

# Open File Envelope

## No. 11,231

**EL 3314**

**COFFIN BAY**

**ANNUAL AND FINAL REPORTS TO LICENCE  
EXPIRY/SURRENDER FOR THE PERIOD  
3/3/2005 TO 2/3/2010**

Submitted by  
International Metals Pty Ltd and WCP Uranium Pty Ltd / Uranoz Ltd  
2010

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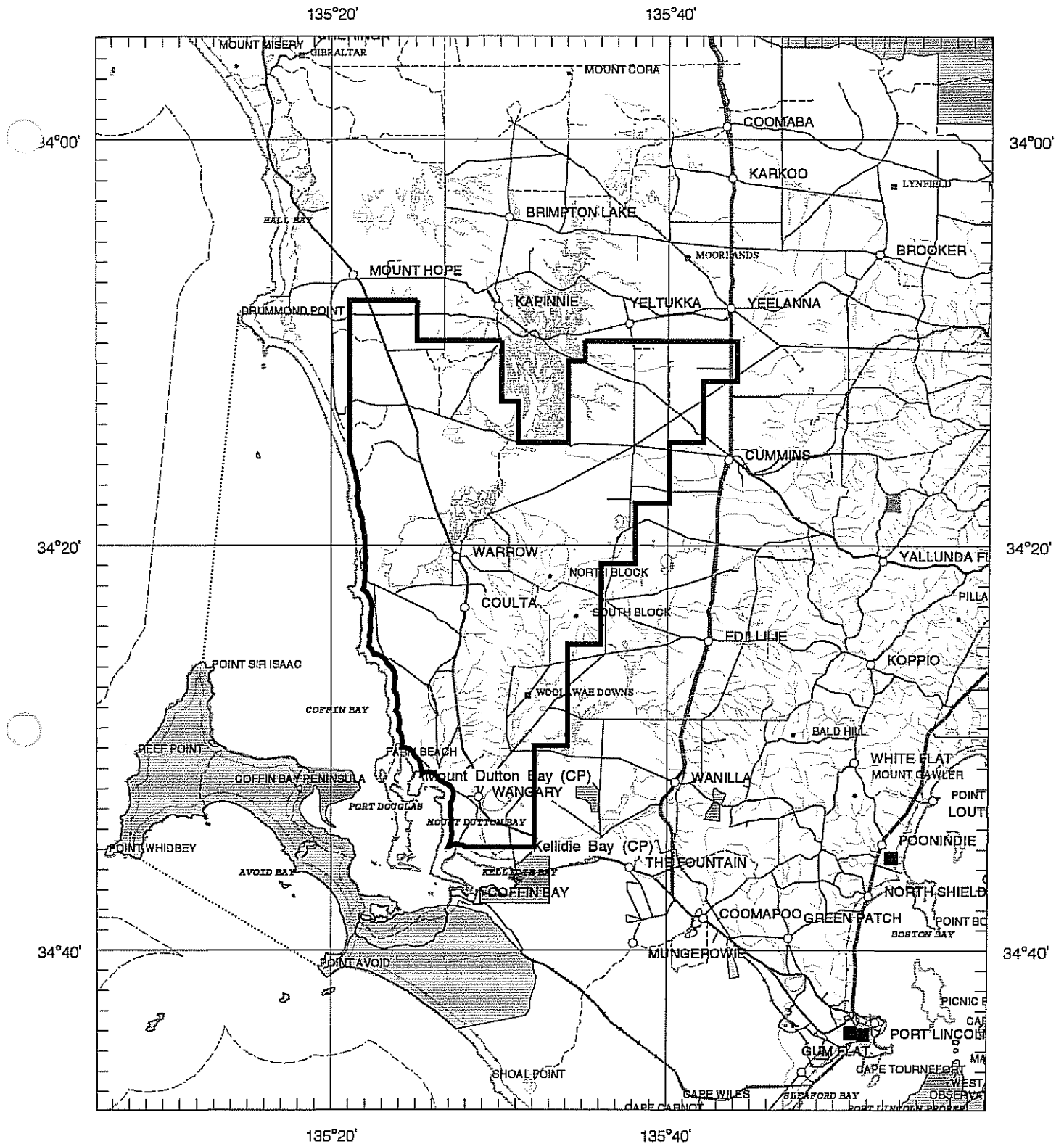
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**Government of South Australia**  
**Primary Industries and Resources SA**

# SCHEDULE A



SCALE 1 : 500 000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

LICENCE GRANTED IN : DATUM AGD66



APPLICANT : **INTERNATIONAL METALS PTY LTD**

FILE REF : **674/04**

TYPE : **MINERAL ONLY**

AREA : **957 km<sup>2</sup> (approx.)**

1:250000 MAPSHEETS : **LINCOLN**

LOCALITY : **COFFIN BAY AREA - Approximately 55 km northwest of Port Lincoln**

DATE GRANTED : **03-Feb-2005**

DATE EXPIRED : **02-Feb-2006**

EL NO : **3314**



27 May 2006

Records Officer  
Mineral Tenements  
PIRSA  
GPO Box 1671  
ADELAIDE SA 5001

Dear Sir/Madam

**EL 3314 – Annual Technical Report for the period ending 2 March 2006**

No field work was undertaken on EL 3314 during the first year of tenure. As there is no new technical data to report, an Annual Technical Report will not be submitted.

Expenditure for the first year was as follows:

Activity	Expense \$
Geology	5,715
Tenement maintenance	1,040
Admin/overheads	1,013
<b>Total</b>	<b>7,768</b>

If you require further information, please contact Gary Ferris, the Managing Director, on 0423 259 488.

Yours sincerely

Teena Coppin  
Tenement Manager

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**EXPLORATION LICENCE 3314**

**COULTA**

**ANNUAL TECHNICAL REPORT  
For the Period Ending March 2007**

Author: Gary Ferris  
Leon Faulkner

Date: January 2007

## Table of Contents

INTRODUCTION.....	3
LOCATION AND ACCESS.....	3
PREVIOUS EXPLORATION .....	3
GEOLOGICAL SETTING .....	6
CURRENT EXPLORATION PROGRAM .....	7
PACE DRILLING PROGRAM .....	8

## Figures

Figure 1	Location of EL3314 (Coulta).....	3
Figure 2	New aeromagnetic data (100m line spacing) for EL3314 draped on regional 400 metred spaced aeromagnetic data .....	10
Figure 3	Location of holes from first phase of Coulta Drilling program.....	11
Figure 4	Location of holes from second phase of Coulta Drilling program....	12
Figure 5	7 Areas on EL3314 interpreted as representing potential Greenstone rocks.....	12
Figure 6	Detailed view of Area A showing prominent fold closure in the north .....	14
Figure 7	Modelled magnetic data fro a line near hole COU006 .....	15
Figure 8	Detailed view of Area B .....	16
Figure 9	Modelled magnetic data for a line across hole COU011-014.....	17
Figure 10	Modeled magnetic data for line across hole COU015-017 .....	18
Figure 11	Detailed view of Area C .....	19
Figure 12	Modelled magnetic data for a line across hole COU005.....	20
Figure 13	Detailed view of Area D .....	21
Figure 14	Detailed view of Area E .....	22
Figure 15	Detialed view of Area F and G.....	23
Figure 16	Modelled magnetic data for a line across holes COU017-021 .....	23
Figure 17	Detailed view of holes COU026-030 .....	24

## Tables

Table 1	Summary of Company Exploration for EL3461 .....	6
Table 2	Drill hole summary.....	11

## Appendices

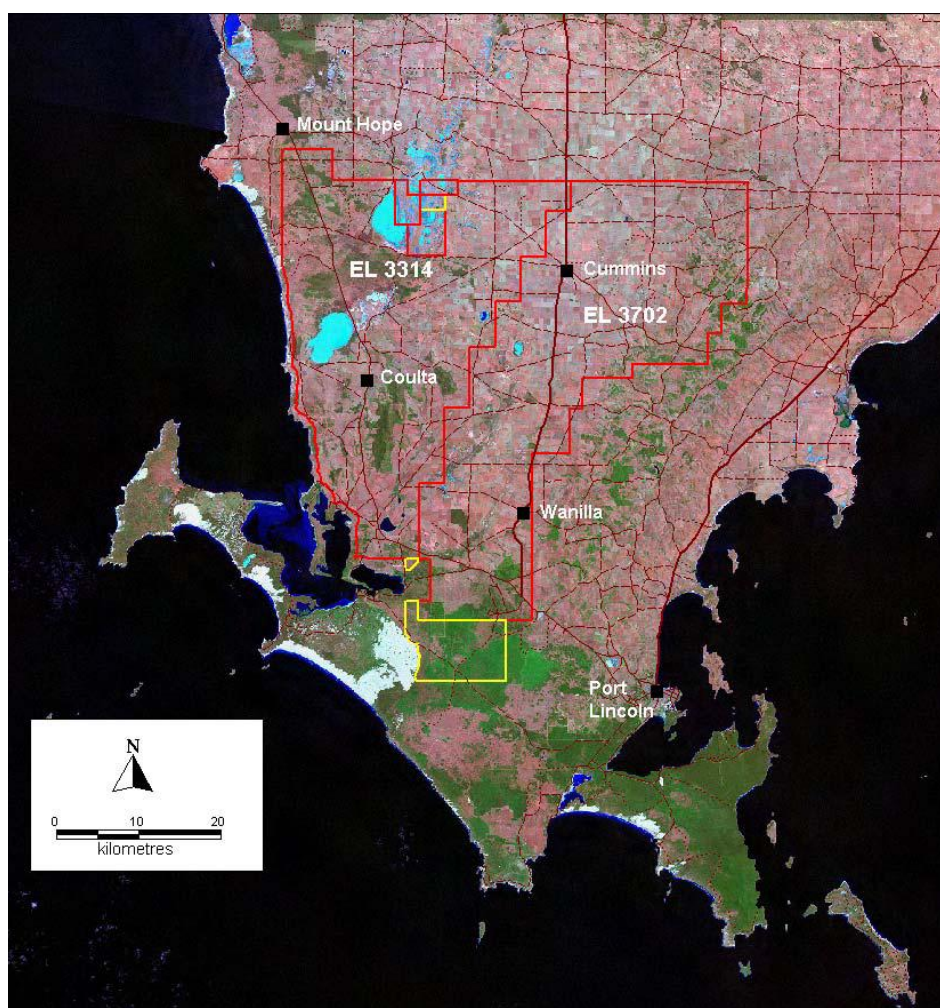
Appendix A	Airborne Geophysics Survey Report UTS Geophysics
Appendix B	Geochemistry from Phase 1
Appendix C	Geochemistry from Phase 2
Appendix D	Drill Hole Log Sheets

## INTRODUCTION

EL 3314 (Coulta) is located on southern Eyre Peninsula approximately 50 km WNW of the township of Port Lincoln (Figure 1). EL 3314 comprises 957 km<sup>2</sup> and is located within the Coulta Domain, an Archaean province, which contains a greenstone belt highly prospective for komatiite hosted nickel and gold and Archaean VHMS style deposits, comparable to the rich Canadian Abitibi Belt and the Eastern Goldfields of Western Australia.

## LOCATION AND ACCESS

EL 3314 is located on southern Eyre Peninsula and access from Port Lincoln is via the sealed Lincoln Highway and all weather graded roads (Figure 1).



**Figure 1 Location of EL 3314 (Coulta).**

## PREVIOUS EXPLORATION

Past exploration in this tenement included searches for uranium, industrial minerals, coal, diamonds, heavy mineral sands, gold and base metals.

Uranium was an exploration target from 1970 to 1982, although the first significant discovery was made near Port Lincoln in 1954, when a local resident discovered pitchblende mineralisation in a narrow zone within

Palaeoproterozoic metasediments. Endeavour Minerals NL (Endeavour) explored the northeast section of the Coffin Bay tenement from 1970 to 1973. Endeavour reported rotary drilling and radiometric anomalies, but submitted no technical data.

Uranerz (Australia) Pty Ltd (Uranerz) explored the eastern section of the tenement in 1975-76, looking for sedimentary uranium in lower Tertiary carbonaceous and pyritic sands. Extensive groundwater sampling identified low uranium concentrations associated with high sulphate, chloride and bicarbonate values. Seismic and gravity surveys delineated palaeochannels incised into basement. Rotary mud drilling (24 holes, 10 of which were in this tenement) yielded only low uranium values in most holes. In 1978-79, Uranerz also explored the southern portion of the Coffin Bay tenement, undertaking geological mapping, magnetic and radiometric surveys and water sampling, without finding significant uranium anomalies.

From 1980 to 1982, Afmeco Pty Ltd (Afmeco) searched for uranium across a region including the southern part of the tenement and extending further east. Afmeco carried out airborne and ground magnetic and radiometric surveys, collected soil samples and drilled 121 auger holes (10 in this tenement) and 8 diamond drill holes (5 in this tenement). Afmeco reported minor patchy pitchblende occurring in basement rocks.

Industrial minerals have attracted significant exploration efforts. Kaolin was a secondary target for Endeavour (see above) from 1970 to 1973. Blacker Motors Pty Ltd investigated the Mount Hope kaolin deposits in the western part of the tenement from 1971 to 1973. Exploration Drilling Pty Ltd targeted a similar area in 1973-74, followed by Loch Shiel Pty Ltd, who continued assessment of the kaolin until 1976. From 1986 to 1988, South Australian Kaolin Pty Ltd (SA Kaolin) undertook further assessment of the kaolin at Mount Hope, which is derived from a kaolinised granitic gneiss. SA Kaolin drilled 19 holes to obtain samples for testing. They concluded that the kaolin may not be of paper coating quality, but is of paper filler grade and suitable for ceramics.

Gypsum was another industrial mineral of interest. From 1985 to 1991, John F Gilfillan and Associates Pty Ltd assessed deposits in the lake and marginal dunes at Lake Malata. Drilling of 62 auger holes delineated 1.2 million tonnes of gypsite and gypsarenite suitable for plaster manufacture, but only after beneficiation. Five diamond drill holes outlined a further inferred resource containing 30 million tonnes of gypsum beneath the lake bed.

Near surface lignite coal was reported on Coffin Bay Peninsula prior to 1961. CRAE targeted Tertiary brown coal (lignite) in the northern part of the tenement in 1981-82, drilling five holes (2 in this tenement) without intersecting coal.

Stockdale Prospecting Ltd (Stockdale) explored for diamonds over a region generally north of the tenement from 1988 to 1992. Stockdale undertook airborne geophysical surveys, heavy mineral sampling and ground magnetic

surveys, before drilling 91 holes, two of which were in the tenement. The drilling located two kimberlites, which were investigated with a further 42 drill holes. Both kimberlites are small, and covered by 20 to 50 metres of Cainozoic sediments. Stockdale reported that neither is diamond bearing.

Heavy mineral sands were the initial target for Dominion Mining Ltd (Dominion) and Southern Ventures NL (Southern Ventures), who explored the eastern section of the tenement from 1989 to 1994. Drilling of 167 RC holes (11 in this tenement) returned a best intersection of 3 metres containing 1.41%  $\text{TiO}_2$  and 0.15%  $\text{ZrO}_2$ .

Dominion and Southern Ventures subsequently switched to gold and base metals exploration. Work included soil, rock chip and stream sediment geochemistry, ground magnetics and 97 RC drill holes. Dominion and Southern Ventures found low-order gold and base metals anomalies in Hutchison Group metasediments of the basement, which included banded iron formation (BIF).

Company base metals exploration dates from 1970-71, when Southern Concrete Masonry Ltd targeted an area surrounding the Lady Franklin and Moonlight Mines for metalliferous minerals, although work appears to have been limited to a review of available data.

More recent base metals exploration dates from 1983-85, when CRAE explored the southern section of the tenement. CRAE investigated Lady Franklin prospect, where gravity, magnetic and IP surveys generated targets for 140 RAB holes and 8 percussion/diamond core holes. One hole intersected 14 metres of disseminated copper, lead, zinc mineralisation. CRAE also undertook regional exploration, following up a stream sediment survey and ground magnetic traverses with 29 RAB holes and 16 RC holes.

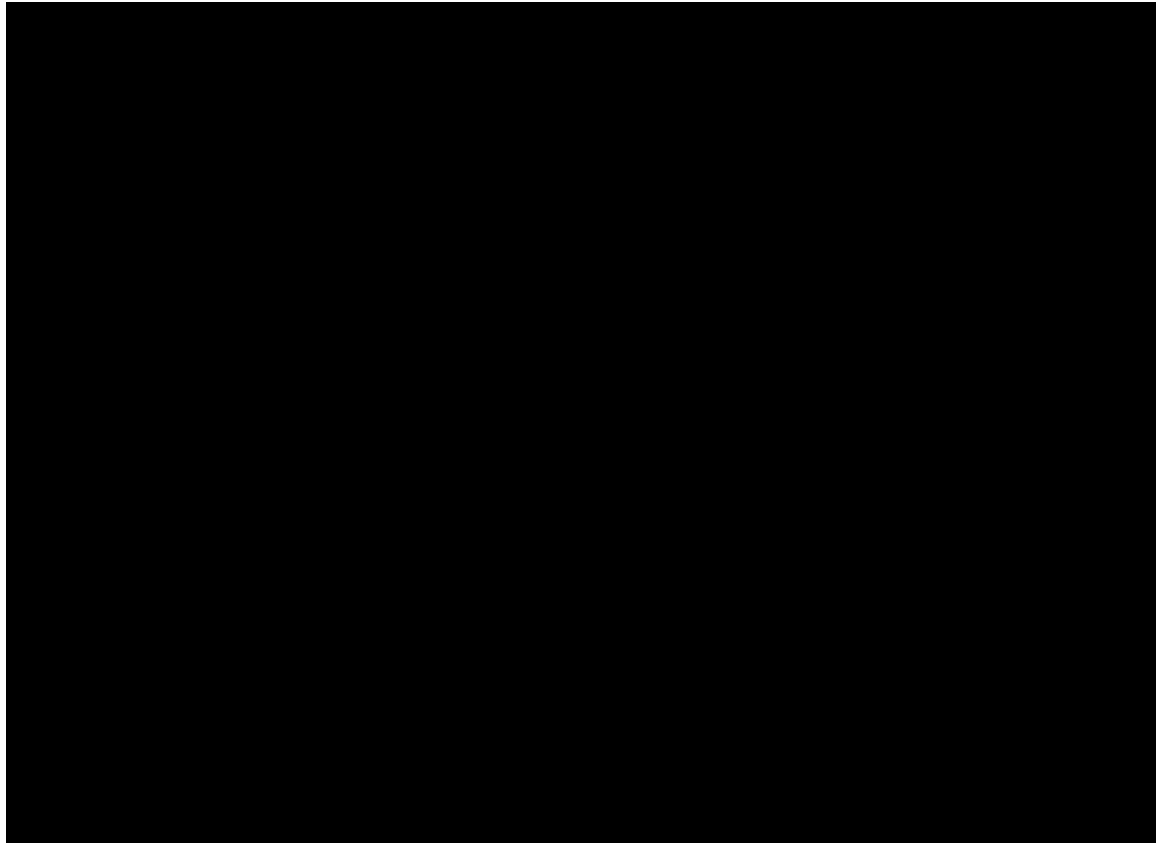
Lynch Mining Pty Ltd (Lynch) and Alphadale Pty Ltd (Alphadale) explored for gold and base metals between 1994 and 2004, covering an area generally to the north of the tenement. The initial target was a north trending linear feature named the Coffin bay Magnetic Anomaly, which here lies offshore, to the west of the tenement. Lynch and Alphadale recognised basement lithologies that were similar to those of the late Archaean Abitibi Belt in Canada, which contains Volcanic-hosted Massive Sulphide (VHMS) deposits. Drilling by Lynch and Alphadale intersected felsic metavolcanics, BIF, calc-silicates, tremolite marbles and magnetite-rich lithologies. Uranium-lead zircon dating confirmed a probable late Archaean age. Assays revealed some highly anomalous gold, lead, zinc, copper, silver, cobalt and molybdenum concentrations. Work continues on the areas considered the most prospective.

Goldstream Mining NL (Goldstream) searched for gold and base metals over the northern and eastern sections of the tenement between 1997 and 2000. Goldstream undertook geochemical sampling, data reviews and drilling. RAB drilling (33 holes) of magnetic anomalies in Archaean basement yielded moderately elevated gold, copper, lead and zinc values, but no evidence of



hydrothermal alteration. Exploration in the southwest of the Coffin Bay tenement also included geochemical surveys, followed by aircore drilling (23 holes, 2 in this tenement). However, difficult regolith sampling conditions and difficult drilling hampered effective investigations.

A summary of previous exploration on EL 3314 is presented in Table 1.



**Table 1 Summary of Company Exploration for EL 3461**

## **GEOLOGICAL SETTING**

Basement rocks beneath the project area are interpreted as predominantly Archaean gneisses of the Sleaford Complex. In the southern (Coffin Bay) tenement, north trending outliers of Palaeoproterozoic Hutchison Group metasediments are interfolded with the Archaean. There are also sub-circular bodies of Palaeoproterozoic Moody Suite granites in the northeast corner of Coffin Bay tenement. Offshore immediately west of Coffin Bay is a north trending belt representing interpreted extensions of the Archaean Hall Bay Volcanics and Price Metasediments. Immediately north of Coffin Bay tenement recently discovered rocks of the Coultas Greenstone Domain are complexly interfolded with the Sleaford Complex gneisses. The Coultas greenstones contain komatiites and are interpreted as a southern extension of the Harris Greenstone Domain.

Outcrop of basement is mainly confined to the Marble Range and coastal regions in southern Coffin Bay. Warrow Quartzite Member crops out strongly, flanked by Archaean granites of the Dutton Suite.

Amphibolite-facies metasediments with interlayered acid and basic Archaean Hall Bay Volcanics containing anomalous copper, zinc and gold have been drilled by Wirrie Gold and PIRSA to the north of EL 3314 at Mount Hope. Manganese rich garnets and gahnite indicate proximal alteration assemblages. Zinc anomalism has been intersected in a number of drillholes and thus there is good VHMS potential particularly within the felsic volcanics. EL 3314 covers over 80km of strike length of prospective stratigraphy with good possibility of structural repetition.

The Lady Franklin Mine and Moonlight Mines are located on EL 3314 and small amounts of ore containing galena and sphalerite with minor copper, silver and gold were mined in early 1900's. Ore is contained within thin sulphide rich lenses within the Hutchinson Group.

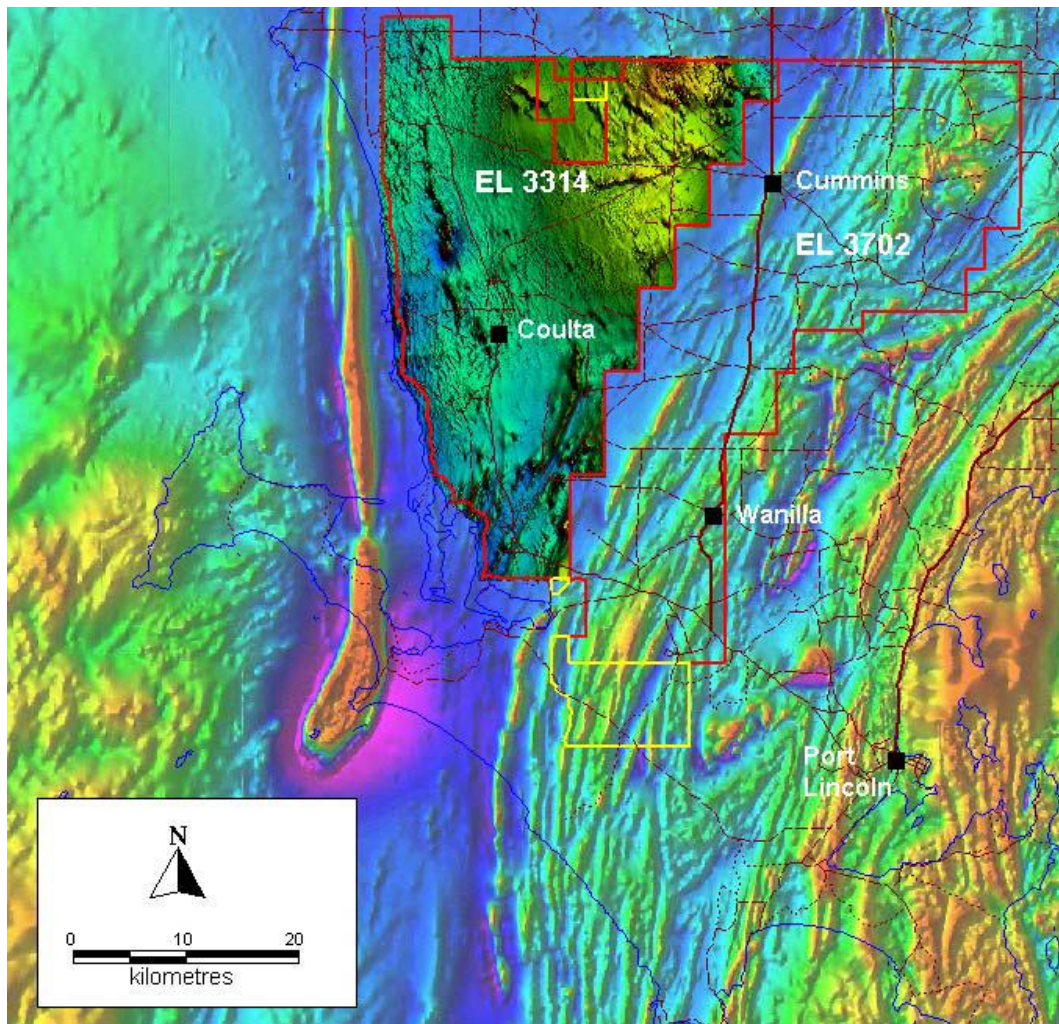
Overlying the basement in many areas of Eyre Peninsula are carbonaceous terrigenous clastics of the Pidinga Formation (Poelpena Formation or Wanilla Formation on southern Eyre Peninsula) that average 30\_60 m in thickness and fill depressions and channels. These sediments are highly charged with groundwater, are pyritic and sometimes contain thin lignite. In view of the occurrence of potentially uranium-bearing granites in the regions, these channels and depressions may have potential for rollfront uranium.

## **CURRENT EXPLORATION PROGRAM**

### ***Aeromagnetic Survey***

UTS geophysics was contracted to undertake a detailed aeromagnetic and radiometric survey over EL 3314. A total of 11, 632 Line kilometres were flown on lines 100 metres apart. The Final Report for the Survey is included as Appendix A.

Figure 2 shows the new aeromagnetic data overlying the pre-existing 400 line spaced data. The new aeromagnetic data highlighted a series of N-S trending magnetic units, which are interpreted to represent possible mafic extrusives or iron-rich units of the Hall Bay Volcanics similar to those drilled in the vicinity of Mount Hope.



**Figure 2 New aeromagnetic data (100 metre line spacing) for EL 3314 draped on regional 400 metred spaced aeromagnetic data.**

### ***PACE Drilling Program***

InterMet successfully applied for a grant of \$50,000 from PIRSA, through its Plan for Accelerated Exploration (PACE).

#### **Drilling was undertaken in two phases.**

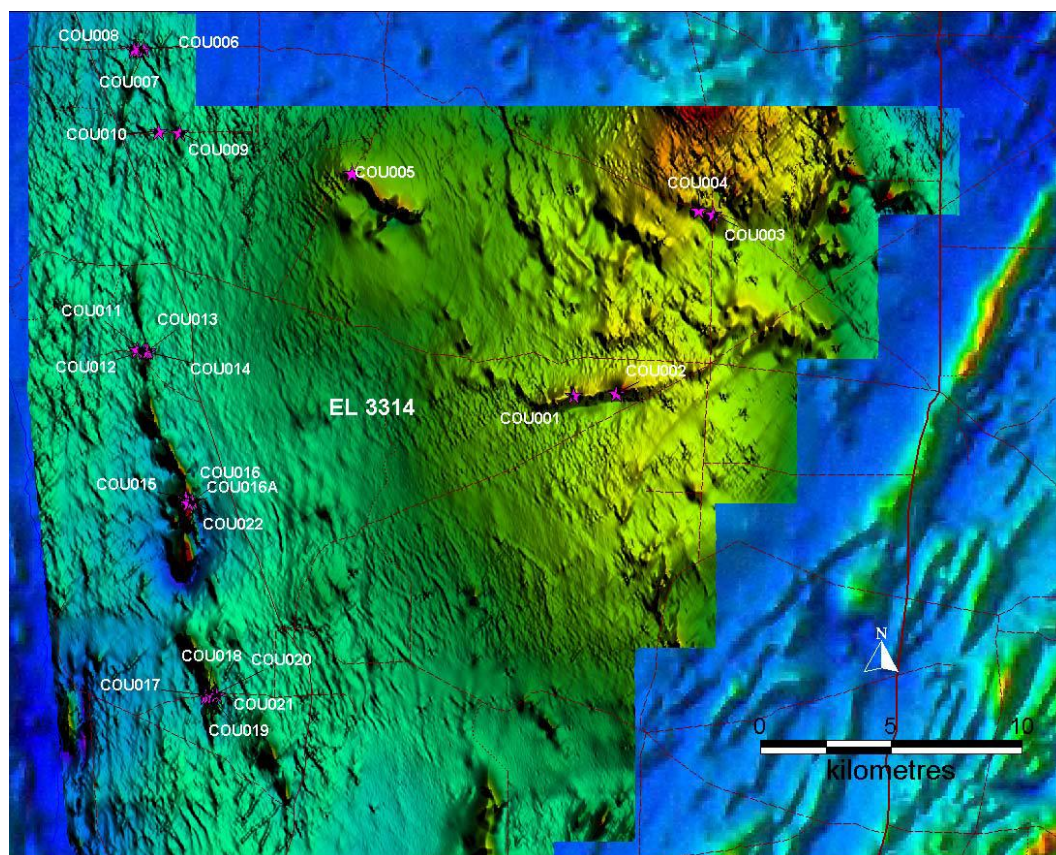
InterMet Resources initially drilled 22 holes (Phase 1) totaling 609 metres on EL 3314 (Figure 3). The original plan was to drill a mixture of rotary mud and air core holes, but difficulties with air core drilling due to groundwater and excessive drill bit failure prompted a change to RAB to achieve the aims of the program.

A second phase of drilling was undertaken with an RC rig aimed at drilling deeper and intersecting the magnetic features outlined by the recent aeromagnetic survey. Ten holes (COU023-032) were completed for 680 metres for a cumulative total of 33 holes for 1289 metres (Figure 4; Table 2).



The first stage of the drilling program was completed on November 29 2006. The second phase of drilling was completed on February 7 2007.

Geochemical analyses are presented in Appendix B (Phase 1) and Appendix C (Phase 2) and drill hole logs are presented in Appendix D.



**Figure 3 Location of holes from first phase of Coulta Drilling program**

### **Results from First Program**

The drilling failed to intersect any lithologies which would explain the aeromagnetic data due to difficult drilling conditions. Modeling of the magnetic data showed the magnetic features are between 50-90m deep and the drilling failed to penetrate to the required depth.

Best results from the first drilling program include:

Hole COU003 - 51 ppm Ag 38-41m

Hole COU006 - 481 ppm Cu (5-6 m); 324 ppm Zn (5-6 m); 1076 ppm Co (6-10 m)

Hole COU009 – 3.9 ppb Au (8-12 m)

### Results from Second Program

All holes from the second program intersected granite/gneiss interpreted to represent Wangary Gneiss with varying magnetite content.

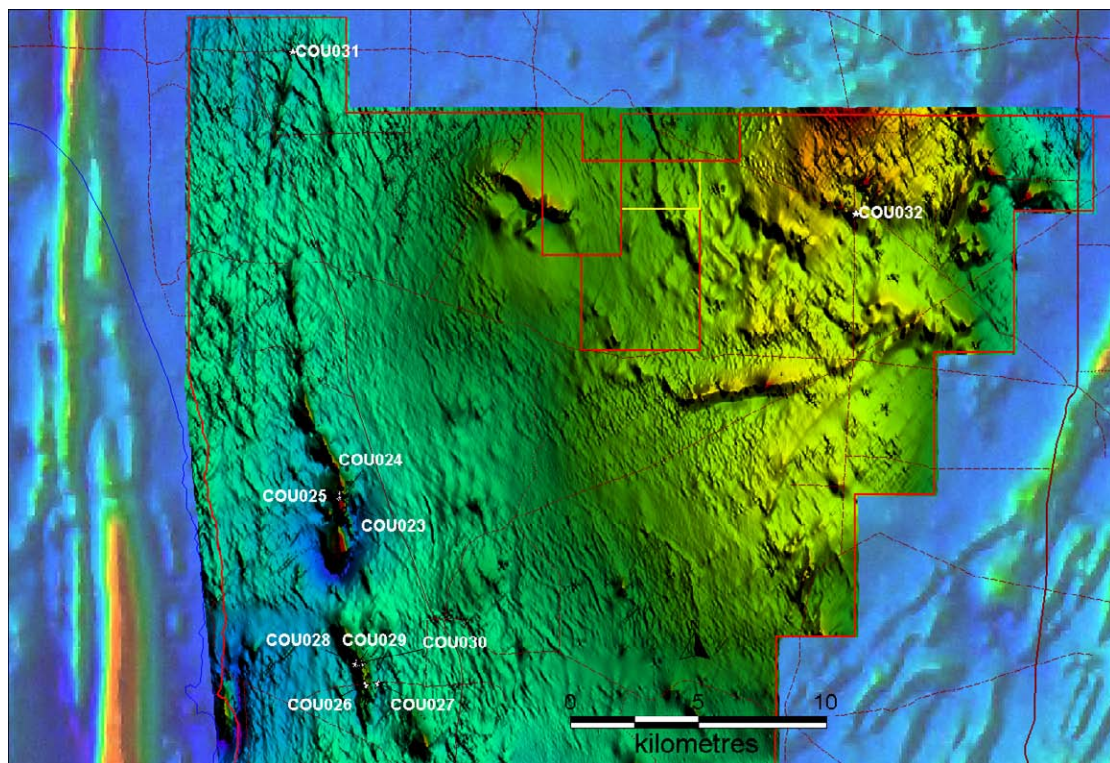
Best results from the second drilling program include:

Hole COU031 – 0.22% Zn, 442 ppm Pb (68-72m)

Hole COU031 – 583 ppm Zn, 231 ppm Pb (72-76m)

Hole COU031 – 310 ppm Zn, 124 ppm Cu (76-80m)

Hole COU031 – 814 ppm Zn, 150 ppm Pb (80-84m)



**Figure 4 Location of holes from second phase of Coultas Drilling program**

A summary of the drill holes is presented in Table 2

**Table 2 Drill hole summary**

<b>Hole No.</b>	<b>Easting</b>	<b>Northing</b>	<b>Total Depth(m)</b>	<b>EOH Lithology</b>
COU001	553072	6208597	108	granite
COU002	554720	6208657	54	granite
COU003	558435	6215508	41	granite
COU004	557845	6215667	42	clay??
COU005	544596	6217064	14	biotite gneiss
COU006	536417	6221812	14	biotite gneiss
COU007	536649	6221804	22	granite
COU008	536275	6221818	27	?granite/gneiss
COU009	538019	6218611	24	biotite gneiss/schist
COU010	537210	6218641	20	granite
COU011	536646	6210295	27	granite
COU012	536723	6210300	27	granite
COU013	536784	6210300	27	biotite gneiss
COU014	536387	6210312	21	gneiss
COU015	538247	6204662	23.5	Granite/gneiss
COU016	538344	6204460	21	Granite/gneiss
COU016A	538349	6204467	20	Granite/gneiss
COU017	539036	6197102	4	granite/biotite gneiss
COU018	539142	6197113	8	granite/biotite gneiss
COU019	539252	6197123	6	granite/biotite gneiss
COU020	539275	6197126	7	granite/biotite gneiss
COU021	539416	6197146	31.5	weathered granite
COU022	538505	6204547	20	Granite
COU023	538349	6204430	126	Granite
COU024	538309	6204471	126	Granite
COU025	538275	6204495	96	Granite
COU026	539262	6197121	78	Granite
COU027	539785	6197190	26	Granite
COU028	539120	6197960	30	Granite
COU029	539020	6197960	30	Granite
COU030	538920	6197960	24	Granite
COU031	536449	6221813	96	Granite
COU032	558423	6215516	48	Granite

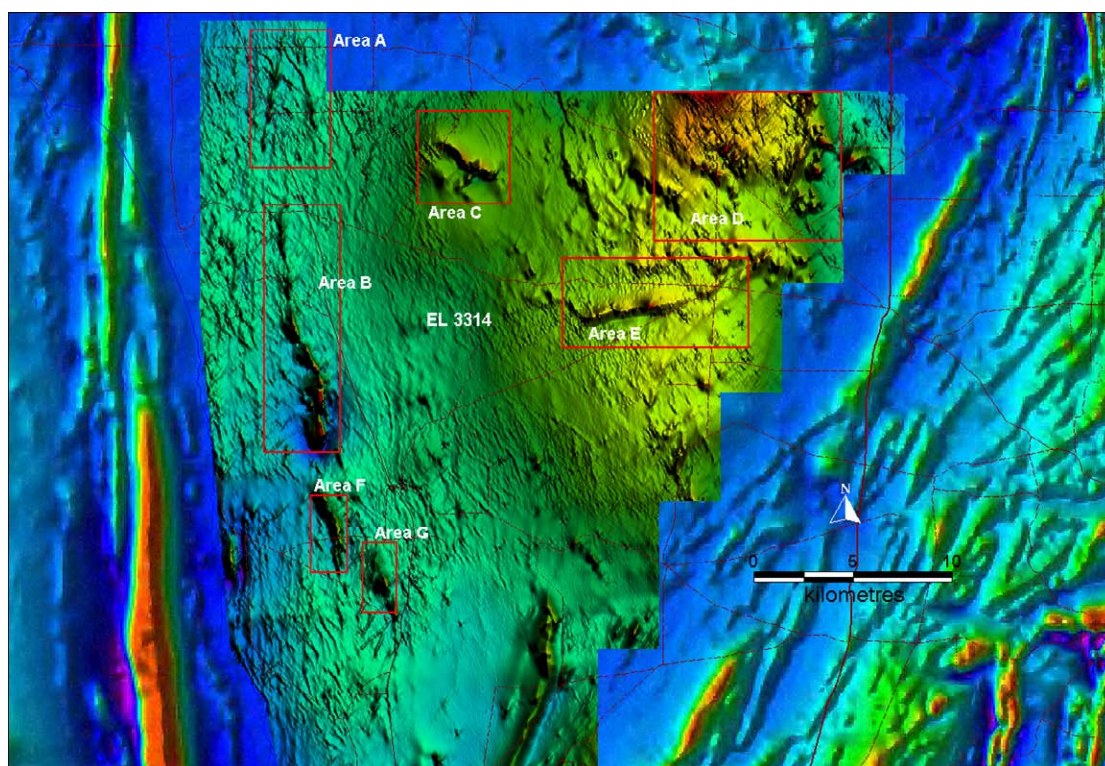


## Summary - Drilling Program

InterMet had previously outlined 7 areas (Areas A - G – see Figure 5) as areas of interest in searching for Archaean greenstone units which potentially host nickel, gold and base metal deposits.

InterMet interprets these features are part of the greenstone sequence intersected to the north of the tenement. Drilling of similar magnetic features in the Mount Hope area intersected a sequence of mafic and felsic seafloor volcanics with interlayered magnetite rich pelitic sediments. These units are termed the Hall Bay Volcanics and are considered prospective for volcanic hosted massive sulphide deposits and gold deposits.

The first stage of the Coultas drilling program failed to intersect any lithologies which would explain the magnetic features outlined in the aeromagnetic data due to difficult drilling conditions. Modelling of the magnetic data showed the magnetic features are between 50-90m deep and the drilling failed to penetrate to the required depth. Phase two was aimed at testing the strongest magnetic features with deep RC drilling.



**Figure 5 7 Areas on EL 3314 interpreted as representing potential Greenstone rocks.**

### Area A

Area A comprises a linear north-south trending fold closure (Figure 6). Previous exploration drilling within the vicinity by Abaleen Minerals was focussed on the search for kaolinite. Area A has no basement exposure and drill logs indicate basement is relatively shallow (generally <20 m) and comprises gneissic units. CRA drilled hole 81 CBR2 to the north of Area A in the search for coal and uranium and intersected granitic basement rocks at ~29 m.

5 Holes COU006-10 were drilled in Area A and all holes bottomed in granite. hole COU006 was located in the closure of a prominent fold closure on the new aeromagnetic data Figure 6) and reported slightly anomalous Cu 481 ppm (5-6 m); Zn 324 ppm (5-6 m); and Co 1076 ppm (6-10 m). Hole COU006 bottomed at 14m within a non-magnetic biotite granite. Figure 7 shows the magnetic profile generated from the aeromagnetic data and predicts the top of the magnetic unit within the basement is located at 55 m below the ground surface.

Hole COU031 was drilled to extend the depth of COU006. A quartz-feldspar-biotite granite gneiss was intersected. Assay results show anomalous zinc up to 0.22% intersected. Best results were:

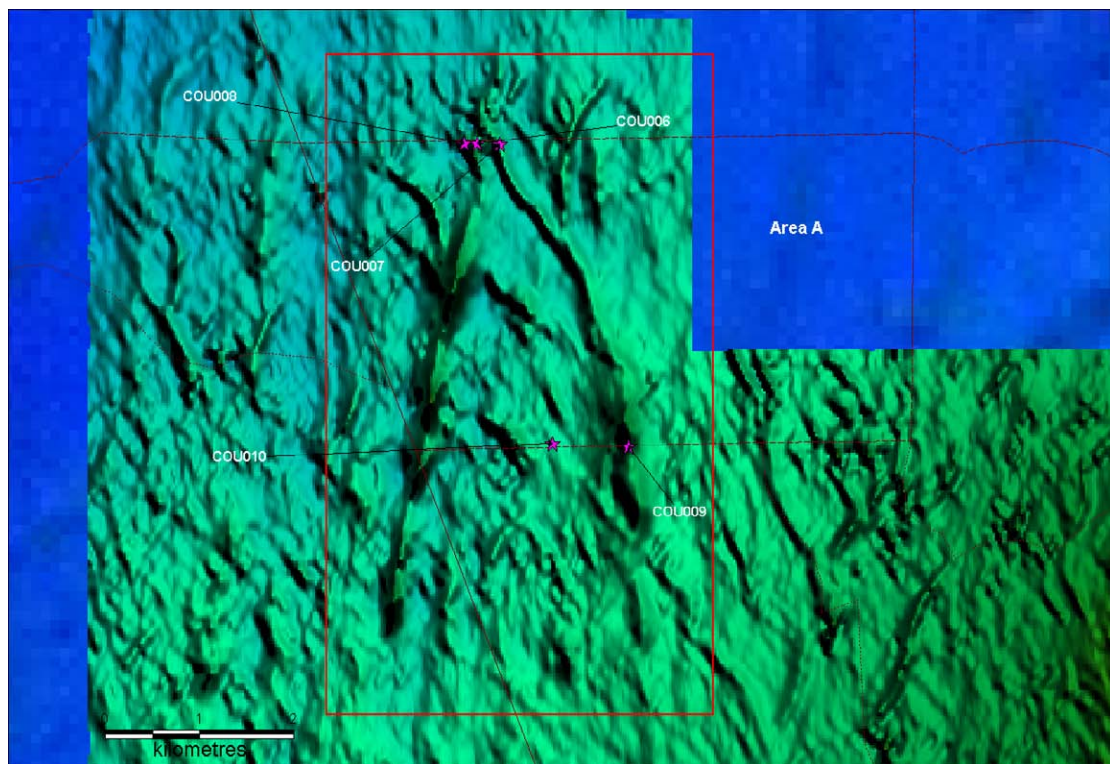
Hole COU031 – 0.22% Zn, 442 ppm Pb (68-72m)

Hole COU031 – 583 ppm Zn, 231 ppm Pb (72-76m)

Hole COU031 – 310 ppm Zn, 124 ppm Cu (76-80m)

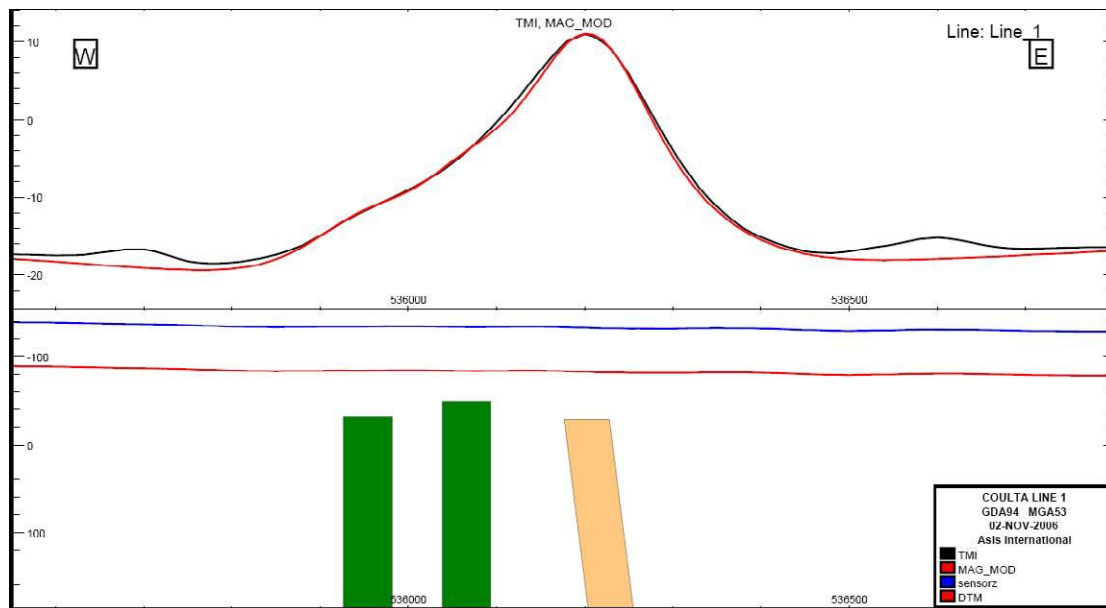
Hole COU031 – 814 ppm Zn, 150 ppm Pb (80-84m)

This area warrants further work and InterMet plans to undertake a soil sampling program within this area later in 2007.



**Figure 6 Detailed view of Area A showing prominent fold closure in the north.**



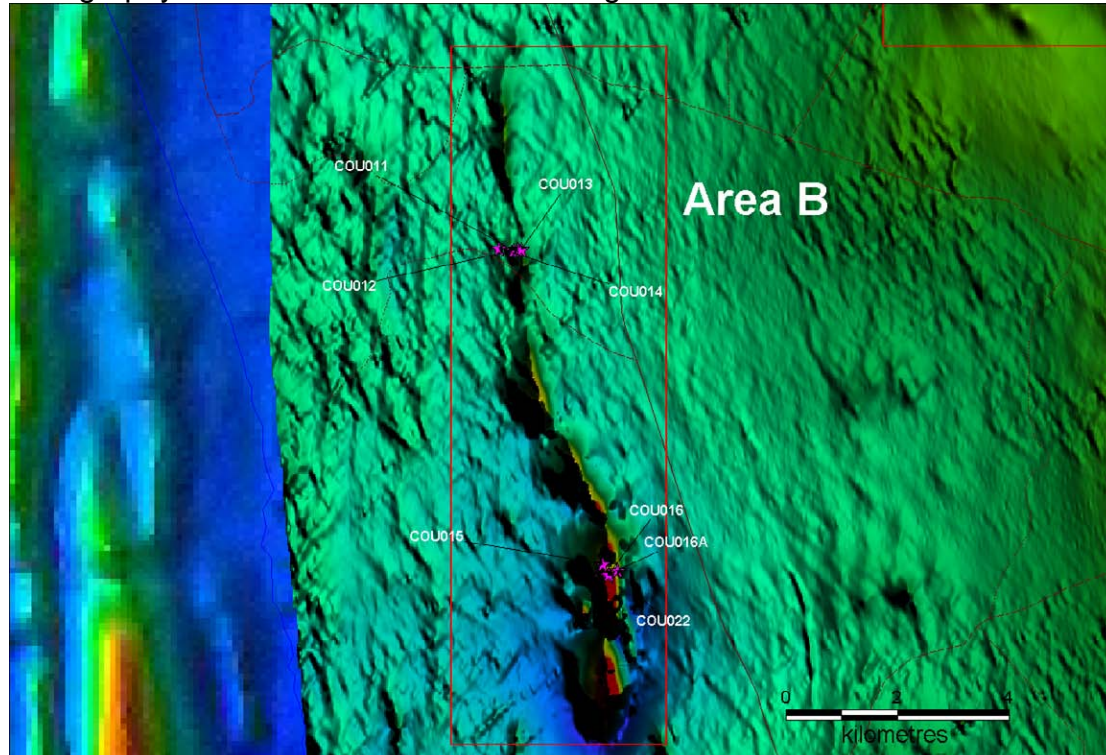


**Figure 7 Modelled magnetic data for a line near hole COU006.**

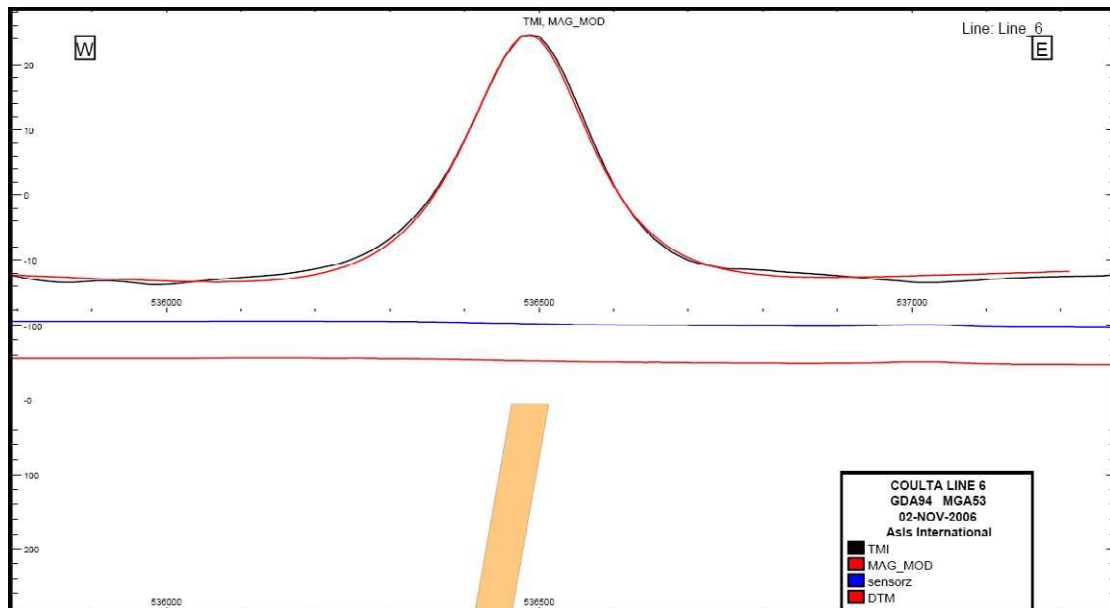
### Area B

Area B is also a linear north-south trending magnetic feature with a strike length of 13 km (Figure 8), which contains no known exploration drill holes. Drill hole E1 drilled off the magnetic feature bottomed at 19 m in kaolinite.

4 holes COU 11-14 were drilled across a zone of N-S trending magnetic stratigraphy. All holes bottomed in biotite granite.



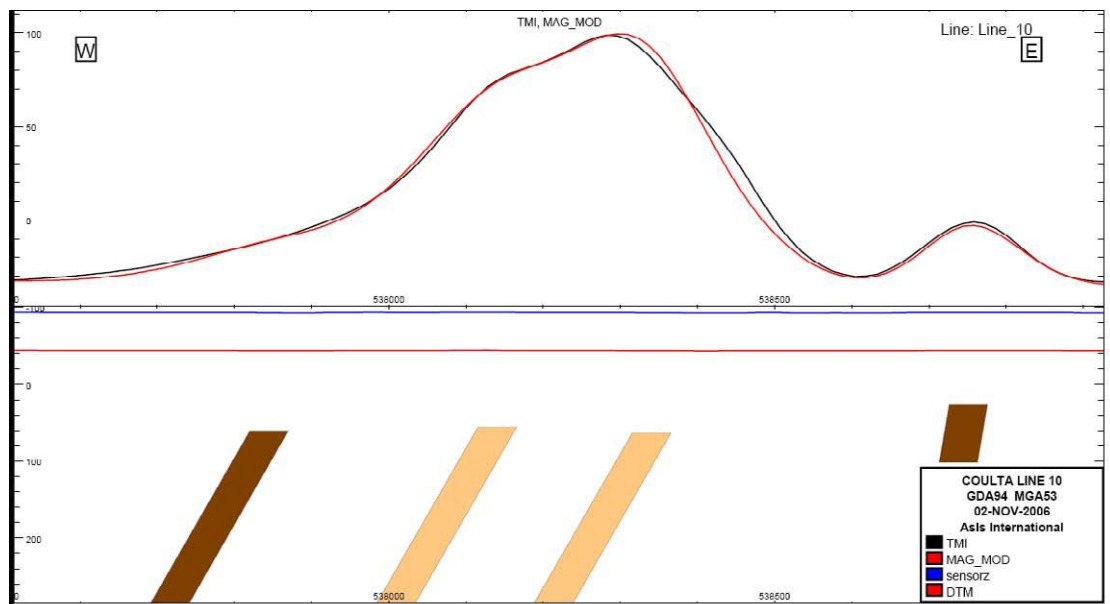
**Figure 8 Detailed view of Area B**



**Figure 9 Modeled magnetic data for a line across holes COU011-014**

Depths for holes COU011-014 ranged from 21-27 m. Figure 9 shows the predicted model of the magnetic unit within the basement. The predicted depth to the top of the magnetic unit is 55 m. No further holes were drilled on this traverse.

Holes COU015-017 and COU022 were drilled across part of the magnetic stratigraphy with the most intense magnetic response. All holes bottomed at ~22m in a non-magnetic granite. Figure 10 shows the predicted top of the magnetic basement is ~90m deep. Hence, the first drilling program failed to test the magnetic stratigraphy.



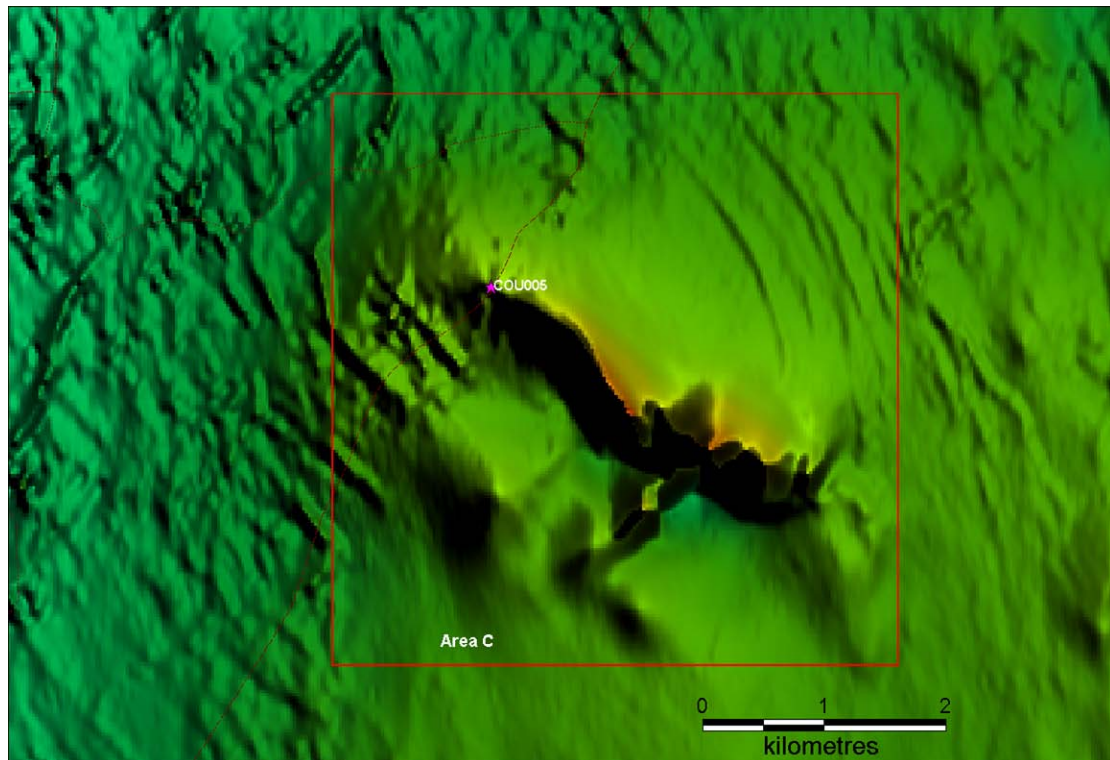
**Figure 10 Modeled magnetic data for line across holes COU015-017.**

Holes COU023-25 were drilled to extend the depth of the previous drilling and intersect the modeled magnetic features shown in Figure 10. All three holes

were drilled 60° to the east. All holes intersected gneissic units interpreted to be part of the Wangary Gneiss. These holes contained various amounts of magnetite which is reflected in the Fe content which ranged from 1.46% to 5.51% (Appendix B). All other assay results are low.

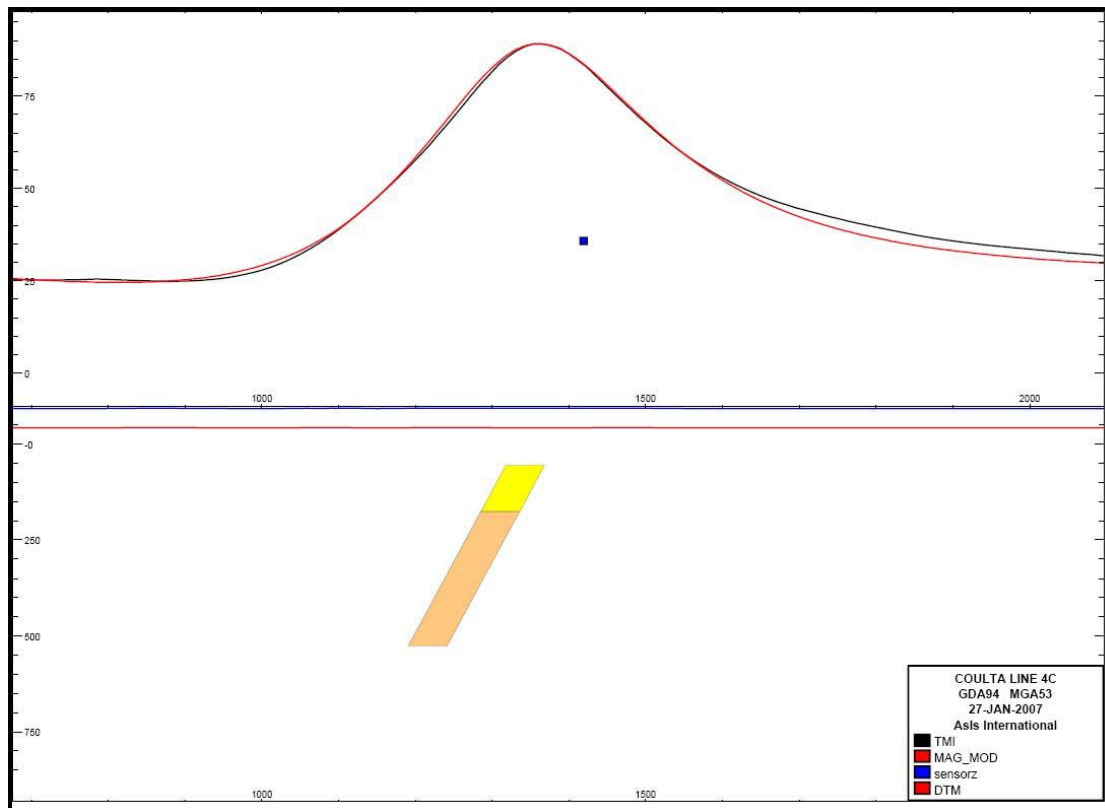
### **Area C**

Area C is centred on Lake Malata and comprises a roughly circular area of complex basement rocks (Figure 11). Drill holes Lake Malata DH1-5 were drilled to define gypsum resources within Lake Malata. One hole COU005 was drilled to a depth of 14 m and intersected a non-magnetic biotite gneiss.



**Figure 11 Detailed view of Area C.**

Geophysical appraisal of this area has show this area to be much deeper than first interpreted. On line 4C the fresh rock is interpreted to be at an RL of -175 (depth below ground about 220 metres) with a much less magnetic zone representing weathering (or magnetite destruction through alteration??) at an RL of -55, or depth below ground of about 100 metres (Figure 12). No further drilling was undertaken in this area due to excessive depth, hence the prominent magnetic feature remains untested.

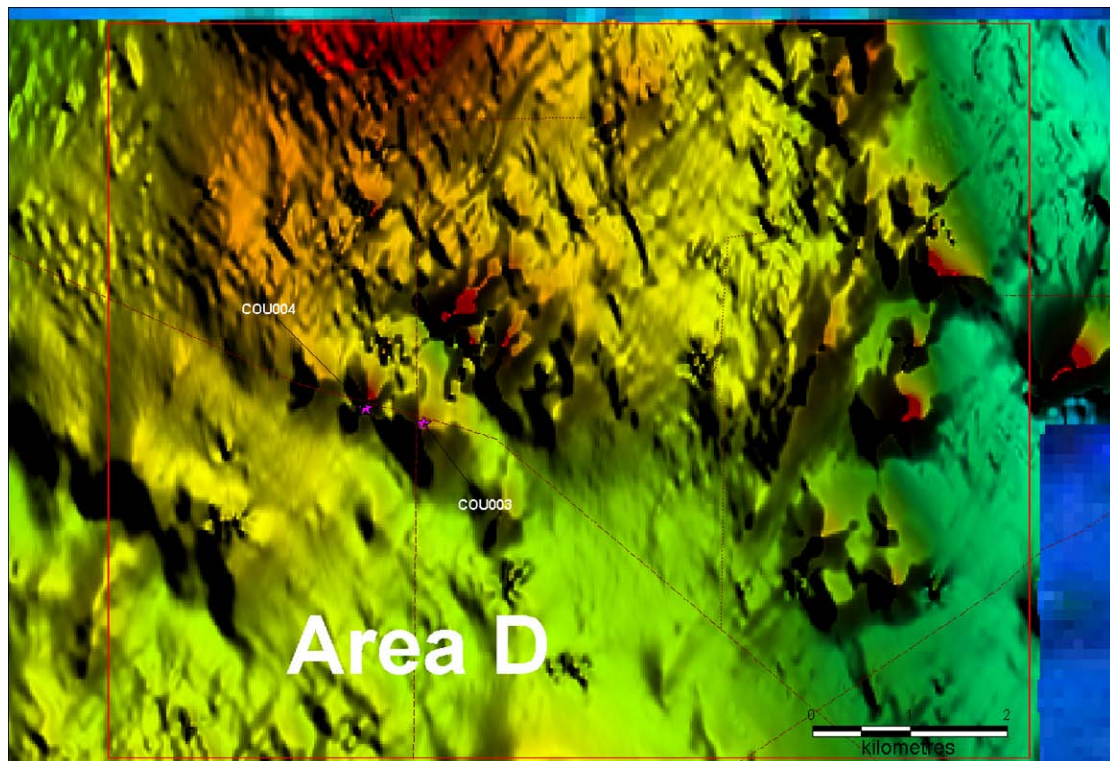


**Figure 12 Modeled magnetic data for a line across hole COU005**

### **Areas D and E**

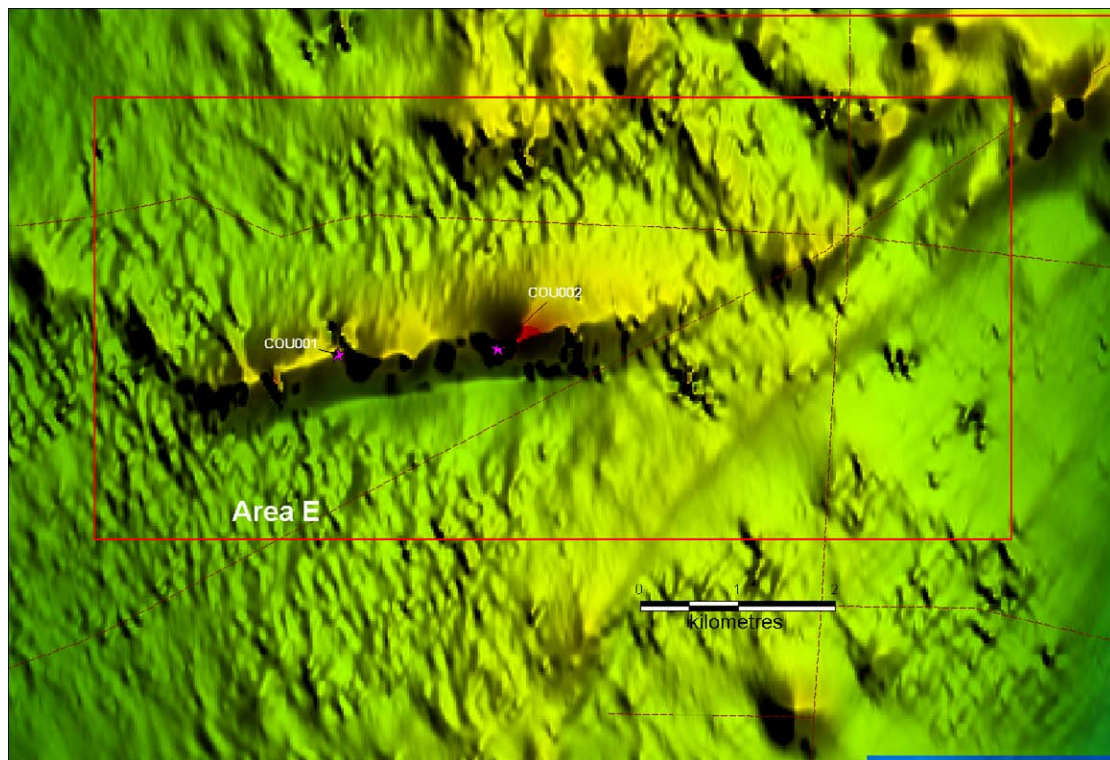
Areas D and E represent an area of complex basement lithology. Exploration drilling shows basement depth varies widely due to a major palaeochannel within the area. Area D is shown in Figure 13 and two holes COU003 and COU004 were drilled to test spot magnetic highs. Both holes intersected granite with hole COU003 containing magnetite and pyrite. Assays were generally low but the base of COU003 returned 51 ppm Ag. This may be due to contamination from the drill bit. Hole COU032 was drilled to a depth of 48m and no anomalous values were returned suggesting the initial result was due to contamination from the air core drill bit (weld).





**Figure 13 Detailed view of Area D.**

Holes COU001 and COU002 were drilled in Area E (Figure 14). Both holes were within the Cummins Palaeochannel. COU001 bottomed at 108m and COU002 at 58m. Both holes bottomed in a granite. Palaeochannel samples from these holes have been submitted for uranium analysis by InterMet's joint venture partner WCP Uranium Ltd.



**Figure 14 Detailed view of Area E**

### Area F

Area F is an extension of Area B (Figure 15) and comprises a roughly north-south trending linear magnetic feature. CRA drilled one line of holes and intersected a range of basement lithologies from granitic gneiss, amphibolite and mafic schist. Some of these units are interpreted to represent part of the Hall Bay Volcanics.

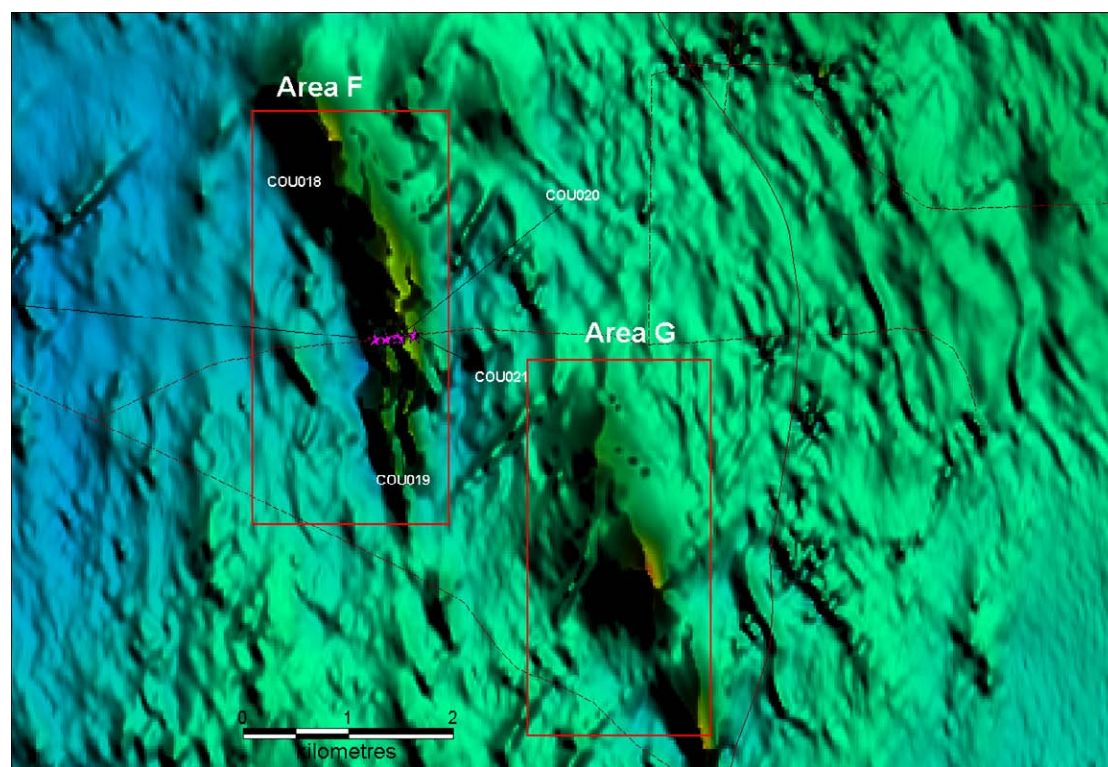
5 Holes COU017-021 were drilled across this magnetic unit and hole depths ranged from 4 to 31.5 m and all holes bottomed in granitic/gneissic basement rocks interpreted to be Wangary Gneiss. Figure 16 shows the modelled depth to the top of the magnetic stratigraphy and the magnetic units are interpreted to be 45 m below the ground surface.

Hole COU026 was drilled 60 to the west to a depth of 78 m and intersected a slightly magnetic variant of the Wangary Gneiss (Figure 17). Hole COU027 was drilled away from the main N-S trending magnetic feature and the Fe content was slightly lower than COU026. Fe content in COU026 ranged from 0.99% to 2.91% compared to 0.43% to 2.72% (Appendix B).

Holes COU028-COU030 were drilled to further test the basement lithology and all holes intersected magnetite bearing granitic gneiss interpreted to represent a more magnetite rich unit of the Wangary Gneiss.

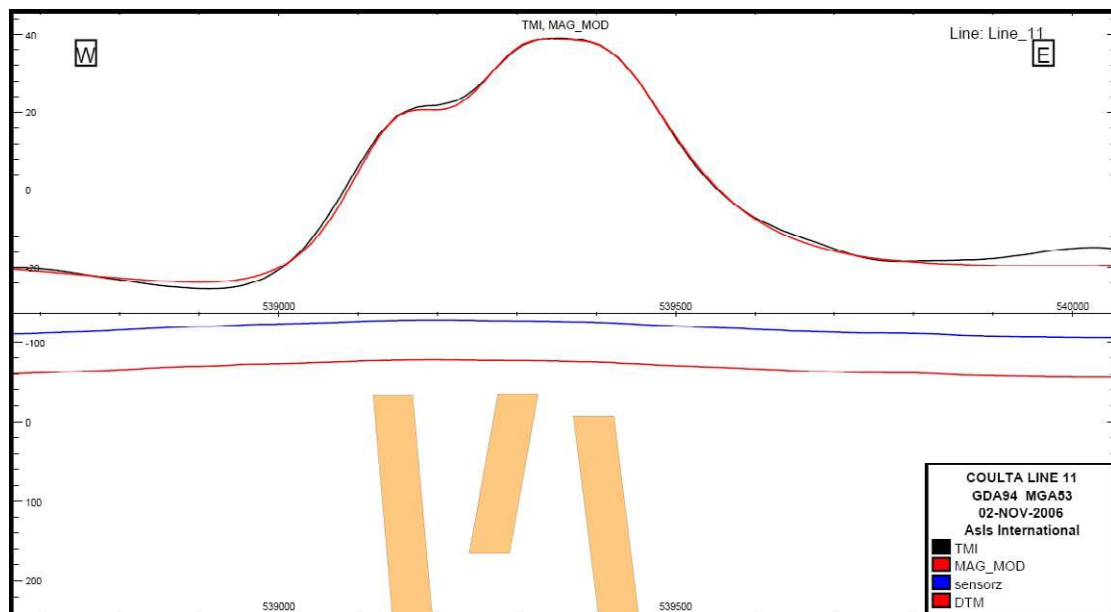
### Area G

Area G comprises 3 discrete magnetic features within the regional N-S trend (Figure 15).

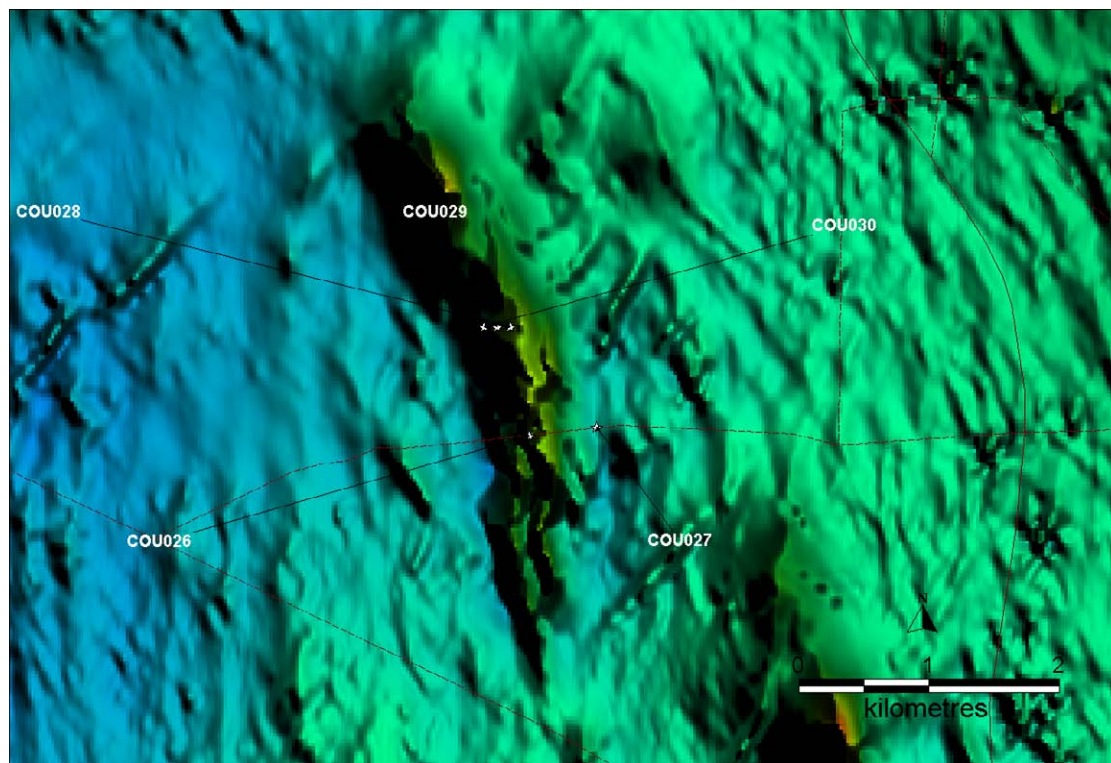


**Figure 15 Detailed view of Area F and G**





**Figure 16 Modeled magnetic data for a line across holes COU017-021**



**Figure 17 Detailed view of holes COU026-COU030**

# **APPENDIX A**

## **Airborne Geophysics Survey Report**

### **UTS Geophysics**



**Logistics Report**

for a

**DETAILED AIRBORNE  
MAGNETIC, RADIOMETRIC AND  
DIGITAL TERRAIN SURVEY**

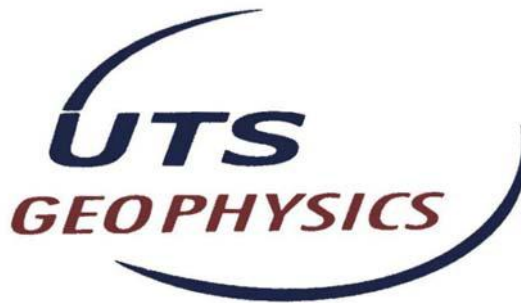
for the

**COULTA PROJECT**

carried out on behalf of

**INTERMET RESOURCES LIMITED**

by



(UTS Job #A801)

FAUNTLEROY AVENUE, PERTH AIRPORT  
PO BOX 126, BELMONT WA 6984  
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## TABLE OF CONTENTS

<b>1</b>	<b>GENERAL SURVEY INFORMATION .....</b>	<b>3</b>
<b>2</b>	<b>SURVEY SPECIFICATIONS.....</b>	<b>3</b>
<b>3</b>	<b>AIRCRAFT AND SURVEY EQUIPMENT .....</b>	<b>4</b>
3.1	SURVEY AIRCRAFT.....	5
3.2	DATA POSITIONING AND FLIGHT NAVIGATION.....	5
3.3	UTS DATA ACQUISITION SYSTEM AND DIGITAL RECORDING .....	6
3.4	ALTITUDE READINGS .....	6
3.5	UTS STINGER MOUNTED MAGNETOMETER SYSTEM .....	6
3.6	TOTAL FIELD MAGNETOMETER .....	7
3.7	THREE COMPONENT VECTOR MAGNETOMETER .....	7
3.8	AIRCRAFT MAGNETIC COMPENSATION.....	7
3.9	DIURNAL MONITORING MAGNETOMETER .....	8
3.10	BAROMETRIC ALTITUDE.....	8
3.11	TEMPERATURE AND HUMIDITY .....	9
3.12	RADIOMETRIC DATA ACQUISITION .....	9
<b>4</b>	<b>PROJECT MANAGEMENT .....</b>	<b>10</b>
<b>5</b>	<b>DATA PROCESSING PROCEDURES .....</b>	<b>11</b>
5.1	DATA PRE-PROCESSING.....	11
5.2	MAGNETIC DATA PROCESSING.....	12
5.3	RADIOMETRIC DATA PROCESSING.....	13
5.4	DIGITAL TERRAIN MODEL DATA PROCESSING .....	14
	<b>APPENDIX A - LOCATED DATA FORMATS .....</b>	<b>15</b>
	<b>APPENDIX B - COORDINATE SYSTEM DETAILS.....</b>	<b>17</b>
	<b>APPENDIX C - SURVEY BOUNDARY DETAILS .....</b>	<b>18</b>
	<b>APPENDIX D - PROJECT DATA OVERVIEW.....</b>	<b>19</b>
	<b>APPENDIX E – ACQUISITION AND PROCESSING PARAMETERS .....</b>	<b>20</b>

## 1 GENERAL SURVEY INFORMATION

UTS Geophysics conducted a low level airborne geophysical survey for the following company:

InterMet Resources Limited  
262-266 Pirie Street  
Adelaide, South Australia, 5000

Acquisition for these surveys commenced on the 5<sup>th</sup> October 2006 and was completed on the 10<sup>th</sup> October 2006. The base location used for operating the aircraft and performing in-field quality control was Porth Lincoln, South Australia.

## 2 SURVEY SPECIFICATIONS

The area surveyed was located near Port Lincoln in South Australia. The survey was flown using the MGA94 coordinate system (a Universal Transverse Mercator projection) derived from the Geocentric Datum of Australia and was contained within zone 53 with a central meridian of 135 degrees. Details of the datum and projection system are provided in Appendix B of this report. Survey boundary coordinates are listed in Appendix C.

The survey data acquisition specifications for each area flown are specified in the following table:

PROJECT NAME	LINE SPACING	LINE DIRECTION	TIE LINE SPACING	TIE LINE DIRECTION	SENSOR HEIGHT	TOTAL LINE KM
Coulta	100m	090-270	1000m	000-180	50m	11,632
<b>TOTAL</b>						<b>11,632</b>

The specified sensor height for the magnetic samples is as stated in the above table. This sensor height may be varied where topographic relief or laws pertaining to built up areas do not allow this altitude to be maintained, or where the safety of the aircraft and equipment is endangered.

### 3 AIRCRAFT AND SURVEY EQUIPMENT

The UTS navigation flight control computer, data acquisition system and geophysical sensors were installed into a specialised geophysical survey aircraft.

The list of geophysical and navigation equipment used for the survey is as follows:

#### **General Survey Equipment**

- Cessna C210 fixed wing survey aircraft.
- UTS proprietary flight planning and survey navigation system.
- UTS proprietary high speed digital data acquisition system.
- Novatel 3951R, 12 channel precision navigation GPS.
- OMNILITE 132 real time differential GPS system.
- UTS LCD pilot navigation display and external track guidance display.
- UTS post mission data verification and processing system.
- Bendix King KRA-10A radar altimeter.

#### **Magnetic Data Acquisition Equipment**

- UTS tail stinger magnetometer installation.
- Scintrex Cesium Vapour CS-2 total field magnetometer.
- Fluxgate three component vector magnetometer.
- RMS Aeromagnetic Automatic Digital Compensator (AADC II).
- Diurnal monitoring magnetometer (Scintrex Envimag).

#### **Radiometric Data Acquisition Equipment**

- Exploranium GR-820 gamma ray spectrometer.
- Exploranium gamma ray detectors.
- Barometric altimeter (height and pressure measurements).
- Temperature and humidity sensor.

### 3.1 **Survey Aircraft**

The aircraft used for this survey was a Cessna C210 series fixed wing survey aircraft, operated by UTS Geophysics, registration VH-TKQ. The specifications are as follows:

#### **Power Plant**

- Engine Type Continental, IO-520
- Brake Horse Power 285 bhp
- Fuel Type AV-GAS

#### **Performance**

- Cruise speed 150 Kn
- Survey speed 130 Kn
- Stall speed 60 Kn
- Range 1185 Km
- Endurance (no reserves) 5.2 hours
- Fuel tank capacity 246 litres

### 3.2 **Data Positioning and Flight Navigation**

Survey data positioning and flight line navigation was derived using real-time differential GPS (Global Positioning System).

Navigation was performed using a UTS designed and built electronic pilot navigation system providing computer controlled digital navigation instrumentation mounted in the cockpit as well as an externally mounted track guidance system.

GPS derived positions were used to provide both aircraft navigation and survey data location information.

The GPS systems used for the survey were:

- Aircraft GPS Model Novatel 3951R
- Sample rate 0.5 Seconds (2 Hz)
- GPS satellite tracking channels 12 parallel
- Typical differentially corrected accuracy 1-2 metres (horizontal)  
3-5 metres (vertical)

### 3.3 *UTS Data Acquisition System and Digital Recording*

All geophysical sensor data and positional information measured during the survey was recorded using a UTS developed, high speed, precision data acquisition system. Survey data was downloaded onto magnetic tape on completion of each survey flight.

Instrument synchronisation times were measured and removed in real-time by the UTS data acquisition system.

### 3.4 *Altitude Readings*

Accurate survey heights above the terrain were measured using a King radar altimeter installed in the aircraft. The height of each survey data point was measured by the radar altimeter and stored by the UTS data acquisition system.

- Radar altimeter models                      King KRA- 10A altimeter
- Accuracy    0.3 metres
- Resolution    0.1 metres
- Range    0 - 500 metres
- Sample rate    0.1 Seconds (10Hz)

The digital terrain model is calculated by subtracting the terrain clearance (radar altimeter) from the GPS height (interpolated to 0.1 Hz), and as such the accuracy is constrained by the differentially corrected GPS position.

### 3.5 *UTS Stinger Mounted Magnetometer System*

The installation platform used for the acquisition of magnetic data was a tail mounted stinger. This proprietary stinger system was constructed of carbon fibre and designed for maximum rigidity and stability.

Both the total field magnetometer and three component vector magnetometer were located within the tail stinger.



### 3.6 *Total Field Magnetometer*

Total field magnetic data readings for the survey were made using a Scintrex Cesium Vapour CS-2 Magnetometer. This precision sensor has the following specifications:



- Model Scintrex Cesium Vapour CS-2 Magnetometer
- Sample Rate 0.1 seconds (10Hz)
- Resolution 0.001nT
- Operating Range 15,000nT to 100,000nT

### 3.7 *Three Component Vector Magnetometer*

Three component vector magnetic data readings for the survey were made using a Develco Fluxgate Magnetometer. This precision sensor has the following specifications:

- Model Develco Fluxgate Magnetometer
- Sample Rate 0.1 seconds (10Hz)
- Resolution 0.1nT
- Operating Range -100,000nT to 100,000nT

### 3.8 *Aircraft Magnetic Compensation*

At the start of the survey, the system was calibrated for reduction of magnetic heading error. The heading and manoeuvre effects of the aircraft on the magnetic data was removed using an RMS Automatic Airborne Digital Compensator (AADC II).

Calibration of the aircraft heading effects were measured by flying a series of pitch, roll and yaw manoeuvres at high altitude while monitoring changes in the three axis magnetometer and the effect on total field readings. A 26 term model of the aircraft magnetic noise covering permanent, induced and eddy current fields was determined. These coefficients were then applied to the data collected during the survey in real-time.

UTS static compensation techniques were also employed to reduce the initial magnetic effects of the aircraft upon the survey data.

### 3.9 Diurnal Monitoring Magnetometer

A base station magnetometer was located in a low gradient area beyond the region of influence of any man made interference to monitor diurnal variations during the survey.

The specifications for the magnetometer used are as follows:

- Model Scintrex Envimag
- Resolution 0.1 nT
- Sample interval 5 seconds (0.2 Hz)
- Operating range 20,000nT to 90,000nT
- Temperature -20°C to +50°C



### 3.10 Barometric Altitude

An Air DB barometric altimeter was installed in the aircraft so as to record and monitor barometric height and pressure. The data was recorded at 0.10 second intervals and is used for the reduction of the radiometric data.

- Model Air DB barometric altimeter
- Accuracy 2 metres
- Height resolution 0.1 metres
- Height range 0 - 3500 metres
- Maximum operating pressure: 1,300 mb
- Pressure resolution: 0.01 mb
- Sample rate 10 Hz



### 3.11 *Temperature and Humidity*

Temperature and humidity measurements were made during the survey at a sample rate of 10Hz. Ambient temperature was measured with a resolution of 0.1 degree Celsius and ambient humidity to a resolution of 0.1 percent.

### 3.12 *Radiometric Data Acquisition*

The gamma ray spectrometer used for the survey was capable of recording 256 channels and was self stabilising in order to minimise spectral drift. The detectors used contain thallium activated sodium iodide crystals.

Thorium source measurements were made each survey day to monitor system resolution and sensitivity. A calibration line was also flown at the start and end of each survey day to monitor ground moisture levels and system performance.

Spectrometer model                      Exploranium GR820

- Detector volume                      32 litres
- Sample rate                              1 Hz



## **4 PROJECT MANAGEMENT**

InterMet Resources Limited

Gary Ferris

UTS Geophysics Perth Office

Nino Tuffili  
David Abbott  
Barrett Cameron

## 5 DATA PROCESSING PROCEDURES

### 5.1 *Data Pre-processing*

The raw survey data was loaded from the field tapes and the recorded data trimmed to the correct survey boundary extents. Any survey lines subsequently re flown were removed from the dataset.

At the commencement of each acquisition flight, all the instrumentation clocks were synchronized to local time, and the error and latency of each instrument in providing its data measurement calculated. The results of these latency measurements were recorded into a synchronisation file, and the results used to assign GPS positions to the magnetic, radiometric and elevation data. As a result of the physical separation of the sensors, a small residual offset still exists between instrument timings.

To compensate for this residual parallax error, an adjustment was made to the instrument clocks. The magnetic and radar altimeter data was adjusted by 0.600 seconds, and the radiometric data was adjusted by 1.375 seconds for each flight.

The synchronized, parallax corrected data was then exported as located ASCII data.

## **5.2 Magnetic Data Processing**

The diurnal base station data was checked for spikes and steps, and suitably filtered prior to the removal of diurnal variations from the aircraft magnetic data.

The filtered diurnal measurements were subtracted from the diurnal base field and the residual corrections applied to the survey data by synchronising the diurnal data time and the aircraft survey time. The average diurnal base station value was added to the survey data.

The X and Y positioning of the data was then checked for spikes before applying the IGRF correction. Any spikes in the positions were manually edited. The updated IGRF 2005 correction was calculated at each data point (taking into account the height above sea level).

This regional magnetic gradient was subtracted from the survey data points.

Tie line levelling was applied to the data by least squares minimisation, using a polynomial fit of order 0, of the differences in magnetic values at the crossover points of the survey traverse and tie line data.

In order to remove any residual long wavelength variations in the tie line levelled data along the traverse lines, polynomial levelling was then applied.

Final micro-levelling techniques were then selectively applied to the tie line levelled data to remove minor residual variations in profile intensity

Located and gridded data were generated from the final processed magnetic data.

### **5.3 Radiometric Data Processing**

Statistical noise reduction of the 256 channel data was performed using the Maximum Noise Fraction (MNF) method described by Dickson and Taylor (1998). This method constructs a noise covariance model from the survey data, which is then decorrelated and re-scaled so that the model has unit variance and no channel-to-channel correlation.

A principal component transformation of the noise-whitened data is performed, and the number of components to be saved is determined by ranking the eigenvectors by signal-to-noise ratio. The signal-rich components are retained, and the spectral data reconstructed without the noise fraction.

Channels 30-250 only are noise-cleaned, as these contain the regions of interest and are not dominated by the lower end of the Compton continuum. The energy spectrum between the potassium and thorium peaks was recalibrated from the noise-cleaned 256 channel measurements.

The aircraft background spectrum and the scaled unit cosmic spectrum were then subtracted from the 256 channel data. This 256 channel data was then windowed to the 5 primary channels of total count, potassium, uranium, thorium and low-energy uranium. Dead time corrections were then applied to the data. Radon background removal was performed using the Minty Spectral Ratio method (1992).

The radar altimeter data was corrected to standard temperature and pressure, and height corrected spectral stripping was then applied to the windowed data. Height attenuation corrections based on the STP radar altimeter were then performed to remove any altitude variation effects from the data.

The corrected count rate data was then converted to ground concentrations for potassium, uranium and thorium (sensitivity coefficients are supplied in Appendix E).

Final micro-levelling techniques were then selectively applied to the tie line levelled data to remove minor residual variations in profile intensities. Located and gridded data were generated from the final processed radiometric data.

#### **5.4    *Digital Terrain Model Data Processing***

The radar altimeter data was subtracted from the GPS altimeter data. The separation distance between the GPS antenna and the radar altimeter of 1.4 metres was subtracted from the digital terrain data.

The digital terrain data thus derived was tie line levelled and gridded. Tie line levelled data was then examined and selectively microlevelled to produce a grid without line dependent artifacts.

**For further information concerning the survey flown, please contact the following office:**

**Head Office Address:**

UTS Geophysics  
Fauntleroy Avenue, Perth Airport  
REDCLIFFE WA 6104

Tel:    +61 8 9479 4232

Fax:    +61 8 9479 7361

**Postal Address:**

UTS Geophysics  
P.O. Box 126  
BELMONT WA 6984

**Quoting reference number: A801**

## APPENDIX A - LOCATED DATA FORMATS

### MAGNETIC LOCATED DATA

FIELD	FORMAT	DESCRIPTION	UNITS
1	I8	LINE NUMBER	
2	I4	FLIGHT/AREA NUMBER	AAFF (Area/Flight)
3	I9	DATE	YYMMDD
4	F10.1	TIME	sec
5	I8	FIDUCIAL NUMBER	
6	I4	UTM ZONE	
7	F12.6	LATITUDE (WGS84)	degrees
8	F12.6	LONGITUDE (WGS84)	degrees
9	F12.2	EASTING (MGA94)	metres
10	F12.2	NORTHING (MGA94)	metres
11	F8.1	RADAR ALTIMETER HEIGHT	metres
12	F8.1	GPS HEIGHT (WGS84)	metres
13	F8.1	TERRAIN HEIGHT (WGS84)	metres
14	F10.2	RAW MAGNETIC INTENSITY	nT
15	F10.2	DIURNAL CORRECTION	nT
16	F10.2	IGRF CORRECTION	nT
17	F10.2	DRN AND IGRF CORRECTED TMI	nT
18	F10.2	FINAL TOTAL MAGNETIC INTENSITY	nT

### RADIOMETRIC LOCATED DATA

FIELD	FORMAT	DESCRIPTION	UNITS
1	I8	LINE NUMBER	
2	I4	FLIGHT/AREA NUMBER	AAFF (Area/Flight)
3	I9	DATE	YYMMDD
4	F10.1	TIME	sec
5	I8	FIDUCIAL NUMBER	
6	I4	UTM ZONE	
7	F12.6	LATITUDE (WGS84)	degrees
8	F12.6	LONGITUDE (WGS84)	degrees
9	F12.2	EASTING (MGA94)	metres
10	F12.2	NORTHING (MGA94)	metres
11	F8.1	RADAR ALTIMETER HEIGHT	metres
12	F8.1	GPS HEIGHT (WGS84)	metres
13	I5	LIVE TIME	milli sec
14	F8.1	PRESSURE	hPa
15	F6.1	TEMPERATURE	Degrees Celcius
16	F6.1	HUMIDITY	percent
17	I6	TOTAL COUNT (RAW)	Counts/sec
18	I6	POTASSIUM (RAW)	Counts/sec
19	I6	URANIUM (RAW)	Counts/sec
20	I6	THORIUM (RAW)	Counts/sec
21	I6	COSMIC (RAW)	Counts/sec
22	F8.1	TOTAL COUNT (CORRECTED)	Counts/sec
23	F8.1	POTASSIUM (CORRECTED)	Counts/sec
24	F8.1	URANIUM (CORRECTED)	Counts/sec
25	F8.1	THORIUM (CORRECTED)	Counts/sec
26	F9.4	DOSE RATE	nGy/hr
27	F9.4	POTASSIUM GRND CONCENTRATION	%
28	F9.4	URANIUM GRND CONCENTRATION	ppm
29	F9.4	THORIUM GRND CONCENTRATION	ppm

## GRIDDED DATASET FORMATS

Gridding was performed using a bicubic spline algorithm.

The following grid formats have been provided:

- ER-Mapper format

## LINE NUMBER FORMATS

Line numbers are identified with a six digit composite line number and have the following format - ALLLLB, where:

A	Survey area number
LLLL	Survey line number 0001-8999 reserved for traverse lines 9001-9999 reserved for tie lines
B	Line attempt number, 0 is attempt 1, 1 is attempt 2 etc..

## UTS FILE NAMING FORMATS

Located and gridded data provided by UTS Geophysics uses the following 8 character file naming convention to be compatible with PC DOS based systems.

File names have the following general format - JJJAABB.EEE, where:

JJJJ	UTS Job number
AA	Area number if the survey is broken into blocks
BB	M     Magnetic data R     Radiometric data TC    Total count data K     Potassium counts U     Uranium counts Th    Thorium counts DT    Digital terrain data
EEE	File name extension LDT   Located digital data file FMT   Located data format definition file ERS   Ermapper gridded data header file Ermapper data portion has no extension GRD   Geosoft gridded data file



## APPENDIX B - COORDINATE SYSTEM DETAILS

Locations for the survey data are provided in both geographical latitude and longitude and Universal Transverse Mercator metric projection coordinate systems.

<b>WGS84</b>	World Geodetic System 1984
Coordinate Type	Geographical
Semi Major Axis	6378137m
Flattening	1/298.257223563
<b>MGA94</b>	Map Grid of Australia 1994
Coordinate type	Universal Transverse Mercator Projection Grid
Geodetic datum	Geocentric Datum of Australia
Semi major axis	6378137m
Flattening	1/298.257222101

## APPENDIX C - SURVEY BOUNDARY DETAILS

### COORDINATES REPORT

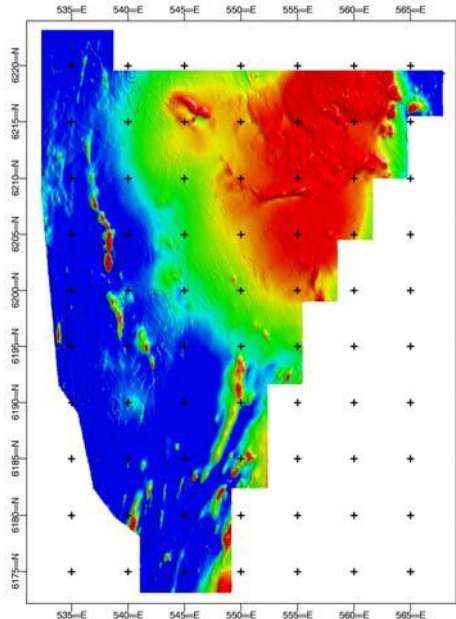
Job ID code: A8010101  
Client: InterMet Resources Limited  
Job: Coult  
Coordinates MGA94 Grid Zone: 53  
Include Point: 0.0 0.00

#### Surround

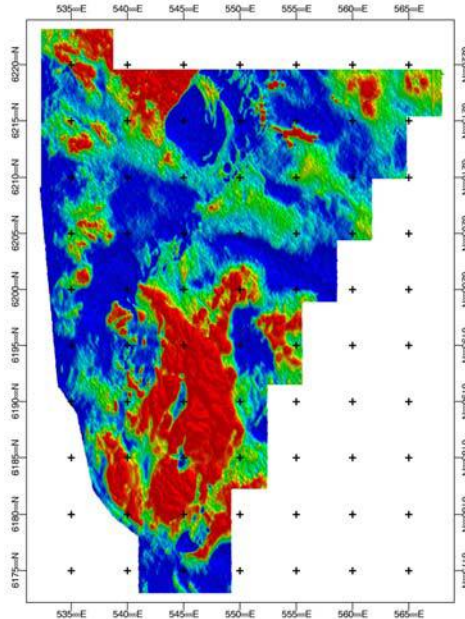
532300	6223200
538700	6223200
538700	6219600
567800	6219600
567800	6215500
564700	6215500
564700	6210000
561600	6210000
561600	6204500
558500	6204500
558500	6199000
555400	6199000
555400	6191600
552300	6191600
552300	6182400
549100	6182400
549100	6173100
541100	6173100
541100	6178100
538800	6179900
537000	6182300
535600	6189000
533900	6191500
532300	6209200
532300	6223200

## APPENDIX D - PROJECT DATA OVERVIEW

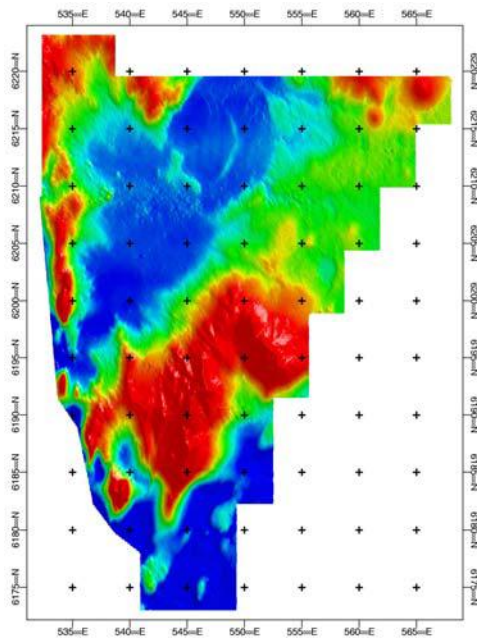
### Coulta Project



Total Magnetic Intensity



Radiometric Total Count



Digital Terrain Model

## APPENDIX E – ACQUISITION AND PROCESSING PARAMETERS

### Magnetic Processing Parameters

#### Coulta Project

IGRF date	- 2006.7
IGRF mean value	- 59303.70 nT
Magnetic inclination	- -66.70 deg
Magnetic declination	- 6.83 deg
Diurnal base value	- 59535.00 nT

### Radiometric Processing Parameters

#### Height Attenuation Coefficients

Total Count:	-0.0074
Potassium:	-0.0094
Uranium:	-0.0084
Thorium:	-0.0074

#### Cosmic Correction Coefficients

Total Count:	1.615
Potassium:	0.092
Uranium:	0.087
Thorium:	0.051

#### Aircraft Background Coefficients

Total Count:	33.69
Potassium:	9.27
Uranium:	0.59
Thorium:	0.05

#### Sensitivity Coefficients

Total Count:	37.9 cps/dose rate
Potassium:	151.5 cps/%k
Uranium:	17.7 cps/ppm
Thorium:	8.0 cps/ppm

**Final Reduction** - All data reduced to STP height datum 50m

## **APPENDIX B**

### **Geochemistry from Phase 1**

ELEMENTS UNITS DETECTION METHOD	Interval (m)	Sample No	Au ppb	Ag ppm	As ppm	Co ppm	Cu ppm	Mg ppm	Mn ppm	Ni ppm	Pb ppm	S ppm	Zn ppm
			0.1	1	5	1	1	20	1	1	5	10	1
			B25/EETA	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES
Drill Hole No.													
COU 001	96-100	43065	1	X	X	2	2	382	76	6	12	5275	11
COU 001	100-104	43066	0.5	X	X	3	3	829	73	8	19	7754	18
COU 001	104-108	43067	0.7	X	13	5	3	1156	56	7	28	5787	19
COU002	53-54	43084	0.4	X	7	8	7	5836	463	X	18	3550	160
COU003	18-22	43091	0.2	2	6	X	4	747	68	1	88	560	16
COU003	22-26	43092	0.2	X	18	X	3	868	53	X	74	461	13
COU003	26-30	43093	0.7	1	16	X	6	699	46	1	65	1070	14
COU003	30-34	43094	0.7	2	8	X	7	571	64	3	65	2207	27
COU003	34-38	43095	0.3	3	11	X	5	546	52	2	74	1083	17
COU003	38-41	43096	1.3	51	8	18	21	524	73	3	71	1755	35
COU004	17-21	43107	0.4	2	19	X	11	563	84	1	121	5912	20
COU004	21-25	43108	0.4	2	18	X	7	440	45	4	79	5550	13
COU004	25-29	43109	1.1	X	11	X	12	576	58	X	88	791	16
COU004	29-33	43110	0.2	X	21	X	15	982	92	2	78	1635	25
COU004	33-37	43111	0.3	X	14	4	25	4203	136	14	55	1167	78
COU004	37-41	43112	0.4	X	X	7	39	7798	177	27	52	769	130
COU006	5-6	43121	2	2	8	28	481	3515	117	10	14	303	324
COU006	6-10	43122	1.8	2	9	1076	11	843	146	29	14	175	3
COU006	10-14	43123	1.8	3	7	13	8	665	64	20	10	110	6
COU007	20-21	43124	1	X	15	19	22	3342	163	7	33	227	34
COU009	6-7	43125	0.5	X	X	1	X	95	40	5	10	45	2
COU009	8-12	43126	3.9	2	7	17	6	926	123	22	49	158	12
COU009	12-16	43127	0.3	X	12	1	3	689	53	10	28	128	11
COU009	16-20	43128	0.2	1	14	2	3	510	48	6	45	65	6
COU009	20-24	43129	1.4	11	11	14	8	398	61	10	70	502	12
COU010	6-12	43130	0.7	X	34	23	30	2070	97	29	18	195	75



ELEMENTS UNITS	Interval (m)	Sample No	Au ppb	Ag ppm	As ppm	Co ppm	Cu ppm	Mg ppm	Mn ppm	Ni ppm	Pb ppm	S ppm	Zn ppm	
DETECTION METHOD			0.1	1	5	1	1	20	1	1	5	10	1	
			B25/EETA	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	
Drill Hole No.														
COU010	12-16	43131	0.5	X		6	5	6	1351	33	12	20	169	18
COU010	16-20	43132	0.2	X		17	4	4	1207	28	3	17	156	8
COU011	11-15	43133	0.3	X		18	8	7	1484	42	11	18	77	10
COU011	15-19	43134	0.5	X		17	7	5	1090	45	8	15	80	8
COU011	19-23	43135	0.5	X		15	4	14	904	51	20	20	151	14
COU011	23-26	43136	0.2	X		13	3	6	803	36	8	14	81	9
COU012	6-9	43137	0.6	X		15	10	X	2901	34	23	10	177	4
COU012	9-13	43138	0.7	X		12	8	1	718	38	4	15	75	3
COU012	13-17	43139	0.2	X		12	2	2	541	26	X	13	40	3
COU012	17-21	43140	0.2	X		11	2	2	672	17	2	6	57	5
COU012	21-25	43141	0.3	X		11	4	4	2565	30	7	15	67	9
COU012	25-27	43142	0.4	X		6	5	4	3589	40	7	14	237	12
COU013	6-8	43143	0.7	X		18	9	X	3577	191	6	11	99	X
COU013	8-12	43144	0.4	X		7	5	X	3200	109	4	12	63	X
COU013	12-16	43145	0.4	X	X		3	X	6334	50	15	12	48	4
COU013	16-20	43146	0.2	X	X		12	6	15836	129	59	7	34	22
COU013	20-24	43147	X	X	X		14	1	22769	248	66	X	28	37
COU013	24-26	43148	0.1	X	X		11	5	19533	191	53	7	129	25
COU013	26-28	43149	0.3	X	X		8	2	17445	148	47	10	106	17
COU014	15-19	43150	0.3	X		6	3	X	24373	57	15	6	18	19
COU014	19-20	43151	0.2	X	X		2	X	76903	299	33	X	21	19
COU014	20-21	43152	0.2	X	X		1	X	63153	199	18	X	X	13
COU015	23-23.5	43153	X	X	X	X	X		1197	42	3	30	80	X
COU017	3-4	43154	0.4	X		5	X	X	3043	38	3	31	285	X
COU018	4-7	43155	0.5	X		6	X	X	6301	33	3	29	565	X
COU018	7-8	43156	0.5		1	13	X	X	6475	37	3	16	522	X
COU019	3-5	43157	2.3	X		12	1	2	4400	117	7	50	481	38

[illegible]

ELEMENTS	Interval	Sample No	Au	Ag	As	Co	Cu	Mg	Mn	Ni	Pb	S	Zn
UNITS	(m)		ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.1	1	5	1	1	20	1	1	5	10	1
METHOD			B25/EETA	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES	AT/OES
<b>Drill Hole No.</b>													
TKCLOW-2				5	144	37	298	18650	1008	550	186	7326	284
CMM-04			45.6										
WMG-1				2	X	180	5679	65129	1062	2529	11	33992	106
<b>BLANKS</b>													
Control Blank			0.1	X	X	2	X	X	2	2	X	X	1
Control Blank				X	X	1		2	22	4	2	X	16
Control Blank		X											X
Acid Blank				X	X	X		2	27	2	1	X	X

## **APPENDIX C**

### **Geochemistry from Phase 2**

ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES
43173	COU023	28-32	X	0.03	X	0.01	5	2.74	27	12	11.47	21
43174	COU023	32-36	X	0.01	X	0.02	7	2.2	7	9	13.15	18
43175	COU023	36-40	X	0.05	0.9	0.08	5	1.69	7	10	15.35	10
43176	COU023	40-44	X	0.04	0.6	0.02	6	3.36	7	5	9.78	13
43177	COU023	44-48	X	0.02	X	0.02	4	3.61	11	8	10.01	21
43178	COU023	48-52	X	0.13	X	0.05	3	5.05	19	7	8.53	25
43179	COU023	52-56	X	0.02	X	0.02	5	4.33	7	6	12.61	11
43180	COU023	56-60	1	X	0.7	0.02	4	2.77	5	6	16.84	11
43181	COU023	60-64	X	X	X	0.03	3	1.81	6	5	16.02	10
43182	COU023	64-68	X	X	X	0.01	6	1.54	5	7	12.66	7
43183	COU023	68-72	X	X	X	0.01	4	1.29	5	8	14.07	9
43184	COU023	72-76	3	X	X	0.02	6	2.04	6	7	16.47	15
43185	COU023	76-80	X	X	X	0.01	4	1.89	6	6	17.81	20
43186	COU023	80-84	X	X	X	0.02	8	2.89	6	3	9.05	14
43187	COU023	84-88	X	X	X	0.02	9	1.87	6	5	10.14	14
43188	COU023	88-92	X	X	X	0.02	6	4.6	44	4	8	39
43189	COU023	92-96	X	X	X	0.02	2	4.4	5	4	6.54	50
43190	COU023	96-100	X	X	X	0.01	1	4.82	5	5	8.03	54
43191	COU023	100-104	X	X	X	0.02	3	2.89	5	7	9.53	29
43192	COU023	104-108	X	X	X	0.02	5	2.51	4	6	13.59	21
43193	COU023	108-112	X	X	X	0.02	6	2.44	7	5	10.19	19
43194	COU023	112-116	X	X	X	0.01	6	2.64	9	8	8.51	27
43195	COU023	116-120	X	X	X	0.02	6	2.2	5	6	7.01	16
43196	COU023	120-124	X	X	X	0.02	3	1.56	4	5	5.38	8
43197	COU023	124-126	X	X	X	0.03	3	1.63	6	4	3.29	10
43198	COU024	28-32	1	X	X	0.02	4	3.73	9	5	5.23	14
43199	COU024	32-36	X	X	0.7	0.04	1	3.9	10	5	6.4	20
43200	COU024	36-40	X	X	X	0.01	3	1.48	5	7	12.82	8

ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES
43201	COU024	40-44	X	X	X		0.01	4	1.86	8	8	11.59
43202	COU024	44-48	X	X		1.8	0.02	5	2.09	10	7	15.67
43203	COU024	48-52	X	X	X		0.01	6	3.06	11	6	15.71
43204	COU024	52-56	X	X	X		0.03	7	5.51	8	5	6.07
43205	COU024	56-60	X	X	X		0.01	4	2	7	6	7.67
43206	COU024	60-64	X	X	X		0.01	3	1.46	7	5	9.97
43207	COU024	64-68	X	X		0.8	0.02	7	2.91	7	5	8.11
43208	COU024	68-72	X	X		0.7	X	6	3.53	6	3	12.25
43209	COU024	72-76	X	X	X		0.01	6	2.62	6	5	16.43
43210	COU024	76-80	X	X	X		0.01	5	1.91	6	7	12.81
43211	COU024	80-84	X	X	X		0.01	4	2.16	6	7	8.73
43212	COU024	84-88	X	X		0.7	0.02	5	2.11	6	7	15.24
43213	COU024	88-92	X	X	X		0.01	5	1.76	6	12	23.65
43214	COU024	92-96	X	X	X		0.02	4	1.49	5	25	20.39
43215	COU024	96-100	X	X		0.7	0.02	7	1.92	6	4	19.21
43216	COU024	100-104	X	X	X		0.02	7	2.04	7	4	14.57
43217	COU024	104-108	X	X	X		0.02	6	3.54	7	5	11.5
43218	COU024	108-112	X	X	X		0.02	5	2.29	6	5	12.03
43219	COU024	112-116	X	X	X		0.02	4	2.04	6	4	12.53
43220	COU024	116-120	X	X	X		0.02	4	2.19	5	5	9.4
43221	COU024	120-122	X	X	X		0.03	3	3.18	6	5	9.93
43222	COU024	122-126	X	X	X		0.01	6	1.75	5	6	10.89
43223	COU025	36-40		4	X	X	0.05	4	0.4	3	4	6.48
43224	COU025	40-44		2	0.02	1.7	0.19	7	1.53	6	6	7.15
43225	COU025	44-48	X		0.01	1.9	0.09	2	3.32	12	3	6.01
43226	COU025	48-52	X		0.04	X	0.05	3	4.88	13	4	5.57
43227	COU025	52-56		1	0.05	4.1	0.02	5	2.21	7	3	11.01
43228	COU025	56-60	X		0.02	2.5	0.03	4	2.92	9	3	10.79



ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn	
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1	
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES	
43229	COU025	60-64	X		0.01	0.9	0.01	4	1.71	6	4	8.52	12
43230	COU025	64-68	X		0.01	0.9	0.01	4	1.55	6	5	9.33	13
43231	COU025	68-72	X		0.08	0.6	0.2	4	1.65	6	7	15.06	14
43232	COU025	72-76	X		0.05	X	0.02	3	1.78	5	6	5.98	13
43233	COU025	76-79	X		0.03	0.7	0.02	4	1.64	6	3	6.72	13
43234	COU025	79-81	X		0.02	0.7	0.04	28	6.28	69	10	4.5	48
43235	COU025	81-84	X		0.01	0.6	0.04	8	1.96	8	5	11.89	15
43236	COU025	84-88	X	X		0.5	0.02	5	1.75	6	3	12.33	12
43237	COU025	88-92	X	X	X		0.01	3	1.82	4	10	7.64	15
43238	COU025	92-96	X	X		1.2	0.01	4	4.9	5	3	7.41	27
43239	COU026	0-4	X		0.01	2.5	0.07	12	2.91	9	14	0.67	18
43240	COU026	4-8	X	X		0.7	0.03	5	1.28	3	14	0.99	16
43241	COU026	8-12	X		0.02	0.7	0.03	15	2.3	10	11	3.98	59
43242	COU026	12-16	X		0.03	0.7	0.03	8	1.58	8	12	2.58	40
43243	COU026	16-20		1	0.08	1	0.04	8	1.01	6	12	2.98	30
43244	COU026	20-24	X		0.09	1.2	0.04	11	1.8	9	11	4.4	58
43245	COU026	24-28	X		0.06	1.2	0.04	9	1.77	12	10	3.7	49
43246	COU026	28-32	X		0.07	1.3	0.04	10	1.53	14	9	3.73	44
43247	COU026	32-36	X		0.08	1.4	0.04	6	1.5	11	10	3.26	41
43248	COU026	36-40	X		0.06	1.3	0.05	6	1.39	12	11	4.6	46
43249	COU026	40-44	X		0.05	1.4	0.13	6	1.17	9	12	4.11	37
43250	COU026	44-48	X		0.05	1.4	0.11	5	1.03	7	13	4.27	36
43251	COU026	48-52	X		0.04	0.9	0.06	4	1.2	8	12	4.33	36
43252	COU026	52-56	X		0.05	1.5	0.08	5	0.99	7	13	3.38	32
43253	COU026	56-60	X		0.05	1.3	0.05	10	1.67	14	10	5.26	56
43254	COU026	60-64	X		0.05	1	0.03	6	1.25	7	10	3.26	41
43255	COU026	64-68		2	0.08	1	0.08	19	2.23	7	10	4.51	68
43256	COU026	68-72	X		0.05	1.5	0.04	7	1.89	7	10	3.68	62

ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn	
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1	
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES	
43257	COU026	72-76	X		0.07	0.8	0.04	17	2.77	12	9	3.24	88
43258	COU026	76-78	X		0.05	1.1	0.05	10	2.29	6	11	2.97	54
43259	COU027	0-4		2	0.02	3.8	0.1	16	2.72	6	13	0.5	7
43260	COU027	4-8	X		0.01	0.7	0.04	6	0.43	2	17	0.82	5
43261	COU027	8-12	X		0.01	2.4	0.03	8	0.82	2	16	2.02	4
43262	COU027	12-16	X		0.05	2.2	0.07	10	0.67	2	14	5.62	5
43263	COU027	16-20		1	0.02	X	0.1	4	0.68	3	10	3.53	16
43264	COU027	20-24		1	0.04	1.7	0.12	10	1.54	4	10	3.99	28
43265	COU027	24-26	X		0.03	1.7	0.1	6	1.23	5	10	3.43	31
43266	COU028	0-4	X		0.02	5.4	0.19	5	4.98	9	12	0.47	9
43267	COU028	4-8		1	X	0.5	0.04	2	0.32	2	5	0.58	4
43268	COU028	8-12	X		X	0.8	0.03	5	1.12	4	14	1.08	5
43269	COU028	12-16	X		X	0.6	0.04	5	0.61	2	28	2.87	4
43270	COU028	16-20	X		0.01	X	0.06	6	0.41	2	33	6.78	3
43271	COU028	20-24	X		0.03	X	0.09	22	2.62	15	25	12.01	73
43272	COU028	24-28	X		0.07	0.8	0.09	51	4.84	39	17	21.3	151
43273	COU028	28-30	X		0.1	X	0.13	85	5.87	44	23	31.34	199
43274	COU029	0-4	X		0.03	3.9	0.13	5	2.57	7	7	0.77	9
43275	COU029	4-8		1	X	0.8	0.06	3	0.65	2	21	0.83	4
43276	COU029	8-12	X		X	X	0.03	3	0.26	2	17	1.14	3
43277	COU029	12-16	X		X	X	0.09	2	0.29	2	20	3.16	1
43278	COU029	16-20	X		X	X	0.05	10	2.05	8	13	4.27	52
43279	COU029	20-24	X		0.11	1.2	0.06	39	2.26	12	11	25.62	84
43280	COU029	24-28	X		0.09	0.9	0.04	31	0.89	7	15	29.72	26
43281	COU029	28-30	X		0.03	0.9	0.04	7	0.77	6	13	30.02	15
43282	COU030	0-4		2	0.03	1.2	0.06	2	0.74	3	12	1.03	4
43283	COU030	4-8	X		0.02	1.2	0.04	3	0.87	3	14	2.06	22
43284	COU030	8-12	X		0.04	0.8	0.05	7	1.59	7	11	4.29	46

ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn	
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1	
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES	
43285	COU030	12-16	X		0.04	0.5	0.04	11	2.66	10	11	6.41	76
43286	COU030	16-20	X		0.06	0.6	0.05	13	2.67	10	9	6.94	78
43287	COU030	20-24	X		0.04	X	0.04	14	2.9	11	10	6.92	87
43288	COU031	0-4	X		0.03	5.3	0.21	1	4.56	17	11	0.66	7
43289	COU031	4-8		3	0.01	X	0.35	1	0.47	4	10	0.31	2
43290	COU031	8-12		2	0.01	1.5	0.36	2	1.26	2	16	1.72	3
43291	COU031	12-16	X		0.02	0.8	0.3	4	0.78	3	5	5.83	10
43292	COU031	16-20	X	X		0.7	1.23	3	0.42	1	7	3.42	5
43293	COU031	20-24		2	0.05	0.9	1.16	5	0.46	2	8	4.19	9
43294	COU031	24-28		1	0.03	0.8	0.12	4	0.58	5	4	6.88	21
43295	COU031	28-32	X		0.04	0.7	0.07	2	0.62	5	5	4.71	18
43296	COU031	32-36	X		0.04	0.9	0.08	3	0.74	7	4	5.16	25
43297	COU031	36-40	X		0.03	1.4	0.27	3	1	9	5	5.25	48
43298	COU031	40-44	X		0.04	1	0.32	5	1.35	21	4	4.67	55
43299	COU031	44-48		1	0.09	0.6	0.87	1	2.5	46	4	3.96	44
43300	COU031	48-52		3	0.08	X	1.19	1	2.6	49	3	3.74	35
43301	COU031	52-56	X		0.04	0.8	0.5	3	1.66	23	4	4.03	21
43302	COU031	56-60	X		0.03	0.7	0.53	2	2.46	35	3	2.99	25
43303	COU031	60-64	X		0.04	1.1	0.21	4	1.52	13	10	6.93	41
43304	COU031	64-68	X		0.05	0.8	0.14	4	1.17	6	6	8.86	23
43305	COU031	68-72		1	0.34	7	0.67	36	2.96	25	442	5.62	2214
43306	COU031	72-76	X		0.42	8.5	0.5	70	5.06	63	231	6.8	583
43307	COU031	76-80	X		0.33	1.9	0.41	124	5.01	48	85	4.03	310
43308	COU031	80-84	X		0.18	1.4	0.15	35	3.68	51	150	3.75	814
43309	COU031	84-88	X		0.11	0.7	0.39	63	6	80	15	1.5	121
43310	COU031	88-92	X		0.09	1	0.09	18	3.09	37	15	4.67	77
43311	COU031	92-96	X		0.04	0.9	0.06	X	0.03	X	6	5.47	X
43312	COU032	0-4		4	0.03	4.4	0.14	7	3.09	12	8	1.15	10

ELEMENTS	Drill Hole	Interval	Au	Ag	As	Bi	Cu	Fe	Ni	Pb	U	Zn	
UNITS			ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
DETECTION			1	0.01	0.5	0.01	1	0.01	1	1	0.01	1	
METHOD			B/ETA	B/MS	B/MS	B/MS	B/OES	B/OES	B/OES	B/MS	B/MS	B/OES	
43313	COU032	4-8	X		0.02	2.6	0.09	4	1.1	4	4	0.59	4
43314	COU032	8-12	X		0.01	5.5	0.03	7	1.12	4	6	1.07	3
43315	COU032	12-16		1 X		18.8	0.15	9	5.84	2	17	2.97	5
43316	COU032	16-20		2 X		2.6	0.03	4	0.72	4	22	2.95	5
43317	COU032	20-24	X	X		1.6	0.02	2	0.55	2	21	4.76	3
43318	COU032	24-28		1	0.09	1.3	0.09	7	0.56	4	35	30.17	5
43319	COU032	28-32		1	0.09	1	0.03	3	0.63	2	17	8.18	10
43320	COU032	32-36	X		0.12	0.9	0.04	8	0.95	12	15	10.7	83
43321	COU032	36-40	X		0.06	0.5	0.03	3	1.07	3	10	9.09	33
43322	COU032	40-44	X		0.03	0.5	0.03	4	1.33	4	10	9.72	62
43323	COU032	44-48	X		0.03	0.6	0.05	4	1.31	4	9	7.73	50
CHECKS													
43173			X		0.02 X		0.01	4	2.7	27	12	11.23	18
43199			X		0.01	0.7	0.03	1	3.6	10	4	5.7	14
43225			X		0.01	1.6	0.06	2	3.46	14	3	5.97	17
43251			X		0.03	0.9	0.05	4	1.18	9	11	4.24	35
43277			X		0.02 X		0.09	2	0.29	2	21	3.5	2
43303			X		0.03	0.9	0.2	4	1.55	12	11	7.46	38
STANDARDS													
		CMM-04		43	0.78	93.6	8.78	99	7.87	90	53	2.73	83
		NGL-18		21	1.08	39.6	8.54	28	4.15	23	44	0.99	21
		PL-11		22	4.59	37.3	42.68	31	10.12	26	207	1.36	24
		AMIS0004		405	0.21	200.9	2	108	3.6	213	98	74.09	232
		BSL5		7	2.03	15.6	18.8	25	3.55	24	94	4.29	22
		CMM-04		55	0.74	81.4	8.28	93	8.33	92	49	2.46	85
		AMIS0004		385	0.27	185.3	1.79	95	3.03	218	92	71.85	217

# **APPENDIX D**

## **Drill Hole Log Sheets**



		Coultas Project			
		Drill Hole No. COU001	AMG Easting 553072	Drilling Method Rotary Mud	Total Depth (m) 108
			AMG Northing 6208597	Drill Company Underdale	
		Date: 17 November 2006			
		Geologist: AFC	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	SOIL		sandy soil, earthy, carbonate		
1 - 2	CLAY		white carbonate, earthy clay		
2 - 3	CLAY		white mud grained qtz sandstone clay cemented		
3-4	CLAY		as above but now orange colour is dominant		
4-5	SANDSTONE		clean, fairly coarse qtz sandstone well rounded		
5-6	SANDSTONE		well sorted clean well rounded qtz sand stone		
6-7	SANDSTONE		as above		
7-8	SANDSTONE		as above perhaps a little finer grained.		
8-9	SAND		sorted fine sands in pat cemented by orange clay		
9-10	SAND		sands plus orange and cream coloured clays		
10-11	SAND		mainly clean sands, but some cream clay		
11-12	SAND		mainly clean sands and minor clay		
12-13	SAND		mainly clean qtz, sands minor clay		
13-14	SAND		qtz sands, some orange clays but more cream clay layers		
14-15	SAND		well rounded qtz sands, minor orange clay cement		
15-16	SAND		as above		
16-17	SAND		as above		
17-18	SAND		sand and clays. Not much sample.		
18-19	SAND		well washed rather coarse well sorted well rounded sand		
19-20	SAND		well sorted clean qtz sands		
20-21	SAND		as above		
21-22	SAND		as above		
22-23	SAND		as above but less well sorted - more coarse faction		
23-24	SAND		fine grained qtz sands		
24-25	SAND		coarser sands, pieces of wood obvious		
25-26	SAND	43001	as above coarse angular qtz. Blue?		
26-27	SAND	43002	as above		
27-28	SAND	43003	as above		
28-29	CLAY	43004	blank lignitic clays with minor coarse qtz		
29-30	SAND	43005	unsorted sands, bigger fine faction, minor woody pieces.		
30-31	SAND		as above		
31-32	SAND	43006	cleaner sands still has wood coarses grained		
32-33	SAND	43007	as above. Course angular sands		

Depth	Lithology	Sample No.	Description
33-34	SAND	43008	quite coarse, angular sands
34-35	SAND	43009	unsorted angular sands with woody fragments
35-36	SAND	43010	finer grained as above
36-37	SAND		as above
37-38	CLAY		lignitic clay with qtz sands
38-39	SAND	43011	quartz sands not well sorted
39-40	SAND	43012	coarse unsorted sands. Very angular
40-41	SAND	43013	better sorted - less coarse qtz grains.
41-42	SAND	43014	fine grained sands quite well sorted
42-43	SAND		fine grained sands and woody fragments
43-44	SAND		coarse grained sands - poorly sorted.
44-45	SAND	43015	coarse angular qtz sands
45-46	CLAY	43016	grey clays lignitic clays and coarse qtz.
46-47	SAND	43017	unsorted qtz and gravel. Some wood
47-48	SAND	43018	largely finer grained, some lignitic clay and some coarse
48-49	SAND	43019	as above, fine grained, better sorted same lignitic clay.
49-50	SAND	43020	as above but includes some grey (not lignitic) clay
50-51	SAND	43021	poorly sorted sands, trace of musonite appearing
51-52	SAND	43022	medium grained but poorly sorted? Weather lithic fragments
52-53	SAND	43023	as above. Some woody fragments
53-54	SAND	43024	as above
54-55	SAND	43025	as above. Poorly sorted up to med grained atz sand
55-56	SAND	43026	coarse sands but new also grey clay
56-57	SAND	43027	as above with grey clays
57-58	SAND	43028	as above
58-59	SAND	43029	as above less grey clays
59-60	SAND	43030	as above
60-61	SAND	43031	unsorted qtz, grey clay and pink clays
61-62	SAND	43032	mix of unsorted qtz to coarse with grey clays
62-63	SAND	43033	as above
63-64	SAND	43034	mainly clays occasional grit and sands
64-65	SAND	43035	mainly clays some dark (lignitic clays?) + grey clays
65-66	SAND	43036	????
66-67	SAND	43037	as above, well sorted, partly rounded, qtz sands
67-68	SAND	43038	as above, small pellets of white clay? Lithitic fragments
68-69	SAND	43039	as above
69-70	SAND	43040	as above small pieces of wood. A little coarser.
70-71	SAND	43041	unsorted sand fine - coarse, pellets of clay and wood, red rounded sand.
71-72	SAND	43042	as above rather more clay
72-73	SAND	43043	as above



Depth	Lithology	Sample No.	Description
73-74	SAND	43044	grey clays becoming more dominant in unsorted coarse sands
74-75	SAND	43045	as above - grey clays and mixed sands
75-76	SAND	43046	as above
76-77	SAND	43047	as above perhaps less clay. Wood pieces persist.
78-79	SAND	43048	Med grained sands with mud and wood. Med rounded sorted. Little clay.
79-80	SAND	43049	as above. Med sands
80-81	SAND	43050	as above. Med sands
81-82	SAND	43051	a little coarser. Unsorted sands
82-83	SAND	43052	coarser grained unsorted medium rounded sands.
83-84	SAND	43053	coarse grained to angular grit sized sands. Minor copposite, grains have pyrite?
84-85	SAND	43054	medium to fine grained sand
85-86	SAND	43055	medium to fine grained sand minor pink clay lithic clays
86-87	SAND	43056	as above
87-88	SAND	43057	coarser grained to grit sized component.
88-89	SAND	43058	as above. Small pyritic cemented aggregates
90-91	SAND	43059	unsorted finer grained, more black minerals? Very fine grained
91-92	SAND	43060	unsorted fine - med sands muscovite and pink clay and leucites = minor
92-93	SAND	43061	coarsening sands
93-94	SAND	43062	as above. Minor grit component
94-95	SAND	43063	as above
95-96	SAND	43064	clean sands - fine to grits. Mainly angular minor pebbles + muscovite + pink lithic fragments (clayey)
96-97	SAND	43065	poorly sorted sands, possibly top of basement psr
97-98	CLAY		white clays? Indurated with much qtz
98-99	CLAY		angular qtz, very coarse, with white clays
99-100	CLAY		as above
100-101	CLAY	43066	as above
101-102	CLAY		as above
102-103	CLAY		much less angular qtz, now clay dominated
103-104	CLAY		as above
104-105	CLAY	43067	white clay pellets have little qtz in them.
105-106	CLAY		as above
106-107	CLAY		white clay with fine qtz sized and white feldspar and mica (biotite)
107-108	GRANITE		white feldspar clear qtz and black biotite.



## Coulta Project

		Drill Hole No. COU002	AMG Easting 554720	Drilling Method Rotary Mud	Total Depth (m) 54
		Date: 18 November 2006	AMG Northing 6208657	Drill Company Underdale	
		Geologist: AFC	Zone: 53		
		Sample No.	Description		
0 -1	CLAY/CALCRETE		Dense laminated calcrete in orange sandy clay		
1 - 2	CLAY/CALCRETE		as above plus some rare well rounded qtz grits		
2 - 3	CLAY/CALCRETE		as above		
3-4	SAND		less clays - unsorted angular gravel - sand. Some quite indurated orange sands		
4-5	SAND		as above. Minor qtz gravel. Orange fe? Clay cemented sands + calcrete		
5-6	SAND		as above		
6-7	SAND		orange mixed sands, sandy clay with white clay lenses.		
7-8	SAND		orange clayey sands, some coarse fraction to grit sized qtz.		
8-9	SAND		orange sands, poorly sorted, clay + grains are minor, some white clay pellets.		
9-10	SAND		as above qtz grains med well rounded.		
10-11	SAND		as above		
11-12	SAND		as above, poorly sorted medium well rounded orange sands.		
12-13	SAND		as above		
13-14	SAND		orange( limonitic) colour lessening in mixed sands		
14-15	SAND		white poorly sorted sands, lithic fraction + muscovite		
15-16	SAND		white poorly sorted sands, mainly med - fine		
16-17	SAND		as above		
17-18	SAND		white sands with small limonitic clay specks.		
18-19	SAND		fine white sands, well rounded		
19-20	SAND	43068	fine white sands, limonitic clay specks		
20-21	SAND	43069	white sands coarse grained angular some lignitic clay		
21-22	SAND	43070	as above, lignitic much less.		
22-23	SAND	43071	as above, lignitic much less.		
23-24	SAND	43072	as above, angular coarse sands, lignites.		
24-25	SAND	43073	finer grained but with woody pieces.		
25-26	SAND	43074	as above		
26-27	SAND	43075	as above		
27-28	SAND	43076	as above perhaps coarser		
28-29	SAND	43077	as above med-fine sands with woody pieces		
29-30	SAND	43078	poorly sorted angular qtz sands with woody pieces.		
30-31	SAND		fine sands, well sorted, angular silt size - firesand. Psr		
31-32	SAND	43079	fine sands, well sorted, angular		
32-33	SAND	43080	fine sands, angular, small heavy minerals? Black lustrous.		

Depth	Lithology	Sample No.	Description
33-34	SAND	<b>43081</b>	fine angular sands, some woody fragments.
34-35	SAND	<b>43082</b>	as above
35-36	SAND	<b>43083</b>	as above, fine sands, with some woody fragments
36-37	SAND		as above, some well rounded coarse qtz grains psr.
37-38	SAND		no sample return. (very fine sand not settling)
38-39	SAND		No sample return.
39-40	SAND		No sample return
40-41	SAND		no sample return
41-42	SAND		no sample return (very fine sand not settling out?)
42-43	SAND		nsr
43-44	SAND		no sample return - good circulation
44-45	SAND		nsr
45-46	SAND		nsr
46-47	SAND		nsr
47-48	SAND		nsr
48-49	SAND		nsr
49-50	SAND		nsr
50-51	SAND		nsr
51-52	SAND		nsr
52-53	SAND		nsr. Flushed through sieve
53-54	CLAY		very fine grained fresh biotite
54-55	GRANITE	<b>43084</b>	could be fine grained biotite granite



## Coulta Project

Drill Hole No.	COU 003	AMG Easting	558435	Drill Method	Rotary	Total Depth (m)	41
		AMG Northing	6215508	Mud			
Date:	22 November 2006			Drill Company	Underdale		
Geologist:	AFC	Zone:	53				

Depth	Lithology	Sample No.	Description
0 -1	CALCRETE		powdered calcrete and clays
1 - 2	CALCRETE		as above
2 - 3	CLAY		brown clays fine silts
3-4	CLAY		brown clays, some red fe oxide colouration
4-5	CLAY		brown - clay silt. Some coarse fraction of rounded qtz.
5-6	CLAY		brown clays - silt minor lithic fraction + grit sized qtz. Fe cemented pisolites
6-7	CLAY		grey clay quite indurated - dry
7-8	CLAY		grey clay, quite indurated - dry
8-9	CLAY		mix of grey clays and yellow fe stained clays in sample
9-10	CLAY		clay, indurated dry, mix of grey yellow and red-brown. Minor porcelleite
10-11	CLAY		clays red and orange clays. Minor fe modules.
11-12	CLAY		as above
12-13	SAND	43085	brown-dark brown - silts. Some fe cemented granites
13-14	SAND	43086	clean fine silts with minor flakes. ? Lignitic
14-15	SAND	43087	finest silts, well sorted + a few well rounded grit grains.
15-16	SAND	43088	clean well-sorted silts also some yellow silts intersected.
16-17	SAND	43089	as above
17-18	SAND	43090	clean well sorted silts.
18-19	SAND	43091	more sand then into weathered basement? Coarse pegmatite
19-20	CLAY		orange clays with muscovite flakes
20-21	CLAY		as above
21-22	CLAY		as above
22-23	CLAY	43092	as above
23-24	CLAY		grey clayey fine grained quartz - weathered basement
24-25	CLAY		as above
25-26	CLAY		as above
26-27	CLAY	43093	grey clay minor fine quartz
27-28	CLAY		as above
28-29	CLAY		as above
29-30	CLAY		grey clay with pyritic concreticlers
30-31	CLAY	43094	grey clay with sands, very fine grained. Well rounded
31-32	CLAY		as above
32-33	CLAY		very fine sands? Very fine quartz

Depth	Lithology	Sample No.	Description
33-34	CLAY	43095	as above
34-35	CLAY		grey clays minor fine qtz. Small pellets of orange clay
35-36	CLAY		as above
36-37	CLAY		as above
37-38	CLAY		grey clays very fine qtz
38-39	CLAY	43096	grey very fine sands - clay. Very fine muscovite
39-40	CLAY		as above but had layer is micro granite with quite abundant pyrite and some magnetite
40-41	GRANITE		grey sand, clay sized.



		Coultas Project			
		Drill Hole No. COU 004	AMG Easting	Drill Method Aircore	Total Depth (m) 42
			AMG Northing	Drill Company Underdale	
		Date: 22 November 2006			
		Geologist: AFC	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	SOIL		lupin crop - soil + carbonates		
1 - 2	CLAY		yellow brown clays		
2 - 3	CLAY		yellow clays some indented clay with fine qtz grains some fe pisolites (magnetic)		
3-4	CLAY		as above		
4-5	CLAY		quite indented khaki clays with qtz grains + magnetic pisolites		
5-6	CLAY		yellow brown indented clays with qtz grain to magnetic pisolites		
6-7	CLAY		red brown clays nsr		
7-8	CLAY	43097	very clean white silts, well sorted - some clean white well rounded sand beds highly in donated		
8-9	CLAY	43098	mix of fine grey silts and bright red brown clays		
9-10	CLAY	43099	grey silts and clays with loads of porcellanite with qtz grains well rounded cemented in.		
10-11	CLAY	43100	white powder with some indented pieces, porcellanite plus some minorite nods		
11-12	CLAY	43101	pale brown - white clay		
12-13	CLAY	43102	yellow clays, silty, small fe nobules		
13-14	CLAY	43103	as above bit fragmenting look out for tungsten pieces.		
14-15	CLAY	43104	yellow silty clays very fine.		
15-16	CLAY	43105	clean, very fine silts. Rare coarser qtz granules, oxidised fe granules		
16-17	CLAY	43106	clean very fine silts		
17-18	CLAY	43107	top of the basement. Fine grey clays with granular grit sized qtz.		
18-19	CLAY		grey and orange clays		
19-20	CLAY		grey and orange clays		
20-21	CLAY		grey and orange clays - minor coarse angular qtz		
21-22	CLAY	43108	grey and orange clays		
22-23	CLAY		clays with indented? Silicified weathered? Granite		
23-24	CLAY		clays		
24-25	CLAY		clays		
25-26	CLAY	43109	grey clays		
26-27	CLAY		as above		
27-28	CLAY		as above		
28-29	CLAY		grey clays minor qtz component		
29-30	CLAY	43110	grey clays		
30-31	CLAY		as above		
31-32	CLAY		dark grey clays		
32-33	CLAY		as above clays		

Depth	Lithology	Sample No.	Description
33-34	CLAY	43111	dark grey clays
34-35	CLAY		dark grey clays
35-36	CLAY		as above
36-37	CLAY		as above
37-38	CLAY	43112	as above
38-39	CLAY		dark clays as above some coarse angular qtz
39-40	CLAY		dark grey clays, minor fine qtz, now some fresh biotite
40-41	CLAY		khaki green grey yellow clays no coarse qtz
41-42	CLAY		green clay, no coarse qtz






## Coulta Project

		Drill Hole No.	COU 005	AMG Easting	Drill Method	Aircore	Total Depth (m)	14
				AMG Northing	Drill Company	Underdale		
		Date: 23 November 2006						
		Geologist: AFC		Zone: 53				
Depth	Lithology	Sample No.	Description					
0 -1	CLAY		grey clays - lake mud. Some fine silt layers					
1 - 2	CLAY		as above					
2 - 3	CLAY		as above					
3-4	CLAY		khaki clays with qtz grains to grit size					
4-5	CLAY		green clays some fe pellets - magnetic some qtz					
5-6	CLAY		mix green clays and re brown clays with fine qtz					
6-7	SAND	43113	clean white silt - fine sand - some well rounded atz granules. Some lithic fragments					
7-8	SAND	43114	green and orange sands					
8-9	SAND	43115	fine orange sands - quite clayey					
9-10	SAND	43116	fine clean and orange sands					
10-11	SAND	43117	fine sands ? Lignitic					
11-12	SAND	43118	fine sands, lignitic lithic fragments of fine bi gneiss					
12-13	SAND	43119	fine sands with small amount of biotite					
13-14	GRANITE	43120	fine qtz sands then into bi gneiss					

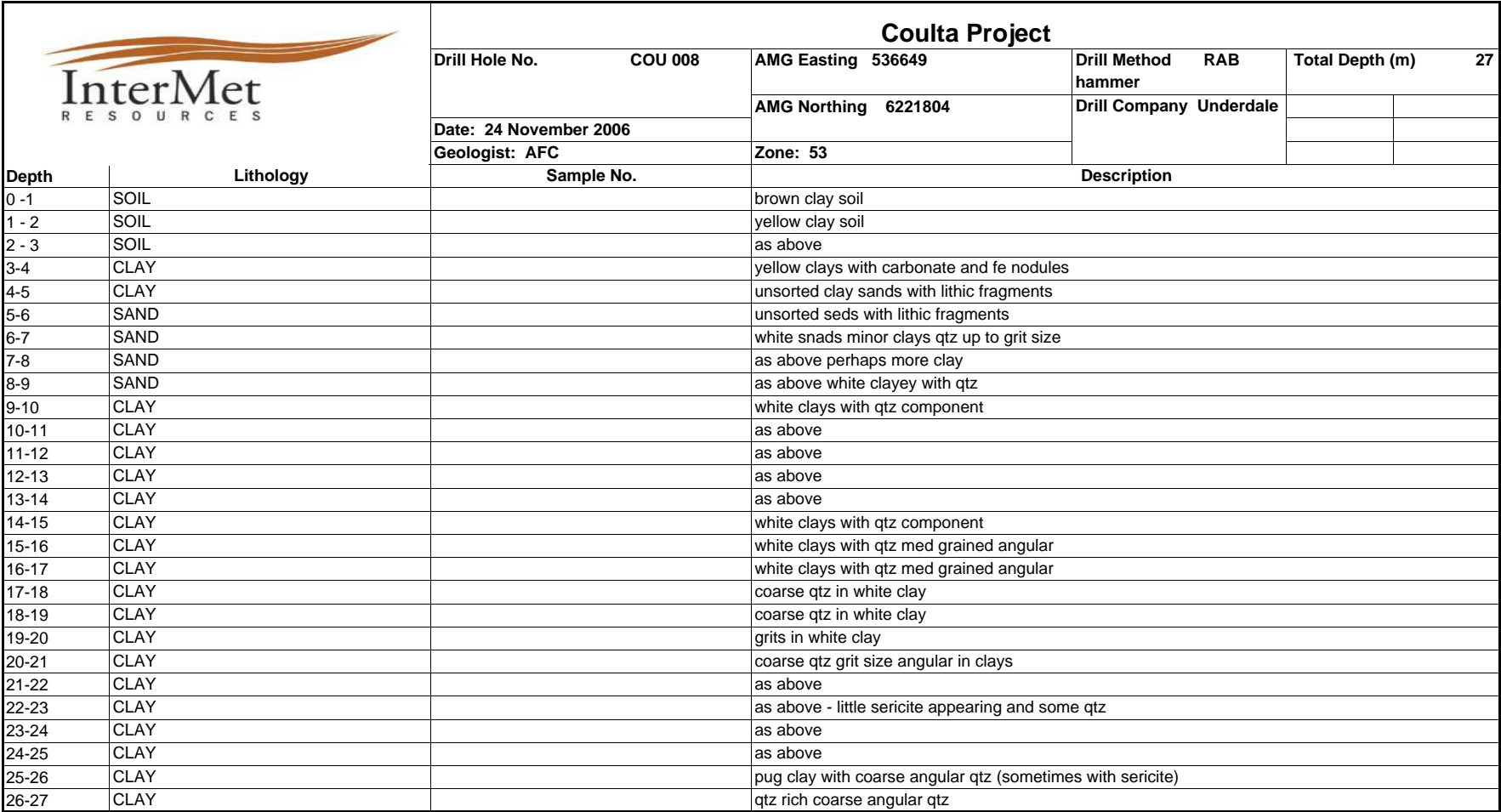


		Couлта Project								
		Drill Hole No.	COU 006	AMG Easting	536417	Drill Method	Aircore	Total Depth (m)		14
				AMG Northing	6221 812					
				Date: 23 November 2006						
		Geologist: AFC	Zone: 53							
Depth	Lithology	Sample No.	Description							
0 -1	SOIL		soil orange. Some qtz gravel and fe store							
1 - 2	IRONSTONE		ironstone pellets in red and white clays. Magnetic							
2 - 3	CLAY		white clays plus induced grey clay and bands							
3-4	CLAY		clays + fe cemented weathered lithic clays							
4-5	GRAVEL		fine grained sand with "buck shot" gravel and porcellenite fragments							
5-6	QUARTZ VEIN	43121	qtz vein in weathered basement							
6-7	GNEISS	43122	weathered basement with qtz grains and clay silicified feldspars							
7-8	GNEISS		weathered gneiss? With large phenocrysts of qtz							
8-9	GNEISS		as above							
9-10	GNEISS		as above includes some Fe-rich Material							
10-11	GNEISS	43123	as above no Fe							
11-12	GNEISS		ferruginous material looks like biotite = biotite granite							
12-13	GNEISS		white silicified clay ex feldspar clear qtz + some possible sericite							
13-14	GNEISS		ferruginous material again some ribbons of qtz? Biotite gneiss granite							



## Coulta Project

		Drill Hole No.	COU 007	AMG Easting	536649	Drill Method	Aircore	Total Depth (m)	22
				AMG Northing	6221804	Drill Company	Underdale		
		Date:	23 November 2006						
		Geologist:	AFC	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	CLAY			bright red earth clay					
1 - 2	CALCRETE			highly incucted carbonate					
2 - 3	CALCRETE			as above with some clays					
3-4	CALCRETE			as above					
4-5	CALCARENITE			carbonate and sediments					
5-6	CALCARENITE			as above					
6-7	CLAY			clays with fe laterite + pisolites					
7-8	CLAY			as above					
8-9	CLAY			brown clays with misc lithic lasts					
9-10	CLAY			browned white clays with lithic clasts					
10-11	CLAY			white basement clayss					
11-12	CLAY			white to yellow basement clays					
12-13	CLAY			as above					
13-14	CLAY			as above + large qtz fragment					
14-15	CLAY			white clays					
15-16	CLAY			white clays					
16-17	CLAY			white clays					
17-18	CLAY			first basement fragments - weathered					
18-19	CLAY								
19-20	CLAY			quite a bit of fine grained magnetite					
20-21	CLAY	43124		coarse qtz feldspar = lay? Bit of biotited sercite					
21-22	CLAY			sample of pug clay from inside bit.					





## Coulta Project

Drill Hole No.	COU 009	AMG Easting	538019	Drilling Method	Aircore	Total Depth (m)	24
		AMG Northing	6218611	Drill Company	Underdale		
Date:	25 November 2006						
Geologist:	GF	Zone:	53				

Depth	Lithology	Sample No.	Description
0 -1	CALCRETE		Calcrete- sheet calcrete, white to pale brown with minor soil
1 - 2	CALCRETE		Calcrete - sandy, fine to medium grained
2 - 3	CLAY		Clay, orange-brown, calcereous, sandy
3-4	CLAY		Clay, orange, fine, slightly sandy
4-5	CLAY		Clay, yellow-brown, slightly sandy (fine grained), calcereous
5-6	CLAY		Clay, off-white to pale brown, fine- powdery
6-7	CLAY	43125	Clay, red-brown, ferruginous, minor indurated layers (ferricrete), minor vc quartz gravel
7-8	CLAY		Clay, off-white, with abundant cg angular quartz - weathered basement
8-9	CLAY		Clay, orange-brown, with abundant quartz (medium grained) and fine muscovite
9-10	CLAY	43126	Clay, pale grey, micaceous, minor quartz (clear)
10-11	CLAY		Clay, pale grey, micaceous, minor quartz (clear)
11-12	CLAY		Clay, pale grey, micaceous, minor quartz (clear)
12-13	CLAY	43127	Clay, off-white, slighly more quartz present, micaceous
13-14	CLAY		Clay, off-white, slighly more quartz present, micaceous
14-15	CLAY		Clay, pale yellow, micaceous, with fine grained quartz
15-16	CLAY		Clay, pale yellow, micaceous, with fine grained quartz
16-17	CLAY	43128	Clay, pale yellow, micaceous, with fine grained quartz
17-18	CLAY		Clay, pale yellow, micaceous, with fine grained quartz
18-19	CLAY		Clay, pale grey to yellow, micaceous, fine quartz
19-20	CLAY		Clay, pale grey to yellow, micaceous, fine quartz
20-21	CLAY	43129	Clay, pale grey, micaceous, with m-c grained clear quartz
21-22	CLAY		Clay, pale grey, micaceous, with m-c grained clear quartz, with some indurated layers
22-23	CLAY		Clay, orange-pale green, Fe-stained, micaceous, quartz (f-c) and rare vc quartz
23-24	CLAY		Clay, orange-pale green, Fe-stained, micaceous, quartz (f-c) and rare vc quartz



		Coultas Project			
		Drill Hole No. COU 010	AMG Easting 538019	Drilling Method Aircore	Total Depth (m) 20
			AMG Northing 6218611	Drill Company Underdale	
		Date: 25 November 2006			
		Geologist: GF	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	CALCRETE		Calcrete, hard, white to pale yellow, fractured		
1 - 2	CALCRETE		Calcrete, sandy		
2 - 3	CLAY		Clay, calcereous, with hard indurated layers		
3-4	CLAY		Clay, red-brown with some white indurated calcrete layers		
4-5	CLAY		Clay, orange-brown, calcereous		
5-6	CLAY		Clay, orange to grey, slightly plastic, some indurated fragments, rare quartz gravel		
6-7	CLAY	43130	Clay, off-white to white, abundant coarse quartz grains		
7-8	CLAY		Clay, off-white to cream, with abundant gravel		
8-9	CLAY		Clay, white with patches of Fe mottling, some vc quartz		
9-10	CLAY		Clay, white with patches of Fe mottling, some vc quartz		
10-11	CLAY		Clay, heavily iron stained orange/white, with minor ironstone fragments		
11-12	CLAY		Clay, off-white kaolin, micaceous, f-m quartz		
12-13	CLAY	43131	Clay, off-white kaolin, micaceous, f-m quartz		
13-14	CLAY		Clay, off-white kaolin, micaceous, f-m quartz		
14-15	CLAY		Clay, off-white kaolin, micaceous, f-m quartz		
15-16	CLAY		Clay, wet, pale orange/grey/white, micaceous, abundant f-m quartz		
16-17	CLAY	43132	Clay, wet, pale orange/grey/white, micaceous, abundant f-m quartz		
17-18	CLAY		Clay, wet, pale orange/grey/white, micaceous, abundant f-m quartz		
18-19	CLAY		Clay, wet, pale orange/grey/white, micaceous, abundant f-m quartz		
19-20	CLAY		Clay, wet, pale orange/grey/white, micaceous, abundant f-m quartz		



## Coulta Project

Drill Hole No.	COU 011	AMG Easting	536646	Drilling Method	Aircore	Total Depth	27m
		AMG Northing	6210295	Drill Company	Underdale		
Date:	25 November 2006						
Geologist:	GF	Zone:	53				

Depth	Lithology	Sample No.	Description
0 -1	CALCRETE		Calcrete, sheet calcrete, off-white with SOIL, brown, clayey
1 - 2	CLAY		Clay, brown, calcereous, some indurated layers or boulders
2 - 3	CLAY		Clay, yellow-brown, calcereous, with some indurated layers or boulders
3-4	CLAY		Clay, yellow-brown, calcereous, with some indurated layers or boulders
4-5	CLAY		Clay, yellow-brown, calcereous, with some indurated layers or boulders
5-6	CLAY		Clay, pale yellow-brown, calcereous, hard layers, sandy
6-7	CLAY		Clay, pale yellow-brown, calcereous, hard layers, sandy
7-8	CLAY		Clay, pale yellow-brown, calcereous, hard layers, sandy
8-9	CLAY		Clay, pale yellow-brown, calcereous, hard layers, sandy
9-10	CLAY		Clay, pale yellow-brown, calcereous, hard layers, sandy
10-11	CLAY		Clay, varicoloured, grey-orange-green, micaceous
11-12	CLAY		Clay, orange (Fe-stained), micaceous, abundant f-m quartz
12-13	CLAY	43133	Clay, off-white, kaolin, micaceous
13-14	CLAY		Clay, off-white, kaolin, micaceous
14-15	CLAY		Clay, off-white, kaolin, micaceous
15-16	CLAY	43134	Clay, off-white, kaolin, micaceous, f-m quartz
16-17	CLAY		Clay, pale yellow, f-m quartz, micaceous
17-18	CLAY		Clay, wet sample "puggy", rare VC quartz, patches of orange Fe staining
18-19	CLAY		Clay, wet sample "puggy", rare VC quartz, patches of orange Fe staining
19-20	CLAY	43135	PSR - water pumped down the hole
20-21	CLAY		Granite, bleached, coarse grained quartz and mica
21-22	CLAY		PSR - water pumped down the hole
22-23	CLAY		Clay, weathered granite, white, angular quartz - PSR
23-24	CLAY		Clay, off-white, f-m quartz, micaceous
24-25	CLAY	43136	Clay, off-white, f-m quartz, micaceous
25-26	CLAY		Clay, off-white, f-m quartz, micaceous PSR
26-27	CLAY		Clay, off-white, f-m quartz, micaceous





## Coulta Project

<b>InterMet</b> RESOURCES		Drill Hole No.	COU 012	AMG Easting	536723	Drilling Method	RAB	Total Depth (m)	27
				AMG Northing	6210300	Drill Company	Underdale		
		Date:	25 November 2006						
		Geologist:	GF	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	SOIL			Soil, brown, clayey with calcrete (?sheet or boulder)					
1 - 2	CLAY			Clay, calcereous, yellow-brown, some thin hard layers					
2 - 3	CLAY			Clay, calcereous, off-white, some thin hard layers					
3-4	CLAY			Clay, calcereous, off-white, some thin hard layers					
4-5	CLAY			Clay, calcereous, off-white, some thin hard layers					
5-6	CLAY			Clay, calcereous, off-white, some thin hard layers					
6-7	CLAY	43137		Clay, orange-brown (Fe-stained), slightly plastic					
7-8	CLAY			Clay, orange-brown (Fe-stained), slightly plastic					
8-9	CLAY			Clay, pale green to orange (mottled), ?weathered basement					
9-10	CLAY	43138		Clay, off-white, minor quartz, micaceous					
10-11	CLAY			Clay, off-white, minor quartz, micaceous					
11-12	CLAY			Clay, off-white, minor quartz, micaceous					
12-13	CLAY			Clay, off-white, minor quartz, micaceous					
13-14	CLAY	43139		Clay, off-white, minor quartz, micaceous					
14-15	CLAY			Clay, off-white, minor quartz, micaceous					
15-16	CLAY			Clay, off-white, minor quartz, micaceous - Wet Sample					
16-17	CLAY			Clay, off-white, minor quartz, micaceous					
17-18	CLAY	43140		Clay, off-white, minor quartz, micaceous					
18-19	CLAY			Clay, white to off-white, quartz rich, micaceous - sloppy sample					
19-20	CLAY			Clay, white to off-white, quartz rich, micaceous - sloppy sample					
20-21	CLAY			Clay, pale green, fine quartz (?more schistose layer),					
21-22	CLAY	43141		Clay, off-white, fine to coarse quartz, micaceous, sloppy sample					
22-23	CLAY			Clay, off-white, fine to coarse quartz, micaceous, sloppy sample					
23-24	CLAY			Clay, off-white, fine to coarse quartz, micaceous, sloppy sample					
24-25	CLAY			Clay, off-white, fine to coarse quartz, micaceous, sloppy sample					
25-26	CLAY	43142		Clay, off-white, fine to coarse quartz, micaceous, sloppy sample					
26-27	GRANITE GNEISS			Clay, off-white, fine to coarse quartz, micaceous, sloppy sample - weathered granite gneiss - Hole					



## Coulta Project

<b>InterMet</b> RESOURCES		Drill Hole No.	COU 013	AMG Easting	536784	Drilling Method	RAB	Total Depth (m)	27
				AMG Northing	6210300	Drill Company	Underdale		
		Date:	26 November 2006						
		Geologist:	GF	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	SOIL/CALCRETE			Soil, calcereous with sheet calcrete					
1 - 2	CLAY			Clay, calcereous, pale brown, sandy with fragments of calcrete					
2 - 3	CLAY			Clay, calcereous, pale brown, sandy with fragments of calcrete					
3-4	CLAY			Clay, calcereous, pale brown, sandy with fragments of calcrete					
4-5	CLAY			Clay, calcereous, pale brown, sandy with fragments of calcrete					
5-6	CLAY			Clay, calcereous, pale brown, sandy with fragments of calcrete, slightly damp					
6-7	CLAY	43143		Clay, dark grey to pale orange, with fragments of calcrete					
7-8	CLAY			Clay, pale green, slightly plastic, zones of orange Fe-staining					
8-9	CLAY			Clay, pale green to pale orange, micaceous, fine quartz					
9-10	CLAY	43144		Clay, pale green to pale orange, micaceous, fine quartz					
10-11	CLAY			Clay, pale green to pale orange, micaceous, fine quartz					
11-12	CLAY			Clay, pale green, quartz rich (fine to coarse), micaceous, fine grained grey mineral (non-magnetic-					
12-13	CLAY	43145		Clay, pale green, quartz rich (fine to coarse), micaceous, fine grained grey mineral (non-magnetic-					
13-14	CLAY			Clay, pale green, quartz rich (fine to coarse), micaceous, fine grained grey mineral (non-magnetic-					
14-15	CLAY			Clay, pale green, quartz rich (fine to coarse), micaceous, becoming slightly pale orange with depth					
15-16	CLAY			Clay, pale green to pale orange, chips of quartz and mica (basement fragments- mica rich granite or					
16-17	CLAY	43146		Clay, heavily Fe-stained, micaceous, fine quartz (schistose band)					
17-18	CLAY			Clay, heavily Fe-stained, micaceous, fine quartz (schistose band)					
18-19	CLAY			Clay, heavily Fe-stained, micaceous, fine quartz (schistose band)					
19-20	CLAY			Clay, heavily Fe-stained, micaceous, fine quartz (schistose band)					
20-21	CLAY	43147		Clay, olive green, very micaceous, fine quartz - weathered schist layer					
21-22	CLAY			Clay, olive green, very micaceous, fine quartz - weathered schist layer					
22-23	CLAY			Clay, olive green, very micaceous, fine quartz - weathered schist layer with some chips of coarse					
23-24	CLAY			Clay, olive green, very micaceous, fine quartz - weathered schist layer with some chips of coarse					
24-25	CLAY	43148		Clay, olive green, very micaceous, fine quartz - weathered schist layer with some chips of coarse					
25-26	GNEISS			Biotite rich gneiss, medium to coarse grained quartz-feldspar-biotite					
26-27	GNEISS	43149		Biotite rich gneiss, medium to coarse grained quartz-feldspar-biotite					



## Coulta Project

<b>InterMet</b> RESOURCES		Drill Hole No.	COU 014	AMG Easting	536387	Drilling Method	RAB	Total Depth (m)	21
				AMG Northing	6210312	Drill Company	Underdale		
		Date:	26 November 2006						
		Geologist:	GF	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	SOIL/CALCRETE			Soil, sandy, calcereous with sheet calcrete					
1 - 2	CLAY/CALCRETE			Clay, off-white, calcereous, slightly sandy with ?sheet calcrete or large boulders					
2 - 3	CALCRETE			Calcrete, off-white, hard, sandy, very fine black mineral (biotite or iron oxide)					
3-4	CALCRETE			Calcrete, off-white, hard, sandy, very fine black mineral (biotite or iron oxide)					
4-5	SAND			Sand, calcereous, clayey with calcrete fragments					
5-6	SAND/CLAY			Sand as above with Fe-stained clay, slightly indurated					
6-7	CLAY			Clay, orange to orange brown (Fe-stained), plastic					
7-8	CLAY			Clay, orange to orange brown (Fe-stained) with zones of white clay, plastic					
8-9	CLAY			Clay, red-brown to white with fragments of ironstone (weathering zone)					
9-10	IRONSTONE			Ironstone, red-brown, indurated Fe-rich clay, some patches of white clay (mottled zone)					
10-11	CLAY			Clay, off-white, fine quartz					
11-12	CLAY			Clay, off-white, fine quartz, abundant fine to medium grained quartz					
12-13	CLAY			Clay, off-white, fine quartz					
13-14	CLAY			Clay, off-white, fine quartz					
14-15	CLAY			Clay, off-white, fine quartz					
15-16	CLAY	43150		Clay, off-white, Gravel fine to very coarse quartz					
16-17	CLAY			Clay, off-white, Gravel fine to very coarse quartz					
17-18	CLAY			Clay, green (khaki), to pale orange, micaceous, biotite rich gneiss fragments					
18-19	GNEISS			Gneiss, coarse grained quartz-feldspar-biotite					
19-20	GNEISS	43151		Gneiss, coarse grained quartz-feldspar-biotite					
20-21	GNEISS	43152		Gneiss, coarse grained quartz-feldspar-biotite					



## Coulta Project

Drill Hole No.	COU 015	AMG Easting	538247	Drilling Method	RAB	Total Depth (m)	23.5
		AMG Northing	6204662	Drill Company	Underdale		
Date:	26 November 2006						
Geologist:	GF	Zone:	53				

Depth	Lithology	Sample No.	Description
0 -1	SOIL/CALCRETE		Soil, brown, calcereous with sheet calcrete
1 - 2	CALCRETE		Calcrete, sheet, off-white to brown
2 - 3	CLAY		Clay, calcereous, off-white, with fragments of calcrete
3-4	CLAY		Clay, calcereous, off-white, with fragments of calcrete and some fragments of ironstone
4-5	GRAVEL		Gravel, very coarse quartz with some rounded pebbles
5-6	GRAVEL		As above with fragments of weathered granite and ironstone
6-7	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
7-8	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
8-9	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
9-10	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
10-11	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
11-12	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
12-13	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained)
13-14	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained), puggy - slightly damp
14-15	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained), puggy - slightly damp
15-16	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained), puggy - slightly damp
16-17	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained), puggy - slightly damp
17-18	CLAY		Clay, off-white, micacaeous, abundant quartz (fine to very coarse grained), puggy - slightly damp
18-19	CLAY		Clay, off-white to white, with abundant very coarse quartz and white feldspar grains
19-20	CLAY		Clay, off-white to white, with abundant very coarse quartz and white feldspar grains
20-21	CLAY		Clay, off-white to white, with abundant very coarse quartz and white feldspar grains
21-22	CLAY		Clay, off-white to white, with abundant very coarse quartz and white feldspar grains
22-23	CLAY		Clay, off-white to white, with abundant very coarse quartz and white feldspar grains
23-23.5	GRANITE	43153	Clay, off-white to white, with abundant very coarse quartz and white feldspar grains



## Coulta Project

Drill Hole No.	COU 016	AMG Easting	538344	Drilling Method	Aircore	Total Depth (m)	21
		AMG Northing	6204460	Drill Company	Underdale		
Date:	26 November 2006						
Geologist:	GF	Zone:	53				

Depth	Lithology	Sample No.	Description
0 -1	SOIL/CALCRETE		Soil, brown, calcereous with sheet calcrete (surface maghemite around ants nests)
1 - 2	CLAY		Clay, orange-grey-pale green, slightly plastic, minor calcrete
2 - 3	CALCRETE/CLAY		Clay, orange-grey-pale green, slightly plastic, plus calcrete
3-4	CLAY/GRAVEL		Clay, iron-stained with gravel
4-5	SAND		Sand, fine to very coarse grained quartz, clayey
5-6	GRAVEL		Gravel, very coarse quartz with ironstone fragments - hard layer at 5.5m (open hole hammer)
6-7	GRAVEL		Gravel, very coarse quartz with ironstone fragments
7-8	GRAVEL		Gravel, very coarse quartz, subangular to rounded
8-9	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
9-10	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
10-11	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
11-12	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
12-13	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
13-14	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
14-15	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
15-16	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
16-17	CLAY		Clay, off-white, abundant fine to very coarse quartz - weathered basement
17-18	CLAY		Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered
18-19	CLAY		Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered
19-20	CLAY		Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered
20-21	GRANITE/GNEISS	43167	Clay, off-white, abundant fine to very coarse quartz - weathered basement

Hole abandoned due to excessive water at basement contact - decided to try Rotary Mud - Hole COU016A



## Coulta Project

<b>InterMet</b> RESOURCES		Drill Hole No.	COU 016A	AMG Easting	538349	Drilling Method	Rotary	Total Depth (m)	19
				AMG Northing	6204467	Mud			
		Date:	26 November 2006			Drill Company	Underdale		
		Geologist:	GF	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	SOIL/CALCRETE			Soil, brown, calcereous with sheet calcrete (surface maghemite around ants nests)					
1 - 2	CLAY			Clay, orange-grey-pale green, slightly plastic, minor calcrete					
2 - 3	CALCRETE/CLAY			Clay, orange-grey-pale green, slightly plastic, plus calcrete					
3-4	CLAY/GRAVEL			Clay, iron-stained with gravel					
4-5	SAND			Sand, fine to very coarse grained quartz, clayey					
5-6	GRAVEL			Gravel, very coarse quartz with ironstone fragments - hard layer at 5.5m (open hole hammer)					
6-7	GRAVEL			Gravel, very coarse quartz with ironstone fragments					
7-8	GRAVEL			Gravel, very coarse quartz, subangular to rounded					
8-9	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
9-10	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
10-11	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
11-12	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
12-13	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
13-14	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
14-15	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
15-16	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
16-17	CLAY			Clay, off-white, abundant fine to very coarse quartz - weathered basement					
17-18	CLAY			Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered					
18-19	CLAY			Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered					
19-20	GRANITE/GNEISS			Clay, off-white, abundant fine to very coarse quartz, minor biotite rich aggregates - weathered					



### Coulta Project

<div>InterMet</div> <div>RESOURCES</div>		Drill Hole No.	COU 017	AMG Easting	539036	Drilling Method	RAB	Total Depth (m)	4
				AMG Northing	6197102	Drill Company	Underdale		
		Date:	27 November 2006						
		Geologist:	GF	Zone:	53				
Depth	Lithology	Sample No.		Description					
0 -1	CALCRETE			Calcrete/Soil					
1 - 2	CLAY			Clay, orange-brown, sandy, slightly micaceous					
2 - 3	CLAY			Clay, brown to orange with fine to coarse quartz					
3-4	GRANITE/GNEISS	43154		Granite/Gneiss - coarse grained quartz-feldspar-biotite-muscovite, bleached					






		Coultas Project			
		Drill Hole No. COU 018	AMG Easting 539142	Drilling Method RAB	Total Depth (m) 8
			AMG Northing 6197113	Drill Company Underdale	
		Date: 27 November 2006			
		Geologist: GF	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	SOIL		Soil, chocolate brown, sandy, calcereous with calcrete fragments		
1 - 2	SAND		Sand, fine to medium grained, well sorted, calcereous		
2 - 3	SAND		Sand, fine to medium grained, well sorted, calcereous		
3-4	SANDSTONE		Sand as above with thin layers of sandstone		
4-5	GRANITE/GNEISS	43155	Granite/Gneiss, coarse grained quartz and feldspar		
5-6	GRANITE/GNEISS		Granite/Gneiss, coarse grained quartz and feldspar		
6-7	GRANITE/GNEISS		Granite/Gneiss, coarse grained quartz and feldspar		
7-8	GRANITE/GNEISS	43156	Granite/Gneiss, coarse grained quartz, feldspar and biotite		



		Coultas Project			
		Drill Hole No. COU 019	AMG Easting 539252	Drilling Method RAB	Total Depth (m) 6
			AMG Northing 6197123	Drill Company Underdale	
		Date: 27 November 2006			
		Geologist: GF	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	SOIL		Soil, brown, calcereous, becoming clay with depth, brown with ironstone fragments		
1 - 2	CLAY		Clay, brown, slightly plastic, some ironstone fragments		
2 - 3	CLAY		Clay, brown, slightly plastic, some ironstone fragments with coarse grained quartz and feldspar		
3-4	GRANITE/GNEISS	43157	Granite/Gneiss, coarse quartz-feldspar-biotite with minor muscovite		
4-5	GRANITE/GNEISS		Granite/Gneiss, coarse quartz-feldspar-biotite with minor muscovite		
5-6	GRANITE/GNEISS	43158	Granite/Gneiss, coarse quartz-feldspar-biotite with minor muscovite		



### Coulta Project

		Coultas Project							
		Drill Hole No. COU 020		AMG Easting 539275		Drilling Method RAB		Total Depth (m) 7	
				AMG Northing 6197126		Drill Company Underdale			
		Date: 27 November 2006							
Geologist: GF		Zone: 53							
Depth	Lithology	Sample No.		Description					
0 -1	SOIL			Soil, brown with Fe-stone fragments					
1 - 2	CLAY			Clay, red-brown, slightly indurated					
2 - 3	CLAY			Clay, mottled red-brown, off white, slightly plastic, micaceous					
3-4	CLAY			Clay, indurated cap on basement					
4-5	CLAY			Clay, white, micaceous, quartz-feldspar-biotite chips					
5-6	CLAY	43159		Clay, white, micaceous, quartz-feldspar-biotite chips					
6-7	GRANITE	43160		Granite, coarse grained quartz and feldspar with minor mica					



## Coulta Project

		Coulta Project			
		Drill Hole No. COU 021	AMG Easting 539416	Drilling Method RAB rollerbit	Total Depth (m) 31.5
			AMG Northing 6197146	Drill Company Underdale	
		Date: 27 November 2006			
		Geologist: GF	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 - 1	SOIL/CALCRETE		Soil, clayey, brown, sandy with pisolites		
1 - 2	CLAY		Clay, orange-brown, with iron pisolites		
2 - 3	CLAY		Clay, yellow-brown, slightly plastic, sandy		
3-4	CLAY		Clay, mottled - red-brown-white-orange (feruginous cap on weathered basement)		
4-5	CLAY		Clay, mottled - red-brown-white-orange (feruginous cap on weathered basement)		
5-6	CLAY	43161	Clay, mottled - red-brown-white-orange (feruginous cap on weathered basement)		
6-7	CLAY		Clay, mottled - red-brown-white-orange (feruginous cap on weathered basement)		
7-8	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
8-9	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
9-10	CLAY	43162	Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
10-11	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
11-12	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
12-13	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
13-14	CLAY	43163	Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
14-15	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
15-16	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
16-17	CLAY		Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
17-18	CLAY	43164	Clay, white to pale grey, slightly plastic, micaceous, fine to medium quartz		
18-19	CLAY		Clay, white, micaceous, fine to coarse white quartz with patches of iron staining		
19-20	CLAY		Clay, white, micaceous, fine to coarse white quartz		
20-21	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
21-22	CLAY	43165	Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
22-23	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
23-24	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
24-25	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
25-26	CLAY	43166	Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
26-27	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
27-28	CLAY		Clay, white to brown (Fe-staining), very micaceous, fine to coarse grained quartz - weathered granite		
28-29	CLAY		NO SAMPLE		
29-30	CLAY		Clay, pale yellow to brown, micaceous, fine to coarse quartz		
30-31	CLAY		Clay, off-white to white, micaceous, fine to coarse quartz		
31-31.5	CLAY		Clay, off-white to white, micaceous, fine to coarse quartz		



		Coultas Project			
		Drill Hole No. COU 022	AMG Easting 538505	Drilling Method Rotary Mud	Total Depth (m) 20
			AMG Northing 6204547	Drill Company Underdale	
		Date: 29 November 2006			
		Geologist: GF	Zone: 53		
Depth	Lithology	Sample No.	Description		
0 -1	SOIL/CALCRETE		Soil, brown, calcereous with sheet calcrete		
1 - 2	CALCRETE		Calcrete, sheet calcrete, yellow-brown, fine to medium grained quartz, then thin ferruginous layer		
2 - 3	CALCRETE		Calcrete, sheet calcrete, yellow-brown, fine to medium grained quartz		
3-4	GRAVEL		Gravel, quartz, subangular to rounded		
4-5	CLAY		Clay, white, micaceous, wet, fine to coarse quartz and bleached feldspar grains		
5-6	CLAY		Clay, white, micaceous, wet, fine to coarse quartz and bleached feldspar grains		
6-7	CLAY	43168	Clay, off-white with iron-rich fragments		
7-8	CLAY		Clay, off-white with iron-rich fragments		
8-9	GRANITE/GNEISS	43169	Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
9-10	GRANITE/GNEISS		Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
10-11	GRANITE/GNEISS	43170	Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
11-12	GRANITE/GNEISS		Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
12-13	GRANITE/GNEISS		Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
13-14	GRANITE/GNEISS	43171	Granite, coarse aggregates - quartz-feldspar-biotite - highly weathered		
14-15	GRANITE/GNEISS		Clay, heavily iron stained with ironstone fragments, quartz-feldspar-biotite grains		
15-16	GRANITE/GNEISS		Clay, heavily iron stained with ironstone fragments, quartz-feldspar-biotite grains		
16-17	GRANITE/GNEISS	43172	Clay, heavily iron stained with ironstone fragments, quartz-feldspar-biotite grains		
17-18	GRANITE/GNEISS		Clay, heavily iron stained with ironstone fragments, quartz-feldspar-biotite grains		
18-19	GRANITE/GNEISS		Granite, brown iron rich clay with chips of medium to coarse grained granite/gneiss		
19-20	GRANITE/GNEISS		Granite, brown iron rich clay with chips of medium to coarse grained granite/gneiss		



## Coulta Project

		Coulta Project			
		Drill Hole No. COU 023	AMG Easting 538349	Drilling Method Aircore	Total Depth (m) 126
			AMG Northing 6204430	Drill Company Underdale	
		Date: 31/1/07			60° to 090°
		Geologist: RD	Zone: 53		
Depth	Lithology	Sample No.	Description		
0-20			0-20 for description see hole COU016		
20-21	CLAY		white, off-white clag with angular coarse quartz - minor feldspar and miccas probably granitic		
21-22	CLAY		white, off-white clag with angular coarse quartz - minor feldspar and miccas probably granitic		
22-23	CLAY		white, off-white clag with angular coarse quartz - minor feldspar and miccas probably granitic		
23-24	CLAY		more white - as above quartz up to > 1cm		
24-25	CLAY				
25-26	GRANITE/GNEISS		beige - powdered quartz feldspar mica granite - is much harder		
26-27	GRANITE/GNEISS		beige - powdered quartz feldspar mica granite - is much harder		
27-28	GRANITE/GNEISS		beginning fresh rock - quartz - feldspar minor bi granite		
28-29	GRANITE/GNEISS	43173	granite rock chips - as above		
29-30	GRANITE/GNEISS		greenish clag with mic? (bi) - probably micci? Shear band		
30-31	GRANITE/GNEISS		quartz - bi with feldspar gneiss - minor (?) component. Greenish probably orthogneiss - granite?		
31-32	GRANITE/GNEISS		off white - inc bi		
32-33	GRANITE/GNEISS	43174	off white to green		
33-34	GRANITE/GNEISS		bi rich - quartz bi gneiss - greenish colour powder		
34-35	GRANITE/GNEISS		quartz bi gneiss		
35-36	GRANITE/GNEISS		quartz bi gneiss		
36-37	GRANITE/GNEISS	43175	quartz bi gneiss		
37-38	GRANITE/GNEISS		quartz bi gneiss		
38-39	GRANITE/GNEISS		quartz bi gneiss		
39-40	GRANITE/GNEISS		quartz bi gneiss		
40-41	GRANITE/GNEISS	43176	quartz bi gneiss		
41-42	GRANITE/GNEISS		quartz bi pl gneiss (granite?) pinky to white feldspar, greenish bi (Ti rich?)		
42-43	GRANITE/GNEISS		quartz bi gneiss		
43-44	GRANITE/GNEISS		quartz bi gneiss		
44-45	GRANITE/GNEISS	43177	quartz bi gneiss		
45-46	GRANITE/GNEISS		quartz bi gneiss		
46-47	GRANITE/GNEISS		quartz bi gneiss		
47-48	GRANITE/GNEISS		rock powder more greenish - bi rich, bi rich schist - some magnetite		
48-49	GRANITE/GNEISS	43178	back to quartz bi feldspar rock - still some magnetite		
49-50	SCHIST		quartz feldspar bi rich - some magnetite		
50-51	SCHIST		bi rich quartz feldspar schist? With magnetite and pyrite		
51-52	GNEISS		bi schist with quartz feldspar with magnetite		

Depth	Lithology	Sample No.	Description
52-53	GNEISS	43179	quartz - feldspar - bi gneiss with fine magnetite
53-54	GNEISS		quartz - feldspar - bi gneiss with fine magnetite
54-55	GNEISS		quartz - feldspar - bi gneiss with fine magnetite
55-56	GNEISS		quartz - feldspar - less bi - fine magnetite
56-57	GNEISS	43180	quartz - feldspar - less bi - fine magnetite with ? Trace sulphides
57-58	GNEISS		quartz - feldspar - less bi - fine magnetite, no sulphides visible
58-59	GNEISS		quartz - feldspar - less bi - fine magnetite, redish coloured minor possible altered bi?
59-60	GNEISS		quartz - feldspar - less bi - fine magnetite
60-61	GNEISS	43181	quartz - feldspar - less bi - fine magnetite
61-62	GNEISS		quartz - feldspar - less bi - fine magnetite, some green plag
62-63	GNEISS		feldspar (plag) quartz bi gneiss minor mag
63-64	GNEISS		feldspar slightly more bi rich minor mag
64-65	GNEISS	43182	feldspar - red feldspar
65-66	GNEISS		feldspar
66-67	GNEISS		feldspar
67-68	GNEISS		feldspar
68-69	GNEISS	43183	feldspar
69-70	GNEISS		feldspar
70-71	GNEISS		feldspar
71-72	GNEISS		feldspar
72-73	GNEISS	43184	feldspar slightly more schisty (green micca powder)
73-74	GNEISS		feldspar
74-75	GNEISS		feldspar
75-76	GNEISS		feldspar
76-77	GNEISS	43185	feldspar
77-78	GNEISS		feldspar
78-79	GNEISS		feldspar more bi rich
79-80	GNEISS		feldspar
80-81	GNEISS	43186	feldspar
81-82	GNEISS		feldspar bi rich
82-83	GNEISS		feldspar
83-84	GNEISS		feldspar few granite pyrite
84-85	GNEISS	43187	as above quartz feldspar bi gneiss with minor magnetite and ? Of pyrite
85-86	GNEISS		quartz feldspar bi gneiss with minor magnetite and ? Of pyrite
86-87	GNEISS		quartz feldspar bi gneiss with minor magnetite
87-88	GNEISS		quartz feldspar bi gneiss
88-89	GNEISS	43188	quartz feldspar bi gneiss
89-90	SCHIST		quartz feldspar bi gneiss bi rich
90-91	SCHIST		bi schist - minor quartz feldspar
91-92	SCHIST		bi schist

Depth	Lithology	Sample No.	Description
92-93	SCHIST	<b>43189</b>	quartz bi rich schist - minor magnetite
93-94	SCHIST		quartz bi rich schist
94-95	SCHIST		quartz bi rich schist
95-96	SCHIST		quartz bi rich schist
96-97	SCHIST	<b>43190</b>	quartz bi rich schist
97-98	SCHIST		quartz bi rich schist
98-99	SCHIST		quartz bi rich schist
99-100	SCHIST		quartz bi rich schist
100-101	GNEISS	<b>43191</b>	quartz feldspar bi gneiss (more felsic less bi) - minor magnetite
101-102	GNEISS		quartz feldspar bi gneiss
102-103	GNEISS		quartz feldspar bi gneiss more bi rich lager
103-104	GNEISS		quartz feldspar bi gneiss more bi rich lager
104-105	GNEISS	<b>43192</b>	quartz feldspar bi gneiss more felsic
105-106	GNEISS		quartz feldspar bi gneiss
106-107	GNEISS		quartz feldspar bi gneiss with minor magnetite (more bi rich)
107-108	GNEISS		quartz feldspar bi gneiss
108-109	GNEISS	<b>43193</b>	quartz feldspar bi gneiss felsic lager
109-110	GNEISS		quartz feldspar bi gneiss
110-111	GNEISS		quartz feldspar bi gneiss
111-112	GNEISS		quartz feldspar bi gneiss becoming bi rich
112-113	GNEISS	<b>43194</b>	quartz feldspar bi gneiss
113-114	GNEISS		quartz feldspar bi gneiss
114-115	GNEISS		quartz feldspar bi gneiss slightly more felsic
115-116	GNEISS		quartz feldspar bi gneiss
116-117	GNEISS	<b>43195</b>	quartz feldspar bi gneiss becoming bi rich
117-118	GNEISS		quartz feldspar bi gneiss
118-119	GNEISS		quartz feldspar bi gneiss felsic
119-120	GNEISS		quartz feldspar bi gneiss
120-121	GNEISS	<b>43196</b>	quartz feldspar bi gneiss
121-122	GNEISS		quartz feldspar bi gneiss feldspar rich (pl)
122-123	GNEISS		quartz feldspar bi gneiss bi
123-124	GNEISS		quartz feldspar bi gneiss
124-125	GNEISS	<b>43197</b>	quartz feldspar bi gneiss
125-126	GNEISS		quartz feldspar bi gneiss END OF HOLE





## Coulta Project

Drill Hole No.	COU 024	AMG Easting	538309	Drilling Method	Aircore	Total Depth (m)	126
		AMG Northing	6204471	Drill Company	Underdale		
Date:	1/2/07					60° to 090°	
Geologist:	RD	Zone:	53				

Depth	Lithology	Sample No.	Description
0-14			
14-15	CLAY		hit weathered basement - micas quartz clay
20-21	CLAY		pale brown micas clay
21-22	CLAY		pale brown micas clay
22-23	CLAY		pale brown micas clay
23-24	CLAY		pale brown micas clay
24-25	CLAY		beige quartz mica clay
25-26	CLAY		beige angular coarse-gravel quartz - mica clay
26-27	GRAVEL		off white - angular coarse gravel quartz beginning fresh rock
27-28	GRANITE/GNEISS		quartz - biotite - plagioclase granite/gneiss (biotite-greenish hi Ti)
28-29	GRANITE/GNEISS	43198	quartz - biotite - plagioclase
29-30	GRANITE/GNEISS		quartz - biotite - plagioclase with felsic
30-31	GRANITE/GNEISS		quartz - biotite - plagioclase
31-32	GRANITE/GNEISS		quartz - biotite - plagioclase more biotite rich and minor mag
32-33	GRANITE/GNEISS	43199	quartz - biotite - plagioclase
33-34	GRANITE/GNEISS		quartz - biotite - plagioclase
34-35	GRANITE/GNEISS		quartz - biotite - plagioclase felsic - Visual mag assoc with quartz feldspar
35-36	GRANITE/GNEISS		quartz - biotite - plagioclase
36-37	GRANITE/GNEISS	43200	quartz - biotite - plagioclase
37-38	GRANITE/GNEISS		quartz - biotite - plagioclase
38-39	GRANITE/GNEISS		quartz - biotite - plagioclase
39-40	GRANITE/GNEISS		quartz - biotite - plagioclase slightly more biotite
40-41	GRANITE/GNEISS	43201	feldspar - quartz - biotite granite gneiss with magnetite
41-42	GRANITE/GNEISS		feldspar - quartz - biotite
42-43	GRANITE/GNEISS		feldspar - quartz - biotite more biotite rich - less magnetite
43-44	GRANITE/GNEISS		feldspar - quartz - biotite
44-45	GRANITE/GNEISS	43202	feldspar - quartz - biotite more felsic with pink feldspar
45-46	GRANITE/GNEISS		feldspar - quartz - biotite
46-47	GRANITE/GNEISS		feldspar - quartz - biotite
47-48	GRANITE/GNEISS		feldspar - quartz - biotite
48-49	GRANITE/GNEISS	43203	feldspar - quartz - biotite
49-50	GRANITE/GNEISS		feldspar - quartz - biotite
50-51	GRANITE/GNEISS		feldspar - quartz - biotite more biotite

Depth	Lithology	Sample No.	Description
51-52	GRANITE/GNEISS	43204	feldspar - quartz - biotite
52-53	GRANITE/GNEISS		feldspar - quartz - biotite
53-54	GRANITE/GNEISS		feldspar - quartz - biotite
54-55	GRANITE/GNEISS		feldspar - quartz - biotite
55-56	GRANITE/GNEISS		feldspar - quartz - biotite more felsic visual magnetite
56-57	GRANITE/GNEISS	43205	feldspar - quartz - biotite
57-58	GRANITE/GNEISS		feldspar - quartz - biotite
58-59	GRANITE/GNEISS		feldspar - quartz - biotite including biotite
59-60	GRANITE/GNEISS		feldspar - quartz - biotite
60-61	GRANITE/GNEISS	43206	feldspar - quartz - biotite
61-62	GRANITE/GNEISS		feldspar - quartz - biotite
62-63	GRANITE/GNEISS		quartz - feldspar - green biotite minor magnetite
63-64	GRANITE/GNEISS		quartz - feldspar
64-65	GRANITE/GNEISS	43207	quartz - feldspar
65-66	GRANITE/GNEISS		quartz - feldspar and pyrite
66-67	GRANITE/GNEISS		quartz - feldspar
67-68	GRANITE/GNEISS		quartz - feldspar
68-69	GRANITE/GNEISS	43208	quartz - feldspar biotite rich schisty lager
69-70	GRANITE/GNEISS		quartz - feldspar
70-71	GRANITE/GNEISS		quartz - feldspar felsic
71-72	GRANITE/GNEISS		quartz - feldspar visual magnetite
72-73	GRANITE/GNEISS	43209	quartz - feldspar
73-74	GRANITE/GNEISS		quartz - feldspar and pyrite
74-75	GRANITE/GNEISS		quartz - feldspar
75-76	GRANITE/GNEISS		quartz - feldspar
76-77	GRANITE/GNEISS	43210	quartz - feldspar
77-78	GRANITE/GNEISS		quartz - feldspar
78-79	GRANITE/GNEISS		quartz - feldspar
79-80	GRANITE/GNEISS		quartz - feldspar
80-81	GRANITE/GNEISS	43211	quartz - feldspar
81-82	GRANITE/GNEISS		quartz - feldspar
82-83	GRANITE/GNEISS		quartz - feldspar more biotite rich
83-84	GRANITE/GNEISS		quartz - feldspar
84-85	GRANITE/GNEISS	43212	feldspar and quartz and biotite and minor magnetite
85-86	GRANITE/GNEISS		feldspar and quartz
86-87	GRANITE/GNEISS		feldspar and quartz
87-88	GRANITE/GNEISS		feldspar and quartz
88-89	GRANITE/GNEISS	43213	feldspar and quartz
89-90	GRANITE/GNEISS		feldspar and quartz
90-91	GRANITE/GNEISS		feldspar and quartz

Depth	Lithology	Sample No.	Description
91-92	GRANITE/GNEISS	43214	feldspar and quartz
92-93	GRANITE/GNEISS		feldspar and quartz
93-94	GRANITE/GNEISS		feldspar and quartz
94-95	GRANITE/GNEISS		feldspar and quartz
95-96	GRANITE/GNEISS		feldspar and quartz
96-97	GRANITE/GNEISS	43215	feldspar and quartz
97-98	GRANITE/GNEISS		feldspar and quartz
98-99	GRANITE/GNEISS		feldspar and quartz
99-100	GRANITE/GNEISS		feldspar and quartz
100-101	GRANITE/GNEISS	43216	feldspar and quartz more biotite
101-102	GRANITE/GNEISS		feldspar and quartz
102-103	GRANITE/GNEISS		feldspar and quartz
103-104	GRANITE/GNEISS		feldspar and quartz
104-105	GRANITE/GNEISS	43217	feldspar and quartz
105-106	GRANITE/GNEISS		feldspar and quartz
106-107	GRANITE/GNEISS		feldspar and quartz and biotite and minor magnetite
107-108	GRANITE/GNEISS		feldspar and quartz biotite rich
108-109	GRANITE/GNEISS	43218	feldspar and quartz felspar rich
109-110	GRANITE/GNEISS		feldspar and quartz
110-111	GRANITE/GNEISS		feldspar and quartz biotite rich
111-112	GRANITE/GNEISS		feldspar and quartz
112-113	GRANITE/GNEISS	43219	feldspar and quartz felsic
113-114	GRANITE/GNEISS		feldspar and quartz
114-115	GRANITE/GNEISS		feldspar and quartz biotite rich
115-116	GRANITE/GNEISS		feldspar and quartz
116-117	GRANITE/GNEISS	43220	feldspar and quartz
117-118	GRANITE/GNEISS		feldspar and quartz
118-119	GRANITE/GNEISS		feldspar and quartz
119-120	GRANITE/GNEISS		feldspar and quartz
120-121	GRANITE/GNEISS	43221	feldspar and quartz visual magnetite
121-122	GRANITE/GNEISS		feldspar and quartz with biotite rich schisty layer
122-123	GRANITE/GNEISS		feldspar and quartz
123-124	GRANITE/GNEISS	43222	feldspar and quartz becoming felsic
124-125	GRANITE/GNEISS		feldspar and quartz
125-126	GRANITE/GNEISS		feldspar and quartz END OF HOLE



## Coulta Project

Drill Hole No.	COU 025	AMG Easting	538275	Drilling Method	Aircore	Total Depth (m)	96
Date: 2/2/07		AMG Northing	6204495	Drill Company	Underdale	60° to 090°	
Geologist: RD		Zone: 53					

Depth	Lithology	Sample No.	Description
0-10			
10-11	GRAVEL		red coarse - gravel angular quartz - mica clay beginning of basement
11-12	CLAY		off white gravel angular quartz - mica clay beginning of basement
12-20	CLAY		
20-21	CLAY		pink quartz mica clay
21-22	CLAY		pink quartz mica clay
22-23	CLAY		off white mica clay
23-24	CLAY		off white mica clay
24-25	CLAY		off white mica clay
25-26	CLAY		off white mica clay
26-27	CLAY		off white mica clay
27-28	CLAY		off white mica clay
28-29	CLAY		off white mica clay
29-30	CLAY		off white mica clay
30-31	CLAY		off white mica clay
31-32	CLAY		off white mica clay
32-33	CLAY		off white mica clay
33-34	CLAY		off white mica clay
34-35	CLAY		off white mica clay
35-36	CLAY		orangey quartz mica clay
36-37	CLAY	43223	orangey-grey quartz mica clay
37-38	CLAY		beige quartz mica clay
38-39	CLAY		quartz mica clay
39-40	CLAY		beige - quartz some feldspar less mica less clay beginning fresh basement
40-41	CLAY	43224	coarse quartz - feldspar - little clay/mica - saprolite
41-42	GRANITE		white and orange feldspar - greenish biotite - quartz granite basement
42-43	GRANITE		white and orange feldspar
43-44	GRANITE		white and orange feldspar
44-45	GRANITE	43225	white and orange feldspar
45-46	GRANITE		biotite - quartz - pyrite schisty layer
46-47	GRANITE		biotite - quartz - pyrite schisty layer
47-48	GRANITE		biotite - quartz
48-49	GRANITE	43226	biotite - quartz

Depth	Lithology	Sample No.	Description
49-50	GRANITE		biotite - quartz
50-51	GRANITE		biotite - quartz with pyrite
51-52	GRANITE		feldspar - quartz - biotite gneiss with minor magnetite
52-53	GRANITE		feldspar - quartz - biotite
53-54	GRANITE	<b>43227</b>	feldspar - quartz - biotite
54-55	GRANITE		feldspar - quartz - biotite with pyrite
55-56	GRANITE		feldspar - quartz - biotite
56-57	GRANITE		feldspar - quartz - biotite with pyrite
57-58	GRANITE	<b>43228</b>	feldspar - quartz - biotite more biotite rich schisty layer
58-59	GRANITE		feldspar - quartz - biotite back to quartz feldspar rich with pyrite
59-60	GRANITE		feldspar - quartz - biotite
60-61	GRANITE		feldspar - quartz - biotite
61-62	GRANITE	<b>43229</b>	feldspar - quartz - biotite
62-63	GRANITE		feldspar - quartz - biotite
63-64	GRANITE		feldspar - quartz - biotite
64-65	GRANITE		feldspar - quartz - biotite
65-66	GRANITE	<b>43230</b>	feldspar - quartz - biotite
66-67	GRANITE		feldspar - quartz - biotite
67-68	GRANITE		feldspar - quartz - biotite
68-69	GRANITE		feldspar - quartz - biotite
69-70	GRANITE	<b>43231</b>	feldspar - quartz - biotite
70-71	GRANITE		feldspar - quartz - biotite
71-72	GRANITE		feldspar - quartz - biotite
72-73	GRANITE		feldspar - quartz - biotite
73-74	GRANITE	<b>43232</b>	feldspar - quartz - biotite
74-75	GRANITE		feldspar - quartz - biotite
75-76	GRANITE		feldspar - quartz - biotite
76-77	GRANITE		feldspar - quartz - biotite
77-78	GRANITE	<b>43233</b>	feldspar - quartz - biotite
78-79	GRANITE		feldspar - quartz - biotite
79-80	GRANITE		feldspar - quartz - biotite
80-81	GRANITE		amphibolite ? And magnetite - biotite - pyrite
81-82	GRANITE	<b>43234</b>	amphibolite
82-83	GRANITE		some amphibolite but mostly quartz feldspar biotite gneiss
83-84	GRANITE		quartz feldspar biotite granitic gneiss
84-85	GRANITE		quartz feldspar biotite granitic gneiss
85-86	GRANITE	<b>43235</b>	quartz feldspar biotite granitic gneiss
86-87	GRANITE		quartz feldspar biotite
87-88	GRANITE		quartz feldspar biotite
88-89	GRANITE		quartz feldspar biotite

Depth	Lithology	Sample No.	Description
89-90	GRANITE	43238	quartz feldspar biotite
90-91	GRANITE		quartz feldspar biotite more biotite rich
91-92	GRANITE		quartz feldspar biotite
92-93	GRANITE		quartz feldspar biotite
93-94	GRANITE		quartz feldspar biotite
94-95	GRANITE		quartz feldspar biotite more feldspar and magnetite and pyrite
95-96	GRANITE		quartz feldspar biotite - biotite rich   END OF HOLE



## Coulta Project

		Coulta Project								
		Drill Hole No. COU 026		AMG Easting 539262		Drilling Method Aircore		Total Depth (m) 78		
				AMG Northing 6197121		Drill Company Underdale		60° to 090°		
		Date: 3/2/07		Zone: 53						
Geologist: RD										
Depth	Lithology	Sample No.	Description							
0-1		43239	red clay and silt and calcrete							
1-2			red and grey clay and iron stone							
2-3			angular quartz in calcrete							
3-4			angular quartz in calcrete							
4-5		43240	coarse to gravel angular quartz and biotite							
5-6			coarse to gravel angular quartz and biotite with weathered feldspar							
6-7			coarse to gravel angular quartz and biotite							
7-8			coarse to gravel angular quartz and biotite							
8-9		43241	plagioclase + biotite + quartz with muscovite granite fresh basement							
9-10			plagioclase + biotite + quartz with muscovite granite							
10-11			plagioclase + biotite + quartz with muscovite granite							
11-12			plagioclase + biotite + quartz with muscovite granite							
12-13		43242	plagioclase + biotite + quartz with muscovite granite							
13-14			plagioclase + biotite + quartz with muscovite granite							
14-15			plagioclase + biotite + quartz with muscovite granite							
15-16			biotite + minor rich schisty layer							
16-17		43243	back to quartz feldspar biotite granite							
17-18			back to quartz feldspar biotite granite							
18-19			quartz feldspar biotite with muscovite granite							
19-20			quartz feldspar biotite with muscovite granite							
20-21		43244	dark biotite plagioclase - quartz granite							
21-22			dark biotite plagioclase less biotite							
22-23			dark biotite plagioclase							
23-24			dark biotite plagioclase							
24-25		43245	dark orange ? Feldspar and some ?							
25-26			dark orange ? Feldspar and some ?							
26-27			dark more biotite rich layer with muscovite							
27-28			dark more biotite rich layer with muscovite							
28-29		43246	dark more biotite rich layer with muscovite							
29-30			quartz feldspar (plagioclase) biotite with muscovite							
30-31			dark biotite plagioclase							
31-32			dark biotite plagioclase							
32-33		43247	dark biotite plagioclase							


Depth	Lithology	Sample No.	Description
33-34		43248	dark biotite plagioclase
34-35			dark biotite plagioclase
35-36			dark biotite plagioclase - trace magnetite
36-37			dark biotite plagioclase
37-38			dark biotite plagioclase
38-39		43249	dark biotite plagioclase
39-40			dark biotite plagioclase
40-41			quartz biotite feldspar (plagioclase) with muscovite
41-42			quartz biotite feldspar (plagioclase) with muscovite
42-43			quartz biotite feldspar (plagioclase) with muscovite
43-44		43250	quartz biotite feldspar (plagioclase) with muscovite
44-45			quartz biotite feldspar (plagioclase) with muscovite
45-46			quartz biotite feldspar (plagioclase) with muscovite
46-47			quartz biotite feldspar (plagioclase) with muscovite
47-48			quartz biotite feldspar (plagioclase) with muscovite
48-49		43251	quartz biotite feldspar (plagioclase) with muscovite
49-50			quartz biotite feldspar (plagioclase) with muscovite
50-51			quartz biotite feldspar (plagioclase) with muscovite
51-52			quartz biotite feldspar (plagioclase) with muscovite
52-53		43252	quartz biotite feldspar (plagioclase) with muscovite
53-54			quartz biotite feldspar (plagioclase) with muscovite
54-55			quartz biotite feldspar (plagioclase) with muscovite
55-56			quartz biotite feldspar (plagioclase) with muscovite
56-57		43253	quartz biotite feldspar (plagioclase) with muscovite
57-58			quartz biotite feldspar (plagioclase) with muscovite
58-59			quartz biotite feldspar (plagioclase) with muscovite
59-60			quartz biotite feldspar (plagioclase) with muscovite
60-61		43254	quartz biotite feldspar (plagioclase) with muscovite
61-62			quartz biotite feldspar (plagioclase) with muscovite
62-63			quartz biotite feldspar (plagioclase) with muscovite
63-64			quartz biotite feldspar (plagioclase) with muscovite
64-65		43255	quartz biotite feldspar (plagioclase) with muscovite some magnetite
65-66			quartz biotite feldspar (plagioclase) with muscovite some magnetite
66-67			quartz biotite feldspar (plagioclase) with muscovite some magnetite
67-68			quartz biotite feldspar (plagioclase) with muscovite
68-69		43256	quartz biotite feldspar (plagioclase) with muscovite
69-70			quartz biotite feldspar (plagioclase) with muscovite
70-71			quartz biotite feldspar (plagioclase) with muscovite
71-72			quartz biotite feldspar (plagioclase) with muscovite
72-73		43257	quartz biotite feldspar (plagioclase) with muscovite with pyrite



Depth	Lithology	Sample No.	Description
73-74		43258	quartz biotite feldspar (plagioclase) with muscovite
74-75			quartz biotite feldspar (plagioclase) with muscovite
75-76			quartz biotite feldspar (plagioclase) with muscovite
76-77			quartz biotite feldspar (plagioclase) with muscovite
77-78			quartz biotite feldspar (plagioclase) with muscovite END OF HOLE



## Coulta Project

		Coultas Project							
		Drill Hole No. COU 027		AMG Easting 539785		Drilling Method Aircore		Total Depth (m) 26	
				AMG Northing 6197190		Drill Company Underdale		Vertical	
		Date: 4/2/07							
Geologist: RD		Zone: 53							
Depth	Lithology	Sample No.		Description					
0-1		43259		red brown clay and silty topsoil with calcrete					
1-2				some red brown clay mostly calcrete					
2-3				some coarse quartz (angular - rounded) and grey clay					
3-4				white coarse quartz rich loaded saprolite					
4-5		43260		white coarse quartz rich loaded saprolite					
5-6				beige coarse feldspar (weathered orange) and quartz saprolite					
6-7				beige coarse feldspar (weathered orange) and quartz saprolite some Fe rich clay					
7-8				beige coarse feldspar (weathered orange) and quartz saprolite					
8-9		43261		beige coarse feldspar (weathered orange) and quartz saprolite					
9-10				beige coarse feldspar (weathered orange) and quartz saprolite					
10-11				beige coarse feldspar (weathered orange) and quartz saprolite some miccas clay					
11-12				beige coarse feldspar (weathered orange) and quartz saprolite					
12-13		43262		beige coarse feldspar (weathered orange) and quartz saprolite					
13-14				beige coarse feldspar (weathered orange) and quartz saprolite some miccas					
14-15				beige coarse feldspar (weathered orange) and quartz saprolite					
15-16				beige coarse feldspar (weathered orange) and quartz saprolite					
16-17		43263		beige coarse feldspar (weathered orange) and quartz saprolite					
17-18				beige coarse feldspar (weathered orange) and quartz saprolite					
18-19				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
19-20				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
20-21		43264		colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
21-22				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
22-23				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
23-24				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
24-25		43265		colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					
25-26				colour change to grey green - quartz feldspar biotite with muscovite basement - same as 026					



## Coulta Project

Drill Hole No. COU 028 AMG Easting 539120 Drilling Method Aircore Total Depth (m) 30

AMG Northing 6197960 Drill Company Underdale

Date: 4/2/07

Vertical

Geologist: RD

Zone: 53

Depth	Lithology	Sample No.	Description
0-1		43266	brown clay and soil
1-2			brown clay - calcrete/ Fe stone
2-3			brown and grey clay - Fe stone
3-4			red clays with Fe stone - some rounded quartz
4-5		43267	coarse - gravel angular -rounded quartz ? With calcrete
5-6			coarse - gravel angular -rounded quartz some micas
6-7			coarse - gravel angular -rounded quartz
7-8			coarse - gravel angular -rounded quartz
8-9		43268	well rounded-angular quartz sand coarse-gravel
9-10			well rounded-angular quartz sand coarse-gravel
10-11			well rounded-angular quartz sand coarse-gravel some Fe staining
11-12			quartz Fe stone
12-13		43269	angular quartz with miccas? White clay
13-14			angular quartz with miccas? White silty clay
14-15			angular quartz with miccas? White clay
15-16			angular quartz with miccas? White clay
16-17		43270	angular quartz with miccas? White clay
17-18			angular quartz with miccas? White clay
18-19			angular quartz with miccas? White clay
19-20			angular quartz with miccas? White clay
20-21		43271	angular quartz with miccas? White clay
21-22			angular quartz with miccas? White clay
22-23			transition to biotite quartz schist
23-24			transition quartz biotite feldspar and muscovite schist/gneiss
24-25		43272	quartz biotite feldspar granite schist
25-26			biotite quartz feldspar schist
26-27			biotite granite quartz feldspar muscovite schist
27-28			biotite quartz feldspar with granite with muscovite
28-29		43273	biotite quartz feldspar with granite with muscovite
29-30			biotite quartz feldspar with granite with muscovite

END OF HOLE




## Coulta Project

		Couлта Project							
		Drill Hole No. COU 029		AMG Easting 539020		Drilling Method Aircore		Total Depth (m) 30	
				AMG Northing 6197960		Drill Company Underdale		Vertical	
		Date: 4/2/07		Zone: 53					
Geologist: RD									
Depth	Lithology	Sample No.		Description					
0-1		43274		red brown clay and silty soil					
1-2				red brown clay and silty soil					
2-3				beige brown clays some micas clays					
3-4				red coarse-gravel rounded Fe stained quartz ?					
4-5		43275		red brown silty clay with calcrete					
5-6				calcrete					
6-7				angular-rounded clean quartz gravel					
7-8				white silty clay with angular-rounded quartz					
8-9		43276		white silty clay slightly mica? clay					
9-10				white silty clay					
10-11				white silty clay					
11-12				white silty clay					
12-13		43277		white silty clay					
13-14				white coarse angular quartz and weakened feldspar and micaceous clay					
14-15				white coarse angular quartz and micaceous clay					
15-16				angular quartz					
16-17		43278		weathered feldspar biotite muscovite quartz basement					
17-18				weathered feldspar biotite muscovite quartz basement					
18-19				biotite muscovite quartz schist					
19-20				biotite muscovite quartz schist					
20-21		43279		biotite muscovite quartz feldspar schist gneiss					
21-22				biotite muscovite quartz feldspar schist gneiss					
22-23				biotite muscovite quartz feldspar schist gneiss					
23-24				biotite muscovite quartz feldspar schist gneiss					
24-25		43280		biotite muscovite quartz feldspar schist gneiss					
25-26				biotite muscovite quartz feldspar schist gneiss					
26-27				biotite muscovite quartz feldspar schist gneiss					
27-28				biotite muscovite quartz feldspar minimal lination visible					
28-29		43281		biotite muscovite quartz feldspar more of a muscovite schist					
29-30				biotite muscovite quartz feldspar      END OF HOLE					



## Coulta Project

		Coulta Project						
		Drill Hole No. COU 030		AMG Easting 538920		Drilling Method Aircore	Total Depth (m) 24	
				AMG Northing 6197960		Drill Company Underdale	Vertical	
		Date: 4/2/07						
		Geologist: RD		Zone: 53				
Depth	Lithology	Sample No.		Description				
0-1		43282		red silty soil with white clay				
1-2				angular coarse quartz with clay and calcrete				
2-3				angular coarse quartz with calcrete				
3-4				angular coarse quartz				
4-5		43283		angular coarse quartz and feldspar (weathered)				
5-6				Fe stained quartz feldspar biotite saprolite				
6-7				quartz biotite muscovite feldspar schist/gneiss				
7-8				quartz biotite muscovite feldspar				
8-9		43284		quartz biotite muscovite feldspar				
9-10				quartz biotite muscovite feldspar				
10-11				quartz biotite muscovite feldspar				
11-12				quartz biotite muscovite feldspar				
12-13		43285		quartz biotite muscovite feldspar				
13-14				quartz biotite muscovite feldspar				
14-15				quartz biotite muscovite feldspar				
15-16				quartz biotite muscovite feldspar				
16-17		43286		quartz biotite muscovite feldspar				
17-18				quartz biotite muscovite feldspar				
18-19				biotite-muscovite-quartz-feldspar schist/gneiss with pyrite				
19-20				biotite-muscovite-quartz-feldspar schist/gneiss				
20-21		43287		biotite-muscovite-quartz-feldspar schist/gneiss				
21-22				biotite-muscovite-quartz-feldspar schist/gneiss				
22-23				biotite-muscovite-quartz-feldspar schist/gneiss				
23-24				biotite-muscovite-quartz-feldspar schist/gneiss END OF HOLE				



## Coulta Project

		Coulta Project					
		Drill Hole No.	COU 031	AMG Easting 536419	Drilling Method Aircore	Total Depth (m)	96
				AMG Northing 6221813	Drill Company Underdale	60° to 270°	
		Date: 5/2/07					
Geologist: RD		Zone: 53					
Depth	Lithology	Sample No.	Description				
0-1		43288	red brown silty soild and clay				
1-2			red brown silty soild and clay				
2-3			light brown silty clay				
3-4			light brown silty clay				
4-5		43289	light brown with coarse angular quartz grains				
5-6			off white clays calcrete and angular quartz				
6-7			off white clays calcrete and angular quartz				
7-8			off white clays calcrete and angular quartz				
8-9		43290	white to red brown clays some Fe stone/staining				
9-10			white to red brown clays some Fe stone/staining				
10-11			white to red brown clays				
11-12			white to red brown clays				
12-13		43291	white angular quartz rich				
13-14			Fe stained quartz				
14-15			Fe stained weathered quartz and biotite				
15-16			Fe stained weathered quartz and biotite feldspar				
16-17		43292	Fe stained weathered quartz and biotite feldspar				
17-18			Fe stained weathered quartz and biotite feldspar				
18-19			Fe stained weathered quartz and biotite feldspar				
19-20			Fe stained weathered quartz and biotite feldspar				
20-21		43293	Fe stained weathered quartz and biotite feldspar				
21-22			Fe stained weathered quartz and biotite feldspar				
22-23			Fe stained weathered quartz and biotite feldspar				
23-24			Fe stained weathered quartz and biotite feldspar				
24-25		43294	Fe stained weathered quartz and biotite feldspar				
25-26			less Fe staining quartz rich and biotite and plagioclase granite/gneiss found H2O 5.5 pplagioclases				
26-27			less Fe staining quartz rich and biotite and plagioclase granite/gneiss found H2O 5.5 pplagioclases				
27-28			less Fe staining quartz rich and biotite and plagioclase granite/gneiss found H2O 5.5 pplagioclases				
28-29		43295	less Fe staining quartz rich and biotite and plagioclase granite/gneiss found H2O 5.5 pplagioclases				
29-30			still Fe staining quartz rich - biotite - plagioclase - muscovite granite/ gneiss				
30-31			fresh granite				
31-32			fresh granite				
32-33		43296	fresh granite				

Depth	Lithology	Sample No.	Description
33-34			fresh granite
34-35			fresh granite
35-36			fresh granite
36-37			fresh granite
36-37		43297	fresh granite more biotite rich
37-38			fresh granite
38-39			fresh granite
39-40			fresh granite
40-41		43298	fresh granite (went through a fracture with H2O)
41-42			fresh granite
42-43			fresh granite visible foliation
43-44			fresh granite
44-45		43299	quartz biotite schist
45-46			biotite schist
46-47			biotite schist
47-48			quartz biotite gneiss
48-49		43300	quartz biotite gneiss
49-50			quartz biotite schist
50-51			biotite schist
51-52			biotite schist
52-53		43301	biotite schist
53-54			quartz biotite schist/gneiss
54-55			quartz biotite schist/gneiss
55-56			quartz biotite schist/gneiss
56-57		43302	quartz biotite schist/gneiss
57-58			biotite schist
58-59			biotite schist
59-60			biotite schist
60-61		43303	biotite schist
61-62			quartz biotite gneiss
62-63			quartz biotite with muscovite gneiss
63-64			quartz biotite with muscovite gneiss
64-65		43304	quartz biotite with muscovite gneiss
65-66			quartz biotite with muscovite gneiss
66-67			quartz biotite with muscovite gneiss
67-68			quartz biotite with muscovite gneiss
68-69		43305	quartz biotite with muscovite gneiss
69-70			quartz biotite with muscovite gneiss
70-71			quartz biotite with muscovite gneiss
71-72			quartz biotite with muscovite gneiss more biotite rich
72-73		43306	slight colour change to greenish and ? - quartz biotite gneiss

Depth	Lithology	Sample No.	Description
73-74		43307	slight colour change to greenish and ? - quartz biotite gneiss
74-75			slight colour change to greenish and ? - quartz biotite gneiss
75-76			slight colour change some pyrite
76-77			slight colour change
77-78			slight colour change
78-79		43308	slight colour change
79-80			slight colour change
80-81			slight colour change
81-82			slight colour change
82-83			slight colour change
83-84		43309	slight colour change
84-85			slight colour change
85-86			slight colour change
86-87			slight colour change
87-88			slight colour change
88-89		43310	slight colour change with pyrite
89-90			slight colour change
90-91			becoming more quartz rich with plagioclase
91-92			becoming more quartz rich with plagioclase
92-93		43311	becoming more quartz rich with plagioclase
93-94			quartz biotite gneiss
94-95			quartz biotite gneiss
95-96			quartz biotite gneiss    END OF HOLE





## Coulta Project

		Couлта Project							
		Drill Hole No. COU 032		AMG Easting 558423		Drilling Method Aircore		Total Depth (m) 48	
		Date: 5/2/07		AMG Northing 6215516		Drill Company Underdale		Vertical	
		Geologist: RD		Zone: 53					
Depth	Lithology	Sample No.		Description					
0-1		43312		beige silty soil and clay					
1-2				brown clay					
2-3				red clay some Fe stone/calcrete (calcereous soils)					
3-4				red clay some Fe stone/calcrete (calcereous soils)					
4-5		43313		red brown clay with calcrete (calcereous soils)					
5-6				calcrete/ Fe stone					
6-7				fine-coarse angular-rounded quartz ? With calcrete					
7-8				calcrete and clay and silt					
8-9		43314		calcrete and clay and silt					
9-10				calcrete and clay and silt					
10-11				smokey angular quartz grains with calcrete					
11-12				smokey angular quartz grains					
12-13		43315		smokey angular quartz grains some micas					
13-14				smokey angular quartz grains					
14-15				smokey angular quartz grains					
15-16				smokey angular quartz grains					
16-17		43316		smokey angular quartz grains some rounded- quartz grains					
17-18				smokey angular quartz grains					
18-19				white mica? clay					
19-20				white mica? clay					
20-21		43317		white mica? clay					
21-22				white mica? clay					
22-23				white mica? clay					
23-24				white mica? clay					
24-25		43318		white mica? clay					
25-26				grey micaeous clay					
26-27				grey micaeous clay					
27-28				grey micaeous clay beginning to see fresh micas					
28-29		43319		grey micaeous clay					
29-30				grey micaeous clay					
30-31				grey micaeous clay silty clay					
31-32				grey micaeous clay					
32-33				grey micaeous clay					

Depth	Lithology	Sample No.	Description
33-34			grey micaceous clay
34-35		43320	grey micaceous clay
35-36			quartz mica (muscovite) clay fresh basement
36-37			quartz muscovite
37-38			quartz muscovite feldspar with biotite granite fine grained grey granite
38-39		43321	quartz muscovite feldspar with biotite granite fine grained grey granite
39-40			quartz muscovite feldspar with biotite granite fine grained grey granite
40-41			quartz muscovite feldspar with biotite granite fine grained grey granite
41-42			quartz muscovite feldspar with biotite granite fine grained grey granite
42-43		43322	quartz muscovite feldspar with biotite granite fine grained grey granite
43-44			quartz muscovite feldspar with biotite granite fine grained grey granite
44-45			quartz muscovite feldspar with biotite granite fine grained grey granite
45-46			quartz muscovite feldspar with biotite granite fine grained grey granite
46-47		43323	quartz muscovite feldspar with biotite granite fine grained grey granite
47-48			quartz muscovite feldspar with biotite granite fine grained grey granite END OF HOLE



## **Annual Report**

**Reporting Period: 03/03/2007 to 02/03/2008**

**Tenement Number(s): EL 3314**

**Project: Coffin Bay**

Tenement Holder(s):	Intermet Resources
Operator:	Uranoz Ltd
Author of Report:	Darin Rowley
Date of Report:	06/04/2009

## Contents List

1. SUMMARY .....	4
2. INTRODUCTION, HISTORY AND EXPLORATION RATIONALE .....	5
3. GEOLOGY .....	6
3.1. Regional Geology .....	6
3.2. Exploration Model .....	7
3.3. Interpreted Paleochannel Locations .....	7
4. GEOPHYSICS .....	9
4.1. Airborne Aeromagnetics .....	10
4.2. Airborne Radiometrics .....	11
5. REMOTE SENSING DATA .....	12
6. SURFACE GEOCHEMISTRY .....	12
7. DRILLING .....	12
8. INTERPRETATION .....	12
9. ENVIRONMENT .....	14
10. REPORTING ON ORE RESERVES AND RESOURCES .....	14
11. EXPENDITURE STATEMENT .....	14
12. CONCLUSIONS .....	14
13. REFERENCES .....	14

## List of Figures

Figure 1: Location of EL 3314 .....	5
Figure 3: Idealised section through Tertiary Palaeochannel (after Figure 4, Hou & Alley, 2003) ..	8
Figure 4: EL 3314 Interpreted Paleo Channel Locations .....	8
Figure 5: EL 3314 Magnetics .....	10
Figure 6: EL 3314 Radiometric - Uranium .....	11
Figure 7: EL 3702 U (ppb) in groundwater over radiometrics – shaded U count .....	13

## List of Tables

Table 1: Simplified stratigraphy of the Frome Embayment. Taken from McKay & Miezeitis, 2001, pp.96 (after Drexel & Preiss, 1995) .....	7
Table 2: Expenditure Statement for EL 3314 for the period 03/03/07 to 02/03/08 .....	14

## List of Appendices

14. APPENDIX 1: GEOPHYSICAL REPORT .....	15
15. APPENDIX 2: AEROMAGNETIC RAW DATA .....	15
16. APPENDIX 3: AERO-RADIOMETRICS DATA .....	15
17. APPENDIX 1: GEOCHEMISTRY OF EL 3314 GROUNDWATER SAMPLES .....	17

## File Verification Listing

Exploration Work Type	Filename	Format
<b>Office Studies</b>		
Literature search	080302_EL3314_Annual Report.pdf	pdf
Database compilation	080302_EL3314_Annual Report.pdf	pdf
Computer modelling	080302_EL3314_Annual Report.pdf	pdf
Reprocessing of data	080302_EL3314_Annual Report.pdf	pdf
General research	080302_EL3314_Annual Report.pdf	pdf
Report preparation	080302_EL3314_Annual Report.pdf	pdf
<b>Airborne Geophysics</b>		
Logistics Report	Append1_EL3314_Airborne_Geophysics_Report	pdf
Airborne magnetics	Append2_EL3314_mag.dat	dat
Airborne radiometrics	Append3_EL3314_rad.dat	dat
<b>Geochemical Surveying</b>		
Groundwater sampling	Append4_EL3314_Water_Samples	txt
<b>File Verification Listing</b>	080302_EL3314_Annual Report.pdf	pdf

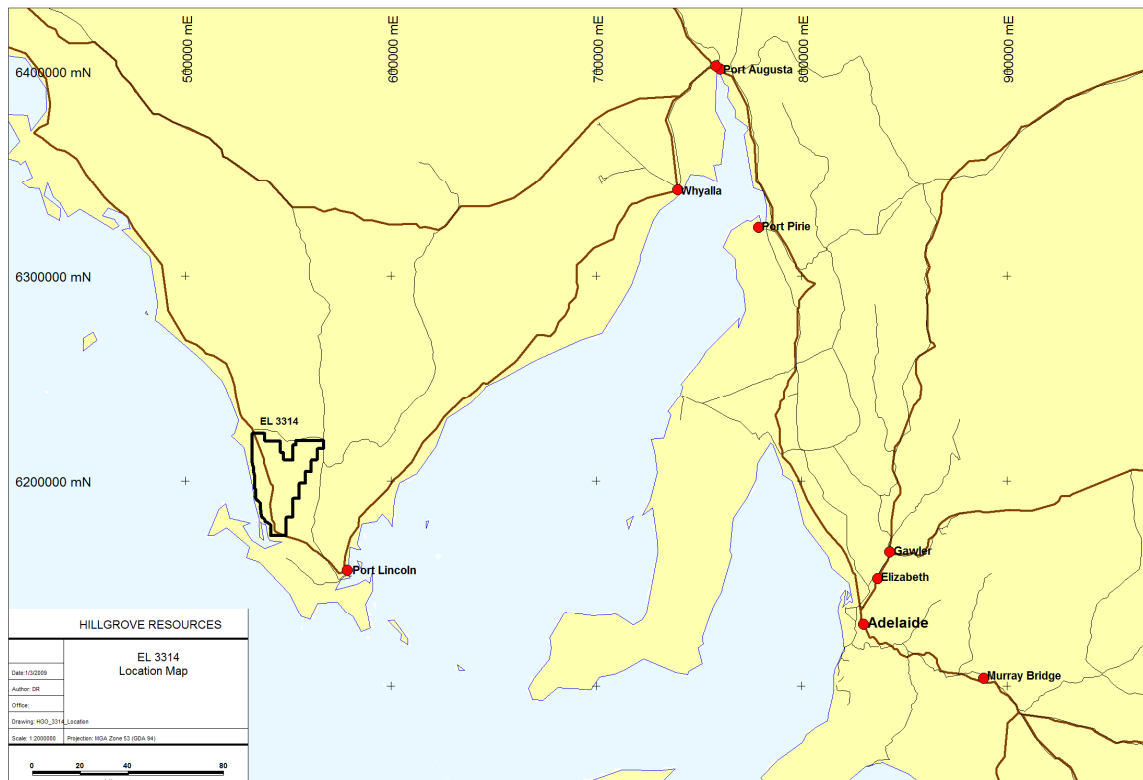
## 1. SUMMARY

EL 3314 is located within the Eyre Peninsula. Intermet has targeted EL 3314 for Archaean komatiite-hosted nickel, volcanic hosted massive sulphides (base metals), orogenic lode gold, Iron and sedimentary (rollfront) uranium mineralisation. Work for this reporting period was exploration for sedimentary-style uranium deposits by Intermet's Joint Venture Partner Uranoz. The points below summarise this work. Figure 1 shows the location of the tenement and the sites that groundwater was collected

- Water sampling and multi element analysis. 44 samples were collected from water bores and multi element analysed. Sample locations are shown in Figure 3 and sample results are shown in Appendix 4. Groundwater samples suggest groundwater U in include both leaching from felsic igneous basement minerals and from sediment hosted accumulations previously deposited from these groundwaters.
- Aeromagnetic and Radiometric survey. This survey was a high-resolution with 100m line spacing and has provided high quality data which will assist defining basement structures which may have an influence on the morphology of palaeochannels within the tenement. 11632 line km were flown.
- A soil sampling program was conducted. Unfortunately, during the acquisition of Intermet Resources by Hillgrove Resources in August 2008, the soil sampling data was lost.

## 2. INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

EL3314 is located approximately 45km NW of Port Lincoln in South Australia. The tenement is located along the Tod Highway, overlies the townships of Wanilla among others and is 953km<sup>2</sup> in size. This tenement forms part of the Wanilla project which includes ELs 3948, 3302 and 3671. Sheet names for the project area are Lincoln Special (1:250000) and Coultas / Cummins / Lincoln/ Wangary (1:100000). Figure 1 shows the location of EL 3314.



**Figure 1: Location of EL 3314**

EL 3314 was granted on the 03/03/2005 to Internet Resources. Internet Resources renewed this tenement a number of times and have subsequently Joint Ventured the rights for Uranium exploration to WCP Uranium. WCP are required to maintain minimum expenditure for the tenement (ie. \$125, 000 per annum to satisfy PIRSA requirements) and may earn up to 80% of the rights to the tenement by spending \$750,000.

Previous exploration for uranium within the area of EL 3314 was initiated on the encouraging combination of suitable Tertiary aquifers, the presence of reduced organic material within them, and the indication of uranium enrichment in the basement rocks, particularly in the Lincoln Complex granitoids in the eastern Eyre Peninsula. Current exploration is focused on sedimentary “roll-front” style uranium mineralisation similar to that discovered elsewhere on the Gawler Craton e.g. Warrior, Yarramba) and in the Eyre Formation further to the east (e.g. Honeymoon).

### 3. GEOLOGY

The description given below of the regional geological setting within the Frome Embayment is taken directly from McKay & Miezeitis, 2001.

#### 3.1. Regional Geology

The Frome Embayment is a lobe on the southern part of the Callabonna Sub-basin which is the south-western portion of the Lake Eyre Basin (Callen & others, 1995). The Callabonna Sub-basin comprises Tertiary shallow-water sediments. The Flinders, Olary and Barrier Ranges flanking the embayment, consist mainly of Precambrian and Cambrian metamorphic and sedimentary rocks which contain many small uranium deposits and widespread disseminated uranium mineralisation.

During the early Tertiary, well-sorted sand (Eyre Formation) was deposited as a thin, laterally continuous horizon covering the full width of the Sub-basin in the north. In the south, the Eyre Formation equivalents are angular, poorly sorted, fluvial sand and interbedded clay and silt deposited in major stream channels of extent (Brunt, 1978). The channels were incised into Precambrian basement and marine clay of the Late Cretaceous Marree Subgroup. Clay, sand and dolomite of the Namba Formation (Miocene) formed a continuous sequence disconformably overlying the channel sediments (Callen & Tedford, 1976). A thicker sequence of the Namba Formation accumulated closer to the Flinders Ranges to form the small Poontana Sub-basin.

The Honeymoon, East Kalkaroo, Yarramba and Goulds Dam deposits are in palaeochannel sand of the Eyre Formation (Palaeocene-Eocene), whereas the Beverley deposit is in sand of the overlying Namba Formation (Miocene) (Table 1). The palaeochannels in the southern part of the Frome Embayment flank a structural high in the underlying basement, the Benagerie Ridge.

The Lincoln 1 : 250000 government geology shows the regional geology of the tenement area and can be downloaded from Geoscience Australia. A generalized stratigraphic column for the Frome Embayment is given below.



		Age	Lithology	Average thickness (m)	Uranium deposits
Callabonna Sub-basin (Lake Eyre Basin)	Coonarbine, Eurinilla, Millyera Formation & other units	Pleistocene to Recent	Soil, dune sand, sand, clay, gravel, calcrete, gypcrete	Variable, thin	
	Willawortina Formation	Late Miocene to Early Pleistocene	Clay, sand, sandy conglomerate and dolomite	0–150	
	Namba Formation	Miocene	Silt & clay, with minor sand, limestone, dolomite	200	Beverley
	DISCONFORMITY				
	Eyre Formation	Early Palaeocene to Late Eocene	Sand & sandstone, some pebble beds	10–75	Honeymoon, East Kalkaroo, Yarramba, Goulds Dam
UNCONFORMITY					
Eromanga Basin	Maree Subgroup	Cretaceous	Shale and siltstone	150–275	
	Cadna-Owie Formation & Algebuckina Sandstone	Jurassic to Cretaceous	Shale, sand, silt and boulder lenses	Variable	

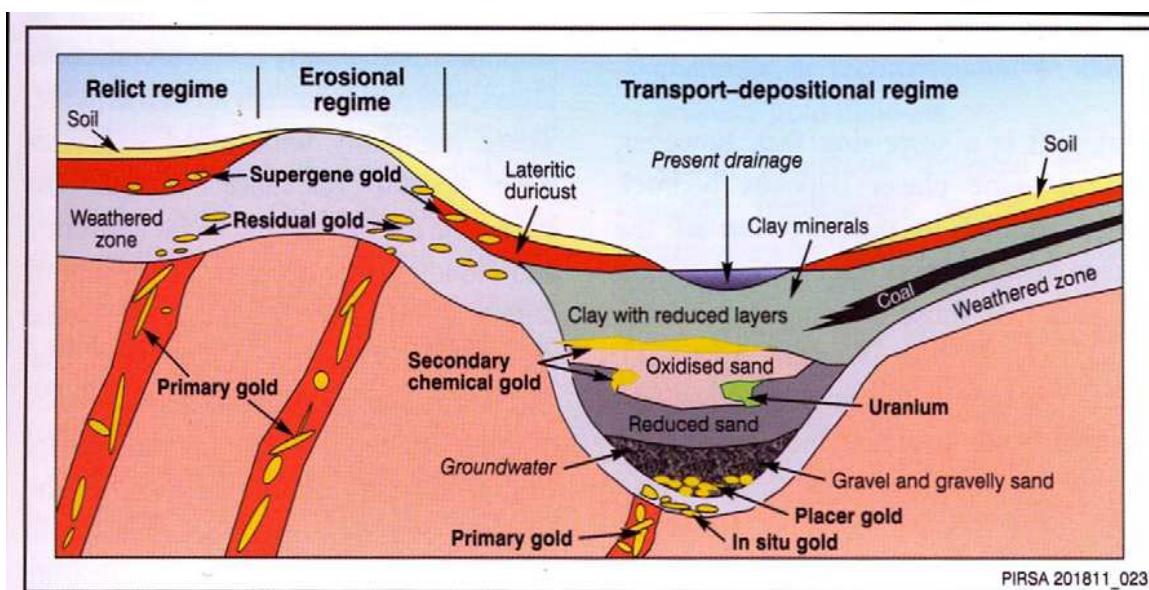
**Table 1: Simplified stratigraphy of the Frome Embayment. Taken from McKay & Mieztis, 2001, pp.96 (after Drexel & Preiss, 1995).**

### 3.2. Exploration Model

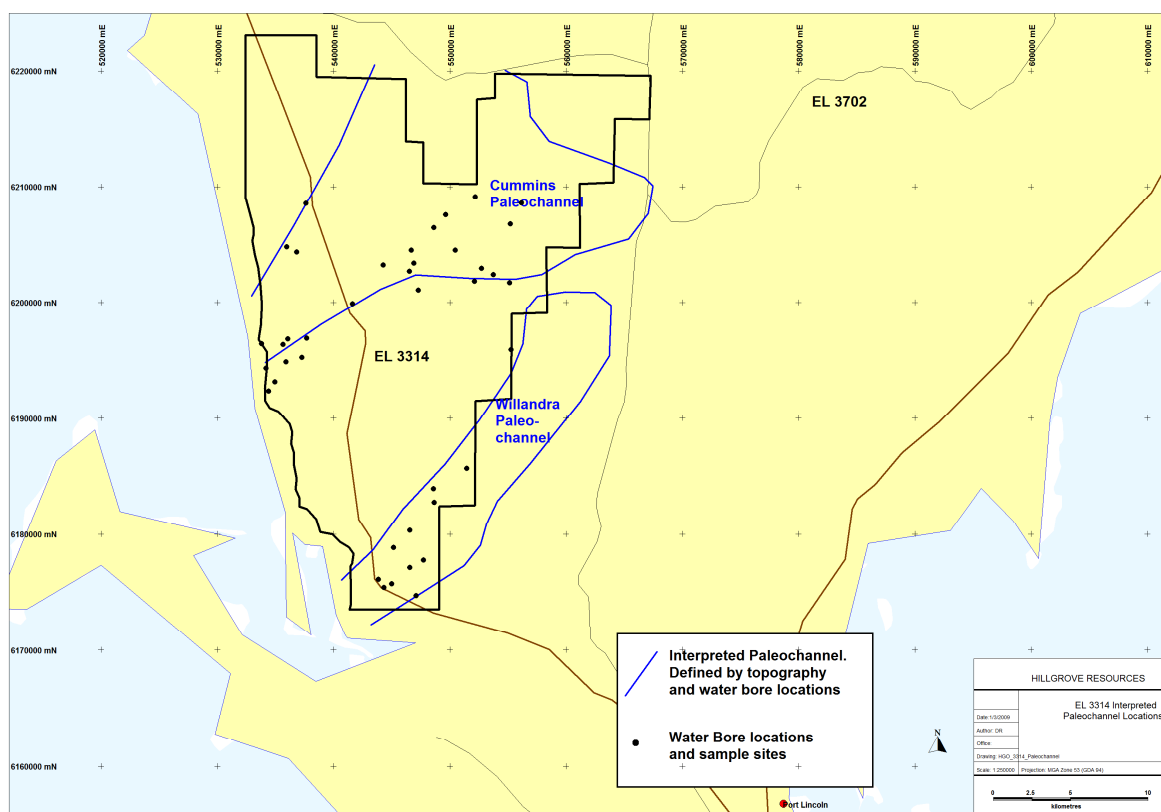
A generalised model for the formation of these uranium deposits can be applied, (e.g. Hou & Alley, 2003 shown below in Figure 2) although each occurrence will obviously vary in its detailed setting. Tertiary channel sands were derived from eroded basement rocks of the Gawler Craton, many of which are enriched in uranium. These sands contain a high organic carbon content which reflects the abundant vegetation along the channels and in major swamps. The reduced, alkaline ground waters fixed uranium which was then remobilised by oxidised waters moving through the sealed aquifers. Uranium was precipitated at the redox boundary between the oxidised and reduced sequences. Deposits could be formed as typical roll-front bodies, tabular zones in contact with locally preserved reduced sections (for example the outside of major bends in the channel course as at Honeymoon), or in interbedded oxidised sand and carbonaceous clay sequences (Figure 3). Channels that are draining bedrock containing uranium – REE enriched lithologies such as the Hiltaba Suite granitoids or equivalents would be of highest priority.

### 3.3. Interpreted Paleochannel Locations

Desktop studies of geology and topography maps combined with field data collected during sampling of groundwater from water bores defined areas that are interpreted as paleochannels. The location of these interpreted paleochannels is shown in Figure 2 below.



**Figure 2: Idealised section through Tertiary Palaeochannel (after Figure 4, Hou & Alley, 2003)**



**Figure 3: EL 3314 Interpreted Paleo Channel Locations**

## 4. GEOPHYSICS

UTS Geophysics conducted a detailed low level airborne geophysical survey for Uranoz / Intermet Resources between the 5th October 2006 and the 10th October 2006. The survey was flown using the MGA (GDA94) coordinate system. 100m east-west lines were flown with north-south tie lines every 1000m. Sensor height was 50m. Radiometric, magnetic and digital terrain data were collected and processed. Appendix 1 is a report on the logistics and data processing techniques employed for the survey. Appendix 1 also provides an overview of the results of the airborne survey. Appendix 2 is the magnetic field data in a “.DAT” file. Appendix 3 is the radiometrics field data in a “.DAT” file.

Figure 5 shows a shaded total magnetic image with interpreted paleo channel locations. Figure 6 shows a radiometrics U count image with interpreted paleo channel locations.

## 4.1. Airborne Aeromagnetics

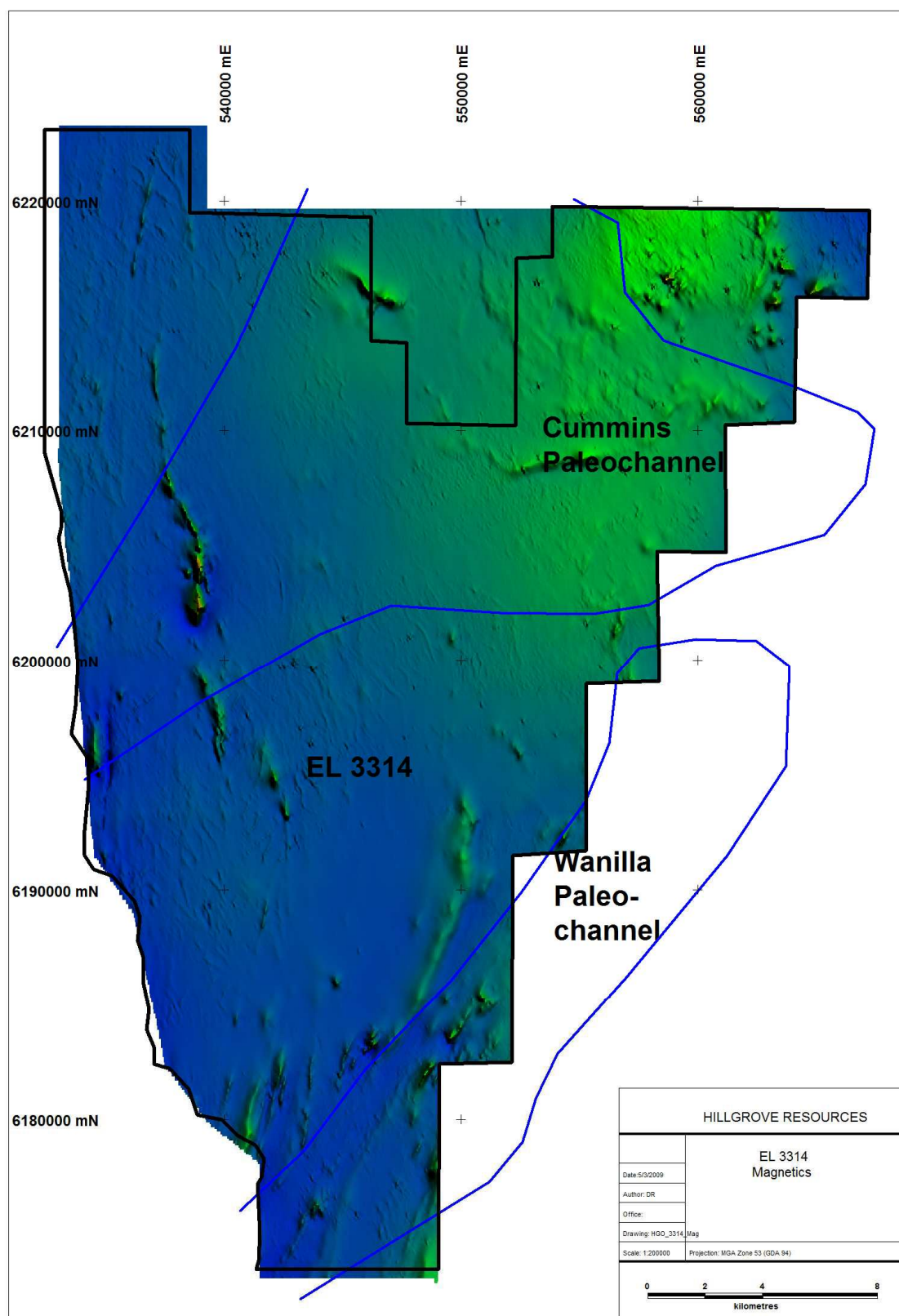
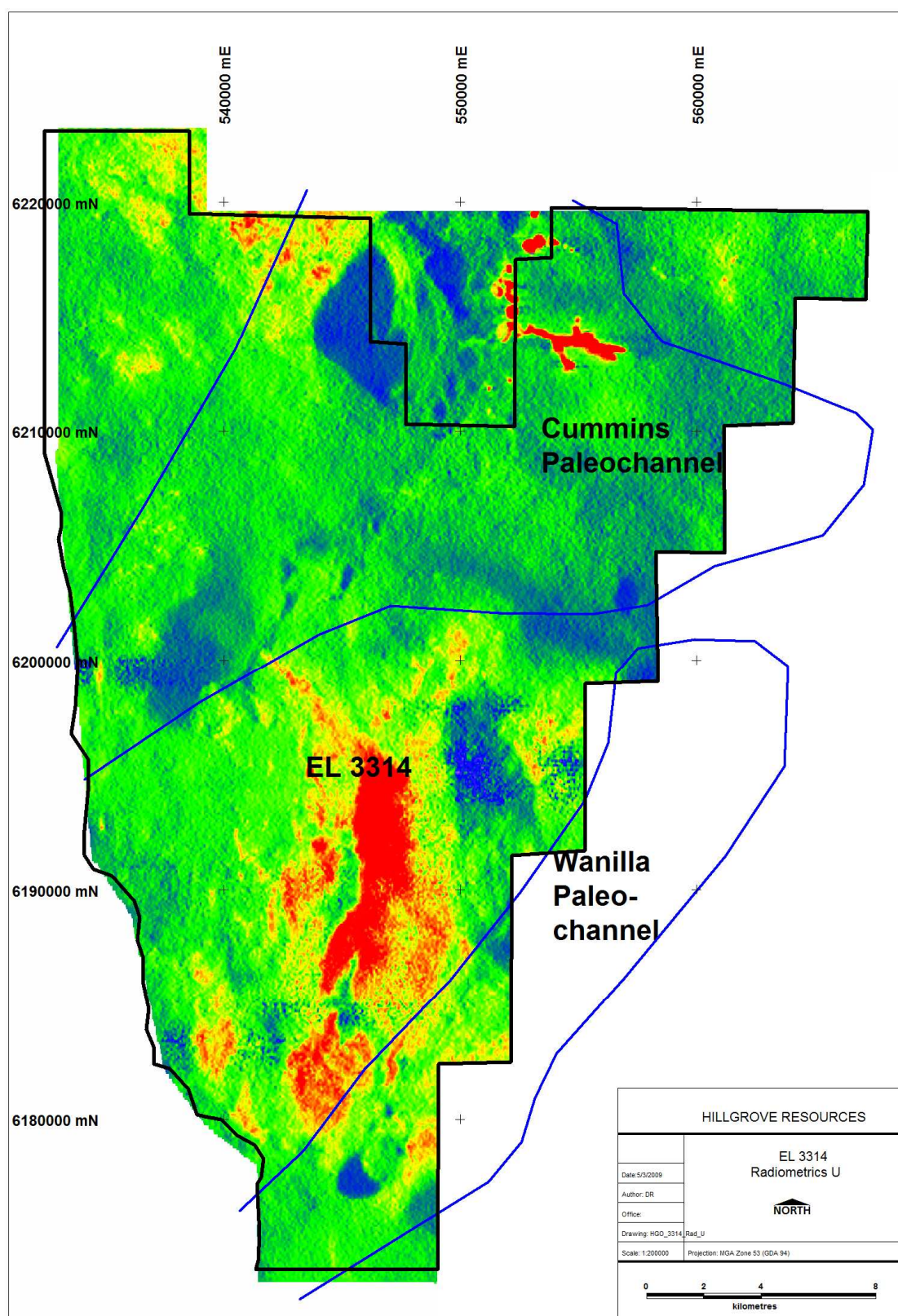


Figure 4: EL 3314 Magnetics



## 4.2. Airborne Radiometrics



**Figure 5: EL 3314 Radiometric - Uranium**

## **5. REMOTE SENSING DATA**

Not applicable

## **6. SURFACE GEOCHEMISTRY**

Groundwater samples were collected from 44 water bores. Sample sites are located on figure 3 and Figure 7 (below) and tabulated in Appendix 4.

Figure 6 shows the U results (U ppb) of the groundwater survey over EL 3314. The most anomalous U in water concentration is seen in the Wanilla paleochannel semi coincident with an airborne radiometrics U count anomaly.

## **7. DRILLING**

Not applicable

## **8. INTERPRETATION**

Australian U deposits have generally been directly or indirectly associated with nearby U enriched felsic igneous rocks of ages from Archaean to mid Phanerozoic. Archaean to early Proterozoic basement underlies locations of all wells sampled for this Coult data set.

Figure 7 shows the U results (U ppb) of the groundwater survey over EL 3314. The most anomalous U in water concentration is seen in or adjacent to the Wanilla paleochannel. This groundwater data set suggests various scenarios for the occurrence of as yet un-discovered palaeodrainage hosted U deposits associated around the Wanilla palaeochannels. Sources of groundwater U in the sample set include both leaching from felsic igneous basement minerals and from sediment hosted accumulations previously deposited from these groundwaters.

Some sampled locations provided groundwaters that geochemically matched groundwaters from Goulds Dam and Honeymoon style U deposits.

Figure 7 outlines a U in paleochannel target area. An airborne radiometrics U count anomaly within an interpreted paleochannel has anomalous U in groundwater geochemistry. Further work in this area is warranted.

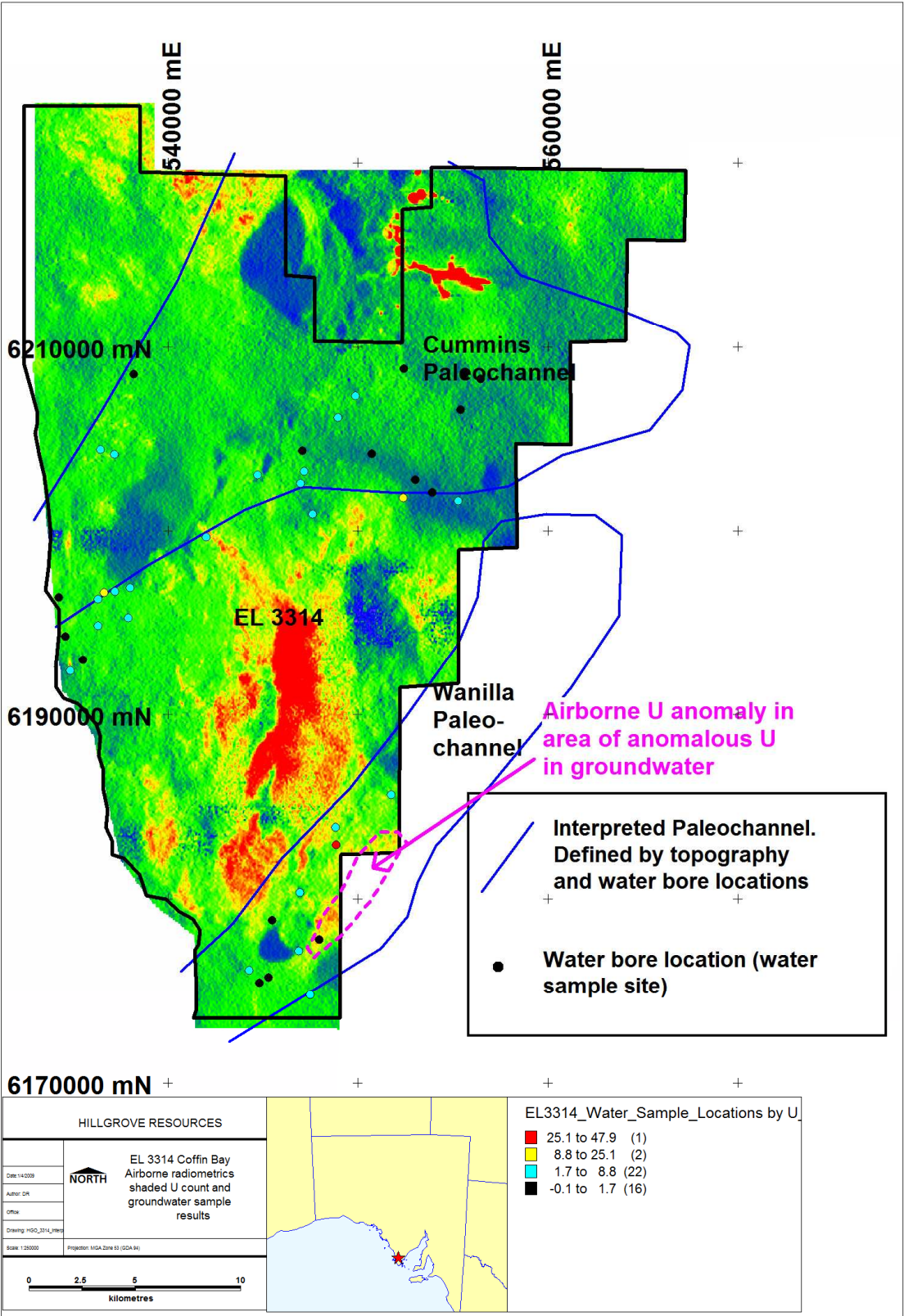


Figure 7: EL 3702 U (ppb) in groundwater over radiometrics – shaded U count

## 9. ENVIRONMENT

Exploration work undertaken for the reporting period had insignificant to no environmental impact.

## 10. REPORTING ON ORE RESERVES AND RESOURCES

Not applicable

## 11. EXPENDITURE STATEMENT

Below is a detailed expenditure statement for the reporting period 03/03/07 to 2/03/08 on EL 3314. Cumulative expenditure on EL 3702 is \$446,925.

Activity	Expenditure
Personnel – Geologists, consultants, field hands	\$49,416
Tenement maintenance, legal costs	\$7,087
Assays	\$11,517
Vehicle Costs	\$4,845
Travel/Accommodation	\$5,744
Field Expenses	\$1,703
Communications/Sundry	\$2,091
Admin/overheads	\$11,371
Reptem Survey	\$30,000
<b>Total</b>	<b>\$123,774</b>

**Table 2: Expenditure Statement for EL 3314 for the period 03/03/07 to 02/03/08**

## 12. CONCLUSIONS

Results from airborne radiometrics, groundwater sampling and desk top studies have defined a radiometrics U count anomaly within a paleochannel that contains anomalous U in groundwater geochemistry (Figure 7). Further work is warranted in this area.

## 13. REFERENCES

Hou, B. and Alley, N., 2003, A model for gold and uranium dispersion and concentration in residual and transported regolith along palaeodrainage systems – a case study from the central Gawler Craton, MESA Journal, 30: 49-53.

McKay, A.D. & Mieizitis, Y., 2001. Australia's uranium resources, geology and development of deposits. AGSO . Geoscience Australia, Mineral Resource Report 1



## 14. APPENDIX 1: GEOPHYSICAL REPORT

See attached electronic file “Append1\_EL3314\_Airborne\_Geophysics\_Report”. This report details the logistics, data acquisition operations and processing.

## 15. APPENDIX 2: AEROMAGNETIC RAW DATA

See attached electronic file “Append2\_EL3314\_mag”

This file contains no headers. Tabulated below are the header details.

### MAGNETIC LOCATED DATA

```
-----
FIELD FORMAT DESCRIPTION UNITS
-----
1 I8 LINE NUMBER
2 I4 FLIGHT/AREA NUMBER AAFF (Area/Flight)
3 I9 DATE YYMMDD
4 F10.1 TIME sec
5 I8 FIDUCIAL NUMBER
6 I4 UTM ZONE
7 F12.6 LATITUDE (WGS84) degrees
8 F12.6 LONGITUDE (WGS84) degrees
9 F12.2 EASTING (MGA94) metres
10 F12.2 NORTHING (MGA94) metres
11 F8.1 RADAR ALTIMETER HEIGHT metres
12 F8.1 GPS HEIGHT (WGS84) metres
13 F8.1 TERRAIN HEIGHT (WGS84) metres
14 F10.2 RAW MAGNETIC INTENSITY nT
15 F10.2 DIURNAL CORRECTION nT
16 F10.2 IGRF CORRECTION nT
17 F10.2 DRN AND IGRF CORRECTED TMI nT
18 F10.2 FINAL TOTAL MAGNETIC INTENSITY nT
-----
```

## 16. APPENDIX 3: AERO-RADIOMETRICS DATA

See attached electronic file “Append3\_EL3314\_rad”

This file contains no headers. Tabulated below are the header details.

### RADIOMETRIC LOCATED DATA

```
-----
FIELD FORMAT DESCRIPTION UNITS
-----
1 I8 LINE NUMBER
2 I4 FLIGHT/AREA NUMBER AAFF (Area/Flight)
3 I9 DATE YYMMDD
4 F10.1 TIME sec
5 I8 FIDUCIAL NUMBER
6 I4 UTM ZONE
7 F12.6 LATITUDE (WGS84) degrees
8 F12.6 LONGITUDE (WGS84) degrees
```

9 F12.2 EASTING (MGA94) metres  
10 F12.2 NORTHING (MGA94) metres  
11 F8.1 RADAR ALTIMETER HEIGHT metres  
12 F8.1 GPS HEIGHT (WGS84) metres  
13 I5 LIVE TIME milli sec  
14 F8.1 PRESSURE hPa  
15 F6.1 TEMPERATURE Degrees Celcius  
16 F6.1 HUMIDITY percent  
17 I6 TOTAL COUNT (RAW) Counts/sec  
18 I6 POTASSIUM (RAW) Counts/sec  
19 I6 URANIUM (RAW) Counts/sec  
20 I6 THORIUM (RAW) Counts/sec  
21 I6 COSMIC (RAW) Counts/sec  
22 F8.1 TOTAL COUNT (CORRECTED) Counts/sec  
23 F8.1 POTASSIUM (CORRECTED) Counts/sec  
24 F8.1 URANIUM (CORRECTED) Counts/sec  
25 F8.1 THORIUM (CORRECTED) Counts/sec  
26 F9.4 DOSE RATE nGy/hr  
27 F9.4 POTASSIUM GRND CONCENTRATION %  
28 F9.4 URANIUM GRND CONCENTRATION ppm  
29 F9.4 THORIUM GRND CONCENTRATION ppm  
-----

**Logistics Report**

for a

**DETAILED AIRBORNE  
MAGNETIC, RADIOMETRIC AND  
DIGITAL TERRAIN SURVEY**

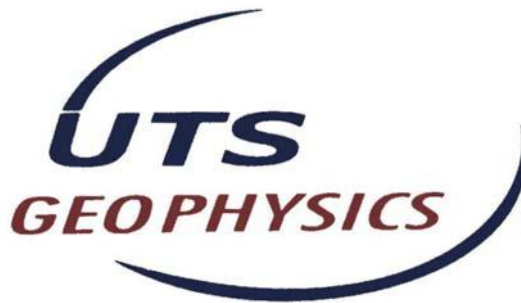
for the

**COULTA PROJECT**

carried out on behalf of

**INTERMET RESOURCES LIMITED**

by



(UTS Job #A801)

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## TABLE OF CONTENTS

<b>1</b>	<b>GENERAL SURVEY INFORMATION .....</b>	<b>3</b>
<b>2</b>	<b>SURVEY SPECIFICATIONS.....</b>	<b>3</b>
<b>3</b>	<b>AIRCRAFT AND SURVEY EQUIPMENT .....</b>	<b>4</b>
3.1	SURVEY AIRCRAFT.....	5
3.2	DATA POSITIONING AND FLIGHT NAVIGATION.....	5
3.3	UTS DATA ACQUISITION SYSTEM AND DIGITAL RECORDING .....	6
3.4	ALTITUDE READINGS .....	6
3.5	UTS STINGER MOUNTED MAGNETOMETER SYSTEM .....	6
3.6	TOTAL FIELD MAGNETOMETER .....	7
3.7	THREE COMPONENT VECTOR MAGNETOMETER .....	7
3.8	AIRCRAFT MAGNETIC COMPENSATION.....	7
3.9	DIURNAL MONITORING MAGNETOMETER .....	8
3.10	BAROMETRIC ALTITUDE.....	8
3.11	TEMPERATURE AND HUMIDITY .....	9
3.12	RADIOMETRIC DATA ACQUISITION .....	9
<b>4</b>	<b>PROJECT MANAGEMENT .....</b>	<b>10</b>
<b>5</b>	<b>DATA PROCESSING PROCEDURES .....</b>	<b>11</b>
5.1	DATA PRE-PROCESSING.....	11
5.2	MAGNETIC DATA PROCESSING.....	12
5.3	RADIOMETRIC DATA PROCESSING.....	13
5.4	DIGITAL TERRAIN MODEL DATA PROCESSING .....	14
	<b>APPENDIX A - LOCATED DATA FORMATS .....</b>	<b>15</b>
	<b>APPENDIX B - COORDINATE SYSTEM DETAILS.....</b>	<b>17</b>
	<b>APPENDIX C - SURVEY BOUNDARY DETAILS .....</b>	<b>18</b>
	<b>APPENDIX D - PROJECT DATA OVERVIEW.....</b>	<b>19</b>
	<b>APPENDIX E – ACQUISITION AND PROCESSING PARAMETERS.....</b>	<b>20</b>

## 1 GENERAL SURVEY INFORMATION

UTS Geophysics conducted a low level airborne geophysical survey for the following company:

InterMet Resources Limited  
262-266 Pirie Street  
Adelaide, South Australia, 5000

Acquisition for these surveys commenced on the 5<sup>th</sup> October 2006 and was completed on the 10<sup>th</sup> October 2006. The base location used for operating the aircraft and performing in-field quality control was Porth Lincoln, South Australia.

## 2 SURVEY SPECIFICATIONS

The area surveyed was located near Port Lincoln in South Australia. The survey was flown using the MGA94 coordinate system (a Universal Transverse Mercator projection) derived from the Geocentric Datum of Australia and was contained within zone 53 with a central meridian of 135 degrees. Details of the datum and projection system are provided in Appendix B of this report. Survey boundary coordinates are listed in Appendix C.

The survey data acquisition specifications for each area flown are specified in the following table:

PROJECT NAME	LINE SPACING	LINE DIRECTION	TIE LINE SPACING	TIE LINE DIRECTION	SENSOR HEIGHT	TOTAL LINE KM
Coulta	100m	090-270	1000m	000-180	50m	11,632
<b>TOTAL</b>						<b>11,632</b>

The specified sensor height for the magnetic samples is as stated in the above table. This sensor height may be varied where topographic relief or laws pertaining to built up areas do not allow this altitude to be maintained, or where the safety of the aircraft and equipment is endangered.

### 3 AIRCRAFT AND SURVEY EQUIPMENT

The UTS navigation flight control computer, data acquisition system and geophysical sensors were installed into a specialised geophysical survey aircraft.

The list of geophysical and navigation equipment used for the survey is as follows:

#### **General Survey Equipment**

- Cessna C210 fixed wing survey aircraft.
- UTS proprietary flight planning and survey navigation system.
- UTS proprietary high speed digital data acquisition system.
- Novatel 3951R, 12 channel precision navigation GPS.
- OMNILITE 132 real time differential GPS system.
- UTS LCD pilot navigation display and external track guidance display.
- UTS post mission data verification and processing system.
- Bendix King KRA-10A radar altimeter.

#### **Magnetic Data Acquisition Equipment**

- UTS tail stinger magnetometer installation.
- Scintrex Cesium Vapour CS-2 total field magnetometer.
- Fluxgate three component vector magnetometer.
- RMS Aeromagnetic Automatic Digital Compensator (AADC II).
- Diurnal monitoring magnetometer (Scintrex Envimag).

#### **Radiometric Data Acquisition Equipment**

- Exploranium GR-820 gamma ray spectrometer.
- Exploranium gamma ray detectors.
- Barometric altimeter (height and pressure measurements).
- Temperature and humidity sensor.

### 3.1 **Survey Aircraft**

The aircraft used for this survey was a Cessna C210 series fixed wing survey aircraft, operated by UTS Geophysics, registration VH-TKQ. The specifications are as follows:

#### **Power Plant**

- Engine Type Continental, IO-520
- Brake Horse Power 285 bhp
- Fuel Type AV-GAS

#### **Performance**

- Cruise speed 150 Kn
- Survey speed 130 Kn
- Stall speed 60 Kn
- Range 1185 Km
- Endurance (no reserves) 5.2 hours
- Fuel tank capacity 246 litres

### 3.2 **Data Positioning and Flight Navigation**

Survey data positioning and flight line navigation was derived using real-time differential GPS (Global Positioning System).

Navigation was performed using a UTS designed and built electronic pilot navigation system providing computer controlled digital navigation instrumentation mounted in the cockpit as well as an externally mounted track guidance system.

GPS derived positions were used to provide both aircraft navigation and survey data location information.

The GPS systems used for the survey were:

- Aircraft GPS Model Novatel 3951R
- Sample rate 0.5 Seconds (2 Hz)
- GPS satellite tracking channels 12 parallel
- Typical differentially corrected accuracy 1-2 metres (horizontal)  
3-5 metres (vertical)

### 3.3 *UTS Data Acquisition System and Digital Recording*

All geophysical sensor data and positional information measured during the survey was recorded using a UTS developed, high speed, precision data acquisition system. Survey data was downloaded onto magnetic tape on completion of each survey flight.

Instrument synchronisation times were measured and removed in real-time by the UTS data acquisition system.

### 3.4 *Altitude Readings*

Accurate survey heights above the terrain were measured using a King radar altimeter installed in the aircraft. The height of each survey data point was measured by the radar altimeter and stored by the UTS data acquisition system.

- Radar altimeter models                      King KRA- 10A altimeter
- Accuracy    0.3 metres
- Resolution    0.1 metres
- Range    0 - 500 metres
- Sample rate    0.1 Seconds (10Hz)

The digital terrain model is calculated by subtracting the terrain clearance (radar altimeter) from the GPS height (interpolated to 0.1 Hz), and as such the accuracy is constrained by the differentially corrected GPS position.

### 3.5 *UTS Stinger Mounted Magnetometer System*

The installation platform used for the acquisition of magnetic data was a tail mounted stinger. This proprietary stinger system was constructed of carbon fibre and designed for maximum rigidity and stability.

Both the total field magnetometer and three component vector magnetometer were located within the tail stinger.





### 3.6 *Total Field Magnetometer*

Total field magnetic data readings for the survey were made using a Scintrex Cesium Vapour CS-2 Magnetometer. This precision sensor has the following specifications:



- Model Scintrex Cesium Vapour CS-2 Magnetometer
- Sample Rate 0.1 seconds (10Hz)
- Resolution 0.001nT
- Operating Range 15,000nT to 100,000nT

### 3.7 *Three Component Vector Magnetometer*

Three component vector magnetic data readings for the survey were made using a Develco Fluxgate Magnetometer. This precision sensor has the following specifications:

- Model Develco Fluxgate Magnetometer
- Sample Rate 0.1 seconds (10Hz)
- Resolution 0.1nT
- Operating Range -100,000nT to 100,000nT

### 3.8 *Aircraft Magnetic Compensation*

At the start of the survey, the system was calibrated for reduction of magnetic heading error. The heading and manoeuvre effects of the aircraft on the magnetic data was removed using an RMS Automatic Airborne Digital Compensator (AADC II).

Calibration of the aircraft heading effects were measured by flying a series of pitch, roll and yaw manoeuvres at high altitude while monitoring changes in the three axis magnetometer and the effect on total field readings. A 26 term model of the aircraft magnetic noise covering permanent, induced and eddy current fields was determined. These coefficients were then applied to the data collected during the survey in real-time.

UTS static compensation techniques were also employed to reduce the initial magnetic effects of the aircraft upon the survey data.

### 3.9 Diurnal Monitoring Magnetometer

A base station magnetometer was located in a low gradient area beyond the region of influence of any man made interference to monitor diurnal variations during the survey.

The specifications for the magnetometer used are as follows:

- Model Scintrex Envimag
- Resolution 0.1 nT
- Sample interval 5 seconds (0.2 Hz)
- Operating range 20,000nT to 90,000nT
- Temperature -20°C to +50°C



### 3.10 Barometric Altitude

An Air DB barometric altimeter was installed in the aircraft so as to record and monitor barometric height and pressure. The data was recorded at 0.10 second intervals and is used for the reduction of the radiometric data.

- Model Air DB barometric altimeter
- Accuracy 2 metres
- Height resolution 0.1 metres
- Height range 0 - 3500 metres
- Maximum operating pressure: 1,300 mb
- Pressure resolution: 0.01 mb
- Sample rate 10 Hz

### 3.11 *Temperature and Humidity*

Temperature and humidity measurements were made during the survey at a sample rate of 10Hz. Ambient temperature was measured with a resolution of 0.1 degree Celsius and ambient humidity to a resolution of 0.1 percent.

### 3.12 *Radiometric Data Acquisition*

The gamma ray spectrometer used for the survey was capable of recording 256 channels and was self stabilising in order to minimise spectral drift. The detectors used contain thallium activated sodium iodide crystals.

Thorium source measurements were made each survey day to monitor system resolution and sensitivity. A calibration line was also flown at the start and end of each survey day to monitor ground moisture levels and system performance.

Spectrometer model                      Exploranium GR820

- Detector volume                      32 litres
- Sample rate                              1 Hz



## **4 PROJECT MANAGEMENT**

InterMet Resources Limited

Gary Ferris

UTS Geophysics Perth Office

Nino Tuffili  
David Abbott  
Barrett Cameron

## 5 DATA PROCESSING PROCEDURES

### 5.1 *Data Pre-processing*

The raw survey data was loaded from the field tapes and the recorded data trimmed to the correct survey boundary extents. Any survey lines subsequently re flown were removed from the dataset.

At the commencement of each acquisition flight, all the instrumentation clocks were synchronized to local time, and the error and latency of each instrument in providing its data measurement calculated. The results of these latency measurements were recorded into a synchronisation file, and the results used to assign GPS positions to the magnetic, radiometric and elevation data. As a result of the physical separation of the sensors, a small residual offset still exists between instrument timings.

To compensate for this residual parallax error, an adjustment was made to the instrument clocks. The magnetic and radar altimeter data was adjusted by 0.600 seconds, and the radiometric data was adjusted by 1.375 seconds for each flight.

The synchronized, parallax corrected data was then exported as located ASCII data.

## **5.2 Magnetic Data Processing**

The diurnal base station data was checked for spikes and steps, and suitably filtered prior to the removal of diurnal variations from the aircraft magnetic data.

The filtered diurnal measurements were subtracted from the diurnal base field and the residual corrections applied to the survey data by synchronising the diurnal data time and the aircraft survey time. The average diurnal base station value was added to the survey data.

The X and Y positioning of the data was then checked for spikes before applying the IGRF correction. Any spikes in the positions were manually edited. The updated IGRF 2005 correction was calculated at each data point (taking into account the height above sea level).

This regional magnetic gradient was subtracted from the survey data points.

Tie line levelling was applied to the data by least squares minimisation, using a polynomial fit of order 0, of the differences in magnetic values at the crossover points of the survey traverse and tie line data.

In order to remove any residual long wavelength variations in the tie line levelled data along the traverse lines, polynomial levelling was then applied.

Final micro-levelling techniques were then selectively applied to the tie line levelled data to remove minor residual variations in profile intensity

Located and gridded data were generated from the final processed magnetic data.

### **5.3 Radiometric Data Processing**

Statistical noise reduction of the 256 channel data was performed using the Maximum Noise Fraction (MNF) method described by Dickson and Taylor (1998). This method constructs a noise covariance model from the survey data, which is then decorrelated and re-scaled so that the model has unit variance and no channel-to-channel correlation.

A principal component transformation of the noise-whitened data is performed, and the number of components to be saved is determined by ranking the eigenvectors by signal-to-noise ratio. The signal-rich components are retained, and the spectral data reconstructed without the noise fraction.

Channels 30-250 only are noise-cleaned, as these contain the regions of interest and are not dominated by the lower end of the Compton continuum. The energy spectrum between the potassium and thorium peaks was recalibrated from the noise-cleaned 256 channel measurements.

The aircraft background spectrum and the scaled unit cosmic spectrum were then subtracted from the 256 channel data. This 256 channel data was then windowed to the 5 primary channels of total count, potassium, uranium, thorium and low-energy uranium. Dead time corrections were then applied to the data. Radon background removal was performed using the Minty Spectral Ratio method (1992).

The radar altimeter data was corrected to standard temperature and pressure, and height corrected spectral stripping was then applied to the windowed data. Height attenuation corrections based on the STP radar altimeter were then performed to remove any altitude variation effects from the data.

The corrected count rate data was then converted to ground concentrations for potassium, uranium and thorium (sensitivity coefficients are supplied in Appendix E).

Final micro-levelling techniques were then selectively applied to the tie line levelled data to remove minor residual variations in profile intensities. Located and gridded data were generated from the final processed radiometric data.

#### **5.4    *Digital Terrain Model Data Processing***

The radar altimeter data was subtracted from the GPS altimeter data. The separation distance between the GPS antenna and the radar altimeter of 1.4 metres was subtracted from the digital terrain data.

The digital terrain data thus derived was tie line levelled and gridded. Tie line levelled data was then examined and selectively microlevelled to produce a grid without line dependent artifacts.

**For further information concerning the survey flown, please contact the following office:**

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Fauntleroy Avenue, Perth Airport  
REDCLIFFE WA 6104

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**Postal Address:**

UTS Geophysics  
P.O. Box 126  
BELMONT WA 6984

**Quoting reference number: A801**



## APPENDIX A - LOCATED DATA FORMATS

### MAGNETIC LOCATED DATA

FIELD	FORMAT	DESCRIPTION	UNITS
1	I8	LINE NUMBER	
2	I4	FLIGHT/AREA NUMBER	AAFF (Area/Flight)
3	I9	DATE	YYMMDD
4	F10.1	TIME	sec
5	I8	FIDUCIAL NUMBER	
6	I4	UTM ZONE	
7	F12.6	LATITUDE (WGS84)	degrees
8	F12.6	LONGITUDE (WGS84)	degrees
9	F12.2	EASTING (MGA94)	metres
10	F12.2	NORTHING (MGA94)	metres
11	F8.1	RADAR ALTIMETER HEIGHT	metres
12	F8.1	GPS HEIGHT (WGS84)	metres
13	F8.1	TERRAIN HEIGHT (WGS84)	metres
14	F10.2	RAW MAGNETIC INTENSITY	nT
15	F10.2	DIURNAL CORRECTION	nT
16	F10.2	IGRF CORRECTION	nT
17	F10.2	DRN AND IGRF CORRECTED TMI	nT
18	F10.2	FINAL TOTAL MAGNETIC INTENSITY	nT

### RADIOMETRIC LOCATED DATA

FIELD	FORMAT	DESCRIPTION	UNITS
1	I8	LINE NUMBER	
2	I4	FLIGHT/AREA NUMBER	AAFF (Area/Flight)
3	I9	DATE	YYMMDD
4	F10.1	TIME	sec
5	I8	FIDUCIAL NUMBER	
6	I4	UTM ZONE	
7	F12.6	LATITUDE (WGS84)	degrees
8	F12.6	LONGITUDE (WGS84)	degrees
9	F12.2	EASTING (MGA94)	metres
10	F12.2	NORTHING (MGA94)	metres
11	F8.1	RADAR ALTIMETER HEIGHT	metres
12	F8.1	GPS HEIGHT (WGS84)	metres
13	I5	LIVE TIME	milli sec
14	F8.1	PRESSURE	hPa
15	F6.1	TEMPERATURE	Degrees Celcius
16	F6.1	HUMIDITY	percent
17	I6	TOTAL COUNT (RAW)	Counts/sec
18	I6	POTASSIUM (RAW)	Counts/sec
19	I6	URANIUM (RAW)	Counts/sec
20	I6	THORIUM (RAW)	Counts/sec
21	I6	COSMIC (RAW)	Counts/sec
22	F8.1	TOTAL COUNT (CORRECTED)	Counts/sec
23	F8.1	POTASSIUM (CORRECTED)	Counts/sec
24	F8.1	URANIUM (CORRECTED)	Counts/sec
25	F8.1	THORIUM (CORRECTED)	Counts/sec
26	F9.4	DOSE RATE	nGy/hr
27	F9.4	POTASSIUM GRND CONCENTRATION	%
28	F9.4	URANIUM GRND CONCENTRATION	ppm
29	F9.4	THORIUM GRND CONCENTRATION	ppm

## GRIDDED DATASET FORMATS

Gridding was performed using a bicubic spline algorithm.

The following grid formats have been provided:

- ER-Mapper format

## LINE NUMBER FORMATS

Line numbers are identified with a six digit composite line number and have the following format - ALLLLB, where:

A	Survey area number
LLLL	Survey line number 0001-8999 reserved for traverse lines 9001-9999 reserved for tie lines
B	Line attempt number, 0 is attempt 1, 1 is attempt 2 etc..

## UTS FILE NAMING FORMATS

Located and gridded data provided by UTS Geophysics uses the following 8 character file naming convention to be compatible with PC DOS based systems.

File names have the following general format - JJJAABB.EEE, where:

JJJJ	UTS Job number
AA	Area number if the survey is broken into blocks
BB	M     Magnetic data R     Radiometric data TC    Total count data K     Potassium counts U     Uranium counts Th    Thorium counts DT    Digital terrain data
EEE	File name extension LDT   Located digital data file FMT   Located data format definition file ERS   Ermapper gridded data header file Ermapper data portion has no extension GRD   Geosoft gridded data file

## APPENDIX B - COORDINATE SYSTEM DETAILS

Locations for the survey data are provided in both geographical latitude and longitude and Universal Transverse Mercator metric projection coordinate systems.

<b>WGS84</b>	World Geodetic System 1984
Coordinate Type	Geographical
Semi Major Axis	6378137m
Flattening	1/298.257223563
<b>MGA94</b>	Map Grid of Australia 1994
Coordinate type	Universal Transverse Mercator Projection Grid
Geodetic datum	Geocentric Datum of Australia
Semi major axis	6378137m
Flattening	1/298.257222101

## APPENDIX C - SURVEY BOUNDARY DETAILS

### COORDINATES REPORT

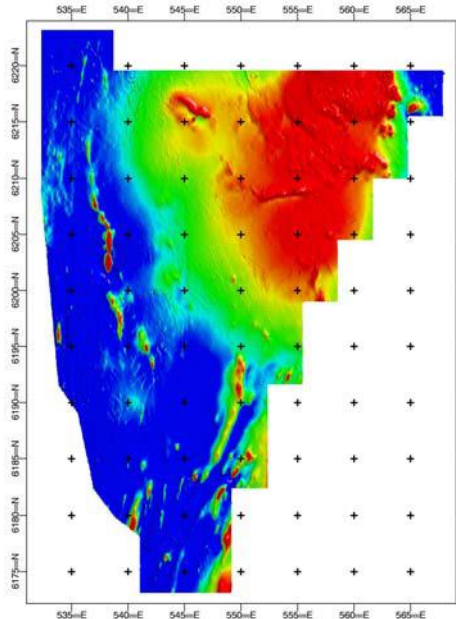
Job ID code: A8010101  
Client: InterMet Resources Limited  
Job: Coult  
Coordinates MGA94 Grid Zone: 53  
Include Point: 0.0 0.00

#### Surround

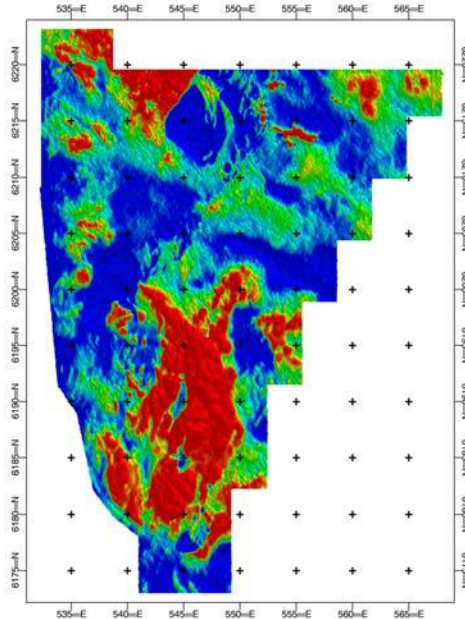
532300	6223200
538700	6223200
538700	6219600
567800	6219600
567800	6215500
564700	6215500
564700	6210000
561600	6210000
561600	6204500
558500	6204500
558500	6199000
555400	6199000
555400	6191600
552300	6191600
552300	6182400
549100	6182400
549100	6173100
541100	6173100
541100	6178100
538800	6179900
537000	6182300
535600	6189000
533900	6191500
532300	6209200
532300	6223200

## APPENDIX D - PROJECT DATA OVERVIEW

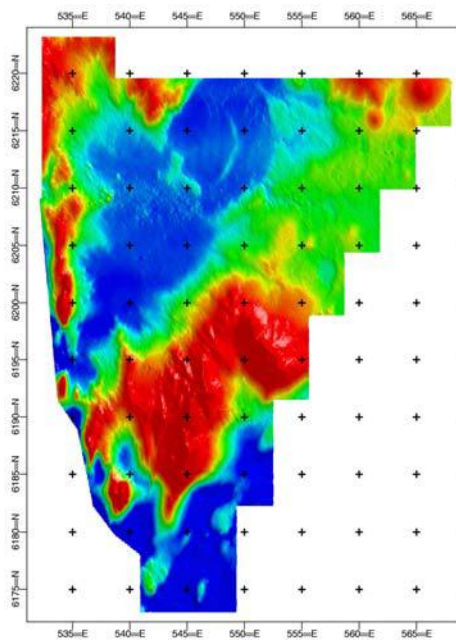
### Coulta Project



Total Magnetic Intensity



Radiometric Total Count



Digital Terrain Model

## APPENDIX E – ACQUISITION AND PROCESSING PARAMETERS

### Magnetic Processing Parameters

#### Coulta Project

IGRF date	- 2006.7
IGRF mean value	- 59303.70 nT
Magnetic inclination	- -66.70 deg
Magnetic declination	- 6.83 deg
Diurnal base value	- 59535.00 nT

### Radiometric Processing Parameters

#### Height Attenuation Coefficients

Total Count:	-0.0074
Potassium:	-0.0094
Uranium:	-0.0084
Thorium:	-0.0074

#### Cosmic Correction Coefficients

Total Count:	1.615
Potassium:	0.092
Uranium:	0.087
Thorium:	0.051

#### Aircraft Background Coefficients

Total Count:	33.69
Potassium:	9.27
Uranium:	0.59
Thorium:	0.05

#### Sensitivity Coefficients

Total Count:	37.9 cps/dose rate
Potassium:	151.5 cps/%k
Uranium:	17.7 cps/ppm
Thorium:	8.0 cps/ppm

**Final Reduction** - All data reduced to STP height datum 50m

## 17. APPENDIX 1: GEOCHEMISTRY OF EL 3314 GROUNDWATER SAMPLES

Sample	East_MGA	North_MGA	pH	Eh_mV	Ionic_Strength_salinity	Ca_ppm_DL_0_1
CW010	545289.01	6175740.75	7.36	426	0.0322173	105.5
CW011	544790.02	6175453.75	7.54	441	0.00963122	75.3
CW012	545473.02	6178836.76	7.2	438	0.0371441	79.6
CW013	547966.03	6177794.75	7.25	391	0.102385	190.3
CW022	546874.02	6177171.75	7.5	361	0.0365891	77.4
CW042	551725.03	6185646.77	7.41	350	0.0393861	58.8
CW045	544273.02	6176136.75	7.07	-44	0.15108	404.4
CW046	546923.02	6180336.76	7.1	376	0.041046	83.2
CW051	548828.02	6183894.77	7.15	270	0.0653471	128.3
CW053	548838.02	6182937.76	7.93	323	0.083899	137.1
CW066	555276.03	6201624.79	6.86	289	0.0625106	212
CW067	552365.03	6201799.79	7.8	350	0.0649142	93.7
CW068	553904.02	6202103.79	7.33	252	0.0303382	-0.1
CW069	537988	6196916.78	7.45	388	0	36.4
CW070	537213.01	6196721.78	6.87	296	0.818339	3146.6
CW071	536328	6196289.78	7.82	341	0.0816965	-0.1
CW072	534237	6196401.78	7.56	362	0.0333164	4.2
CW073	534600	6194265.78	7.7	360	0.0622818	95.2
CW074	534839	6192407.77	7.54	359	0.104286	211
CW075	535507	6193005.77	7.38	405	0.0790851	-0.1
CW076	536638	6196648.78	8.33	382	0.00925768	30.5
CW077	542018.01	6199669.79	8.17	367	0.0723232	110.5
CW078	538196	6208523.8	7.63	369	0.137805	42.2
CW079	544706.01	6203031.79	7.55	329	0.0389227	230.6
CW080	546974.02	6202591.8	7.34	376	0.0353205	41.8
CW081	547597.02	6200910.79	6.88	352	0.0613285	394.3
CW083	547164.02	6203239.8	7.77	401	0.052884	94.6
CW084	553003.03	6202776.79	6.66	398	0.0102448	25.5
CW085	547066.02	6204344.79	7.21	-38	0.113492	206.3
CW086	548937.02	6206166.79	7.42	343	0.0763655	229.6
CW087	549863.02	6207330.8	7.44	352	0.106474	274.4
CW092	536307	6194863.77	7.68	368	0.0380535	131
CW093	537911	6195287.78	7.37	375	0.0243311	134.5
CW094	537175.99	6204168.79	7.76	240	0.0284192	138.7
CW095	536454	6204418.79	7.45	371	0.028346	133.5
CW096	550733.02	6204198.79	6.64	401	0.0169921	54.8
CW097	555411.03	6206583.81	7.14	232	0.0843522	136
CW098	547482.03	6174787.75	7.86	383	0.0367392	197.2
CW106	556432.04	6208258.81	6.82	423	0.0810933	131.5
CW107	552409.03	6208815.8	7.28	322	0.0980378	229.8
CW108	555578.03	6208508.81	7.78	161	0.10754	236.6

Sample	Mg_ppm_DL_0_1	Na_ppm_DL_10	K_ppm_DL_0_1	Cl_ppm_DL_50	SO4_ppm_DL_30
CW010	23.6	188	3.7	239	792
CW011	18.4	97	2.9	82	0.1
CW012	49.7	430	10.2	572	483
CW013	174.1	1341	35.9	2246	678
CW022	63.9	358	15.9	505	522
CW042	73.9	571	9	895	178.5
CW045	291	1952	23.8	3778	461.7
CW046	65.5	511	12.8	915	286.2
CW051	123.3	862	23	1534	291
CW053	160.6	1216	23.2	1946	326.4
CW066	110.7	802	18.2	1293	264.3
CW067	129.7	794	20.3	1453	505.2
CW068	68.8	333	8.4	566	421.5
CW069	0.1	-10	-0.1	-86	319
CW070	2022	8061	420.7	19401	1810.2
CW071	50.1	1444	-0.1	2041	778.8
CW072	81.6	142	10.1	213	877.2
CW073	125.1	546	20.7	992	957.6
CW074	192.3	1020	31.5	2064	1188.6
CW075	40.7	1205	28.9	1737	1119
CW076	43	-10	26.6	37	102.7
CW077	133.1	592	7.6	1243	1155
CW078	14.6	5727	2.7	447	119.4
CW079	117.2	223	8.3	597	104.8
CW080	236.3	172	7.3	346	104.3
CW081	85	613	16.7	1151	105.3
CW083	71.6	952	31.2	1110	106.7
CW084	11.3	124	3	199	101.1
CW085	145.1	1924	44.1	3064	116.6
CW086	130.1	1030	27.6	1979	104.9
CW087	113.7	1748	47	2825	109.8
CW092	70.5	464	13.9	827	115.7
CW093	41.9	239	6.9	381	110.6
CW094	45.8	310	12.3	488	118.2
CW095	45.8	310	10.1	499	121.8
CW096	25.8	180	8.2	404	105.3
CW097	151	1266	30.6	2360	118.1
CW098	58.1	392	8.8	659	116.7
CW106	136.4	1264	35.2	2252	112.5
CW107	127.8	1085	29.4	1966	1089.3
CW108	121.4	1274	29.4	2172	1196.1



Sample	HCO3_ppm_DL_5	Li_ppb_DL_5	B_ppbDL_5	Al_ppmDL_0_05	Si_ppm_DL_0_5	Sc_ppb_DL_0_1
CW010	118.95	6.4	159	0.93	2.9	3.1
CW011	125.66	-0.5	13	0.32	2.4	0.7
CW012	173.85	-0.5	410	0.26	8.3	0.6
CW013	364.78	6.6	1918	0.4	11.7	1
CW022	173.24	4	1236	0.41	3.9	0.7
CW042	175.07	3.1	1286	0.17	6.7	2.2
CW045	126.88	8.7	359	0.17	2	3.6
CW046	159.21	-0.5	738	0.16	14.6	3.2
CW051	238.51	-0.5	862	0.2	6.7	0.7
CW053	331.84	1.5	2270	0.11	7.3	2.2
CW066	158.6	12.1	719	0.58	13.7	3.4
CW067	111.02	11.9	568	-0.05	11.6	9.1
CW068	62.22	1.7	235	0.05	4.8	1.2
CW069	159.21	-0.5	-5	0.05	4.4	1.5
CW070	111.02	160.2	1592	0.35	12.4	5.2
CW071	142.13	8.3	-5	0.43	-0.5	-0.1
CW072	221.43	17.9	-5	0.13	3.9	2.6
CW073	126.88	6.8	-5	0.4	0.8	2.9
CW074	158.6	13.3	683	0.25	13.8	3.1
CW075	165.31	10.5	-5	0.32	-0.5	4.9
CW076	166.53	11.9	-5	0.2	6.9	3
CW077	142.74	7.1	222	0.28	4.7	2.6
CW078	141.52	3.4	-5	0.47	-0.5	4.9
CW079	253.76	1.5	-5	0.74	4.1	3
CW080	324.52	2.9	909	0.15	5	1
CW081	315.37	5.7	891	0.15	9.7	3.6
CW083	394.67	6.9	3404	0.69	17.2	4.2
CW084	46.97	7.6	-5	0.18	4.4	4
CW085	379.42	8	1756	0.19	11.5	3.2
CW086	151.28	22.5	567	0.14	8	17
CW087	317.2	19.7	3313	0.09	19.6	2
CW092	159.21	8.2	265	0.1	9.2	3.3
CW093	141.52	8.2	125	0.14	7.2	2.2
CW094	175.07	9	181	0.1	4	3
CW095	173.24	7.5	288	0.06	5.8	2.2
CW096	24.4	10.6	-5	0.11	8.5	6
CW097	165.31	23.3	1502	0.05	11.4	5.9
CW098	206.18	3.4	356	0.18	2.9	5.9
CW106	141.52	13.3	2230	0.18	11.3	1
CW107	189.1	15.4	874	0.14	9.2	0.3
CW108	245.22	9.5	1322	0.36	10.3	1.6

Sample	V_ppb_DL_10	Mn_ppb_DL_5	Fe_ppb_DL_5	Co_ppb_DL_0_1	Ni_ppb_DL_0_5
CW010	29	26	567	0.3	29.2
CW011	-10	8	503	-0.1	3.6
CW012	31	8	273	0.2	27.2
CW013	73	-5	-5	-0.1	-0.5
CW022	60	36	448	-0.1	3.6
CW042	62	-5	536	0.3	12
CW045	131	103	128	2	229.7
CW046	66	6	1033	0.5	12.1
CW051	47	-5	548	-0.1	2.2
CW053	145	-5	566	0.2	2
CW066	34	16	-5	0.3	9
CW067	-10	-5	60	0.2	17.6
CW068	-10	-5	299	-0.1	3.8
CW069	-10	-5	11	-0.1	-0.5
CW070	1335	102	-5	3	-0.5
CW071	-10	9	599	-0.1	2.3
CW072	28	-5	620	-0.1	3.6
CW073	15	-5	332	-0.1	0.8
CW074	102	-5	224	-0.1	6.1
CW075	-10	-5	726	-0.1	5.5
CW076	122	-5	497	-0.1	9.3
CW077	69	-5	396	-0.1	0.9
CW078	-10	7	453	-0.1	5.3
CW079	18	-5	38	0.3	39.9
CW080	18	-5	306	-0.1	17.1
CW081	102	-5	348	0.8	0.5
CW083	334	10	669	-0.1	4.7
CW084	37	7	627	-0.1	5.2
CW085	184	12	546	-0.1	1.9
CW086	140	9	368	0.3	4.8
CW087	233	8	259	0.1	1.7
CW092	128	-5	617	-0.1	-0.5
CW093	79	-5	482	-0.1	5.8
CW094	117	-5	561	-0.1	3.1
CW095	62	-5	636	-0.1	1.1
CW096	51	-5	555	0.4	14.2
CW097	143	-5	640	-0.1	24.4
CW098	60	-5	498	-0.1	-0.5
CW106	155	94	637	-0.1	1.7
CW107	151	-5	359	-0.1	-0.5
CW108	164	201	490	0.2	6.5

Sample	Cu_ppb_DL_0_5	Zn_ppb_DL_0_5	Rb_ppb_DL_1	Sr_ppb_DL_10	Cd_ppb_DL_0_05
CW010	14.9	1248	3	709	1.58
CW011	1.1	846	2	840	0.51
CW012	-0.5	186	6	572	0.45
CW013	4.3	-5	18	2063	1.38
CW022	2.7	269	7	1259	1.18
CW042	28.7	391	8	702	0.75
CW045	12.4	1264	11	5016	0.18
CW046	38.8	957	7	946	0.9
CW051	446.9	342	14	1330	0.18
CW053	13.8	163	11	1783	1.8
CW066	3.5	247	42	697	0.46
CW067	131.1	425	25	2478	0.74
CW068	5.3	140	7	1521	0.28
CW069	6.4	-5	3	4365	-0.05
CW070	235	185	120	41031	1.24
CW071	-0.5	337	8	3711	0.21
CW072	-0.5	368	16	2729	0.58
CW073	-0.5	270	17	4760	-0.05
CW074	71.6	493	21	5786	0.68
CW075	-0.5	251	5	2589	0.63
CW076	58.5	560	1	5198	0.95
CW077	54.3	201	8	5521	24.93
CW078	105.2	418	4	3004	0.88
CW079	64.7	450	-1	1980	0.47
CW080	9.5	586	-1	2426	-0.05
CW081	30.5	758	8	3497	1.04
CW083	47.2	479	15	2695	0.83
CW084	16.2	423	3	1694	0.33
CW085	13.6	404	24	3515	0.4
CW086	15.6	451	23	3380	1.13
CW087	32.8	276	37	3797	0.81
CW092	8.5	343	3	4783	0.14
CW093	3.2	158	-1	4207	0.57
CW094	2.1	128	3	3250	-0.05
CW095	2.9	-5	2	3412	0.48
CW096	9.2	183	12	1844	0.38
CW097	12.2	109	14	3403	0.4
CW098	1.4	157	3	3553	0.34
CW106	16.2	457	15	3505	0.37
CW107	7.7	443	17	3573	0.14
CW108	10	612	20	3209	0.71

Sample	Ba_ppb_DL_1	Tl_ppb_DL_0_01	Pb_ppb_DL_0_01	U_ppb_DL_0_01	Bi_ppb_DL_0_01
CW010	23	0.15	21.57	0.67	0.08
CW011	9	0.15	16.91	0.81	0.02
CW012	55	0.18	12.12	0.56	0.03
CW013	50	0.43	13.45	0.91	0.03
CW022	36	0.07	12.2	3.08	0.04
CW042	15	0.65	-0.01	6.05	0.05
CW045	46	0.52	2.81	1.73	0.05
CW046	38	0.32	24.13	2.16	0.02
CW051	54	0.2	-0.01	2	0.02
CW053	46	0.19	-0.01	37.83	0.08
CW066	83	0.07	-0.01	4.81	0.02
CW067	32	0.15	0.25	22.18	0.01
CW068	-1	-0.01	-0.01	0.21	-0.01
CW069	82	-0.01	-0.01	4.74	0.02
CW070	51	0.41	8	7.8	0.07
CW071	13	0.04	-0.01	2.37	0.02
CW072	2	0.07	0.36	0.61	-0.01
CW073	38	0.06	-0.01	-0.1	0.04
CW074	97	0.1	0.25	6.87	-0.01
CW075	-1	-0.01	-0.01	0.85	0.03
CW076	74	-0.01	-0.01	11.08	0.01
CW077	153	0.01	-0.01	3.32	0.02
CW078	-1	0.51	-0.01	1.26	0.04
CW079	62	0.79	-0.01	2.96	0.03
CW080	120	0.63	0.23	4.18	0.08
CW081	185	0.4	0.48	1.88	0.04
CW083	81	0.28	0.37	4	-0.01
CW084	5	0.13	-0.01	0.15	0.04
CW085	40	0.37	0.54	1.18	-0.01
CW086	83	0.46	0.15	1.87	0.03
CW087	68	0.33	0.56	2.84	0.01
CW092	89	0.06	-0.01	3.58	-0.01
CW093	104	0.05	1.11	5.67	0.07
CW094	13	0.05	-0.01	2.43	-0.01
CW095	32	0.08	-0.01	3.38	-0.01
CW096	49	0.17	15.12	-0.1	-0.01
CW097	49	0.17	-0.01	-0.1	0.05
CW098	21	0.06	-0.01	2.27	0.02
CW106	46	0.12	8.38	0.43	0.03
CW107	105	0.08	-0.01	0.46	0.06
CW108	47	0.05	0.73	0.17	0.04

Sample	P_ppm_DL_0_002	F_ppm
CW010	0.059	0.01
CW011	0.012	0.01
CW012	0.0002	0.7
CW013	0.006	1.2
CW022	0.014	1.3
CW042	0.067	1.4
CW045	0.009	0.01
CW046	0.007	0.8
CW051	0.0002	0.525388
CW053	1.087	0.9
CW066	0.035	0.375312
CW067	0.008	0.01
CW068	0.005	0.01
CW069	0.0002	0.649251
CW070	0.023	0.649251
CW071	0.016	0.606673
CW072	0.015	1.1
CW073	0.015	0.649251
CW074	0.014	0.486467
CW075	0.038	0.8
CW076	0.011	0.9
CW077	0.172	0.7
CW078	0.032	0.5
CW079	0.029	0.7
CW080	0.0002	1.8
CW081	0.026	0.202338
CW083	0.023	3.80413
CW084	0.297	0.01
CW085	0.016	1.2
CW086	0.012	0.448552
CW087	0.008	0.6
CW092	0.014	0.7
CW093	0.027	0.649251
CW094	0.003	0.649251
CW095	0.016	0.7
CW096	0.01	0.01
CW097	0.014	0.304814
CW098	0.006	0.01
CW106	0.012	0.525388
CW107	0.597	0.5
CW108	0.612	0.5



## **Annual Report**

**Reporting Period: 03/03/2008 to 02/03/2009**

**Tenement Number(s): EL 3314**

**Project: Coffin Bay**

Tenement Holder(s):	Intermet Resources
Operator:	Intermet Resources
Author of Report:	Darin Rowley
Date of Report:	23/04/2009

## Contents List

1. SUMMARY .....	4
2. INTRODUCTION, HISTORY AND EXPLORATION RATIONALE .....	4
3. GEOLOGY .....	6
3.1. Regional Geology .....	6
3.2. Exploration Model .....	7
3.3. Interpreted Paleochannel Locations .....	7
4. GEOPHYSICS .....	8
5. REMOTE SENSING DATA .....	11
6. SURFACE GEOCHEMISTRY .....	11
7. DRILLING .....	11
8. OTHER STUDIES OR WORK .....	11
9. ENVIRONMENT .....	11
10. REPORTING ON ORE RESERVES AND RESOURCES .....	11
11. DISCUSSION .....	11
12. EXPENDITURE STATEMENT .....	11
13. CONCLUSIONS .....	12
14. REFERENCES .....	12

## List of Figures

Figure 1: Location of EL 3314 and Heli TDEM survey area .....	5
Figure 2: Idealised section through Tertiary Palaeochannel (after Figure 4, Hou & Alley, 2003) ..	8
Figure 3: EL 3314 Heli TDEM area and Interpreted Paleo Channel Locations .....	9
Figure 4: Heli-borne shaded TDEM with previous work overlain .....	10

## List of Appendices

15. APPENDIX 1: HELI-BORNE TDEM LOGISTICS REPORT .....	12
16. APPENDIX 2: HELI-BORNE TDEM DATA FILE .....	12

## File Verification Listing

Exploration Work Type	Filename	Format
<b>Office Studies</b>		
Literature search	090302_EL3314_Annual Report.pdf	pdf
Database compilation	090302_EL3314_Annual Report.pdf	pdf
Computer modelling	090302_EL3314_Annual Report.pdf	pdf
Reprocessing of data	090302_EL3314_Annual Report.pdf	pdf
General research	090302_EL3314_Annual Report.pdf	pdf
Report preparation	090302_EL3314_Annual Report.pdf	pdf
<b>Airborne Geophysics</b>		
Logistics Report	Append1_EL3314_TDEM_Logistics_Report	pdf
Heli TDEM	Append2_EL3314_TDEM_Raw_Data	dat
<b>File Verification Listing</b>	080302_EL3314_Annual Report.pdf	pdf



## 1. SUMMARY

EL 3314 is located within the Eyre Peninsula. Intermet has targeted EL 3314 for Archean komatiite-hosted nickel, volcanic hosted massive sulphides (base metals), orogenic lode gold, Iron and sedimentary (rollfront) uranium mineralisation. Work for this reporting period was exploration for sedimentary-style uranium deposits by Intermet's Joint Venture Partner Uranoz. The points below summarise this work. Figure 1 shows the location of the tenement and the area that was covered by Helicopter TDEM.

- 1090.8 line km on 400m line spacing of Helicopter TDEM carried out by Geosolutions Pty Ltd

## 2. INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

EL3314 is located approximately 45km NW of Port Lincoln in South Australia. The tenement is located along the Tod Highway, overlies the townships of Wanilla among others and is 953km<sup>2</sup>.in size. This tenement forms part of the Wanilla project which includes ELs 3948, 3702 and 3671. Sheet names for the project area are Lincoln Special (1:250000) and Coult / Cummins / Lincoln/ Wangary (1:100000). Figure 1 shows the location of EL 3314.

EL 3314 was granted on the 03/03/2005 to Intermet Resources. Intermet Resources renewed this tenement a number of times and have subsequently Joint Ventured the rights for Uranium exploration to WCP Uranium. WCP withdrew from the Joint Venture during this reporting period returning 100% of tenure to Intermet Resources.

Previous exploration for uranium within the area of EL 3314 was initiated on the encouraging combination of suitable Tertiary aquifers, the presence of reduced organic material within them, and the indication of uranium enrichment in the basement rocks, particularly in the Lincoln Complex granitoids in the eastern Eyre Peninsula. Current exploration is focused on sedimentary "roll-front" style uranium mineralisation similar to that discovered elsewhere on the Gawler Craton (e.g. Warrior, Yarramba) and in the Eyre Formation further to the east (e.g. Honeymoon).

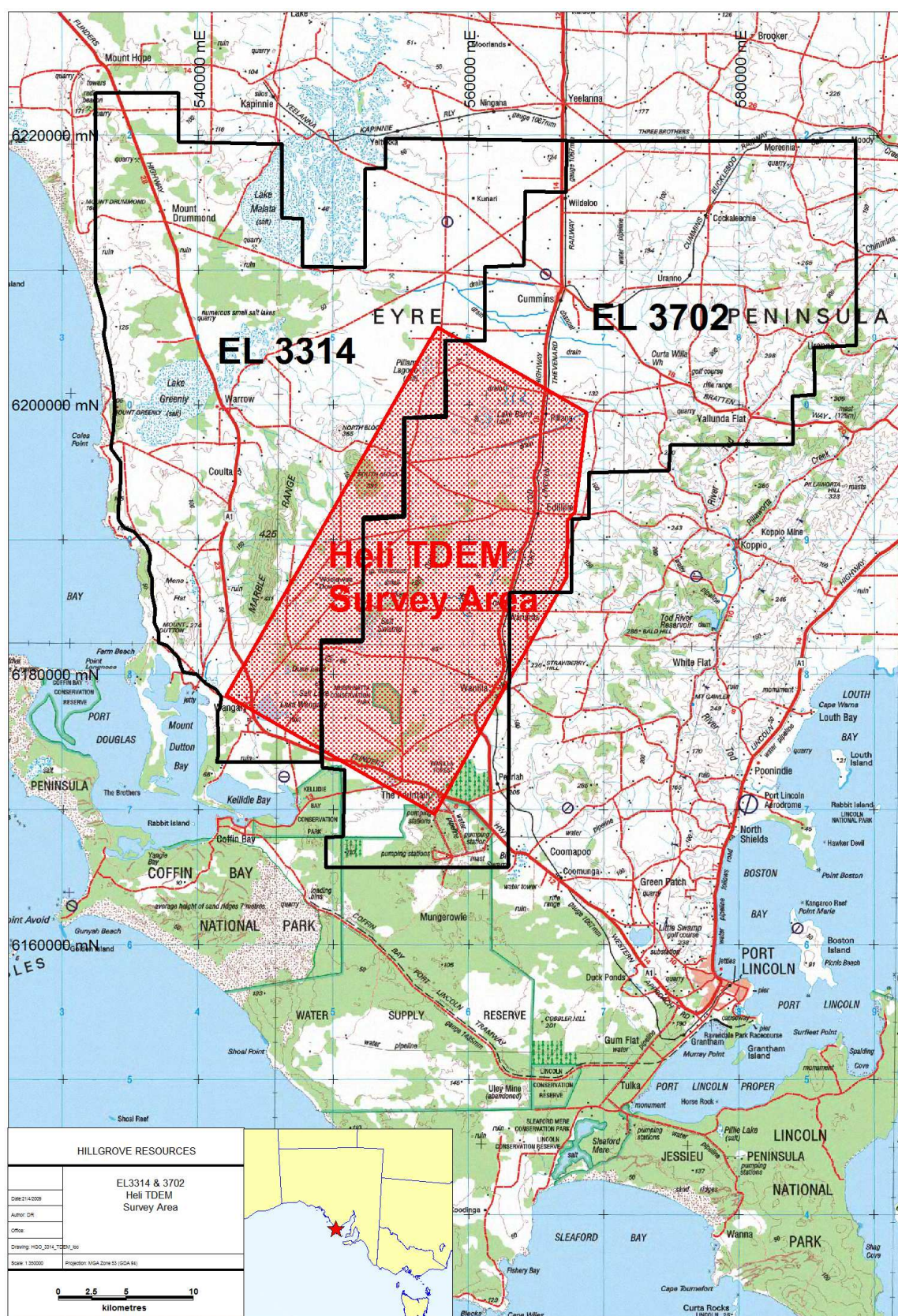


Figure 1: Location of EL 3314 and Heli TDEM survey area

### 3. GEOLOGY

The description given below of the regional geological setting within the Frome Embayment is taken directly from McKay & Miezitis, 2001.

#### 3.1. Regional Geology

The Frome Embayment is a lobe on the southern part of the Callabonna Sub-basin which is the south-western portion of the Lake Eyre Basin (Callen & others, 1995). The Callabonna Sub-basin comprises Tertiary shallow-water sediments. The Flinders, Olary and Barrier Ranges flanking the embayment, consist mainly of Precambrian and Cambrian metamorphic and sedimentary rocks which contain many small uranium deposits and widespread disseminated uranium mineralisation.

During the early Tertiary, well-sorted sand (Eyre Formation) was deposited as a thin, laterally continuous horizon covering the full width of the Sub-basin in the north. In the south, the Eyre Formation equivalents are angular, poorly sorted, fluvial sand and interbedded clay and silt deposited in major stream channels of extent (Brunt, 1978). The channels were incised into Precambrian basement and marine clay of the Late Cretaceous Marree Subgroup. Clay, sand and dolomite of the Namba Formation (Miocene) formed a continuous sequence disconformably overlying the channel sediments (Callen & Tedford, 1976). A thicker sequence of the Namba Formation accumulated closer to the Flinders Ranges to form the small Poontana Sub-basin.

The Honeymoon, East Kalkaroo, Yarramba and Goulds Dam deposits are in palaeochannel sand of the Eyre Formation (Palaeocene-Eocene), whereas the Beverley deposit is in sand of the overlying Namba Formation (Miocene) (Table 1). The palaeochannels in the southern part of the Frome Embayment flank a structural high in the underlying basement, the Benagerie Ridge.

The Lincoln 1 : 250000 government geology shows the regional geology of the tenement area and can be downloaded from Geoscience Australia. A generalized stratigraphic column for the Frome Embayment is given below.



		Age	Lithology	Average thickness (m)	Uranium deposits
Callabonna Sub-basin (Lake Eyre Basin)	Coonabine, Eurinilla, Millyera Formation & other units	Pleistocene to Recent	Soil, dune sand, sand, clay, gravel, calcrete, gypcrete	Variable, thin	
	Willawortina Formation	Late Miocene to Early Pleistocene	Clay, sand, sandy conglomerate and dolomite	0–150	
	Namba Formation	Miocene	Silt & clay, with minor sand, limestone, dolomite	200	Beverley
	DISCONFORMITY				
	Eyre Formation	Early Palaeocene to Late Eocene	Sand & sandstone, some pebble beds	10–75	Honeymoon, East Kalkaroo, Yarramba, Goulds Dam
UNCONFORMITY					
Eromanga Basin	Maree Subgroup	Cretaceous	Shale and siltstone	150–275	
	Cadna-Owie Formation & Algebuckina Sandstone	Jurassic to Cretaceous	Shale, sand, silt and boulder lenses	Variable	

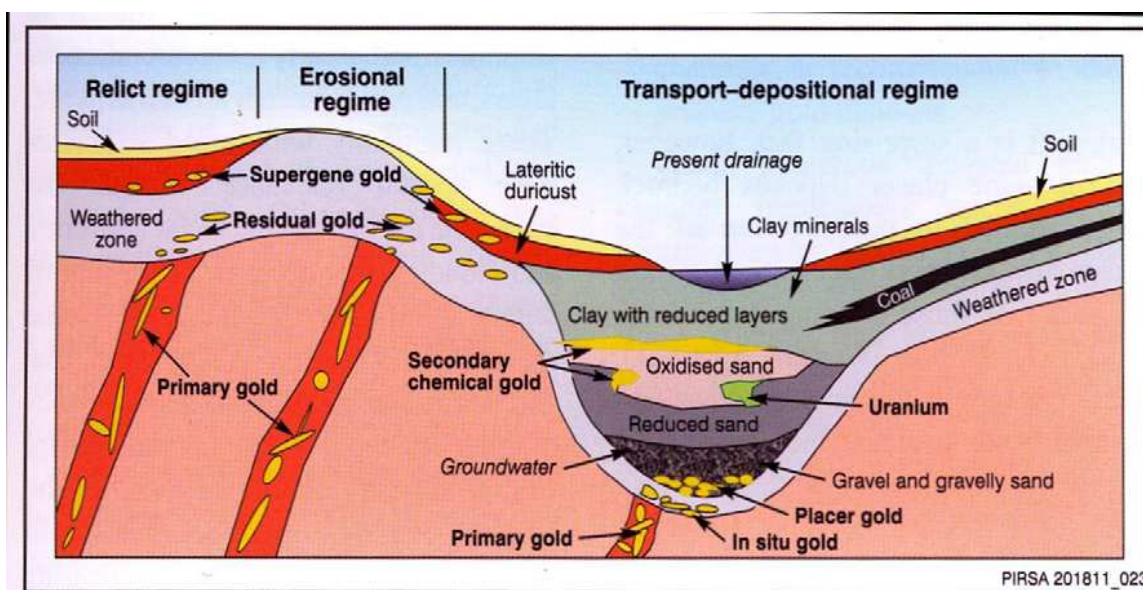
**Table 1: Simplified stratigraphy of the Frome Embayment. Taken from McKay & Mieзитis, 2001, pp.96 (after Drexel & Preiss, 1995).**

### 3.2. Exploration Model

A generalised model for the formation of these uranium deposits can be applied, (e.g. Hou & Alley, 2003 shown below in Figure 2) although each occurrence will obviously vary in its detailed setting. Tertiary channel sands were derived from eroded basement rocks of the Gawler Craton, many of which are enriched in uranium. These sands contain a high organic carbon content which reflects the abundant vegetation along the channels and in major swamps. The reduced, alkaline ground waters fixed uranium which was then remobilised by oxidised waters moving through the sealed aquifers. Uranium was precipitated at the redox boundary between the oxidised and reduced sequences. Deposits could be formed as typical roll-front bodies, tabular zones in contact with locally preserved reduced sections (for example the outside of major bends in the channel course as at Honeymoon), or in interbedded oxidised sand and carbonaceous clay sequences (Figure 3). Channels that are draining bedrock containing uranium – REE enriched lithologies such as the Hiltaba Suite granitoids or equivalents would be of highest priority.

### 3.3. Interpreted Paleochannel Locations

Desktop studies of geology and topography maps combined with field data collected during sampling of groundwater from water bores (previous Annual Technical Reports) defined areas that are interpreted as paleochannels. The location of these interpreted paleochannels are shown in Figure 3 below.



**Figure 2: Idealised section through Tertiary Palaeochannel (after Figure 4, Hou & Alley, 2003)**

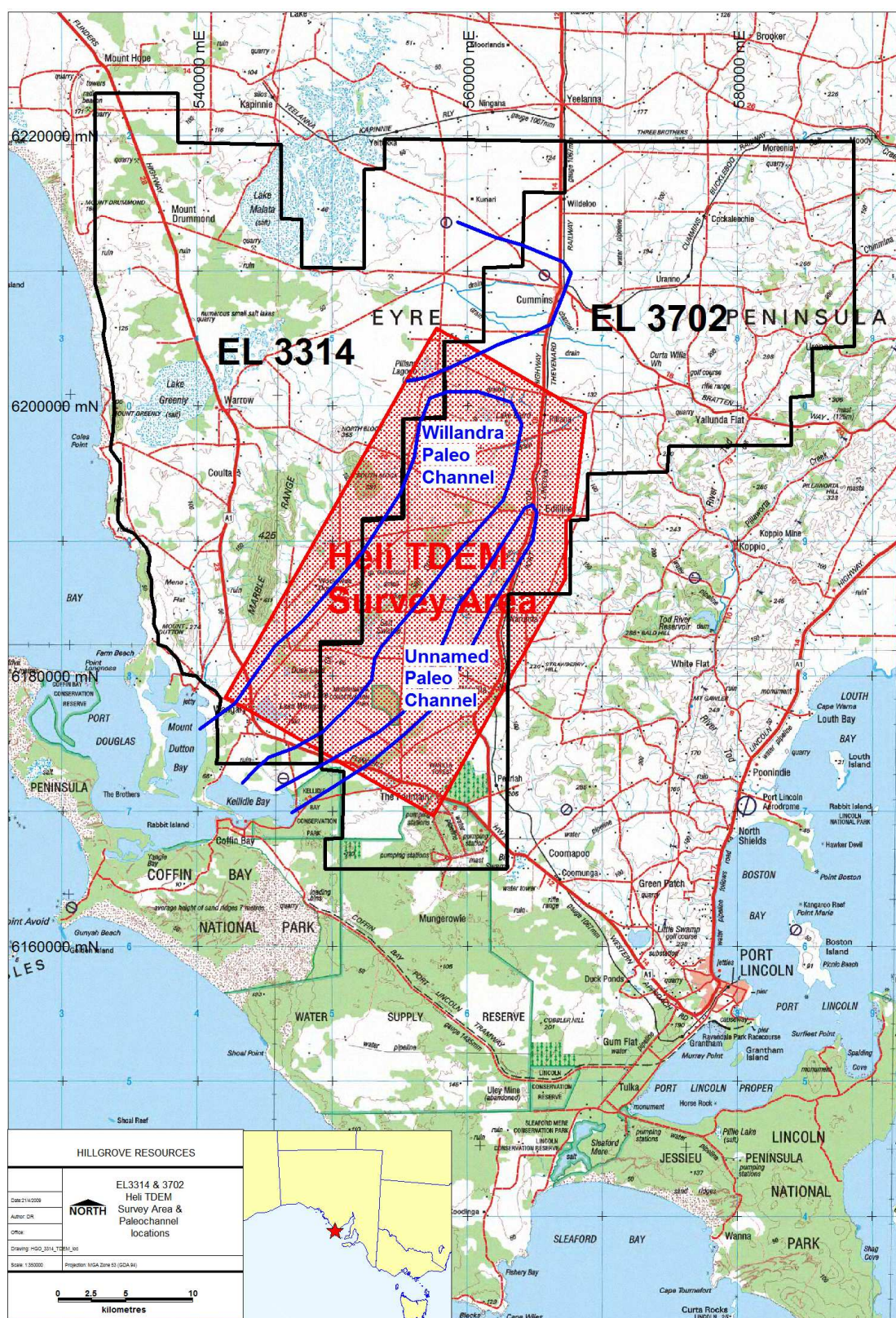
## 4. GEOPHYSICS

Geosolutions Pty Ltd conducted 1090.8 line km of Helicopter borne TDEM at 400m line spacing across the Willandra and Unnamed paleo channels in search of conductive bodies that may represent sedimentary style uranium deposits. Figure 3 shows the location of the survey in relation to the paleo channels. This area was targeted based on work detailed in previous Annual Technical Reports.

The TDEM survey was flown during January 2008. The cost of the survey was included in the previous reporting period's expenditure statement. Results are shown in this report as they were not compiled into the previous report.

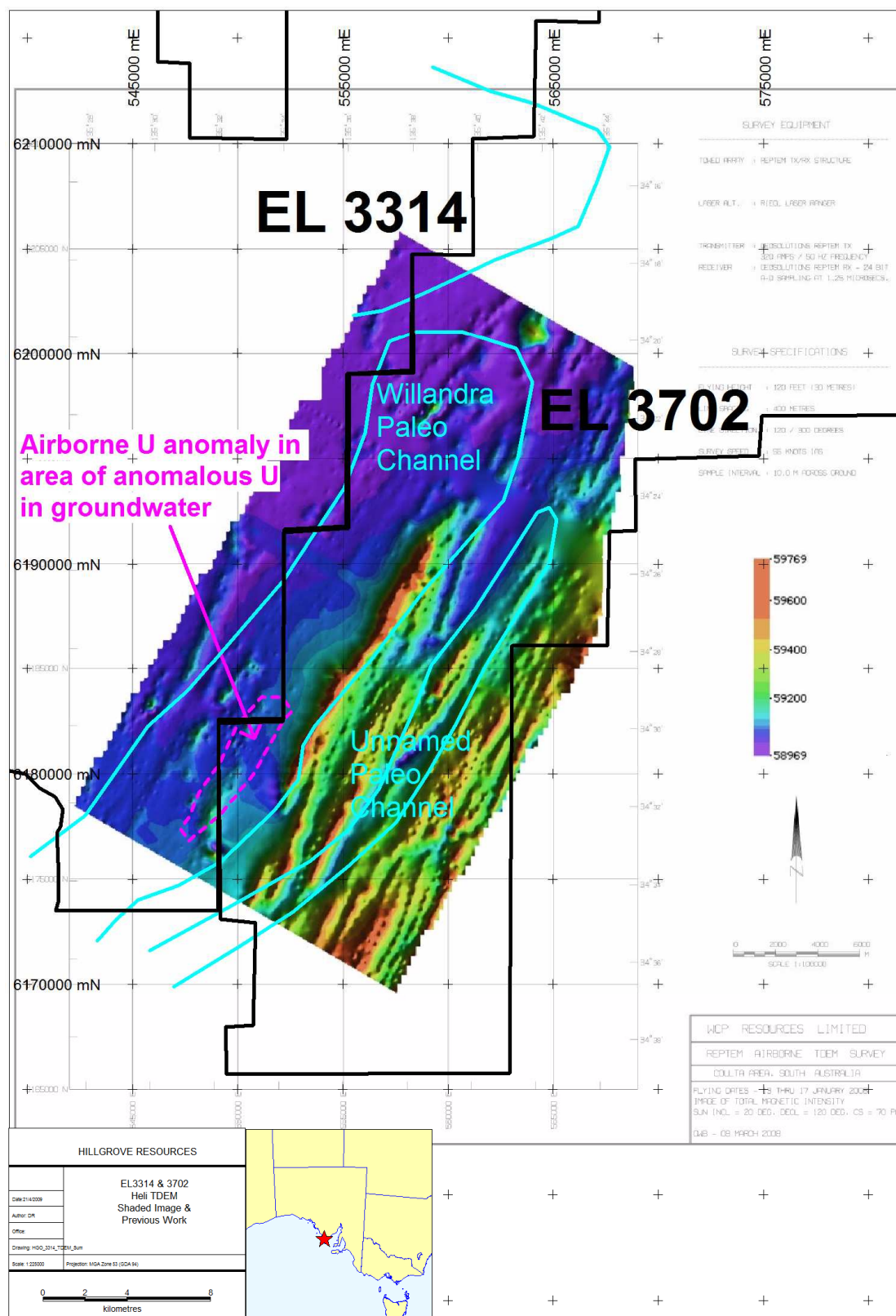
Appendix 1 is a logistics report on the TDEM survey. Appendix 2 is the raw data file. Figure 4 shows the processed results of the survey with previous work overlain.





**Figure 3: EL 3314 Heli TDEM area and Interpreted Paleo Channel Locations**





**Figure 4: Heli-borne shaded TDEM with previous work overlain**

## **5. REMOTE SENSING DATA**

Not Applicable

## **6. SURFACE GEOCHEMISTRY**

Not Applicable

## **7. DRILLING**

Not Applicable

## **8. OTHER STUDIES OR WORK**

Not Applicable

## **9. ENVIRONMENT**

Not Applicable

## **10. REPORTING ON ORE RESERVES AND RESOURCES**

Not Applicable

## **11. DISCUSSION**

Heli-borne TDEM shows a weakly conductive body that coincides with a groundwater U anomaly and a radiometrics anomaly (Figure 4). This area warrants further investigation.

## **12. EXPENDITURE STATEMENT**

Below is a detailed expenditure statement for the reporting period 03/03/078 to 02/03/09 on EL 3314. Cumulative expenditure on EL 3314 is \$453,760.

<b>Activity</b>	<b>Expenditure</b>
Personnel – Geologists, consultants, field hands	\$ 137
Tenement maintenance, legal costs	\$5,930
Admin/overheads	\$ 768
<b>Total</b>	<b>\$6,835</b>



### **13. CONCLUSIONS**

A heli-borne TDEM survey was completed over the Wanilla and Unamed paleo channels in search of conductive bodies that may be sedimentary style Uranium deposits. Figure 4 shows a loosely coincident weak conductive anomaly – radiometrics U anomaly – U in groundwater anomaly. Further work should be undertaken in this area.

### **14. REFERENCES**

Hou, B. and Alley, N., 2003, A model for gold and uranium dispersion and concentration in residual and transported regolith along palaeodrainage systems – a case study from the central Gawler Craton, MESA Journal, 30: 49-53.

McKay, A.D. & Miezeitis, Y., 2001. Australia's uranium resources, geology and development of deposits. AGSO . Geoscience Australia, Mineral Resource Report 1

### **15. APPENDIX 1: HELI-BORNE TDEM LOGISTICS REPORT**

The Heli-borne TDEM Logistics report is attached in file “Append\_1\_TDEM\_Logistics\_Report”.

### **16. APPENDIX 2: HELI-BORNE TDEM DATA FILE**

The Heli-borne TDEM raw data file is attached in file “Append\_2\_TDEM\_Raw\_Data”.

LOGISTICS REPORT

REPTM HELICOPTER TDEM SURVEY

Coulta Area, South Australia  
March 2008



For WCP Resources Limited

By Geosolutions Pty. Ltd.

## **SURVEY DETAILS**

### **Survey Equipment**

Helicopter	:	Eurocopter Squirrel BA. VH-HHO
Towed Array	:	REPTM TX / RX structure.
Transmitter	:	Geosolutions proprietary REPTM transmitter.
Receiver	:	Geosolutions proprietary REPTM receiver. 24 bit A-D sampling at 1.25 microseconds.
Transmitter area	:	Single turn of 412 square metres.
Receiver area	:	Single turn of 138 square metres.
Power system	:	24 HP Honda V-twin alternator system.

### **Survey Specifications**

Flying Height	:	120 feet (35 metres) depending upon terrain.
Line Direction	:	120 / 300 degrees true.
Line Spacing	:	400 metres.
Survey Speed	:	55 Knots - Indicated Air Speed.
Sample Rate	:	50 per Second.
Map Datum	:	GDA 94.

### **Survey Resolutions**

ATDEM data across ground.	:	Windowed to 18 channels and resampled to 10m
Laser Altimeter second.	:	10 centimetre resolution sampled 80 times per

### **Data Processing**

Airborne TDEM Data survey data	:	Geosolutions proprietary airborne geophysical processing package.
Navigation Data survey data	:	Geosolutions proprietary airborne geophysical processing package.

## **OPERATIONAL DETAILS**

### **WCP RESOURCES - COULTA**

#### **13 January 2008**

Four flights. Lines 1635 thru 1340.

#### **14 January 2008**

Two flights. Lines 1330 thru 1310.  
Receiver malfunction – new RXR from Adelaide.

#### **15 January 2008**

One flight. Lines 1305 thru 1210.  
Port side front arm broken. Return to Adelaide for repair.

#### **16 January 2008**

No flying.

#### **17 January 2008**

Three flights. Lines 1205 thru 1005.

End of job.

**Total Kilometres Flown – 1090.8**

# International

METALS PTY LTD

20 May 2010

Records Officer  
Mineral Tenements  
PIRSA  
GPO Box 1671  
ADELAIDE SA 5001

Dear Sir/Madam

## **EL3314 – Coffin Bay Final Annual Technical Report**

I wish to advise that no technical work has occurred on this lease since the last Annual Technical Report which was submitted in 2009. As such, a final report is not required and all previous reports can be released to open file.

Please contact me on (08) 9424 9600 if you have any queries or require additional information.

Yours faithfully



**Adam Freeman**  
**Geology Manager**



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