peak will result when $n \times a$ is greater than the depth to source, however, with pole-dipole it will be asymmetric. This will be true for both major resistivity features as well as for chargeability features. An example of this asymmetry for different depth to spacing arrays is shown for the three-array. (The three-array is a pole-dipole array when $n = 1$ and the a spacing is varied.)

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Current Path and Primary Equipotential Field from Pole-Dipole Array

FIGURE 5

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SPHERE RESPONSE
THREE ELECTRODE
ARRAY

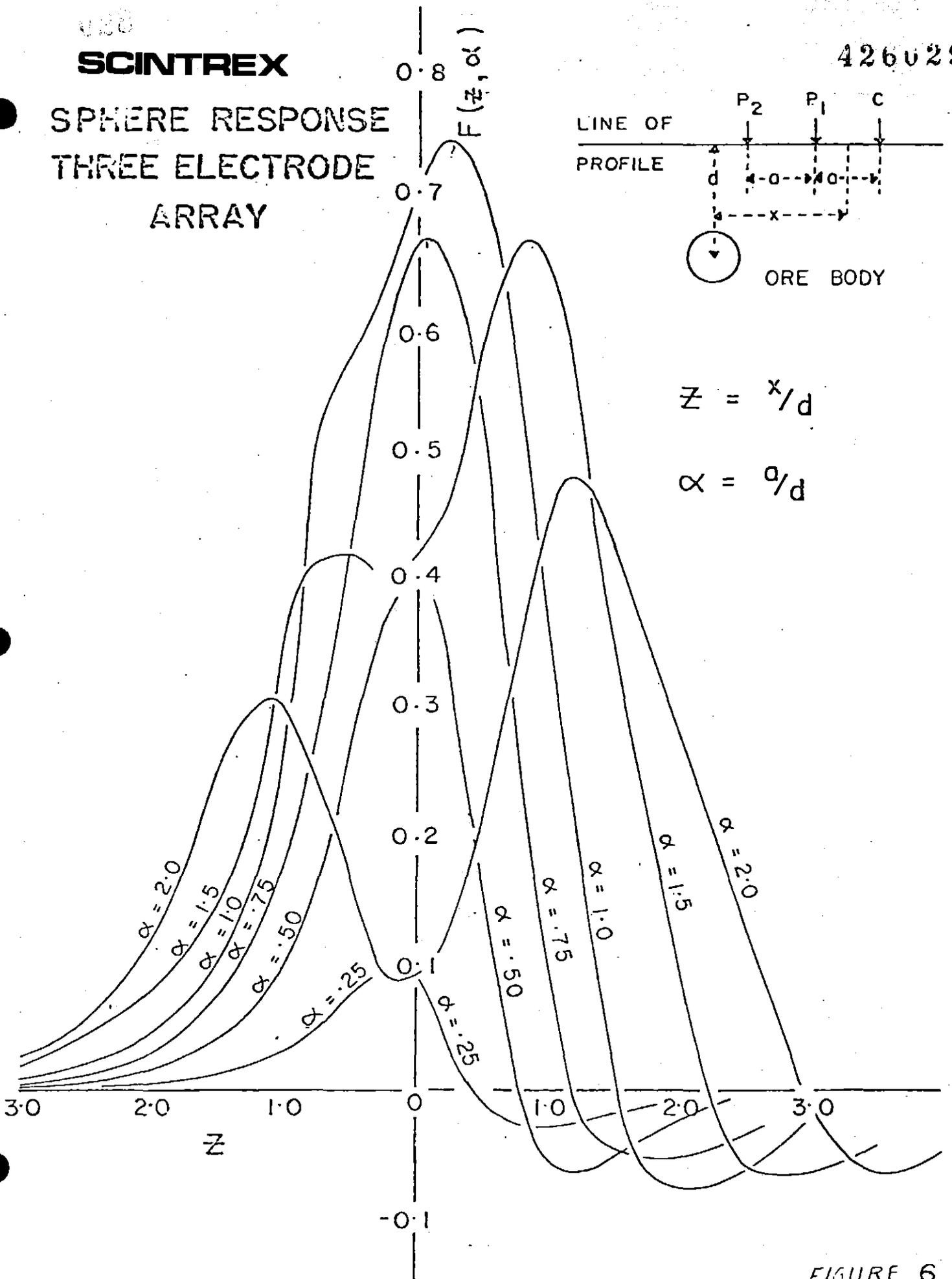


FIGURE 6

The Choice Between Arrays:- Even after some thirty years of active use of gradient, dipole-dipole and pole-dipole arrays, controversy still reigns as to the relative merit of the various arrays. Much depends on the object of the programme, the terrain, the type of source sought, the type and complexity of the overburden/oxidation. Table 1 shows a comparison between arrays which may be helpful, taken from a Canadian Geological Survey publication. In resistive mountainous terrain the author prefers the gradient array as the prime reconnaissance method due to the high productivity (two to five times that for dipole-dipole), but this should be followed up by detailed dipole-dipole or pole-dipole surveys as the gradient array, while giving 'maximum depths', cannot give 'minimum depths' as moving source arrays can. Similarly pole-dipole or dipole-dipole surveys which have complex or multiple sources can very often be resolved by use of limited gradient array detail. While pole-dipole is more efficient to apply in mountainous terrain, it tends to yield asymmetric double peak anomalies, however, to the trained observer, this is no disadvantage.

Brief Comments on Decay Form:- In most surveys three 'slices' of the decay form for the induced polarization response are required for each station as shown in Figure 7. While six slices are capable of being measured (M_1 to M_6), they are normally combined into pairs $M_1 + M_2 = M_1$ etc. as shown in Figure 7(C). Each of the slices M_1 to M_6 is normalised for a 'normal' decay form such that should the decay form be 'normal' $M_1 = M_3 = M_5$. Thus the operator can immediately recognise any anomalous decay forms which may arise from one of two major sources. Firstly the type of

(after Sumner, 1972)

	Advantages	Disadvantages	Survey Speed	Signal to-Noise	EM Coupling Rejection
Parallel Field Arrays Wenner	Anomalies symmetrical Synchronous detector possible Many case histories available	Requires more wire: larger field crew Poor resolution Unfavourable in capacitive coupling situations	Fair	Good	Fair
Schlumberger	Symmetrical array Synchronous detection possible Fewer men required Works well in layered earth Type curves available	Less horizontal resolution Unsuitable for horizontal profiling Capacitive coupling possible	Fair	Fair	Fair
Gradient	Map interpretation easier Less masking by conductive overburden Penetration good; safer Communications easier Can use two or more receivers Less topographic effect Data easily contoured in plan Useful where difficulty in making good current contacts	Poor resolution with depth Poor in low resistivity areas Geometric factor varies complexly	Good	Fair	Poor
Potential-About-a-Point Three-Array	Good reconnaissance array Fairly good resolution	Asymmetrical More wire needed	Fair	Good	Good
Pole-Dipole, Collinear	Good resolution Good subsurface coverage	Asymmetrical Asymmetrical	Fair	Fair	Fair
Perpendicular Three-Array, Pole-Dipole, Pole-Pole Pole-Pole (Two-Array)	Virtually eliminates EM coupling	More wire needed	Fair to Poor	Fair	Very Good
PDR (Potential Drop Ratio)	Smaller crew needed Less wire needed than for some arrays Good penetration in nonconductive overburden Sensitive to lateral variations "Common mode" noise rejection	Susceptible to masking by conductive over-burden Complex interpretation	Good	Fair	Poor
Dipole Field Array					
Dipole-Dipole, Collinear	Symmetrical, good resolution Good penetration Less survey wire needed	Slow unless equipment is portable Resistivity topographic effects Interpretation somewhat involved	Fair	Poor	Fair
Dipole-Dipole, Parallel	Special use for EM coupling interpretation	Not used for routine surveying	Poor	Poor	Fair
Down-the-Hole Arrays					
Azimuthal Array (One Potential Electrode Down the Hole)	Fair for exploration purposes Useful in finding the best search direction	Interpretation complex Negative anomalies Strong geometric effects Mainly measures changes in resistivity	Fair	Good	Good
Radial Array (One Current Electrode Down the Hole, mise-à-la-masse)	Good for exploration purposes Useful in finding the best search direction Hole need not stay open	Interpretation complex Negative anomalies Not good for obtaining rock properties	Fair	Good	Good
In-Hole Arrays (More than One Electrode in the Hole)	Good for obtaining rock properties Good for assaying Interpretation simple	Current densities may be too large Possible capacitive coupling problems Not designed for exploration purposes Special equipment, expensive	Good	Fair	Good

Extract from: Geological Survey of Canada - Paper 75-31 "Borehole Geophysics Applied to Metallic Mineral Prospecting: A Review"

the source can influence the decay form. Coarse grained efficient sources such as sulphides show **slow** decay forms, magnetic and fine grained sulphides often show **fast** decay forms. This can be shown as $\Delta M = M_5 - M_1$, where positive ΔM infers **slow** decay form and negative ΔM **fast** decay form. A superior parameter is ΔM_n where

$$\Delta M_n = \frac{M_5 - M_1}{M_3} \times 100 \text{ (in percent)}$$

which is essentially ΔM normalised for the amplitude of the decay. ΔM and ΔM_n are merely shorthand ways to profile changes in decay form and are essentially qualitative and relative.

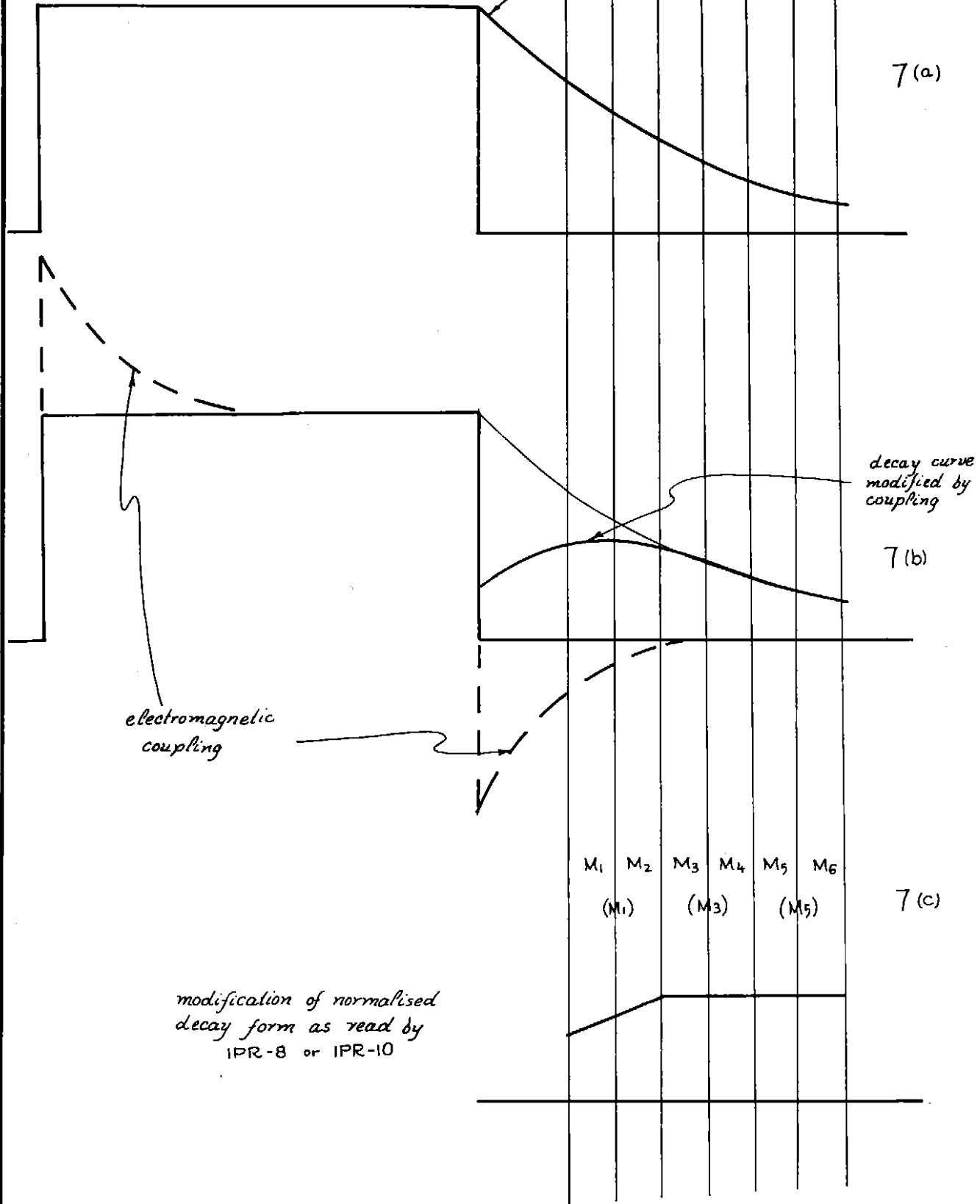
Decay forms can also demonstrate the presence of electromagnetic coupling as Figure 7 shows. This is a regional effect as shown on Figure 7(b). This will produce a normalised M_1 smaller than either M_3 or M_5 .

Conclusion:- The above comments are indeed simplistic, and should be considered as a guide only. The author would be pleased to supply references on additional reading on any of the points commented upon.

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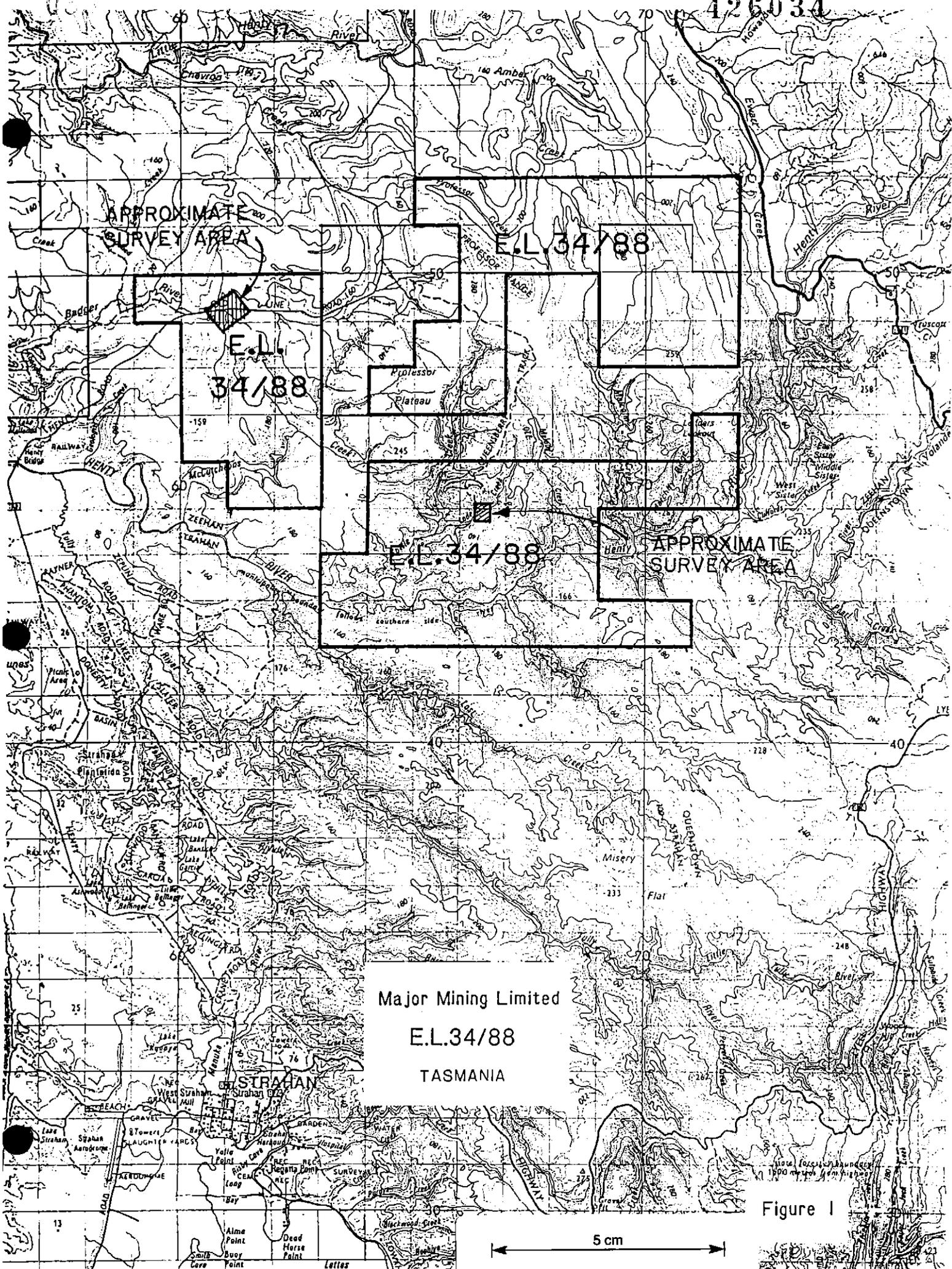
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EFFECTS OF ELECTROMAGNETIC COUPLING ON IPR-8/10

Fig.7



APPROXIMATE SURVEY AREA

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E.L. 34/88

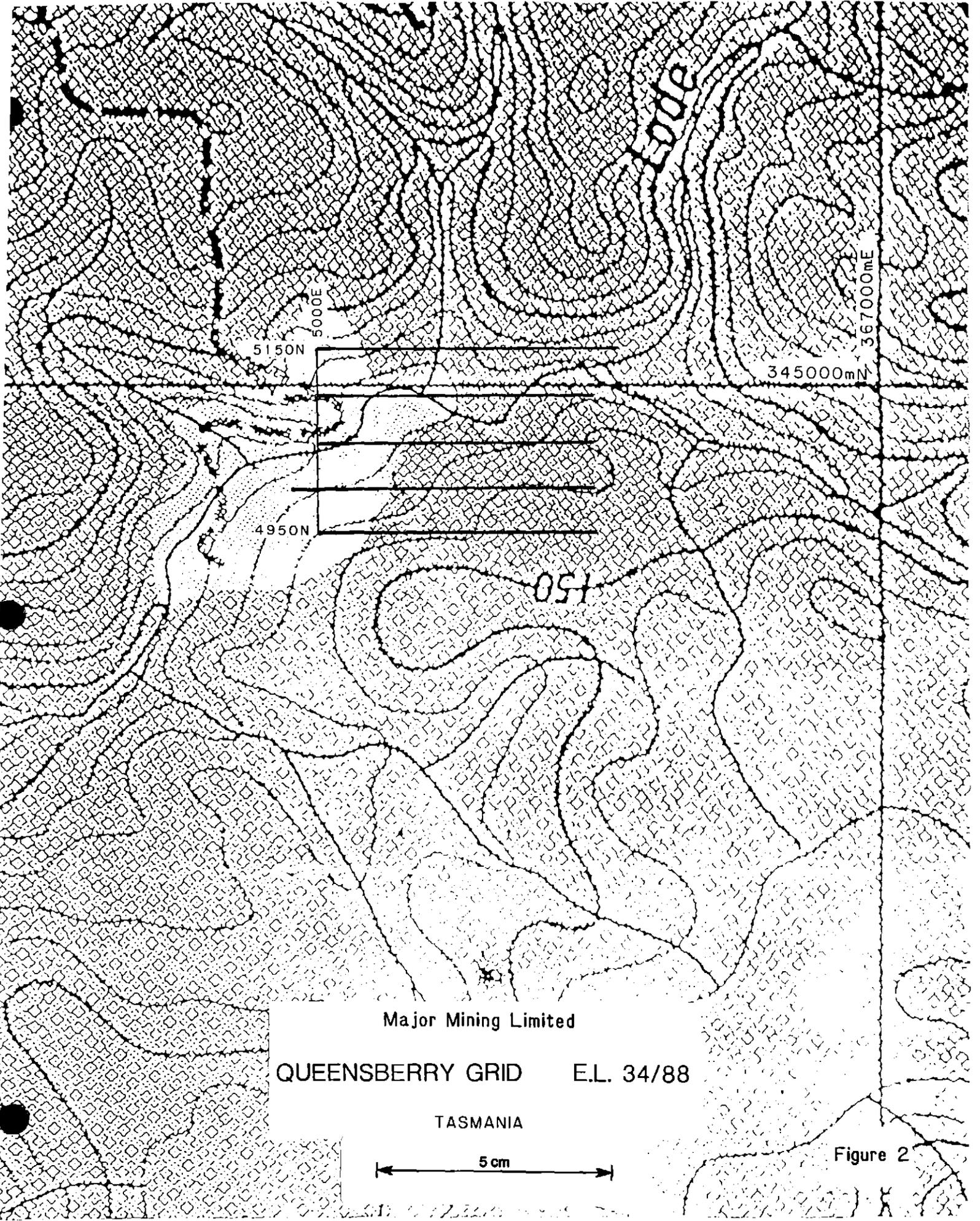
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APPROXIMATE SURVEY AREA

Major Mining Limited
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Figure 1

5 cm



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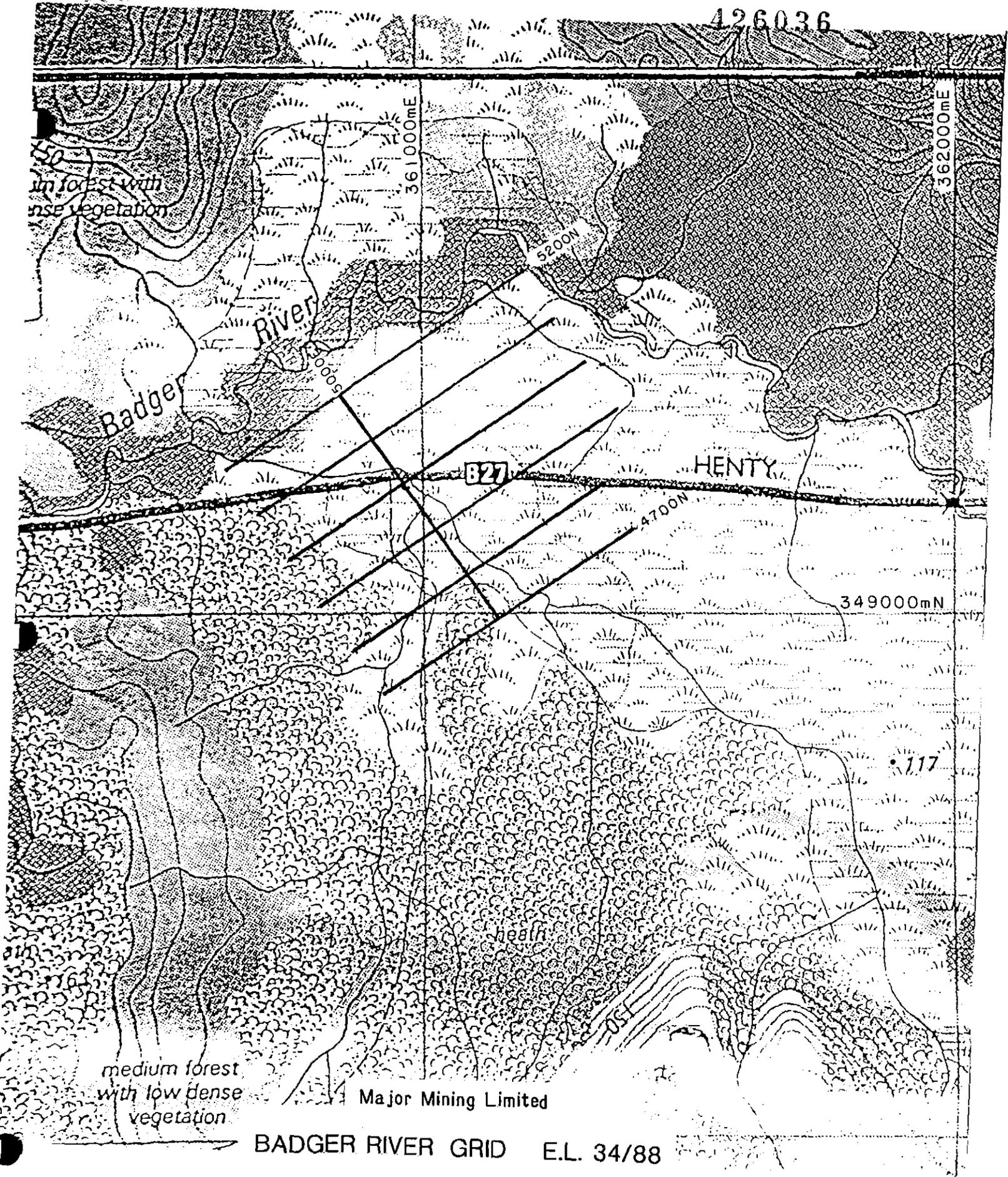
QUEENSBERRY GRID E.L. 34/88

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5 cm

Figure 2

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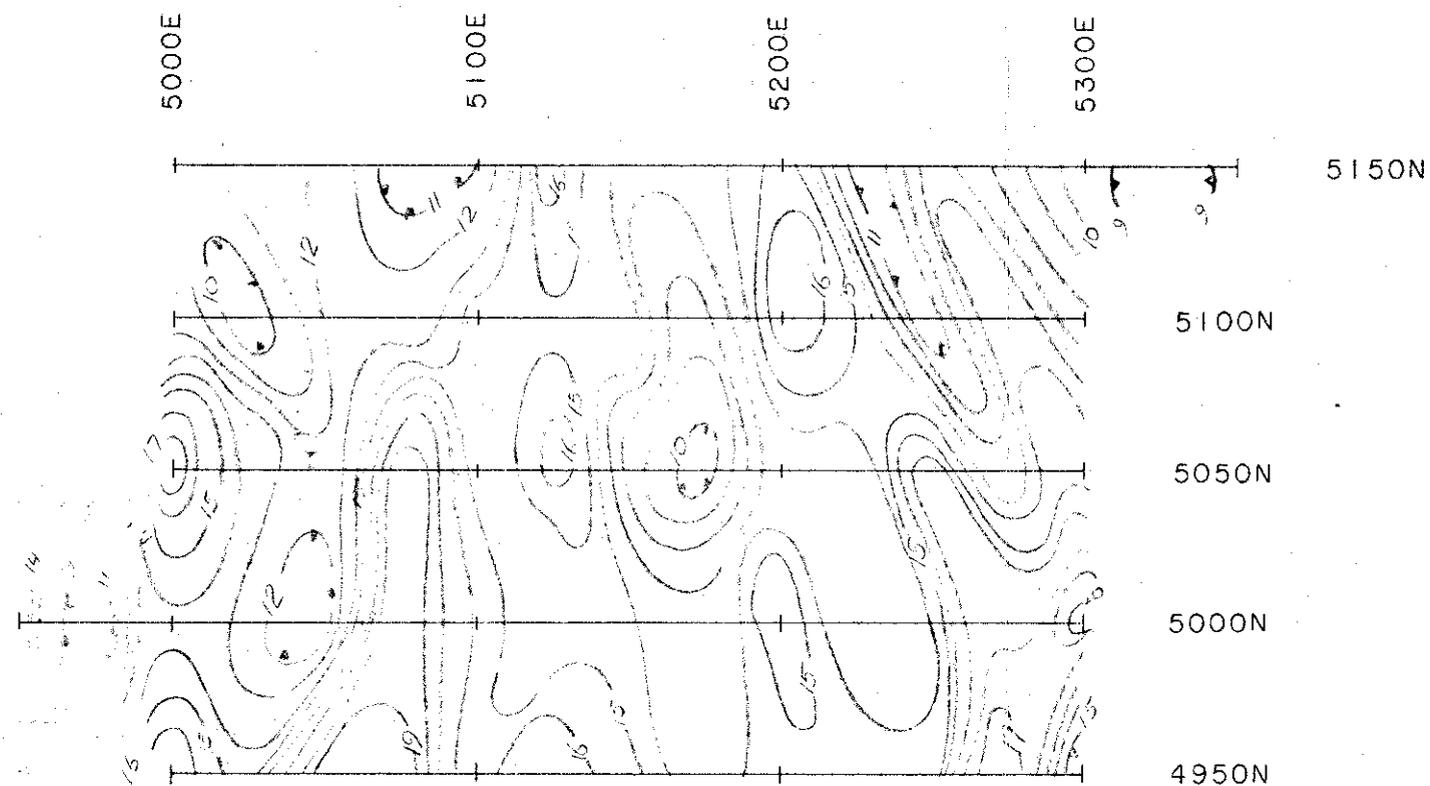


BADGER RIVER GRID E.L. 34/88

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Figure 3

5 cm



90-3198.

E.L.34/88

MAJOR MINING LIMITED

QUEENSBERRY

NR. ZEEHAN - TASMANIA

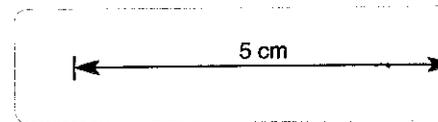
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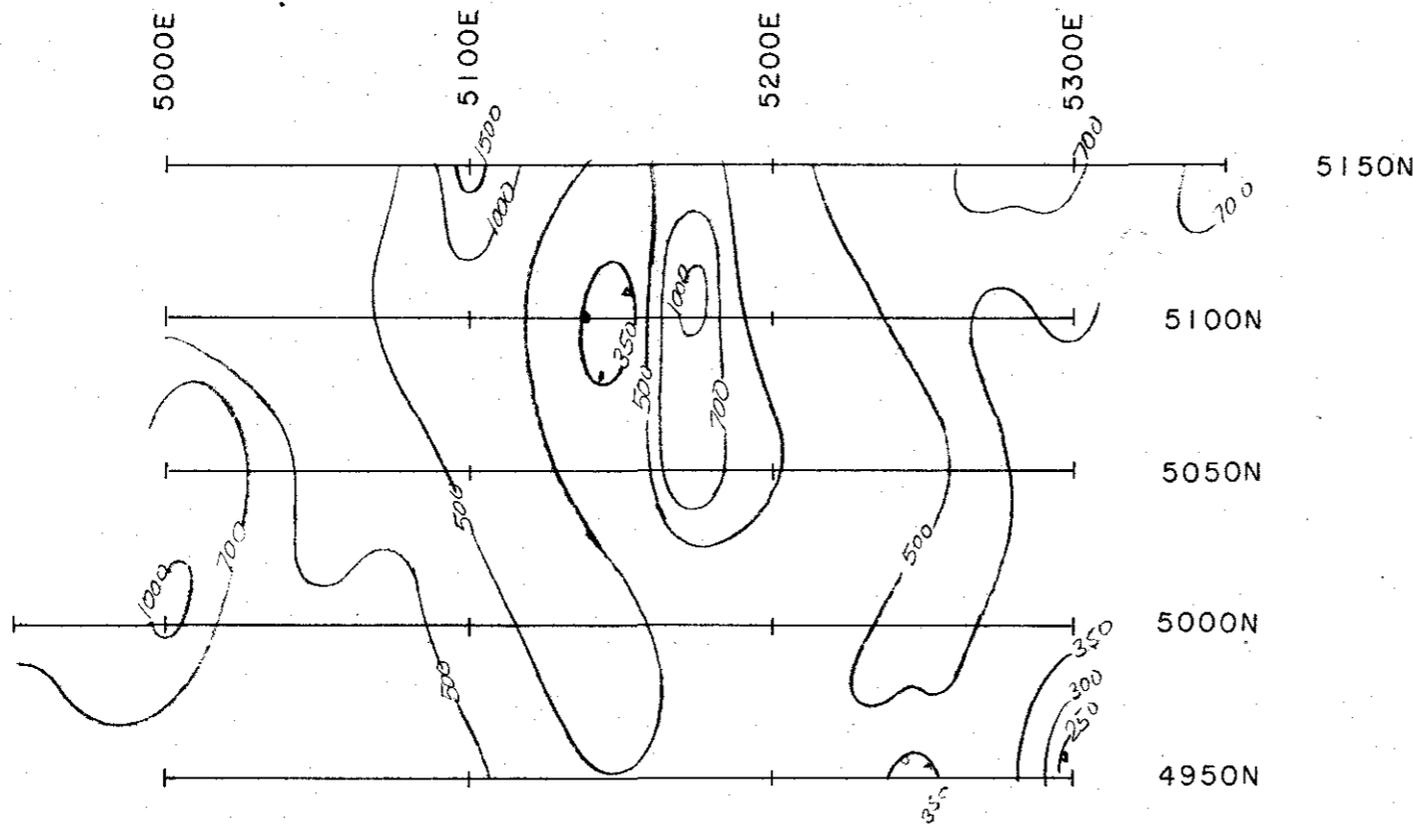
CHARGEABILITY CONTOURS

SURVEYED AND COMPILED BY
SCINTREX



NOV-DEC 1989
SCALE 1:2500m
Job No. TAS-128





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GRADIENT ARRAY EIP SURVEY

RESISTIVITY CONTOURS

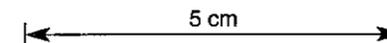
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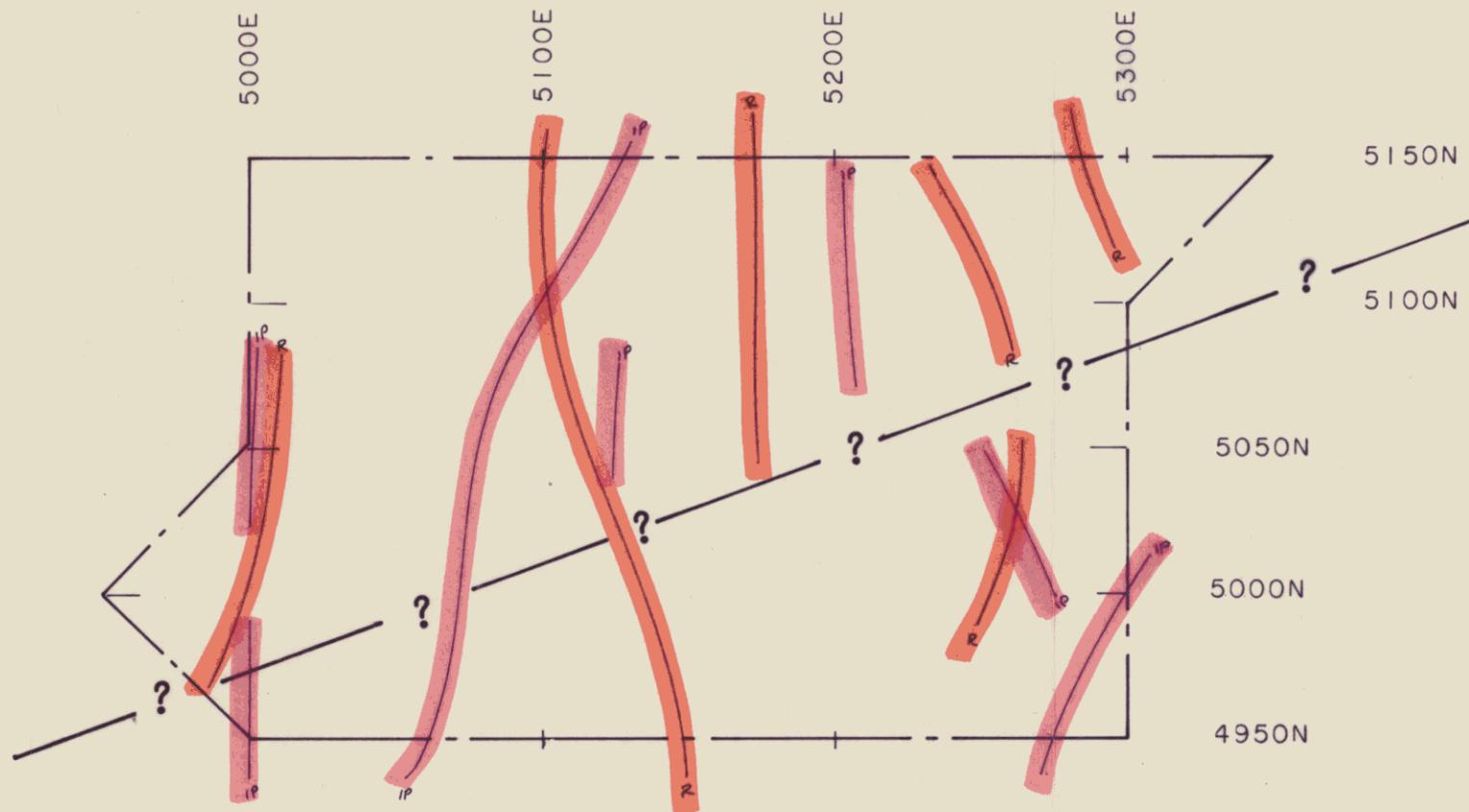


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GRADIENT ARRAY EIP SURVEY

INTERPRETATION PLAN

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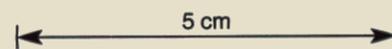
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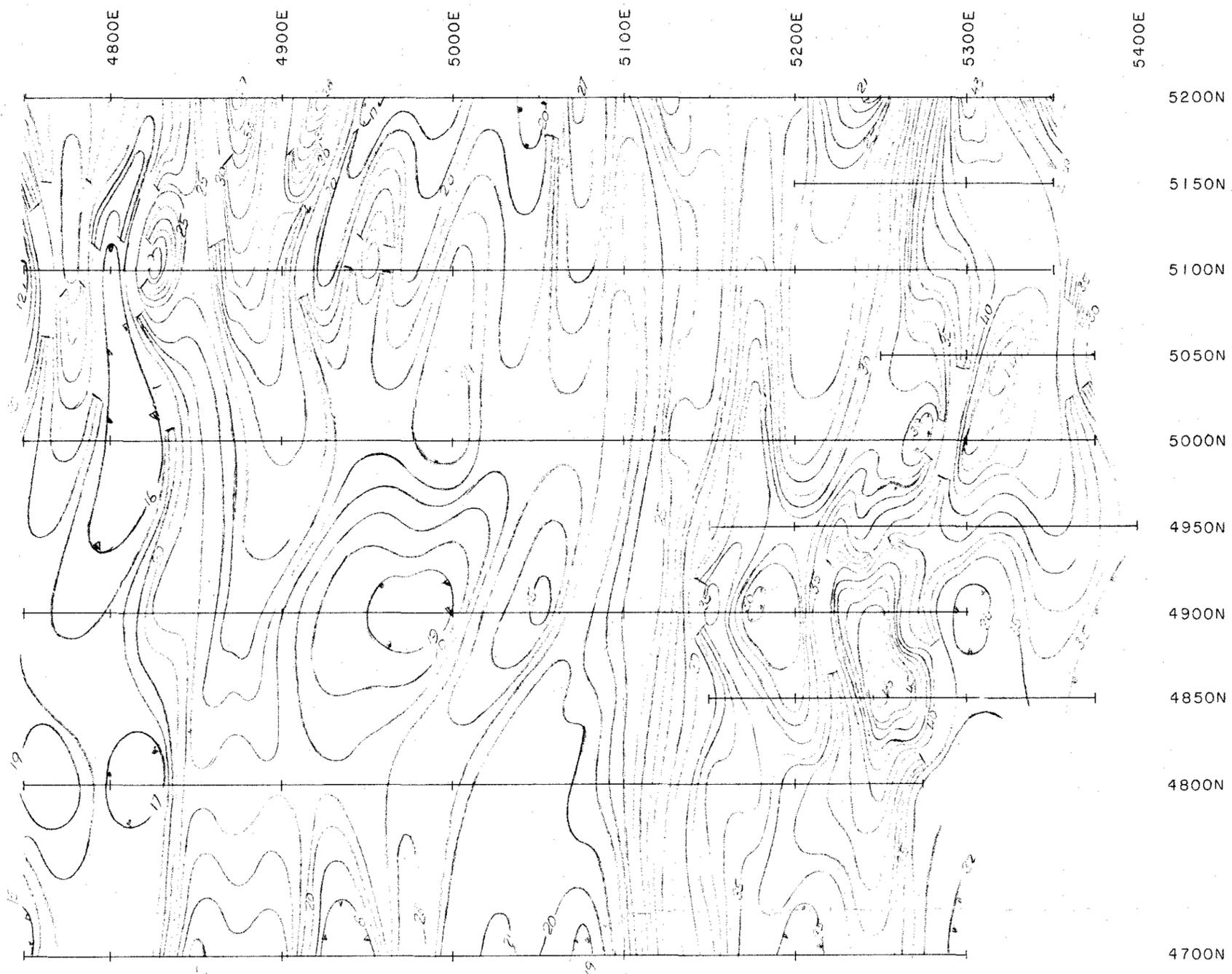
SCALE 1:2500m

Job No. TAS-128

LEGEND

- R Resistivity axis (high)
- IP Chargeability axis (high)
- Projected position of Queensberry fault



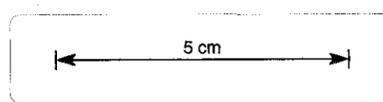


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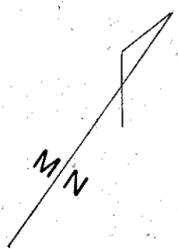
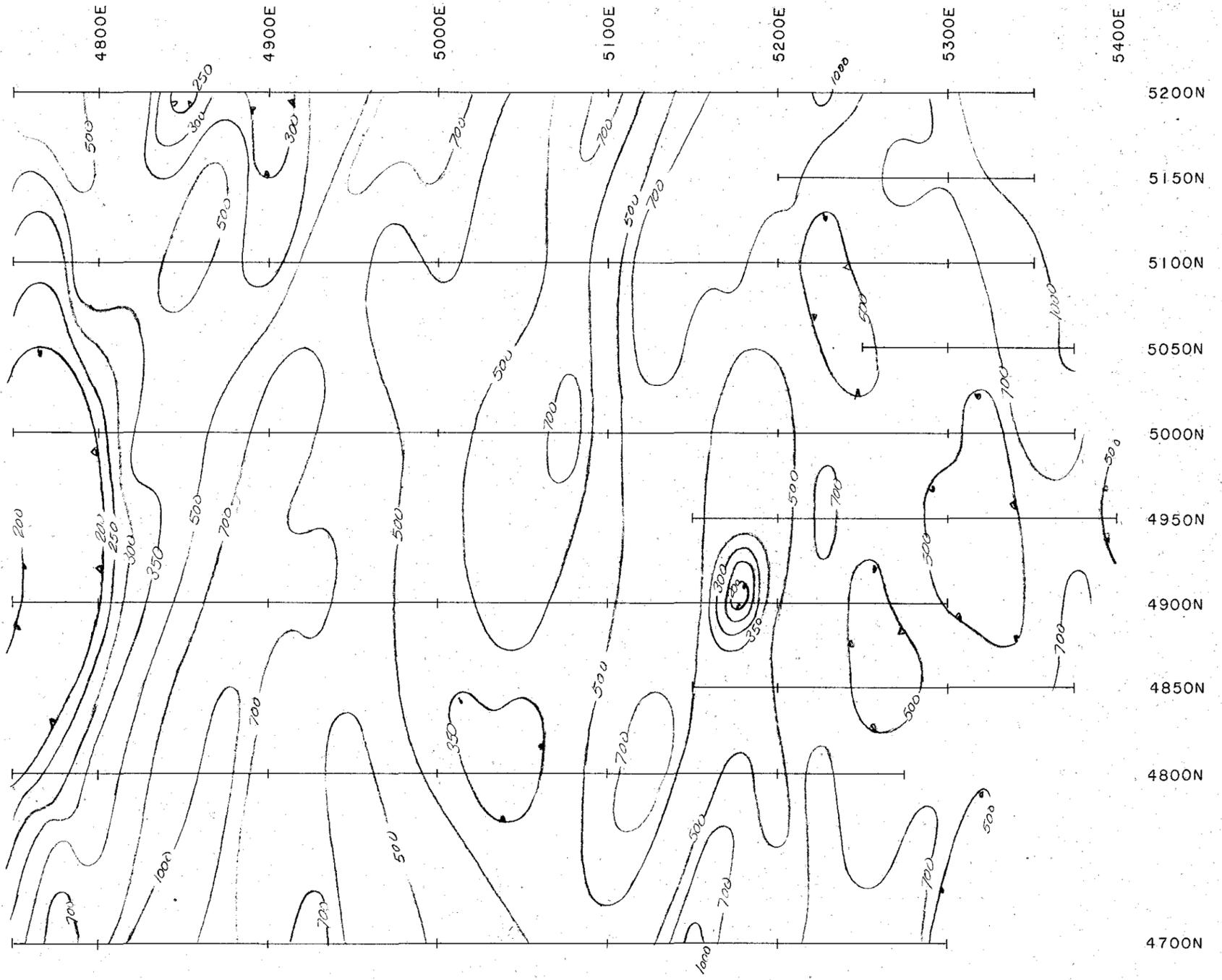
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 GRADIENT ARRAY EIP SURVEY
 CHARGEABILITY CONTOURS

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426040



NOV-DEC 1989
 SCALE 1:2500m
 Job No. TAS-128

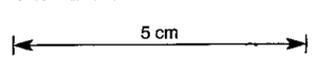


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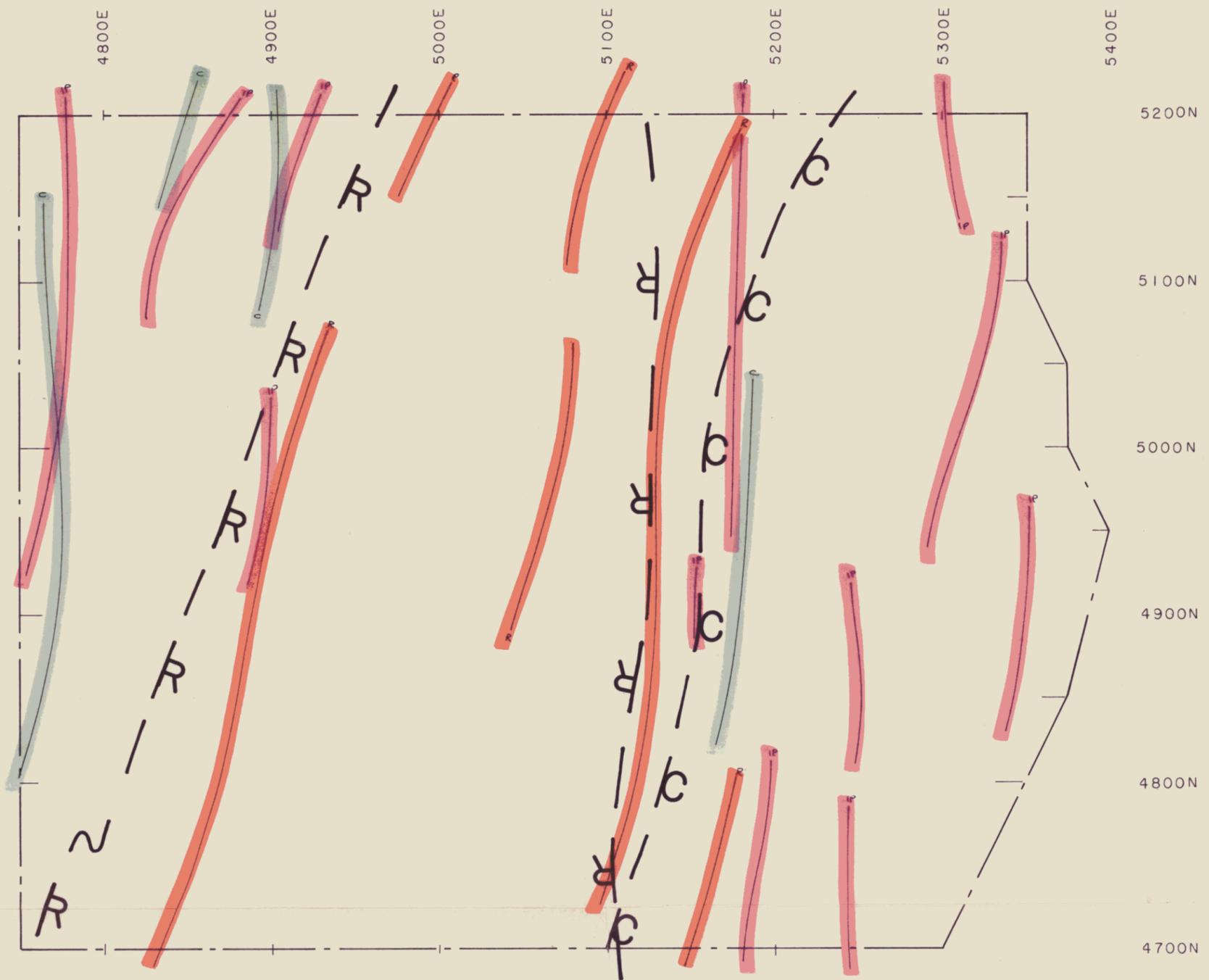
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 RESISTIVITY CONTOURS

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NOV-DEC 1989
 SCALE 1:2500m
 Job No. TAS-128



LEGEND

- R Resistivity axis (high)
- C Resistivity axis (low)
- more resistive
 less resistive

Resistive boundary
- more chargeable
 less chargeable

Chargeable boundary
- IP Chargeability axis (high)

90-3198.1

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 GRADIENT ARRAY EIP SURVEY
 INTERPRETATION PLAN

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NOV-DEC 1989
 SCALE 1:2500m
 Job No. TAS-128