E.L. 8/88 - LORINNA

AND

E.L. 36/88 - ROUND MOUNTAIN

REPORT ON AREAS RELINQUISHED ON

22 AUGUST 1990

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July 1990

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SUMMARY

RGCE's exploration activities in EL 8/88 and EL 36/88 continued steadily during the year, ensuing the programmes formulated at the end of the last reporting period.

Geophysical work was given a stronger emphasis than geological mapping and sampling, as the bulk of the geological work had been completed at the time of the previous Annual Report in these licences. Ground magnetics data collected over the Round Mountain and Five Mile Rise grids was processed and interpreted.

A gradient array IP survey was conducted over both grids, processed and interpreted concurrently with the ground magnetics.

A systematic image processing of regional airborne magnetic and radiometric data over the Moina-Housetop area was commissioned, interpreted, and subsequently integrated with previous interpretations.

Some further reconnaissance and minor mapping and sampling were conducted in the Tin Spur/Lake Cethana, Five Mile Rise, and Wilmot Dam/Bell Mountain sectors. A number of samples collected were assayed and petrographically studied. Bedrock sampling programmes were implemented on the Round Mountain and Five Mile Rise Grids, where previous soil geochemistry had indicated slight anomalies.

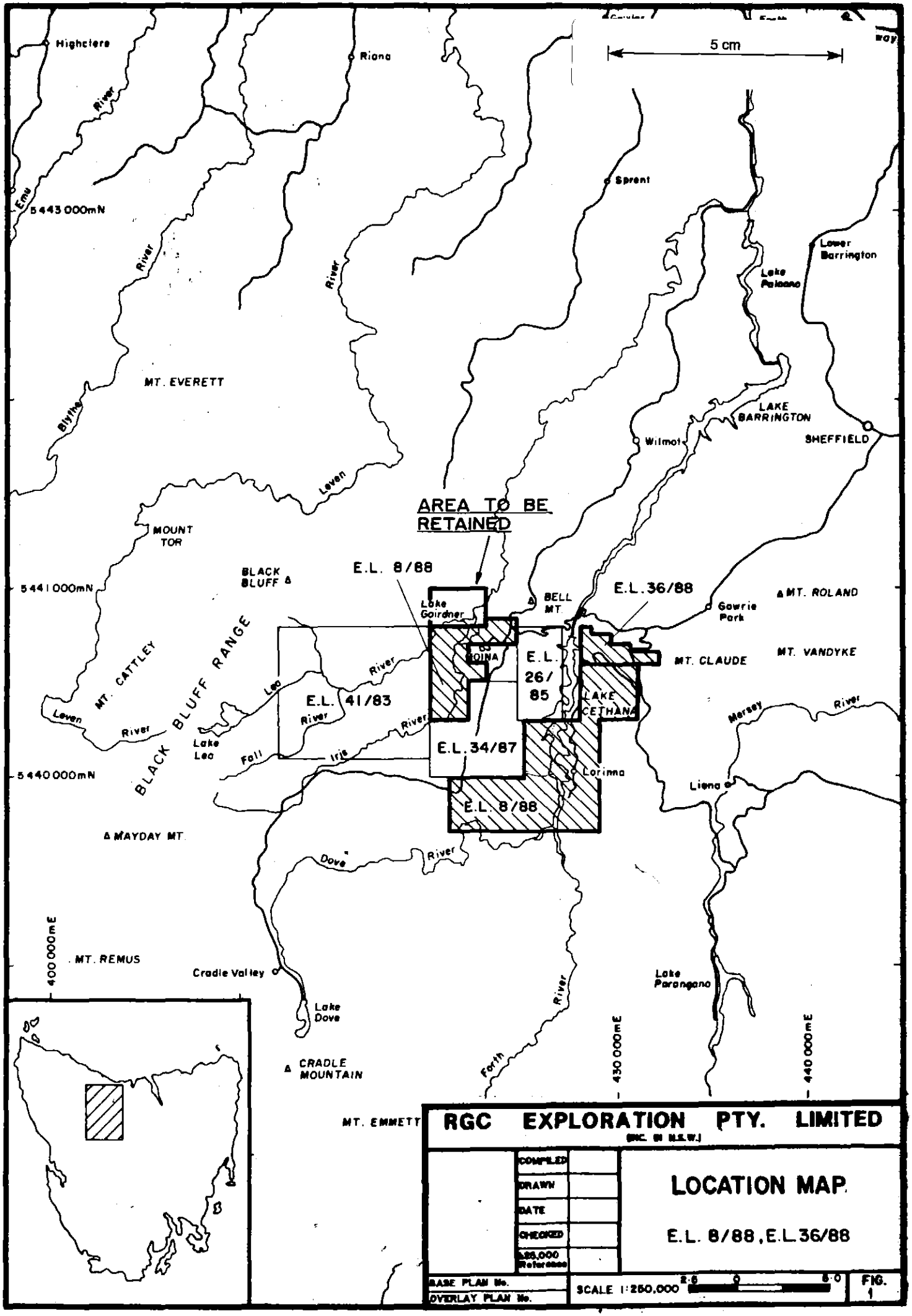
By the end of the reporting period an exhaustive evaluation of exploration data and results accumulated during the tenure was conducted. The data accumulated was considered sufficient to assess the area, and further work was not warranted except for some additional investigations on the Mount Jacob sector. An application has been made to retain an area of 6 km^2 in EL 8/88, while the rest of this licence and the totality of EL 36/88 have been relinquished.

1. INTRODUCTION

The primary aim of RGCE in undertaking exploration work in these tenements (Fig. 1) was the discovery of economically viable gold mineralisation related to the Dolcoath Granite, as well as the assessment of the areas for the possible development of volcanogenic massive sulphide deposits (Fitzgerald & Newnham, 1988 a, b). Work on both tenements was part of a more general strategy for the whole Moina district designed by RGCE during the early to the mid-eighties.

The approach aimed at compiling and assessing the considerable volume of previous data, particularly regional geophysics, and integrating it with new geological grid mapping, diverse geochemical sampling programs, and further ground geophysics. These programs have been systematically carried out between the end of 1988 and 1990, and the information gathered is regarded as largely sufficient for a present assessment of these licences.

This final report covers the totality of EL 36/88 and most of the area covered by EL 8/88, its contents is fully integrated to the contents of the previous Annual Report 1989 on both licences (Castro & Fleming, 1989), and has been written so as to fully supplement it. It presents a compilation of the additional investigations carried out in the tenements and their results until the date of relinquishment.



RGC EXPLORATION PTY. LIMITED (INC. IN N.S.W.)		
	COMPILED	LOCATION MAP
	DRAWN	
	DATE	E.L. 8/88, E.L. 36/88
	CHECKED	
	1:50,000 Reference	
BASE PLAN No.	SCALE 1:250,000	FIG. 1
OVERLAY PLAN No.		

2. EXPENDITURE

Expenditure on EL 8/88 amounts to $87,695 between September 1989 and the end of June 1990. An additional $2,082 are estimated expenditure to the relinquishment date of 22nd August 1990, making the total EL 8/88 estimated expenditure 1989/1990 $89,777. A breakdown of this amount is presented in Appendix 1(a).

Expenditure on EL 36/88 between the end of September 1989 and the end of June 1990 was $108,445. An additional $2,312 are estimated as expenditure to the relinquishment date of 22nd August 1990, accounting for a total EL36/88 estimated expenditure of $110,757. A breakdown of this amount is presented in Appendix 1(b).

3. WORK COMPLETED 1989/1990

3.1 Geophysics

The following sections derive in part from Deakin's results, provided in Appendices 2 to 5.

3.1.1 Round Mountain Grid

3.1.1.1 Ground Magnetics

A detailed description of the grid magnetometer survey implemented in 1989 was provided in the last Annual Report. The data was collected and compiled by Surtec Geosurveys (Appendix 2.a) at a 1:5,000 scale (Plan 1). An interpretation was produced by geophysical consultant Roger Deakin, and is wholly reproduced as Appendix 3 of this report.

The survey delineated a vast anomaly on the W side of the grid that was only partially covered by lines 4000E and 5000E. Its source depth could be between 100m and 300m, but a shallower source, in the order of 30m-50m, could be postulated if one considers the lack of resolution, and the steep gradients observed. A rather elaborate interpretation could indicate a complex granite roof aureole or a shallow body of Cambrian rocks.

Other narrow anomalies of low amplitude (50-200nT) and high spatial frequency occur sub-parallel to the geological strike.

Although the abundant Tertiary basalt float is certainly contributing to magnetic noise, the majority of the anomalies show coherence over a number of grid lines, suggesting a bedrock origin.

Only a very limited amount of simplified 2D quantitative modelling was employed to obtain depth and dip estimates, mainly due to the limited nature of the survey coverages (grid line separation is 200m), and the irregular and noisy nature of other anomalies. The interpretation produced by R. Deakin and shown in Appendix 3 is, therefore, fundamentally qualitative.

3.1.1.2 Gradient Array Induced Polarization

A gradient array IP-resistivity survey was carried out on the grid, with results processed by Geoterrex Pty. Ltd. (Plans 2 to 5) and interpreted by R. Deakin, in the report reproduced in Appendix 3. No correspondence between the geological interpretation and the main IP anomalies was apparent. The interpretation of the chargeability anomalies was basically qualitative, although some simple 2D modelling was obtained to give an indication of depth/dip. These interpreted sections were prepared for four selected grid lines, and appear at the end of Appendix 3. They would indicate steep bodies with tops at around 20m, and uncertain depth extent.

The majority of the IP anomalies appear to be related to sulphide concentration on the axial zone of anticlines, as in the old works of the Round Mountain sector.

A good correspondence between resistivity and chargeability values was established, and high resistivity trends in general match low chargeability zones. The interpretation is rather open, and points to possible increases in porosity due to fracturing/ faulting combined with the presence of graphitic zones, or sulphide accumulation.

3.1.1.3 Area Geophysical Assessment

A broad integration of the main geophysical elements defined in Round Mountain by Deakin is presented in Plan 6.

The review of integrated results from the surface magnetics and electrical surveys did not produce a conclusive correlation between specific geological and geophysical features, apart from the ones already mentioned in the previous sections. This fact somewhat downgraded the appeal of the proposed drilling targets (Appendix 3), and did not warrant further work.

3.1.2 Five Mile Rise Grid

3.1.2.1 Ground Magnetics

As in the case of Round Mountain, the results of the ground magnetics survey described in 1989 were submitted to Surtec Geosurveys for processing (Appendix 2b) and a 1:5,000 contour map was produced (Plan 7).

The map shows a definite gradient of increasing magnetism to the N, on which a number of anomalies (100-200nT) would indicate sources of about 100m. depth. Some 2D modelling was done by Deakin, suggesting that small residual anomalies are originated in magnetic block-faulted basement highs as illustrated in the figures accompanying Appendix 4.

The geological nature of the basement is unknown, and a likely candidate would be the Dove Granite (Cambrian), which in parts to the SW yields a comparable intensity magnetic response. Apart from the signature of magnetic basement (at depths of 100-200m), the survey provided a basis to define structural features in the area, as thoroughly detailed in Deakin's report (Appendix 4).

0[illegible]12

3.1.2.2 Gradient Array Induced Polarization

This grid IP survey followed the similar one conducted at Round Mountain and its data was also processed by Geoterrex. In general, a lack of anomalous conductors is evident in the grid area, as shown by Plans 10 and 11. The more obvious chargeability anomalies seem to be related to interpreted basement faults, at around 100-200m depth, and would reflect either vein or disseminated sulphides material in the faults.

The broad extension of (Ordovician) Moina Sandstone generates a general resistivity background of about 1000 ohm-m (Plans 8 and 9), with the only exception being anomalous highs that could reflect bedrock features such as quartz veins, on zones of thinner conductive cover and weathering. A clear high resistivity trend that follows the Sunday Creek only reflects the exposure of shallower resistive bedrock (Ordovician Moina Sandstone), associated to the stream erosion.

A set of chargeability anomalies that represent potential drilling targets was proposed by Deakin in his report (Appendix 4).

3.1.2.3 Area Geophysical Assessment

A thorough interpretation of interpreted IP and magnetometry results was summarized by Deakin at 1:5,000 in Plan 12.

The relatively limited surface geological data available in this sector characterise it as one of numerous, very low volume scattered gold deposits. These could relate with the chargeability response in view of their association with narrow sulphide zones. However, the small scale (intensity, extension) of those electrical anomalies, in conjunction with the poor geochemical response definitely downgraded

the potential of the area at this time.

3.1.3 Regional Geophysical Appraisal

One of the aims of each particular grid project was to try to incorporate the previous regional geophysical data available into its interpretation. Besides that, the review and interpretation of previous regional data was commissioned to Deakin as a separate project, and his report is presented as Appendix 5.

The regional work entailed a review of previous studies on aeromagnetic and gravity data (Leaman, 1988), on image processing of airborne magnetics and radiometrics for the Moina-Housetop area (Walker, 1989), and modelling of some selected aeromagnetic anomalies (Bishop, 1988). A summary plan at 1:50,000 scale (Plan 13) was prepared (by Deakin) to delineate the major structural and geophysical features, together with 4 diagramatic cross-section interpretations and data profiles on the same scale, illustrated in Plans 14 to 17. A summary of results from Leaman's work was presented in the 1989 Annual Report, (Castro & Fleming, 1989) together with a copy of his 5 reports.

Bishop's report was concerned with the Lake Lea area, and for that reason a copy is appended to EL 41/83-Lake Lea Relinquishment Report (Castro, 1990). Walker's work is well summarised by Deakin, who included in-text hard copies of the relevant images in Appendix 5.

Deakin's review concluded that the image-processed data produced results that appeared of limited value, especially in the case of radiometrics, with only very few anomalies that can be related to undifferentiated felsic Cambrian volcanics, Gordon limestone and Moina Sandstone (Ordovician). No correlation could be established between

radiometrics and the surface geology, and assuming that the data gathering has been properly done, it is inferred that the radiometrics is mostly reflecting the extent and thickness of the soil and vegetation cover.

The faults that are interpreted from the image-enhanced aeromagnetics are in general agreement with a fault-controlled granite defined in Leaman's model. Hypothesis for the origin of the magnetism are more elusive, as most of the surface exposure is non-magnetic, with the only exceptions of the Tertiary basalts and some spotty magnetic skarn outcrops in the Ordovician Gordon Limestone. Leaman provided what is considered to be the most satisfactory explanation, sourcing the deeper magmatism in metamorphic aureole effects draping the Dolcoath Granite.

The conceptual cross-sections prepared by Deakin were based in current data, but tried to integrate the geometrical implications of Leaman's gravity modelling (Leaman, '89), the mineral occurrences, selected aeromagnetic anomalies, topography, and tectonics. The most relevant sections for EL 8/88 and EL36/88 are in Plans 16 and 17, which represent the Five Mile Rise and Round Mountain sectors respectively.

3.2 Geology

A relatively minor amount of time was allocated to pure geological duties in EL 8/88 and EL 36/88, in contrast with 1989, when most of the fundamental work involving surface geological mapping and sampling at regional and grid scale was conducted, except for the Mount Jacob sector in EL 8/88. The largest effort in these licences during this period has been concentrated in the integration of geology and new geophysical data, aiming at a final appraisal.

3.2.1 Round Mountain Grid

3.2.1.1 Reconnaissance Mapping and Sampling Surface/Rock Chips

A total of 11 rock chip samples and 92 bedrock samples were added to the study of this tenement, most of them relate to follow-up investigations after interesting indications obtained in the previous sampling and mapping.

A brief review of the Tin Spur sector and surrounding areas was necessary after anomalous tin values were detected by the C Horizon soil sampling. A few rock chip samples were obtained by RGCE geologist Scott Halley on the Lorinna Road at the Western slope of the Tin Spur, towards Lake Cethana. See Plan 21 for general location, Plan 18 for sample location and Plan 19 for assay results obtained. The samples collected in this exercise are hosted by undifferentiated felsic volcanics, and correspond to intense, high-grade greisen alteration within the volcanics (T-20070, T-20068), incipient greisen alteration along fractures in volcanics (T-20069), and greisenized aplite dykes (T-20071, 20072, 20073 and 20074). The Sn contents obtained through assays were considered to be low, especially considering its geological setting practically in the contact zone between the volcanics and the Devonian Dolcoath Granite; their Sn contents ranges from 6 ppm to 114 ppm (Plan 20).

Another 6 additional samples were obtained during a reconnaissance of sectors relevant to the Round Mountain EL 36/88 licence, around the base of the Wilmot Dam and at a good exposure near the Bell Creek (Plan 21,) and at quarry within the Round Mountain grid sector (Plan 19). All these samples correspond to diverse facies of the Ordovician Moina Sandstone. Petrographically, they are a pyritic/sericitic quartzite (T-11907) and a sericitic quartzite with sulphides

in veins and patches (T-11908). Their assays appear in Plan 22. The remaining samples correspond to gravelly quartzite-sandstone (T-11902) and oolitic-spherulitic pyritic quartzite (T-11906, T-17854 and T-17855), and their assays are documented in Plan 20. No relevant assay values were obtained in any of the samples assayed in this group. A copy of the original grid 'facts' geology draft is presented in Plan 26.

Bedrock Geochemistry

A review of the results of the 1989 soil sampling on the Round Mountain grid revealed a few spots that could be considered slightly anomalous and that warranted further investigation. The limitations inherent to "C" horizon soil sampling have been mentioned (Castro & Fleming, 1989), and it was considered more adequate to design a bedrock sampling programme.

A total of 93 samples were obtained by N. Poltock and their grid co-ordinate location and assay values are listed in Appendix 6(a). A comparison of these results and those obtained in the original soil survey revealed, apart from a few minor exceptions, a consistent decrease in element concentration detected in the bedrock samples.

Petrographic/Petrological Studies

In conjunction with the above programmes, a number of additional specimens were sent to Dr. D. Mason at Amdel for study involving petrographic, mineragraphic and some X-ray diffraction procedures. Of the samples studied, four belong to this licence and adjacent areas relevant to its appraisal: T-08690, T-11906, T-11907 and T-11908. Their locations are shown in Plans 19 and 21, and their assay results appear in Plans 20 and 22. All the specimens were taken in the Moina Sandstone, and represent diverse facies within this Ordovician stratigraphic unit.

3.2.2 Five Mile Rise Grid

3.2.2.1 Reconnaissance Mapping and Sampling

A total of 22 additional rock chips and 84 bedrock samples were incorporated to this grid's original database. Soil samples were taken systematically every 25m on all the grid lines.

Surface/Rock Chips

A 1:5000 scale geological mapping was carried out along the bed of the Sunday Creek, covering from its mouth in Lake Cethana to near its origin, W of Line 4000E of the grid. This new data is quite relevant given the structural centro/measurements collected that confirm the original interpretation (Castro 1989). The data has been transferred to and is presented in Plan 23. The 'factual' geology data draft map is provided in Plan 27.

As part of the mapping, 15 rock chip samples within the Moina Sandstone were collected, their locations and assay results documented in Plan 24 and Plan 25. The assay values obtained were considered of no further interest. Another seven supplementary samples were taken on the grid lines during various reconnaissance visits, and subsequently assayed. The results obtained were not significant, and their location and assays are documented in Plans 24 and 25 respectively.

Soil Geochemistry

As a direct supplement to the section on 'soil geochemistry' in the last Annual Report (Castro & Fleming, 1989), a complete report is appended that contains sample location, grid coordinates and assay results of the "C" Horizon soil geochemical survey (Appendix 6.b). A total of 836 samples were rendered.

18

Bedrock Geochemistry

A few slight anomalism indications of Au were detected, very scattered and of very small extension (1-2 samples each) from results of the soil survey. Their limited dimension and distribution pattern are in correspondence with the prospecting history of this sector (Bamford & Green, 1988). As in Round Mountain, a follow-up bedrock sampling programme was designed and implemented, totalling 84 samples. The assay values obtained did not yield any evidence of significant anomalism, on the contrary, and following the Round Mountain trend, they proved a decrease in metal concentration and extension in comparison with the soil geochemistry results.

4. CONCLUSIONS AND RECOMMENDATIONS

(i) The metallic associations and distribution appear broadly controlled by the Devonian Dolcoath Granite, and geochemical evidence corroborates a 'classic' zonation away from the granites: Sn-W, Bi-Au-Cu, Ag-Pb-Zn.

(ii) The second most important factor is the suitable structural setting, to favour the conduction and focussing of hydro-thermal fluid flows.

(iii) The evidence accumulated points to polymetallic assemblages, of which Au is a possible but minor component in most cases.

(iv) The 'pervasive' scale and style of mineralisation detected is of numerous small showings, essentially uneconomic, that together do not support a strategy of numerous deposits to be processed through a central mill/plant.

(v) It is recommended to (Fig.1):

- Apply for a retention licence over a 6km^2 area immediately N of Lake Gairdner, where the new Mount Jacob grid was established.

- Relinquish the totality of EL 36/88 and 57 km^2 of EL 8/88, as no further work appears warranted by current RGC priorities.

- Carry out further investigations in the Mt. Jacob sector.

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456622

APPENDIX 1(a)

E.L. 8/88 Lorinna

APPENDIX 1(a)

E.L. 8/88 LORINNA

EXPENDITURE TO AUGUST, 1990

ITEM		Cost ($)
Salaries, Wages & On-Costs		23,163
Travel & Accommodation		9,785
Consultants & Contractors		33,790
Sample Prep. & Analysis		5,048
Stores & Supplies		1,889
Vehicles, Plant & Equipment		2,652
Land acquisition & tenement costs		470
Computing		-
Miscellaneous		6,966
		83,763
Estimates expenditure August 1990		1,500
		85,263
Overheads (10%)		8,526
	TOTAL	93,789

156024

APPENDIX 1(b)

E.L. 36/88 Round Mountain

APPENDIX 1(b)

E.L. 36/88 ROUND MOUNTAIN

EXPENDITURE TO AUGUST, 1990

Item		Cost ($)
Salaries, Wages & On-costs		21,210
Travel & Accommodation		6,741
Consultants & Contractors		48,482
Sample Prep & Analysis		13,773
Stores & Supplies		1,346
Vehicle Plant & Equipment		2,697
Land Acquisition & Tenement Costs		238
Computing		-
Miscellaneous		7,520
		102,007
Estimated expenditure August 1990		2,000
		104,007
Overheads (10%)		10,400
	TOTAL	114,407

436026

APPENDIX 2(a)

Round Mountain

SURTEC

456027

SURTEC GEOSURVEYS PTY LTD

GROUND MAGNETIC PROCESSING REPORT

ROUND MOUNTAIN GRID

FOR RGC EXPLORATION PTY LTD, 1989.

Andrew M.Foley
SURTEC GEOSURVEYS PTY LTD
Suite 9, Level 1,
859 Pacific Highway,
PYMBLE, NSW 2073

September, 1989.

1. INTRODUCTION

Highland Exploration carried out a magnetic survey over the Round Mountain Prospect grid for RGC EXPLORATION PTY LTD, during April of 1989.

In August of 1989, RGC EXPLORATION PTY LTD requested that SURTEC GEOSURVEYS PTY LTD locate, process and display the field data. The brief was to:

1. locate the field data using the base sheets provided.
2. produce a contour presentation of the field data and individual line profiles (as outlined on purchase order 5001).
3. provide a floppy disc containing the located data.

2. MAGNETIC SURVEY

The survey was conducted using two GSM-18 proton precession memory magnetometers. One of the magnetometers was used to monitor the diurnal magnetic field variation at a 20 second sampling interval, whilst the other was used to record variations in magnetic intensity along grid lines. The data was corrected for diurnal effects by Highland Exploration and reduced to a level of 0nT.

The magnetic field was sampled at 10m intervals along line with a line spacing of 100/200m.

3. DATA PROCESSING AND PRESENTATION

Below is a brief outline of the steps undertaken by SURTEC GEOSURVEYS PTY LTD in it's production of the requested maps.

The location of the survey lines were indicated on a topographic base sheet provided by RGC EXPLORATION PTY LTD. The lines were digitised, using the AMG coordinate system as the reference and merged with the field data.

Prior to gridding and contouring a non-linear de-spiking filter was passed through the data. The filter selects the nearest "n" points (user specified) around the data point being filtered, and takes the average (note: that the maximum and minimum are not included in the average). Experimentation of filters indicated that an "n" value of 5 was sufficient to reduce some of the uncorrelated spikey noise without a noticeable loss of geological information. Heavier filters tended to smooth the data, particularly in magnetically quite southern part of the grid.

The located data was then contoured and is presented at 1:5000 scale. The survey area appears to cross several magnetic units, and as a consequence a non-regular contour interval was used. In areas of low magnetic relief ie. 900-1050nT a contour interval of 10nT was used, increasing to 25nT between 1050 and 1100nT and finally 100nT for the intense north-eastern area (ie. anomaly strengths between 1100-1600nT). Note however that a linear scale shift of 1000nT was applied to the data due to the difficulty of handling negative contour levels when using an irregular contour set due to the zero RL used by Highland Exploration in it's data reduction.

The individual profiles are presented at a horizontal scale of 1:5000 with a 50nT/cm vertical scale. The vertical scale was chosen such that the dynamic range of the data could be recorded on A3 map sheets, as per discussions with C. Castro on the 31st of August.

Copies of the individual profiles and the contour map were forwarded to C. Castro on the 12th of August. S. Mudge also received a copy of the contour map at the request of C. Castro on the 20th of September.

Accompanying this report is the original film plot of the contour map. A floppy disc containing the AMG located data has been forwarded to S. Mudge.

APPENDIX 2(b)

Five Mile Rise

SURTEC
456032

SURTEC GEOSURVEYS PTY LTD

GROUND MAGNETIC PROCESSING REPORT

FIVE MILE RISE GRID

FOR RGC EXPLORATION PTY LTD, 1989.

Andrew M.Foley
SURTEC GEOSURVEYS PTY LTD
Suite 9, Level 1,
859 Pacific Highway,
PYMBLE, NSW 2073

September, 1989.

1. INTRODUCTION

Highland Exploration carried out a magnetic survey over the Five Mile Rise Grid for RGC EXPLORATION PTY LTD, during April of 1989.

In August of 1989, RGC EXPLORATION PTY LTD requested that SURTEC GEOSURVEYS PTY LTD locate, process and display the field data. The brief was to:

1. locate the field data using the base sheets provided.
2. produce a contour presentation of the field data and individual line profiles (as outlined on purchase order 5001).
3. provide a floppy disc containing the located data.

2. MAGNETIC SURVEY

The survey was conducted using two GSM-18 proton memory magnetometers. One of the magnetometers was used to monitor the diurnal magnetic field variation at a 20 second sampling interval, whilst the other was used to record variations in magnetic intensity along grid lines. Unfortunately, the diurnal magnetometer was located outside the grid area and as a consequence a coordinate location can't be fixed to it's location and thus any future surveys may not be easily tied in with this data. The data was corrected for diurnal effects by Highland Exploration and reduced to a level of 0nT.

The magnetic field was sampled at 10m intervals along line with a line spacing of 200m.

3. DATA PROCESSING AND PRESENTATION

Below is a brief outline of the steps undertaken by SURTEC GEOSURVEYS PTY LTD in it's production of the requested maps.

The location of the survey lines were indicated on a topographic base sheet provided by RGC EXPLORATION PTY LTD. The lines were then digitised, using the AMG coordinate system as the reference and merged with the field data.

Prior to gridding and contouring a non-linear de-spiking filter was passed through the data. The filter selects the nearest "n" points (user specified) around the data point being filtered, and takes the average (note: that the maximum and minimum are not included in the average). Experimentation of filters indicated that an "n" value of 5 was sufficient to reduce some of the uncorrelated spikey noise prior to gridding. The apparent "noise" in the data appears to be geologically related and as such heavier filtering resulted in the loss of this information.

The located data was then contoured and is presented at 1:5000 scale with a contour interval of 50nT. After a discussion with S. Mudge on the 5th October this was changed to 25nT.

The individual profiles are presented at a horizontal scale of 1:5000 with a vertical scale of 50nT/cm. The vertical scale was chosen such that the dynamic range of the data could be recorded on A3 map sheets, as per discussions with C. Castro on the 31st of August.

Copies of the individual profiles and the contour map were forwarded to C. Castro on the 12th of August. S. Mudge also received a copy of the contour map at the request of C. Castro on the 20th of September.

Accompanying this report is the film plot of the reprocessed contour map. A floppy disc containing the AMG located data has been forwarded to S. Mudge.

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APPENDIX 3

Geophysical Results, Round Mountain

456037

Report on Geophysical Results

from

The Round Mountain Prospect
Northern Tasmania.

on behalf of

R.G.C. Exploration Pty. Ltd.

by

R. Deakin

March 1990

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1. INTRODUCTION

1.1 The Round Mountain Prospect constitutes a part of the broader mineral exploration of the Moina area in Northern Tasmania, being carried out by R.G.C. Exploration Pty. Ltd. The Round Mountain Prospect is located approximately 1.5 km NE of Lake Cethana and occurs in an area of considerable topographic relief (of the order of 500m).

1.2 The prospect is characterised by tightly folded and faulted Ordovician sediments, mainly the Moina sandstone and the underlying, Roland conglomerate. Small windows of Cambrian 'basement' rocks occur in the central part of the grid and (thrust) faulted blocks of Roland conglomerate have been mapped in some grid localities.

In the northern part of the grid, at the junction of Machinery Creek and Weeks Creek, a small galena deposit is being intermittently mined. The mineralisation here occurs in narrow, near vertical, veinlets in the core of an anticline within tightly folded and steeply dipping beds of the Moina Sandstone.

Tin mineralisation, of an unknown origin, was mined from the Tin Spur Falls mine, at approximate grid co-ordinates 4350N - 5200E.

1.3 Regional aeromagnetic and gravity data from the Moina region have been interpreted by D. Leaman (Leaman 1988) and these (and other) results, together with an interpretation of the recently image processed aeromagnetics are summarised in an accompanying report (Deakin 1990).

The Round Mountain Prospect is located above the north eastern end of the interpreted (Leaman 1988) Dalcoath granite pluton, approximately 700m above the granite roof. The Cethana 1:50,000 Metallogenic map (Bamford & Green 1988) shows that the north-eastern extent of the Dalcoath granite outcrop, on the eastern shore of Lake Cethana, should occur within the south-western part of the prospect grid. Evidence of greisen development has been mapped just south (grid) of the Round Mountain grid and is therefore direct evidence of the nearby granite. Interestingly this prospect occurs in close proximity to an interpreted N-S (approx), linear structure (Deakin 1990) which could represent significant plumbing for metasomatic mineralising fluids originating from the Dalcoath granite.

1.4 The grid geology is largely interpretative at this stage, because of generally poor exposure and access. The Moina sandstone is ubiquitous throughout the grid and the main aspect of interest is geological structure which constitutes tight, steeply dipping, folds with an E-W (grid) strike direction.

1.5 Surface geophysical coverage of the Round Mountain grid consists of a magnetometer survey (Fig. 7) and a gradient array I.P. - resistivity survey (Figs. 8 to 11). The magnetic results and the electrical survey data, have been compiled at 1:5000 scale as contours and profiles of the appropriate parameters. The magnetometer survey data was collected and compiled by Surtec Geosurveys and the gradient array results by Geoterrex Pty. Ltd.

2. GEOPHYSICAL RESULTS AND INTERPRETATION METHODS

2.1 Magnetics:

2.1.1 The surface magnetometer survey has delineated a large, broad anomaly at the western end of the grid, on lines 4000E to 5000E (approx). This anomaly appears to be related to a source at depths of 100m to 300m however it is only partly covered by the grid survey and therefore is inadequately resolved. Steep gradients are associated with this anomaly on some lines indicating the possibility of a shallower source. (30m to 50m).

2.1.2 Several narrow, low amplitude (50 n.T. to 200 n.T.), high spatial frequency, anomalies occur throughout the grid which often appear to form linear features parallel (approximately) to the geological strike.

2.1.3 Interpretation of the magnetics is basically qualitative. Some limited, simplified 2D, quantitative modelling has been employed to obtain depth and dip estimates for some features however the merits of this approach for this data set are limited because of the insufficient coverage of the western anomaly and the noisy and discontinuous nature of most other anomalies. The geological cause of shallow source magnetic anomalies is at present unknown. Tertiary basalt, evidenced by sporadic float, is probably the cause of some magnetic noise however the apparent coherence of many anomalies over two or more grid lines indicates a bedrock origin.

2.2 Gradient array Electrical Data :

2.2.1 Both the apparent resistivity and chargeability (I.P.) results form moderate to large amplitude anomalies which are long, narrow, linear features sub-parallel to strike (Fig 1). They probably reflect near surface geological features controlled by folding and faulting, however a direct correspondence between geologically interpreted structure and geophysical anomalies is not consistent.

2.2.2 Chargeability anomalies vary in anomaly amplitude from 20 m.S. to 40 m.S. and are expected to be the response of subsurface sulphides or graphite. Anomaly interpretation is basically qualitative although simplified 2D modelling methods were used to informally quantify estimates of depth and dip. An approximate, schematic, cross-sectional 2D interpretation has been presented (Figs, 3 to 6) for four selected grid lines, 4400E, 4800E, 5200E and 6400E. In general, anomaly sources can be explained by steeply dipping bodies or zones with a depth to top (i.e. depth of overburden + oxidation) of about 20m. Depth extent is not well resolved, however dip lengths of the order of 50m to 100m are approximately indicated from modelling.

2.2.3 The correspondence between chargeability anomalies and anticlines, shown on the geology map, is reasonably good. Hence it might be safely concluded that, in the majority of cases, the I.P. anomalies are the response of sulphide veins or bodies concentrated in anticlines, similarly to the known mineralisation in the north of the grid. Where this correspondence between chargeability anomalies and anticlines does not occur, it might be concluded that the results indicate either:

a) the presence of unmapped or mismapped structure;

or

b) the occurrence of sulphide (or graphite) concentrations in other structures such as synclines or faults (parallel to strike).

2.2.4 The apparent resistivities show a general and significant increase in amplitude to the south (grid). This may be a reflection of the degree of structural complexity and/or degree of silicification. From the geology it appears that folding is tighter, more prevalent and more complex in the northern half of the grid. The apparent resistivities therefore will be lower due to an increase in bulk rock porosity caused by the larger degree of rock fracturing and distortion.

2.2.5 The large variation in apparent resistivity values, particularly in the southern half of the grid, is largely in sympathy with the chargeability results. That is, resistivity lows, in general correlate with chargeability highs indicating conductive as well as chargeable sources. This effect could be the result of :

a) significant, semi massive or massive sulphide bodies

or

b) a large, local increase in rock porosity related to folding and fracturing along structural axes which have been (favourably) mineralised.

or

c) graphite zones or bodies which are usually highly conductive and chargeable.

From the known geology alternatives a) and c) would appear the least likely and therefore high chargeability - low resistivity anomalies are expected to be the response of zones of fracturing and faulting with small vein and/or disseminated sulphides.

In localities where chargeability anomalies correlate with higher apparent resistivities increased silicification and/or discontinuous, disseminated, sulphides can be expected.

2.3 The interpretation of the geophysical results is summarised graphically on Figure 1. Geophysical anomaly trends follow the topography which however, also follows the geological strike. Examination of several lines of data as well as the total grid 'picture' leads to the conclusion that geophysical anomalies are not topography induced but are probably altered in spatial character by the topography. Qualitative topographic corrections are incorporated into the interpretation of selected responses.

3. INTERPRETATION

3.1 The large, broad magnetic anomaly in the western part of the grid is interpreted as being the response of a body at depths of 100m to 300m. Some approximate 2D modelling of this anomaly for line 4400E is illustrated on Figure 2. Induced magnetisation only, has been assumed and the 2D approximation is not valid. These results therefore provide essentially an estimate of the depth of the anomaly source. The dip indications may well be in error. These results indicate that higher spatial frequency anomalies are superimposed on the deeper (broader) response, which are attributed to shallow (20m to 30m) bodies.

The geometry of the body causing the large anomaly appears from the data to be complex, possibly related to faulting and may be a granite roof 'aureole' anomaly as suggested by Leaman. Its presence here may be indicative of shallow metamorphosed Cambrian basement. Because the anomaly obviously extends further west (grid) of the prospect grid it is inadequately resolved and therefore a reliable interpretation is not possible. The regional aeromagnetic results are of little help here because Round Mountain sits on the edge of the data coverage.

A magnetic anomaly centred at approximately 4150N on line 5400E is due to a source at depth of approximately 80m. This feature has a strike extent of 200m to 300m and could represent a faulted extension, to the east of the larger western anomaly. Similarly to the western anomaly it has no direct chargeability response and is apparently of minor economic significance.

3.2 The geophysical results from line 4400E are illustrated on Figure 3. This data set shows very high apparent resistivities (6,000 ohm.m. to 20,000 ohm.m.) and lower, background, chargeabilities (8 m.s. to 18 m.s.) in the interval 4600N to 4800N. Chargeability peaks (values over 30 m.S.) at 4825N, 4975N, and at the southern end of the line, correspond to lower resistivities. The latter two anomalies can be related to recorded anticlines and the central anomaly suggests the possibility of another anticline at about 4825N.

The interval of very high apparent resistivities on this line (4600E - 4800E) correlates with the interpreted position of the deep magnetic body and may be directly related to the same (interpreted) source. The results indicate that the magnetic anomaly has a 'negative' chargeability correlation and therefore is of little economic interest.

3.3 The data and interpretation for line 4800E are shown on Figure 4. Three chargeability anomalies, centred at 4050N 4275N and 4500N all have coincident low resistivities and are interpreted as shallow (20m approx) bodies or zones with a sub vertical or steep northerly dip. The general decrease in apparent resistivity north of about 4850N is evident here and the two chargeability peaks at 5050N and 5225N in this lower resistivity area, coincide with background or slightly elevated resistivities. The interpreted geometry of these two chargeable zones is similar although with a steep dip to the south indicated.

Only one recorded anticline can be correlated with a chargeability anomaly, at 5050N and unmapped (?) anticlines are proposed beneath the other anomalies.

A small magnetic anomaly, indicative of a small and shallow source is evident in the magnetic profile at 4425N. This feature is superimposed on a very broad, low order (150 n.T.), magnetic anomaly which would be caused by a large body at a depth of several hundred metres. (A faulted? extension of the eastern anomaly at depth).

3.4 The 5200E data profiles and interpretation are shown on Figure 5. Chargeability anomalies are evident at 4025N, 4350N - 4450N and 5075N, with the latter two being the most significant in terms of amplitude. The central anomaly (s) indicates two sources at about 20m depth, with a steep dip to the north. The more southerly one is below the Tin Spur Falls Mine and therefore presents an excellent drill target. The other chargeability anomaly, further north correlates with a mapped anticline and is expected therefore, to reflect mineralisation concentrated in this structure.

A magnetic anomaly centred at approximately 4950N is clearly related to a small, shallow, and isolated source with reverse (approx.) magnetisation. This 'reversed' anomaly possibly reflects an overturned magnetic body or unit and therefore raises the possibility of thin magnetic units, as part of the sandstone sequence, causing many of the anomalies.

A 50m window of Roland Conglomerate and Cambrian basement is recorded in the interval 4250N - 4300N on this line and correlates with a resistivity high and an anomalous (cf. background) chargeability low. This localized result suggests that other unresolved small exposures of these rocks could be influencing the geophysical results. Also the 'apparent' anomalous chargeability low over this exposure has an significant influence on the interpreted dip of the anomaly (high) immediately to the north (4350N anomaly) creating uncertainty in the interpreted dip.

3.5 Results from line 6400E are illustrated on Figure 6. A 50 m.S. chargeability anomaly occurs at approximately 3975N and is coincident with highly anomalous apparent resistivities (in excess of 10,000 ohm.m.). This anomaly is interpreted in terms of a shallow (20m) source with a steep dip possibly to the south. The coincidence with high resistivities implies the possibility of significant silicification associated with this 'anomalous' zone. A weak, broad chargeability high in the interval 4600N - 4800N (approx.) has two subtle peaks. This anomaly is interpreted as the response of deeper sources (50m to top approx.).

Three or four magnetic anomalies of the order of 150 n.T. to 200 n.T. are evident on this line and are attributed to small, shallow and possibly sub-vertical sources. In the absence of control on remanent magnetism the interpretation of body geometry, particularly dip, is very speculative at this stage. The coincidence of magnetic anomalies with chargeability response is low and it would appear that the interpreted magnetic bodies have little economic significance.

3.6 The selection of the above four grid lines has been somewhat subjective but represents an attempt to :

a) select the better anomalies

and

b) provide a representative illustration of the concepts of the interpretation.

The geophysical anomalies, from the electrical data in particular, are extensive linear features and provide minimal focus for target selection. As discussed above, they are expected to basically reflect products of the geological structure which hopefully will include

significant sulphides in zones coincident with chargeability anomalies.

Faulting in the grid area is most likely to be oriented parallel to strike and be intimately related to the folding mechanism. Recognition of this style of faulting is unlikely from the geophysical results. Some possible faults oriented in a direction approximately across strike are however, suggested from the geophysics and are illustrated on the interpretation plan (Fig. 1.).

4 CONCLUSIONS

4.1 The magnetic data from the Round Mountain prospect has partly delineated a significant anomaly in the western part of the grid. The likely source geometry of this anomaly cannot be estimated with a great deal of certainty, because of the partial data coverage, but appears to be a complex source at depths of 100m to several hundred metres. Its significance from an economic point of view is unclear but the electrical geophysical results indicate that it is probably of minor importance.

Other high frequency, small amplitude magnetic anomalies occur in the central and northern grid areas and appear to be the response of extensive, although somewhat discontinuous, zones or bodies parallel to strike. These magnetic sources are interpreted as small, shallow and steeply dipping with a very low correlation with anomalous chargeabilities.

4.2 Several sets of relatively narrow, linear, chargeability anomalies occur, which parallel the geological strike. Within the context of the geological model these are expected to reflect sulphide concentrations in the cores of sub-vertical anticlines. A more complex folding of the rocks with a greater fold repetition rate is therefore suggested by the geophysical results (from this analogy).

No particular geological attributes can be directly correlated with geophysical features or anomalies; there is however a tendency for chargeability anomalies to follow anticlines, the most favourable structure. Chargeability anomalies can of course be the response of sulphides, concentrated by other structures; - faults and synclines (for example).

Although base metal sulphide veins or stockworks are the expected chargeability anomaly source, disseminated pyrite zones, common within the Moina sandstone, could readily account for the anomalies.

4.3 The apparent resistivity results exhibit a very large dynamic range; from a few hundred ohm metres up to 25,000

ohm metres, which is considered to most likely be a reflection of either bedrock porosity (i.e. fracturing) or silicification. Overall there appears to be a correlation between lower apparent resistivities and chargeability highs which could be indicative of significant sulphide concentrations.

5. RECOMMENDATIONS

5.1 As commented above, the geophysical results have produced long linear anomalies with minimal focus for testing. Therefore several separate (chargeability) anomalies or anomaly trends have been selected for testing by drilling. The drill targets listed below, have resulted from the selection of the best or strongest response from these anomalies. All target locations are shown on the cross sectional interpretations (Figures 3 to 6).

5.2 Recommended drill targets (approximate priority order) :-

1. Line 5200E - 4360N - R.L. = 390m
   An angle hole from the north.
   (beneath Tin Spur Falls Mine !)

2. Line 4400E - 5000N - R.L. = 440m
   An angle hole from the north.

3. Line 6400E - 3975N - R.L. = 620m
   An angle hole from the south.

4. Line 5200E - 5060N - R.L. = 400m
   An angle hole from the south.

5. Line 4800E - 5030N - R.L. = 410m
   An angle hole from the south.

6. Line 4800E - 4525N - R.L. = 310m
   An angle hole from the north.

7. Line 4800E - 4300N - R.L. = 390m
   An angle hole from the north.

For all the above drill targets, it is recommended that the drill hole continue approximately 30m beyond the target. The first four targets represent the four major separate chargeability anomalies and therefore drill holes 5 to 7 may prove to be superfluous; depending on the results of holes 1 to 4.

5.3 The geophysical results should be re-assessed at the completion of the above drilling with the drilling results.

Further targets can be then formulated if warranted.

6. REFERENCES

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Leaman, D.E., 1988 a,b,c,d and e Five reports - Gravity and Magnetic Evaluation of the Moina Region 1,2,3,4 and 5 for R.G.C. Exploration August 1988 to December 1988.

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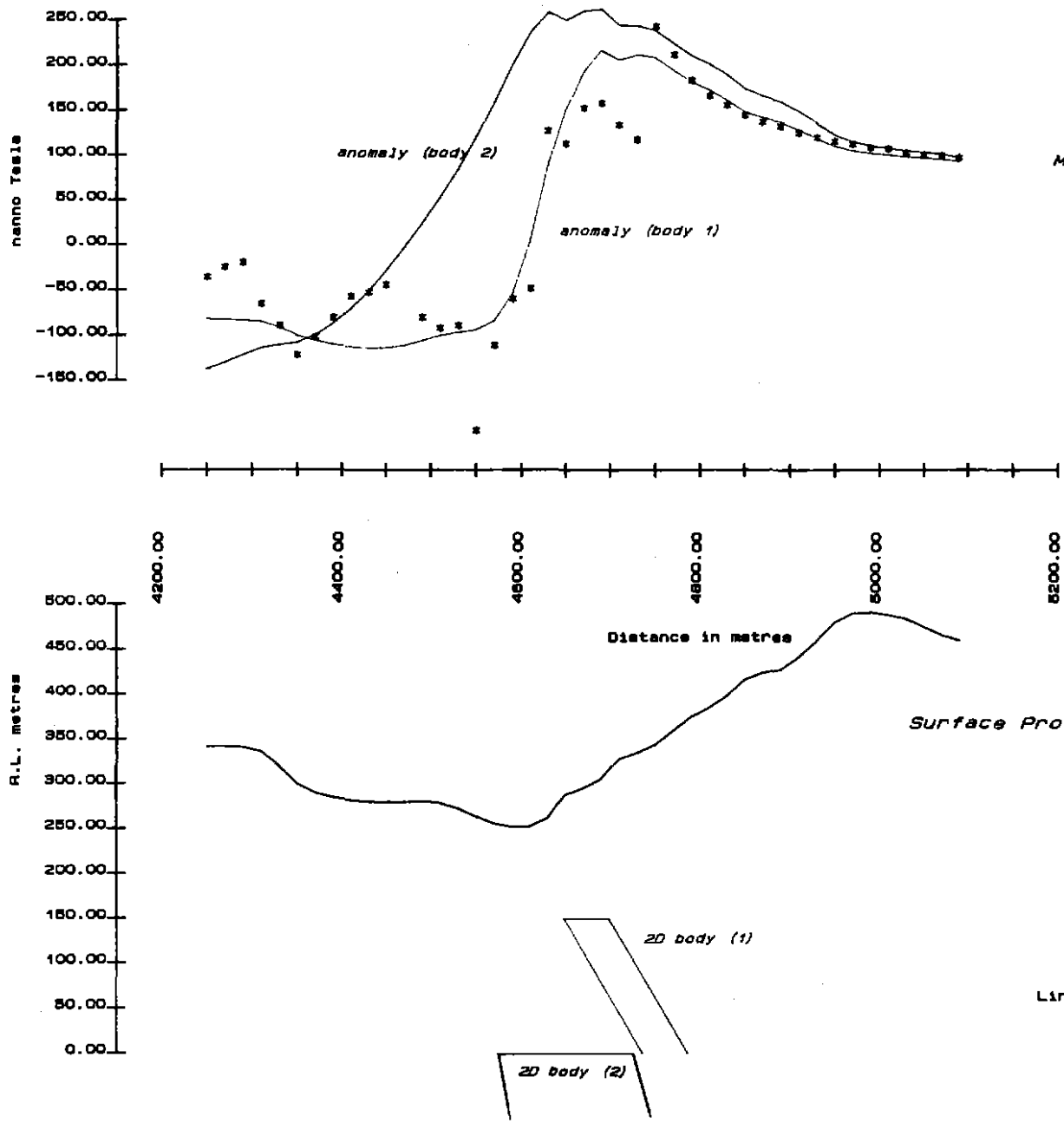


Magnetic Data + model curves

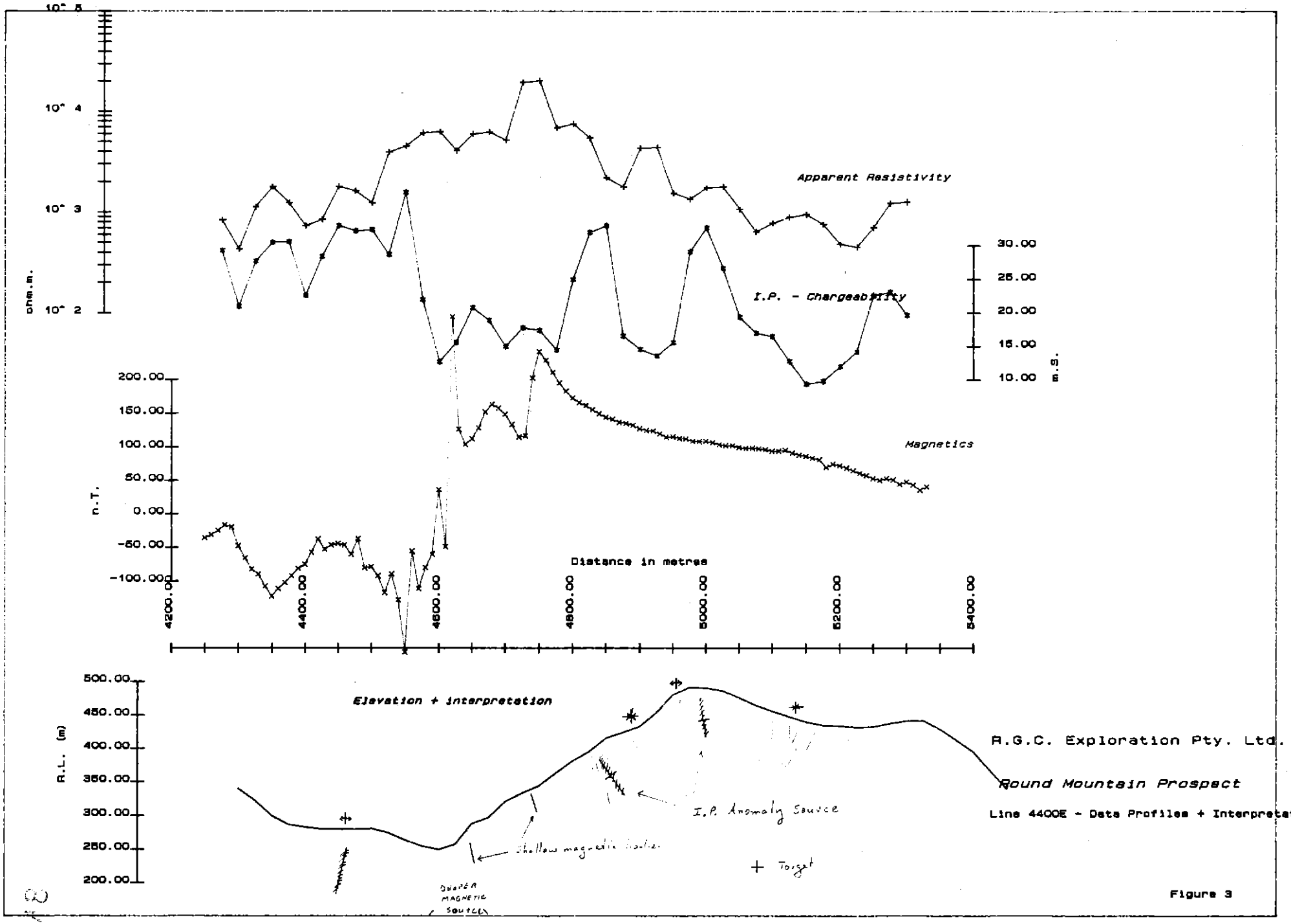
Surface Profile + 2D models

R.G.C. Exploration Pty. Ltd.

Round Mountain Prospect

Line 4400E - Magnetics + Interpretation

Figure 2

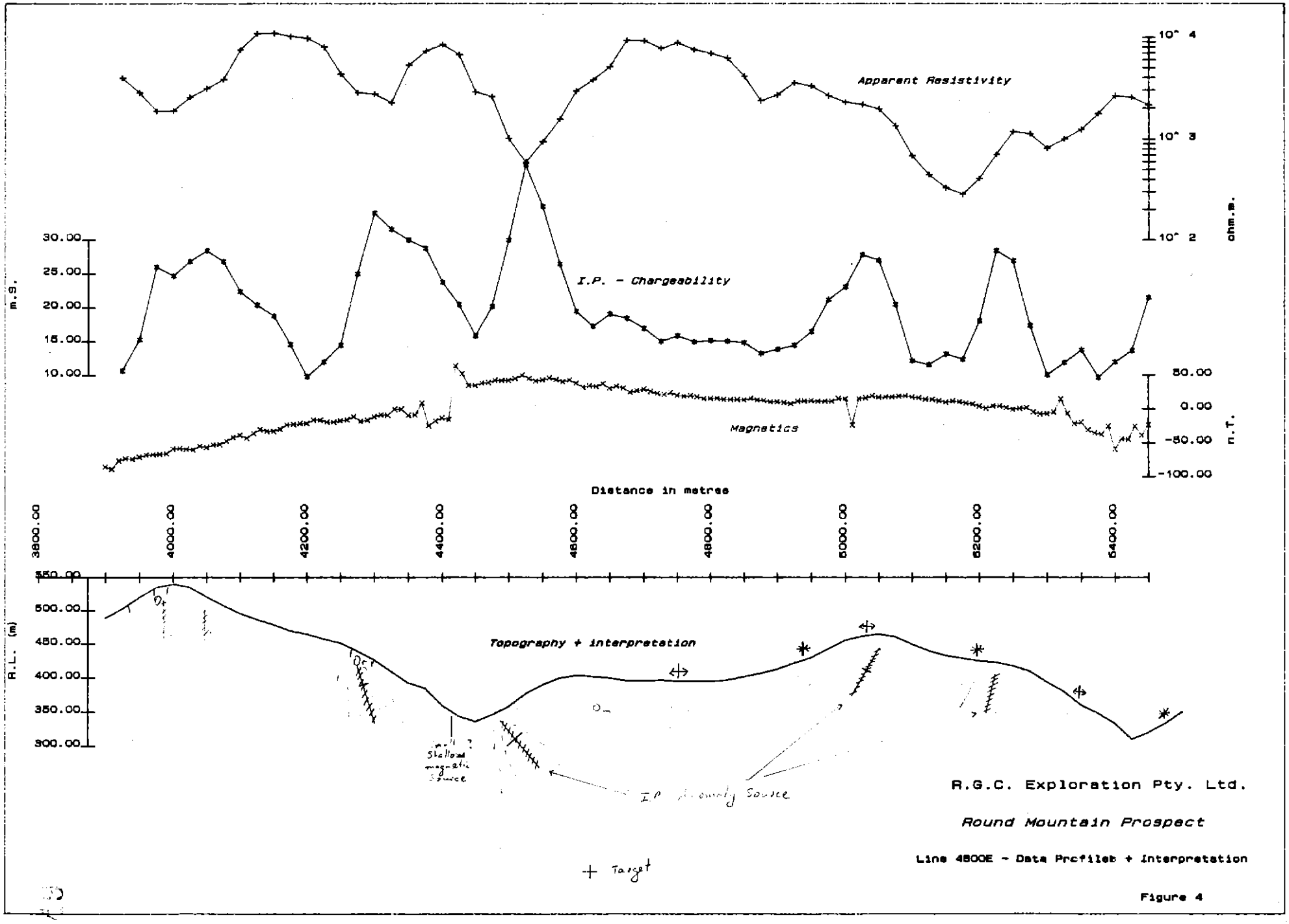


R.G.C. Exploration Pty. Ltd.

Round Mountain Prospect

Line 4400E - Data Profiles + Interpretation

Figure 3

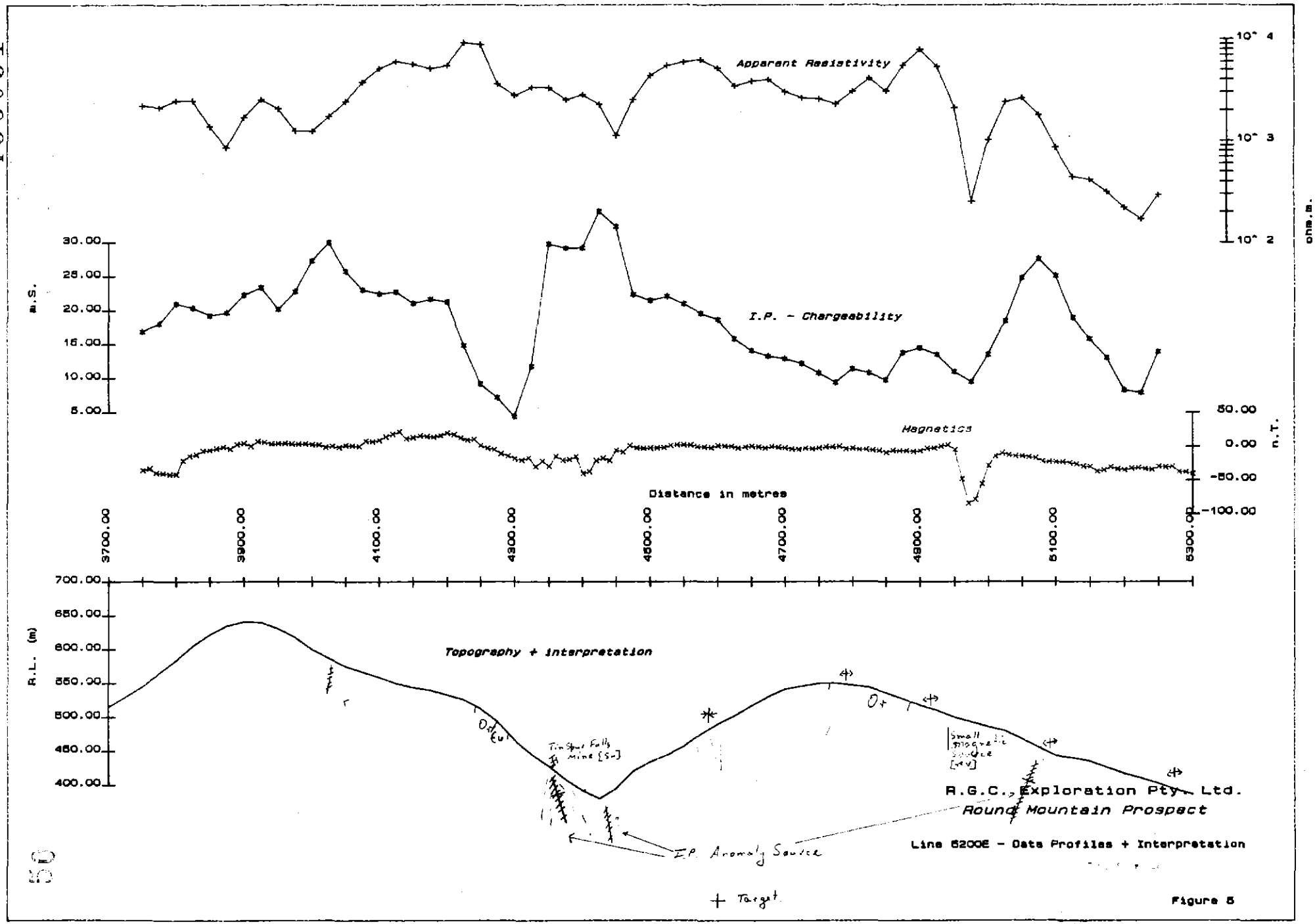


R.G.C. Exploration Pty. Ltd.

Round Mountain Prospect

Line 4800E - Data Profiles + Interpretation

Figure 4



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Round Mountain Prospect

Line 5200E - Data Profiles + Interpretation

Figure 5

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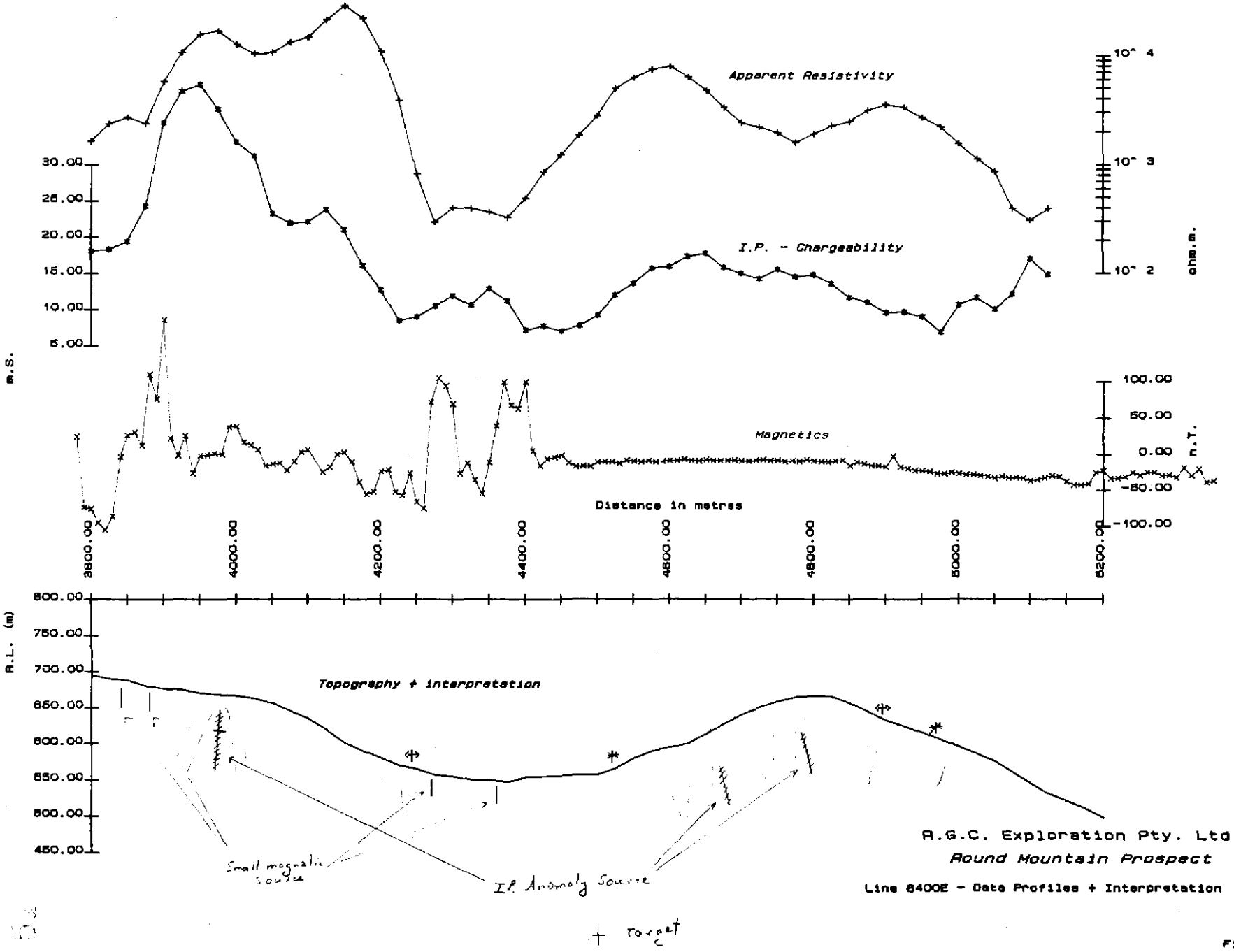

R.G.C. Exploration Pty. Ltd.

Round Mountain Prospect

Line 6400E - Data Profiles + Interpretation

Figure 6

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APPENDIX 4

Geophysical Results, Five Mile Rise

456054

Report on Geophysical Results

from the

Five Mile Rise Prospect
Northern Tasmania

on behalf of

R.G.C. Exploration Pty. Ltd.

by

R. Deakin

March 1990

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1. INTRODUCTION

1.1 The Five Mile Rise prospect is one prospect within the Moina region of Northern Tasmania which is being explored by R.G.C. Exploration Pty. Ltd. for base and precious metals. The Five Mile Rise grid is within EL 8/88 and is situated immediately west of Lake Cethana and approximately 8km south of the Cethana dam.

1.2 The prospect covers an E-W striking, exposure of Ordovician Moina sandstone which is covered by tertiary basalt to the north and uncomformably overlies Cambrian sediments, volcanics and granite which are exposed south of the grid.

Mineralisation in the Moina region is commonly associated with the Moina sandstone as narrow sulphide, vein deposits within fold and fault structures. Gold and bismuth, occurs in skarns derived from the (younger) Ordovician, Gordon limestone. Regional mineralisation in the Moina region is related to the emplacement of the Devonian Dalcoath granite, which is exposed to the north of Five Mile Rise.

1.3 At Five Mile Rise the Moina Sandstone is essentially undeformed with shallow dips to the north. Several old mineral workings or deposits are reported from the grid area and are thought to be small, low grade, sulphide and gold zones associated with faulting and/or quartz veining.

1.4 Regional aeromagnetic and gravity data from the Moina region have been interpreted by D. Leaman (Leaman 1988) and these (and other) results, together with an interpretation of the recently image processed aeromagnetics are summarised in an accompanying report (Deakin 1990).

The Five Mile Rise Prospect is located above the south eastern end of the interpreted (Leaman 1988) Dalcoath granite pluton, approximately 1000m above the granite roof. The steeply dipping southern boundary of the Leaman granite model occurs below Five Mile Rise grid and the interpreted ENE-WSW linear structure (S4 - Deakin 1990) there, may be both a structural control on the granite geometry and a plumbing mechanism for migrating mineralising fluids.

1.5 Surface geophysical coverage of the Five Mile Rise grid consists of a magnetometer survey (Fig. 8) and a gradient array I.P. - resistivity survey (Figs. 9 to 12). The magnetic results and the electrical survey data, have been compiled at 1:5000 scale as contours and profiles of the appropriate parameters. The magnetometer survey data was collected and compiled by Surtec Geosurveys and the gradient array results by Geoterrex Pty. Ltd.

2. MAGNETIC RESULTS AND INTERPRETATION

2.1 The 1:50,000 recompilation of the shell airborne magnetic data shows that the Five Mile Rise grid is situated on a gradient of increasing magnetic intensity to the north. Flight line magnetic profiles indicate that a separate magnetic body or structural unit comprises the prospect grid area at depth.

Some simple 2D modelling was applied to the flight line 5700 profile and the results are illustrated on Figure 2. The modelling results indicate that the anomaly cause can be explained by a slab of weakly magnetic rock, about 1.5k in width, about 200m below the flight height (approx 100m below surface) and extending to a depth of the order of 1km. A steep dip to the north is also suggested.

The Figure 2 results illustrate how the magnetic profile increases in intensity further north where another 'body', below the basalt cover is indicated.

2.2 The inferred depth extent (or bottom) of the simplified magnetic model used for this exercise, equals approximately, the interpreted depth of the Dalcoath granite roof (Leaman 1985). On a regional scale therefore, the magnetics suggest that the Five Mile Rise prospect has a magnetic basement at a depth of 100m to 200m below the surface. The nature of this 'magnetic basement' is speculative at this stage but is possibly rocks of the Cambrian, Dove granite. Exposures of Dove granite to the south and southwest of Five Mile Rise show a variable but in places, equivalent (in intensity) magnetic response and the spatial relationship between the Moina Sandstone and this Cambrian unit here, would indicate a Cambrian basement with a shallow northerly slope (of the top).

2.3 The surface magnetics from the Five Mile Rise grid are dominated by this gradient of increasing intensity to the north in the western part of the grid. Superimposed on this gradient are several anomalies of about 100n.T. to 200n.T. which are indicative of source depths of about 100m. Some simplified forward 2D modelling was applied to the line 5000E profile and the results are illustrated on Figure 3. These results indicate that the smaller (residual) anomalies are probably caused by (magnetic) basement highs due possibly to block faulting. They may of course, be the response of separate bodies of different geology, however the similar magnetic susceptibility interpreted for them and the overall profile characteristics leads to the Figure 3 results as a simplified representation of the most likely geometry and mechanism.

2.4 The dominant E-W striking magnetic gradient extends eastward to approximately the 6000E-6200E zone of the grid where it either swings around to a NNE-SSW strike or is terminated by a separate gradient with this strike orientation. The NNE-SSW gradient is evident in the aeromagnetic data as a larger feature extending several kilometres further to the north and south of the grid and therefore is interpreted as another structure (fault ?) within the relatively shallow magnetic basement. Part of the aeromagnetic data and the associated interpretation is reproduced on Figure 1.

2.5 Thus, the magnetic data is largely a reflection of the geometry and structure of a magnetic basement at depths of 100m to 200m below the surface. The principal features (Fig 1) being:-

1. The southern boundary structure which follows the southern edge of the grid and represents the southern (faulted ?) extent of the basement block.

2. The central fault structure which divides the grid into western and eastern sectors.

3. The northern boundary structure, i.e. the northern extent of the interpreted basement block. This also corresponds to a larger scale linear in the regional data but is not well resolved in the surface magnetics.

4. E-W (approx.) trending blocks of elevated basement which may be the result of block faulting.

and

5. Several other N-S or NNE-SSW faults interpreted from terminations and offsets of geophysical anomalies.

2.6 The northern basement block boundary (S4 in the regional interpretation) is not well resolved from the surface data because of the noisy effects of Tertiary basalt and the (other) gradient associated with the regional scale anomaly about 1km further north. An arcuate magnetic boundary in the NW corner of the grid (Fig 1) is associated with high frequency noise, caused by exposed Tertiary basalt, and could reflect a 'basement' feature or simply the basalt edge.

Similarly, a magnetic boundary in the SE corner of the grid is associated with high spatial frequency magnetic noise, typical of shallow basalt. This feature could be simply the basalt edge, although it has a significant low spatial frequency component indicative of basement relief at depths of 50m to 100m.

3. GRADIENT ARRAY I.P. AND RESISTIVITY RESULTS

3.1 The gradient array chargeability (I.P.) results show a general background level of 10 to 20 milliseconds (m.S) with absolute anomaly magnitudes of 30m.S. to 60 m.S. The complementary apparent resistivities indicate a background level of the order of 1000 ohm metres with anomalous highs varying from 2000 ohm.m. to several thousand ohm. m. Resistivity responses which can be considered as anomalous lows are rare, indicating a lack of 'anomalous' conductors in the grid area.

3.2 The principal features of the gradient array data set are:-

1. The narrow and persistent resistivity high in the northern half of the grid which follows Sunday creek and is therefore the response of the resistive bedrock 'window' caused by erosion of shallow conductive overburden and weathering by the creek.

2. Similar to 1.(above); a large gradient of increasing resistivities on the southern end of grid lines 5400E to 6600E, related to the stream approximately 50m to 100m further south.

3. The chargeability anomaly, magnitude 35 m.S. to 55 m.S., which occurs at the northern end of lines 4800E to 6800E. This chargeability high correlates with a low order resistivity high (1000 ohm.m. approximately) and is possibly related to the ill-defined northern boundary structure. This feature is offset by an (interpreted) fault in the vicinity of 6000E and to the west, terminates at the magnetic/basalt boundary.

4. A chargeability anomaly in the zone 8475N / 4000E to 8625N / 4600E, in the SW, with a peak value of about 60 m.S. on line 4200E, and an associated minor apparent resistivity high. This anomaly coincides with the surface unconformity between Cambrian rocks and Ordovician Moina sandstone and from the magnetics, appears related to a basement high immediately north. Possibly the surface unconformity is symptomatic of faulting of the magnetic basement (?).

5. A single line chargeability anomaly with a peak value of about 35 m.S. at 8950N on line 5000E, correlates with the edge of an interpreted basement high.

6. Low order, noisy, chargeability and resistivity highs form a long linear anomaly in the south from 5000E to 6600E. These can be related to interpreted basement features in the western sector and persist further east into the noisy magnetic (basalt) zone.

3.3 In the central (N-S) part of the grid the chargeability results have broad, noisy anomalies which appear to be related to deeper sources in the east and west and to shallow multiple sources in the centre (E-W). An alteration in trend direction and inferred source depth occurs in the vicinity of 6000E and can be related to the NNE-SSW central structure. Deeper chargeability sources (100 m.) east of this feature suggest displacement downwards, east of the interpreted fault.

3.4 The apparent resistivity data set reveals a collection of elongate E-W (approx.) trending highs which in some instances are related to chargeability anomalies and in other instances, as discussed above, are caused by the surface drainage. Two anomalous peaks at 9400N/5800E and 9475N/6000E stand out and can be correlated with Bouley creek. Elsewhere the drainage does not appear to be reflected in the resistivity results (apart from the main northern and southern highs).

Most of the resistivity character is indicative of shallow causes (i.e. 20m to 40m depth) and a large amount may be a function of surficial geological noise (i.e. variations in the overburden and weathering). In the SE corner of the grid higher resistivities are coincident with noisy magnetics and here Tertiary basalt is assumed to be the cause of both these geophysical characteristics.

4. DISCUSSION

4.1 The more interesting chargeability anomalies are associated with interpreted faults within the magnetic basement at depths of 100m to 200m below the surface, as well as low order apparent resistivity highs. In this geological environment chargeability anomalies are expected to be related to either subsurface zones of disseminated sulphides or narrow sulphide veins. The inference from the geophysical results is therefore, that vein or disseminated sulphides in the sandstone are associated with faulting, recognizable from the magnetics, and with silicification or quartz veining as suggested by the higher apparent resistivities.

4.2 Within the context of interpreted fault structures and associated mineralisation the relationship of the Dalcoath granite is not overly clear. The Leaman model indicates that Five Mile Rise is situated near the southern limit of the pluton roof and above its 'steep' southern boundary. In this locality the distance to the granite is about 1km. It seems that the geological mechanism one might invoke is that of faulting of both the magnetic basement (Dove granite?) and overlying sandstone during emplacement of

the Dalcoath granite and subsequent migration of mineralising fluids along those structures.

4.3 A significant number of N-S or NNE-SSW faults are interpreted from the results by virtue of the termination and/or displacement of anomalies and anomaly trends (Fig 1). These interpreted structures may be expected to be equally favourable for sulphide concentrations.

Virtually no anomaly trends with a N-S (approximately) orientation are evident in the geophysical data, which is to a large extent a function of the grid layout and in the case of the gradient array results, of the electrode arrangements. It would be instructive here, to repeat the gradient array survey using an east west grid line and electrode array orientation. Several broad and diffuse chargeability anomaly responses in the central grid area may well be related to anomaly sources with strike directions sub-parallel to grid lines.

4.4 The geophysical data profiles for lines 4200E, 5000E, 5800E and 6400E are reproduced on Figures 4,5,6 and 7 (resp.) with the surface topography and a diagrammatic illustration of the cross-sectional interpretation. On each of these Figures the interpreted depth (to top) and attitude of chargeability anomaly sources is shown as well as aspects of the magnetic and resistivity data. Several of the broad chargeability anomalies can be explained by either substantially thick (100m to 200m in width) bodies (or zones) or a series of narrow, sub-parallel veins (or zones).

5. CONCLUSIONS

5.1 The magnetic results, both regional and grid scale, indicate that data character is largely a reflection of the geometry and structure of a magnetic basement below the Moina sandstone at depths of the order of 200m. Tertiary basalt, which typically produces high frequency, noisy, results, is the only (interpreted) shallow magnetic material.

Major structures interpreted from the magnetics are the northern and southern bounding faults and the NNE-SSW structure separating the grid area into western and eastern sectors. Block faulting is suggested in conjunction with interpreted magnetic basement highs and faults with an approximate N-S orientation are invoked in several places where geophysical anomalies terminate or are displaced laterally.

The geology of the magnetic basement is most likely a weakly magnetic Cambrian unit and the Dove granite appears the most likely candidate in the regard.

5.2 Chargeability anomalies are often associated with interpreted basement structures and are therefore expected to reflect zones of vein or disseminated sulphides which are fault controlled. As gold reportedly occurs in conjunction with narrow sulphide zones in this area the chargeability anomalies provide a favourable focus for exploration of this commodity.

5.3 The apparent resistivity results show a general background level of about 1000 ohm.m. indicative of resistive Moina sandstone. Most departures from this background level are anomalous highs which may reflect bedrock features, such as quartz veining for example, or zones of thinner conductive cover and weathering. A large persistent resistivity high which follows Sunday creek is clearly the result of shallower resistive bedrock exposed by stream erosion.

5.4 The most encouraging geophysical anomalies, which have been selected for testing on selected traverse lines, are:-

1. The Chargeability and Apparent Resistivity anomaly in the SW corner.

2. The Chargeability and Apparent Resistivity anomaly along the northern part of the grid.

3. The Chargeability anomaly at 8950N/500E.

4. The central, broad, Chargeability anomaly centred at approximately 9500N/5800E.

5. The Chargeability and Apparent Resistivity anomaly along the southern part of the grid.

6. RECOMMENDATIONS

6.1 Recommendations at this stage are for a series of drill holes to test the most favorable chargeability anomalies for their gold and base metal potential.

The recommended drill targets are:-

1. Line 4200E, Co-ord 8475N, R.L. = 650M.
   An inclined hole drilled from the south is recommended as a steep dip to the south is inferred. (Fig. 4)

2. Line 5000E, Co-ord 8950N, R.L. = 525m.
   An inclined hole drilled from the north is recommended as a northerly dip is indicated (Fig. 5)

3. Line 5000E, Co-ord 9680N, R.L. = 400m.
   An inclined hole drilled from the north is recommended. (Fig 5)

4. Line 5800E, Co-ord 9875N, R.L. = 275m.
   An inclined hole drilled from the south is recommended as a steep southerly dip is suggested although this is uncertain. (Fig. 6)

5. Line 5800E, Co-ord 9500N, R.L. = 350m.
   A possible dip to the north is suggested, therefore an inclined hole drilled from the north is recommended. (Fig. 6)

6. Line 5800E, Co-ord 8760N, R.L. = 500m.
   A possible steep dip to the south or a sub-vertical dip is suggested. Drill an inclined hole from the south (?). (Fig. 6)

All the above drill holes should be designed to extend 30m to 50m beyond the designated target.

6.2 A re-assessment and possibly refinement of the geophysical interpretation should be carried out in conjunction with these drilling results prior to further exploration at this prospect.

6. REFERENCES

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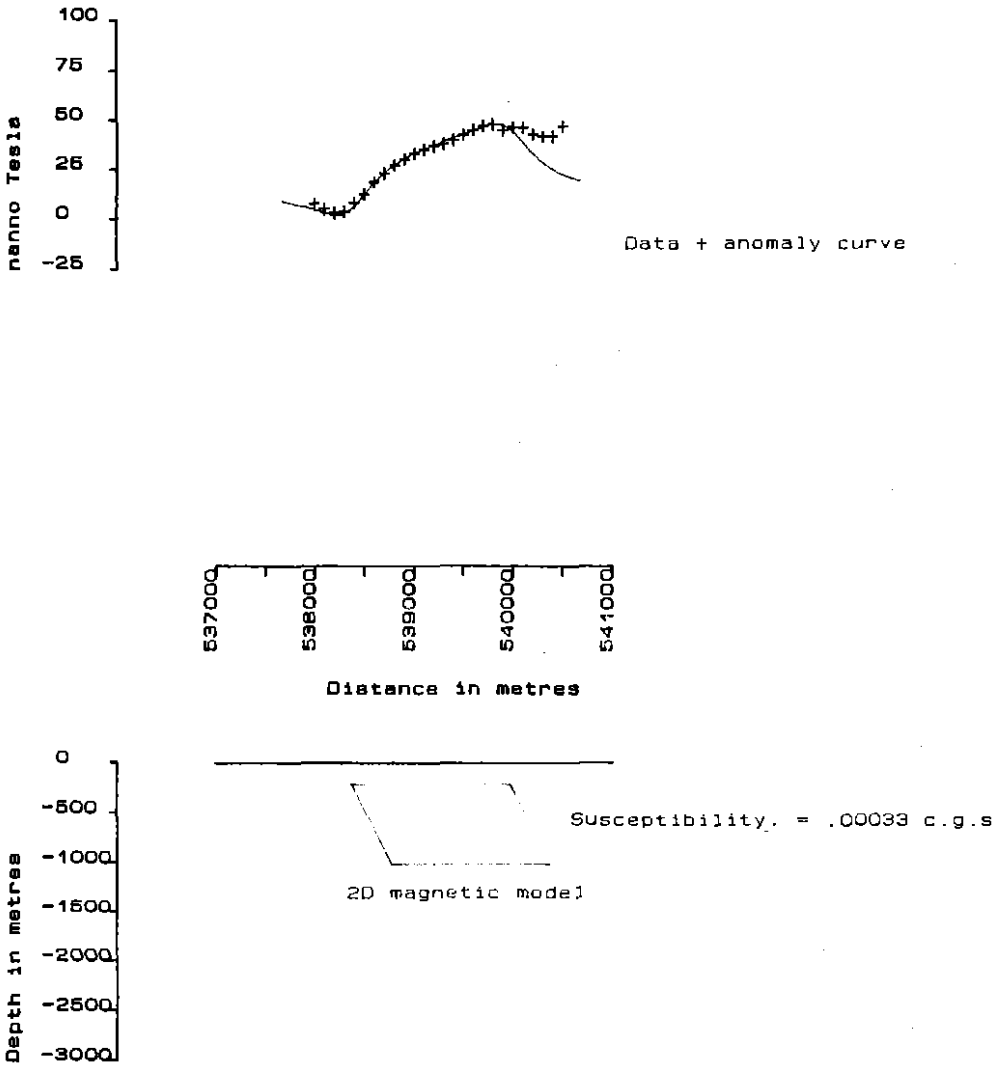
Leaman, D.E., 1988 a,b,c,d and e Five reports - Gravity and Magnetic Evaluation of the Moina Region 1,2,3,4 and 5 for R.G.C. Exploration August 1988 to December 1988.



R.G.C. Exploration Pty. Ltd.

Five Mile Rise Area

Aeromagnetic profile 5700

2D MAGNETIC MODELLING RESULTS

SCALES HOR. 1 : 50000

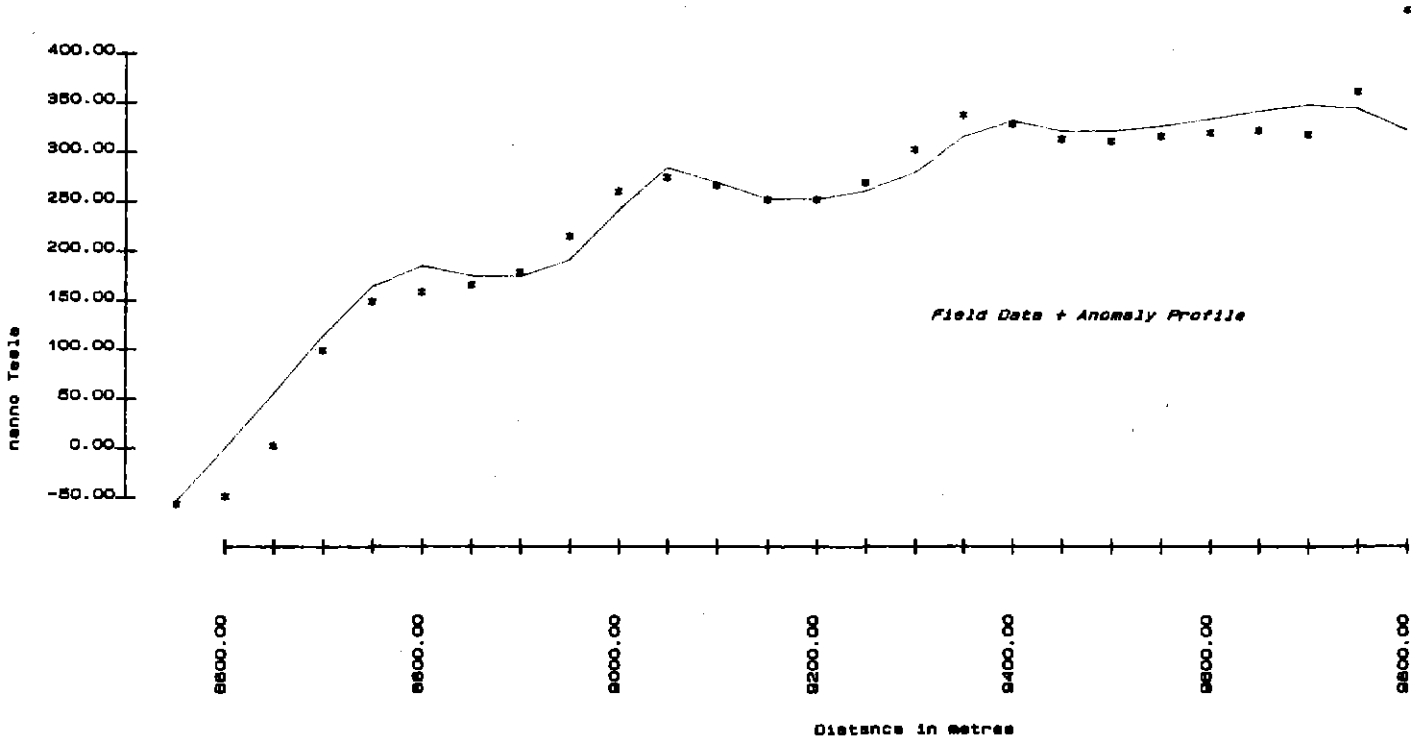
VERT. 1cm to 500 m

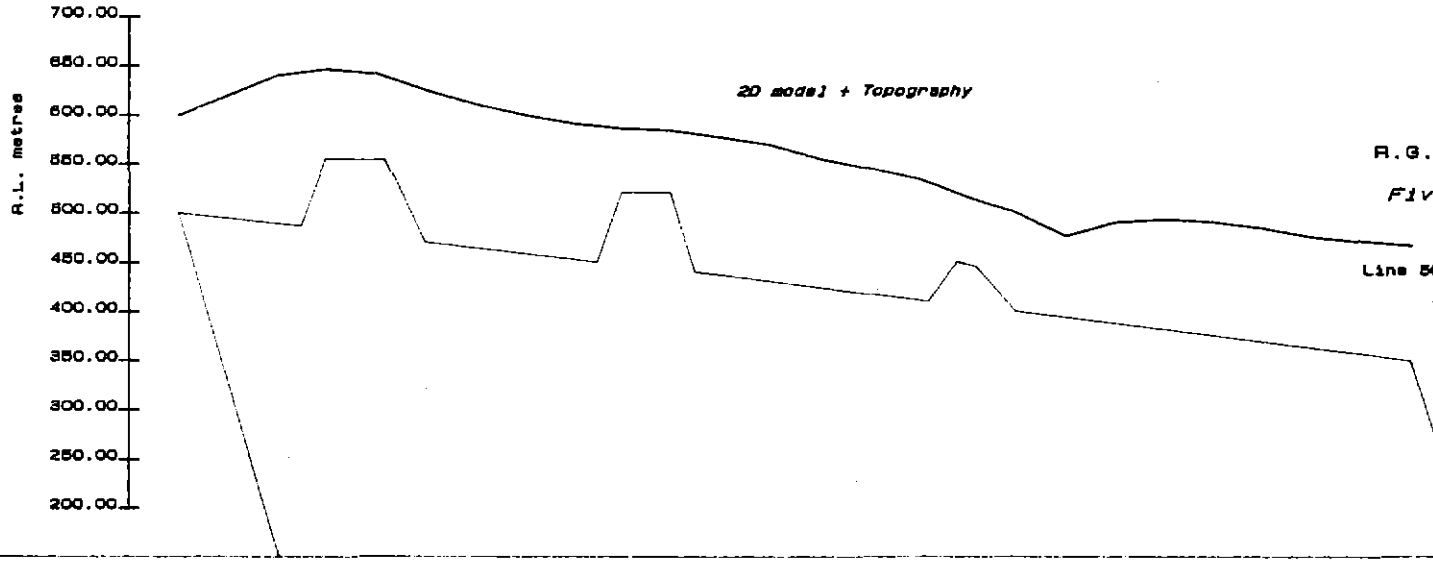
1cm to 25 n.T.

5 cm

Figure 2

45065





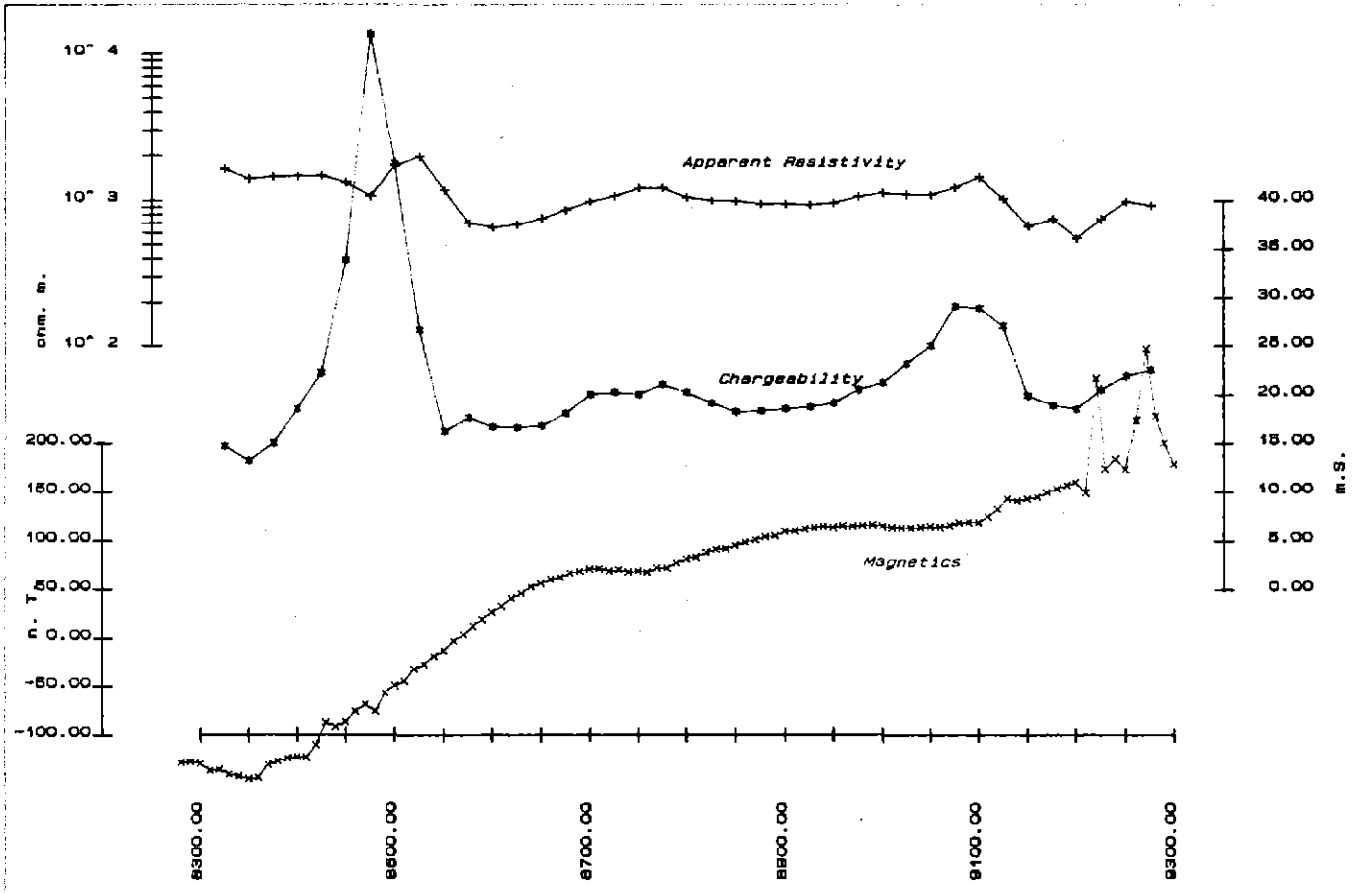
R.G.C. Exploration Pty. Ltd.

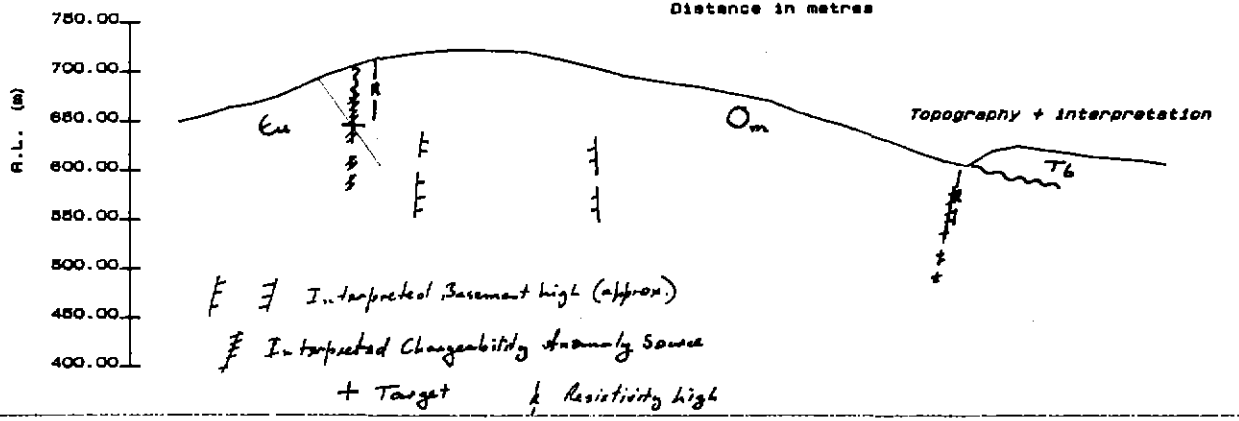
Five Mile Rise Prospect

Line 5000E, Magnetic Interpretation

Figure 3

45066





R.G.C. Exploration Pty. Ltd.

Five Mile Rise Prospect

Line 4200E - Data + Interpretation

Figure 4

45067

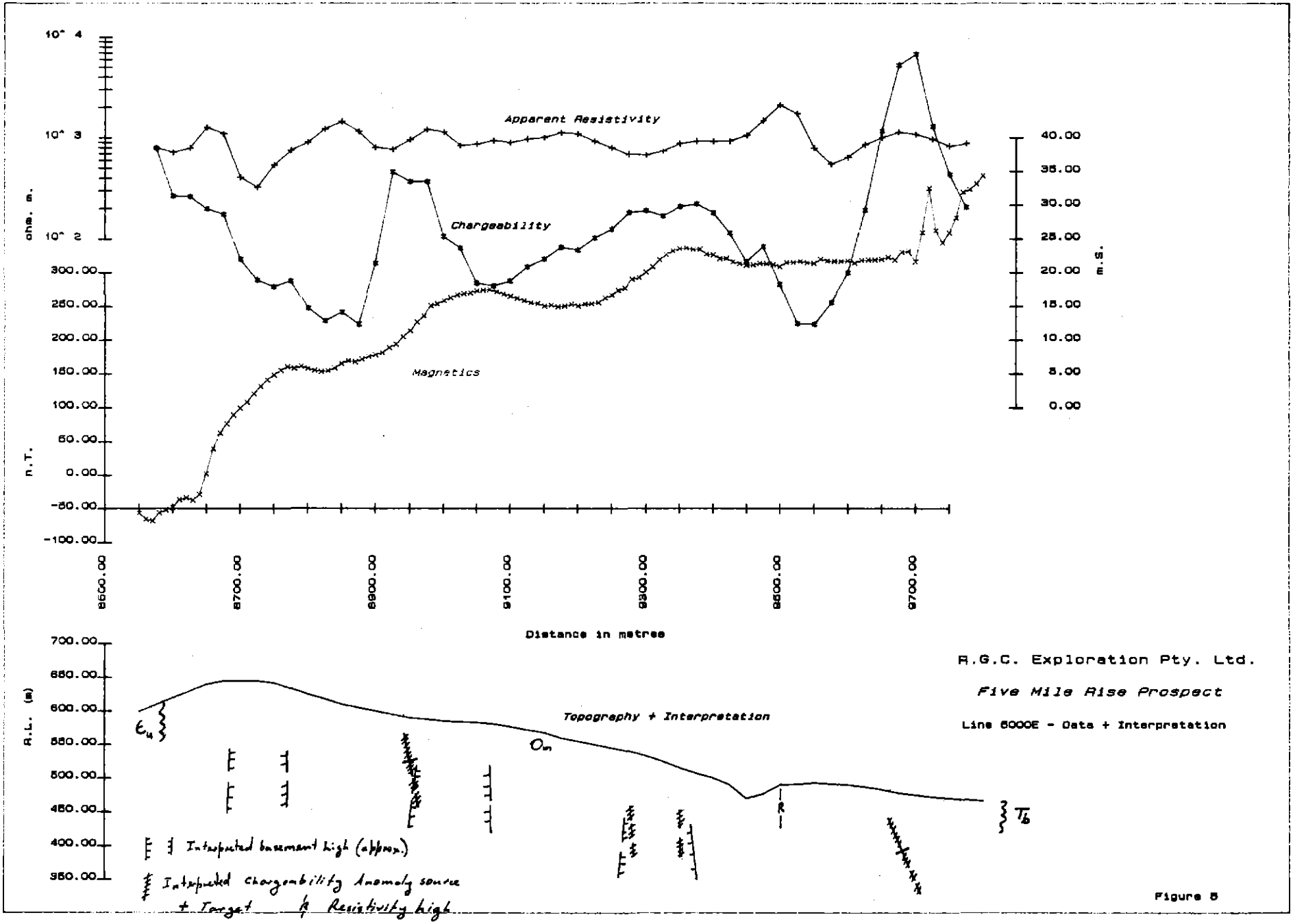
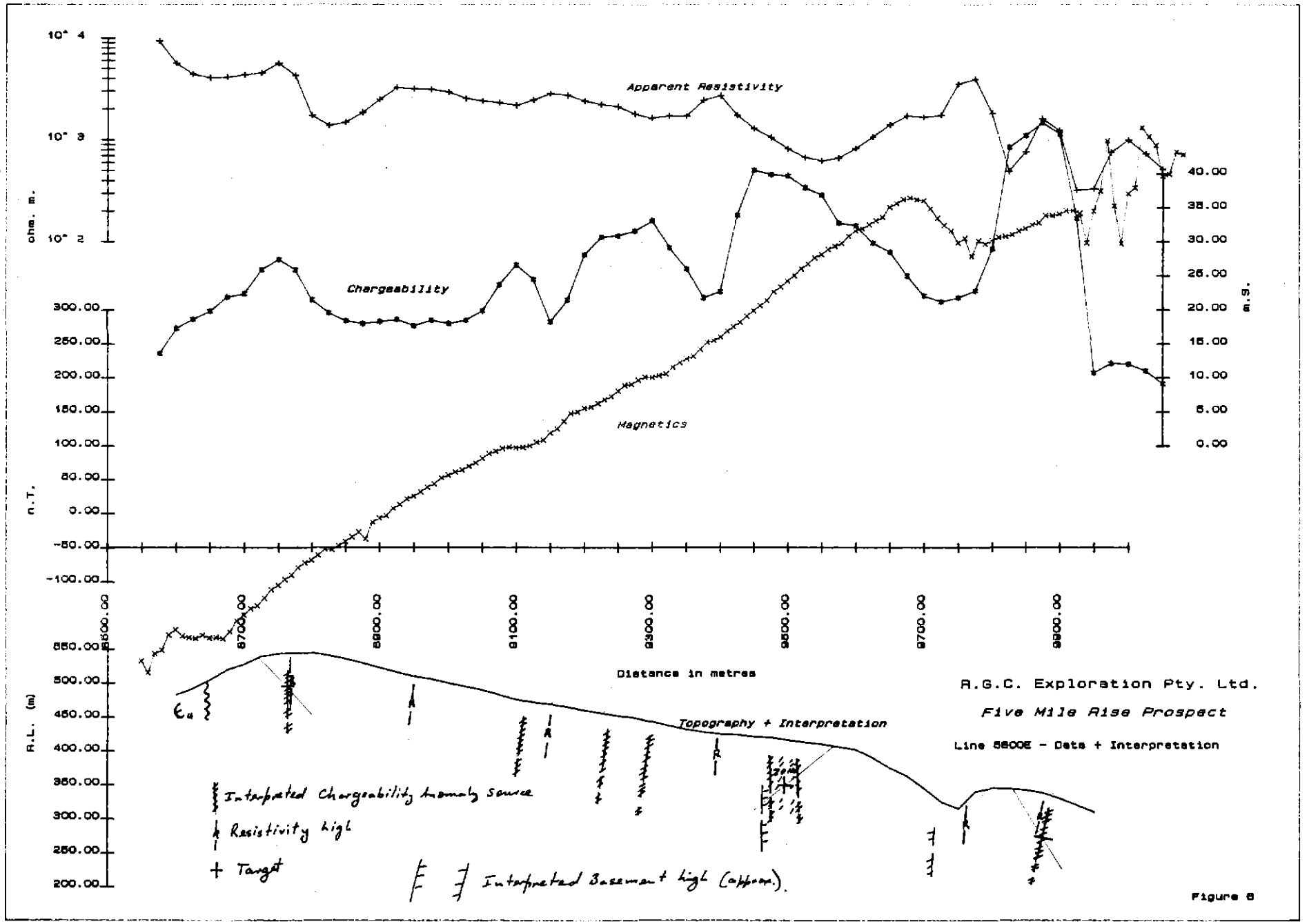
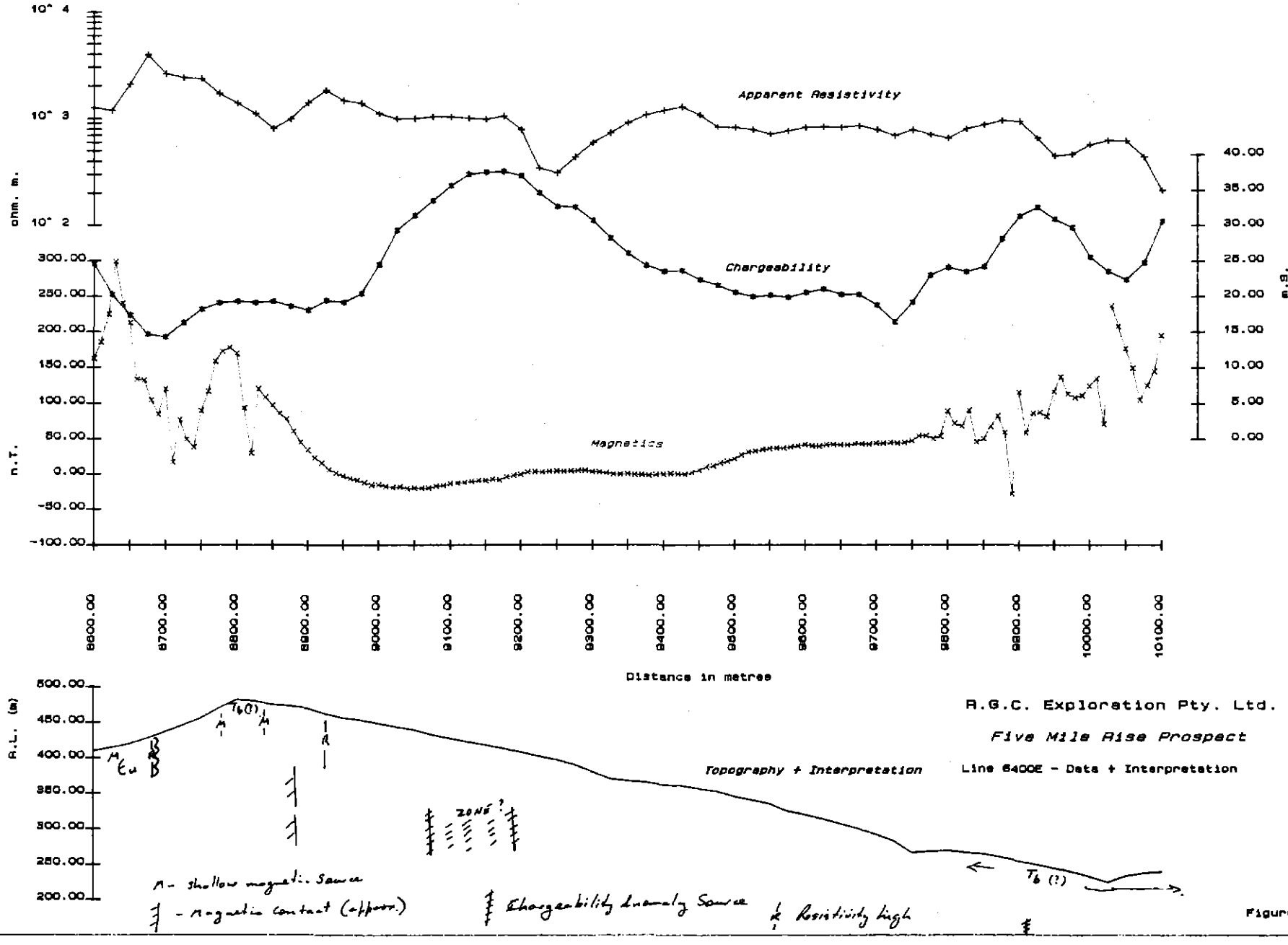


Figure 5


Apparent Resistivity
Chargeability
Magnetics
ohm. m.
10^ 4
10^ 3
10^ 2
m.s.
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
n.T.
300.00
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
8500.00
8700.00
8800.00
9100.00
9300.00
9500.00
9700.00
9900.00
Distance in metres
R.L. (m)
550.00
500.00
450.00
400.00
350.00
300.00
250.00
200.00
Topography + Interpretation
Interpreted Chargeability Anomaly Source
Resistivity High
Target
Interpreted Basement High (approx.)
R.G.C. Exploration Pty. Ltd.
Five Mile Rise Prospect
Line 8800E - Data + Interpretation
Figure 8

46069



R.G.C. Exploration Pty. Ltd.

Five Mile Rise Prospect

Line 6400E - Data + Interpretation

Figure 7

456070
90-3655

APPENDIX 5

Synopsis of Geophysical Results, Moina Area

456071

A Synopsis of Geophysical Results from the Moina Area - Tasmania on behalf of R.G.C. Exploration Pty. Ltd.

by

R. Deakin

March 1990

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PLATES

Plate 1 : Moina Housetop Magnetics. Vertical Derivative with agc. and 3x3 low pass filter. (A4). Greyscale. With interpretation overlay.

Plate 2 : Moina Housetop Magnetics. Vertical Derivative. (A4) Rainbow pseudocolour. With interpretation overlay.

1. INTRODUCTION

1.1 An area approximately 15km x 15km in the Moina, Cethana, Daisy Dell area of northern Tasmania is currently being explored for base and precious metals by R.G.C. Exploration Pty. Ltd. R.G.C. Licence tenure in the region includes EL's 8/88, 36/88, 38/88, 41/83, 26/85 and 34/87 (Fig. 1).

1.2 The region of interest includes over 75 known mineralised sites or old mines/workings, with the predominant commodities being gold, tin, bismuth, wolfram and lead/zinc. The geology and mineralisation of the area is summarised on the Tasmanian Mines Department, 1:50,000 Cethana, Metallogenic map (Bamford and Green, 1988) and the north western part of the area is covered by the Tasmanian Mines Department, 1:25,000, Winterbrook - Moina Geological map (Pemberton and Vicary, 1989).

The majority of mineralised sites are relatively small vein or disseminated deposits, several being associated with calc-silicate (+ magnetite) skarns. The host rocks are predominantly Ordovician sediments, consisting of Roland Conglomerate, Moina Sandstone and Gordon Limestone. Mineralisation is largely controlled by the emplacement of the Devonian Dalcoath Granite. Underlying felsic Cambrian rocks are sporadically exposed throughout the area and large sections of the exploration areas are covered by Tertiary basalt.

1.3 Regional scale geophysical data from the exploration area consists of two aeromagnetic surveys; one by the Tasmanian Mines Department, the other by Shell (Leaman (a) 1988) and surface gravity coverage (Leaman (b) 1988). On a prospect scale, all exploration grids (Stormont, Round Mountain, Five Mile Rise and Mt Jacob) are covered with surface magnetics and I.P./apparent resistivity coverage has been obtained over Round Mountain and Five Mile Rise.

2. PREVIOUS GEOPHYSICAL WORK

2.1 As part of their exploration strategy for this area R.G.C. have commissioned work from various third parties with regard to the geophysical data. On a regional scale, the bulk of this has been carried out by Leaman (Leaman a,b,c,d,e 1988) on the aeromagnetic and gravity data. Selected aeromagnetic anomalies have been analysed (Bishop 1988) and the Shell airborne magnetics and radiometrics have been image processed using data enhancement techniques (Walker 1989).

2.2 A very informative and detailed albeit tortuous, treatment of both aeromagnetic data sets and of the gravity data is covered in five reports by Leaman on behalf of R.G.C. Exploration Pty. Ltd. His results may be summarised:-

. Detailed modelling of the residual, bouguer gravity anomaly shows that the Dalcoath granite is covered by a relatively thin veneer of 'country' rocks over a relatively large part of the exploration area. The results indicate that the 'Dalcoath pluton' extends south and west of the exposed zone as a shelf or dome at depths of the order of 100 to 800 metres.

. This granite-gravity model is bounded by steeply dipping faults and exhibits sharp angular 'spines' also attributed to faulting, which appear to have direct relationships to mineralised localities.

. In zones of shallow granite there exists a discreptancy between the smooth model anomaly and the data. This discreptancy is manifest as a low/high/low residual effect in gravity profiles of the order of 5 to 10 milligals (Fig 8 - Leaman (b) 1988). This discreptancy is explained in terms of :-

a) a low density Tertiary lead along the southern margin of the granite (e.g. Fig 10 - Leaman (e) 1988), and
b) postulated anomalous bodies and/or zones within the granite (eg. Fig 12 - Leaman (c) 1988).

. Leaman's analysis of the aeromagnetics has concentrated on areas of Tertiary basalt cover. Using a numerical autocorrelation technique and plotting magnetic source locations, he has produced a series of 2D sections with estimates of the basalt depth and geometry relative to the topography. The results of this work are detailed but somewhat uncertain quantitatively, because of the 'lack of control'. The Tertiary lead concept, to explain the southern residual gravity low, is indicated from this analysis of the aeromagnetics.

. Correlations between magnetic anomalies which are often small and/or subtle, and recorded mineralised sites are listed in report 1 (Leaman (a) 1988 Pg 9 & 10) and anomalies considered as worthwhile exploration targets are listed in reports 1 and 4 (Leaman (a) 1988 Pg. 11; Leaman (d) 1988 Pg. 8 & 9). In report 4 he has also selected several anomalies or zones as prospective targets below the Tertiary basalt (Leaman (d) 1988, Fig 28).

. As part of his analysis and interpretation of the aeromagnetics, Leaman has also evaluated in detail the relative accuracies and shortcomings of the field data particularly in relation to ground clearance and flight path recovery.

. In his 'final integrated model', Leaman explains the majority of the larger scale magnetic anomalies as contact metamorphic aureole effects fringing the Dalcoath granite. Anomalies distant from the interpreted granite are explained by (unmapped) mafic (magnetic) cambrian rocks.

2.3 The airborne geophysical survey conducted for the Shell Company in 1980 covers an area about 60km x 60km and approximately one third of this, in the SE corner, encompasses the Moina area. Geoimage Pty.Ltd. have processed this data set on behalf of R.G.C. Exploration Pty. Ltd. (Walker 1989) dividing it into Southern, Central, Western and Northern blocks.

For each block they have produced grey scale and colour images of the radiometric channels, various radiometric channel ratios, magnetics and magnetic vertical derivative. The processed magnetics have been further enhanced with a variety of gains, filters and illumination aspects as well as upward and downward continuation. The resultant images are presented as 35m.m. slides appended to the report. Geoimage have also produced flight line plots, stacked magnetic profiles and magnetic contours at 1:50,000 scale, for the southern (Moina) area.

3. IMAGE PROCESSING RESULTS AND INTERPRETATION

3.1 Immediately apparent in the image processing of the magnetics is the existence of several regional scale linear and arcuate structures. These are denoted S1 to S9 on the interpretation plan (Figure 1).

3.2 One of the most significant of these interpreted structures is S1 which is a NW-SE (approx.) feature which cuts through the Dalcoath pluton and can be followed through the magnetic 'noise' of the basalt cover east of Lake Cethana. This feature encompasses the high amplitude magnetic anomaly on the eastern shore of Lake Cethana and the Stormont Mine skarn. In the central part of the area, S1 follows and is defined by a broad, linear, magnetic anomaly, attributed to metamorphic aureole effects by Leaman. It appears to be offset by smaller, generally N-S or NNW-SSE, faults in some places and in other localities appears to offset other magnetic features. (Figure 1). Of notable interest is the correspondence between this interpreted structure (fault ?) and sharp, angular, variations in the structure contours of Leaman's gravity model. (cf. Leaman (b) 1988 Map 3).

3.3 A similar feature S2, occurs north of S1. It is arcuate in trend and is sub-parallel to S1. This interpreted structure encompasses the linear cluster of mineralised localities in the Moina area and corresponds to and is partly defined by the northern margin of the main area of

Tertiary basalt to the east. Its continuity as a single feature cannot be confirmed because of the gap in data coverage in the region of the Dalcoath Granite outcrop. This inferred structure also cuts through the Dalcoath pluton and may be an important mechanism for mineralisation in the northern part of the granite. The imagery clearly indicates that S2 continues east of the basalt and therefore would appear to exert some control over the basalt extent. In the east S2 correlates directly in position and trend, with mapped thrusts which are inclined to the north.

3.4 The western boundary of the large body of Tertiary basalt east of Lake Cethana is similarly interpreted as part of a N-S (approx.) linear structure, S3. The imagery clearly shows that this feature extends further south of the basalt; its northern extent however is limited by the data coverage. It encompasses mineralised localities in the Round Mountain grid area and correlates with the eastern boundary of the Dalcoath Fluton. Although the correspondence between S3 and mineralised localities is low, it could reflect significant plumbing for mineralising fluids as it is largely masked by Tertiary and/or Quaternary deposits.

3.5 Two linear structures S4 and S8, (Figure 1), are interpreted from the image processed data and are parallel or sub-parallel features which appear to define the southern and northern boundaries of the buried granite. S4 is interpreted from the processed magnetics and is clearest on the grey scale vertical derivative. This feature is not as clear as other similar features and appears to be discontinuous, due probably to effects of faulting. S8 on the other hand is associated with an E-W zone of high amplitude magnetic anomalies and is well defined in all data sets. This feature (S8) is offset by other (smaller) faults and by S1 and cannot be traced east of 425000E because of the limited data coverage. The magnetic anomalies associated with S8 are explained (by Leaman) as part of the metamorphic aureole of the granite abutting directly on to the (faulted) granite margin.

3.6 Two other structures, S5 and S6, which are N-S (approx), arcuate, and sub-parallel are interpreted from the data, further to the east. These features are to a large extent related to basalt boundaries and essentially are well east of the zone of interest associated with the Dalcoath Granite.

3.7 Linears S7 and S9 (Fig. 1), are two intersecting interpreted structures which occur beneath the Tertiary basalt. Both appear to bear some relationship to the Leaman structure contours of the granite and therefore probably reflect faulting that has controlled the geometry of this massif.

3.8 To illustrate the interpretation of the image processed magnetics, two 35mm images have been reproduced as A4 prints (Plates 1 & 2) with the interpretation reproduced on transparent overlays. Plate 1 shows the grey scale vertical derivative with agc. and 3x3 filter; Plate 2 is a colour image of the magnetics vertical derivative.

On the Plate 2 overlay the trend lines of magnetic anomalies have been sketched. The interesting result here is the predominance of an E-W anomaly trend virtually throughout the area with the exception of the central anomaly associated with S1. Several large or broad anomaly features which have bulk trend directions which are not E-W are in detail, a composition of smaller anomalies with the predominant E-W grain.

3.9 Image processing of the aeromagnetics at the scale (1:50,000) used, serves to enhance regional features principally the structures discussed above and broad magnetic domains. Other magnetic features of note within the Moina - Housetop map block (southern block as processed by Geoimage) are:-

. E-W magnetic anomalies of high intensity further north of the area of interest in the Smiths Plains - South Nieta area. These are attributed by Leaman to mafic cambrian rocks, although no exposures are recorded on the geology map.

. The large area of Tertiary basalt east of Lake Cethana is clearly evident as a magnetic domain with a distinct grain or character. The areas of basalt west of Lake Cethana give rise to a less coherent pattern which may reflect a greater variation in basalt thickness, sediment content, weathering and distribution. Two or three basalt boundaries are evident in the magnetics over the eastern basalt zone which probably reflect the edges of different but relatively distinct flows. This pattern exists to a lesser extent in the data over the western basalt area. This region however is characterised by an arcuate zone of lower magnetics which can be partly related to the Tertiary lead proposed by Leaman. His contention that the lead is at least 50% sediment (or weathered basalt) to give the assumed negative density contrast, may in fact be reflected as this zone of lower magnetics.

. An appreciation of 'magnetic grain' can be obtained from the image processing which mimics well the structure contours of the Leaman Gravity model.

. Smaller scale faulting, generally with a N-S or NNW-SSE orientation, is interpreted from the data in many localities. These faults are interpreted from offset and/or truncated magnetic anomalies and features and often agree with faults on the geology map.

3.10 Image processing of the spectral radiometric data from the shell airborne survey was considered as part of this interpretation preview. The results however appear to be of limited value. The total count, Potassium, Uranium and Thorium channel images are virtually identical. They show a broad zone of higher count in the south, sporadic highs with an E-W strike in the north and a zone of higher count rate about 6 km. east of Lake Cethana. All these anomalies (?) can be related to felsic Cambrian rocks and Ordovician Gordon Limestone and Moina sandstone. Data highs are also associated with the northern end of Lake Cethana where felsic Cambrian lithologies and Dalcoath granite occur.

No consistent correlation between the radiometrics and the surface geology is however apparent. It must be concluded therefore that :-

a) The radiometrics to a large extent reflect the extent and thickness of surface soil and vegetation cover.
and
b) Data stripping for Compton scattering has not been carried out or inaccurate stripping ratios have been used.

4. DISCUSSION OF RESULTS

4.1 The results of the gravity interpretation (Leaman (b) & (d) 1988) have shown that the Dalcoath Granite is quite extensive, at a shallow depth, to the west and south of the exposure near Lake Cethana. Locations of mineralised sites in the area in general fringe the granite dome and appear to be controlled by faulting which has affected the geometry of the granite and led to the invocation of sharp "ribs" or "spines" in the theoretical model.

The 900m and 1500m structure contours for the Leaman gravity model are reproduced on Figure 1. These were chosen as they represent (approximately) the edge of the granite shelf; ie where steep sides and the shelving roof merge. These structure contours correlate with the interpreted structures S4, S3 and S8 for the eastern half of the model. Other structures and smaller scale faults interpreted from the magnetics often correlate with 'ribs and spines' and shelving of the Leaman model. The regional magnetic (structural) interpretation therefore, agrees with and

helps to explain, the fault bound and fault distorted 'Leaman granite model'. S4, S3 and S8 are interpreted as boundary structures for the eastern half of the granite.

Leaman has attempted to explain the residual low/high/low anomalies, located near the nadir of the bouguer anomaly curve in terms of (1) a tertiary lead (= southern low), (2) possible county rock (= central high) and (3) granite alteration and fracturing (= northern low). As illustrated on Figure 1 the residual gravity low virtually rings the entire eastern half of the inferred granite dome and it appears quite reasonable to invoke a buried granite ridge (or extensive greisen zone) to explain the low with deeper granite in the central upper portions (of the model). This would give the intrusion a geometry akin to a bottom molar (tooth) i.e. sub vertical ridges, spines and cupolas extending from a large saucer (shape) topped dome. As Leaman has produced reasonably strong evidence for his Tertiary lead, the existence of postulated ridges etc. is more likely on the northern fringe of the granite body.

4.2 Skarns in the area are the result of granite controlled hydrothermal alteration of the Gordon limestone. Several known skarns are mineralised and virtually all known skarn exposures are magnetic. As has been previously noted by Leaman and Bishop, the Stormont Mine skarn gives rise to a small anomaly in the aeromagnetic data and the skarn(s) associated with the Shepherd and Murphy Mine and the Moina skarns give rise to a strong aeromagnetic response. Skarns associated with Fletchers Adit and Ti Tree creek are also associated with small but clearly recognizable aeromagnetic anomalies.

In the south east of the area a high amplitude, discrete, magnetic anomaly is adjacent to mineral deposit 96. This anomaly could well reflect an outlier of Tertiary basalt but could also be the response of an unknown skarn similar to the Shepherd Murphy anomaly.

Clearly therefore the exploration of base metals associated with skarn development can be carried out as a follow up of selected magnetic anomalies.

A large number of magnetic anomalies have been selected as likely candidates for exploratory follow up and are shown on Figure 1. These include recommendations by Leaman and Bishop including the sub-basalt sources recommended by Leaman. It is interesting that several of these selected sources below the basalt, follow a N-S (approx) residual gravity low which is in the centre of the interpreted body. These features may be controlled by a spine or extensive greisen zone extending upwards from the main granite dome.

4.3 The large, high amplitude magnetic anomaly centred at approximately 5,402,000N - 428,000E is interesting within the context of skarns and proximity to the granite roof (see Leaman (c) Fig 10). The data and Leaman's modelling results indicate that the anomaly source here is a relatively shallow and discrete body with 'extreme magnetisation' . This feature is associated with the interpreted regional scale linear structure S1 and may well be of economic interest. The anomaly corresponds in part, to exposure of Moina Sandstone and from the geophysical interpretation can be associated with faulting (possibly complex). The possibility therefore of altered Gordon limestone at relatively shallow depths is worth further consideration.

4.4 Similarly, the high amplitude magnetic anomalies associated with S8, north of the Stormont - Shepherd Murphy area are worth consideration as economic targets. These anomalies have been modeled by both Bishop (see Bishop Figs. 11 and 12) and Leaman (see Leaman (c) Fig. 9). The modelling appears to put the causative bodies at depths of the order of 300 to 500m however shallower, smaller, discrete sources may exist which, as Leaman has shown, drape the northern margin of the granite.

4.5 Four cross-sectional profiles have been constructed from the available data and current interpretation to illustrate the spatial relationships between the Leaman gravity model, known mineralisation and mines, the aeromagnetics and selected anomalies, the surface profile and possible structures and relationships at depth. These conceptual cross sections are provided as Figures 2,3,4 and 5. An approximate interpretation of magnetic anomaly source depths has been shown on each cross section as (1) approximate depth to the top of a 2D tabular model and (2) approximate depth to the centre of a point dipole model.

Figure 2 shows the N-S profile for 419,000E and includes the Stormont mine (skarn). This cross section illustrates the spatial setting of the Stormont skarn with respect to the granite (Leaman model), the proposed 'residual' granite ridges and the relationship of other selected magnetic anomalies to the granite model. Approximate interpreted magnetic source depths are all generally within 300m from the surface and could readily represent similar geology to the Stormont locality.

Figure 3 is the N-S profile for 422,500E and includes the Shepherd/Murphy mine as well as several sub-basalt magnetic anomalies selected by Leaman. This conceptual cross section also shows the proposed 'residual' granite ridges and several magnetic sources at depths of the order of the Shepherd Murphy anomaly source.

Figure 4 is a N-S profile for 426,ØØØE and incorporates the Five Mile Rise locality. Similarly to Figures 2 and 3 this diagram illustrates the spatial relationships between the granite model, known mineralisation and the magnetics. More detailed analysis of the aeromagnetics and of complementary surface magnetics has been carried out by the author for the Five Mile Rise grid. The results of this analysis indicate that the magnetics reflect a shallow magnetic basement at a depth of 1ØØm to 2ØØm which may be the weakly magnetic Cambrian, Dove granite which is exposed further south. Surface magnetics suggest that this magnetic basement is faulted and that mineralisation may be associated with such faulting.

Figure 5 illustrates the data and conceptual cross section for A-B (Fig. 1). Here the setting of the Round Mountain locality is shown in relation to the gravity and magnetic interpretation. This profile incorporates the large amplitude magnetic anomaly west of lake Cethana in the central part of the area. The anomaly(s) can conceivably be related to relatively shallow sources.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 The Leaman gravity study has led to the evolution of a subsurface model of the Dalcoath granite pluton, which should be used to guide further exploration on a regional scale. Fault structures interpreted from the image enhanced aeromagnetics fit well with the Leaman model and agree with his conclusion that the granite is fault controlled and that anomalous ribs and spines are the result of faulting.

The possibility of shallower ridges or extensive greisen zones causing the ring of residual gravity lows on the top of the granite dome provides a further focus for ongoing exploration.

5.2 Explanation of the magnetics is less clear. Surface exposure in the area consists primarily of felsic Cambrian rocks, Ordovician sediments and granite, all of which are virtually non-magnetic. The only significantly magnetic rocks exposed at surface are Tertiary basalt and small isolated skarns associated with the Gordon limestone. Most of the 'deeper' magnetic character in the area is attributed by Leaman, to metamorphic aureole effects draping the Dalcoath granite. This appears to be a reasonable interpretation but is not (apparently) confirmed. The relatively high amplitude anomalies associated with S4 and S8 are of interest considering their relationships to interpreted faulting and their similarity to the Shepherd - Murphy anomalies.

5.3 Image processing of the shell aeromagnetic data by Geoimage Pty. Ltd. has highlighted several regional linear or arcuate structures which are no doubt significant in relation to the Dalcoath granite and as possible foci for mineralisation. These interpreted structures can be related to the Leaman gravity model and some have apparently exercised control over the geometry of Tertiary basalt margins.

The image processing has not enhanced many other aspects of the data apart from a few high amplitude magnetic anomalies and basalt covered areas.

5.4 Exploration to date has centred upon localities of previous mining or on areas of exposed, altered and/or mineralised rocks. As most of the previous mining in the district has exploited relatively small orebodies, it would seem that the potential for a large tonnage orebody (of the type RGC would be interested in) will be unknown, probably hidden (at some depth) and found by wildcat drilling of geophysical anomalies.

5.5 Auriferous skarns with magnetite, present the 'easiest' exploration target. Exploration for this style of deposit should encompass a program of rigorous anomaly selection and surface follow up. The position and shape of individual anomalies should be established by surface magnetics and followed by geology and geochemistry. Magnetic anomalies of reasonable (interpreted) depth which can not be explained by the geology should be further investigated by drilling. This will probably require gridding and grid magnetometer surveys.

5.6 Non magnetic target types present a problem exacerbated by the steep topography and thick vegetation. R.G.C. could contemplate detailed airborne electromagnetic (and magnetic) surveys over relatively small areas selected in the basis of the current geophysical interpretation; i.e. areas of shallow Dalcoath granite with faulting and (interpreted) residual granite ridges and spines.

5.7 Exploration beneath the Tertiary basalt cover presents a particular problem which however should be addressed because of the potential (both geological and geophysical) for buried mineralised bodies. The basalt area west of Lake Cethana would appear to present the highest potential and has been looked at in detailed by Leaman. Exploration strategy here should entail the selection of one or two of the most favourable sub-basalt aeromagnetic anomalies, surface magnetic surveys to establish position and interpreted depth/geometry and finally testing by drilling. This should provide not only an explanation of the selected anomalies but also a calibration (as recommended by Leaman) of the basalt in terms of thickness, non basaltic content and magnetic properties. Further enhancement of the

magnetic interpretation by Leaman's methods can then be carried out (with a recommended improvement in presentation) to evaluate more accurately the sub-basalt mineral potential.

The only magnetic anomaly selected as a follow-up target in the eastern basalt area is the high amplitude feature adjacent to the S3 interpreted structure. Although this region is outside the current tenure of R.G.C. it may be worthwhile to apply the Leaman style of automated interpretation here to help evaluate the sub basalt mineral potential.

6. REFERENCES

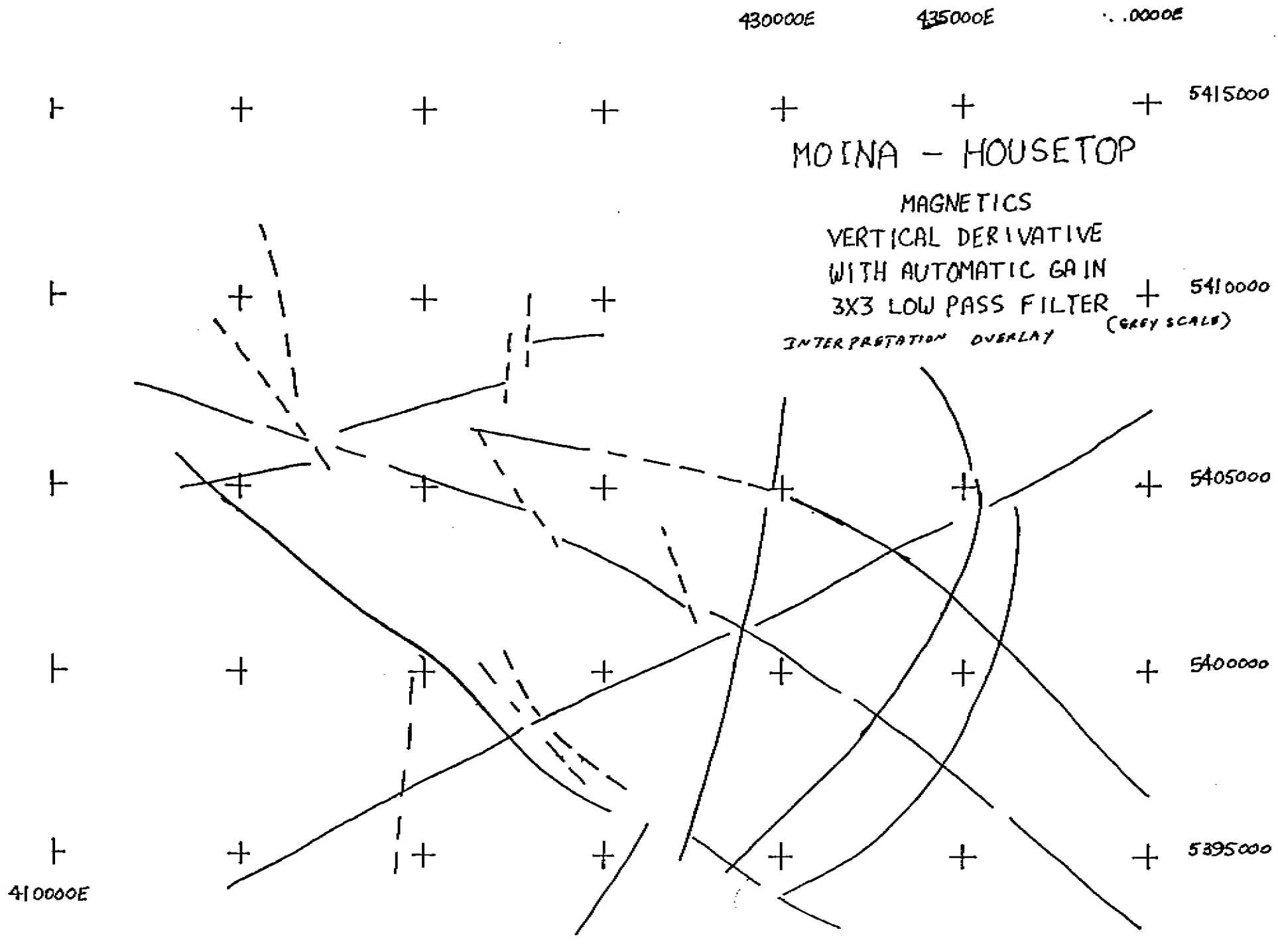
Bamford, A.L., and Green, G.R., 1988. Cethana metallic mineral deposits map, sheet 8114 14 - 8115 III. 1:50,000 scale. Geological Survey of Tasmania - Department of Mines.

Bishop, J.E., 1988 Modelling of some Lake Lea Aeromagnetic Anomalies (E.L. 41/83) for R.G.C. Exploration Pty. Ltd. Mitre Geophysics Report RGC/MG88/05.

Leaman, D.E., 1988 a,b,c,d and e Five reports - Gravity and Magnetic Evaluation of the Moina Region 1,2,3,4 and 5 for R.G.C. Exploration August 1988 to December 1988.

Pemberton, J. and Vicory, M.J., 1989. Geology Map of the Winterbrook - Moina Area. 1:25000 scale. Geological Survey of Tasmania - Department of Mines.

Walker, R.N., 1989. Processing of Magnetics and Radiometrics for the Moina - Housetop Area, Tasmania for R.G.C. Exploration Pty. Limited. Geoimage Report June 1989.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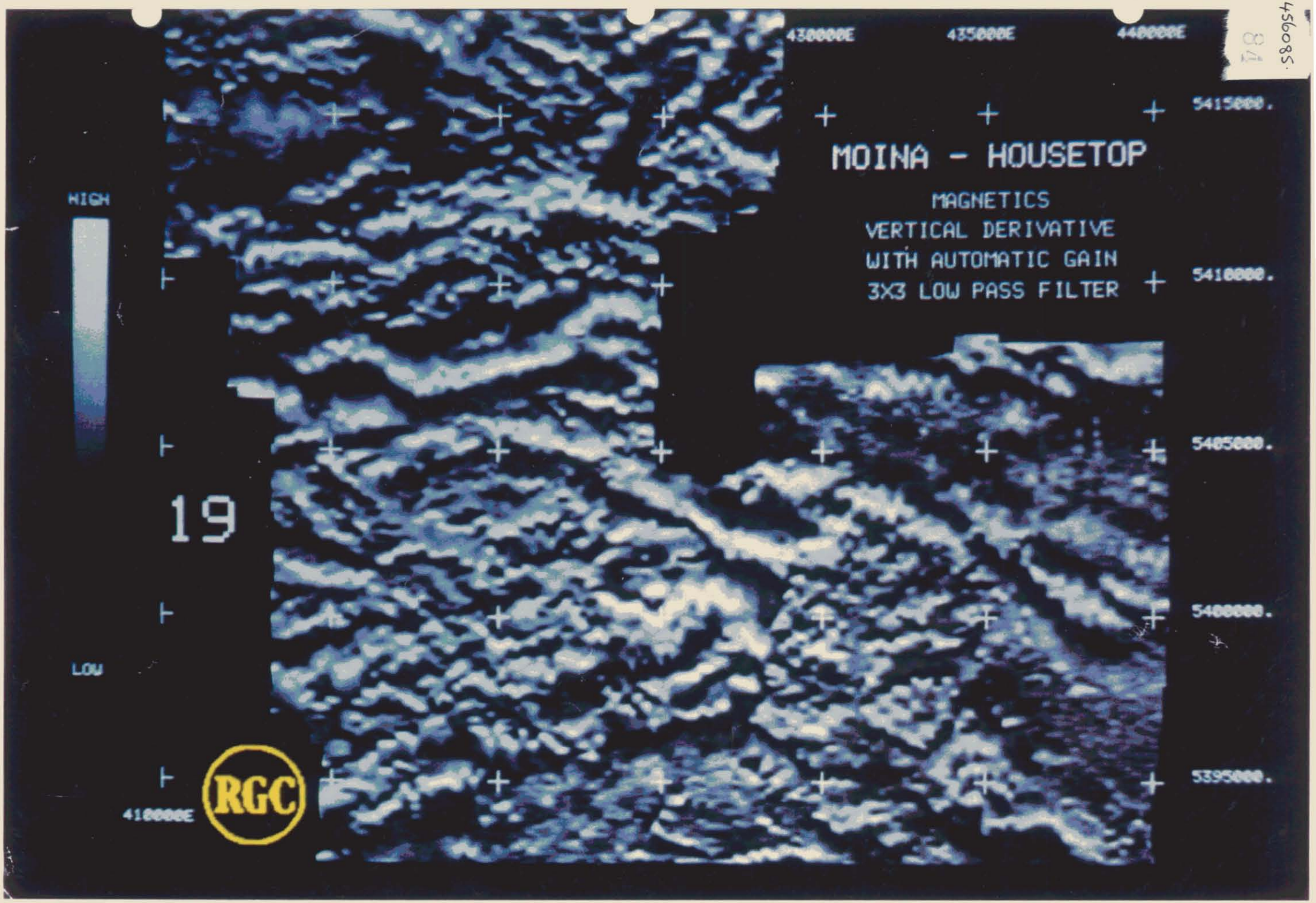
MOINA - HOUSETOP
MAGNETICS
VERTICAL DERIVATIVE
WITH AUTOMATIC GAIN
3X3 LOW PASS FILTER
(GREY SCALE)
INTERPRETATION OVERLAY

Plate 1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MOINA - HOUSETOP
MAGNETICS
VERTICAL DERIVATIVE
WITH AUTOMATIC GAIN
3X3 LOW PASS FILTER
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RGC

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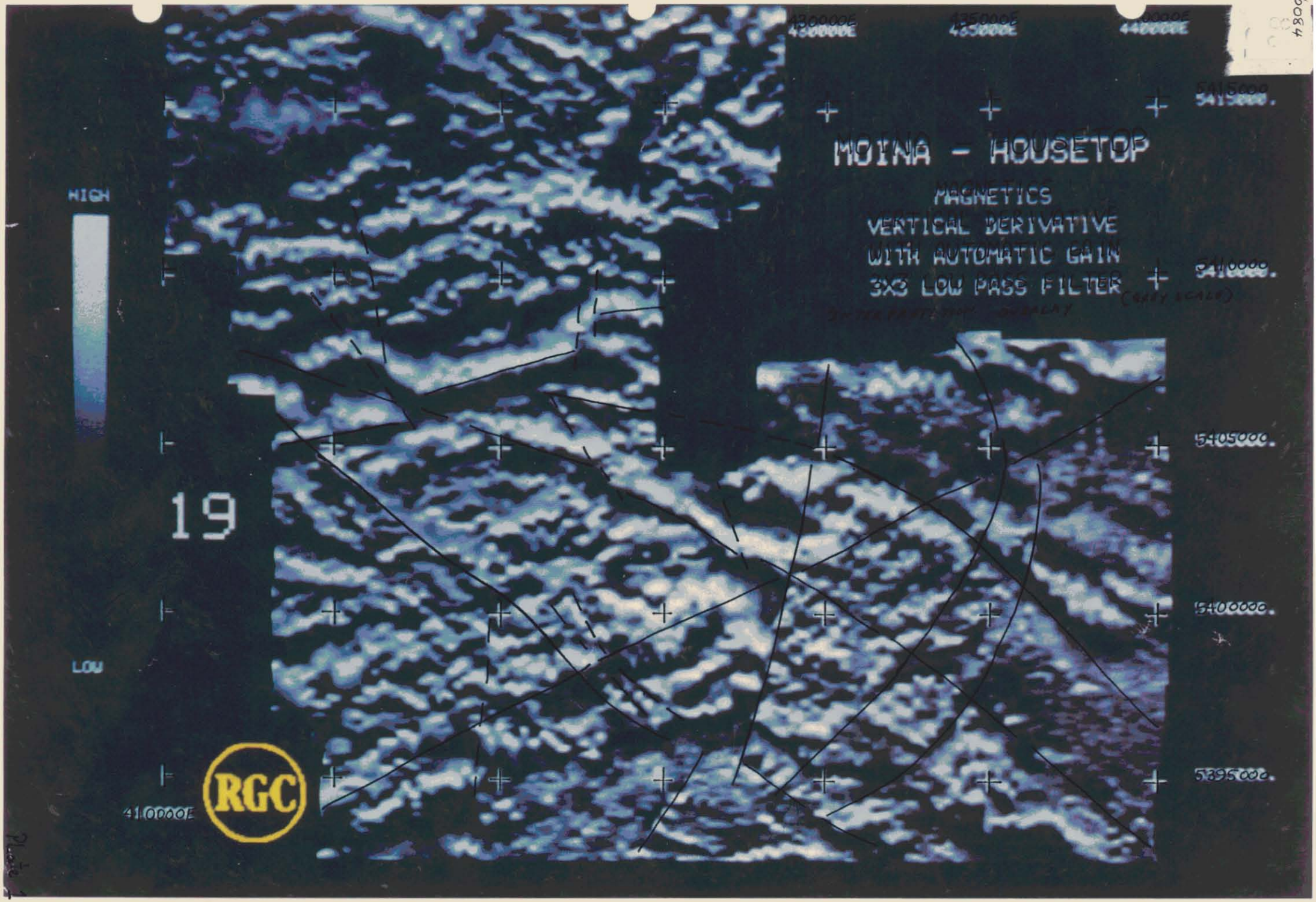
MOINA - HOUSETOP
MAGNETICS
VERTICAL DERIVATIVE
WITH AUTOMATIC GAIN
3X3 LOW PASS FILTER
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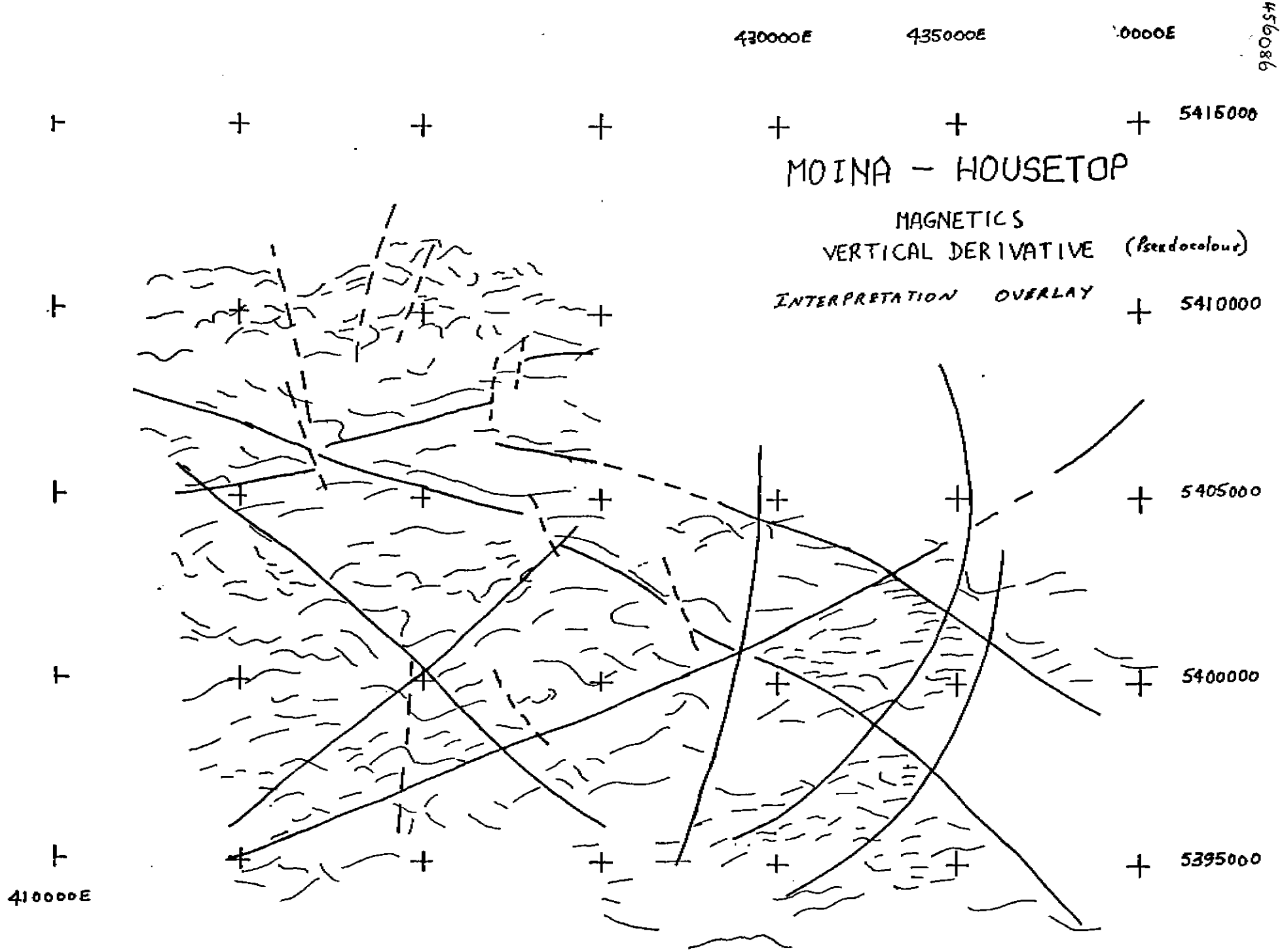

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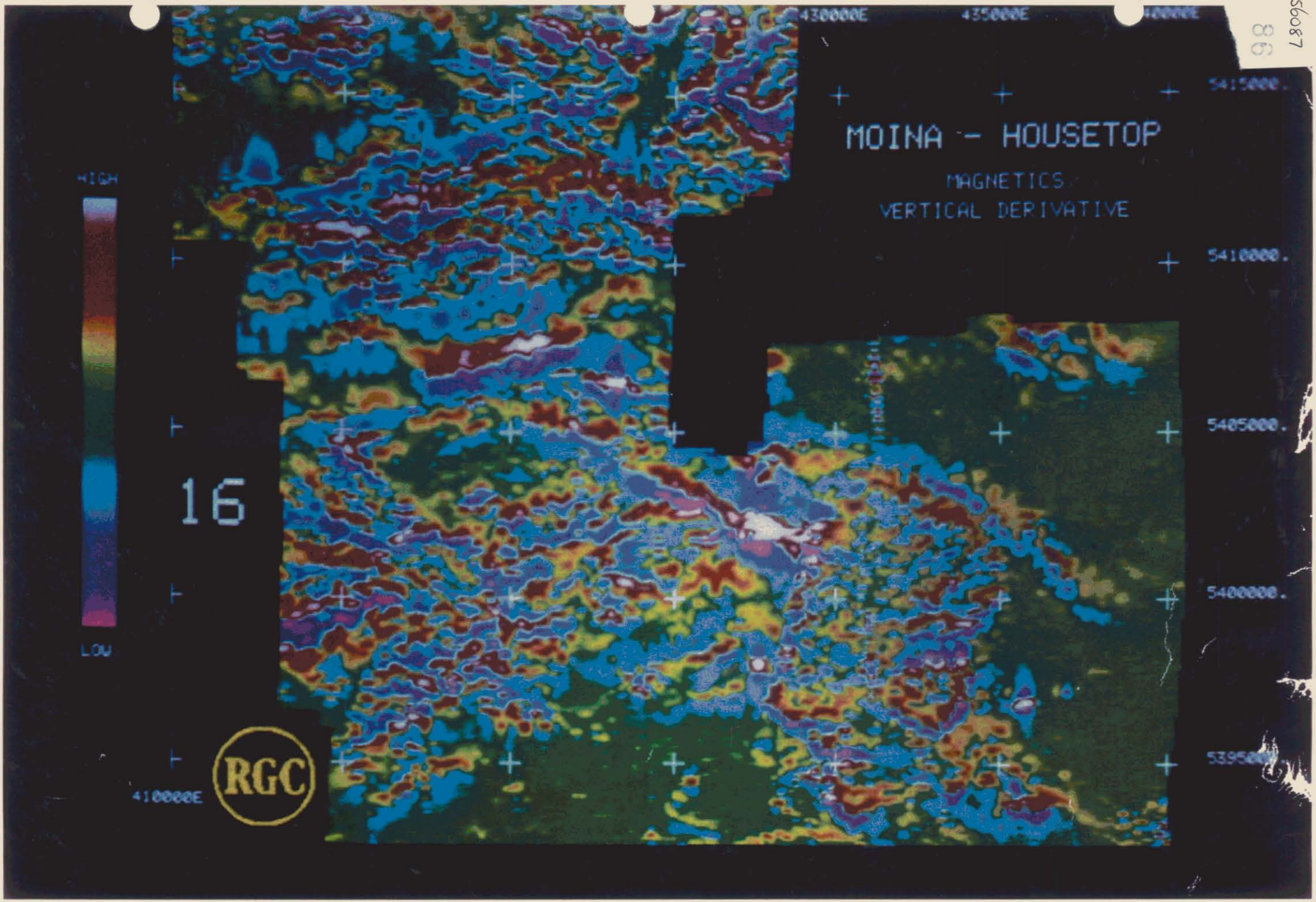
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MOINA - HOUSETOP
MAGNETICS
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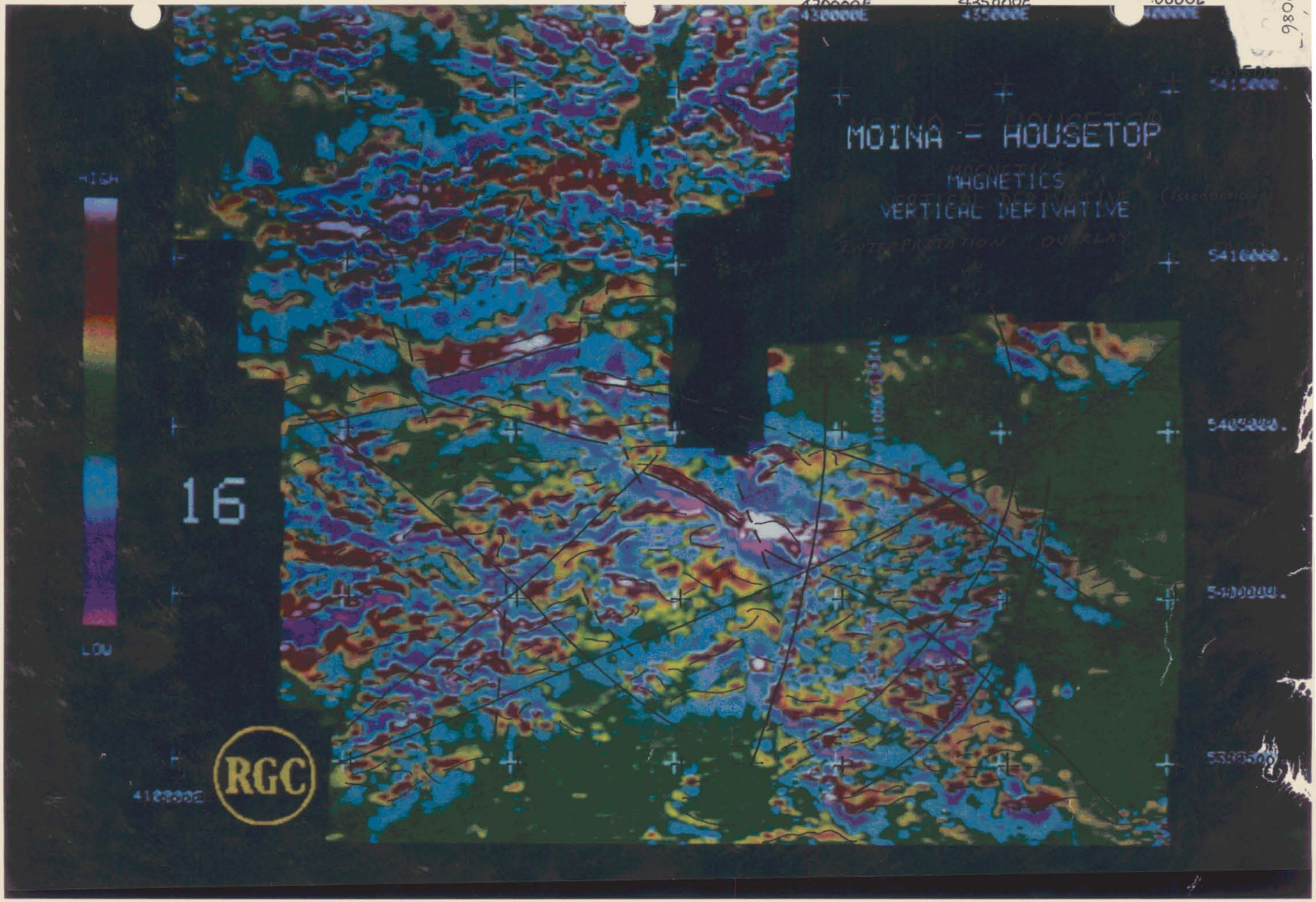
MOINA - HOUSETOP
MAGNETICS
VERTICAL DERIVATIVE
HIGH
LOW
16
RGC

APPENDIX 6(a)

Bedrock Geochemistry - Round Mountain

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: EL 8/88 ROUND MT GRID

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 17014	4350	4440		BR	10	-5	25	-0.5	-10	5	-0.008	90
T 17015	4337	4440		BR	260	25	55	-0.5	-10	45	0.043	148
T 17016	4325	4440		BR	120	20	155	-0.5	-10	48	-0.008	51
T 17017	4312	4440		BR	25	30	25	1.0	10	1	0.018	53
T 17018	4300	4440		BR	5	-5	10	-0.5	-10	47	-0.008	239
T 17019	4287	4440		BR	5	45	15	-0.5	50	47	0.021	121
T 17020	4275	4440		BR	10	10	25	-0.5	-10	8	-0.008	324
T 17021	4263	4440		BR	10	-5	10	-0.5	-10	-1	0.009	84
T 17022	4250	4440		BR	10	-5	10	-0.5	-10	1	-0.008	58
T 17023	5250	5100		BR	40	45	110	1.5	-10	9	-0.008	8
T 17024	5262	5100		BR	10	10	20	-0.5	-10	-1	-0.008	10
T 17025	5275	5100		BR	10	-5	75	-0.5	-10	14	-0.008	3
T 17026	5287	5100		BR	10	15	125	0.5	-10	19	-0.008	6
T 17027	5300	5100		BR	25	95	140	-0.5	-10	35	-0.008	7
T 17028	5312	5100		BR	20	250	100	2.5	-10	57	-0.008	8
T 17029	5325	5100		BR	10	380	160	1.0	-10	37	-0.008	6
T 17030	5337	5100		BR	10	10	20	-0.5	-10	14	-0.008	5
T 17031	5350	5100		BR	10	15	20	0.5	-10	15	-0.008	6
T 17032	5362	5100		BR	45	200	95	0.5	-10	27	-0.008	-3
T 17033	5375	5100		BR	30	140	75	1.0	-10	31	-0.008	13
T 17034	5387	5100		BR	55	115	95	0.5	-10	15	-0.008	5
T 17035	5400	5100		BR	30	110	70	1.0	-10	17	-0.008	7
T 17036	5412	5100		BR	65	40	320	-0.5	-10	21	-0.008	4
T 17037	5425	5100		BR	20	290	30	1.0	-10	44	-0.008	4
T 17038	5437	5100		BR	10	215	35	1.0	-10	22	-0.008	10
T 17039	5450	5100		BR	10	70	25	-0.5	-10	6	-0.008	7
T 17040	5462	5100		BR	10	5	30	-0.5	10	-1	-0.008	6
T 17041	5475	5100		BR	10	5	30	-0.5	10	-1	-0.008	7
T 17042	5487	5100		BR							0.242	
T 17043	5500	5100		BR	10	5	60	0.5	-10	-1	-0.008	-3
T 17044	5350	4800		BR	75	1300	65	-0.5	-10	13	-0.008	4
T 17045	5326	4800		BR	80	1200	80	1.0	-10	25	-0.008	7
T 17046	5375	4800		BR	20	1650	60	1.0	-10	4	-0.008	5
T 17047	5387	4800		BR	10	85	60	0.5	-10	-1	-0.008	7
T 17048	5450	4800		BR	10	200	65	-0.5	-10	-1	-0.008	3

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456089

PROJECT: EL 8/88 ROUND MT GRID

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 17049	5412	4800		RC	10	105	45	-0.5	-10	3	-0.008	6
T 17050	5425	4800		RC	35	130	30	-0.5	10	-1	-0.008	6
T 17051	4250	5800		BR	65	120	335	-0.5	-10	18	0.009	38
T 17052	4262	5800		BR	50	85	180	0.5	-10	17	-0.008	45
T 17053	4275	5800		BR	55	110	185	-0.5	-10	16	-0.008	32
T 17054	4287	5800		BR	10	25	60	-0.5	-10	-1	-0.008	8
T 17055	4300	5800		BR	25	170	70	-0.5	-10	40	-0.008	476
T 17056	4312	5800		BR	25	170	60	0.5	-10	67	-0.008	33
T 17057	4325	5800		BR	45	225	165	-0.5	10	148	-0.008	46
T 17058	4327	5800		BR	10	60	20	-0.5	10	32	-0.008	64
T 17059	4225	5800		BR	15	40	25	-0.5	-10	1	-0.008	74
T 17060	4212	5800		BR	15	30	25	-0.5	-10	25	-0.008	58
T 17061	4200	5800		BR	10	20	20	-0.5	-10	7	-0.008	45
T 17062	4187	5800		BR	10	15	20	-0.5	-10	14	-0.008	37
T 17063	4175	5800		BR	10	25	15	-0.5	-10	16	-0.008	37
T 17064	4162	5800		BR	10	135	35	-0.5	-10	30	-0.008	586
T 17065	4125	5800		BR	10	105	20	0.5	-10	18	0.012	57
T 17066	4137	5800		BR	15	150	20	-0.5	10	48	0.021	56
T 17067	4125	5800		BR	10	35	15	-0.5	-10	31	0.023	61
T 17068	4112	5800		BR	10	5	15	0.5	-10	1	-0.008	24
T 17069	4100	5800		BR	10	25	15	0.5	10	17	-0.008	29
T 17070	4087	5800		BR	10	30	15	-0.5	10	40	-0.008	41
T 17071	4075	5800		BR	10	-5	20	-0.5	-10	8	-0.008	16
T 17072	4062	5800		BR	10	5	20	-0.5	-10	5	-0.008	77
T 17073	4050	5800		BR	10	10	25	-0.5	10	12	0.015	13
T 17074	4037	5800		BR	10	15	15	-0.5	-10	2	-0.008	21
T 17075	4025	5800		BR	15	5	15	-0.5	-10	3	-0.008	34
T 17076	4012	5800		BR	5	15	15	-0.5	-10	3	-0.008	41
T 17077	4037	6000		BR	20	440	45	-0.5	-10	350	0.041	52
T 17078	4050	6000		BR	15	600	35	-0.5	10	84	0.029	84
T 17079	4062	6000		BR	20	415	45	-0.5	10	50	0.014	15
T 17080	4075	6000		RC	-5	40	60	-0.5	10	10	-0.008	12
T 17081	4087	6000		BR	-5	45	35	-0.5	-10	6	-0.008	10
T 17082	4100	6000		BR	5	75	50	-0.5	-10	33	-0.008	17
T 17083	4112	6000		BR	-5	20	30	-0.5	10	17	-0.008	22
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456090

PROJECT: EL 8/88 ROUND MT GRID

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T 17085	4137	6000		BR	-5	35	30	-0.5	-10	16	-0.008	64
T 17086	4150	6000		BR	10	75	40	-0.5	-10	31	-0.008	16
T 17087	4162	6000		BR	5	40	30	-0.5	-10	8	-0.008	24
T 17088	4175	6000		BR	20	135	60	-0.5	10	36	-0.008	32
T 17089	4182	6000		BR	25	65	100	-0.5	-10	38	-0.008	29
T 17090	4200	6000		BR	50	90	225	-0.5	-10	19	-0.008	31
T 17091	4212	6000		BR	55	80	185	-0.5	-10	18	0.014	21
T 17092	4250	6000		BR	20	80	265	-0.5	-10	33	-0.008	13
T 17093	3887	5400		BR	5	15	20	-0.5	10	-1	-0.008	45
T 17094	3900	5400		BR	5	5	20	-0.5	10	-1	0.046	225
T 17095	3912	5400		BR	-5	-5	15	-0.5	10	-1	-0.008	155
T 17096	3925	5400		BR	-5	40	20	-0.5	-10	1	-0.008	160
T 17097	3937	5400		BR	-5	-5	15	-0.5	10	-1	0.022	253
T 17098	3950	5400		BR	-5	-5	20	-0.5	-10	-1	-0.008	133
T 17099	3962	5400		BR	-5	-5	15	0.5	10	-1	-0.008	407
T 17100	3975	5400		BR	-5	-5	15	0.5	-10	-1	0.043	198
T 19407	3987	5400	1.0	BR	-5	-5	10	-0.5	-10	-1	-0.008	76
T 19408	4000	5400	0.8	BR	-5	-5	15	-0.5	10	-1	0.011	412
T 19409	4012	5400	1.2	BR	5	10	20	-0.5	10	1	0.011	201
T 19410	4025	5400	1.0	BR	-5	-5	15	-0.5	-10	-1	0.011	123
T 19411	40375	5400	0.8	BR	-5	-5	15	-0.5	-10	-1	0.010	212
T 19412	4050	5400	1.0	BR	-5	5	20	-0.5	-10	-1	-0.008	108

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456091

456092

APPENDIX 6(b)

Soil Geochemistry - Five Mile Rise

RGC EXPLORATION PTY.LTD. DATA SHEET

27/ 7/90

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18501	9500	5000	0.4	SL	15	480	15	-0.5	-10	5	0.112	-3
T 18502	9475	5000	0.5	SL	10	-5	15	-0.5	-10	-1	0.017	3
T 18503	9450	5000	0.5	SL	5	-5	10	-0.5	-10	-1	-0.008	-3
T 18504	9425	5000	0.4	SL	5	5	10	-0.5	-10	-1	-0.008	-3
T 18505	9400	5000	0.4	SL	5	-5	10	-0.5	-10	-1	-0.008	4
T 18506	9375	5000	0.3	SL	5	-5	20	-0.5	-10	-1	-0.008	5
T 18507	9350	5000	1.2	SL	10	-5	15	-0.5	-10	-1	-0.008	3
T 18508	9325	5000	0.3	SL	10	5	20	-0.5	-10	-1	-0.008	3
T 18509	9300	5000	0.3	SL	5	-5	10	-0.5	-10	-1	-0.008	5
T 18510	9275	5000	0.2	SL	5	10	10	-0.5	-10	-1	0.028	4
T 18511	9250	5000	0.5	SL	5	10	10	-0.5	-10	-1	-0.008	3
T 18512	9225	5000	0.6	SL	10	15	10	-0.5	-10	-1	0.015	4
T 18513	9200	5000	0.7	SL	10	75	20	-0.5	-10	-1	-0.008	5
T 18514	9175	5000	0.5	SL	10	4300	15	-0.5	-10	-1	-0.008	6
T 18515	9150	5000	0.6	SL	10	30	20	-0.5	-10	-1	-0.008	5
T 18516	9125	5000	0.5	SL	5	1650	15	-0.5	-10	-1	0.010	4
T 18517	9100	5000	0.6	SL	10	15	10	-0.5	-10	-1	-0.008	8
T 18518	9075	5000	0.7	SL	10	15	10	-0.5	-10	-1	-0.008	5
T 18519	9050	5000	0.5	SL	10	-5	10	-0.5	-10	-1	0.024	-3
T 18521	9025	5000	0.4	SL	10	-5	10	-0.5	-10	-1	-0.008	-3
T 18522	9000	5000	0.7	SL	10	20	10	-0.5	-10	-1	-0.008	6
T 18523	8975	5000	0.4	SL	5	10	10	-0.5	-10	-1	0.012	-3
T 18524	8950	5000	0.3	SL	5	-5	10	-0.5	-10	-1	-0.008	4
T 18525	8925	5000	0.4	SL	10	-5	10	-0.5	-10	-1	0.058	6
T 18526	8900	5000	0.4	SL	10	10	15	-0.5	-10	-1	-0.008	-3
T 18527	8875	5000	0.3	SL	10	10	10	-0.5	-10	2	-0.008	-3
T 18528	8850	5000	0.6	SL	10	5	5	-0.5	-10	-1	-0.008	3
T 18529	8825	5000	0.5	SL	5	-5	10	-0.5	-10	-1	-0.008	-3
T 18530	8800	5000	0.4	SL	10	10	10	-0.5	-10	-1	-0.008	5
T 18531	8775	5000	0.6	SL	5	10	10	-0.5	-10	-1	-0.008	3
T 18532	8750	5000	0.7	SL	10	5	5	-0.5	-10	-1	-0.008	3
T 18533	8725	5000	0.5	SL	10	5	5	-0.5	-10	-1	-0.008	7
T 18534	8550	5000	0.7	SL	30	35	10	-0.5	20	3	-0.008	6
T 18535	8575	5000		RC	15	10	20	-0.5	-10	4	-0.008	16
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45693

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18536	8600	5000	0.5	SL	15	35	20	-0.5	-10	3	-0.008	14
T 18537	8625	5000	0.3	SL	15	10	20	-0.5	-10	-1	-0.008	7
T 18538	8650	5000		RC	10	10	10	-0.5	-10	-1	-0.008	-3
T 18539	8675	5000	0.4	SL	10	-5	10	-0.5	10	-1	-0.008	7
T 18541	8700	5000		RC	10	30	10	-0.5	-10	7	-0.008	-3
T 18542	8550	5200	0.7	SL	10	25	20	-0.5	10	2	-0.008	8
T 18543	8575	5200	0.7	SL	10	25	15	-0.5	-10	2	0.011	9
T 18544	8600	5200	0.6	SL	10	20	15	-0.5	-10	3	-0.008	9
T 18545	8625	5200	0.4	SL	15	25	15	-0.5	20	2	-0.008	3
T 18546	8650	5200	0.8	SL	20	70	10	-0.5	-10	2	-0.008	6
T 18547	8675	5200		SL	10	120	15	-0.5	-10	2	-0.008	3
T 18548	8700	5200	0.6	SL	10	90	10	-0.5	-10	2	-0.008	3
T 18549	8725	5200	0.7	SL	10	70	20	-0.5	-10	2	-0.008	7
T 18550	8750	5200	0.6	SL	10	90	20	-0.5	-10	2	-0.008	6
T 18551	8775	5200	0.4	SL	10	20	15	-0.5	-10	2	-0.008	5
T 18552	8800	5200	0.6	SL	5	5	10	-0.5	-10	-1	-0.008	5
T 18553	9800	5200	0.8	SL	20	30	25	-0.5	-10	5	-0.008	4
T 18554	9775	5200	1.0	SL	75	50	75	-0.5	-10	30	-0.008	3
T 18555	9750	5200	1.0	SL	10	10	15	-0.5	-10	2	-0.008	-3
T 18556	9725	5200	1.0	SL	10	20	15	-0.5	10	-1	-0.008	3
T 18557	9700	5200	0.5	SL	10	5	15	-0.5	-10	-1	-0.008	-3
T 18558	9675	5200	0.6	SL	10	5	15	-0.5	-10	-1	-0.008	-3
T 18559	9650	5200	0.4	SL	15	-5	20	-0.5	-10	-1	-0.008	6
T 18561	9625	5200	1.0	SL	10	260	25	-0.5	-10	4	-0.008	6
T 18562	9600	5200	1.4	SL	15	65	20	-0.5	-10	7	-0.008	-3
T 18563	9575	5200	0.6	SL	105	35	30	-0.5	-10	10	-0.008	5
T 18564	9550	5200	0.6	SL	10	5	10	-0.5	-10	-1	-0.008	5
T 18565	9525	5200	0.4	SL	10	10	15	-0.5	-10	-1	-0.008	-3
T 18566	9500	5200	0.3	SL	10	5	15	-0.5	-10	-1	-0.008	8
T 18567	9475	5200	0.2	SL	10	5	15	-0.5	-10	2	-0.008	5
T 18568	9450	5200	0.3	SL	5	-5	15	-0.5	-10	-1	-0.008	5
T 18569	9425	5200	0.3	SL	10	-5	10	-0.5	-10	2	-0.008	-3
T 18570	9400	5200	0.6	SL	10	10	20	-0.5	-10	-1	-0.008	4
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456094

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18571	9375	5200	0.5	SL	10	10	15	-0.5	20	-1	-0.008	5
T 18572	9350	5200	0.4	SL	10	10	15	-0.5	-10	-1	-0.008	6
T 18573	9325	5200	0.2	SL	10	10	15	-0.5	-10	-1	-0.008	3
T 18574	9300	5200	0.3	SL	10	15	15	-0.5	-10	-1	-0.008	-3
T 18575	9275	5200	0.5	SL	5	-5	15	-0.5	-10	-1	-0.008	3
T 18576	9250	5200	0.4	SL	5	-5	20	-0.5	-10	-1	-0.008	5
T 18577	9225	5200	0.4	SL	5	30	25	-0.5	-10	-1	-0.008	5
T 18578	9200	5200	0.5	SL	10	-5	20	-0.5	-10	-1	-0.008	3
T 18579	9175	5200	0.6	SL	10	10	20	-0.5	-10	-1	-0.008	5
T 18581	9150	5200	0.5	SL	10	-5	15	-0.5	-10	-1	-0.008	6
T 18582	9125	5200	0.7	SL	10	20	60	-0.5	-10	2	-0.008	3
T 18583	9100	5200	0.8	SL	15	230	30	-0.5	-10	2	-0.008	-3
T 18584	9075	5200	0.6	SL	10	5	15	-0.5	-10	-1	0.016	4
T 18585	9050	5200	0.3	SL	10	20	75	-0.5	-10	3	-0.008	-3
T 18586	9025	5200	0.6	SL	10	15	45	-0.5	-10	2	-0.008	3
T 18587	9000	5200	0.4	SL	10	10	20	-0.5	-10	-1	-0.008	3
T 18588	8975	5200	0.2	SL	10	10	20	-0.5	-10	2	0.015	6
T 18589	8950	5200	0.4	SL	10	-5	15	-0.5	-10	-1	-0.008	4
T 18590	8925	5200	0.4	SL	10	-5	35	-0.5	-10	2	-0.008	-3
T 18591	8900	5200	0.5	SL	10	20	20	-0.5	-10	-1	0.012	5
T 18592	8875	5200	0.6	SL	10	65	25	-0.5	-10	2	-0.008	6
T 18593	8850	5200	0.6	SL	10	40	15	-0.5	-10	2	0.015	8
T 18594	8825	5200	0.3	SL	15	25	15	-0.5	-10	-1	0.023	-3
T 18595	8550	4800	0.5	SL	15	60	40	-0.5	-10	-1	-0.008	9
T 18596	8575	4800		RC	25	-5	85	-0.5	-10	21	-0.008	6
T 18597	8600	4800	0.5	SL	5	25	20	-0.5	-10	1	0.013	6
T 18598	8625	4800	0.3	SL	5	15	25	0.5	-10	-1	-0.008	4
T 18599	8650	4800	0.4	SL	5	20	25	-0.5	-10	-1	-0.008	6
T 18601	9075	4600	0.5	SL	5	10	10	-0.5	10	-1	-0.008	-3
T 18602	9100	4600	0.8	SL	5	55	45	-0.5	-10	-1	-0.008	5
T 18603	9125	4600	0.6	SL	5	130	25	-0.5	-10	-1	-0.008	5
T 18604	9150	4600	0.5	SL	5	-5	20	-0.5	20	-1	-0.008	3
T 18605	9175	4600	0.5	SL	5	-5	25	-0.5	-10	-1	0.020	-3
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45609

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18606	9200	4600	0.5	SL	5	10	25	-0.5	-10	-1	-0.008	-3
T 18607	9225	4600	0.6	SL	5	-5	45	-0.5	-10	-1	-0.008	-3
T 18608	9250	4600	0.7	SL	-5	80	20	-0.5	-10	-1	-0.008	-3
T 18609	9275	4600	0.6	SL	-5	35	20	-0.5	10	-1	-0.008	6
T 18610	9300	4600	0.8	SL	-5	5	25	-0.5	10	-1	-0.008	3
T 18611	9325	4600	0.6	SL	-5	5	25	-0.5	-10	-1	0.032	-3
T 18612	9350	4600		RC	10	50	50	-0.5	10	21	-0.008	3
T 18613	9375	4600	0.8	SL	15	270	45	-0.5	-10	8	-0.008	5
T 18614	9400	4600	0.8	SL	5	5	25	-0.5	10	3	-0.008	5
T 18615	9425	4600	0.8	SL	5	5	25	-0.5	10	3	-0.008	5
T 18616	9450	4600	0.8	SL	10	10	40	-0.5	-10	2	-0.008	5
T 18617	9475	4600	0.8	SL	50	-5	130	-0.5	-10	4	-0.008	6
T 18618	9500	4600	0.7	SL	55	-5	125	-0.5	20	4	-0.008	4
T 18619	9525	4600	0.8	SL	55	5	115	-0.5	-10	3	-0.008	7
T 18621	9550	4600		SL	45	-5	110	-0.5	-10	3	-0.008	5
T 18622	8700	4600	0.7	SL	5	30	20	-0.5	-10	2	-0.008	3
T 18623	8675	4600		RC	5	15	85	-0.5	-10	4	-0.008	-3
T 18624	8650	4600	0.5	SL	5	125	25	-0.5	-10	1	-0.008	8
T 18625	8625	4600	0.6	SL	15	15	40	-0.5	-10	2	-0.008	10
T 18626	8600	4600	0.8	SL	15	70	40	0.5	-10	3	-0.008	7
T 18627	8575	4600	0.8	SL	20	30	35	-0.5	-10	-1	-0.008	4
T 18628	8550	4600	0.7	SL	15	20	135	-0.5	10	2	-0.008	9
T 18629	8525	4600		RC	10	10	45	-0.5	-10	-1	-0.008	6
T 18630	8500	4600	0.6	SL	30	20	35	-0.5	-10	2	-0.008	7
T 18631	8475	4600	0.8	SL	25	10	35	-0.5	-10	2	-0.008	11
T 18632	8450	4600	0.6	SL	20	20	30	-0.5	-10	2	0.015	12
T 18633	8425	4600	0.8	SL	25	10	170	-0.5	-10	2	-0.008	11
T 18634	8400	4600	0.5	SL	40	-5	45	-0.5	-10	2	-0.008	12
T 18635	8375	4600	0.7	SL	45	30	40	-0.5	-10	3	-0.008	11
T 18636	8350	4600	0.8	SL	45	30	35	-0.5	30	3	-0.008	10
T 18637	8325	4600	0.7	SL	40	20	50	-0.5	-10	3	-0.008	13
T 18638	8300	4600	0.8	SL	70	10	290	-0.5	20	2	-0.008	-3
T 18639	10050	5400	0.8	SL	60	-5	130	-0.5	10	2	-0.008	9

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456096

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18641	10025	5400	0.7	SL	50	-5	135	-0.5	10	2	-0.008	-3
T 18642	10000	5400	0.7	SL	50	5	130	-0.5	20	2	0.023	10
T 18643	9975	5400	0.7	SL	45	-5	130	-0.5	-10	-1	-0.008	4
T 18644	9950	5400	0.6	SL	45	-5	600	-0.5	30	-1	-0.008	4
T 18645	9925	5400	0.6	SL	40	5	125	-0.5	20	3	-0.008	5
T 18646	9900	5400		RC	5	35	15	0.5	-10	-1	-0.008	5
T 18647	9875	5400	0.3	SL	5	15	15	1.0	-10	-1	-0.008	5
T 18648	9850	5400	0.5	SL	5	20	20	-0.5	10	-1	-0.008	-3
T 18649	9825	5400	0.4	SL	5	20	15	0.5	-10	-1	-0.008	-3
T 18650	9800	5400	0.6	SL	5	30	20	0.5	-10	-1	-0.008	5
T 18651	9775	5400	0.8	SL	5	50	15	1.0	10	2	-0.008	8
T 18652	9750	5400	0.5	SL	5	15	10	1.0	-10	-1	-0.008	3
T 18653	9725	5400	0.4	SL	5	15	10	1.0	-10	-1	-0.008	6
T 18654	9700	5400	0.6	SL	5	15	10	1.0	-10	-1	-0.008	-3
T 18655	9675	5400	0.5	SL	5	20	15	0.5	20	-1	-0.008	-3
T 18656	9650	5400		RC	5	15	20	-0.5	-10	2	-0.008	-3
T 18657	9625	5400		RC	5	45	25	0.5	30	7	-0.008	4
T 18658	9600	5400		RC	5	25	15	0.5	10	-1	-0.008	-3
T 18659	9575	5400	0.7	SL	5	30	5	1.0	-10	-1	-0.008	3
T 18661	9550	5400	0.7	SL	5	45	10	0.5	-10	-1	-0.008	3
T 18662	9525	5400	0.3	SL	5	105	15	-0.5	-10	17	-0.008	7
T 18663	9500	5400	0.6	SL	-5	160	20	-0.5	-10	-1	-0.008	4
T 18664	9475	5400	0.6	SL	-5	20	15	0.5	10	-1	-0.008	5
T 18665	9450	5400	0.5	SL	-5	15	10	1.0	-10	-1	-0.008	4
T 18666	9425	5400		RC	5	90	20	1.0	-10	2	-0.008	6
T 18667	9400	5400	0.5	SL	-5	10	10	0.5	-10	-1	-0.008	4
T 18668	9375	5400	0.6	SL	5	25	15	-0.5	10	1	-0.008	-3
T 18669	9350	5400	0.5	SL	5	20	10	-0.5	20	-1	-0.008	-3
T 18670	9325	5400	0.6	SL	5	130	10	0.5	10	-1	-0.008	8
T 18671	9300	5400	0.5	SL	-5	30	10	-0.5	10	-1	-0.008	-3
T 18672	9275	5400	0.6	SL	5	30	10	0.5	-10	-1	-0.008	8
T 18673	9250	5400	0.6	SL	5	25	10	0.5	-10	-1	-0.008	8
T 18674	9225	5400	0.6	SL	-5	35	10	0.5	-10	-1	-0.008	4
T 18675	9200	5400	0.5	SL	-5	10	-5	1.0	-10	-1	-0.008	9

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45609

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18676	9175	5400	0.8	SL	-5	65	15	0.5	-10	-1	-0.008	-3
T 18677	9150	5400	0.8	SL	-5	125	10	0.5	-10	2	-0.008	7
T 18678	9125	5400	0.6	SL	15	45	60	0.5	-10	-1	-0.008	3
T 18679	9100	5400	0.6	SL	5	25	10	-0.5	20	-1	-0.008	6
T 18681	9075	5400	0.5	SL	5	15	10	0.5	-10	-1	-0.008	5
T 18682	9050	5400	0.6	SL	5	60	10	1.0	-10	-1	-0.008	6
T 18683	9025	5400	0.8	SL	5	95	15	1.0	-10	1	-0.008	8
T 18684	9000	5400	0.7	SL	-5	50	10	-0.5	-10	-1	-0.008	4
T 18685	8975	5400	0.6	SL	5	35	10	0.5	-10	1	-0.008	4
T 18686	8950	5400	0.4	SL	5	15	5	0.5	-10	-1	-0.008	3
T 18687	8925	5400	0.5	SL	5	15	10	-0.5	-10	1	-0.008	5
T 18688	8900	5400	0.6	SL	5	60	10	-0.5	-10	-1	-0.008	8
T 18689	8875	5400	0.7	SL	5	70	10	1.0	-10	-1	-0.008	7
T 18690	8850	5400	0.8	SL	-5	35	15	0.5	-10	1	-0.008	-3
T 18691	8825	5400	0.5	SL	-5	25	5	0.5	-10	-1	-0.008	-3
T 18692	8800	5400	0.4	SL	5	245	10	0.5	-10	-1	-0.008	-3
T 18693	8775	5400	0.8	SL	5	290	15	0.5	-10	1	-0.008	3
T 18694	8750	5400	0.7	SL	5	390	10	-0.5	-10	4	-0.008	3
T 18695	8725	5400	0.4	SL	15	95	35	-0.5	20	4	-0.008	9
T 18696	8700	5400	0.6	SL	5	230	20	-0.5	-10	4	-0.008	12
T 18697	8675	5400	0.7	SL	5	440	20	-0.5	-10	6	0.024	6
T 18698	8650	5400	0.6	SL	5	375	15	-0.5	20	3	0.056	12
T 18699	8625	5400	0.6	SL	5	375	25	-0.5	-10	6	0.076	12
T 18701	8675	4800	0.3	SL	-5	20	10	-0.5	20	3	-0.008	-3
T 18702	8700	4800	0.2	SL	5	115	20	-0.5	10	6	-0.008	3
T 18703	8725	4800	0.3	SL	5	25	5	-0.5	-10	3	-0.008	-3
T 18704	8750	4800	0.3	SL	-5	5	10	-0.5	-10	2	-0.008	-3
T 18705	10375	6400	0.3	SL	30	30	120	1.0	-10	7	-0.008	5
T 18706	10350	6400	0.7	SL	40	20	105	1.0	-10	5	-0.008	5
T 18707	10325	6400		SL	45	5	100	1.0	-10	4	0.013	8
T 18708	10300	6400	0.4	SL	45	10	115	1.5	-10	6	-0.008	7
T 18709	10275	6400	0.5	SL	50	25	110	1.5	-10	4	0.013	8
T 18710	10250	6400	0.4	SL	55	15	125	1.0	-10	5	0.008	8
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

460698

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18711	10225	6400	0.3	SL	15	40	60	-0.5	-10	5	0.032	8
T 18712	10200	6400	0.5	SL	20	40	70	1.5	-10	8	-0.008	9
T 18713	10175	6400	0.6	SL	20	55	255	1.0	-10	10	-0.008	10
T 18714	10150	6400	0.4	SL	35	20	105	1.5	-10	5	-0.008	7
T 18715	10125	6400	0.6	SL	45	10	135	1.5	-10	3	-0.008	8
T 18716	10100	6400	0.4	SL	35	25	100	0.5	-10	6	-0.008	8
T 18717	10075	6400	0.3	SL	10	70	30	1.0	-10	11	-0.008	5
T 18718	10050	6400	0.7	SL	15	130	50	0.5	-10	33	-0.008	6
T 18719	10025	6400	0.7	SL	20	230	80	1.0	-10	46	-0.008	8
T 18737	8550	5800	0.2	SL	120	20	55	-0.5	-10	4	0.020	8
T 18738	8575	5800		RC	50	5	20	-0.5	-10	3	-0.008	47
T 18739	8600	5800	0.3	SL	240	20	65	-0.5	-10	4	0.033	12
T 18741	8625	5800	0.3	SL	105	15	30	-0.5	-10	3	0.016	16
T 18742	8650	5800	0.4	SL	45	15	25	-0.5	10	2	-0.008	22
T 18743	8675	5800	0.3	SL	65	50	25	-0.5	-10	4	0.024	24
T 18744	8700	5800	0.5	SL	20	130	30	-0.5	-10	6	0.011	12
T 18745	8725	5800	0.3	SL	10	15	15	-0.5	-10	2	-0.008	-3
T 18746	8750	5800	0.4	SL	5	30	15	-0.5	-10	3	-0.008	3
T 18747	8775	5800	0.6	SL	5	155	15	-0.5	-10	2	-0.008	-3
T 18748	8800	5800	0.5	SL	-5	35	10	-0.5	-10	2	-0.008	9
T 18749	9300	5800	0.5	SL	-5	30	20	-0.5	-10	3	0.013	-3
T 18750	9275	5800	0.4	SL	-5	50	5	-0.5	-10	2	-0.008	6
T 18751	9250	5800	0.7	SL	-5	10	10	-0.5	-10	2	0.027	6
T 18752	9225	5800	0.6	SL	-5	-5	5	-0.5	-10	2	0.018	-3
T 18753	9200	5800	0.5	SL	-5	-5	5	-0.5	-10	1	0.030	3
T 18754	9175	5800	0.5	SL	-5	-5	10	-0.5	-10	2	-0.008	5
T 18755	9150	5800	0.4	SL	-5	-5	10	-0.5	-10	2	-0.008	-3
T 18756	9125	5800	0.8	SL	5	70	15	-0.5	-10	5	-0.008	-3
T 18757	9100	5800	0.8	SL	5	30	15	-0.5	-10	3	0.028	3
T 18758	9075	5800	0.7	SL	-5	15	10	-0.5	-10	4	-0.008	6
T 18759	9050	5800	0.8	SL	5	30	15	0.5	-10	3	-0.008	6
T 18761	9025	5800	0.7	SL	5	15	15	-0.5	-10	3	0.028	6
T 18762	9000	5800	0.4	SL	-5	-5	5	-0.5	-10	2	-0.008	7

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456099

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18763	8975	5800	0.4	SL	-5	5	10	-0.5	-10	3	-0.008	-3
T 18764	8950	5800	0.4	SL	-5	-5	5	0.5	-10	2	-0.008	-3
T 18765	8925	5800	0.5	SL	5	-5	10	-0.5	-10	2	-0.008	4
T 18766	8900	5800	0.6	SL	-5	-5	10	-0.5	20	2	-0.008	4
T 18767	8875	5800	0.7	SL	-5	-5	10	-0.5	-10	2	-0.008	5
T 18768	8850	5800	0.7	SL	-5	20	10	-0.5	20	3	-0.008	6
T 18769	8825	5800	0.3	SL	25	80	145	-0.5	10	12	-0.008	-3
T 18770	9325	5800	0.4	SL	5	30	15	-0.5	-10	5	-0.008	1
T 18771	9350	5800		SL	-5	-5	15	-0.5	-10	1	-0.008	4
T 18772	9375	5800	0.4	SL	40	3075	50	1.5	10	520	0.113	21
T 18773	9400	5800	0.6	SL	-5	-5	5	-0.5	-10	3	-0.008	4
T 18774	9425	5800	0.7	SL	-5	-5	15	-0.5	-10	2	-0.008	6
T 18775	9450	5800	0.5	SL	-5	-5	10	-0.5	-10	1	-0.008	7
T 18776	9475	5800	0.5	SL	-5	-5	10	-0.5	-10	-1	-0.008	7
T 18777	9500	5800	0.4	SL	-5	-5	10	-0.5	-10	-1	-0.008	9
T 18778	9525	5800	0.7	SL	5	-5	15	-0.5	-10	1	-0.008	10
T 18779	9550	5800	0.5	SL	-5	-5	10	-0.5	-10	1	0.028	6
T 18781	9575	5800	0.6	SL	5	-5	10	-0.5	-10	-1	-0.008	5
T 18782	9600	5800	0.3	SL	-5	-5	15	-0.5	-10	1	-0.008	7
T 18783	9625	5800	0.3	SL	5	-5	10	-0.5	-10	-1	-0.008	3
T 18784	9650	5800	0.3	SL	10	50	20	-0.5	-10	3	-0.008	14
T 18785	9675	5800	0.6	SL	5	-5	10	-0.5	-10	-1	0.055	-1
T 18786	9700	5800	0.6	SL	5	-5	15	-0.5	-10	-1	0.024	5
T 18787	9725	5800	0.2	SL	10	-5	5	-0.5	-10	-1	-0.008	-1
T 18788	9750	5800	0.5	SL	5	-5	30	-0.5	-10	-1	-0.008	6
T 18789	9775	5800		RC	10	10	30	-0.5	-10	-1	-0.008	7
T 18790	9800	5800		RC	5	15	35	-0.5	-10	4	-0.008	4
T 18791	9825	5800	0.4	SL	10	-5	10	-0.5	-10	-1	-0.008	4
T 18792	9850	5800	0.3	SL	-5	-5	-5	-0.5	-10	-1	-0.008	4
T 18793	9875	5800	0.5	SL	-5	-5	10	-0.5	-10	-1	-0.008	5
T 18794	9900	5800	0.4	SL	-5	-5	5	-0.5	-10	-1	-0.008	6
T 18795	9925	5800	0.4	SL	-5	-5	-5	-0.5	-10	-1	-0.008	3
T 18796	9950	5800	0.8	SL	20	55	30	-0.5	-10	14	-0.008	11
T 18797	9975	5800	0.4	SL	40	15	65	1.0	-10	10	-0.008	4
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456100

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18798	10000	5800	1.0	SL	15	15	35	-0.5	-10	5	-0.008	7
T 18799	10025	5800	0.5	SL	55	10	125	1.0	-10	1	-0.008	8
T 18801	8600	5400	0.7	SL	10	345	30	-0.5	-10	6	-0.008	7
T 18802	8575	5400	0.5	SL	10	200	25	-0.5	-10	5	-0.008	9
T 18803	8550	5400	0.7	SL	30	140	25	0.5	-10	4	-0.008	7
T 18804	10050	5600	0.8	SL	45	-5	150	-0.5	-10	5	-0.008	4
T 18805	10025	5600	0.7	SL	35	5	110	-0.5	10	6	-0.008	6
T 18806	10000	5600	0.9	SL	25	30	85	-0.5	-10	10	-0.008	6
T 18807	9975	5600	0.4	SL	10	-5	15	-0.5	-10	4	-0.008	5
T 18808	9950	5600	0.3	SL	5	5	5	-0.5	-10	3	-0.008	-3
T 18809	9925	5600	0.5	SL	5	-5	-5	-0.5	-10	6	-0.008	4
T 18810	9900	5600	0.5	SL	-5	-5	5	-0.5	-10	6	-0.008	11
T 18811	9875	5600	0.5	SL	5	5	10	-0.5	-10	5	-0.008	5
T 18812	9850	5600	0.6	SL	5	25	5	-0.5	-10	5	-0.008	8
T 18813	9825	5600	0.6	SL	5	15	10	-0.5	-10	6	-0.008	6
T 18814	9800	5600	0.5	SL	5	10	5	-0.5	-10	6	-0.008	3
T 18815	9775	5600	0.4	SL	5	10	5	-0.5	-10	5	0.044	3
T 18816	9750	5600	0.4	SL	-5	15	10	-0.5	-10	2	-0.008	7
T 18817	9725	5600	0.3	SL	5	5	10	-0.5	5	6	-0.008	3
T 18818	9700	5600	0.4	SL	25	95	30	-0.5	-10	26	-0.008	5
T 18819	9675	5600		RC	10	225	40	-0.5	10	32	-0.008	7
T 18821	9650	5600		RC	15	75	25	-0.5	-10	9	-0.008	3
T 18822	9625	5600	0.7	SL	10	80	20	-0.5	-10	13	-0.008	3
T 18823	9600	5600	0.5	SL	5	60	10	-0.5	-10	10	-0.008	-3
T 18824	9575	5600		RC	15	65	10	-0.5	-10	14	-0.008	4
T 18825	9550	5600	0.8	SL	5	100	15	-0.5	-10	13	-0.008	4
T 18826	9525	5600	0.3	SL	-5	195	15	-0.5	-10	51	-0.008	9
T 18827	9500	5600	0.4	SL	-5	25	15	-0.5	-10	4	-0.008	5
T 18828	9475	5600	0.4	SL	-5	10	10	-0.5	-10	2	-0.008	4
T 18829	9450	5600	0.7	SL	-5	20	10	-0.5	-10	4	0.012	10
T 18830	9425	5600	0.5	SL	-5	10	10	-0.5	-10	3	0.011	6
T 18831	9400	5600	0.7	SL	5	15	10	-0.5	-10	3	-0.008	4
T 18832	9375	5600	0.7	SL	5	45	10	-0.5	-10	4	-0.008	6

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456101

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18833	9350	5600	0.6	SL	5	65	10	-0.5	-10	3	-0.008	6
T 18834	9325	5600	0.5	SL	-5	50	5	-0.5	-10	1	-0.008	5
T 18835	9300	5600	0.7	SL	-5	25	10	-0.5	-10	1	-0.008	5
T 18836	9275	5600	0.8	SL	5	30	10	-0.5	-10	2	0.025	10
T 18837	9250	5600	0.8	SL	5	20	5	-0.5	-10	1	-0.008	5
T 18838	9225	5600	0.6	SL	5	15	5	-0.5	-10	1	-0.008	4
T 18839	9200	5600	0.8	SL	5	1200	15	-0.5	-10	6	-0.008	5
T 18841	9175	5600	0.7	SL	5	70	10	-0.5	-10	3	-0.008	8
T 18842	9150	5600	0.6	SL	5	25	10	-0.5	-10	2	-0.008	5
T 18843	9125	5600	0.7	SL	5	30	10	-0.5	-10	1	-0.008	5
T 18844	9100	5600	0.7	SL	5	15	10	-0.5	-10	2	-0.008	5
T 18845	9075	5600	0.5	SL	-5	20	10	-0.5	-10	2	-0.008	7
T 18846	9050	5600	0.7	SL	10	15	10	-0.5	-10	2	0.046	8
T 18847	9025	5600	0.5	SL	5	20	5	0.5	-10	2	-0.008	5
T 18848	9000	5600	0.6	SL	-5	25	10	0.5	-10	2	-0.008	5
T 18849	8975	5600	0.8	SL	5	60	10	-0.5	-10	3	-0.008	4
T 18850	8950	5600	0.8	SL	5	60	15	-0.5	-10	3	-0.008	4
T 18851	8925	5600	0.7	SL	-5	55	10	-0.5	-10	3	-0.008	7
T 18852	8900	5600	0.8	SL	5	70	15	-0.5	-10	4	-0.008	8
T 18853	8875	5600	0.8	SL	5	60	10	1.0	-10	3	0.016	7
T 18854	8850	5600	0.5	SL	5	50	20	-0.5	-10	1	-0.008	3
T 18855	8825	5600	0.7	SL	-5	350	20	-0.5	-10	-1	-0.008	7
T 18856	8800	5600	0.7	SL	5	220	25	-0.5	-10	1	-0.008	3
T 18857	9075	6000		SL	-5	10	20	-0.5	-10	-1	-0.008	4
T 18858	9100	6000	0.7	SL	-5	35	20	-0.5	-10	-1	-0.008	7
T 18859	9125	6000	0.7	SL	5	45	20	-0.5	-10	1	-0.008	5
T 18861	9150	6000	0.7	SL	5	610	30	-0.5	-10	5	0.067	7
T 18862	9175	6000	0.7	SL	5	10	15	-0.5	-10	-1	-0.008	-3
T 18863	9200	6000	0.8	SL	5	5	15	0.5	-10	-1	-0.008	-3
T 18864	9225	6000	0.8	SL	5	75	15	-0.5	-10	-1	0.014	4
T 18865	9250	6000	0.7	SL	-5	10	20	-0.5	-10	1	-0.008	5
T 18866	9275	6000	0.4	SL	-5	15	10	-0.5	-10	-1	-0.008	-3
T 18867	9300	6000	0.6	SL	-5	10	10	-0.5	-10	-1	-0.008	-3

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

49162

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18868	9325	6000	0.6	SL	5	10	20	-0.5	-10	4	-0.008	5
T 18869	9350	6000	0.7	SL	-5	5	10	-0.5	-10	1	-0.008	3
T 18870	9375	6000	0.6	SL	-5	10	10	-0.5	-10	-1	-0.008	5
T 18871	9400	6000	0.5	SL	5	-5	10	-0.5	-10	1	-0.008	5
T 18872	9425	6000	0.6	SL	-5	5	30	-0.5	-10	-1	-0.008	5
T 18873	9450	6000	0.5	SL	-5	-5	15	-0.5	-10	-1	-0.008	3
T 18874	9475	6000	0.8	SL	10	30	15	-0.5	-10	1	-0.008	8
T 18875	9500	6000	0.7	SL	5	-5	15	-0.5	-10	1	-0.008	-3
T 18876	9525	6000	0.4	SL	5	20	50	-0.5	-10	27	-0.008	7
T 18877	9550	6000	0.6	SL	5	-5	15	-0.5	-10	-1	-0.008	-3
T 18878	9575	6000	0.4	SL	-5	5	10	-0.5	-10	1	-0.008	4
T 18879	9600	6000	0.5	SL	5	-5	15	-0.5	-10	-1	-0.008	-3
T 18881	9625	6000	0.6	SL	5	-5	20	-0.5	-10	-1	0.026	3
T 18882	9650	6000	0.4	SL	-5	-5	20	-0.5	-10	-1	-0.008	-3
T 18883	9675	6000	0.5	SL	5	-5	15	-0.5	-10	-1	-0.008	-3
T 18884	9700	6000	0.6	SL	5	-5	10	-0.5	-10	-1	-0.008	-3
T 18885	9725	6000	0.4	SL	5	-5	10	-0.5	-10	-1	0.034	-3
T 18886	9750	6000	0.5	SL	-5	25	15	-0.5	-10	2	-0.008	-3
T 18887	9770	6000	0.5	SL	5	-5	20	-0.5	-10	1	-0.008	-3
T 18888	9800	6000	0.6	SL	15	175	40	-0.5	-10	22	0.020	4
T 18889	9825	6000	0.8	SL	15	160	80	-0.5	-10	31	0.015	7
T 18890	9850	6000		RC	5	20	20	-0.5	-10	3	-0.008	4
T 18891	9875	6000	0.4	SL	5	285	135	-0.5	-10	49	-0.008	-3
T 18892	9900	6000		RC	-5	165	50	-0.5	-10	14	-0.008	4
T 18893	9925	6000	0.5	SL	20	625	145	-0.5	-10	102	-0.008	5
T 18894	9950	6000	0.6	SL	15	510	30	-0.5	-10	79	-0.008	5
T 18895	9975	6000	0.5	SL	-5	-5	20	-0.5	-10	4	-0.008	5
T 18896	10000	6000	0.8	SL	30	10	80	-0.5	-10	11	-0.008	9
T 18897	10025	6000	0.6	SL	5	195	30	-0.5	-10	5	0.034	4
T 18901	8550	6200		RC	70	15	150	0.5	-10	2	-0.008	13
T 18902	8575	6200	0.7	SL	40	15	85	-0.5	-10	2	-0.008	13
T 18903	8600	6200	2.0	SL	80	-5	75	0.5	-10	1	-0.008	14
T 18904	8625	6200	0.8	SL	95	20	55	1.0	-10	3	-0.008	18
T 18905	8650	6200	0.7	SL	110	40	100	1.0	-10	3	-0.008	13
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456103

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18906	8675	6200	0.8	SL	190	30	85	1.0	-10	4	0.008	11
T 18907	8700	6200	0.8	SL	80	50	65	1.0	-10	4	-0.008	11
T 18908	8725	6200	0.3	SL	25	55	10	-0.5	-10	2	-0.008	13
T 18909	8750	6200	0.8	SL	20	55	10	0.5	-10	3	-0.008	14
T 18910	8775	6200	0.5	SL	15	140	75	-0.5	-10	2	-0.008	5
T 18911	8800	6200	0.6	SL	10	1500	5	-0.5	-10	1	-0.008	5
T 18912	8825	6200	0.7	SL	5	10	-5	-0.5	-10	-1	-0.008	5
T 18913	8850	6200	0.5	SL	10	5	-5	-0.5	-10	-1	-0.008	7
T 18914	8875	6200	0.8	SL	10	50	5	-0.5	-10	1	-0.008	5
T 18915	8900	6200	0.7	SL	5	25	-5	-0.5	-10	2	-0.008	7
T 18916	8925	6200	0.7	SL	5	25	-5	-0.5	-10	1	-0.008	7
T 18917	8950	6200	0.4	SL	5	10	-5	-0.5	-10	-1	-0.008	-3
T 18918	8975	6200	0.5	SL	5	20	-5	-0.5	-10	-1	-0.008	3
T 18919	9000	6200	0.5	SL	5	-5	-5	-0.5	-10	-1	-0.008	6
T 18921	9025	6200	0.6	SL	20	635	165	-0.5	-10	30	0.011	4
T 18922	9050	6200	0.5	SL	120	5650	700	1.5	-10	240	0.061	6
T 18923	9075	6200	0.5	SL	30	110	70	0.5	-10	16	-0.008	5
T 18924	9100	6200	0.4	SL	25	150	95	1.5	-10	19	-0.008	7
T 18925	9125	6200	0.5	SL	15	350	90	2.0	-10	41	0.171	7
T 18926	9150	6200	0.5	SL	25	185	95	1.5	-10	18	-0.008	7
T 18927	9175	6200	0.6	SL	15	-5	30	0.6	-10	6	-0.008	8
T 18928	9200	6200	0.4	SL	20	90	75	0.5	-10	11	-0.008	7
T 18929	9225	6200	0.5	SL	25	90	65	1.0	-10	8	-0.008	7
T 18930	9250	6200	0.7	SL	25	100	45	1.5	-10	22	-0.008	7
T 18931	9275	6200	0.6	SL	5	80	25	1.0	-10	11	0.008	-1
T 18932	9300	6200	0.6	SL	10	-5	25	-0.5	-10	2	-0.008	-1
T 18933	9325	6200	0.5	SL	5	-5	20	-0.5	-10	-1	-0.008	4
T 18934	9350	6200	0.4	SL	5	-5	15	-0.5	-10	-1	-0.008	3
T 18935	9375	6200	0.5	SL	5	-5	15	-0.5	-10	-1	-0.008	5
T 18936	9400	6200	0.5	SL	5	-5	15	-0.5	-10	-1	0.018	3
T 18937	9425	6200	0.5	SL	-5	-5	-5	-0.5	-10	-1	-0.008	6
T 18938	9450	6200	0.8	SL	-5	-5	10	-0.5	-10	-1	-0.008	4
T 18939	9475	6200	0.7	SL	-5	-5	-5	-0.5	-10	-1	-0.008	3

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456104

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18941	9500	6200	0.5	SL	-5	-5	-5	-0.5	-10	-1	-0.008	3
T 18942	9525	6200	0.6	SL	-5	-5	-5	-0.5	-10	-1	-0.008	8
T 18943	9550	6200	0.4	SL	-5	-5	5	-0.5	-10	-1	-0.008	5
T 18944	9575	6200	0.4	SL	-5	-5	-5	-0.5	-10	-1	-0.008	6
T 18945	9600	6200	0.5	SL	-5	-5	-5	-0.5	-10	1	-0.008	4
T 18946	9625	6200	0.5	SL	-5	-5	-5	-0.5	-10	-1	-0.008	6
T 18947	9650	6200	0.8	SL	15	55	20	1.5	-10	10	-0.008	10
T 18948	9675	6200		RC	10	15	5	-0.5	-10	11	-0.008	10
T 18949	9700	6200		RC	-5	30	20	-0.5	-10	18	-0.008	4
T 18950	9725	6200	0.6	SL	15	150	35	0.5	-10	21	-0.008	10
T 18951	9750	6200	0.6	SL	15	70	145	0.5	-10	20	-0.008	10
T 18952	9775	6200	0.6	SL	10	50	70	1.0	-10	17	-0.008	12
T 18953	9800	6200	0.6	SL	10	35	605	0.5	-10	15	-0.008	9
T 18954	9825	6200	0.6	SL	10	25	55	1.0	-10	12	-0.008	9
T 18955	9850	6200	0.5	SL	5	-5	15	-0.5	-10	15	-0.008	5
T 18956	9875	6200	0.6	SL	-5	75	520	0.5	-10	12	-0.008	6
T 18957	9900	6200	0.8	SL	15	140	295	1.0	-10	12	-0.008	10
T 18958	9925	6200	0.8	SL	15	300	125	0.5	-10	4	-0.008	10
T 18959	9950	6200		RC	5	15	20	-0.5	-10	6	-0.008	6
T 18961	9975	6200	0.8	SL	5	40	50	0.5	20	12	-0.008	6
T 18962	10000	6200	0.5	SL	10	25	265	-0.5	-10	6	-0.008	9
T 18963	10025	6200	0.8	SL	15	65	55	1.0	-10	16	-0.008	7
T 18964	10050	6200	0.8	SL	20	50	40	1.0	-10	11	-0.008	10
T 18965	10075	6200	0.8	SL	20	55	80	1.0	-10	89	-0.008	11
T 18966	10100	6200	0.4	SL	50	25	145	1.0	-10	4	-0.008	9
T 18967	10125	6200	0.5	SL	50	15	295	1.0	-10	2	-0.008	6
T 18968	10150	6200	0.5	SL	45	10	140	1.0	-10	2	-0.008	3
T 18969	10175	6200	0.6	SL	35	15	130	1.0	-10	2	-0.008	11
T 18970	10200	6200	0.4	SL	55	15	145	1.0	-10	2	-0.008	3
T 18971	10225	6200	0.6	SL	40	15	130	0.5	-10	2	-0.008	5
T 18972	10250	6200	0.5	SL	50	15	235	0.5	-10	1	-0.008	4
T 18973	10275	6200	0.6	SL	40	15	125	1.0	-10	2	-0.008	28
T 18974	10300	6200	0.6	SL	45	10	140	1.0	-10	2	-0.008	6
T 18975	8775	5600	0.5	SL	10	110	15	0.5	-10	1	0.009	7
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456105

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 18976	8750	5600	0.7	SL	10	150	20	0.5	-10	2	-0.008	11
T 18977	8725	5600	0.6	SL	10	40	60	-0.5	-10	-1	-0.008	13
T 18978	8700	5600	0.5	SL	10	40	5	-0.5	-10	-1	0.010	9
T 18979	8675	5600	0.6	SL	10	90	10	0.5	-10	2	0.015	9
T 18981	8650	5600	0.8	SL	20	45	25	1.0	-10	2	-0.008	18
T 18982	8625	5600	0.6	SL	30	35	35	1.0	-10	2	-0.008	17
T 18983	8600	5600	0.6	SL	25	35	80	1.0	-10	2	-0.008	22
T 18984	8575	5600	0.7	SL	25	30	35	1.0	-10	2	0.009	23
T 18985	8550	5600	0.6	SL	20	25	30	1.0	-10	22	-0.008	27
T 18986	9050	6000	0.7	SL	5	35	-5	-0.5	-10	-1	0.019	8
T 18987	9025	6000	0.7	SL	5	-5	5	-0.5	-10	-1	-0.008	9
T 18988	9000	6000	0.6	SL	-5	10	25	-0.5	-10	-1	-0.008	8
T 18989	8975	6000	0.7	SL	5	10	10	-0.5	-10	-1	-0.008	5
T 18990	8950	6000	0.7	SL	5	-5	5	-0.5	-10	-1	-0.008	-3
T 18991	8925	6000	0.6	SL	5	-5	5	-0.5	-10	-1	-0.008	7
T 18992	8900	6000	0.7	SL	5	-5	10	-0.5	-10	-1	-0.008	8
T 18993	8875	6000	0.8	SL	-5	35	25	-0.5	-10	1	-0.008	7
T 18994	8850	6000	0.8	SL	5	15	15	-0.5	-10	-1	-0.008	8
T 18995	8825	6000	0.8	SL	5	35	15	-0.5	-10	-1	-0.008	4
T 18996	8800	6000	0.7	SL	-5	-5	5	-0.5	-10	-1	-0.008	3
T 18997	8775	6000	0.6	SL	5	110	10	-0.5	-10	1	-0.008	3
T 18998	8750	6000	0.7	SL	10	60	15	-0.5	-10	11	-0.008	6
T 18999	8725	6000	0.7	SL	45	55	25	-0.5	-10	3	-0.008	7
T 19001	10050	5800	0.5	SL	60	20	150	1.0	-10	3	-0.008	-3
T 19002	8525	6400	0.3	SL	30	20	60	0.5	-10	1	-0.008	3
T 19003	8550	6400	0.5	SL	45	15	45	1.0	-10	1	-0.008	4
T 19004	8575	6400	0.6	SL	45	20	60	0.5	-10	2	-0.008	8
T 19005	8600	6400	0.5	SL	35	20	65	1.0	-10	1	-0.008	10
T 19006	8625	6400	0.5	SL	80	35	55	0.5	-10	1	-0.008	6
T 19007	8650	6400	0.5	SL	70	15	65	1.0	-10	2	-0.008	7
T 19008	8675	6400	0.5	SL	110	30	80	0.5	-10	2	-0.008	10
T 19009	8700	6400	1.0	SL	90	30	65	1.0	-10	4	-0.008	12
T 19010	8725	6400		RC	90	45	160	1.0	-10	2	-0.008	6
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456106

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19011	8750	6400		RC	25	160	20	0.5	-10	39	-0.008	7
T 19012	8775	6400	0.7	SL	30	155	30	0.5	-10	11	-0.008	6
T 19013	8800	6400	0.5	SL	15	50	20	-0.5	-10	13	-0.008	6
T 19014	8825	6400	0.6	SL	10	15	15	0.5	-10	3	-0.008	9
T 19015	8850	6400	0.6	SL	10	-5	10	-0.5	-10	-1	-0.008	4
T 19016	8875	6400	0.6	SL	5	30	20	-0.5	-10	4	-0.008	9
T 19017	8900	6400	0.6	SL	-5	-5	10	-0.5	-10	-1	-0.008	8
T 19018	8925	6400	0.6	SL	5	-5	5	-0.5	-10	1	-0.008	4
T 19019	8950	6400	0.8	SL	5	-5	10	-0.5	-10	-1	-0.008	8
T 19021	8975	6400	0.8	SL	-5	10	10	-0.5	-10	2	-0.008	7
T 19022	9000	6400	0.6	SL	5	-5	10	-0.5	-10	1	-0.008	4
T 19023	9025	6400	0.6	SL	-5	-5	10	-0.5	-10	1	-0.008	7
T 19024	9050	6400	0.8	SL	-5	-5	10	-0.5	-10	1	0.008	6
T 19025	9075	6400	0.6	SL	5	-5	10	-0.5	30	2	-0.008	12
T 19026	9100	6400	0.5	SL	-5	-5	5	-0.5	-10	-1	-0.008	7
T 19027	9125	6400	0.8	SL	-5	30	120	-0.5	-10	-1	0.025	8
T 19028	9150	6400	0.6	SL	-5	-5	10	-0.5	-10	-1	-0.008	7
T 19029	9175	6400	1.0	SL	-5	30	15	-0.5	-10	2	0.010	12
T 19030	9200	6400	0.6	SL	-5	-5	5	-0.5	-10	1	-0.008	7
T 19031	9225	6400	0.5	SL	-5	-5	10	-0.5	-10	1	-0.008	5
T 19032	9250	6400	0.6	SL	-5	-5	10	-0.5	-10	1	-0.008	3
T 19033	9275	6400	0.6	SL	-5	-5	10	-0.5	-10	1	-0.008	8
T 19034	9300	6400	0.6	SL	-5	-5	10	-0.5	-10	1	-0.008	-3
T 19035	9325	6400	0.7	SL	-5	-5	10	-0.5	-10	1	0.045	6
T 19036	9350	6400	0.8	SL	-5	-5	10	-0.5	-10	1	-0.008	4
T 19037	9375	6400	0.7	SL	-5	-5	10	-0.5	-10	1	-0.008	3
T 19038	9400	6400	0.8	SL	-5	-5	5	-0.5	-10	1	-0.008	5
T 19039	9425	6400	0.8	SL	-5	10	20	-0.5	-10	4	0.037	8
T 19041	9450	6400	0.4	SL	-5	-5	10	-0.5	-10	1	0.023	7
T 19042	9475	6400	0.6	SL	-5	-5	50	-0.5	-10	1	-0.008	6
T 19043	9500	6400	0.8	SL	-5	-5	15	-0.5	-10	1	-0.008	-3
T 19044	9525	6400	0.7	SL	-5	-5	10	-0.5	-10	1	-0.008	6
T 19045	9550	6400	0.7	SL	-5	-5	10	-0.5	-10	-1	-0.008	6

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45610

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19046	9575	6400	0.8	SL	-5	-5	-5	-0.5	-10	1	-0.008	1
T 19047	9600	6400	0.3	SL	-5	-5	5	-0.5	-10	-1	-0.008	3
T 19048	8800	6800	1.0	SL	40	45	25	0.5	-10	10	-0.008	5
T 19049	8825	6800	0.9	SL	35	50	25	0.5	-10	13	-0.008	8
T 19050	8850	6800	0.8	SL	50	50	30	0.5	-10	10	-0.008	13
T 19051	8875	6800		SL	80	55	45	0.5	-10	13	-0.008	13
T 19052	8900	6800	0.6	SL	35	65	30	-0.5	-10	22	0.015	4
T 19053	8925	6800	0.8	SL	25	60	25	0.5	-10	24	-0.008	8
T 19054	8950	6800	0.5	SL	20	70	5	0.5	-10	36	-0.008	11
T 19055	8975	6800	1.5	SL	10	25	5	-0.5	-10	2	-0.008	8
T 19056	9000	6800	0.6	SL	5	45	5	-0.5	-10	6	-0.008	10
T 19057	9025	6800	0.9	SL	5	25	5	-0.5	-10	12	-0.008	8
T 19058	9050	6800	1.0	SL	5	50	5	-0.5	-10	5	-0.008	6
T 19059	9075	6800	0.4	SL	10	60	10	0.5	-10	13	-0.008	14
T 19061	9100	6800	1.1	SL	10	35	10	-0.5	-10	19	-0.008	14
T 19062	9125	6800	0.7	SL	5	-5	-5	-0.5	-10	-1	-0.008	4
T 19063	9150	6800		SL	-5	-5	-5	-0.5	-10	-1	-0.008	6
T 19064	9175	6800		SL	-5	-5	5	-0.5	-10	-1	-0.008	5
T 19065	9200	6800	1.6	SL	-5	-5	5	-0.5	-10	-1	-0.008	5
T 19066	9225	6800	0.6	SL	-5	-5	5	-0.5	-10	-1	-0.008	4
T 19067	9250	6800	0.5	SL	-5	-5	-5	-0.5	-10	-1	-0.008	6
T 19068	9275	6800	0.1	SL	-5	5	5	-0.5	-10	-1	-0.008	10
T 19069	9300	6800	0.1	SL	-5	-5	-5	-0.5	-10	-1	-0.008	8
T 19070	9325	6800	0.6	SL	-5	-5	5	-0.5	-10	-1	-0.008	8
T 19071	9350	6800	0.7	SL	-5	-5	-5	-0.5	-10	-1	-0.008	10
T 19072	9375	6800	0.7	SL	-5	-5	5	-0.5	-10	1	-0.008	10
T 19073	9400	6800	0.5	SL	-5	10	10	-0.5	-10	3	-0.008	8
T 19074	9425	6800	0.5	SL	5	15	20	0.5	10	7	-0.008	8
T 19075	9450	6800	0.6	SL	5	15	5	0.5	-10	3	-0.008	9
T 19076	9475	6800	0.3	SL	5	-5	15	-0.5	-10	-1	-0.008	4
T 19077	9500	6800	0.4	SL	20	55	110	0.5	-10	35	-0.008	7
T 19078	9525	6800	0.9	SL	20	30	45	-0.5	-10	12	-0.008	9
T 19079	9550	6800	1.2	SL	20	170	45	0.5	-10	22	0.046	8

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45708

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19081	9575	6800	0.6	SL	10	15	15	0.5	-10	7	0.008	10
T 19082	9600	6800	0.6	RC	5	-5	10	-0.5	-10	2	-0.008	10
T 19083	9625	6800		RC	10	5	5	-0.5	-10	1	0.013	-3
T 19084	9650	6800		RC	15	105	25	0.5	-10	6	0.008	9
T 19085	9675	6800		RC	5	15	25	0.5	-10	5	0.009	9
T 19086	9700	6800	0.7	SL	45	60	60	0.5	-10	13	-0.008	8
T 19087	9725	6800	1.0	SL	40	65	65	1.0	-10	15	-0.008	13
T 19088	9750	6800	1.0	SL	45	65	80	0.5	-10	11	-0.008	9
T 19089	9775	6800	1.0	SL	45	65	65	0.5	-10	12	-0.008	6
T 19090	9800	6800	0.8	SL	75	70	105	0.5	-10	22	0.008	9
T 19091	9825	6800	0.9	SL	50	70	80	0.5	-10	18	0.009	8
T 19092	9850	6800	0.9	SL	45	60	65	1.0	-10	13	-0.008	6
T 19093	9875	6800	0.8	SL	30	60	50	1.0	-10	10	0.010	18
T 19094	9900	6800	1.0	SL	35	50	55	-0.5	-10	10	-0.008	12
T 19095	9925	6800	0.7	SL	45	50	55	-0.5	-10	10	0.008	9
T 19096	9950	6800	0.8	SL	40	55	60	-0.5	-10	8	0.011	12
T 19097	9975	6800	0.6	SL	30	60	65	-0.5	-10	6	-0.008	12
T 19098	10050	6000	0.3	SL	50	15	105	-0.5	-10	10	-0.008	10
T 19099	10075	6000	0.4	SL	45	15	140	-0.5	-10	1	0.053	5
T 19101	10100	6000	0.6	SL	40	15	125	-0.5	-10	1	-0.008	-3
T 19102	10125	6000	0.4	SL	45	10	140	-0.5	-10	5	-0.008	9
T 19103	10150	6000		SL	40	15	105	-0.5	-10	2	-0.008	5
T 19104	10175	6000	0.5	SL	45	20	120	-0.5	-10	2	-0.008	5
T 19105	10200	6000	0.5	SL	55	10	135	-0.5	-10	-1	-0.008	6
T 19106	10225	6000	0.7	SL	50	15	135	-0.5	-10	1	-0.008	5
T 19107	10250	6000	0.3	SL	45	15	120	-0.5	-10	-1	-0.008	5
T 19108	10275	6000	0.4	SL	55	20	135	-0.5	-10	-1	0.008	8
T 19109	10300	6000	0.6	SL	55	15	130	-0.5	-10	1	-0.008	9
T 19110	9600	6600	0.8	SL	20	50	30	-0.5	-10	12	0.013	4
T 19111	9625	6600	1.0	SL	20	35	25	-0.5	-10	4	-0.008	11
T 19112	9650	6600	0.8	SL	20	20	25	-0.5	-10	2	0.009	9
T 19113	9675	6600	1.0	SL	25	25	25	-0.5	-10	14	-0.008	11
T 19114	9700	6600	1.0	SL	20	20	20	-0.5	-10	16	-0.008	11
T 19115	9725	6600	0.9	SL	15	35	20	-0.5	-10	13	-0.008	12
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456109

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19116	9750	6600	0.5	SL	35	180	20	-0.5	-10	25	0.012	7
T 19117	9775	6600		SL	40	105	40	-0.5	-10	21	-0.008	9
T 19118	9800	6600	0.8	SL	45	60	30	-0.5	-10	11	0.012	7
T 19119	9825	6600	0.8	SL	45	400	90	-0.5	-10	13	0.017	12
T 19120	9850	6600	1.0	SL	40	1200	195	-0.5	-10	24	0.020	6
T 19121	9875	6600	0.6	SL	20	45	50	-0.5	-10	17	0.012	13
T 19122	9900	6600	0.8	SL	25	40	40	-0.5	-10	18	0.012	7
T 19123	9925	6600	0.9	SL	20	25	45	-0.5	-10	17	0.014	4
T 19124	9950	6600	0.9	SL	25	40	45	-0.5	-10	18	0.013	7
T 19125	9975	6600	0.9	SL	45	40	45	-0.5	-10	20	0.013	6
T 19126	10000	6600	0.9	SL	35	55	55	-0.5	-10	29	0.013	12
T 19127	10025	6600	0.6	SL	15	40	35	-0.5	-10	14	0.014	8
T 19128	10050	6600	0.8	SL	20	55	55	-0.5	-10	24	0.014	10
T 19129	9575	6600	0.5	SL	40	75	75	-0.5	-10	47	-0.008	11
T 19130	9550	6600	0.5	SL	15	120	55	-0.5	-10	34	-0.008	6
T 19131	9525	6600	0.6	SL	5	10	-5	-0.5	-10	6	-0.008	10
T 19132	9500	6600	1.2	SL	5	-5	5	-0.5	-10	4	-0.008	6
T 19133	9475	6600	0.5	SL	5	-5	5	-0.5	-10	2	-0.008	9
T 19134	9450	6600	0.4	SL	-5	-5	-5	-0.5	-10	1	-0.008	7
T 19135	9425	6600	0.9	SL	5	-5	-5	-0.5	-10	-1	-0.008	8
T 19136	9400	6600	0.4	SL	5	-5	-5	-0.5	-10	-1	-0.008	5
T 19137	9375	6600	0.4	SL	5	-5	-5	-0.5	-10	-1	-0.008	5
T 19138	9350	6600	0.5	SL	5	-5	-5	-0.5	-10	1	-0.008	7
T 19139	9325	6600	0.5	SL	5	-5	-5	-0.5	-10	1	-0.008	11
T 19141	9300	6600	0.5	SL	-5	-5	-5	-0.5	-10	-1	-0.008	10
T 19142	9275	6600		SL	-5	-5	-5	-0.5	-10	-1	-0.008	5
T 19201	8700	6000	0.8	SL	135	35	45	-0.5	-10	2	0.012	16
T 19202	8675	6000	0.8	SL	55	25	30	-0.5	10	3	0.010	12
T 19203	8650	6000	0.7	SL	45	10	10	-0.5	-10	-1	-0.008	11
T 19204	8625	6000	0.7	SL	135	20	25	-0.5	-10	1	0.017	22
T 19205	8600	6000	0.8	SL	105	15	70	-0.5	10	-1	0.009	19
T 19206	8575	6000	0.8	SL	90	15	85	-0.5	20	-1	0.009	39
T 19207	8550	6000	0.8	SL	80	30	40	-0.5	-10	3	0.010	13
T 19208	8550	6600	0.8	SL	75	70	95	-0.5	-10	7	-0.008	13

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456110

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19209	8575	6600	0.8	SL	75	15	50	-0.5	-10	2	-0.008	10
T 19210	8600	6600	1.0	SL	70	15	40	-0.5	-10	3	-0.008	13
T 19211	8625	6600	0.8	SL	80	5	45	-0.5	-10	1	-0.008	7
T 19212	8650	6600	0.9	SL	55	10	35	-0.5	-10	1	-0.008	9
T 19213	8675	6600	0.8	SL	60	25	50	-0.5	20	2	-0.008	11
T 19214	8700	6600	0.8	SL	50	10	60	-0.5	-10	2	-0.008	14
T 19215	8725	6600	0.8	SL	55	10	30	-0.5	-10	2	0.010	13
T 19216	8750	6600	0.5	SL	60	40	40	-0.5	-10	2	-0.008	16
T 19217	8775	6600	0.8	SL	100	40	40	-0.5	10	3	-0.008	7
T 19218	8800	6600		RC	80	20	75	-0.5	20	1	-0.008	8
T 19219	8825	6600		RC	25	80	50	-0.5	10	17	-0.008	6
T 19221	8850	6600		RC	25	90	15	-0.5	-10	26	-0.008	5
T 19222	8875	6600	0.7	SL	10	85	5	-0.5	-10	13	-0.008	5
T 19223	8900	6600	0.8	SL	5	-5	-5	-0.5	-10	2	-0.008	4
T 19224	8925	6600	0.8	SL	5	10	-5	-0.5	-10	1	0.011	9
T 19225	8950	6600	0.5	SL	10	-5	-5	-0.5	-10	-1	-0.008	6
T 19226	8975	6600	0.7	SL	5	-5	-5	-0.5	-10	-1	-0.008	5
T 19227	9000	6600	0.6	SL	5	-5	-5	-0.5	-10	-1	-0.008	
T 19228	9025	6600	0.6	SL	-5	15	-5	-0.5	10	2	-0.008	13
T 19229	9050	6600	0.7	SL	5	5	-5	-0.5	-10	2	-0.008	9
T 19230	9075	6600	0.7	SL	5	-5	-5	-0.5	-10	1	-0.008	6
T 19231	9100	6600	0.7	SL	5	-5	-5	-0.5	-10	1	-0.008	9
T 19232	9125	6600	0.6	SL	5	-5	-5	-0.5	-10	-1	-0.008	4
T 19233	9150	6600	0.5	SL	10	-5	-5	-0.5	-10	1	-0.008	5
T 19234	9175	6600	0.4	SL	10	-5	-5	-0.5	-10	1	-0.008	6
T 19235	9200	6600	0.5	SL	10	-5	-5	-0.5	-10	1	-0.008	8
T 19236	9225	6600	1.0	SL	10	5	10	-0.5	-10	1	-0.008	7
T 19237	9250	6600	0.4	SL	10	-5	-5	-0.5	-10	2	-0.008	4
T 19501	8575	4200	0.6	SL	5	165	20	1.5	-10	2	0.015	4
T 19502	8550	4200	0.8	SL	5	925	30	1.5	-10	3	0.034	8
T 19503	8525	4200		RC	20	40	25	-0.5	-10	12	0.008	15
T 19504	8500	4200	0.7	SL	10	15	25	-0.5	-10	4	0.011	35
T 19505	8475	4200	0.4	SL	10	-5	25	-0.5	-10	1	0.010	41
T 19506	8450	4200		RC	15	-5	30	-0.5	-10	3	-0.008	67
T 19507	8425	4200		RC	10	-5	25	-0.5	-10	-1	-0.008	18
T 19508	8400	4200	0.8	SL	10	10	30	-0.5	-10	-1	0.010	6
T 19509	8375	4200		RC	15	15	70	-0.5	-10	2	0.010	8
T 19510	8350	4200		RC	5	15	45	-0.5	-10	-1	0.008	13
T 19511	8325	4200	0.5	SL	55	35	80	1.0	-10	9	0.010	6
T 19512	8300	4200	0.4	SL	65	120	75	1.0	-10	12	0.009	9

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB

461111

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19513	8600	4200	0.8	SL	5	10	15	-0.5	-10	1	-0.008	3
T 19514	8625	4200	0.6	SL	5	20	20	-0.5	-10	1	-0.008	3
T 19515	8650	4200	0.8	SL	-5	20	15	-0.5	-10	2	-0.008	4
T 19516	8675	4200	0.8	SL	5	15	15	-0.5	-10	1	-0.008	5
T 19517	8700	4200	0.7	SL	-5	10	15	-0.5	-10	2	-0.008	7
T 19518	8725	4200	0.5	SL	-5	-5	10	-0.5	-10	1	-0.008	3
T 19519	8750	4200	0.7	SL	5	-5	15	-0.5	-10	1	-0.008	-3
T 19520	8775	4200	0.5	SL	-5	55	10	-0.5	-10	1	-0.008	5
T 19521	8800	4200	0.5	SL	-5	-5	15	-0.5	-10	-1	0.013	-3
T 19522	8825	4200	0.6	SL	-5	-5	20	-0.5	-10	1	-0.008	-3
T 19523	8850	4200	0.5	SL	-5	-5	15	-0.5	-10	-1	-0.008	-3
T 19524	8875	4200	0.5	SL	-5	5	10	-0.5	-10	1	-0.008	3
T 19525	8900	4200	0.6	SL	-5	-5	15	-0.5	-10	2	-0.008	4
T 19526	8925	4200	0.5	SL	-5	-5	15	-0.5	-10	-1	-0.008	5
T 19527	8950	4200	0.6	SL	5	10	20	-0.5	-10	1	0.015	-3
T 19528	8975	4200	0.6	SL	5	-5	15	-0.5	-10	1	-0.008	3
T 19529	9000	4200	0.5	SL	-5	-5	20	-0.5	-10	-1	-0.008	-3
T 19530	9025	4200	0.8	SL	-5	180	15	-0.5	-10	2	0.101	6
T 19531	9050	4200	0.7	SL	-5	30	10	-0.5	-10	3	-0.008	-3
T 19532	9075	4200	0.6	SL	-5	10	25	-0.5	-10	1	-0.008	4
T 19533	9100	4200		RC	20	25	15	-0.5	-10	10	-0.008	-3
T 19534	9125	4200	0.3	SL	-5	10	15	-0.5	-10	1	-0.008	-3
T 19535	9150	4200	0.5	SL	-5	-5	10	-0.5	-10	1	0.010	4
T 19536	9175	4200	0.6	SL	-5	10	10	-0.5	-10	2	-0.008	6
T 19537	9200	4200	0.8	SL	30	60	60	1.0	-10	34	-0.008	4
T 19538	9225	4200	0.8	SL	50	30	55	1.0	-10	10	-0.008	7
T 19539	9250	4200	0.8	SL	35	50	65	0.5	-10	19	-0.008	6
T 19540	9275	4200	0.8	SL	20	50	40	1.0	-10	15	-0.008	3
T 19541	9300	4200	0.8	SL	10	20	25	-0.5	-10	3	-0.008	-3
T 19542	8675	4400	0.8	SL	-5	15	25	-0.5	-10	2	-0.008	4
T 19543	8700	4400	0.7	SL	-5	5	5	-0.5	-10	1	-0.008	-3
T 19544	8725	4400	0.6	SL	-5	-5	20	-0.5	-10	1	-0.008	3
T 19545	8750	4400	0.5	SL	-5	10	15	-0.5	10	1	-0.008	5
T 19546	8775	4400	0.5	SL	-5	10	20	-0.5	-10	1	-0.008	4
T 19547	8800	4400	0.7	SL	-5	170	25	-0.5	-10	2	-0.008	7

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456112

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19548	8825	4400	0.7	SL	-5	115	15	-0.5	-10	2	-0.008	-3
T 19549	8850	4400	0.8	SL	-5	60	15	-0.5	-10	2	-0.008	-3
T 19550	8875	4400	0.8	SL	-5	115	20	-0.5	-10	1	-0.008	6
T 19551	8900	4400	0.4	SL	-5	25	10	-0.5	-10	-1	-0.008	-3
T 19552	8925	4400	0.7	SL	-5	10	20	-0.5	-10	1	-0.008	3
T 19553	8950	4400	0.7	SL	-5	-5	15	-0.5	10	1	-0.008	5
T 19554	8975	4400	0.6	SL	-5	-5	15	-0.5	-10	-1	-0.008	5
T 19555	9000	4400	0.6	SL	-5	65	15	-0.5	-10	1	-0.008	-3
T 19556	9025	4400	0.3	SL	-5	85	10	-0.5	-10	1	-0.008	4
T 19557	9050	4400	0.4	SL	-5	130	35	-0.5	-10	-1	0.133	-3
T 19558	9075	4400	0.6	SL	-5	-5	5	-0.5	-10	-1	-0.008	4
T 19559	9100	4400	0.8	SL	-5	-5	5	-0.5	-10	1	-0.008	-3
T 19561	9125	4400	0.8	SL	5	-5	20	-0.5	-10	2	-0.008	3
T 19562	9150	4400		RC	5	10	15	-0.5	-10	2	-0.008	6
T 19563	9175	4400		RC	5	35	20	-0.5	-10	7	-0.008	5
T 19564	9200	4400		RC	-5	110	15	-0.5	-10	4	-0.008	3
T 19565	9225	4400	0.4	SL	15	125	55	-0.5	-10	9	-0.008	7
T 19566	9250	4400	0.7	SL	-5	10	15	-0.5	-10	2	-0.008	3
T 19567	9275	4400	0.5	SL	-5	135	15	-0.5	-10	3	-0.008	6
T 19568	9300	4400	0.8	SL	25	440	60	1.0	-10	7	-0.008	-3
T 19569	8650	4400	0.7	SL	5	25	20	-0.5	-10	3	-0.008	5
T 19570	8625	4400		RC	5	30	10	-0.5	-10	6	-0.008	-3
T 19571	8600	4400	0.6	SL	5	90	20	-0.5	-10	9	-0.008	4
T 19572	8575	4400		RC	15	20	35	-0.5	-10	3	-0.008	33
T 19573	8300	4400	0.8	SL	70	70	35	1.0	-10	3	-0.008	9
T 19574	8325	4400	0.6	SL	20	25	25	-0.5	-10	3	-0.008	22
T 19575	8350	4400	0.6	SL	25	40	40	1.0	-10	5	-0.008	14
T 19576	8375	4400	0.6	SL	25	40	35	1.0	-10	5	-0.008	16
T 19577	8400	4400	0.7	SL	25	55	30	0.5	-10	5	-0.008	11
T 19578	8425	4400	0.7	SL	30	45	35	-0.5	-10	5	-0.008	13
T 19579	8450	4400	0.5	SL	35	20	25	-0.5	-10	8	-0.008	7
T 19581	8475	4400	0.6	SL	25	35	25	0.5	-10	9	-0.008	10
T 19582	8500	4400	0.4	RC	30	20	25	-0.5	-10	5	-0.008	9
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456113

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19583	8525	4400	0.3	SL	20	185	25	-0.5	-10	5	0.010	11
T 19584	8550	4400	0.7	SL	10	120	25	-0.5	-10	6	0.039	19
T 19585	8575	4400		RC	-5	10	15	0.5	-10	2	-0.008	379
T 19586	8725	4600	0.8	SL	-5	885	20	0.5	-10	6	-0.008	9
T 19587	8750	4600	0.7	SL	-5	20	15	-0.5	-10	1	-0.008	5
T 19588	8775	4600	0.8	SL	5	90	25	-0.5	-10	2	0.011	5
T 19589	8800	4600	0.6	SL	-5	20	20	-0.5	-10	1	0.021	5
T 19590	8825	4600	0.8	SL	-5	75	10	-0.5	-10	1	-0.008	-3
T 19591	8850	4600	0.5	SL	-5	20	15	-0.5	-10	1	0.065	3
T 19592	8875	4600	0.7	SL	-5	220	20	-0.5	-10	2	0.012	5
T 19593	8900	4600	0.6	SL	-5	165	15	-0.5	-10	2	-0.008	-3
T 19594	8925	4600	0.7	SL	-5	145	30	-0.5	-10	3	0.013	3
T 19595	8950	4600	0.7	SL	5	440	10	-0.5	-10	3	0.011	5
T 19596	8975	4600	0.6	SL	5	10	15	-0.5	-10	2	-0.008	-3
T 19597	9000	4600	0.5	SL	-5	-5	10	-0.5	-10	2	0.012	-3
T 19598	9025	4600	0.6	SL	-5	45	15	-0.5	-10	3	0.010	-3
T 19599	9050	4600	0.5	SL	5	-5	30	-0.5	-10	2	-0.008	3
T 19601	8575	4000		RC	10	20	15	-0.5	-10	15	-0.008	3
T 19602	8550	4000	0.7	SL	5	85	15	-0.5	-10	5	-0.008	5
T 19603	8525	4000		RC	20	35	15	-0.5	-10	30	-0.008	6
T 19604	8500	4000	0.3	SL	10	20	20	-0.5	-10	4	0.014	7
T 19605	8475	4000	0.5	SL	10	40	45	-0.5	-10	5	-0.008	8
T 19606	8450	4000	0.7	SL	20	145	30	1.0	10	16	-0.008	8
T 19607	8425	4000	0.7	SL	30	170	30	1.5	-10	18	-0.008	5
T 19608	8400	4000	0.5	SL	35	120	35	1.0	20	6	-0.008	5
T 19609	8375	4000	0.5	SL	95	100	30	1.0	20	6	-0.008	5
T 19610	8350	4000	0.4	SL	60	160	40	1.0	-10	6	-0.008	8
T 19611	8325	4000		RC	60	920	85	0.5	30	3	-0.008	15
T 19612	8300	4000	0.9	SL	55	160	50	1.0	10	7	0.014	6
T 19613	9300	4000	0.8	SL	45	75	105	2.0	-10	12	-0.008	3
T 19614	9275	4000	0.9	SL	30	90	80	1.5	20	9	-0.008	7
T 19615	9250	4000	0.8	SL	45	80	105	1.5	-10	11	-0.008	4
T 19616	9225	4000	0.9	SL	45	70	80	1.5	-10	9	-0.008	5
T 19617	9200	4000	1.0	SL	20	65	55	1.0	-10	16	-0.008	5
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45614

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19618	9175	4000		RC	10	5	15	-0.5	-10	3	-0.008	-3
T 19619	9150	4000		RC	10	10	15	-0.5	20	3	0.032	-3
T 19621	9125	4000	0.7	SL	5	5	15	-0.5	-10	3	-0.008	4
T 19622	9100	4000	0.6	SL	5	15	20	-0.5	-10	3	-0.008	3
T 19623	9075	4000		RC	10	10	15	-0.5	-10	2	-0.008	4
T 19624	9050	4000	0.2	SL	10	30	15	-0.5	-10	5	-0.008	-3
T 19625	9025	4000	0.5	SL	20	120	25	0.5	10	14	-0.008	4
T 19626	9000	4000	0.4	SL	10	20	15	-0.5	-10	3	-0.008	4
T 19627	8975	4000	0.5	SL	-5	30	20	-0.5	-10	5	-0.008	-3
T 19628	8950	4000	0.7	SL	-5	5	15	-0.5	-10	2	-0.008	-3
T 19629	8925	4000	0.6	SL	5	20	20	0.5	-10	3	-0.008	-3
T 19630	8900	4000	0.2	SL	5	85	15	-0.5	-10	3	-0.008	3
T 19631	8875	4000	0.6	SL	5	75	20	-0.5	-10	3	-0.008	3
T 19632	8850	4000	0.5	SL	-5	20	15	-0.5	-10	3	-0.008	6
T 19633	8825	4000	0.7	SL	5	25	30	-0.5	-10	5	-0.008	5
T 19634	8800	4000	0.7	SL	5	35	20	-0.5	10	3	-0.008	-3
T 19635	8775	4000	0.6	SL	5	30	20	-0.5	-10	3	0.032	3
T 19636	8750	4000	0.6	SL	5	50	20	-0.5	-10	4	-0.008	-3
T 19637	8725	4000	0.7	SL	5	20	20	-0.5	-10	3	-0.008	5
T 19638	8700	4000	0.7	SL	-5	15	15	-0.5	-10	2	-0.008	3
T 19639	8675	4000	0.5	SL	-5	10	15	-0.5	10	2	-0.008	-3
T 19641	8650	4000	0.4	SL	5	15	20	-0.5	-10	2	-0.008	4
T 19642	8625	4000	0.4	SL	5	65	15	-0.5	-10	3	-0.008	-3
T 19643	8600	4000	0.6	SL	5	40	20	0.5	-10	4	-0.008	-3
T 19644	8775	4800	0.6	SL	5	-5	15	-0.5	-10	2	-0.008	-3
T 19645	9800	4800	0.5	SL	30	55	135	2.0	-10	5	-0.008	3
T 19646	9775	4800	0.5	SL	40	40	135	1.5	-10	8	-0.008	4
T 19647	9750	4800	0.7	SL	45	35	140	2.0	-10	4	-0.008	5
T 19648	9725	4800	0.4	SL	40	35	145	2.0	-10	4	-0.008	-3
T 19649	9700	4800	0.2	SL	40	30	135	1.5	-10	4	-0.008	5
T 19650	9675	4800	0.3	SL	40	25	125	1.5	-10	3	-0.008	-3
T 19651	9650	4800	0.6	SL	45	30	130	2.0	-10	5	-0.008	3
T 19652	9625	4800	0.5	SL	45	40	110	2.0	-10	4	-0.008	5
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456115

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19653	9600	4800	0.3	SL	25	45	80	2.0	-10	6	-0.008	5
T 19654	9575	4800	0.6	SL	15	40	50	1.0	-10	6	-0.008	8
T 19655	9550	4800		SL	10	10	25	-0.5	-10	2	-0.008	-3
T 19656	9525	4800	0.6	SL	15	175	35	0.5	-10	6	-0.008	7
T 19657	9500	4800	0.7	SL	10	120	55	-0.5	-10	3	-0.008	4
T 19658	9475	4800	0.7	SL	15	-5	15	-0.5	-10	1	-0.008	3
T 19659	9450	4800	0.6	SL	15	265	25	-0.5	-10	2	0.203	3
											0.141	
T 19661	9425	4800	0.6	SL	15	70	30	-0.5	10	2	-0.008	-3
T 19662	9400	4800	0.7	SL	10	-5	20	-0.5	-10	1	-0.008	3
T 19663	9375	4800	0.7	SL	10	-5	15	-0.5	-10	1	0.014	6
T 19664	9350	4800	0.4	SL	5	-5	10	-0.5	-10	-1	-0.008	4
T 19665	9325	4800	0.7	SL	5	5	10	-0.5	-10	-1	0.010	-3
T 19666	9300	4800	0.4	SL	5	-5	15	-0.5	-10	-1	-0.008	5
T 19667	9275	4800	0.7	SL	5	45	15	-0.5	-10	1	-0.008	-3
T 19668	9250	4800	0.4	SL	10	-5	15	-0.5	-10	-1	0.016	-3
T 19669	9225	4800	0.4	SL	10	-5	15	-0.5	-10	1	-0.008	5
T 19670	9200	4800	0.5	SL								
T 19671	9175	4800	0.7	SL	10	15	10	-0.5	-10	-1	-0.008	4
T 19672	9150	4800	0.7	SL	10	20	20	-0.5	-10	1	-0.008	5
T 19673	9125	4800	0.4	SL	10	10	15	-0.5	-10	1	-0.008	3
T 19674	9100	4800	0.5	SL	5	15	15	-0.5	-10	1	-0.008	8
T 19675	9075	4800	0.3	SL	10	200	15	-0.5	-10	1	-0.008	-3
T 19676	9050	4800	0.5	SL	10	1200	10	-0.5	-10	1	0.017	5
T 19677	9025	4800	0.5	SL	10	-5	15	-0.5	-10	-1	-0.008	6
T 19678	9000	4800	0.7	SL	10	10	15	-0.5	-10	-1	-0.008	-3
T 19679	8975	4800	0.7	SL	5	10	15	-0.5	-10	1	-0.008	4
T 19681	8950	4800	0.6	SL	5	-5	15	-0.5	-10	-1	-0.008	5
T 19682	8925	4800	0.5	SL	10	-5	5	-0.5	-10	1	-0.008	-3
T 19683	8900	4800	0.6	SL	5	-5	10	-0.5	-10	-1	-0.008	-3
T 19684	8875	4800	0.6	SL	5	-5	5	-0.5	-10	-1	-0.008	3
T 19685	8850	4800	0.7	SL	10	-5	10	-0.5	-10	-1	-0.008	-3
T 19686	8825	4800	0.7	SL	10	15	10	-0.5	-10	1	-0.008	-3
T 19687	8800	4800	0.8	SL	5	-5	15	-0.5	-10	-1	-0.008	6
Laboratory:					ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :					101	101	101	101	101	114	309	401
Det. Limit:					5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

45616

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19688	9800	5000	0.6	SL	40	15	150	-0.5	-10	3	-0.008	6
T 19689	9775	5000	0.8	SL	50	25	90	-0.5	-10	3	-0.008	5
T 19690	9750	5000	0.6	SL	25	15	50	-0.5	-10	3	-0.008	3
T 19691	9725	5000	0.6	SL	15	5	25	-0.5	-10	2	-0.008	5
T 19692	9700	5000	0.8	SL	10	-5	10	-0.5	-10	1	-0.008	-3
T 19693	9675	5000	0.8	SL	10	30	10	-0.5	-10	2	-0.008	6
T 19694	9650	5000	0.8	SL	10	-5	10	-0.5	-10	1	-0.008	7
T 19695	9625	5000	0.8	SL	10	25	25	-0.5	-10	3	-0.008	5
T 19696	9600	5000	0.8	SL	5	-5	10	-0.5	-10	-1	-0.008	5
T 19697	9575	5000	0.4	SL	10	-5	20	-0.5	-10	-1	-0.008	7
T 19698	9550	5000	0.6	SL	10	-5	10	-0.5	-10	1	-0.008	6
T 19699	9525	5000	0.5	SL	10	-5	15	-0.5	-10	1	-0.008	5

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

19714

ANALABS

A Division of Analabs Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLES	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	95.1.08.06884	13/03/95	0210	1 OF 1

No.	Sample No	Cu	Pb	Zn	Ag	Bi	As	Au	AuCN	Sn	COORDINATES NORTH	COORDINATES EAST
1	T-17856	55	35	60	<0.5	5	5	<0.008	-	<3	9600	6400
2	T-17857	40	25	15	<0.5	8	<1	0.054	-	<3	9625	6400
3	T-17858	20	20	20	0.5	15	<1	<0.008	-	<3	9650	6400
4	T-17859	10	10	15	<0.5	<1	<1	<0.008	-	5	9675	6400
5	T-17861	10	10	15	0.5	<1	<1	<0.008	-	<3	9700	6400
6	T-17862	40	10	20	<0.5	<1	<1	<0.008	-	<3	9725	6400
7	T-17863	10	115	40	0.5	<1	30	0.009	0.017	3	9750	6400
8	T-17864	45	170	60	1.0	15	30	<0.008	-	<3	9775	6400
9	T-17865	20	95	55	0.5	<1	15	<0.008	-	<3	9800	6400
10	T-17866	25	120	65	1.0	<1	15	<0.008	0.010	<3	9825	6400
11	T-17867	40	40	45	0.5	8	5	<0.008	-	4	9850	6400
12	T-17868	25	185	105	1.5	2	20	<0.008	-	3	9875	6400
13	T-17869	10	230	100	1.0	7	40	0.045	-	<3	9900	6400
14	T-17870	20	175	90	1.0	5	30	0.008	-	<3	9925	6400
15	T-17871	30	120	50	1.0	<1	20	0.008	-	<3	9950	6400
16	T-17872	60	2450	340	1.5	<1	105	0.021	-	<3	9975	6400
17	T-17873	30	750	155	2.0	<1	40	0.014	-	3	10000	6400
18												
19												

456118

456119

APPENDIX 6(c)

Bedrock Geochemistry - Five Mile Rise

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19413	10050	6600		BR	25	620	80	-0.5	-10	14	-0.008	7
T 19414	10037	6600		BR	20	70	40	-0.5	-10	9	-0.008	3
T 19415	10025	6600		BR	25	120	40	0.5	-10	8	-0.008	9
T 19416	10012	6600		BR	35	170	65	-0.5	-10	12	0.011	6
T 19417	10000	6600		BR	40	135	55	-0.5	-10	10	0.010	3
T 19418	9987	6600		BR	30	75	60	0.5	-10	15	0.008	8
T 19419	9975	6600		BR	30	65	60	0.5	-10	11	0.008	9
T 19420	9962	6600		BR	20	40	45	-0.5	-10	10	-0.008	7
T 19421	9950	6600		BR	35	50	55	-0.5	-10	13	0.011	13
T 19422	9937	6600		BR	25	45	60	-0.5	-10	13	0.011	10
T 19423	9925	6600		BR	25	30	60	-0.5	-10	14	0.012	7
T 19424	9912	6600		BR	20	160	85	-0.5	-10	13	0.010	8
T 19425	9900	6600		BR	20	150	90	-0.5	-10	13	0.015	6
T 19426	9887	6600		BR	35	115	125	-0.5	-10	13	0.018	10
T 19427	9875	6600		BR	40	70	105	-0.5	-10	36	0.015	8
T 19428	9850	6600		BR	85	9000	900	1.0	-10	15	0.043	8
T 19429	9825	6600		BR	60	2700	270	1.0	-10	17	0.015	9
T 19430	9800	6600		BR	50	90	60	-0.5	-10	13	0.022	13
T 19431	9787	6600		BR	40	70	50	-0.5	-10	14	0.014	7
T 19432	9775	6600		BR	55	50	65	-0.5	-10	9	0.018	9
T 19433	9762	6600		BR	55	130	60	-0.5	-10	11	0.021	7
T 19434	9750	6600		BR	45	265	55	-0.5	-10	23	0.027	9
T 19435	9737	6600		BR	25	155	40	-0.5	-10	16	0.018	11
T 19436	9000	6200		BR	15	50	20	-0.5	-10	8	0.013	11
T 19437	9012	6200		BR	15	140	25	0.5	-10	8	0.015	6
T 19438	9025	6200		BR	5	10	10	-0.5	-10	-1	-0.008	-3
T 19439	9037	6200		BR	10	10	10	-0.5	-10	-1	-0.008	3
T 19440	9050	6200		BR	5	5	10	-0.5	10	-1	-0.008	6
T 19441	9062	6200		BR	-5	-5	10	-0.5	-10	-1	-0.008	9
T 19442	9075	6200		BR	5	-5	15	-0.5	10	-1	-0.008	5
T 19443	9087	6200		BR	5	-5	10	-0.5	-10	-1	-0.008	7
T 19444	9100	6200		BR	5	-5	10	-0.5	-10	-1	-0.008	5
T 19445	9112	6200		BR	5	5	10	0.5	-10	1	-0.008	10
T 19446	9125	6200		BR	-5	5	260	0.5	-10	1	-0.008	6
T 19447	9137	6200		BR	-5	5	10	-0.5	10	2	-0.008	6

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

456120

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19448	9150	6200		BR	5	20	20	-0.5	-10	2	-0.008	8
T 19449	9412	5800		BR	-5	15	25	-0.5	10	3	-0.008	8
T 19450	9425	5800		BR	25	-5	20	0.5	10	2	-0.008	4
T 19451	9437	5800		BR	10	120	20	-0.5	10	2	-0.008	6
T 19452	9450	5800		BR	10	90	20	-0.5	-10	2	-0.008	6
T 19453	9462	5800		BR	10	-5	85	-0.5	-10	1	-0.008	4
T 19454	9475	5800		BR	10	160	20	-0.5	-10	1	-0.008	5
T 19455	9487	5800		BR	5	25	15	-0.5	10	-1	0.011	7
T 19456	9500	5800		BR	5	5	10	-0.5	10	1	0.009	9
T 19457	9512	5800		BR	5	10	15	-0.5	-10	-1	0.012	12
T 19458	9525	5800		BR	5	5	10	-0.5	-10	-1	0.011	9
T 19459	9537	5800		BR	10	-5	15	-0.5	-10	-1	-0.008	-3
T 19460	9550	5800		BR	10	50	20	-0.5	-10	1	-0.008	8
T 19461	9562	5800		BR	5	15	15	-0.5	-10	1	-0.008	9
T 19462	9575	5800		BR	10	5	25	-0.5	-10	3	-0.008	6
T 19463	9587	5800		BR	10	65	25	-0.5	-10	4	-0.008	7
T 19464	9600	5800		BR	10	65	30	-0.5	-10	3	-0.008	6
T 19465	8750	4600		BR	10	60	15	-0.5	-10	1	0.015	6
T 19466	8762	4600		BR	10	40	20	-0.5	-10	1	-0.008	10
T 19467	8775	4600		BR	10	40	15	1.0	-10	1	-0.008	5
T 19468	8787	4600		BR	10	10	15	-0.5	-10	1	-0.008	5
T 19469	8800	4600		BR	10	15	15	-0.5	-10	1	-0.008	6
T 19470	8812	4600		BR	10	930	15	0.5	-10	2	-0.008	3
T 19471	8825	4600		BR	10	195	10	-0.5	-10	1	-0.008	-3
T 19472	8837	4600		BR	10	365	20	-0.5	-10	2	-0.008	6
T 19473	8850	4600		BR	10	120	15	-0.5	-10	1	-0.008	6
T 19474	8862	4600		BR	5	150	20	-0.5	-10	1	-0.008	6
T 19475	8875	4600		BR	5	1000	20	-0.5	-10	1	0.036	5
T 19476	8887	4600		BR	10	150	20	-0.5	-10	1	0.010	7
T 19477	8900	4600		BR	10	225	15	-0.5	-10	1	0.010	5
T 19478	8912	4600		BR	10	375	15	-0.5	-10	1	0.015	6
T 19479	8925	4600		BR	10	430	20	-0.5	-10	1	0.066	5
T 19480	8937	4600		BR	5	800	15	-0.5	-10	2	0.020	8
T 19481	8950	4600		BR	10	145	45	-0.5	-10	2	-0.008	8
T 19482	8962	4600		BR	10	170	25	-0.5	-10	1	0.016	4

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

A56121

PROJECT: FIVE MILE RISE

SAMPLE NUMBER	NORTH metres	EAST metres	DEPTHT metres	KIND	CU PPM	PB PPM	ZN PPM	AG PPM	BI PPM	AS PPM	AU PPM	SN PPM
T 19483	8975	4600		BR	10	175	20	-0.5	-10	2	-0.008	4
T 19484	8987	4600		BR	10	125	20	-0.5	-10	1	-0.008	6
T 19485	9000	4600		BR	10	50	20	-0.5	-10	-1	-0.008	4
T 19486	8450	4000		BR	25	40	50	-0.5	-10	6	-0.008	3
T 19487	8462	4000		BR	10	40	35	-0.5	-10	4	0.015	10
T 19488	8475	4000		BR	15	5	35	0.5	-10	3	0.008	7
T 19489	8487	4000		BR	10	-5	20	-0.5	-10	-1	-0.008	13
T 19490	8500	4000		BR	15	-5	30	-0.5	-10	2	-0.008	7
T 19491	8512	4000		BR	10	10	30	-0.5	-10	-1	-0.008	16
T 19492	8525	4000		BR	10	20	25	-0.5	-10	-1	-0.008	6
T 19493	8537	4000		BR	10	50	25	-0.5	-10	-1	-0.008	8
T 19494	8550	4000		BR	10	165	25	-0.5	-10	-1	-0.008	5
T 19495	8562	4000		BR	10	120	20	-0.5	-10	1	-0.008	5
T 19496	8575	4000		BR	10	115	20	-0.5	-10	2	-0.008	4

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB
Method :	101	101	101	101	101	114	309	401
Det. Limit:	5.000	5.000	5.000	0.500	10.000	1.000	0.008	3.000

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APPENDIX 7

Petrographical Studies, Moina/Lea River Area

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CAMECA

PETROLOGICAL STUDIES OF FIFTEEN ROCK SAMPLES FROM THE MOINA - LEA RIVER AREA, TASMANIA

SUMMARY

1. Fifteen rock samples have been studied, using petrographic, mineragraphic and some X-ray diffraction procedures.

2. A summary of rock samples and their names is given below:

Sample No.	Rock Name
T-08690	Quartzite breccia
T-11906	Pyritic quartzite
T-11907	Pyritic quartzite; sericitic quartzite
T-11908	Sericitic quartzite with sulphide veinlets and patches
T19748	Magnetite skarn
T19749	Actinolite-garnet-quartz-magnetite skarn
T19750	Gold-bearing garnet(-actinolite) skarn
T19752	Sericitic quartzite
T19755	Clay-bearing quartzite
T19756	Skarnified meta-felsite (?acid lava)
T19757	Hornfelsic meta-siltstone
T19758	Magnetite(-pyrite-chalcopyrite-bismuthinite) skarn
T19759	Skarnified silty meta-sediment
T19760	Epidote-garnet-diopside skarn

3. The mineralogy and microtextures of the samples provide a coherent geological history. Deposition of calcareous and quartz-rich sediments (sands and silts) was followed by deep burial and lithification. Hydrothermal alteration caused extensive alteration of the rock sequence. Arenaceous rocks developed granoblastic textures and newly crystallised sericite, sulphides, and less commonly actinolite. Calcareous rocks were extensively metasomatised to produce skarn assemblages composed of amphibole, garnet, epidote, magnetite, diopside, and various sulphides (pyrrhotite, pyrite, bismuthinite, chalcopyrite).

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4. Native gold was observed in skarn sample T19750, where it occurs as small inclusions within bismuthinite and as discrete grains near bismuthinite. The close association between native gold and bismuthinite indicates that the gold was introduced during the principal mineralisation/alteration event.

5. The nature of the alteration event, and origin of the hydrothermal fluids involved in the alteration, is unclear. However, several features are consistent with a magmatic origin from a nearby intrusive granitoid rock body:

   i) All rocks display non-directional recrystallisation textures. Dynamic regional forces were therefore not involved.

   ii) One sample (T19757, hornfelsic meta-siltstone) contains poorly-crystallised biotite aggregates, typical of contact metamorphic recrystallisation textures. Accessory fluorite is present in sample T19758.

   iii) The metallic components of the alteration minerals (abundant Fe, with minor Cu, Zn, Bi and native gold) are consistent with derivation from hydrothermal fluids of acid magmatic origin.

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PETROLOGICAL STUDIES OF FIFTEEN ROCK SAMPLES FROM THE MOINA - LEA RIVER AREA, TASMANIA

1. INTRODUCTION

A suite of rock samples was received from Mr. Carlos Castro (Senior Geologist, RGC Exploration Pty. Ltd., Hobart, Tasmania) on December 18, 1989.

The suite comprised five rock samples from the Moina area provided by Mr. Castro, and ten rock samples from the Moina - Lea River area provided by Mr. Matthew White.

The five samples from the Moina area were labelled as follows: T-08690, T-11906, T-11907, T-11908, T-11909. Brief geological notes were provided as background information for each sample.

The ten samples from the Moina - Lea River area were labelled as follows: T19748, T19749, T19750, T19752, T19755, T19756, T19757, T19758, T19759, T19760. Background geological notes were provided for each sample, as well as a brief regional geological overview.

Specific requirements were:

1. To prepare a thin section (or, where relevant, a polished thin section) for each sample.
2. To prepare a petrographic description for each sample.
3. To send the completed report and remnant materials to Mr. Castro.

This report presents the full results of this work.

2. METHODS

All samples were examined in hand specimen, and section lines were drawn. Conventional thin sections or polished thin sections were prepared: the latter type was prepared if a significant proportion of opaque minerals were identifiable in hand specimen, or if the geological notes provided with the samples suggested the presence of opaque minerals. Samples, type of section prepared, and thin section numbers are given in Table 1.

Petrographic descriptions were prepared using transmitted polarised light. In addition, mineragraphic observations were recorded for polished thin sections using reflected polarised light.

Owing to very fine grain-sizes, mineral identification by X-ray diffraction procedures was carried out for samples T-19749, T-19756, and T-19758 in order to confirm the optical identifications. The results are summarised in Table 2.

3. RESULTS

The petrographic descriptions are presented in following pages.

SAMPLE: T-08690 :TSC52515

Rock Name:
Quartzite breccia

Hand Specimen:
The large rock sample is composed of abundant, closely packed, angular lithic fragments of variable size (average ~1 cm) and cream in colour. The fragments lie with random orientation in a fine-grained, mauvish-brown matrix.

Petrography:

Mineral	Vol.%	Origin
Lithic fragments (quartzite) (75%)		
Quartz	94	recrystallised clastic grains
Leucoxene	1	recrystallised clastic grains
Tourmaline	<1	clastic grains
Monazite	Tr	clastic grains
Sericite	5	metamorphic
Opaques (?pyrite)	Tr	metamorphic
Matrix (25%)		
Quartz	60	recrystallised clastic grains
Sericite	10	metamorphic
Iron oxides (?goethite)	30	weathering

In thin section, this sample displays a breccia structure and metamorphic granoblastic microtextures.

The abundant lithic fragments are composed essentially of quartz, which forms a granoblastic mosaic (average grain size ~0.2 mm, but ranging from <0.1 mm to ~0.5 mm). A significant proportion of quartz grains retain their primary clastic particle shapes, but many grains have experienced grain boundary migration and suturing in response to regional metamorphism. Sericite is present in minor amount as minute flakes, commonly located around quartz grain boundaries. Accessory clastic phases include anhedral leucoxene grains, rounded grains of green and bluish green tourmaline, and subrounded equant grains of monazite. Accessory fine-grained opaque cubes and aggregates of cubic grains are sparsely disseminated through the rock, and most likely represents minor pyrite of metamorphic origin.

The matrix is composed is abundant quartz, similar in its granoblastic texture to the quartz of the lithic fragments. It is accompanied by lesser very fine-grained reddish brown iron oxide (most likely goethite), and mats of fine-grained sericite.

The lithic fragments represent mature, well-sorted quartzose sandstone that has experienced regional metamorphism of moderate grade to produce a quartzite. Granoblastic texture in the matrix indicates that the matrix was present prior to regional metamorphism. Close interlocking of some angular lithic fragments suggests that they represent *in situ* incipiently fragmented massive quartzose sandstone. Integration of the microtextural and structural features allows the following interpretation:

1. Deposition of well-sorted, quartzose detrital particles at a considerable distance from source.

2. Lithification of the rock sequence. Tectonism at this time may have been responsible for fragmentation of the massive quartzose sandstone.

3. Regional metamorphism of the rock sequence. This caused recrystallisation of quartz, and also generated disseminated sericite and ?pyrite. These mineralogical and textural features are shared by the lithic fragments and the matrix.

4. Uplift and erosion, with subsequent oxidation of the more permeable matrix, producing significant iron oxides (?goethite).

SAMPLE: T-11906 :PTSC52516

Rock Name:
Pyritic quartzite

Hand Specimen:
The large rock sample is fine-grained, pale grey, competent and quite hard. It is massive, with no obvious layering. Scattered through the rock are round, white, quartzose fragments.

Petrography:

Mineral	Vol.%	Origin
Quartz	90	detrital (recrystallised)
Tourmaline	Tr	detrital
Leucoxene	Tr	detrital (recrystallised)
Rutile	Tr	detrital
Zircon	Tr	detrital
Spinel (?chromite)	Tr	detrital
Sericite	8	metamorphic
Pyrite	2	metamorphic

In polished thin section, this sample displays a relict arenaceous sedimentary texture that has been modified by partial recrystallisation in response to regional metamorphism.

Quartz completely dominates the rock. It occurs as relict detrital grains of average size ~0.3 mm. Grains that touch have been modified by grain boundary migration and suturing. Most grains are strained, but little recrystallisation has occurred.

A significant amount of sericite occurs as very fine-grained flakes that are confined to interparticle pore regions.

A minor amount of sulphide (pyrite) occurs as very small cubes (2-20 μm in size) and aggregates of cubes up to ~0.2 mm in size. In reflected light, the pyrite displays its characteristic yellowish white colour and isotropic optical behaviour. Most of the sulphide is concentrated within the interparticle pore regions, but some grains have crystallised within quartz particles.

Other accessory phases represent relict detrital phases. Leucoxene forms subhedral grains, rutile occurs as subhedral grains, zircon and tourmaline form rounded particles, and a deep red spinel (?chromite) forms rare rounded particles.

The sample represents a well-sorted, mature, quartzose sandstone that has experienced regional metamorphism of moderate grade to generate a quartzite. The principal affect of metamorphism was to generate fine-grained sericite + pyrite within interparticle pore areas, and to cause partial recrystallisation of adjacent quartz grains.

SAMPLE: T-11907 :PTSC52517

Rock Name:
Pyritic quartzite, sericitic quartzite

Hand Specimen:
The sample comprises several rock fragments, most of which are fine-grained, grey, hard rocks with phyllitic sheen on broken surfaces. Patches of fine-grained sulphide are disseminated. Some fine-grained, hard rock fragments are creamish to greenish white in colour.

Petrography:

Mineral	Vol.%	Origin
Pyritic quartzite		
Quartz	73	detrital (recrystallised)
Pyrite	12	metamorphic
Sericite	15	metamorphic
Rutile	Tr	detrital
Zircon	Tr	detrital
Tourmaline	Tr	detrital
Sericitised quartzite		
Quartz	94	relict detrital/metamorphic
Leucoxene	1	relict detrital
Zircon	Tr	detrital
Sericite	5	metamorphic
Pyrite	Tr	metamorphic

In thin section, the sample is represented by two rock types. Both display a partly recrystallised, granoblastic metamorphic texture that retains its detrital sedimentary parentage.

Pyritic quartzite is composed of abundant particles of strained quartz that range in size from <0.1 mm to ~1 mm. Impinging quartz grains have been sutured by grain boundary migration and partial recrystallisation. Accessory detrital particles include rounded dark reddish brown rutile, rounded zircon, and rounded greenish brown tourmaline. The detrital particles lie in a matrix composed of very fine-grained sericite, and scattered patches of pyrite that forms small cubes (~10-20 μm in average grain size). The mineralisation is cut by a set of microfractures which appear to have associated sericite.

Sericitised quartzite is composed largely of granoblastic quartz grains of average size ~0.2 mm, but ranging from ~0.1 mm to 0.5 mm. Throughout most of the rock, the relict detrital arenaceous texture is evident. Relict accessory detrital phases include leucoxene and zircon. The quartz particles lie in a very fine-grained matrix of randomly oriented sericite and traces of small, creamish white pyrite cubes. Cutting the rock are thin (0.2-0.5 mm) veinlets of quartz, which in turn have been cut by microfractures with associated very fine-grained sericite.

Although containing different proportions of pyrite and sericite, both these rocks have evolved through a similar geological history:

1. Deposition of poorly-sorted, relatively immature quartzose sandstone with possible clay-rich matrix.

2. Burial, lithification, and regional metamorphism at moderate grade. The assemblage sericite + pyrite developed in clay-rich matrix areas. The considerable abundance of pyrite in the pyritic quartzite indicates that significant Fe and S were introduced by the metamorphic fluids. The sulphide is therefore considered to be hydrothermal (in the sense that metamorphic fluids are of hydrothermal nature), rather than syngenetic.

3. Deformation occurred subsequent to the peak of metamorphism, generating microfractures and causing deformation and partial recrystallisation of metamorphic quartz and metamorphic vein quartz.

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SAMPLE: T-11908 :PTSC52518

Rock Name:
Sericitic quartzite with sulphide veinlets and patches

Hand Specimen:
The large rock sample is composed of uniformly fine-grained, pale grey meta-sedimentary rock with veinlets and patches rich in sulphide.

Petrography:

Mineral	Vol.%	Origin
Quartz	67	detrital/metamorphic
Sericite (incl. clays)	10	metamorphic (weathering)
Pyrite	12	metamorphic
Arsenopyrite	8	metamorphic
Chalcopyrite	<1	metamorphic
?Bismuthinite	Tr	metamorphic
Pyrrhotite	Tr	metamorphic
Covellite	Tr	supergene
Iron oxides	3	weathering

In polished thin section, this sample is composed of fine-grained, granoblastic quartzite with patches and veinlets of relatively coarse-grained sulphide.

Granoblastic quartz dominates the rock. It builds an even-grained, granoblastic mosaic of average grain size ~0.1 mm. Most of the grains represent detrital particles, but grain boundary suturing has occurred pervasively in response to metamorphism.

Very fine-grained sericite has crystallised in the interparticle pores. Weathering has caused partial replacement by clays.

Sulphides are abundant, forming patches and veinlets up to ~5 mm wide. Pyrite is the dominant sulphide. It occurs as relatively large (up to ~1 mm) grains that tend to define discontinuous veinlets, and also as irregularly shaped veinlets and patches of variable size. Arsenopyrite builds smaller (average size ~0.1 mm), euhedral, white prisms that are commonly closely associated with larger pyrite grains. Chalcopyrite forms anhedral patches up to ~0.5 mm in size, intergrown with pyrite and arsenopyrite. Possible ?bismuthinite occurs as small (~0.1 mm) bleb-like, pale bluish-grey inclusions within pyrite. Pyrrhotite forms very small inclusions within pyrite. The occurrence of sulphides as intergrowths throughout the granoblastic quartzite suggests that they were introduced during the metamorphic recrystallisation of the rock body.

The mineralogical and microtextural features of the rock may be integrated as follows:

1. Deposition of mature, well-sorted quartzose sandstone.

2. Burial and lithification of the sedimentary sequence.

3. Regional metamorphism of moderate grade. This caused partial recrystallisation of the quartzose sandstone to a sericitic quartzite. Sulphides were introduced from an external source at this time, forming discontinuous veinlets and disseminated patches of pyrite + arsenopyrite + minor chalcopyrite + accessory pyrrhotite and ?bismuthinite.

4. Uplift and erosion allowed partial supergene alteration of the chalcopyrite to covellite. Near-surface weathering resulted in the introduction of hydrated iron oxides (?goethite) and partial alteration of sericite to clays.

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SAMPLE: T19748 :PTSC52520

Rock Name:
Magnetite skarn

Hand Specimen:
The large rock sample is composed of fine-grained, thin (mm-wide) laminae, alternately black and greenish grey. The laminae display open folding, and the rock is strongly magnetic.

Petrography:

Mineral	Vol.%	Origin
Magnetite	45	metamorphic
Quartz	8	metamorphic
Green mica	25	metamorphic
Garnet	2	metamorphic
Pyrite	Tr	metamorphic
Chalcopyrite	Tr	metamorphic
Hematite	20	relict metamorphic

In polished thin section, this sample displays a banded metamorphic texture. Poorly-defined laminae of mm width are composed of variable proportions of iron oxides and quartz + mica.

Iron oxides dominate the mineralogy of the rock. They form very fine-grained aggregates (average grain size ~10 μm), but in places build laths and prisms up to ~0.4 mm long. Most of the iron oxide is brownish grey magnetite, but it is intimately intergrown with very fine-grained streaks and patches of white hematite. The crystal forms displayed suggest that hematite was the primary phase, and was subsequently replaced by magnetite.

Very fine-grained, pale green mica forms mats in poorly-defined laminae. It is accompanied by minor quartz, which builds relatively coarse-grained granoblastic aggregates. Accessory isotropic colourless garnet in places is associated with the quartz.

Accessory phases include pyrite and chalcopyrite, both of which form very small (micron-sized) inclusions within iron oxide grains, and also subrounded grains disseminated through quartz and mica.

Cutting the laminae is a thin (0.4 mm wide) veinlet that is rimmed by very fine-grained green mica and filled by colourless garnet and minor quartz.

The rock represents a skarn. It has formed by complete replacement of a precursor sedimentary rock, producing the metamorphic assemblage hematite + mica + quartz + minor garnet + accessory pyrite + chalcopyrite. A change in redox conditions caused extensive replacement of hematite by magnetite. The thin laminae most likely reflect primary lamination in a thinly-bedded sediment.

SAMPLE: T19749 :TSC52521

Rock Name:
Actinolite-garnet-quartz-magnetite skarn

Hand Specimen:
The large rock sample is fine-grained, massive, and dark green in colour. On the sawn surface it displays vague layering defined by varying grain size and mineral distribution. The sample responds strongly to the hand magnet. Weathering has caused pervasive and fracture-controlled staining by hydrated iron oxides (?goethite).

Petrography:

Mineral	Vol.%	Origin
Actinolite	71	metamorphic
Garnet	15	metamorphic
Quartz	5	metamorphic
Opaques (?magnetite)	4	metamorphic
Iron oxides (goethite)	5	weathering

In thin section, this sample displays a granoblastic metamorphic texture, partly modified by weathering.

Actinolitic amphibole is the most abundant mineral. It occurs as dense mats and patches of interlocking, subhedral to anhedral, pleochroic green to greenish brown grains (average grain size ~0.2 mm).

Garnet forms anhedral patches of colourless grains. Much of the garnet is weakly anisotropic. It is irregularly distributed throughout the rock, and in places tends to form coarser-grained patches intergrown with quartz.

Quartz occurs as anhedral, clear patches that are irregularly scattered through the rock.

Small aggregates (~0.1 mm in size) of opaque grains (~10-30 μm in size) are scattered throughout the rock, and tend to be concentrated in particular areas. The cubic form of the opaque grains, together with the magnetic response of the hand sample, suggests that the opaque is largely magnetite.

Near-surface weathering has caused partial alteration of the rock by reddish brown iron oxides (goethite), which occurs as pervasive staining and fracture filling material.

The mineralogy and texture of this sample is consistent with an origin by metasomatic alteration of a calc-silicate precursor rock, possibly an impure limestone. It is likely that considerable Fe, and perhaps other components, have been introduced by the hydrothermal fluids responsible for the alteration of the precursor rock.

SAMPLE: T19750 :PTSC52522

Rock Name:
Gold-bearing garnet(-actinolite) skarn

Hand Specimen:
The large rock sample contains an irregular distribution of fine-grained green actinolite, and fine-grained fawnish brown mineral (?andraditic garnet). Scattered through the rock are minor patches of silvery grey, bladed sulphide. The rock is non-magnetic, and weathering has generated brownish iron oxide staining along fractures and pervasively.

The thin section represents a portion of the rock dominated by the fawnish brown garnet.

Petrography:

Mineral	Vol.%	Origin
Garnet	82	metamorphic
Quartz	5	metamorphic
Actinolite	5	metamorphic
Bismuthinite	2	metamorphic
?Sphalerite	1	metamorphic
Native gold	Tr	metamorphic
Iron oxides (goethite)	5	weathering

In polished thin section, this sample displays a massive, crystalline, metamorphic texture of variable grain size.

Garnet completely dominates the thin section. It occurs as pale yellowish brown, subhedral intergrown grains of variable grain size (up to ~0.5 mm). Most of the garnet is anisotropic in optical behaviour.

Quartz is present in minor amount. It forms angular, clear, interstitial patches.

Actinolite occurs as subhedral prisms and elongate, acicular grains, commonly intergrown within quartz patches and as scattered, fine-grained aggregates.

Bismuthinite is present in minor amount. It occurs as rare, large anhedral patches up to ~2 mm in size, but more commonly occurs as smaller angular interstitial patches down to micron size. It displays its characteristic bright greyish white colour in reflected light, and anisotropic optical behaviour.

?Sphalerite forms similar angular interstitial patches up to ~0.2 mm in size. It is brownish grey and isotropic in reflected light. Small angular inclusions of bismuthinite are commonly present.

Native gold has been observed as rare grains. One grain (~40x20 μm) occurs as a rounded inclusion with bismuthinite, and others (up to ~20x10 μm) occurs as small anhedral blebs adjacent to a microfracture partly filled by bismuthinite.

The rock represents a skarn that has formed by metasomatic replacement of an unidentified precursor rock, most probably of calcareous nature. The ore mineralogy is bismuthinite + ?sphalerite + native gold. The occurrence of the native gold within bismuthinite indicates that it was introduced during the principal metasomatic event.

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SAMPLE: T19752 :TSC52523

Rock Name:
Sericitic quartzite

Hand Specimen:
The large rock sample is a massive, creamish, meta-sedimentary rock. No layering is evident. Weathering has caused pervasive and fracture-controlled staining by brown iron oxides.

Petrography:

Mineral	Vol.%	Origin
Quartz	90	relict detrital/metamorphic
Tourmaline	Tr	detrital
Leucoxene	Tr	detrital
Zircon	Tr	detrital
Sericite (incl. clays)	10	metamorphic
Opaques (?pyrite)	Tr	metamorphic

In thin section, this sample displays a relict arenaceous sedimentary texture that has been modified by metamorphic recrystallisation and pervasive weathering.

Quartz completely dominates the mineralogy. It occurs as subrounded, relict detrital grains (average size ~0.3 mm) which display grain boundary migration and suturing where in contact.

Sericite is moderately abundant, occurring as very small flakes that are concentrated in interparticle matrix areas. Much of the sericite has been stained a yellow colour by incipient weathering to clays.

Accessory detrital phases include greenish brown rounded tourmaline, small zircon grains, and anhedral leucoxene grains. A trace amount of opaque granules up to ~0.1 mm in size are composed of numerous small cubic grains, possibly pyrite.

The mineralogy and texture of this sample is consistent with a history involving initial deposition of a well-sorted, quartz-rich sand with minor clay matrix. Subsequent lithification was followed by regional alteration that caused partial recrystallisation and suturing of quartz particles, and growth of sericite + ?pyrite in interparticle matrix areas. Near-surface weathering has caused pervasive partial alteration to hydrated iron oxides.

SAMPLE: T19755 :TSC52524

Rock Name:
Clay-bearing quartzite

Hand Specimen:
The rock sample is a pale, creamish grey sandy rock that contains discontinuous, cream-coloured, subparallel lamellae that appear to define primary lamination.

Petrography:

Mineral	Vol.%	Origin
Quartz	85	relict detrital/metamorphic
Leucoxene	Tr	detrital
Zircon	Tr	detrital
Monazite	Tr	detrital
Clays (?kaolinite)	15	alteration

In thin section, this sample displays a granoblastic metamorphic texture, with relict contorted clay-rich lensoidal patches.

Quartz dominates the mineralogy. It forms an interlocking granoblastic mosaic throughout the rock. In many places, outlines of detrital grains are preserved, indicating that the sandy sediment had an average grain size ~0.2 mm. Grain boundary migration and suturing has partly obscured the sedimentary texture in places.

Accessory detrital phases include anhedral leucoxene, and rounded zircon and monazite.

Irregularly distributed through the rock are patches and discontinuous lensoidal patches composed of microcrystalline colourless clays and detrital quartz particles. The clay-rich patches are interpreted to be a relict primary feature, indicating that a muddy component was deposited at irregular intervals during deposition of the well-sorted quartz sand. Following deposition, regional metamorphism caused suturing of quartz grains to produce the granoblastic mosaic that dominates the rock, but the muddy patches recrystallised to clays that are likely to have been partly affected by near-surface weathering processes.

SAMPLE: T19756 :PTSC52525

Rock Name:
Skarnified meta-felsite (?acid lava)

Hand Specimen:
The rock sample is fine-grained and variably pale brown to pale grey in colour. Thin (mm-wide) dark laminae form a subparallel set that appear to define primary layering. Sparsely scattered through the rock are round to subangular patches up to ~5 mm in size containing fine-grained sulphide. The rock is non-magnetic.

Petrography:

Mineral	Vol.%	Origin
Feldspar	68	metamorphic
Actinolite	20	metamorphic
?Diopside	5	metamorphic
Calcite	Tr	metamorphic
Leucoxene	3	metamorphic
Pyrrhotite	3	metamorphic
Pyrite	1	metamorphic
Chalcopyrite	Tr	metamorphic

In polished thin section, this sample displays a very fine-grained granular texture, in places with granoblastic mats of actinolite.

Much of the rock is composed of a microcrystalline, massive mosaic composed of feldspar, with uniformly disseminated microgranular aggregates of leucoxene. Cutting the rock are thin, widely-spaced laminae composed of intergrown actinolite that has pervasively replaced adjacent host rock for distances of several mm away from the lamina. Pale green actinolite also occurs as radiating aggregates forming rims around subrounded to angular coarser-grained structures.

?Diopsidic clinopyroxene forms euhedral prisms up to 3 mm in length. They occur exclusively within the subrounded structures referred to above, and are accompanied rarely by calcite.

Pyrrhotite forms anhedral patches and subhedral prismatic grains, commonly within the subrounded structures. It also occurs as smaller disseminated patches throughout the rock.

Pyrite is minor in abundance. It forms small aggregates (~1 mm in size) composed of numerous small cubic grains (<0.1 mm in size).

Chalcopyrite is rare, occurring as anhedral angular patches, commonly in close association with pyrrhotite.

The primary nature of the rock is unclear, owing to its very fine-grained abundant matrix and lack of identifying structures. However, two features suggest that the precursor rock may have been a felsic rock, perhaps an acid lava:

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i) Two ovoid structures, several mm in size and weakly aligned, may represent amygdales (infilled vesicles). The zonal distribution of minerals that fill the structures, with marginal radiating actinolite sheaves and central ?diopside prisms and angular sulphide grains, further supports this suggestion.

ii) The presence of uniformly disseminated microgranular aggregates of leucoxene indicates that the precursor rock was moderately rich in Ti, supporting a volcanic origin.

iii) The abundance of K-feldspar (confirmed by X-ray diffraction) also supports an acid volcanic origin.

Skarn alteration of the precursor rock has caused pervasive recrystallisation and alteration of the felsic matrix and infilling of the ?amygdaloidal structures.

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SAMPLE: T19757 :TSC52526

Rock Name:
Hornfelsic meta-siltstone

Hand Specimen:
The large meta-sedimentary rock sample is massive, grey, fine-grained and lacks layering.

Petrography:

Mineral	Vol.%	Origin
Quartz	73	relict detrital
Biotite (incl. sericite)	25	metamorphic
Tourmaline	Tr	detrital/metamorphic
Leucoxene	Tr	detrital
Zircon	Tr	detrital
Opaques (sulphides)	2	metamorphic

In thin section, this sample displays a relict silty sedimentary texture, modified by metamorphic recrystallisation.

Quartz is abundant, occurring as angular grains of uniform size (~0.1 mm).

Sericite occurs as very fine flakes that are confined to the matrix areas between quartz grains. In places, patches and discontinuous lensoidal laminae are composed of abundant sericite, some biotite, minor particles of quartz, and rare small euhedral tourmaline prisms.

Biotite forms poorly crystallised, brown patches up to ~0.2 mm in size within the matrix material.

Accessory detrital phases include subrounded tourmaline grains, angular leucoxene grains, and rounded zircon grains.

Opaques are disseminated in minor amount through the rock. Most has cubic morphology and builds small aggregates up to ~0.1 mm in size, suggesting they represent pyrite. Elsewhere, accessory anhedral patches of opaque material may represent a different sulphide, possibly pyrrhotite.

The rock represents a quartzose silty sediment that contained muddy patches and discontinuous laminae. Regional metamorphism generated much sericite in the matrix. Toward the end of regional metamorphism, or in response to localised hydrothermal (contact) metamorphism, biotite began to form poorly-crystallised disseminated aggregates, in association with disseminated sulphides (?pyrite + ?pyrrhotite).

SAMPLE: T19758 :PTSC52527

Rock Name:
Magnetite(-pyrite-chalcopyrite-bismuthinite) skarn

Hand Specimen:
The rock sample is composed of subparallel, contorted, discontinuous patches that are fine-grained, green or yellowish green. Fine-grained lensoidal patches of magnetite are present, and silvery sulphide (pyrite) forms coarser-grained disseminated patches. The rock is strongly magnetic.

Petrography:

Mineral	Vol.%	Origin
Mica (biotite)	26	metamorphic
Epidote (zoisite)	5	metamorphic
Quartz	15	metamorphic
Magnetite	30	metamorphic
Chlorite	10	metamorphic
Fluorite	4	metamorphic
Pyrite	10	metamorphic
Chalcopyrite	<1	metamorphic
Bismuthinite	Tr	metamorphic

In polished thin section, this sample displays a fine-grained, crystalline metamorphic texture.

Green mica, pleochroic to pale brown, is moderately abundant. It occurs as subhedral, pleochroic green laths in radiating intergrowths and mats. Many of the mats are very fine-grained.

Green chlorite flakes are intergrown with the mica.

Quartz occurs as anhedral clear patches, commonly interstitial to amphibole.

Epidote occurs as pleochroic yellowish subhedral grains, sparsely scattered through the rock.

Isotropic fluorite (confirmed by X-ray diffraction) is present as colourless anhedral patches.

Magnetite is abundant. It occurs as patches and lamellar concentrations of subhedral cubic grains (average size ~0.2 mm). It also occurs as very fine-grained disseminations.

Pyrite occurs as creamy white aggregates, several millimetres in size, composed of cubic grains up to ~0.2 mm in size. Most of the pyrite contains numerous minute inclusions, as well as inclusions of magnetite.

Chalcopyrite is present in very small amount. It form anhedral patches up to ~0.5 mm in size, commonly closely associated with other opaque phases.

amdel

Bismuthinite is present as characteristically anisotropic, pale bluish grey grains. It occurs as lath-like and blebby inclusions within pyrite, within magnetite, and also as discrete anhedral interstitial patches within amphibole.

The rock represents a magnetite-rich skarn that has formed by hydrothermal replacement of a calcareous precursor. Whether the alteration fluids were of regional metamorphic or contact metasomatic origin is not apparent at this level of study, but the presence of accessory fluorite supports a contact metasomatic origin. Microtextural relationships between the different minerals suggest that a single metasomatic alteration event was responsible for generation of the skarn rock.

SAMPLE: T19759 :TSC52528

Rock Name:
Skarnified silty meta-sediment

Hand Specimen:
The large rock sample is composed of laminae on the millimetre to centimetre scale. Most are fine-grained and pale grey to green in colour. The rock is hard, competent, and non-magnetic. Weathering has generated pervasive brownish iron oxide staining.

Petrography:

Mineral	Vol.%	Origin
Quartz	79	relict detrital/metamorphic
Actinolitic amphibole	20	metamorphic
Zircon	Tr	detrital
Tourmaline	Tr	detrital
Leucoxene	Tr	detrital
Opaques (?pyrite)	1	metamorphic

In thin section, this sample displays a relict sedimentary texture modified by metamorphic recrystallisation.

Quartz dominates the rock. It occurs as well-sorted (average size ~0.1 mm) detrital grains that have been partly sutured along grain boundaries to form a granoblastic mosaic.

Accessory detrital phases include anhedral granular leucoxene grains, rounded zircon grains, and greenish brown rounded tourmaline grains.

Disseminated through the rock are subhedral cubic opaque crystals (up to ~0.1 mm in size), and small aggregates of grains. The form suggests that the opaque phase is pyrite.

Actinolitic amphibole occurs as very pale green, optically continuous, anhedral plates that appear to have crystallised preferentially in interparticle matrix.

The rock represents a well-sorted quartzose siltstone with muddy patches that has suffered recrystallisation and skarn alteration to cause recrystallisation of quartz particles and the crystallisation of a significant amount of actinolite.

amdel

SAMPLE: T19760 :PTSC52529

Rock Name:
Epidote-garnet-diopside skarn

Hand Specimen:
The rock sample is fine-grained, massive, and greenish in colour. A ferruginous weathering rind is present.

Petrography:

Mineral	Vol.%	Origin
Epidote (clinozoisite)	25	metamorphic
Garnet	30	metamorphic
Diopside	25	metamorphic
Goethite	20	weathering

In polished thin section, this sample displays a crystalline metamorphic texture.

Epidote forms intergrowths of subhedral, pleochroic yellowish crystals up to ~0.4 mm in size. In places it forms massive mats of intergrown crystals, and elsewhere it is more uniformly dispersed through garnet.

Garnet forms anhedral, colourless, poikiloblastic grains up to ~1 mm in size, commonly containing numerous smaller crystals of other phases. It is anisotropic, revealing fine growth zoning.

Diopsidic clinopyroxene forms euhedral small colourless prisms (average size ~0.1 mm). It is unevenly distributed through the rock.

Weathering has caused pervasive alteration by reddish brown, fine-grained goethite. It has preferentially replaced the pyroxene, and also fills fractures.

The rock represents a calcareous precursor that has suffered extensive hydrothermal metasomatic alteration to produce the assemblage epidote + garnet + diopside.

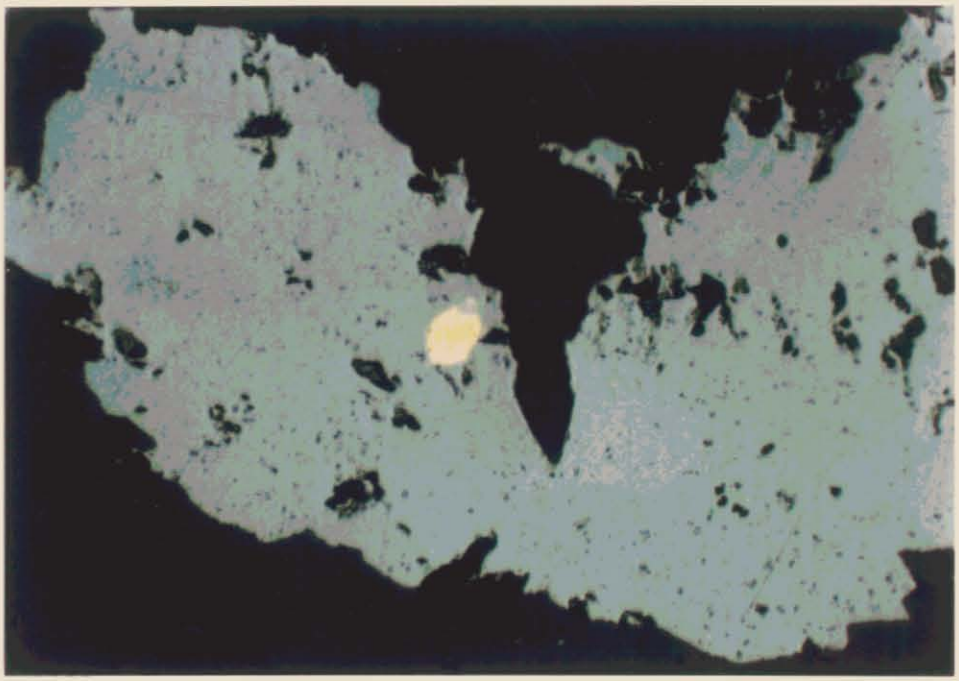
amdel

TABLE 1: DETAILS OF THIN SECTIONS AND POLISHED THIN SECTIONS

Sample No.	Type of section	No.
Samples provided by Mr. Carlos Castro:		
T-08690	Thin section	C52515
T-11906	Polished thin section	C52516
T-11907	Polished thin section	C52517
T-11908	Polished thin section	C52518
T-11909	Thin section	C52519
Samples provided by Mr. Matthew White:		
T19748	Polished thin section	C52520
T19750	Polished thin section	C52522
T19752	Thin section	C52523
T19755	Thin section	C52524
T19756	Polished thin section	C52525
T19757	Thin section	C52526
T19758	Polished thin section	C52527
T19759	Thin section	C52528
T19760	Polished thin section	C52529

456149

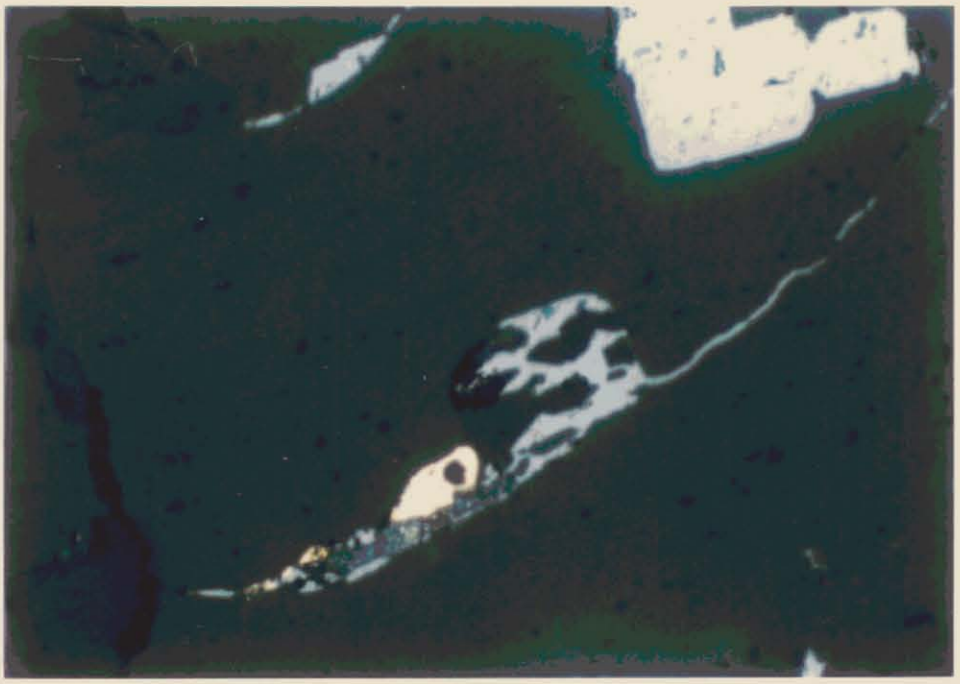
PLATE 1: NATIVE GOLD IN SAMPLE T19750



100 μm

a) Plane polarised reflected light (20, 7/1)

Native gold (bright yellow) lies within polycrystalline aggregate of bismuthinite (pale grey).



500 μm

b) Plane polarised reflected light (50, 8/1)

Small grains of native gold (bright yellow) are intimately associated with bismuthinite (pale grey) near a microfracture.

456150

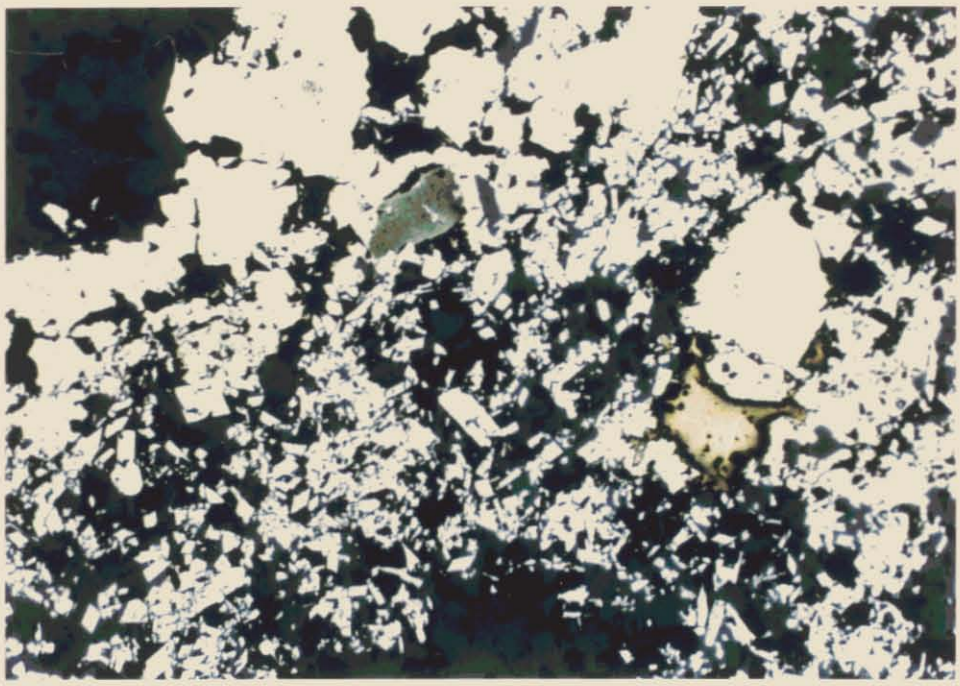
PLATE 2: GENERAL VIEW OF ORE MINERALS



500 μm

a) Sample T11907 (Plane polarised reflected light) (5, 3/1)

Fine-grained pyrite (white) has preferentially replaced matrix interstitial to relict detrital quartz particles.



500 μm

b) Sample T11908 (Plane polarised reflected light) (5, 4/1)

The intimately intergrown ore minerals are pyrite (creamish-white), arsenopyrite (small white euhedral crystals), and minor chalcopyrite (yellow).

456151

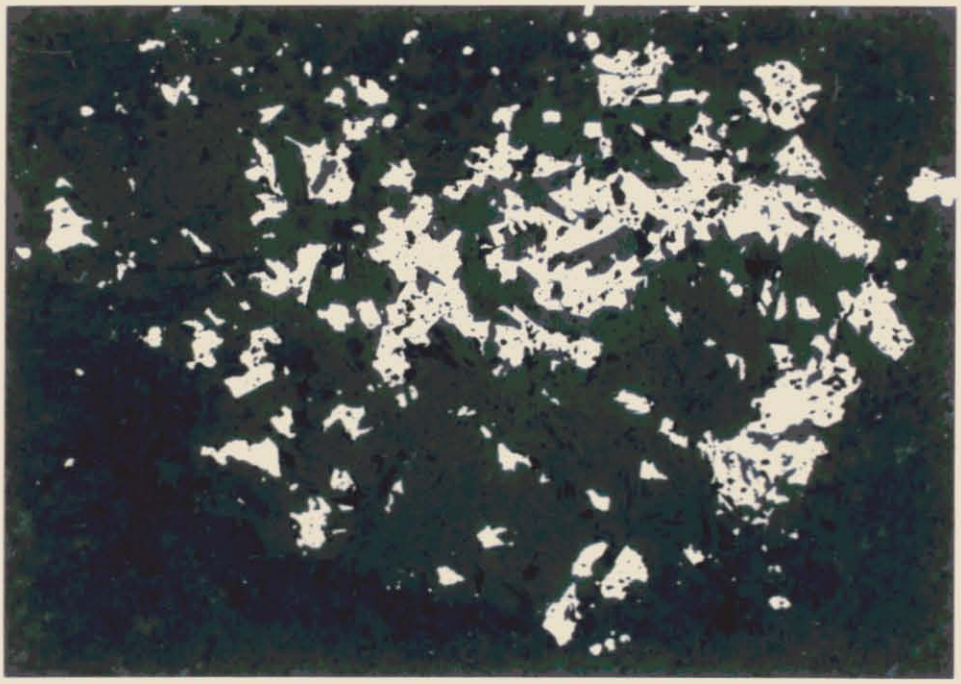
PLATE 3: GENERAL VIEWS OF ORE MINERALS (CONTD.)



200 μm

a) Sample T11908 (Plane polarised reflected light) (10, 6/1)

Euhedral pyrite crystals (pale greyish-white) contain irregularly shaped inclusions of galena (grey) that may contain characteristic triangular cleavage plucks (larger inclusion at upper left).



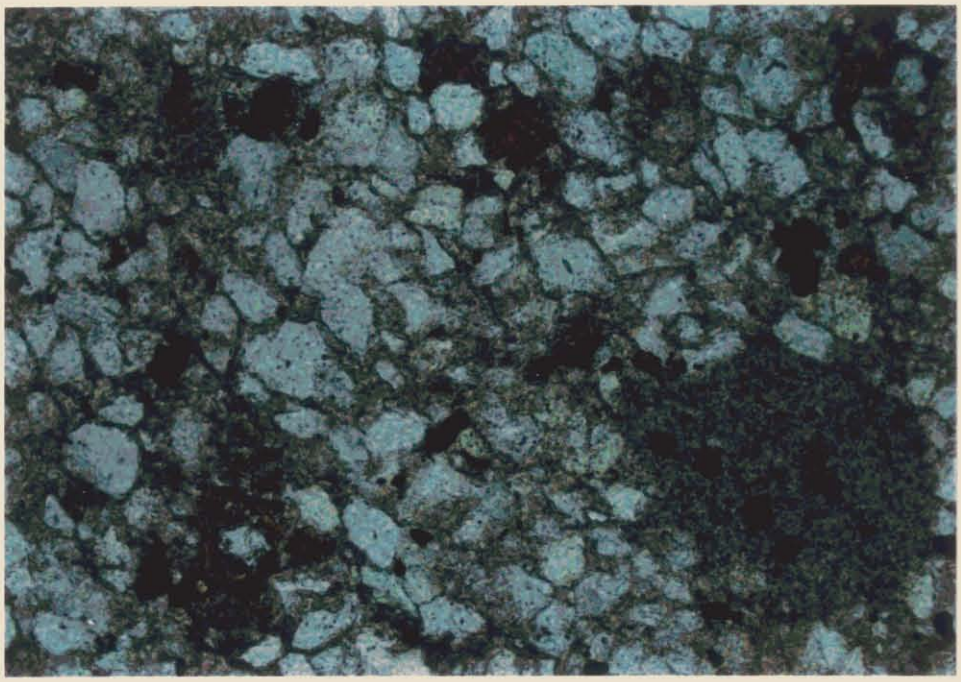
500 μm

b) Sample T19756 (Plane polarised reflected light) (5, 11/1)

Ovoid amygdaloidal structure is filled by pyrrhotite (creamish-white), minor chalcopyrite (yellow, upper centre), and actinolitic amphibole (dull grey).

456152

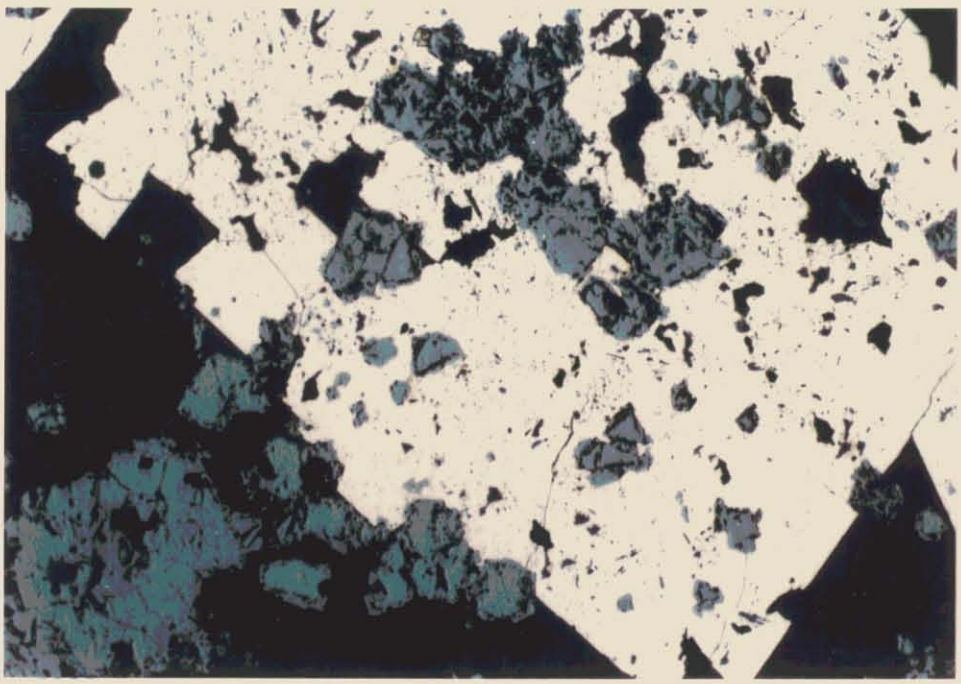
PLATE 4: GENERAL VIEWS OF ORE MINERALS (CONTD.)



200 μm

a) Sample T19757 (Plane polarised transmitted light) (10, 12/1)

This hornfelsed meta-sediment contains relict angular detrital quartz particles (clear), poorly crystallised metamorphic biotite (brown patches), and disseminated pyrite (opaque grains).

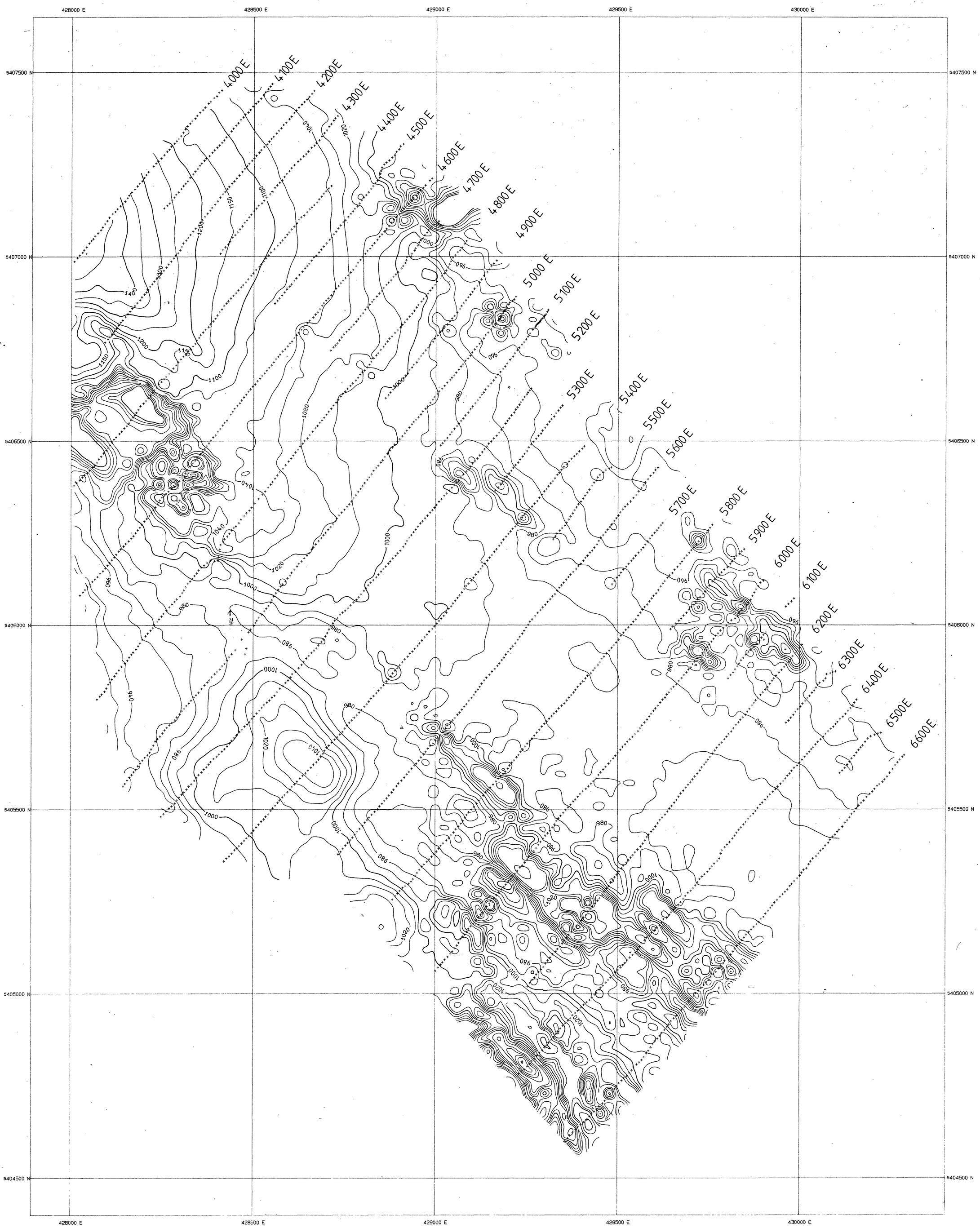


500 μm

b) Sample T19758 (Plane polarised reflected light) (5, 13/1)

Pyrite (creamish-white) and magnetite (medium grey) are intimately intergrown.

0701

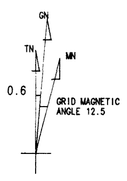


CONTOUR INTERVAL

900
1050 — 10nT
1100 — 25nT
1200
1300 — 100nT
1400
1500
1600

REFERENCE

DATA ACQUISITION	: HIGHLAND EXPLORATION
INSTRUEMENT	: GSM-18
BASE STATION LOCATION	:
DIURNAL SAMPLING INT.	: 20 seconds
DATA REDUCTION LEVEL	:
STATION SPACING	: 5/10m
LINE SPACING	: 200m
CONTOUR INTERVAL	: 50nT



TRUE NORTH, GRID NORTH AND MAGNETIC NORTH ARE SHOWN DIAGRAMMATICALLY FOR THE CENTRE OF THIS MAP. MAGNETIC NORTH IS CORRECT FOR 1989 AND MOVES EASTERLY ABOUT 0.1 EVERY TWO YEARS.

PROJECTION_AMG ZONE 55

SURTEC

DATA PROCESSING & COMPUTER DRAFTING BY SURTEC GEOSURVEYS PTY LTD

456153

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED

COMPILED:	A.M.Foley
DRAWN:	A.M.Foley
DATE:	Aug '89
CHECKED:	
SURTEC REF.	189-CONT

ROUND MOUNTAIN GRID
CONTOURED GROUND
MAGNETICS

BASE PLAN No. 5527/026

OVERLAY PLAN No.

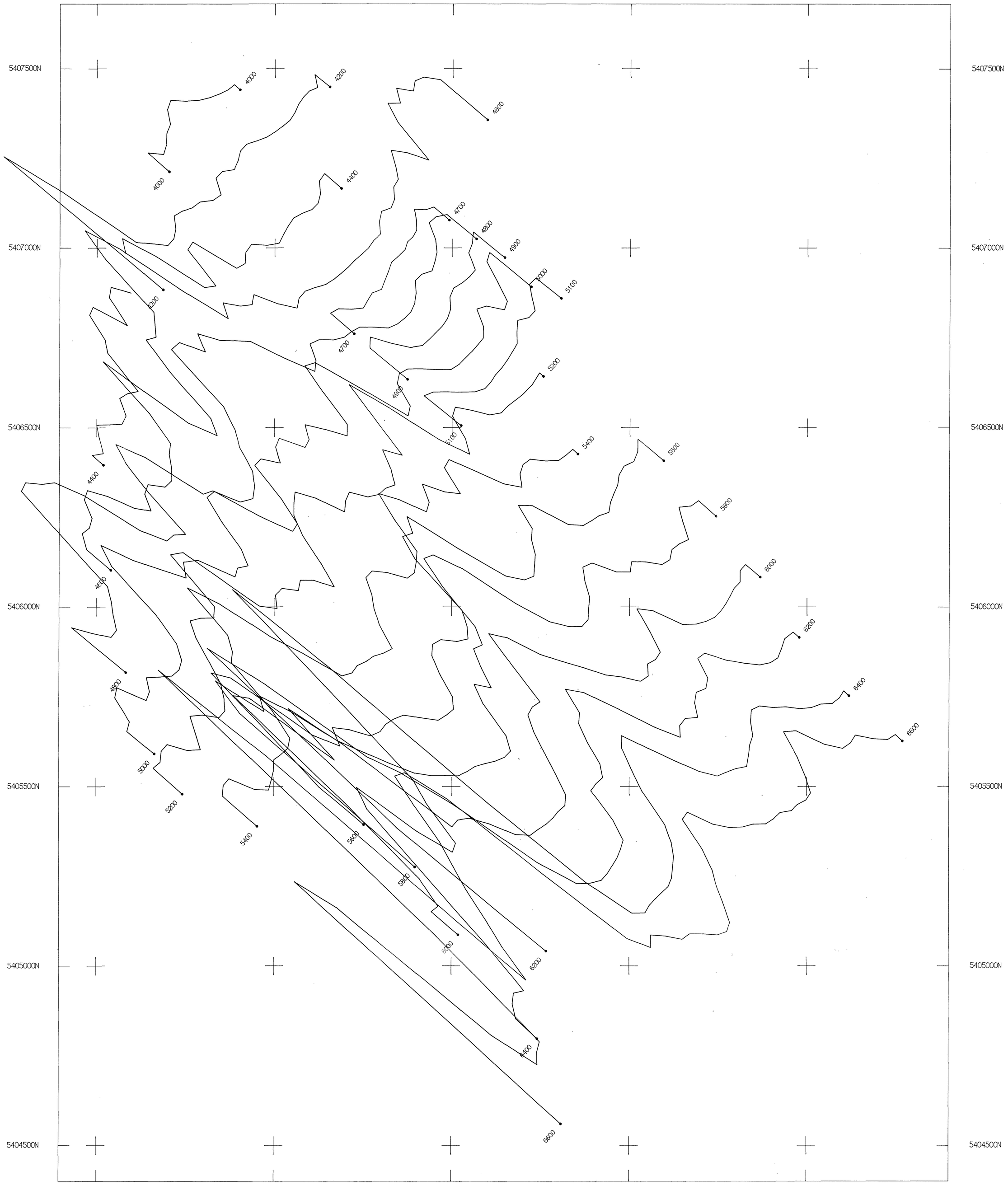
0 100 200 300 m
SCALE 1:5000

PLAN 1.

9702

428000E 428500E 429000E 429500E 430000E

5407500N 5407000N 5406500N 5406000N 5405500N 5405000N 5404500N



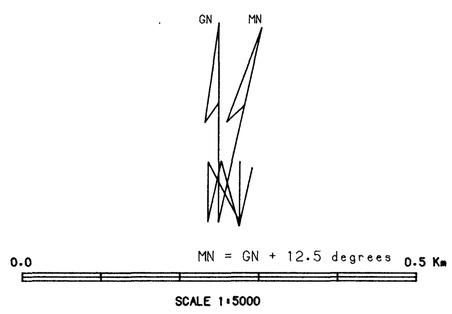
428000E 428500E 429000E 429500E 430000E

GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	100 & 200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4700E :	3645N,4400E-5925N,4400E
LINES 4800E-5600E :	3350N,5200E-5925N,5200E
LINES 5800E-6600E :	3250N,6200E-5800N,6200E
RECEIVER DIPOLE LENGTH :	50 metres

APPARENT RESISTIVITY PROFILES

Grid notation refers to Australian Map Grid Zone 55
Vertical scale :1000 ohm metres/cm
Base value :0 ohm metres



456154

5 cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd.,Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:	
DRAWN:	GTX
DATE:	NOV 1989
CHECKED:	STM
1:25,000 REFERENCE:	CETHANA

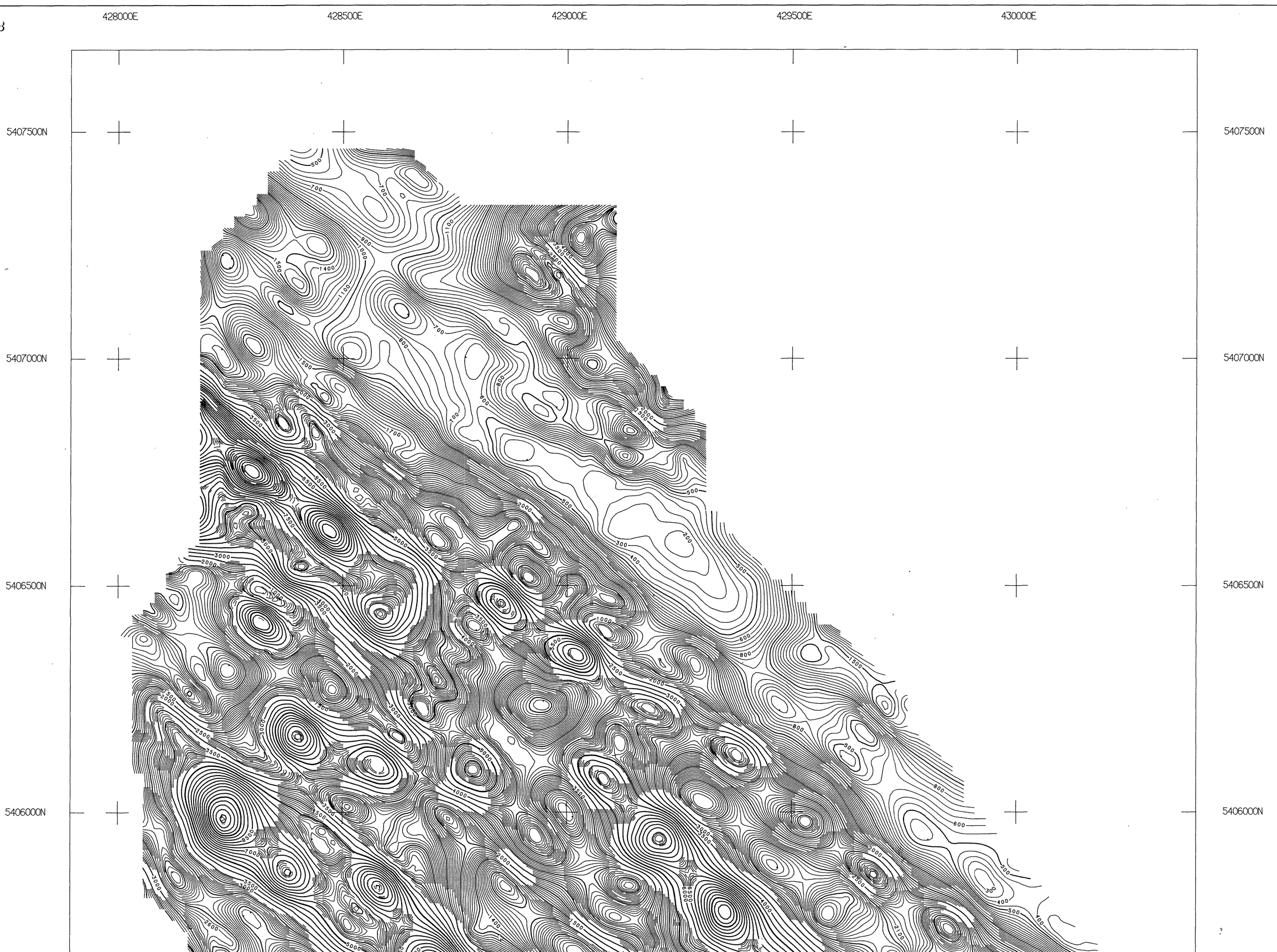
EL 8/88 TAS 90-3163

APPARENT RESISTIVITY PROFILES

ROUND MOUNTAIN GRID

PLAN 2. 5527/025 DATE: 15-DEC-89

9703



456155

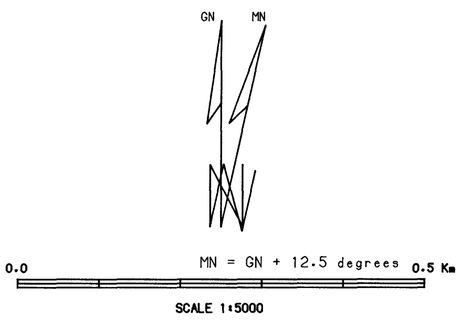
5 cm

GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	100 & 200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4700E :	3645N,4400E-5925N,4400E
LINES 4800E-5600E :	3350N,5200E-5925N,5200E
LINES 5800E-6600E :	3250N,6200E-5800N,6200E
RECEIVER DIPOLE LENGTH :	50 metres

APPARENT RESISTIVITY CONTOURS

Grid notation refers to Australian Map Grid Zone 55
Grid mesh size :25 x 25 metres
Grid filter :Polynomial, radius 50 metres
Contour interval 50,500, and 5000 ohm metres



JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd.,Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:	
DRAWN:	GTX
DATE:	NOV 1989
CHECKED:	STM
1:25,000 REFERENCE:	CETHANA

EL 8/88 TAS 90-3163

APPARENT RESISTIVITY CONTOURS

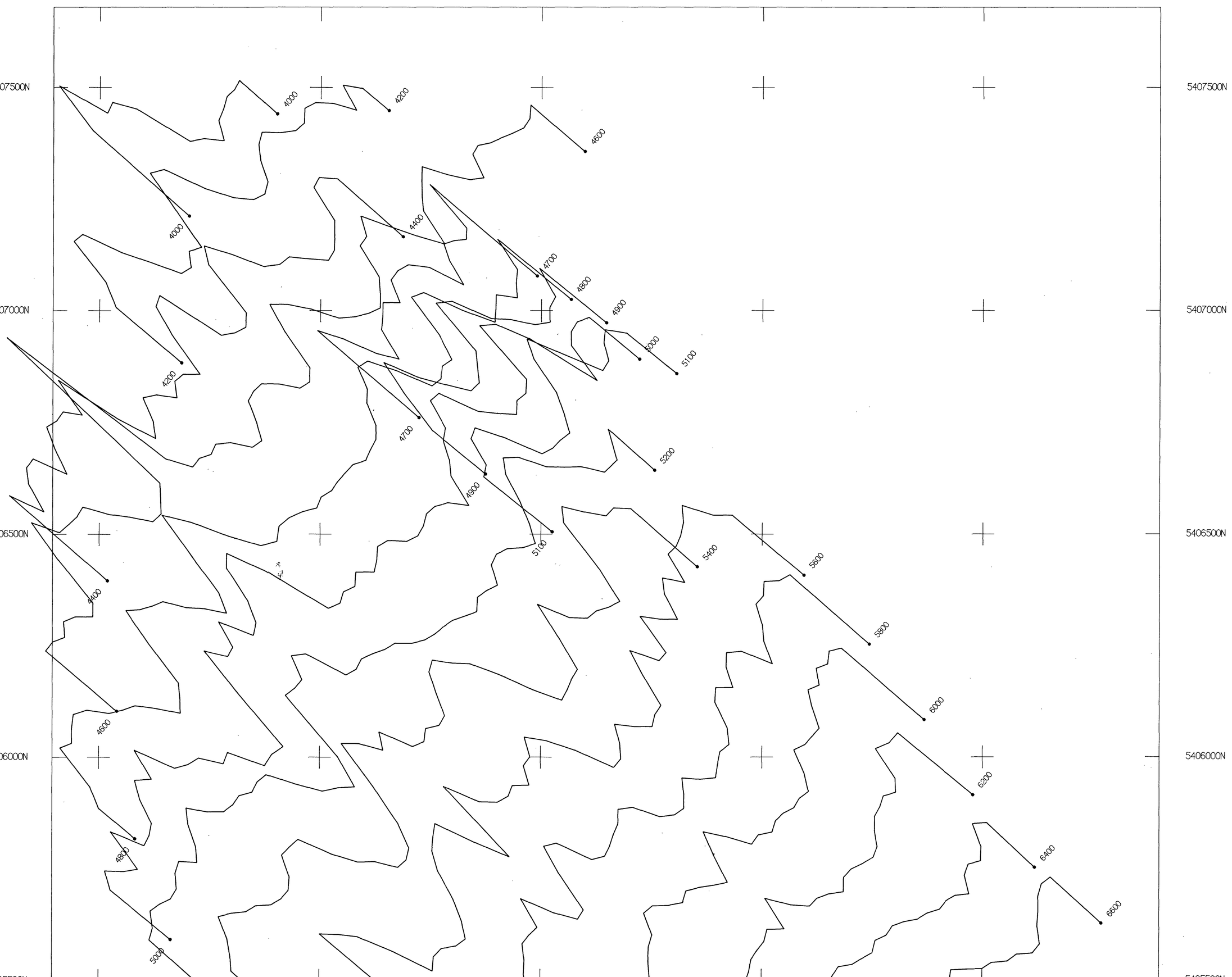
ROUND MOUNTAIN GRID

5527/027 DATE: 15-DEC-89 PLAN 3.

9704

428000E 428500E 429000E 429500E 430000E

5407500N 5407000N 5406500N 5406000N 5405500N 5405000N 5404500N



428000E 428500E 429000E 429500E 430000E

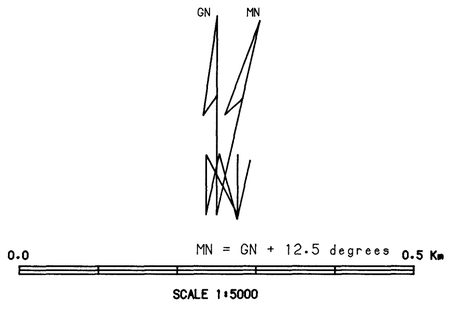
456156

GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	100 & 200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4700E :	3645N,4400E-5925N,4400E
LINES 4800E-5600E :	3350N,5200E-5925N,5200E
LINES 5800E-6600E :	3250N,6200E-5800N,6200E
RECEIVER DIPOLE LENGTH :	50 metres

TOTAL CHARGEABILITY PROFILES

Grid notation refers to Australian Map Grid Zone 55
Vertical scale :5 milliseconds/cm
Base value :0 milliseconds



5 cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd.,Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

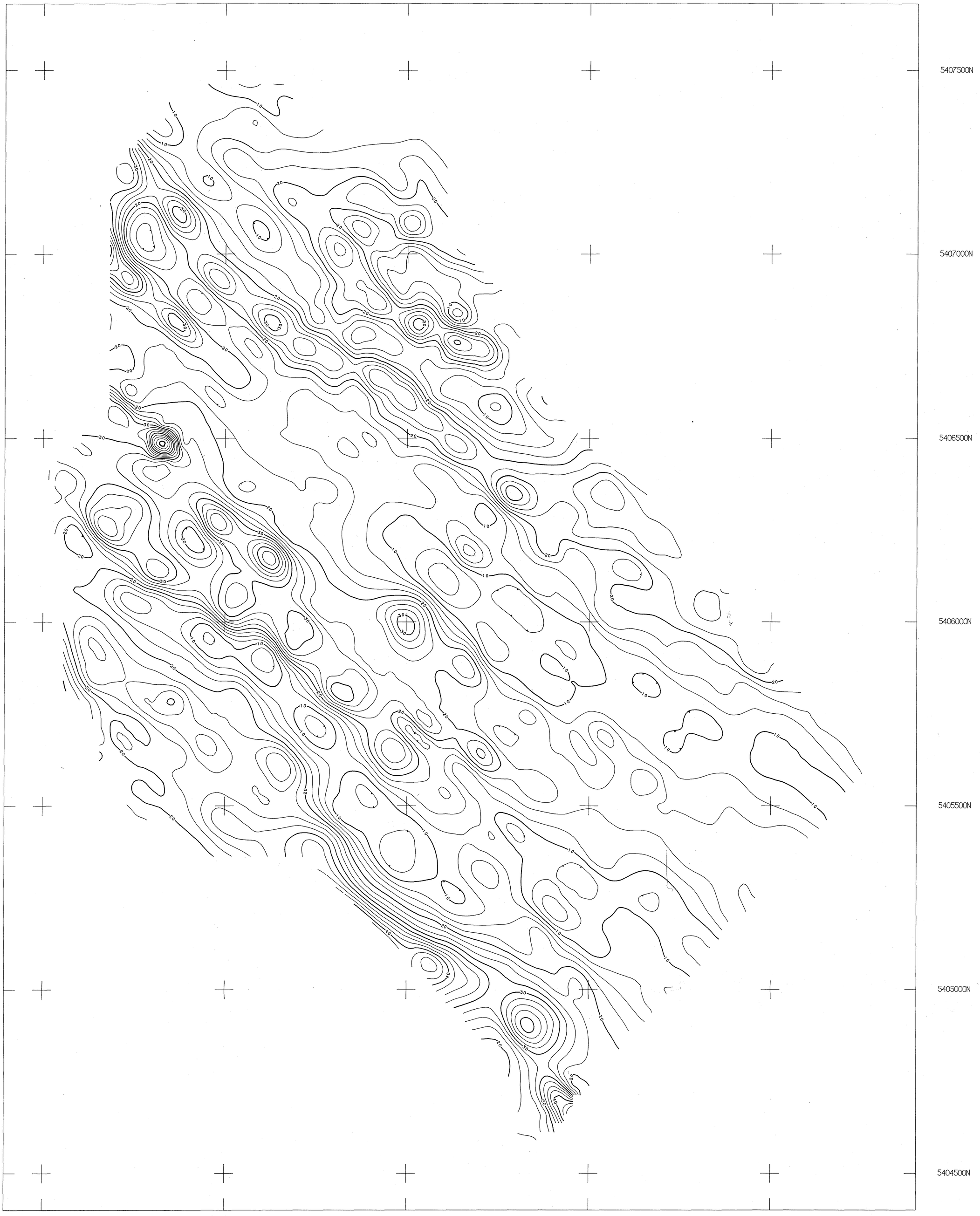
GEOLOGIST:	
DRAWN:	GTX
DATE:	NOV 1989
CHECKED:	STM
1:25,000 REFERENCE:	CETHANA

EL 8/88 TAS 90-3163

TOTAL CHARGEABILITY PROFILES

ROUND MOUNTAIN GRID

5527/024 DATE: 15-DEC-89 PLAN 4.



GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	100 & 200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4700E :	3645N,4400E-5925N,4400E
LINES 4800E-5600E :	3350N,5200E-5925N,5200E
LINES 5800E-6600E :	3250N,6200E-5800N,6200E
RECEIVER DIPOLE LENGTH :	50 metres

TOTAL CHARGEABILITY CONTOURS

Grid notation refers to Australian Map Grid Zone 55
Grid mesh size :25 x 25 metres
Grid filter :Polynomial, radius 50 metres
Contour interval 2.5,10 and 50 milliseconds

GN MN

0.0 MN = GN + 12.5 degrees 0.5 Km

SCALE 1:5000

456157

5 cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd.,Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:	
DRAWN:	GTX
DATE:	NOV 1989
CHECKED:	STM
1:25,000 REFERENCE:	CETHANA

EL 8/88 TAS 90-3163.

TOTAL CHARGEABILITY CONTOURS

ROUND MOUNTAIN GRID

5527/028 DATE: 15-DEC-89 PLAN 5.

97°6

28 500mE. 29 000mE. 29 500mE. 30 000mE. 30 500mE. 31 000mE. 31 500mE.

407 500mN.

Baseline 5000N

4000E

407 000mN.

4200E

MCS PE6
PC 6174

406 500mN.

4400E

S046 356mN
329 166mE

4600E

406 000mN.

4800E

5000E

405 500mN.

5200E

5400E

5600E

5800E

6000E

6200E

6400E

405 000mN.

6600E

404 500mN.

404 000mN.

403 500mN.

403 000mN.

28 500mE. 29 000mE. 29 500mE. 30 000mE. 30 500mE. 31 000mE. 31 500mE.

Reference:

——— Geophysical Anomaly trend. axis

– – – – Geophysical Anomaly trend axis - uncertain

\+ Apparent Resistivity high

* chargeability high

o Magnetic anomaly.

= = Possible fault.

GRID CONVERGENCE 0.6°

GN MN

GRID MAGNETIC 7.2°

456158

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED

(INC. IN N.S.W.)

COMPILED

DRAWN: T.G.D.S.

DATE.

CHECKED:

1:25,000 REFERENCE:

ROUND MOUNT AREA

Geophysical Interpretation Plan.

BASE PLAN No. 5527/031

OVERLAY PLAN No.

100 0 100 200 300

SCALE: 1 : 10,000

PLAN 6.

5747

423500 E | 424000 E | 424500 E | 425000 E | 425500 E | 426000 E | 426500 E | 427000 E

5400500 N | 5400000 N | 5399500 N | 5399000 N | 5398500 N | 5398000 N

4000E | 4200E | 4400E | 4600E | 4800E | 5000E | 5200E | 5400E | 5600E | 5800E | 6000E | 6200E | 6400E | 6600E | 6800E

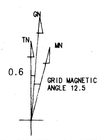
456159

5 cm

90-3163.

REFERENCE

DATA ACQUISITION : HIGHLAND EXPLORATION
INSTRUEMENT : GSM-18
BASE STATION LOCATION :
DIURNAL SAMPLING INT. : 20 seconds
DATA REDUCTION LEVEL :
STATION SPACING : 5/10m
LINE SPACING : 200m
CONTOUR INTERVAL : 25 nT



TRUE NORTH, GRID NORTH AND MAGNETIC NORTH ARE SHOWN DIAGRAMMATICALLY FOR THE CENTRE OF THIS MAP. MAGNETIC NORTH IS CORRECT FOR 1989 AND MOVES EASTERLY ABOUT 0.1 EVERY TWO YEARS.

PROJECTION_AMG ZONE 55

SURTEC

DATA PROCESSING & COMPUTER DRAFTING BY SURTEC GEOSURVEYS PTY LTD

RGC EXPLORATION PTY. LIMITED

COMPILED:	A.M.Foley
DRAWN:	A.M.Foley
DATE:	Aug '89
CHECKED:	
SURTEC REF.	191-cont

FIVE MILE RISE
CONTOURED GROUND
MAGNETICS

BASE PLAN No. 5525/004

OVERLAY PLAN No.

0 100 200 300
m SCALE 1:5000

PLAN 7.

5708

422500E 423000E 423500E 424000E 424500E 425000E 425500E 426000E 426500E 427000E

5401000N
5400500N
5400000N
5399500N
5399000N
5398500N
5398000N
5397500N
5397000N

4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 6200 6400 6600 6800

GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4600E :	8000N.4200E-9850N.4200E
LINES 4800E-5600E :	8200N.5200E-10400N.5200E
LINES 5800E-6200E :	8050N.6000E-10800N.6000E
LINES 6400E-6800E :	8150N.6400E-10725N.6400E
RECEIVER DIPOLE LENGTH :	50 metres

APPARENT RESISTIVITY PROFILES

Grid notation refers to Australian Map Grid Zone 55
Vertical scale : 500 Ohm metres/cm
Base value : 0 Ohm metres

GN MN

MN = GN + 12.5 degrees

0.0 0.5 Km

SCALE 1:5000

456160

5cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd., Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

90-3163

GEOLOGIST :		EL 8/88 TAS
DRAWN :	GTX	
DATE :	DEC 1989	APPARENT RESISTIVITY PROFILES
CHECKED :	STM	
1:25,000 REFERENCE :	CETHANA LIENA	FIVE MILE RISE GRID
5525/005		PLAN 8.

RGC EXPLORATION PTY. LIMITED

456161

152

E.L. 8/88 - LORINNA

AND

E.L. 36/88 - ROUND MOUNTAIN

REPORT ON AREAS RELINQUISHED ON

22 AUGUST 1990

Volume 2 of 2

OPEN FILE

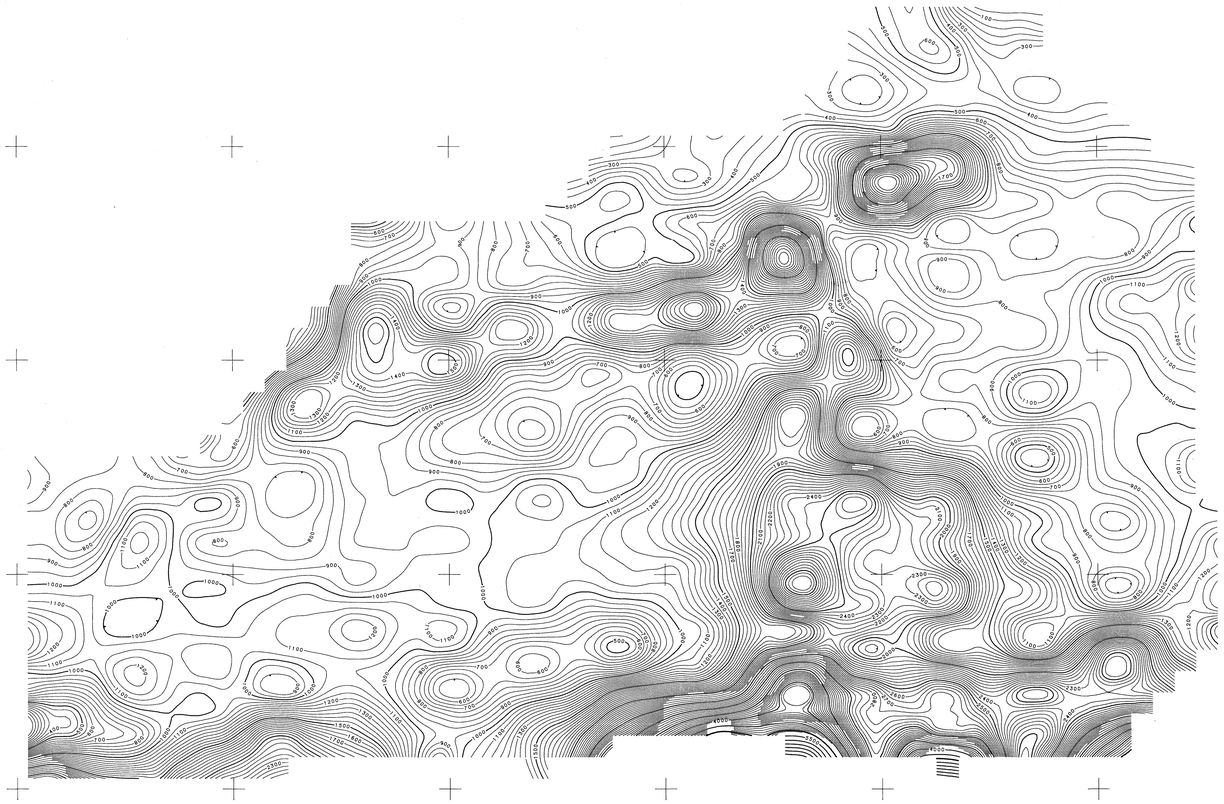
90-3163 V2/2.

MINES
File Ref. E.L. 8/88 & E.L. 36/88.
16 AUG 1990
Doc. Ref.
Action Officer ... Initials
Refer to Cover sheet July 1990.
Resubmit to | Date

9719

422500E 423000E 423500E 424000E 424500E 425000E 425500E 426000E 426500E 427000E

5401000N
5400500N
5400000N
5399500N
5399000N
5398500N
5398000N
5397500N
5397000N



GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4600E :	8000N.4200E-9850N.4200E
LINES 4800E-5600E :	8200N.5200E-10400N.5200E
LINES 5800E-6200E :	8050N.6000E-10800N.6000E
LINES 6400E-6800E :	8150N.6400E-10725N.6400E
RECEIVER DIPOLE LENGTH :	50 metres

APPARENT RESISTIVITY CONTOURS

Grid notation refers to Australian Map Grid Zone 55
Grid mesh size :50 x 50 metres
Grid filter :Polynomial, radius 100 metres
Contour interval 50,500 and 5000 Ohm metres

GN MN

MN = GN + 12.5 degrees

0.0 0.5 Km

SCALE 1:5000

456162

5cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd., Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:	
DRAWN:	GTX
DATE:	DEC 1989
CHECKED:	STM
1:25,000	CETHANA
REFERENCE:	LIENA

90-3163.

EL 8/88 TAS

APPARENT RESISTIVITY CONTOURS

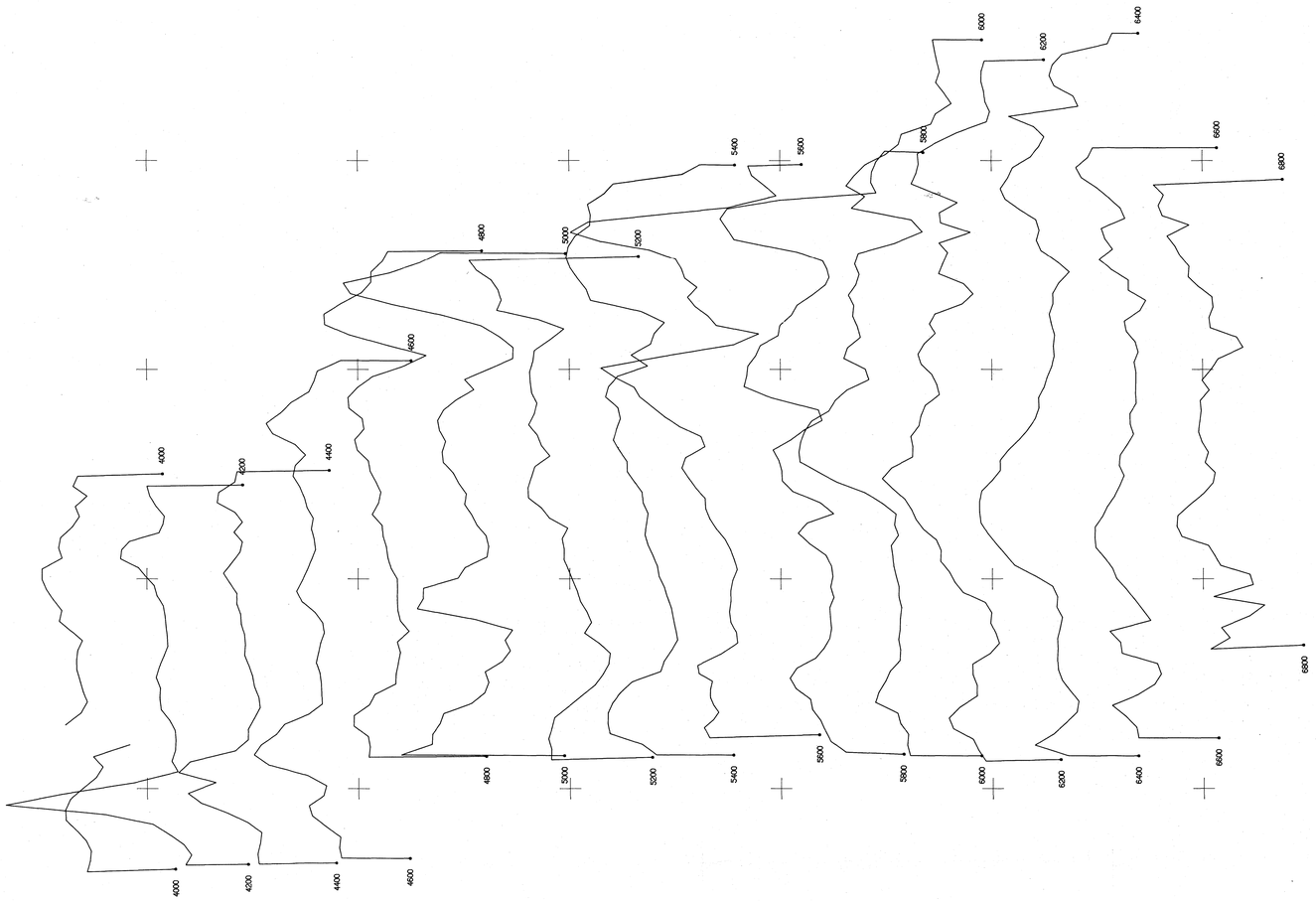
FIVE MILE RISE GRID

5525/008 DATE: 13-DEC-89 PLAN 9.

9710

422500E 423000E 423500E 424000E 424500E 425000E 425500E 426000E 426500E 427000E

5401000N
5400500N
5400000N
5399500N
5399000N
5398500N
5398000N
5397500N
5397000N



GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4600E :	8000N.4200E-9850N.4200E
LINES 4800E-5600E :	8200N.5200E-10400N.5200E
LINES 5800E-6200E :	8050N.6000E-10800N.6000E
LINES 6400E-6800E :	8150N.6400E-10725N.6400E
RECEIVER DIPOLE LENGTH :	50 metres

TOTAL CHARGEABILITY PROFILES

Grid notation refers to Australian Map Grid Zone 55
Vertical scale :5 milliseconds/cm
Base value :0 milliseconds

GN MN

MN = GN + 12.5 degrees

0.0 0.5 Km

SCALE 1:5000

456163

5cm

JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd.,Sydney. NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:	
DRAWN:	GTX
DATE:	DEC 1989
CHECKED:	STM
1:25,000	CETHANA
REFERENCE:	LIENA

EL 8/88 TAS 90-3163.

TOTAL CHARGEABILITY PROFILES

FIVE MILE RISE GRID

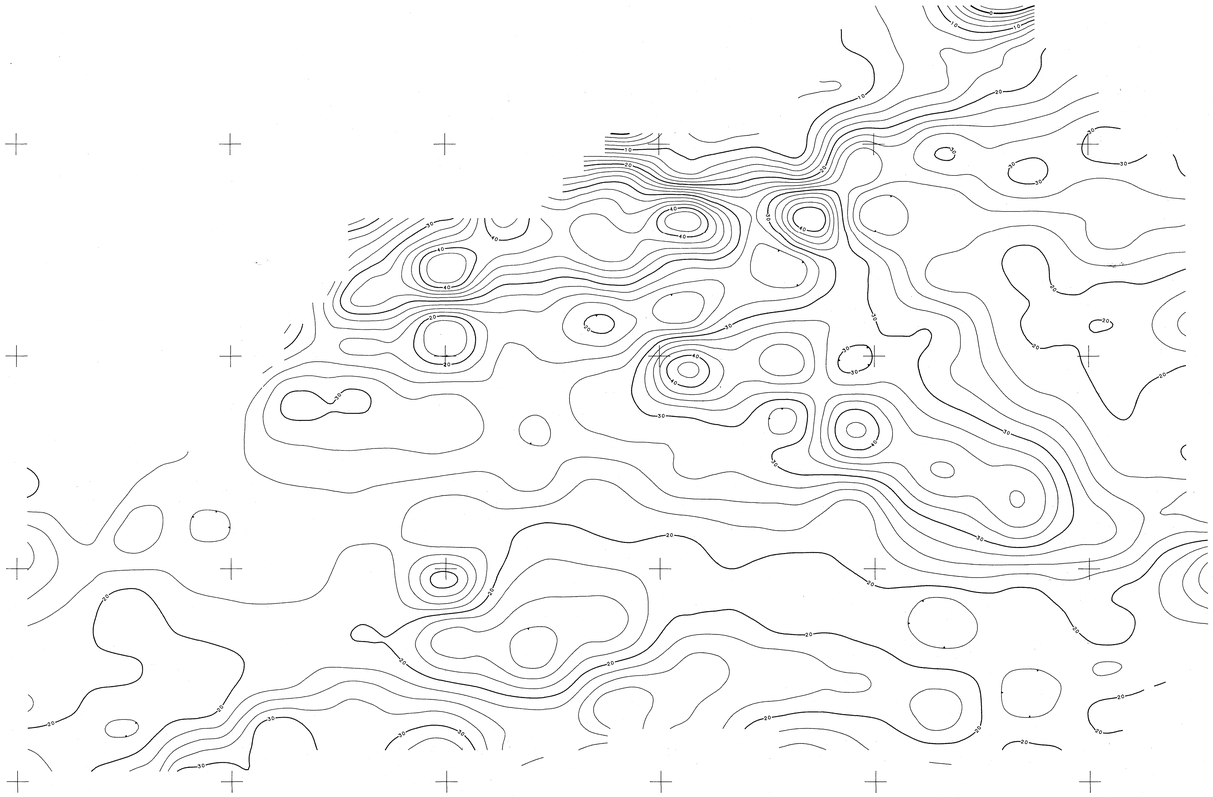
5525/006

PLAN 10.

9711

422500E 423000E 423500E 424000E 424500E 425000E 425500E 426000E 426500E 427000E

5401000N
5400500N
5400000N
5399500N
5399000N
5398500N
5398000N
5397500N
5397000N



GROUND SURVEY SPECIFICATIONS

IP TRANSMITTER :	Huntec 7.5 KVA
IP RECEIVER :	Huntec MK4
STATION SPACING :	25 metres
LINE SPACING :	200 metres
ARRAY TYPE :	Gradient
CURRENT ELECTRODES :	
LINES 4000E-4600E :	8000N.4200E-9850N.4200E
LINES 4800E-5600E :	8200N.5200E-10400N.5200E
LINES 5800E-6200E :	8050N.6000E-10800N.6000E
LINES 6400E-6800E :	8150N.6400E-10725N.6400E
RECEIVER DIPOLE LENGTH :	50 metres

TOTAL CHARGEABILITY CONTOURS

Grid notation refers to Australian Map Grid Zone 55
Grid mesh size :50 x 50 metres
Grid filter :Polynomial, radius 100 metres
Contour interval 2.5.10 and 50 millivolts

GN MN

MN = GN + 12.5 degrees

0.0 0.5 Km

SCALE 1:5000

456164

5 cm

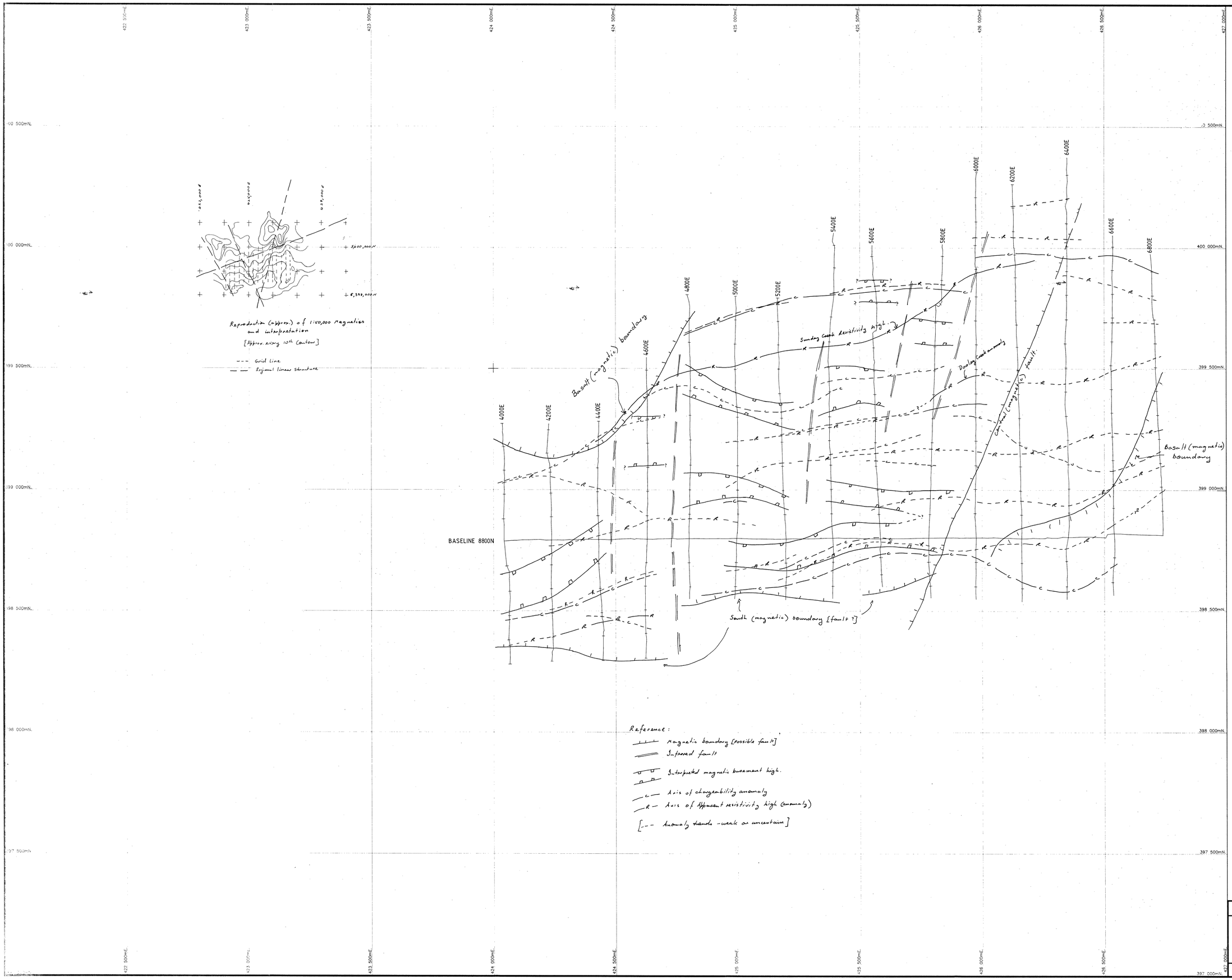
JOB NO : 4-133
Surveyed by GEOTERREX PTY LTD : SEPTEMBER 1989
Compiled by Geoterrex Pty Ltd., Sydney, NSW.
Processed using the GEONET time sharing system

RGC EXPLORATION PTY LTD

GEOLOGIST:		EL 8/88 TAS 90-3163
DRAWN:	GTX	
DATE:	DEC 1989	TOTAL CHARGEABILITY CONTOURS
CHECKED:	STM	
1:25,000 REFERENCE:	CETHANA LIENA	FIVE MILE RISE GRID

5525/007 DATE: 13-DEC-89 PLAN 11.

9712



456165 **90-3163.**

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

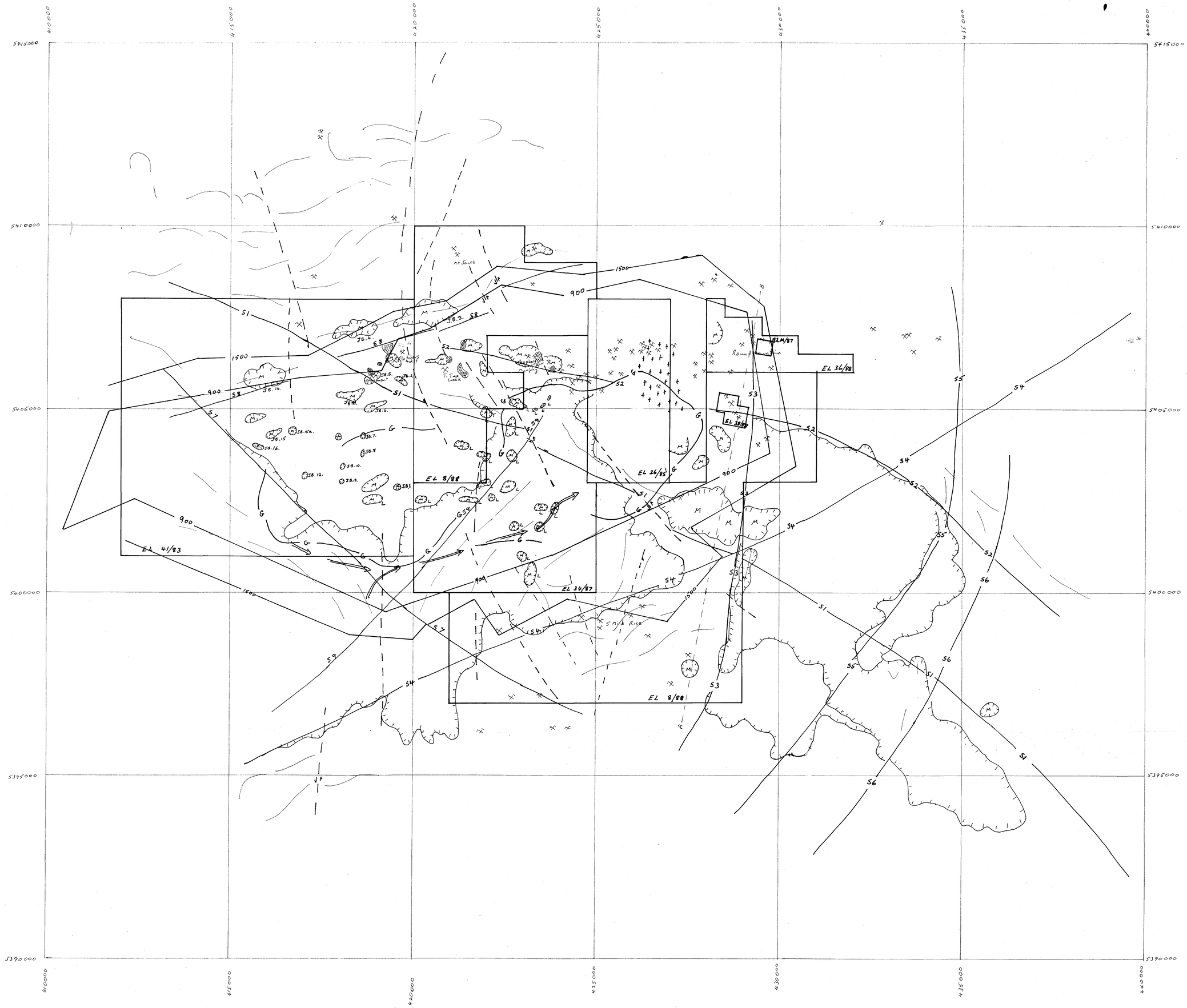
COMPILED:	
DRAWN:	T.G.D.S.
DATE:	JUNE '89
CHECKED:	
1:25,000 REFERENCE:	GETHANA LENA

DOVE RIVER SHEET
FIVE MILE RISE PROSPECT
INTERPRETATION PLAN

BASE PLAN No. 5525/013 | OVERLAY PLAN No. | SCALE: 1: 5,000 | PLAN 12.

N.W. Coast Computer Aided Drafting Centre Phone (004) 354315 Fax (004) 354490

9713



Reference

- Mineral Occurrence/mine
- Skarn
- Dalcoath Granite

A — — — B Profile [Figure 5]

Interpretation Reference

- Large Scale Structure
- Fault
- Residual Gravity Low
- magnetic trend/grain.
- magnetic basalt edge.
- Selected Magnetic Anomaly [JB.3: John Bishop anomaly No 3] [L D.E. Leaman anomaly]
- Tertiary Lead (Leaman 1988)
- 900 / 1500 Dalcoath GRANITE Structure Contours [D.E. Leaman Model].

5 cm

90-3163.

R.G.C. Exploration Pty. Ltd.

MOINA AREA

Geophysical Interpretation Plan.

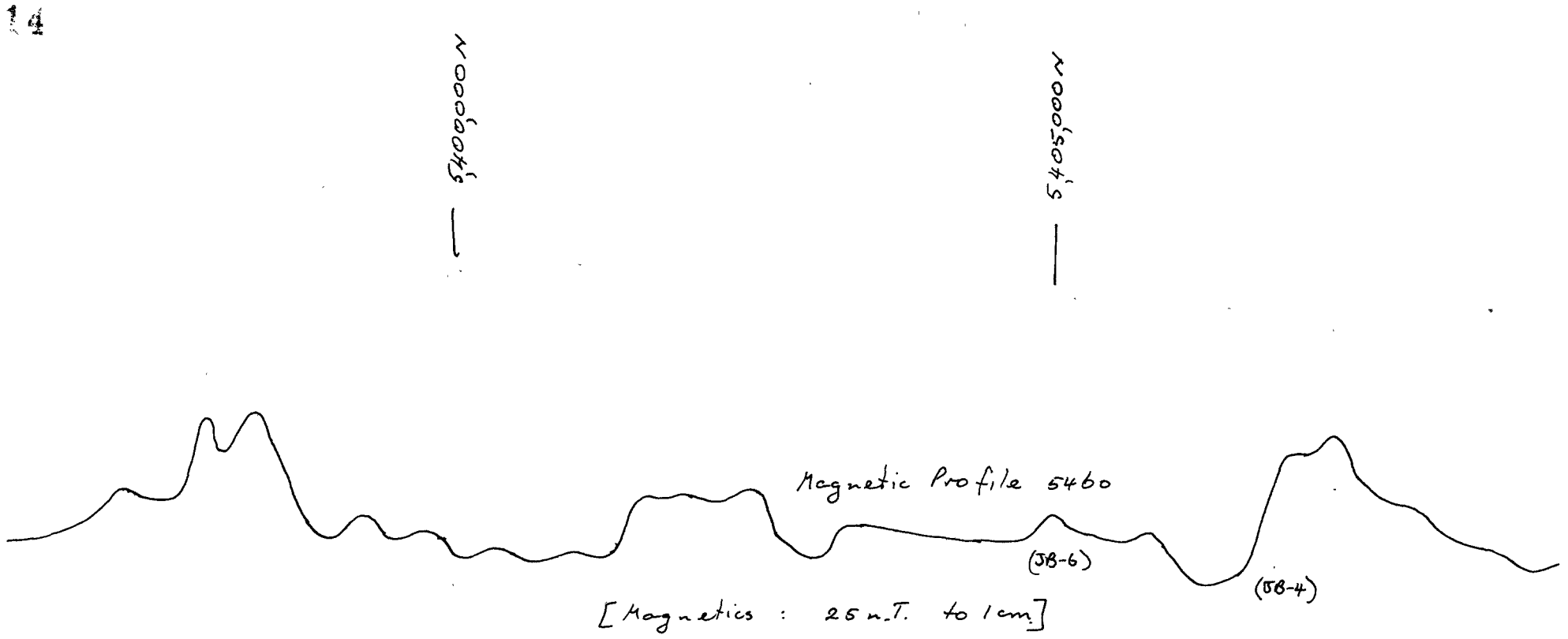
5511/056

Scale 1:50,000

456166

PLAN 13.

9714



Reference.

+ Control point for GRAVITY MODEL (From Leaman's Structure Contours)

M(6) Magnetic 'edge of Basalt

TL Tertiary Lead (Leaman 1988)

(JB-1) John Bishop Selected Anomaly

// Possible fault

H Approx. interpreted depth to top (2D)

* Approx. interpreted depth to centre (Pt. Dipole).

456167

5 cm

R.G.C. Exploration Pty. Ltd.

Moina Area.

Conceptual Cross Section Interpretation + Data Profiles

419,000 E

1:50,000

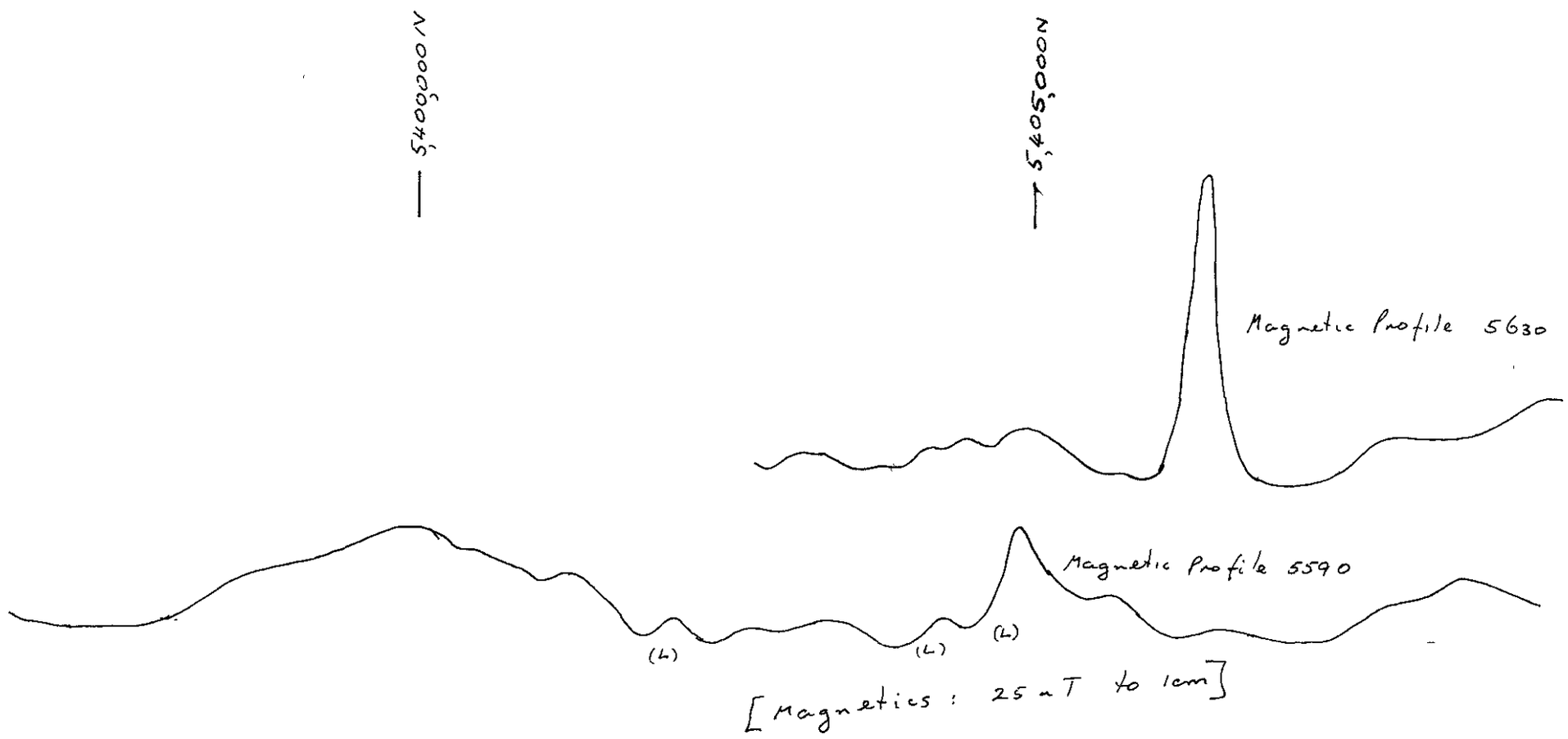
Figure 2.

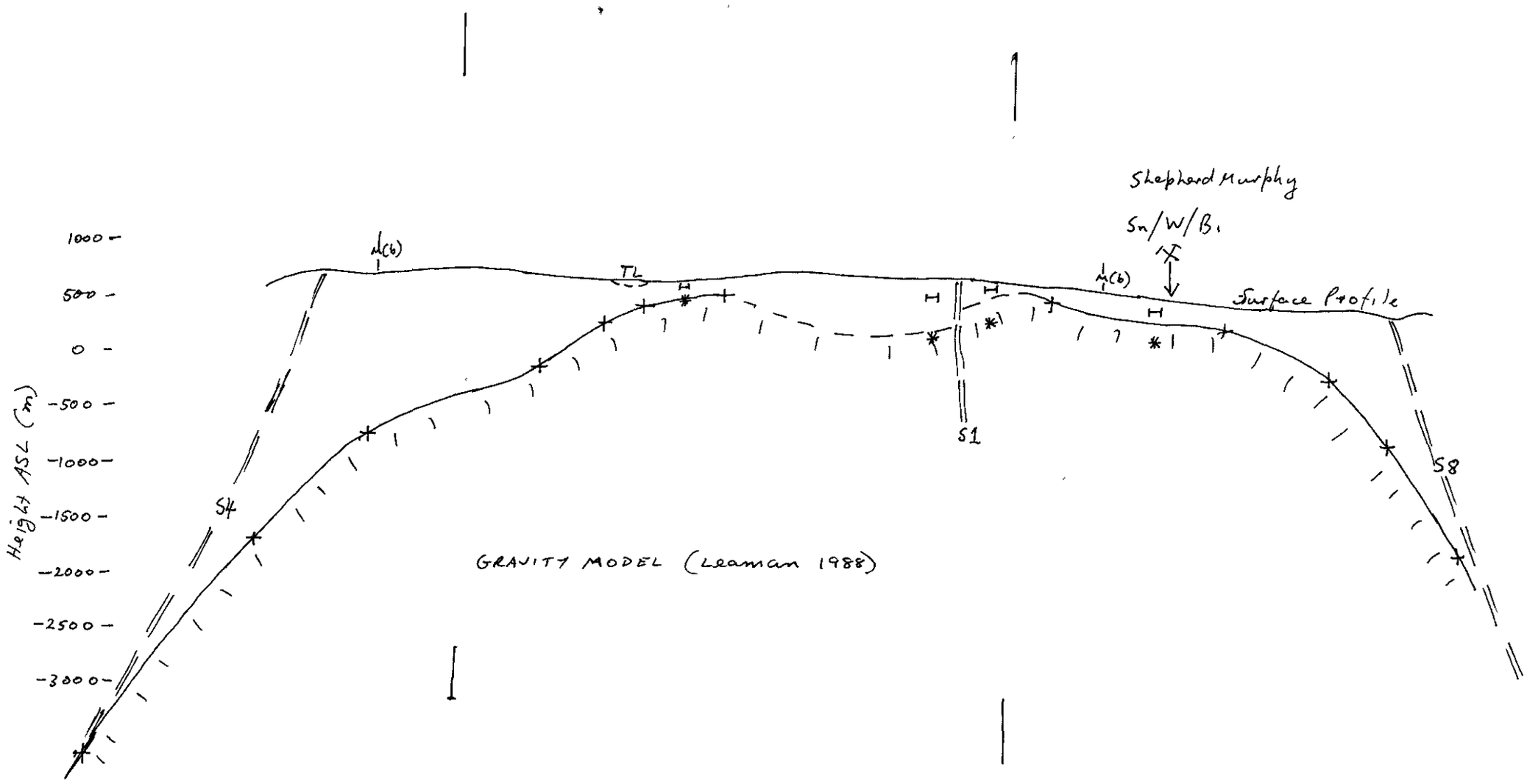
5511/060

90-3163.

PLAN 14.

9715





Reference

\+ Control point for GRAVITY Model (From Leaman's Structure Contours)

M(b) 'magnetic' edge of basalt

TL - Tertiary Lead (Leaman 1988)

(L) - Sub basalt anomaly selected by Leaman

// Possible fault

H Approx. interpreted depth to top (2D).

* Approx. interpreted depth to centre (Pt. Dipole).

456168

5 cm

RGC Exploration Pty. Ltd

Moina Area

Conceptual Cross Section

Interpretation + Data Profiles

422,500 E

1:50,000

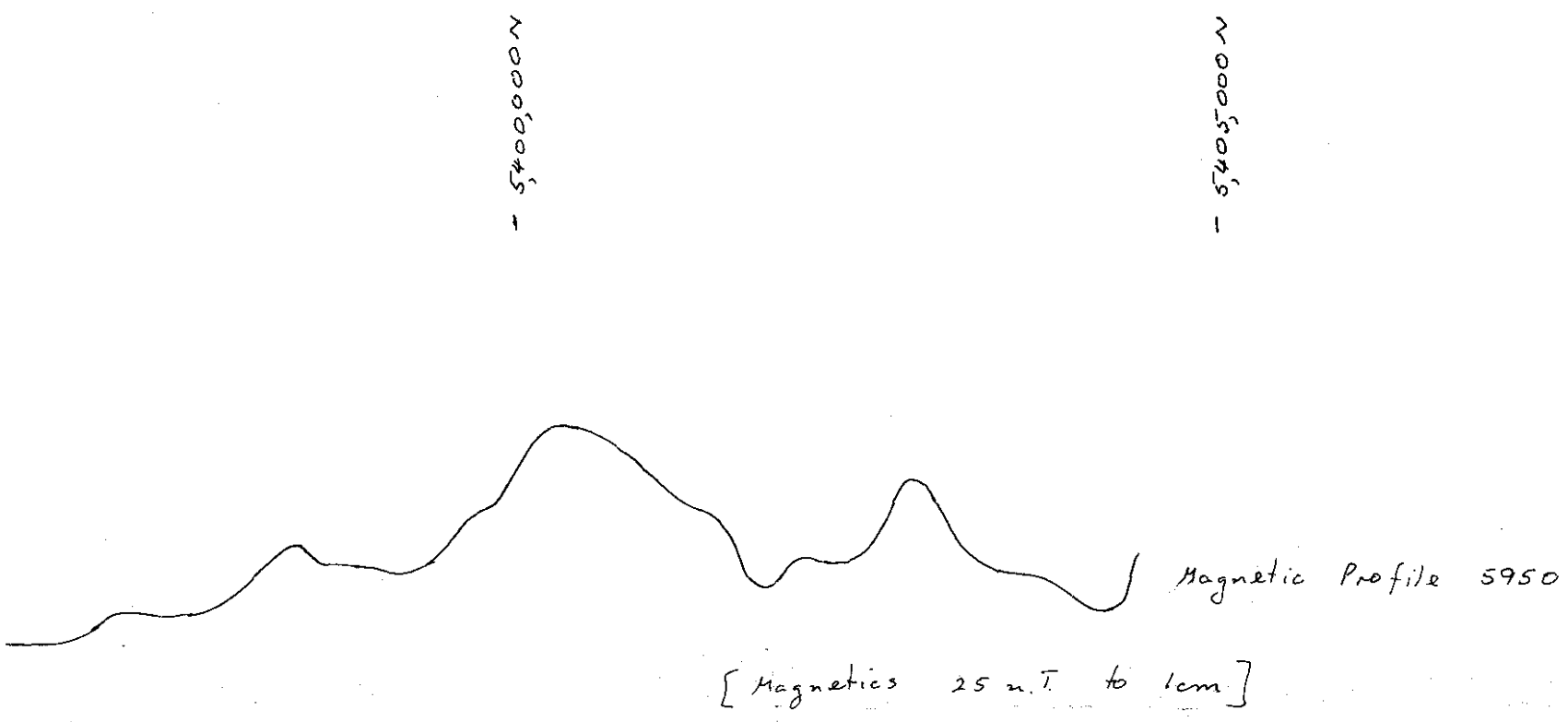
Figure 3.

5511/061

90-3163.

PLAN 15.

9716



Reference

\+ Control point for GRAVITY Model (From Leaman's structure contours)

M(b) 'Magnetic' edge of basalt

// Possible Fault

⊢ Approx. interpreted depth to top (2D).

* Approx. interpreted depth to centre (Pt. Dipole).

456169

5 cm

R.G.C. Exploration Pty. Ltd.

Moina AREA.

Conceptual Cross Section

Interpretation + Data Profiles

426,000E

1:50,000

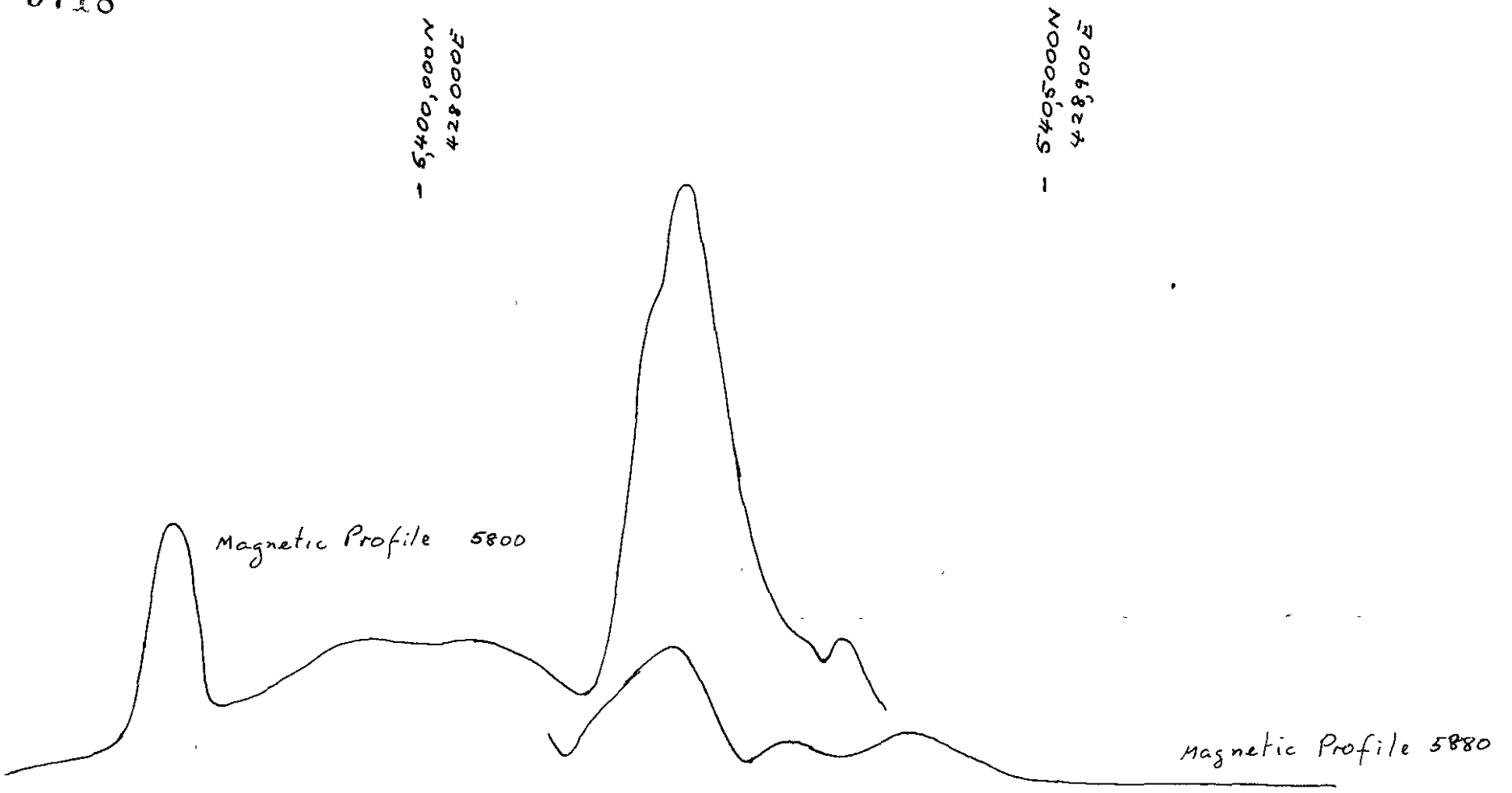
Figure 4.

5511/062

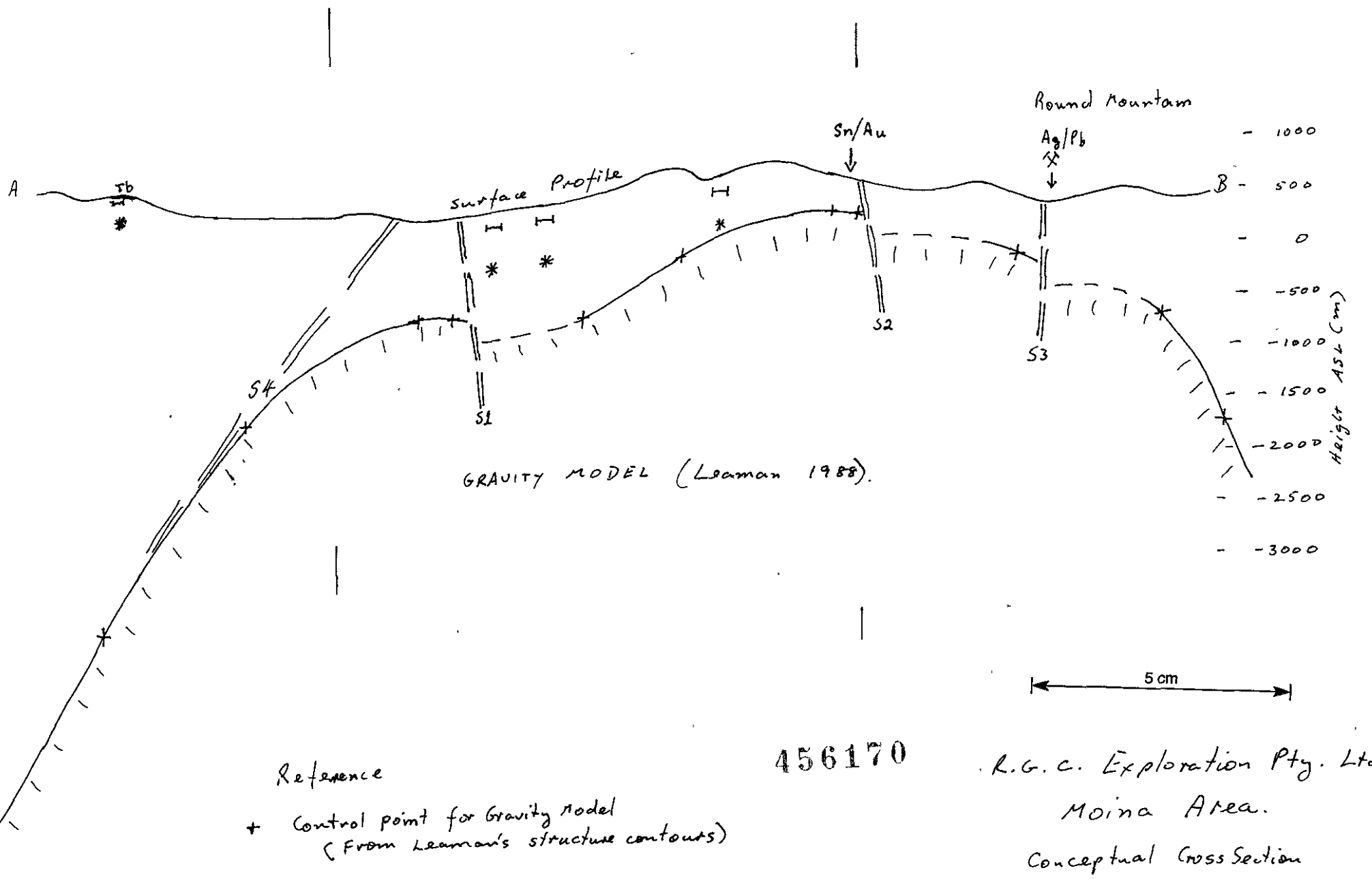
90-3163.

PLAN 16.

9718



[Magnetis : 25 n.T to 1cm]



Reference

+ Control point for Gravity model (From Leaman's structure contours)

// Possible fault

⊢ Approx. interpreted depth to top (2D)

* Approx. interpreted depth to centre (pt. dipole)

456170

R.G.C. Exploration Pty. Ltd

Moina Area.

Conceptual Cross Section

Interpretation + data Profiles

A – B

1:50,000

Figure 5.

5511/063

90-3163.

PLAN 17.

GEOLOGICAL REFERENCE

TERTIARY	Tb	Basaltic extrusives
LATE CAMBRIAN TO EARLY ORDOVICIAN	Om	Orthoquartzite and sandstone locally bioturbated minor siliceous siltstone. (Moina sandstone)
	Or	Pebbly- cobbly siliciclastic conglomerate. (Roland conglomerate)
CAMBRIAN	€u	Undifferentiated (unmapped) felsic volcanics
	Dg	Dalcoath Granite
	Da	Aplite Dykes

Geological boundary

Trace of unconformity

Main thrust fault inferred teeth on upthrown block.

Minor thrust fault inferred teeth on upthrown block.

25 Strike/dip of bedding

Fold axis

GN TN MN

GRID CONVERGENCE 0.6°

GRID/MAGNETIC 12.5°

456171

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED

(INC. IN N.S.W.)

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DRAWN:	M.O.W.
DATE:	SEPT. '89
CHECKED:	
1:25,000 REFERENCE:	

ROUND MOUNTAIN

E.L. 8/88

GEOLOGY INTERPRETATION

BASE PLAN No. 5527/004

OVERLAY PLAN No.

50 0 50 100 250

SCALE: 1 : 5,000

PLAN 18.

5719

T08690
T08692
T17654
T17655
T14016
T11906
T08688
T08695
T08693
T08694
T08689
T08698
T08696
T08697
T08691
T11901
T14015
T14014
T14004
T11902
T14013
T20069
T20068
T20070
T20071
T20072
T20073
T20074
T14011
T14009
T14008
T14007
T14006
T14005
T08699
T08700
T14001

Baseline 5000N
4000E
4200E
4400E
4600E
4800E
5000E
5200E
5400E
5600E
5800E
6000E
6200E
6400E
6600E

407 500mN.
407 000mN.
406 500mN.
406 000mN.
405 500mN.
405 000mN.
404 500mN.
404 000mN.
403 500mN.
403 000mN.

28 500mE.
29 000mE.
29 500mE.
30 000mE.
30 500mE.
31 000mE.
31 500mE.
32 000mE.

HEC PEG PC 2174
5 046 356mN 429 166mE

ROUND MOUNTAIN
BRAZEN NOSE
OLIVERS HILL
Mount Claude Lookout
Phillips Falls

DASHER ROAD
CLAUDE
RIVER
OLIVERS ROAD
Road
Transmission Line

gravel pit
gravel pits
quarry
falls
tower
wet area
Creek
Spur
TIN

5 cm

GN
TN
MN
GRID CONVERGENCE 0.6°
GRID/MAGNETIC 12.5°

90-3163.

* SPECIMEN SAMPLE

456172

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

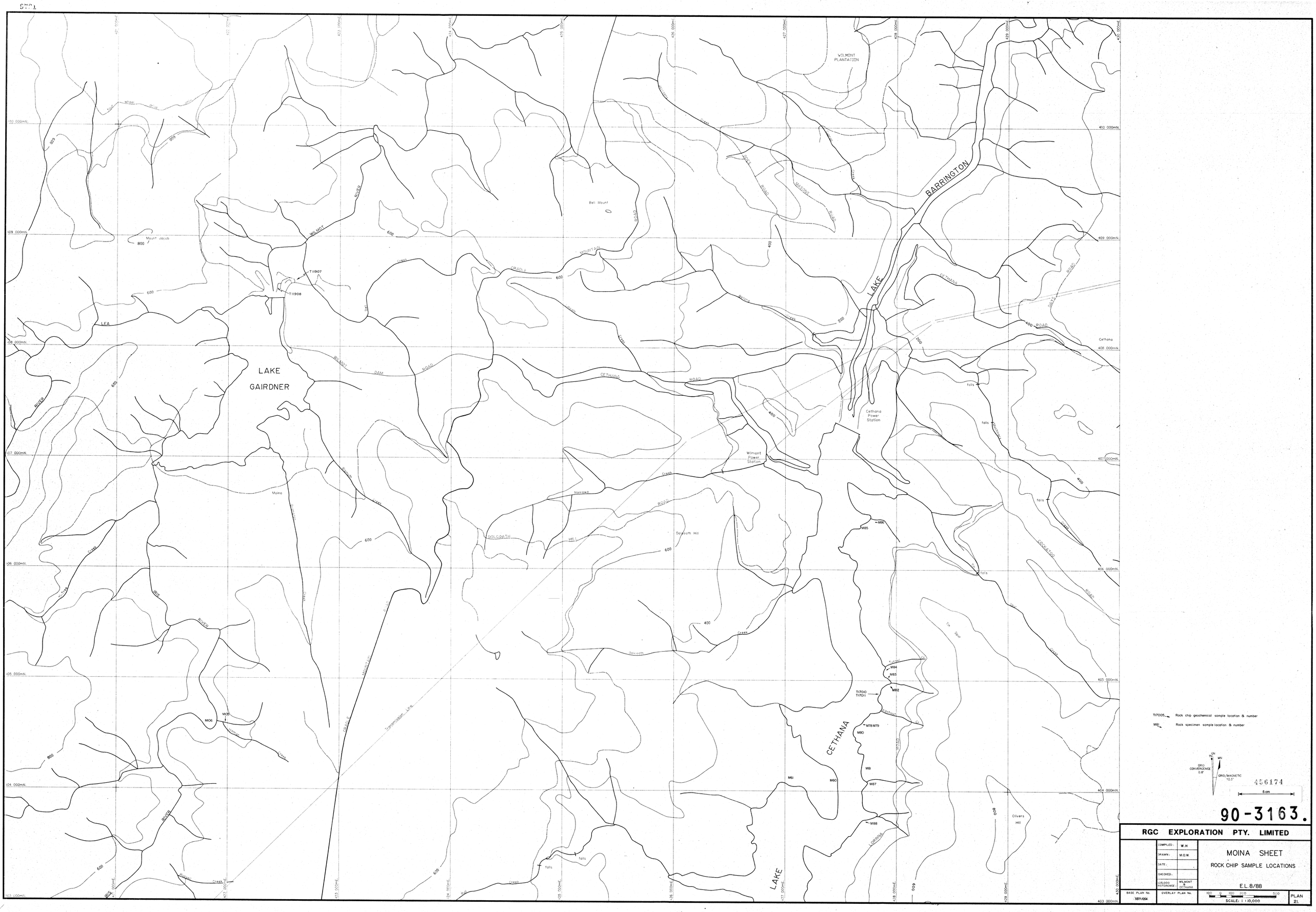
COMPILED:
DRAWN:
DATE:
CHECKED:
1:25,000 REFERENCE:

ROUND MOUNTAIN
E.L. 8/88
ROCK CHIP SAMPLE LOCATIONS

BASE PLAN No. 5527/004
OVERLAY PLAN No.
50 0 50 100 250
SCALE: 1 : 5,000
PLAN 19.

8720

| | | |



T17005 Rock chip geochemical sample location & number

M81 Rock specimen sample location & number

GN TN MN

GRID CONVERGENCE 0.8°

GRID/MAGNETIC 12.5°

456174

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED

COMPILED:	W.H	MOINA SHEET
DRAWN:	M.O.W.	ROCK CHIP SAMPLE LOCATIONS
DATE:		
CHECKED:		E.L. 8/88
125,000 REFERENCE:	WILMONT & CETHANA	
BASE PLAN No. 5511/054	OVERLAY PLAN No.	SCALE: 1 : 10,000 — 100 0 100 200 500 — PLAN 21.

N.W. Coast Computer Aided Drafting Centre. Phone (004 35435) Fax (004 354495)

9792

0.055	0.5
15	125
4	20
115	<3

0.11	23
0.71	3100
21	110
710	7

<0.008	<0.5
280	35
<10	90
30	100
<20	35

<0.008	<0.5
90	50
* 40	20
25	95
10130	190

Au	Ag
As	Pb
Bi	Cu
Zn	Sn
W	Mo

Order of assay values

* High graded

456175

90-3163.

RGC EXPLORATION PTY. LIMITED

COMPILED:	
DRAWN:	M.O.W
DATE:	SEPT 88
CHECKED:	
1:25,000 REFERENCE	WILMONT CETHANA

MOINA SHEET

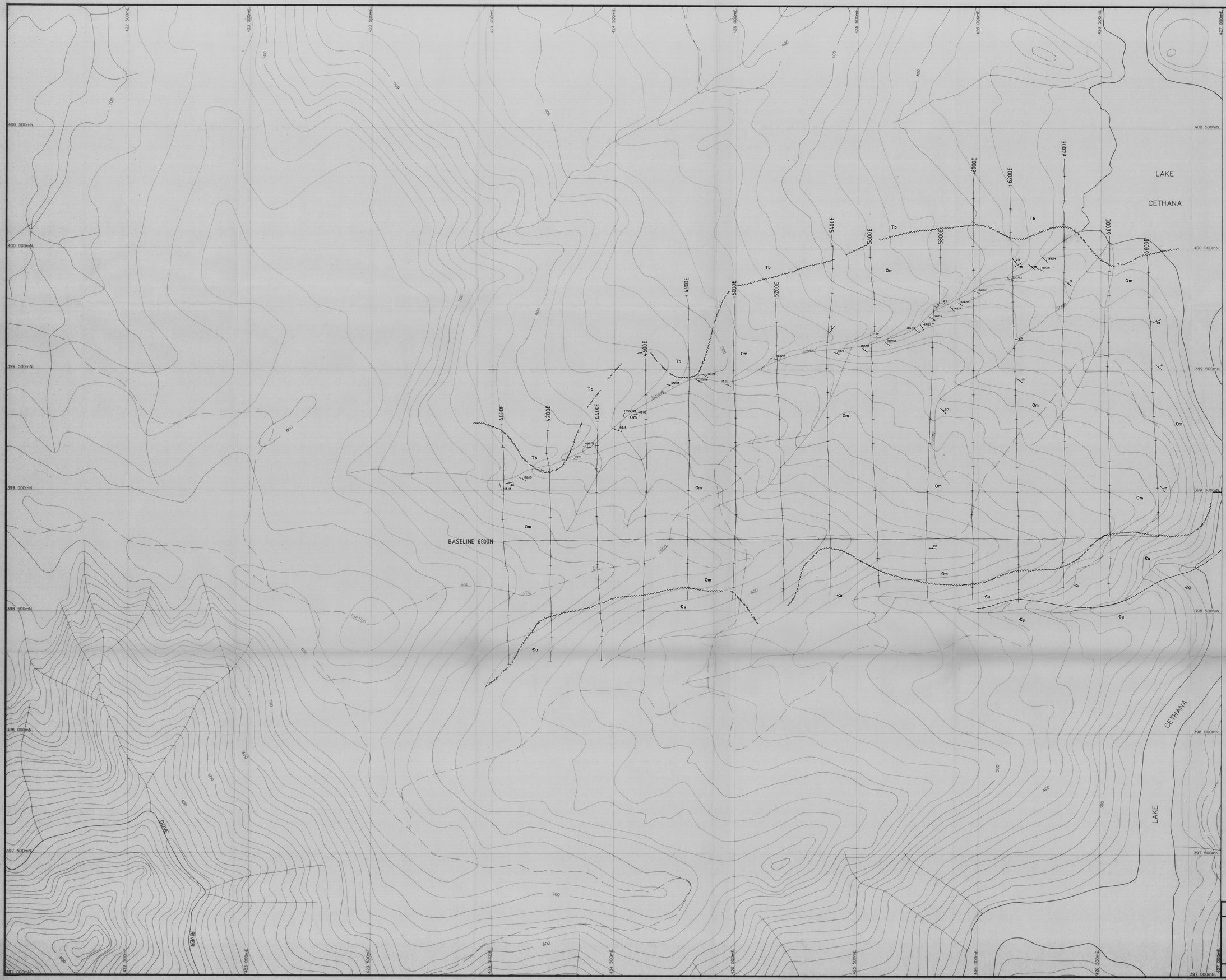
ROCK CHIP GEOCHEMISTRY

E.L. 8/88

BASE PLAN No.	OVERLAY PLAN No.	SCALE: 1:10,000	PLAN
5511/084		100 0 100 200 500	22.

N.W. Coast Computer Aided Drafting Centre. Phone (004 33435)

9723



GEOLOGICAL REFERENCE

TERTIARY	Tb	Basaltic extrusives
LATE CAMBRIAN TO EARLY ORDOVICIAN	Om	Orthoquartzite and sandstone locally bioturbated minor siliceous siltstone
CAMBRIAN	Ꞓu	Undifferentiated (unmapped) felsic volcanics.
	Ꞓg	Biotite hornblende granodiorite/adamellite (Dove granite)

Geological boundary

Trace of unconformity

Strike/dip of bedding

GRID CONVERGENCE 0.6°

GRID/MAGNETIC 12.5°

456176

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

COMPILED:	C.H.C.
DRAWN:	M.O.W.
DATE:	SEPT 89
CHECKED:	
1:25,000 REFERENCE:	CETHANA LIENA

FIVE MILE RISE

E.L. 8/88

GEOLOGY INTERPRETATION

BASE PLAN No. 5525/001

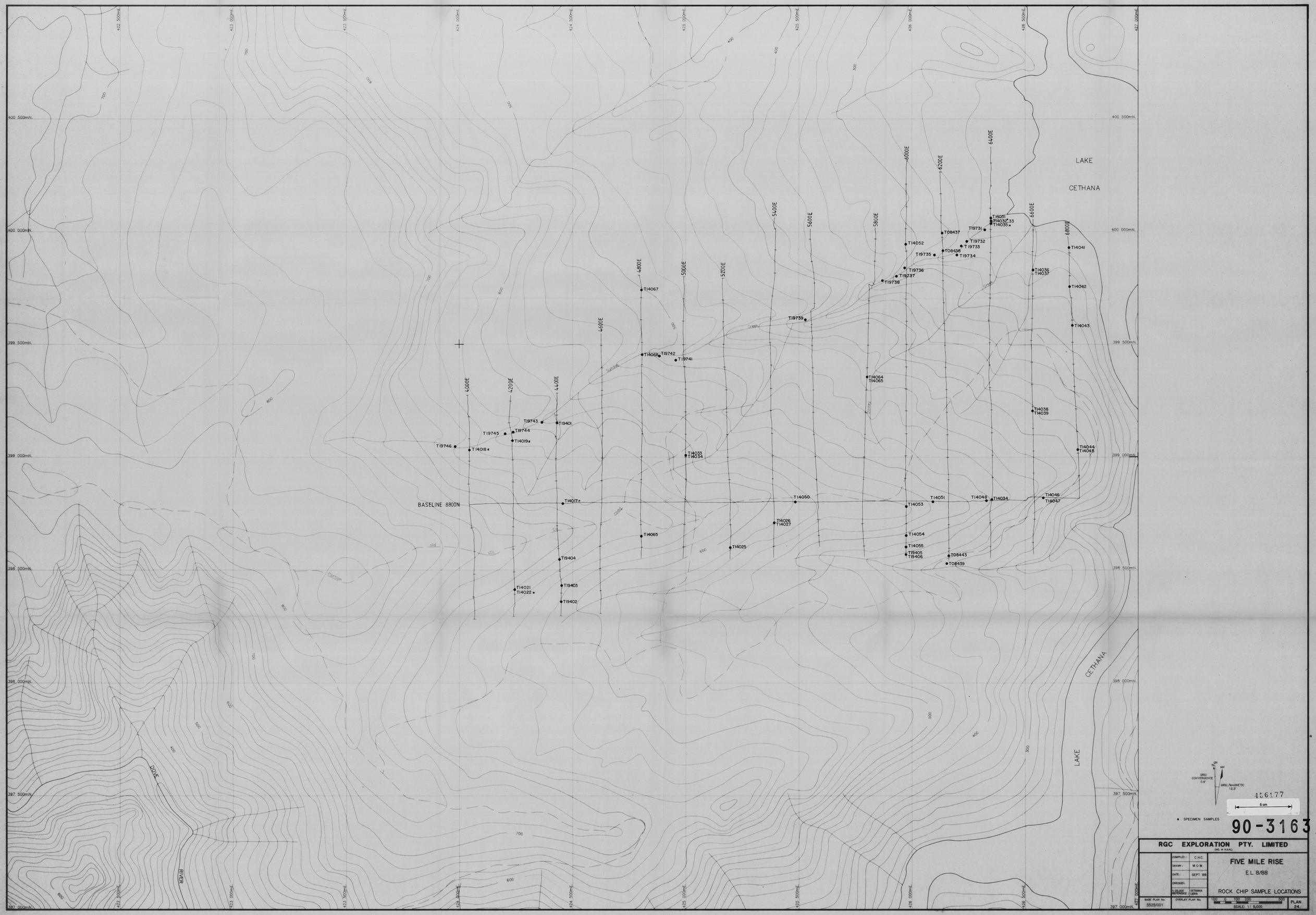
OVERLAY PLAN No.

100 0 100 200 500

SCALE: 1: 5,000

PLAN 23.

N.W. Coast Computer Aided Drafting Centre. Phone (004 354315) Fax (004 354495)



456177

• SPECIMEN SAMPLES

90-3163

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

COMPILED:	C.H.C.
DRAWN:	M.O.W.
DATE:	SEPT. 89
CHECKED:	
1:25,000 REFERENCE	CETHANA LIENA

FIVE MILE RISE
E.L. 8/88

ROCK CHIP SAMPLE LOCATIONS

BASE PLAN No. 5525/001 | OVERLAY PLAN No. | SCALE: 1: 5,000 | PLAN 24.

N.W. Coast Computer Aided Drafting Centre, Phone (004 354395) Fax. (004 354495)



456178

90-3163.

RGC EXPLORATION PTY. LIMITED
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DRAWN:	M.O.W.
DATE:	SEPT 89
CHECKED:	
1:25,000 REFERENCE:	CETHANA LIENA

FIVE MILE RISE
E.L. 8/88
ROCK CHIP ASSAYS

BASE PLAN No. 5525/001
OVERLAY PLAN No.
SCALE: 1: 5,000
PLAN 25.

N.W. Coast Computer Aided Drafting Centre, Phone (004 354335) Fax (004 354486)

Legend

Tertiary

(Tb) Tertiary Basalt

Ordovician

(Og) Gordon Limestone – Limestone

(Om) Moina Sandstone – quartz-rich sandstone with weak limonitic alteration and weathering, partially hematitic and commonly showing intense siliceous alteration

(Omt) Moina Sandstone – containing 'tubicolar' casts, worm burrows and other sub-horizontal bioturbation structures

(Or) Roland Conglomerate – pink pebble to pebble - cobble conglomerate, w/ minor lenses of gravel and gravelly sandstone

Cambrian

(Eu) undifferentiated felsic volcanics

Alteration

si siliceous
li limonitic
he hematitic
py pyritic
blch bleached

- 16 bedding strike w/ dip value
- 65 prominent joints, strike w/ dip value
- ~~~ rock float
- Tertiary basalt outcrop
- Ordovician Gordon Limestone outcrop
- // Moina Sandstone //
- // Roland Conglomerate //
- Cambrian volcanics //
- 08699 sample location & number
- old exploratory works

GN
TN MN
GRID CONVERGENCE 0.8°
GRID/MAGNETIC 12.5°

456179

5 cm

90-3163.

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

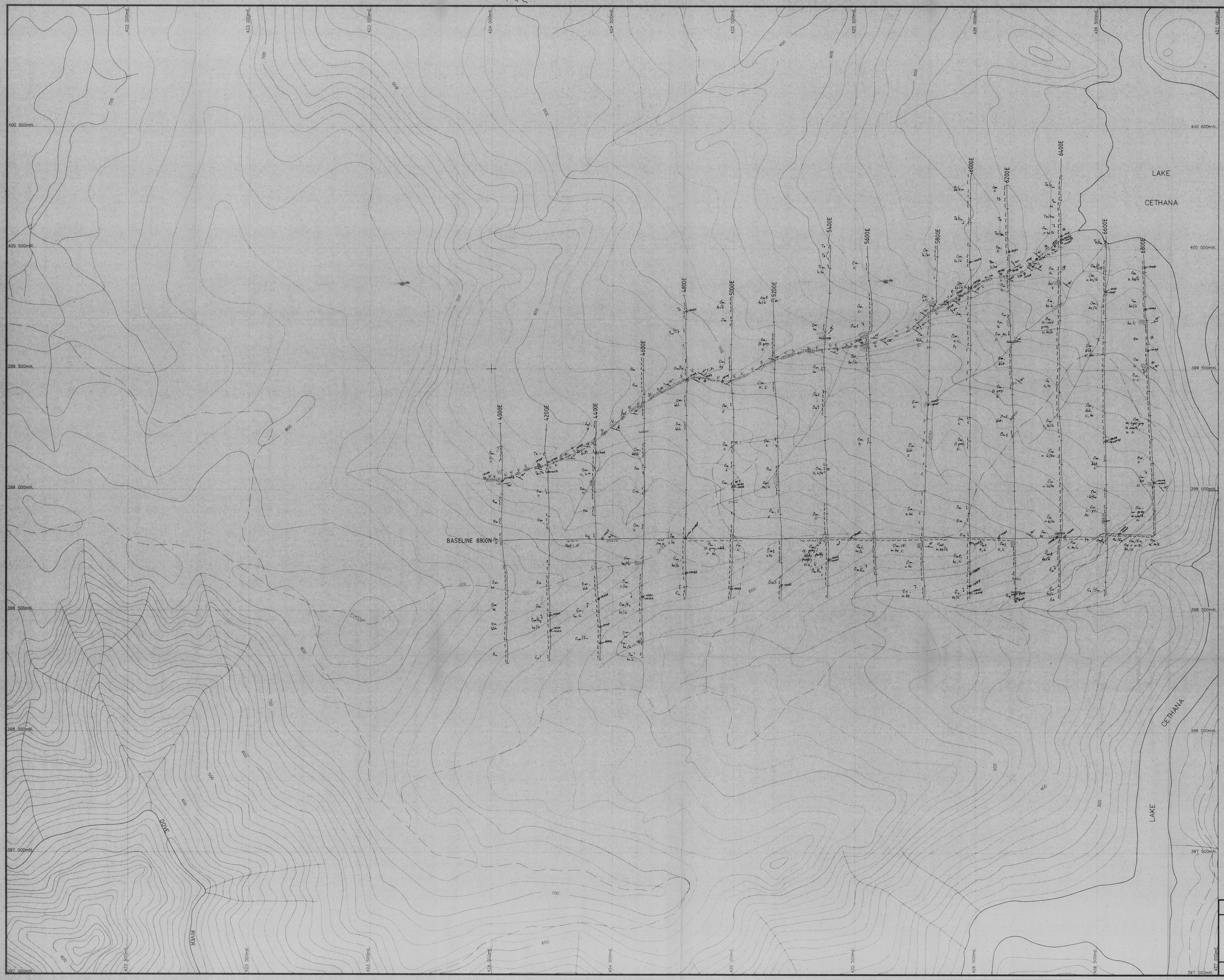
COMPILED:	
DRAWN:	
DATE:	
CHECKED:	
1:25,000 REFERENCE:	

ROUND MOUNTAIN

E.L. 8/88

Factual Geology

BASE PLAN No. 5527/033
OVERLAY PLAN No.
50 0 50 100 250
SCALE: 1 : 5,000
PLAN 26.



LEGEND

Tertiary

Tb Tertiary Basalt

Ordovician

Om Moina Sandstone - Quartz-rich sandstone with weak limonitic alteration and weathering partially hematitic and commonly showing intense siliceous alteration ± up to 3% disseminated pyrite

Omt Moina Sandstone - Containing 'tubicular' casts, worm burrows and other sub-horizontal bioturbation structures

Q Milky-white 'bucky' quartz

Cambrian

Ea undifferentiated felsic volcanics, mostly quartz-porphyry on this grid

Eg biotite-hornblende granodiorite/adamellite (Dove Granite)

Alteration

si siliceous
li limonitic
he hematitic
py pyritic
ms sericitic
/lch

bedding strike, w/dip value

prominent joints, strike w/dip value

rock float

Om outcrop on grid line/creek bed

old trench work (exploration)

sample location and number

old exploration works (shafts, adits mostly collapsed)

fossiliferous (brachiopods)

GRID CONVERGENCE 0.6°

GRID/MAGNETIC 12.5°

5 cm

456180 **90-3163.**

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

COMPILED:	CHC
DRAWN:	
DATE:	SEPT 89
CHECKED:	
1:25,000 REFERENCE:	CETHANA LIENA

FIVE MILE RISE

E.L 8/88

Factual Geology

BASE PLAN No. 5525/016

OVERLAY PLAN No.

100 0 100 200 500
SCALE: 1: 5,000

PLAN. 2.7.

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