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EL 2008 MYORA

FINAL REPORT FOR THE PERIOD
26/8/94 TO 25/8/95

Submitted by

Acacia Resources Ltd
1995

MINES AND ENERGY
SOUTH AUSTRALIA

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ENVELOPE 8960

TENEMENT: EL 2008 Myora

TENEMENT HOLDER: Acacia Resources Ltd

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SEPARATELY HELD DATA

DRILLHOLE SAMPLES (held by MESA Core Library):

For up to date information on available drillhole samples, contact the Supervisor, MESA Core Library and quote the Exploration Licence and drillhole number/s you wish to query.
RC holes MRC1 and MRC2.

ACACIA RESOURCES LIMITED

EL2008 - MYORA

Final Report For The Period 26-8-94 to 25-8-95

AUTHOR: C.R. MACKAY
DATE: JULY, 1995

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2. Acacia Resources, Melbourne

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SUMMARY

Exploration Licence 2008, 'Myora' is located on the western Eyre Peninsula in South Australia, about 100km north of Port Lincoln.

The tenement, which covers an area of 585km^2, was granted to Acacia Resources Limited on the 26th August 1994 for a period of one year.

EL2008 comprises Gawler block basement rocks, including Archean and Lower Proterozoic metasediments, volcanics and granites, which are overlain by up to 30m of Tertiary marine sand, and up to 10m of Quaternary calcarenite.

Exploration activities have been focussed over three discrete airborne magnetic anomalies which are considered interesting on the basis that they may represent Proterozoic ironstone-hosted Cu-Au deposits, adjacent to Hiltaba-suite granites, or Broken Hill type Pb-Zn deposits containing magnetite and/or pyrrhotite.

Two of these anomalies were previously drill tested by Stockdale in the search for diamondiferous kimberlite pipes, and returned some anomalous Pb-Zn and Ni assay results.

Princip~~le~~al exploration work by Acacia has included ground magnetic surveys, TEM surveys and reverse circulation drilling. Exploration results have been negative. The anomalous basemetal results obtained by Stockdale were confirmed, however remained at low levels, and are considered to be related to some low order enrichment due to weathering.

The licence area was relinquished in August 1995.

Total exploration expenditure by Acacia Resources from 26th August 1994 to 25th August 1995 was $48,861.

1.0 INTRODUCTION

Exploration Licence 2008 - Myora is located on the western Eyre Peninsula in South Australia about 100 kilometres north of Port Lincoln and covers approximately 585 square kilometres in area (Figure 1). The tenement lies on the Kimba (S153 - 7) 1:250,000 map sheet.

The licence was granted to Acacia Resources Limited on 26 August 1994, for a period of one year.

Following negative exploration results the licence was relinquished in August 1995.

This report, the final report, summarises exploration work completed by Acacia Resources over the year of tenure.

2.0 GEOLOGICAL SETTING

The Myora area lies within the Gawler Block, a stable craton with crystalline basement rocks ranging in age from 2700 million years to 900 million years.

Although exposures are rare the licence is underlain by Archean rocks of the Sleaford Complex granitoids, which comprise the Coulta Subdomain.

In the eastern portion of the licence, and unconformably overlying the Sleaford Complex, the basal member of the Lower Proterozoic Hutchinson Group, the Warrow Quartzite, is present. The Hutchinson Group forms part of the Cleve Subdomain.

Overlying these basement units are Tertiary marine sand and sandy clay of the Poelpena Formation, which range in thickness from 10 - 30 metres, and which in turn are covered by a thin veneer of Quaternary sediments. These sediments which include calcrete, calcarenite and aeolianites belong to the

Pleistocene Bridgewater Formation, which ranges in thickness from 2-10 metres.

No mineralisation is known within the tenement area.

3.0 PREVIOUS EXPLORATION

Past exploration in the district has been conducted chiefly by three parties.

In 1988, the Department of Mines and Energy in South Australia in conjunction with the Bureau of Mineral Resources conducted an airborne magnetic survey, which highlighted a number of discrete airborne magnetic anomalies.

In 1991, Stockdale conducted diamond exploration covering the Myora area. Work included a regional airborne magnetic survey (Mt. Hope), ground follow up of prospective magnetic anomalies by gridding, ground magnetics and sometimes soil sampling, and aircore drilling. Fifteen anomalies were identified and drilled in the Myora licence area. Several of the drillholes intersected interesting mineralogy or anomalous geochemistry. The Stockdale anomalies are depicted on Figure 2.

Of interest to basemetals exploration are the following Stockdale anomalies:-

MH36/MH33: The drill hole at prospect MH36 bottomed in "mineralised granitic porphyry", which was analysed to contain 0.24% Zn and 0.16% Pb. MH33, three kilometres to the south-south-east, gave 0.1% Zn in "granite". These drill holes fall on a magnetic ridge of approximately 100 nT in amplitude, which trends approximately N-S, the regional strike. The bedrock is believed to be the Archean Sleaford Complex, although it may also be early Proterozoic Hutchinson Group.

MH108: Two drill holes into this prospect intersected ultramafic rocks. One of these was analysed to contain 0.45% Ni and 338 ppm Co. The ultramafic forms part of a low intensity magnetic ridge approximately 10 kilometres in length and up to one kilometre in width. The high nickel content could either be related to nickel mineralisation in the ultramafic rocks or a concentration in the buried weathering profile. The ultramafics are generally considered to belong to the Sleaford Complex.

MH111: The drill hole at this magnetic target intersected a gossan containing pyrite, chalcopyrite, diopside, garnet and smithsonite, apparently overlying a pegmatite. No analyses of this material have been found in the reports. It occurs on a magnetic ridge some three kilometres in length, with an amplitude of up to 150nT. To the north-east a significant magnetic anomaly that may be reflecting the nose of a folded structure.

MH18: Chalcopyrite was recorded in a drillhole which ended in granite.

Poseidon held the licence area between October 1992 and October 1993. They carried out soil sampling programmes in the vicinity of Stockdale targets MH36 and MH108. No anomalous results were obtained, however because of the thick transported cover in the area (approximately 40m), it is considered that soil sampling would not produce useful results.

4.0 MINERALISATION CONCEPTS

The Myora area of the Gawler Block is poorly known because of the transported cover. The area probably contains Archean rocks in the west, but may contain Hutchinson Group rocks in the east. Kimban orogeny granites probably intrude the Archean and early Proterozoic rocks. Hiltaba Suite granites are not reported this far south, but may still be present under the cover. Copper-gold mineralisation is associated with Kimban age granites at Moonta.

Ore deposit models can only be considered in general terms because of the paucity of geological information:-

Granite-related copper-gold (+Zn+Pb): skarn or replacement type mineralisation in calc-silicate rocks, magnetite units or graphitic units. Granites of similar age to those at Moonta or the Hiltaba Suite are potential ore sources. The presence of pyrite and chalcopyrite in what appears to be a calc-silicate rock in MH111 may be indicating the presence of this style of mineralisation.

Archean nickel: the Sleaford complex in the west of South Australia is receiving considerable attention for its nickel potential. The presence of anomalous nickel in this area is a positive sign that this part of the Complex also has that potential.

Archean VHMS Zn+Cu+Pb: the high Zn and Pb in MH36 may occur in the equivalent of a greenstone belt, with the porphyry possibly being a volcanic rock.

Broken Hill style mineralisation: base metal mineralisation in the Hutchinson Group could be of this style.

5.0 EXPLORATION COMPLETED AND RESULTS

Work completed by Acacia during the year of tenure is summarised below:-

- negotiation of Notices of Entry and Waivers of Exemption with landowners (Figure 4).
- retrieval of Stockdale airborne magnetic survey data in digital format and inhouse processing.
- retrieval of Stockdale drill samples for petrology, re-analysis and lead isotopes.
- geophysical interpretation of Stockdale airborne magnetic data.
- gridding in three areas, totalling 21 line km.
- 18kms of ground magnetics over the three grids using base and roving G856 digital magnetometers.
- 3km of electro-magnetics (EM), one line per the three grids.

- two reverse circulation drillholes in grid G (Stockdale-MH36).
- petrology on two drillchip samples.
- lead isotope determination on one reverse circulation drill chip sample.

5.1 Stockdale drillchip sample study

Heavy mineral concentrate samples from the bottom of thirteen of the holes drilled in the Myora area by Stockdale were obtained. Sample details are listed below, and locations are depicted in Figure 2:

Anomaly	Drillhole No.	Depth (metres)	Sample No.
MH15	17	43	Z7211
MH18	18	66	BM0456
MH24	41	62	Z7658
MH26	39	54	Z7619
MH27	37	64	Z9807
MH30	30	13.5	Z7447
MH31	54	68	Z9081
MH34	51	24	Z9025
MH36	54	42	Z8900
MH44	43	71	Z7699
MH108	52	32-43	BM0045-BM0051
MH109	53	42	BM0072
MH111	7	90-94	BM0422-BM0423

Seven samples of interest including BM0423, BM0046, BM0051, BM0456, Z7211, Z8900 and Z9081 were selected and despatched to Pontifex & Associates Pty. Ltd. for preparation of polished thin sections and mineralogical description. The mineralogical report is included as Appendix 1.

In the majority of the samples, the mineral grains and rock fragments include a (variable) high grade metamorphic assemblage, with quartz, feldspar, biotite, muscovite, sillimanite, corundum, ilmenite and trace gahnite. These presumably represent basement. In samples BM0046, 0051, and to a lesser extent, BM0423, the rock fragments are predominantly quartz sandstone, with a cement/matrix of secondary iron sulphide and these presumably represent a younger cover sequence.

Relatively independent coarse grains of tourmaline and rutile is some samples do not necessarily relate specifically to the rocktypes represented (although small crystals of tourmaline, rutile and ilmenite occur in the gneissic lithologies).

Coarse primary pyrite is abundant in Z8900 and Z9081 (and rarely in Z7211), some with small inclusions of chalcopyrite and pyrrhotite, and some composite with galena and sphalerite. This mineralisation relates to the metamorphic facies, and is genetically distinct from the ubiquitous secondary pyrite-marcasite which is wide spread through the suite. Rare primary pyrite was tentatively identified (within secondary pyrite) in sample BM0456.

Mineral concentrate sample Z8900 in which galena was noted in the mineralogical study was sent to the CSIRO, Sydney, for lead isotope analysis. The CSIRO failed to separate any galena, but analysed the sample anyway. The lead level obtained, 500ppm ± 200ppm proved to be too low to get a meaningful result. The lead isotope result obtained was very radiogenic (ie. very high 206Pb/204Pb ratio) suggesting the lead is related to supergene effects. A report by the CSIRO is included as Appendix 2.

5.2 Geophysical Interpretation of the Airborne Magnetics

A geophysical interpretation of aeromagnetic data covering the licence area was completed by Hungerford Geophysical Consultants Pty. Ltd.

EL 2008 is covered by two aeromagnetic surveys a SADME 800m line spacing survey and a Stockdale 250m line spacing survey. The Stockdale survey covers most of the licence area except the east portion over the Proterozoic units. The aeromagnetic data was merged to a 60m grid and imaged.

An aeromagnetic image covering EL 2008 is included as Figure 3, and of geophysical interpretation produced by Hungerford is included as Figure 2.

The aeromagnetics distinguishes the Archean Sleaford complex in the west from the Lower Proterozoic Hutchinson Group in the east. Although there is no clear boundary between the two on the aeromagnetics, the Hutchinson Group is characterised by stronger and more linear magnetic anomalies due to lithologies such as BIF's.

There are no very strong anomalies characteristic of massive ironstone hosted copper/gold deposits, however there are some which have signatures more like magnetite (or pyrrhotite) bearing metasediments characteristic of Lower Proterozoic terraces. Other anomalies are characteristic of metamorphic aureoles around granites. There are also a number of isolated, low amplitude magnetic anomalies characteristic of kimberlites that have not been drilled by Stockdale.

Hungerford recommended nine magnetic anomalies for follow up exploration including gridding, ground magnetics and moving loop TEM (Figures 2 & 3).

5.3 Ground-based Geophysical Surveys

Three magnetic anomalies, G, I and E, were selected for investigation on the ground using magnetic and TEM surveys. Anomalies G and I had been previously drilled by Stockdale as kimberlite targets as anomalies MH36 and MH108 respectively, however due to the anomalous geochemistry encountered in these holes further work was felt warranted.

The magnetic and TEM surveys were contracted to Search Exploration Pty. Ltd.

Grids of 1 x 1 km were constructed on each anomaly. Each grid consisted of 7 line km with 200m spaced lines and pegs at 100m intervals. Grid location details are listed below and grids are depicted in Figure 2.

Grid	Origin AMG Co-ordinates	Origin local Co-ordinates	Baseline Orientation
I	574000mE, 6262000mN	10000N 10000E	334^0 (M)
G	545362mE, 6255787mN	10000N 10000E	350^0 (M)
E	551600mE, 6247500mN	10000N 10000E	032^0 (M)

The origins for grids I and E were established using a GPS, whereas the origin for Grid G was at Stockdale's drillhole No. 44 (anomaly MH36).

The ground magnetic surveys utilised two G-856 magnetometers, one as a base station for diurnal corrections. Magnetic survey stations were at 10m intervals. Magnetic surveying totalled 18 line km.

A line of TEM was carried out over each magnetic anomaly using a 100 metre in-loop configuration (RVR sensor at the centre of a 100m square transmitter loop). A Sirotem Mk II receiver and transmitter was used to record early and late decay times.

5.3.1 Anomaly E

Ground Magnetics

The initial grid from 1000N to 11000N did not recover the large aeromagnetic anomaly, so the grid was extended to grid north which successfully covered the target anomaly, with an amplitude of 700nT (Figure 5).

There was some doubt as to the correct location and orientation of the grid and hence the anomaly could not be modelled accurately for source depth and dip. The source appears to be fairly deep (100-200m) and broad. The amplitude is such that the source is unlikely to be an ironstone body of the Starra and Ernest Henry type (which have amplitudes of 1000's nT).

TEM

One line of moving loop TEM over the magnetic anomaly did not reveal an associated bedrock conductor. The early and late-time Sirotem profiles are shown on Figures 6 and 7 respectively. A conductive regolith is indicated, increasing in thickness to the east.

5.3.2 Anomaly I

Ground Magnetics

The magnetic anomaly is clearly indicated on Figure 8 as a low amplitude (approx. 200nT) anomaly with a strike length of about 600 metres. The anomaly was drilled by Stockdale, intersecting ultramafics and 'pyritised' sandstone.

Modelling indicates a fairly shallow source (about 35m), dipping steeply to grid west (Figure 9). Susceptibility is about 2400 x 10^{-5}SI which would be appropriate for a mafic unit.

TEM

The early and late-time profiles are shown on Figures 10 and 11. No bedrock conductor is indicated, and the regolith appears to get thinner to grid east.

At 10400E, depth to bedrock is calculated to be 34 metres, comparing well with the magnetic modelling.

5.3.3 Anomaly G

Ground Magnetics

A small, low amplitude, elongated magnetic anomaly was recovered (Figure 12). Modelling (Figure 13) indicates a near-surface source (26 metres depth) with a shallow dip to the east.

The grid was designed to cover a weak aeromagnetic anomaly previously drilled by Stockdale as a possible kimberlite. That hole intersected disseminated sulphides in a granite porphyry.

TEM

The TEM survey was carried out in order to investigate whether massive sulphides occurred in the vicinity of the disseminated sulphides. One line of moving loop TEM over the magnetic anomaly on line 10050N indicated a negative TEM response associated with the magnetic anomaly (Figures 14 and 15). Such a response is commonly caused by a thin conductive layer over a very resistive bedrock. In this instance the bedrock is probably the porphyry intrusive which is paleohigh surrounded by more deeply weathered country rock. No massive sulphides are present.

5.4 Reverse Circulation Drilling

Two vertical reverse circulation drillholes were drilled into Anomaly G. One hole, MRC1 was drilled as a "twin" to the Stockdale hole (No. 44) which intercepted a mineralised "granite porphyry" (8% pyrite, and trace galena, chalcopyrite and sphalerite), which returned an assay of 2m @ 0.24% Zn, 0.16% Pb. The other hole, MRC2 was drilled into the centre of the magnetic anomaly.

Hole details are listed below, and their locations are depicted on Figure 2.

Hole	Grid Co-ordinates	Depth	Dip.	Comments
MRC1	10009N 10003E	54m	-90^0	
MRC2	10100N 10000E	50m	-90^0	
No. 44	10003N 10001E	42m	-90^0	Stockdale's hole in Anomaly MH36

Drilling was completed by Budd Drilling Pty. Ltd in May using a Warman 1000 rig, with a 900/350 compressor. Drill chips were bagged at one metre intervals. Each metre interval was geologically logged, and these logs are included at Appendix 3. Both holes intercepted a similar geological profile with calc-arenite (Bridgewater Formation) from 0 - 8m depth, sandy clays, clays and sands (Poelpena Formation) from 8-16m depth, followed by grey granitic? basement rock (Sleaford Complex). Sieved samples of the granitic basement rock were comprised, on average, of coarse angular quartz grains 20%, feldspar 10%, pyrite 2%, biotite trace and with fine grained clay and chlorite forming the bulk of the sample. Several samples contained up to 15% pyrite.

A 3kg laboratory sample was obtained by hand, samples could not be collected from a splitter due to the wetness of the drillchips from ground water and the injection of water for drilling purposes. Laboratory samples were collected over 2 metre intervals towards the top of hole, and at one metre intervals upon the hole reaching bedrock (Figure 16).

Samples were submitted to Amdel Laboratories, Adelaide, for analysis of Cu, Pb, Zn, Ag, Mn, Ni and Co via ICP-OES and for analysis of Au, Pt, Pd by the 50g charge fire assay technique.

Analysis results were low and only weakly anomalous. Best results include 1m @ 0.6%Zn, 0.1% Pb in MRC1 (39-40m) and 1m @ 0.3% Cu in MRC2 (46 - 47m). The Zn/Pb intercept in MRC1 confirmed the assay of 2m @ 0.2% Zn, 0.2% Pb obtained from a similar depth (40 - 42m) in Stockdale hole 44.

Analyses are included as Appendix 4. Pb and Zn assay results are depicted on a drillhole section as Figure 17.

Magnetic susceptibility measurements were recorded for each metre interval for both holes, and results were suprisingly low considering their location on a magnetic anomaly. Values in MRC1 ranged up to 550 x 10^{-5} SI units in the granitoid bedrock whilst values in MRC2 only reached 55 x 10^{-5} SI units in bedrock, which is interesting as hole MRC2 was targeted into the 'centre' of the magnetic anomaly.

It is probable that the drillholes have not adequately explained the magnetic anomaly.

5.5 Petrology

Four drill chip samples from MRC1 and MRC2 were submitted to Amdel Laboratories for petrographic and mineragraphic examination.

A polished thin section was made of each sample and examined by reflected and transmitted light microscopy. Photomicrographs were taken to illustrate typical minerals and textural relationships. The hand specimens were stained with sodium cobaltinitrite after a hydrofluoric acid etch to detect to possible presence and location of potash feldspar.

The following listing describes the samples submitted.

Sample No.	Hole	Metre Interval	Thin Section No.
1069277	MRC 1	45-46	TSC 64030
1069285	MRC 1	53-54	TSC 64031
1069321	MRC 2	43-44	TSC 64032
1069327	MRC 2	49-50	TSC 64033

Samples were submitted from the bottom of each hole and from the best mineralised interval in each hole (ie. based on a visible estimation of pyrite %).

Sample MRC2 (49-50m) is described as a felsic rock, probably representing a metamorphosed granite or adamellite although it is possible that it could represent a metamorphosed arkosic sediment.

The other three samples are described as metamorphosed sedimentary rocks. Samples MRC1 (45-46m) and MRC1 (53-54m) are cordierite and sillimanite - bearing rocks indicating that they represent metamorphosed argillaceous sediments such as claystone, shale or siltstone. Sample MRC2 (43-44m) represents a metamorphosed quartz-rich detrital sediment such as quartz sandstone although some clay component in the original sediment is indicated by the presence of mica.

Sulphide in the samples consist mainly of pyrite along with localised trace levels of chalcopyrite and pyrrhotite. Sample MRC1 (45-46m) and MRC1 (53-54m) contain significant amounts of colloform pyrite which is considered by Amdel to be an alteration product of original pyrrhotite. Small amounts of pyrite can also be found, which lack the porous, colloform texture and is thought to be a primary, metamorphic pyrite.

Amdel's report on the petrological/mineralogical study is included as Appendix 5. The report includes detailed descriptions on each sample. Photomicrographs are each sample are included in the report.

The petrological study seems to support the interpretation that the basement rock encountered in holes MRC1 and MRC2 form part of the Archean Sleaford Complex.

5.6 Lead Isotope Analysis

A sub-sample from the interval of 1m @ 0.6% Zn, 0.13% Pb obtained in reverse circulation drillhole MRC1 was submitted to the CSIRO for lead isotope determination. The isotope ratios obtained were significantly more radiogenic than either Archean or Proterozoic initial radios. It is likely that the anomalous lead in MRC1 was concentrated during younger events and derived from low-Pb Archean or Proterozoic sources.

A brief report from the CSIRO on the isotope study is included as Appendix 6.

6.0 ENVIRONMENT

No environmental damage has been caused by exploration activities in EL2008. No site or access preparation was necessary for the two drillholes. Following drilling sites were cleaned up, and holes were covered with a concrete cap. Duplicates bags were removed by the landowner.

7.0 EXPENDITURE

	$
Field Costs	
Project Management	9,465
Tenement	1,918
Geology	3,691
Geochemistry	0
Geophysics/Remote Sensing	13,619
Surveying/Access	49
Drilling	11,203
Health,Safety & Environment	2,829
Engineering	0
Take on	0
Casual Labour	111
Total Field Costs	42,885
Melbourne Office Costs	
Geological Services	368
Geotechnical Services	378
Mining/Computing/Other	789
Total Melbourne Costs	1,535
Overheads	4,442
TOTAL PROJECT EXPENDITURE	48,861

8.0 CONCLUSIONS

Results of exploration activities within EL2008 have been negative. The anomalous basemetal results obtained in a Stockdale drillhole in Anomaly G where confirmed by two followup reverse circulation holes, however the magnitude of the results are not considered to be of sufficient magnitude to warrant further work. The low order enrichment of basemetals is considered to be related to the weathering processes.

Total exploration expenditure by Acacia Resources from 26th August 1994 to 25th August 1995 was $48,861.

EL2008 was relinquished by Acacia Resources in August 1995.

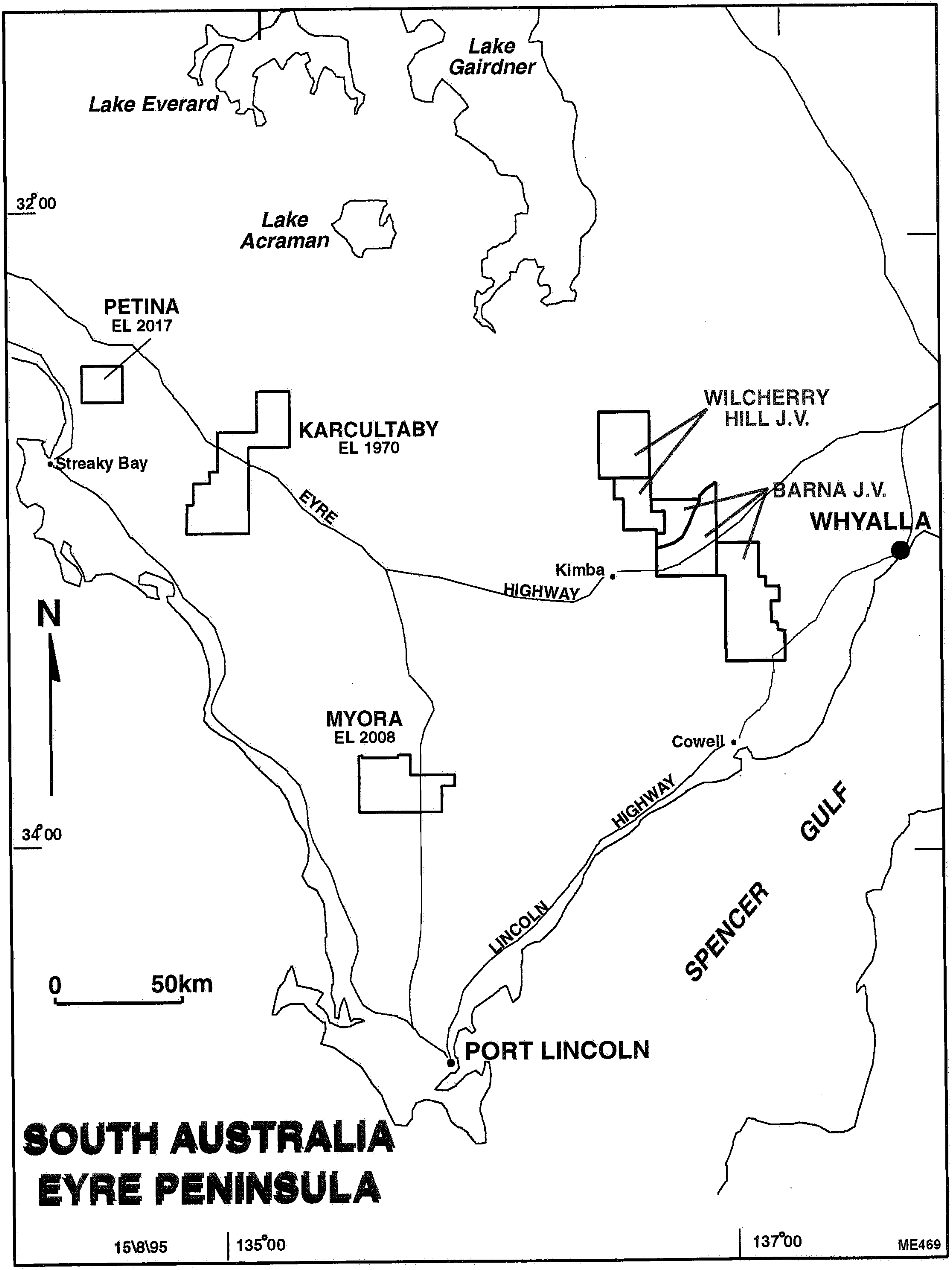
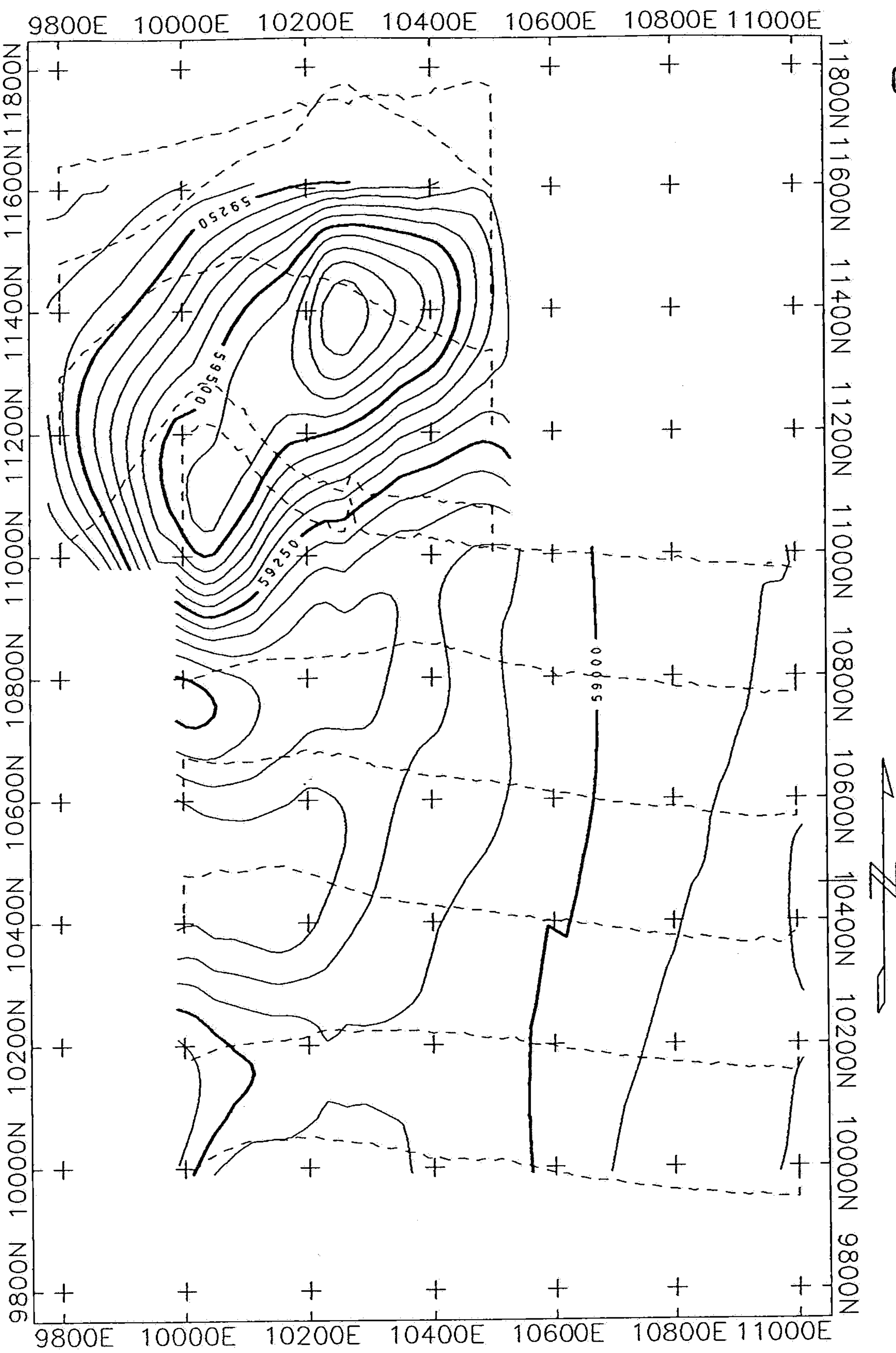

Lake Everard
Lake Gairdner
Lake Acraman
32°00
PETINA
EL 2017
KARCULTABY
EL 1970
Streaky Bay
EYRE
HIGHWAY
Kimba
WILCHERRY
HILL J.V.
BARNA J.V.
WHYALLA
N
MYORA
EL 2008
Cowell
34°00
HIGHWAY
LINCOLN
SPENCER
GULF
0
50km
PORT LINCOLN
SOUTH AUSTRALIA
EYRE PENINSULA
15\8\95
135°00
137°00
ME469

FIGURE 1.

00025



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(meters)

ACACIA RESOURCES

MYORA AREA, STH AUSTRALIA
GROUND MAGNETICS, 11/94
GRID E

TOTAL FIELD, CI=50nT, MESH=30m
SHADE FROM EAST
BASE AT 551600mE, 6247500mN??
G-856 MAGS, DIURNALLY CORRECTED

HUNGERFORD GEOPHYSICS, 11/94

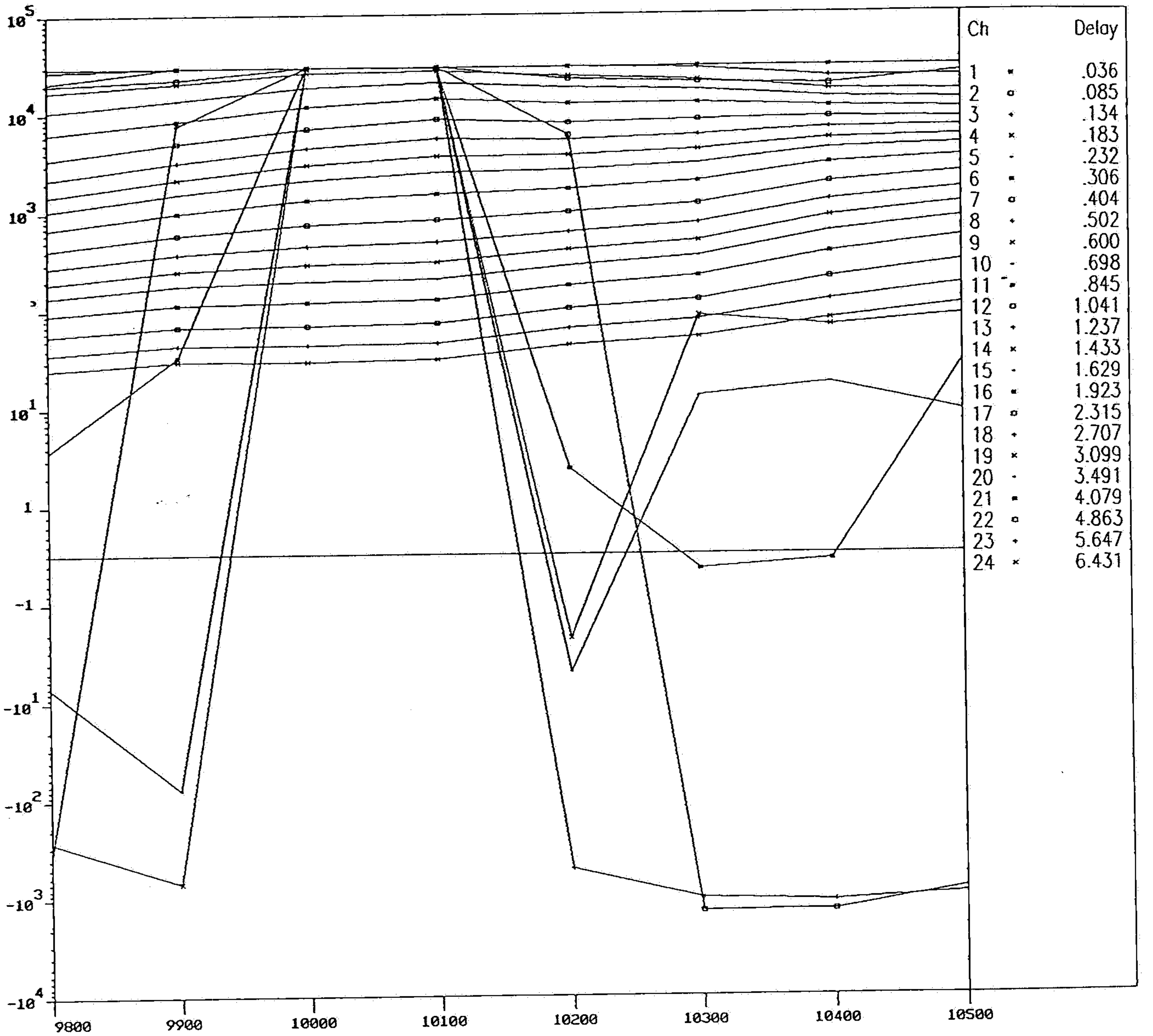
FIGURE 5

Siro-ex : TEM Response Profile

MYORA, GRID E, LINE 11300N, SIROTEM MK2, 100m IN-LOOP, 25/1/95

Fixed Loop Tx, Roving Surface Rx, z Component

Field Data Only



Distance Along Profile 11300N

FIGURE 6

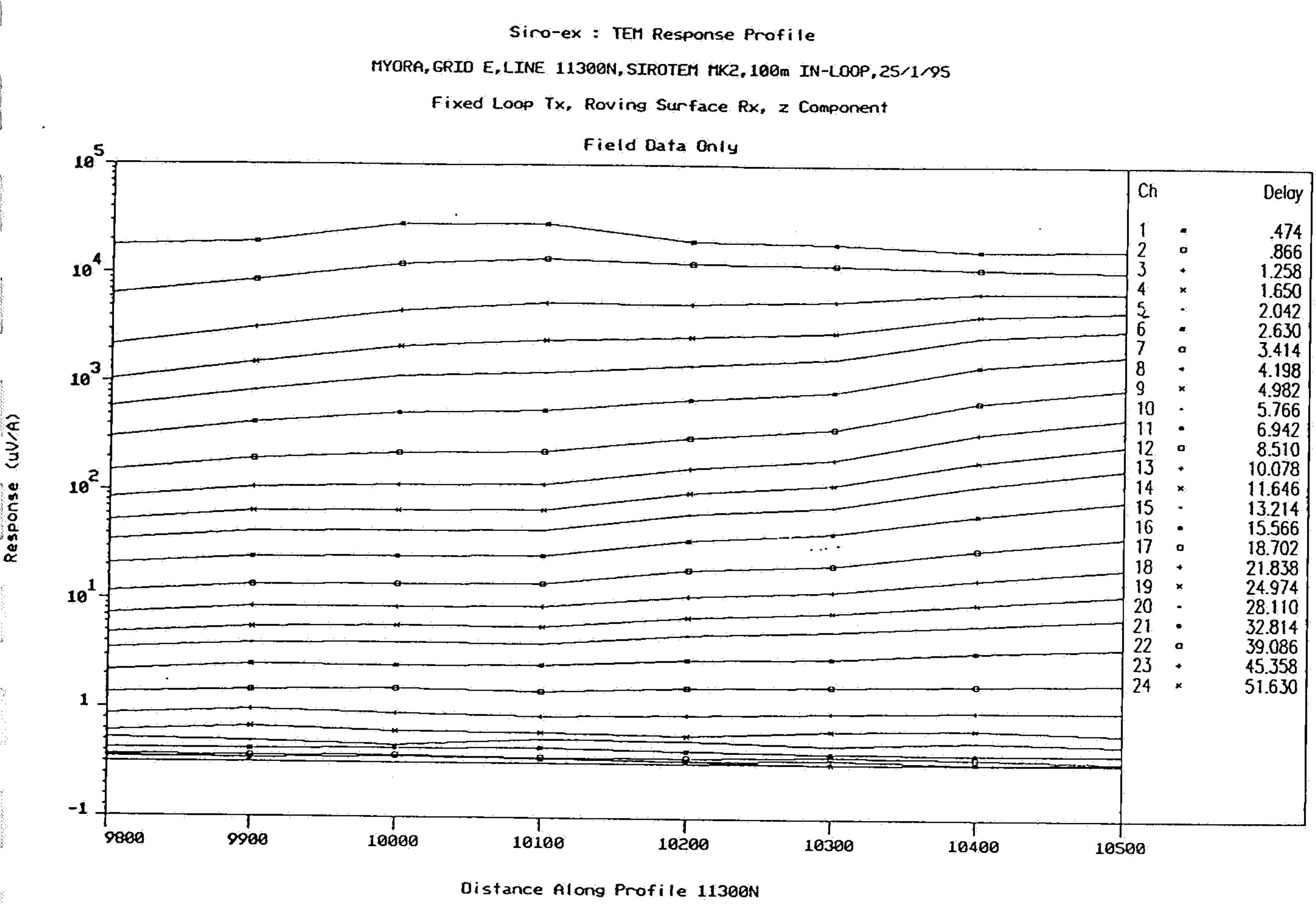
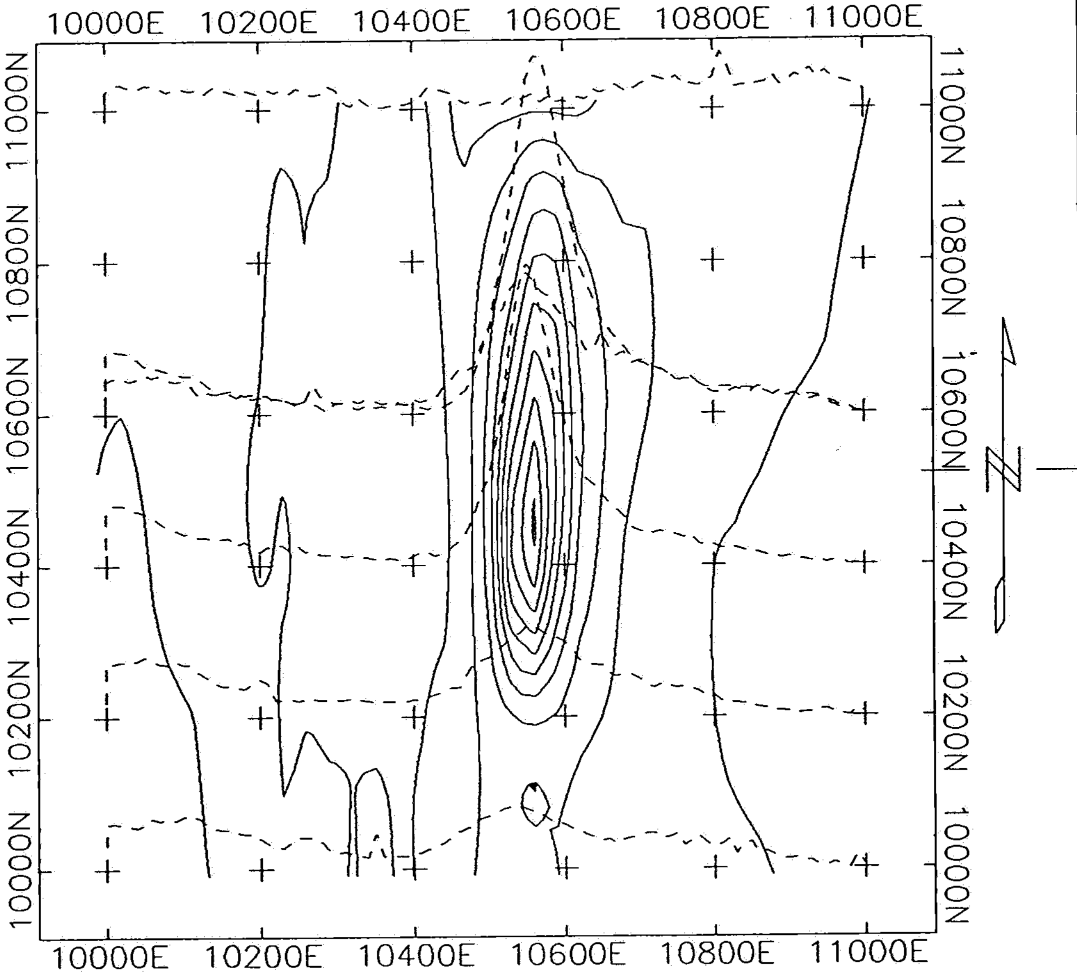

Siro-ex : TEM Response Profile
MYORA,GRID E,LINE 11300N,SIROTEM MK2,100m IN-LOOP,25/1/95
Fixed Loop Tx, Roving Surface Rx, z Component
Field Data Only
Response (uV/A)
10^5
10^4
10^3
10^2
10^1
1
-1
9800
9900
10000
10100
10200
10300
10400
10500
Distance Along Profile 11300N
Ch
Delay
1 .474
2 .866
3 1.258
4 1.650
5 2.042
6 2.630
7 3.414
8 4.198
9 4.982
10 5.766
11 6.942
12 8.510
13 10.078
14 11.646
15 13.214
16 15.566
17 18.702
18 21.838
19 24.974
20 28.110
21 32.814
22 39.086
23 45.358
24 51.630

FIGURE 7



ACACIA RESOURCES

MYORA AREA, STH AUSTRALIA
GROUND MAGNETICS, 11/94
GRID I

TOTAL FIELD, SHADE FROM EAST, MESH=30m
CI=20nT; PROFILES:50nT/cm
BASE AT 547000mE, 6262000mN
G-856 MAGS, DIURNALLY CORRECTED

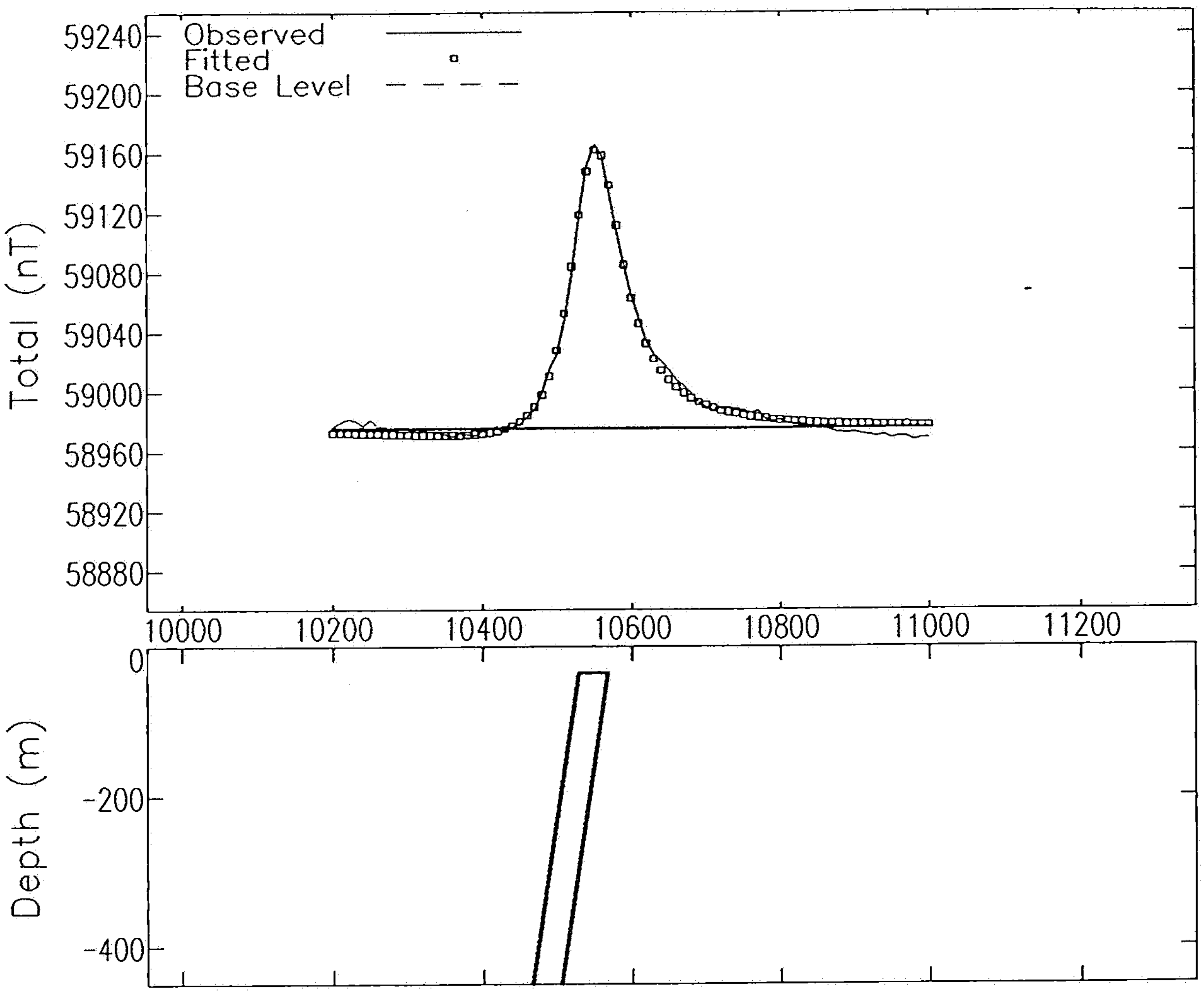
SEARCH EXPL & HGC 11/94

Scale 1:10000
100 0 100 200
(meters)

FIGURE 8

MYORA, ANOMALY I

LINE 10400N



MODEL PARAMETERS:

Model Type		Tabular2
Depth	F	35.2 m
Half Width	F	19.5 m
Half Length	X	200 m
Offset	X	0 m
Dip	F	99 deg
Thickness	F	7994 m
Susceptibility	F	0.00206 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	10547.19 m
Cross Position	X	10400 m
Base Level	F	58975.82 nT
Base Slope	X	0 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	59000 nT
Inclination	-65 deg
Declination	5 deg

COORDINATES:

Sensor Height	2 m
Strike Perp	70 deg
Line Direction	70 deg
Main Direction	70 deg
Main Offset	
Cross Direction	-20 deg
Cross Offset	

Geosoft MAGMOD-3 Modeling Result 94/12/07

FIGURE 9.

Siro-ex : TEM Response Profile

MYORA,GRID I,SIROTEM 100m IN-LOOP, LINE 10450N,Z-COMP,15/1/95

Moving Loop Tx, In Loop Dipole Rx, I Component

Field Data Only

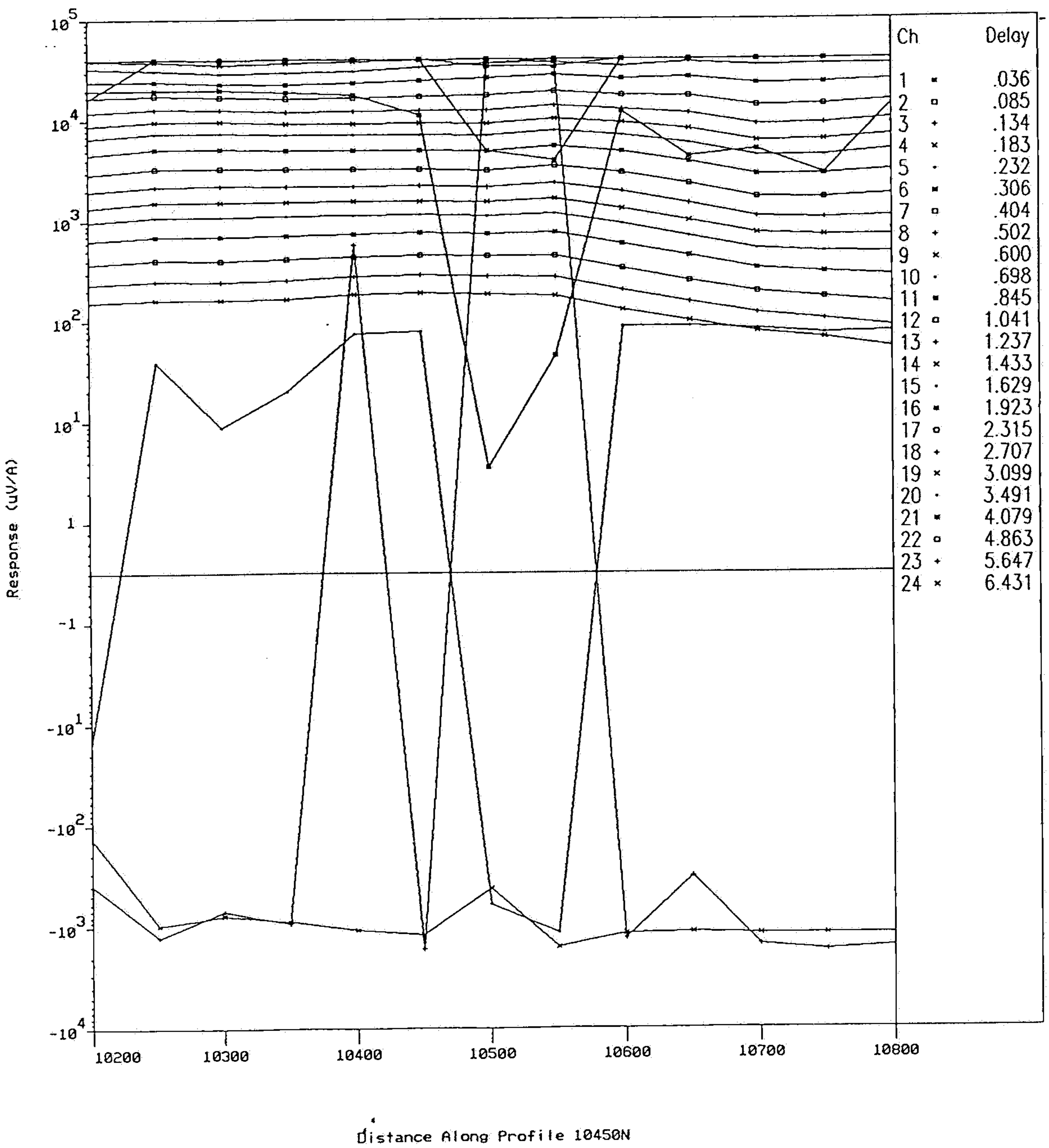


FIGURE 10

Siro-ex : TEM Response Profile

MYORA, GRID I, SIROTEM 100m IN-LOOP, LINE 10450N, Z-COMP, 15/1/95

Moving Loop Tx, In Loop Dipole Rx, I Component

Field Data Only

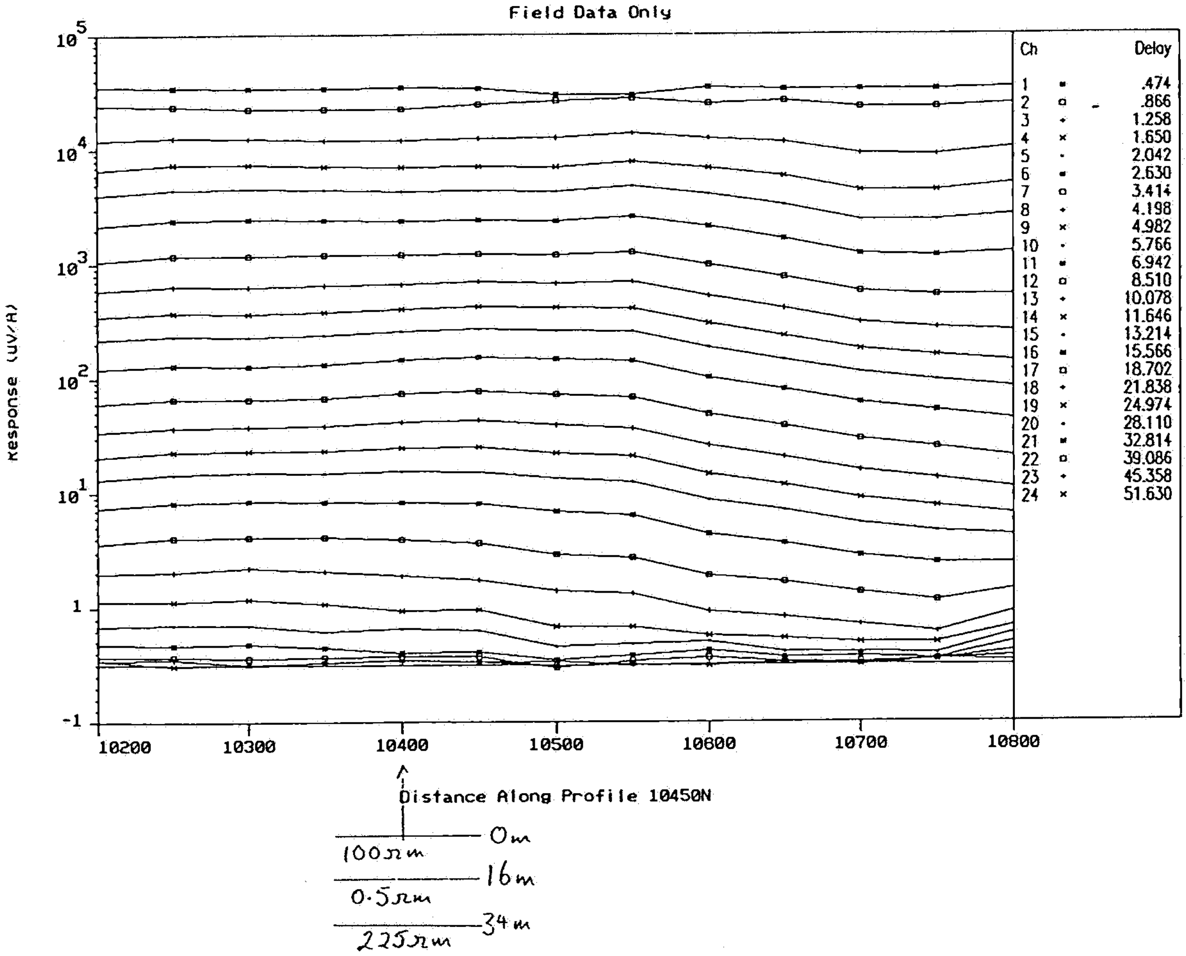
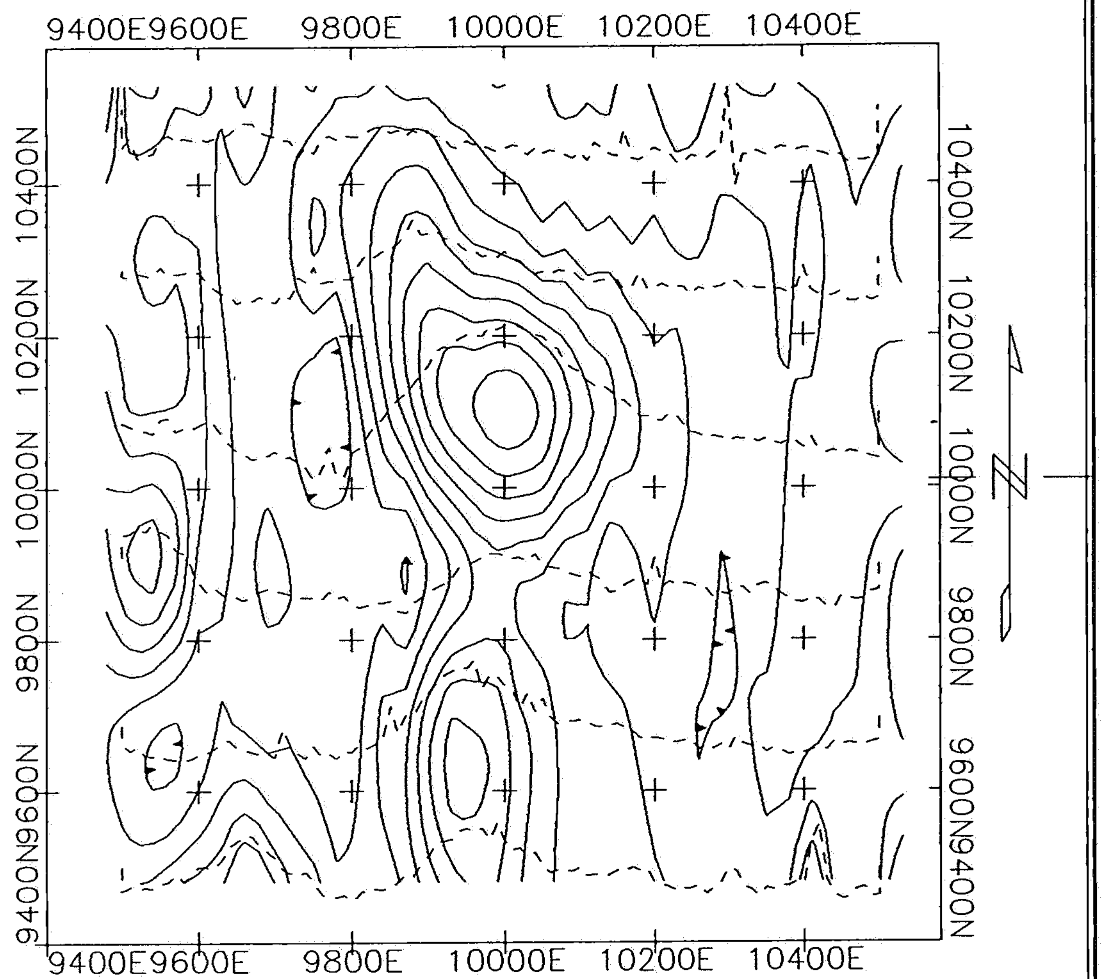


FIGURE 11



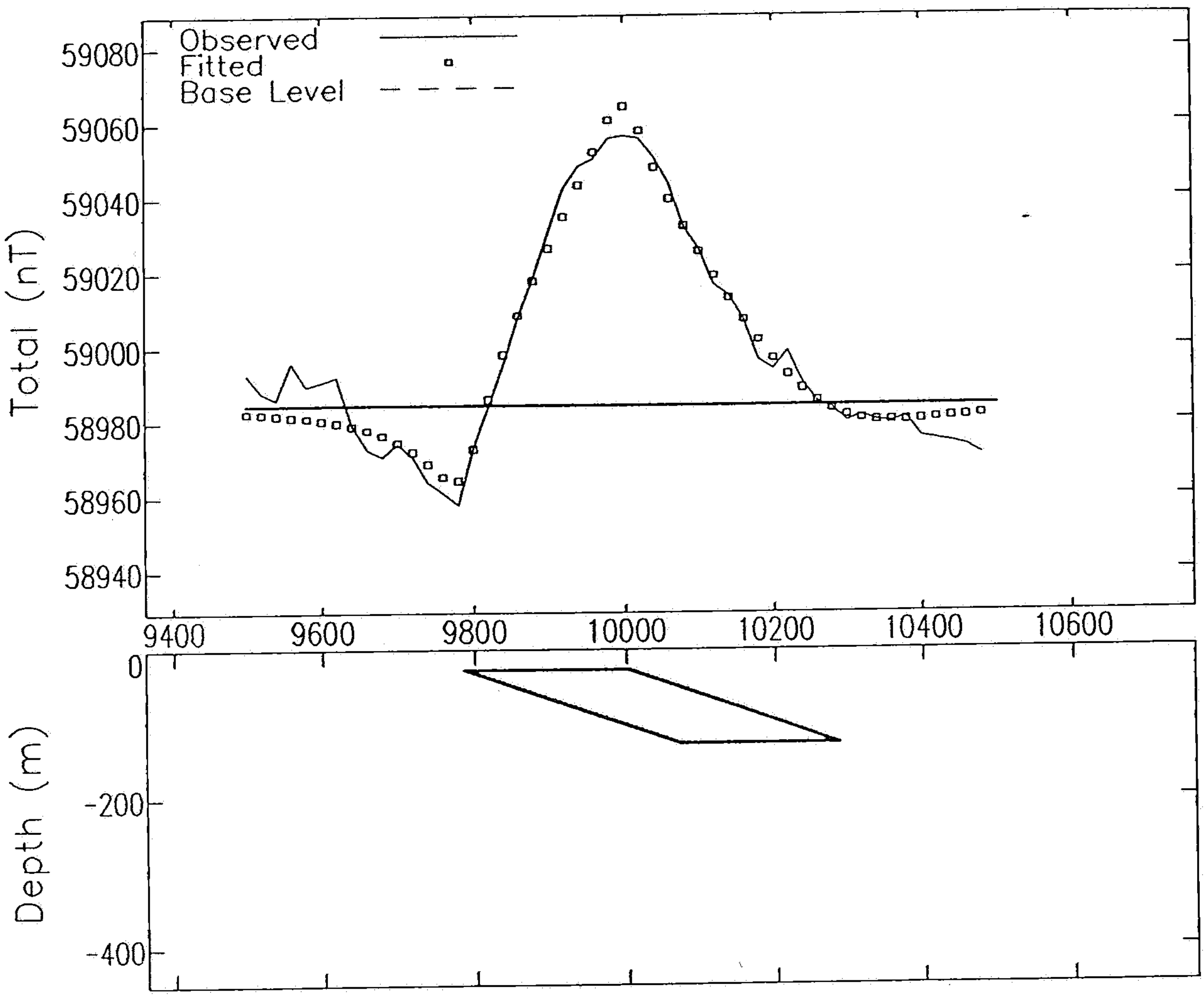
Scale 1:10000
100 0 100 200
(meters)

ACACIA RESOURCES
MYORA AREA, STH AUSTRALIA GROUND MAGNETICS, 11/94 GRID G
TOTAL FIELD, SHADE FROM EAST, MESH=30m CI=10nT; PROFILES:100nT/cm BASE AT 545000mE, 6255300mN G-856 MAGS, DIURNALLY CORRECTED
SEARCH EXPL & HGC 11/94

FIGURE 12

MYORA, ANOMALY G

LINE 10100N, GROUND MAGNETICS



MODEL PARAMETERS:

Model Type		Tabular2
Depth	F	26.4 m
Half Width	F	107 m
Half Length	X	150 m
Offset	X	0 m
Dip	F	20 deg
Thickness	F	101 m
Susceptibility	F	0.000736 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	9894.751 m
Cross Position	X	10100 m
Base Level	F	58984.71 nT
Base Slope	X	0 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	59000 nT
Inclination	-65 deg
Declination	5 deg

COORDINATES:

Sensor Height	2 m
Strike Perp	90 deg
Line Direction	90 deg
Main Direction	90 deg
Main Offset	
Cross Direction	0 deg
Cross Offset	

FIGURE 13

Geosoft MAGMOD-3 Modeling Result

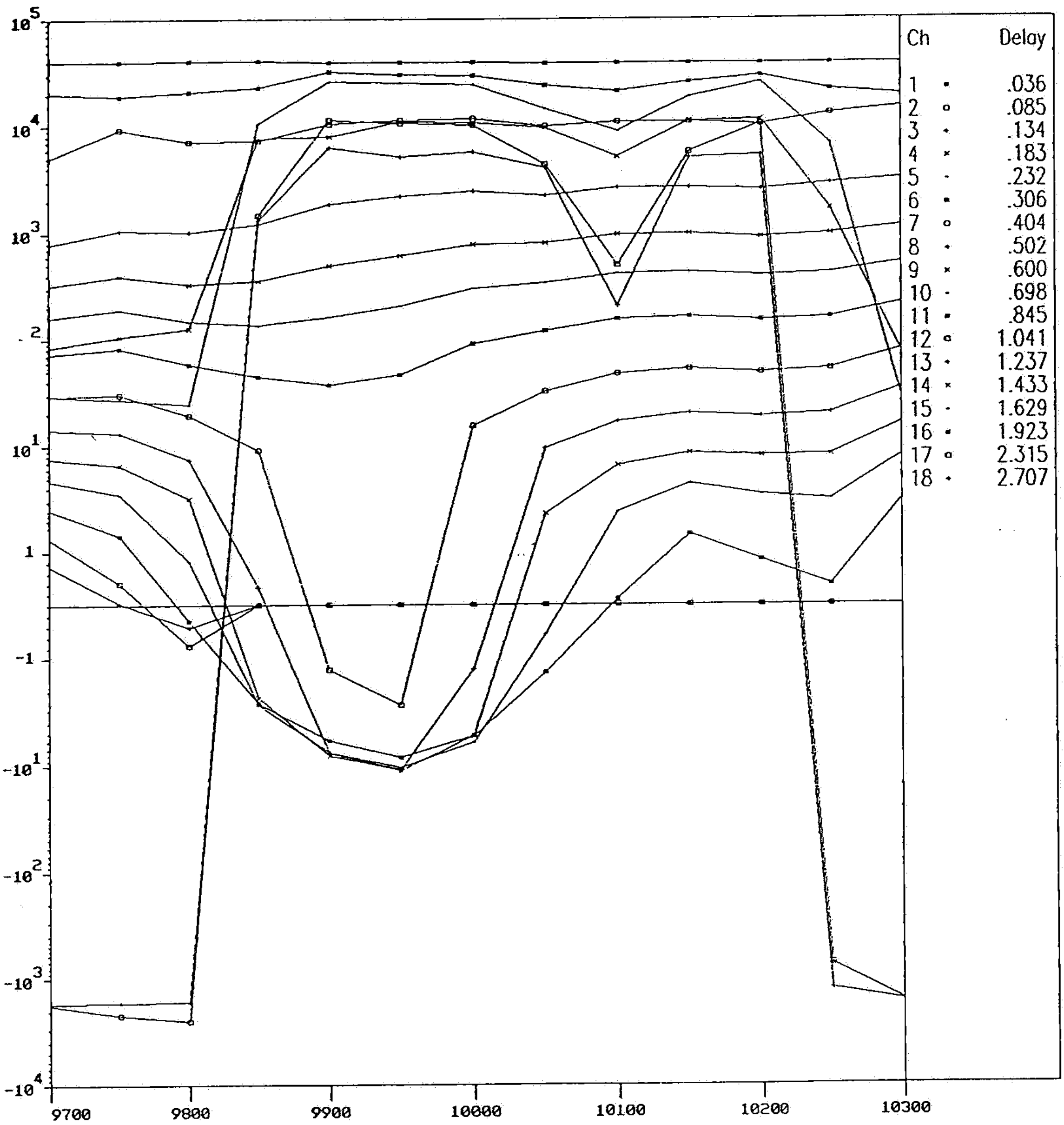
94/12/07

Siro-ex : TEM Response Profile

MYORA, GRID G, LINE 10050N, SIROTEM MK2, 100m IN-LOOP, 25/1/95

Moving Loop Tx, In Loop Dipole Rx, I Component

Field Data Only



Distance Along Profile 10050N

FIGURE 14

Siro-ex : TEM Response Profile

MYORA,GRID G,LINE 10050N,SIROTEM MK2,100m IN-LOOP,25/1/95

Moving Loop Tx, In Loop Dipole Rx, I Component

Field Data Only

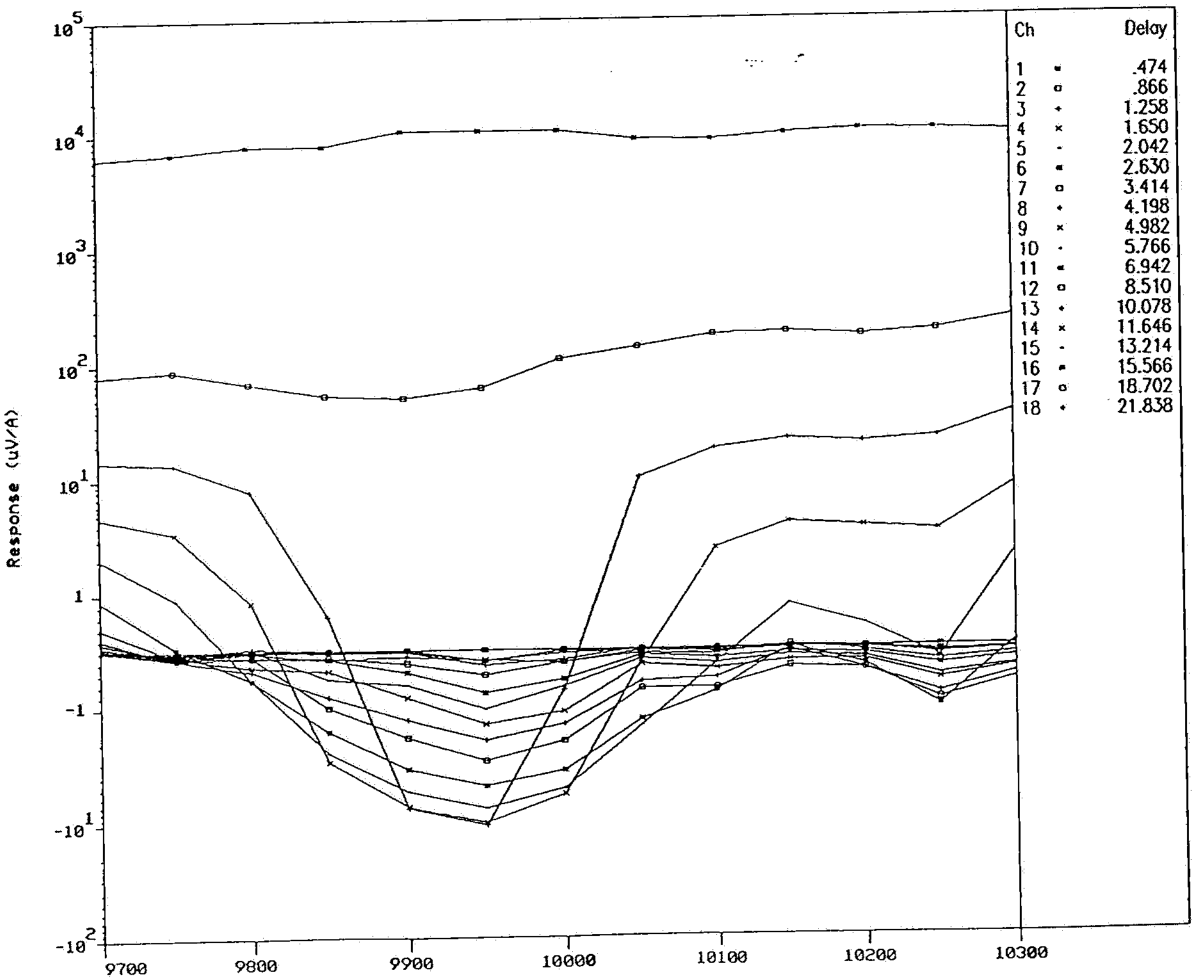
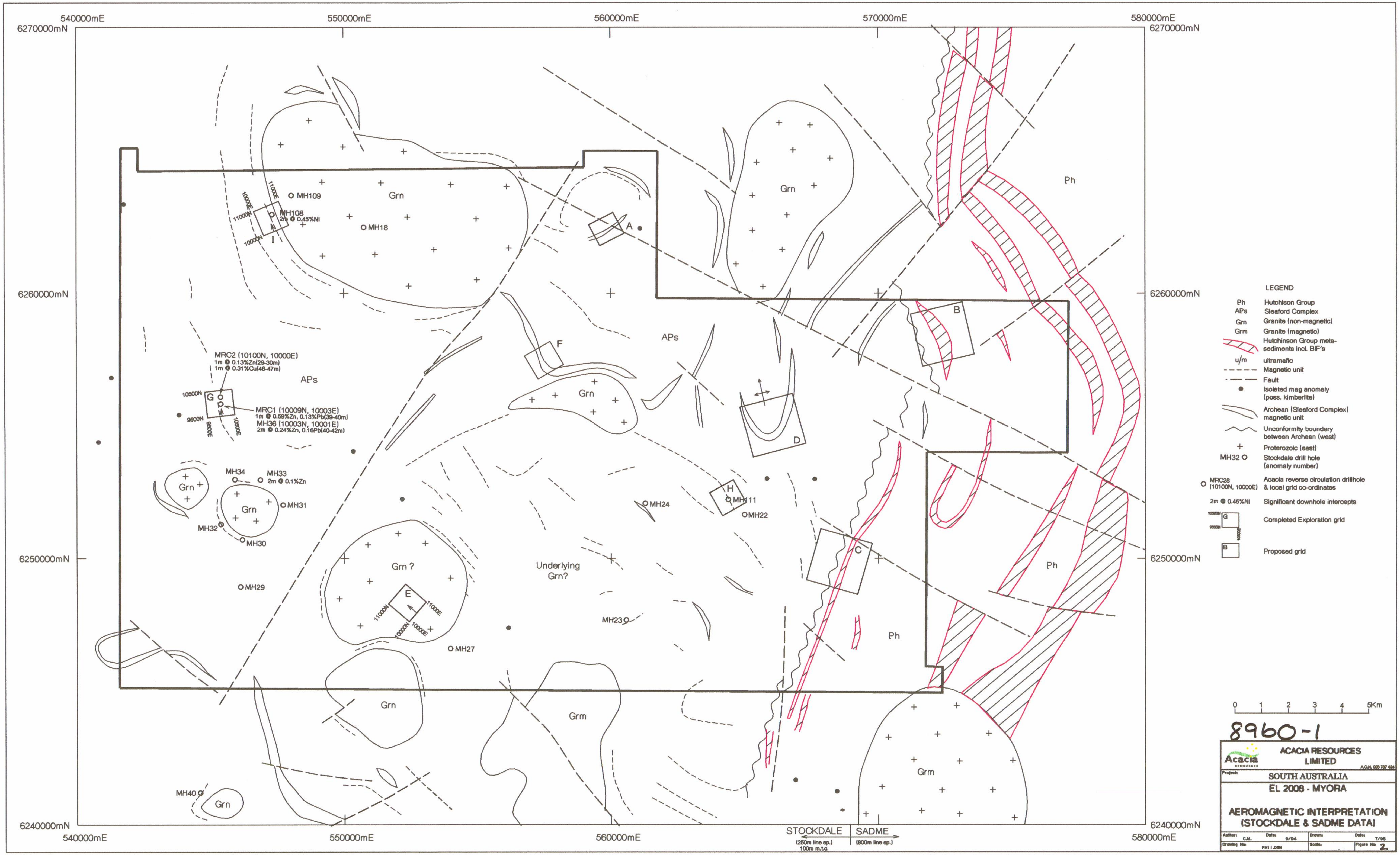
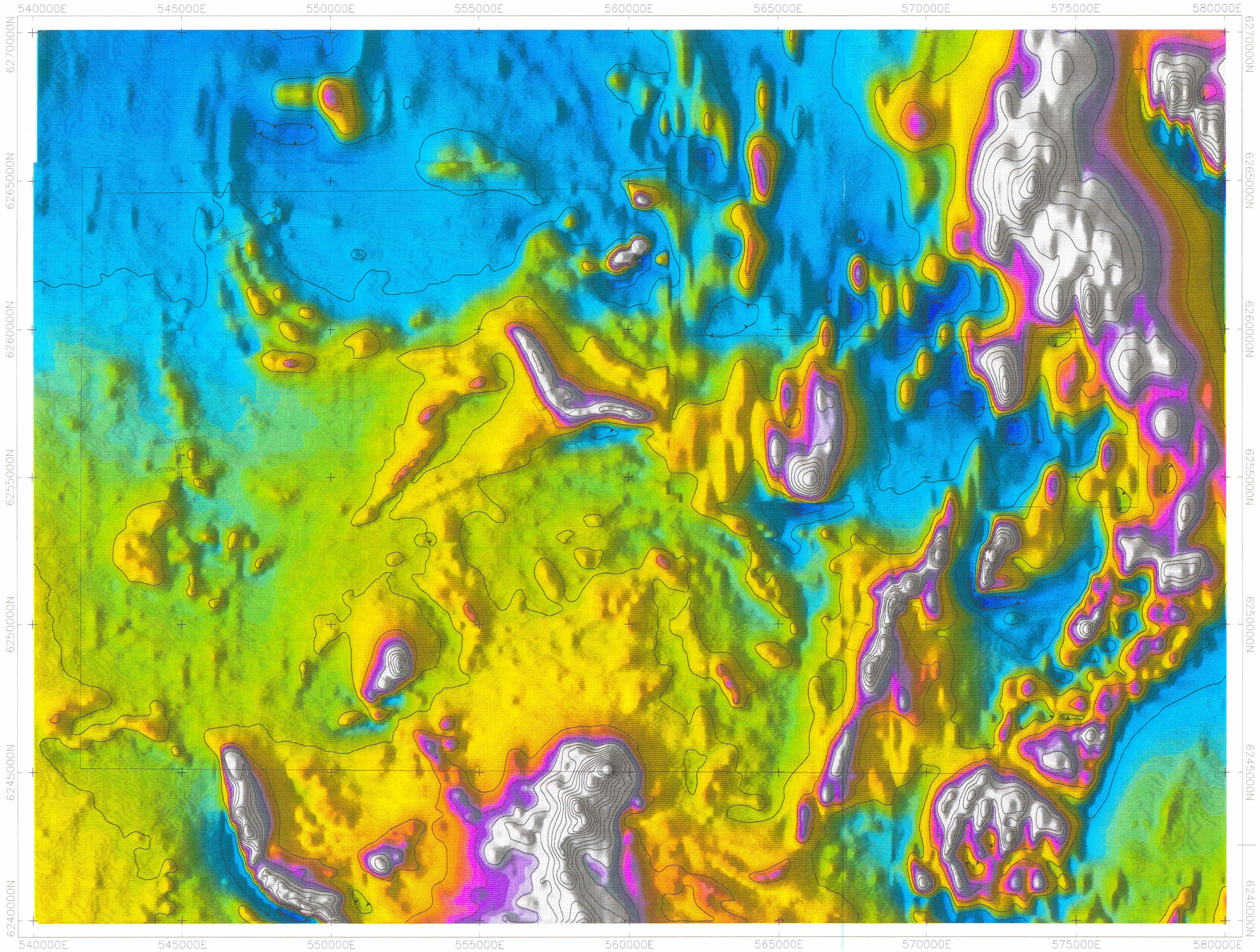


FIGURE 15


540000mE
550000mE
560000mE
570000mE
580000mE
6270000mN
6260000mN
6250000mN
6240000mN
Grn
APs
Ph
Grm
Grn ?
Underlying Grn?
A
B
C
D
E
F
G
H
I
MH109
MH108
2m @ 0.45%Ni
MH18
MRC2 (10100N, 10000E)
1m @ 0.13%Zn(29-30m)
1m @ 0.31%Cu(46-47m)
MRC1 (10009N, 10003E)
1m @ 0.69%Zn, 0.13%Pb(39-40m)
MH36 (10003N, 10001E)
2m @ 0.24%Zn, 0.16Pb(40-42m)
MH34
MH33
2m @ 0.1%Zn
MH31
MH32
MH30
MH29
MH27
MH24
MH111
MH22
MH23
MH40
STOCKDALE
(250m line sp.)
100m m.t.c.
SADME
(800m line sp.)
LEGEND
Ph Hutchison Group
APs Sleaford Complex
Grn Granite (non-magnetic)
Grm Granite (magnetic)
Hutchinson Group meta-sediments incl. BIF's
u/m ultramafic
Magnetic unit
Fault
Isolated mag anomaly (poss. kimberlite)
Archean (Sleaford Complex) magnetic unit
Unconformity boundary between Archean (west)
Proterozoic (east)
MH32 Stockdale drill hole (anomaly number)
MRC28 (10100N, 10000E) Acacia reverse circulation drillhole & local grid co-ordinates
2m @ 0.45%Ni Significant downhole intercepts
Completed Exploration grid
Proposed grid
0 1 2 3 4 5Km
8960-1
ACACIA RESOURCES LIMITED
A.C.N. 008 737 424
Project:
SOUTH AUSTRALIA
EL 2008 - MYORA
AEROMAGNETIC INTERPRETATION
(STOCKDALE & SADME DATA)
Author: C.M.
Date: 9/94
Drawn:
Date: 7/95
Drawing No: FH11.DGN
Scale:
Figure No: 2



8960-2

Scale 1:100000

2000 0 2000 4000 6000

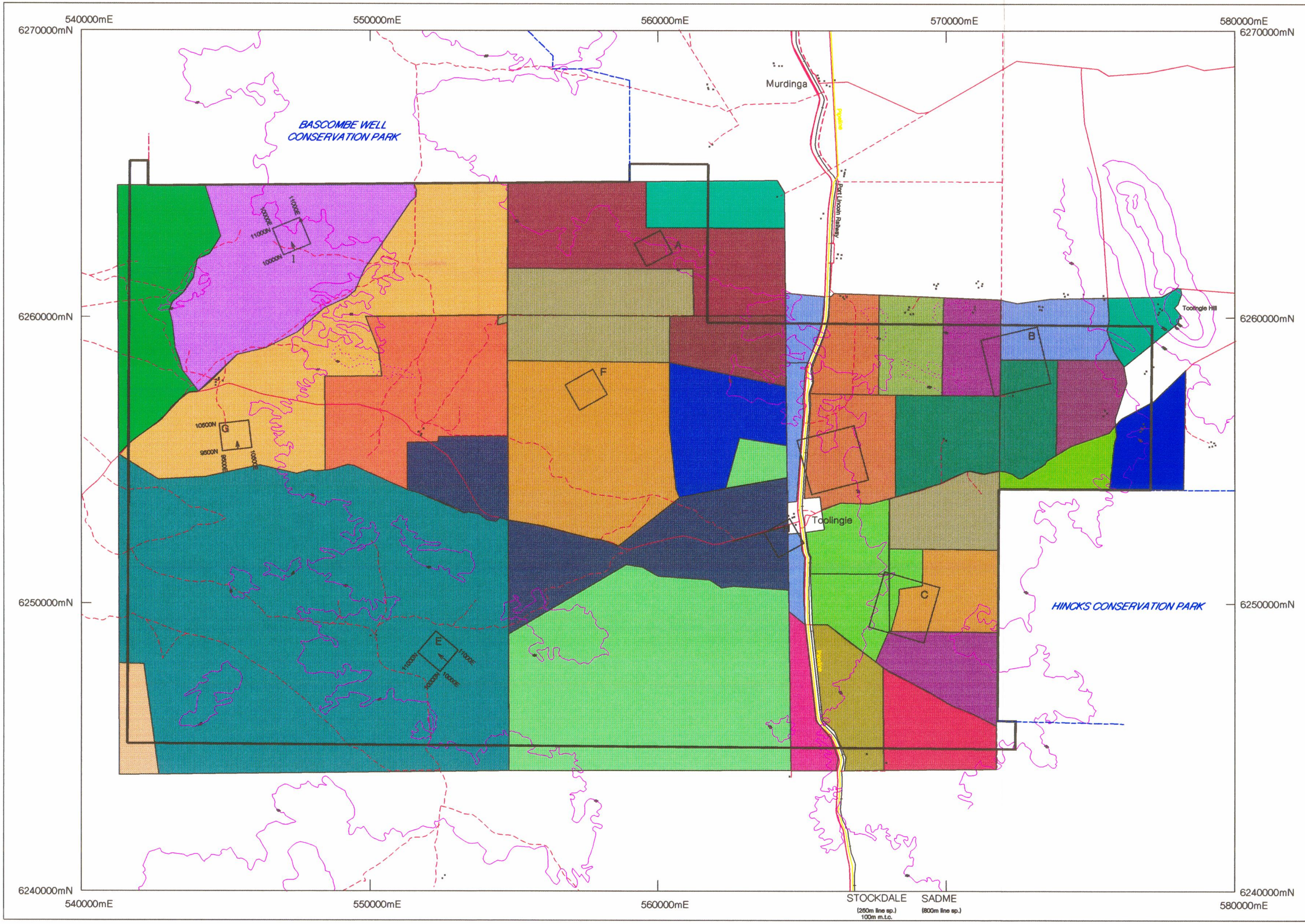
(meters)

ACACIA RESOURCES

MYORA, STH AUSTRALIA
SADME AND STOCKDALE AEROMAG
TOTAL FIELD

MESH = 200X200m
CI = 50nT
SHADE FROM WEST

FIG. 3



EL 1970
LANDOWNERS

GRID E
John Reynolds

GRID G
Chris Watson

GRID I
Devin Murphy

Land holders include those whom dealings were conducted for exploration purposes, including obtaining Notices of Entry & Waivers of Exemption.

0 1 2 3 4 5Km

8960-3

Acacia RESOURCES

ACACIA RESOURCES LIMITED

A.C.N. 009 737 424

Project: SOUTH AUSTRALIA

EL 2008 - MYORA
LAND HOLDERS

Author: C.M.	Date: 9/94	Drawn:	Date: 7/95
Drawing No: FH11.DGN		Scale:	Figure No: 4

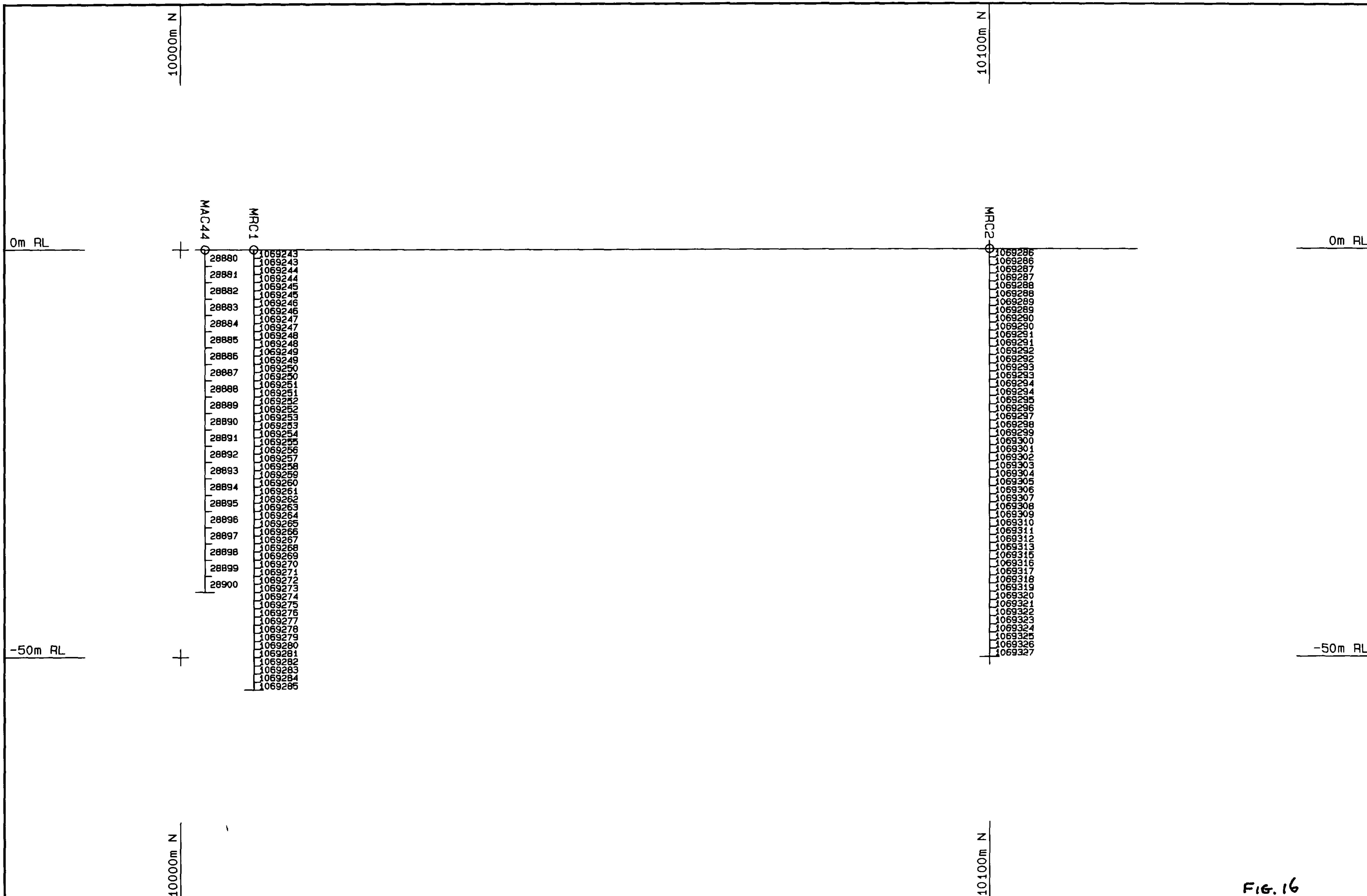


FIG. 16

Plotted with MICROMINE
Resources Software
Perth, Australia
Tel +61 9 389 8722
Fax +61 9 386 7462

Scale	DATE	SHEET
1:500	31/07/95	1 of 1
	REF No. 1	

0 25m

MYORA S.A.
SECTION 10000E
SAMPLE NUMBERS

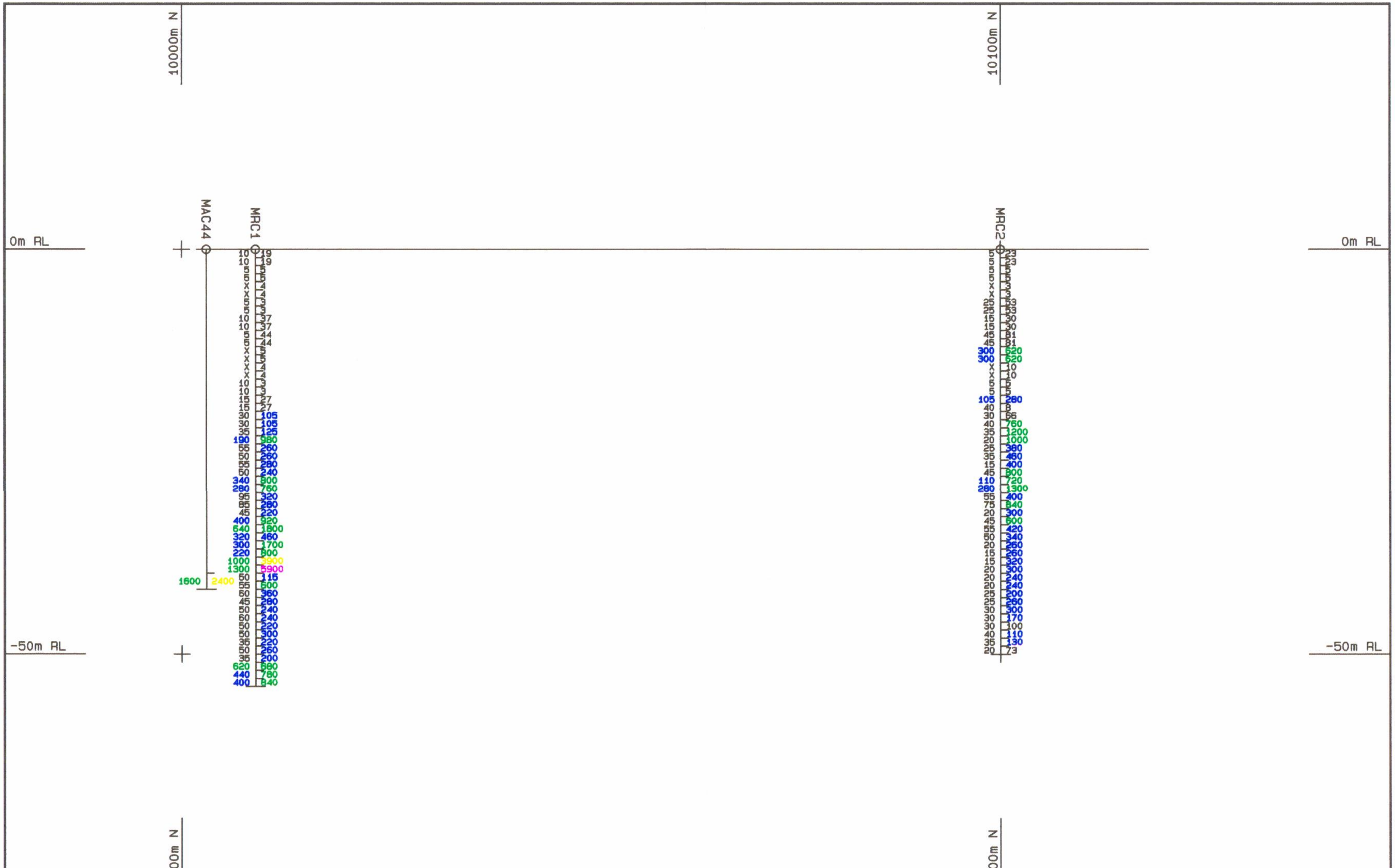


FIG. 17

Plotted with
MICROMINE
Resources Software
Perth, Australia
Tel +61 9 389 8722
Fax +61 9 386 7462

NOTES :
LHS : Pb ppm
RHS : Zn ppm
* Unsurveyed ground RL's

NOTES :
LHS = PB (PPM) RHS = ZN (PPM)
0 - 100
100 - 500
500 - 2000
2000 - 5000
5000 - 10000
>10000

Scale	DATE	SHEET
	31/07/95	1 of 1
1:500	REF No. 1	

0 25m

MYORA S.A.
SECTION 10000E
Pb / Zn

00037

APPENDIX 1

MINERALOGICAL REPORT
PONTIFEX & ASSOCIATES PTY. LTD
STOCKDALE CONCENTRATE SAMPLES

Pontifex & Associates Pty. Ltd.

00039

TELEPHONE (08) 332 6744
FAX (08) 332 5062

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA 5067
A.C.N. 007 521 084

P.O. BOX 91, KENT TOWN
SOUTH AUSTRALIA 5071

BAUS - MLB			
	INFO	ACT	COPY
BG			
BCG			
BXD			
BXD/1	N		
BXH			
BXH/1			
BXM			
BXL			
BXT			
BOR			
BOD			
B.			
BCG			
DATE REC'D 10/8/94			
FILE MYORA			

MINERALOGICAL REPORT NO. 6674

August 5, 1994

File 06.1398/849

TO :

Mr Robert Beeson
Chief Geologist
Business Development & Research
Billiton Australia
Shell House
1 Spring St
MELBOURNE VIC 3000

YOUR REFERENCE : Your letter, 29/6/94
(Ltr 038:mjm)

MATERIAL : Heavy mineral concentrates

IDENTIFICATION : BV0423 to 29081

WORK REQUESTED : Preparation of polished thin sections, petrographic, mineragraphic descriptions.

SAMPLES & SECTIONS : Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

INTRODUCTION

The seven samples of heavy mineral concentrate discussed in this report are labelled :

BM0423	Z7211
BM0046	Z8900
BM0051	Z9081
BM0456	

A representative portion of each was mounted in epoxy and prepared as a polished thin section. Examination of these sections in transmitted and reflected light indicate a variable mix within individual samples, and throughout the suite, of single crystal (monomineralic) grains/fragments, together with composites of minerals forming rock fragments, most of which are permeated by secondary low temperature pyrite-marcasite.

In most samples, the grains and rock fragments include a (variable) high grade metamorphic assemblage, with quartz, felspar, biotite, muscovite, sillimanite, corundum, ilmenite, trace gahnite. These presumably represent basement. In samples BM0046, 0051, and to a lesser extent, BM0423, the rock fragments are predominantly quartz sandstone, with a cement/matrix of the secondary iron sulphide and these presumably represents a younger cover sequence.

Relatively independent coarse grains of tourmaline and rutile in some samples do not necessarily relate specifically to the rock types represented (although small crystals of tourmaline, rutile and ilmenite occur in the gneissic lithologies).

Coarse **primary** pyrite is abundant in Z8900 and Z9081 (and rarely in Z7211), some with small inclusions of chalcopyrite and pyrrhotite and some composite with galena and sphalerite. This mineralisation relates to the metamorphic facies, and is genetically distinct from the ubiquitous secondary pyrite-marcasite which is wide spread through the suite as noted above. Rare primary pyrite is tentatively identified (within secondary pyrite) in sample BM0456.

Given this mixed mineralogical composition, including abundant composite fragments, the samples are basically given petrographic/mineragraphic descriptions in this report, including some comments on genesis. Mineral abundance estimates are provided [but distinct from a relatively simple list of mineral species and their abundance, as may be expected in concentrates of single mineral species grains].

MINERALOGICAL ASSESSMENT OF INDIVIDUAL SAMPLES

BM0423 MH 007 MH 111

		Visual Estimate of Abundance
*	fragments of irregularly intergrown very fine granular garnet > quartz incipiently graphic textured. Apparently metamorphic, but more specifically a "reaction rock". The garnet is seen under binocular microscope to be very pale (buff) coloured.	35-40%
*	single crystal grains of corundum (with characteristic very high relief, parting and lamellae twinning)	20-25%
*	single crystal grains of dark green / brown tourmaline	5%
*	probable högbomite [$Mg(Al,Fe, Ti)_4O_7$], dark brown	3%
*	muscovite	1-2%
*	rutile, as coarse crystal fragments	1-2%
*	?sillimanite (or kyanite) altered	<1%
*	quartz, mostly as coarse fragments	7-10%
*	marcasitic-pyrite, commonly microporous to fine filamentous and locally micro-botryoidal, typical of low temperature, secondary genesis. Commonly composite with quartz, as an intergranular cement to quartz sandstone. Rarely composite with trace amounts of high grade metamorphic minerals above	10%
*	coarse crystals fragments of ilmenite partly altered/degraded, non magnetic. Some of these ilmenite grains are partly encrusted by the secondary ironsulphide and fractures in them partly permeated by this sulphide	5%

BM0046, 0051 M452 , MH108

At least 76% of each of these two samples consist of low temperature, secondary pyrite/marcasite. Texturally this sulphide is variably diffuse micro-granular with one phase cementing loose aggregates of the other, also microfilamentous, locally microcolloform, microporous to massive, some subradiating and crustiform, rarely fromboidal.

Commonly, this iron sulphide occurs as a cement/matrix to incorporated subrounded quartz grains, i.e. 'pyritised sandstone". [Unlike BM0423, there are nil or negligible free single crystal fragments of quartz in these two samples.]

Quantitatively, at least 90% of each of these two samples BM0046, 0051 consists of fragments of pyrite-marcasite and 'pyritised quartz sandstone'.

The remaining approximate 10% of each of these two samples includes various crystals and crystal fragments of high grade metamorphic minerals, (including ilmenite) reported in BM0423. Rarely some of these components are partly (or completely) incorporated within the secondary iron sulphide (but by no means as common as cemented quartz sand grains).

These other minerals in each of these two samples, showing a visual estimate of the % abundance in each, as follows:

BM0046 (with up to 30% 'pyritised sandstone', 60% pyrite-marcasite alone)

corundum	5%
?altered sillimanite	1-2%
altered biotite	3-5%

BM0051 (approx. 15% "pyritised sandstone", 65% pyrite-marcasite alone)

ilmenite	10%
sillimanite	5-7%
pyroxene	2-3%
corundum	3-5%
gahnite	<1%
dark brown, isotropic ?spinel	1%

BM0456

This sample is also dominated by secondary pyrite-marcasite, comparable with BM0046, 0051, but this sulphide tends to be more compact/crystalline than in those two samples. Some of the grains consist entirely of the iron sulphide, but most consist of sulphide composite with (basement) metamorphic rock or metamorphic mineral fragments. There is nil or negligible amounts of the Fe-sulphide cemented sandstone, (which presumably overlies the basement).

The metamorphic mineral assemblage in this sample differs from that in BM0423. Basically, it consists of quartz > felspar > biotite > sillimanite, forming microgneiss, which is permeated by, and cemented by, the secondary Fe-sulphide(s). The biotite and sillimanite is largely altered to clays, the felspar which seems to be mostly microcline is partly sericitised. There are single crystal grains, some quite large, of rutile and crystals of probable primary pyrite

Mineralogical modal abundances are estimated as follows :

*	secondary pyrite/marcasite, with variable micro-textures, commonly composite with (minor) amounts of gneiss, and rarely incorporating minor crystals of primary pyrite? Also pyritised/leucoxenised ilmenite (which relate to the gneiss).	60-70%
*	quartz	15-20%
*	felspar	10-12%
*	biotite	5-7%
*	sillimanite	2-3%

Z 7211 MH15

This sample is also dominated by secondary pyrite/marcasite, including fragments of quite spectacular zoned rosettes of these iron sulphide crystals, intricately intergrown. Very commonly these sulphides permeate gneissic rock fragments composed of quartz >> biotite, felspar. Several small crystals of yellowish brown apparent tourmaline occur in the gneiss. There are minor single crystal fragments of garnet, this mineral was not seen in the composite fragments, but some garnet grains are composite with quartz.

Minor primary, subhedral-crystalline pyrite, rarely accompanied by chalcopyrite occurs in some fragments, and these are also invaded and enveloped by the secondary later iron sulphides.

Mineralogical modal abundances are estimated as follows :

*	secondary, intermixed pyrite/marcasite (generally composite with minor amounts of gneissic rock fragments)	65-70%
*	single crystal fragments of garnet, rarely composite with quartz	7%

In composite rock fragments

*	quartz	15%
*	biotite	3-5%
*	felspar	3-5%
*	primary pyrite, rarely + chalcopyrite	7-10%
*	primary ilmenite residuals, in pyritised gneiss	2-3%

Z8900, Z9081

These two samples are distinctive within the suite in that they contain abundant coarse primary pyrite fragments, about 5% of which are composite with related primary galena and/or chalcopyrite > sphalerite, and with rare inclusions of pyrrhotite in some. Some of these primary sulphides form composite fragments with metamorphic minerals, mostly quartz, but including metamorphic ilmenite and rutile.

The same secondary pyrite/marcasite reported in the above samples also occurs in these two samples (including spectacularly zoned rosettes as seen in Z7211), with the same mode of occurrence, i.e. permeating and composite with, also encrusting, the metamorphic assemblage of mostly quartz, but with minor primary sulphides and ilmenite.

Mineralogical modal abundances are estimated as follows :

		Z8900	Z9081
*	coarse fragments of primary pyrite, most monomineralic, some composite with galena > chalcopyrite > sphalerite, some with inclusions of pyrrhotite and chalcopyrite. Some primarily composite with metamorphic quartz, and/or ilmenite	30-65%	25-30%
*	fragments of fine cellular limonite as oxidised (gossanous) ex-sulphide	-	5-7%
*	fragments of secondary pyrite-marcasite, with variable microtextures, commonly composite with metamorphic minerals, including primary sulphides	25-30%	20%
*	individual coarse grains of ilmenite, largely leucoxenised, lesser altered ilmenite in composite fragments	2%	7%
*	coarse grains of rutile in composite fragments in Z8900, as single crystal/grains in Z9081	2%	5-7%
*	coarse grains of hematite	-	2-3%
*	coarse grains of tourmaline, single crystal/grains	-	7-10%
*	coarse quartz (metamorphic)	25-30%	5-7%
*	altered biotite, muscovite, ?sillimanite, in composite rock fragments	3-5%	<5%
*	secondary carbonate (akin to the marcasite)	-	2-3%

APPENDIX 2

CSIRO LEAD ISOTOPE REPORT
STOCKDALE CONCENTRATE SAMPLE Z8900

00047

Minerals Research Laboratories
51 Delhi Road
NORTH RYDE NSW 2113
Sydney Australia

CSIRO
AUSTRALIA

Postal Address:
PO Box 136 NORTH RYDE, NSW 2113
Telephone: 61-2 887-8666
Facsimile: 61-2 887-8909
61 2-887-8921
Telex 25817

Division of Exploration and Mining

Institute of Minerals, Energy and Construction

Excellence in Strategic Research for the Exploration and Mining Industry

Facsimile Transmission

Facsimile To:
BOB BEESON

Organisation:
ACACIA RESOURCES

From:
JUDITH A. DEAN

Date: 10/ 01/95 Facsimile No. ~~06/2014888~~

FAX (03) 6969977
03 ~~6665639~~
(ph) 684 4999

No ORIGINAL TO FOLLOW 5 NO. OF PAGES Yes URGENT

Dear Bob,

Apologies for the delay in getting this number to you. We couldn't identify galena in it so we scratched out all the sample and extracted the Pb using mini-columns which is more time consuming than the regular method. I did mean however to get the result to you before Christmas but Santa was calling me away..........

The data is as follows:

$^{208}Pb/^{206}Pb = 1.7693$
$^{207}Pb/^{206}Pb = 0.7081$
$^{206}Pb/^{204}Pb = 22.876$

$^{208}Pb/^{204}Pb = 40.475$
$^{207}Pb/^{204}Pb = 16.198$

A Pb content of ~500 ppm is indicated but because of the small sample weight this could be ± 200 ppm. The result is very radiogenic (i.e., very high $^{206}Pb/^{204}Pb$ ratio) and is compared with some other data from South Australian deposits in the accompanying Figure.

The possible interpretations that you raised are dealt with below:

1. Archaean Sleaford Complex. There are no known data contained within the SIROTOPE Database for mineralization of this age (2700 - 2300 Ma) but initial $^{206}Pb/^{204}Pb$ ratios should be ~13.4 to <15 assuming conformance to average crustal models (e.g., Teutonic Bore $^{206}Pb/^{204}Pb$ ratio = 13.38; age ~2700 Ma).

2. Lower Proterozoic Hutchison Group. Again there are no known data contained within the SIROTOPE Database for mineralization of this age (~1850 Ma) but initial $^{206}Pb/^{204}Pb$ ratios should be ~15.5 to ~15.9 again assuming conformance to average crustal models (e.g., Koongie Park $^{206}Pb/^{204}Pb$ ratio = 15.84; age of host volcanics 1843 Ma).

3. Gawler Range Volcanics/Hiltaba Granites. Data from Menninnie Dam and Tarcoola Au Mine exemplify these host sequences and are shown in the Figure ($^{206}Pb/^{204}Pb$ ratios about 16.0; age ~1600 Ma).

4. A later more radiogenic signature associated with Adelaidean or Palaeozoic rocks or associated with epigenetic mineralization could be anything with a $^{206}Pb/^{204}Pb$ ratio greater than Menninnie Dam.

5. The other possibility which could be considered is sediment-hosted and carbonate-hosted mineralization with anomalous $^{206}Pb/^{204}Pb$ ratios. For example, the Mount Gunson deposits (shown in the Figure) in the Pernatty Lagoon area of the Stuart Shelf occur in sandstone-dolomite units of the middle Proterozoic Wandearah Metasiltstone. These deposits have anomalous Pb isotope signatures indicating derivation from a high U/Pb source region. Mineralization at the Miltalie Mine in basal calc-silicates of the middle Proterozoic Warrow Quartzite and base-metal occurrences in the Early Cambrian Wilkawillina Limestone in the Flinders Ranges (e.g., see Figure; Ediacara, Linda, Moro Gorge, Wirrealpa and many others) have isotopic characteristics of carbonate-hosted deposits and are similar to the Mount Gunson deposits.

A problem with the interpretation of your data lies in identifying whether or not the result represents an initial Pb isotope ratio. If the ratios are initial ratios (i.e., unchanged since deposition) then the data indicate that the mineralization is either epigenetic (possibility 4 above), or a sediment-hosted "red-bed" occurrence of the Mount Gunson style or a carbonate-hosted occurrence (possibility 5 above). If however the ratios have been altered by *in situ* radiogenic addition, then metallogenic associations 1, 2 or 3 above are also possible. Assuming simple radiogenic addition, four trends are drawn on the uranogenic Pb diagram on Figure 2 which indicate the path radiogenic addition would take from a T_1 of 1600 Ma (approximate Gawler Range Volcanics age), 1850 Ma (approximate Hutchison Group age), 2350 Ma (approximate youngest age of the Sleaford Complex) and 2700 Ma (approximate oldest age of the Sleaford Complex), to $T_2 = 0$ (i.e., the present day) assuming the measured ratios of your sample. Based on these trends the most likely explanation of the data is that it indicates radiogenic addition since ~1850 Ma from an initial composition broadly conformable to average crustal μ ($^{238}U/^{204}Pb$) (i.e., from a composition broadly similar to Koongie Park). Ages younger than this would require an initial composition with much higher μ than average crust and ages of ~2700 Ma a much lower initial μ than average crust. Both these possibilities are less likely. The ~ 2350 Ma age is also possible but to my knowledge syngenetic mineralization of this age is pretty rare so I don't have an initial ratio with which to compare. The problem with the ~1850 Ma age is that assuming the sample has a Pb content of 300 ppm, then a U content at the time of formation of ~80 ppm would be required which is pretty high. Sulfide containing samples from the Poona Mine have very radiogenic ratios (one sample with 50 ppm has a $^{206}Pb/^{204}Pb$ ratio of >32 indicating a U content of ~30 ppm; mineralization at Poona may be related either to the Moonta Porphyry, ~1740 Ma, or the intrusion of the Hiltaba Suite at ~1580 Ma). Thus U enrichment is known to be a regional feature. Unfortunately, we have no Pb isotope analyses for Olympic Dam.

More complex interpretations of the data invoking multi-stage models are also possible. However at this stage the most likely option is:

i) If the sample originates from a low U environment (<10 ppm) - epigenetic

ii) If a high U environment, the sample probably indicates a Hutchison Group age.

In view of this, a few questions:

I couldn't find galena in the sample; more like sphalerite but wouldn't be sure. I actually meant to probe it before I analysed it but forgot. What exactly was the mineralogy?

Any evidence of U enrichment?

Any evidence of carbonate sequences, red-beds?

Does any of this fit in with your ideas?

Sorry to be so vague - I have probably raised more issues than I have solved. Look forward to hearing from you.

Judy Dean

Judith A. Dean
Manager SIROTOPE

00050

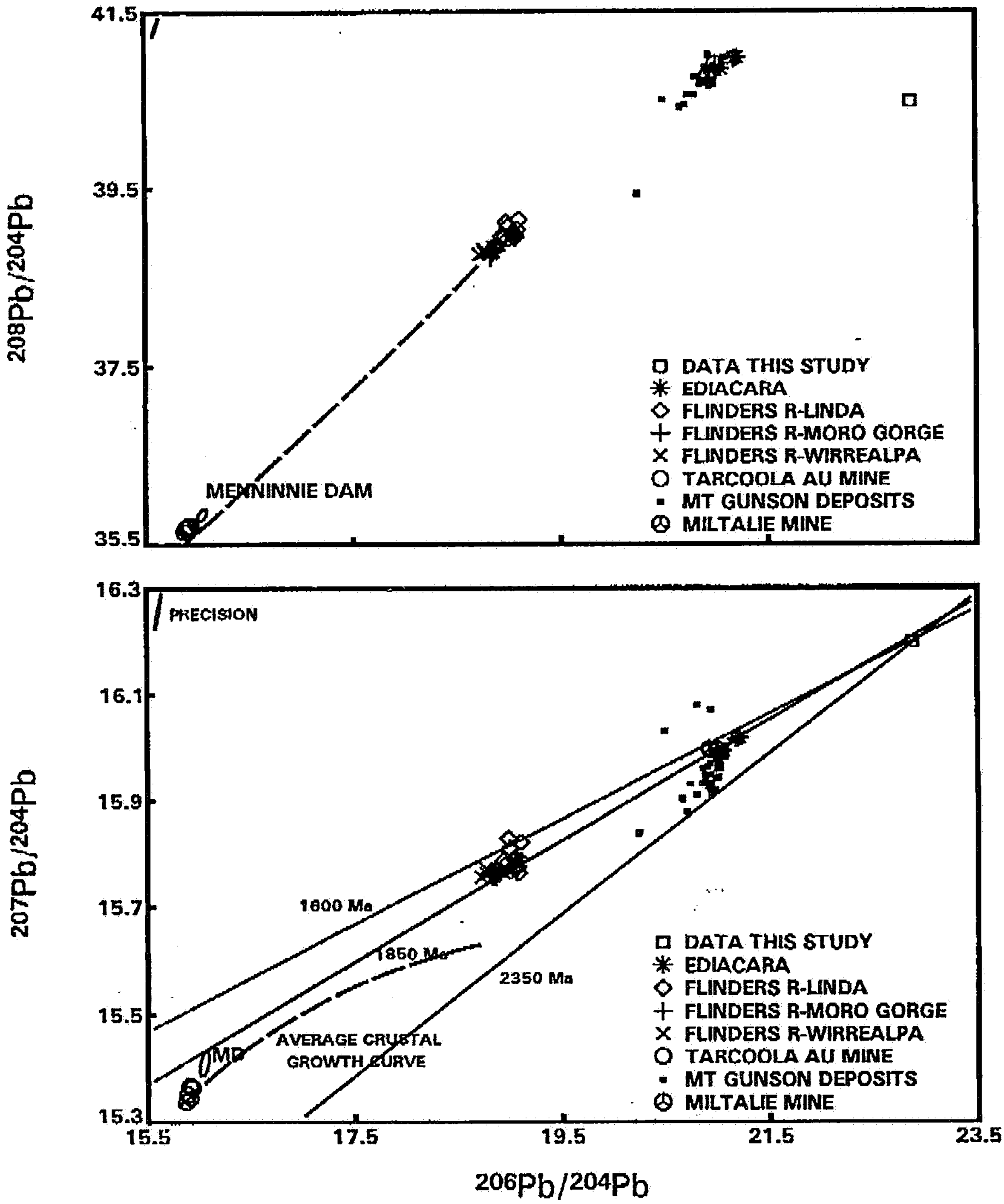


Figure 1

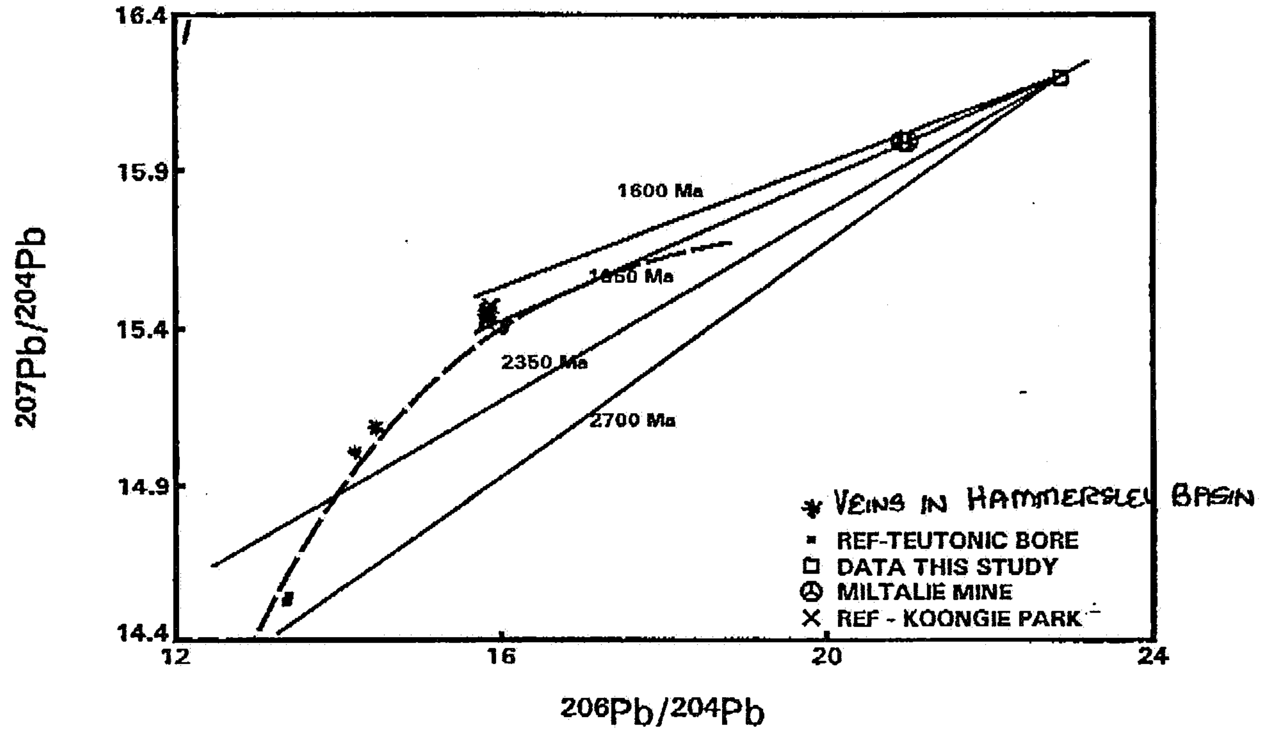

16.4
15.9
15.4
14.9
14.4
12
16
20
24
207Pb/204Pb
206Pb/204Pb
1600 Ma
1650 Ma
2350 Ma
2700 Ma
VEINS IN HAMMERSLEY BASIN
REF-TEUTONIC BORE
DATA THIS STUDY
MILTALIE MINE
REF - KOONGIE PARK

Figure 2

APPENDIX 3

GEOLOGICAL LOGS FOR REVERSE CIRCULATION DRILLHOLES MRC1 and MRC2

Reverse Circulation Drillhole - MRC1 EL 2008 (Myora) May 1995

Hole No.	Sample No.	From	To	Rec.	Colour	Water	Hard.	Weath.	Reg.	Texture	Rocktype	Minerals	Alt.	Mag.Sus.	Comments
MRC1	1069243	0	1	M	CM	D	H	W	HC	MDWS	CC	QZCA		0	OPEN HOLE HAMMER 0-3M, CALCARENITE
MRC1	1069243	1	2	M	CM	D	H	W	HC	MDWS	CC	QZCA		0	CALCARENITE
MRC1	1069244	2	3	P	CM	D	H	W	HC	MDCS	CC	QZCA		0	CALCARENITE
MRC1	1069244	3	4	G	CM	D	H	W	HC	MDWS	CC	QZCL		0	CALCARENITE
MRC1	1069245	4	5	G	CMBN	D	H	W	HC	FNMD	CC	QZCA		0	
MRC1	1069245	5	6	G	CM	D	H	W	HC	MDWS	CC	QZCA		0	
MRC1	1069246	6	7	G	CM	D	H	W	HC	MDWS	CC	QZCA		0	
MRC1	1069246	7	8	G	CM	D	H	W	HC	FN	CC	CA		0	
MRC1	1069247	8	9	G	CMGR	D	S	W		FN	CCCL	CLCA		0	PALE GREY CLAY 70%, CC 30%
MRC1	1069247	9	10	G	CMGR	D	M	W		FN	CL	CLCA		0	FN SANDY CLAY
MRC1	1069248	10	11	G	CMGR	D	M	W		FN	CLSD	CLQZ		0	CLAY 70%, SAND 30%
MRC1	1069248	11	12	G	BN	M	S	W		FN	CLSD	CLQZ		0	CLAY 70%, SAND 30%
MRC1	1069249	12	13	P	RDBN	M	M	W		MDWS	SS	CLQZ		0	SAMPLE LOSS OUT OF MH36
MRC1	1069249	13	14	P	RD	M	M	W		MDWS	SS	QZCL		35	FE 1%
MRC1	1069250	14	15	M	RD	M	S	W		MDWS	SD	QZCL		15	UNCONSOLIDATED SAND
MRC1	1069250	15	16	M	CMRD	M	S	W		FNWS	SD	QZCL		20	FINE QZ SAND
MRC1	1069251	16	17	M	CMRD	M	S	W		FNWS	SD	QZ		20	
MRC1	1069251	17	18	M	DKGR	W	S	W	SP?	FNCS	SD	QZ		10	CS QZ GRAINS TO 3MM (1%)
MRC1	1069252	18	19	P	DKGR	W	S	W	SP?	FNCS	SD	QZ		10	WATER TABLE, CS QZ 2%,PY TR.
MRC1	1069252	19	20	G	DKGR	W	S	T	SP?	FNCS	SDCL	QZCL		15	ANGULAR CLEAR QZ 10%, PY 1%
MRC1	1069253	20	21	G	GR	W	S	T	SP?	FNCS	SDCL	QZCL		10	TRACE PY, SAPROLITIC GRANITE
MRC1	1069253	21	22	G	GR	W	S	T	SP	FNCS	SDCL	QZCL		15	CS QZ FRAGMENTS 5%, PY 1%
MRC1	1069254	22	23	G	GR	W	S	T	SP	FNCS	SDCL	QZCL		15	PY 1%
MRC1	1069255	23	24	G	GR	W	S	T	SP	FN	SDCL	QZCL		15	CS QZ 1%, TRACE PY
MRC1	1069256	24	25	G	GR	W	S	T	SP	FN	CL	CLMU		35	NO QZ GRAINS, FINE GRAINED INTRUSIVE?
MRC1	1069257	25	26	G	GR	W	S	T	SP	FN	CL	CLMUQZ		45	QZ 1%
MRC1	1069258	26	27	G	GR	W	S	T	SP	FN	CL	CLMUQZ		60	CS QZ 1%, PY 1%
MRC1	1069259	27	28	G	GR	M	S	T	SP	FN	CL	CLMU		60	PY TRACE
MRC1	1069260	28	29	G	GR	M	S	T	SP	FN	CL	CLMU		80	PY TRACE
MRC1	1069261	29	30	G	GR	M	S	T	SP	FN	CL	CLMU		60	
MRC1	1069262	30	31	G	GR	M	S	T	SP	FN	CL	CLMU		90	TRACE QZ
MRC1	1069263	31	32	G	GR	M	S	T	SP	FNCS	SDCL	CLQZMU		80	CS QZ 5%, PY 1%
MRC1	1069264	32	33	G	GR	M	S	T	SP	FN	CL	CLMU		60	TRACE PY, QZ
MRC1	1069265	33	34	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		60	CS QZ 5%, PY 2%
MRC1	1069266	34	35	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		70	CS QZ 15%, PY 5%

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MRC1	1069267	35	36	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		200	CS QZ 15%, PY 5%
MRC1	1069268	36	37	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		150	CS QZ 10%, PY 2%
MRC1	1069269	37	38	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		150	CS QZ 10%, PY 2%
MRC1	1069270	38	39	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		35	CS QZ 10%, PY 2%
MRC1	1069271	39	40	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		80	CS QZ 10%, PY 2%
MRC1	1069272	40	41	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		70	CS QZ 10%, CS FD 7%, PY 2%
MRC1	1069273	41	42	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		70	CS QZ 10%, CS FD 7%, PY 2%
MRC1	1069274	42	43	G	GR	M	S	T	SP	FNCS	SDCL	QZCLFDMU		70	CS QZ 10%, CS FD 7%, PY 2%
MRC1	1069275	43	44	G	GR	B	H	F	BR	FNCS	GR	QZFDPYBI		200	QZ 70%, FD 5%, PY 5%, BI?%
MRC1	1069276	44	45	G	GR	D	H	F	BR	FNCS	GR	QZFDPYBI		300	PY 15%, TRACE BI
MRC1	1069277	45	46	G	GR	D	H	F	BR	CSWF	GR	QZFDPYBI		350	PY 20%, TR SP?, PY FOLIATED BLEBS
MRC1	1069278	46	47	G	GR	D	H	F	BR	CSWF	GR	QZFDPYBI		300	PY 20%, TR SP?, PY FOLIATED BLEBS
MRC1	1069279	47	48	G	GR	D	H	F	BR	MDWF	GR?	QZFDPYBI		300	FINER GREY, SILICIFIED
MRC1	1069280	48	49	G	GR	D	H	F	BR	FNCS	GR?	QZBI		500	BN CRYSTALLINE MINERAL(SP?)1%, PY 1%
MRC1	1069281	49	50	G	GR	D	H	F	BR	FNCS	GR?	QZPYBI		550	BN MINERAL 2%, PY 5%
MRC1	1069282	50	51	G	GR	D	H	F	BR	FNCS	GR?	QZPYBI		500	BN MINERAL 2%, PY 5%
MRC1	1069283	51	52	G	GR	D	H	F	BR	FNCS	GR?	QZPYBI		500	PY 2%
MRC1	1069284	52	53	G	GR	D	H	F	BR	FNCS	GR?	QZPYBI		250	PY 10%, BN MINERAL TRACE
MRC1	1069285	53	54	G	GR	W	H	F	BR	FNCS	GR?	QZPYBI		300	PY 5%, END OF HOLE

Reverse Circulation Drillhole - MRC2									EL 2008 (Myora)			May 1995			
Hole No.	Sample No	From	To	Rec.	Colour	Water	Hard	Weath.	Reg	Texture	Rocktype	Minerals	Alt.	Mag.Sus.	Comments
MRC2	1069286	0	1	M	CMBN	D	H	W	HC	FNMD	CCSO	QZCA		150	CALC-ARENITE & BN WINDBLOWN SOIL
MRC2	1069286	1	2	M	CM	D	H	W	HC	FNWS	CC	QZCA		50	CALCARENITE
MRC2	1069287	2	3	M	CM	D	H	W	HC	FNWS	CC	QZCA		0	CALCARENITE
MRC2	1069287	3	4	G	CM	D	H	W	HC	FNWS	CC	QZCL		0	
MRC2	1069288	4	5	G	CM	D	H	W	HC	FNWS	CC	QZCA		0	
MRC2	1069288	5	6	G	CM	D	H	W	HC	FNWS	CC	QZCA		0	0-6M OPEN HOLE HAMMER
MRC2	1069289	6	7	G	CM	D	H	W	HC	FNWS	CC	QZCA		10	
MRC2	1069289	7	8	G	CMGR	D	H	W	HC	FNWS	CC	QZCA		10	
MRC2	1069290	8	9	G	CM	D	H	W	HC	FNWS	CC	QZCA		10	
MRC2	1069290	9	10	G	PLGR	I	M	W		FN	CLSD	CAQZCL		0	PALE GREY CLAY
MRC2	1069291	10	11	G	CMBN	I	S	W		FNMT	CL	CLCA		0	MOTTLED CLAY
MRC2	1069291	11	12	G	CMGR	I	S	W		FNMT	CL	CLCA		0	MOTTLED CLAY
MRC2	1069292	12	13	P	DKGR	I	S	W		FN	CL	CL		0	
MRC2		13	14	N										0	NO SAMPLE
MRC2	1069293	14	15	M	CMBN	I	S	W		FN	CL	CLQZ		0	FINE SANDY CLAY
MRC2	1069293	15	16	M	CM	I	S	W		FN	CL	CLQZ		0	FINE SANDY CLAY
MRC2	1069294	16	17	G	CM	I	S	W	SP	FNCS	CLSD	CLQZ		0	CS ANGULAR QZ 2%,FE (OX.PY)1%
MRC2	1069294	17	18	G	CM	I	S	W	SP	FNCS	CLSD	CLQZ		0	FE 1%, SAPROLITIC GRANITE?
MRC2	1069295	18	19	G	BN	I	S	W	SP	FNCS	CLSD	CLQZ		0	FE 2%
MRC2	1069296	19	20	G	PLKK	I	S	T	SP	FNCS	CLSD	CLQZPY		0	CS QZ 5%,GN TARNISHED PY 2%
MRC2	1069297	20	21	G	PLKK	I	S	T	SP	FNCS	CLSD	CLQZPY		0	CS QZ 5%,GN TARNISHED PY 2%
MRC2	1069298	21	22	G	GR	I	S	T	SP	FN	CL	CL		0	TRACE QZ
MRC2	1069299	22	23	G	GR	I	S	T	SP	FN	CL	CL		0	TRACE QZ, PY
MRC2	1069300	23	24	G	GR	I	S	T	SP	FN	CL	CL		0	TRACE QZ, PY
MRC2	1069301	24	25	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 5%, PY 1%
MRC2	1069302	25	26	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 2%, PY TRACE
MRC2	1069303	26	27	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 2%, PY 1%
MRC2	1069304	27	28	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 2%, PY TRACE
MRC2	1069305	28	29	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 5%, PY 2%
MRC2	1069306	29	30	G	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 5%, PY 1%
MRC2	1069307	30	31	M	GR	I	S	T	SP	FNCS	SDCL	CLQZ		0	CS QZ 5%, PY 1%
MRC2	1069308	31	32	M	GR	I	S	T	SP	FNCS	SDCL	CLQZPY		10	CS QZ 10%, PY 2%
MRC2	1069309	32	33	G	GR	I	S	T	SP	FNCS	SDCL	QZCL		20	CS QZ 10%, PY 1%
MRC2	1069310	33	34	G	GR	I	S	T	SP	FNCS	SDCL	QZCL		10	CS QZ 2%, PY TRACE
MRC2	1069311	34	35	G	GR	I	S	T	SP	FNCS	SDCL	QZCL		10	CS QZ 5%, PY 1%
MRC2	1069312	35	36	G	GR	I	S	T	SP	FNMD	CL	QZCL		0	CS QZ 1%, PY TRACE
MRC2	1069313	36	37	G	GR	I	S	T	SP	FNCS	SDCL	QZCL		5	CS QZ 5%, PY 1%

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MRC2	1069315	37	38	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBIPY		0	CS QZ 15%, PY 2%, BI FLAKES?
MRC2	1069316	38	39	G	GR	I	S	F	SP	FNCS	SDCL	QZCL		0	CS QZ 5%, TRACE PY
MRC2	1069317	39	40	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		0	CS QZ 20%
MRC2	1069318	40	41	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		55	CS QZ 5%
MRC2	1069319	41	42	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		50	CS QZ 5%, PY 1%
MRC2	1069320	42	43	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		40	CS QZ 5%, PY 1%
MRC2	1069321	43	44	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		50	CS QZ 15%, PY 5%, BI 2%
MRC2	1069322	44	45	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		50	CS QZ 15%, PY 5%, BI 2%
MRC2	1069323	45	46	G	GR	I	S	F	SP	FNCS	SDCL	QZCLBI		50	CS QZ 5%, PY 1%
MRC2	1069324	46	47	G	DKGR	B	M	F		FNCS	SDCL	QZBICHCL		40	CS QZ 5%, PY 1%
MRC2	1069325	47	48	G	DKGR	B	M	F		FNCS	GR	QZBICHPYCL		50	CS QZ 20%, BI 1%, PY 2%, SP? TRACE
MRC2	1069326	48	49	G	DKGR	W	M	F		FNCS	GR	QZBICHPYCL		50	CS QZ 20%, BI 1%, PY 2%, SP? TRACE
MRC2	1069327	49	50	G	DKGR	B	M	F		FNCS	GR?	QZBICLFDCL		55	END OF HOLE, CS QZ 10%, FD 10%, PY & BI TRACE

00056

RETURN				COLOUR			
G	Good			Bk	Black	Ms	Mustard
M	Moderate			Bl	Blue	Og	Orange
P	Poor			Bn	Brown	Pi	Pink
N	Nil			Bf	Buff	Pp	Purple
				Cm	Cream	Rd	Red
				Gn	Green	Tn	Tan
H2O				Gr	Grey	Wh	White
B	Blowndry			Kk	Khaki	Yw	Yellow
D	Dry						
I	Injected						
M	Moist			HARDNESS			
W	Wet			H	Hard		
				M	Medium		
				S	Soft		
WEATHERING							
F	Fresh						
T	Transition			REGOLITH			
W	Weathered			Br	Bedrock	Pz	Pallid Zone
				Cl	Clay	Sd	Sand
				Hc	Hardcap Zone	Sp	Saprolite Zone
TEXTURE				Is	Ironstone	Sr	Saprock
Ba	Banded	My	Mylonitic	Mz	Mottled Zone	Tl	Laterite Zone
Bo	Boxworks	Pd	Powdered	Pi	Pisolite Zone	Wb	Weathered Bedrock
Bx	Brecciated	Po	Porphyritic				
Cr	Crumbly	Sf	Strong foliation				
Cs	Coarse	Vn	Veined	ROCKTYPE			
Fb	Fibrous	Vg	Vuggy	Am	Amphibolite	Cc	Calcrete
Fn	Fine (grained)	Wf	Weak foliation	Bx	Breccia	Pd	Powder
Fr	Fractured	Wsr	Well sorted	Cg	Conglomerate	Pg	Pegmatite
Ib	Interbedded	Msr	Moderately sorted	Ch	Chert	Ph	Phyllite
Lm	Laminated	Psr	Poorly sorted	Cl	Clay	Pi	Pisolite
Md	Medium (grained)	Pb	Pebbly	Ct	Contaminated	Pp	Porphyry
Mf	Medium foliation	Ag	Angular (grains)	Dl	Dolerite	Qt	Quartzite
Ms	Massive	Sg	Subrounded (grains)	Eb	Basic Volcanic	Qz	Quartz
Mt	Mottled	Rg	Rounded (grains)	Ee	Epiclastic	Qv	Quartz vein
Mi	Migmatitic			Ev	Volcaniclastic	Sa	Saprolite
				Gn	Gneiss	Sc	Schist
				Gr	Granite	Sd	Sand
DOMINANT MINERALS				Gs	Graphitic Shale	Sh	Shale
Am	Amphibolite	Gf	Graphite	Gv	Gravel	Si	Siltstone
As	Arsenopyrite	Gn	Garnet	Gw	Greywacke	Sl	Slate
Az	Azurite	Gp	Graphite	Hc	Hardcap	So	Soil
Bi	Biotite	Hm	Haematite	Hs	Haematitic Shale	Ss	Sandstone
Bq	Blue quartz	Ml	Malachite	Is	Ironstone	St	Siltstone
Bt	Bornite	Mi	Mica	Li	Lithic	Tf	Tuff
Ca	Carbonate	Mu	Muscovite	Ls	Laminated Shale	Tl	Laterite
Cc	Chalcocite	Mt	Magnetite	Lm	Limestone	Tr	Transported
Cl	Clay	Po	Pyrrhotite	Mk	Mullock	Va	Acid Volcanic
Ch	Chlorite	Py	Pyrite	Mz	Mottled Zone	Vb	Basalt
Co	Chalcopyrite	Px	Pyroxene			Vi	Intermediate Volcanic
Cv	Covellite	Qz	Quartz			Vp	Pillow Basalt
Cu	Cuprite	Se	Sericite				
Ep	Epidote	Sl	Sillimanite				
Fe	Iron/Limonite	Sp	Sphalerite	ALTERATION			
Fd	Feldspar	Su	Sulfides	Ab	Albite	Mt	Magnetite
Ga	Galena	Tc	Talc	Bi	Biotite	Mu	Muscovite
Gh	Gahnite			Cb	Carbonate	Si	Silica
				Ch	Chlorite	Se	Sericite
				Fe	Iron/Limonite	Tc	Talc
QUALIFIER				Gt	Goethite	Tm	Tourmaline
Dk	Dark	St	Strong	Hm	Haematite	Ze	Zeolite
Dm	Disseminated	Tr	Trace	Mn	Manganese		
Lt	Light	Vm	Very Minor				
Md	Moderate	Vy	Very				
Mr	Minor	Wk	Weak	QUARTZ TYPE			
Pv	Pervasive			Vg	Vuggy	Mi	Milky
				Ch	Chalcedonic	Rp	Replacement
				Vn	Vein		
GENERIC ROCK TYPE							
Pe	Pelite						
Ps	Psammite						
Pm	Psammopelite						

APPENDIX 4

ANALYTICAL RESULTS FOR DRILLHOLES MRC1 and MRC2

MINERAL CHEMISTRY

Amdel Laboratories Ltd
PO Box 338
Torrensville Plaza SA 5031
ACN 009 076 555

Telephone (08) 416 5300
Facsimile (08) 234 0321

Mr Craig Mackay
Acacia Resources Limited
GPO Box 4336PP
MELBOURNE VIC 3001

FINAL ANALYSIS REPORT

Your Order No: 000009/S40036/CRM

Our Job Number : 5AD2214

Sample rec'd : 02/06/95

Results reported : 21/06/95

No. of samples : 84

Report comprises a cover sheet and pages 1 to 4

This report relates specifically to the samples tested in so far that the samples as supplied are truly representative of the sample source.

Myrona Reverse Circulation Drilling
Holes MRC1 & MRC2.

Approved Signature:

for
Alan Ciplys
Manager - Mineral Chemistry
AMDEL LABORATORIES ADELAIDE

CC	C Mackay	MELBOURNE
EM	C Mackay	MELBOURNE BBS

Report Codes:
N.A. - Not Available.
L.N.R. - Listed But Not Received.
I.S. - Insufficient Sample.

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

amdel

Job: 5AD2214
O/N: 000009/S40036/CRM

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ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	Mn	Ni	Co
1069243	3	10	19	<1	25	4	<2
1069244	3	5	5	<1	25	3	<2
1069245	2	<5	4	<1	35	4	<2
1069246	2	5	3	<1	50	4	2
1069247	5	10	37	<1	70	13	11
1069248	5	5	44	<1	45	12	6
1069249	4	<5	5	<1	20	8	<2
1069250	3	<5	4	<1	<10	4	<2
1069251	4	10	3	<1	<10	5	<2
1069252	67	15	27	<1	20	14	6
1069253	150	30	105	<1	30	36	12
1069254	170	35	125	<1	35	37	12
1069255	260	190	980	1	35	51	20
1069256	280	55	260	<1	30	48	23
1069257	220	50	260	<1	35	48	23
1069258	220	55	280	<1	35	49	25
1069259	240	50	240	<1	35	52	26
1069260	195	340	800	<1	40	50	32
1069261	145	280	760	<1	30	49	28
1069262	135	95	320	<1	35	57	36
1069263	200	85	280	<1	50	51	33
1069264	140	45	220	<1	50	46	26
1069265	180	400	920	2	55	46	29
1069266	200	640	1800	2	55	46	37
1069267	240	320	460	2	60	53	19
1069268	220	300	1700	1	50	56	31
1069269	155	220	800	1	40	65	26
1069270	155	1000	3900	2	45	51	25
* 1069271	260	1300	5900	3	55	52	33
1069272	190	50	115	<1	65	46	26
1069273	150	55	600	1	105	48	31
1069274	99	60	360	<1	155	32	15
1069275	155	45	280	<1	240	43	23
1069276	145	50	240	<1	240	33	21
1069277	160	60	240	<1	240	42	34
1069278	160	50	220	<1	260	41	24
1069279	97	50	300	<1	300	28	13
1069280	120	35	220	<1	320	34	20
1069281	155	50	260	<1	340	38	22
1069282	175	35	200	<1	220	49	33
1069283	175	620	680	<1	190	51	40
1069284	180	440	780	1	160	53	41
1069285	200	400	840	1	195	54	33
1069286	3	5	23	<1	50	3	<2
1069287	<2	5	5	<1	25	2	<2
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	2	5	2	1	10	2	2
SCHEME	IC1E	IC1E	IC1E	IC1E	IC1E	IC1E	IC1E

amdel

Job: 5AD2214
O/N: 000009/S40036/CRM

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ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	Mn	Ni	Co
1069288	<2	<5	3	<1	25	3	<2
1069289	15	25	53	<1	40	7	5
1069290	9	15	30	<1	80	11	7
1069291	24	45	81	<1	35	14	7
1069292	200	300	620	<1	115	47	26
1069293	4	<5	10	<1	<10	6	<2
1069294	5	5	5	<1	<10	5	<2
1069295	81	105	280	<1	45	23	8
1069296	9	40	8	<1	25	7	4
1069297	45	30	66	<1	20	10	12
1069298	160	40	760	<1	20	45	55
1069299	185	35	1200	<1	25	54	63
1069300	200	20	1000	<1	25	94	98
1069301	140	25	380	<1	25	62	38
1069302	145	35	460	<1	30	62	37
1069303	180	15	400	<1	20	52	27
1069304	190	45	800	<1	25	54	43
1069305	165	110	720	<1	30	50	38
1069306	160	280	1300	2	55	53	39
1069307	120	55	400	<1	65	40	25
1069308	200	75	840	<1	65	52	38
1069309	150	20	300	<1	60	49	28
1069310	140	45	600	<1	95	42	29
1069311	110	55	420	<1	100	40	22
1069312	340	50	340	1	90	55	34
1069313	200	20	260	<1	95	53	28
1069315	185	15	260	<1	85	56	30
1069316	155	15	320	<1	85	55	31
1069317	150	20	300	<1	115	46	27
1069318	220	20	240	<1	175	50	27
1069319	125	20	240	<1	220	51	28
1069320	97	25	200	<1	200	51	28
1069321	165	25	260	<1	200	43	23
1069322	175	30	300	<1	190	43	25
1069323	280	30	170	1	185	45	37
1069324	3100	30	100	4	185	48	36
1069325	700	40	110	3	220	45	40
1069326	480	35	130	2	220	47	25
1069327	300	20	73	2	220	41	15
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	2	5	2	1	10	2	2
SCHEME	IC1E	IC1E	IC1E	IC1E	IC1E	IC1E	IC1E

amdel

00062

Job: 5AD2214
O/N: 000009/S40036/CRM

nal

ANALYTICAL REPORT

SAMPLE	Au	Au Dp1	Pt	Pd
1069243	<1	--	<5	<1
1069244	<1	--	<5	<1
1069245	<1	--	<5	<1
1069246	<1	--	<5	<1
1069247	<1	--	<5	<1
1069248	<1	--	<5	<1
1069249	<1	--	<5	<1
1069250	<1	--	<5	<1
1069251	<1	--	<5	<1
1069252	<1	--	<5	<1
1069253	<1	--	<5	<1
1069254	1	--	<5	<1
1069255	3	--	<5	<1
1069256	3	--	<5	<1
1069257	4	--	<5	<1
1069258	3	--	<5	<1
1069259	3	--	<5	<1
1069260	3	--	<5	<1
1069261	1	--	<5	<1
1069262	1	--	<5	<1
1069263	4	--	<5	<1
1069264	3	--	<5	<1
1069265	1	--	<5	<1
1069266	1	--	<5	<1
1069267	4	--	<5	<1
1069268	4	--	<5	<1
1069269	<1	--	<5	<1
1069270	1	--	<5	<1
1069271	2	--	<5	<1
1069272	5	--	<5	<1
1069273	4	--	<5	<1
1069274	2	--	<5	<1
1069275	4	--	<5	<1
1069276	4	--	<5	<1
1069277	5	--	<5	<1
1069278	3	--	<5	<1
1069279	1	--	<5	<1
1069280	2	--	<5	<1
1069281	2	--	<5	<1
1069282	2	--	<5	<1
1069283	3	--	<5	<1
1069284	4	--	<5	<1
1069285	4	--	<5	<1
1069286	<1	--	<5	<1
1069287	<1	--	<5	1
UNITS	ppb	ppb	ppb	ppb
DET.LIM	1	1	5	1
SCHEME	FA3	FA3	FA3	FA3

amdel

nal

Job: 5AD2214
O/N: 000009/S40036/CRM

ANALYTICAL REPORT

SAMPLE	Au	Au Dp1	Pt	Pd
1069288	<1	--	<5	<1
1069289	<1	--	<5	<1
1069290	<1	--	<5	<1
1069291	<1	--	<5	<1
1069292	3	--	<5	<1
1069293	<1	--	<5	<1
1069294	<1	--	<5	<1
1069295	<1	--	<5	<1
1069296	<1	--	<5	<1
1069297	<1	--	<5	<1
1069298	4	--	<5	<1
1069299	5	--	<5	<1
1069300	7	--	<5	<1
1069301	4	--	<5	<1
1069302	4	--	<5	<1
1069303	4	--	<5	<1
1069304	4	--	<5	<1
1069305	4	--	<5	<1
1069306	3	--	<5	<1
1069307	2	--	<5	<1
1069308	4	--	<5	<1
1069309	7	--	<5	<1
1069310	3	--	<5	<1
1069311	5	--	<5	<1
1069312	5	--	<5	<1
1069313	3	--	<5	<1
1069315	<1	--	<5	<1
1069316	1	--	<5	<1
1069317	<1	--	<5	<1
1069318	<1	--	<5	<1
1069319	2	--	<5	<1
1069320	2	--	<5	<1
1069321	2	--	<5	<1
1069322	3	--	<5	<1
1069323	2	--	<5	<1
1069324	2	--	<5	<1
1069325	2	--	<5	<1
1069326	<1	--	<5	<1
1069327	3	--	<5	<1
UNITS	ppb	ppb	ppb	ppb
DET.LIM	1	1	5	1
SCHEME	FA3	FA3	FA3	FA3

APPENDIX 5

AMDEL PETROLOGY REPORT ON REVERSE CIRCULATION DRILLCHIP SAMPLES

amdel

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16 June 1995

Mr. Craig Mackay
Acacia Resources Limited
GPO Box 4336 PP
MELBOURNE VIC 3001

REPORT G881800G/95
PETROLOGY OF SEVEN DRILL CHIP SAMPLES

YOUR REFERENCE:	Sample despatch order code 000010 CRM
SAMPLE IDENTIFICATION:	In report
MATERIAL:	7 drill chip samples
LOCATION:	Eyre Peninsula, SA
DATE RECEIVED:	6 June 1995
WORK REQUIRED:	Petrography, mineragraphy and photomicrography (7 Code PET 3.2.2 and PET 4.1)

Investigation and Report by: Frank Radke

Frank Radke
for.

Dr Keith J Henley
Manager, Mineralogical Services

The results contained in this report relate only to the sample(s) submitted for testing. Amdel Ltd accepts no responsibilities for the representivity of the sample(s) submitted.

btw

PETROLOGY OF SEVEN DRILL CHIP SAMPLES

1. INTRODUCTION

Seven drill chip samples from the Eyre Peninsula, South Australia, were submitted by Acacia Resources Limited for petrographic and mineragraphic examination. A photomicrograph of each sample was also requested.

2. PROCEDURE

A polished thin section was made of each sample and examined by reflected and transmitted light microscopy. Photomicrographs were taken to illustrate typical minerals and textural relationships.

The hand specimens were stained with sodium cobaltinitrite after a hydrofluoric acid etch to detect the possible presence and location of potash feldspar. This is mentioned in the individual hand specimen descriptions only where potash feldspar has been detected.

3. PETROGRAPHIC AND MINERAGRAPHIC DESCRIPTIONS

The individual descriptions follow. Photomicrographs illustrating these samples are given in plates 1-10.

SAMPLE MRC1(45-46m): TSC64030

ROCK NAME Quartz-sillimanite-cordierite schist

HAND SPECIMEN

This sample consists of medium grey chips up to about 1 cm in size which generally exhibit a weakly foliated texture.

POLISHED THIN SECTION

An optical estimate of the constituents gives the following:

Mineral	%	Origin
Quartz	30	Metamorphic
Sericite	25	Alteration
Pyrite	20	Metamorphic/alteration
Muscovite	8	Metamorphic
Sillimanite (fibrolite)	5	Metamorphic
Plagioclase	5	Metamorphic
Cordierite	3	Metamorphic
Biotite	2	Metamorphic
Magnetite	1	Metamorphic
Rutile	1	Metamorphic
Chalcopyrite	Tr	Metamorphic
Marcasite	Tr	Alteration
Zircon	Tr	Metamorphic
Pyrrhotite	Tr	Metamorphic

This sample consists mainly of granoblastic quartz intergrown with finely divided muscovite/sericite as well as localised concentrations of other minerals. The quartz forms a strongly recrystallised mosaic with a grainsize ranging up to 1 mm. Generally the quartz is concentrated in slightly elongate bodies which have a subparallel orientation defining a foliation direction. The quartz typically exhibits sutured grain margins and very well-developed undulose, strained extinction.

Both cordierite and sillimanite are disseminated through the rock. The cordierite typically forms anhedral crystals up to 2 mm in size which generally show marginal alteration to finely divided sericite. The sillimanite forms fibrous textured aggregates up to 2 mm in size as well as fibrous intergrowths with cordierite. Much of the quartz is intergrown with a finely divided sericite, a significant proportion of which could represent altered cordierite.

Locally, plagioclase crystals up to 1 mm in size form granoblastic intergrowths with the quartz. The plagioclase is generally fresh, although at least some plagioclase shows alteration to finely divided sericite/clay. Locally, the plagioclase also exhibits very fine myrmekitic intergrowths of quartz.

Both muscovite and biotite form disseminated flakes up to 1 mm in length which are generally intergrown with the finely divided sericite. At least locally both the biotite and muscovite exhibit a weakly developed preferred orientation defining a foliation direction.

Pyrite is disseminated through the rock as anhedral grains ranging up to several millimetres in size which are generally located interstitially between the granular quartz or occur as intergrowths with the finely divided sericite. There appears to be two generations of pyrite comprised of a well-polished pyrite which is thought to be of essentially metamorphic origin and a colloform pyrite which is very likely a supergene pyrite after pyrrhotite. Examples of the two pyrite types are given in Plate 3. At least some of the colloform pyrite shows marginal recrystallisation forming better polished pyrite aggregates. Minor marcasite is locally intergrown with this recrystallised pyrite.

Although pyrite is the major sulphide in this sample, traces of chalcopyrite and pyrrhotite were also noted. The chalcopyrite forms anhedral disseminated grains up to 0.5 mm in size which are generally associated with the colloform textured pyrite. A single pyrrhotite grain ~0.3 mm in size was noted in this sample.

Accessory magnetite and rutile form anhedral to subhedral disseminated grains ranging up to 0.5 mm in size. Traces of zircon also form small, disseminated grains below 0.2 mm long.

This is an amphibolite facies grade metamorphic rock representing a metamorphosed argillaceous sediment as indicated by its highly aluminous character with the presence of both cordierite and sillimanite. The cordierite in particular shows retrograde alteration to finely divided sericite.

It is thought that the original metamorphic sulphide assemblage of this sample consisted of pyrrhotite, pyrite and chalcopyrite but most of the pyrrhotite has been altered to pyrite, most likely under supergene conditions. Photomicrographs of this sample are given in plates 2 and 3.

SAMPLE MRC1(53-54m): TSC14031

ROCK NAME Quartz-cordierite-sillimanite schist

HAND SPECIMEN

This sample consists of medium to pale grey chips with a moderately well-developed schistose foliation. Most of the chips are below 1 cm in size although a small number of larger chips up to 3 cm in size are present.

POLISHED THIN SECTION

An optical estimate of the constituents gives the following:

Mineral	%	Origin
Quartz	30	Metamorphic
Cordierite	25	Metamorphic
Pyrite	15	Metamorphic/alteration
Plagioclase	12	Metamorphic
Sillimanite (fibrolite)	5	Metamorphic
Biotite	5	Metamorphic
Muscovite	3	Metamorphic
Sericite/clay	3	Alteration
Rutile	1	Metamorphic
Chalcopyrite	Tr	Metamorphic
Marcasite	Tr	Alteration
Zircon	Tr	Metamorphic
Pyrrhotite	Tr	Metamorphic

This sample consists mainly of a granoblastic quartz and cordierite intergrowth with a grainsize ranging up to ~1.5 mm. The quartz forms a strongly deformed, granoblastic mosaic with sutured grain margins and undulose, strained extinction. The quartz is concentrated in bodies up to a few millimetres wide which generally have a polycrystalline character with a typical grainsize between 0.3 and 1 mm.

The cordierite forms large, xenoblastic crystals up to 2 mm in size. Many of the cordierite crystals contain intergrowths of a fibrous textured sillimanite but other cordierite crystals contain little, if any, sillimanite. The cordierite is generally quite fresh, although locally it shows some alteration to secondary phyllosilicates included with the sericite/clay in the above list of minerals. These phyllosilicates consist of weakly to moderately birefringent clay minerals including sericite as well as a green, possibly chloritic, alteration product.

Plagioclase forms localised granoblastic intergrowths with the quartz. The plagioclase crystals range up to 1.5 mm in size and exhibit polysynthetic twinning. Some of the plagioclase shows incipient alteration to finely divided sericite/clay.

Both muscovite and biotite form disseminated flakes up to 1 mm in length which generally exhibit a weakly developed preferred orientation defining a lepidoblastic foliation. The biotite is a very weakly pleochroic, pale brown variety.

Pyrite is disseminated through the rock as anhedral grains generally below 1 mm in size. Most of the pyrite has a slightly porous character and is thought to represent an alteration product of original pyrrhotite. A small proportion of the pyrite forms anhedral to subhedral crystals which are thought to be of primary metamorphic origin. In some areas the porous pyrite exhibits a slight banded, colloform texture but in other areas it shows some evidence of recrystallisation. Some of the recrystallised pyrite contains intergrowths of marcasite. Traces of chalcopyrite form anhedral, disseminated grains up to 0.2 mm in size which are generally associated with the porous pyrite. Traces of pyrrhotite were also noted locally as anhedral grains up to 0.2 mm in size.

Accessory rutile forms anhedral, disseminated crystals up to 0.5 mm in size. Traces of zircon form disseminated crystals below 0.1 mm in size. Both the rutile and zircon commonly exhibit pleochroic haloes where they occur as inclusions in cordierite.

This is an amphibolite facies grade metamorphic rock representing a metamorphosed argillaceous sediment which is very similar in mineralogy, texture and origin to sample MRC1(45-46m), except that the cordierite in this sample is much fresher, showing only incipient alteration to secondary phyllosilicates. Photomicrographs of this sample are given in plates 4 and 5.

SAMPLE MRC2(43-44m): TSC64032

ROCK NAME Quartz-mica schist

HAND SPECIMEN

This sample consists of angular chips up to ~1 mm in size comprised mainly of pale grey quartz. Small amounts of mica are locally intergrown with some of the chips. The sample also contains some sulphides including small, sulphide-rich particles up to ~1 mm in size.

POLISHED THIN SECTION

An optical estimate of the constituents gives the following:

Mineral	%	Origin
Quartz	80	Metamorphic
Biotite	5	Metamorphic
Plagioclase	5	Metamorphic
Muscovite	3	Metamorphic
Sericite/clay	3	Alteration
Pyrite	3	Metamorphic/alteration
Rutile	1	Metamorphic
Hornblende	Tr	Metamorphic
Chlorite	Tr	Alteration
Garnet	Tr	Metamorphic
Sillimanite	Tr	Metamorphic
Marcasite	Tr	Alteration
Chalcopyrite	Tr	Metamorphic
Pyrrhotite	Tr	Metamorphic

This sample consists mainly of a granoblastic quartz mosaic with a grainsize ranging up to ~1.5 mm. The quartz has a strongly deformed texture exhibiting sutured grain margins and undulose, strained extinction. Locally, minor plagioclase forms xenoblastic crystals intergrown with the quartz. Some of the plagioclase tends to be concentrated in vague, vein-like structures.

Both biotite and muscovite form well-developed flakes up to 1.5 mm in length which are intergrown with the quartz. The biotite exhibits a reddish-brown, pleochroic colour. Minor hornblende is also locally present as weakly prismatic crystals up to 1.5 mm in size. Within localised areas small amounts of sillimanite occur as acicular inclusions within quartz grains. A single xenoblastic garnet crystal ~1 mm in size was also noted in this sample.

The plagioclase is generally quite fresh, although within localised areas plagioclase shows moderate alteration to finely divided sericite/clay. The rock also contains a small number of sericite/clay-rich patches up to 1 mm in size which appear to be completely altered mineral grains. These could represent completely altered plagioclase or possibly completely altered cordierite crystals. The garnet also shows some alteration to secondary phyllosilicates which have been included with the sericite/clay. The biotite locally shows alteration to a pale green chlorite with anomalous blue interference colours.

Pyrite occurs mainly as individual, liberated particles up to a few millimetres in size whose relationship to the silicate minerals are difficult to determine. Pyrite also occurs as anhedral, disseminated grains which are intergrown with the quartz. At least some of this pyrite has a porous, colloform texture and is thought to be an alteration product of pyrrhotite. Minor pyrite also occurs as discontinuous vein fillings below 0.1 mm wide and as fine lamellar intergrowths with biotite and chlorite. Traces of marcasite are locally intergrown with the pyrite including pyrite vein fillings. Traces of chalcopyrite are locally intergrown with the pyrite as anhedral grains below 0.1 mm in size. A single pyrrhotite grain, ~0.5 mm in size was noted and is intergrown with a subhedral pyrite crystal.

Accessory rutile forms disseminated grains up to 0.3 mm in size.

This is an amphibolite facies grade metamorphic rock representing a metamorphosed quartz-rich sediment such as an impure sandstone. Some clay minerals were probably present in the original sediment as indicated by the presence of mica and small amounts of sillimanite. Although no cordierite was noted in this sample, it is possible that some of the highly altered grains could have originally been cordierite. Photomicrographs of this sample are given in plates 6 and 7.

SAMPLE MRC2(49-50m): TSC64033

ROCK NAME Metamorphosed granite

HAND SPECIMEN

This sample consists of medium grey chips generally below 1 cm in size. Microchemical tests show that many of the chips contain moderate to high proportions of potash feldspar.

POLISHED THIN SECTION

An optical estimate of the constituents gives the following:

Mineral	%	Origin
Quartz	35	Metamorphic
Microcline	20	Metamorphic
Sericite/clay	17	Alteration
Plagioclase	15	Metamorphic
Chlorite	5	Alteration
Pyrite	5	Alteration
Marcasite	1	Alteration
Rutile	1	Metamorphic
Muscovite	1	Metamorphic
Biotite	Tr-1	Metamorphic
Zircon	Tr	Metamorphic

This sample consists mainly of a coarsely granular quartz and feldspar intergrowth with a typical grainsize ranging up to 3 mm. The quartz tends to be concentrated in bodies up to several millimetres in size which have a strongly deformed, polycrystalline texture with sutured grain margins and undulose, strained extinction. The feldspar consists of approximately equal amounts of microcline and polysynthetically twinned plagioclase.

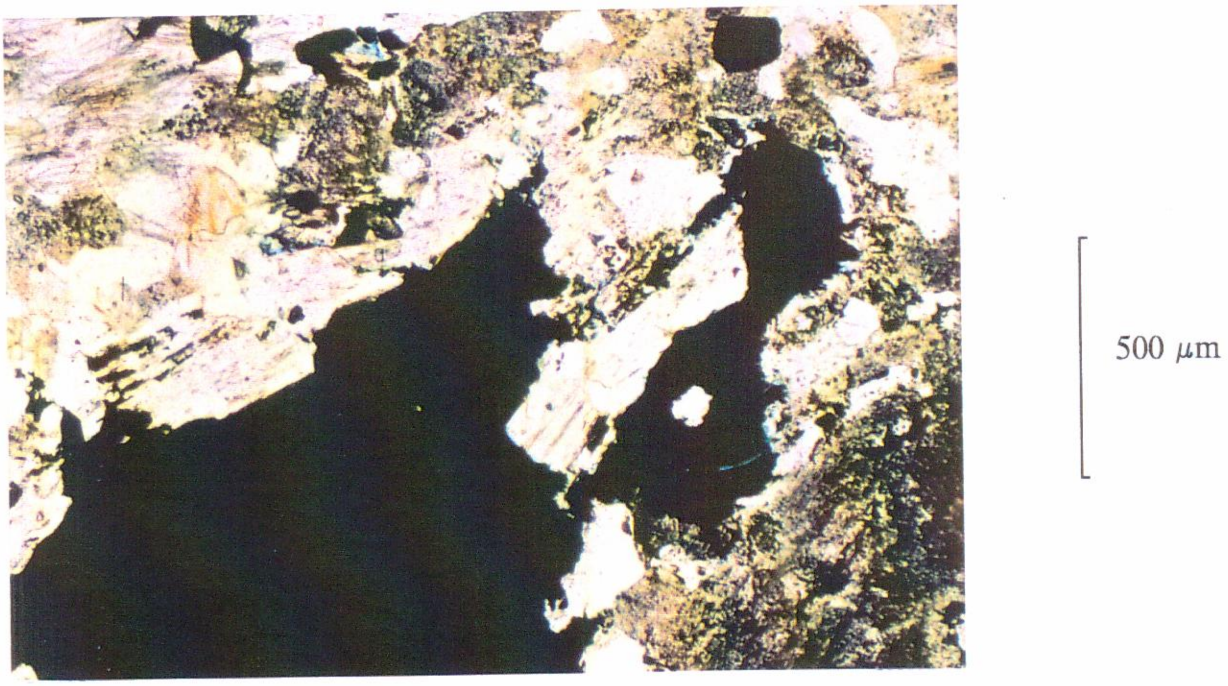
The plagioclase shows moderate to pervasive alteration to finely divided sericite/clay which locally produces a turbid character. Some well-developed muscovite flakes up to 1 mm in length are also disseminated through the rock and are probably of metamorphic origin. Chlorite forms well-developed flakes up to 1 mm in length which are thought to represent completely altered biotite flakes. Some of these chlorite flakes contain minor remnants of biotite. Traces of biotite were also noted as small flakes below 0.2 mm in length which are included within quartz or feldspar.

Most of the pyrite in this polished thin section occurs as individual particles up to 5 mm in size. Other pyrite forms anhedral, disseminated grains intergrown with the rock chips. Virtually all of the pyrite has a slightly porous appearing character or contains intergrown marcasite, suggesting it is a recrystallised colloform pyrite. Some of the pyrite forms intergrowths with sericite/clay and could be associated with this alteration.

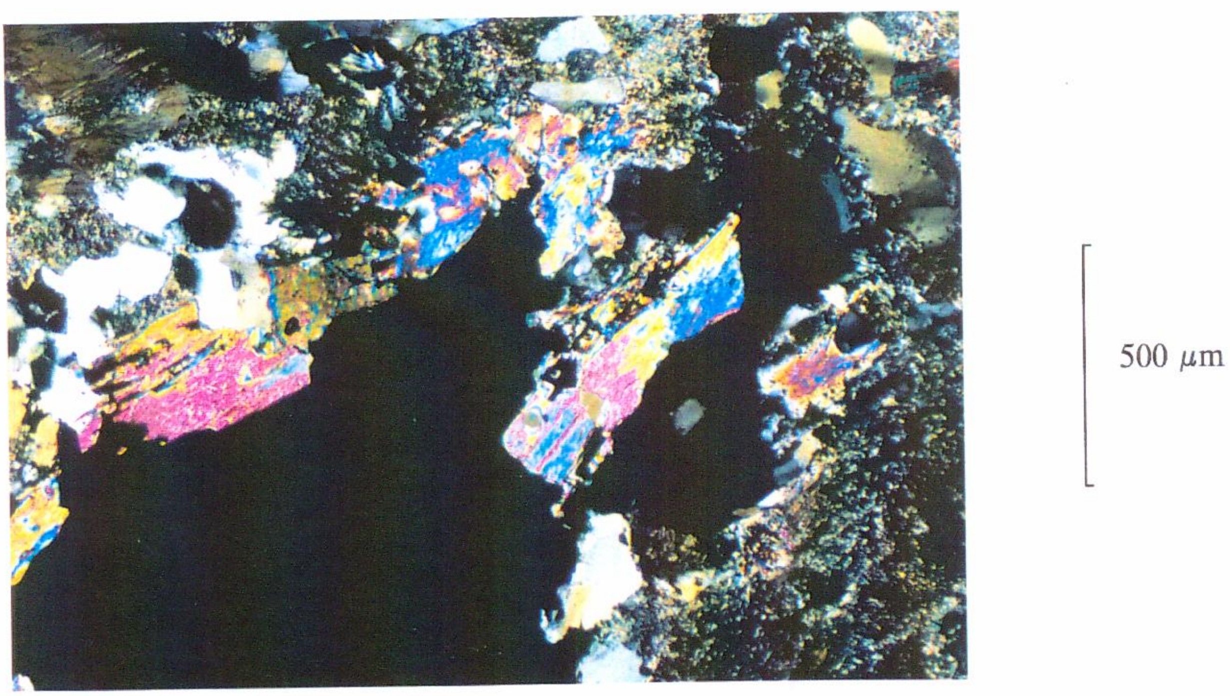
Accessory rutile forms disseminated crystals up to 1 mm in size. Traces of zircon were also noted as small, disseminated crystals below 0.1 mm in size.

This is a metamorphic rock thought to represent a granite or adamellite which has been subjected to metamorphism and retrograde alteration with the development of abundant phyllosilicates. The only sulphide in this sample is pyrite which is generally thought to be an alteration product, possibly associated with the development of secondary phyllosilicates. Photomicrographs of this sample are given in plate 8.

PLATE 2: Sample MRC1(45-46m): TSC64030



(a) Plane polarised transmitted light (11,5)

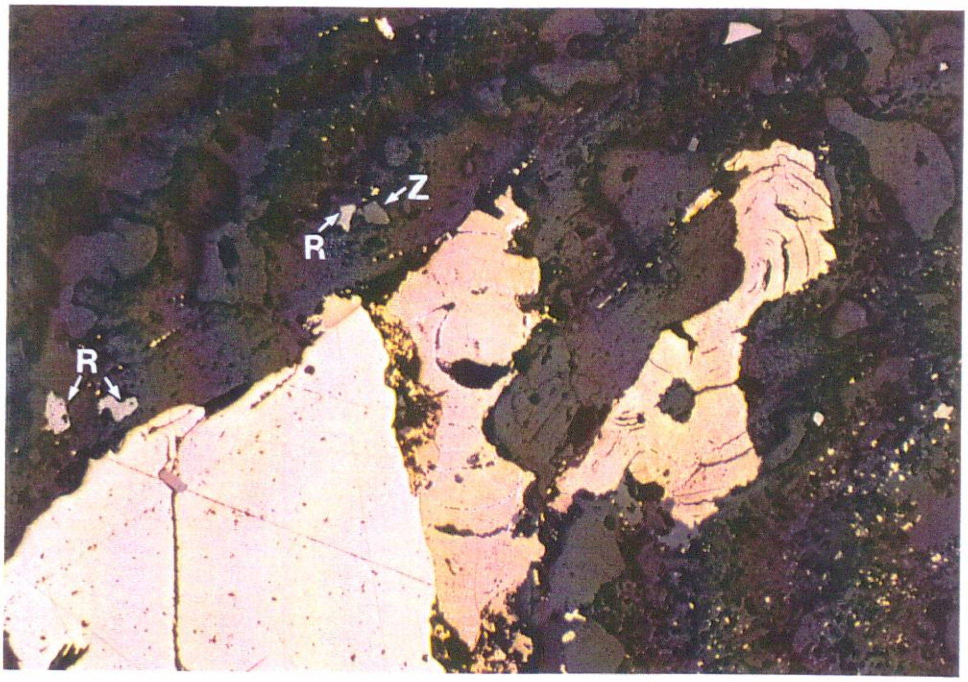


(b) Transmitted light; crossed polars (12,5)

Opaque (black) sulphides with marginal intergrowths of muscovite as white, birefringent flakes are in a matrix of sericite/clay intergrown with granular quartz (white with pale grey to yellow interference colours).

PLATE 3: Sample MRC1(45-46m): TSC64030

00076



500 μm

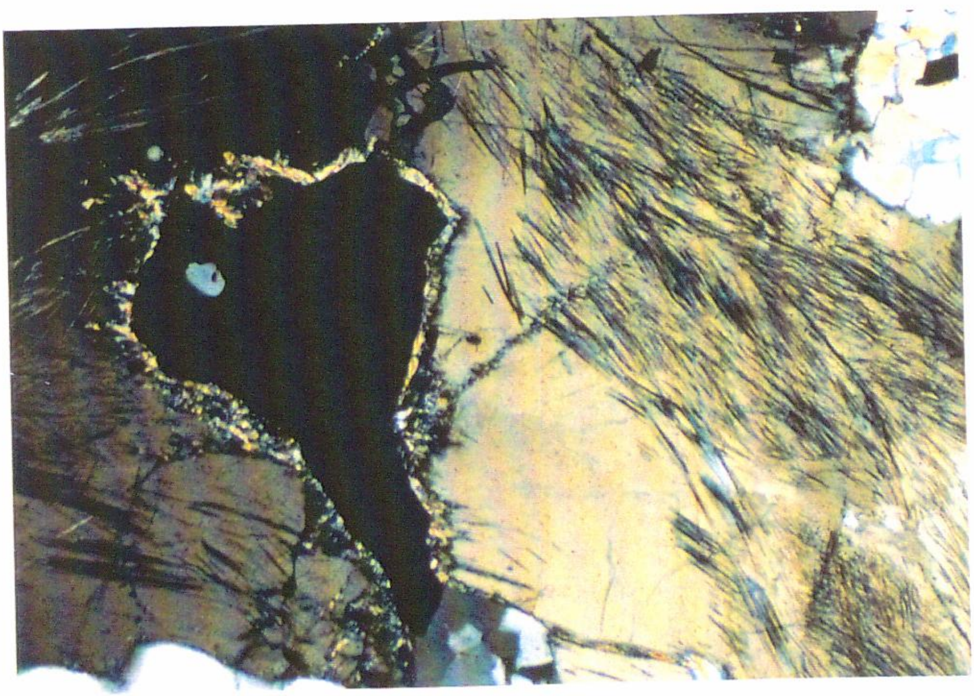
Reflected light; same field as plate 2 (13,5)

The sulphides consist mainly of two pyrite generations comprised of a white, primary pyrite (at left) and a colloform pyrite (pale tan – at right) which is probably a supergene replacement product of original pyrrhotite. Minor chalcopyrite (yellow) occurs along the contact of the two types of pyrite. The medium grey, disseminated grains are mainly rutile (R). A zircon crystal is labelled Z.

PLATE 4: Sample MRC1(53-54m): TSC64031

500 μm

(a) Plane polarised transmitted light (14,5)

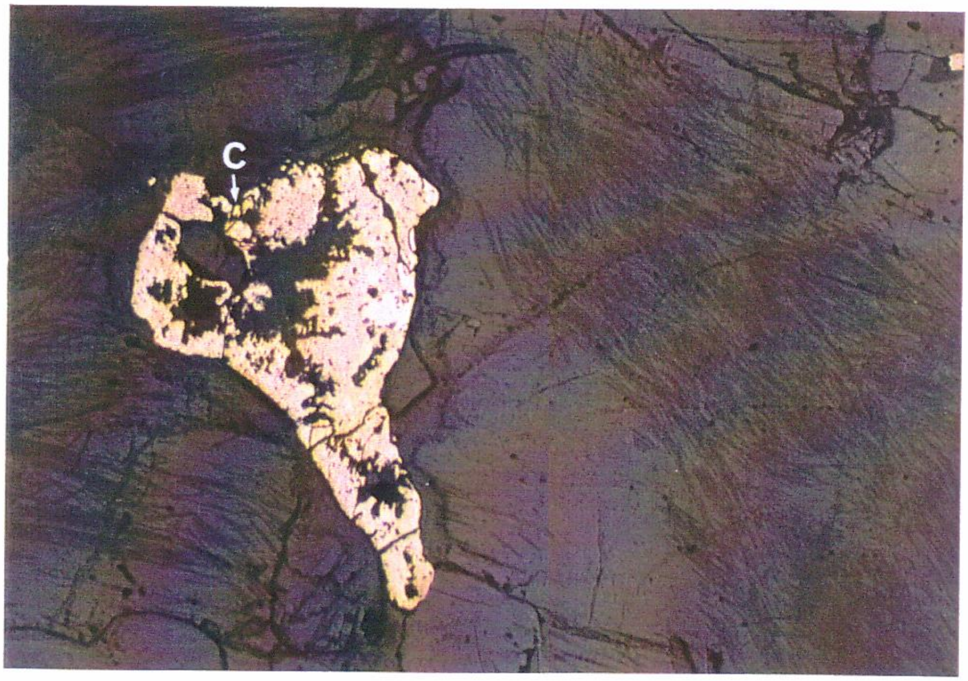


500 μm

(b) Transmitted light; crossed polars (15,5)

Most of field is a coarse-grained cordierite with fibrous sillimanite inclusions. Note pleochroic, orange halos around small, radioactive inclusions in cordierite such as the small zircon inclusion in centre of field. Black, opaque pyrite at left centre of field is surrounded by sericite clay alteration product. Minor polycrystalline quartz is located at upper right and lower left margins of field.

PLATE 5: Sample MRC1(53-54m): TSC64031

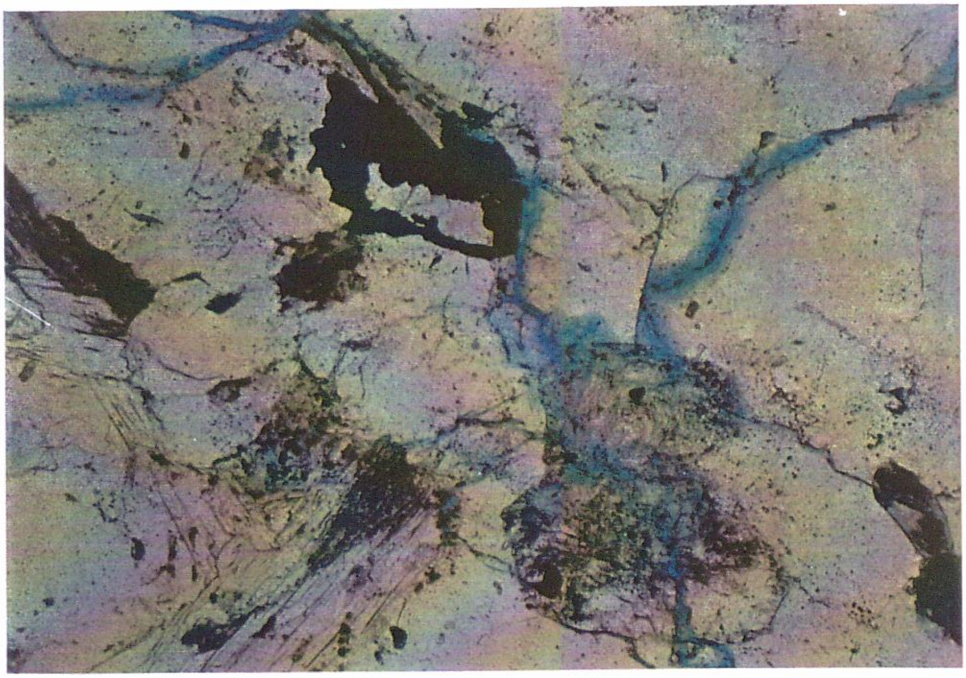


500 μm

Reflected light; same field as plate 4 (16,5)

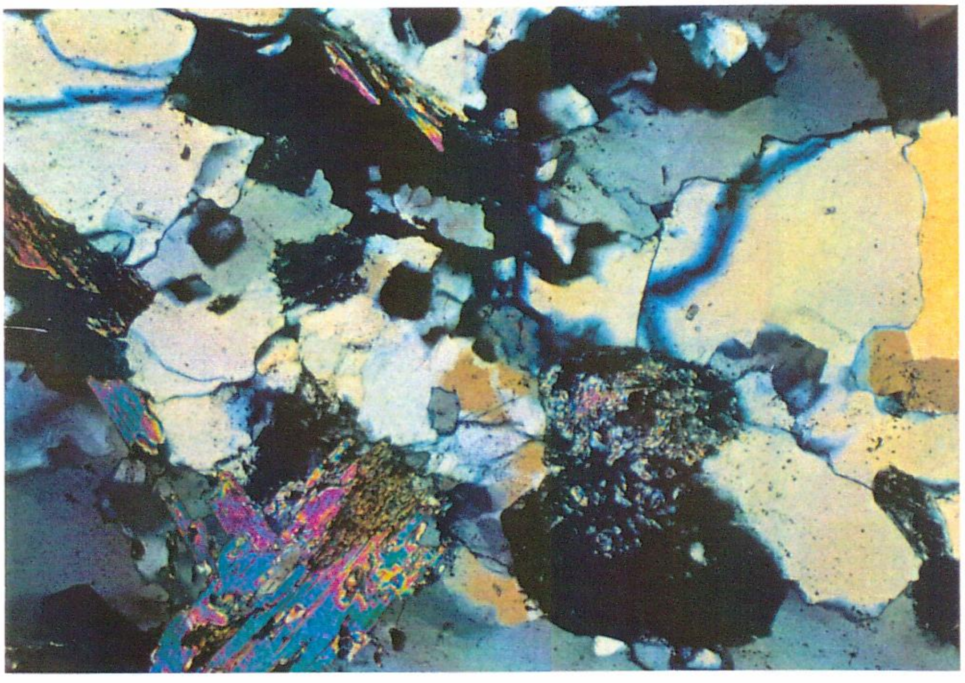
The sulphide consists of a porous, secondary pyrite intergrown with minor marcasite (indistinguishable from pyrite in photomicrograph) and chalcopyrite (C).

PLATE 6: Sample MRC2(43-44m): TSC64032



500 μm

(a) Plane polarised transmitted light (17,5)

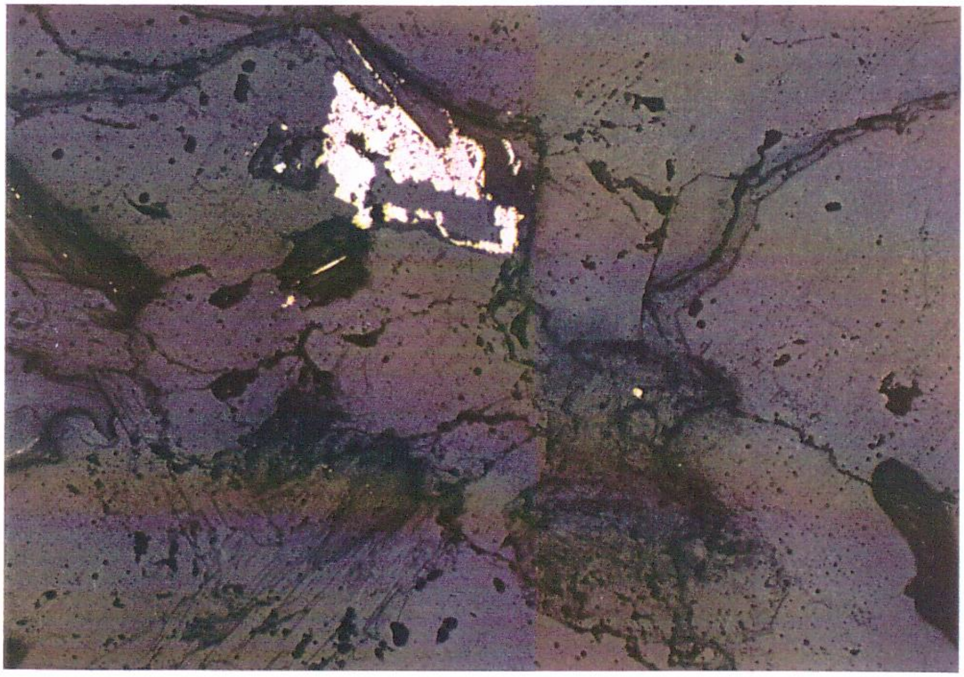


500 μm

(b) Transmitted light; crossed polars (18,5)

This field shows granoblastic quartz intergrown with mica flakes including muscovite (white) and biotite (brown). Some of the biotite shows alteration to pale green chlorite.

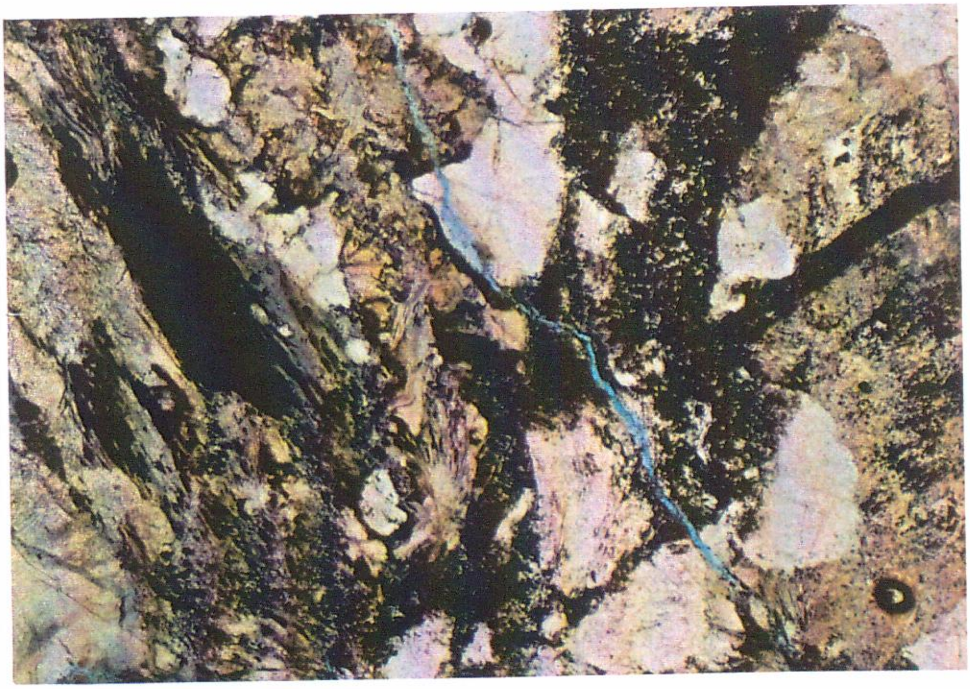
PLATE 7: Sample MRC2(43-44m): TSC64032



Reflected light; same field as plate 6 (19,5)

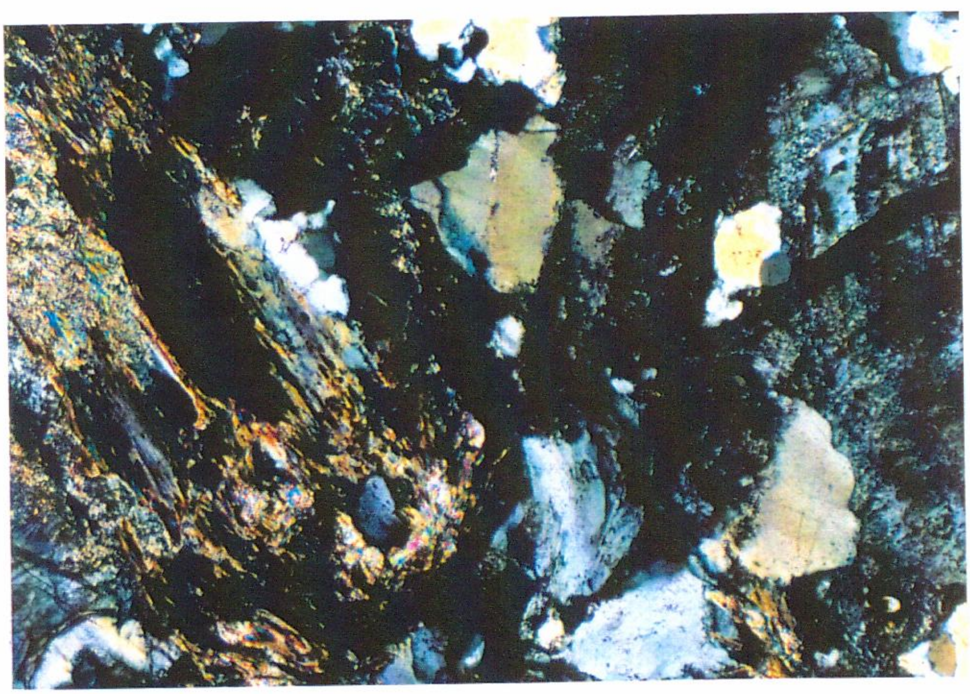
Shows an intergrowth of porous pyrite and marcasite. Also note fine lamellar intergrowths of pyrite along cleavage in a small chlorite flake.

PLATE 8: Sample MRC2(49-50m): TSC64033



500 μm

(a) Plane polarised transmitted light (20,5)



500 μm

(b) Transmitted light; crossed polars (21,5)

Field has granoblastic quartz and turbid feldspar intergrown with secondary phyllosilicates including birefringent sericite and green chlorite.

APPENDIX 6

CSIRO LEAD ISOTOPE REPORT
SAMPLE 1069271 - HOLE MRC1

Minerals Research Laboratories
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Sydney Australia

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AUSTRALIA

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00083

Division of Exploration and Mining

Institute of Minerals, Energy and Construction

Excellence in Strategic Research for the Exploration and Mining Industry

Facsimile Transmission

Facsimile To:
Craig Mackay

Organisation:
Acacia Resources

From: Graham Carr

Date:9/4/95 Facsimile No.03-6969977-

☐ ORIGINAL TO FOLLOW ☐ NO. OF PAGES ☐ URGENT

Dear Craig,

Sorry for the delay. Following is a brief report on your sample.

Cheers for now,

Graham

Graham Carr

Officer in Charge

AIM

The aim of this study has been to assess whether base metal anomalous drill chip material from the Eyre Peninsula of South Australia is related to Proterozoic Hiltabe Suite or late Archaean - early Proterozoic Sleaford Complex.

SAMPLE

A pulped drill chip sample containing 1300 ppm Pb was provided through AMDEL. No detailed location or description was provided.

RESULTS

The results are presented in Table 1 and Figures 1 and 2. The high Pb content of the sample (1300 ppm) would suggest these ratios are close to initial ratios - i.e. the ratios at the time of formation of the "mineralization".

Table 1 Pb isotope results and Pb concentration result.]

Number	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{204}Pb$	$^{208}Pb/^{204}Pb$	Pb (ppm)	Analysis Date
1069271	18.427	15.752	38.517	1190	01/08/95

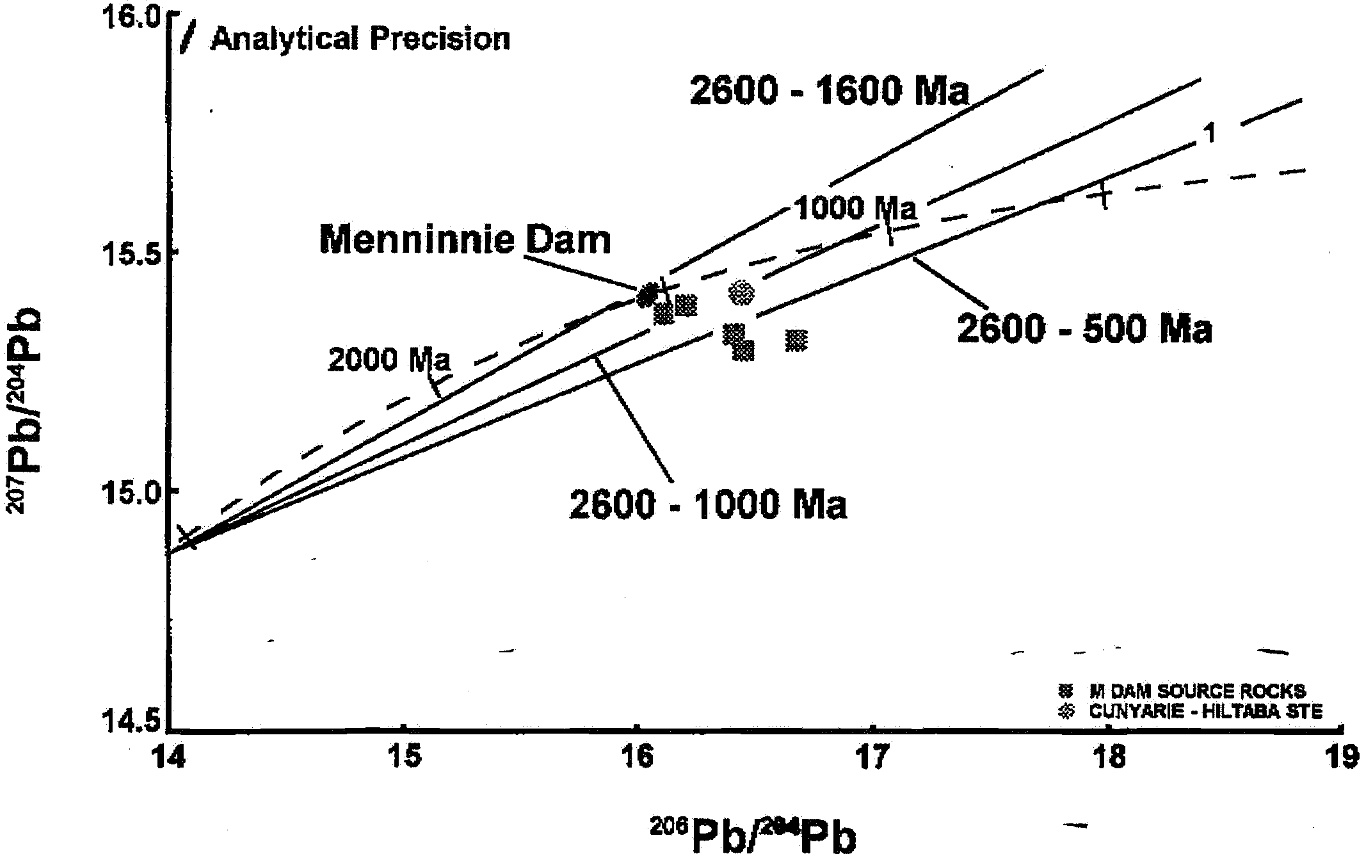
INTERPRETATION

The ratios are all significantly more radiogenic than either Archaean or Proterozoic initial ratios, and thus only if the sample contained very high levels of U and Th over this period, (>100 ppm) could these measured ratios have been derived from Proterozoic or Archaean initial ratios.
A more likely explanation of the data is that the Pb was concentrated during younger events and derived from low-Pb Archaean of Proterozoic sources.

In Figure 1 the ratios are compared with isochrons for Pb derived from Archaean rocks (~ 2600 Ma - Sleaford Complex) in the Middle Proterozoic (1600 Ma), in the Upper Proterozoic (1000 Ma) and in the Lower Palaeozoic (500 Ma) .A Lower Palaeozoic event most closely explains the data assuming normal crustal Archaean Pb as a source.

In Figure 2 the ratios are compared with the isochron for Pb derived from Middle Proterozoic rocks (~ 1600 Ma - Hiltaba Suite) during an Upper Proterozoic thermal event. Such a model also satisfies the data.

Thus our interpretation is that it is unlikely these high-Pb rocks derived their anomalous metal contents during an Archaean or Proterozoic event but more likely during a younger thermal event.



Analytical Precision
2600 - 1600 Ma
1000 Ma
1
Menninnie Dam
2000 Ma
2600 - 500 Ma
2600 - 1000 Ma
M DAM SOURCE ROCKS
CUNYARIE - HILTABA STE
16.0
15.5
15.0
14.5
14
15
16
17
18
19
$^{207}Pb/^{204}Pb$
$^{206}Pb/^{204}Pb$

Fig 1a

00086

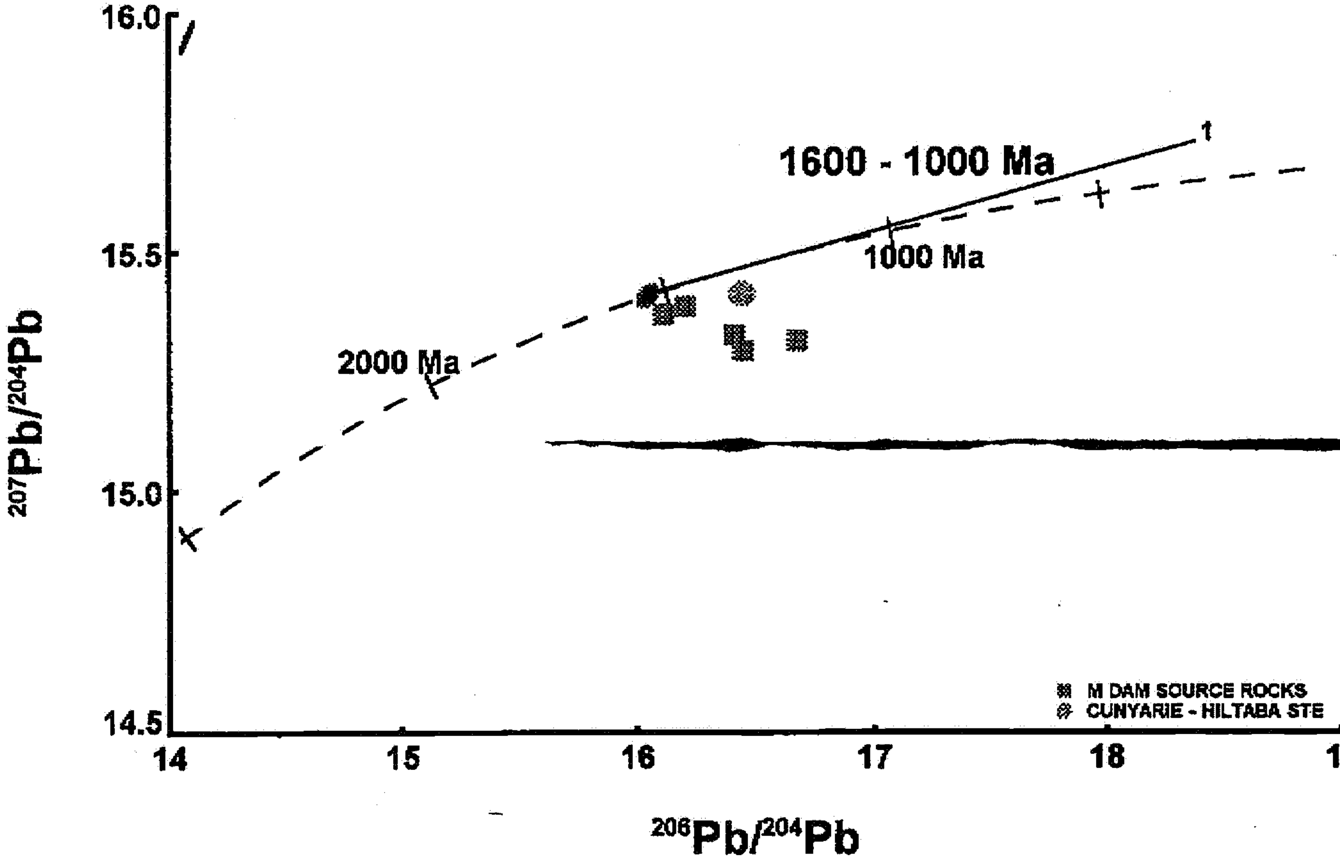

16.0
15.5
15.0
14.5
14
15
16
17
18
19
1600 - 1000 Ma
1000 Ma
2000 Ma
1
M DAM SOURCE ROCKS
CUNYARIE - HILTABA STE
$^{207}Pb/^{204}Pb$
$^{206}Pb/^{204}Pb$

Fig 2.

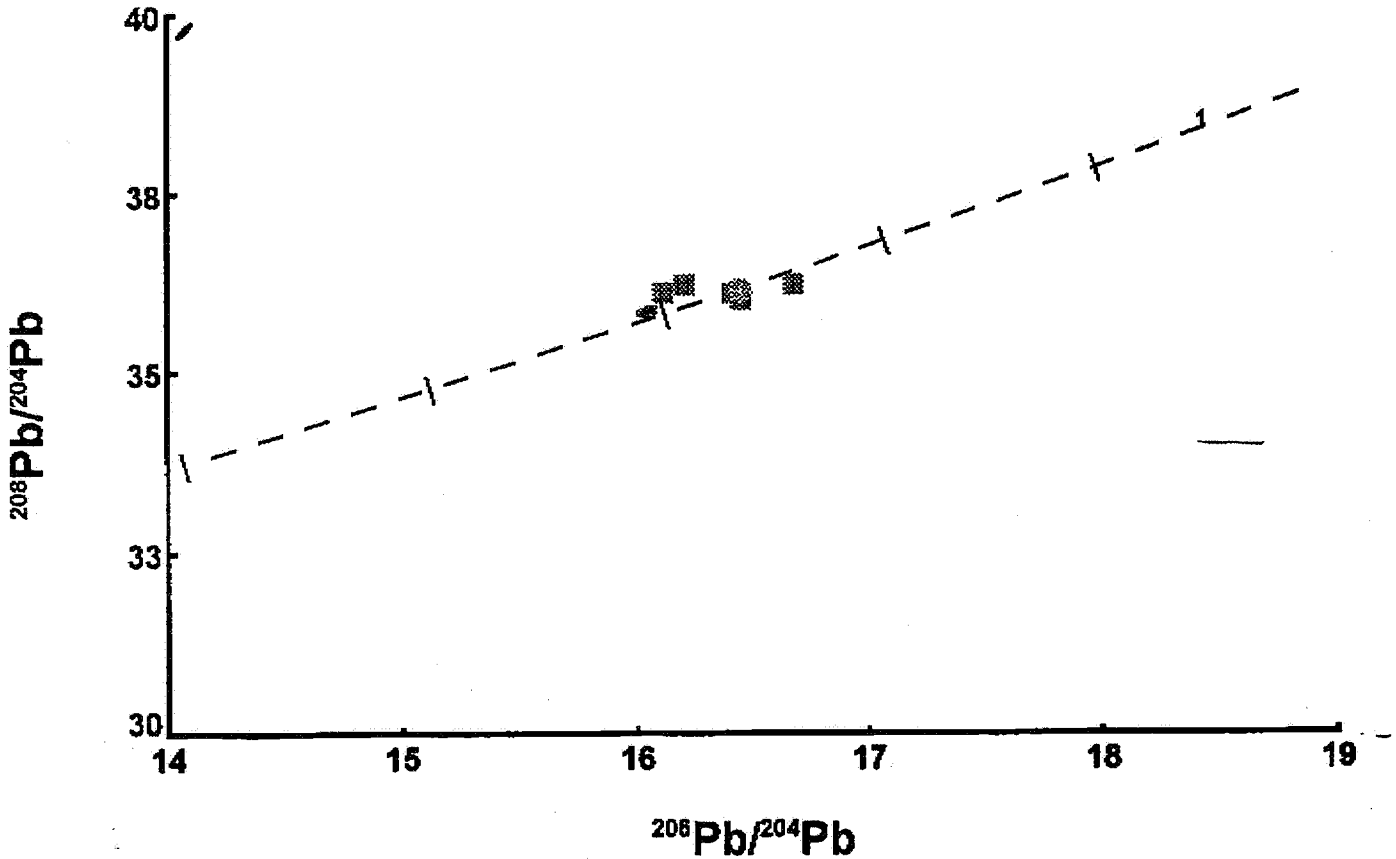


Fig 16