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No. 9409

EL 2329 / 2964 / 3871

OLD PARAKYLIA

**ANNUAL AND FINAL REPORTS TO LICENCE
EXPIRY/SURRENDER FOR THE PERIOD
2/5/1997 TO 29/7/2010**

Submitted by
Havilah Resources NL and Monax Mining Ltd
2010

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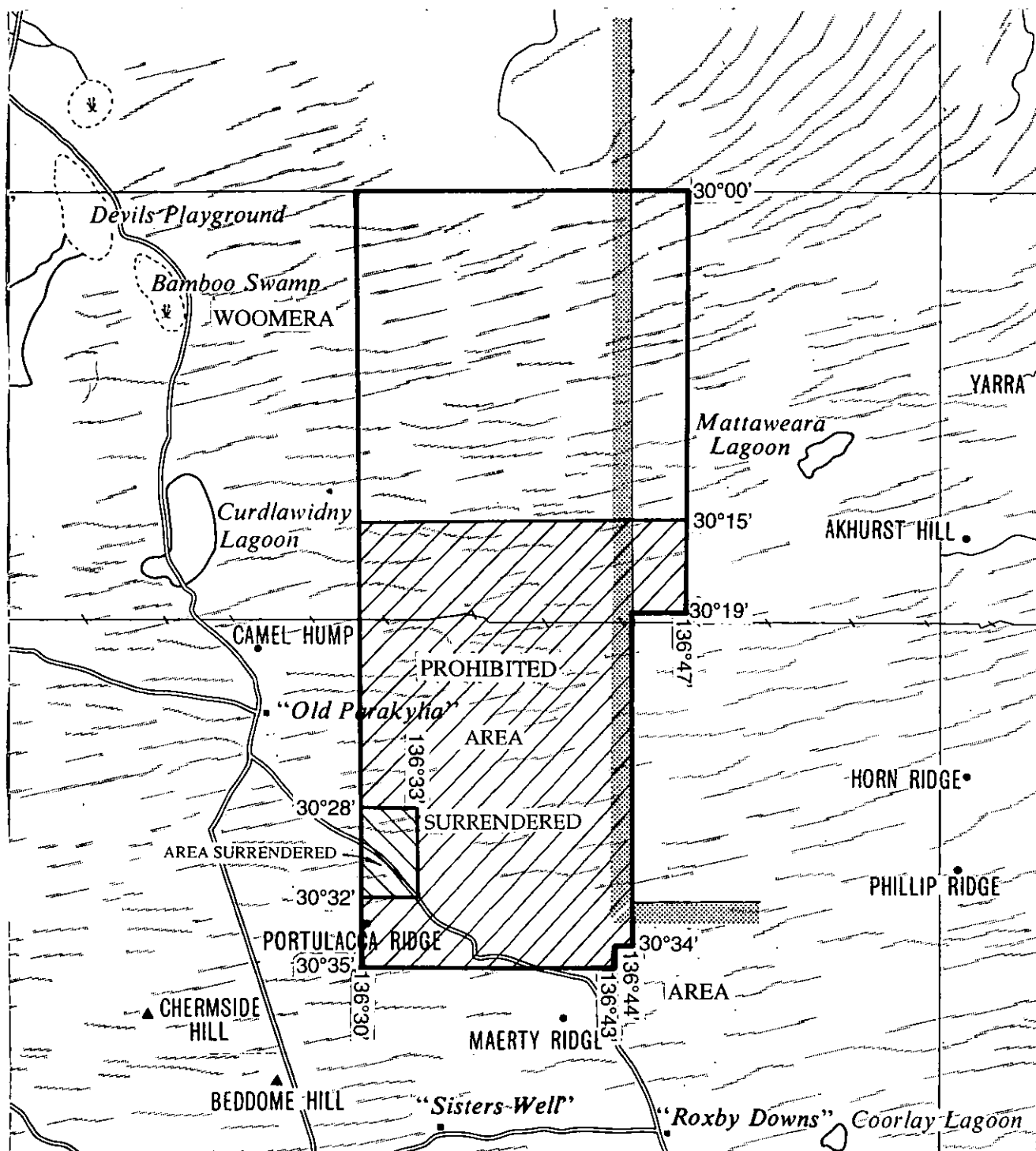
Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

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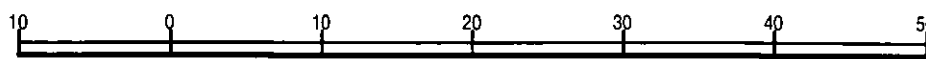


Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1 : 500 000



KILOMETRES

APPLICANT : **HAVILAH RESOURCES N.L.**

DM : 590/96

1:250 000 PLANS : **ANDAMOOKA**

LOCALITY : **OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka**

DATE GRANTED : **2 May 1997**

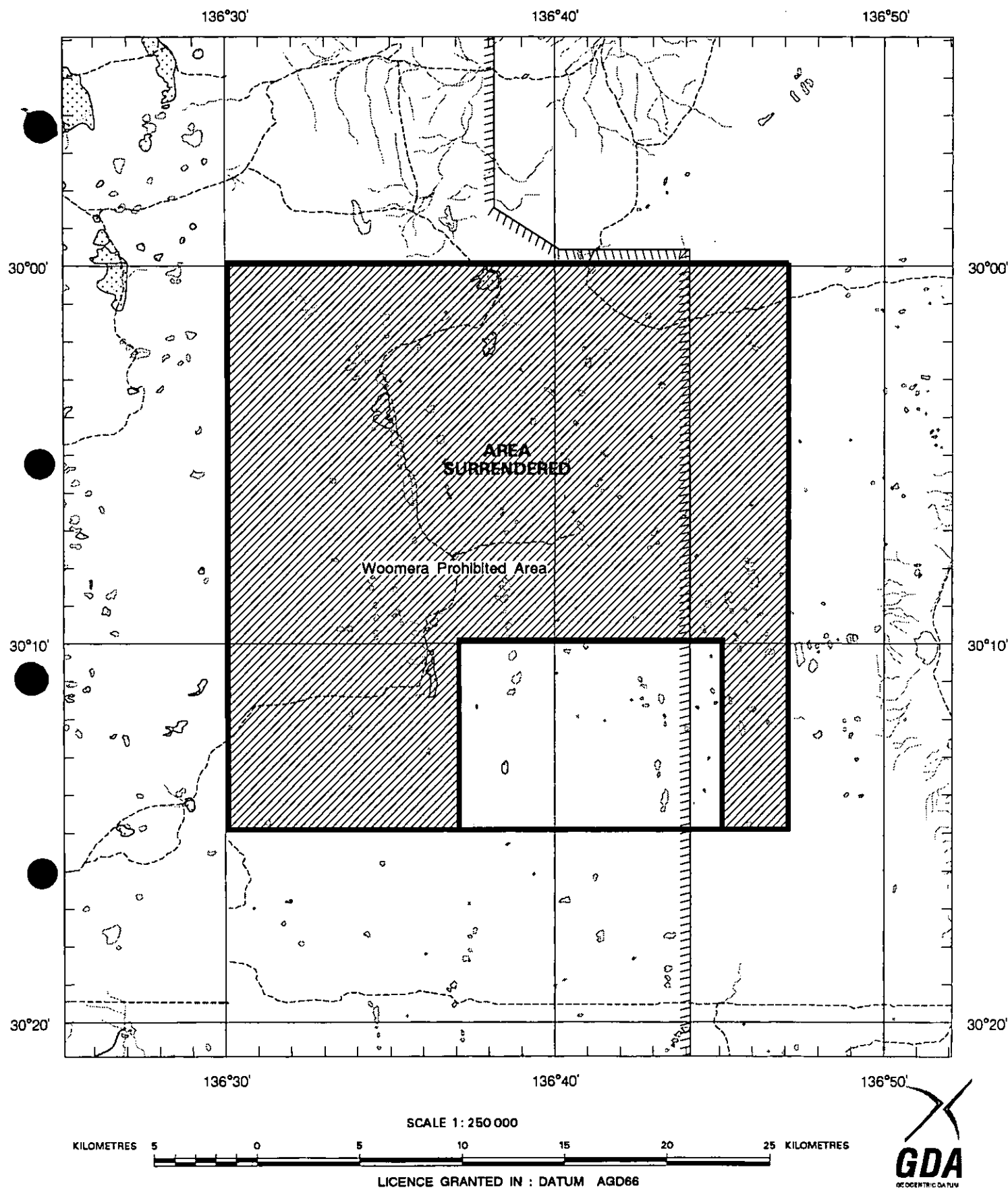
DATE EXPIRED : **1 May 1998**

EL No : 2329

756
782
AREA : ~~4616~~ square kilometres (approx.)

2002

SCHEDULE A



APPLICANT : HAVILAH RESOURCES NL

FILE REF : 590/96

TYPE : MINERAL ONLY

AREA : 119 km² (approx.)

1:250000 MAPSHEETS : CURDIMURKA ANDAMOOKA

LOCALITY : OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka

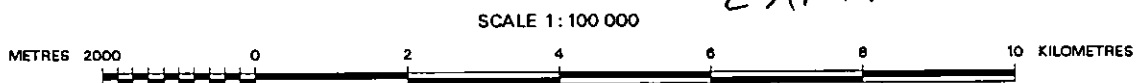
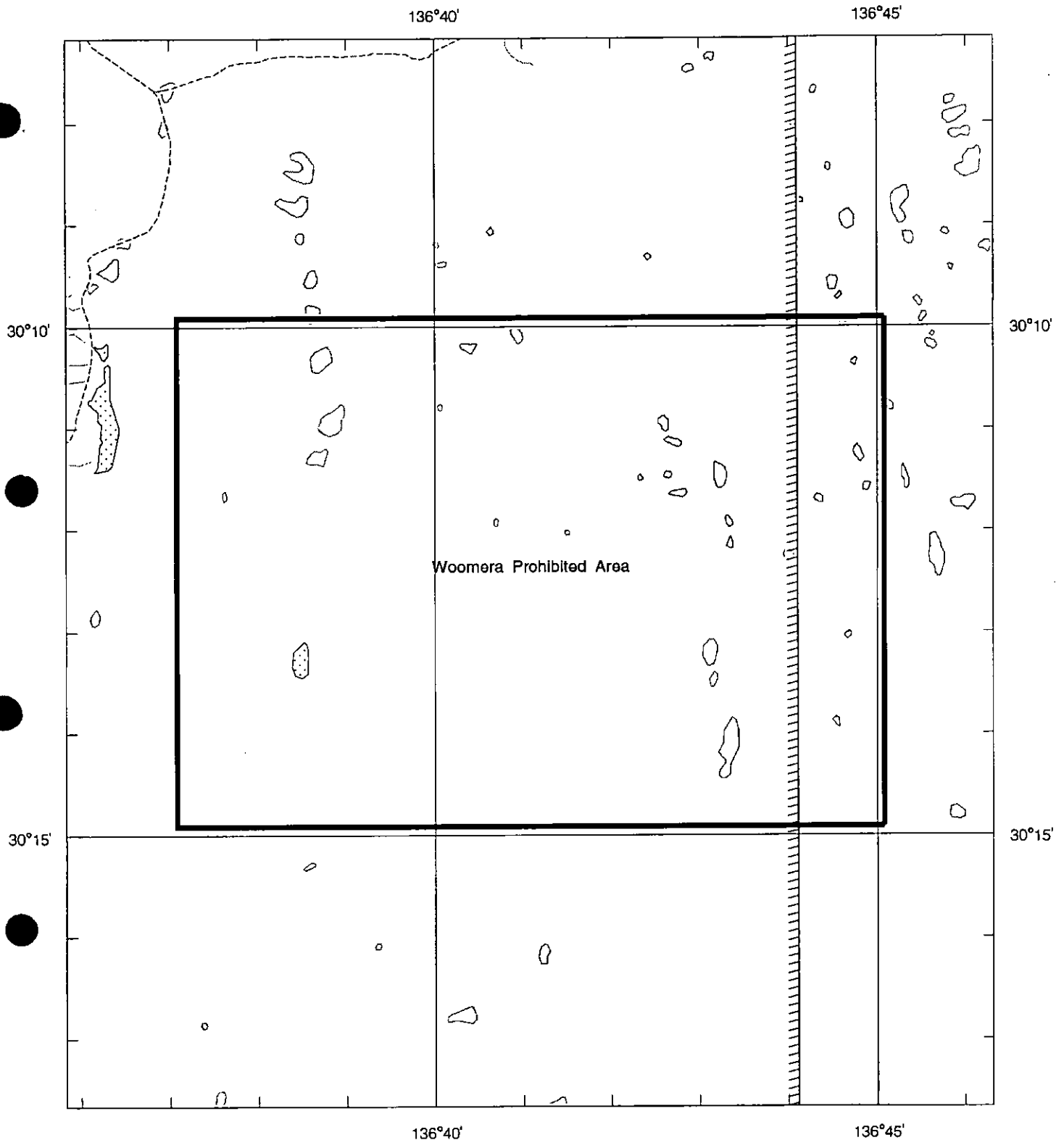
DATE GRANTED : 02-May-1997

DATE EXPIRED : 01-May-2008

EL NO : 2329

2002

SCHEDULE A



APPLICATION LODGED IN : DATUM AGD66



EXPIRED

APPLICANT : HAVILAH RESOURCES NL

FILE REF : 54/02

TYPE : MINERAL ONLY

AREA : 119 km² (approx.)

1:250000 MAPSHEETS : ANDAMOOKA

LOCALITY : OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka

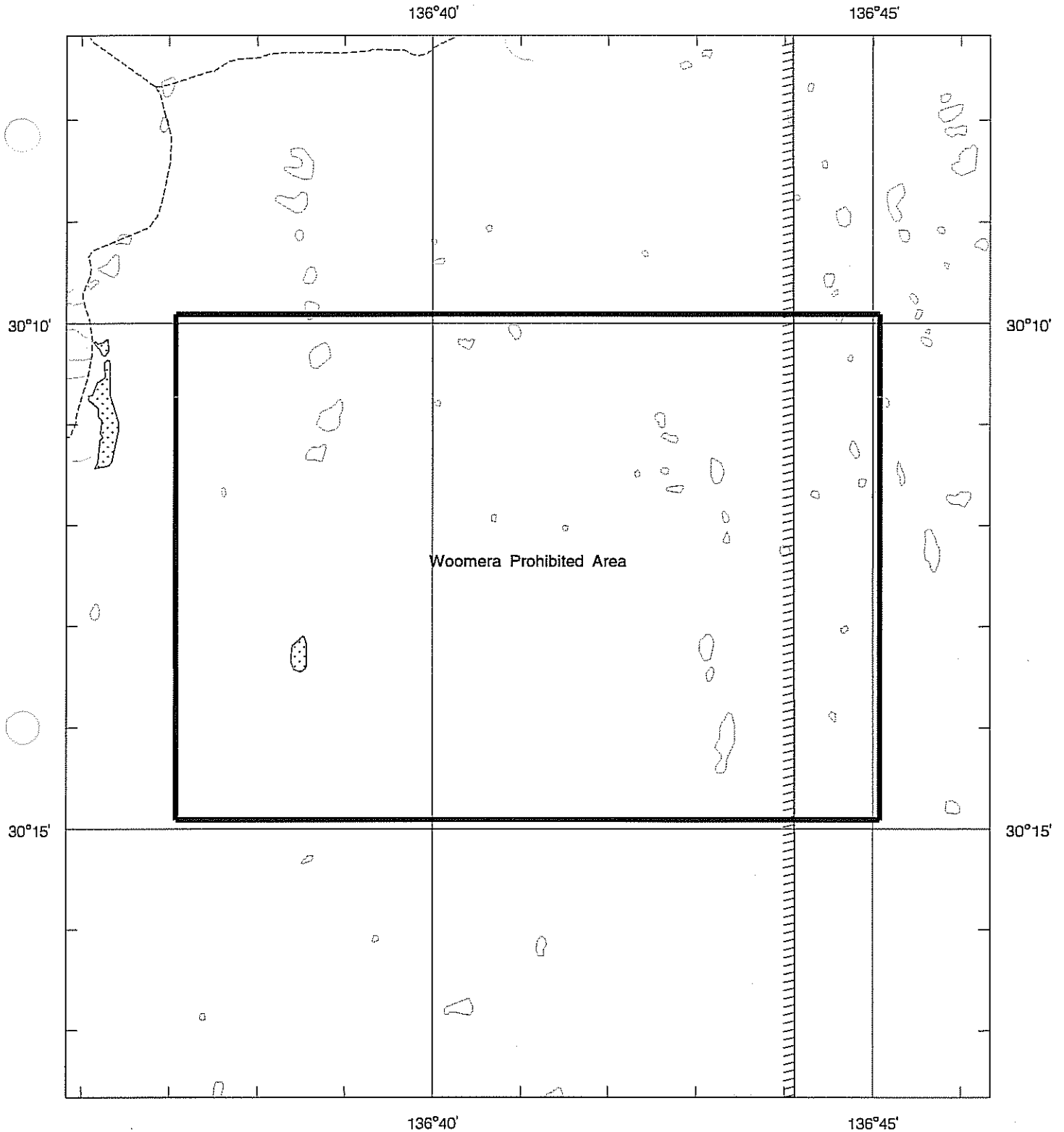
DATE GRANTED : 31 May 2002

DATE EXPIRED : 30 May 2004

EL No : 2964

2005 2006 2007

SCHEDULE A



SCALE 1:100 000
METRES 2000 0 2 4 6 8 10 KILOMETRES
LICENCE GRANTED IN : DATUM AGD66



APPLICANT : **MONAX MINING LTD**

FILE REF : **171/07** TYPE : **MINERAL ONLY**

AREA : **119 km² (approx.)**

1:250000 MAPSHEETS : **ANDAMOOKA**

LOCALITY : **OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka**

DATE GRANTED : **30-Jul-2007**

DATE EXPIRED : **29-Jul-2008**

EL NO : **3871**

Havilah Resources NL

ANNUAL REPORT FOR EL 2329,

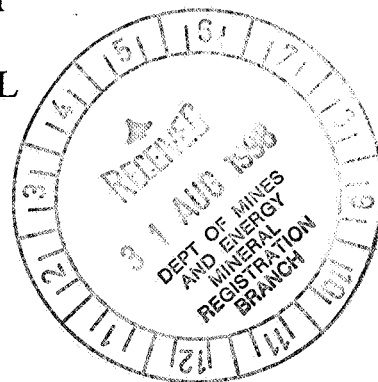
MATTAWEARA

Compiled by Dr. Chris Giles

Exploration Manager

Havilah Resources NL

July 1998



Mines & Energy SA

R98/00479



00158937

TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. CURRENT EXPLORATION WORK	2
5. FUTURE EXPLORATION WORK	2
6. REFERENCES	2

APPENDIX ONE : EL 2329 Mattaweara, Stuart Shelf, S.A. Magnetic and gravity interpretation report. Cowan Geodata Services. February 1998 (with 9 Figures).

Figure 1 General location map of EL 2329

Figure 2 Location of magnetic anomalies.

1. INTRODUCTION

Exploration Licence 2329 (Mattawaera) consists of two blocks in the northeast corner of the Andamooka 1:250,000 sheet area (Figure 1). At the time of grant on 1 November 1997, EL 2329 covered an area of 1616 square kilometres, but was subsequently reduced to 792 square kilometres on 1 May 1998 following relinquishment of ground that was considered to be of minimal prospectivity.

During the current term of EL 2329, Havilah Resources entered into an informal agreement with Aurora Gold, whereby Aurora Gold had the right to earn an interest in the tenement after carrying out an initial evaluation of the targets. Aurora Gold subsequently withdrew from the informal agreement prior to the end of the current period.

EL 2329 was initially applied for because of its proximity to Olympic Dam and the existence of targets within the favourable Olympic Dam structural corridor that were potentially inadequately tested.

2. GEOLOGICAL SETTING

The tenement area is entirely covered by Quaternary surficial deposits, beneath which are widespread gently dipping Neoproterozoic sediments of the Stuart Shelf. The thickness of shelf sediments is known from drillhole data and ranges from about 300 metres in the vicinity of Olympic Dam to in excess of 1000 metres near the southern end of the EL.

The Neoproterozoic sediments were deposited on deeply eroded Gawler Craton Mesoproterozoic basement lithologies, including Pandurra Formation, Gawler Range Volcanics, Hiltaba Suite granitoids and various older metamorphic rocks. It is these rocks which are known to host metallic mineralisation at Olympic Dam and nearby prospects, including Acropolis and Wirrda Well.

The Olympic Dam orebody lies in the intersection zone between major transcontinental north-northwest and west-northwest trending gravity corridors (O'Driscoll, 1986). Notably, both features, and the intersection zone extend into the tenement area, as do approximately coincident magnetic corridors evident on the South Australia total magnetic intensity map (MESA 1996).

3. PREVIOUS EXPLORATION WORK

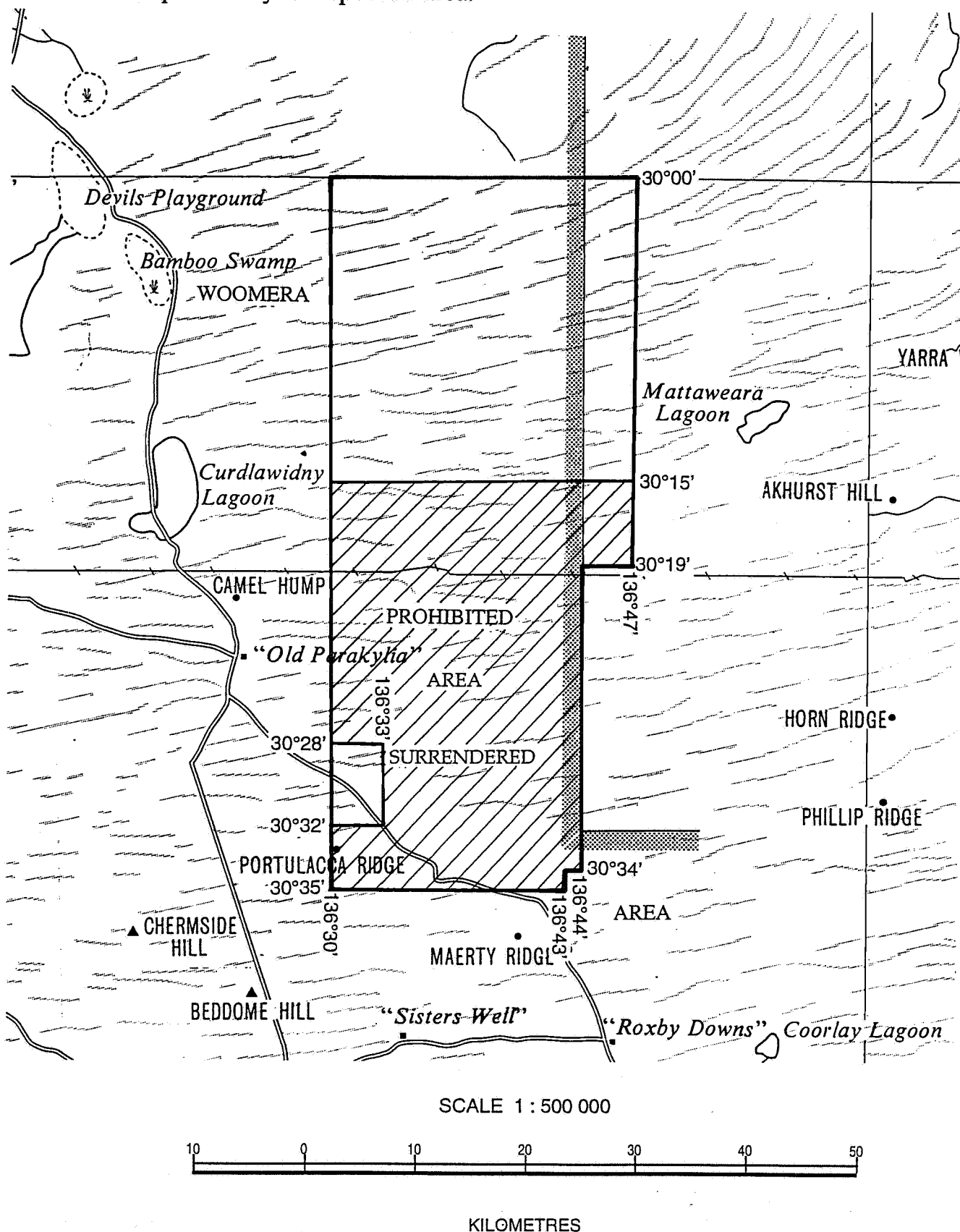
Most exploration work of direct relevance was carried out in the 1975-1986 period by Western Mining Corporation in the northern portion of the EL, and by Australian Selection Pty Limited and partners Geopeko and Carpentaria Exploration over most of the remainder of the area.

The Australian Selection joint venture concentrated on two magnetic features that were recognisable from available AGSO aeromagnetic data, namely the Buller and Portulacca Ridge features (Figure 1). The Buller magnetic/gravity anomaly is actually the western flank of the large Acropolis anomaly complex, the centre of which lies roughly 8 kilometres to the east. Diamond drillhole SAP 1, designed to test the Buller anomaly, terminated in Mesoproterozoic lower Pandurra Formation at 1389 metres.

The Portulacca Ridge magnetic anomaly had a small associated gravity anomaly and percussion drillhole PPR 6 was sited over it. This drillhole bottomed in Tregolana Shale at a depth of 194 metres, without establishing the source of the magnetic anomaly.

Figure 1 General location map for EL 2329, also showing previously relinquished area.

SCHEDULE A



APPLICANT : HAVILAH RESOURCES N.L.

DM : 590/96

1:250 000 PLANS : ANDAMOOKA

LOCALITY : OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka

DATE GRANTED : 2 May 1997

DATE EXPIRED : 1 May 1998

792
AREA : ~~1616~~ square kilometres (approx.)

EL No : 2329

Western Mining Corporation carried out ground magnetic and gravity surveys over a prominent aeromagnetic feature in the north of the current EL, termed the "Double Swamp" anomaly. The feature was not drill-tested, presumably because of the lack of an associated gravity anomaly and interpreted excessive depth to basement. A further prospect area, identified as "Brumby Fence" by Western Mining Corporation, was marked by a broad low-amplitude gravity high. However, ground magnetic and gravity surveying failed to define any significant anomalies and therefore no drilling was undertaken.

4. CURRENT EXPLORATION WORK

During the period, a thorough review of previous exploration work was completed and all existing aeromagnetic and ground survey geophysical data was compiled and interpreted by Cowan Geodata Services of Perth. The pertinent parts of the report prepared by Cowan Geodata Services, together with diagrams, are presented in Appendix 1.

The report concludes that the magnetic sources for the Buller and Portulacca Ridge anomalies are at least 1200 metres deep. Drillhole SAR 1 on the Buller anomaly, as cited above, certainly supports this conclusion. Sources for at least portions of the Double Swamp anomaly, however, appear to be much shallower at around 350 metres depth based on the available magnetic data. Limited drillhole information shows that the prospective Gawler Craton basement rocks are likely to be deeper than this, indicating that the magnetic source may be in the overlying Neoproterozoic rock sequence.

5. FUTURE EXPLORATION WORK

Excessive depth would appear to preclude the Buller and Portulacca Ridge anomalies as being viable Olympic Dam targets. The Double Swamp anomaly still remains of interest, however, and it is proposed to gather more detailed gravity and aeromagnetic data for this area during the next period. A drilling programme will only be considered following complete interpretation of the new geophysical data.

6. REFERENCES

O'Driscoll, E.S.T. 1986. Observations on the lineament-ore relation, *In* : Major Crustal Lineaments and Their Influence on the Geological History of the Continental Lithosphere (Eds. H.G. Reading, J. Watterson and S.H. White) *Philos. Trans. R. Soc. London A.* 317, pp195-218.

Unpublished Company Reports held in Open File at MESA

Australian Selection JV 1977-79. EL 291. MESA envelope 2991

Australian Selection JV 1979-83. EL's 510, 933. MESA envelope 3693

Carpentaria Exploration Company Pty Ltd 1983-86. EL 1198. MESA envelope 3693

Western Mining Corporation 1975-86. EL 1316. MESA envelope 6562.

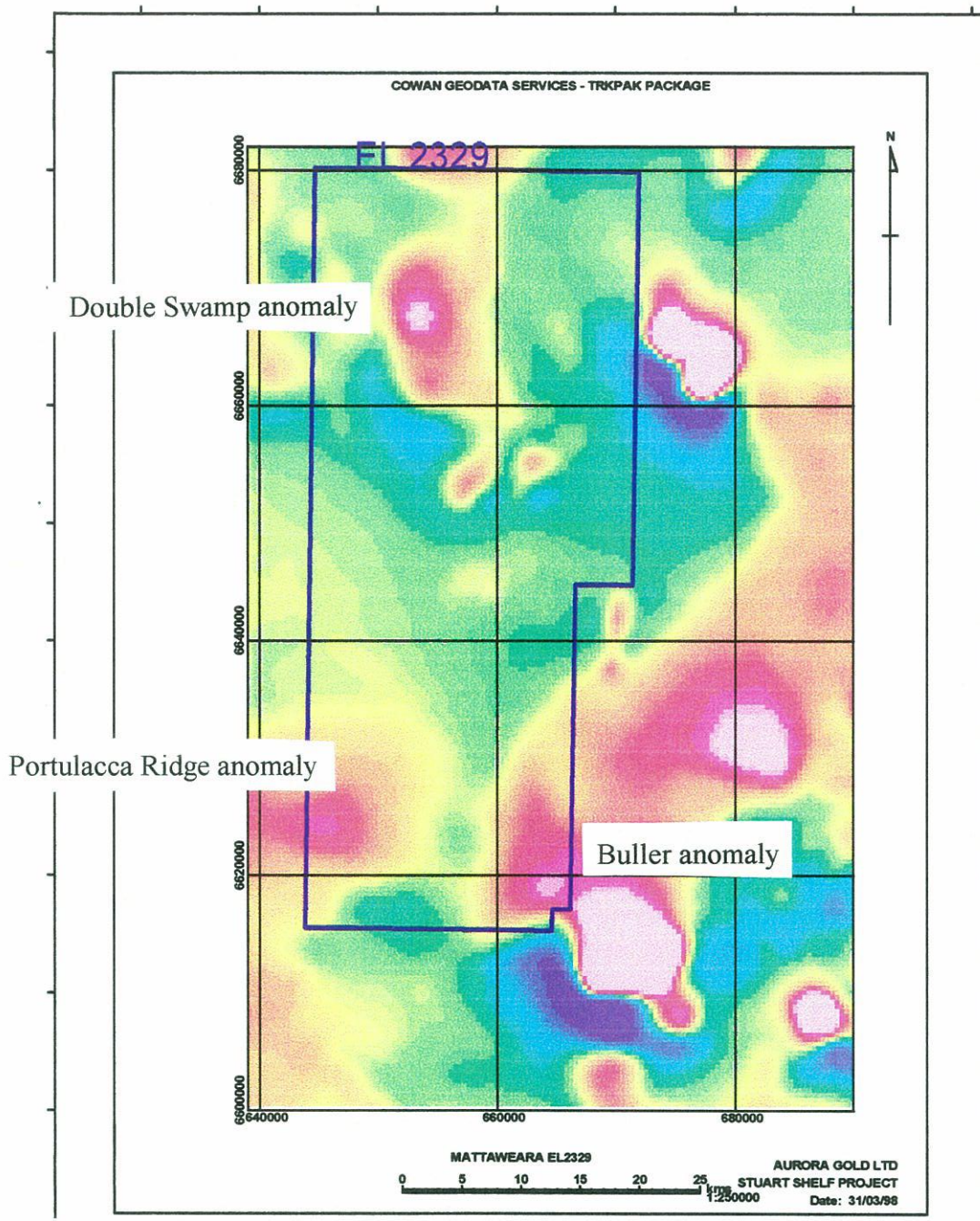


Figure 2 Magnetic anomalies and prospect areas referred to in text.

APPENDIX ONE

EL 2329 Mattaweara, Stuart Shelf, S.A.

Magnetic and Gravity Interpretation Report.

Cowan Geodata Services.

February 1998

- ⇒ Basic intrusions
- ⇒ The more mafic phases of the Gawler Range Volcanics
- ⇒ Magnetite and magnetite/hematite breccias
- ⇒ Some phases of the Hiltaba granitoids, including metamorphic aureoles, skarns etc.
- ⇒ The Gairdner Dyke Swarm and the Beda basalts

Variations in thickness of the essentially non-magnetic cover rocks has a significant effect on magnetic anomaly amplitudes and textures and on Bouguer gravity anomalies. As noted in section 2.2, separation of the effects of sources at different levels is seldom complete, leading to uncertainty in the interpretation.

One complication is unknown thicknesses of Andamooka limestones. Increased thickness of limestone produces a positive gravity anomaly which may look like a basement uplift anomaly.

4.2 Regional Gravity

Figure 1 shows the combined detail and regional bouguer gravity data coverage for the area surrounding EL 2329. The data show great variations in sample density and quality with some datum shifts between different surveys. The AGSO 11km spacing helicopter gravity data have limited exploration use but provide useful regional structure. Unfortunately the AGSO data have a serious datum shift just west of the EL, resulting in a spurious North-south trend.

Plate 1 and Figure 2, the Bouguer gravity data for EL 2329 and adjacent areas, shows where we have adequate data. The area west, south and east of Double Swamp has inadequate coverage.

Plate 2 and Figure 3 show the interpolated Bouguer gravity grid corresponding to Plate 1.

Plate 3 and Figure 4 show the residual gravity obtained by orthogonal polynomial regional/residual separation. This data should be treated with care in view of the areas of inadequate coverage in places.

The variable quality of the gravity data limited the enhancement we could do. For example, a second vertical derivative was far too noisy to use.

The gravity expression of the area is complex with several major anomaly trend directions apparent as well as discrete anomalies.

- ⇒ A broad gravity high occupies the northern part of the EL. The broad high shows evidence of WNW and NNE trends.

- ⇒ A discrete gravity high is located on the Portulacca Ridge in the SW corner of the EL. Diffuse east-west and north-south weak gravity highs extend north and east from the Portulacca Ridge anomaly
- ⇒ A broad gravity high corresponds to the Acropolis area, close to the south east corner of the EL
- ⇒ A sub-circular gravity high is located over the Olympic Dam deposit
- ⇒ Gravity trends and anomalies in the centre of the EL are diffuse, in part due to poor data. The dominant anomaly is a gravity low with both east-west and north-south trends. A small gravity high is located just below the re-entrant in the east boundary of the EL and may be associated with smaller anomalies to the west.
- ⇒ Unfortunately there are no clear Olympic Dam type 'bulls-eyes' gravity anomalies within the EL.

4.3 Regional Magnetics

Plate 4 shows a colour contour of the regional magnetic data which provides an overview of the area.

Plate 5 and Figure 5 show a colour shade image of total magnetic intensity data illuminated from the east.

The main magnetic elements of EL 2329 and adjacent areas are:

- ⇒ The Olympic Dam magnetic domain with complex high amplitude magnetic signatures due to magnetic sources at different levels. The magnetic anomaly patterns are interpreted as a combination of intermediate depth major Fe metasomatic breccia complexes, producing roughly equidimensional anomalies of large areal extent, superimposed on broader, deeper Palaeoproterozoic or Archaean basement anomalies due either to large basic intrusive complexes or to iron formations. A prominent NE-SW linear magnetic gradient marks the western boundary of the Olympic Dam magnetic domain and extends into the SE area of EL 2329. This gradient has large horizontal extent and is interpreted as a major fault in the crystalline basement. A major offset in the steep NE-SW gradient is seen in the north where a strong NW-SE cross cutting anomaly trend is seen. This trend includes several high amplitude discrete anomalies at intermediate depths and is interpreted as a basement high zone – an extension of the Olympic Dam magnetic domain to the NW. Two anomalies within this zone, SE of Brumby Fence look similar to Wirrda Well.

- ⇒ A broad elongated magnetic high is located in the SW of EL 2329 at Portulacca Ridge. The anomaly is probably due to a basement high below large thicknesses of cover rocks. A NNE trending magnetic low separates Portulacca Ridge from the Olympic Dam magnetic domain.
- ⇒ The remainder of EL 2329 is essentially a broad magnetic low with a number of discrete anomalies of both large and small areal extent. The broad low probably reflects both increased thickness of cover rocks compared to the Olympic Dam magnetic domain and much less magnetic basement rocks. The high amplitude complex magnetic anomalies in the Double Swamp area are mainly quite deep, apart from a small anomaly zone in the west. Two linear NE trending anomalies to the SE of Double Swamp are also relatively shallow. This area shows N-S faulting as well as the usual NW and NE set. Several relatively shallow anomalies are seen in the central area. The most interesting anomaly, which is also a discrete gravity high, is just east of EL 2329, near the re-entrant in the EL boundary. A small anomaly, elongated almost N-S is seen superimposed on the NE linear magnetic gradient which marks the edge of the Olympic Dam magnetic domain. Several smaller anomalies occur to the west within EL 2329.

Magnetic expression of granitoids is not obvious, probably reflecting both the Fe metasomatic overprint and the wide line spacing of the data which does not provide the short wavelength textural information usually characteristic of granitoids.

4.4 Magnetic Data Enhancement

Data enhancement has been mainly directed at separating the effects of magnetic sources at intermediate depths from the deeper basement effects. There is enough spectral separation to be able to extract intermediate depth signatures without too much contamination from the basement. However, the intermediate depth sources have a broadband response so it is not possible to separate just the basement contribution. We have used both wavenumber and spatial filters to highlight intermediate depth sources.

Plate 6 and Figure 6 show a wavenumber separation (layer) filter and Plate 7 and Figure 7 a spatial high gain AGC filter. Both show similar features but the separation filter is somewhat noisier. In both images, deep seated anomalies have been attenuated and shallower anomalies amplified. The broad magnetic high at Olympic Dam has been replaced by two small circular magnetic highs, separated by an ENE lineament which is probably a fault. We interpret these anomalies as the Olympic Dam Breccia Complex magnetic component. Acropolis and Wirrda Well are much better defined in the filtered data, reflecting the dominant magnetite Fe metasomatism.

The broad magnetic gradient marking the western limit of the Olympic Dam magnetic domain has been replaced by a complex pattern of NNE, NW and N-S trends.

The small almost N-S anomaly, just outside EL 2329 is much sharper and clearer. The deep seated Portulacca Ridge anomaly has disappeared and several NW highly linear Gairdner dykes dominate the area.

The Double Swamp anomaly is now quite complex. The high amplitude circular anomaly looks like a deeper version of Wirrda Well. NE, NW, WNW and N-S trends are clear.

The small shallow anomaly in the centre of the area at 658800E, 6644600N appears to be at the intersection of WNW and NW trends.

The Double Swamp South anomalies are much sharper and are located on a NW and NE trend intersection.

Plate 8 and Figure 8, a colour image of intermediate layer filtered data highlights discrete anomalies. This image contains more longer wavelength information than the greyscale images.

4.5 Magnetic Trend Analysis

Major magnetic trends are presented in the gradient maxima strike plot.

Plate 9, the gradient maxima strike plot, shows the clearly defined shallow trends. Gradient maxima should be close to actual contact positions, assuming steep dips. Figure 9, a rose diagram of magnetic lineaments shows the NE trend is dominant.

4.6 Magnetic and Gravity Correlation

Magnetic /gravity correlation is limited by the relatively sparse sampling (11km) of the gravity dataset in the central north part of the area..

However, there are consistent features in both trends and anomaly locations.

4.7 3D Euler Deconvolution Magnetic Depth analysis

The 3D Euler circle plot, Plate 10 indicates that most magnetic sources are relatively deep, dominantly blue circles, with depths greater than 1200m.

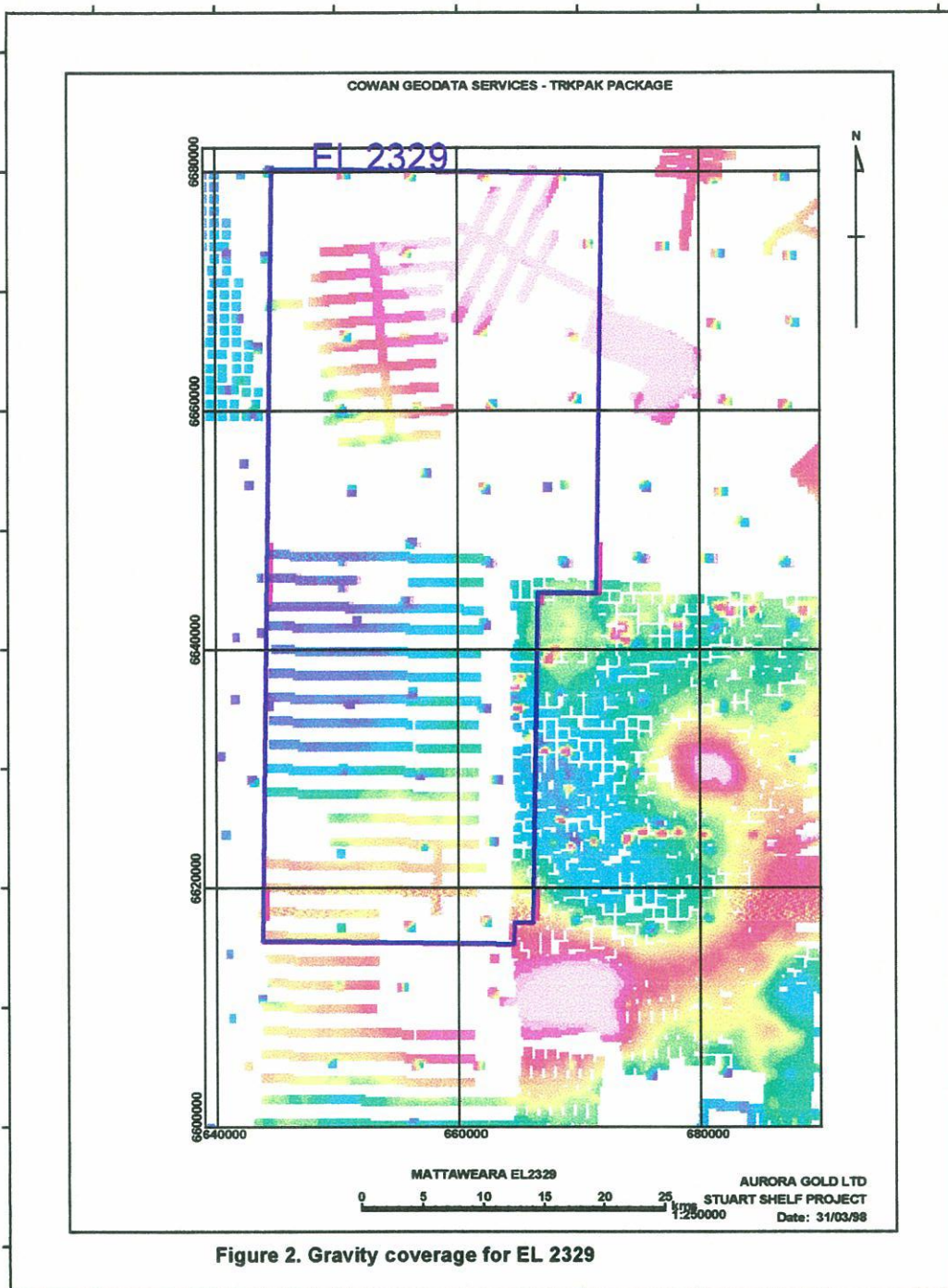
For anomalies of interest, Portulacca Ridge has indicated depths around 1200m, The main large Double Swamp anomaly has indicated depths of 1250m. The western edge of Acropolis has indicated depths of 1200m. For comparison, Olympic Dam has indicated depths of 1000m, suggesting that the ODBC anomaly is swamped by deeper basement anomalies

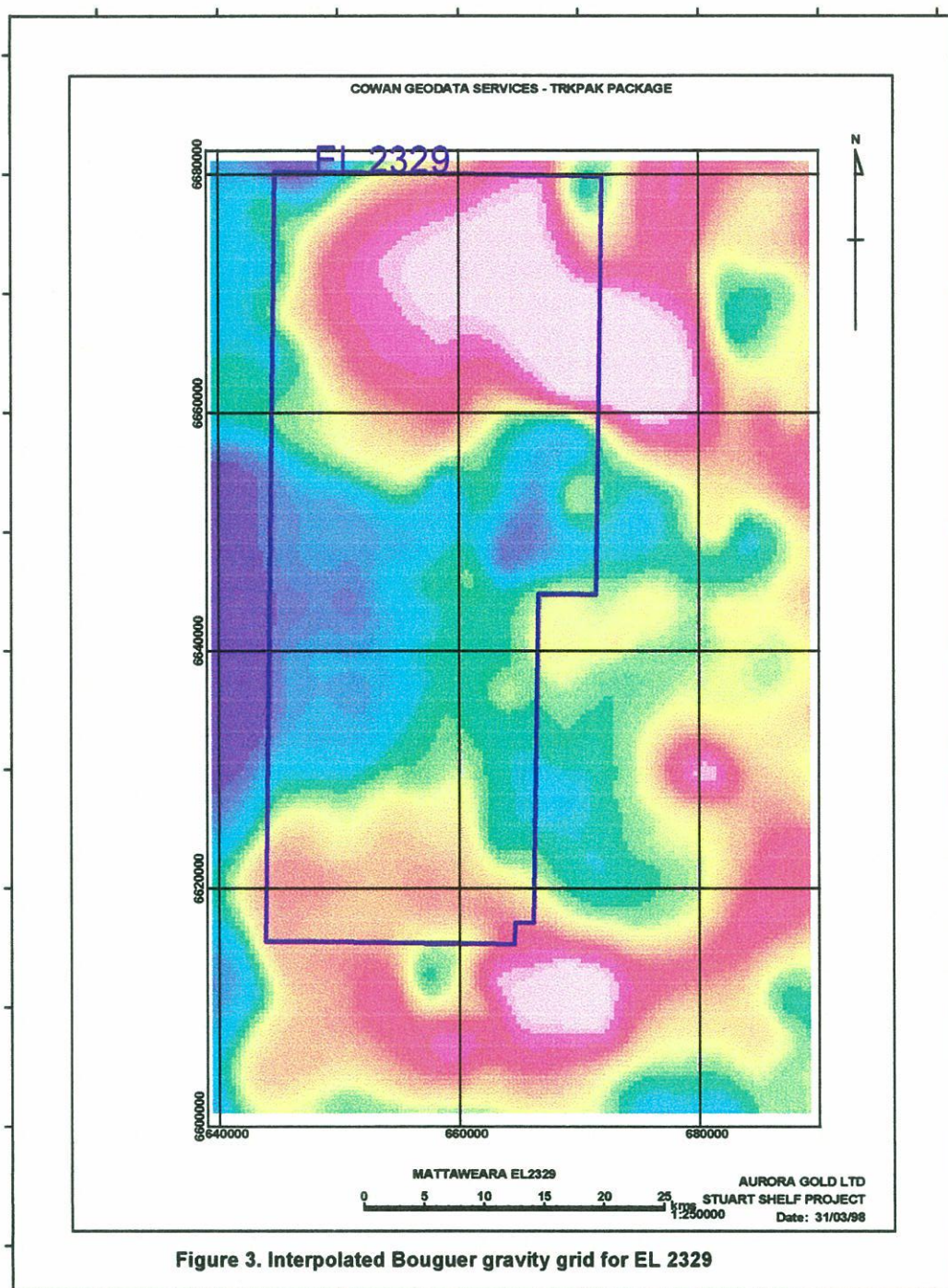
Within EL 2329 only 3 anomalies give well clustered relatively shallow depths:

- ⇒ The western edge of the Double Swamp complex has indicated depths of around 350m. This anomaly is located at the intersection of N-S and NE trends
- ⇒ Double Swamp South NE anomaly zone has indicated depths of 350m. The anomaly is located on a NE trend with a NW cross trend.
- ⇒ The small circular anomaly at 658800E, 6644600N has indicated depths of 250m? There is a weak gravity high close to the magnetic anomaly. The anomaly is located on NW and WNW trends

4.8 Profile Magnetic Depth Results

Profile depth analysis was used to confirm 3D Euler results and to provide a picture of sources at different levels, The higher spatial resolution of the located data did not result in shallower depths for sources of interest.





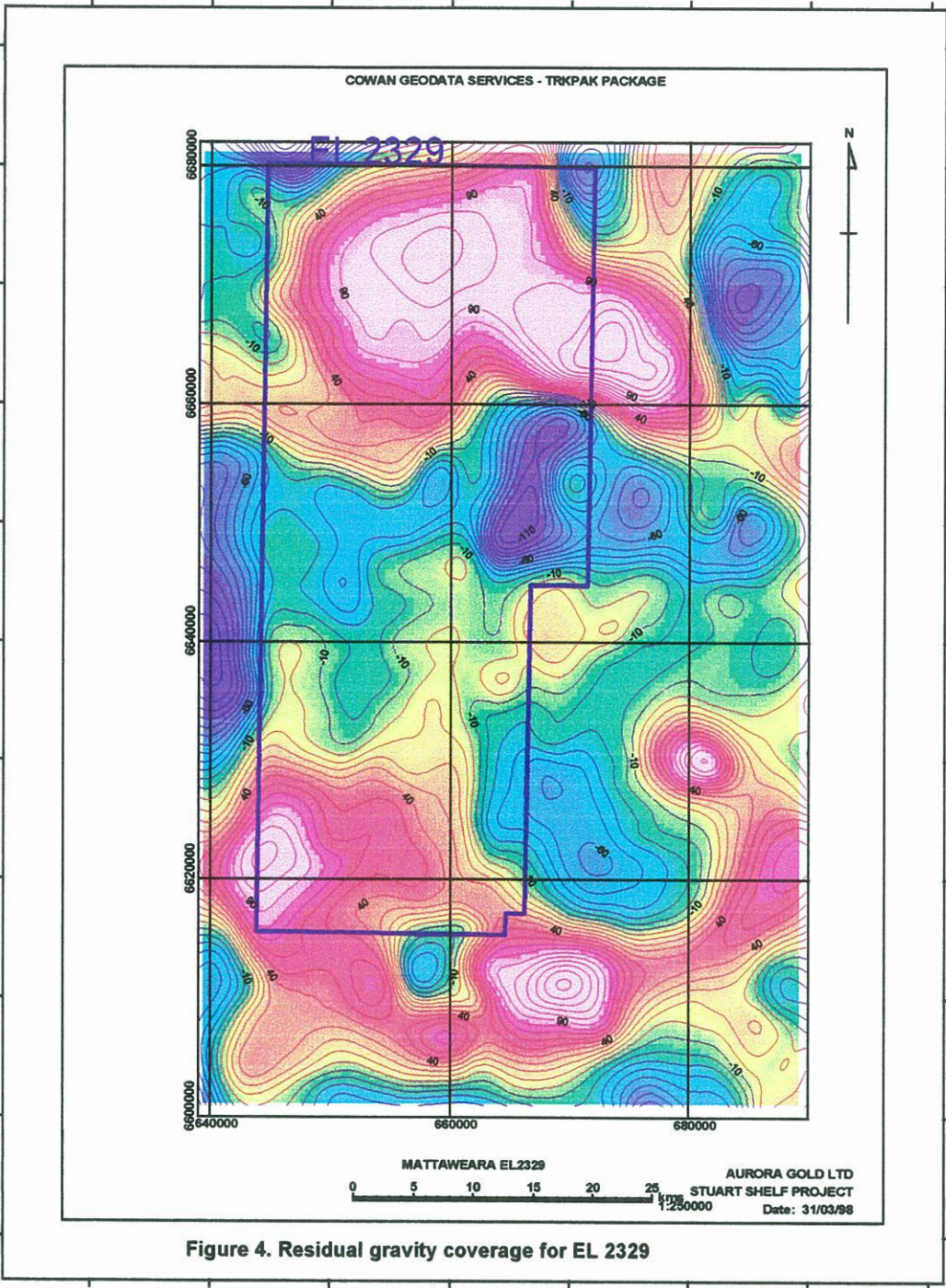
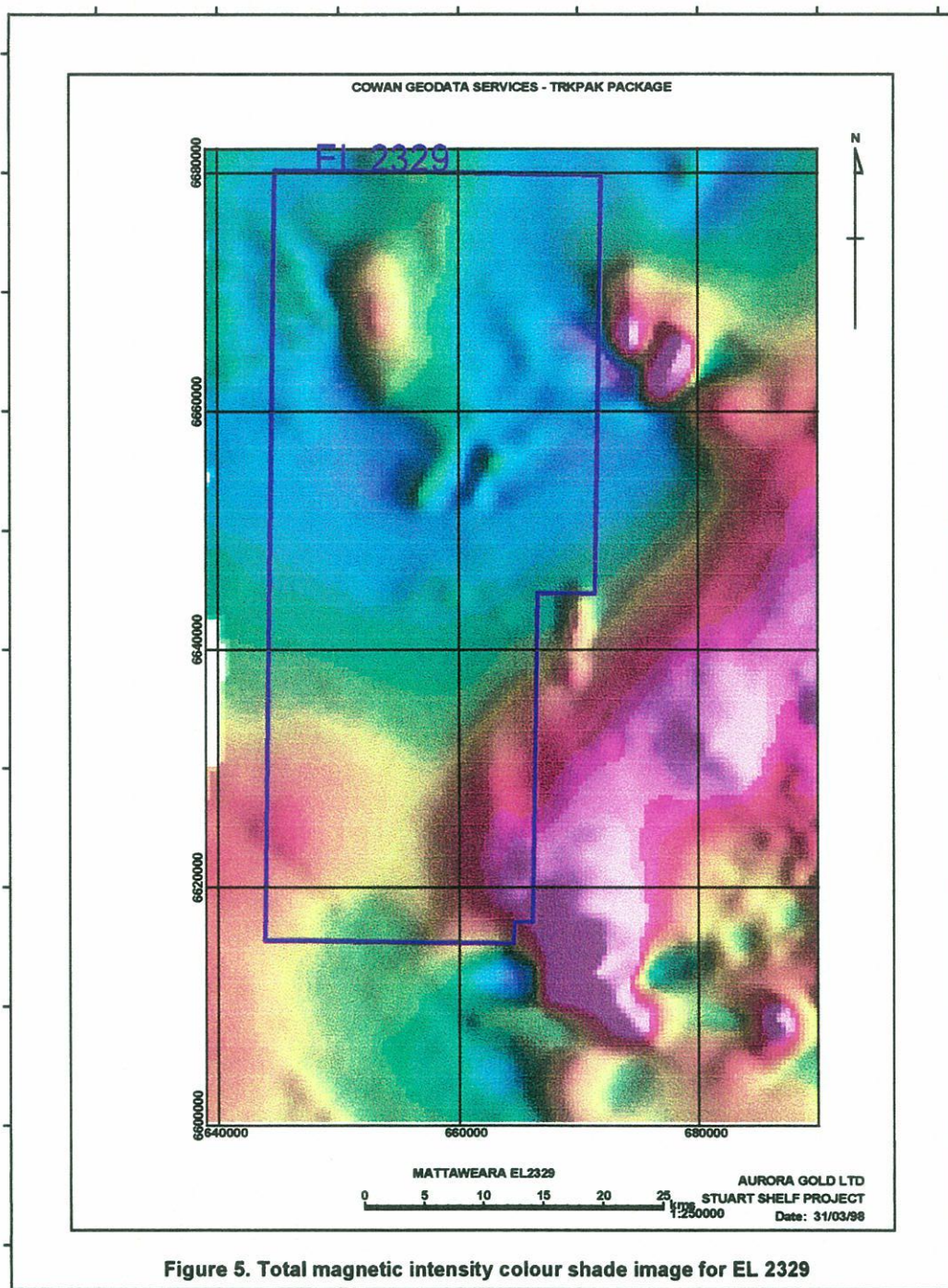


Figure 4. Residual gravity coverage for EL 2329



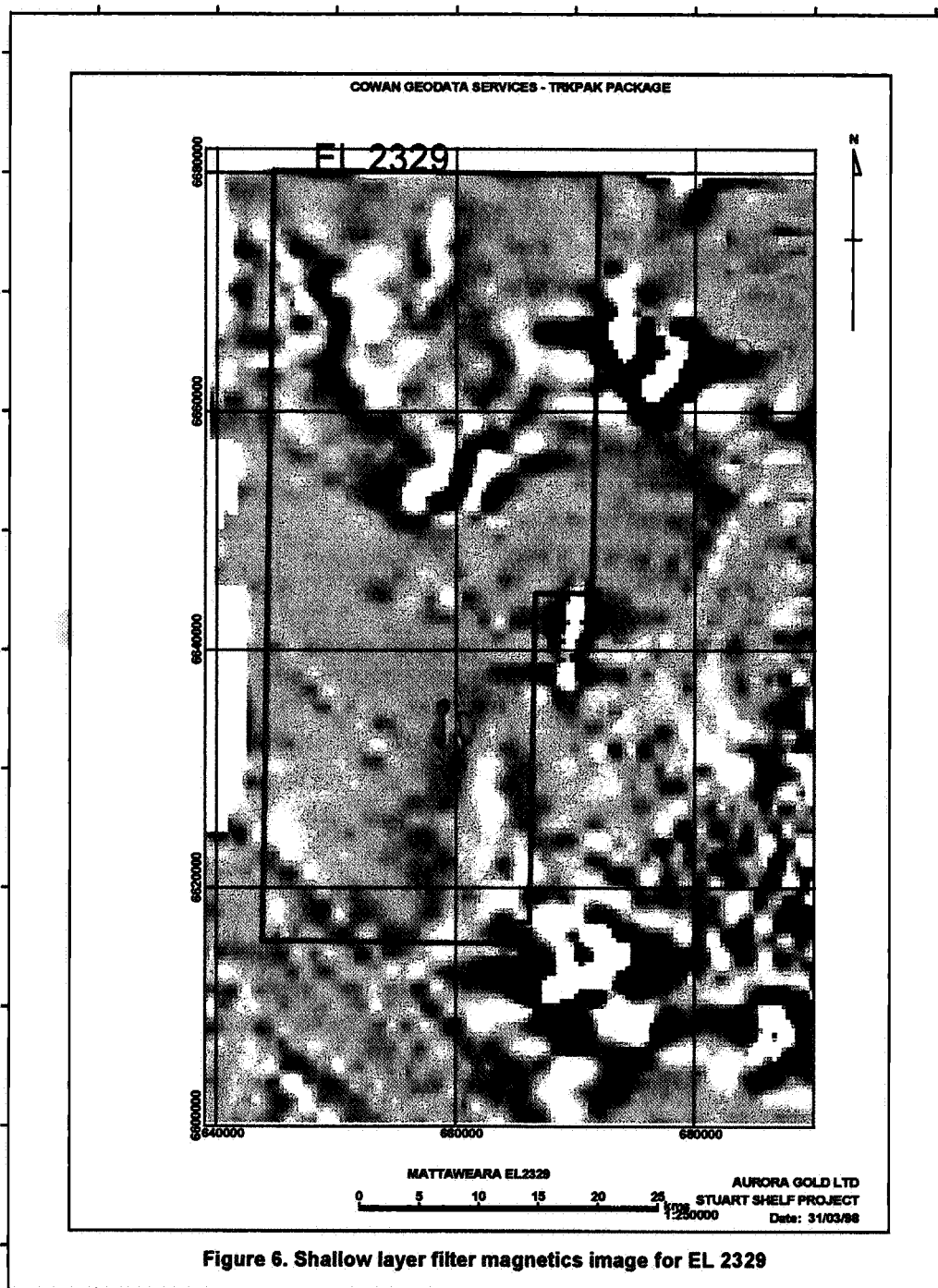
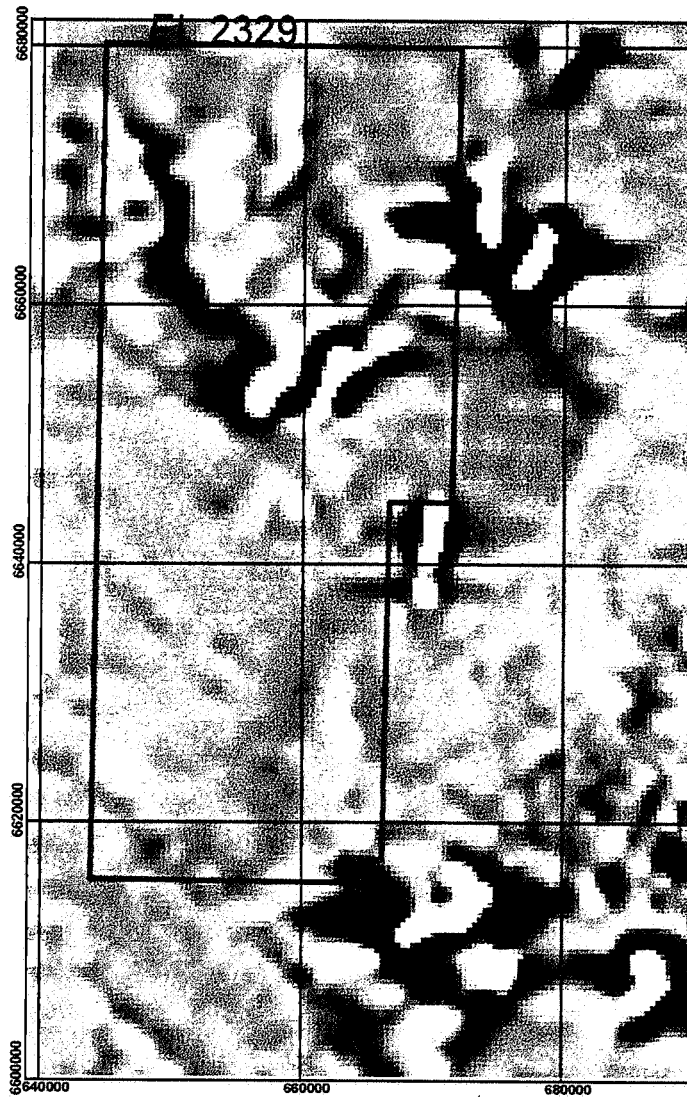


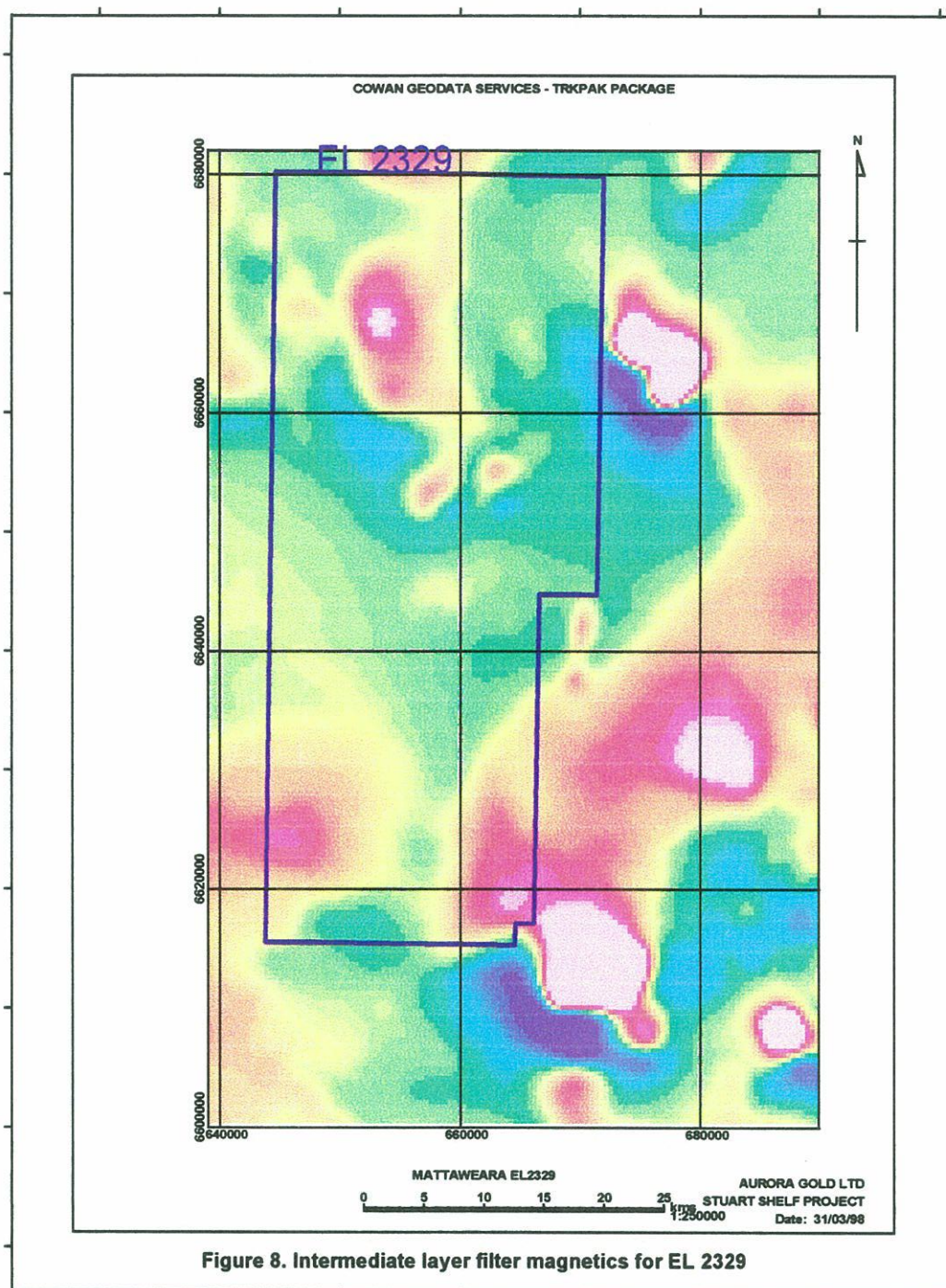
Figure 6. Shallow layer filter magnetics image for EL 2329

COWAN GEODATA SERVICES - TRKPAK PACKAGE



MATTAWEARA EL2329
0 5 10 15 20 25
AURORA GOLD LTD
STUART SHELF PROJECT
Date: 31/03/98

Figure 7. High gain AGC filtered magnetics for EL 2329



MATTAREARA EL 2329 MAGNETIC INTERPRETATION
ROSE DIAGRAM OF MAGNETIC GRADIENT/STRIKE DATA

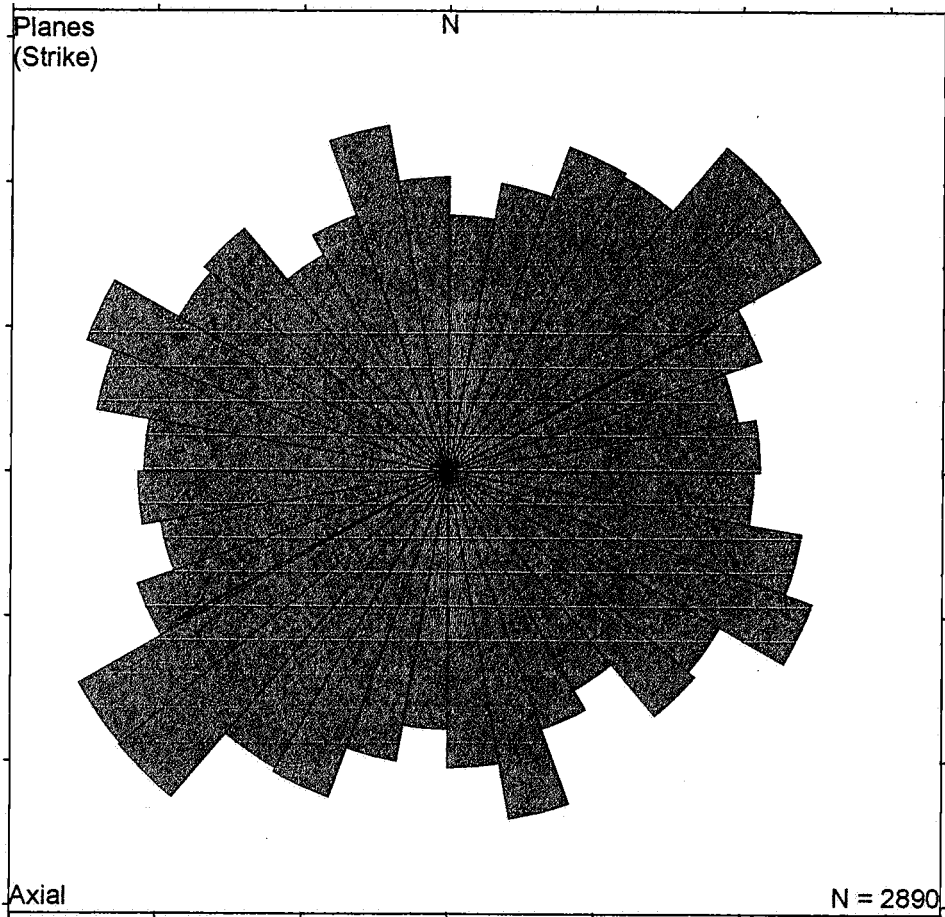


Figure 9. Gradient rose diagram

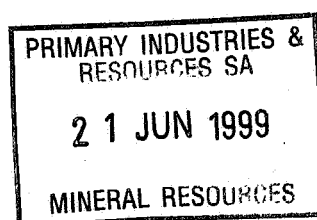
ANNUAL REPORT FOR EL 2329

MATTAREARA

Compiled by

Havilah Resources NL

June 1999



PIRSA

R2000/00627



TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. CURRENT EXPLORATION WORK	2
5. FUTURE EXPLORATION WORK	2
6. REFERENCES	2

Figure 1 General location map of EL 2329

Figure 2 Location of magnetic anomalies.

Figure 3 Location of drillholes.

1. INTRODUCTION

Exploration Licence 2329 (Mattaweara) lies in the northeast corner of the Andamooka 1:250,000 sheet area (Figure 1). At the time of grant on 1 November 1997, EL 2329 covered an area of 1616 square kilometres, but was subsequently reduced to 792 square kilometres on 1 May 1998 following relinquishment of ground that was considered to be of minimal prospectivity. A second reduction in area was made at the time of application for renewal of the EL in April 1999.

EL 2329 was initially applied for because of its proximity to Olympic Dam and the existence of targets within the favourable Olympic Dam structural corridor that were potentially inadequately tested.

2. GEOLOGICAL SETTING

The tenement area is entirely covered by Quaternary surficial deposits, beneath which are widespread gently dipping Neoproterozoic sediments of the Stuart Shelf. The thickness of shelf sediments is known from drillhole data and ranges from about 300 metres in the vicinity of Olympic Dam to in excess of 1000 metres near the southern end of the EL.

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3. PREVIOUS EXPLORATION WORK

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The Australian Selection joint venture concentrated on two magnetic features that were recognisable from available AGSO aeromagnetic data, namely the Buller and Portulacca Ridge features (Figure 2). The Buller magnetic/gravity anomaly is actually the western flank of the large Acropolis anomaly complex, the centre of which lies roughly 8 kilometres to the east. Diamond drillhole SAP 1, designed to test the Buller anomaly, terminated in Mesoproterozoic lower Pandurra Formation at 1389 metres (Figure 3).

The Portulacca Ridge magnetic anomaly had a small associated gravity anomaly and percussion drillhole PPR 6 was sited over it. This drillhole bottomed in Tregolana Shale at a depth of 194 metres, without establishing the source of the magnetic anomaly.

Western Mining Corporation carried out ground magnetic and gravity surveys over a prominent aeromagnetic feature in the north of the current EL, termed the "Double Swamp" anomaly. The feature was not drill-tested, presumably because of the lack of an associated gravity anomaly and

interpreted excessive depth to basement. A further prospect area, identified as “Brumby Fence” by Western Mining Corporation, was marked by a broad low-amplitude gravity high. However, ground magnetic and gravity surveying failed to define any significant anomalies and therefore no drilling was undertaken.

4. CURRENT EXPLORATION WORK

During the previous period, a thorough review of all earlier exploration work was completed and all existing aeromagnetic and ground survey geophysical data was compiled and interpreted by Cowan Geodata Services of Perth. The pertinent parts of the report prepared by Cowan Geodata Services, together with diagrams, were presented in the 1998 Annual Exploration report for EL 2329.

This report concludes that the magnetic sources for the Buller and Portulacca Ridge anomalies are at least 1200 metres deep. Drillhole SAR 1 on the Buller anomaly, as cited above, certainly supports this conclusion. As a consequence, the small block covering the Portulacca Ridge magnetic anomaly was relinquished from EL 2329 at the time of the third renewal in April this year.

Magnetic sources for at least portions of the Double Swamp anomaly, however, appear to be much shallower at around 350 metres depth based on the available magnetic data. Limited drillhole information shows that the prospective Gawler Craton basement rocks are likely to be deeper than this, indicating that the magnetic source may be in the overlying Neoproterozoic rock sequence. Stratigraphic drillhole Playford No. 1, lying just west of EL 2329, may provide support for this interpretation because it did not exit Pandurra Formation prior to its termination at 586 metres depth (Figure 3). On the other hand, drillholes BD 1 and BD 2 lying just east of EL 2329 both intersected pre-Pandurra basement rocks, with BD 1 intersecting Gawler Range Volcanics at 607 metres and BD 2 intersecting Hutchison Group at 657 metres (Figure 3).

In order to better define the nature of the magnetic sources responsible for the Double Swamp anomaly, it was decided to carry out a detailed aeromagnetic survey over EL 2329. At about the time that contracts for the work were to be awarded in October 1998, it was learned that AGSO planned to carry out similar work on a portion of the Andamooka 1: 250,000 sheet lying east of EL 2329. Subsequent discussions with AGSO resulted in a co-operative effort over EL 2329, whereby Havilah Resources met the expense of 200 metre infill lines within the basic 400 metre line spacing survey of AGSO. The aim was to generate high quality magnetic data from which accurate depth estimates could be made. At the time of writing, EL 2329 had been flown, but the geophysical data had not been received.

5. FUTURE EXPLORATION WORK

Following receipt of AGSO geophysical data for EL 2329, it is planned to carry out detailed interpretation and depth estimates of potential targets using latest computer software models. A drilling programme will only be considered if suitable targets within reasonable depth are indicated.

6. REFERENCES

O'Driscoll, E.S.T. 1986. Observations on the lineament-ore relation, *In* : Major Crustal Lineaments and Their Influence on the Geological History of the Continental Lithosphere (Eds. H.G. Reading, J. Watterson and S.H. White) *Philos. Trans. R. Soc. London A.* 317, pp195-218.

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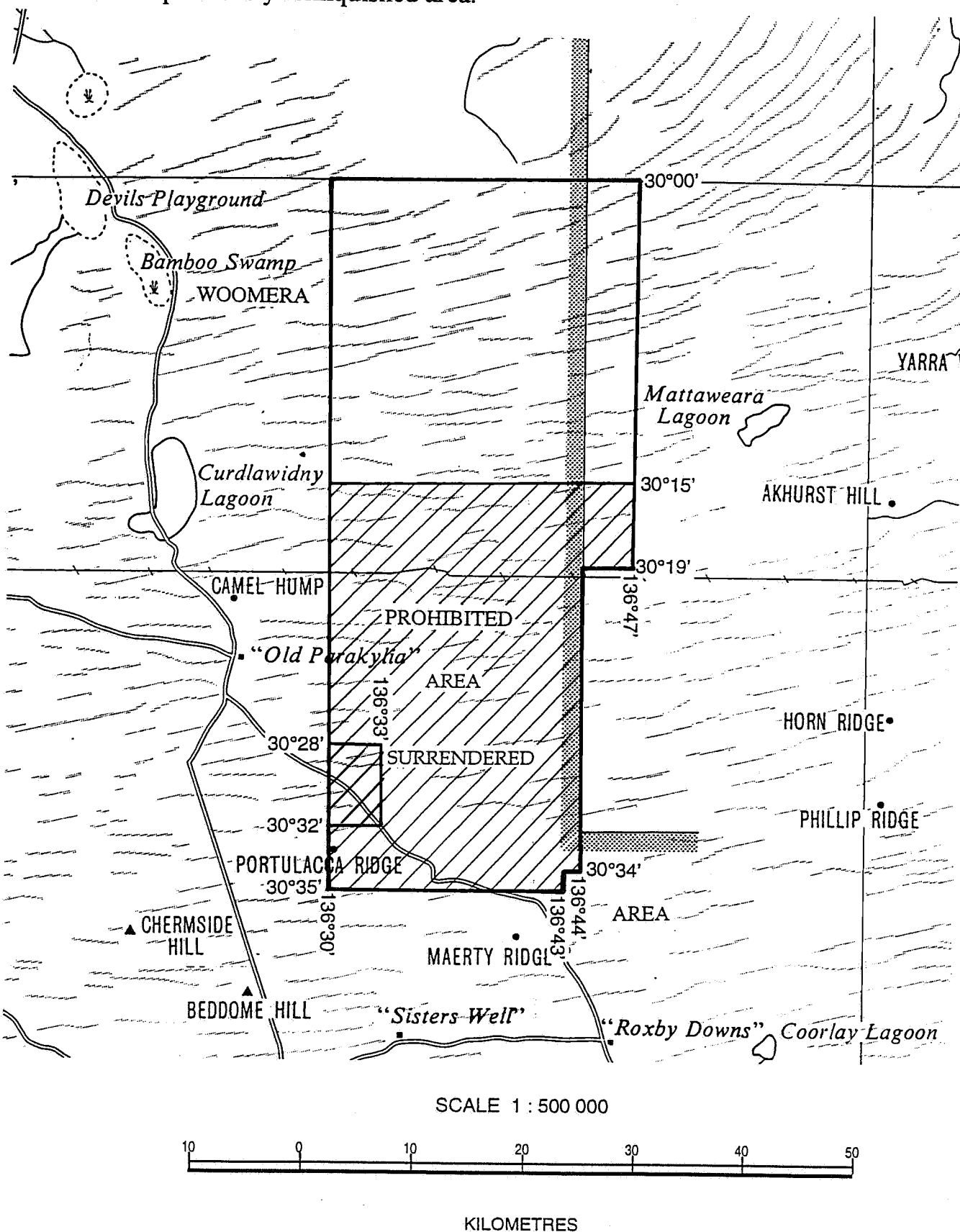
Australian Selection JV 1979-83. EL's 510, 933. MESA envelope 3693

Carpentaria Exploration Company Pty Ltd 1983-86. EL 1198. MESA envelope 3693

Western Mining Corporation 1975-86. EL 1316. MESA envelope 6562.

Figure 1 General location map for EL 2329, also showing previously relinquished area.

SCHEDULE A



APPLICANT : HAVILAH RESOURCES N.L.

DM : 590/96

1:250 000 PLANS : ANDAMOOKA

LOCALITY : OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka

DATE GRANTED : 2 May 1997

DATE EXPIRED : 1 May 1998

792
AREA : ~~1616~~ square kilometres (approx.)

EL No : 2329

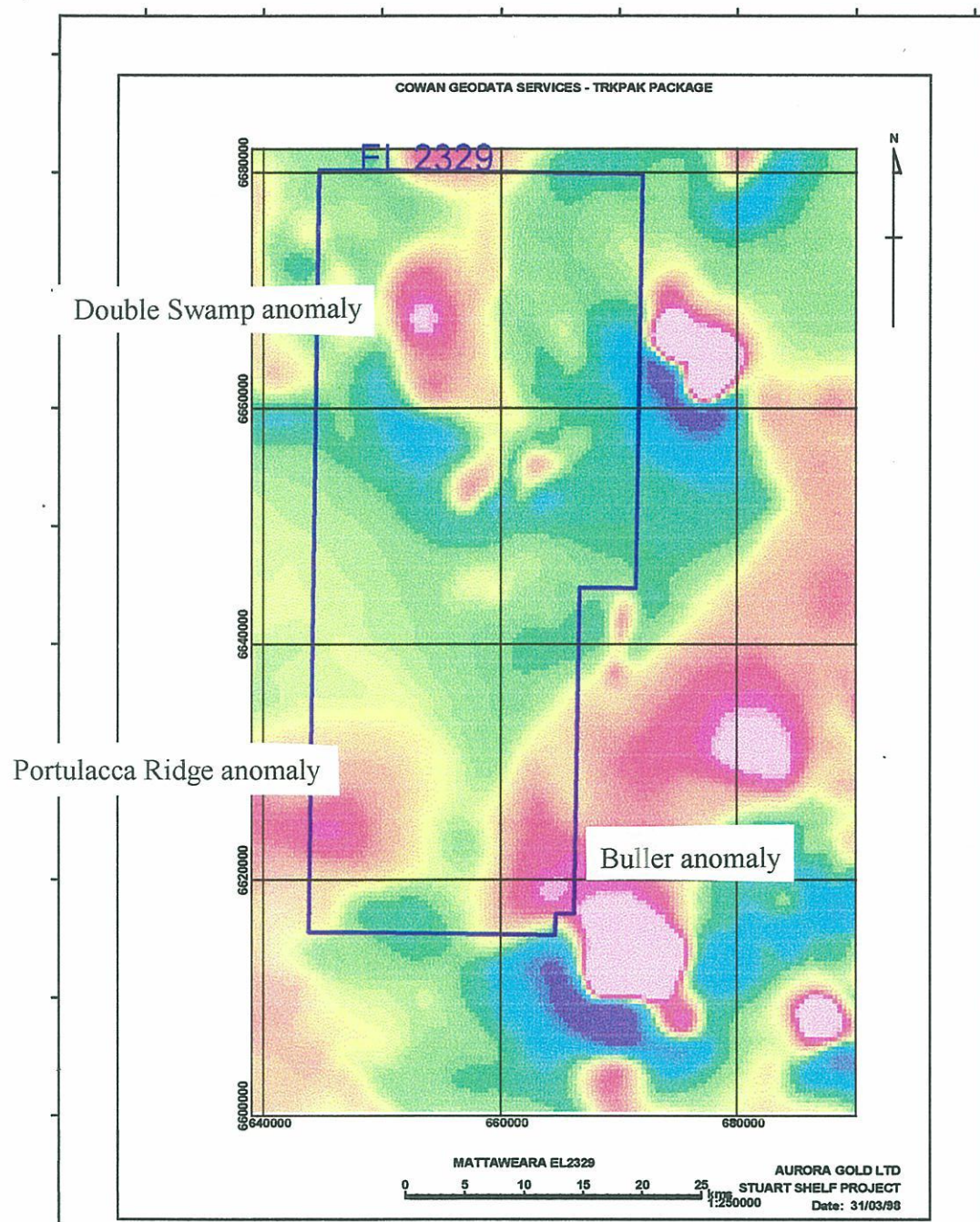
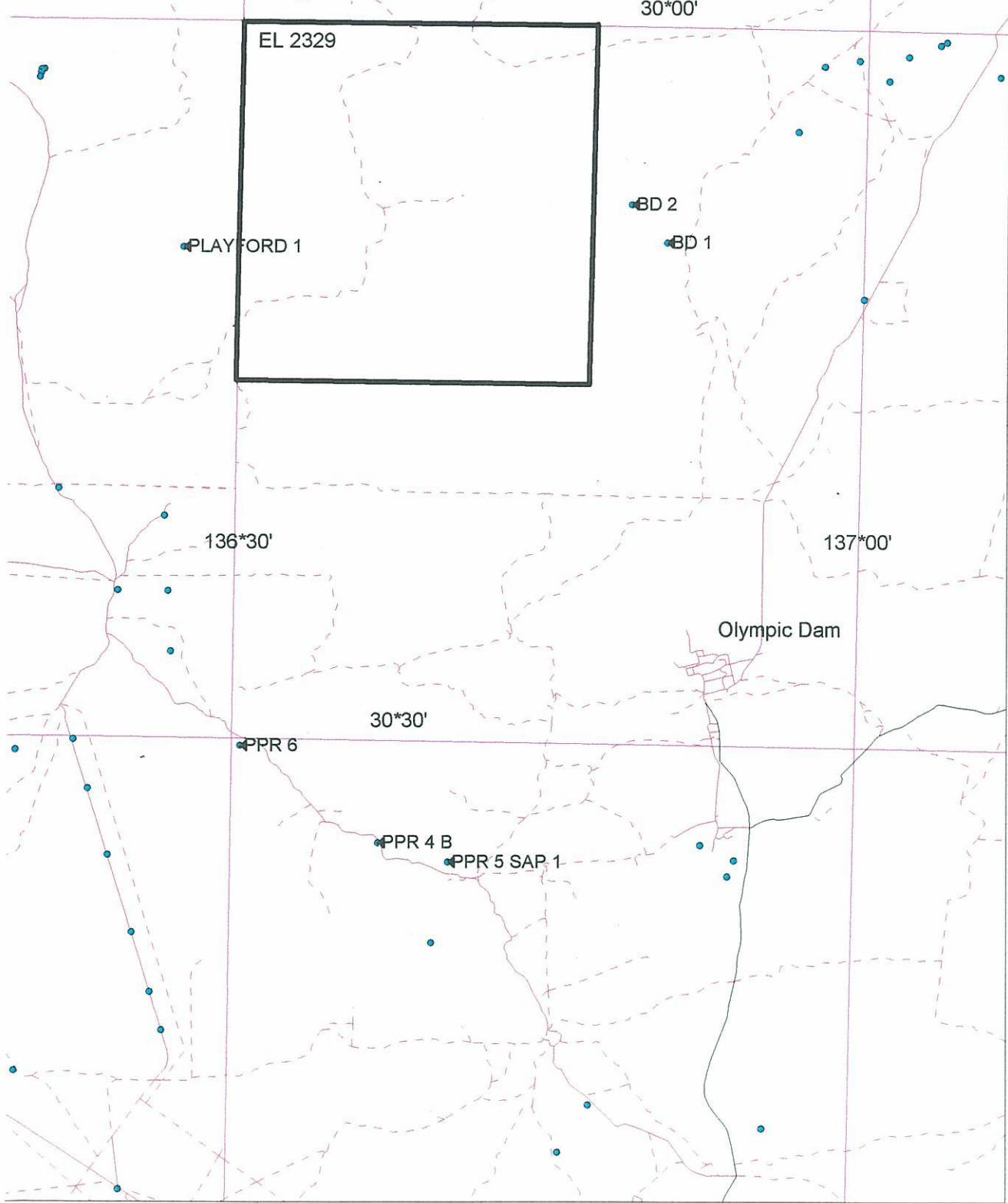
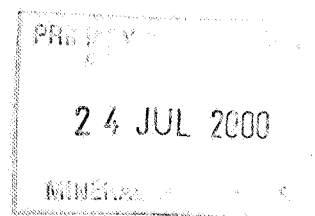


Figure 2 Magnetic anomalies and prospect areas referred to in text.

Figure 3 Drillhole location map





ANNUAL REPORT FOR EL 2329 (*For 2 years ending
1.5.00*)
MATTAREARA

Compiled by
Havilah Resources NL

July 2000



TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. PREVIOUS HAVILAH EXPLORATION WORK	2
5. CURRENT HAVILAH EXPLORATION WORK	2
6. FUTURE EXPLORATION WORK	3
7. REFERENCES	3

Figure 1 General location map of EL 2329

Figure 2 Location of magnetic anomalies.

Figure 3 Location of drillholes.

Figure 4 Imaged TMI Reduced to the pole for AGSO 200 m line spaced data

Figure 5 Imaged Total Count radiometric data for AGSO 200 m line spaced data

APPENDIX 1 Geophysical consultants report for depth modelling of AGSO aeromagnetic data

1. INTRODUCTION

Exploration Licence 2329 (Mattaweara) lies in the northeast corner of the Andamooka 1:250,000 sheet area (Figure 1). At the time of grant on 1 November 1997, EL 2329 covered an area of 1616 square kilometres, but was subsequently reduced in two stages to approximately 130 square kilometres following relinquishment of ground that was considered to be of minimal prospectivity.

EL 2329 was initially applied for because of its proximity to Olympic Dam and the existence of targets within the favourable Olympic Dam structural corridor that were potentially inadequately tested.

2. GEOLOGICAL SETTING

The tenement area is entirely covered by Quaternary surficial deposits, beneath which are widespread gently dipping Neoproterozoic sediments of the Stuart Shelf. The thickness of shelf sediments is known from drillhole data and ranges from about 300 metres in the vicinity of Olympic Dam to in excess of 1000 metres elsewhere.

The Neoproterozoic sediments were deposited on deeply eroded Gawler Craton Mesoproterozoic basement lithologies, including Pandurra Formation, Gawler Range Volcanics, Hiltaba Suite granitoids and various older metamorphic rocks. It is these rocks which are known to host metallic mineralisation at Olympic Dam and nearby prospects, including Acropolis and Wirrda Well.

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3. PREVIOUS EXPLORATION WORK

Most exploration work of direct relevance was carried out in the 1975-1986 period by Western Mining Corporation in the northern portion of the EL, and by Australian Selection Pty Limited and partners Geopeko and Carpentaria Exploration over most of the remainder of the area.

The Australian Selection joint venture concentrated on two magnetic features that were recognisable from available AGSO aeromagnetic data, namely the Buller and Portulacca Ridge features (Figure 2). The Buller magnetic/gravity anomaly is actually the western flank of the large Acropolis anomaly complex, the centre of which lies roughly 8 kilometres to the east. Diamond drillhole SAP 1, designed to test the Buller anomaly, terminated in Mesoproterozoic lower Pandurra Formation at 1389 metres (Figure 3).

The Portulacca Ridge magnetic anomaly had a small associated gravity anomaly and percussion drillhole PPR 6 was sited over it. This drillhole bottomed in Tregolana Shale at a depth of 194 metres, without establishing the source of the magnetic anomaly.

Western Mining Corporation carried out ground magnetic and gravity surveys over a prominent aeromagnetic feature in the north of the current EL, termed the "Double Swamp" anomaly. The feature was not drill-tested, presumably because of the lack of an associated gravity anomaly and

interpreted excessive depth to basement. A further prospect area, identified as “Brumby Fence” by Western Mining Corporation, was marked by a broad low-amplitude gravity high. However, ground magnetic and gravity surveying failed to define any significant anomalies and therefore no drilling was undertaken.

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During previous periods, thorough reviews of all earlier exploration work was completed and all existing aeromagnetic and ground survey geophysical data was compiled and interpreted by Cowan Geodata Services of Perth. The pertinent parts of the report prepared by Cowan Geodata Services, together with diagrams, were presented in the 1998 Annual Exploration report for EL 2329.

Cowan Geodata Service’s report concludes that the magnetic sources for the Buller and Portulacca Ridge anomalies are at least 1200 metres deep. Drillhole SAR 1 on the Buller anomaly, as cited above, certainly supports this conclusion. As a consequence, the small block covering the Portulacca Ridge magnetic anomaly was relinquished from EL 2329 at the time of the third renewal in April 1999.

Magnetic sources for at least portions of the Double Swamp anomaly, however, appeared to be much shallower at around 350 metres depth based on the available magnetic data. Limited drillhole information shows that the prospective Gawler Craton basement rocks are likely to be deeper than this, indicating that the magnetic source may be in the overlying Neoproterozoic rock sequence. Stratigraphic drillhole Playford No. 1, lying just west of EL 2329, may provide support for this interpretation because it did not exit Pandurra Formation prior to its termination at 586 metres depth (Figure 3). On the other hand, drillholes BD 1 and BD 2 lying just east of EL 2329 both intersected pre-Pandurra basement rocks, with BD 1 intersecting Gawler Range Volcanics at 607 metres and BD 2 intersecting Hutchison Group at 657 metres (Figure 3).

In order to better define the nature of the magnetic sources responsible for the Double Swamp anomaly, it was decided to carry out a detailed aeromagnetic survey over EL 2329. At about the time that contracts for the work were to be awarded in October 1998, it was learned that AGSO planned to carry out similar work on a portion of the Andamooka 1: 250,000 sheet lying east of EL 2329. Subsequent discussions with AGSO resulted in a co-operative effort over EL 2329, whereby Havilah Resources met the expense of 200 metre infill lines within the basic 400 metre line spacing survey of AGSO. The aim was to generate high quality magnetic data from which accurate depth estimates could be made.

5. CURRENT HAVILAH EXPLORATION WORK

The 200 metre spaced geophysical data was received from AGSO in July 1999. The new aeromagnetic data clearly resolved a smaller (1.5 x 1.5 km) more intense magnetic anomaly to the southeast of the main Double Swamp anomaly (Figure 4). The total count radiometric data, while responding to near surface features, does appear to reflect some deeper seated structures, especially a north-south oriented feature located around 136°35' (Figure 5).

The data was provided to Koch Geoservice geophysical consultants in order to carry out detailed depth estimates of the magnetic features using Potent software. This work produced good fits of the curves in 3D, using reasonable magnetic susceptibilities and body shapes (see Appendix 1). The main Double Swamp or northwest anomaly is clearly reflecting a large (3.8 x 8.0 km) and deep feature that lies at least 1600 metres below the surface. The southeast anomaly is caused by

a much smaller body (3.0 x1.1 km) that is considerably shallower, lying approximately 400 metres below the surface. The body could be shallower if it was of lower magnetic susceptibility than that assumed in the modelling calculations.

6. FUTURE EXPLORATION WORK

It is apparent that the only feature of potential interest within the EL is the southeast anomaly owing to its relatively shallow depth. The next step would be to carry out a detailed gravity survey in order to determine whether the body is of abnormally high density, as might be expected for a metallic ore deposit.

7. REFERENCES

O'Driscoll, E.S.T. 1986. Observations on the lineament-ore relation, *In : Major Crustal Lineaments and Their Influence on the Geological History of the Continental Lithosphere* (Eds. H.G. Reading, J. Watterson and S.H. White) *Philos. Trans. R. Soc. London A*. 317, pp195-218.

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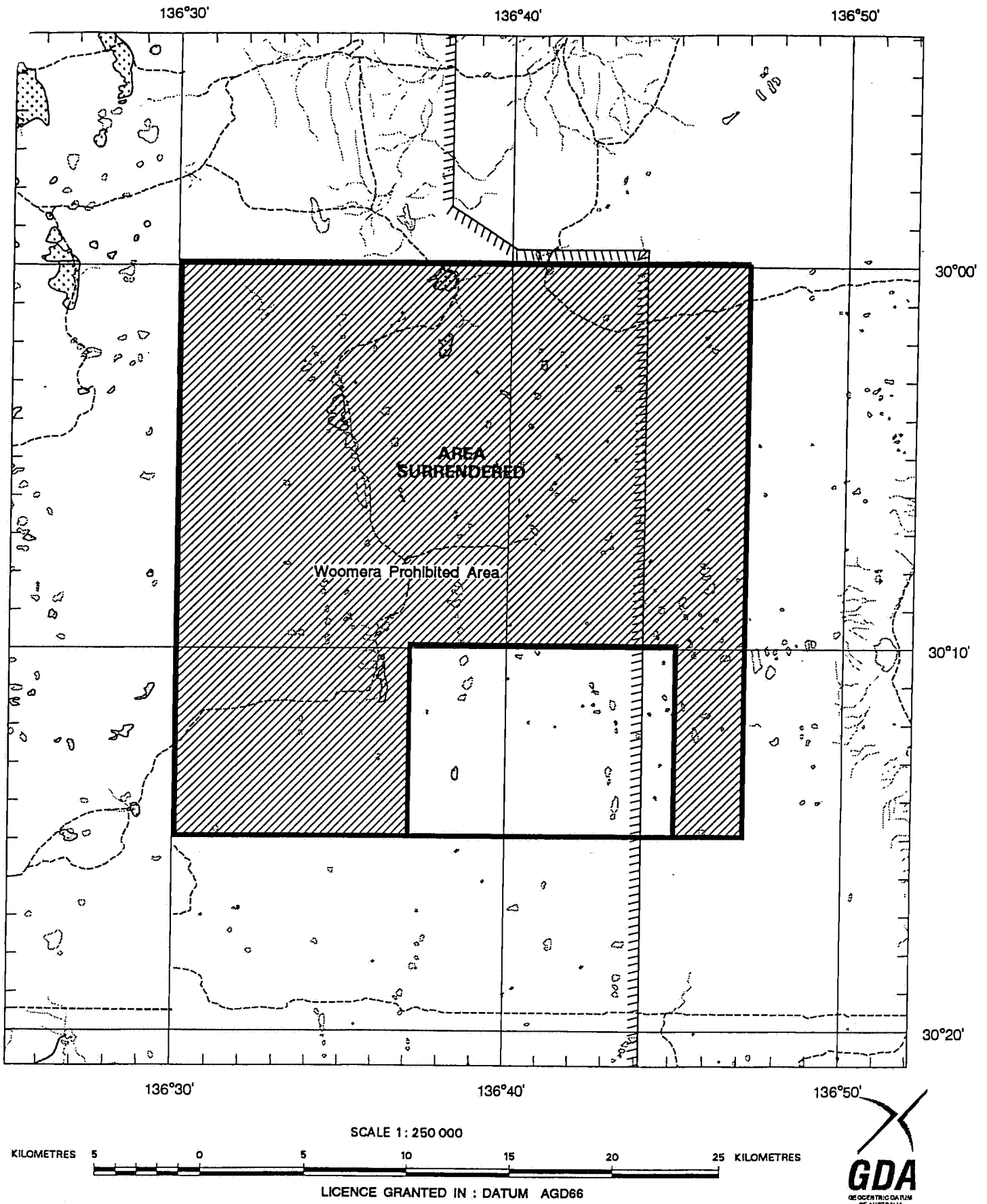
Australian Selection JV 1979-83. EL's 510, 933. MESA envelope 3693

Carpentaria Exploration Company Pty Ltd 1983-86. EL 1198. MESA envelope 3693

Western Mining Corporation 1975-86. EL 1316. MESA envelope 6562.

Figure 1 - Location of EL 2329

SCHEDULE A



APPLICANT : HAVILAH RESOURCES NL

FILE REF : 590/96 TYPE : MINERAL ONLY

AREA : 119 km² (approx.)

1:250000 MAPSHEETS : CURDIMURKA ANDAMOOKA

LOCALITY : OLD PARAKYLIA AREA - Approximately 10 km west of Andamooka

DATE GRANTED : 02-May-1997 DATE EXPIRED : 01-May-2000

EL NO : 2329

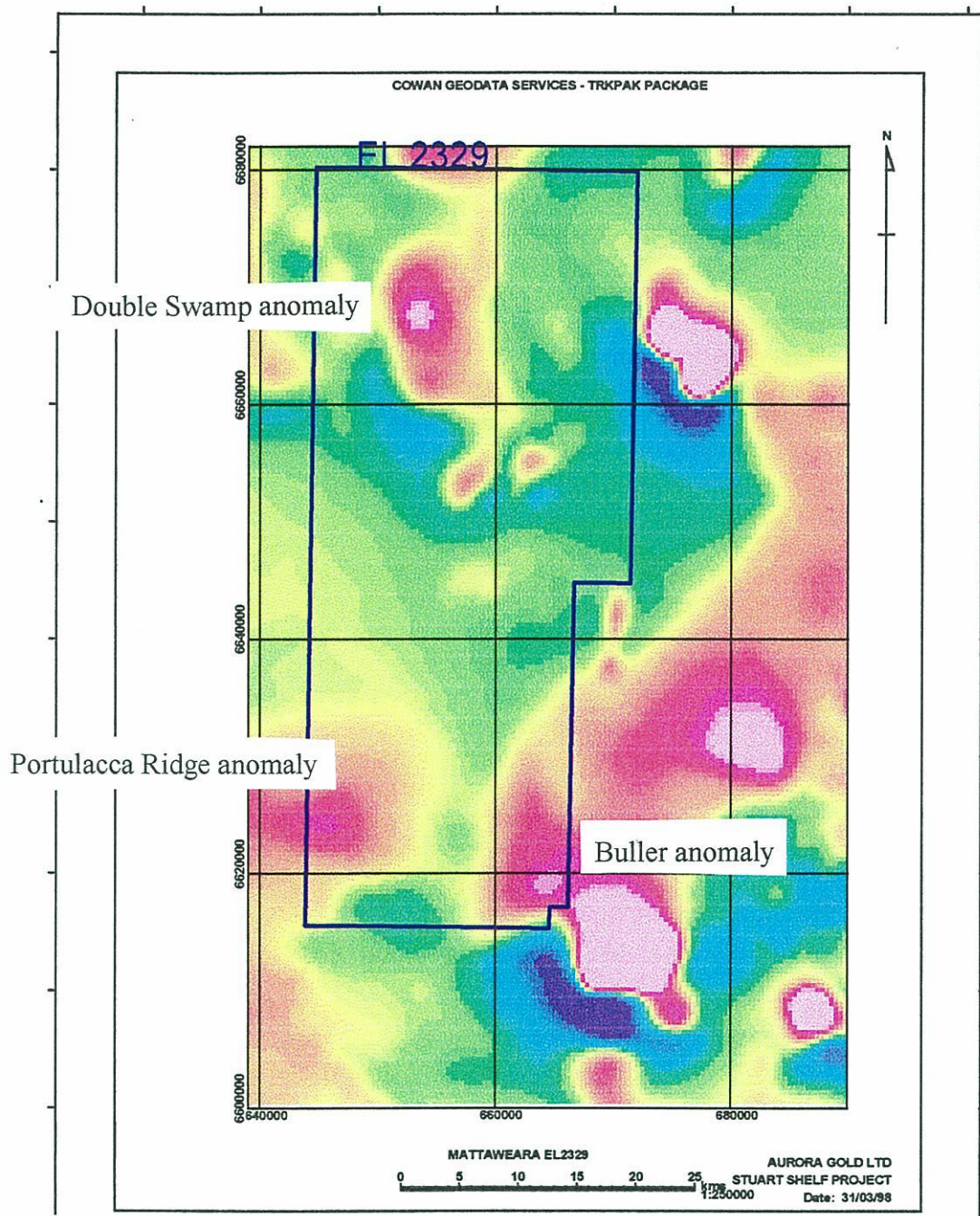
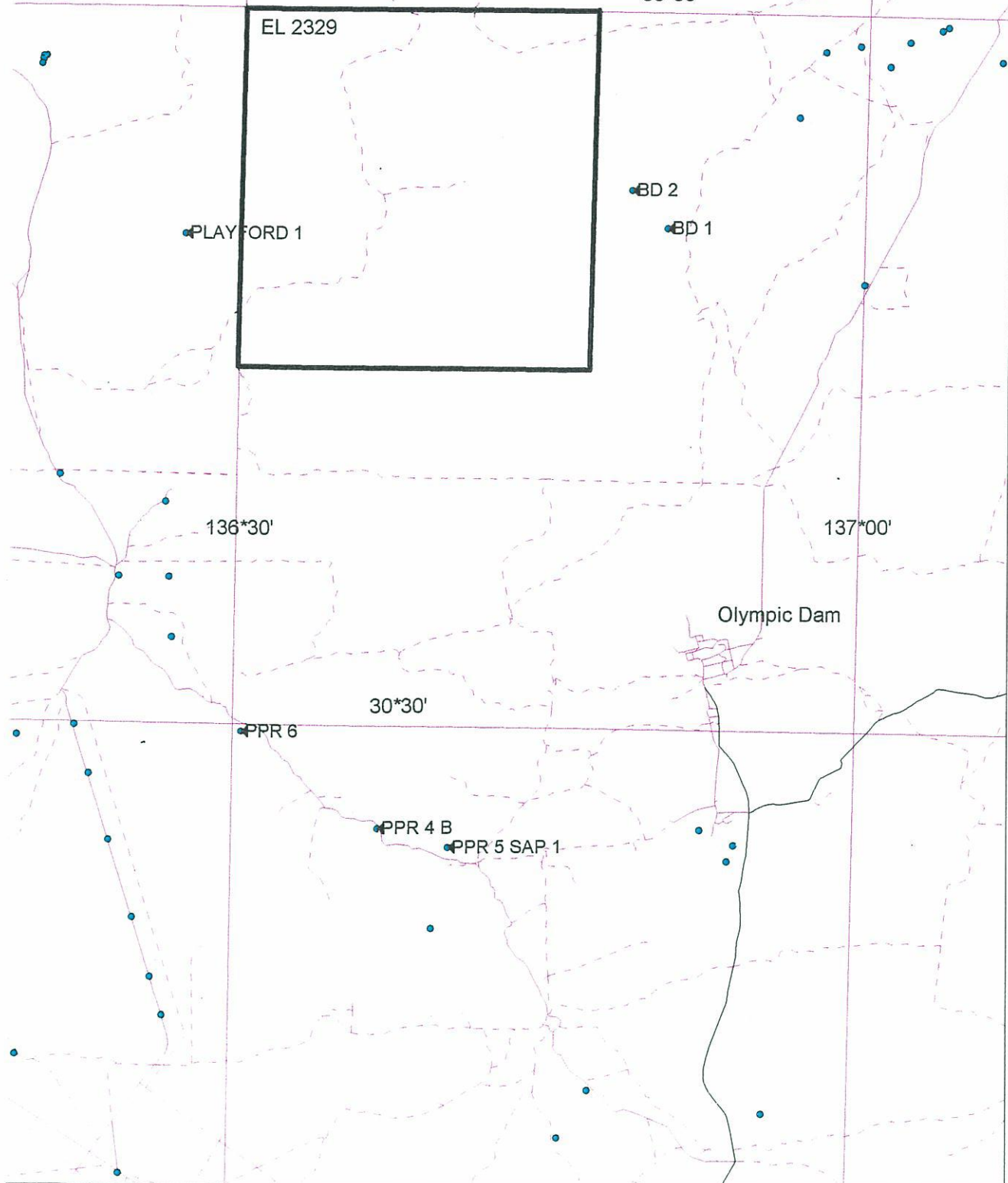


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Figure 3 Drillhole location map



EL 2329

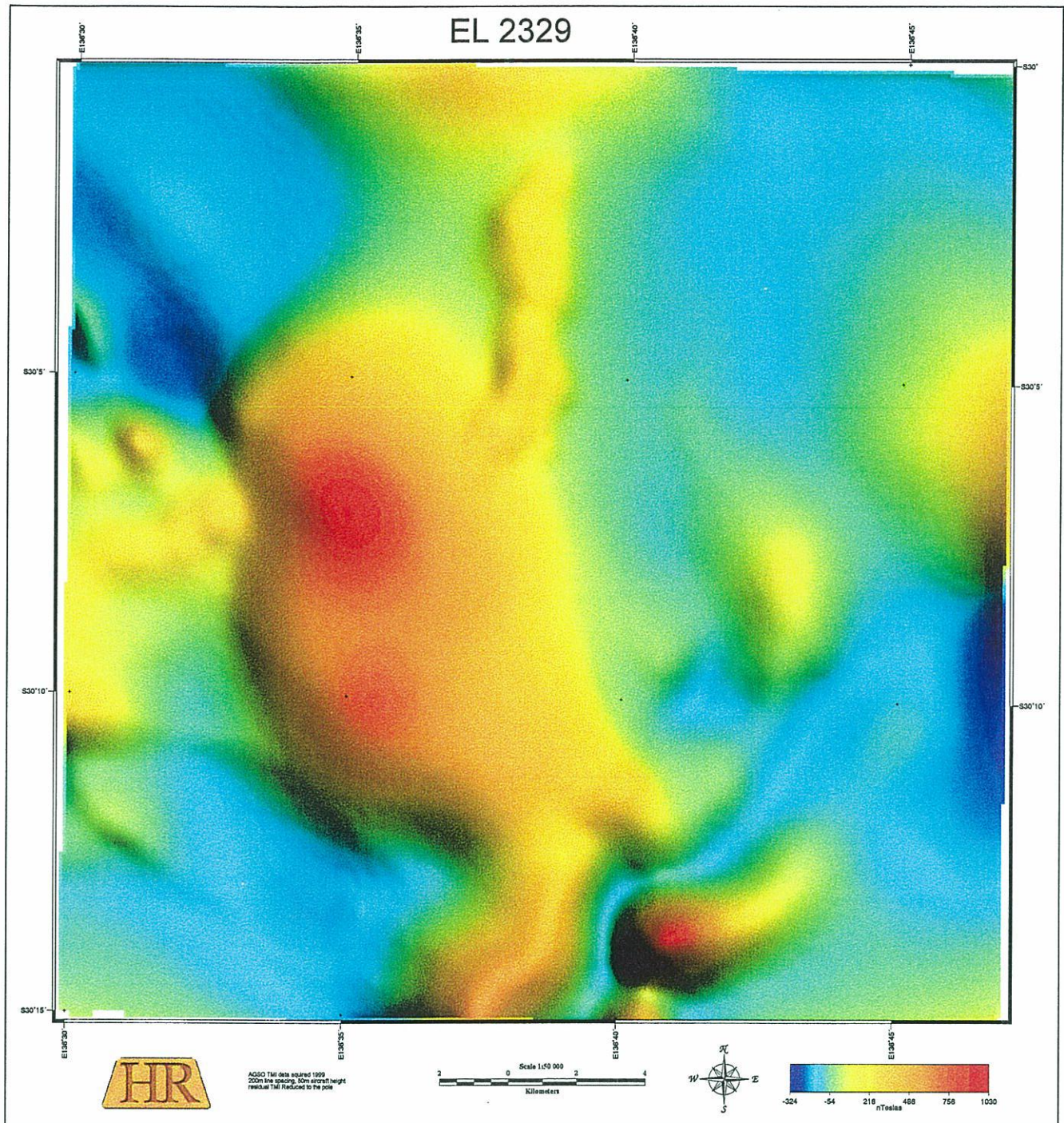


Figure 4 Imaged TMI Reduced to the pole for AGSO 200 m line spaced data

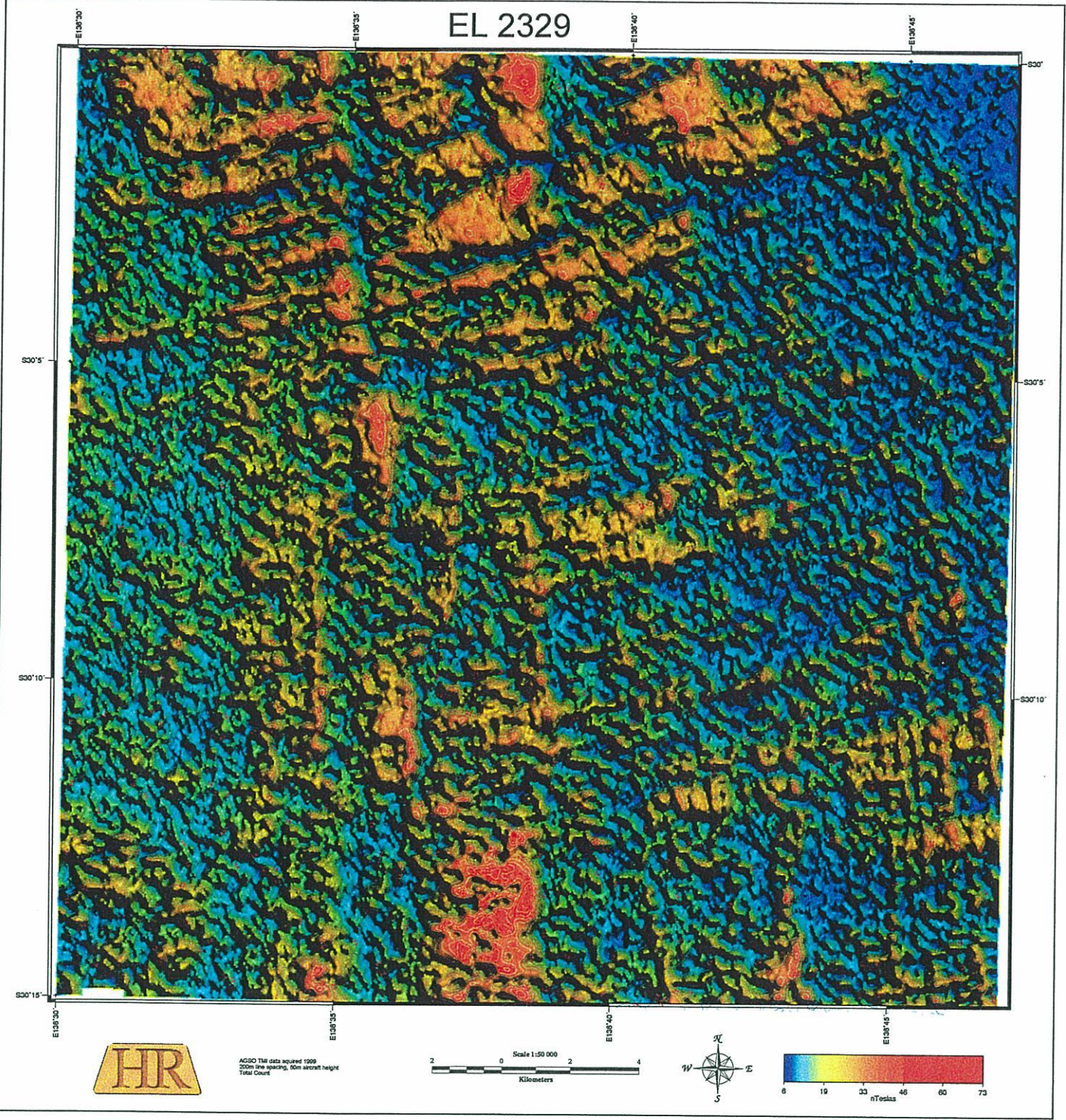


Figure 5 Imaged Total Count radiometric data for AGSO 200 m line spaced data

APPENDIX ONE

EL 2329 Mattawaera, Stuart Shelf, S.A.

Report on modelling of AGSO 200 m line spaced aeromagnetic data

By

Koch Geoservices

August 1999

KOCH GEOSERVICE

2a Drew Grove St Georges SA 5064

Phone/Fax: (08) 8379 4745

Mobile: 0414 587 510

Email: gkoch@dove.net.au

FORWARD MODELLING REPORT FOR EL:2329

Allender Exploration contracted Koch Geoservice to calculate depth estimates for two magnetic anomalies on EL: 2329. Geosoft xyz line files were supplied containing AMG Eastings, AMG Northings and Mag. No elevation data was present in these files hence all depth estimates are calculated from the aircraft sensor (approximately 80m above ground level). The two anomalies targeted for depth analysis is shown on the flight path / contour plan overleaf ie. EL2329 Northwest and EL2329 Southeast.

EL:2329

EL:2329 NORTHWEST

BODY SHAPE

Body type:	Dyke
Width:	3800m
Height:	8000m
Slope:	50.0 degrees
Length:	6000m

PHYSICAL PROPERTIES

Mag Sus:	0.160 SI units (above background)
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BODY POSITION

AMG X:	651383mE
AMG Y:	6668483mN
Strike:	-19.0 degrees

DEPTH: **1733 metres below aircraft**

(Refer to model diagram EL:2329 NORTHWEST)

Note that 1733m below aircraft sensor is optimum depth for the given susceptibility. An attempt was made to calculate minimum possible depth by changing various properties and parameters. It was concluded that it was unlikely that the minimum depth is above 1400m below aircraft sensor.

EL:2329 SOUTHEAST

BODY SHAPE

Body type: Elliptic cylinder
A axis: 3000m
B axis: 1139m
Slope: 90.0 degrees
Length: 5000m

PHYSICAL PROPERTIES

Mag Sus: 0.100 SI units (above background)

BODY POSITION

AMG X: 662642mE
AMG Y: 6655127mN
Strike: -22.0 degrees

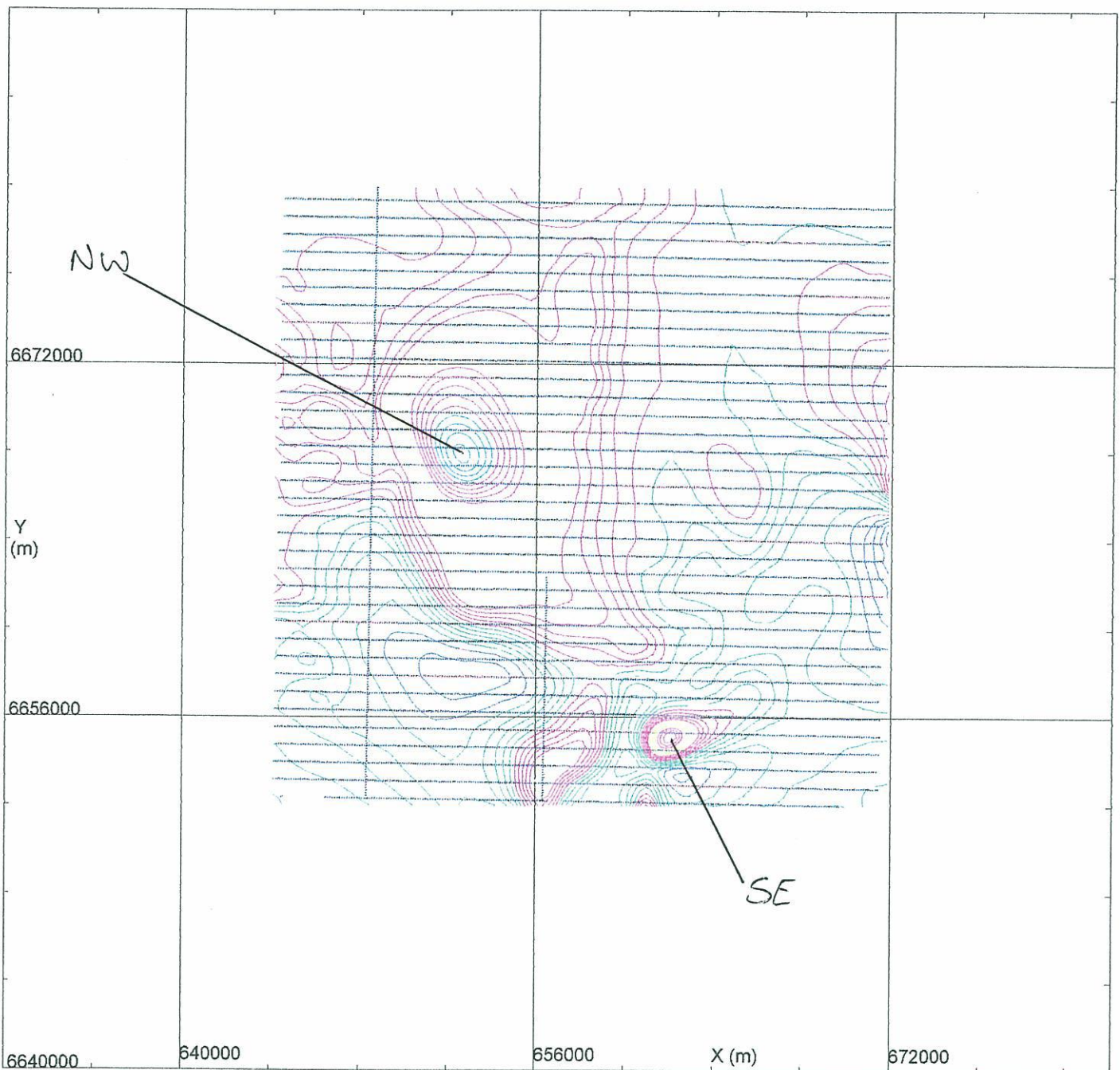
DEPTH: **507 metres below aircraft**

(Refer to model diagram EL:2329 SOUTHEAST)

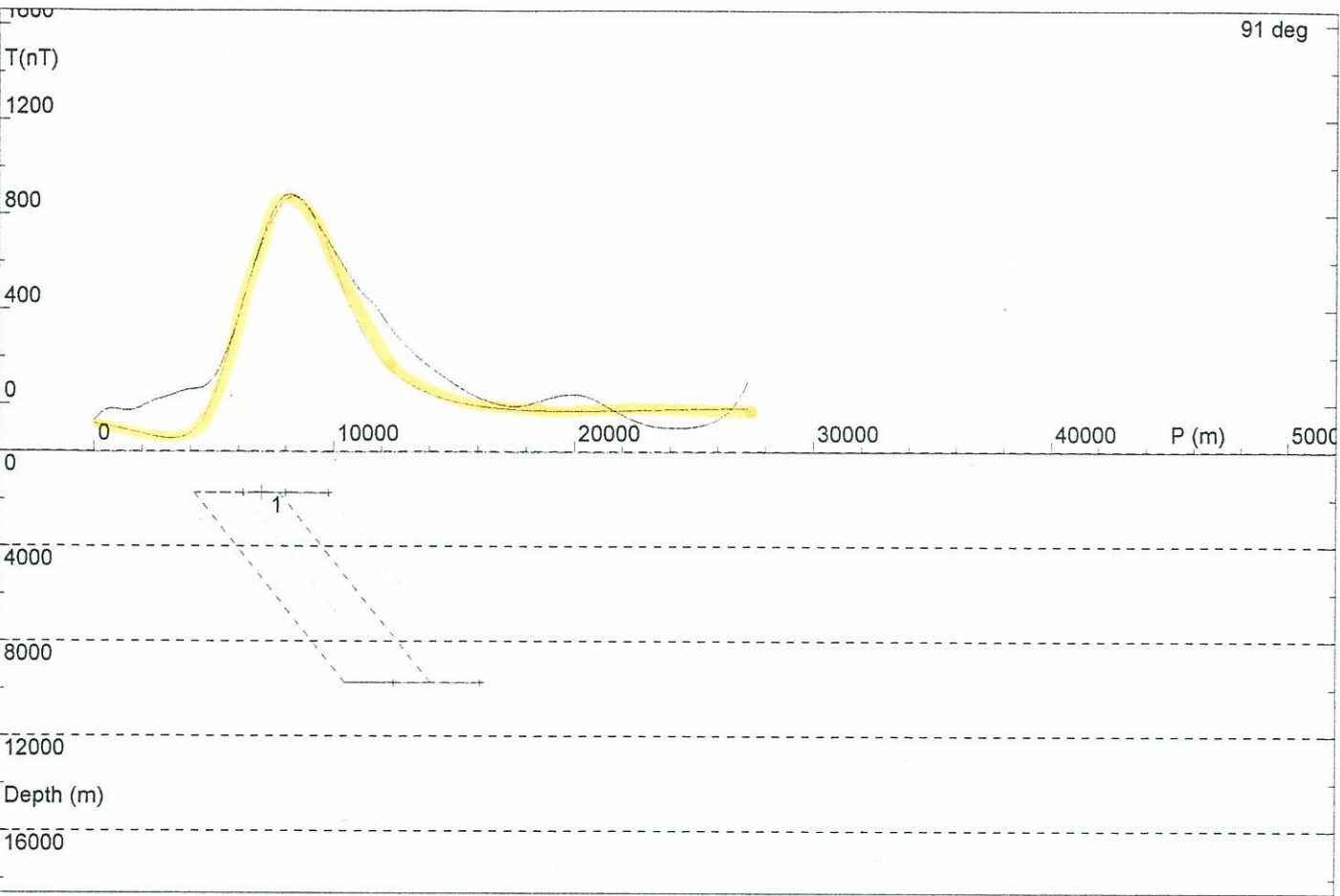
Note that 507m below aircraft sensor is optimum depth for the given susceptibility. An attempt was made to calculate minimum possible depth by changing various properties and parameters. It was concluded that it was unlikely that the minimum depth is above 450m below aircraft sensor.

A handwritten signature in black ink, appearing to read 'G. R. Koch', with a long horizontal flourish extending to the right.

Grant Koch

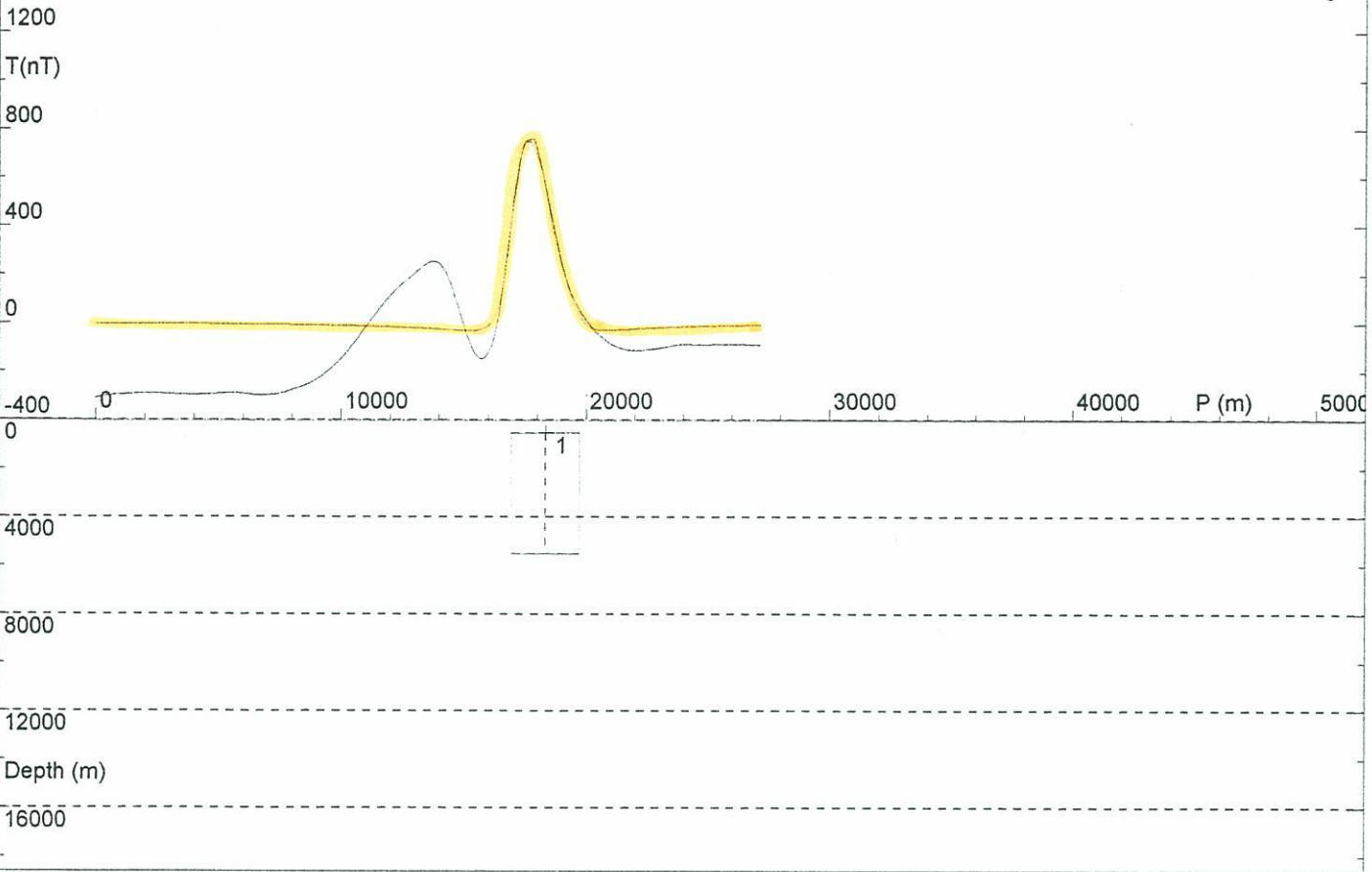


Observations: / EASTING_AMG NORTHING_AMG MAG
Model:
Contours of: Observed field; Contour intervals: 50.0000, 250.0000 nT
POTENT v3.10A Plan drawn at 10:31 23/07/1999 for Koch Geoservices



Observations: / EASTING_AMG NORTHING_AMG MAG
Profile #1; EL2329 Northwest
Model:
Calculation mode: Total Magnetic Intensity
Observed: _____ Calculated: _____
Residual: _____ Individual body: _____
POTENT v3.10A Profile drawn at 15:57 23/07/1999 for Koch Geoservices

91 deg

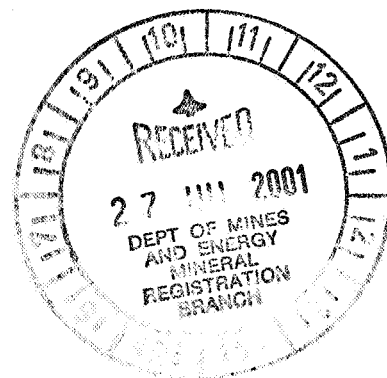


Observations: 63
Profile #1; EL2329 Southeast
Model: EL2329: SOUTH EAST ANOMALY
Calculation mode: Total Magnetic Intensity
Observed: _____ Calculated: _____
Residual: _____ Individual body: _____
POTENT v3.10A Profile drawn at 16:06 23/07/1999 for Koch Geoservices

ANNUAL REPORT FOR EL 2329 *to 1 May 2001*
MATTAWEARA

Compiled by
Havilah Resources NL

July 2001



PIRSA

R2001/00478



TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. PREVIOUS HAVILAH EXPLORATION WORK	2
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5. CURRENT HAVILAH EXPLORATION WORK

During the current exploration period no on ground exploration work was carried while efforts were made to clarify unresolved Native Title issues. In addition, negotiations were held with potential joint venture partners interested to continue on the exploration work.

6. FUTURE EXPLORATION WORK

It is apparent that the only feature of potential interest within the EL is the southeast anomaly owing to its relatively shallow depth. It is planned to carry out a detailed gravity survey over the southeast anomaly as soon as practically possible in order to determine whether the body is of abnormally high density, consistent with a buried metallic ore deposit.

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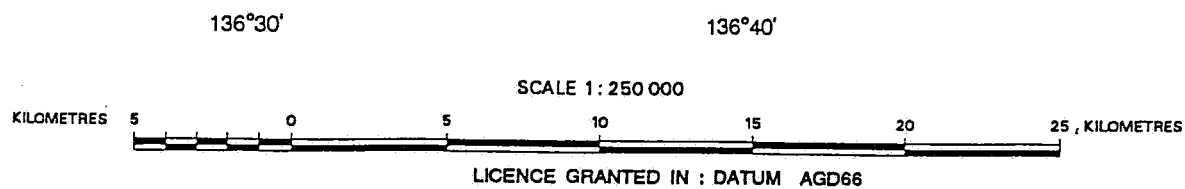
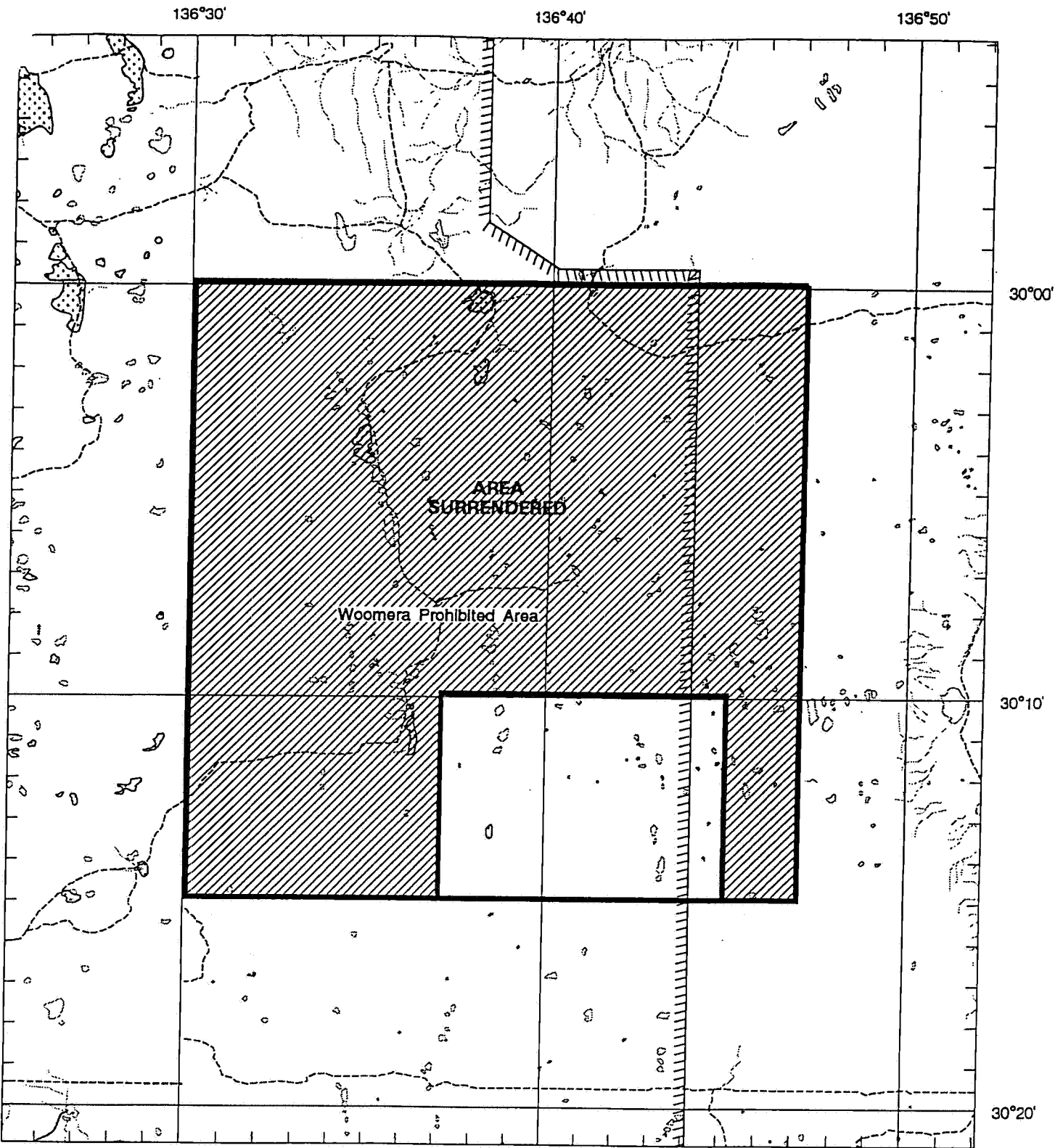
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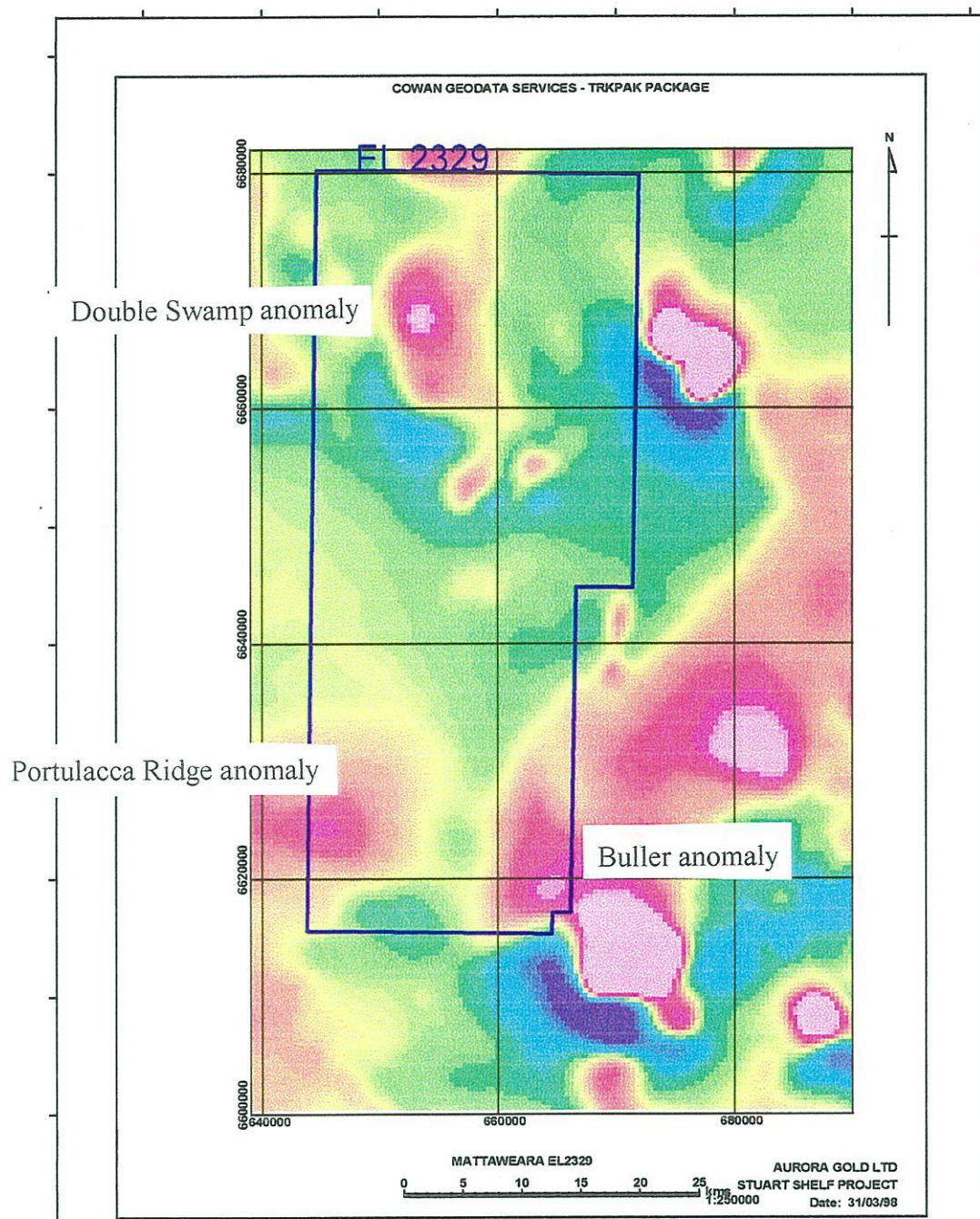
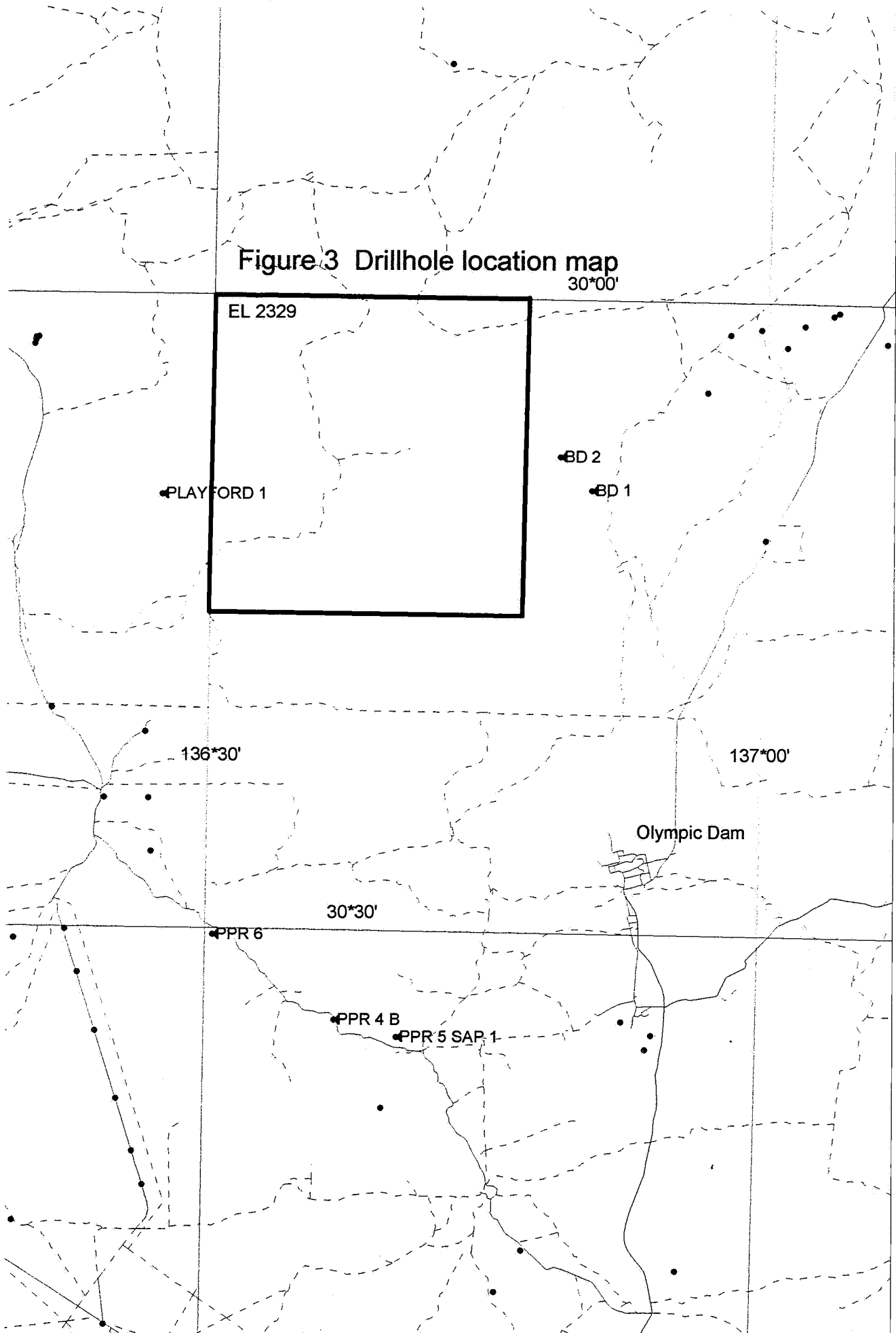


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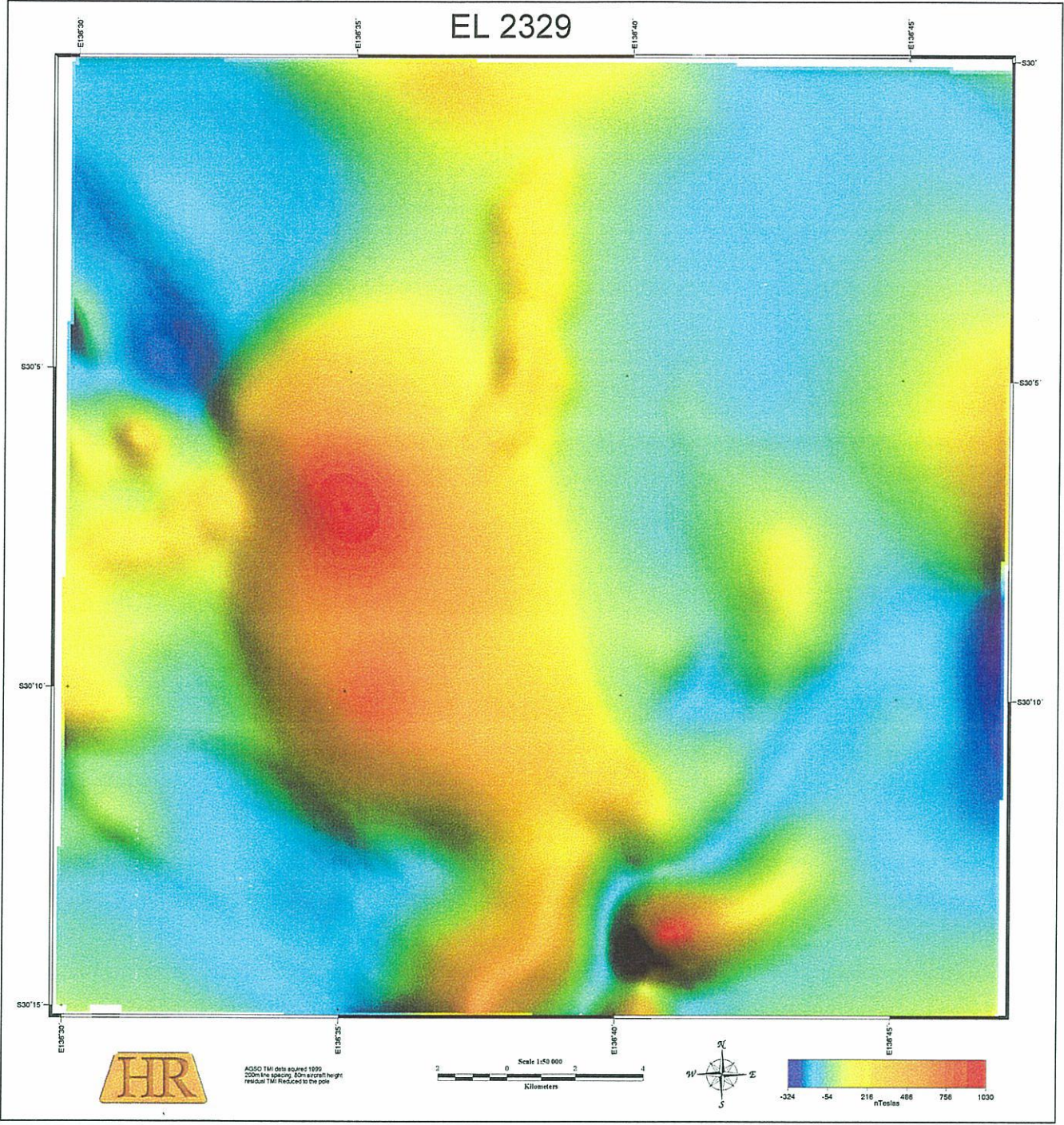


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ANNUAL REPORT FOR EL 2329
MATTAREARA

Compiled by
Havilah Resources NL

July 2002

TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. PREVIOUS HAVILAH EXPLORATION WORK	2
5. CURRENT HAVILAH EXPLORATION WORK	3
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11 Figures

1 Table

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Magnetic sources for at least portions of the Double Swamp anomaly, however, appeared to be much shallower at around 350 metres depth based on the available magnetic data. Limited drillhole information shows that the prospective Gawler Craton basement rocks are likely to be deeper than this, indicating that the magnetic source may be in the overlying Neoproterozoic rock sequence. Stratigraphic drillhole Playford No. 1, lying just west of EL 2329, may provide support for this interpretation because it did not exit Pandurra Formation prior to its termination at 586 metres depth (Figure 3). On the other hand, drillholes BD 1 and BD 2 lying just east of EL 2329 both intersected pre-Pandurra basement rocks, with BD 1 intersecting Gawler Range Volcanics at 607 metres and BD 2 intersecting Hutchison Group at 657 metres (Figure 3).

In order to better define the nature of the magnetic sources responsible for the Double Swamp anomaly, it was decided to carry out a detailed aeromagnetic survey over EL 2329 in conjunction with AGSO whereby Havilah Resources met the expense of 200 metre infill lines within the basic 400 metre line spacing survey of AGSO. The aim was to generate high quality magnetic data from which accurate depth estimates could be made.

The 200 metre spaced geophysical data was received from AGSO in July 1999 and clearly resolved a smaller (1.5 x 1.5 km) more intense magnetic anomaly to the southeast of the main Double Swamp anomaly, herein termed the Mattaweara anomaly (Figure 4). The aeromagnetic data was provided to Koch Geoservice geophysical consultants in order to carry out detailed depth estimates of the magnetic features using Potent software. This work produced good fits of the curves in 3D, using reasonable magnetic susceptibilities and body shapes, as reported in the 2000 Annual Exploration report for EL 2329. The main Double Swamp or northwest anomaly is clearly reflecting a large (3.8 x 8.0 km) and deep feature that lies at least 1600 metres below the surface. The Mattaweara anomaly is caused by a much smaller body (3.0 x 1.1 km) that is considerably shallower, lying approximately 400 metres below the surface. This body could be shallower if it was of lower magnetic susceptibility than that assumed in the modelling calculations.

5. CURRENT HAVILAH EXPLORATION WORK

5.1 Native Title Clearance

Previous plans to drill the area had been hindered by unresolved Native Title issues. During the period the two Native Title claimants were approached directly and agreed to carry out site inspection work with Havilah consultants. This clearance work went smoothly and agreements satisfactory to both Havilah and the claimants were quickly achieved that allowed Havilah to proceed with a gravity survey and subsequent drilling.

5.2 Gravity Survey

Within a few weeks of obtaining the Native Title clearances a gravity survey was carried out over the southern part of the EL by Solo Geophysics. A total of 372 gravity stations were read, covering an area of roughly 8 km x 10 km surrounding the Mattaweara magnetic anomaly. Station spacing was nominally 500 metres x 500 metres, with infill to 250 metres x 250 metres in the vicinity of the Mattaweara magnetic anomaly.

The resultant contoured Bouguer gravity data reveals two local gravity highs, possibly as strong as 3 mgal, within a broader regional gravity high feature (Figure 5). The northern gravity high lies on the southern flank of the Mattaweara magnetic anomaly (Figure 6), suggesting that both the magnetic and gravity responses may relate to a common source in the Gawler Craton basement.

Geophysical consultants, Adelaide Mining Geophysics Pty Ltd, generated a density-susceptibility model based on the best computer modelled fit of magnetic and gravity data. The model indicated a deep non-magnetic denser body, best simulated by a buried mafic intrusive complex to explain the regional gravity and magnetic responses. Smaller magnetic and denser bodies, as shallow as 250 metres depth, were invoked to account for the local magnetic and gravity peaks (Figure 7). The solution for these smaller bodies was not unique, being an unknown combination of density and thickness (eg twice as dense and half as thick or vice versa) ranging from possibly mafic rocks to rocks with 30% hematite plus sulphides.

5.3 Drilling

The first hole, namely RCM 1, was targeted over the peak of the northern gravity high, on the southern flank of the Mattaweara magnetic anomaly (Figure 6). Given that the predicted depth to the target was likely to be less than 400 metres based on all previous geophysical modelling work, and the expected consolidated cover rock, it was decided to drill test the target using a powerful percussion drilling rig owned by Frank Walsh Drilling. The expected Gawler Craton sequence was intersected, including Cainozoic clays and sands to 50 metres depth, Cambrian Andamooka Limestone between 50 - 176 metres depth and various Neoproterozoic sediments below this to 555 metres depth (Figure 8 – drill log). At 553 metres a 2 metre band of dolomite interpreted as Nuccaleena Formation, was intersected immediately above Pandurra Formation red gritty sandstones. The hole was terminated at 602 metres when all available drill rods were used.

No indications of more magnetic or more dense rocks were encountered that could explain the observed magnetic and gravity responses, nor any evidence of mineralisation. It was concluded that either the drillhole missed the body, or the body is deeper than calculated from the computer models. A selection of samples were submitted for Au, Cu, Pb and Zn assay, but none returned significant results (Table 1).

5.4 Rehabilitation

The drill site was levelled and rehabilitated using a bobcat machine belonging to Frank Walsh Drilling (Figure 9). The drill rig and ancillary vehicles accessed the drill site for several kilometers cross – country and while this did not necessitate formation of any new tracks, the heavy vehicles cut ruts into the soft sandy substrate in places. The tracks were levelled and the ground restored to as near original condition as possible, using a levelling device manufactured by Havilah, which was pulled behind a Toyota 4WD vehicle (Figures 10,11).

6. FUTURE EXPLORATION WORK

Prior to drilling any new holes on the Mattaweara target, it is proposed to gather further information from the existing drillhole in order to try and refine future exploration targeting. This will include :

- A. Refining the computer theoretical model by inputting new magnetic susceptibility and SG measurements made on the drillhole samples.
- B. Downhole electromagnetic probing to determine if a potential sulphide rich zone exists near the drillhole.
- C. Extend the drillhole to greater depths using a suitable diamond drilling rig.

Once this programme of work is completed a decision will be made on the best location for future drillholes to test the Mattaweara target .

7. REFERENCES

O'Driscoll, E.S.T. 1986. Observations on the lineament-ore relation, *In* : Major Crustal Lineaments and Their Influence on the Geological History of the Continental Lithosphere (Eds. H.G. Reading, J. Watterson and S.H. White) *Philos. Trans. R. Soc. London* A. 317, pp195-218.

Unpublished Company Reports held in Open File at MESA

Australian Selection JV 1977-79. EL 291. MESA envelope 2991

Australian Selection JV 1979-83. EL's 510, 933. MESA envelope 3693

Carpentaria Exploration Company Pty Ltd 1983-86. EL 1198. MESA envelope 3693

Western Mining Corporation 1975-86. EL 1316. MESA envelope 6562.

TABLE 1 ASSAY RESULTS FOR DRILLHOLE RCM1

ELEMENTS	p75um	Au	Cu	Pb	Zn
UNITS	%	ppm	ppm	ppm	ppm
DETECTION	0.01	0.01		1	1
METHOD	/QAgrind	B/SAAS	B/AAS	B/AAS	B/AAS
COMMENTS: 758.0/0204299 (07/08/2002) CLIENT O/N: ASSAY 24/7/2002					

SAMPLE DEPTH INTERVALS

RCM1:049-056	X		2	13	52
RCM1:056-063	X		12	14	50
RCM1:140-147	X		7	4	33
RCM1:175-182	X		77	20	79
RCM1:280-287	X		94	35	120
RCM1:322-329	X		28	15	56
RCM1:539-546	X		5	18	74
RCM1:553-555	X		218	5	30
RCM1:555-557	X		48	4	24
RCM1:561-563	X		16	4	24
RCM1:575-577	X		5	4	24
RCM1:585-587	X		4	5	20
RCM1:599-601	X		5	4	19

CHECKS

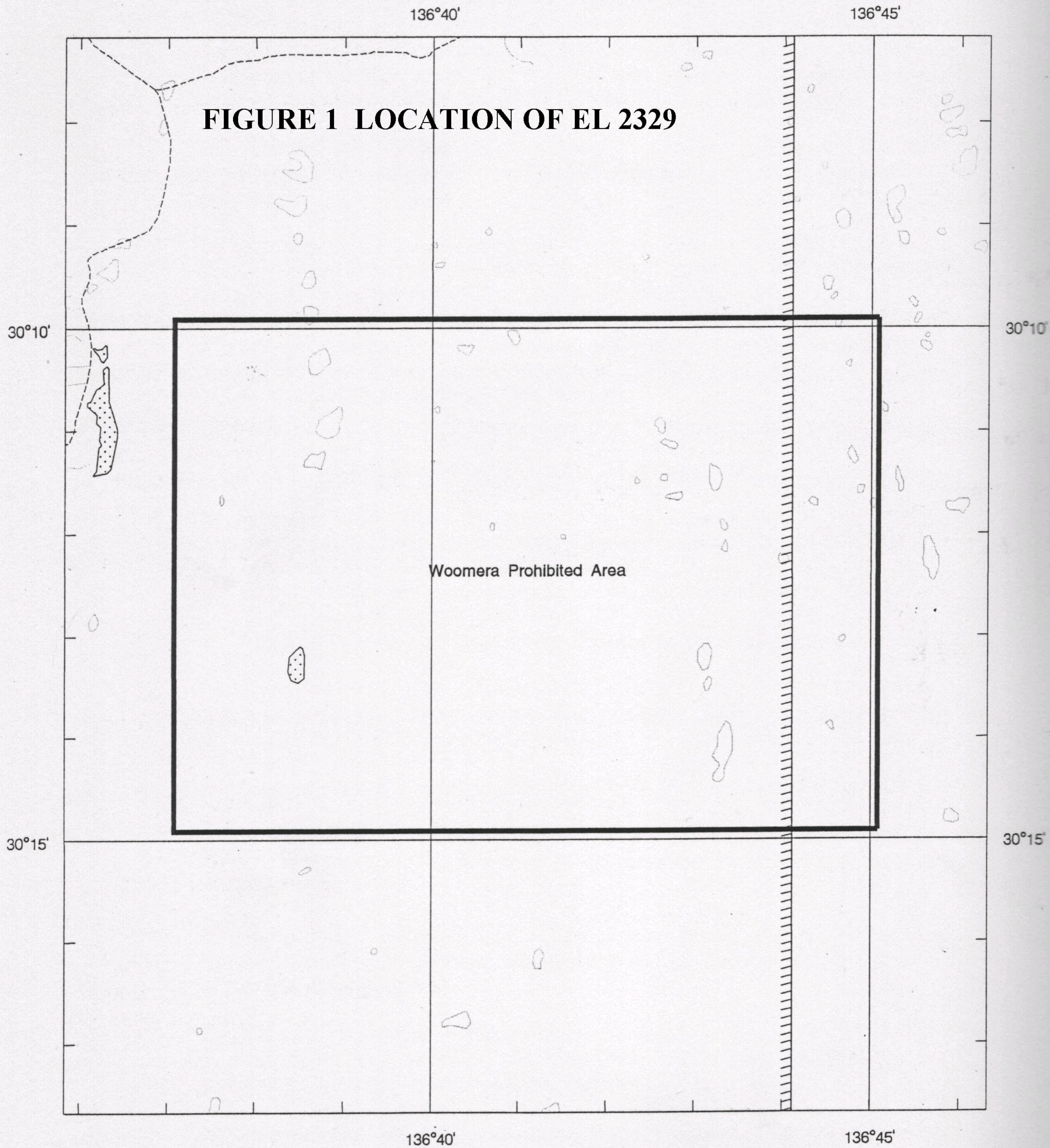
RCM1:049-056	X		2	13	48
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STANDARDS

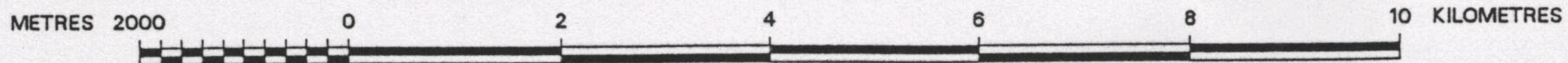
AE10		0.1	97	55	100
SYN22		1.57	91	50	96
AE10		0.11	95	54	103

BLANKS

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SCALE 1:100 000



APPLICATION LODGED IN : DATUM AGD66

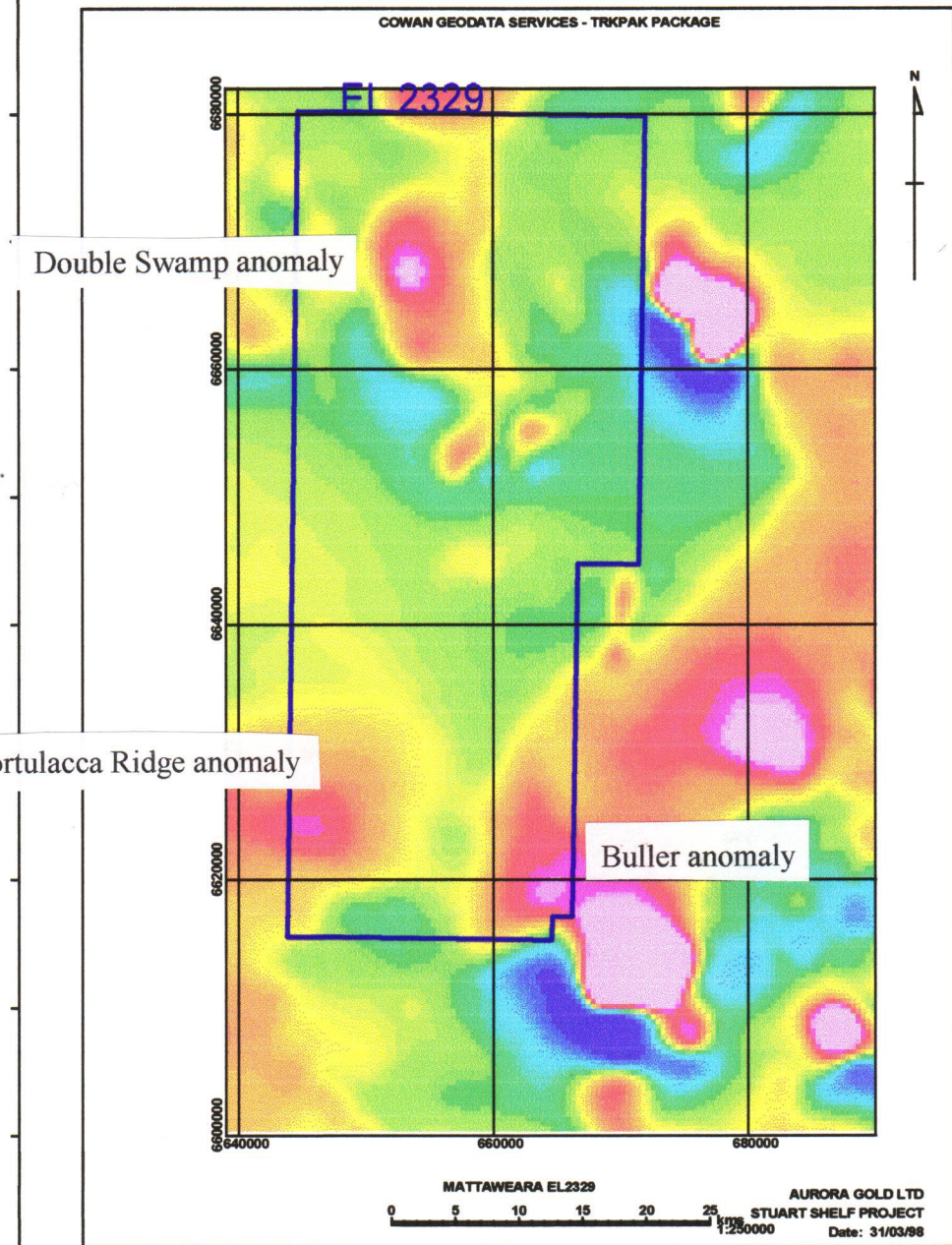


Figure 2 Magnetic anomalies and prospect areas referred to in text.

Figure 3 Drillhole location map

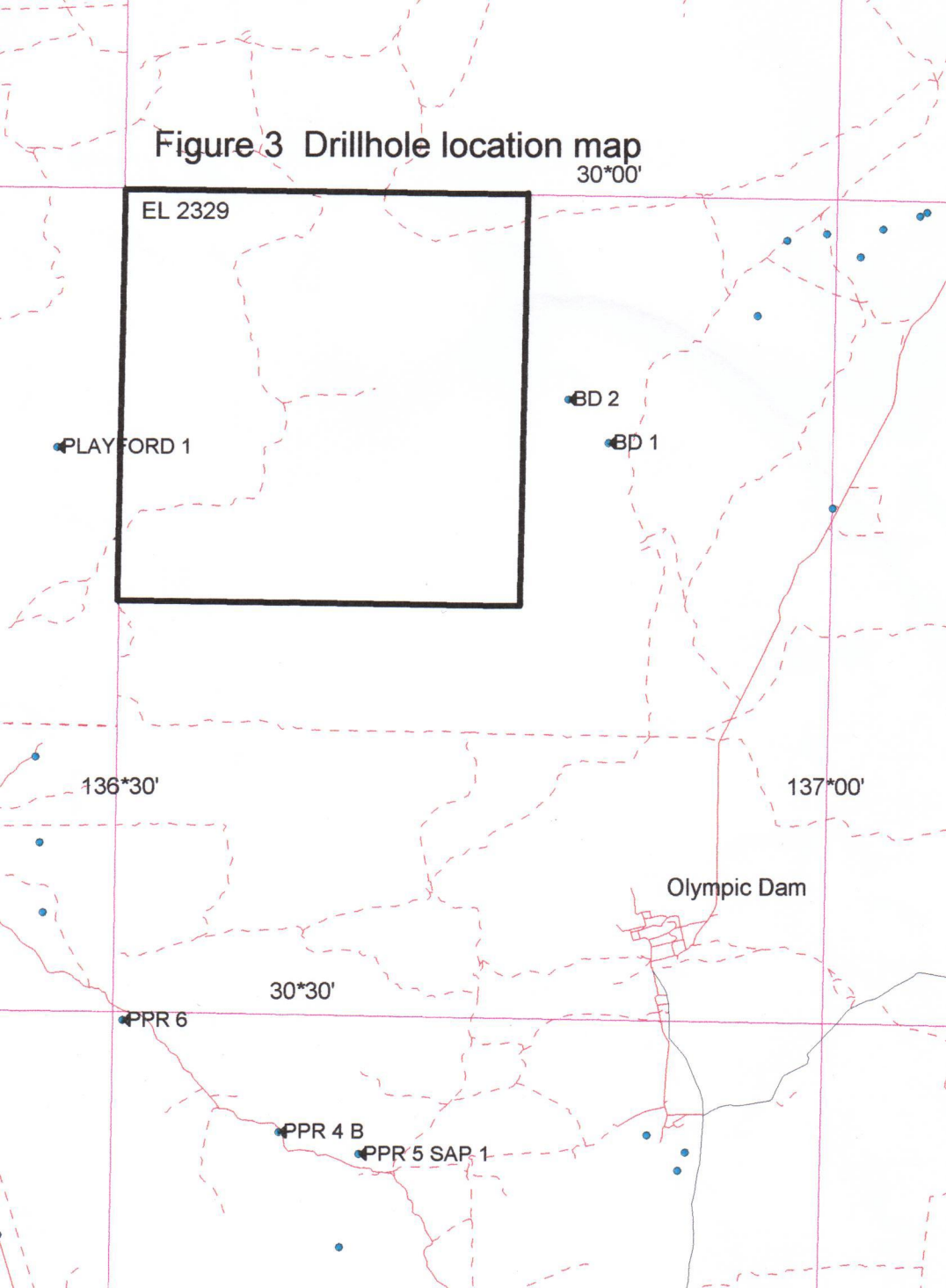
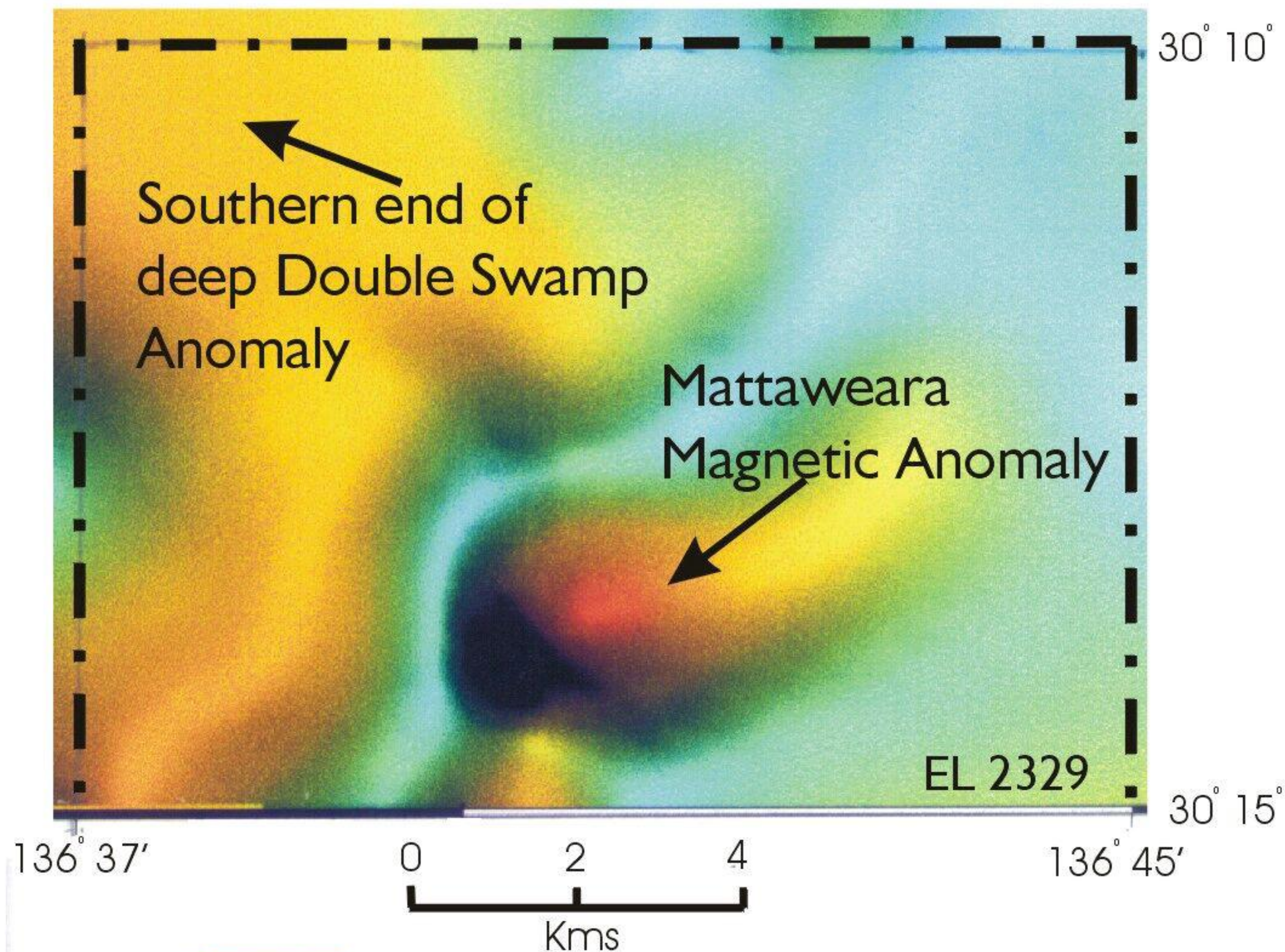


FIGURE 4



Havilah Resources NL

MATTAWEARA PROJECT

Compiled from 200m line spaced
Aeromagnetic data flown by AGSO - Geoscience Australia

02/04/29

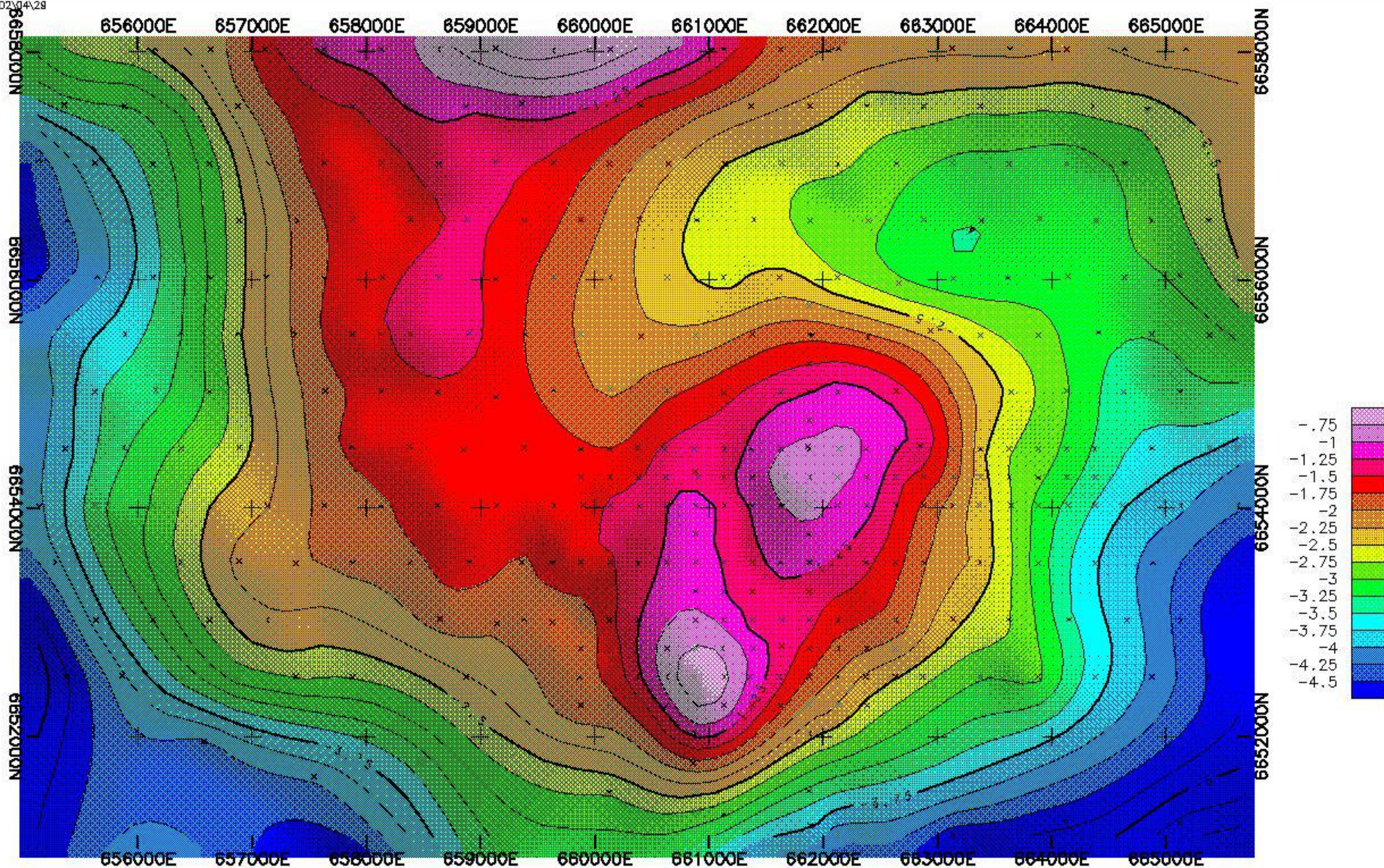


Figure 5

Havilah Resources Ltd

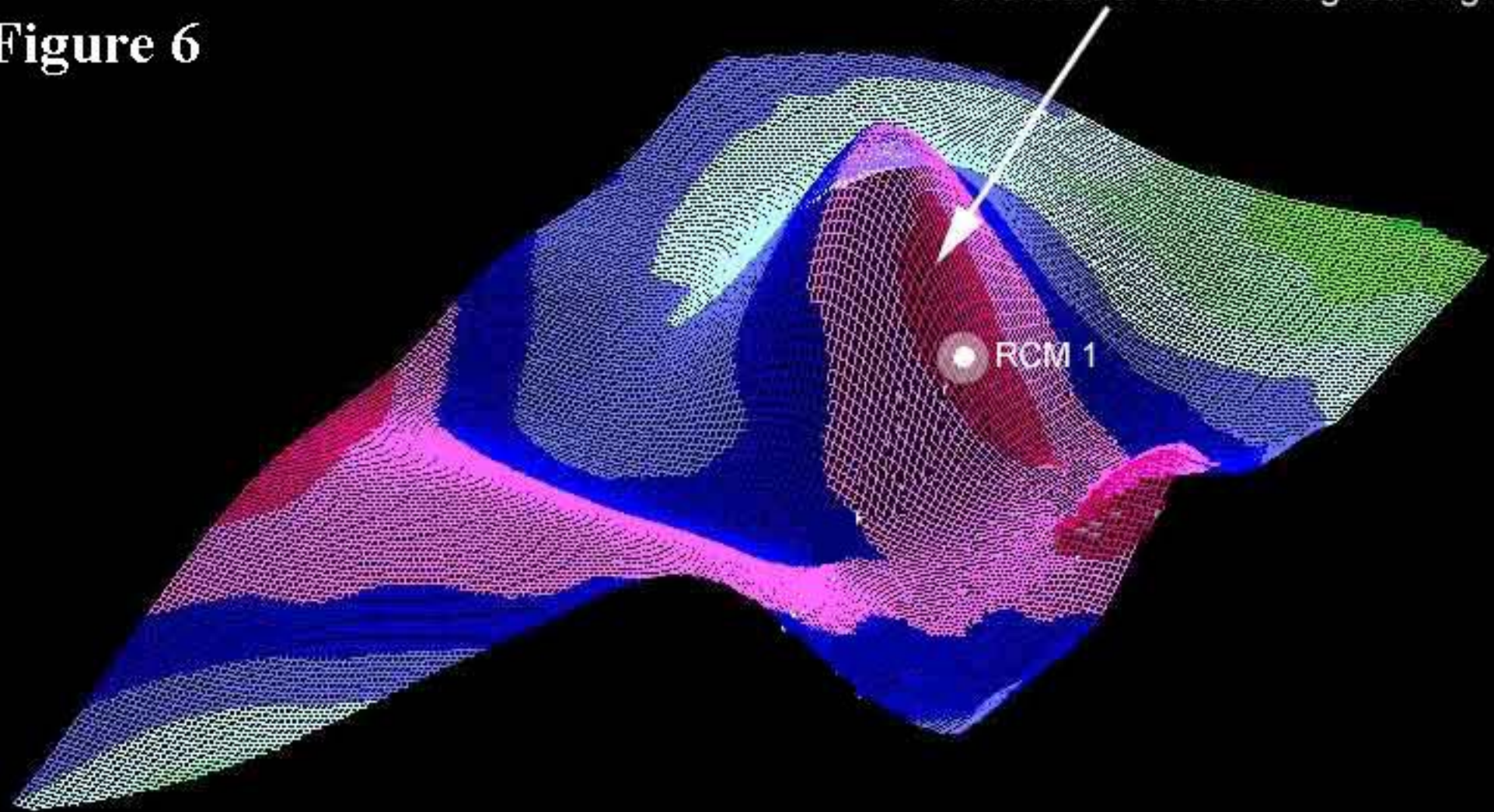
Mattaweara Prospect EL2329
Bouguer Gravity Map
Density = variable

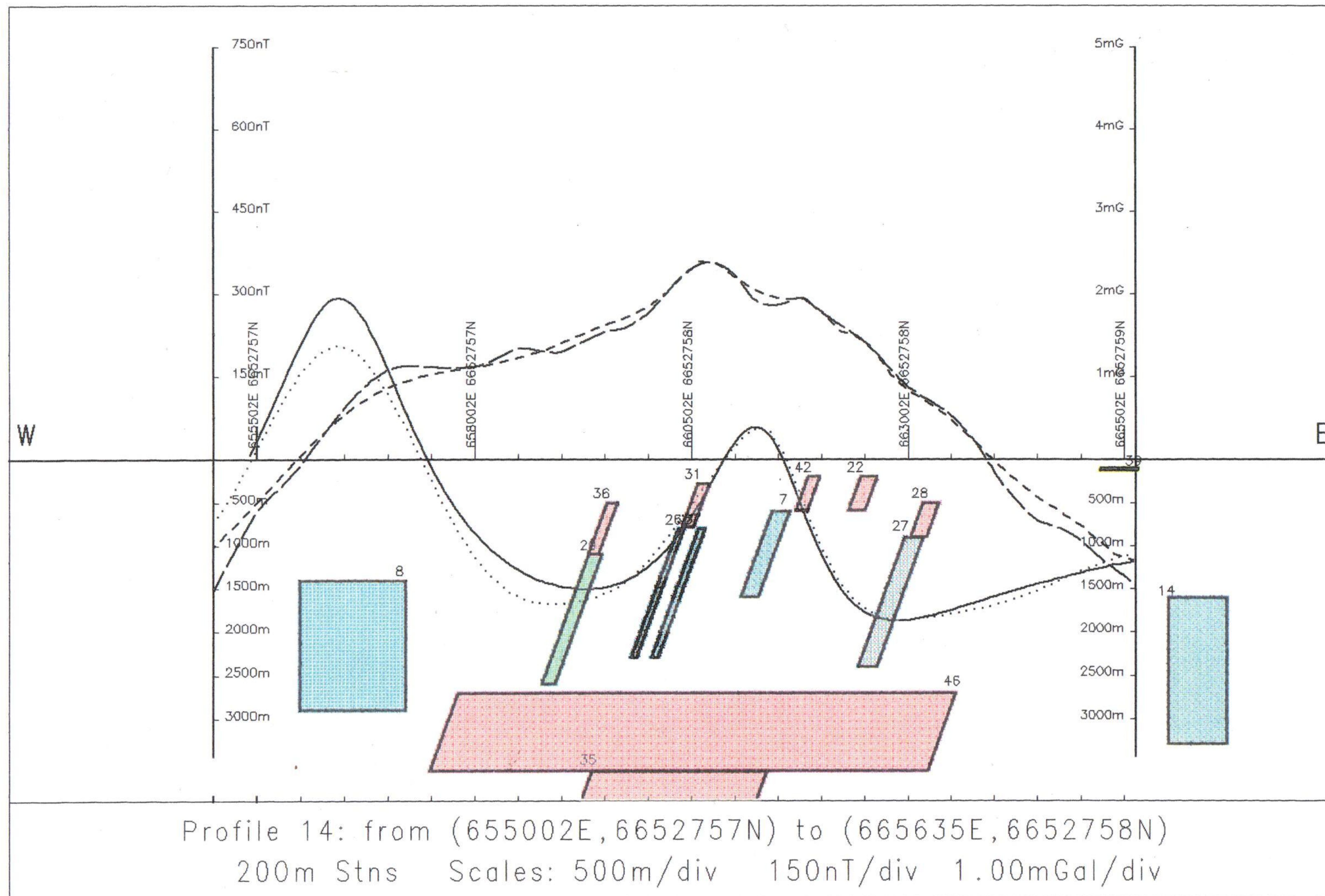
Adelaide Mining Geophysics Pty Ltd

Gravity draped over aeromagnetics
Mattaweara Project

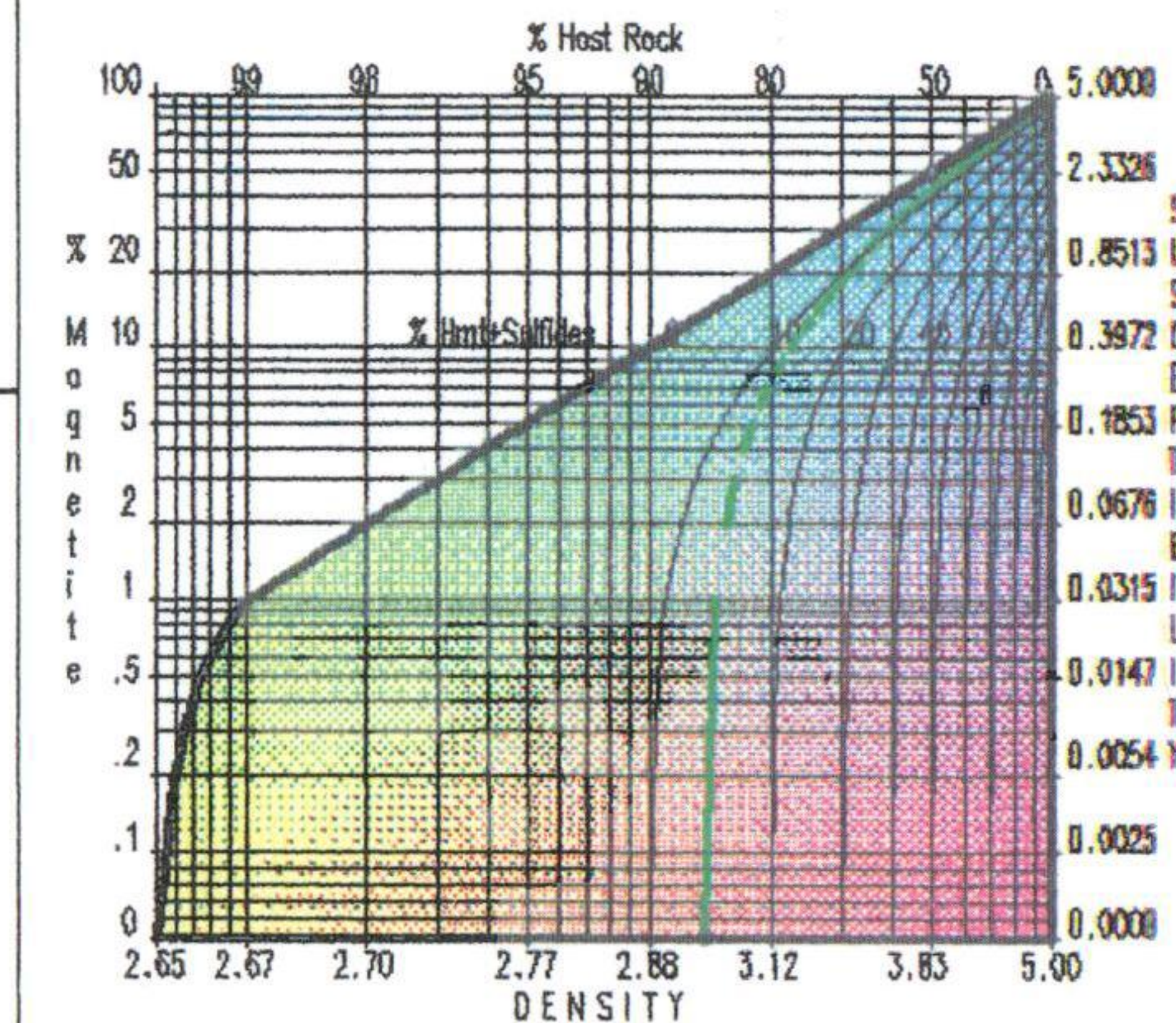
Figure 6

Peak of gravity anomaly
on shoulder of aeromagnetic high





Body	Susc(contrast)		Den(contrast)		Depth
7	0.200	0.200	3.076	0.426	600.
8	0.400	0.400	3.187	0.536	1400.
14	0.140	0.140	3.041	0.391	1600.
22	0.000	0.000	2.950	0.300	200.
26	0.190	0.190	3.070	0.420	800.
27	0.040	0.040	2.979	0.329	900.
28	0.000	0.000	2.950	0.300	500.
29	0.150	0.150	2.747	0.097	1100.
31	0.000	0.000	2.950	0.300	280.
35	0.000	0.000	2.950	0.300	3600.
36	0.000	0.000	2.950	0.300	500.
37	0.190	0.190	3.070	0.420	800.
39	0.000	0.000	2.350	-0.300	100.
42	0.000	0.000	2.950	0.300	200.
46	0.000	0.000	2.950	0.300	2700.



MAGNETIC PROFILES:
 Solid: observed data
 Dotted: model response

GRAVITY PROFILES:
 Long dash: observed data
 Shrt dash: model response

DEPTH SECTION:
 Dashed = faults
 Dotted/solid = bodies

Profile azimuth: 90.
 Mag Data file: MAT0205.FIN
 Grv Data file: EL2329.VBD

Havilah Resources Ltd

Mattaweara Prospect
 Magnetic & Gravity Model
 Profile \ Depth section

Adelaide Mining Geophysics Pty Ltd

Figure 8 RCM 1 drill log

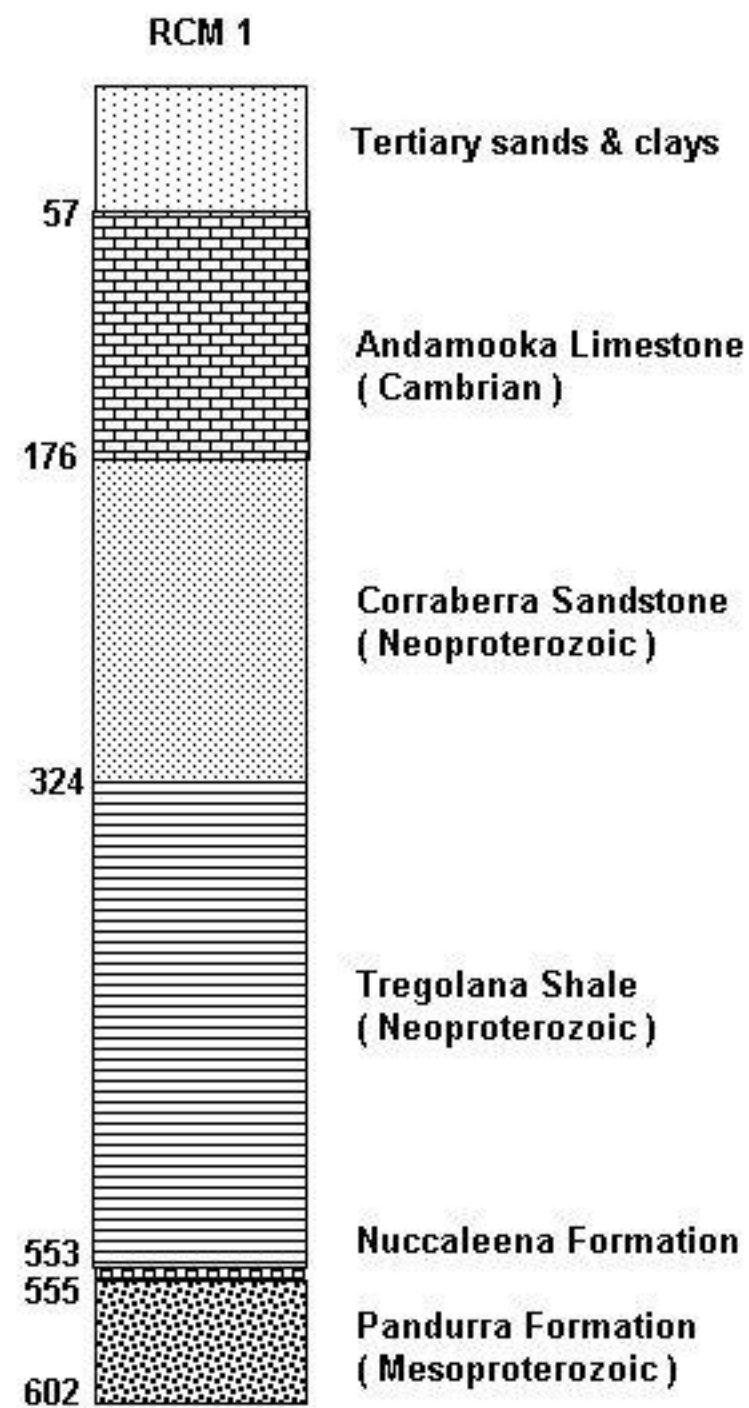




Figure 9 Rehabilitation of RCM 1 drill site using bobcat



Figure 10 Havilah designed track levelling device



Figure 11 Levelled drill rig track after first pass of leveller (on right)

ANNUAL REPORT FOR EL 2329
MATTAREARA

Compiled by
Havilah Resources NL

July 2003

TABLE OF CONTENTS

	Page No.
1. INTRODUCTION	1
2. GEOLOGICAL SETTING	1
3. PREVIOUS EXPLORATION WORK	1
4. CURRENT HAVILAH EXPLORATION WORK	2
5. FUTURE EXPLORATION WORK	2
6. REFERENCES	2

9 Figures

Appendix One : Technical Details of Solo Geophysics Downhole EM survey.

Keywords : Olympic Dam target, magnetic anomaly, gravity anomaly, RC drillhole, EM downhole survey

1. INTRODUCTION

Exploration Licence 2329 (Mattaweara) lies in the northeast corner of the Andamooka 1:250,000 sheet area (Figure 1). At the time of grant on 1 November 1997, EL 2329 covered an area of 1616 square kilometres, but was subsequently reduced in two stages to approximately 130 square kilometres following relinquishment of ground that was considered to be of lower prospectivity.

EL 2329 was initially applied for because of its proximity to Olympic Dam and the existence of targets within the favourable Olympic Dam structural corridor that were potentially inadequately tested.

2. GEOLOGICAL SETTING

The tenement area is entirely covered by Quaternary surficial deposits, beneath which are widespread gently dipping Neoproterozoic sediments of the Stuart Shelf. The thickness of shelf sediments is known from drillhole data and ranges from about 300 metres in the vicinity of Olympic Dam to in excess of 1000 metres elsewhere.

The Neoproterozoic sediments were deposited on deeply eroded Gawler Craton Mesoproterozoic basement lithologies, including Pandurra Formation, Gawler Range Volcanics, Hiltaba Suite granitoids and various older metamorphic rocks. It is these rocks which are known to host metallic mineralisation at Olympic Dam and nearby prospects, including Acropolis and Wirrda Well.

The Olympic Dam orebody lies in the intersection zone between major transcontinental north-northwest and west-northwest trending gravity corridors (O'Driscoll, 1986). Notably, both features, and the intersection zone extend into the tenement area, as do approximately coincident magnetic corridors evident on the South Australia total magnetic intensity map (MESA 1996).

3. PREVIOUS EXPLORATION WORK

Most exploration work of direct relevance was carried out in the 1975-1986 period by Western Mining Corporation in the northern portion of the EL, and by Australian Selection Pty Limited and partners Geopeko and Carpentaria Exploration over most of the remainder of the area.

The Australian Selection joint venture concentrated on two magnetic features that were recognisable from available AGSO aeromagnetic data, namely the Buller and Portulacca Ridge features. The Buller magnetic/gravity anomaly is actually the western flank of the large Acropolis anomaly complex, the centre of which lies roughly 8 kilometres to the east. Diamond drillhole SAP 1, designed to test the Buller anomaly, terminated in Mesoproterozoic lower Pandurra Formation at 1389 metres.

The Portulacca Ridge magnetic anomaly had a small associated gravity anomaly and percussion drillhole PPR 6 was sited over it. This drillhole bottomed in Tregolana Shale at a depth of 194 metres, without establishing the source of the magnetic anomaly.

Western Mining Corporation carried out ground magnetic and gravity surveys over a prominent aeromagnetic feature in the north of the current EL, termed the "Double Swamp" anomaly. The feature was not drill-tested, presumably because of the lack of an associated gravity anomaly and interpreted excessive depth to basement. A further prospect area, identified as "Brumby Fence"

by Western Mining Corporation, was marked by a broad low-amplitude gravity high. However, ground magnetic and gravity surveying failed to define any significant anomalies and therefore no drilling was undertaken.

4. CURRENT HAVILAH EXPLORATION WORK

Exploration work carried out by Havilah leading to drilling of a single deep RC hole in June 2002 to test a gravity / magnetic target that was interpreted to be less 400 metres deep, has been reported previously. This hole, named RCM 1, was targeted over the peak of the northern gravity high, on the southern flank of the Mattaweara magnetic anomaly (Figure 2). The expected Gawler Craton sequence was intersected, including Cainozoic clays and sands to 50 metres depth, Cambrian Andamooka Limestone between 50 - 176 metres depth and various Neoproterozoic sediments below this to 555 metres depth (Figure 3 – drill log). At 553 metres a 2 metre band of dolomite interpreted as Nuccaleena Formation, was intersected immediately above Pandurra Formation red gritty sandstones. The hole was terminated at 602 metres when all available drill rods were used.

No indications of more magnetic or more dense rocks were encountered that could explain the observed magnetic and gravity responses, nor any evidence of mineralisation. It was concluded that either the drillhole missed the body, or the body is deeper than calculated from the computer models. No anomalous Au, Cu, Pb and Zn assays were returned from representative samples submitted for assay.

In order to test for the possibility of a “near miss” of a mineralized body, Solo Geophysics were contracted to carry out a downhole EM survey in order to detect an off – hole conductor. Four 400m x 400m loops were laid out on centres alternately 400m N, W, S, E of the drill collar and a fifth loop was centred on the collar. A probe was progressively raised or lowered down the hole using a winch (Figure 4). Further technical details of the survey are given in Appendix 1, and all raw EM data is included on the attached disk.

Inspection of EM profiles for the various loop arrays do not show any obvious EM conductive body near the drillhole (Figures 5-9). At the end of the period, the data was given to a geophysical consultant to carry out more sophisticated modelling in order to detect any subtle effects that could be indicative of a mineralized body. At the time of reporting the results of this work were not to hand.

5. FUTURE EXPLORATION WORK

Owing to the uninformative down hole EM survey, and lack of any obvious conductor, there are no immediate plans to extend the drillhole at this stage.

Before considering a second drillhole, it is proposed to refine the computer theoretical depth models by inputting new magnetic susceptibility and SG measurements made on the drillhole samples. Following this work, the advisability and best location for future drillholes to test the Mattaweara target will be decided.

6. REFERENCES

O’Driscoll, E.S.T. 1986. Observations on the lineament-ore relation, *In* : Major Crustal Lineaments and Their Influence on the Geological History of the Continental Lithosphere (Eds. H.G. Reading, J. Watterson and S.H. White) *Philos. Trans. R. Soc. London* A. 317, pp195-218.

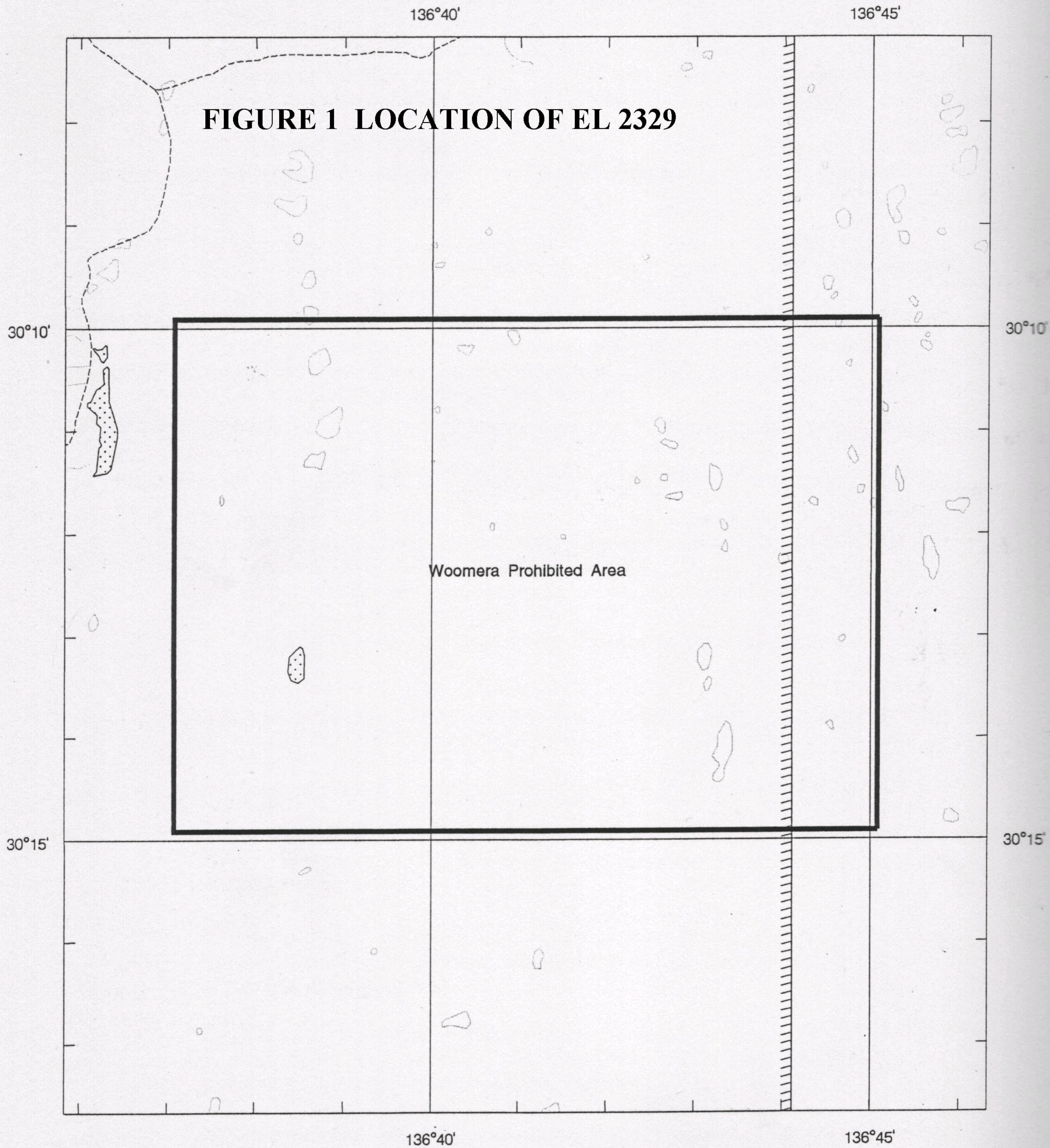
Unpublished Company Reports held in Open File at MESA

Australian Selection JV 1977-79. EL 291. MESA envelope 2991

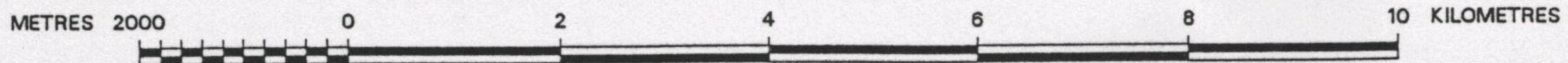
Australian Selection JV 1979-83. EL's 510, 933. MESA envelope 3693

Carpentaria Exploration Company Pty Ltd 1983-86. EL 1198. MESA envelope 3693

Western Mining Corporation 1975-86. EL 1316. MESA envelope 6562.



SCALE 1:100 000



APPLICATION LODGED IN : DATUM AGD66

Gravity draped over aeromagnetics
Mattaweara Project
Figure 2

Peak of gravity anomaly
on shoulder of aeromagnetic high

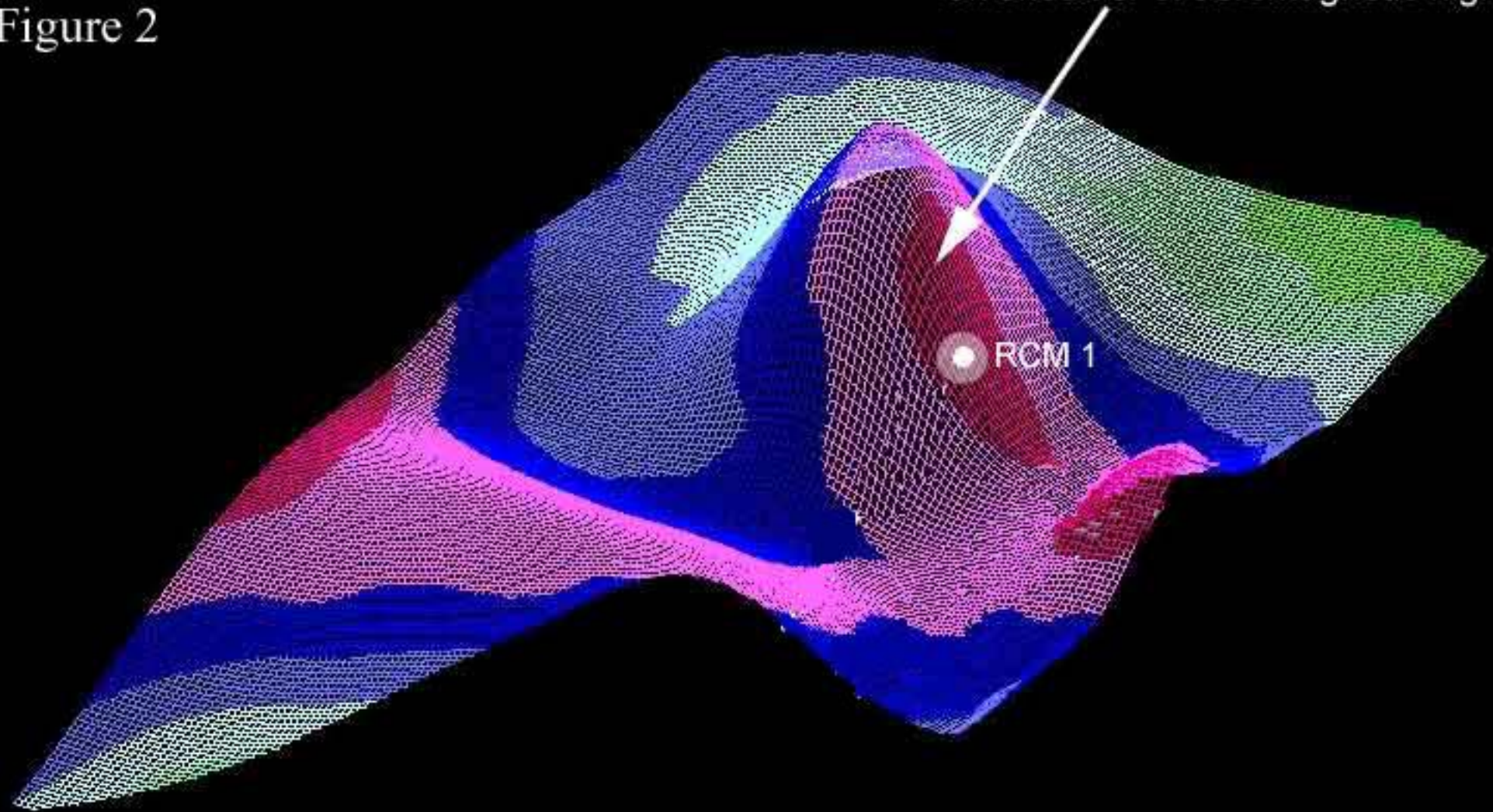
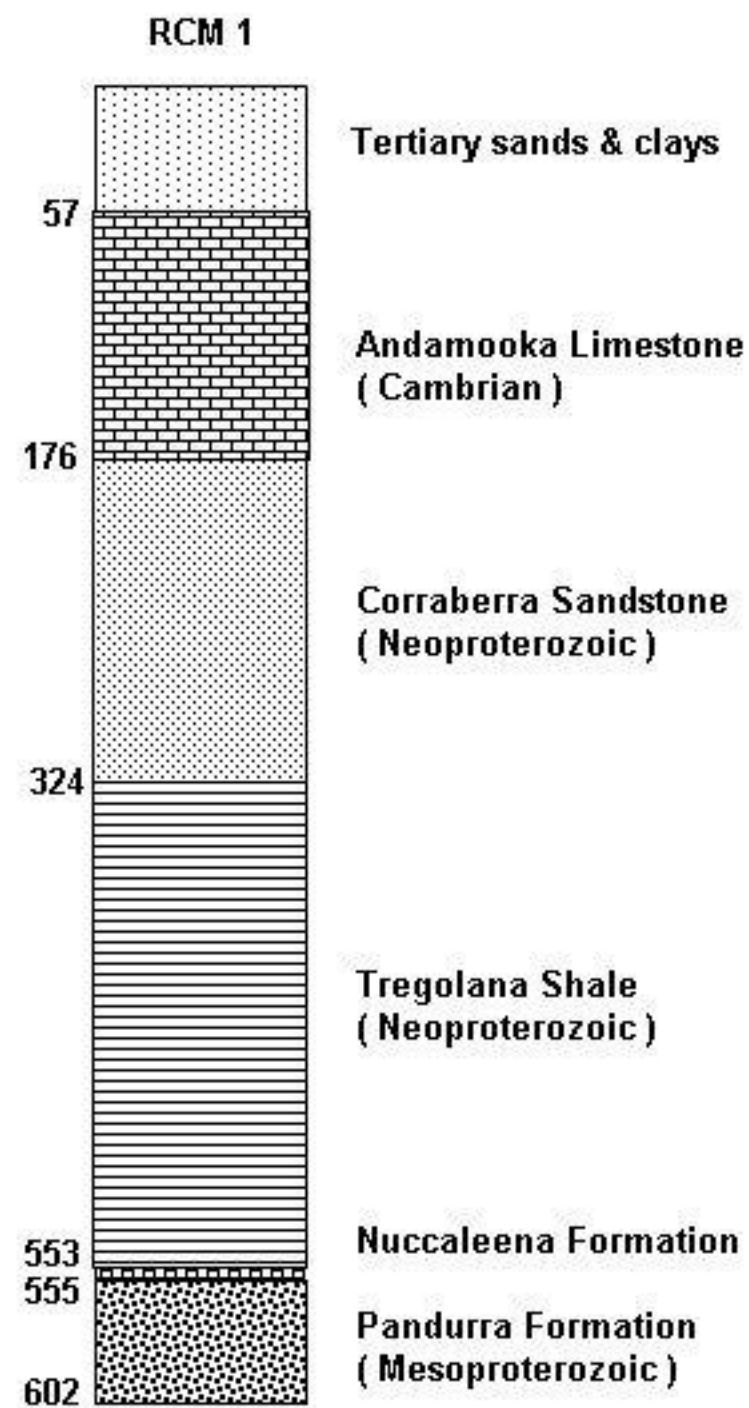


Figure 3 Drillhole log for RCM1



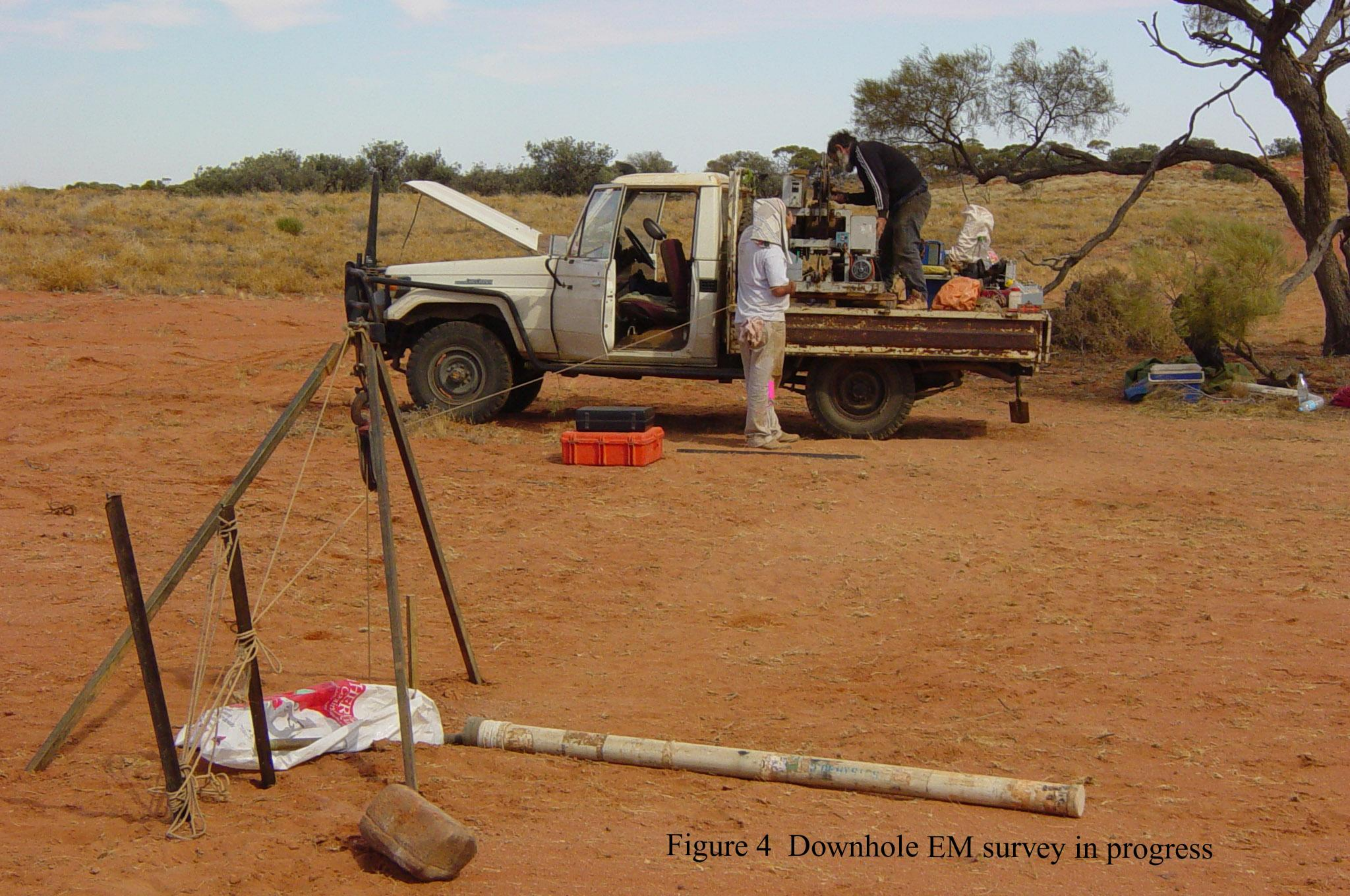
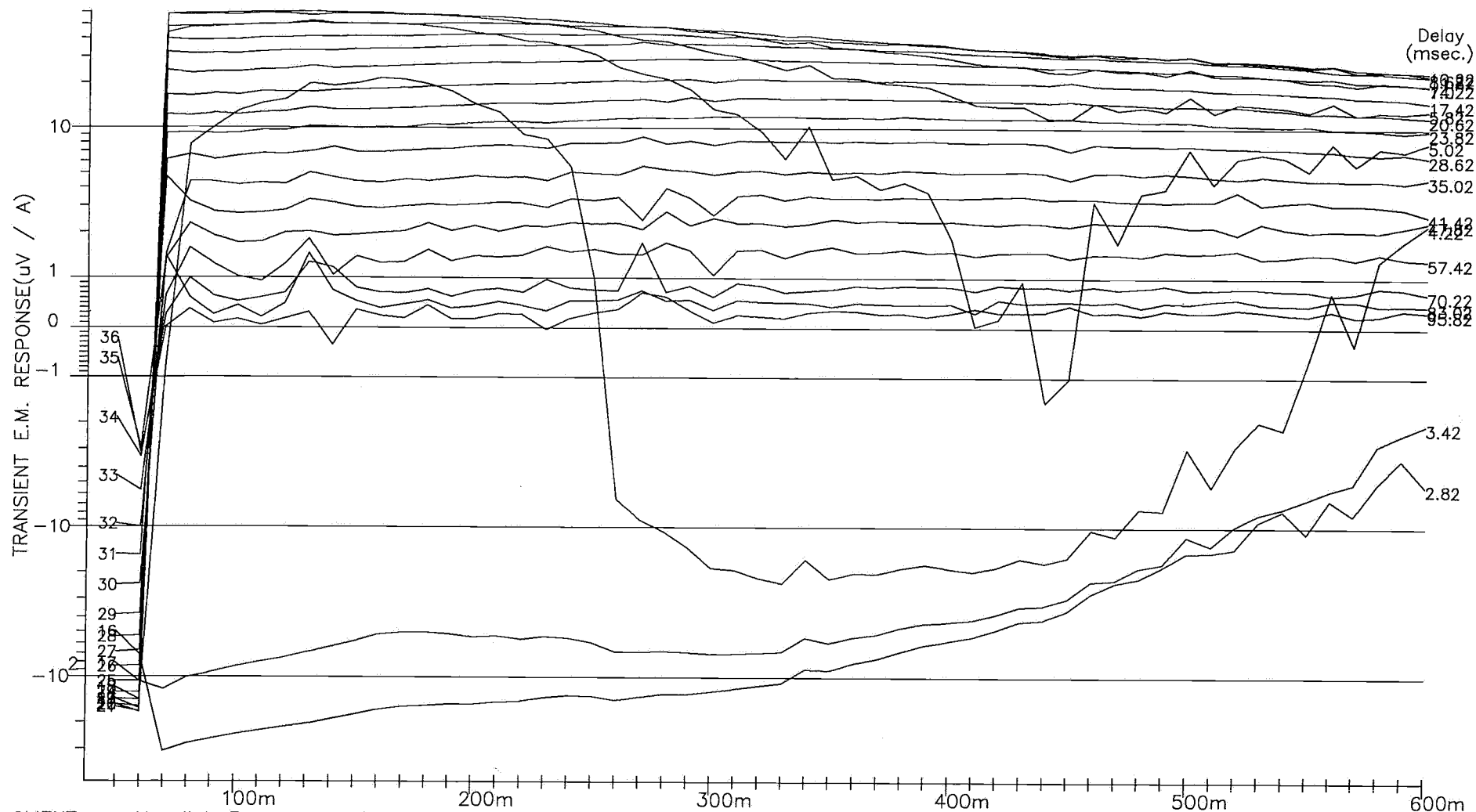
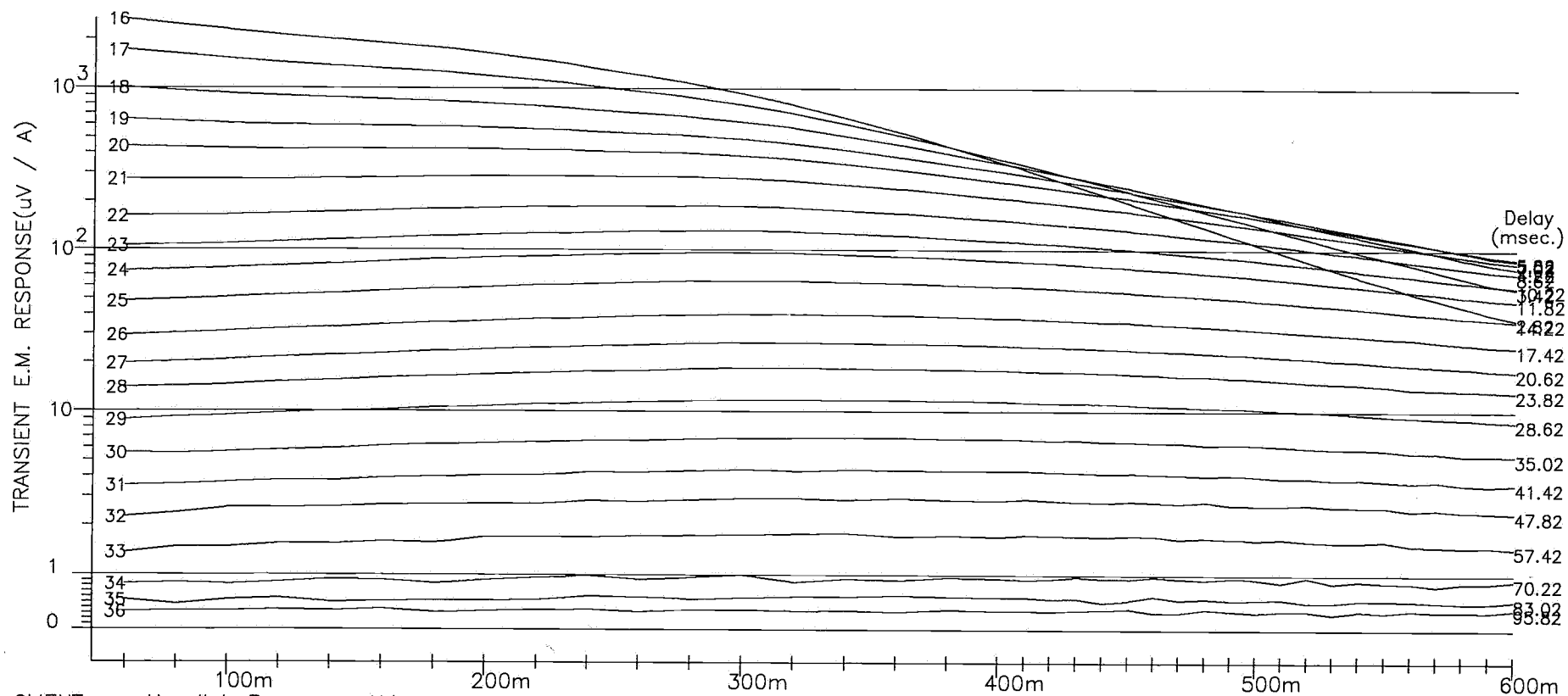


Figure 4 Downhole EM survey in progress



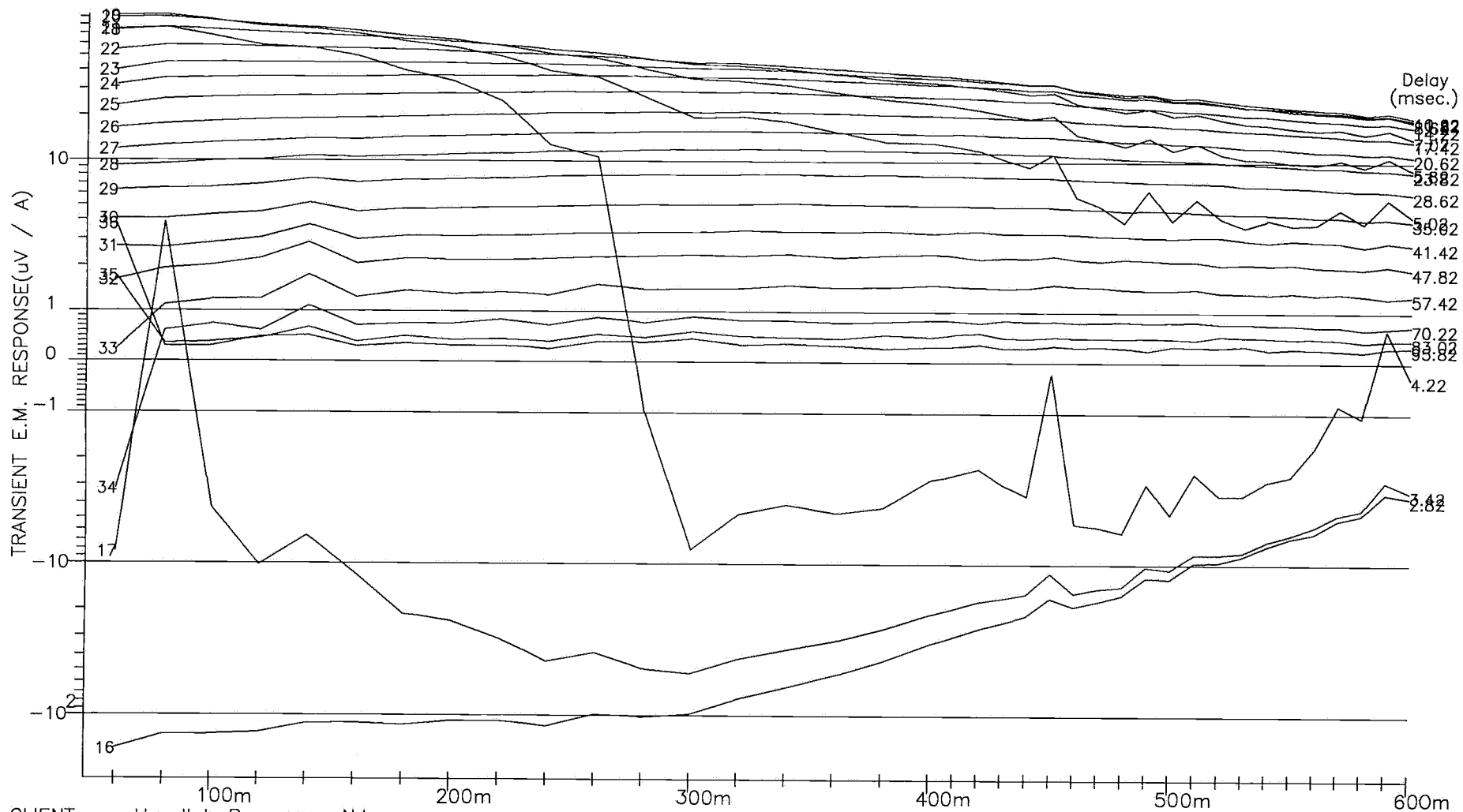
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 AREA : Mattaweara S.A. EL 2329
 GRID : Mattaweara MA1 loop 1 (Ramp 265us Offtime 130us)
 HOLE REF : MA1 Collar 661910E 6654370N GDA94 Steel casing 0-58m
 SCALE 1 : 2500
 SIROTEM UNIT : MARK III --- S/N 1954 --- COMPOSITE TIMES
 LOOP CONFIGURATION : Down Hole logging
 LOOP CORNERS : (400 X 400) m 661710E 6654570N 662110E 6654970N
 CHANNELS PLOTTED : 16 - 36 STACKS : 128 CURRENT : 10 amps
 SIROTEM Survey by SOLO GEOPHYSICS & CO. --- 06-08-02

Figure 5



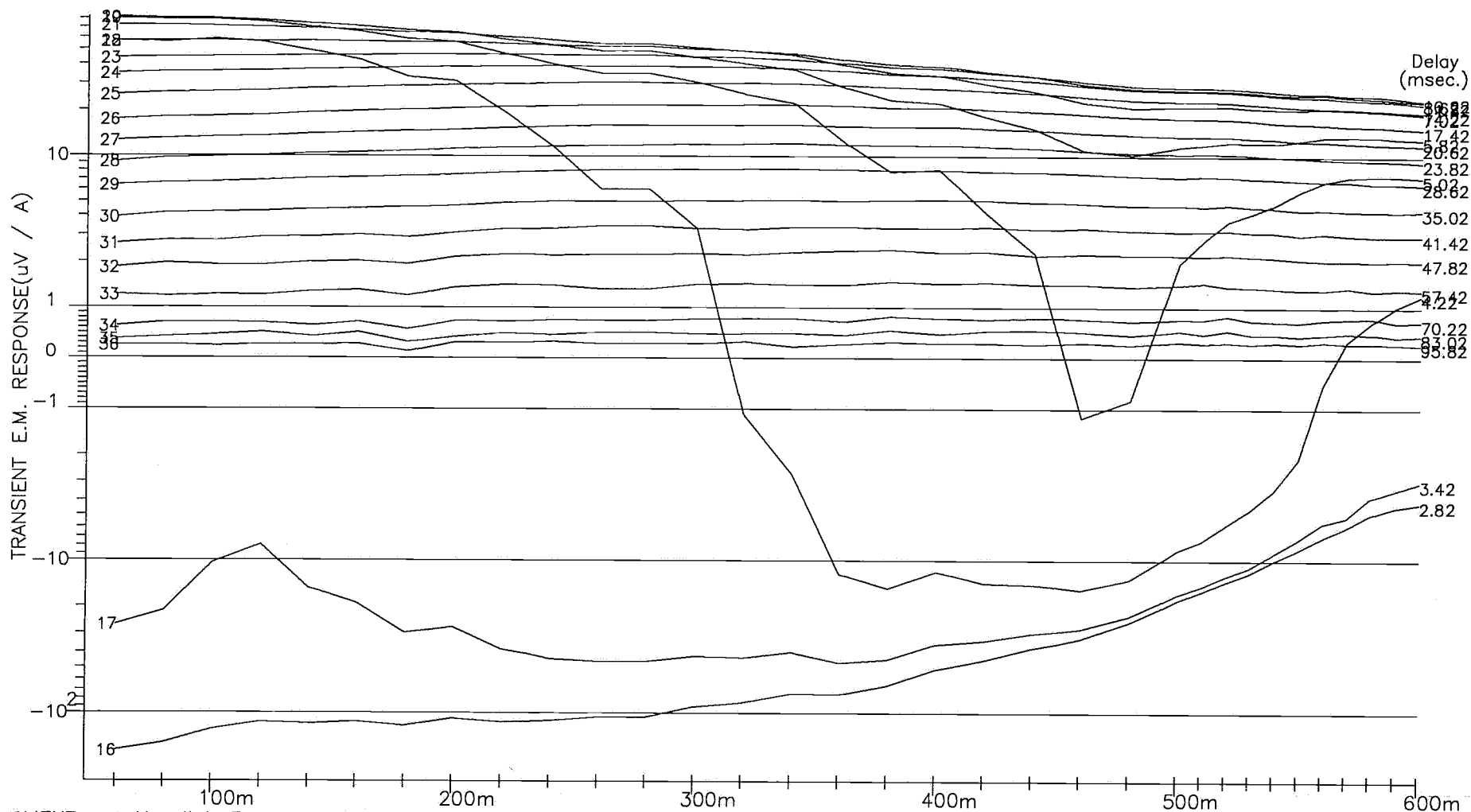
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 AREA : Mattaweara S.A. EL 2329
 GRID : Mattaweara MA1 loop 3 (Ramp 265us Offtime 130ms)
 HOLE REF : MA1 Collar 661910E 6654370N GDA94 Steel casing 0-58m
 SCALE 1 : 2500
 SIROTEM UNIT : MARK III --- S/N 1954 --- COMPOSITE TIMES
 LOOP CONFIGURATION : Down Hole logging
 LOOP CORNERS : (400 X 400) m 661710E 6654170N 662110E 6654570N
 CHANNELS PLOTTED : 16 - 36 STACKS : 128 CURRENT : 10.5 amps
 SIROTEM Survey by SOLO GEOPHYSICS & CO. --- 07-08-02

Figure 7



CLIENT : Havallah Resources N.L.
 AREA : Mattaweara S.A. EL 2329
 GRID : Mattaweara MA1 loop 4 (Ramp 265us Offtime 130ms)
 HOLE REF : MA1 Collar 661910E 6654370N GDA94 Steel casing 0-58m
 SCALE 1 : 2500
 SIROTEM UNIT : MARK III --- S/N 1954 --- COMPOSITE TIMES
 LOOP CONFIGURATION : Down Hole logging
 LOOP CORNERS : (400 X 400) m 661710E 6653770N 662110E 6654170N
 CHANNELS PLOTTED : 16 - 36 STACKS : 128 CURRENT : 10.8 amps
 SIROTEM Survey by SOLO GEOPHYSICS & CO. --- 07-08-02

Figure 8



CLIENT : Havallah Resources N.L.
 AREA : Mattaweara S.A. EL 2329
 GRID : Mattaweara MA1 loop 5 (Ramp 265us Offtime 130ms)
 HOLE REF : MA1 Collar 661910E 6654370N GDA94 Steel casing 0-58m
 SCALE 1 : 2500
 SIROTEM UNIT : MARK III --- S/N 1954 --- COMPOSITE TIMES
 LOOP CONFIGURATION : Down Hole logging
 LOOP CORNERS : (400 X 400) m 662110E 6653170N 662510E 6654570N
 CHANNELS PLOTTED : 16 - 36 STACKS : 128 CURRENT : 10.2 amps
 SIROTEM Survey by SOLO GEOPHYSICS & CO. --- 07-08-02

Figure 9.

APPENDIX ONE

TECHNICAL DETAILS OF DOWNHOLE EM SURVEY

Provided by Solo Geophysics & Co

August 2002

SOLO GEOPHYSICS & CO.
3A MCINNES STREET, RIDLEYTON. S. AUST. 5008
P.O. BOX 212 NORTH ADELAIDE 5006
TEL: 08 8346 8277 FAX: 08 8346 0924
A.B.N. 929 420 505 91

E-mail sologeophysics@aol.com

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To:	Chris Giles Chief Geologist
Company:	Havilah Resources N.L. 235 Glen Osmond Rd Frewville SA 5063
Phone:	08 8338292
Fax:	08 83389293
email	geocom@cobweb.com.au
From:	Graham Rau
Company:	Solo Geophysics & Co.
Phone:	08 8346 8277
Fax:	08 8346 0924
email:	sologeophysics@aol.com
Date:	20/08/2002
Pages including this cover page:	2

Subject: Time sheets for Mattaweara Down Hole TEM survey EL2329 S.A.

Day 1 Monday August 5th.

Mobilisation Adelaide to work site at Mattaweara arrive around 1900 hrs.

Instrumentation:

Sirotem 3 system using medium power SATX (transmitter) and down hole axial probe. Down Hole logging winch cables accessories.

Surface soundings IN Loop configuration using a RVR3C receiving coil.

Gains 1 and 10 Stacks 256 Zero delay

Down hole measurements gain 10 only, stacks 128.

Ramp 265 us Offtime 130 ms.

Transmitter loop surface area 160000 square metres.

Receiver surface area equivalent 10000 square metres.

Average loop current 10 to 10.8 Amps, ramp down 265 us Offtime 130 ms.

Frequency composite .

Day 2 Tuesday August 6th.

Lay out 400 x 400 metre TEM loop 1 in position centred 400m north of collar MA1. MA1 collar 661910E 6654370N AGD94 Steel casing 0 to 58 m angle vertical EOH 600m.

Loop corners, 661710E 6654570N 662110E 6654970N

Lay out part loop 2 then start logging.

Complete MA1 to 600m in 10 m intervals, move cables into position to complete loop 2 and recover down hole probe approximately 2000 hrs.
= Operating Day 1.

Day 3 Wednesday August 7th.

Loop 2 centred 400 metres west of collar MA1.

coords. 661310E 6654170N 661710E 6654570N

Logging down hole on loop 2.

Shift wires into position loop 3 centred on collar MA1

Coords. 661710E 6654170N 662110E 6654570N

Logging up hole on loop 3.

Shift cables to complete loop 4 south of drill collar

Also move spare cables into position for loop 5 east of collar.

= Operating Day 2

Day 4 Thursday August 8th

Loop 4 centred 400 metres south of collar MA1

Coords 661710E 6653770N 662110E 6654170N

Logging down hole on loop 4.

Move cables into position to complete loop 5 centred 400m east of collar MA1.

Coords. 662110E 6653170N 662510E 6654570N

Logging up hole on loop 5.

All cables recovered by hand (vehicle bogged in sand for 45 minutes due to heavy winch on board).

= Operating Day 3

Packed up equipment and left work site 1745 hrs and demobilised back to Pt. Augusta.

Day 5 Friday August 9th.

Demobilise Pt Augusta to Adelaide and return logging winch to mines department.

Comments:

The loops numbered 1,2,4,5 are centred 400m N,W,S,E respectively about the collar of the drill hole MA1 whereas loop 3 is centred on MA1..

The above loop arrangement was used in an effort to display any subtle variation in loop response about the vertical hole which encountered high salinity ground water.

Data presentation as A4 format logarithmic profiles channels 16 to 36.

Digital data provided in original dump file format. files MA1L1,2,3,4,5 .edt. etc

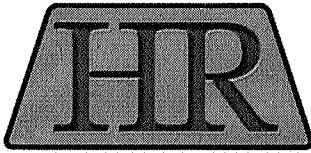
AMIRA format *.TEM

MA1 = hole number, L = loop 1,2,3,4,5 etc.

Surface soundings files indicated SMA1L1 ,2,3,4,5 .EDT for dump format.

and SMA1L1 ,2,3,4,5 . TEM for AMIRA format.

AMIRA file headers contain all survey parameters.



HAVILAH RESOURCES NL

Received via email
15/10/04

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ABN 39 077 435 520

Mr. George Kwitko
Company Exploration
Primary Industries and Resources SA
101 Grenfell Street
Adelaide, SA 5000

29 July 2004

Dear George

RE : Annual Report for Exploration Licence 2964

We wish to advise that Havilah has carried out no field work on the above EL during the reporting period, owing to concentration of all effort on its Curnamona Craton tenements.

Consequently, Havilah has not generated any new scientific data worth reporting and accordingly we were not proposing to submit a formal annual report for this EL for the current reporting period.

If there are any problems with this, please let me know.

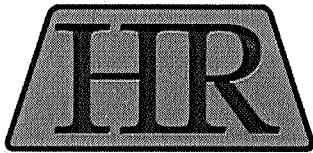
Yours sincerely

Chris Giles
Exploration Manager

MERFF

R2004/00806





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Mr. George Kwitko
Company Exploration
Primary Industries and Resources SA
101 Grenfell Street
Adelaide, SA 5000

3 August 2005

Dear George

RE : Annual Report for EL 2964 Mattaweara

I refer to the annual report for the above EL for the period ending 29 May 2005, which was due on 29 July 2005.

As previously advised at the time of renewal, Havilah has carried out no field work on this EL during the twelve month reporting period and consequently has no new scientific information or data to report. Accordingly, Havilah was not proposing to submit an annual report for the period.

Also, as advised in our letter of 23 May 2005, this tenement has been transferred to Monax Mining Limited, which is in process of raising funds via an IPO. Consequently, all future reporting and expenditure obligations will now be the sole responsibility of Monax Mining Limited.

Yours sincerely

Chris Giles
Exploration Manager



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MONAX
MINING LIMITED

Annual Technical Report

EL 2964 Mattaweara

For the period 31 May 2005 – 30 May 2006

Tenure holder | Monax Mining Limited
Compiled by | Carolyn Grant, Greg Swain

Tenement operator | Monax Mining Limited
Report date | 5 September 2006

Distribution: Primary Industries & Resources South Australia (digital + hard copy)
 Monax Mining Limited (digital + hard copy)

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Summary

This first annual report details the work undertaken by Monax Mining Limited on Exploration Licence 2964 (Mattaweara) in the northern Stuart Shelf. The project area is located 30 kilometres north-northwest of Olympic Dam. EL 2964 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet (**Figure 1**), and covers an area of approximately 119 square kilometres. Exploration interest centres on a discrete magnetic body and associated gravity features, which potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium mineralisation. EL 2964 lies within the highly prospective Olympic Copper-Gold Province, and the existing geophysical targets remain inadequately tested.

Keywords

EL 2964, Mattaweara, Olympic Dam Iron-Oxide Copper-Gold-Uranium, Stuart Shelf

Table of Contents

	Page
1. Introduction.....	4
2. Tenure	4
3. Geology	4
4. Exploration Rationale	4
5. Previous Exploration.....	5
6. Exploration Conducted	5
7. Expenditure	6
8. Conclusions	6
9. References	6

List of Figures

Figure 1	EL2964_2006_Figure1_Tenement_Location.pdf
Figure 2	EL2964_2006_Figure2_TMI.pdf
Figure 3	EL2964_2006_Figure3_Bouger Gravity.pdf
Figure 4	EL2964_2006_Figure4_Gravity Station Locations.pdf
Figure 5	EL2964_2006_Figure5_Gravity Image.pdf

List of Tables

Table 1	Tenement Details
Table 2	Expenditure EL 2964 Mattaweara

List of Appendices

Appendix 1	Gravity Data	EL2964_2006_Appendix1_Gravity.txt
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Digital file list (on CD at back of report)

EL2964_2006_A_01_ReportBody.pdf
 EL2964_2006_Figure1_Tenement_Location.pdf
 EL2964_2006_Figure2_TMI.pdf
 EL2964_2006_Figure3_Bouger Gravity.pdf
 EL2964_2006_Figure4_Gravity Station Locations.pdf
 EL2964_2006_Figure5_Gravity Image.pdf
 EL2964_2006_Appendix1_Gravity.txt

1. Introduction

EL 2964 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet (**Figure 1**), in the northern Stuart Shelf area, approximately 30 kilometres north-northwest of Olympic Dam. EL 2964 (Mattaweara) covers an area of approximately 119 square kilometres and centres on a discrete magnetic body and associated gravity features. These geophysical anomalies potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium deposit. EL 2964 lies within the highly prospective Olympic Copper-Gold Province, and the existing geophysical targets remain inadequately tested.

2. Tenure

Tenement details for EL 2964 are detailed below in **Table 1**

EL	Name	Area (m ²)	Grant Date	Expiry Date
2964	Mattaweara	119	31-May-2002	30 May 2006*

*Pending renewal

3. Geology

EL 2964 is entirely covered by Quaternary surficial deposits, which overlie gently dipping to flat lying Stuart Shelf sediments of Mesoproterozoic and Neoproterozoic age, which range from 300 m to more than 1,000 m thick in this area. The Stuart Shelf sediments were deposited on Archaean, Palaeoproterozoic and Mesoproterozoic crystalline basement rocks (**Figure 1**), including the Mulgathing Complex, Hutchison Group, Gawler Range Volcanics and Hiltaba Suite granites, all of which have been intersected at depth in different places.

Brecciated Hiltaba Suite granite hosts the Olympic Dam orebody, 30 km to the southeast of EL 2964. The Olympic Dam orebody is intimately linked with both magnetic (**Figure 2**) and gravity (**Figure 3**) anomalies, and crustal scale northwest and northeast trending faults. These geological features are characteristic of the Olympic Copper-Gold Province extending from the Mount Woods inlier to the north, to the Moonta-Wallaroo region in the south. The prospectivity of this terrane has been greatly enhanced by the Prominent Hill and Carrapateena discoveries.

4. Exploration Rationale

Mattaweara is an IOCG target. The project area is only 30 km from the Olympic Dam mine and lies within the same major, north-northwest trending structural corridor. Havilah, the previous tenement holder, defined a discrete magnetic body, the Mattaweara Magnetic Anomaly. This anomaly was modelled as a steeply plunging cylindrical body, which might be a mineralised breccia similar to Olympic Dam. Havilah attempted to test this target with a deep RC hole, which penetrated to 602 m without reaching basement or intersecting the geophysical target.

5. Previous Exploration

Only a small number of previous exploration tenements covered this area. In 1966, Mines Exploration Pty Ltd targeted the basal Cambrian dolomites of the Flinders Ranges and Stuart Shelf for lead-zinc mineralisation of the Ediacra type, in an area covering nearly 37,000 square kilometres.

From 1976 to 1986, the current tenement lay within a larger area of about 12,000 square kilometres investigated by Western Mining Corporation Ltd, in a search for IOCG deposits of the Olympic Dam type. Within that larger area, WMC identified a number of coincident magnetic and gravity anomalies as potential targets. Drilling of several of those targets disclosed minor copper mineralisation or anomalous geochemistry at several prospects outside the current tenement. The closest feature investigated by WMC was the Double Swamp magnetic anomaly, which was considered too deep and never drilled.

Since 1997, this tenement has been held by Havilah Resources NL (Havilah). From 1997 to 2004, Havilah investigated the Mattaweara magnetic anomaly, which was identified by detailed aeromagnetic surveys and lies immediately south-east of the deeper Double Swamp anomaly. The Mattaweara anomaly was modelled as a smaller body (3.0 x 1.1 km) at a depth of about 400 m, i.e. possibly within the Neoproterozoic (Adelaidean) cover sequence above the Gawler Craton basement. Detailed gravity surveys revealed two local gravity highs within a broader feature. One of these highs lies on the flank of the Mattaweara magnetic anomaly, which suggests that both anomalies have a common source. Modelling suggested that the gravity and magnetic responses may be due to a deeper mafic complex, with smaller bodies as shallow as 250 m causing the two local gravity peaks. A deep percussion hole tested the northern gravity high. The hole intersected Adelaidean sediments to 555 m and terminated at 602 m in red gritty sandstones of the Pandurra Formation, without explaining the geophysical anomalies. Either the hole missed the target, or the target is deeper. The possibility of a near miss was tested by a down-hole EM survey. Results showed no obvious conductive body near the drill hole, although more sophisticated modelling may detect a subtle effect from such a source.

The area to the north of the current tenement, including a relinquished portion, was subsequently acquired by Minex (SA) Pty Ltd, to explore for Olympic Dam style IOCG mineralisation. Evaluation of regional open file geophysical data highlighted gravity anomalies associated with magnetic complexes, but no significant gravity anomalies were identified in this area.

6. Exploration Conducted

6.1.1 Gravity Survey

Work carried out on EL 2964 since the tenement was acquired from Havilah Resources comprised of a helicopter based ground gravity survey of 177 stations covering an area of approximately 120 km². The gravity survey was conducted in March 2006 by Daishsat Geodetic Surveyors. The gravity stations were taken on a 1000x1000m spaced grid. The location of the survey area and gravity stations are shown in **Figure 4**, and the digital data are in **Appendix 1**. Monax Mining conducted the regional survey over EL 2964 to confirm the anomaly identified in previous gravity surveys undertaken by Havilah Resources.

Note: Acquisition of this gravity data was part of a regional survey conducted by Monax Mining Limited over many of its exploration licences. Daishsat Geodetic Surveyors are still completing gravity acquisition and have informed Monax Mining Limited that they will submit a single Operations Report at the conclusion of the contract.

6.1.2 Geophysical Interpretation

The results from the gravity survey (**Figure 5**) defined a discrete gravity high (as previously identified by Havilah Resources) which is located on the south-western flank of a larger regional gravity high. The gravity anomaly is semi coincident (on the southern flank) with the Mattaweara magnetic anomaly. This semi coincident anomaly is interpreted to represent Prominent Hill style IOCG mineralisation.

7. Expenditure

Expenditure for the period 31 May 2005-30 May 2006 is detailed in **Table 2**

Table 2 Expenditure for EL 2964 – Mattaweara

Operations	Cost \$
Advertising	205
Consumables	42
Depreciation	5
Evaluation costs	9,532
Legal Fees	547
Maps & Cartographic	327
Minor plant	18
Salaries	10,179
Total expenditure for the period	\$20,855
Total cumulative expenditure for the licence	\$386,974

8. Conclusions

The helicopter based ground gravity survey of 177 stations confirmed the existence and location of the anomaly previously identified by Havilah resources. Havilah drilled RCM1 to 602 metres (when all rods were used) and finished in Pandurra Formation. A downhole EM survey conducted by Havilah did not show any obvious EM conductive bodies near the drillhole. Monax is evaluating whether to either extend the drillhole to intersect crystalline basement and test the gravity and semi coincident magnetic anomaly, or to reposition a future drillhole to test the Mattaweara target.

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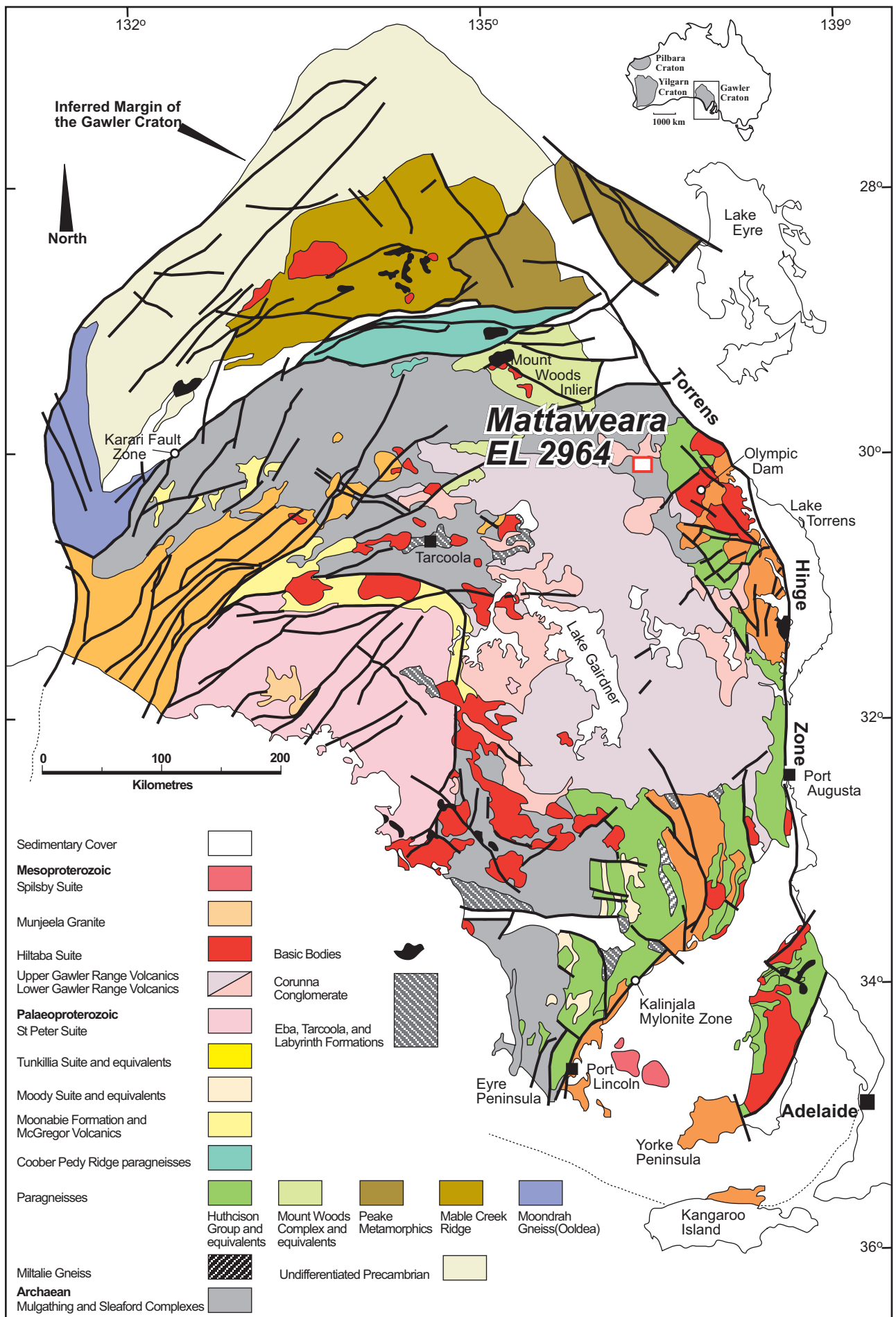
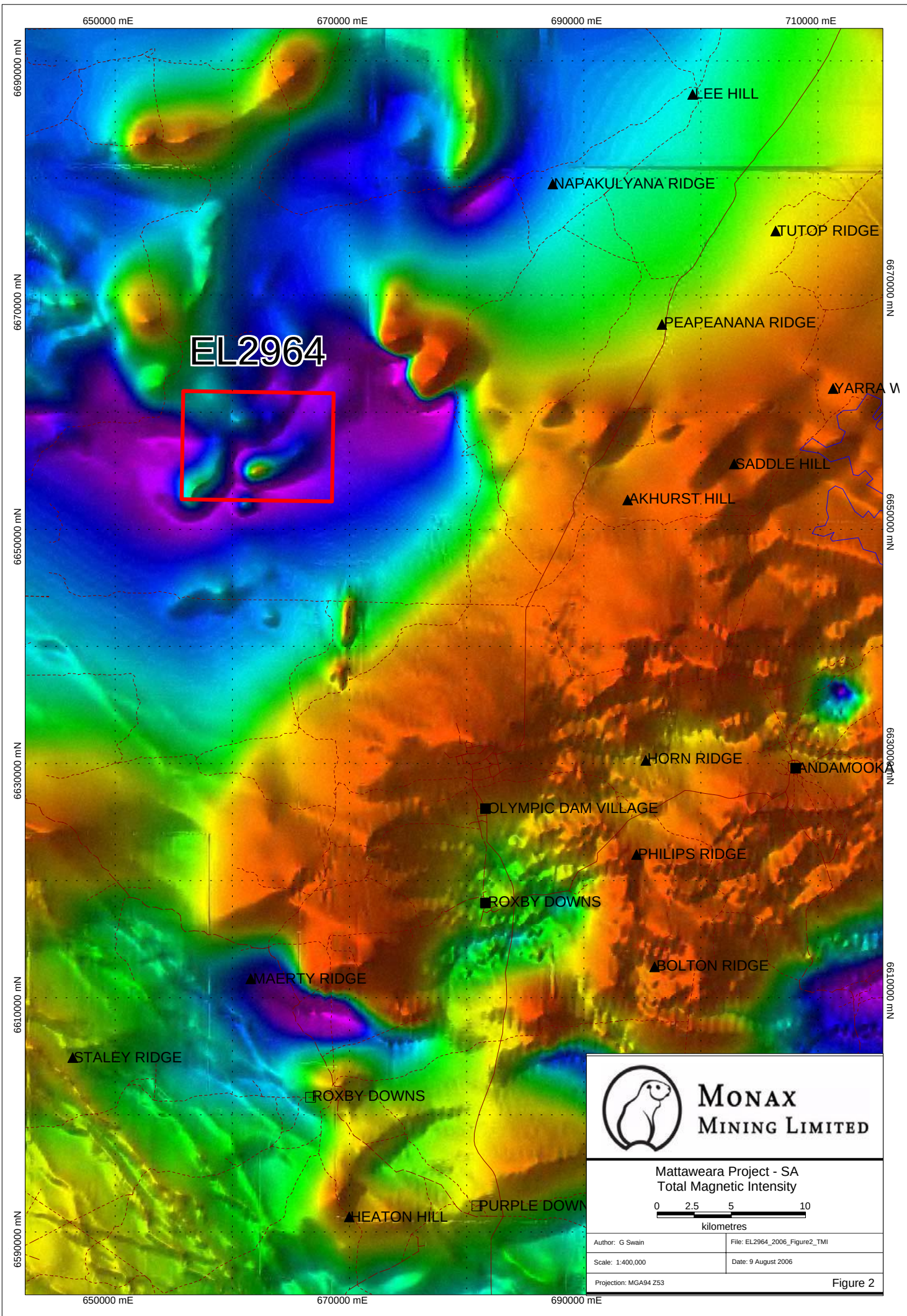
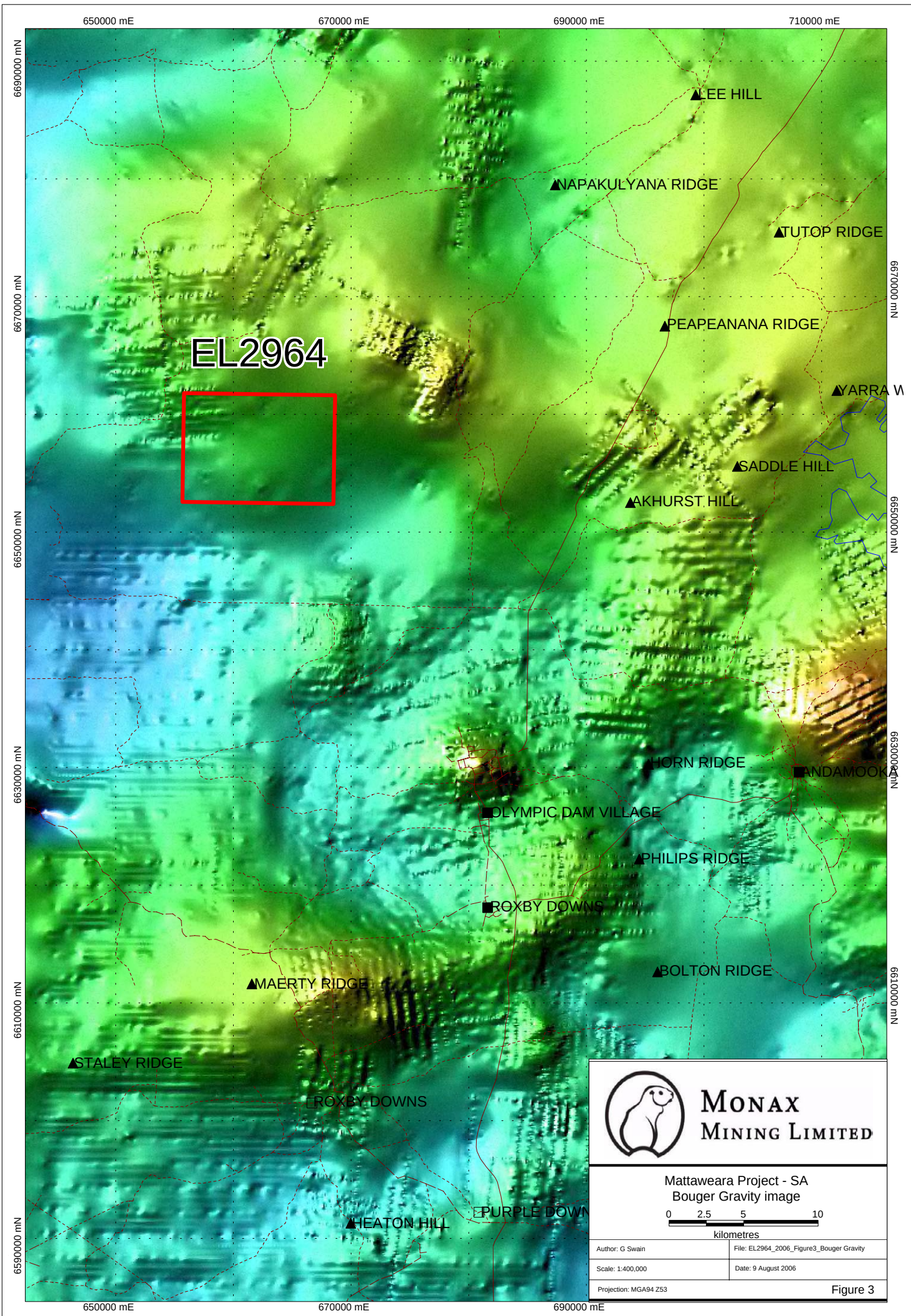


Figure 1.



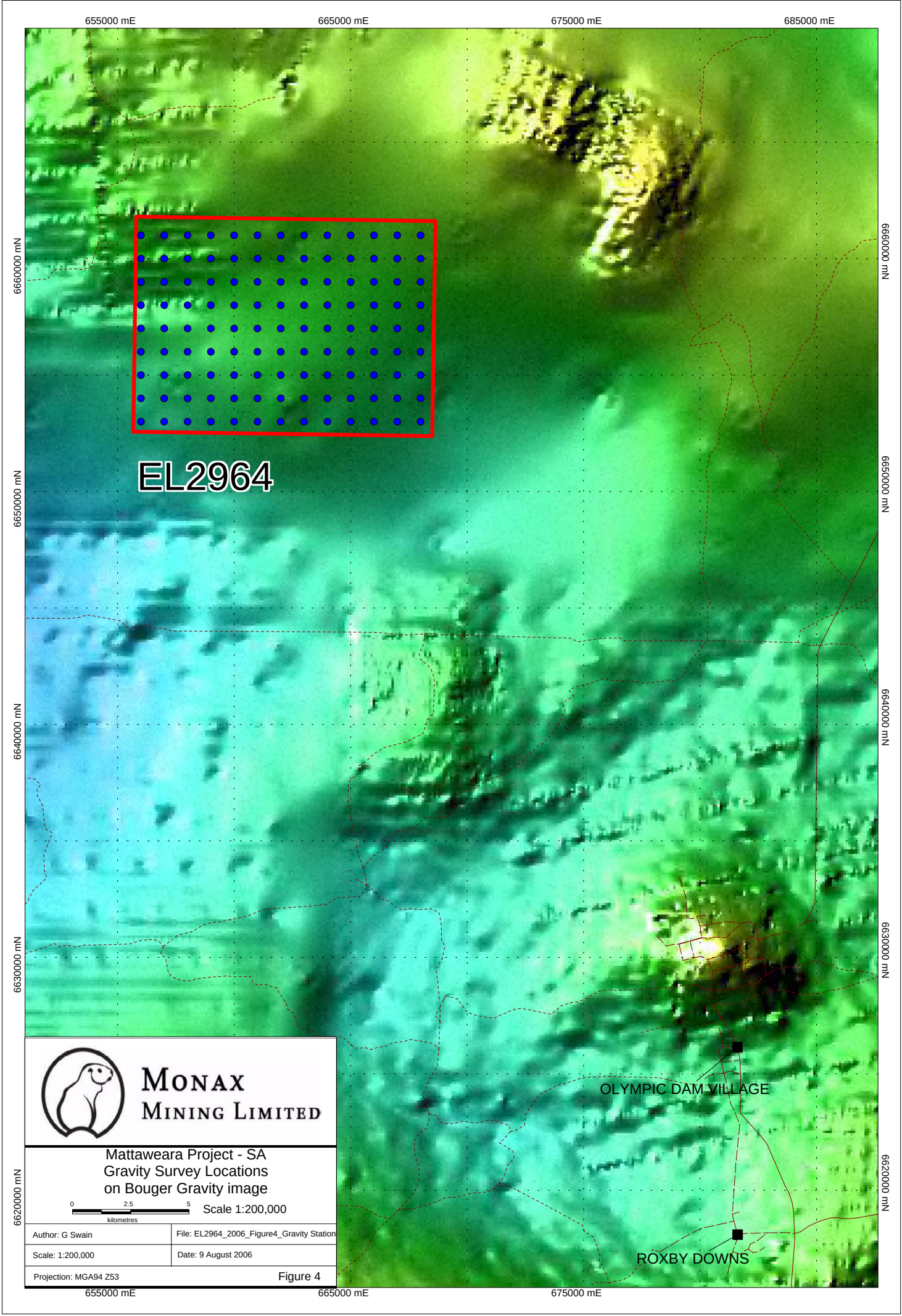


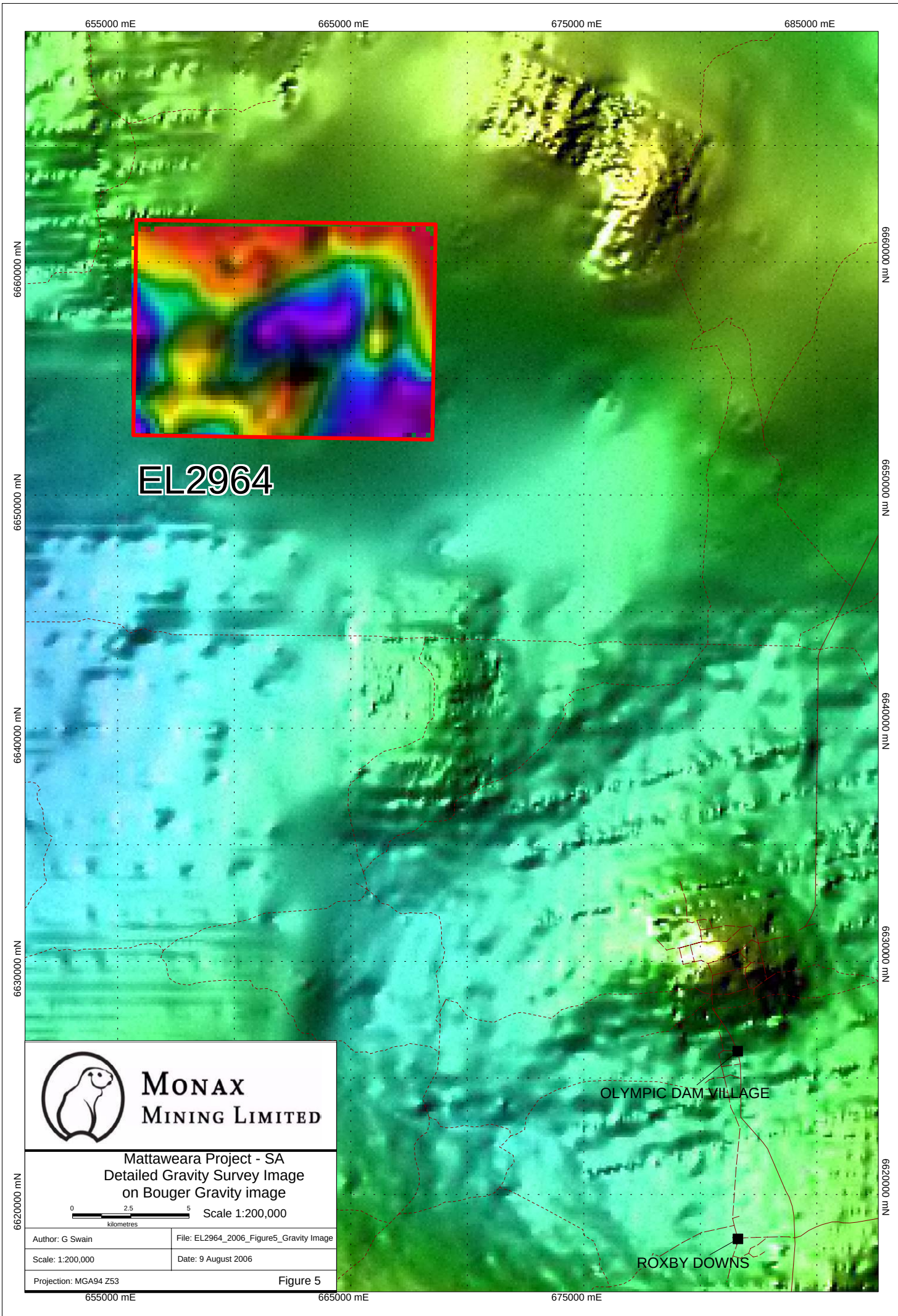
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MINING LIMITED

Mattaweara Project - SA
Bouguer Gravity image



Author: G Swain	File: EL2964_2006_Figure3_Bouguer Gravity
Scale: 1:400,000	Date: 9 August 2006
Projection: MGA94 Z53	Figure 3





Appendix 1

Gravity Data

Gravity:
Field Data:

stn	mga94 east	mga94 north	date	ahd	gda94long	gda94lat	time	rdng	etc	obs94 mGals	obs94 gu	gt1967 gu	fag gu	fag mGals	bg267 gu	bg267 mGals	closure	serial no
1300	668001.866	6658999.512	17/12/2005	120.735	136.7450761	-30.18886788	10:02:04	3472.473	-0.08	979301.66	9793016.6	9793387.508	1.68	0.168	-133.39	-13.339	-0.076	9383
1300	668000.802	6658999.725	17/12/2005	120.788	136.745065	-30.18886611	14:44:02	2262.658	0.07	979301.682	9793016.82	9793387.507	2.065	0.206	-133.064	-13.306	-0.044	100
1301	666999.94	6659001.712	17/12/2005	122.922	136.7346725	-30.18898608	10:15:36	3470.761	-0.081	979299.947	9792999.47	9793387.601	-8.794	-0.879	-146.31	-14.631	-0.076	9383
1302	665999.113	6658996.34	17/12/2005	116.151	136.7242815	-30.18917161	10:26:06	3471.778	-0.081	979300.967	9793009.67	9793387.747	-19.635	-1.963	-149.576	-14.958	-0.076	9383
1303	664997.953	6658999.571	17/12/2005	121.035	136.7138855	-30.18927876	10:35:50	3470.171	-0.08	979299.36	9792993.6	9793387.831	-20.717	-2.072	-156.122	-15.612	-0.076	9383
1304	664000.36	6659000.85	17/12/2005	121.315	136.7035269	-30.18940221	10:46:12	3470.169	-0.079	979299.36	9792993.6	9793387.928	-19.95	-1.995	-155.669	-15.567	-0.076	9383
1305	662998.422	6659014.097	17/12/2005	120.713	136.6931212	-30.18941747	10:54:34	3470.578	-0.078	979299.773	9792997.73	9793387.94	-17.69	-1.769	-152.735	-15.273	-0.076	9383
1306	661985.918	6659036.146	17/12/2005	121.938	136.6826044	-30.18935391	11:05:06	3470.951	-0.076	979300.15	9793001.5	9793387.89	-10.089	-1.009	-146.505	-14.65	-0.076	9383
1306	661985.442	6659036.29	17/12/2005	121.799	136.6825994	-30.18935268	13:39:37	3470.841	0.015	979300.156	9793001.56	9793387.889	-10.457	-1.046	-146.717	-14.672	-0.076	9383
1307	660999.443	6659003.545	17/12/2005	119.66	136.6723662	-30.18977904	11:14:08	3472.322	-0.073	979301.528	9793015.28	9793388.224	-3.673	-0.367	-137.54	-13.754	-0.076	9383
1308	660006.718	6659011.339	17/12/2005	122.853	136.6620568	-30.1898398	11:24:02	3471.87	-0.07	979301.079	9793010.79	9793388.271	1.643	0.164	-135.796	-13.58	-0.076	9383
1309	658997.889	6658980.683	17/12/2005	114.596	136.6515859	-30.1902487	11:32:41	3473.461	-0.067	979302.678	9793026.78	9793388.592	-8.169	-0.817	-136.371	-13.637	-0.076	9383
1310	658002.297	6659034.085	17/12/2005	114.67	136.6412398	-30.1898968	11:45:00	3472.561	-0.062	979301.783	9793017.83	9793388.316	-16.615	-1.661	-144.899	-14.49	-0.076	9383
1311	656978.375	6659034.724	17/12/2005	114.823	136.6306074	-30.19002369	11:54:23	3472.132	-0.058	979301.359	9793013.59	9793388.416	-20.482	-2.048	-148.938	-14.894	-0.076	9383
1312	656003.484	6658003.844	17/12/2005	105.823	136.6206365	-30.19944847	12:19:54	3472.891	-0.044	979302.137	9793021.37	9793395.816	-47.876	-4.788	-166.264	-16.626	-0.076	9383
1313	657008.592	6658016.853	17/12/2005	110.097	136.6310726	-30.19920167	12:37:58	3472.8	-0.033	979302.061	9793020.61	9793395.622	-35.253	-3.525	-158.422	-15.842	-0.076	9383
1314	658001.982	6658008.433	17/12/2005	108.009	136.6413901	-30.19914886	12:48:57	3473.68	-0.025	979302.952	9793029.52	9793395.581	-32.745	-3.274	-153.578	-15.358	-0.076	9383
1315	659011.273	6657987.69	17/12/2005	112.483	136.6518745	-30.19920433	12:59:06	3473.131	-0.018	979302.411	9793024.11	9793395.624	-24.392	-2.439	-150.23	-15.023	-0.076	9383
1316	660007.696	6658003.495	17/12/2005	119.504	136.6622197	-30.19893096	13:10:24	3471.724	-0.009	979301.012	9793010.12	9793395.41	-16.5	-1.65	-150.193	-15.019	-0.076	9383
1317	661001.764	6658001.281	17/12/2005	121.071	136.6725431	-30.19882028	12:19:54	3470.759	-0.002	979300.053	9793000.53	9793395.323	-21.168	-2.117	-156.613	-15.661	-0.076	9383
1318	661995.027	6658025.056	17/12/2005	123.843	136.6828541	-30.19847318	13:28:32	3469.576	0.006	979298.877	9792988.77	9793395.05	-24.101	-2.41	-162.647	-16.265	-0.076	9383
1319	662999.719	6658000.46	17/12/2005	121.686	136.6932911	-30.1986507	13:53:30	3469.76	0.026	979299.087	9792990.87	9793395.119	-28.726	-2.873	-164.86	-16.486	-0.076	9383
1320	663998.977	6658001.85	17/12/2005	122.743	136.7036677	-30.19841372	14:04:28	3469.412	0.036	979298.749	9792987.49	9793395.003	-28.729	-2.873	-166.045	-16.604	-0.076	9383
1321	664999.347	6657945.281	17/12/2005	123.813	136.7140648	-30.19878857	14:14:25	3469.302	0.044	979298.649	9792986.49	9793395.298	-26.721	-2.672	-165.234	-16.523	-0.076	9383
1322	666011.435	6657999.966	17/12/2005	115.06	136.7245661	-30.19815746	14:32:38	3471.812	0.06	979301.182	9793011.82	9793394.802	-27.907	-2.791	-156.628	-15.663	-0.076	9383
1323	667001.202	6658006.193	17/12/2005	122.287	136.7348431	-30.19796568	14:41:37	3470.558	0.068	979299.935	9792999.35	9793394.652	-17.924	-1.792	-154.73	-15.473	-0.076	9383
1324	667999.448	6657999.069	17/12/2005	120.352	136.7452102	-30.19789235	14:50:17	3471.911	0.075	979301.299	9793012.99	9793394.594	-10.198	-1.02	-144.839	-14.484	-0.076	9383
1325	667997.852	6654997.588	18/12/2005	118.634	136.7456716	-30.22496629	8:39:03	3472.112	-0.043	979300.178	9793001.78	9793415.859	-47.974	-4.797	-180.604	-18.069	-0.261	9383
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1326	667997.529	6653996.913	18/12/2005	121.313	136.7458278	-30.23399215	8:51:47	3470.636	-0.047	979298.704	9792987.04	9793422.951	-61.539	-6.154	-197.255	-19.726	-0.261	9383
1327	666994.914	6653996.412	18/12/2005	117.716	136.7354127	-30.23413542	9:00:36	3471.827	-0.05	979299.901	9792999.01	9793423.063	-60.782	-6.078	-192.474	-19.247	-0.261	9383
1328	667024.073	6654965.478	18/12/2005	121.885	136.735562	-30.22539029	9:12:11	3471.256	-0.063	979299.334	9792993.34	9793416.192	-46.715	-4.671	-183.071	-18.307	-0.261	9383
1329	665998.139	6655013.749	18/12/2005	116.194	136.7248979	-30.2250956	9:24:09	3472.761	-0.057	979300.846	9793008.46	9793415.961	-48.926	-4.893	-178.916	-17.892	-0.261	9383
1330	665999.278	6654000.194	18/12/2005	106.81	136.7250694	-30.23423791	9:35:09	3474.591	-0.06	979302.684	9793026.84	9793423.144	-66.688	-6.669	-186.18	-18.618	-0.261	9383
1331	665003.496	6654001.429	18/12/2005	115.743	136.7147249	-30.23436257	9:45:32	3473.308	-0.062	979301.404	9793014.04	9793423.242	-52.019	-5.202	-181.504	-18.15	-0.261	9383
1332	665005.037	6655000.137	18/12/2005	117.566	136.7145845	-30.22535378	9:57:25	3472.714	-0.065	979300.814	9793008.14	9793416.163	-45.215	-4.521	-176.739	-17.674	-0.261	9383
1333	663999.166	6655004.055	18/12/2005	119.972	136.7041357	-30.22545474	10:11:53	3472.917	-0.067	979301.025	9793010.25	9793416.243	-35.759	-3.576	-169.975	-16.998	-0.261	9383
1334	664004.91	6654002.094	18/12/2005	119.423	136.7043513	-30.23449194	10:21:59	3473.342	-0.068	979301.457	9793014.57	9793423.344	-40.234	-4.023	-173.836	-17.384	-0.261	9383
1335	662996.782	6654002.173	18/12/2005	119.099	136.6938786	-30.23462706	10:32:23	3474.686	-0.069	979302.809	9793028.09	9793423.45	-27.82	-2.782	-161.06	-16.106	-0.261	9383
1336	662991.212	6655002.414	18/12/2005	123.599	136.693666	-30.2256053	10:41:44	3473.131	-0.07	979301.257	9793012.57	9793416.361	-22.364	-2.236	-160.638	-16.064	-0.261	9383
1337	661999.696	6655006.087	18/12/2005	119.154	136.6833662	-30.22570489	11:06:53	3474.649	-0.07	979302.796	9793027.96	9793416.439	-20.77	-2.077	-154.071	-15.407	-0.261	9383
1338	660998.518	6654003.761	18/12/2005	119.762	136.6731197	-30.23487951	11:32:03	3475.144	-0.067	979303.312	9793033.12	9793423.648	-20.943	-2.094	-154.924	-15.492	-0.261	9383
1339	661005.798	6654985.179	18/12/2005	120.08	136.6730454	-30.22602573	11:41:23	3473.883	-0.065	979302.057	9793020.57	9793416.691	-25.554	-2.555	-159.892	-15.989	-0.261	9383
1340	660004.152	6655023.819	18/12/2005	112.816	136.6626349	-30.22580962	11:54:13	3475.19	-0.062	979303.379	9793033.79	9793416.522	-34.581	-3.458	-160.792	-16.079	-0.261	9383
1341	660002.167	6653998.583	18/12/2005	111.109	136.6627699	-30.235058	12:05:33	3476.711	-0.058	979304.914	9793049.14	9793423.788	-31.766	-3.177	-156.067	-15.607	-0.261	9383
2300	668025.257	6660991.755	17/12/2005	128.113	136.7450022	-30.17089429	9:28:12	2262.083	-0.075	979300.932	9793009.32	9793373.4	31.277	3.128	-112.047	-11.205	-0.044	100
2301	666998.285	6660999.429	17/12/2005	121.781	136.7343396	-30.17096648	9:38:28	2262.175	-0.077	979301.023	9793010.23	9793373.457	12.589	1.259	-123.651	-12.365	-0.044	100
2302	665994.806	6661006.072	17/12/2005	122.212	136.7239921	-30.17104389	9:48:22	2261.665	-0.079	979300.513	9793005.13	9793373.517	8.759	0.876	-127.963	-12.796	-0.044	100
2303	665001.43	6660997.619	17/12/2005	117.07	136.7136096	-30.17125527	9:56:55	2262.606	-0.08	979301.454	9793014.54	9793373.683	2.135	0.213	-128.835	-12.884	-0.044	100
2304	663995.																	

stn	mga94 east	mga94 north	date	ahd	gda94long	gda94lat	time	rdng	etc	obs94 mGals	obs94 gu	gt1967 gu	fag gu	fag mGals	bg267 gu	bg267 mGals	closure	serial no
2312	656000.946	6660999.831	17/12/2005	107.127	136.6201677	-30.17242279	11:25:33	2264.625	-0.07	979303.491	9793034.91	9793374.6	-9.096	-0.91	-128.942	-12.894	-0.044	100
2313	655982.606	6659990.872	17/12/2005	106.41	136.6201262	-30.18152671	11:35:21	2264.426	-0.066	979303.296	9793032.96	9793381.745	-20.404	-2.04	-139.448	-13.945	-0.044	100
2314	656032.639	6658997.54	17/12/2005	112.666	136.6207924	-30.19048087	11:54:46	2262.404	-0.058	979301.285	9793012.85	9793388.775	-28.237	-2.828	-154.28	-15.428	-0.044	100
2314	656031.543	6658997.56	17/12/2005	112.659	136.620781	-30.19048083	12:05:18	3472.06	-0.052	979301.294	9793012.94	9793388.775	-28.169	-2.817	-154.204	-15.42	-0.076	9383
2315	656999.326	6659993.334	17/12/2005	112.293	136.630681	-30.18128345	12:13:08	2263.651	-0.048	979302.543	9793025.43	9793381.554	-9.588	-0.959	-135.214	-13.521	-0.044	100
2316	658007.298	6660007.126	17/12/2005	111.996	136.6411462	-30.18111869	12:25:48	2264.166	-0.041	979303.067	9793030.67	9793381.425	-5.135	-0.514	-130.429	-13.043	-0.044	100
2317	659011.748	6660000.236	17/12/2005	113.22	136.6515764	-30.18104992	12:35:53	2264.27	-0.034	979303.178	9793031.78	9793381.371	-0.194	-0.019	-126.857	-12.686	-0.044	100
2318	660023.492	6659985.247	17/12/2005	124.494	136.6620834	-30.18105241	12:46:22	2261.845	-0.027	979300.762	9793007.62	9793381.373	10.435	1.044	-128.84	-12.884	-0.044	100
2319	661008.297	6660023.011	17/12/2005	122.844	136.6723027	-30.18058177	12:57:24	2262.343	-0.019	979301.269	9793012.69	9793381.004	10.783	1.078	-126.646	-12.665	-0.044	100
2320	662001.963	6659997.802	17/12/2005	126.61	136.6826235	-30.18067721	13:08:08	2261.038	-0.011	979299.973	9792999.73	9793381.079	9.37	0.937	-132.272	-13.227	-0.044	100
2321	662999.241	6660007.163	17/12/2005	120.248	136.6929765	-30.18045951	13:32:23	2261.686	0.009	979300.642	9793006.42	9793380.908	-3.402	-0.34	-137.927	-13.793	-0.044	100
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2324	666002.249	6659998.183	17/12/2005	120.638	136.7241566	-30.1801343	14:05:59	2261.172	0.037	979300.16	9793001.6	9793380.652	-6.763	-0.676	-141.725	-14.172	-0.044	100
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2326	668000.725	6659994.203	17/12/2005	121.915	136.7449061	-30.17989577	14:25:34	2262.932	0.054	979301.939	9793019.39	9793380.465	15.155	1.515	-121.235	-12.124	-0.044	100
2327	668015.05	6653006.91	18/12/2005	119.143	136.7461677	-30.24291999	8:27:46	2260.469	-0.04	979299.266	9792992.66	9793429.967	-69.632	-6.963	-202.92	-20.292	-0.226	100
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2330	664989.016	6652998.224	18/12/2005	114.024	136.7147316	-30.24341368	8:59:23	2263.363	-0.05	979302.169	9793021.69	9793430.355	-56.787	-5.679	-184.349	-18.435	-0.226	100
2331	663976.169	6652995.03	18/12/2005	120.115	136.7042095	-30.24357982	9:10:07	2263.031	-0.053	979301.841	9793018.41	9793430.485	-41.401	-4.14	-175.777	-17.578	-0.226	100
2332	662999.104	6653000.106	18/12/2005	118.805	136.6940578	-30.24366572	9:18:19	2264.391	-0.055	979303.203	9793032.03	9793430.553	-31.891	-3.189	-164.801	-16.48	-0.226	100
2333	661992.824	6653000.126	18/12/2005	115.31	136.6836032	-30.24380034	9:27:01	2266.017	-0.058	979304.832	9793048.32	9793430.659	-26.492	-2.649	-155.493	-15.549	-0.226	100
2334	662003.135	6653997.556	18/12/2005	116.037	136.683557	-30.23480177	9:36:50	2265.626	-0.06	979304.445	9793044.45	9793423.587	-21.407	-2.105	-150.861	-15.086	-0.226	100
2334	662003.238	6653998.1	18/12/2005	115.951	136.683558	-30.23479685	11:21:38	3476.273	-0.068	979304.435	9793044.35	9793423.583	-21.408	-2.141	-151.126	-15.113	-0.261	9383
2335	660980.142	6653006.585	18/12/2005	120.272	136.6730811	-30.24387689	9:49:47	2265.4	-0.063	979304.224	9793042.24	9793430.719	-17.32	-1.732	-151.871	-15.187	-0.226	100
2336	659990.98	6653007.154	18/12/2005	112.871	136.6628042	-30.24400263	10:01:01	2266.261	-0.065	979305.089	9793050.89	9793430.818	-31.608	-3.161	-157.88	-15.788	-0.226	100
2337	659012.906	6653002.227	18/12/2005	108.647	136.6526424	-30.24412156	10:09:47	2266.726	-0.067	979305.558	9793055.58	9793430.911	-40.047	-4.005	-161.593	-16.159	-0.226	100
2338	658001.818	6653001.881	18/12/2005	101.795	136.6421386	-30.24431092	10:21:37	2267.999	-0.068	979306.837	9793068.37	9793431.06	-48.551	-4.855	-162.432	-16.243	-0.226	100
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2342	655991.807	6655001.701	18/12/2005	102.038	136.6209592	-30.22653138	11:00:21	2265.346	-0.07	979304.205	9793042.05	9793417.089	-60.149	-6.015	-174.302	-17.43	-0.226	100
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2344	657002.343	6653997.027	18/12/2005	98.386	136.6316061	-30.23546388	11:19:25	2267.857	-0.069	979306.729	9793067.29	9793424.107	-53.198	-5.32	-163.265	-16.327	-0.226	100
2345	657999.097	6654000.151	18/12/2005	98.242	136.6419606	-30.23530632	11:27:11	2268.402	-0.067	979307.28	9793072.8	9793423.983	-48.009	-4.801	-157.915	-15.791	-0.226	100
2346	657996.691	6655002.097	18/12/2005	95.645	136.6417854	-30.22626851	11:36:51	2268.189	-0.066	979307.075	9793070.75	9793416.882	-50.972	-5.097	-157.973	-15.797	-0.226	100
2347	658994.678	6654991.001	18/12/2005	108.133	136.6521538	-30.22623829	11:48:27	2265.665	-0.063	979304.56	9793045.6	9793416.858	-37.56	-3.756	-158.532	-15.853	-0.226	100
2348	658993.987	6653991.943	18/12/2005	104.608	136.6522974	-30.23525041	12:03:45	2267.246	-0.059	979306.155	9793061.55	9793423.94	-39.569	-3.957	-156.597	-15.66	-0.226	100
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3201	667003.38	6656998.116	17/12/2005	118.685	136.7350281	-30.20722078	9:42:12	2841.78	-0.006	979300.769	9793007.69	9793401.92	-27.968	-2.797	-160.744	-16.074	0.142	G711.
3202	665999.066	6657001.368	17/12/2005	114.18	136.7245947	-30.20716673	9:55:12	2842.68	0.005	979301.693	9793016.93	9793401.877	-32.588	-3.259	-160.324	-16.032	0.142	G711.
3203	665008.767	6656982.021	17/12/2005	120.311	136.7143132	-30.20747617	10:11:12	2840.58	0.02	979299.566	9792995.66	9793402.12	-35.18	-3.518	-169.776	-16.978	0.142	G711.
3204	664009.114	6657010.749	17/12/2005	124.903	136.703927	-30.2073524	10:22:12	2839.37	0.03	979298.342	9792983.42	9793402.023	-33.152	-3.315	-172.885	-17.289	0.142	G711.
3205	662989.765	6657002.434	17/12/2005	121.974	136.6933419	-30.2075646	10:44:12	2840.09	0.05	979299.09	9792990.9	9793402.19	-34.878	-3.488	-171.334	-17.133	0.142	G711.
3206	662001.936	6656995.868	17/12/2005	119.635	136.6830838	-30.20775597	10:53:12	2840.88	0.058	979299.901	9792999.01	9793402.34	-34.136	-3.414	-167.976	-16.798	0.142	G711.
3207	661988.251	6656002.317	17/12/2005	121.063	136.6830943	-30.21672003	11:04:12	2841.47	0.068	979300.509	9793005.09	9793409.381	-30.69	-3.069	-166.127	-16.613	0.142	G711.
3207	661988.373	6656002.137	17/12/2005	121.106	136.6830956	-30.21672164	14:19:12	2841.42	0.167	979300.512	9793005.12	9793409.382	-30.529	-3.053	-166.014	-16.601	0.142	G711.
3208	661007.829	6657008.046	17/12/2005	122.901	136.6727576	-30.20777828	11:22:12	2840.39	0.08									

stn	mga94_east	mga94_north	date	ahd	gda94long	gda94lat	time	rdng	etc	obsg84_mGals	obsg84_gu	gt1967_gu	fag_gu	fag_mGals	bg267_gu	bg267_mGals	closure	serial no
3221	663998.353	6656031.989	17/12/2005	121.801	136.7039674	-30.21618258	14:42:12	2840.78	0.163	979299.851	9792998.51	9793408.959	-34.571	-3.457	-170.833	-17.083	0.142	G711.
3222	664993.331	6655992.438	17/12/2005	118.454	136.7143077	-30.21640456	14:53:12	2841.37	0.16	979300.446	9793004.46	9793409.133	-39.124	-3.912	-171.642	-17.164	0.142	G711.
3223	665979.401	6655975.259	17/12/2005	119.808	136.7245519	-30.21642515	15:03:12	2841.46	0.156	979300.532	9793005.32	9793409.149	-34.102	-3.41	-168.134	-16.813	0.142	G711.
3224	667005.88	6655989.231	17/12/2005	122.745	136.7352109	-30.21615839	15:13:12	2840.61	0.152	979299.661	9792996.61	9793408.94	-33.539	-3.354	-170.857	-17.086	0.142	G711.
3225	667985.003	6656007.431	17/12/2005	122.811	136.7453773	-30.21585917	15:27:12	2840.91	0.146	979299.956	9792999.56	9793408.705	-30.15	-3.015	-167.542	-16.754	0.142	G711.
3324	662003.671	6653998.508	18/12/2005	115.978	136.6835624	-30.23479311	12:20:41	2265.509	-0.053	979304.435	9793044.35	9793423.58	-21.322	-2.132	-151.07	-15.107	-0.226	100



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Annual Technical Report

EL 2964 Mattaweara

For the period 30 May 2006 – 29 May 2007

Tenure holder | Monax Mining Limited
Compiled by | Greg Swain, Carolyn Grant

Tenement operator | Monax Mining Limited
Report date | 30 November 2007

Distribution: **Primary Industries & Resources South Australia (digital copy)**
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Summary

This annual report details the work undertaken by Monax Mining Limited on Exploration Licence 2964 (Mattaweara) in the northern Stuart Shelf during the period 30 May 2006 – 29 May 2007. The project area is located 30 kilometres north-northwest of Olympic Dam.

EL 2964 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet (**Figure 1**), and covers an area of approximately 119 square kilometres. Exploration interest centres on a discrete magnetic body and associated gravity features, which potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium mineralisation. EL 2964 lies within the highly prospective Olympic Copper-Gold Province and the existing geophysical targets remain inadequately tested.

Keywords

EL 2964, Mattaweara, Olympic Dam Iron-Oxide Copper-Gold-Uranium, Stuart Shelf

Table of Contents

	Page
1. Introduction.....	4
2. Tenure	4
3. Geology	4
4. Exploration Rationale	4
5. Previous Exploration.....	5
6. Exploration Conducted	6
7. Expenditure	6
8. Conclusions	7
9. References	7

List of Figures

EL2964_2007_Figure1_Tenement_Location
 EL2964_2007_Figure2_Surface_Geology
 EL2964_2007_Figure3_TMI_Residual
 EL2964_2007_Figure4_Bouger Gravity_267vd

List of Tables

Table 1 Tenement Details
 Table 2 Expenditure EL 2964 Mattaweara

List of Appendices

EL2964_2007_Appendix1_GravityOperationsReport

Digital file list

EL2964_2007_A_01_ReportBody	481 KB
EL2964_2007_Figure1_Tenement_Location	187 KB
EL2964_2007_Figure2_Surface_Geology	321 KB
EL2964_2007_Figure3_TMI_Residual	1093 KB
EL2964_2007_Figure4_Bouger Gravity_267vd	54 KB
EL2964_2007_Appendix1_GravityOperationsReport	6164 KB

1. Introduction

EL 2964 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet, in the northern Stuart Shelf area, approximately 30 kilometres north-northwest of Olympic Dam (**Figure 1**). EL 2964 (Mattaweara) covers approximately 119 square kilometres and centres on a discrete magnetic body and associated gravity features. These geophysical anomalies potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium deposit. EL 2964 lies within the highly prospective Olympic Copper-Gold Province, and the existing geophysical targets remain inadequately tested.

2. Tenure

Tenement details for EL 2964 are detailed below in **Table 1**

EL	Name	Area (m ²)	Grant Date	Expiry Date
2964	Mattaweara	119	30 May 2002	29 May 2007

The five year term of the exploration licence for EL2964 expired on 29 May 2007. A subsequent licence for this tenement was applied for and approved and the new licence number is 3871.

3. Geology

EL 2964 is entirely covered by Quaternary surficial deposits (**Figure 2**), which overlie flat lying to gently dipping Stuart Shelf sediments of Mesoproterozoic and Neoproterozoic age, which range from 300 m to more than 1,000 m thick in this area. The Stuart Shelf sediments were deposited on Archaean, Palaeoproterozoic and Mesoproterozoic crystalline basement rocks, including the Mulgathing Complex, Hutchison Group, Gawler Range Volcanics and Hiltaba Suite granites, all of which have been intersected at depth in different places.

Brecciated Hiltaba Suite granite hosts the Olympic Dam orebody, 30 km to the southeast of EL 2964. The Olympic Dam orebody is intimately linked with both magnetic and gravity anomalies, and crustal scale northwest and northeast trending faults. These geological features are characteristic of the Olympic Copper-Gold Province extending from the Mount Woods inlier to the north, to the Moonta-Wallaroo region in the south. The prospectivity of this terrane has been greatly enhanced by the Prominent Hill deposit and Carrapateena prospect.

4. Exploration Rationale

Mattaweara is an IOCG target. The project area is only 30 km from the Olympic Dam mine and lies within the same major, north-northwest trending structural corridor. Havilah Resources, the previous tenement holder, defined a discrete magnetic body, the Mattaweara Magnetic Anomaly (**Figure 3**). This magnetic anomaly was flanked by a semi-coincident gravity anomaly and was modelled as a steeply plunging cylindrical body, which might be a mineralised breccia similar to Olympic Dam. Havilah attempted to test this semi-coincident magnetic and gravity anomaly with a deep RC hole, which penetrated to 602 m without reaching basement or successfully intersecting the geophysical target.

5. Previous Exploration

5.1 Historical Exploration

Only a small number of previous exploration tenements covered this area. In 1966, Mines Exploration Pty Ltd targeted the basal Cambrian dolomites of the Flinders Ranges and Stuart Shelf for lead-zinc mineralisation of the Ediacra type, in an area covering nearly 37,000 square kilometres.

From 1976 to 1986, the current tenement lay within a larger area of about 12,000 square kilometres investigated by Western Mining Corporation Ltd, in a search for IOCG deposits of the Olympic Dam type. Within that larger area, WMC identified a number of coincident magnetic and gravity anomalies as potential targets. Drilling of several of those targets disclosed minor copper mineralisation or anomalous geochemistry at several prospects outside the current tenement. The closest feature investigated by WMC was the Double Swamp magnetic anomaly, which was considered too deep and never drilled.

Since 1997, this tenement has been held by Havilah Resources NL (Havilah). From 1997 to 2004, Havilah investigated the Mattaweara magnetic anomaly, which was identified by detailed aeromagnetic surveys and lies immediately south-east of the deeper Double Swamp anomaly. The Mattaweara anomaly was modelled as a smaller body (3.0 x 1.1 km) at a depth of about 400 m, i.e. possibly within the Neoproterozoic (Adelaidean) cover sequence above the Gawler Craton basement. Detailed gravity surveys revealed two local gravity highs within a broader feature. One of these highs lies on the flank of the Mattaweara magnetic anomaly, which suggests that both anomalies have a common source. Modelling suggested that the gravity and magnetic responses may be due to a deeper mafic complex, with smaller bodies as shallow as 250 m causing the two local gravity peaks. A deep percussion hole tested the northern gravity high. The hole intersected Adelaidean sediments to 555 m and terminated at 602 m in red gritty sandstones of the Pandurra Formation, without explaining the geophysical anomalies. Either the hole missed the target, or the target is deeper. The possibility of a near miss was tested by a down-hole EM survey. Results showed no obvious conductive body near the drill hole, although more sophisticated modelling may detect a subtle effect from such a source.

The area to the north of the current tenement, including a relinquished portion, was subsequently acquired by Minex (SA) Pty Ltd, to explore for Olympic Dam style IOCG mineralisation. Evaluation of regional open file geophysical data highlighted gravity anomalies associated with magnetic complexes, but no significant gravity anomalies were identified in this area.

5.2 Exploration – Monax Mining

5.2.1 Gravity Survey

Work carried out on EL 2964 since the tenement was acquired from Havilah Resources comprised of a helicopter based ground gravity survey of 177 stations covering an area of approximately 120 km². The gravity survey was conducted in March 2006 by Daishsat Geodetic Surveyors. The gravity stations were taken on a 1000mx1000m spaced grid. Information and digital data from the gravity survey was reported in the previous annual report, and the Operations Report is given in **Appendix 1**. Monax Mining conducted the regional survey over EL 2964 to confirm the anomaly identified in previous gravity surveys undertaken by Havilah Resources.

5.2.2 Geophysical Interpretation

The results from the gravity survey (**Figure 4**) defined a discrete gravity high (as previously identified by Havilah Resources) which is located on the south-western flank of a larger regional gravity high. The gravity anomaly is semi coincident (on the southern flank) with the Mattaweara magnetic anomaly. This semi coincident anomaly is interpreted to represent Prominent Hill style IOCG mineralisation.

6. Exploration Conducted

6.1.1 Geophysical Interpretation

During the period, continued processing and interpretation was conducted on the geophysics. The discrete gravity high defined from the gravity survey was still deemed prospective for IOCG mineralisation. It was decided that Monax would extend the Havilah Hole RCM1 to properly test the basement geophysical anomaly.

6.1.2 Field Investigations

A reconnaissance field trip was undertaken late in the period to locate and inspect the original drill location and liaise with the land holder to negotiate drill access and potential water supply for diamond drilling.

6.1.3 Drilling

No drilling was undertaken in the reported period, however drill hole RCM-02 (located ~10m from RCM1) commenced on the 20th June 2007. The hole was re-drilled due to lack of appropriate drill rods to case RCM1. Details of this drilling will be reported in the next annual report. In summary, basement was intersected at 787.7m after a thick interval of Stuart Shelf sediments. Basement comprised massive Banded Iron Formation and was terminated at 912.4m depth on 2nd July 2007.

7. Expenditure

Expenditure for the period 31 May 2006-30 May 2007 is detailed in **Table 2**

Table 2 Expenditure for EL 2964 – Mattaweara

Operations	Cost \$
Depreciation	562
Consumables	49
Licence renewal	237
Rent – tenement	493
Salaries & oncosts	19,966
Total	\$21,307

8. Conclusions

The helicopter based ground gravity survey completed in the previous period confirmed the existence and location of the anomaly previously identified by Havilah resources. Havilah drilled RCM1 to 602 metres (when all rods were used) and finished in Pandurra Formation. A downhole EM survey conducted by Havilah did not show any obvious EM conductive bodies near the drillhole. Monax deemed the geophysical anomaly as still prospective for IOCG mineralisation and decided to re drill the Havilah hole to adequately explain the basement anomaly. A UDR1000 drill rig was mobilised on the 20th June 2007, from Monax's Punt Hill exploration project. Details of the drilling will be included in the next annual report.

9. References

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Figures

Monax Mining Limited

Annual Technical Report for EL2964 Mattaweara

30 May 2006 – 29 May 2007

Table of Contents – Figures

Figure 1 Tenement_Location

Figure 2 Surface_Geology

Figure 3 TMI_Residual

Figure 4 Bouger Gravity_267vd

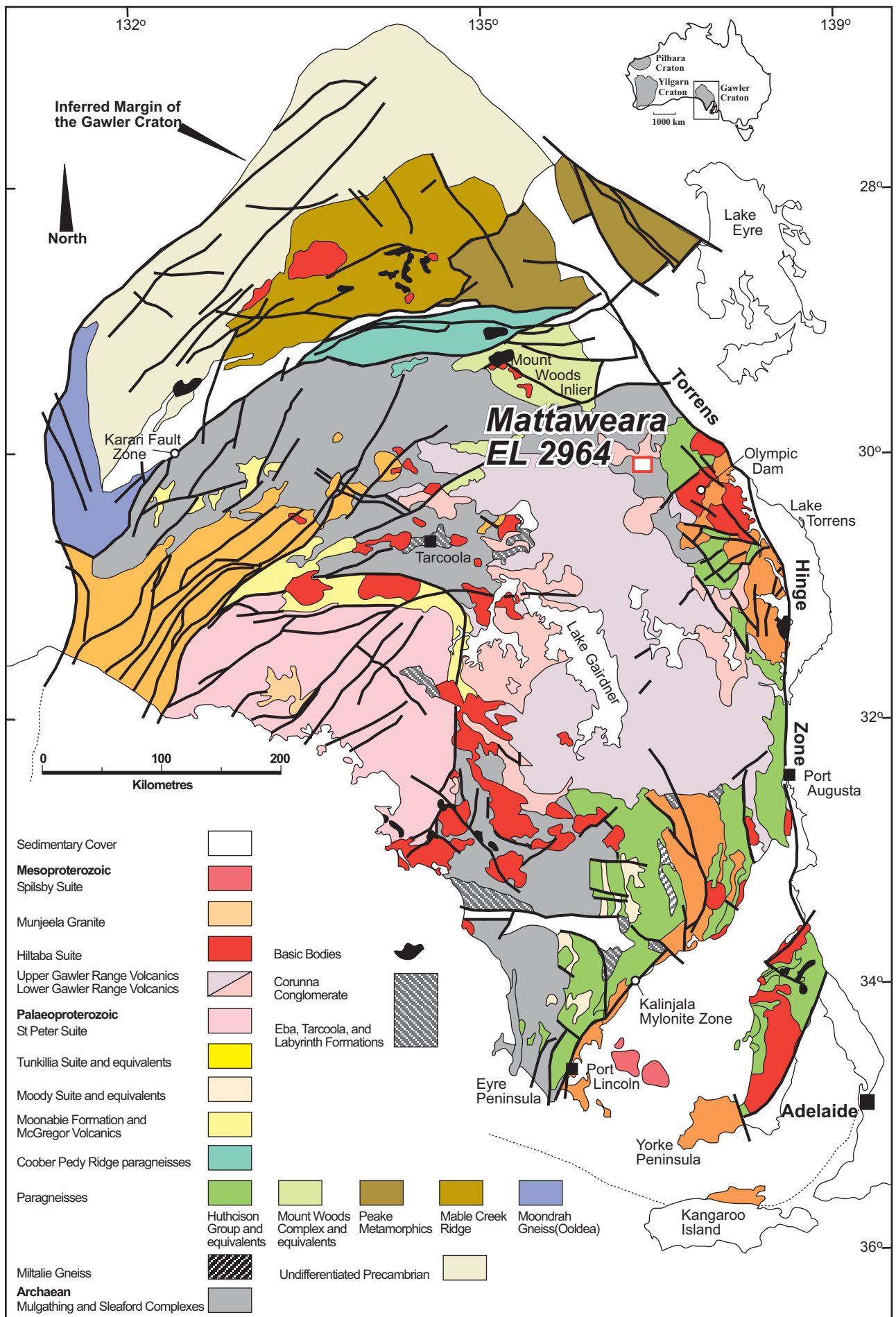
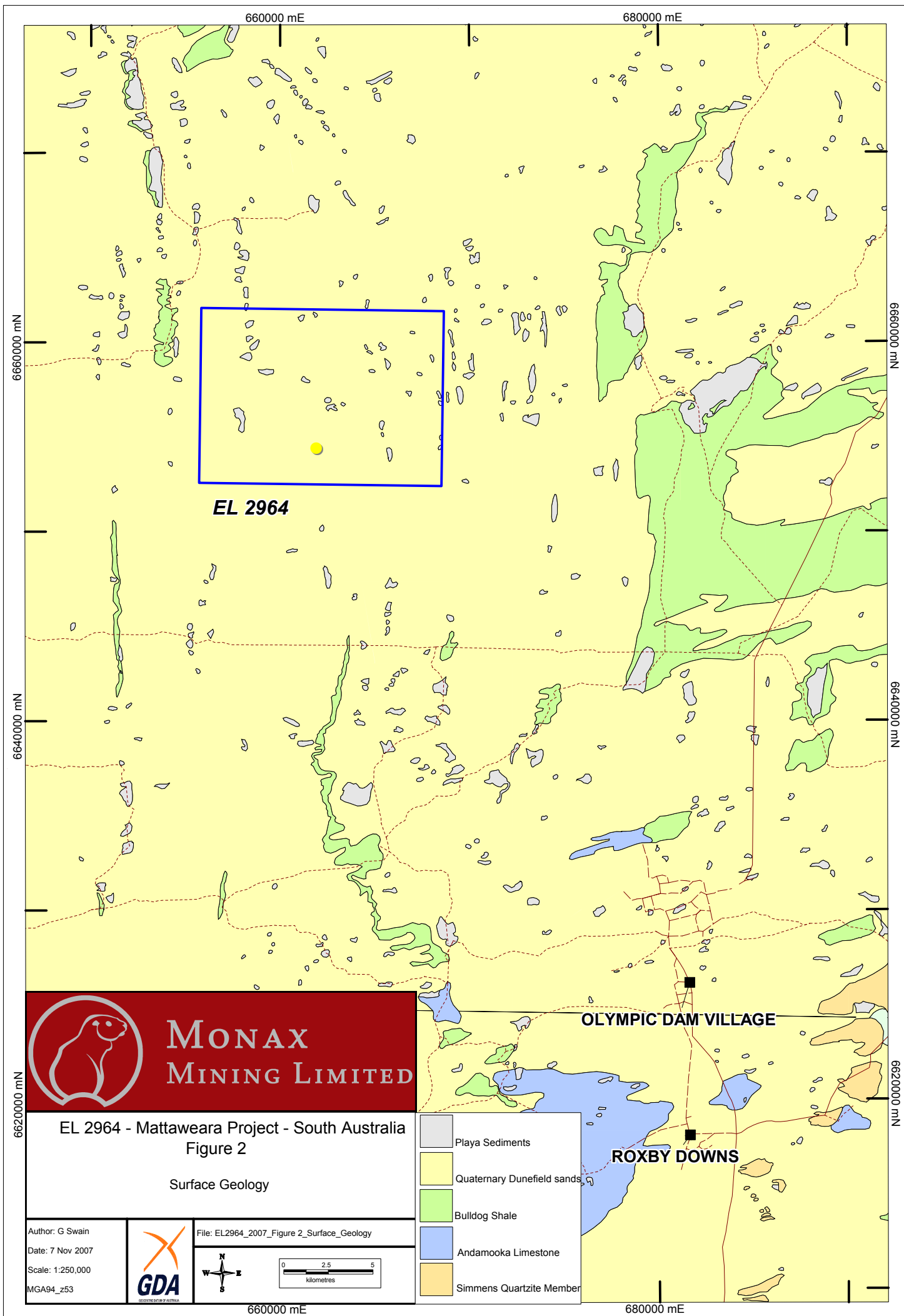
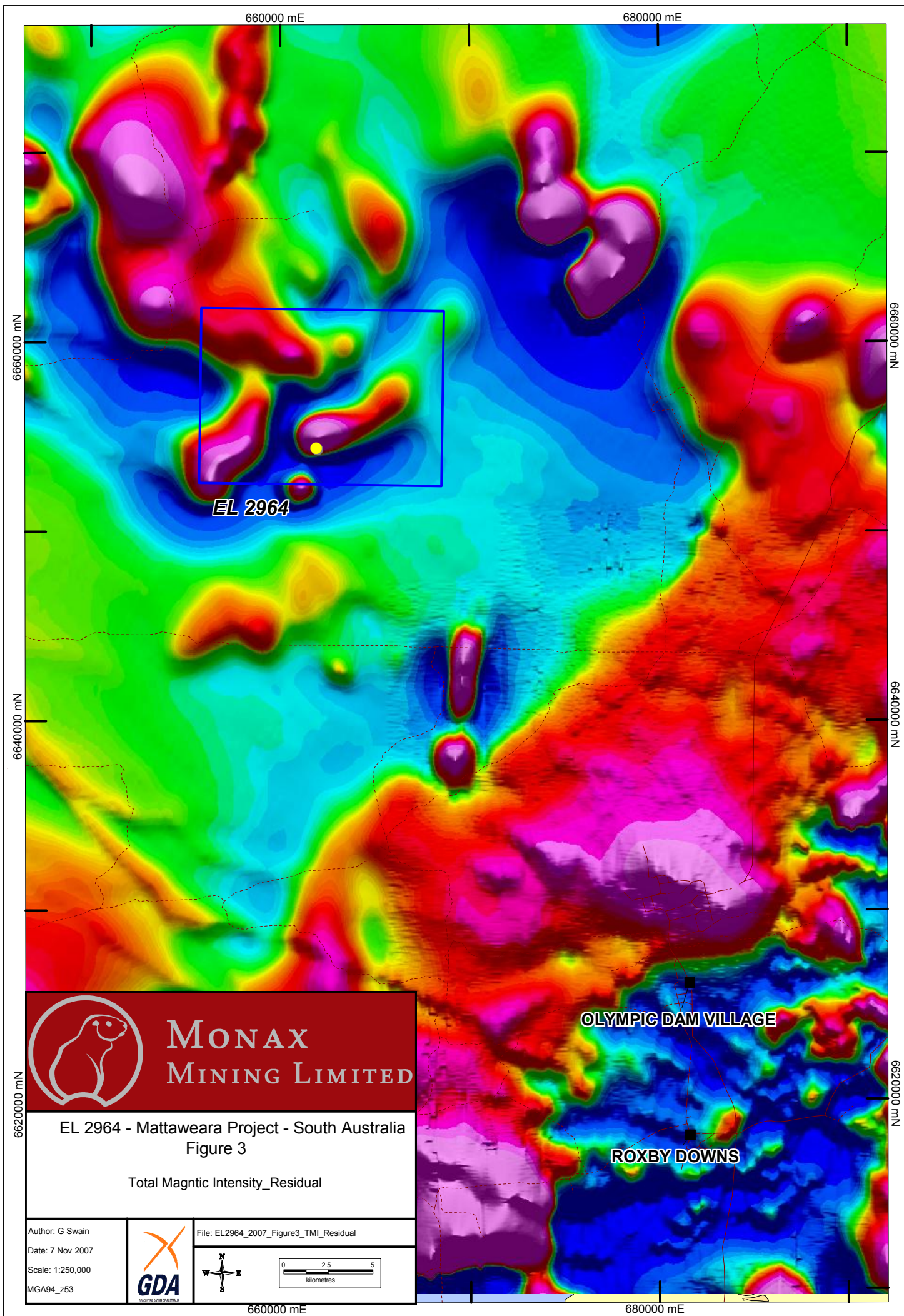
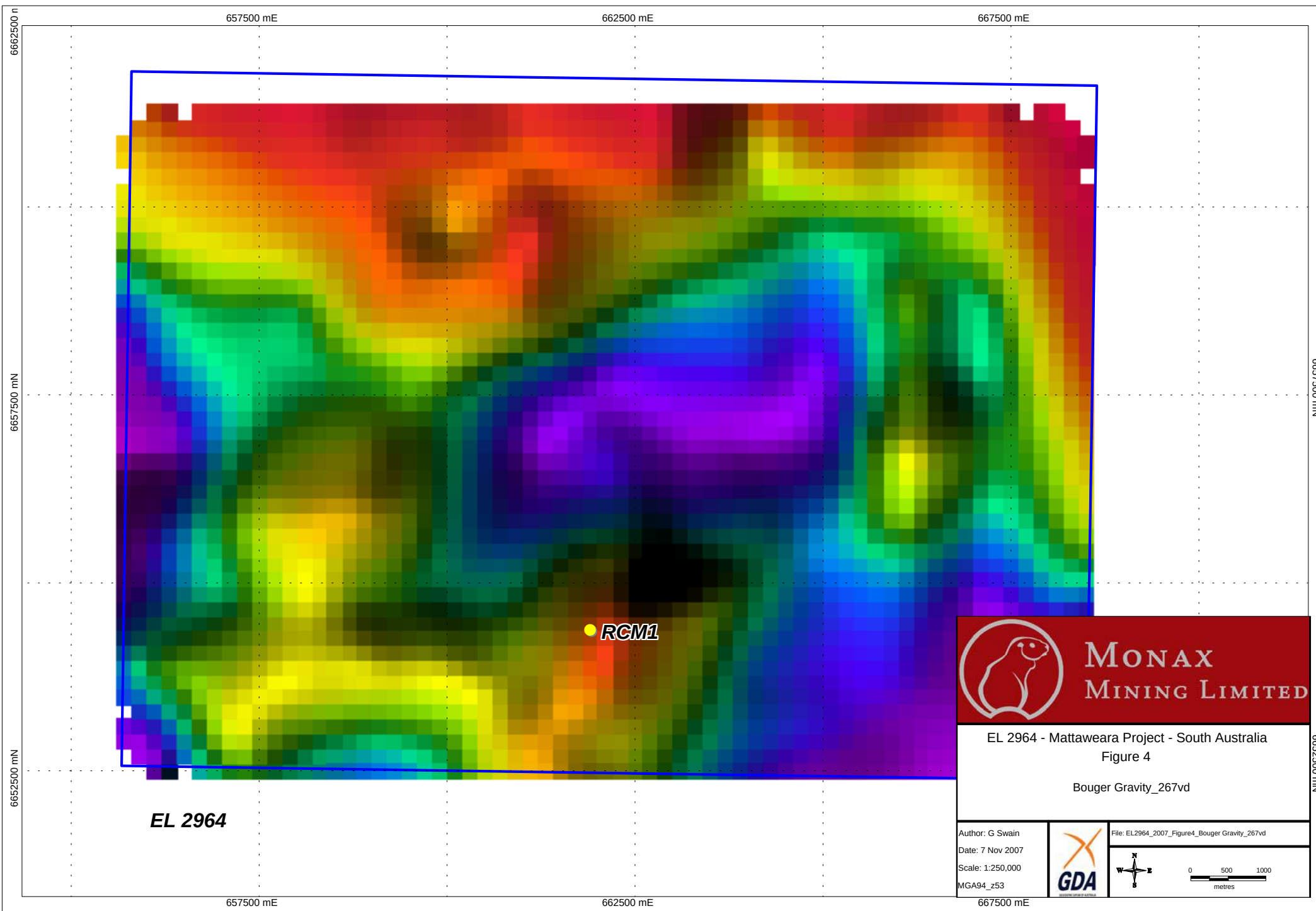


Figure 1. Interpreted subsurface geology of the Gawler Craton, South Australia, showing the location of Exploration Licence 2964 - Mattaweara.

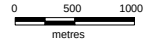






EL 2964

● **RCM1**

 MONAX MINING LIMITED	
EL 2964 - Mattaweara Project - South Australia Figure 4 Bouguer Gravity_267vd	
Author: G Swain Date: 7 Nov 2007 Scale: 1:250,000 MGA94_z53	  
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Appendix 1

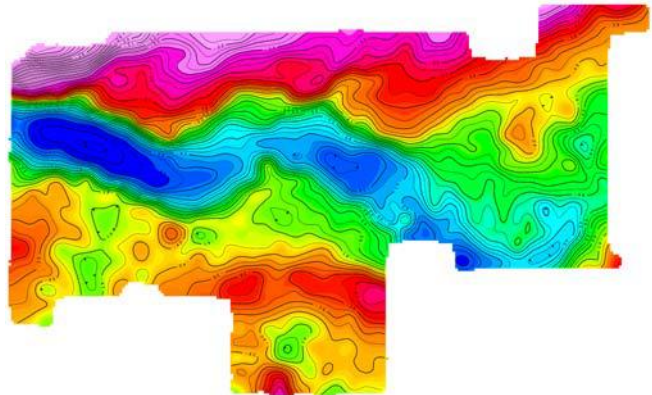
Gravity Operations Report

SA GRAVITY SURVEYS

December 2005 – August 2006

Report Number 05026

MJ Jecks



CLIENT

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TABLE OF CONTENTS

1. INTRODUCTION	1
2. SURVEY OVERVIEW	2
3. PERSONNEL AND EQUIPMENT.....	4
3.1 Personnel.....	4
3.2 Survey equipment.....	5
3.3 Vehicles.....	5
3.4 Helicopter.....	6
3.5 Camp	7
3.6 Communications	7
4. GPS SURVEYING AND PROCESSING.....	8
4.1 Set out of the grid	8
4.2 Survey datum and control.....	8
4.3 Surveying and processing of position and level data.....	9
GRAVITY ACQUISITION AND PROCESSING	11
5.1 Gravity data acquisition	11
5.2 Gravity base stations.....	11
5.3 Gravity data processing	13
5.4 Gravity meter calibration and scale factors	14
5.5 Gravity meter drift calibration.....	14
6.1 Stations Surveyed and Survey Progress	15
6.2 Data Repeatability	17

1. INTRODUCTION

Precision GPS-Gravity surveys were carried out between 22nd January 2006 and 8th August 2006 for Monax Mining Ltd. A total of 5,733 stations were surveyed over eight separate areas in the Gawler Craton region of South Australia.

Gravity data were acquired using Scintrex CG5 and CG3 digital gravity meters, in conjunction with a LaCoste Romberg Gravity Meter. Position and level data were obtained using Leica System 1200 and Ashtech Z12 GPS units to produce precise post processed GPS locations. Data were acquired using a variety of surveying methods, Daishsat quad-bike methods, Daishsat vehicle-borne methods, and Daishsat helicopter-borne methods.

Gravity data were reduced using standard reductions on the ISOGAL84 gravity network. GPS data were reduced to MGA coordinates with levels expressed as metres above the Australian Height Datum.

2. SURVEY OVERVIEW

The survey was conducted over eight separate areas (Figure 1) and was broken into two components: helicopter and ground. Most of the survey areas were covered using a helicopter, but where access permitted (and more detail was required) stations were acquired either by vehicle, quadbike or foot.

Helicopter Based Operations

The first six areas completed by the helicopter were distributed throughout central and southern South Australia:

Area 1 : Waddikee area

This area was located approximately 10 km south of the township of Kimba. The area consisted of a 1 km x 1 km grid, and was completed between the 24th and 30th of January.

Area 2 : Ambrosia

Ambrosia was located approximately 50 km North West of the township of Tarcoola. This area consisted of a 1 km x 1 km grid. The Ambrosia survey area was completed between the 1st and 7th of February.

Area 3 : Dingo Hill

This area was located between Lake Everard and Lake Gardiner, approximately 120 km north east of the township of Wirrula. The area consisted of a 1 km x 1 km grid. This survey area was completed between the 8th and the 10th of February.

Area 4 : Eureka Bluff

Eureka Bluff was located on the southern edge of the Gawler Ranges, approximately 60 km north east of the township of Wudinna. The area consisted of stations spaced at a 1 km interval on lines running both north and south spaced at a 2 km interval. This grid configuration was designed to infill a pre-existing 2km x 2 km grid in order to achieve an overall grid spacing of 1 km. This survey area was completed between the 11th and 12th of February.

Area 5 : Parndana

Parndana was located on Kangaroo Island, approximately 30 km west of the township of Kingscote. The area consisted of a 1 km x 1 km grid, and was completed between the 23rd and the 25th of February.

Area 6 : Moorlands

Moorlands was located on the Eyre Peninsula, approximately 15 km north of the township of Cummins. The area consisted of two separate 1 km x 1 km grids. The grids were proximal to each other with only a 9 km space between them. The area was completed between the 15th and the 28th of February.

Vehicle, Quadbike and Walking operations

Area 7 : Punt Hill

This area was located directly to the west of Lake Torrens, and was centred approximately on Pernatty station. The area consisted of a 500 m x 1 km grid and was completed between the 9th and the 15th of December 2005. A second campaign of infill was conducted over selected areas in July/August 2006 to achieve nominal 250m x 250m station spacing. Surveying was conducted by vehicle, quadbike and on foot.

Area 8 : Mattaweara

This area was located approximately 40 km north west of the township of Roxby Downs. The area consisted of a 1 km x 1 km grid, and was completed between the 17th and 18th of December 2005. All surveying was conducted by vehicle only.

The survey specifications for each survey can be found in Appendix E.

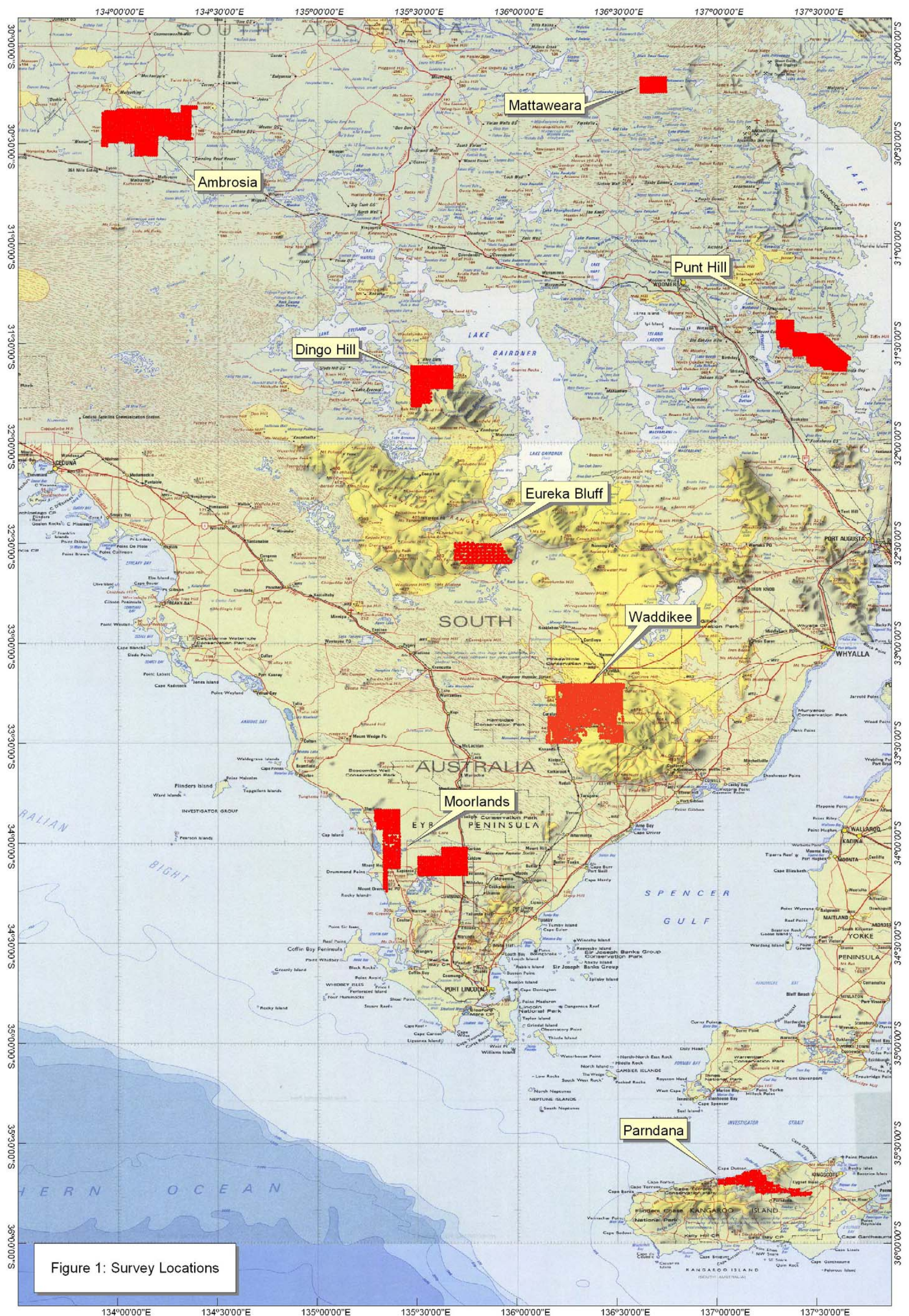


Figure 1: Survey Locations

3. PERSONNEL AND EQUIPMENT

3.1 Personnel

The supervisor in charge of the ground component of the project was Mr. Luke Czaban. Luke was responsible for daily management of the job and for nightly data processing to ensure quality and integrity. Gravity and GPS measurements were carried out by:

Luke Czaban, Surveyor
Mike Van Senden, Surveyor
Matt Ingall, Senior Observer
Joel Stockhill, Surveyor
Bryce Humphrey, Observer
Jon Carrier, Geophysicist
Andrew Gardiner, Observer

The supervisor in charge of the airborne section of the project was Mr. Allan Cowie. Allan was responsible for daily management of the job and for nightly data processing to ensure quality and integrity. Gravity and GPS measurements were carried out by:

Allan Cowie, Surveyor
Mike Van Senden, Surveyor
David Daish, Surveyor (Managing Director)
Joel Stockhill, Surveyor
Mitch Heron, Surveyor

Two helicopter pilots were used for the helicopter surveying:

Peter Muddle – Chief pilot
Peter Underhill

Final data reduction and inspection were performed by the company geophysicist, Leon Mathews.

3.2 Survey equipment

Two Scintrex CG-5 digital gravity meters:

SN 9383 A

SN 100 B

Two Scintrex CG-3 digital gravity meters:

SN 9711410 S

SN 9408275 G

One LaCoste Romberg Gravity meter

SN G711

Five Leica System 1200 dual frequency GPS receivers

Pacific Crest RTK Data Radios

Two Ashtech Z12 dual frequency GPS receivers

Garmin Handheld GPS receivers for navigation

Four Compaq notebooks for data processing and backup

Various chargers, solar cells and batteries.

3.3 Vehicles

Due to the type of terrain to be encountered, 4wd Landcruiser vehicles were used for the duration of the job. To maintain the high Daishsat safety record, vehicles were fitted with a range of safety equipment including:

One 20l jerry can of water

Dual fuel tanks

Two spare tyres

HF radio and Satellite Phone

Self-recovery equipment including a hand winch, snatch straps and rope

Tyre pliers to effect tyre repairs in the field

Tools and spares to enable field repairs as necessary

Survival kit with EPIRB emergency locator beacon

Quad-bike surveying utilized current model 4WD Yamaha bikes. Each bike was equipped with:

10L jerry can of spare fuel

UHF communications

Personal First Aid Kit

Self-recovery equipment including a hand winch, snatch straps and rope
Tyre repair kit
Tools and spares to enable field repairs as necessary



Photo 1: Quad bike used for gravity surveying

3.4 Helicopter

Ferry between the gravity stations was necessitated by a turbine powered Bell-47 Soloy helicopter – call sign VH-DTA (Photo 2)



Photo 2: – Daishsat Bell-47 Soloy Helicopter VH-DTA

3.5 Camp

For the ground component of the survey, the field crew stayed at Pernatty station and a small fly camp, Camp Coulthard. These camps were proximal to the two survey areas.

For the helicopter operations, the crews stayed at a number of different locations. Initially the crews stayed at hotel accommodation in Kimba. From there the crews camped on Mulgathing, Monaree, and Thurlaga stations while completing three more of the areas. They then moved on to hotel accommodation at Cummins and Kingscote for the remaining areas.

3.6 Communications

All survey crews and support vehicles were equipped with hand-held Globalstar satellite phones as well as UHF and VHF transceivers. “Omnitrack” satellite based tracking was used on all vehicles (including helicopters) to enable asset monitoring via a web interface.

Scheduled communications were made by all crews to the communications centre at the base camps at prescribed intervals. Communication with the Perth and Murray Bridge offices was ongoing for the duration of the job.

4. GPS SURVEYING AND PROCESSING

4.1 Set out of the grid

This was done concurrently with the gravity data acquisition using navigation grade receivers operating in autonomous mode. Where possible, the readings were taken as close to the ideal coordinates as possible. Some stations were offset or omitted due to the nature of the terrain, e.g. hilly or thickly vegetated areas. As the GPS receivers were operating in autonomous mode, set out accuracy was usually better than 10m.

For the helicopter operations, raw kinematic GPS data were logged by a dual-frequency Ashtech Z-12 receiver inside the helicopter cabin, with the GPS antenna mounted on the rear tail shaft boom. Static GPS data were logged at each of the base stations using Ashtech Z-12 and Leica System 500 receivers for later post-processing. At the repeat stations, a fence dropper marked with the station number was used for identification. At each station, the station number, position and RL were recorded digitally by the crew.

For the ground based operations, gravity readings were taken as close to the square grid coordinates as possible and high precision coordinates arrived at using real-time-kinematic GPS. The GPS was either mounted inside the vehicle/quadbike cases or in a backpack if walking. Some stations were offset or omitted due to the nature of the terrain, e.g. hilly or thickly vegetated areas. Repeat gravity stations were marked with a length of flagging, washer, and/or pin flag for late reoccupation.

4.2 Survey datum and control

The gravity surveying, and hence any gravity reductions, used the Australian Height Datum (AHD) as the reference datum.

A number of base stations were used for control over the eight areas. For the Waddikee and Punt Hill areas, pre-existing control stations were used. For the remaining areas, new base stations were established. Any new base stations were established using at least two days worth of static data, and connections to ITRF stations using Geoscience Australia's online GPS processing system, AUSPOS. For more information on this system, please visit <http://www.ga.gov.au/geodesy/sgc/wwwgps/> Final deviations of better than 5mm were obtained for x, y and z, for all occupations. Appendix D contains the GPS base station information.

4.3 Surveying and processing of position and level data

Post processed methods were used to gain centimetre level positions for each helicopter gravity station. For the ground based operations, no post-processing was required as the survey was setout using real-time-kinematic methods.

To enable post-processing of the helicopter data, the raw GPS data were recorded onto the receiver memory and later downloaded onto laptops at the end of the day. Data were then processed using Waypoint GrafNav V7.00.

Waypoint combines the processing components, GrafNav and GrafNet, in a complete package.

GrafNav processes data for one baseline (e.g. one base and one remote). GrafNav is normally used for kinematic data which it is extremely well suited for. It can also process single static baselines. Receiver types can be mixed and matched via the use of a common format. This component of Waypoint was used for processing the kinematic data acquired each day.

GrafNav and GrafNet share the same processing engine that has been under continuous development since its original inception by Waypoint in 1992. The core of this robust engine is its carrier phase kinematic (CPK) Kalman filter. Some of the major advantages of Waypoint's kernel are:

Fast processing - The GrafNav kernel is one of the fastest on the market. It will process ~0.8 epochs per MHz per second on a Pentium II.

Robust Kalman filter - From experience with processing GPS data from fast jets and NASA sounding rockets, the processing kernel has become extremely robust. Efforts have been made to account for all of the various data error possibilities given the different types of GPS receivers that GrafNav/GrafNet can handle.

Reliable OTF - Waypoint's on-the-fly (OTF) algorithm, called Kinematic Ambiguity Resolution (KAR), has had years of development and stresses reliability. Variations are implemented for both single and dual frequencies, and numerous options are available to control this powerful feature

Accurate Static Processing - Three modes of static processing are implemented in the processing kernel. Fixed static is the most accurate. A quick static solution is also available as an alternative, while the float and iono-free float solution is useful for long baselines.

Dual Frequency - Full dual frequency support comes with GrafNav/GrafNet. For ambiguity resolution, this entails wide/narrow lane solutions for KAR, fixed static and quick static. Ionospheric processing is very important with the peak of the ionosphere's

cycle occurring in 2000. The GrafNav kernel implements two ionospheric processing modes including the iono-free and relative models. The relative model is especially useful for airborne applications where initialization is near the base station, and this method is much less susceptible to L2 phase cycle slips.

Forward and Reverse - Processing can be performed in both the forward and reverse directions. Both GrafNav and GrafNet also have the ability to combine these two solutions to obtain a globally optimum one.

Velocity Determination - Since the GrafNav kernel includes the L1 Doppler measurement in its Kalman filter, velocity determination is very accurate. In addition to this, a considerable amount of code has been added specifically for the detection and removal of Doppler errors.

Long Baseline - Because precise ephemeris and dual frequency processing is supported, long baselines accuracies can be as good as 0.1 PPM.

For more information about Waypoint processing software, and in particular, Grafnav, please visit the Waypoint http://www.waypnt.com/grafnav_d.html.

Simple transformations to MGA and AHD were done using the GPS derived WGS84 positions output from Waypoint Grafnav or from the Leica RTK dump.

MGA coordinates were obtained by simply projecting the GPS-derived GDA94 coordinates using a UTM projection with zone 53S. For all practicable purposes, the WGS84 geodetic coordinates are equivalent to GDA94 geodetic coordinates, so no transformation is necessary. For more information about WGS84, GDA94 and MGA coordinates, please visit <http://www.ga.gov.au/geodesy/datums/gda.jsp>.

AHD heights were calculated in real-time on the fly using Leica algorithms and the latest geoid model for Australia, AUSGEOID98. Information about the geoid, and the modeling process used to extract separations (N values) can be found at <http://www.ga.gov.au/geodesy/ausgeoid/>. To obtain AHD heights, the modeled N value is subtracted from the GPS derived WGS84 ellipsoidal height (Figure 2).

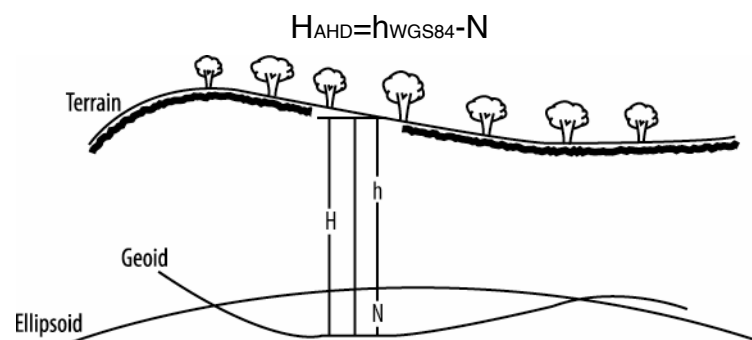


Figure 2: Geoid-Ellipsoid separation

GRAVITY ACQUISITION AND PROCESSING

5.1 Gravity data acquisition

Gravity observations were made simultaneously with the GPS observation (Photo 2). Two observations were made for each station so that any seismic or instrumental noise could be immediately detected. Each observation consisted of a 20-second or greater stacking time. The accepted tolerance between readings was limited to 0.03 milliGals to ensure accuracy. Vertical and horizontal levels were restricted to 5 arc seconds at all times. At each station, the station number, time and two gravity readings (in dial units) were recorded in Daishsat carbon-copy gravity field books. The Scintrex CG3 and CG5 also automatically record the station, time and readings digitally to allow for downloading to computer.



Photo 3: GPS-Gravity Acquisition Crew

5.2 Gravity base stations

Base stations proximal to each survey area allowed for calculation of absolute gravity and instrument drift. Details of the gravity bases are contained in Appendix C. A base station reading was taken in the morning before observing, and in the evening, after the

last field observation. Readings were also taken at lunch time, depending on base proximity. When taking a base station reading, the gravity values were stacked over 60 seconds to ensure accuracy. Two observations of 60 seconds were taken at each base reading. Observations were repeated until the readings repeated to 0.020 of a dial reading or less.

For the Waddikee area, an existing gravity base 0009 was used. Base ties to the Fundamental Gravity Base 1994931508 at the KIMBA Catholic Church were completed during the PIRSA PACE 2005 program to establish this new base station.

For the Ambrosia area, a new base 0002 was established. Base ties to two Fundamental Gravity Base stations in Tarcoola have been completed with three gravity meters. The two bases in Tarcoola are the Tarcoola Police Station, station number 1994931101, and the Tarcoola Community Hall, station number 1994932101.

For the Dingo Hill area, a new base 0003 was established. A base tie to the Lake Everard Homestead Shed, station number 1994931118, has been completed with a single gravity meter.

For the Eureka Bluff area, a new base 0201 was established. Base ties to the Fundamental Gravity Base located at the Kimba Catholic Church, station number 1994931508, have been completed with 2 gravity meters.

For the Parndana area, an existing AGSO base was used. The AGSO station was located at the Kingscote Air Strip Light Tower, station number 1980901306.

For the Moorlands area, a new base 0204 was established. Base ties to two AGSO bases in Karkoo, station numbers 1994931510 and 1994932510, were carried out with a single gravity meter.

For the Punt Hill area, an existing base 0084 was used. This is a PIRSA base located at Pernatty Station.

For the Mattaweara area, a new base 0208 was established. Base ties to the Fundamental Gravity Base located at Woomera, station number 6491.0138, were carried out with both Lacoste Romberg and Scintrex meters.

5.3 Gravity data processing

Raw gravity data were processed on a daily basis to check for quality and integrity. This interim process produced a set of Bouguer Gravity values which were contoured and imaged to provide a check for any anomalous readings that would need repeating. Geosoft GRAVRED software was used for the gravity reduction in the field. Upon conclusion of the job, the data were reprocessed using the BMR formulae as per PIRSA specifications. Note, the formulae below produce values in milliGals. A division factor of 10 is used to obtain millGals units from gravity units (gu).

Instrument scale factor: This correction was used to correct a gravity reading (in dial units) to a relative milliGal value based on the meter calibration.

Tidal correction: This correction was used to correct for background variations due to changes in the relative position of the moon and sun. The Scintrex calculated ETC was removed and a new ETC calculated using Geosoft Formulae and the surveyed GPS latitude. The formula is too complex to list here.

Instrument Drift: Since gravity meters are mechanical, they are prone to drift (extension of the spring with heat, obeying Hooke's law). If two base readings are taken one can assume that the drift between the two readings is linear and can therefore be calculated. The drift and tidal corrected value is referred to as the *observed gravity*.

Theoretical Gravity: The theoretical value of gravity was calculated using the 1967 variant of the International Gravity Formula and used to latitude correct the observed gravity.

$$g_t = 9780318 \times (1 + 0.0053024 \sin^2 \Phi - 0.0000059 \sin^2 2\Phi)$$

where Φ = GDA94 latitude

Free-Air Correction: Since gravity varies inversely with the square of distance, it is necessary to correct for changes in elevation between stations to reduce field readings to a datum surface (in this case, AHD).

$$FAC = 3.086 \times h_{AHD}$$

Bouguer Correction: This correction accounts for the attraction of material between the station and datum plane that is ignored in the free-air calculation. Values of 2.67, 2.40 and 2.20 gm/cc were used in the correction.

$$BC = 0.419 \times \rho \times h_{AHD}$$

where ρ = density (2.67, 2.40 and 2.20 gm/cc)

Free Air Gravity: This is obtained by applying the free air correction (FAC) to the observed gravity reading.

$$FAG = G_{OBSG84} - G_n + FAC$$

Bouguer Gravity: This is obtained when all the preceding reductions or corrections have been applied to the observed gravity reading.

$$BG_{267,240,220} = G_{OBSG84} - G_n + FAC - BC$$

5.4 Gravity meter calibration and scale factors

The gravity meters used have been previously calibrated over a number of calibration ranges in WA and SA. Derived scale factors from these calibrations are shown below:

SN 9711410 S	1.00000000
SN 9408275 G	1.00000000
SN 9704365R	0.99948000
SN 9383D	1.00185458
SN 100B	1.00000000
SN G711	1.01781000

5.5 Gravity meter drift calibration

While the survey was in progress, the meters were cycled overnight as a check on instrument drift. Changes were made to the drift constant where appropriate.

6.0 RESULTS

Raw and processed GPS and gravity data are contained on CDROM as Appendix F. Hardcopy plots of images are contained in Appendix B.

6.1 Stations Surveyed and Survey Progress

In total, 5,733 new stations were acquired during the survey. A brief production summary is shown in Table 1 below. Production varied depending on terrain, tree cover and distance from the base station. The airborne crew was typically able to sustain a production rate between 170 - 190 stations/crew/day. The ground crews were typically able to sustain a production rate between 30 - 50 stations/crew/day.

Survey Summary – Waddikee

Gravity stations acquired (including repeats)	984	stations
Gravity station repeats	43	4.5 %
New gravity stations acquired	941	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Ambrosia

Gravity stations acquired (including repeats)	886	stations
Gravity station repeats	32	3.7 %
New gravity stations acquired	854	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Dingo Hill

Gravity stations acquired (including repeats)	358	stations
Gravity station repeats	13	3.7 %
New gravity stations acquired	345	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Eureka Bluff

Gravity stations acquired (including repeats)	212	stations
Gravity station repeats	9	4.4 %
New gravity stations acquired	203	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Parndana

Gravity stations acquired (including repeats)	225	stations
Gravity station repeats	8	3.7 %
New gravity stations acquired	217	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Moorlands

Gravity stations acquired (including repeats)	660	stations
Gravity station repeats	23	3.6 %
New gravity stations acquired	637	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Punt Hill

Gravity stations acquired (including repeats)	2534	stations
Gravity station repeats	116	4.5%
New gravity stations acquired	2418	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Punt Hill Existing 1999 Data

Gravity stations acquired (including repeats)	455	stations
Gravity station repeats	27	5.9%
New gravity stations acquired	428	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Survey Summary – Mattaweara

Gravity stations acquired (including repeats)	126	stations
Gravity station repeats	8	6.7 %
New gravity stations acquired	118	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

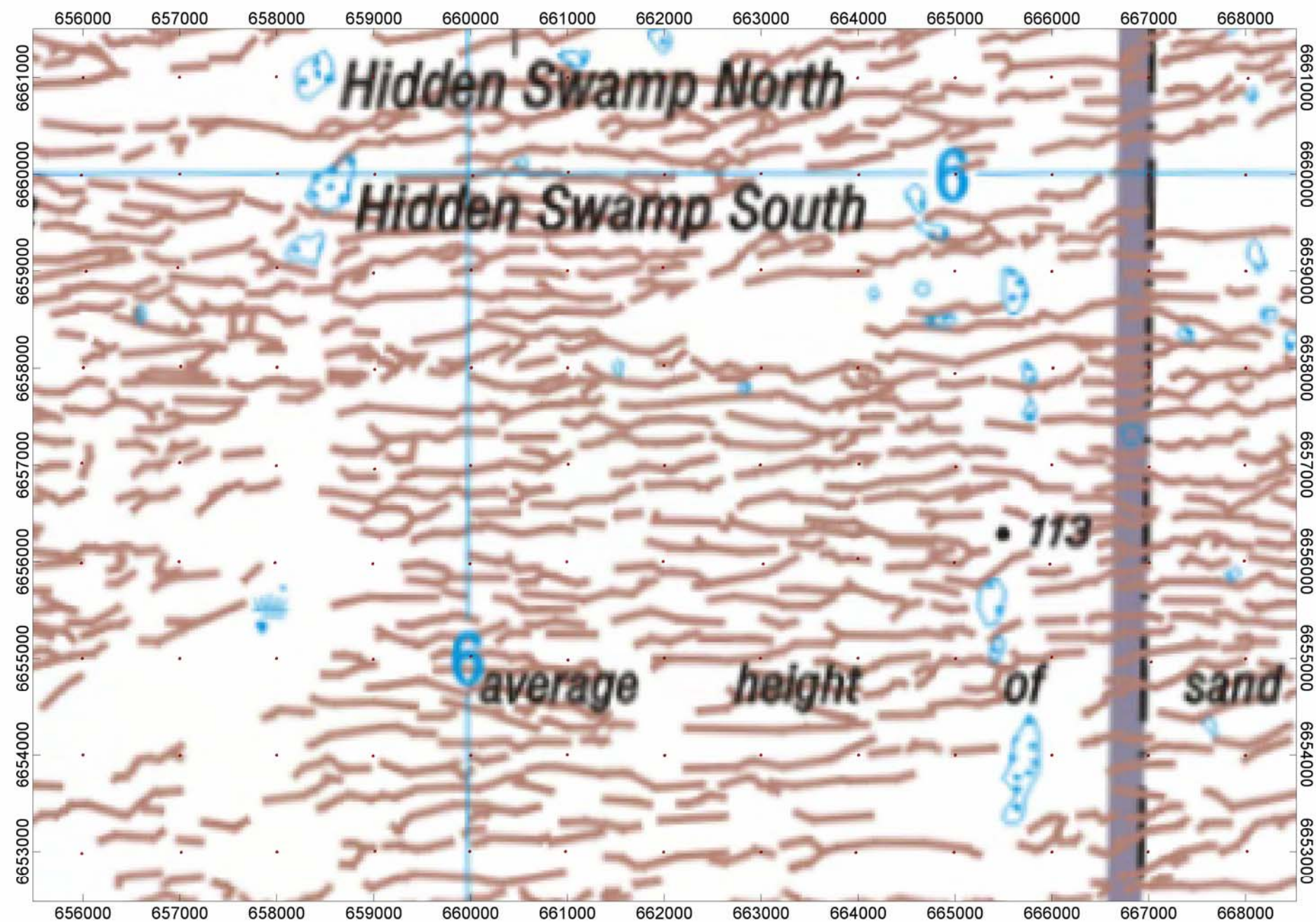
Table 1 : Gravity Production Summary

6.2 Data Repeatability

Analysis of the repeat data shows that measurement repeatability is excellent for both GPS and Gravity observations. Appendix C contains an analysis for each of the individual areas.

APPENDIX A

Station Location Plots



Scale 1:50000
500 0 500 1000 1500 2000 2500 3000
metres
GDA94 / UTM zone 53S

05026 MONAX

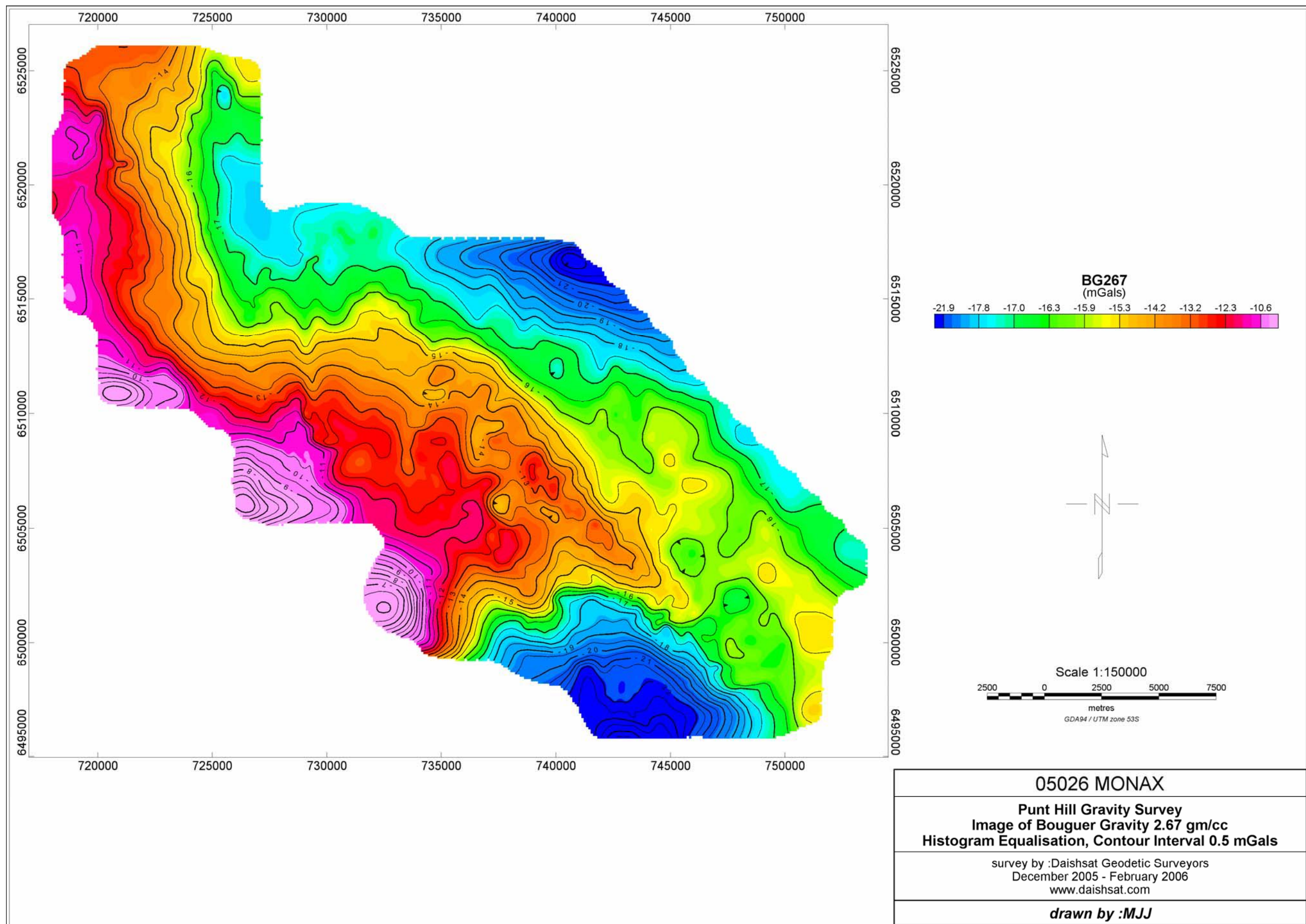
**Mattaweara Gravity Survey
Plot of Station Locations**

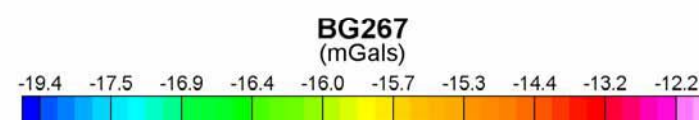
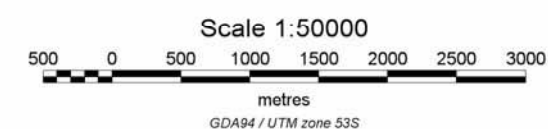
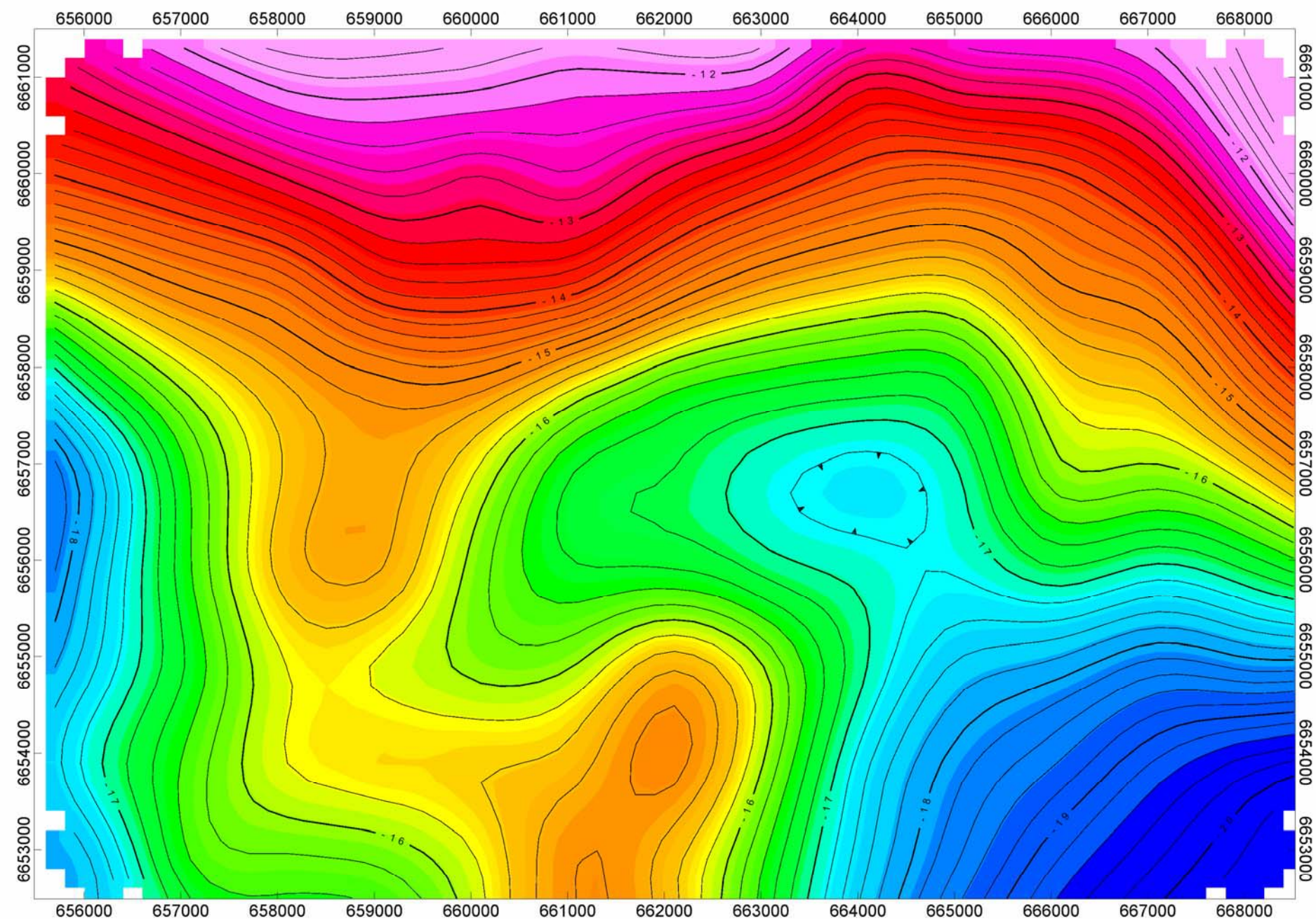
survey by :Daishsat Geodetic Surveyors
December 2005 - February 2006
www.daishsat.com

drawn by :MJJ

APPENDIX B

Colour Images



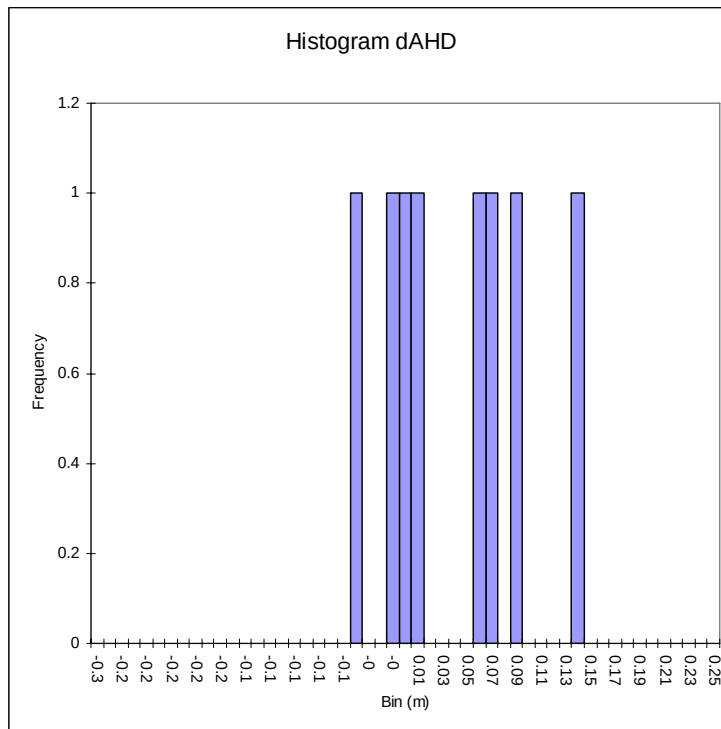


05026 MONAX
Mattaweara Gravity Survey Image of Bouguer Gravity 2.67 gm/cc Histogram Equalisation, Contour Interval 0.2 mGals
survey by :Daishsat Geodetic Surveyors December 2005 - February 2006 www.daishsat.com
drawn by :MJJ

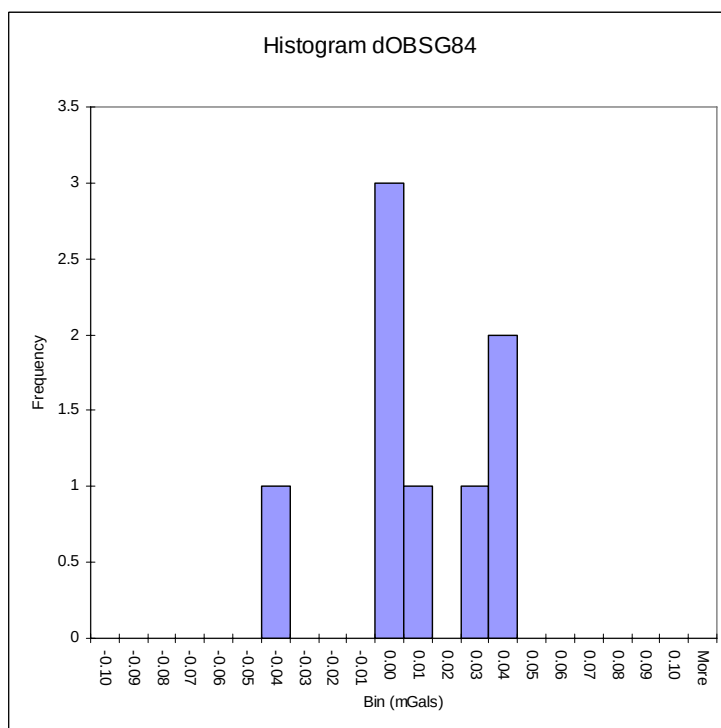
APPENDIX C

Data Repeatability

Repeatability of Height Measurement Mattaweara



Repeatability of Observed Gravity Mattaweara



Descriptive Statistics Punt Hill

	<i>dAHD</i>	<i>dOBSG</i>
Mean	0.000	-0.007
Standard Error	0.005	0.004
Median	0.001	-0.002
Mode	0.000	0.000
Standard Deviation	0.061	0.043
Sample Variance	0.004	0.002
Kurtosis	6.351	0.860
Skewness	-0.897	-0.201
Range	0.540	0.268
Minimum	-0.310	-0.136
Maximum	0.230	0.132
Sum	0.002	-0.932
Count	131	131

Descriptive Statistics Mattaweara

	<i>dAHD</i>	<i>dOBSG</i>
Mean	0.036	0.006
Standard Error	0.022	0.009
Median	0.030	0.004
Mode	#N/A	#N/A
Standard Deviation	0.061	0.026
Sample Variance	0.004	0.001
Kurtosis	-0.668	0.131
Skewness	0.442	-0.535
Range	0.182	0.079
Minimum	-0.043	-0.042
Maximum	0.139	0.037
Sum	0.285	0.044
Count	8	8

APPENDIX D

Base Station Information

GPS/Gravity Base 0208 - Mattaweara

MGA94

EASTING	680313.418
NORTHING	6656874.827
ZONE	53
HEIGHT (AHD)	78.231

GDA94

LATITUDE	-31 12 23.9802
LONGITUDE	134 50 00.8427
GDAHT	83.805

OBSERVED GRAVITY

979318.174 mGals

SURVEYED BY

GPS - Daishsat using a multiple static sessions and the AUSPOS online GPS Processing system. Expected accuracy of station coordinates better than 0.005m.

Gravity – Multiple ties with multiple meters to Woomera AS AFGN 6491.0138. Expected accuracy better than 0.05m.

MISCELLANEOUS DETAILS

The base is located approx 30m east Australia. The mark is approx.12.7 km off the Borefields Road heading north from Olympic Dam in northern South Australia. The turn-off is on the western side, running along side the Olympic Dam nature reserve fence for the first part. It is in the middle of a small clay pan just to the south of a low sand ridge. This station consists of a short star-picket protruding roughly 15cm out of the ground, and is witnessed by a Daishsat survey plaque, placed on a large star picket ~ 0.3m to the left.



Photo of GPS/Gravity base 0208 with distinguishing features in background

APPENDIX E

Survey Specifications

Survey Name	Waddikee
Operators	DD, AC, JS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Ambrosia
Operators	DD, AC, MVS, MS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Dingo Hill
Operators	AC, MVS, MS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Eureka Bluff
Operators	AC,MVS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Parndana
Operators	DD, AC,
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Moorlands
Operators	DD, AC, MVS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

Survey Name	Punt Hill
Operators	LC, MVS, MI, JS
Techniques Employed	GPS, Gravity
Station Spacing	250m, 500 m
Line Spacing	250m, 1000 m

Survey Name	Mattaweara
Operators	LC, MVS, MI, JS
Techniques Employed	GPS, Gravity
Station Spacing	1000 m
Line Spacing	1000 m

ABN 96 110 336 733
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MONAX MINING LIMITED

Annual Technical Report

EL 3871 Mattaweara

For the period 31 May 2007 – 29 July 2008

Tenure holder | Monax Mining Limited
Compiled by | Greg Swain, Carolyn Grant

Tenement operator | Monax Mining Limited
Report date | 30 June 2009

Distribution: Primary Industries & Resources South Australia (digital copy)
Monax Mining Limited (digital + hard copy)

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Summary

This third annual report details the work undertaken by Monax Mining Limited on Exploration Licence 3871 (Mattaweara) on the northern Stuart Shelf during the period 31 May 2007 – 29 July 2008. The project area is located 30 kilometres north-northwest of Olympic Dam.

The first five year term of this licence (EL2964) expired on 29 May 2007. The subsequent licence is EL3871, and the licence term runs from 30 July 2007 – 29 July 2008. The previous annual report was for the period ending 30 May 2007, therefore, this report covers from 31 May 2007 to 29 July 2008, the new expiry term.

EL 3871 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet (**Figure 1**), and covers an area of approximately 119 square kilometres. Exploration interest centres on a discrete magnetic body and associated gravity features, which potentially represent a mineralised breccia body similar in style to Olympic Dam style Iron-Oxide Copper-Gold-Uranium mineralisation. EL3871 lies within the highly prospective Olympic Copper-Gold Province and the existing geophysical targets warrant drill testing.

During the reporting period, Monax continued processing and interpretation of the geophysics and conducted a drilling program with the aim of extending the Havilah RC drill hole RCM1 into Proterozoic basement to test the geophysical anomaly.

Keywords

EL 2964, EL 3871, Mattaweara, Olympic Dam Iron-Oxide Copper-Gold-Uranium, Stuart Shelf

Table of Contents

	Page
1. Introduction.....	4
2. Tenure	4
3. Geology	4
4. Exploration Rationale	4
5. Previous Exploration.....	5
6. Exploration Conducted	6
7. Expenditure	7
8. Conclusions	8
9. References	8

List of Figures

Figure1	Tenement location
Figure2	Geology
Figure3	Total magnetic intensity
Figure4	TMI_1VD
Figure5	TMI_res1000
Figure6	Gravity_bg267
Figure7	Gravity_bg267vd

List of Tables

Table 1	Tenement Details
Table 2	Drill hole header information
Table 3	Expenditure EL 3871 Mattaweara

List of Appendices

Appendix 1	Drill hole log
Appendix 2	Drill hole geochemistry

Digital file list

File size

EL3871_2008_A_01_ReportBody.pdf	110KB
EL3871_2008_A_06_DrillCollars.txt	3KB
EL3871_2008_A_09_DownholeGeochem.txt	4KB
EL3871_2008_A_08_LithoLogs.txt	4KB
EL3871_2008_A_18_FileListing.txt	1KB
EL3871_2008_Figure1_Tenement location.pdf	796KB
EL3871_2008_Figure2_Geology.pdf	193KB
EL3871_2008_Figure3_Total magnetic intensity.pdf	143KB
EL3871_2008_Figure4_TMI_1VD.pdf	183KB
EL3871_2008_Figure5_TMI_res1000.pdf	164KB
EL3871_2008_Figure6_Gravity_bg267.pdf	112KB
EL3871_2008_Figure7_Gravity_bg267vd.pdf	116KB
EL3871_2008_Appendix1_Drill hole log	156KB
EL3457_2008_Appendix2_Drill hole geochemistry	105KB

1. Introduction

EL 3871 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet, in the northern Stuart Shelf area, approximately 30 kilometres north-northwest of Olympic Dam (**Figure 1**). EL 3871 (Mattaweara) covers approximately 119 square kilometres and centres on a discrete magnetic body and associated gravity features. These geophysical anomalies potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium deposit. EL 3871 lies within the highly prospective Olympic Copper-Gold Province, and the existing geophysical targets remain inadequately tested.

2. Tenure

Table 1 Tenement details for EL 3871 (subsequent licence to EL2964)

EL	Name	Area (km ²)	Tenement operator	Grant Date	Expiry Date
2964	Mattaweara	119	Havilah Resources (until 19/07/05) Monax Mining Limited (from 20/07/05)	31 May 2002	30 May 2007
3871	Mattaweara	119	Monax Mining Limited	30 July 2007	29 July 2010

The five year term of the exploration licence for EL2964 expired on 29 May 2007. The subsequent licence for this tenement was granted on 30 July 2007, and the current expiry date is 29 July 2010.

3. Geology

EL 3871 is entirely covered by Quaternary surficial deposits (**Figure 2**), which overlie flat lying to gently dipping Stuart Shelf sediments of Mesoproterozoic and Neoproterozoic age, ranging from 300 m to more than 1,000 m thick in this area. The Stuart Shelf sediments were deposited on Archaean, Palaeoproterozoic and Mesoproterozoic crystalline basement rocks, including the Mulgathing Complex, Hutchison Group, Gawler Range Volcanics and Hiltaba Suite granites, all of which have been intersected at depth in different places.

Brecciated Hiltaba Suite granite hosts the Olympic Dam orebody, 30 km to the southeast of EL 3871. The Olympic Dam orebody is intimately linked with both magnetic and gravity anomalies, and crustal scale northwest and northeast trending faults. These geological features are characteristic of the Olympic Copper-Gold Province extending from the Mount Woods Inlier to the north, through to the Moonta-Wallaroo region in the south. The prospectivity of this terrane has been greatly enhanced by the Prominent Hill deposit and Carrapateena prospect.

4. Exploration Rationale

Mattaweara is an IOCG target. The project area is only 30 km from the Olympic Dam mine and lies within the same major, north-northwest trending structural corridor. Havilah Resources, the previous tenement holder, defined a discrete magnetic body, the Mattaweara Magnetic Anomaly (**Figure 3**). This magnetic anomaly was flanked by a semi-coincident gravity anomaly and was modelled as a steeply plunging cylindrical body, which might be a

mineralised breccia similar to Olympic Dam. Havilah attempted to test this semi-coincident magnetic and gravity anomaly with a deep RC hole, which penetrated to 602 m without reaching basement or successfully intersecting the geophysical target.

5. Previous Exploration

5.1 Historical Exploration

Only a small number of previous exploration tenements covered this area. In 1966, Mines Exploration Pty Ltd targeted the basal Cambrian dolomites of the Flinders Ranges and Stuart Shelf for lead-zinc mineralisation of the Ediacra type, in an area covering nearly 37,000 square kilometres.

From 1976 to 1986, the current tenement lay within a larger area of about 12,000 square kilometres investigated by Western Mining Corporation Ltd, in a search for IOCG deposits of the Olympic Dam type. Within that larger area, WMC identified a number of coincident magnetic and gravity anomalies as potential targets. Drilling of several of those targets disclosed minor copper mineralisation or anomalous geochemistry at several prospects outside the current tenement. The closest feature investigated by WMC was the Double Swamp magnetic anomaly, which was considered too deep and never drilled.

Since 1997, this tenement has been held by Havilah Resources NL (Havilah). From 1997 to 2004, Havilah investigated the Mattaweara magnetic anomaly, which was identified by detailed aeromagnetic surveys and lies immediately south-east of the deeper Double Swamp anomaly. The Mattaweara anomaly was modelled as a smaller body (3.0 x 1.1 km) at a depth of about 400 m, i.e. possibly within the Neoproterozoic (Adelaidean) cover sequence above the Gawler Craton basement. Detailed gravity surveys revealed two local gravity highs within a broader feature. One of these highs lies on the flank of the Mattaweara magnetic anomaly, which suggests that both anomalies have a common source. Modelling suggested that the gravity and magnetic responses may be due to a deeper mafic complex, with smaller bodies as shallow as 250 m causing the two local gravity peaks. A deep percussion hole (RCM1) tested the northern gravity high. The hole intersected Adelaidean sediments to 555 m and terminated at 602 m in red gritty sandstones of the Pandurra Formation, without explaining the geophysical anomalies. Either the hole missed the target, or the target is deeper. The possibility of a near miss was tested by a down-hole EM survey. Results showed no obvious conductive body near the drill hole, although more sophisticated modelling may detect a subtle effect from such a source.

The area to the north of the current tenement, including a relinquished portion, was subsequently acquired by Minex (SA) Pty Ltd, to explore for Olympic Dam style IOCG mineralisation. Evaluation of regional open file geophysical data highlighted gravity anomalies associated with magnetic complexes, but no significant gravity anomalies were identified in this area.

5.2 Exploration – Monax Mining

5.2.1 Gravity Survey

Work carried out on EL 2964 since the tenement was acquired from Havilah Resources comprised of a helicopter based ground gravity survey of 177 stations covering an area of approximately 120 km². The gravity survey was conducted in March 2006 by Daishsat Geodetic Surveyors. The gravity stations were taken on a 1000mx1000m spaced grid and confirmed the anomaly identified in previous gravity surveys undertaken by Havilah Resources.

5.2.2 Geophysical Interpretation

The results from the gravity survey defined a discrete gravity high (as previously identified by Havilah Resources) which is located on the south-western flank of a larger regional gravity high. The gravity anomaly is semi coincident (on the southern flank) with the Mattaweara magnetic anomaly. This semi coincident anomaly is interpreted to represent Prominent Hill style IOCG mineralisation.

6. Exploration Conducted

6.1. Geophysical Interpretation

During the reporting period, continued processing and interpretation was conducted on the geophysics. The total magnetic intensity (TMI) is shown in **Figure 3**, with the 1st vertical derivative and residual 1000 of the TMI shown in **Figures 4 & 5** respectively. The location of the Havilah drill hole RCM1 is shown. The southern end of the deep Double Swamp anomaly appears in the northwest corner of the tenement, with the Mattaweara Magnetic Anomaly in the central area of the tenement.

The Bouger gravity is shown in **Figure 6** and the 1st vertical derivative is shown in **Figure 7**. The location of the Havilah drill hole RCM1 is shown. The discrete gravity high semi-coincident to the southern flank of Mattaweara Magnetic Anomaly, defined from the gravity survey, was still deemed prospective for IOCG mineralisation. It was decided that Monax would extend the Havilah Hole RCM1 to properly test the basement geophysical anomaly.

6.2 Drilling

Monax contracted Tom Browne Drilling Services (BDS) to undertake the drilling. A UDR 1000 drill rig was mobilised to site with the aim of extending the Havilah RC drill hole RCM1 into Proterozoic basement to test the geophysical anomaly. Drilling commenced on 20 June 2007, and concluded on 2 July 2007. The drilling support equipment included a Sullair air compressor for the RC percussion pre-collars, a flatbed truck with a hydraulic lifting arm, and two Toyota Landcruiser utilities. Monax Mining utilised a Toyota Landcruiser utility.

The exploration and drill crew were based at Roxby Downs in a caravan park. Seven employees from BDS included two drillers, four offsiders and one project supervisor. Two employees from Monax Mining included the project geologist and field technician.

The drilling contractor did not have sufficient HQ drill rods to case the original Havilah drill hole RCM1, so it was decided to re-drill a new hole from surface 10m away. The previous annual report labelled this new hole RCM02, however, to remain consistent with the drilling method, the drill hole was relabelled MDD01 (Mattaweara diamond drill hole). Drill hole MDD01 was cased with 6" PVC to 54m via blade bit to refusal, followed by open-hole hammer to 193.3m. Substantial influxes of water were intersected at 80m and 120m depth. NQ commenced at 193.3m and basement was intersected at 787.7m after a thick interval of Stuart Shelf sediments. Proterozoic basement comprised massive Banded Iron Formation and the hole was terminated at 912.4m depth.

The drill hole header information is given in **Table 2**. The location of the drill hole is shown on the geophysical plans (*Figures 3-7*).

Table 2 Drill hole header information

Hole ID	Prospect	MGA Zone 53 - WGS84		Error metres	RL metres	Azimuth degrees	Inclination degrees	OH to (m)	NQ to EOH (m)
		mE	mN						
MDD01	Mattaweara	661915	6654383	4	114	0	-90	193.3	912.8

The detailed drill log of MDD01 is in **Appendix 1**. Scan samples of the basement drill core were submitted to check for any anomalous geochemistry. Elements assayed included Au, Ag, As, Bi, Ce, Cu, La, Li, Mo, Ni, Pb, Re, Sb, Th, U & Zn. The geochemistry is given in **Appendix 2**.

7. Expenditure

Expenditure for the period 31 May 2007 – 29 July 2008 is detailed in **Table 3**

Table 3 Expenditure for EL 3871 – Mattaweara

Operations	Cost \$
Advertising	499
Data mapping	643
Depreciation	1,473
Drilling costs	196,514
Earthmoving	880
Licence renewals - tenements	572
Insurance - field equipment	278
OH&S costs	201
Travel	7,920
Telephone - satellite/mobile	127
Tenement administration	30,528
Total	239,635
+ previous expenditure	\$0
Total cumulative expenditure for Licence	\$239,635

8. Conclusions

Monax believes that the diamond drill hole MDD01 adequately tested the semi-coincident magnetic and gravity anomalies. The drill hole intersected a substantial thickness of Banded Iron Formation which explains the anomaly, however due to the depth of basement at 787.7m, the economic potential is significantly downgraded.

9. References

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Fairclough, M.C., Schwarz, M.P. and Ferris, G.M., 2003. Interpreted crystalline basement geology of the Gawler Craton. 1:1 000 000 map series, Department of Primary Industries and Resources, South Australia.

Geological Survey of South Australia, 2004. South Australia State GIS Dataset.

Havilah Resources, 2002. Annual Report for EL 2329 Mattaweara.

Figures

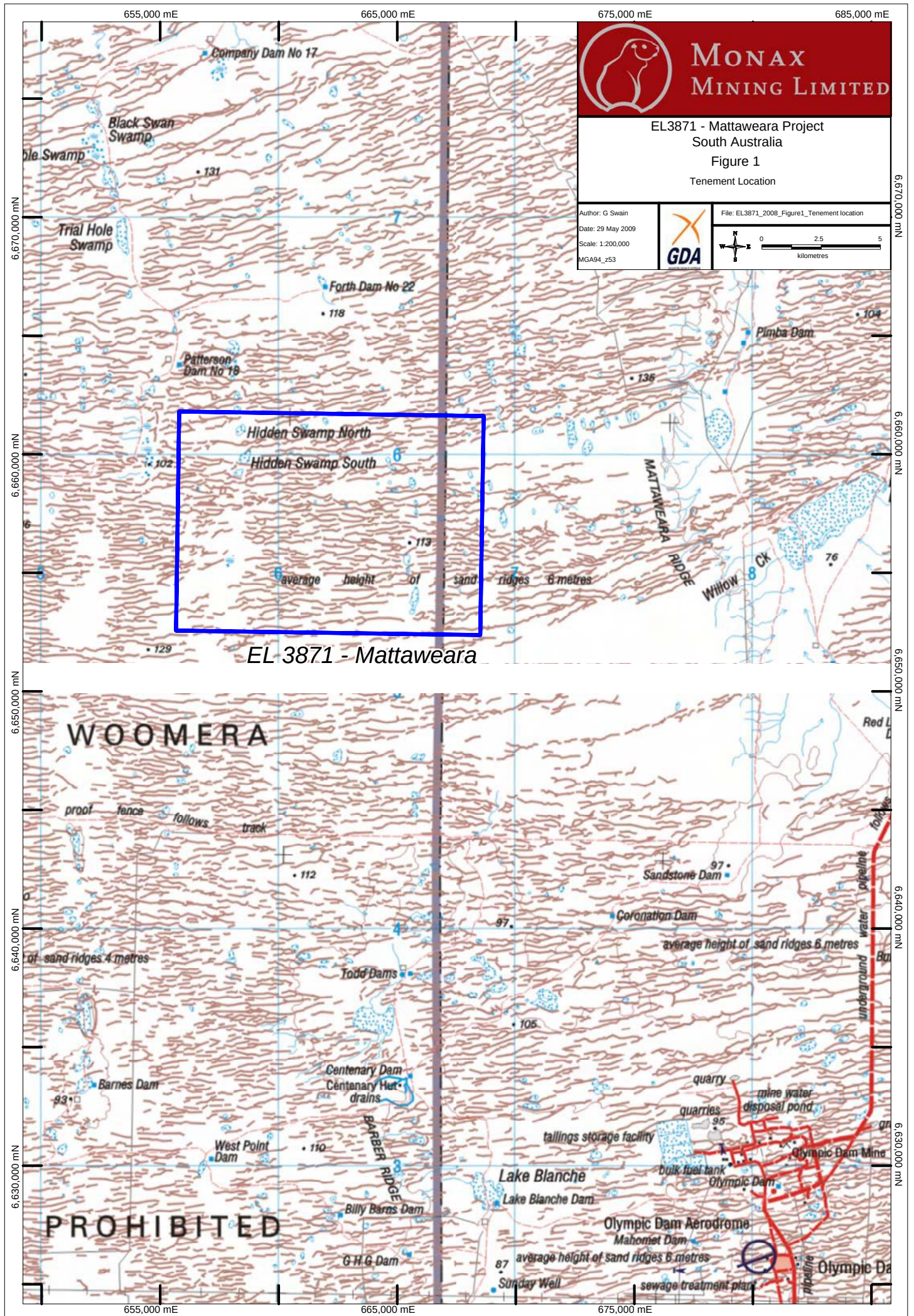
Monax Mining Limited

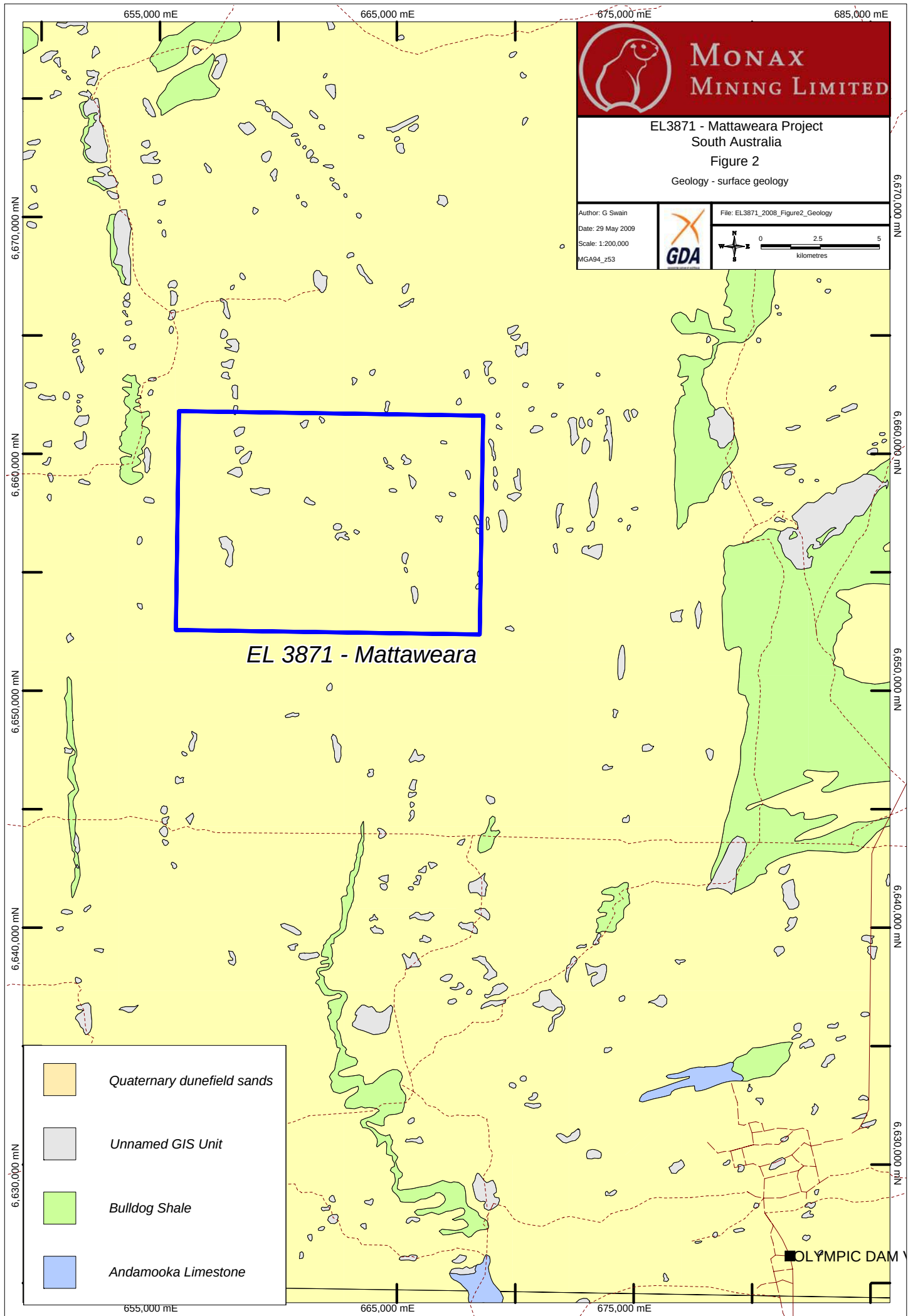
Annual Technical Report for EL3871 Mattaweara

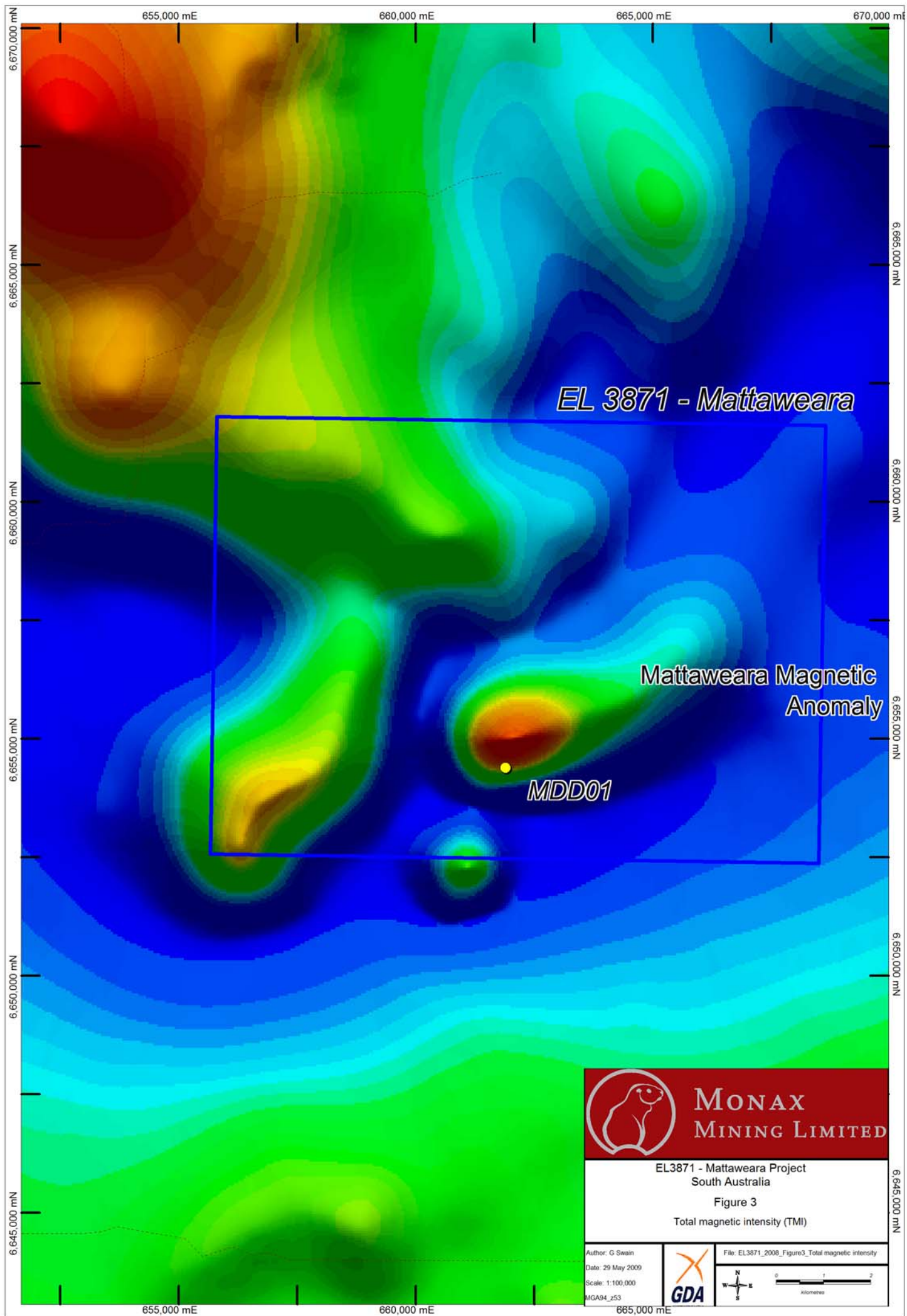
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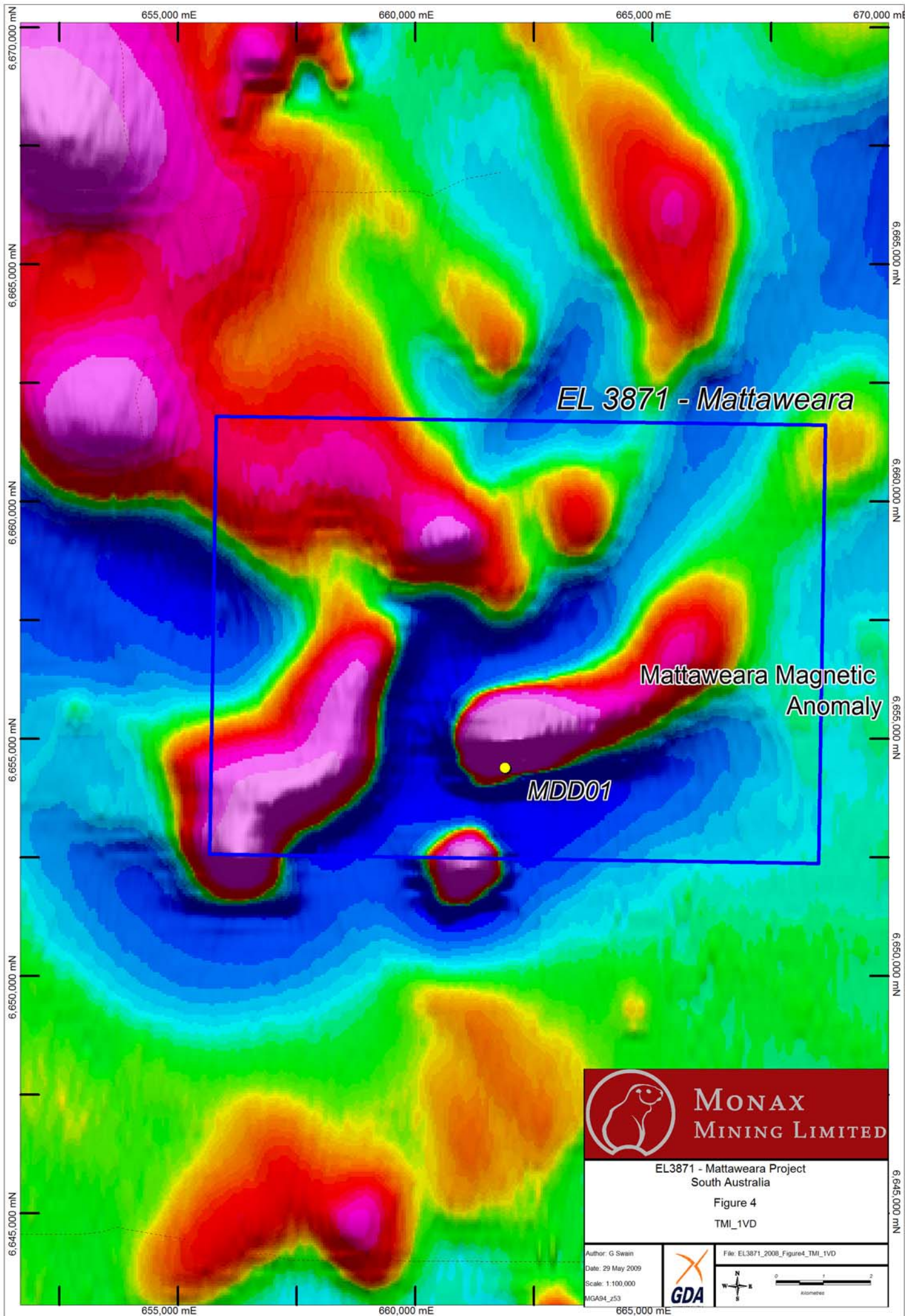
Table of Contents – Figures

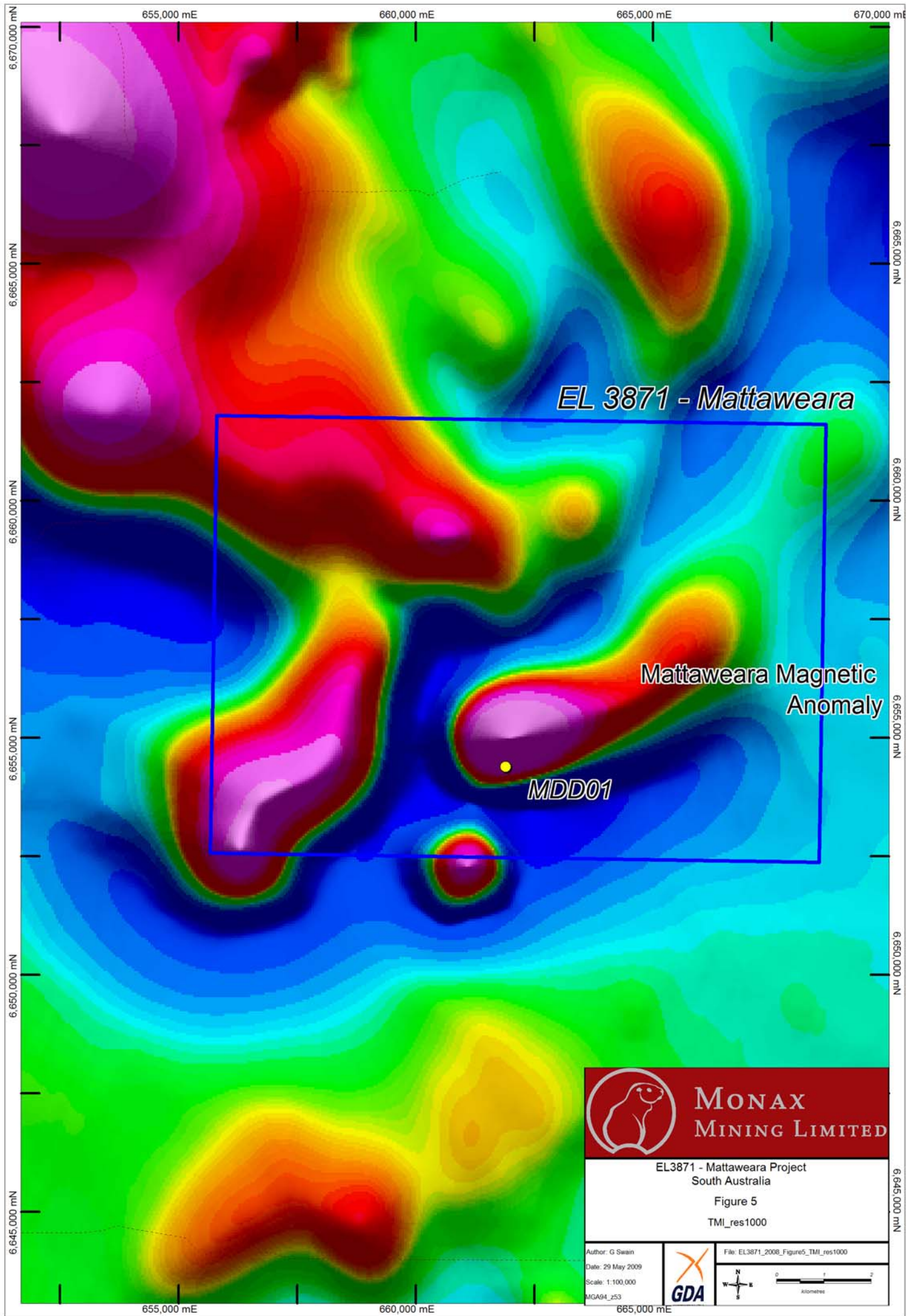
Figure 1	Tenement location
Figure 2	Geology
Figure 3	Total magnetic intensity
Figure 4	TMI_1VD
Figure 5	TMI_res1000
Figure 6	Gravity_bg267
Figure 7	Gravity_bg267vd

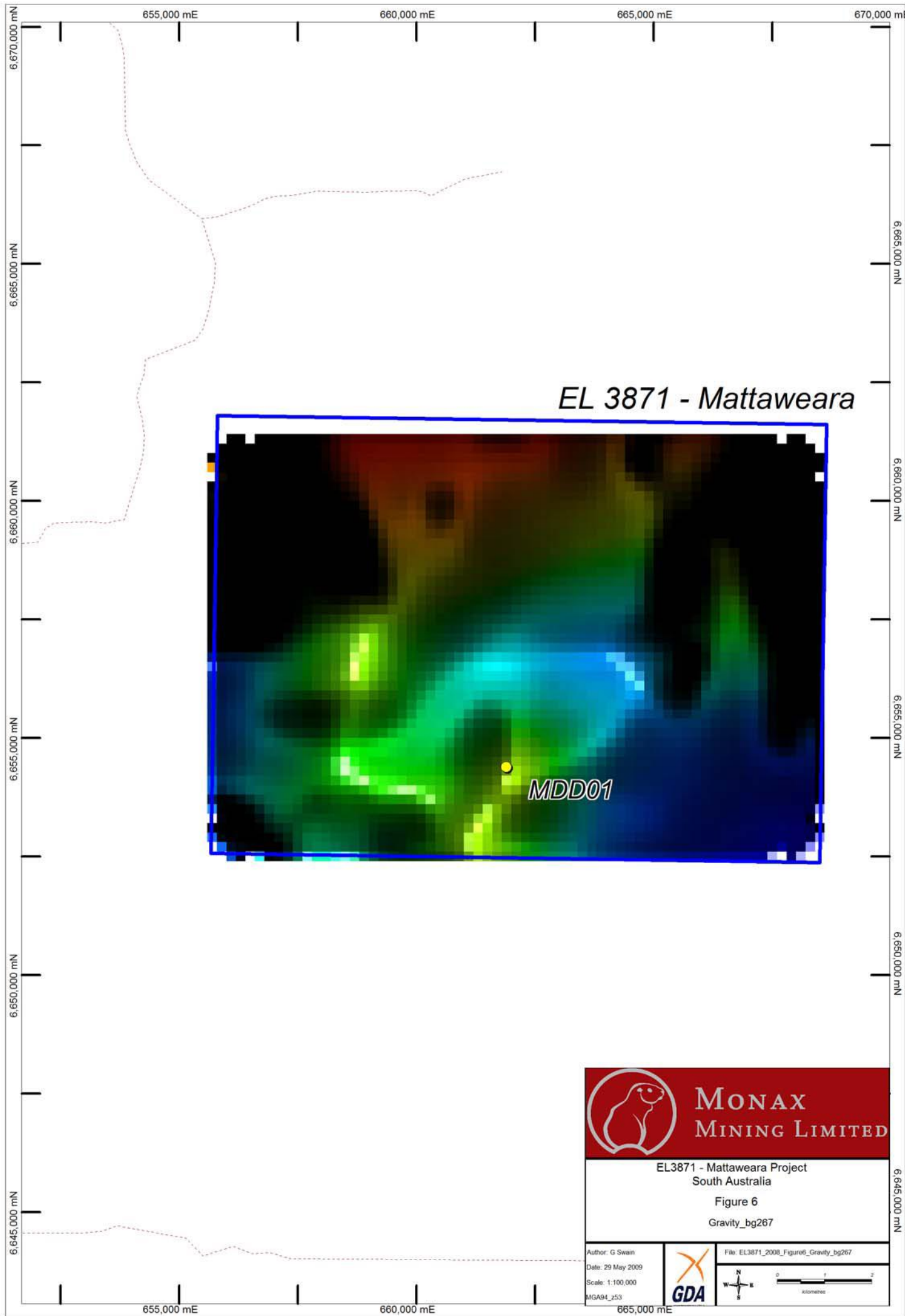


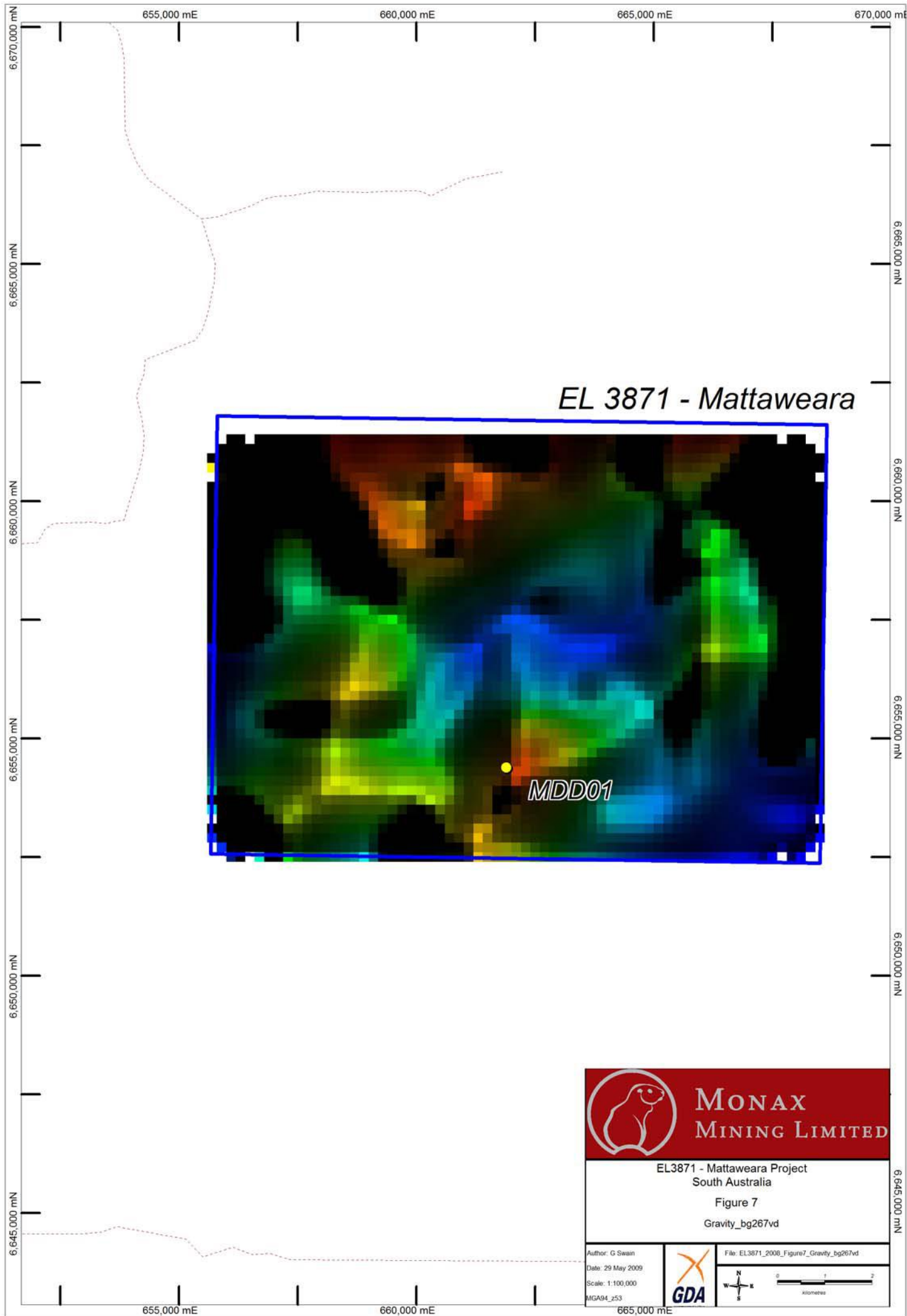












Appendices

Monax Mining Limited

Annual Technical Report for EL3871 Mattaweara

31 May 2007 – 29 July 2008

Table of Contents – Appendices

Appendix 1 Drill hole logs

Appendix 2 Drill hole geochemistry

Appendix 1

Drill hole log

Drill Collars

H0002	Version	3						
H0003	Date_generated	1-Jun-09						
H0004	Reporting_period_end_date	29-Jul-08						
H0005	State	SA						
H0100	[Tenement_no Combined_rept_no]	EL03871						
H0101	Tenement_holder	Monax Mining Limited						
H0102	Project_name	Mattaweara						
H0106	Tenement_operator	Monax Mining Limited						
H0150	250K_map_sheet_number	SH5312						
H0151	100K_map_sheet_number	6237						
H0200	Start_date_of_data_acquisition	20-Jun-07						
H0201	End_date_of_data_acquisition	2-Jul-07						
H0202	Template_format	SL1						
H0203	Number_of_data_records	1						
H0204	Date_of_metadata_update	1-Jun-09						
H0300	Related_data_filenames							
H0301	Location_data_file	EL3871_2008_A_06_DrillholeCollars.txt						
H0302	Downhole_lithology_data_file	EL3871_2008_A_08_LithoLogs.txt						
H0303	Downhole_geochem_data_file	EL3871_2008_A_09_DownholeGeochem.txt						
H0400	Drill_code	RAB DIA						
H0401	Drill_contractor	Tom Browne Drilling Services Pty Ltd						
H0402	Description	RAB Reverse Air Bla DIA						Diamond Bit - Coring
H0500	Feature_located	Hole_Collar						
H0501	Geodetic_datum	GDA94						
H0502	Vertical_datum	AHD						
H0503	Projection	UTM MGA Zone 53						
H0530	Coordinate_system	Projected						
H0531	Projection_zone	53						
H0532	Surveying_instrument	Magellan eXplorist GPS Receiver						
H1000	Hole_ID	Xcoordinate Ycoordinate Zcoordinate						
H1001		metres metres metres						
H1004		5 5 5						
D	MDD01	661915 6654383 114						
EOF								

Appendix 2

Drill hole geochemistry

Geochemistry:

H0002	Version	3			
H0003	Date_generated	1-Jun-09			
H0004	Reporting_period_end_date	29-Jul-08			
H0005	State	SA			
H0100	[Tenement_no Combined_rept_no]	EL03871			
H0101	Tenement_holder	Monax Mining Limited			
H0102	Project_name	Mattaweara			
H0106	Tenement_operator	Monax Mining Limited			
H0200	Start_date_of_data_acquisition	20-Jun-07			
H0201	End_date_of_data_acquisition	2-Jul-07			
H0202	Template_format	DG1			
H0203	Number_of_data_records	13			
H0204	Date_of_metadata_update	1-Jun-09			
H0300	Related_data_filenames				
H0301	Location_data_file	EL3871_2008_A_06_DrillholeCollars.txt			
H0303	Downhole_geochem_data_file	EL3871_2008_A_09_DownholeGeochem.txt			
H0600	Sample_code	DC	ST		
H0601	Sample_type	DC	Drill core	ST	Standard
H0602	Sample_description	Half core			
H0700	Sample_preparation_code	SSMG			
H0701	Sample_preparation_details	Single Stage Mix & Grind (Cr-steel bowl)			
H0702	Job_no	1162_0_0709481			
H0800	Assay_code	AT/MS	AT/AAS	FA25/AAS	FA50/AAS
H0801	Assay_company	GLS	Genalysis Laboratory Services		
H0802	Assay_description	AT/MS	AT/AAS	FA25/AAS	FA50/AAS
AT/MS	Multi-acid digest including Hydrofluoric, Nitric, Perchloric and Hydrochloric acids in Teflon Tubes. Analysed by Inductively Coupled Plasma Mass Spectrometry				
AT/AAS	Multi-acid digest including Hydrofluoric, Nitric, Perchloric and Hydrochloric acids in Teflon Tubes. Analysed by Flame Atomic Absorbtion Spectrometry				
FA25/AAS	25g Lead collection fire assay. Analysed by Flame Atomic Absorbtion Spectrometry				
FA50/AAS	50g Lead collection fire assay. Analysed by Flame Atomic Absorbtion Spectrometry				

Geochemistry:

Hole_ID	Depth from metres	Depth to metres	Sample_ID	Sample_code	Au ppm FA50/AAS 0.01	Au-Rp1 ppm FA25/AAS 0.01	Ag ppm AT/MS 0.1	As ppm AT/MS 1	Bi ppm AT/MS 0.01	Ce ppm AT/MS 0.01	Cu ppm AT/AAS 1	La ppm AT/MS 0.01	Li ppm AT/MS 0.1	Mo ppm AT/MS 0.1	Ni ppm AT/AAS 2	Pb ppm AT/MS 2	Re ppm AT/MS 0.01	Sb ppm AT/MS 0.05	Th ppm AT/MS 0.01	U ppm AT/MS 0.01	Zn ppm AT/AAS 1
MDD01	797	798	118609	DC	X		0.5	80	0.45	137.45	20	67.49	16.2	3.9	22	31	X	2.35	18.43	4	60
MDD01	802.9	803.9	118610	DC	X		0.3	42	0.22	33.9	18	17.6	12.9	8.4	13	15	X	1.42	5.88	1.58	54
MDD01	811.75	812.75	118611	DC	X		0.2	103	0.3	61.08	102	33.93	42	3.9	23	69	X	2.76	9.83	1.74	409
MDD01	823.3	824.3	118612	DC	X		0.1	92	0.59	69.42	129	36.58	79.5	4.9	140	75	X	6.78	11.69	2.12	161
MDD01	834.1	835.1	118613	DC	X		0.2	365	1.07	69.33	173	37.1	39.8	4	100	114	X	17.18	11.25	3.64	173
MDD01	839.9	840.9	118614	DC	X		0.2	131	0.37	76.36	33	33.13	11.3	2.3	43	707	X	5.28	9.84	2.06	84
MDD01	854.3	855.3	118615	DC	X		0.2	52	0.3	71.1	44	26.75	25.6	3.4	47	259	X	2.47	8.26	1.9	111
MDD01	867	868	118616	DC	X		0.3	23	0.23	35.06	11	17.59	23.4	3.8	10	19	X	1.51	3.45	0.86	120
MDD01	874	875	118617	DC	X		0.3	11	0.28	47.85	4	24.29	60.2	2.5	21	23	X	0.6	6.93	1.12	254
MDD01	886.2	887.2	118618	DC	X		0.5	68	0.25	56.2	21	27.64	24.4	0.5	34	9	X	0.53	10.92	2.17	146
MDD01	891.5	892.5	118619	DC	X		0.4	14	0.18	32.17	22	16.47	20.6	2.6	23	10	X	0.96	3.16	0.88	77
MDD01	902.7	903.7	118620	DC	X		0.4	13	0.84	59.27	216	30.25	12.3	2.3	12	19	X	0.87	4.7	1.93	72
MDD01	910.4	911.4	118621	DC	X		0.2	10	0.13	28.68	4	12.78	9	1.8	X	6	X	0.87	1.36	0.64	63



**MONAX
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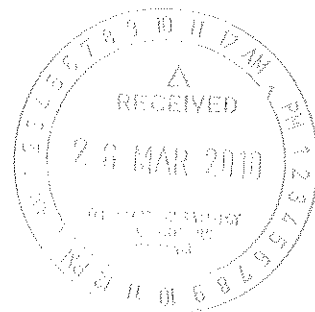
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25 March 2010

Our ref: EL 3871

Nella Pettruzzella
MRG Records Officer
Mineral Resources Group, PIRSA
Minerals & Energy Division
GPO Box 1671
Adelaide SA 5001



Dear Nella

Annual Technical Report for EL3871 – Mattaweara

In reference to the Annual Technical Report for EL 3871 – Mattaweara, for the period July 2008 – 29 July 2009, please be advised that no work was conducted on this tenement during this term.

During this reporting period, Monax was also advised by the Department of Defence that future access to this tenement would be prohibited, as it was located in a restricted zone of the Woomera Prohibited Area.

If you require further information, please contact me on 8375 4300.

Kind regards

Carolyn Grant
Tenement Manager

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MONAX MINING LIMITED

Final Annual Technical Report

EL 2964/3871 Mattaweara

For the period 31 May 2002 – 29 July 2010

Tenure holder | Monax Mining Limited
Compiled by | Gary Ferris, Carolyn Grant

Tenement operator | Monax Mining Limited
Report date | 28 October 2010

Distribution: Primary Industries & Resources South Australia (digital copy)
Monax Mining Limited (digital + hard copy)

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Summary

This final report details the work undertaken by Monax Mining Limited and Havilah Resources Limited on Exploration Licence 2964 and its subsequent licence 3871 (Mattaweara) on the northern Stuart Shelf during the period 31 May 2002 – 29 July 2010. The project area is located 30 kilometres north-northwest of Olympic Dam. The licence was first granted to Havilah Resources in 2002 and was purchased by and transferred to Monax Mining Limited in July 2005.

EL 3871 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet, and covers an area of approximately 119 square kilometres. Exploration interest centres on a discrete magnetic body and associated gravity features, which potentially represent a mineralised breccia body similar in style to Olympic Dam style Iron-Oxide Copper-Gold-Uranium mineralisation. EL3871 lies within the highly prospective Olympic Copper-Gold Province. Havilah Resources attempted to test a semi-coincident magnetic and gravity anomaly with a deep RC hole, which penetrated to 602 m without reaching basement or successfully intersecting the geophysical target.

Subsequent exploration conducted by Monax comprised a regional gravity on a 1000m x 1000m grid, followed by drilling. One hole - MDD01, was completed to 912.8m with basement intersected at 787.7m after a thick interval of Stuart Shelf sediments. Proterozoic basement comprised massive banded iron formation (BIF) and the hole was terminated at 912.4m depth.

A total of 13 individual 1m samples were submitted for laboratory analysis with no anomalous results returned. The BIF within the drill hole adequately explained the gravity anomaly and no further work is warranted. EL 3871 is wholly located within the restricted zone of the Woomera Prohibited Area. As future access to the tenement for the purposes of exploration has been prohibited, Monax has decided to relinquish the tenement.

Keywords

EL 2964, EL 3871, Mattaweara, Olympic Dam Iron-Oxide Copper-Gold-Uranium, Stuart Shelf, Banded Iron Formation

Table of Contents

	Page
1. Introduction.....	4
2. Tenure	4
3. Geology	4
4. Exploration Rationale	4
5. Previous Exploration.....	5
6. Exploration Conducted	5
6.1 Current reporting period	5
6.2 Term of the licence	5
7. Expenditure	6
8. Conclusions.....	8
9. References	8

List of Figures

Figure1 Tenement location

List of Tables

Table 1 Tenement Details
Table 2 Expenditure for the current period
Table 3 Expenditure for the term of the licence

Digital file list

File size

EL3871_2010_F_01_ReportBody.pdf	120KB
EL3871_2010_Figure1_Tenement location.pdf	796KB

1. Introduction

EL 3871 (Mattaweara) lies in the northwest corner of the Andamooka 1:250,000 sheet, in the northern Stuart Shelf area, approximately 30 kilometres north-northwest of Olympic Dam (**Figure 1**). EL 3871 (Mattaweara) covers approximately 119 square kilometres and centres on a discrete magnetic body and associated gravity features. These geophysical anomalies potentially represent a mineralised breccia body similar in style to Olympic Dam Iron-Oxide Copper-Gold-Uranium deposit.

2. Tenure

Table 1 Tenement details for EL 3871

EL	Name	Area (km ²)	Licence holder/ operator	Grant Date	Expiry Date	Relinquish date
2964	Mattaweara	119	Havilah Resources (until 19/07/05) Monax Mining Limited (from 20/07/05)	30 May 2002	29 May 2007	-
3871	Mattaweara	119	Monax Mining Limited	30 July 2007	29 July 2010	29 July 2010

3. Geology

EL 3871 is entirely covered by Quaternary surficial deposits, which overlie flat lying to gently dipping Stuart Shelf sediments of Mesoproterozoic and Neoproterozoic age, ranging from 300 m to more than 1,000 m thick in this area. The Stuart Shelf sediments were deposited on Archaean, Palaeoproterozoic and Mesoproterozoic crystalline basement rocks, including the Mulgathing Complex, Hutchison Group, Gawler Range Volcanics and Hiltaba Suite granites, all of which have been intersected at depth in different places.

Brecciated Hiltaba Suite granite hosts the Olympic Dam orebody, 30 km to the southeast of EL 3871. The Olympic Dam orebody is intimately linked with both magnetic and gravity anomalies, and crustal scale northwest and northeast trending faults. These geological features are characteristic of the Olympic Copper-Gold Province extending from the Mount Woods Inlier to the north, through to the Moonta-Wallaroo region in the south. The prospectivity of this terrane has been greatly enhanced by the Prominent Hill deposit and Carrapateena prospect.

4. Exploration Rationale

Mattaweara is an IOCG target. The project area is only 30 km from the Olympic Dam mine and lies within the same major, north-northwest trending structural corridor. Havilah Resources, the previous tenement holder, defined a discrete magnetic body, the Mattaweara Magnetic Anomaly. This magnetic anomaly was flanked by a semi-coincident gravity anomaly and was modelled as a steeply plunging cylindrical body, which might be a mineralised breccia similar to Olympic Dam. Havilah attempted to test this semi-coincident magnetic and gravity anomaly with a deep RC hole, which penetrated to 602 m without reaching basement or successfully intersecting the geophysical target.

5. Previous Exploration

5.1 Historical Exploration

Only a small number of previous exploration tenements covered this area. In 1966, Mines Exploration Pty Ltd targeted the basal Cambrian dolomites of the Flinders Ranges and Stuart Shelf for lead-zinc mineralisation of the Ediacra type, in an area covering nearly 37,000 square kilometres.

From 1976 to 1986, the current tenement lay within a larger area of about 12,000 square kilometres investigated by Western Mining Corporation Ltd, in a search for IOCG deposits of the Olympic Dam type. Within that larger area, WMC identified a number of coincident magnetic and gravity anomalies as potential targets. Drilling of several of those targets disclosed minor copper mineralisation or anomalous geochemistry at several prospects outside the current tenement. The closest feature investigated by WMC was the Double Swamp magnetic anomaly, which was considered too deep and never drilled.

Since 1997, this tenement has been held by Havilah Resources NL (Havilah). From 1997 to 2004, Havilah investigated the Mattaweara magnetic anomaly, which was identified by detailed aeromagnetic surveys and lies immediately south-east of the deeper Double Swamp anomaly. The Mattaweara anomaly was modelled as a smaller body (3.0 x 1.1 km) at a depth of about 400 m, i.e. possibly within the Neoproterozoic (Adelaidean) cover sequence above the Gawler Craton basement. Detailed gravity surveys revealed two local gravity highs within a broader feature. One of these highs lies on the flank of the Mattaweara magnetic anomaly, which suggests that both anomalies have a common source. Modelling suggested that the gravity and magnetic responses may be due to a deeper mafic complex, with smaller bodies as shallow as 250 m causing the two local gravity peaks. A deep percussion hole (RCM1) tested the northern gravity high. The hole intersected Adelaidean sediments to 555 m and terminated at 602 m in red gritty sandstones of the Pandurra Formation, without explaining the geophysical anomalies. Either the hole missed the target, or the target is deeper. The possibility of a near miss was tested by a down-hole EM survey. Results showed no obvious conductive body near the drill hole, although more sophisticated modelling may detect a subtle effect from such a source.

The area to the north of the current tenement, including a relinquished portion, was subsequently acquired by Minex (SA) Pty Ltd, to explore for Olympic Dam style IOCG mineralisation. Evaluation of regional open file geophysical data highlighted gravity anomalies associated with magnetic complexes, but no significant gravity anomalies were identified in this area.

6. Exploration Conducted

6.1 Current reporting period – 30 July 2009 – 29 July 2010

No work was conducted on the tenement during the current reporting period.

6.2 Term of the licence – 31 May 2002 – 29 July 2010 (EL 2964/3871)

6.2.1 Havilah Resources

Havilah attempted to test the semi-coincident magnetic and gravity anomaly with a deep RC hole, which penetrated to 602 m without reaching basement or successfully intersecting the geophysical target.

6.2.2 Monax Mining

Work carried out on EL 2964 since the tenement was acquired from Havilah Resources in 2005 comprised of a helicopter based ground gravity survey of 177 stations covering an area of approximately 120 km². The gravity survey was conducted in March 2006 by Daishsat Geodetic Surveyors. The gravity stations were taken on a 1000x1000m spaced grid. Monax Mining conducted the regional survey over EL 2964 to confirm the anomaly identified in previous gravity surveys undertaken by Havilah Resources.

The results from the gravity survey defined a discrete gravity high (as previously identified by Havilah Resources) which is located on the south-western flank of a larger regional gravity high. The gravity anomaly is semi coincident (on the southern flank) with the Mattaweara magnetic anomaly. This semi coincident anomaly is interpreted to represent Prominent Hill style IOCG mineralisation.

The discrete gravity high semi-coincident to the southern flank of Mattaweara Magnetic Anomaly, defined from the gravity survey, was still deemed prospective for IOCG mineralisation. It was decided that Monax would extend the Havilah Hole RCM1 to properly test the basement geophysical anomaly.

Monax contracted Tom Browne Drilling Services (BDS) to undertake the drilling. A UDR 1000 drill rig was mobilised to site with the aim of extending the Havilah RC drill hole RCM1 into Proterozoic basement to test the geophysical anomaly. Drilling commenced on 20 June 2007, and concluded on 2 July 2007. The drilling contractor did not have sufficient HQ drill rods to case the original Havilah drill hole RCM1, so it was decided to re-drill a new hole from surface 10m away. The previous annual report labelled this new hole RCM02, however, to remain consistent with the drilling method, the drill hole was relabelled MDD01 (Mattaweara diamond drill hole). Drill hole MDD01 was cased with 6" PVC to 54m via blade bit to refusal, followed by open-hole hammer to 193.3m. Substantial influxes of water were intersected at 80m and 120m depth. NQ commenced at 193.3m and basement was intersected at 787.7m after a thick interval of Stuart Shelf sediments. Proterozoic basement comprised massive Banded Iron Formation and the hole was terminated at 912.4m depth.

Scan samples of the basement drill core were submitted to check for any anomalous geochemistry. Elements assayed included Au, Ag, As, Bi, Ce, Cu, La, Li, Mo, Ni, Pb, Re, Sb, Th, U & Zn.

7. Expenditure

Expenditure for the period 30 July 2009 – 29 July 2010 is detailed in **Table 2**

Table 2 Expenditure for EL 3871 – Mattaweara – current term of the licence

Operations	Cost \$
Tenement administration	1,378
Total	\$1,378
+ previous expenditure	\$267,136
Total cumulative expenditure for Licence	\$268,514

Table 3 Expenditure for the term of the licence (ELs 2964 & 3871)**EL2964 – 31 May 2002 – 30 May 2007**

Operations	Cost \$
Advertising	205
Consumables	140
Depreciation	622
Evaluation costs	9,532
Expenditure Havilah Resources	366,119
Legal Fees	547
Licence renewal	237
Maps & Cartographic	327
Minor plant	18
Rent - tenement	492
Salaries	50,942
Total	\$429,180

EL3871 (subsequent licence) 31 May 2007 – 29 July 2010

Operations	Cost \$
Advertising	499
Application fees	904
Data mapping	643
Depreciation	3,014
Drilling costs	196,514
Earthmoving	880
Licence renewal	572
Insurance - field equipment	1,195
OH&S costs	202
Travel	7,920
Telephone - satellite/mobile	127
Tenement administration	56,044
Total	\$268,514

8. Conclusions

On 26 May 2009, Monax Mining was verbally informed by The Department of Defence that EL 3871 – Mattaweara lies completely within the Woomera Prohibited Area (WPA) exclusion zone. This indicates that future exploration access to the licence area is therefore prohibited.

Monax considered the area prospective for IOCG mineralisation and undertook a regional gravity survey followed by drilling one diamond hole targeting a gravity anomaly interpreted to represent a potential zone of mineralisation. The drill hole intersected a barren zone of massive BIF with no geochemical anomalous results returned. The density of the BIF adequately explains the gravity feature, hence the tenement is being relinquished.

9. References

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Havilah Resources, 2002. Annual Report for EL 2329 Mattaweara.

Figures

Monax Mining Limited

Annual Technical and Final Report for EL3871 Mattaweara

31 May 2005 – 29 July 2010

Table of Contents – Figures

Figure 1 Tenement location

Figure 2 Geology