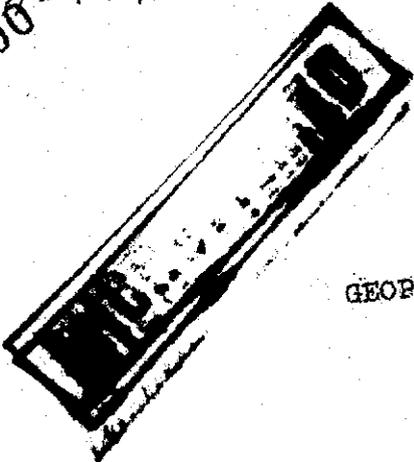


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GEOPHYSICAL INVESTIGATIONS

ON

EL 4/71

MONTAGU, TASMANIA

ON BEHALF OF

NICKELTON MINING CO. PTY LTD

GEOPHYSICS

by

R.J.G. Lewis, B.Sc., M.A., Ph.D.

June, 1971

Mona Vale, N.S.W.

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WITH RESULTS DIAMOND DRAIN HOLE N°1
as Appendix.

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GEOPHYSICAL RESEARCH PTY. LTD.

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REGISTERED OFFICE
C/O H.V. ROBSON & CO.
76 CHANDOS ST.
ST. LEONARDS. N.S.W. 2065

GENERAL OFFICE,
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SUMMARY

Results of Induced Polarization, Magnetic and Self Potential surveys on EL 4/71, Montagu, Tasmania are presented. The area contains insufficient crop for detailed geological work and consequently geophysical methods are the chief means of investigating the potential of the property.

To date approximately 18 line miles of geophysical grid has been cleared and pegged. Vertical component magnetometry, self potential and induced polarization surveys have been made on selected parts of the grid. These have concentrated on an area near the contact between Precambrian dolomite and a largely volcanic Cambrian sequence. Outcrops in the bed of the Montagu River include disseminated pyrite mineralization with a massive haematite-goethite gossan (?).

Magnetic and self potential work has been largely fruitless. Induced polarization results have delineated a zone of interest with a strike length of 2400 feet though continuity over this distance is uncertain. It is completely blind and lies to the west of the known sulphides.

A drilling program to test the significance of this zone is recommended. Total drilling involved is about 1200 feet. A small amount of additional geophysics appears desirable in connection with a possible target in the dolomite.

GEOPHYSICAL INVESTIGATIONS

ON

EL 4/71

MONTAGU, TASMANIA

ON BEHALF OF

NICKELTON MINING CO. PTY LTD

INTRODUCTION

The surveys detailed herein were carried out by Geophysical Research Pty Ltd on behalf of Nickelton Mining Company Pty Ltd. Most of the program was supervised by Mr. C.J. Maclean with Mr. P. Jones crewleading. The author has inspected the site briefly.

EL 4/71 is held in the name of L.L. Lewis on behalf of Nickelton.

LOCATION AND ACCESS

EL 4/71 covers an area of 100 square miles in northwestern Tasmania and is shown in outline on one of the accompanying plans. It extends inland from the north coast and lies immediately to the west of Smithton in the municipality of Circular Head.

Vegetation in the area includes rain forest, coastal heath and dense teatree scrub together with some cleared pasture. Part of the Montagu Swamp is included in the area. Rainfall is in the 40 - 50 inches per annum range and the general wetness has added to the difficulties of performing electrical surveys.

The area is served by airline services through the town of Wynyard with connections to Tasmanian and mainland ports. Geophysical interest has centered on an area lying on the Montagu River between the coast and the Montagu - Marrawah road which is the prime access route.

Several factors combine to make geophysical work difficult. There are few tracks off the main road and most can only be passed by four wheel drive vehicles in dry weather. The Montagu River bisects the geophysical grid and is a major obstacle as except on very low tides it is impassable except by boat. Salty water in the lower reaches adds to the problems by interfering with electrical measurements.

GEOLOGY

The geology is described in detail elsewhere so only a general outline is given here. The regional geology is best considered in conjunction with the appended aeromagnetic map. This map is part of

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a regional survey made by Rio Tinto. The magnetic anomalies on the map reflect the position of a spilite horizon in the Cambrian and define the regional structure as being, in very general terms, a south plunging anticline some miles across. It is worth noting at this point that ground observations reveal that there are actually two spilite horizons only one of which is magnetic enough to produce detectable anomalies. The magnetic unit is that referred to as the "upper spilite".

The stratigraphic succession is approximately:

Greywacke Siltstone	
Upper Spilite	
Mudstone (tuffaceous)	
Lower Spilite	Cambrian
Volcanic Breccia	
Siltstone	
Smithton Dolomite	<u>Unconformity</u>
	Precambrian

The area covered by geophysics lies on the eastern limb of the regional anticline and dips are consistently 45 to the east. A fault contact between the Cambrian rocks and the dolomite has been inferred.

Attention was focused on this area by the discovery of massive haematite/goethite in the bed of the Montagu associated with pyrite in the Cambrian mudstones.

006

GEOPHYSICAL GRIDS

Two distinct grids have been used at Montagu. A small 50ft. grid was first established around the sulphide bearing outcrops in the Montagu River. Magnetometer and self potential measurements were made on this grid as the geology was mapped.

At a later stage when the possibility of either stratigraphic or structural control was recognised a large scale grid was established as the original was of totally inadequate extents. This is the grid shown on the plan entitled Geology, Location and Access. The lines have been cleared and a clearly marked set of pegs established.

MAGNETOMETER SURVEY RESULTS

Measurements were made with vertical component fluxgate instruments which are not accurate enough to resolve very small anomalies. Contoured results on the initial detailed grid and profiles from the main grid are appended.

Results on the detailed grid are not particularly diagnostic. The only feature of possible interest is a change in general trend of the contours from a roughly east - west to a roughly north - south orientation just to the west of the Montagu in the central part of the grid. This suggests a feebly magnetic body

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concordant with the local structure but the evidence is inconclusive.

Results on the other traces are characterised by a high noise level whose origin may be instrumental and effectively masks all but the strongest anomalies. The chief features of interest are on lines 03200N and 04000N and fall into two distinct groups. The peaks at 03000W on line 03200N and at 03200W on line 04000N are related to peaks covered in more detail on other traverses and are discussed later. The major peak on line 03200N at 04100W is associated with outcropping spilite which affords a convenient source for the anomaly. The extreme magnetic gradients on the western side of the anomaly may be associated with the development of surface magnetite or local magnetization resulting from a lightning strike.

The eastern anomalies on lines 03200N and 04000N are covered in detail by north - south traverses on lines 03200W through 02200W. It is apparent that the anomalies define a northwest trending structure which terminates on the fault between the Cambrian and the dolomite. Again the noise level is high and a detailed interpretation is impossible. The northwest trend is discordant with the local structure and such trends are commonly associated with features of Jurassic or Tertiary age throughout Tasmania. By analogy it seems likely that the anomaly represents a basic igneous intrusion, probably of Tertiary basalt but perhaps of Jurassic dolerite. The source intersects one of the IP lines and gives no response

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so that it is unlikely to be of economic interest. The area is completely obscured by sand so that no geological evidence is available.

SELF POTENTIAL SURVEYS

Results from this method have been entirely inconclusive. The general setting of the area is such as to make measurements of this type difficult. The generally waterlogged state of the ground and attendant drainage into the Montagu would be expected to generate streaming potentials. The Montagu is saline in the tidal reaches and large contact potentials between water masses of differing salinity might be expected. These effects were not observed in any consistent manner. The results obtained were extremely erratic and may reflect to a large extent variations in groundwater composition.

Production of an SP anomaly requires a massive sulphide body passing through an area with an Eh gradient. The anomaly will be large if it intersects the water table but may still exist even if the body is completely submerged. The only interpretation that can be made of the results to hand is that they indicate an absence of such conditions. This result is not at variance with the conclusions drawn from the other methods.

009

INDUCED POLARIZATION SURVEYS

Frequency domain induced polarization surveys were carried out on lines 0000N through 03200N with an 800 ft. ^aseparation between profiles. In all about 5 line miles of results were obtained. Data in the form of 45° plots of percentage frequency effect, apparent resistivity and metal factors are appended.

The surveys were made using Geoscience equipment with dipole-dipole arrays. Frequencies were 3.0 and 0.3 hertz and the dipole length was 200 ft.

The principle advantage of induced polarization techniques is that they can detect disseminated sulphides. It is in general the only geophysical method which can do so. The requirement for an IP response is that current flows across interfaces between metallic and ionic conductors. It follows that graphite and magnetite will also generate an IP response but neither appears to be present at Montagu. It appears particularly applicable to the Montagu environment and is in fact the only technique to give significant results.

Line 00000N

The PFE background level is about 3% which is typical of the values to be expected from volcanics. The chief feature of interest is a zone of high PFEs (up to 7%) on the extreme western end of the

spread. Another zone of 5-6% PFEs is present on the eastern end of the line. In both cases the survey should be extended to fully cover the sources of the anomalies. The western zone correlates well with similar zones further to the north but the eastern zone is not observed on other profiles and may be due to a source in the dolomite. If practicable the coverage on this line should be extended at either end during future fieldwork. The dolomite must be regarded as a favourable hostrock for mineralization so that the eastern end is of particular interest.

The apparent resistivity section is complex and to a great extent reflects surface conditions. The sand covered areas typically have very high surface resistivities while parts with clay rich soils, particularly on the Cambrian have quite low resistivities. The Montagu River is reflected by very low resistivities as are springs on some other sections. The combination of all these effects produces an apparent resistivity plot which is erratic and virtually unuseable. This result is reflected also in the metal factor plots.

It is a general characteristic of the Montagu results that no pronounced resistivity lows accompany highs in the PFE measurements. Consequently the metal factors tend to be low and indications are that there are no massive sulphides. The anomalies would be considered more significant if there were more pronounced resistivity lows but as this is a new environment it is too early to say if this is a major drawback.

Line 00800N

There are several feature about this line which can be attributed to the presence of the Montagu River. The zone of shallow very low PFE results from 02200 - 03000W is associated with the river course and is accompanied by a zone of very low apparent resistivities (30 ohm ft) which produces a corresponding zone of high metal factors. These are certainly spurious. The zone of high PFE values centered on 03800W is associated with a resistivity low which produces a typical horseshoe pattern of high metal factor values. This appears to be the continuation of the northern anomalies but it is not so pronounced and casts doubts on the overall continuity of the source.

Line 01600N

This profile shows two PFE highs, one approaching the surface near 03600W and the other, which may be associated with the known pyrite mineralization, at about 03000W.

The apparent resistivity section shows great contrasts on either side of the river. The eastern part has high resistivities which correspond to sand cover while the clay cover on the west gives a low surface resistivity. The river bed is associated with the lowest resistivities on the profile. The zone of high PFE readings gives metal factors of over 100mho/ft but once again the pattern is dominated by the erratic resistivity results.

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Line 02400N

This line shows much the same character as line 01600N except that the PFE results on the western side are somewhat lower. A new set of high PFE values near 02400W correlates with a resistivity low and consequently gives high metal factors.

Line 03200N

This profile shows that the anomalies found further to the south have vanished. The profile thus indicates a northern limit on the zone of interest. The saline waters of the Montagu are associated with a pronounced resistivity low which is reflected in high metal factors.

CONCLUSIONS

Results so far have delineated a pair of zones of material with characteristics which may indicate mineralization. These are entirely defined by the IP results. The zone is closed to the north and open to the south with a strike length of 2400 feet though continuity over this distance is not assured. It appears that one of the zones is present over only half of the strike length indicated above.

One zone appears to be associated with known pyrite mineralization and the economic interest lies in the possibility of other sulphides being present. It is doubtful if geological methods will yield much more information and the targets have been delineated sufficiently on selected profiles.

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RECOMMENDATIONS

(a) That IP line 00000N be extended east and west by one spread if this is practicable during future work.

(b) That a small scale drilling program be undertaken to find and test the sources of the IP anomalies. A total of 1200 ft should be quite adequate as the hole lengths given are generous. Positions and attitudes are:

<u>Hole</u>	<u>Collar</u>	<u>Attitude</u>	<u>Length</u>
1	01600N,03000W	-60 west	700 ft.
2	01600N,02600W	-60 west	500 ft.

(c) That the potential of the property be thoroughly reviewed in light of the drilling results.

for Geophysical Research Pty Ltd

(R.J.G. Lewis)

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A. G. PALMER, B.E., M. AUS. I.M.M., M.C.I.M.
CONSULTING MINING ENGINEER

8 HARSTON AVENUE
MOSMAN N.S.W.
AUSTRALIA 2088

APPENDIX to
REP^t Q20/2

TELEPHONE 969-7556
IF UNANSWERED RING
25-3317

28th July, 1972

AGP:NF 014

The Secretary,
Nickelton Mining Pty. Limited,
G.P.O. Box 5222,
SYDNEY....N.S.W. 2001

Dear Sir,

re Exploration Licence 4/71 - Montagu
Comments on Diamond Drill Hole 1

GENERAL

The above diamond drill hole was drilled to test an induced polarisation anomaly located on E.L. 4/71 by Geophysical Research Pty. Limited, consultants to Nickelton Mining Pty. Ltd.

Drilling commenced on 12th January, 1972 and was completed on the 20th February, 1972 at a rod depth of 700 feet. The results of the drilling were wholly negative and it was clear that no further drilling was warranted.

The location of D.D.1 has been plotted on the attached plans and sections which originally accompanied the Geophysical Research report dated June, 1971 and entitled "Geophysical Investigations on E.L. 4/71, Montagu, Tasmania on behalf of Nickelton Mining Co. Pty. Ltd." by R.J.G. Lewis.

DRILL LOCATION

The drilling programme to test the I.P. anomaly originally recommended in the Lewis report consisted of two proposed diamond drill holes sited as follows:

<u>Hole</u>	<u>Collar</u>	<u>Altitude</u>	<u>Length</u>
1	01600N, 03000W	-60°W	700 ft.
2	01600N, 02600W	-60°W	500 ft.

In view of the recession in mining which had developed and the resulting need to conserve funds, it was decided to substitute a single hole for the two holes recommended in the Lewis report. The new drill hole was to be sited at co-ordinates 1600N, 2700W and drilled on a west bearing at an inclination of 45°.

This site was later modified by moving it 47 feet north so that the drill site was located outside the boundaries of the water reserve along the Montagu River. The actual drilling site was, therefore, located at co-ordinates 1647N, 2700W with the inclination and bearing remaining at 45°W.

SURVEYS

No drill surveys were carried out.

GEOLOGICAL

Throughout its length, the drill intersected interbedded mudstones and siltstones often showing well defined bedding. Some shearing was encountered between 580 and 610 feet and again between 670 and 683 feet. No mineralisation of economic significance was intersected, in fact the only sulphide mineralisation encountered consisted of traces of syngenetic pyrite in joint planes. Core recovery was generally satisfactory.

SUMMARY AND CONCLUSIONS

- 1) No graphitic shales or electrically conductive formations were intersected.
- 2) With the exception of the pyrite traces noted above, no sulphide mineralisation was encountered.
- 3) In the writer's view, the pyrite was present in insufficient concentration to give rise to the I.P. effects reported by Lewis.
- 4) If this view is correct, then the cause of the I.P. anomaly is unknown. However, it should be noted that the Montagu River is tidal in this area and salt concentrations occur at high tide. Possibly, the I.P. effects may be due to the presence of saline water which has permeated joint planes.

Yours faithfully,


A.G. Palmer

Diamond Drill Core - Nickelton Mining
Pty. Ltd. - E.L. 4/71 (Montagu)

N.J. Turner.

The upper 575 ft. of core consists of a sequence of interbedded green, reddish-brown, and light grey pelitic and psammitic sediments. The sediments show a single, strong cleavage (slaty). They contain little quartz and consist mainly of alteration products-sericite, chlorite, cryptocrystalline material, also pyrite and iron hydroxides. ^{Clastic} Primary opaque oxide grains occur. Underlying this sequence are lavas interbedded with rudaceous assemblages. The rudites consist of lava fragments with matrix material of secondary cryptocrystalline material, calcite, quartz, chlorite, and pyrite. A few fragments of muscovite schist occur also grains of rutile. The lavas are highly felsic and most contain a considerable proportion of chlorite with minor quartz and opaques. The feldspar forms felted masses and is either albite or oligoclase. Calcite and epidote occur in veinlets and patches in the lavas. Nowhere in the drill core was mineralisation of economic interest encountered.

The lavas belong to the spilite suite. The associated rudaceous sediments ^{were} derived from them. Between 621' and 642' the rudaceous sediments are red. Red beds occur throughout the entire sequence. Whether or not they are indicative of the nature of the depositional environment has not been proven. The finer sediments above 575' are quartz poor and

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are strongly altered and presumably originally consisted in large part of labile constituents of volcanic origin.

018

Thin Sections:

72-276 r.l. 110'

- cut to investigate nature of 'spots'

Very fine sericite flakes comprise the bulk of the rock with subordinate angular quartz grains also minor chlorite and opaque oxide grains. The spots have very ragged margins which interdigitate with the surrounding material. They consist of brown and green tinted translucent material some of which is isotropic. Present in this material are minor amounts of angular quartz grains also epidote, sericite and patches of chlorite.

It may be that either:

(1) the entire rock originally possessed uniformly the characteristics of the 'spots' and that alteration caused the bulk of the rock to take on its present appearance and left only small patches of the original material.

or

(2) the spots were originally clastic particles in a detrital feldspathic matrix. Alteration produced the sericitic matrix and partially altered the clastic particles.

Since the 'spots' can be concentrated in bands and in places give the impression of grading it is thought that sedimentary processes have effected their distribution and, therefore, that the second hypothesis is more likely.

72-281 r.l. 181'

- cut in order to determine whether the

massive rocks between 177 and 186 are lavas
or sedimentary.

The rock consists of small (0.1 mm), very angular grains of opaque material with sub-ordinate quartz, comprising about 50% by volume of the rock, in a translucent green tinted matrix. The opaque grains consist of partially hydrated lustrous grey oxide. Quartz grain margins are very irregular, possibly corroded. The matrix consists of fine quartz, sericite and green tinted patches of almost isotropic chlorite.

The rock is probably an altered sediment.

72-275 r.l. 201'

- cut to check apparent graded bedding.

The rock consists of sparse, small, angular grains of quartz and opaques in a matrix of secondary quartz, sericite, and chlorite with abundant finely granular secondary pyrite. A grainsize variation is apparent with thin section, but alteration has obscured the original texture.

72-277 r.l. 550'

- cut to check that the sandstone between
r.l. 538' and r.l. 575' is of volcanic origin.

The rock consists of sparse very angular quartz grains with patches of granular sericite and chlorite which appear to be pseudomorphing pre-existing grains. A few grains of unaltered and partially altered plagioclase are present also a few fragments of fine grained rocks.

The rock is probably an altered sediment.

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72-280 r.l. 592'

- cut to check composition of rudite.

The rock consists of sub-rounded to angular fragments of lava with grains of feldspar, rutile and ?quartzite or ?chert. Lava fragments range up to 5 mm across and the framework is continuous. The matrix consists of secondary minerals chlorite, calcite, and minor quartz. Most lava fragments consist of felted fine laths of feldspar in a cryptocrystalline and chloritic matrix.

72-279 r.l. 617'

- cut to check composition of lava

The rock consists of a felted mass of feldspar laths with minor interstitial quartz and abundant interstitial opaque oxide. It is intensely veined and partly replaced by calcite.

72-278 r.l. 622'

- cut to check composition of rudite.

The rock consists of rounded fragments of ?lava up to 1.5 cms across with sparse finer grains of muscovite schist also grains of quartz in a matrix consisting of secondary cryptocrystalline material (quartzose or quartzo-feldspathic) and calcite. Calcite veinlets are present. No chlorite is present. However, iron hydroxide is common. The ?lava fragments consist of cryptocrystalline material with opaques and minor sericite and appear to have been highly altered.

72-284 r.l. 644'

- cut to check composition of lava.

The rock consists of translucent, nearly

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isotropic cryptocrystalline material with numerous patches of green chlorite and very sparse tiny phenocrysts of quartz. It is well cleaved with tiny lenticles of opaque ?leucoxene in the cleavage. Equidimensional grains of the same material are also present. Secondary quartz occurs in veinlets.

72-283 r.l. 647'

- cut to check composition of lava.

Glomeraphenocrysts of plagioclase and ?K-feldspar occur in a felted mass of plagioclase laths. The plagioclase is fairly unaltered and by the method of ¹Nichel-Levy is either albite or oligoclase. Intergranular chlorite comprises about 25% by volume of the rock. Disseminated grains of opaques occur. Quartz, calcite, chlorite and pyrite are present in an amygdale and a veinlet.

72-282 r.l. 685'

- cut to check composition of lava.

Felted mass of plagioclase laths with numerous grains of opaques and common intergranular chlorite. Epidote common both as disseminated grains and in veinlets. Calcite occurs in veinlets.

022

DRILLING TARGET:— I.P. anomaly in E.L. 4/71 - Nickelton Mining Pty. Ltd.														
REMARKS:— nothing of economic interest recovered														
SURVEY DATA			ASSAY DATA											
DEPTH feet	Bearing mag.	Inclin. degs.	SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY			ASSAY RESULTS					
						ft.	ins.	%						
No surveys									No assays					

GEOLOGICAL LOG Logged by:— N.J. Turner

FROM ft. ins.	TO ft. ins.	RECOVERY		DESCRIPTION	SECTION	
		ft. ins.	%		Core	Sample
0	40'	6'		red ferruginous cleaved mudstone. Cleavage ~ <u>1</u> core length (0'-39').		
40'	115'	25'		Interbedded greenish-grey and subordinate red siltstone. A common texture in the siltstone incorporates dark, 1 mm, green 'spots' which may either be tiny fragments of other sediments or metamorphic. The 'spots' can be either disseminated or concentrated into diffuse thin ($\leq \frac{1}{2}$ cm) bands. In places the siltstone has finely lenticular bedding. Just above 46'6" minor finely granular pyrite is contained within such bedding planes. In a few places (e.g. near 81' and 109') thinly bedded siltstones have been disrupted and the cavities filled by mudstone (post-sedimentary, soft sediment) (39' 120')		110

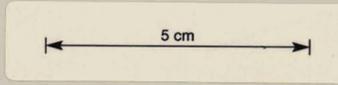
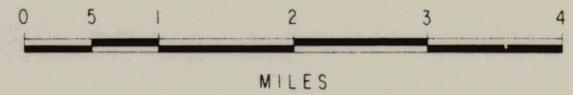
Continued over:—

DEPARTMENT OF MINES — TASMANIA
DIAMOND DRILL CORE RECORD

HOLE No.:— D.D.M.1	MAP SHEET No. 20	DISTRICT Montagu	LOCATION OF SITE:—
On the Eastern bank of the Montagu R. at a point 1,500 ft. due N. of the Woolnorth road. - See plan of survey grid in Nickelton Mining P/L file.			
R.L. OF SITE:— unknown	SITE SURVEY ON MAP No.:—	CORE SIZE:— BX	
BEARING OF HOLE:— 270°	AIR PHOTO No.:—	COMMENCED:— 12.1.1972	
INCLINATION OF HOLE:— -45°	DRILL:—	COMPLETED:— 20.2.1972	
CO-ORDS. OF SITE:— see above plan	DRILLER:— A.S.James P/L	FINAL DEPTH:— 700 ft.	



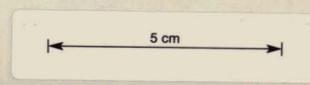
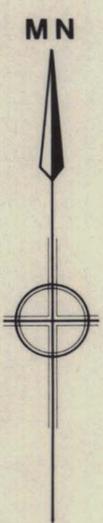
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E.L. 4/71

GEOPHYSICAL RESEARCH PTY. LTD.
MONTAGU, TASMANIA
GEOLOGY

Data by Rio Tinto Australian Exploration
 Pty. Limited
 Ammended by Geophysical Research Pty. Ltd
 Showing Location of DD1 Drilled by
 Nickelton Mining Pty. Ltd.



REFERENCE

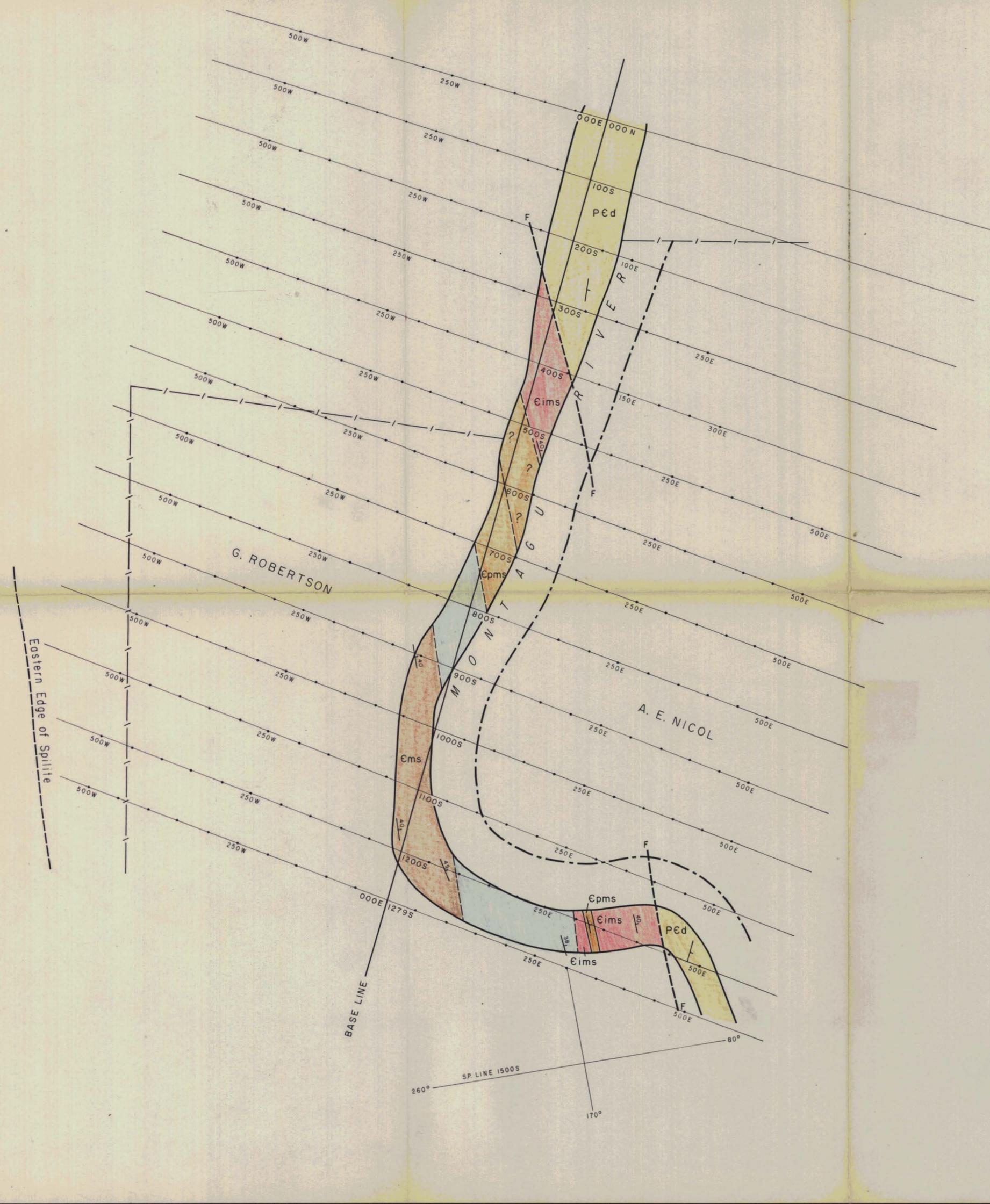
- Ems Cambrian mudstone
- Cims Cambrian iron stained mudstone
- Cpms Cambrian pyritic mudstone
- Haematitic gossan?
- PCd Precambrian dolomite
- Reserve boundary - approximate
- Geological boundary (Accurate, approximate)
- Dip and strike of strata measured
- Fence

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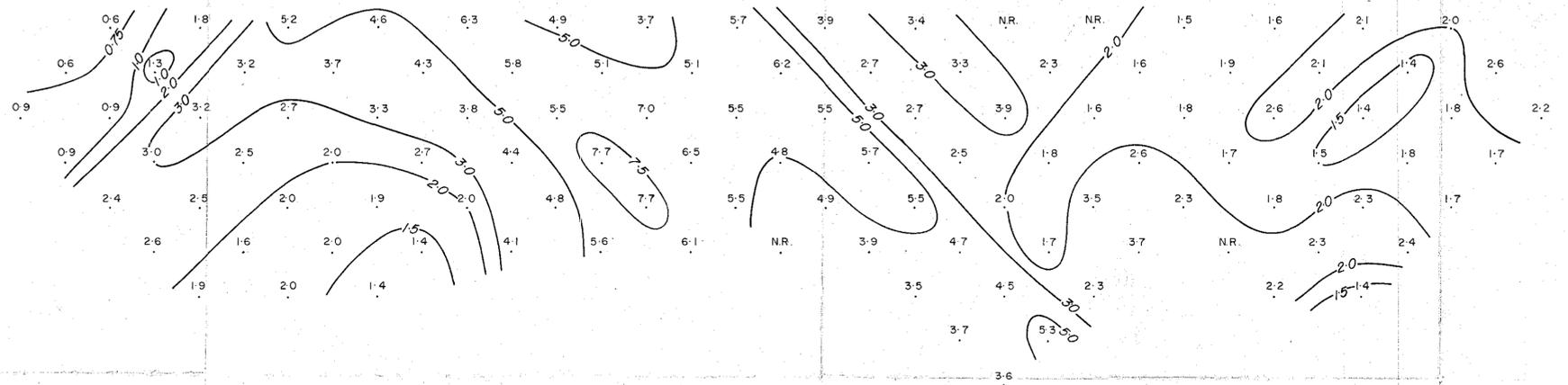
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GEOPHYSICAL RESEARCH PTY. LTD.

MONTAGU AREA
 TASMANIA
 GEOLOGY AND
 GRID LOCATION

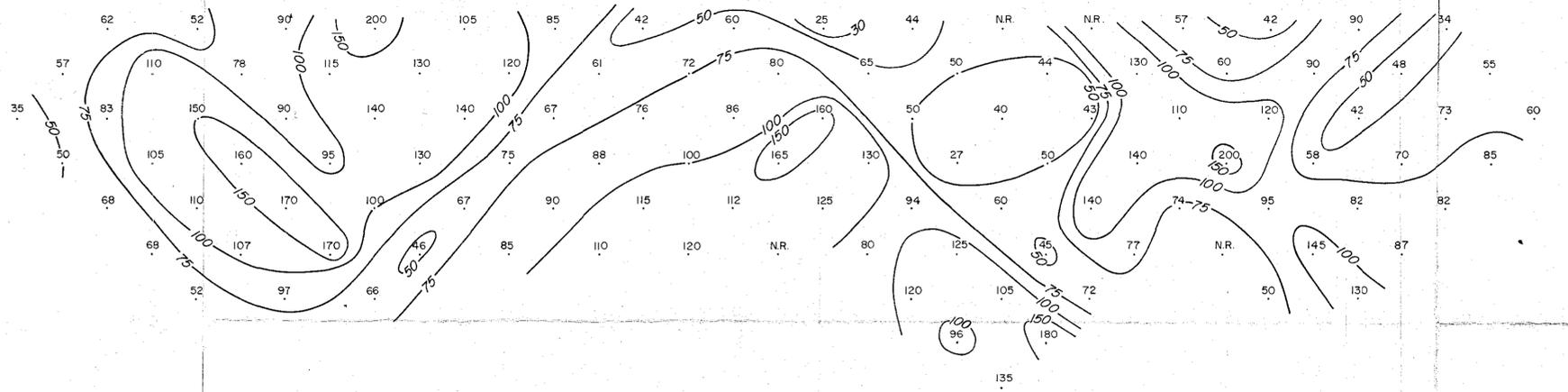


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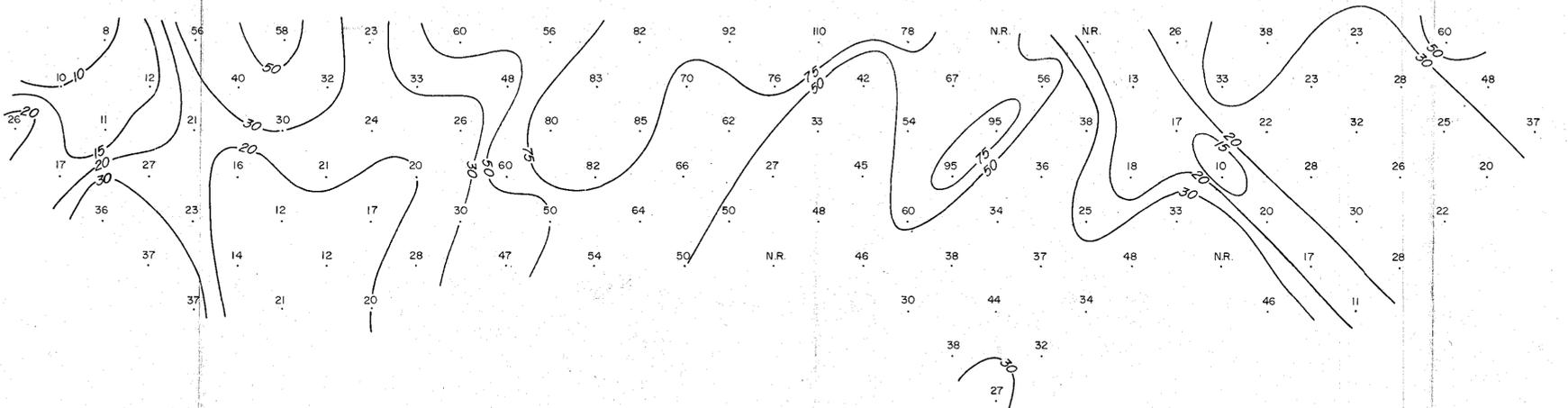
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GEOPHYSICAL RESEARCH PTY. LTD.

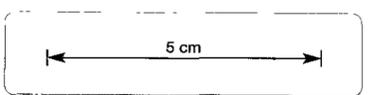
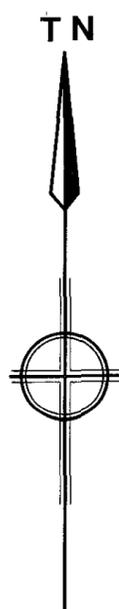
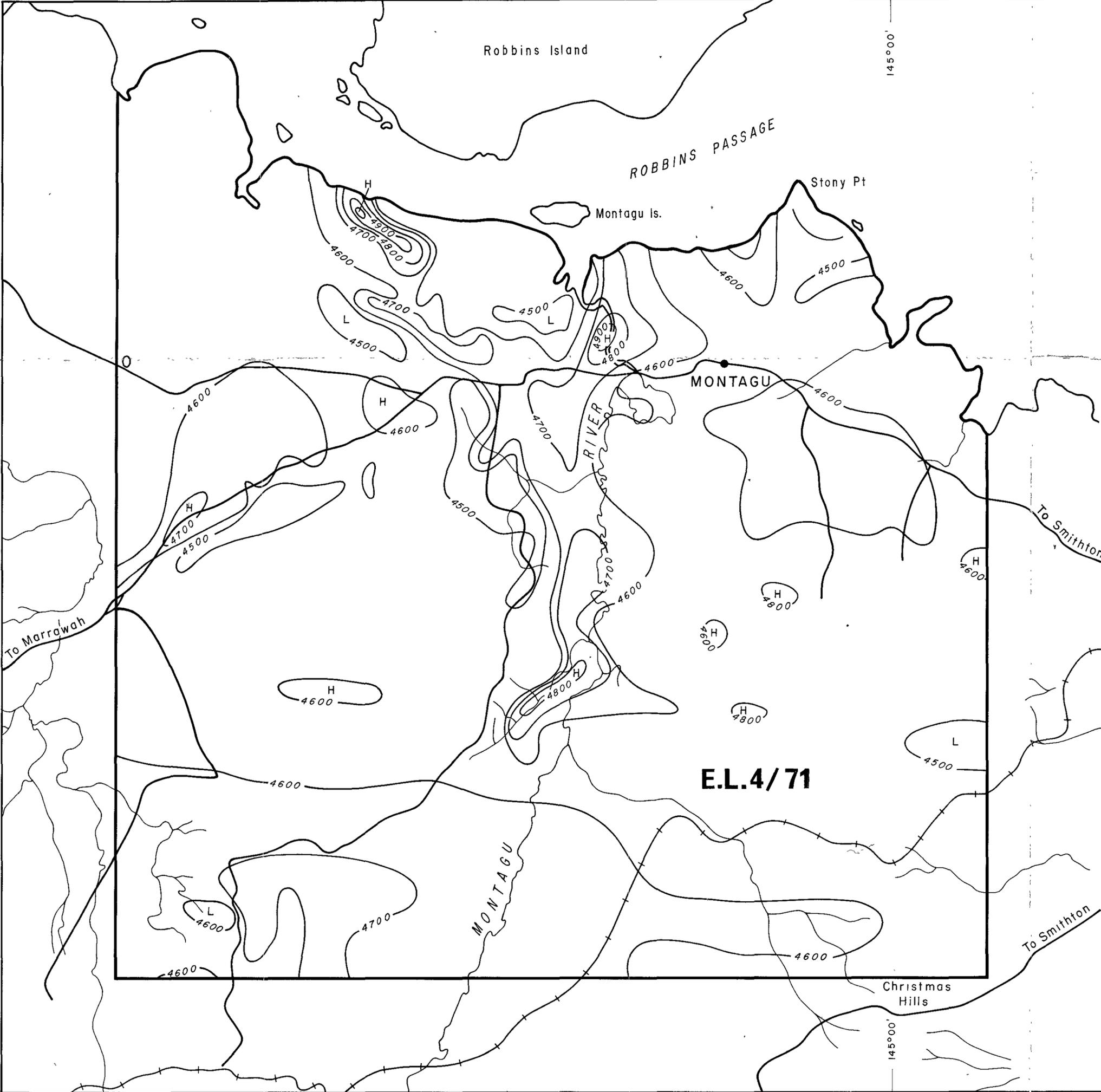
MONTAGU AREA
TASMANIA

I.P. LINE 02400N

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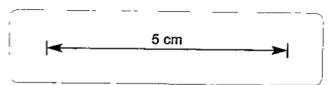
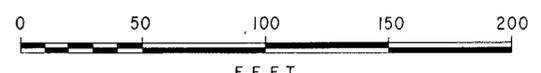
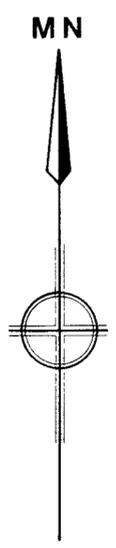
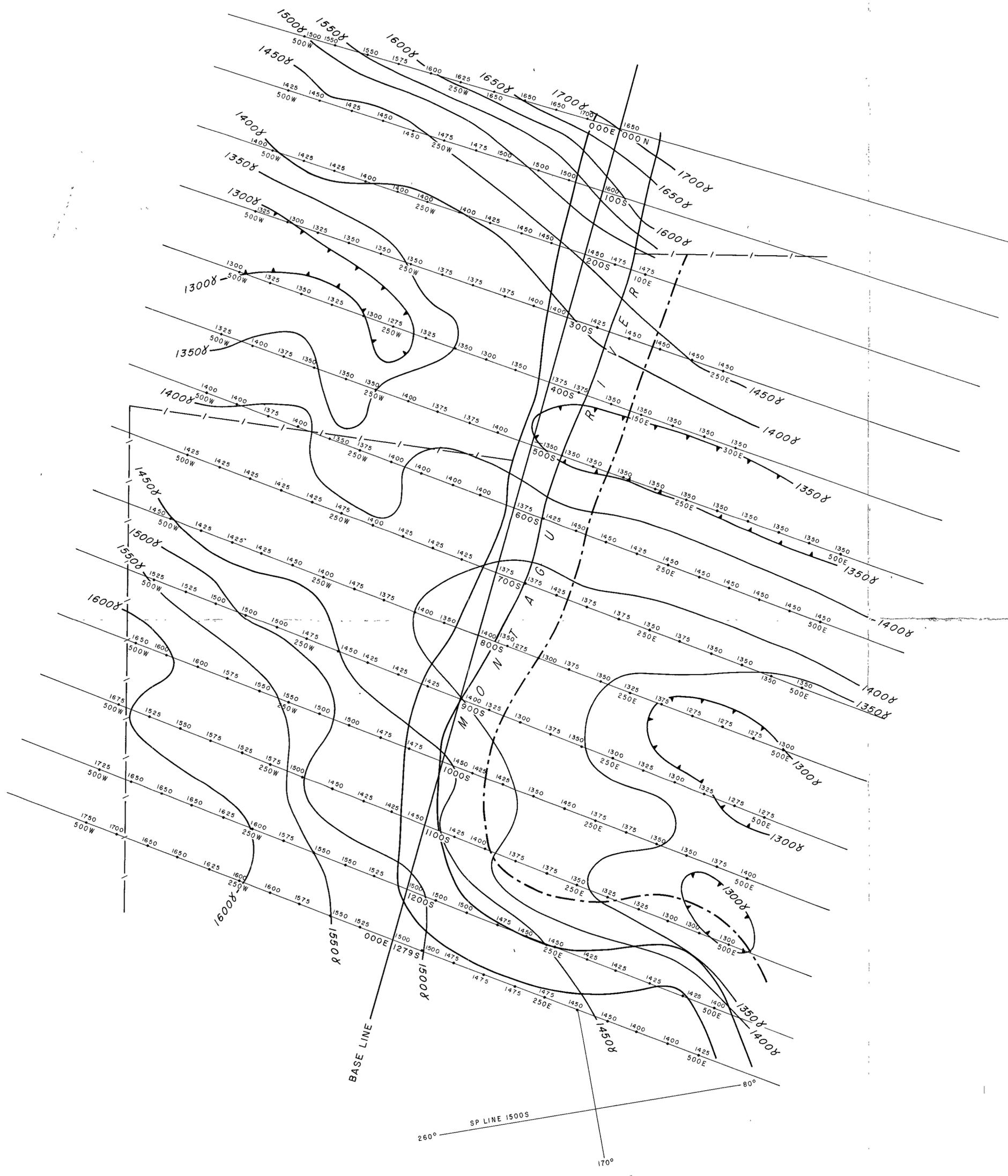


— 4600 — Aeromagnetic contour

71-774

**GEOPHYSICAL RESEARCH PTY. LTD.
MONTAGU, TASMANIA
AEROMAGNETIC SURVEY
TOTAL MAGNETIC INTENSITY**

**Data by Rio Tinto Australian Exploration
Pty. Limited**



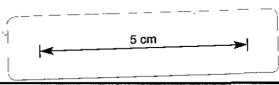
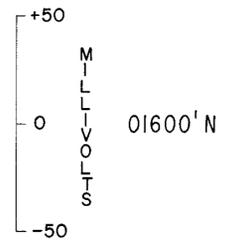
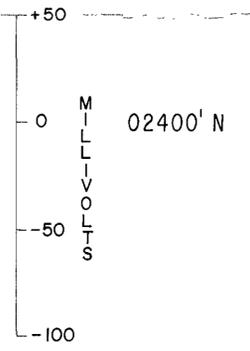
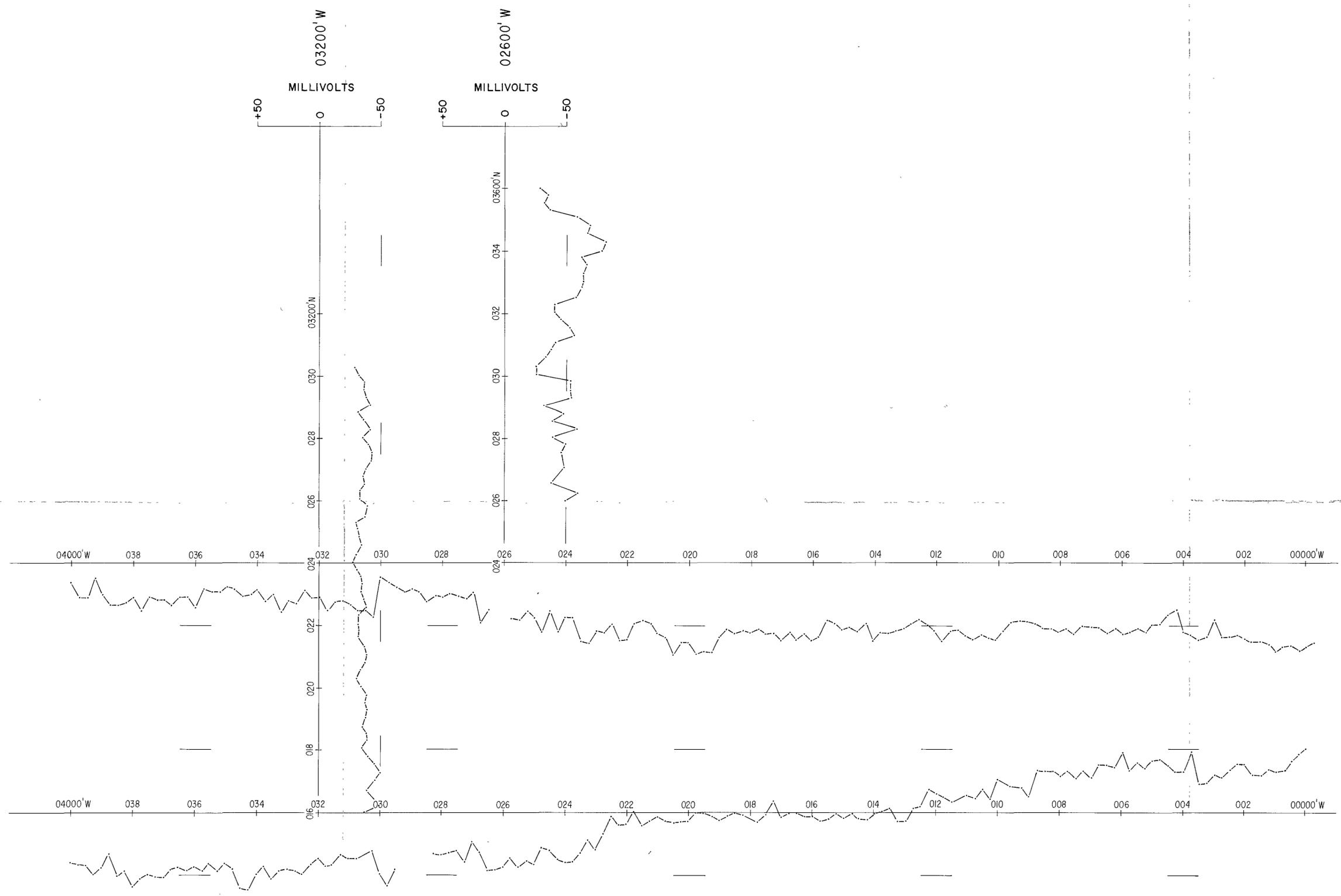
1450x Magnetic contour
 1450 1375 1350 Station location and value

VERTICAL MAGNETIC INTENSITY

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MONTAGU AREA
 TASMANIA
 CONTOURED GROUND
 MAGNETOMETER
 TRAVERSES 1055



866034 71-774

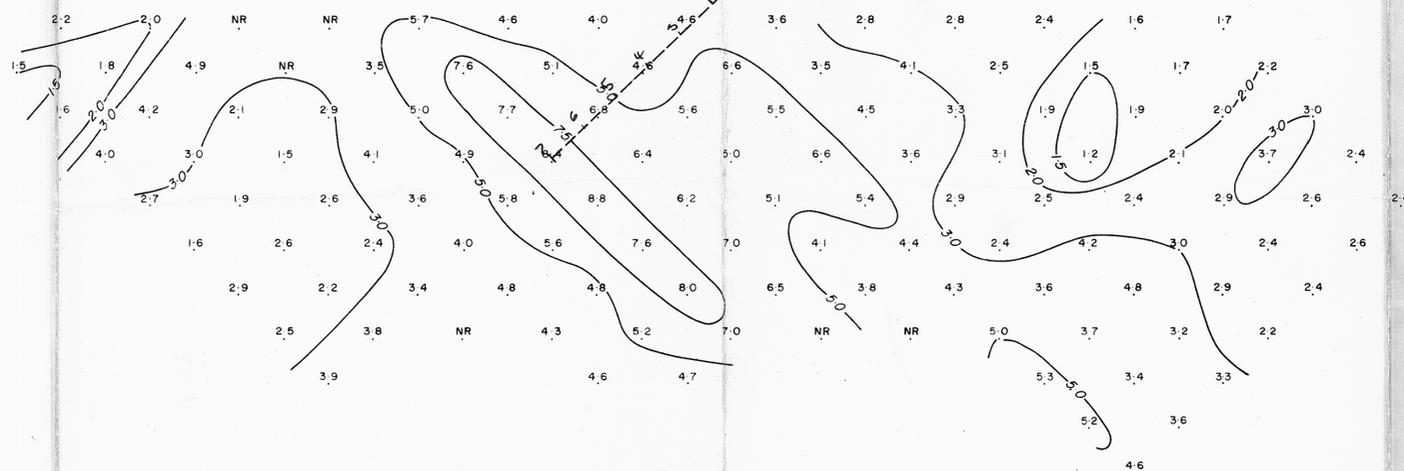
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MONTAGU AREA
TASMANIA

SELF-POTENTIAL
PROFILES

1056

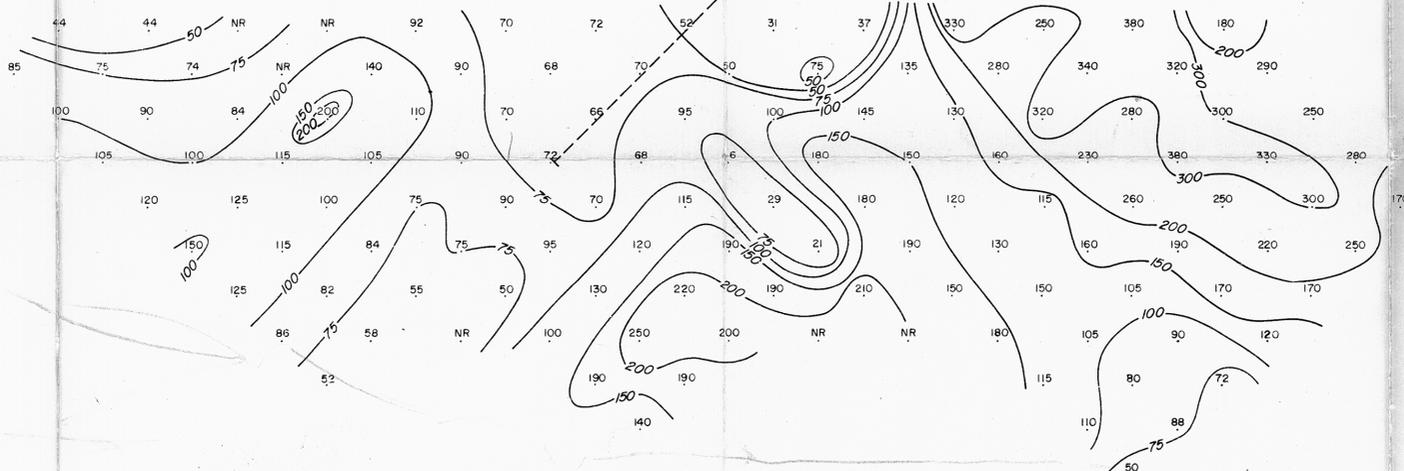
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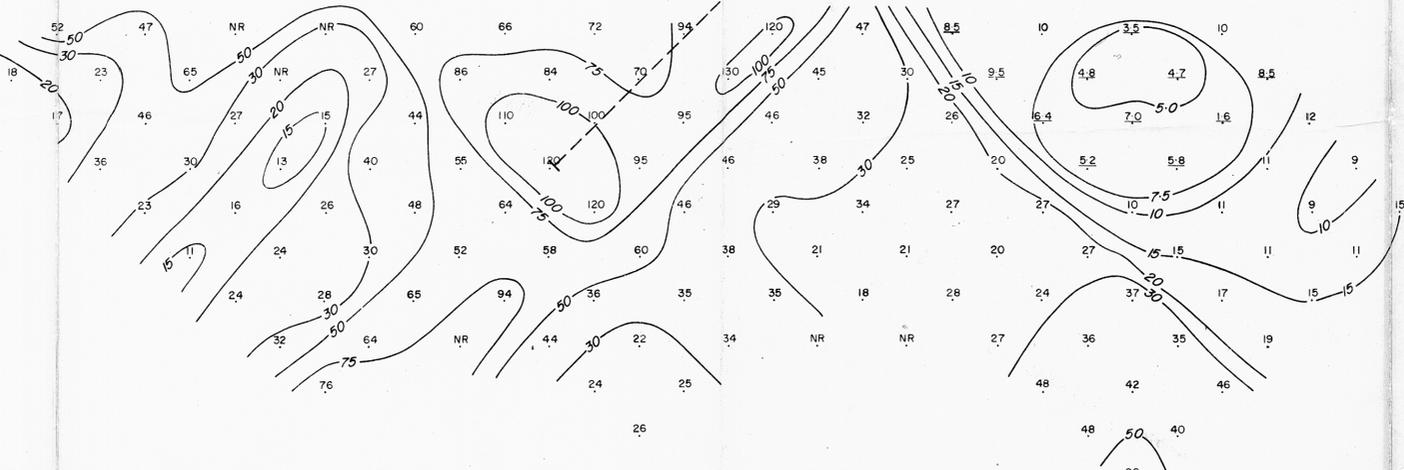
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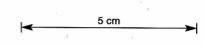
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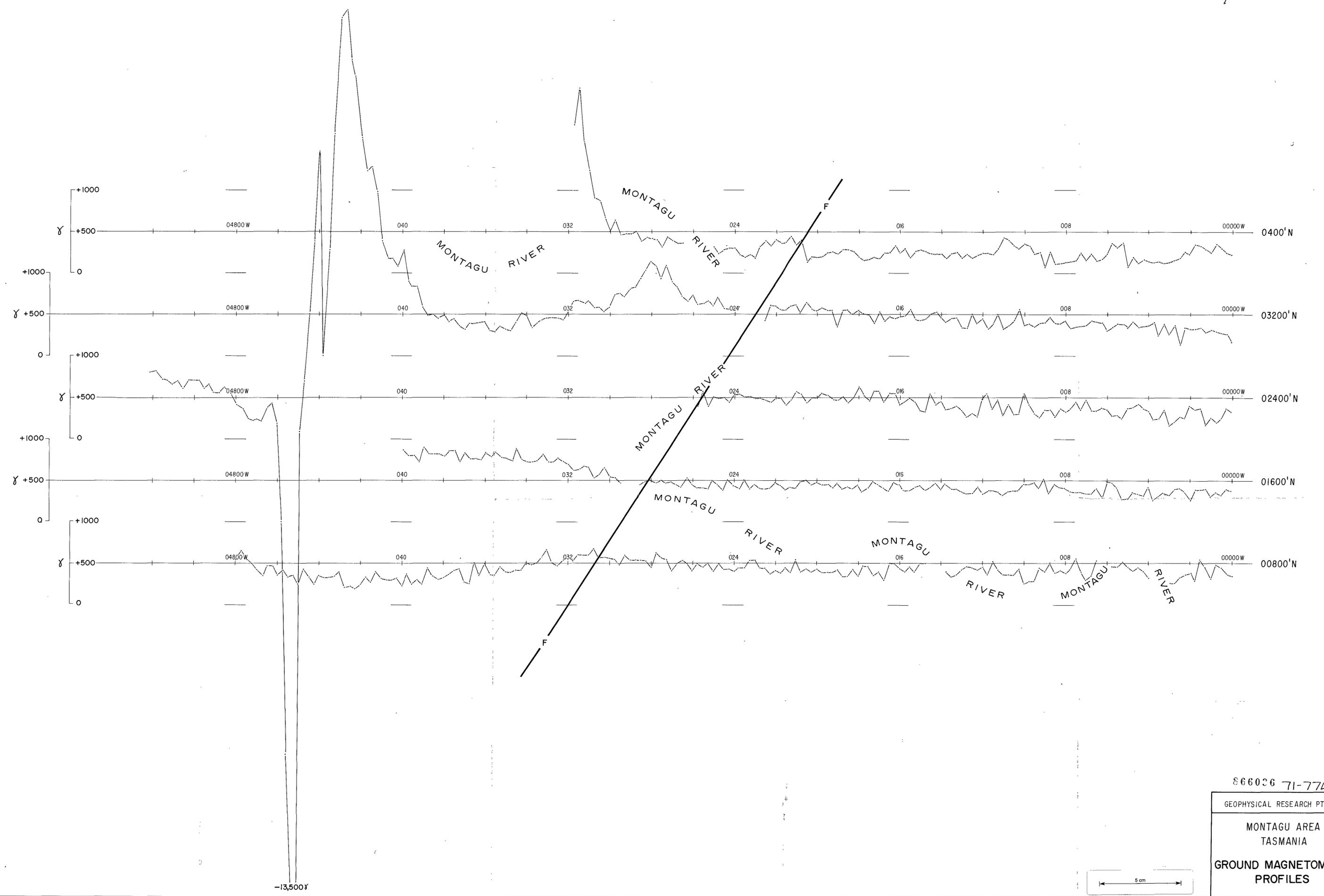
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GEOPHYSICAL RESEARCH PTY LTD.

MONTAGU AREA
TASMANIA

I. P. LINE 01600 N
SHOWING PROJECTED POSITIONS
DRILLED BY NICKELTON MINING PTY.LTD.





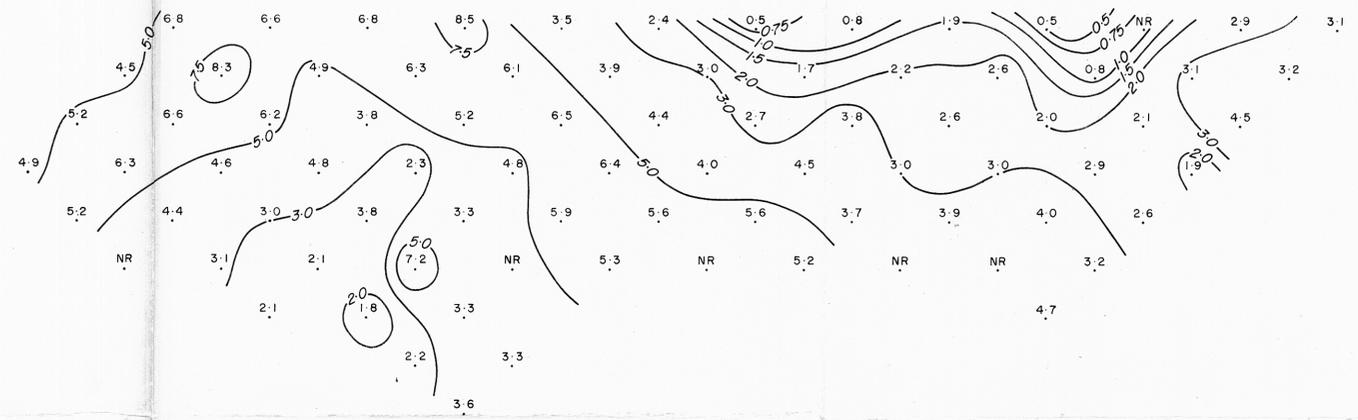
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 GEOPHYSICAL RESEARCH PTY LTD
 MONTAGU AREA
 TASMANIA
 GROUND MAGNETOMETER
 PROFILES 1069

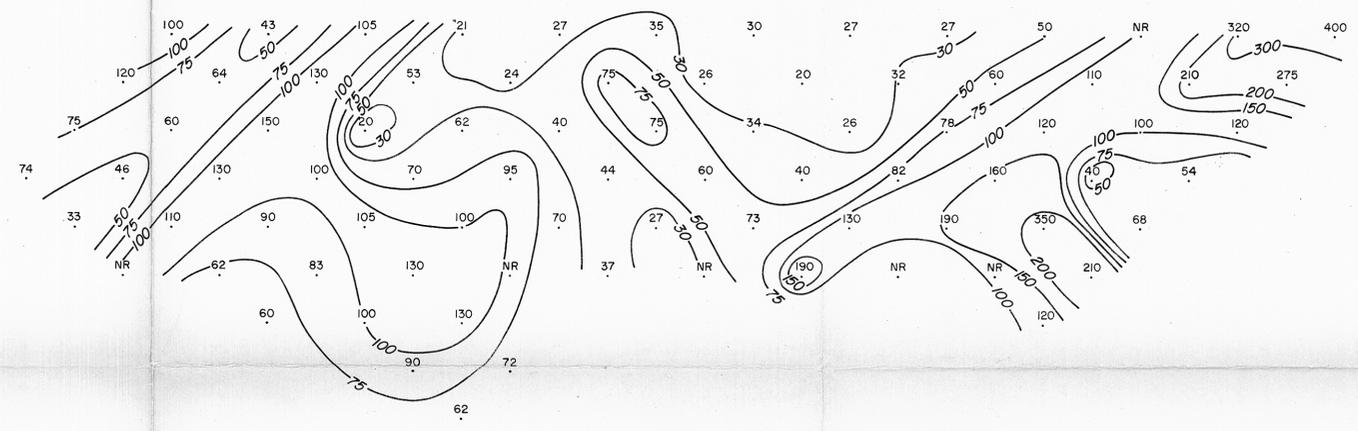
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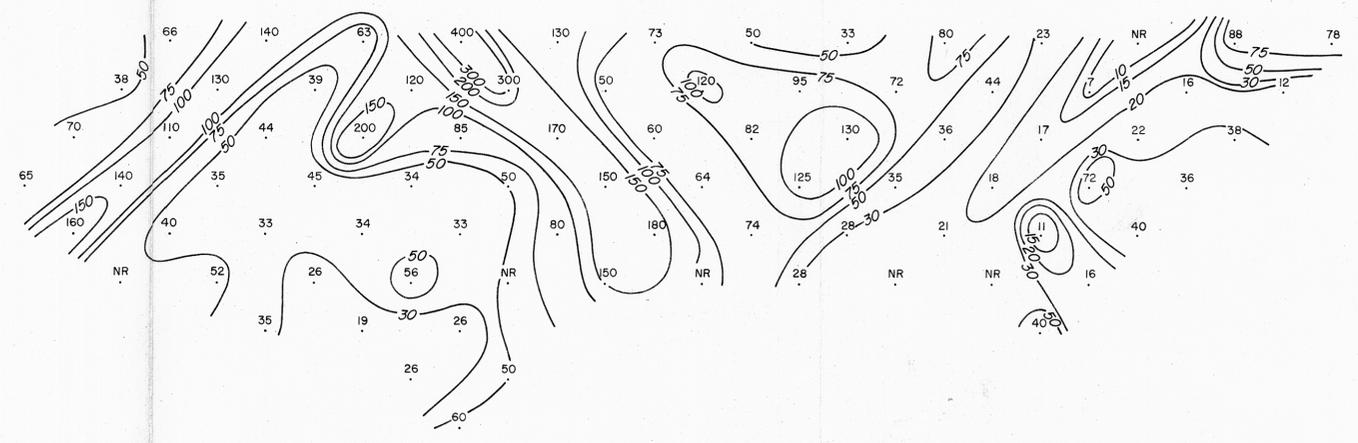
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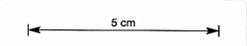


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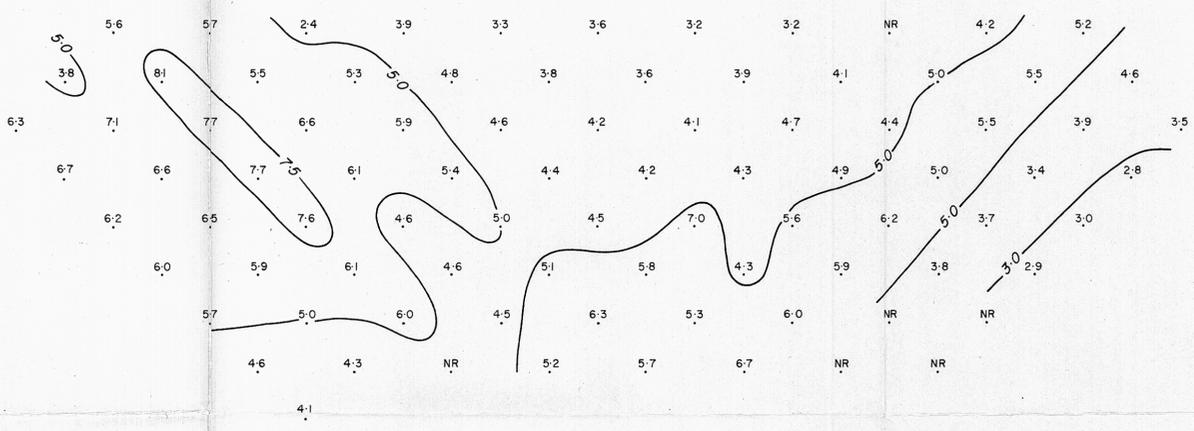
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 MONTAGU AREA
 TASMANIA
 I.P. LINE 00800 N

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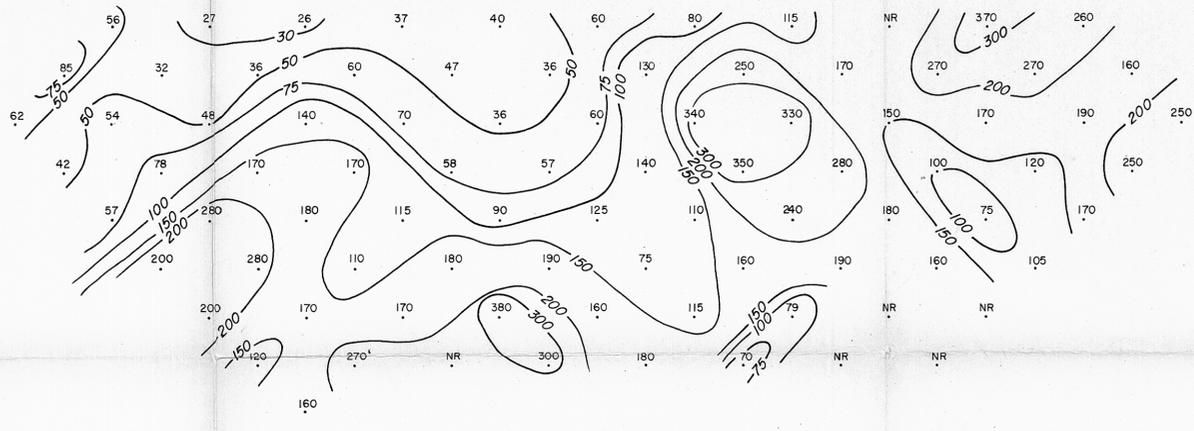
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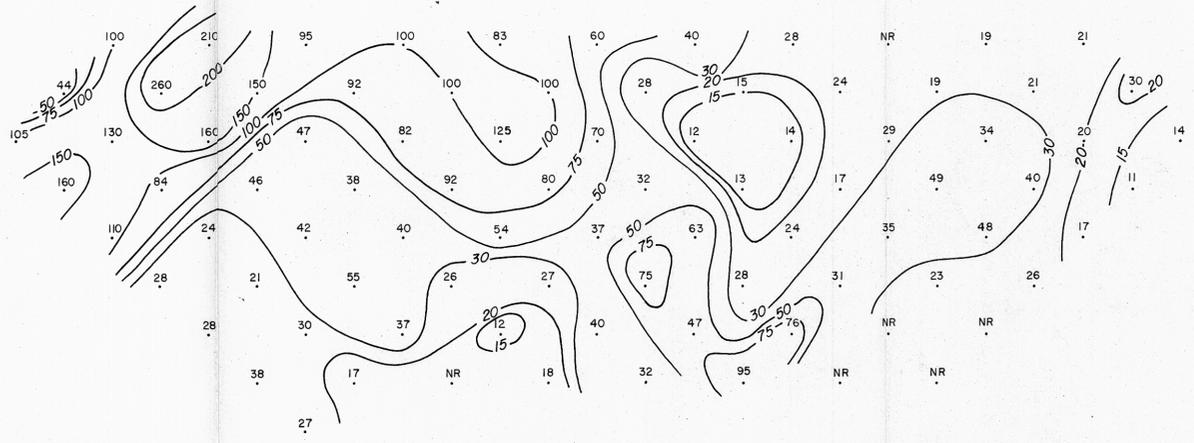
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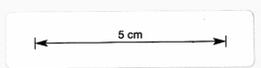
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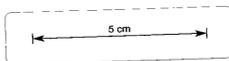
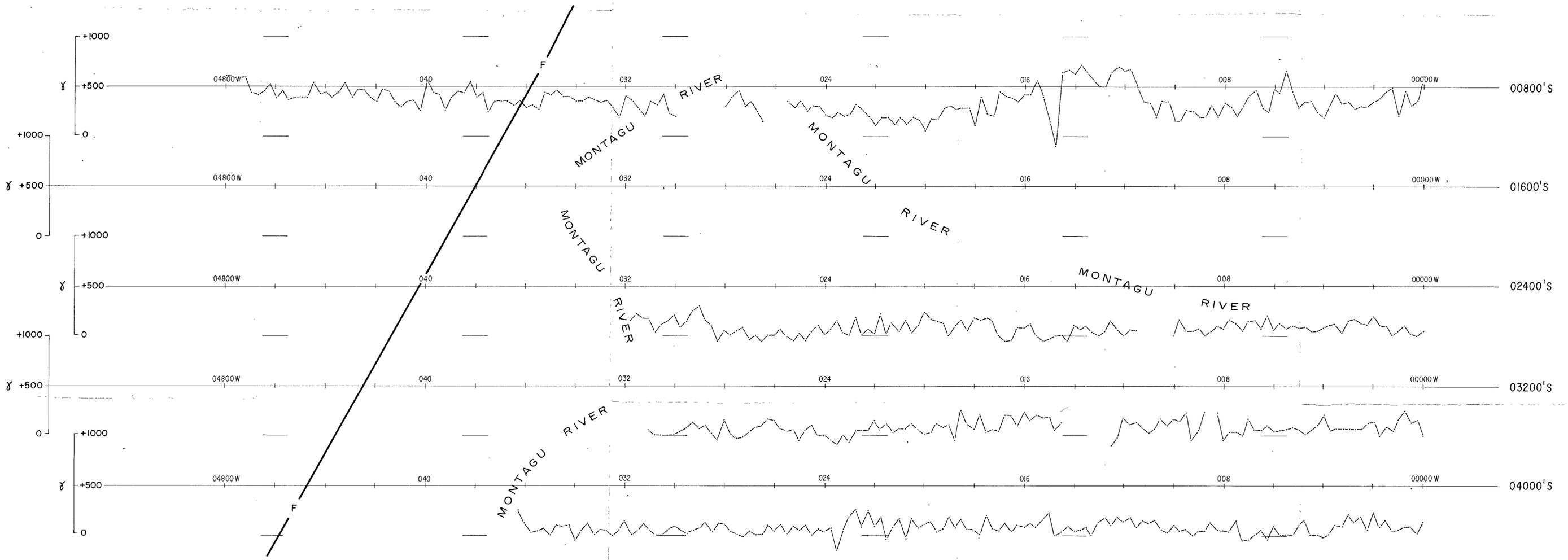
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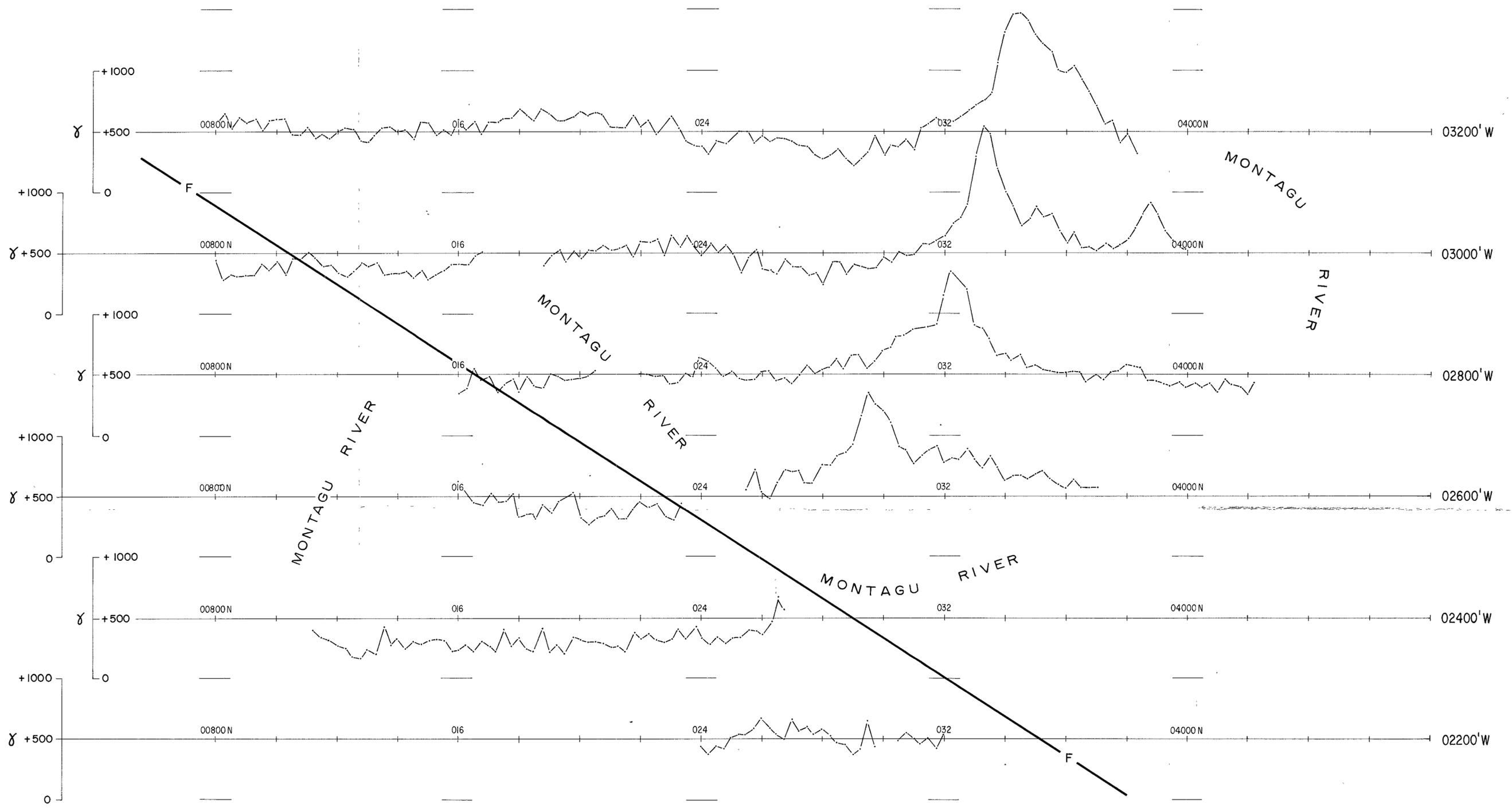
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MONTAGU AREA
TASMANIA
I.P. LINE 00000 N



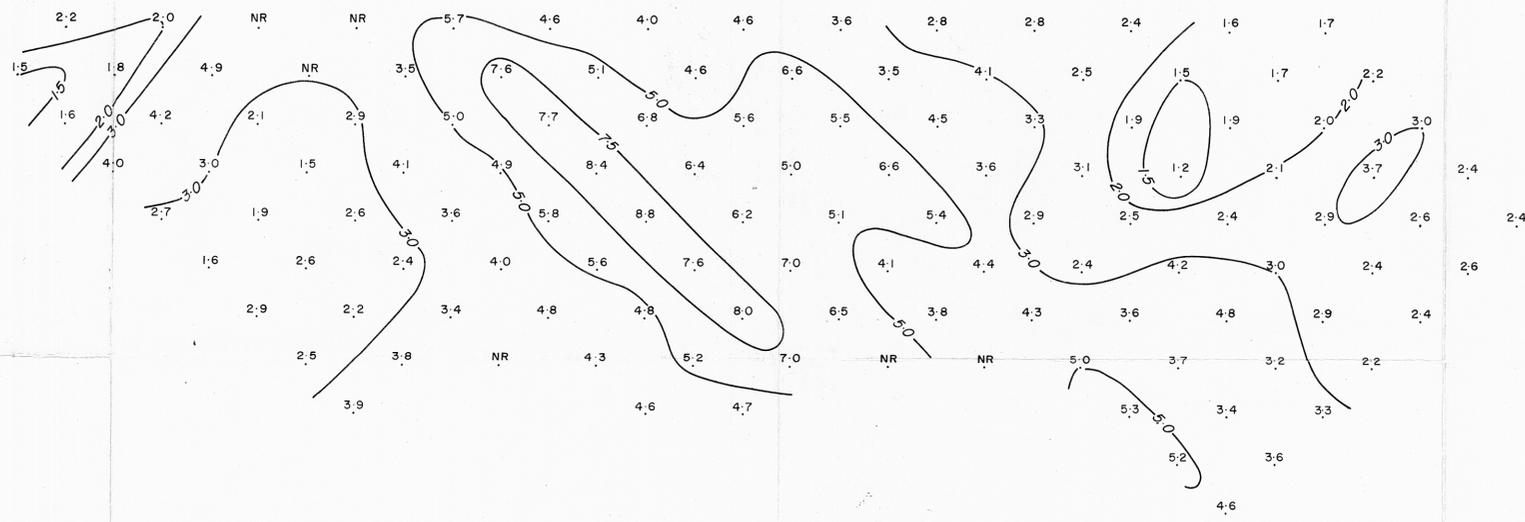


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 GEOPHYSICAL RESEARCH PTY LTD.
 MONTAGU AREA
 TASMANIA
 GROUND MAGNETOMETER
 PROFILES



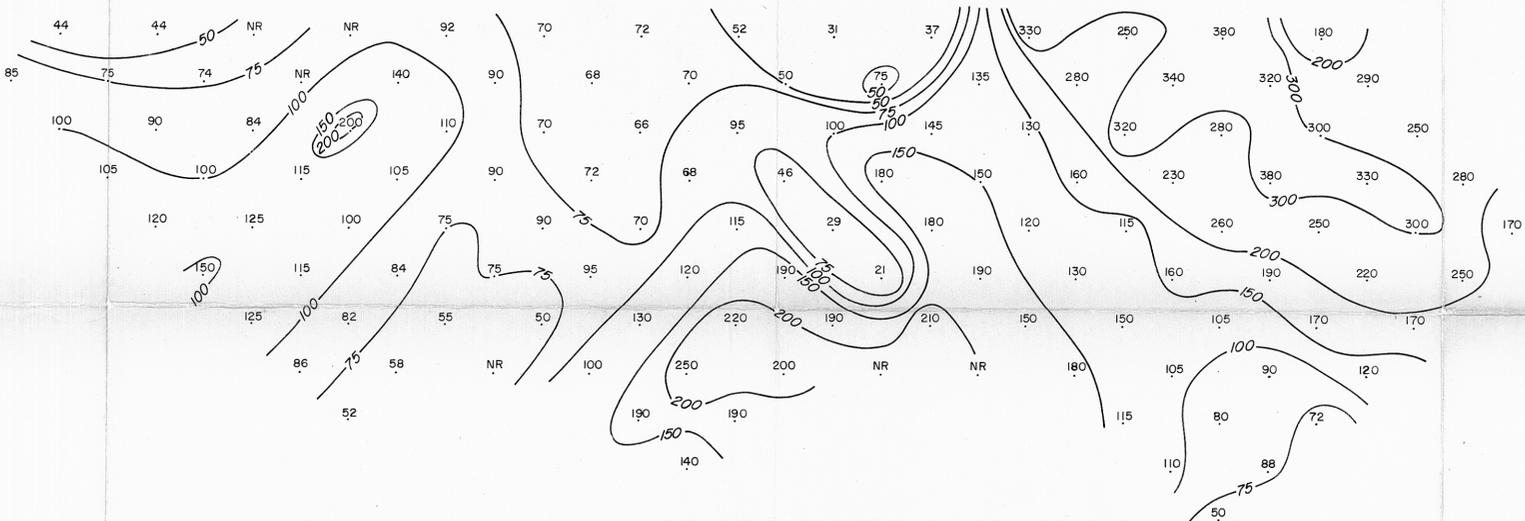
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 GEOPHYSICAL RESEARCH PTY LTD
 MONTAGU AREA
 TASMANIA
 GROUND MAGNETOMETER
 PROFILES

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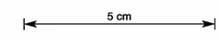
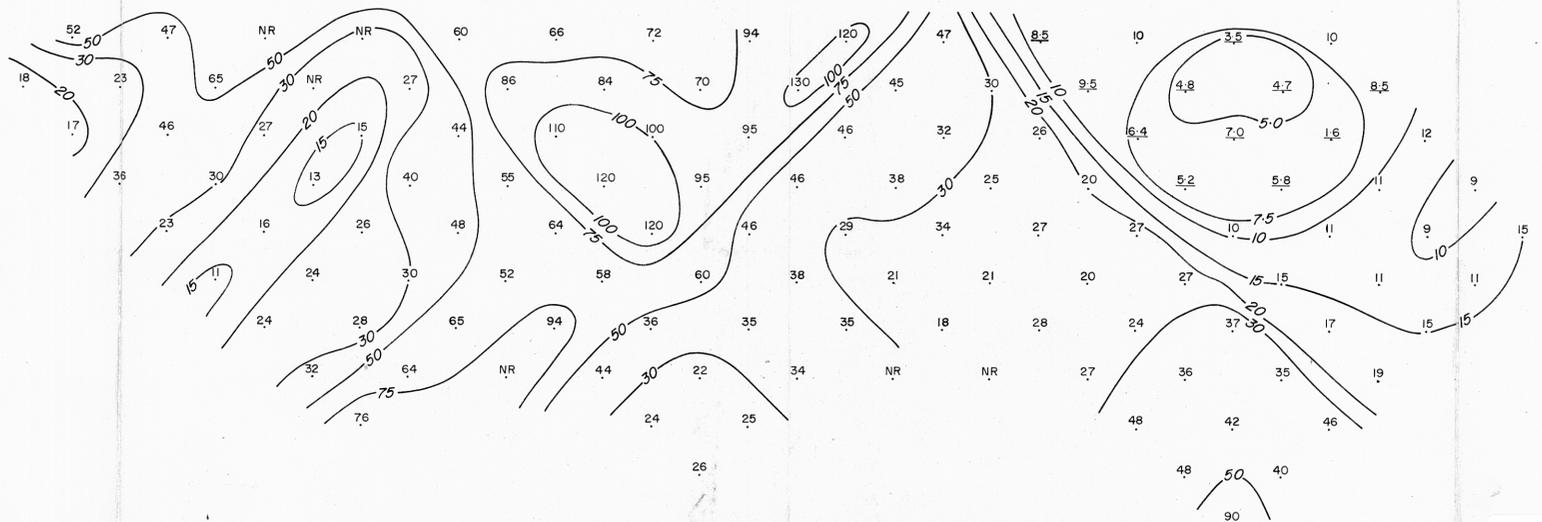
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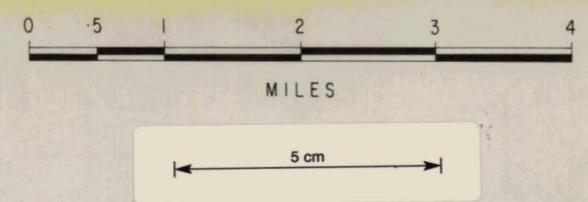
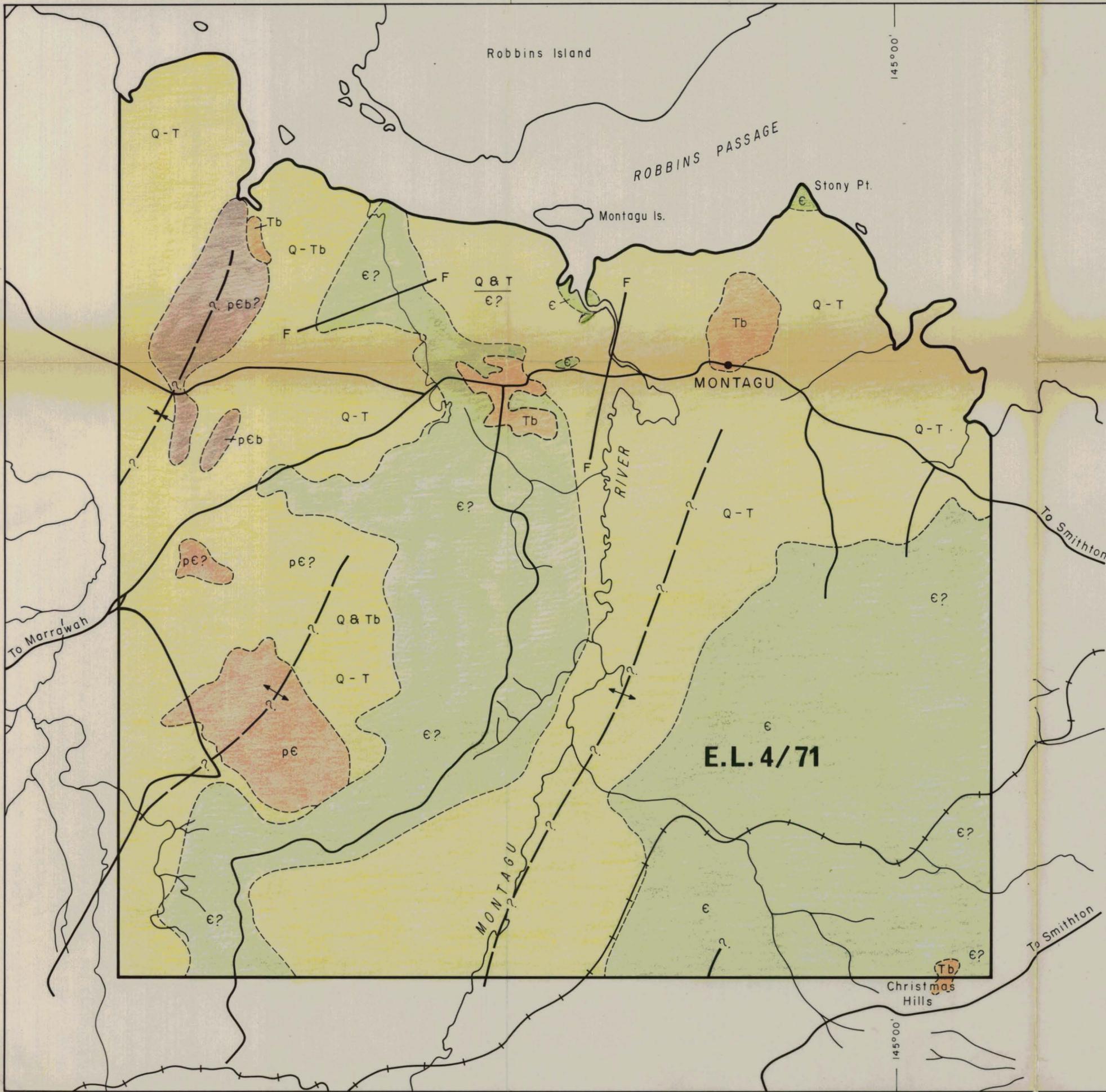
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TASMANIA
I. P. LINE 01600 N

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GEOLOGY

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