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EL 3043 / EL 3996

YARNA HILL

ANNUAL REPORTS TO LICENCE EXPIRY/SURRENDER FOR THE PERIOD 19/11/2002 TO 4/12/2010

Submitted by
Falcon Minerals Ltd
2011

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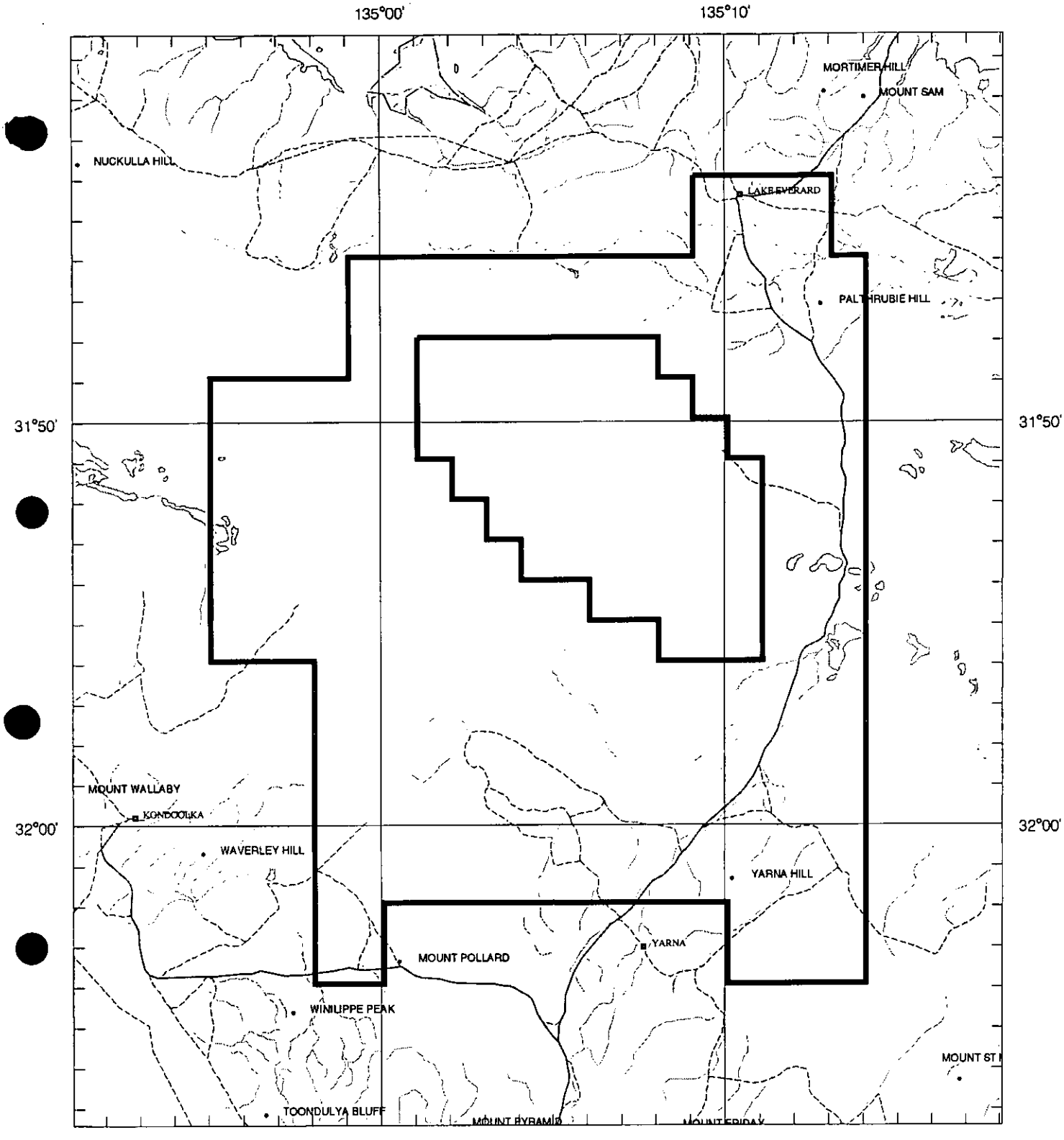
Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1 : 250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICATION LODGED IN : DATUM AGD66

EXPIRED

GDA
GEOCENTRIC DATUM OF AUSTRALIA

APPLICANT : ~~YARDARINO~~ FALCON MINERALS LTD

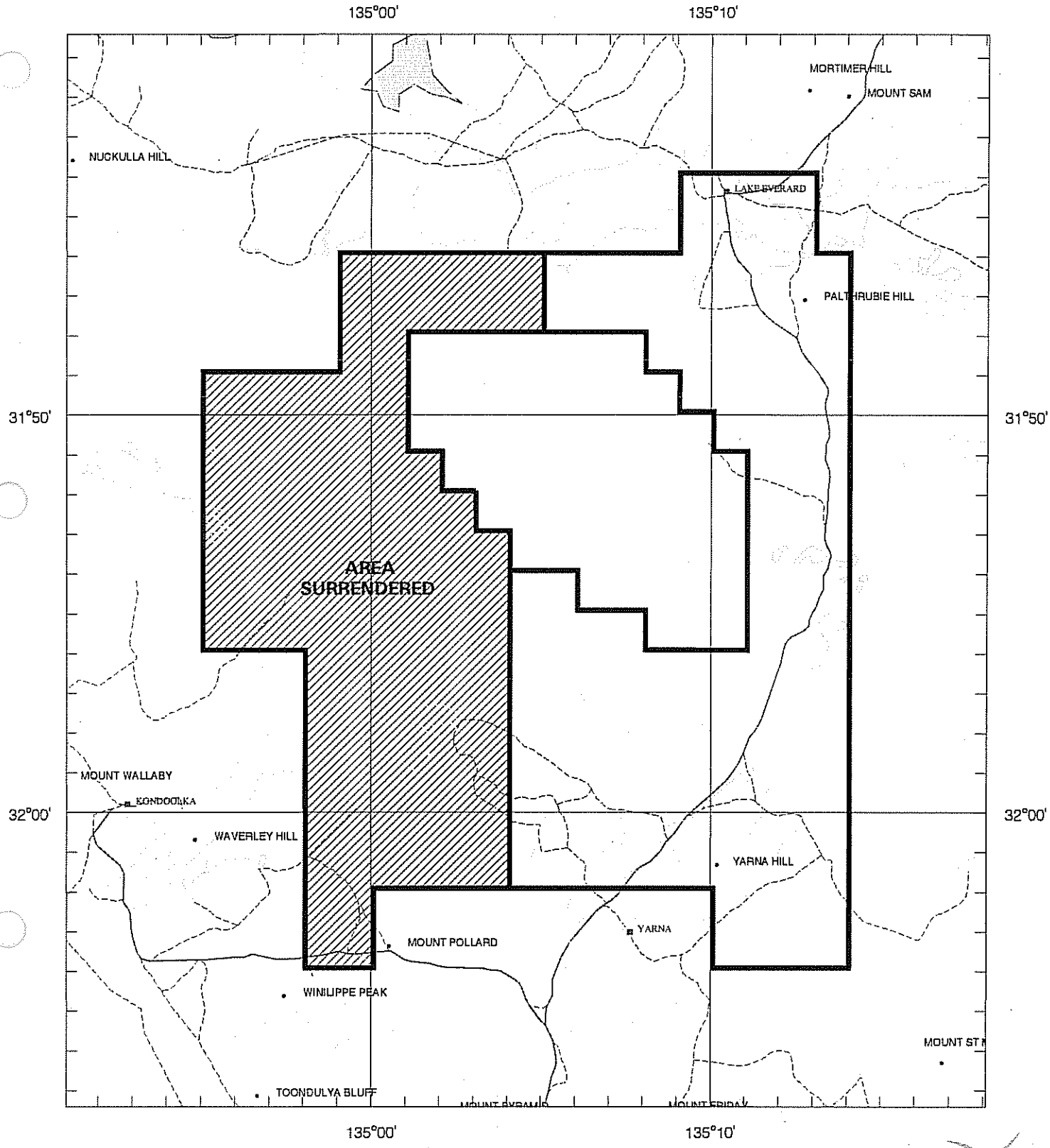
FILE REF : **102/02** TYPE : **MINERAL ONLY** AREA : **693** km² (approx.)

1:250000 MAPSHEETS : **CHILDARA GAIRDNER STREAKY BAY YARDEA**

LOCALITY : **PALTHRUBIE HILL AREA - Approximately 120 km northeast of Streaky Bay**

DATE GRANTED : **19 November 2002** DATE EXPIRED : **18 November ~~2003~~ 2004 2005** **EL No : 3043**

SCHEDULE A



APPLICANT : **FALCON MINERALS LTD**

FILE REF : **520/07** TYPE : **MINERAL ONLY** AREA : **378** km² (approx.)

1:250000 MAPSHEETS : **CHILDARA GAIRDNER STREAKY BAY YARDEA**

LOCALITY : **PALTHRUBIE HILL AREA - Approximately 120 km northeast of Streaky Bay**

DATE GRANTED : **05-Dec-2007** DATE EXPIRED : **04-Dec-2010** EL NO : **3996**

FALCON MINERALS LIMITED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3043

"PALTHRUBIE"

19th November 2002 to 18th November 2003

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

REPORT REFERENCE NUMBER: FCN SA Pal 3043 Ann 2003.

R MUSKETT
Nov 2003.

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Copper and Gold

KEY WORDS:
Palthrubie Hill, Lake Acraman, Gairdner, Everard, copper, gold, reprocessing of regional geophysics, Euler Depth Deconvolution processing, auger sampling, Gawler Craton, Gawler Range Volcanics, Olympic Dam style mineralisation, Central Gawler Craton gold province.

MAP SHEETS:

1: 250 000	Childara (SH53-14)
1:250 000	Gairdner (SH53-15)
1: 250 000	Streaky Bay (SI53-2)
1:250 000	Yardea(SI53-3
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

SUMMARY

Exploration activities carried out within the Exploration Licence 3043 "Palthrubie" during the first year of the tenement involved the following:

- Acquisition and research of historical data.
- Acquisition and interpretation of magnetic, gravity and geological data.
- Acquisition of WMC gravity and magnetic survey data and interpretation.
- Euler depth deconvolution reprocessing of geophysics. (Gravity and Magnetics)
- Assessment of results.
- Auger drill sampling.
- Researching Native Title land clearance and access issues.
- Report preparation.
- Administration.

Exploration statistics are summarised below.

TABLE 1.
EXPLORATION STATISTICS 'PALTHRUBIE' EL 3043

Exploration Activity	EL 3043	TOTALS
Acquisition and review of historical data.	Whole EL	693 sq km
Interpretation of magnetic, gravity and geological data.	Whole EL	693 sq km
Euler depth deconvolution reprocessing of geophysics (Gravity and /Magnetics)	Whole EL	693 sq km
Interpretation of WMC's magnetic, gravity and geological data	Whole EL	693 sq km
Auger Sampling	Whole EL	693 sq km
Researching environmental, Native Title and water resource issues.	Whole EL	693 sq km
Assessment of results and reporting	Whole EL	693 sq km

1. INTRODUCTION

The 693 square kilometre area encompassing Exploration Licence 3043 "Palthrubie" was applied for by Yardarino Limited on 4th July 2002 as Application No 102/02 and was granted for a period of one year on 19th November 2002. (Table 2)

On 16th December 2002 Yardarino Limited advised the Primary Industries and Resources SA that the company had completed a Certificate of Registration of Change of Name and requested that EL 3043 be endorsed with the name Falcon Minerals Limited.

TABLE 2.

TENEMENT SUMMARY				
Tenement Number	Date of Application	Date of Grant	Expenditure Commitment	Area Sq km
EL 3043	**4.July.2002**	**19.November 2002**	**$95,000**	**693**

The tenement is located southwest of Palthrubie Hill and lies approximately 180 km southwest of Woomera. (**Figure 1**). This exploration area is situated in the south-central portion of the Gawler Craton, mainly within the south-west corner of the Gairdner 1:250,000 map sheet, with portions of the tenement extending into the Childara, Streaky Bay and Yardea map sheets.

The six monthly Summary Report on Mineral Exploration detailing the tenement's exploration and expenditure for the period ending 19th May 2002 was submitted by Falcon Minerals Limited on 11th July 2003.

An application was lodged for the renewal of the whole 693 square kilometres of EL 3043 for a further period of one year commencing on 19th November 2003.

Figure 2 'Exploration Work Summary Map' details the spatial distribution of the exploration activities carried out during the period 19th November 2002 to 18th November 2003.

2. HISTORY

There has been little exploration within the Palthrubie region and only limited work in the immediate area of EL 3043. The lack of previous exploration is largely due to the limited geological outcrop and the lack of exploration encouragement to search beneath the surface cover.

In the 1960s, 70s and early 80s, exploration was directed towards uranium mineralisation either associated with the Hiltaba granites or in Tertiary paleo-channels. Limited drill testing in the Glyde Hill Volcanic Complex was also carried out and magnetic anomalies, targeted by drilling were concluded to be due to magnetic basalts.

In the late 1980s, BHP viewed the Gawler Range Volcanics as being prospective for high level, epithermal gold mineralisation and carried out reconnaissance BLEG sampling with some encouraging results. Poor replication of these results in follow up sampling discouraged further work by BHP.

Reconnaissance regional geochemistry was also undertaken by CRA in the early 1990s. Although their primary target was volcanic hosted base metal systems, CRA were the first company to regard the area as having potential for hosting Olympic Dam style mineralisation. Their Olympic Dam model incorporated a non magnetic style of Cu-Au-U mineralisation beneath younger volcanics. No drilling however resulted from this exploration programme.

Western Mining Corporation (WMC) examined the southern margin of the Glyde Hill Volcanic Complex as a possible caldera structure which could host precious and or base metal mineralisation.

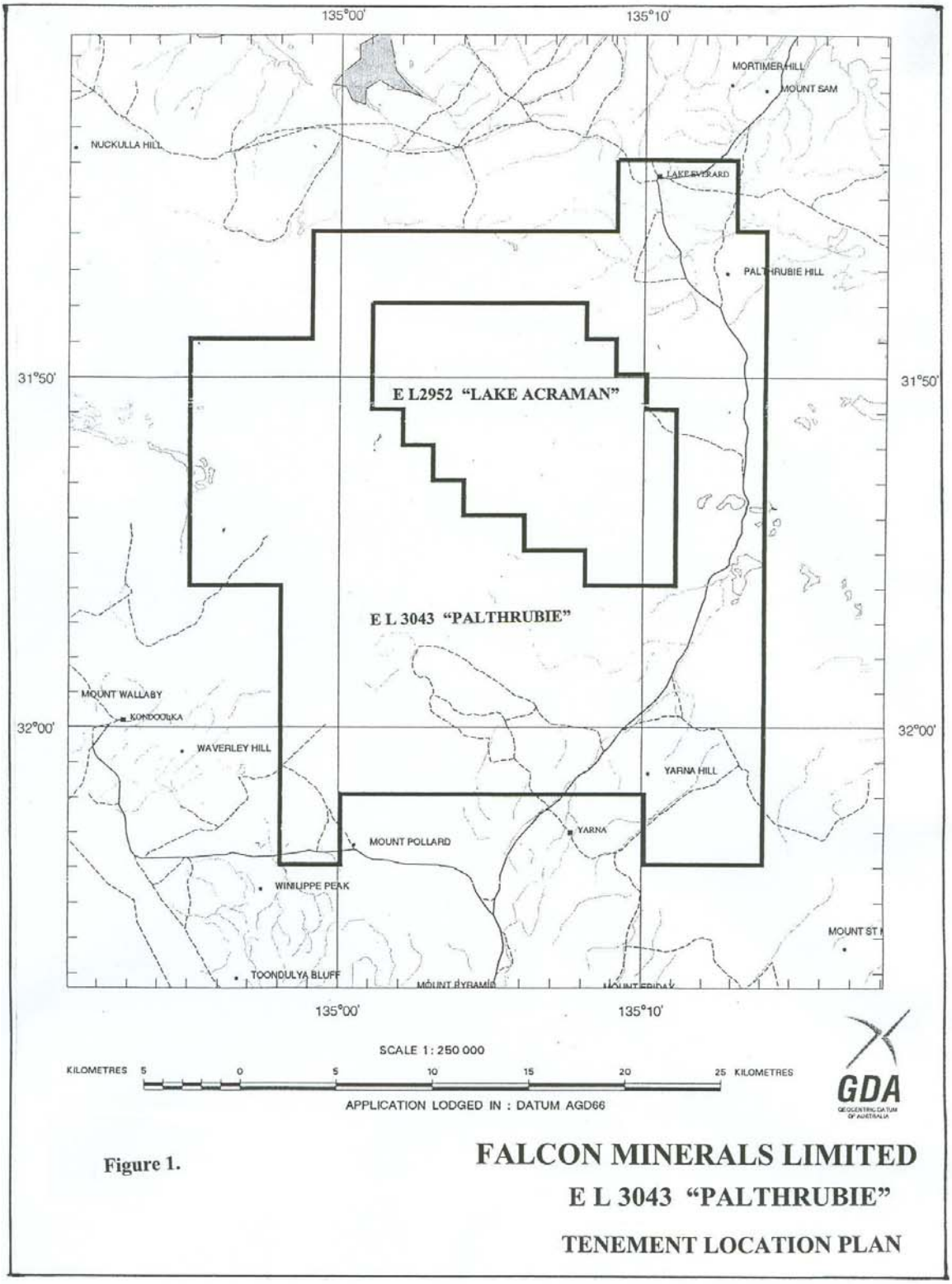


Figure 1.

FALCON MINERALS LIMITED

E L 3043 "PALTHRUBIE"

TENEMENT LOCATION PLAN

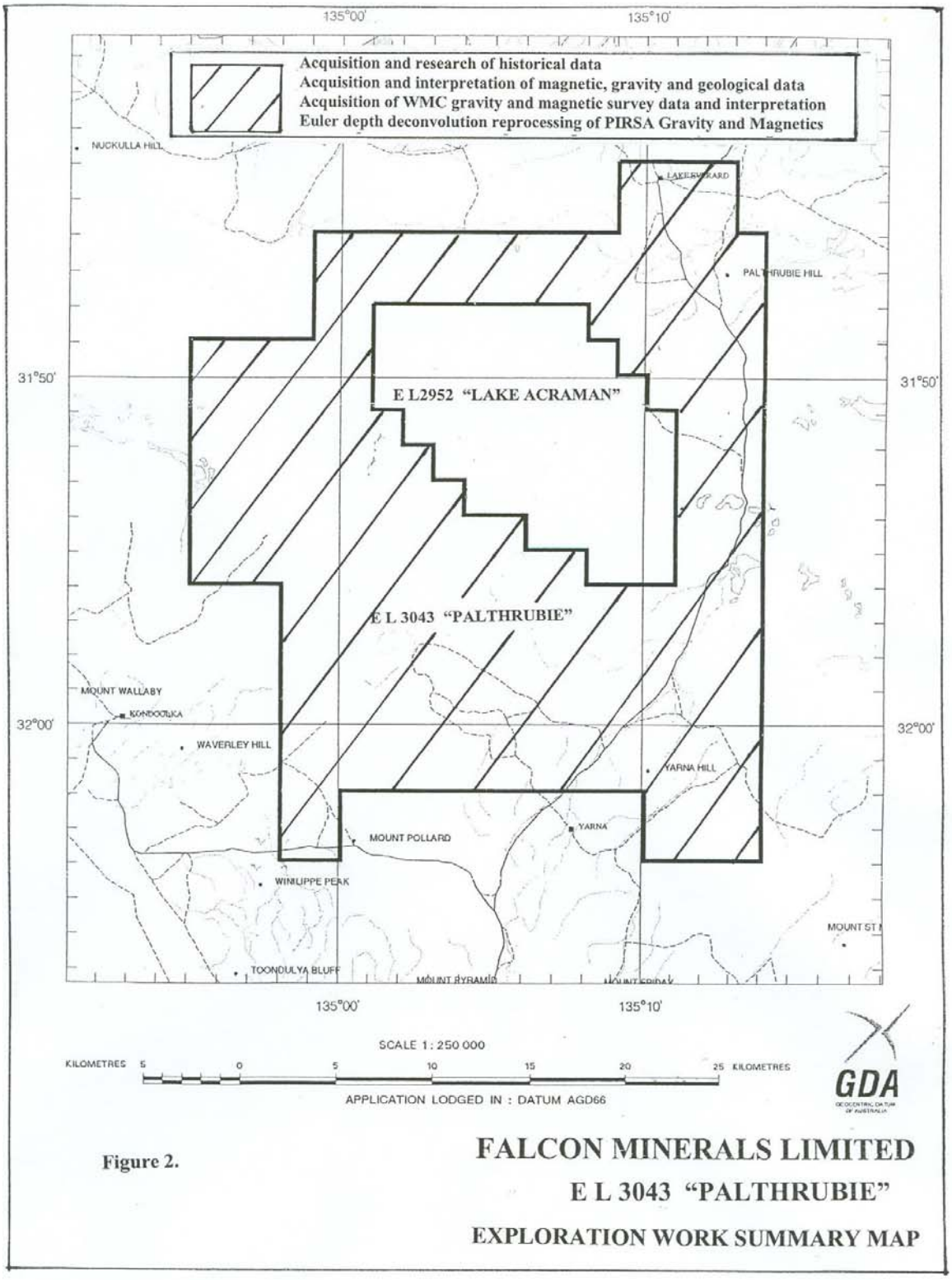


Figure 2.

FALCON MINERALS LIMITED

E L 3043 "PALTHRUBIE"

EXPLORATION WORK SUMMARY MAP

They also looked at the potential of the Yardea Dacite to host high level Acropolis style mineralisation. WMC relied heavily on geophysical surveys including gravity, magnetics, TEM, and IP for drill target definition. Only two magnetic anomalies were drill tested, with WMC concluding that the intersected basalts were the source of the magnetic anomalies. A number of additional magnetic and or gravity anomalies, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah gravity feature were down graded using electrical methods.

Homestake also targeted the Hiltaba granites in the region. They interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, extending from the Stuart Shelf. Homestake postulated that this NE structure would localise the Hiltaba Granite-related Olympic Dam style mineralisation. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Following 35 years of exploration activity by nearly ten companies in the Palthrubie environs for a broad suite of elements utilising a variety of geological models, there is a paucity of drill hole data. The majority of the work has relied on geophysical surveys and regional geochemical sampling. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes which have reached the Gawler Range Volcanics basement, only 17 holes however have penetrated this basement, with the deepest penetration being 100m. To date there have been six exploratory drill holes carried out within the area encompassing EL 3043. Carpentaria Exploration drilled five of these holes on the eastern boundary of the tenement, along the road to Lake Everard homestead, all were terminated in weathered granitic basement. The sixth hole was drilled by Afmeco during the early 1980s to test a magnetic anomaly within the Palthrubie Granophyre. This hole was sited in the northeast portion of the EL 3043 and the magnetic anomaly was considered to be caused by a contrast between weakly magnetic dacite and the non-magnetic overlying granophyre.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

Table 3 presents a summary of those Companies that carried out exploration within the environs of EL 3043 “Palthrubie”

TABLE 3
HISTORICAL EXPLORATION SUMMARY.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3. EXPLORATION RATIONALE

Falcon Minerals Limited believe that the Palthrubie tenement area, situated within the south-central portion of the Gawler Craton, has exploration potential for Olympic Dam style Cu-Au mineralisation. Evaluation of the results from the exploratory drilling in the surrounding region has indicated that mineralised fluids, including evidence of sericite, chlorite, hematite, fluorite and barite, consistent with Olympic Dam style mineralisation, were intersected.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province. Based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Results to date have proved to be significantly encouraging and application was lodged on the 6 October 2003 for the renewal of the whole 693 square kilometres of EL 3043 for a further one year period commencing on 19th November 2003.

It is proposed to carry out the following work programme during the next 12 months:

- Negotiating land access.
- Additional geophysical surveys.
- Auger RC or diamond drilling of selected targets.
- Analysis work.
- Assessment of results.
- Report preparation.

4. AUGER GEOLOGY

4.1 Regional Setting.

The "Palthrubie" tenement is located mainly within the south western corner of the Gairdner 1:250,000 sheet, but also extends into the Childara, Streaky Bay and Yardea 1:250,000 map sheets. It comprises an area dominated by recent sand ridges which have an average elevation of about 8 metres.

EL 3043 "Palthrubie" is situated in a region of extensive Gawler Range Volcanics (GRV), which can be subdivided into Upper and Lower GRV. Rocks of this central portion of the Gawler Craton are characteristically unmetamorphised and little deformed. The Glyde Hill Volcanic Complex represents the Lower GRV which is predominately a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

The sequence is overlain by a vast blanketing ignimbrite sheet of the Upper GRV known as the Yardea Dacite, which comprises the greater part of the Gawler Ranges to the south and east. A

number of felsic plugs and numerous porphyry dykes intrude the volcanic pile, while co-magmatic Hiltaba Granite out crops extensively to the south and west of Lake Acraman. RAB drilling by Pima Mining in the late 1990s encountered 'granite breccias' but there was no indication as to whether the brecciation was tectonic or hydraulic.

The dominant recognised structural feature in the region is the Yalbrinda Fault Zone, 20 km west of EL 3043. This fault zone appears to mark the western boundary of the Gawler Range Volcanic province and is possibly the result of crustal down warping in response to the extrusion of the large volume of the GRV.

The strong north-west elongation of the large gravity anomaly underlying EL 3043 is reflected in the north-west trend of a sand dune-filled depression overlying the anomaly. This direction may represent an underlying north-west trending regional structure.

Lake Acraman, adjacent to the southeast corner of the tenement, is itself is an unusual circular geographical feature. It has previously been interpreted as the surficial expression of a Neo-Proterozoic bolide impact structure based upon petrographic study of shattered volcanics collected in the vicinity of the lake. Its geophysical signature of low magnetics and low gravity within a large sheet of GRV has caused several workers to suggest the structure being either a Hiltaba Granite pluton or a major volcanic vent. The source of the large volume of GRV is yet to be defined and the Lake Acraman structure has been proposed as a possible vent. Detailed aeromagnetics flown to the south and south east of Lake Acraman have outlined several possible volcanic centres or caldera collapse structures up to several km across which may be a possible source of the Gawler Range Volcanics.

4.2 Local Geology.

Sand dunes and sand-covered flats with little or no outcrop cover the majority of EL 3043 "Palthrubie". The Gairdner sheet indicates that only approximately 5% of the tenement contains isolated outcrops. In the northern part of EL 3043, outcrops comprise the Mangaroongah Dacite, a series of densely welded ash flows which form one of the lowest units of the Glyde Hill Volcanic Complex (Lower Gawler Range Volcanics). In the north of EL 3043, the Mangaroongah Dacite is overlain by Wheepool Rhyolite. A small area of andesite outcrops west of Palthrubie Hill in the northeast of the tenement and outcrops of Yardea Dacite (Upper Gawler Range Volcanics) are present in the southern portion of EL 3043.

The Hiltaba Granite, with a radiometric age of 1,478 +/- 38 Ma, intrudes the Gawler Range Volcanics and is regarded as the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

The southern portion of this tenement contains areas of isolated outcrops of Hiltaba suite granites. These exposures become more common to the south and west of the EL on adjoining map sheets. There appears to be no further major outcrops of Hiltaba Granite to the north of the large gravity feature which underlies EL 3043. The exception is a single, small, Hiltaba-age intrusion that has been mapped in the north-east portion of the tenement. This feature, named the Palthrubie Granophyre is approximately 2km in diameter and has been recognised as a high-level intrusion.

The base of the Wheepool Rhyolite is rarely exposed, however east of Glyde Hills Outstation 25 km to the north, it occurs as a pale green, pink, purple and cream coloured pyroclastic breccia and

agglomerate with layers of tuff up to 1m thick. The breccia extends to about 3 km east of Glyde Hills Outstation and was named in 1977 as the Waurea Pyroclastics and is concluded to have been ejected from local vents. The pyroclastic has angular to sub-rounded blocks and fragments up to 1m across, of banded rhyolite, welded ash flow tuff, and bands of pumice and rhyodacite. The presence of local eruptive volcanism is encouraging.

4.3 Alteration and Mineralisation.

The majority of previous exploration in the Palthrubie area focused on the Glyde Hill Volcanics Complex in which drilling intersected weakly altered, interlayered felsic and or mafic volcanics. Petrological descriptions of selected samples indicate the rocks have undergone weak sericite alteration +/- chlorite, +/- carbonate. Although no intervals of significant mineralisation were encountered there are several recorded types of alteration/mineralisation which are of interest, including;

Glyde Hill Prospect. (30 km North of EL 3043).
Vuggy, rhyolitic breccias and brecciated basalts in several drill holes indicated that "hydrothermal activity seems undisputable in some of the breccias with fluorite replacement of the volcanic matrix but with negligible sulphide". Hole LEV 1 at 18.7m depth contained a fault breccia with matrix predominately of fluorite plus extensive oxidised magnetite in the host. Other intervals in LEV 1 and LEV 7 contained brecciated volcanics with prominent fluorite in the matrix and clasts containing magnetite +/- rims of hematite. Drill chips in hole LEV 1 were described with "veinlets of sulphides with trace fluorite" from 7-9m depth.

Kulgulya Prospect.
WMC recorded weak chlorite-hematite-sericite alteration of volcanic breccias with slightly elevated Fe, F and Ba. There were minor chlorite veins throughout the basalt interval in hole MGYD-3 with rare quartz-amphibole veins containing minor galena.

Yardea Dacite.
In the Palthrubie district this dacite generally shows less alteration than the underlying Glyde Hill Volcanic Complex, with several notable exceptions. Along the Butterfield Range, 65 km east of EL 3043, CRA encountered elevated Cu, Zn, Co, Ni and Cr values associated with a NW striking dolerite sill. They also collected float of a silicified felsic volcanics stained with malachite which assayed 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float has been found.

WMC encountered three "shafts/pits?" in Yardea Dacite containing a thin actinolite rich vein which "suggests moderate temperature, iron-rich hydrothermal activity". This site has been located 48 km east of EL 3043.

Hiltaba Granite.

The Hiltaba Granite outcrops in the south-western portion of the Gairdner 1:250,000 sheet, and includes several isolated outcrops in the south of EL 3043 and the Palthrubie Granophyre in the north. There is very little information on the geology of the granite outcrops within the tenement. Petrological studies by WMC on the Palthrubie Granophyre identified it as a high-level granite with alteration assemblages that suggest the magma was "volatile-rich and that the volatiles were oxidised and rich in silica, fluorine, iron and K". Outcrop sampling by WMC revealed the presence of rare veins up to 5mm wide with quartz + malachite + fluorite + hematite which assayed 0.95% Cu, 145ppm Ag, 26ppm Bi and 100ppb Pb. They were unable, however, to reproduce any anomalous Cu values from a follow-up programme of surface rock chip sampling.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

CRAE reported anomalous uranium, arsenic and fluorite from stream sediment samples near lake Acraman, with one anomalous sample returning values of 1100ppm F, and 1ppm U. Limited follow up was carried out on the basis of this result, but the reports include mention of altered biotite granitoids with elevated F (100ppm), As (29ppm) and Pb (88ppm).

Pima Mining undertook exploration in areas of Hiltaba age granites under cover to the south-west of EL 3043. RAB/aircore drilling results encountered altered granite at the Yarna and Plunkey's prospects. Assay values were not significant for Cu or Au but Pima Mining noted "significant, elevated rare earth elements (RRE)" in MMI samples. They reported the following values and compared them to samples of typical Olympic Dam mineralisation.

MMI Analyses of RRE elements at Pima Mining's YARNA Prospect:

Yarna Prospect		**Olympic Dam Sulphide Ore**	
Element	**Result (ppm)**	**Element**	**Result (ppm)**
Ce	377	Ce	2000-2500
La	265	La	1300-1800
Nd	279	Nd	N/A
Yt	174	Yt	35-110

Iron-rich Nodules.

Surface lag deposits of iron-rich nodules were recorded by WMC at several localities throughout the area. Nodules vary from strongly magnetic to hematitic. Rare angular and rounded partially hematised volcanic fragments occur amongst the nodules at several localities. WMC report that the textures of the nodules seen in thin section are strongly suggestive of hematite replacement of porphyritic volcanics. One such area of nodules, (Mt. Cooper Dam, 40km east northeast of EL 3043) shows spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics, namely enrichment in Ba, Cr and U.

The origin of the iron-rich nodules remains equivocal and WMC did not undertake a more thorough study of their chemistry and texture. They report, "the principal contribution appears to be from a Fe-metasomatised volcanic source with some encouraging Olympic Dam-like characteristics

(enrichment in Ba, Cr and U relative to precursor compositions), but tentative textural data also suggests contributions from quenched iron-rich melts (Acraman meteorite ejecta?) and ferruginised quartzose regolith.

4.4 Structurally Controlled Au-only Mineralisation.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. (**Figure 11)** The precious metal mineralisation is spatially associated with Meso-Proterozoic Hiltaba Suite granitoids. Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province, and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Examples of bedrock gold mineralisation in the central and southern portions are only known from drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna. The mineralisation style appears to be similar throughout the region with structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region.

The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

Calcrete sampling was carried out in the central Gawler Craton in the mid 1990s as a valuable tool for regional gold exploration. This technique was particularly effective in areas dominated by transported cover and categorised as unsuitable for conventional soil sampling. Three promising gold in calcrete targets have been defined within Falcon Minerals "Palthrubie" tenement. (**Figure 12**) These prospects, Deep Well, Sisters West and Sisters East, occur in areas overlying postulated Hiltaba Suite granitoids and having a thin veneer of Tertiary and Quaternary sediments.

From available literature it appears there are many similar features, which characterise the various gold prospects throughout the proposed central Gawler Craton gold province. These include:

- Gold is associated with steeply-dipping quartz + sulphide veins
- Sulphide phase is predominantly pyrite. Minor galena has been recorded
- Mineralisation is hosted by granite or granite gneiss spatially associated with Hiltaba Suite intrusions
- Strong spatial association with regional-scale structures which often cross-cut Hiltaba Suite intrusions, or with smaller fault/shears which form as splay off a regional structure.
- Mafic/dolerite dykes are often spatially associated with prospects and are commonly present in controlling structures.
- Mineralisation is associated with strong hydrothermal alteration. Highest grade gold is usually associated with sericite +/- silica +/- chlorite alteration.
- At some prospects, for example Barnes, there is evidence of a more distal propylitic alteration (chlorite-epidote-hematite).

Based upon the above characteristics, Company reporting of gold prospects in the Lake Acraman-Lake Everard region shows there is sufficient information available from RAB/aircore drilling to indicate they can be classified as typical central Gawler Craton Gold-style mineralisation.

The magnetics show a 2km diameter rounded intrusion in the northeast portion of 'Palthrubie'. Very limited past exploration suggests it is a high level Hiltaba Suite intrusive body. Rock chip sampling detected up to 0.95% Cu and reported 145g/t Ag associated with small veins characterised by quartz-malachite-fluorite and hematite.

5. GEOPHYSICS

Several phases of reconnaissance geophysical surveys had been completed in the Palthrubie area prior to the South Australian Exploration Initiative (SAEI) aeromagnetic data being available in the 1990s. Only Afmeco/BHP in the early 1980s and WMC in the early 1990s followed up targets obtained from their regional geophysical surveys with ground based surveys. Afmeco tested several magnetic/gravity anomalies in the Glyde Hill Volcanic Complex with ground magnetic and gravity surveys.

WMC has been the only company to undertake detailed ground surveys in the area of EL 3043. The focus of their geophysical investigations was the large 30 x 15km , NW-SE trending, gravity high, called the Mangaroongah gravity anomaly underlying the tenement. WMC traversed this anomaly on 2km spaced north-south lines, and several peripheral areas were surveyed with either a 1 x 1km or a 1 x 0.5km station spacing.

Based upon this relatively wide spaced data, WMC identified 3 areas of residual gravity highs that were spatially coincident with zones of magnetic complexity, namely Dan's Hole, Sisters and Emu Bluff. The Sister anomaly lies within the central portion of EL 3043, with Emu Bluff situated in the west, and Dan's Hole 10km to the east of the tenement.

The Sisters gravity/magnetic anomaly survey was followed by an IP survey which was "discouraging" but may have encountered problems due to salinity. Emu Bluff, Rocky Creek and Dan's Hole anomalies were followed up by SIROTEM surveys, however no significant bedrock sourced TEM anomalies were detected. WMC concluded that responses from near surface sources may have conceivably masked responses from weaker bedrock conductors

A magnetic high identified on the southern contact of the Palthrubie Granophyre, in the north-east of EL 3043, was followed up by a ground magnetic survey on the Rocky Creek Grid.

5.1 Data Processing. Regional Gravity and Magnetics.

5.1.1 Euler Deconvolution.

B.A. Dockery, Consulting Geophysicist carried out an Euler Deconvolution technique on the PIRSA gravity and TMI data in and attempt to determine accurate locations and depth for the major gravity and magnetic features within the Falcon Minerals Limited tenements. A brief discussion of the method and its results are presented below:

This method can be applied to either TMI or BA gravity data, that is, potential field data, as long as it is in the form of a grid file.

The Euler Deconvolution solves a set of simultaneous equations for depth to source, location, depth error and location error. The latter two are expressed as a percentage and a limit is set, eg. by setting the depth tolerance at 10%, for both error terms so that the results are only given for estimates that have a sensible accuracy.

The form of the equations differs depending on the structure to be detected.

The ***sphere model*** is used to detect bodies that are limited in size in all three orthogonal directions. This may be an irregular mass of rock and may represent an ore body in some instances.

The ***pipe model*** is used to detect sources with one near-infinite dimension and the other two dimensions being of limited size. This may represent an ore shoot of limited width and strike length but having a very large down dip extent.

The ***dyke or slab model*** has one dimension of limited extent and the other two very large, foe example it could be a dyke of limited width but having a large strike length and dip extent.

The Euler Deconvolution method takes a square array of values from the grid to use in the simultaneous equations. This is repeated across and down the whole of the grid so that the grid area is searched for sets of values that match the chosen model. These are listed in the output file from which the plot of coloured circles is constructed to represent the location and depth of the various solutions. If no solution is given for a particular feature it means that the values making up that feature do not have the form for the chosen structure.

The processing of the PIRSA TMI data for EL 3043 Palthrubie indicated that the depths to pipe like sources ranged from 153m to 645m with a mean of 291m. Similarly the depths to dyke like sources ranged from 49m to 666m with a mean of 195m, and the depths to sphere like sources ranged from 192m to 970m with a mean of 352m.

Figures 3, 4 and **5** present the results of the Euler Deconvolution processing of the PIRSA TMI Magnetic data for the Palthrubie EL 3043 area. Each figure is a map of the PIRSA TMI Magnetic data with the depth estimates of the selected model superimposed.

The Euler Deconvolution processing was carried out on the PIRSA BA Gravity, for the dyke type model with limited success, as unfortunately little of the gravity data fits the model. The PIRSA BA gravity data was originally tried because, in addition to including some of the WMC data, it had a more rectangular shaped spatial coverage and thus would produce better mathematical solutions than a survey data set with more irregular shaped boundaries.

Figure 6 present the results of the Euler Deconvolution processing of the PIRSA BA Gravity data for the Palthrubie EL 3043 area, and presents the depth estimates based upon the "Dyke Model".

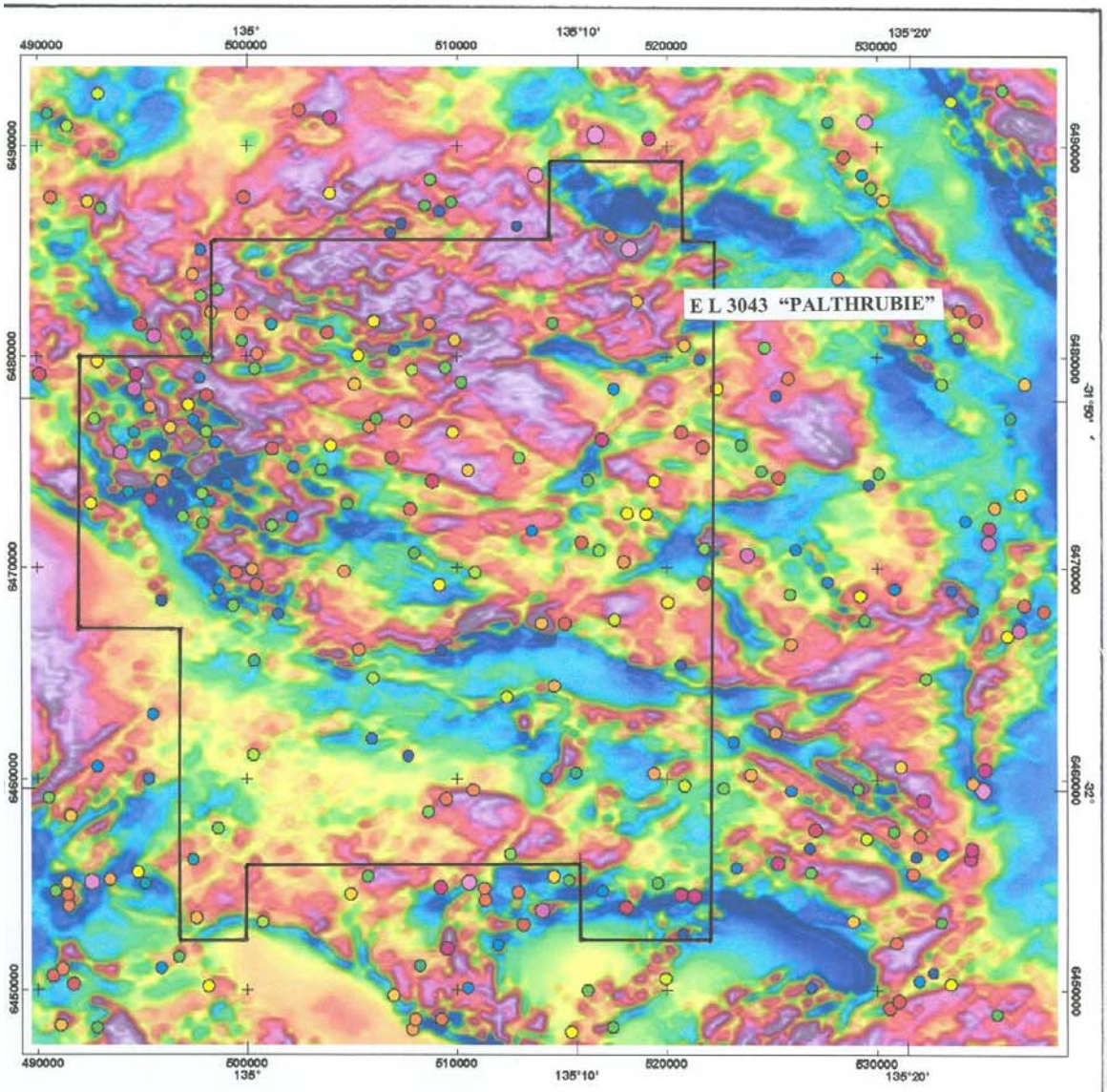
The processing of the WMC BA gravity for EL 3043 Palthrubie resulted in the sphere model only detecting two possible sources, one adjacent to the northern boundary of EL 2952 and one further north within the tenement. The sphere model gave depths to source in the range of 500m – 700m. In the case of the pipe model, three possible sources were detected, located in the north-west, east and central portions of the tenement. A total of 5 dyke sources were defined within EL 3043, with four in the north-east and one in the east of the tenement.

It must be noted that the gravity station data is spaced at approximately 500m along north south lines, so the Euler Deconvolution location estimates are only significant to an order of 1km.

None of the remaining maxima or minima within the tenement has a set of values that approximate to that required for a spherical source. The data shows that the pipe model gave solutions in approximately the same locations as the sphere model. It is concluded that, within the error limits chosen, the corresponding gravity features may arise from bodies of either two or three limited dimensions.

Figures 7, 8 and **9** present the results of the Euler Deconvolution processing of the WMC BA Gravity data for the Palthrubie EL 3043 area. Each figure is a map of the WMC BA Gravity data with the depth estimates of the selected model superimposed.

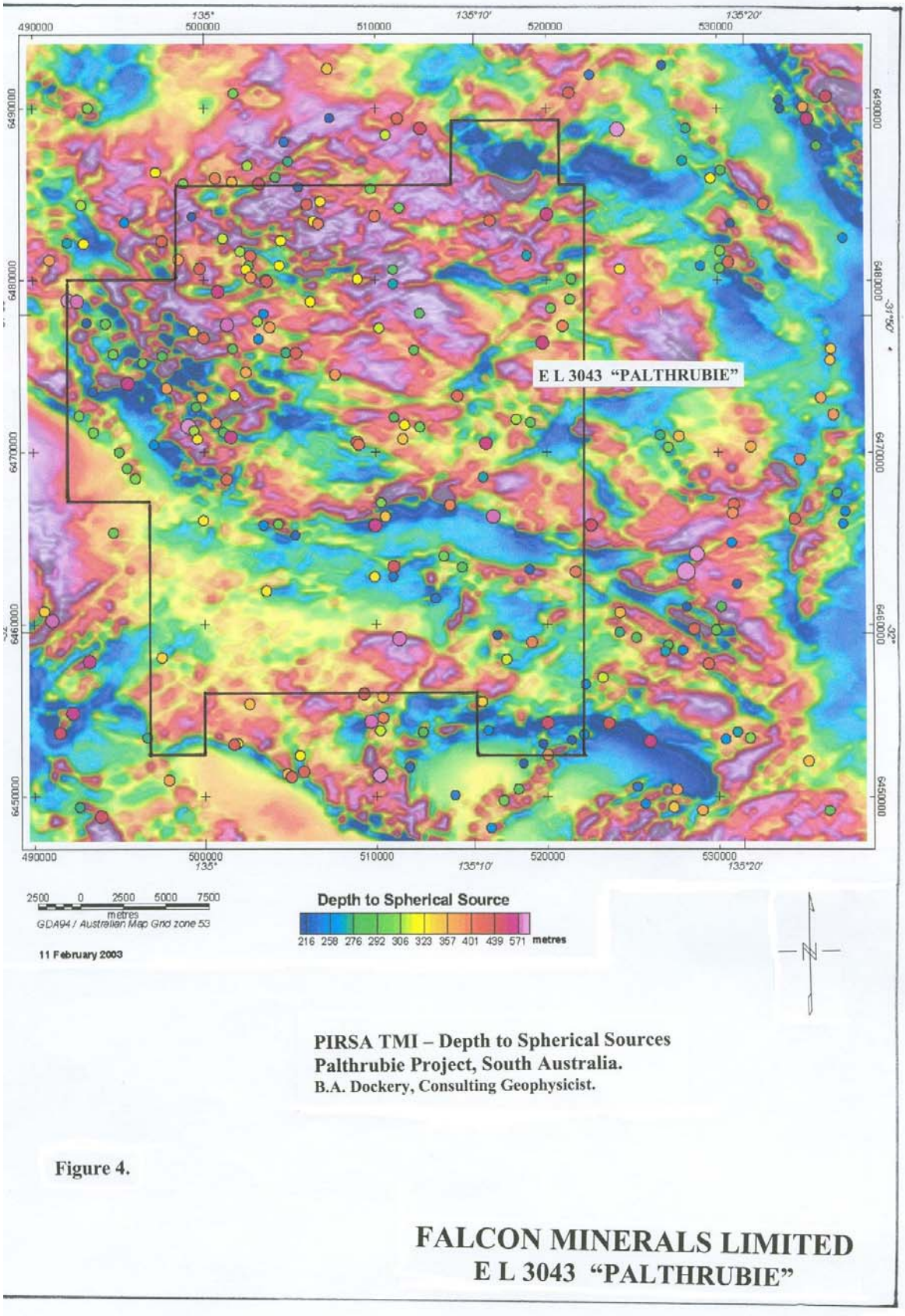
The coloured circles have a diameter that is proportional to the depth estimate, i.e. small circles for shallow sources, and a colour representing the depth as shown on the colour scale legend. The circles are centred over the estimated location of the sources.



PIRSA TMI – Depth to Pipe Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 3.

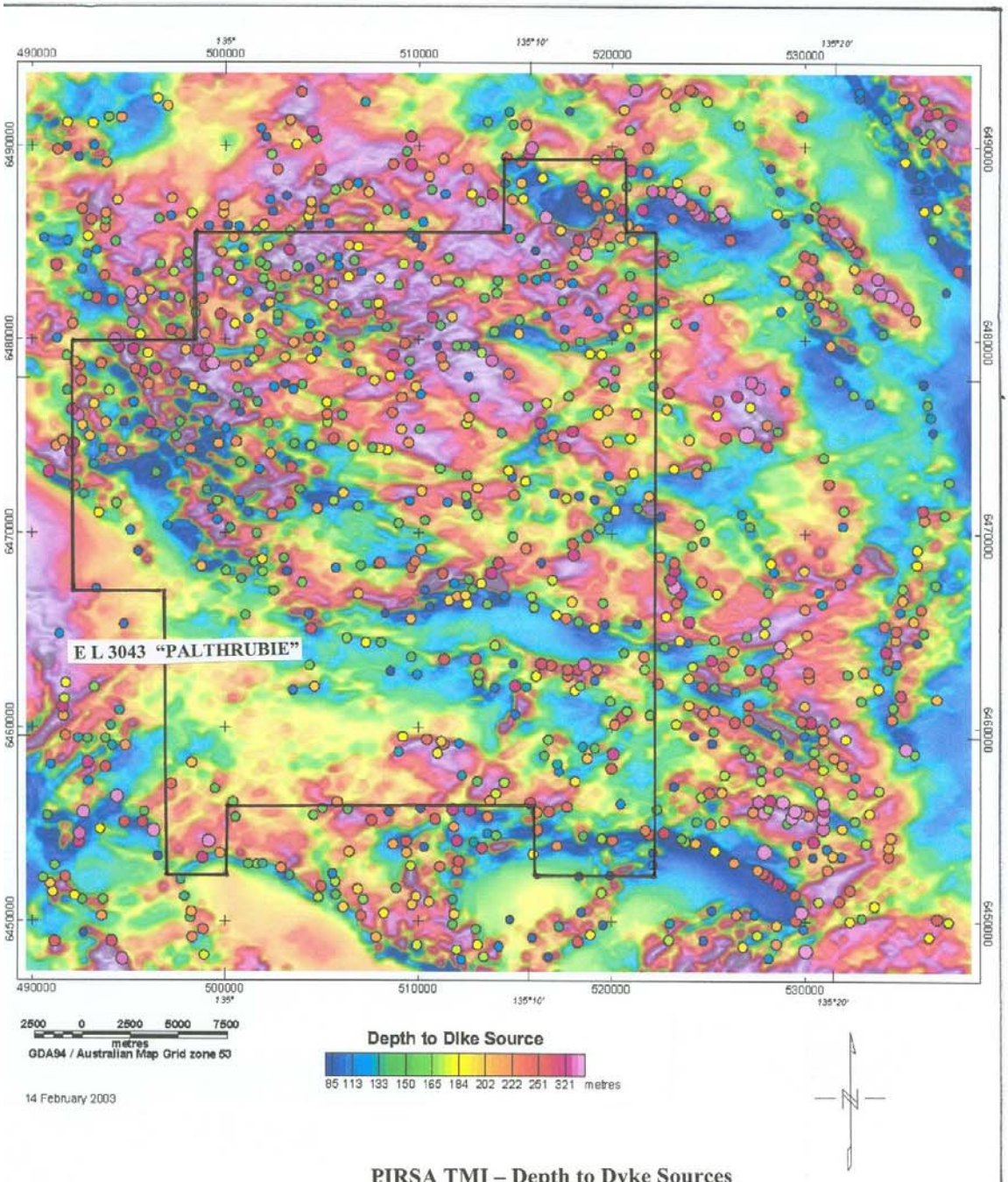
FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



PIRSA TMI – Depth to Spherical Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 4.

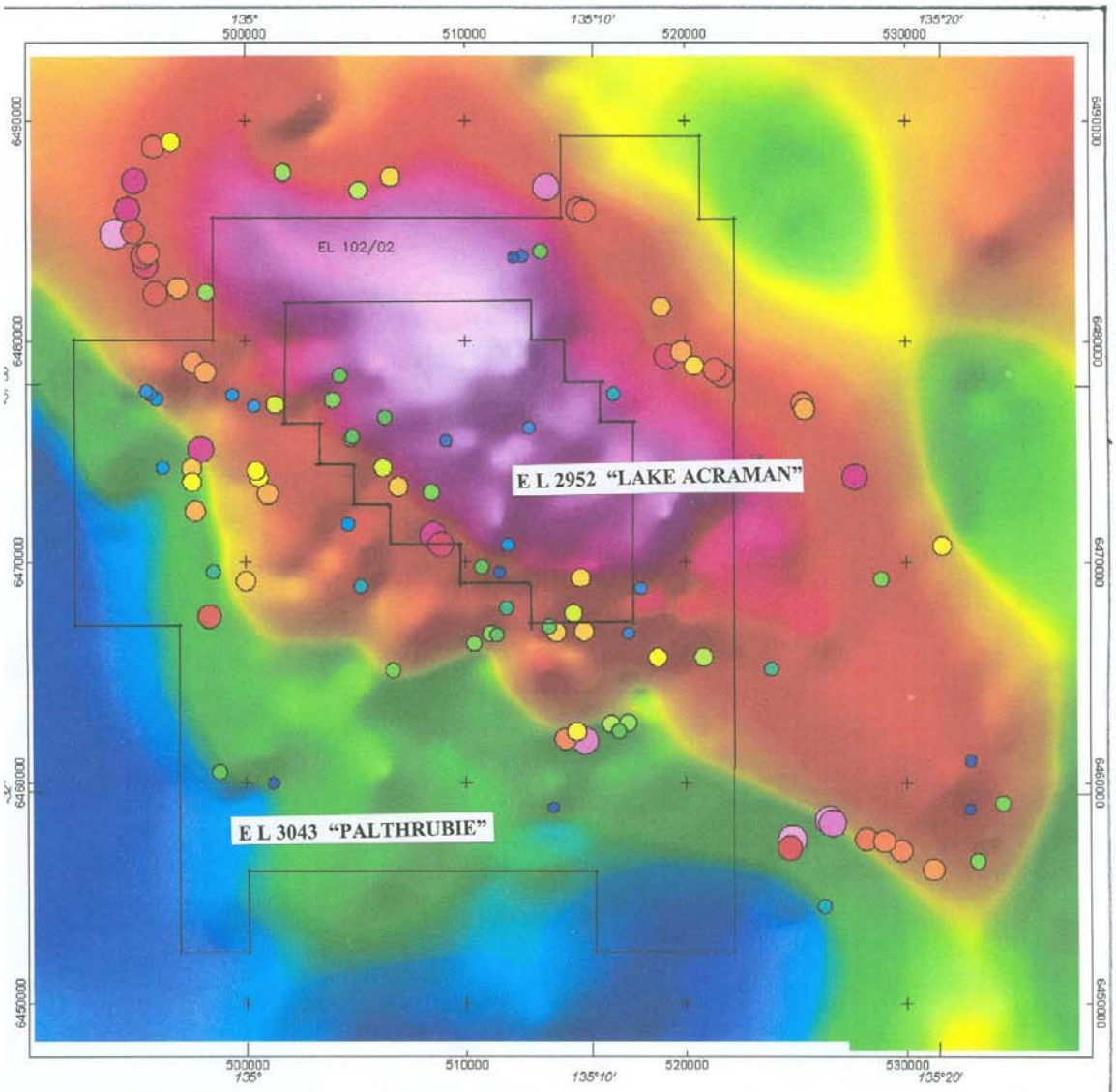
FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



PIRSA TMI – Depth to Dyke Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 5.

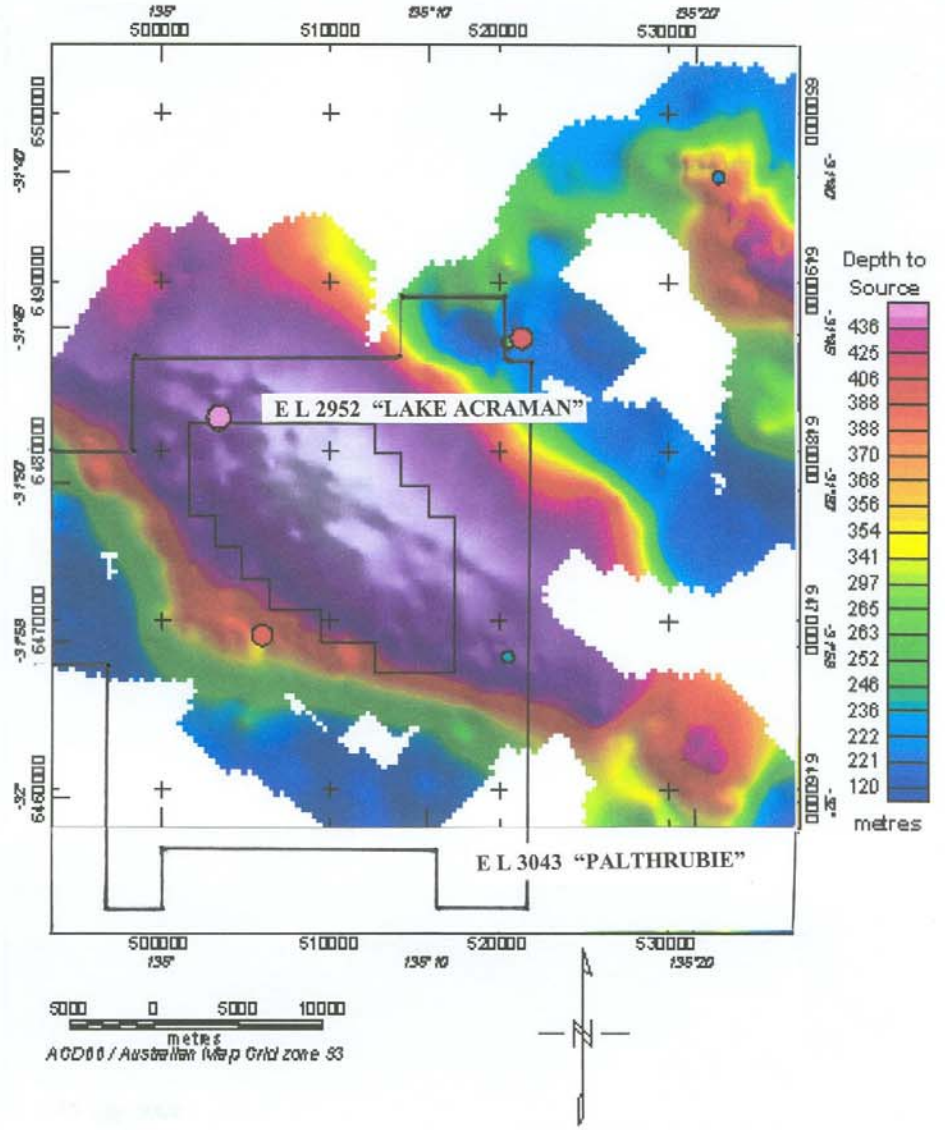
FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



PIRSA BA GRAVITY – Depth to Dyke Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 6.

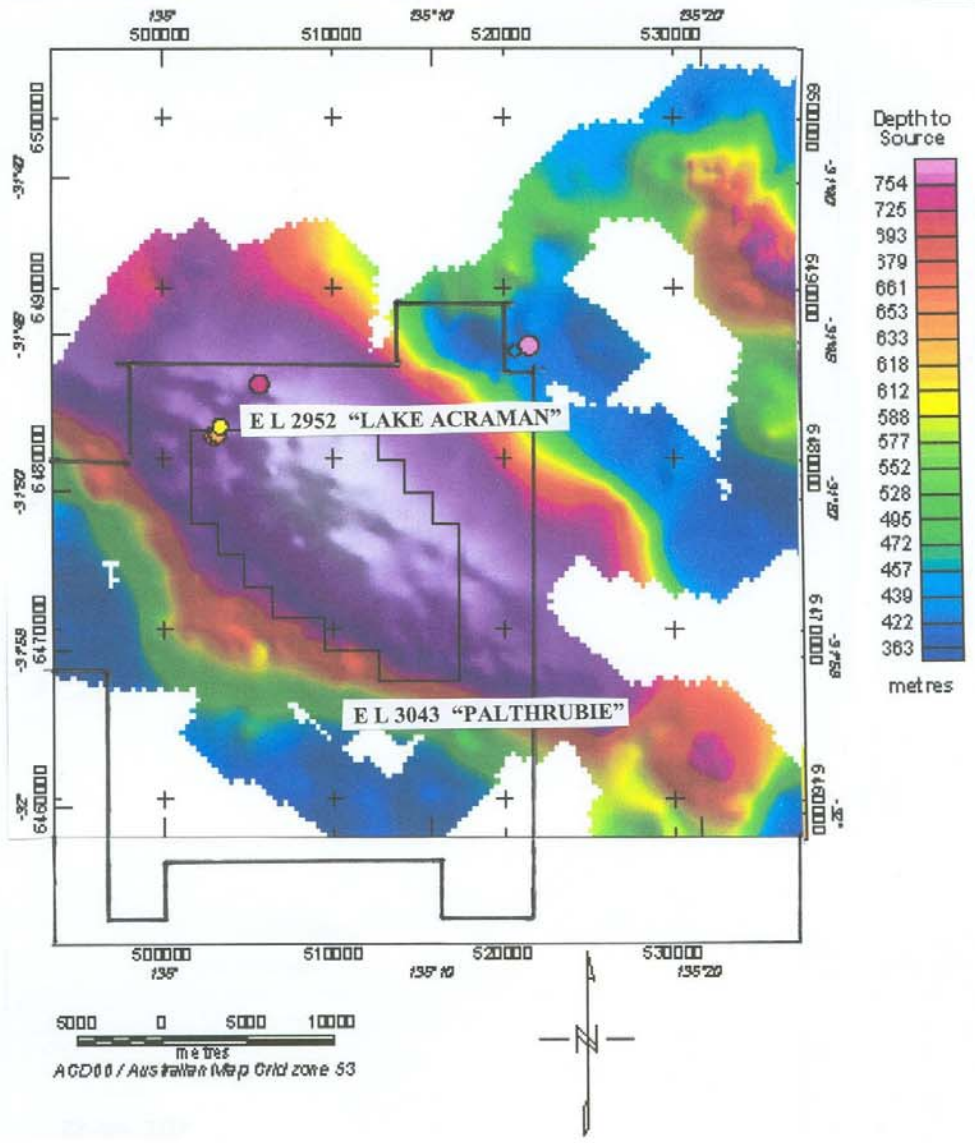
FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



WMC BA Gravity – Depth to Pipe Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 7.

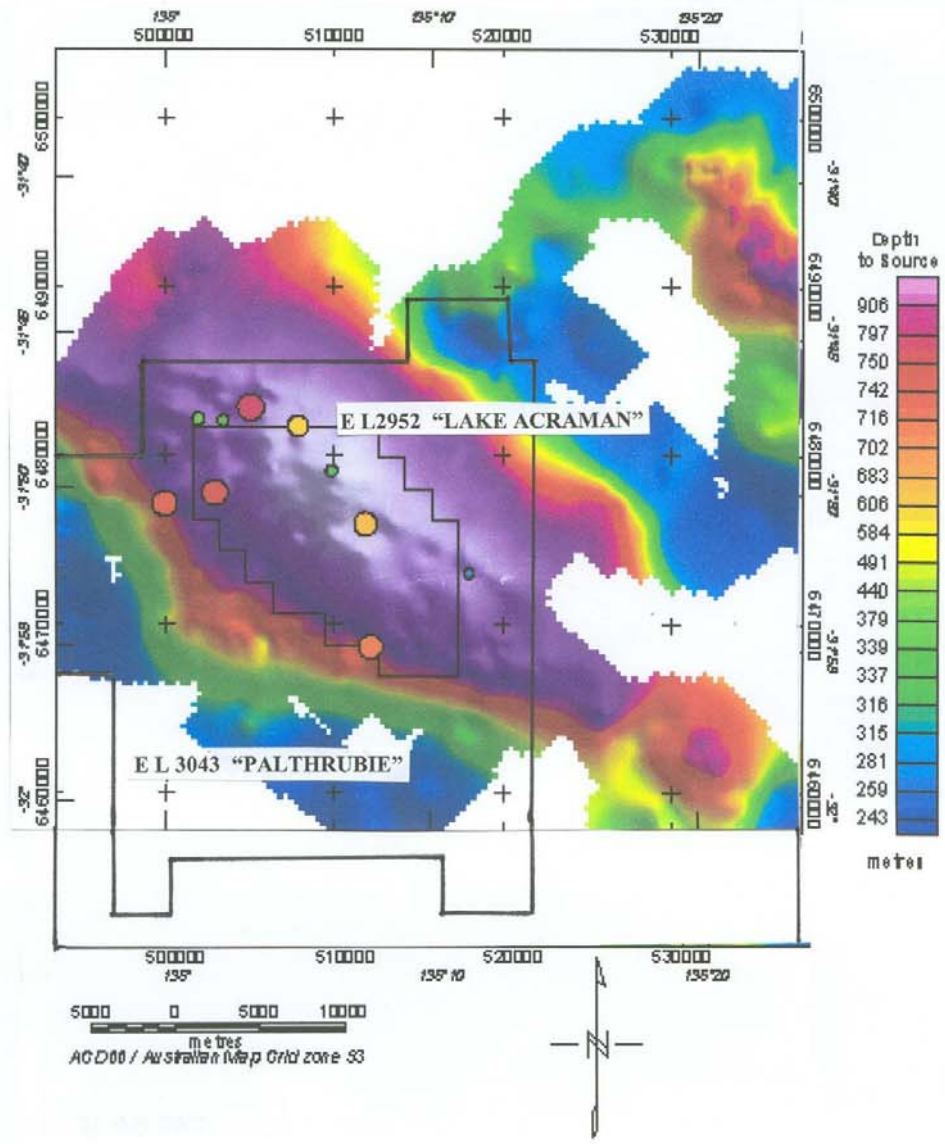
FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



WMC BA Gravity – Depth to Spherical Sources
Palthrubie, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 8.

FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"



WMC BA Gravity – Depth to Dyke Sources
Palthrubie Project, South Australia.
B.A. Dockery, Consulting Geophysicist.

Figure 9.

FALCON MINERALS LIMITED
E L 3043 "PALTHRUBIE"

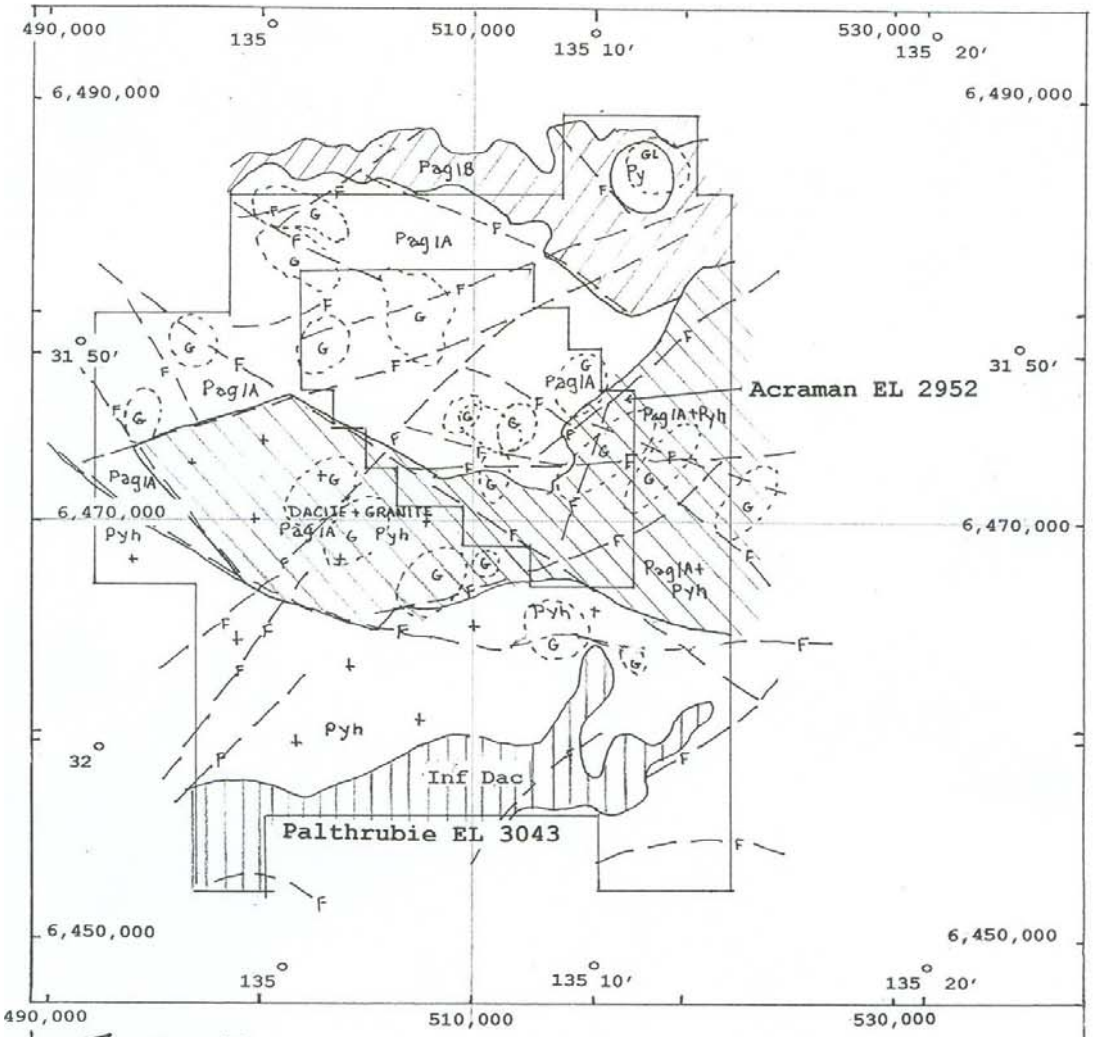


Figure 10

Pag1B Mangaroongah Dacite (Lower Prot)
Porhyritic dacite to rhyodacite
Partly chloritised plagioclase, part vesicular.

Pag1A Childera Dacite (Lower Prot)
Contains small feldspar phenocrysts and ferromagnesian alteration.

Inf Dac Dacite, (Lower Prot)
magnetically inferred dacite

Pyh Hiltaba Granite (Upper Prot)
Biotite granite and adamellite, often porphyritic. Intrudes dacites.

Figure 10.

(Py) Granitiod related intrusion, alteration

Fault Narrow width

F Wider width with magnetic low, magnetite destruction by hydrothermal alteration

G Gravity feature, high

GL Gravity feature, low

SCALE
km
0 5 10

FALCON MINERALS
Geological Interpretation of Magnetics.

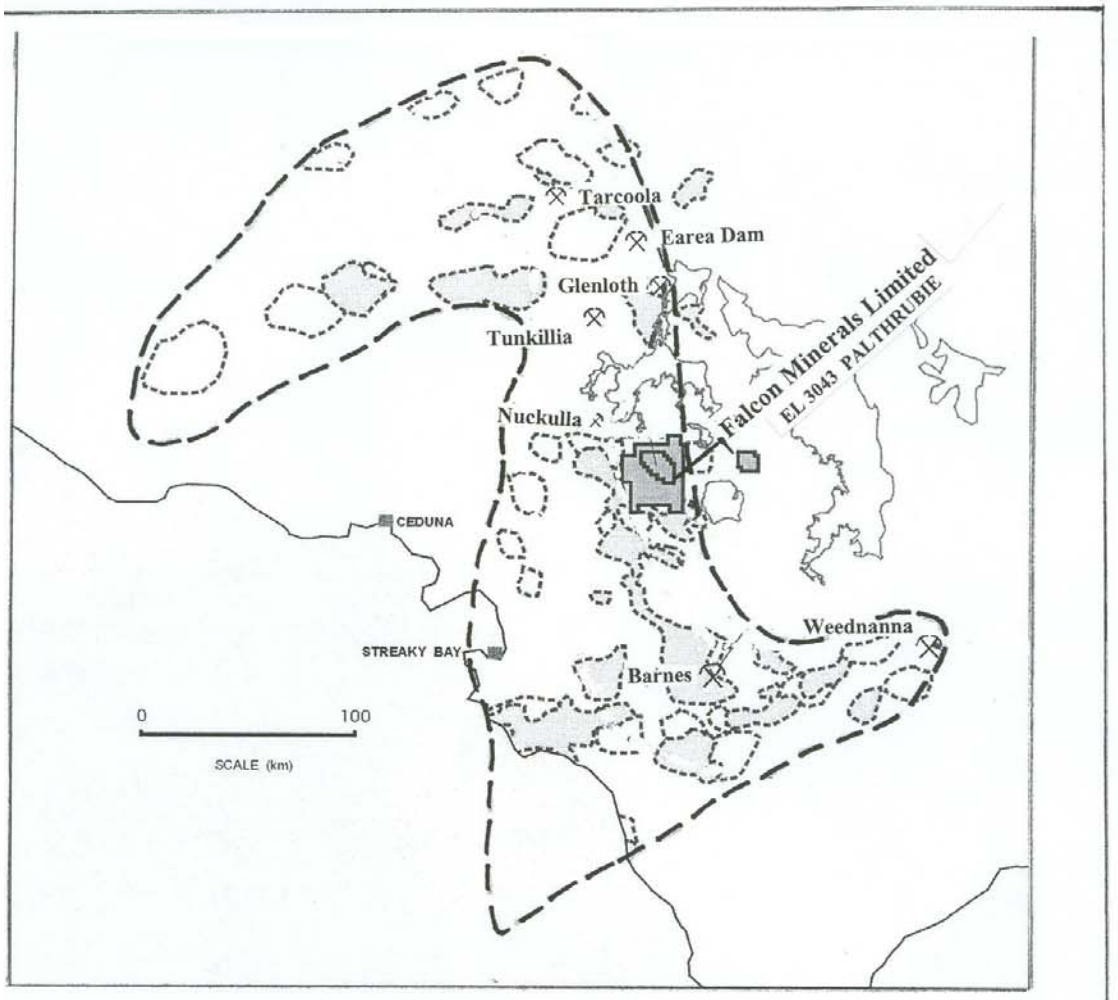
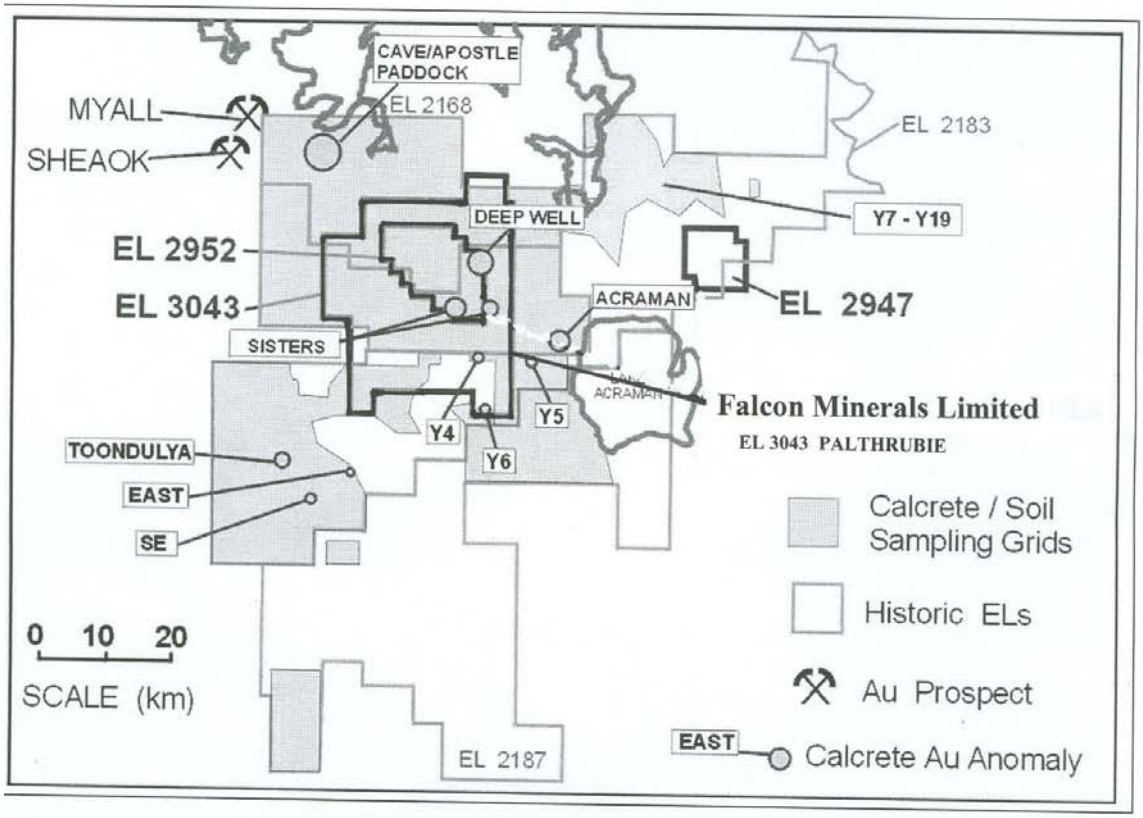


Figure 11.

FALCON MINERALS LIMITED
EL 3043 'PALTHRUBIE'



CALCRETE SAMPLING COVERAGE and CALCRETE GOLD ANOMALIES in THE PALTHRUBIE, LAKE ACRAMAN and BOND HILL AREA.

Figure 12.

FALCON MINERALS LIMITED

EL 3043 'PALTHRUBIE'

5.2 Geophysical Interpretation.

The processed magnetic and gravity images over Acraman EL 2952 and the surrounding Palthrubie EL 3043 were interpreted by Falcon. (**Figure 10**).

Exposure in the area is limited and the larger EL 3043 that encloses Acraman EL 2952 is used as a reference area along with the attached plan. There is reasonable exposure in the northern part of EL 3034 comprising dacite, with little exposure in the central zone and some Hiltaba granite exposures in the southern area.

The magnetics show a well-faulted area of partly broken up magnetic highs and regions of magnetic domains that reflect the underlying but relatively shallow geology. Broadly, the northern most area has some outcrops of Mangaroongah Dacite then a NW trending contact with Childera Dacite, both of Lower Proterozoic age. These dacites are not readily distinguishable from one another as they have similar magnetic signatures. Both are fairly magnetic and interpreted to contain fine-grained magnetite.

The dominant, and often orthogonal faulting, is NW some with curving suggesting thrusting. Another dominant fault trend is to the NE, which can be both straight and curved.

A strong NW fault zone along the SW boundary of EL 2952 marks a domain boundary that has properties of both the Hiltaba granite dominated area further south and the magnetic dacites to the north. Based on magnetic signatures and very limited outcrop this is interpreted as remnant dacite intruded by the underlying and younger Upper Proterozoic, Hiltaba granite.

Magnetite destruction is well evident from fault traces that introduced oxidizing hydrothermal fluids likely to have converted magnetite to other minerals that may include hematite.

At the southeastern end of EL 2952 but mainly within EL 3043, is a distinctive EW oriented zone comprising a flattened lensoid shaped area of low magnetics bounded by probable fault zones. The PIRSA gravity data shows a local although modest gravity high near its centre that is of exploration interest. Another curved EW fault zone marks the boundary to areas of mapped but limited Hiltaba granite with a few stronger magnetic islands of uncertain material that may be another zone of buried dacite.

Near but within the southern boundary of EL 3043 is another magnetic domain with moderately stronger magnetics that has been interpreted as another dacite under recent sedimentary cover.

At the very SE corner of EL 3034 is another EW trending magnetic low with some similarities to the lensoid low on the south eastern tip of EL 2952 that is probably Hiltaba granite.

Another different feature is the 2km diameter circular magnetic low with a positive magnetic rim in the NE corner of EL 3034 loosely referred to as the Palthrubie Granophyre Intrusion. The area has attracted a little exploration interest previously and Afmeco drilled tested this area with hole LEV 4 with inconclusive results. Afmeco mentioned magnetic dacite and non-magnetic granophyre.

WMC carried out some exploration over various magnetic and gravity anomalies in the area within both Acraman and Palthrubie.

Reconnaissance mapping of the Palthrubie Granophyre Intrusion in the NE corner of E3043 found rare veins, up to 5mm wide of quartz, malachite, fluorite, and hematite. These were in fine to medium grained granite with abundant miarolitic cavities filled with fluorite and hematite interpreted to be a high level Hiltaba suite intrusive. Assays returned significant results of 0.95% copper and 145ppm silver. No follow up work was done but Afmeco's hole was 1.7 km to the south on the southern magnetic rim of the intrusion.

Surface lag sampling by WMC of magnetic to hematitic iron rich nodules at several localities within these tenements were interpreted as hematite replacement of volcanics. Some geochemical correlations with Olympic Dam style mineralisation including Ba and U were noted and worth further follow up work.

6.0 CALCRETE GEOCHEMISTRY

This section was complied by G Ogeirman for Falcon Minerals Ltd.

6.1 Previous calcrete sampling

Calcrete sampling has proved to be an efficient tool for gold exploration in the Gawler Creaton, especially at the initial, regional stage of target generation. It has been demonstrated to be particularly effective for Adelaide Resources Ltd in defining "Barnes-style" gold mineralisation at their Eyre Peninsula project (in JV with Newmont Australia Ltd) approx. 85 kms SSE of EL 3043.

In the late 1990s, grid-controlled surface sampling programs were undertaken over approx 90% of the region currently covered by EL 3043 (see fig 7.1). Homestake Australia Ltd completed an 800m x 800m calcrete sampling program (green points in fig 7.1) in their EL 2183. Samples were collected by hand from depths ranging between 25cm and 100cm. Assay values 3 ppb Au or greater were considered anomalous. Sampling outlined several Au targets, the most significant being Toondulya, approximately 12kms south-east of EL 3043. Mineralisation at Toondulya, intersected in follow-up bedrock (aircore) drilling, contains many characteristics of typical Gawler Craton Au-style deposits. Three samples of 3-4ppb Au lie within EL 3043, each are single point anomalies. No follow-up was undertaken by Homestake.

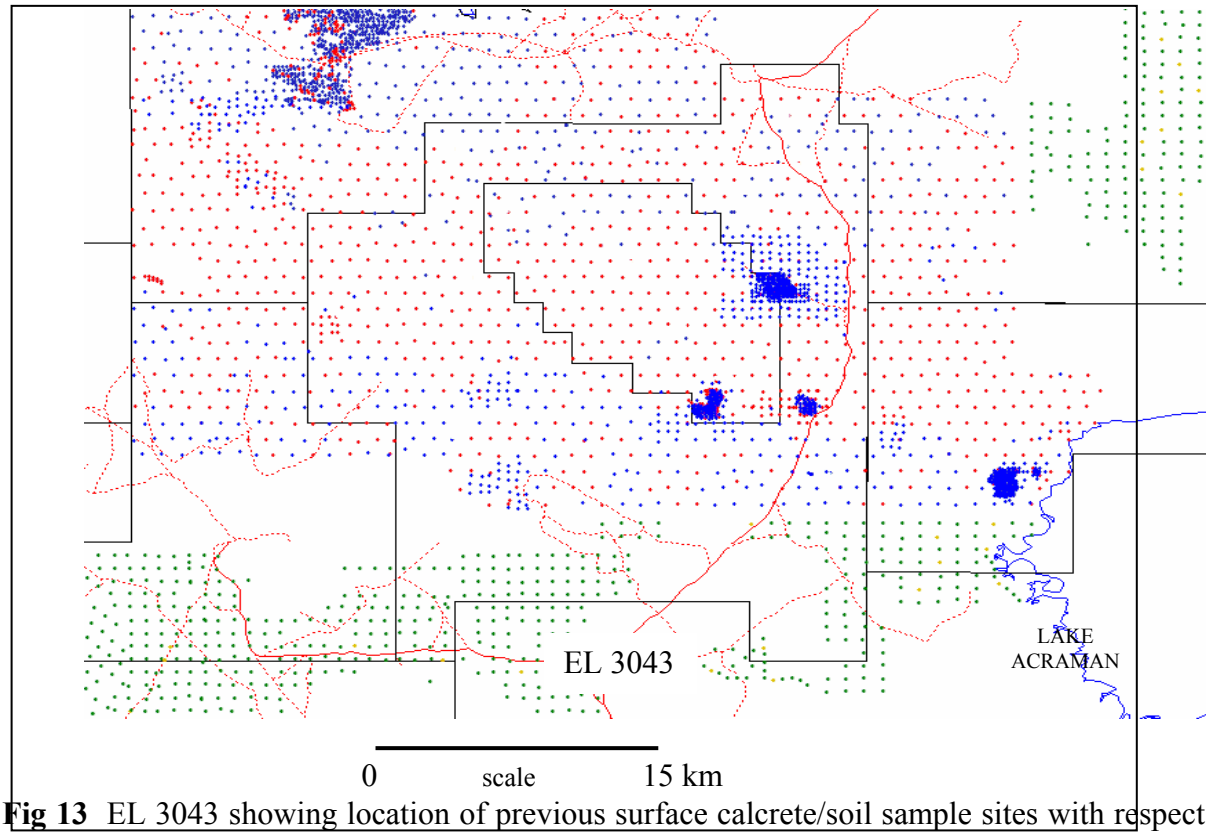


Fig 13 EL 3043 showing location of previous surface calcrete/soil sample sites with respect to EL 3043.

Homestake also re-sampled a line of 19 holes drilled by Geopeko in 1990. The holes were drilled to test the heavy mineral potential of the Yardea region. As none of the holes reached basement a top-of-hole (0-2m) sample was taken and assayed for Au, As, Ni and base metals. All samples contained some calcrete component, only two returned values of 3+ ppb Au but two other samples returned anomalous Pb values (80ppm and 280ppm Pb). No follow-up was undertaken. They also sampled bottom of hole cuttings from 1 drill hole (IR 55) drilled by Carpentaria Exploration in 1979 searching for Uranium. Carpentaria logged the cuttings as "granite and sericite rock" with no other details. Analysis returned a value of 16ppb Au. The drill hole is sited in the Toondulya prospect.

Equinox Resources N.L. held two tenements (EL 2145 and 2168) north of EL 2183. They undertook a hand-dug, surface sampling program on a 1km offset grid over both tenements. Equinox recorded that while the pick and shovel method can be quick and effective, field topography and thickness of soil/sand cover can prevent calcrete samples from being collected. Thus while sampling was successful in areas of flat bluebush / mallee terrain, many problems were encountered in areas of sand dunes. A significant portion of the original Equinox tenement is covered by sand dunes and therefore less than half of their ground was successfully sampled using calcrete (blue points in fig 7.1).

From experience of regional sampling in other projects, Equinox regarded any assay values from 3 ppb Au and greater as worthy of follow-up. Of 680 samples in the initial regional program, 38 returned values >3ppb, with a peak values of 27ppb. After infill drilling, four targets were defined – Deep Well, Sisters East, Sisters West and Lake Acraman.

Whenever calcrete could not be collected due to depth of cover Equinox collected shallow soil samples by removing the top 20cm of overburden (red points in fig 7.1). They initially suggested from data analysis that soil sample values >0.5ppb Au could be considered as potentially anomalous. However they also noted that "since the relationship between gold contents in soil, those in calcrete and basement mineralisation has not been clearly established, it is difficult to evaluate the meaning and significance of such results in terms of gold mineralisation".

The use of such "soil" samples in areas of sand dune development is deemed an ineffective method of geochemical sampling. Less than half the original Equinox tenement, therefore, was effectively tested by surface geochemical sampling. This is significant given that 4 promising gold prospects were outlined by calcrete sampling in the areas were calcrete could be collected by hand.

The follow-up, infill sampling Equinox undertook at the 4 prospects, was performed using a 4WD mounted soil auger rig. The rig was only used to define existing anomalies and did not attempt to resample sites of the original grid where calcrete could not be encountered in hand dug holes.

6.2 Calcrete sampling - target selection

The rational behind the recent calcrete program was two fold;

1) Although extensive grid-controlled calcrete sampling programs have previously been attempted over the region they have only been partially successful. Previous programs used hand sampling methods and therefore could not access calcrete in areas of sand dune cover. It is considered that less than half of EL 3043 has been covered by effective regional calcrete sampling.

2) Knowledge and understanding of geology and mineralisation styles in the central Gawler Craton has increased markedly in the past two years, driven by recent exploration success of Adelaide Resources' Eyre Peninsula Project (eg Barnes prospect), Helix Resources' Tunkillia project and the growing recognition of an Au-only province in the central Gawler Craton (Ferris, G. & Schwartz, M, 2003).

   As mentioned in Sec 4.4, information from Equinox Resources exploration reports regarding RAB/aircore drilling indicates mineralisation encountered in EL 3043 can be classified as typical central "Gawler Craton Gold-style mineralisation". As understanding of the geological controls of this type of mineralisation emerges, better targeted sampling programs can be designed.

The initial calcrete sampling program in EL 3043 was intended to test specific targets outlined from interpretation of processed regional gravity and magnetic data (sec 5). Targets were chosen for their potential to host Gawler Craton Au or Au-Cu mineralisation. For Au-mineralisation models, attention focussed on major structures, especially NE and NE-trending faults which are important features in the tenement. Although understanding of "Barnes-style" mineralisation is still at an preliminary stage, these structural orientations and their intersections appear favourable for hosting mineralisation outlined in Adelaide Resources' tenements further south-east.

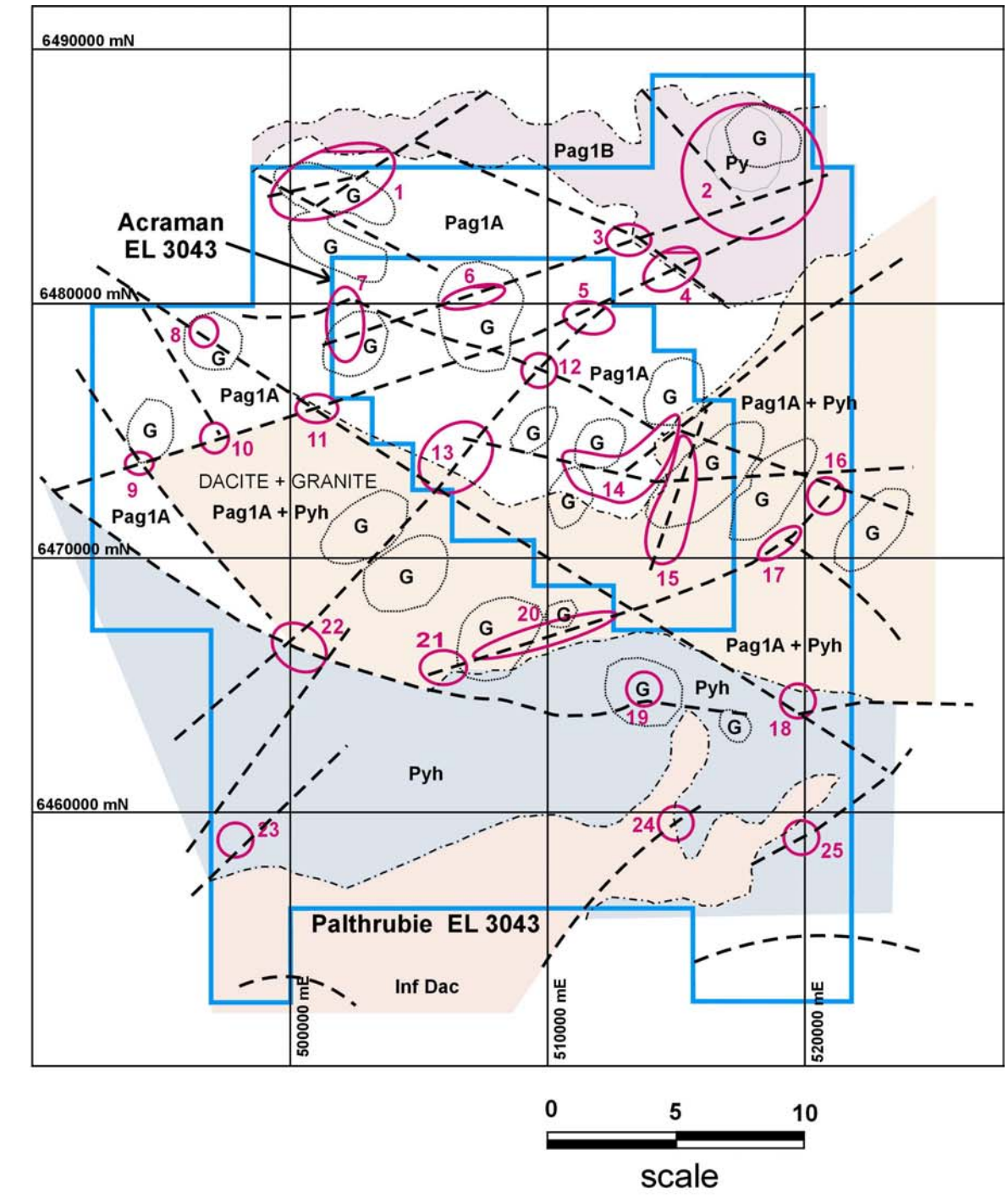
This structural orientation is also prominent in the three Au prospects RAB/aircore drilled by Equinox Resources (Deep Well, Sisters West and Acraman) and also at Homestake's Toondulya

discovery, a “Barnes-style” system 12km south-west of EL 3043. The presence of interpreted Hiltaba Suite Granitoids was also considered very favourable but not essential for potentially hosting mineralisation. RAB drilling at Sisters West by Equinox returned anomalous Au values in quartz-veined Gawler Range Volcanics.

Mafic dykes are also characteristic for many Au prospects/deposits in the Gawler Craton (eg. Tarcoola, Glenloth, Barnes, Toondulya etc) . Although their genetic relationship to mineralisation is not clear, the presence of such dykes in major structures together with Hiltaba Suite Granitoids is considered encouraging..

Gravity highs associated with Hiltaba Suite granites were proposed as targets for potential Cu-Au Fe-Oxide targets.

A total of 25targets were selected for testing with a minimum of 5 calcrete samples per target. Target locations are shown on Fig. 7.2. A total of 200 sample sites were proposed to test all targets, sample location and spacing was dependant on the type of target being tested. Spacing between sample sites varied from 500m to 1000m.



Mangaroongah Dacite
Porphyritic dacite to rhyodacites
Partly chloritised plag, part vesicular

Childara Dacite + Granite
Contains small phenocrysts and
Ferromanesian alteration

Dacite
Magnetically inferred dacite

Hiltaba Granite
Biotite granite + adamellite, often
Porphyritic. Intrudes dacites.

Inferred Fault

Gravity feature

Granitoid related intrusion

Calcrete drill target

Fig 14 Calcrete sampling targets shown on geological interpretation of magnetics and gravity

Knowing that sand dunes would be encountered at several target sites, an auger rig was selected for sample collection. The rig chosen, operated by McLeod Drilling, was an Edson diesel-powered auger rig fitted on the back of a Toyota Landcruiser ute (fig 7.3). A support vehicle accompanied the rig to assist with potential difficulties arising from working in sand dune terrain.

Fig 15. 4WD-mounted soil auger rig used for calcrete sampling. Geologist shown holding sieved sample of nodular calcrete.

6.3 Work Done

6.3.1 Re-sampling previous drill holes

Following the example of Homestake Australia (sec 7.1) in re-sampling Geopeko and Carpentaria drill holes, a search was undertaken of previous drill holes within EL 3043, apart from RAB/aircore holes completed by Equinox Resources. Only 6 additional drill holes are contained in the PIRSA database. Of most interest are 5 holes drilled by Carpentaria Exploration in 1979 targeting uranium in palaeochannels overlying Proterozoic basement. The holes were drilled along side the access road to Lake Everard station from Wirulla over a total distance of nearly 9km (fig 7.4). Logging by Carpentaria indicates all 5 holes intersected granite at relatively shallow depths between 6m – 21m. Hole IR 150 was sited along a NE structure with low magnetic response adjacent to a small magnetic high, this setting is considered favourable for Au mineralisation.

As Carpentaria were only interested in palaeochannels they did not assay overlying calcrete or underlying bedrock. A search revealed the holes were stored at the Glenunga

core storage facility in Adelaide. A request was made to inspect the drill chips for geological information and possibly sample bedrock drillchips or any calcrete which may be available.

Unfortunately when the drill holes were retrieved it was apparent that only a small representative reference sample was present. All drill holes from Carpentaria Exploration's Eyre Peninsula drilling (>1000) have recently been re-bagged in order to save storage space. Only a small representative quantity of each sample was kept and the remainder destroyed. PIRSA policy is that such representative samples are too small to allow a portion to be taken for assay.

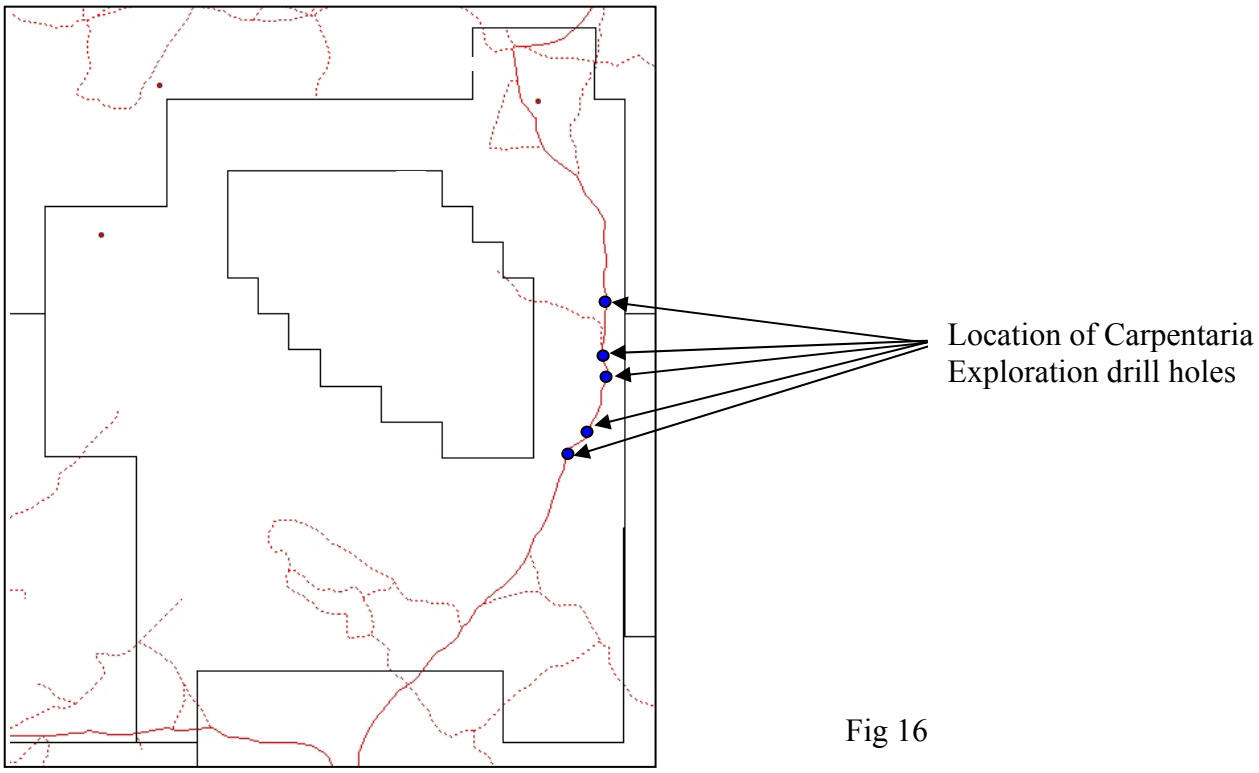


Fig 16

Each drill hole was examined with Malcolm Sheard of PIRSA to access his expertise of regolith formation in the Gawler Craton. The profile of each hole was similar with variable calcrete development near surface passing down into a saprolite zone dominated by white clays +/- m-c.gr quartz fragments, with very little internal structure. Malcolm Sheard noted that from the amount of sample which has been retained, it is not possible to confirm the original geological description of "granite" which had been attributed to each bottom of hole sample by Carpentaria. He also commented that all holes appear to have terminated while still in saprolite and therefore would most probably not represent a good geochemical sample.

6.3.2 Calcrete auger drilling and analysis

Twenty six sites were selected for vehicle mounted auger sampling across the tenement, selected from the magnetics and gravity images and particular zones of intersecting faults.

There are large areas of sand cover that required the use of a 4wd mounted auger rig and supervised by geologist J Ogierman. Most target areas were samples but some were too difficult to access.

The targets are indicated in the spread sheet with AMG coordinates.

The calcrete sampling program commenced on October 24th and was completed on November 4th. 24 of the 25 targets were successfully tested., access to the remaining target (T8) at the far north-west of EL 3043, was considered too difficult to attempt in the time available. The majority of drill targets (24) are located on pastoral leases (Lake Everard and Yarna) managed by Lake Everard Pty Ltd, the remaining target lies on Kondoolka Station. Access to most target areas was by station tracks and fence lines.

Drilling was carried out at 193 of the 200 proposed sites, the remaining 7 consisted of outcropping Gawler Range Volcanics or Hiltaba Suite granitoids. Multiple holes were necessary at several sites, particularly within sand dune terrain in order to recover sufficient calcrete. A total of 215 drill holes were completed for 454 meters. Intervals containing calcrete / calcareous material were sieved and tested with dilute HCl and the 5+mm fraction collected for analysis. Sample size varied from 200g to 1-2kg dependent on calcrete development. All holes were backfilled upon completion. Information of depth, calcrete type, HCl reaction, host regolith and terrain was recorded for each sample. Sample site locations were recorded using a Garmin 45 GPS. Sample details for all drill sites are contained in Appendix 2.

Samples were submitted to Genalysis Laboratories in Adelaide for sample prep and then forwarded to Genalysis Perth for analysis. Each sample was assayed for low level Au (method Br/EETA - 0.1ppb Au detection limit) and Pb, Zn, Cu, As, Ag, Ni, Fe, Mn, Ca and MG (method BT/OES).

Sample Nos were from 167201 to 167436 (236 samples)

Sample Prep 0.5kg dry, jaw crush, mix & grind (Cr steel bowl)
Gold;
Digest Aqua Regia
Analysis Au (0.1ppb DL – aqua regia – graphite furnace- AAS)

The following elements were by aqua regia digest ICP Opt Emission Spec:
Ag (0.5ppm DL) As (0.5ppm DL) Ca (0.01% DL) Cu (1ppm DL) Fe (0.01% DL)
Mg (0.01% DL) Mn (1ppm DL) Ni (1ppm DL) Pb (2 ppm DL) Zn (1 ppm DL)

6.3.3 Reporting of CARBONATE NORMALISED GOLD

Some initial normalizing for calcrete - gold was attempted in the attached spread sheet.

2 assume all Mg is in Dolomite (Dol)
3 % dolomite in rock is 7.6 x Mg = Dol%
4 %Ca in Dolomite is Dol% = (Ca in Dol%) 4.6
5 Total Ca% = (Ca in Dol%) = Ca in Calcite
6 Ca in Calcite x 2.5 = Calcite%
7 Carb% = Cal% + Dol%
8 Now, Au in ppb = Carbonate Normalized Gold (**CNG**) Carb%/100

Interpretation of results have not been undertaken in this reporting period.

6.4 Calcrete Sample Recovery

Calcrete type and abundance varied considerably throughout the tenement. Its development appeared to be strongly influenced by topography which in turn was a reflection of underlying Quaternary geology. Fig 7.5 is a simplified map showing distribution of Quaternary units, it does not indicate areas of outcropping Proterozoic basement. The diagram shows non-outcropping areas in the southern half and north-eastern corner of EL 3043 consists of Pooraka Formation sands silts and clays which characteristically sit on nodular calcrete. Much of the northern half is Moornaba Sands – vegetated dunes and sand spreads with variable carbonate content (fig 7.7).

Fig 7.5 indicates that more than half the proposed target areas lie within Moornaba Sands

Fig 17 Typical Pooraka Formation terrain – flat-lying with saltbush/open mallee

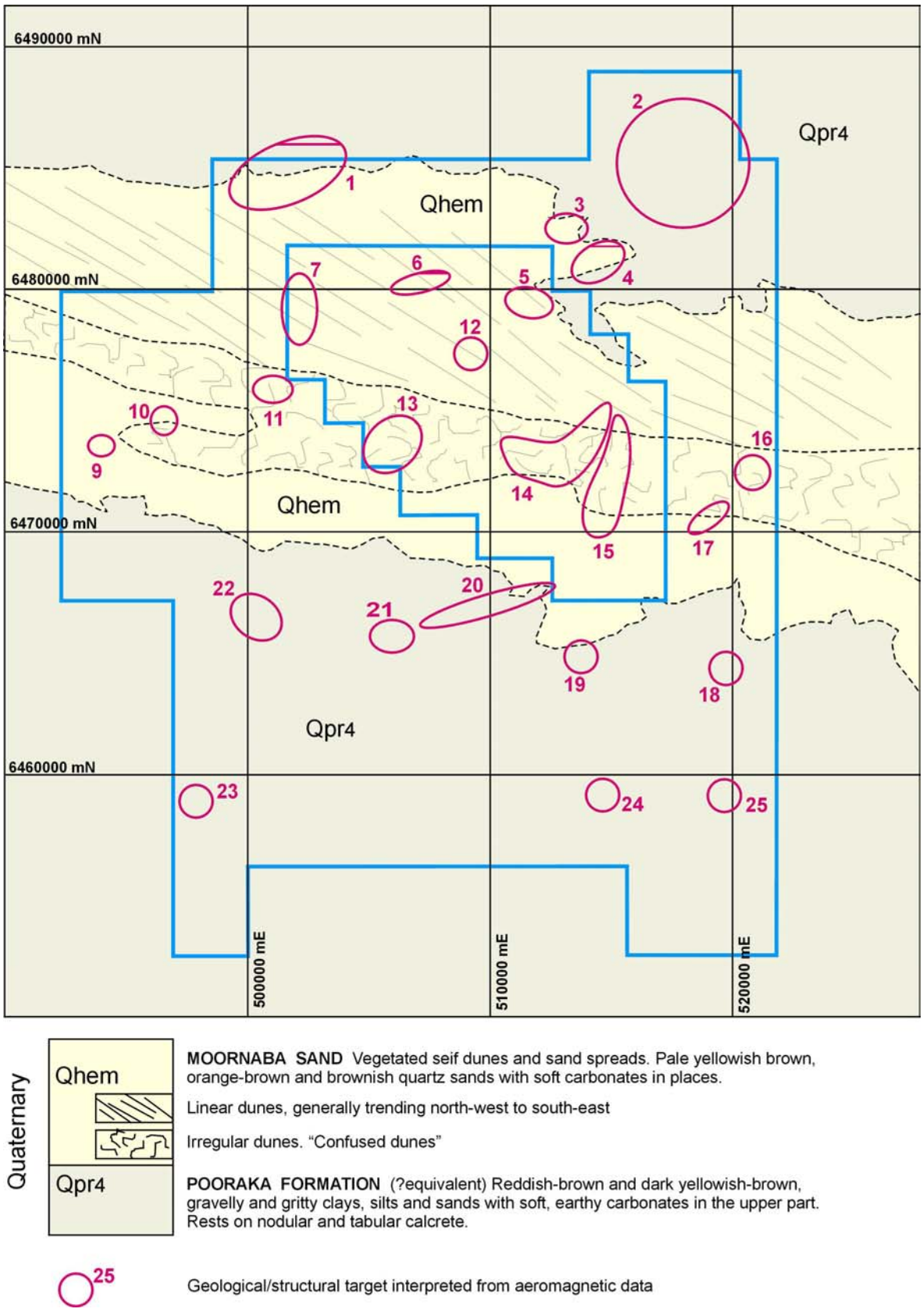


Fig 18 Distribution of Quaternary units in El 3043. Outcropping Proterozoic basement not shown

Fig 7.7 View from low hill of Cildara Dacite looking SE towards target 13., Area of Moornaba Sands ("confused dunes" terrain) can be seen in middle distance.

Fig 7.8 View from hill of Hiltaba Suite granitoid, approximately 15km SSE of Kondoolka homestead. Another hill of Hiltaba Suite granite in middle distance. Low, spinifex covered terrain in betwen is Pooraka Formation.

Pooraka Formation generally consists of flat saltbush/bluebush/open mallee terrain (fig 19.1, 19.2). Vehicle access in such areas is relatively easy and calcrete development is generally strong. Calcrete varies from nodular to massive to sandy and generally lies between 0.2 to 1.5m depth (fig 7.9). Sampling rates in this terrain are relatively quick, up to 40 samples/ day dependant on access between target areas.

Fig 20 Example of regolith profile in Pooraka Formation terrain – massive calcrete overlying nodular calcrete.

In contrast, Moornaba Sands vary from undulating sand spreads to linear, north-west trending sand dunes up to 10m in height, to areas of irregular dune development known as “confused dunes”. Calcrete development in these terrains varies from moderate/good in inter-dunal corridors of linear dune terrain (eg Deep Well), to poor in “confused dunes”. Calcrete development is immature, consisting of calcareous cementing of sand grains giving calcrete a “friable” appearance. Quartz grain content varies from minor to >50%. Calcareous material in these intervals has the appearance of white powder.

Level of calcrete development is much deeper than in Pooraka Formation, varying from 1m to 8m depth. Multiple horizons are sometimes present but individual horizons can be quite thin. It was necessary to make a composite sample of several horizons at some sample sites. At other sites where only one thin calcrete horizon was present, several holes were drilled in order to obtain sufficient calcrete for analysis.

If sufficient calcrete was present in areas of multiple calcrete horizon development, a sample was collected from each level to test if Au was preferentially concentrated at a particular depth. Only

three holes managed to provide sufficient sample for this purpose (Target 7 – hole 5; Target 5 – hole 1; Target 13 – hole 9).

A comparison of calcrete depth in Pooraka Formation relative to Moornaba Sands is shown below;

	Total Holes	Average hold depth
MOORNABA SANDS	129	2.8
POORAKA FORMATION	86	1.1

Vegetation cover in Moornaba Sands also varied from open mallee to dense scrub. The later was generally confined to "confused dunes", vehicular access in such terrain can be very difficult with tyre punctures a familiar reality for all vehicles involved. Vehicle access in linear dune terrain was relatively good, particularly if interdunal corridors were followed. However, in "confused dunes" terrain, sand consistency was more variable and difficult to predict resulting in several instances of the drill rig becoming bogged. Fortunately the support vehicle was well equipped to assist in such instances. Difficult access combined with deep calcrete levels and need for multiple holes at some sites meant sampling progress in areas of Moornaba Sands was much slower than for Pooraka Formation.

Of different terrains within Moornaba Sands, "confused dunes" is the most difficult to obtain a sample, sampling rate is slowest and sample quality is lowest. There was little or no difference to calcrete development between high points of dunes (ie crests) or low points (interdunal). This contrasts with linear dune terrain where interdunal corridors invariably contained better developed calcrete than near dune crests.

Several small saline lakes/playas are located within EL 3043 (fig 7.10), a few sample sites were located near the edges of such features. Sample recovery was invariably poor with abundant gypsum present along with calcareous matter ("gypcrete")

Fig 21. Small saline lake immediately north of Target 17.

7. ENVIRONMENT and HERITAGE

The Central Archive in the Department of State Aboriginal Affairs has records of Aboriginal Heritage sites within the "Palthrubie" EL 3043 tenement area. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement. Falcon Minerals Limited have been advised that if during development, Aboriginal sites, objects and remains are discovered, the owner/occupier of the land must report the discovery to the Minister of Aboriginal Affairs as soon as possible.

The following Aboriginal organizations should be contacted regarding issues of significance in the area:

- Wirangu Association Inc
  PO Box 644, Ceduna SA 5690.

- Western Kokatha Weena Mooga Aboriginal Inc
  PO Box 25, Cuduna SA 5690

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3043 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area is also known to contain "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species namely, Santalum spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that there are no individual of the species disturbed through any work practices.

8. EXPENDITURE STATEMENT

Expenditure during the first year of tenure for EL 3043 'Palthrubie' is presented below as a detailed six monthly breakdown of the various exploration activity costs.

Total exploration expenditure for the 12 month period from 19th November 2002 to 18th November 2003 was $64,690.63.

Appendix 3 presents the Exploration Expenditure and a summary of the operations carried out on EL3043 'Palthrubie' during the two six monthly periods, 19th November 2002 – 18th May 2002 and 19th May 2002 – 18th November 2003.

TABLE 4.

EXPLORATION EXPENDITURE EL 2947		
Exploration Activity	**Period ending 18/5/2002**	**Period ending 18/11/2003**
Literature research PIRSA exploration data	2,900.00	5400.00
PIRSA Aerial Photo and WMC data acquisition and interpretation	2,987.93	4480.00
Landowner, Native Title searches	1,250.00	1475.00
Geophysical processing		
Geophysics –Depth Deconvolution studies		
Assessment of results		
Travel, accommodation, food and supplies		4372.00
Consulting Geologists Field Crew Report preparation	1,450.00	7200.00
Administration and Overheads	1,288.00	7149.00
Calcrete Sampling Programme Planning		3600.00
Auger Drilling		14061.00
Analysis		3223.70
Vehicles		3854.00
TOTALS	**$9,877.93**	**$54,814.70**

9. REFERENCES

Dockery, B. (February 2003). WMC Gravity Interpretation Studies. (Palthrubie Area). Unpublished reports for Falcon Minerals Limited.

Dockery, B. (February 2003). PIRSA TMI and Gravity Interpretation Studies. (Palthrubie Area). Unpublished reports for Falcon Minerals Limited.

Ogierman, J. (November 2002). Summary of Geology and Previous Exploration. Unpublished report for Falcon Minerals Limited.

Ogierman, J. (July 2003). Review of Current Research into a Proposed Gold-only Province in the Central Gawler Craton, South Australia. Unpublished report for Falcon Minerals Limited.

APPENDIX 1

SUMMARY OF PREVIOUS EXPLORATION PROGRAMMES AND RESULTS

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
ACI	SML 230	Lake Acraman	1968-69	Uranium	1069
TARGET: Follow up of airborne radiometric anomalies from survey flown in 1958.					
WORK DONE/ RESULTS: Follow up ground radiometric surveys did not encounter any anomalous readings. The anomalies in the 1958 survey were attributed to fall out from the Maralinga tests in 1952 which had since decayed or been transported by wind before the 1968 follow up .					

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRAE	SML 722	Hiltaba	1972- 73	Uranium	2127
TARGET: Potential Uranium mineralisation in Hiltaba granite.					
WORK DONE/RESULTS: Regional airborne radiometric survey identified Hiltaba granite as potential for uranium mineralisation. Subsequent helicopter-borne scintillometer survey indicated that the Hiltaba granite was not a "hot" granite with respect to uranium. Uranium content of the Hiltaba granite is only 1.5 times that of an average granite					

7

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Carpentaria Exp	EL 442 EL 805 EL 1108	Gawler Range	1979-80	Uranium	3520

TARGET:
Search for uranium mineralisation in Gawler Range Volcanics over a large portion of the north western Eyre Peninsula. The major focus of the programme became the definition of a large Tertiary paleo-channel which was 170km in length and up to 10km wide.

GEOPHYSICS:
Reconnaissance aeromagnetic and radiometric surveys conducted over the search area. Follow up resistivity surveys.

DRILLING:
No systematic reconnaissance geochemical sampling undertaken, however an extensive drill programme was devised to test all anomalies. A programme of up to 1,5000 holes totalling over 120,000 metres was completed. Several drill lines, located approximately 25-30km south west of EL 3043, were sited to define a large, weakly urainiferous , Tertiary paleo-channel. Individual drill holes were terminated once the Proterozoic basement rocks was encountered.
Drill logs from the report contain a very simple description of the basement rock types, such as granite, volcanics, basic volcanics or schist. The report states " all holes were drilled to basement where possible which was generally of granitic composition and frequently pyritic". There is no mention of alteration assemblages in the bedrock types.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Carpentaria Exp	EL 471	Gawler Range	1979-80	Uranium	3520

TARGET:
Part of the wider search for uranium mineralisation in Gawler Range Volcanics by MIM. This EL was located to the immediate NE of Lake Acraman, including the area covered by EL 2952. The target within this EL was for possible uraniferous Tertiary paleo-channels.

GEOPHYSICS:
Reconnaissance aeromagnetic and radiometric surveys conducted over the search area. Follow up ground resistivity over anomalous areas.

GEOCHEMISTRY:
The only assays available are for samples of the Tertiary and recent sediments overlying the basement which were encountered in the drill programme.

DRILLING:
No systematic reconnaissance geochemical sampling undertaken, a short drill programme was designed to test anomalous areas defined by ground resistivity surveys. A 5 drill hole programme totalling 89 metres was completes. Individual drill holes were terminated once the Proterozoic basement rock was encountered.

The 5 holes were sited along the road leading to the Lake Everard Homestead and lie within the eastern boundary of EL 3043. Drill logs from the report state that all holes bottomed in "weathered granitic basement", there is no additional description of this basement rock, no assays and no petrology.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Afmeco/BHP	EL 615 EL 1012	Lake Everard	1980-83	Uranium/Diamonds	3825

TARGET:
The focus of exploration changed several times during the tenure of the licence area.
Phase1. –Assess uranium potential of the Glyde Hill Volcanic Complex in the Gawler Range Volcanics just south of Lake Everard and north-east of EL 3043.

Phase2. –Uranium –Base Metal exploration.

Phase3. – Kimberlite-hosted diamonds (in the final year of tenure, after JV with BHP)

GEOPHYSICS:
Phase1. An initial airborne magnetic-radiometric survey outlined 6 magnetic targets. All 6 were followed up by ground magnetic surveys with two if these covered by additional ground gravity and SIROTEM surveys. All 6 target areas lie outside the current Falcon Minerals tenements.

Two of these targets with follow up gravity, magnetics and SIROTEM are located 10-15km north of the current Falcon Minerals tenements. It was concluded that all gravity variations and the major SIROTEM features at these two locations were mapping only overburden thicknesses.

Phase2. More detailed airborne magnetics survey, 700 line km at a flight line spacing of 250m, altitude 100m. Followed by helicopter-borne radiometric survey. This helicopter survey area includes a small northern porion of EL 3043. Several anomalous areas were checked by ground radiometric surveys.

Phase 3. Twenty two anomalies were followed up with ground magnetics in search of diamondiferous rocks. Six areas were selected for drill testing.

GEOCHEMISTRY:
Phase 1. No geochemical surveys.

Phase 2. Reconnaissance stream sediment survey. A total of 113 samples were taken. No assay results were deemed worthy of follow-up work. A group of initially anomalous values near Grid L1 were later regarded as being due to laboratory contamination.

Water from 20 windmills/bores in and around the tenement were analysed for uranium and other pathfinder elements. Samples from L1 and L2 were regarded as being high in U (up to 50ppb U)

Eight rock chip samples were taken along a line extending 300m north of anomaly L3 (located 30km NE of EL 3043), the only anomalous values were from sample 15279 – a hematite vein in a vuggy rhyolite pyroclastic (45ppb Mo and 50ppm U)

Phase 3. Twenty two gravel samples were collected to test for kimberlitic indicators. Coincident silt samples were analysed for Cu, Pb, Zn, Co, Ni, Cr, Sn, U, Ba, La, As, Ag, Nb and Y but no results were regarded as anomalous.

DRILLING:

Phase 1. Testing of the 6 magnetic targets with aircore/diamond and RAB/diamond drilling. 8 drill holes for a total of 474m were completed (LEV 1-8). Hole LEV 4 was sited within the north-eastern boundary of EL 3043. No uranium or base metal mineralisation was found. The first magnetic target, LE1, was "most likely" due to a magnetic basalt but the company report expresses doubt over this. Brecciated basalts in several drill holes on LE1 showed "conclusive evidence of hydrothermal activity with void filling and replacement by fluorite, epidote, chlorite and quartz".

Drilling of target LE3, (Hole LEV 4) suggests the anomaly is due to a contrast between weakly magnetic dacite overlying non-magnetic granophyre. This is the inverse of the original drilling interpretation.

Phase 2. The programme planned to test anomaly L3 with 6 x 50m drill holes, however drilling was terminated after only 3 holes (Holes LEV 9-11) totalling 69m due to drilling difficulties. Each hole intersected a vuggy rhyolite breccia. Powellite ($CaMoO_4$) was noted in the breccia in LEV 9 and LEV 11. The interval 7-9m in LEV 11 contained chips with "veinlets of sulphides with trace fluorite". The only anomalous geochemical values were from this section, including 1400ppm Mo, 6.5ppm Ag and 20ppm Bi.

Phase 3. 13 percussion holes (PLE 1-13) totalling 192m were drilled to test 6 magnetic anomalies. All 6 anomalies appear to be due to magnetic volcanics.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125

TARGET:
Epithermal gold in Proterozoic felsic volcanic terrane of Gawler Range Volcanics. The BHP tenements covered part of the Chitanilga and Glyde Hill Volcanic Complexes which were considered prospective for hosting epithermal systems.

GEOCHEMISTRY:
Initial BLEG reconnaissance survey collected 30 samples in EL 1504, 57 samples in EL 1505 and 24 samples in EL 1538. Results were encouraging, particularly in channels draining low hills to the north of the EL 3043 with values up to 2.3ppb Au. Weak anomalism was noted in samples taken around Yeltabinna Dam which is located 35km east of EL 3043. Values were up to 0.5ppb Au.

Follow up sampling was undertaken twice due to sampling error in the first follow attempt. A total of 62 samples were collected over the three tenements. Results were disappointing and the initial results were not reproduced. Only 5 samples recorded more than 0.2 ppb Au.

The failure to replicate was blamed on various factors including:
Sample variability,
Laboratory error, or
A reflection of the sensitivity of the assay technique at the lower limits of detection.

GEOPHYSICS:
No geophysics undertaken.

DRILLING:
No drilling undertaken.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293

TARGET:

- Epithermal gold and volcanogenic base metal deposits associated with volcanic centres in Proterozoic Gawler Range Volcanics. Expected to produce regional gravity lows with low magnetic relief due to alteration.
- Olympic Dam style, volcanic breccia hosted mineralisation beneath younger Gawler Range Volcanics volcanic flows, expected to be represented by large amplitude gravity highs.
- Kimberlite hosted diamonds.

GEOCHEMISTRY:

Gravel and stream sediment samples were taken at 147 localities and assayed for As, Te, F, Pb, Ag, Mo, Nb, Sb, Sn, U, Ba, Ce, Co, Cr, Cu, Fe, La, Mn, Ni, P, Th, Zn, Zr, V, Pd, Pt and Au.
A total of 7 rock chips were collected.

Four areas were considered encouraging for follow up. 'Lake Acraman' showed a co-incident F-U anomaly, 'Perrinalba' and 'South Perrinalba Dams' showed anomalous Te and As, and 'Mungo Tank' showed anomalous U, As and F. Various samples reported apatite, barite, fluorite and cassiterite. The follow up results were not encouraging.

GEOLOGICAL RECONNAISSANCE:

Rock samples of Yardea Dacite from near Mt. Ive Station were collected for petrological examination. Sample 2541573 was described as a "bleached dacite? Porphyry" with quartz veining containing leucoxene, topaz and fluorite.

GEOPHYSICS:

An airborne magnetic-radiometric survey outlined 5 targets based on a model of possible volcanic centres or caldera collapse structures up to several km across. Many of these were outside the area of EL 3043 to the east. Two anomalies were tested by GEOTEM without producing values which would indicate basement conductors. These anomalies lie south of EL 3043.

DRILLING:

No drilling undertaken:

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRA Exp	EL 1697	Garden Well	1991	Copper	8427

TARGET:
Acid volcanic hosted copper mineralisation in Yardea dacite units of the Gawler Range Volcanics. Main target area was Garden Well prospect to the north-east of Lake Acraman, approximately 45km east of EL 3043.

GEOCHEMISTRY:
Initial reconnaissance minus 80 mesh stream sediment sampling over most of the tenement (216 samples) and loam sampling in the southern portion of the EL (28 samples).
Follow up minus 80 mesh stream sediment sampling in the Garden Well area (155 samples)

Drainage sample results were generally low to background except for 6 samples in the Garden Well area, which were considered anomalous for Cu and Zn (79ppm Cu, 158ppm Zn).
Follow up drainage sampling in the Garden Well area outlined elevated Cu, Zn, Co, Ni and Cr values over an 8km strike length attributed to a strongly weathered dolerite sill.

A float sample of a silicified acid volcanic with malachite staining was collected just north of Butterfield Hill in the Garden Well prospect area. The sample returned an assay of 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float was found and no further follow up was undertaken.

GEOPHYSICS:
No geophysics undertaken.

DRILLING:
No drilling undertaken.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797

TARGET:

- Precious and base metal mineralisation along the southern margin of the Glyde Hill Volcanic Complex. Interpreted as a possible caldera structure in the lower Gawler Range Volcanics. This was covered by the western half of EL 1800.(In which EL 3043 is now located)
- The eastern portion of EL 1800 is underlain by Yardea Dacite which, although generally considered unprospective, was regarded as having potential for high-level, Acropolis style mineralisation.

Initial exploration focused on two main areas of anomalous high gravity, Bullyonna Well and Mangaroongah.

GEOPHYSICS:

Semi-regional and grid gravity surveys with associated ground magnetics and minor IP and/or SIROTEM were undertaken on 5 local grids and the Mt. Cooper Dam area. Four of these grids, including the 'Sisters', lie within or adjacent to EL 3043. The Mt. Cooper Dam prospect is only 40km east northeast of EL 3043.

Three gravity anomalies were recorded, Mt. Cooper Dam, Kulgulya and Mangaroongah. These three anomalies are spatially coincident with magnetic anomalies and/or signatures (from SAEI data). Another 3 coincident magnetic-gravity anomalies were also identified at Dan's Hole, Emu Bluff and Sisters.

GEOLOGICAL RECONNAISSANCE:
No systematic reconnaissance geochemical sampling was undertaken. Geological observations include a comment that at Bullyonna Well, (35km east of EL 3043), sericitised Yardea Dacite can be observed in three shafts? Including an outcrop containing a thin actinolite-rich vein which "suggests moderate temperature, iron-rich hydrothermal activity"

A small outcrop of Hiltaba Granite, also near Bullyonna Well, has textures indicating an intrusive relationship with the host Yardea Dacite.

Reconnaissance of the Palthrubie Granophyre near Lake Everard Homestead (Rocky Creek Prospect) revealed the presence of rare veins, up to 5mm wide, of quartz + malachite + fluorite + hematite. The host rock is a medium to fine grained granite containing abundant miarolitic cavities filled with fluorite + hematite, and was interpreted as a high-level Hiltaba suite intrusive. The sample returned an assay value of 0.95% Cu and 145ppm Ag.

There was no follow up chip sampling but the prospect was covered by geophysical surveys. A hole drilled by Afmeco/BHP (LEV 4) is sited approximately 1700m to the south , (see EL 615).

Surface lag deposits of iron-rich nodules were recorded at several localities throughout the tenement. Nodules vary from strongly magnetic to hematitic and are interpreted as representing hematitic replacement of porphyritic volcanics. One such area of nodules (Mt. Cooper Dam) shows a spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics (enrichment in Ba, Cr and U).

DRILLING:
A drill programme was undertaken to test some of the geophysical anomalies detected during the grid controlled surveys. Three RC drill holes (totalling 281m) and three diamond holes (totalling 278m) were completed. Five of these holes (MGYC 2-6) were drilled in the Kulgulya prospect . Hole (MGYC 1) was drilled at Mt. Cooper Dam. There were no anomalous results returned from this drill programme.

The single hole at Mt. Cooper Dam targeted a Bouger gravity anomaly, reaching a depth of 95m and intersecting only unaltered Yardea Dacite.

Drilling at Kulgulya was designed to test several magnetic, gravity, IP and SIROTEM anomalies.
MGYC 2 (50m) tested an IP anomaly, encountering unaltered Wheepool Rhyolitic tuffs. The anomaly was interpreted as being due to hypersaline groundwater.
MGYC 3 (105m) tested a magnetic anomaly on the flank of a semi-regional gravity feature. The hole intersected unaltered basaltic trachyandesite which explained the magnetic anomaly.
MGYC 4 (152m) was designed to test a region of broad magnetic and gravity anomalies. The hole encountered Wheepool Rhyolite overlying weakly sericitised and clay-altered, chloritised rhyolite breccia and lapilli stone. No geophysical source was identified, but a deeper lying basalt was inferred.
A SIROTEM anomaly on the side of a semi-coincident magnetic/gravity anomaly was tested by hole MGYC 5 (78m), this hole intersected felsic volcanics with very week clay alteration. Ground water was interpreted as the cause of the SIROTEM anomaly.
MGYC 6 (138m) tested a semi-coincident gravity/magnetic anomaly and intersected felsic volcanics overlying massive basalt. This basalt was interpreted as being the source of the major magnetic and gravity anomaly at Kulgulya.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200

TARGET:

Homestake interpreted a possible NE-trending gravity corridor extending from the vicinity of Olympic Dam/Acropolis to Streaky Bay in the south west. This gravity feature was interpreted to represent a marginal fault zone, related to a series of 100km wide horst and graben blocks which dissect the Gawler Carton. The gravity feature was interpreted as a potentially deep crustal feature with the potential to tap mineralising fluids.

The main interpreted horst structure, the Arcoona Horst, is host to EL 3043. Homestake identified 3 priority target models:

- "flower structure" caused by the intersection of the regional Yalbrinda Fault zone with the northern margin of the Arcoona Horst.
- Hiltaba Granites to the south-west of EL 3043.
- Interpreted caldera structures around Lake Acraman and Dan's Hole (Eastern boundary of EL 3043).

GEOCHEMISTRY:

The initial field work comprised a grid controlled calcrete sampling program to test the three target zones. A total of 385 calcrete samples were taken on a 800 x 800m grid, and assayed for Au, As, Cu, Pb, Zn and Ca.

A stream sediment sampling programme was also undertaken with 330 samples being collected and submitted for BLEG analysis of Au and Cu. Sampling was based upon TMI anomalies in the Lilly Rocks Dam (SE corner of EL 3043) and Bond Hill Dam (35km east of EL 3043) areas. A weak Au anomaly (3-9ppb Au) was interpreted in the SW of the tenement, coincident with a contact of Hiltaba Granite and Proterozoic basement. This prospect, called Toondulya, lies within the south-western portion of EL 3043.

Follow up calcrete sampling in the following year was designed to give complete coverage to the Homestake tenement. Hand dug calcrete sampling in the eastern half of the EL was completed on a 1000 x 800m spaced grid, a small portion of this grid falls within the north-eastern corner of EL 2947. A total of 1374 calcrete, 160 stream sediment and 38 bulk soil samples were taken. No anomalism was noticed in the BLEG samples and a peak value of 0.9ppb Au was returned from the stream sediment samples. Several small, weak gold in calcrete anomalies were returned in the region surrounding EL 2947. Homestake considered these to be attributed to weak deuteric alteration of volcanics and were not followed up.

DRILLING:

The Toondulya prospect was evaluated with 250 aircore holes for a total of 10,600m along 6 traverse lines. This was followed by infill drilling at a 200m spacing. Only weak Au values with a peak of 39ppb Au were returned. Homestake interpreted the data as attributing the weakly anomalous Au as due to localised hydrothermal alteration and veining/brecciation in the underlying Hiltaba suite granite.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

TARGET:

This tenement covers the southern portion of EL 3043.

Targets were initially derived on the basis of TMI and gravity survey images, 5 areas were selected – Yarna, Narlaby, Kaldoonera, Centre and Plunkey. Yarna occurs in the northern portion of the tenement and is the closest to EL 3043.

Yarna is a unique, large circular, magnetic anomaly. Two models were used by Pima Mining:

- It represents a Sudbury situation where a large impact event in Lake Acraman gave the potential for instability in the mantle, forcing basic material up with the potential for a major mineralised system.
- Lake Acraman is actually a large volcanic vent, the source of the enormous volume of Gawler Range Volcanics.

GEOCHEMISTRY:

Three phases of surface geochemical sampling were undertaken over the tenement.

Phase 1. Reconnaissance surface calcrete sampling by hand on a 800 x 400m grid, a total of 266 samples were collected.

Phase 2. Auger calcrete sampling in the SW corner of the tenement, with 323 samples collected on a 800 x 400m grid.

All calcrete samples were analysed for Ca, Cu, Au, Pb and Ni. The second phase samples were also analysed for As, Ag, Bi, Cd, Co, Fe, Mn, Mo, Zn, and Mg. A total of 47 drill holes drilled in the early 1980s by CEC for sedimentary uranium were reassayed, if they penetrated bedrock. There is no analysis of the drill hole reassay programme in the Pima report, but they mention anomalous results of up to 27ppb Au in granite.

Phase 3. RAB/Aircore drilling focused on 5 target areas. A total of 63 holes for 2314m were completed. Additional surface sampling was required at Yarna due to drilling difficulties. An additional 231 calcrete, 71 soils, 142 stream sediment, 104 MMI and 14 rock samples were collected during this phase.

Analysis of assay results is again limited, but Pima notes that there is significant elevated REEs for the Yarna and Punkeys prospects with anomalous Ce, La, Nd and Yt. The Yarna prospect also returned anomalous Au values up to 32ppb Au in rock chips.

FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3043

"Palthrubie"

19th November 2003 to 18th November 2004

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

REPORT REFERENCE NUMBER: ……..

W. A. HAMPTON
RAY MUSKETT
November 2004

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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LIST OF DIGITAL DATA

Name	File Size	File Type
EL3043_200405_01_Geochem assays	23kb	Text file

MAP SHEETS:

1: 250 000	Childara (SH53-14)
1:250 000	Gairdner (SH53-15)
1: 250 000	Streaky Bay (SI53-2)
1:250 000	Yardea (SI53-3)
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Copper and Gold

KEY WORDS:

Palthrubie Hill, Lake Acraman, Gairdner, Everard, copper, gold, reprocessing of regional geophysics, Calcrete auger sampling, Gawler Craton, Gawler Range Volcanics, Olympic Dam style mineralisation, Central Gawler Craton gold province.

SUMMARY

Exploration activities to date carried out within Exploration Licence 3043 "Palthrubie" involved the following:

- Acquisition and research of additional data.
- Purchase and interpretation of 1990s PIRSA calcrete sampling data.
- Acquisition and interpretation of aerial photos.
- Field investigations.
- Additional Calcrete sampling by Falcon.
- Analysis of results.
- Assessment of results.
- Modelling and interpretation of gravity data.
- Target identification and planning further work.
- Report preparation.

Exploration statistics are summarised below:

TABLE 1.
EXPLORATION STATISTICS 'PALTHRUBIE' EL 3043

Exploration Activity	EL 3043	TOTALS
Acquisition and research of historical data	Whole EL	693 sq km
Interpretation of aerial photos	Whole EL	693 sq km
Calcrete sampling program	Whole EL	693 sq km
Interpretation and modelling of gravity data	Whole EL	693 sq km
Assessment of results and reporting	Whole EL	693 sq km

1. INTRODUCTION

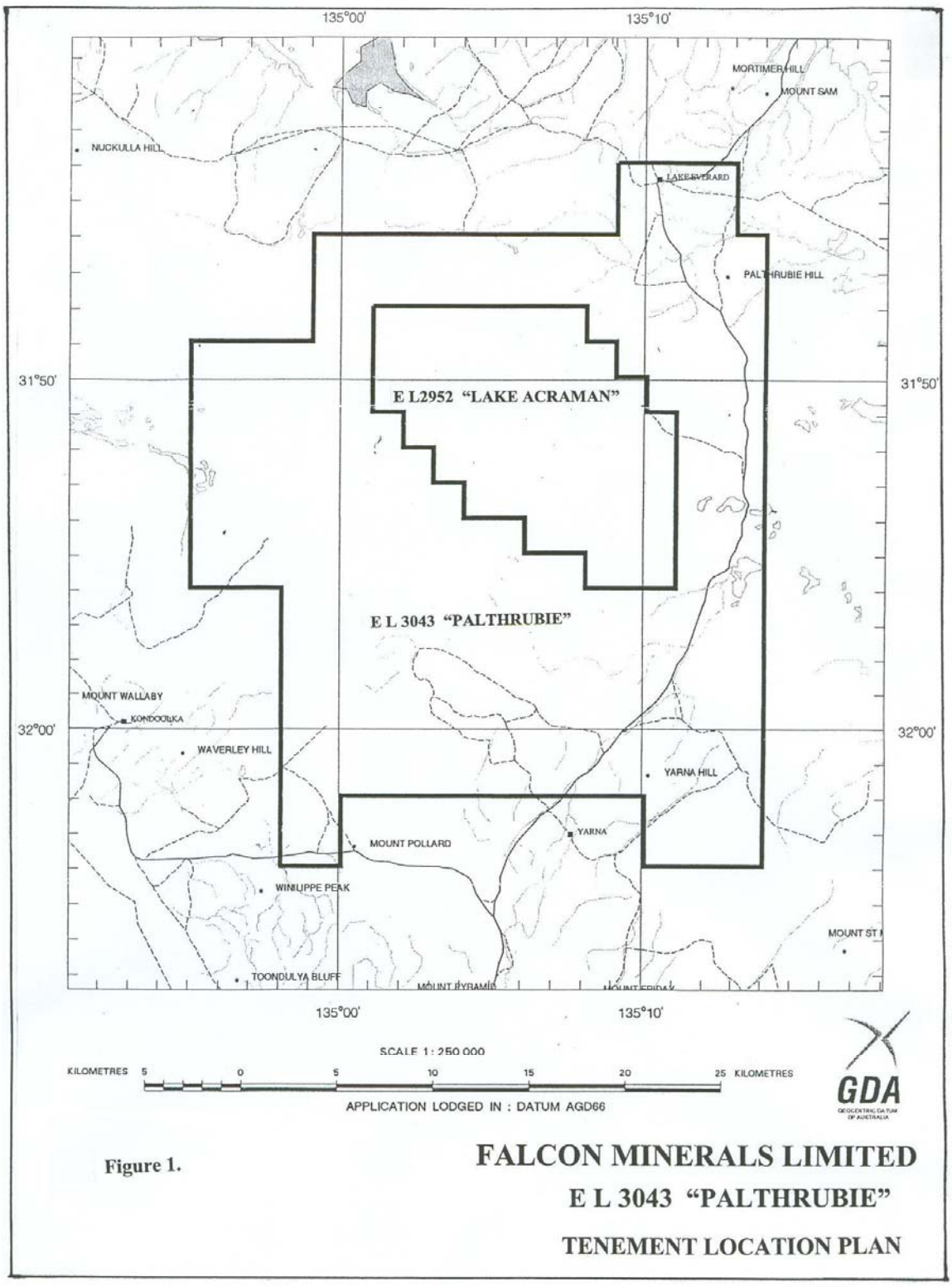
The Exploration Licence 3043 called Palthrubie, comprising 693 square kilometres, was applied for by Yardarino Limited on 4th July 2002 as Application No. 102/02 and was granted for one year on the 19th November 2002 (Table 2).

Yardarino Limited changed their name to Falcon Minerals Limited on 16th December 2002 and the lease was then endorsed in that name.

TABLE 2.
TENEMENT SUMMARY

Tenement Number	Initial Date of Application	Date of Last Grant	Expenditure Commitment	Area Sq km
EL 3043	**4th July 2002**	**19th November 2003**	**$105,000**	**693**

The tenement lies approximately 180km southwest of Woomera and to the southwest of Palthrubie Hill (**Figure 1**), located in the south-central portion of the Gawler Craton. This exploration area is situated mainly within the south-west corner of the Gairdner 1:250,000 map sheet with portions of the tenement extending into the Childara, Streaky Bay and Yardea map sheets.



The six monthly Summary Report on Mineral Exploration detailing the tenement's exploration and expenditure for the period ending 18th May 2004 was submitted by Falcon Minerals Limited on 27th June 2004.

An application was lodged on the 7th September 2004 for the renewal of the whole 693 square kilometres of EL 3043 for a further period of one year commencing on 19th November 2004. The application was accepted on 20th October 2004.

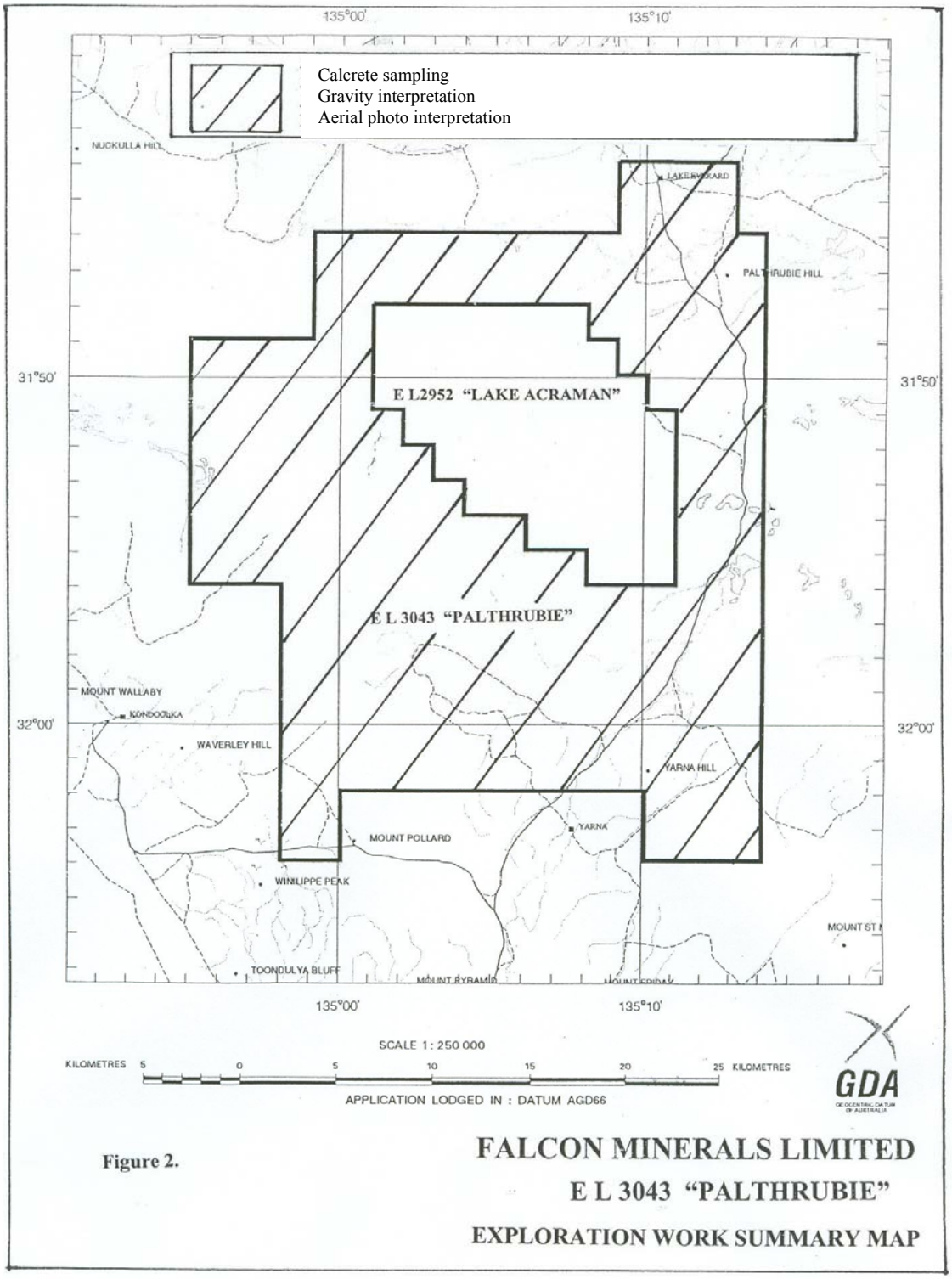


Figure 2 'Exploration Work Summary Map' details the spatial distribution of the exploration activities carried out during the period 19th November 2003 to 18th November 2004.

2. HISTORY

Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3043. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying granophyre. A drill hole (LEV4) over a magnetic high along the southern margin of the Palthrubie Granophyre, drilled by Afmeco/BHP recorded Ba values up to 0.2% but failed to find Cu, Ag, Bi or Pb anomalism. Rock chip samples of the granophyre assayed up to 0.4% Ba.

Table 3 presents a summary of those Companies that carried out exploration within the environs of EL 3043 “Palthrubie”.

TABLE 3. HISTORICAL EXPLORATION SUMMARY					
COMPANY	**LICENCE**	**PROJECT NAME**	**DATE**	**COMMODITY**	**ENV**
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3. EXPLORATION RATIONALE

Falcon Minerals Limited considered that the Palthrubie tenement had exploration potential for Olympic Dam style Cu-Au mineralisation. Past drilling results in the surrounding region indicated mineralised fluids, consistent with Olympic Dam style mineralisation, were intersected, including sericite, chlorite, hematite, fluorite and barite. Subsequent geophysical work by Falcon down graded its Olympic Dam potential.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. The Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province. Based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Results to date have proved encouraging and application was lodged on the 7th September 2004 for the renewal of the whole 693 square kilometres of EL 3043 for a further one year period commencing on 19th November 2004.

It is proposed to carry out the following work programme during the next 12 months:

- Additional calcrete sampling and analysis, including extensions of known calcrete anomalies at Sisters East, West and at Deep Well.
- Completion of compilation work on past drilling results for further drilling into bedrock.
- Target identification.
- RC drilling.
- Assessment of results.
- Report preparation.

4. GEOLOGY

4.1 Regional Geology

The Palthrubie tenement contained in Exploration Licence 3043 comprises an area dominated by recent sand ridges with an average elevation of approximately 8m. It is situated in a region of extensive Gawler Range Volcanics (GRV), subdivided into Upper and Lower GRV. Rocks of this central portion of the Gawler Craton are characteristically unmetamorphised and little deformed. The Lower GRV comprises the Glyde Hill Volcanic Complex rocks of, predominately, a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

Overlying this sequence is the Upper GRV, composed of a vast blanket of ignimbrite known as the Yardea Dacite and comprising the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and porphyry dykes intrude these volcanics. A co-magmatic Hiltaba Granite out crops to the south and west of Lake Acraman. RAB drilling in the area during the late 1990s intercepted 'granite breccias' but there was no indication whether they were due to tectonic or hydraulic forces.

The Yalbrinda Fault Zone located 20km west of the EL 3043 lease is a dominant structural feature and probably marks the western boundary of the Gawler Range Volcanic province. The fault is possibly a result of crustal down warping responding to the extrusion of the large volume of the GRV.

A large north-west elongated gravity anomaly beneath EL 3043 reflects a north-west trending sand dune-filled depression, representing an underlying north-west trending regional structure.

The unusual circular feature of Lake Acraman has previously been interpreted as a surficial expression of a Neo-Proterozoic bolide impact structure from evidence of petrographic studies of shattered volcanics collected in the vicinity of the lake. Other studies, showing a low magnetic and low gravity signature within the GRV sheet, suggest either a Hiltaba Granite pluton or a major volcanic vent. It is proposed that the source of the large volume of GRV could be from this vent. Detailed aeromagnetics flown to the south and south east of Lake Acraman have outlined several possible volcanic centres or caldera collapse structures, up to several kilometres across, which may be a possible source of the Gawler Range Volcanics.

4.2 Local Geology

The majority of EL 3043 is covered by sand dunes and sand-covered flats with very little outcrop. The Gairdner Sheet shows only about 5% of the tenement contains isolated outcrops. The northern part of the lease contains outcrops of a series of densely welded ash flows (Mangaroongah Dacite), which form one of the lower units of the Glyde Hill Volcanic Complex (Lower GRV). The Mangaroongah Dacite is overlain by the Wheepool Rhyolite. A small area in the northeast of the tenement and west of Palthrubie Hill contains andesite outcrops while Yardea Dacite, of the Upper GRV, outcrops in the southern portion of the lease.

The 1,478 +/- 38 Ma Hiltaba Granite intruding the GRV is considered to be the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

In the southern portion of the lease isolated outcrops of Hiltaba suite granites, which become more common to the south and west of the lease on the adjoining map sheets. A single small,

approximately 2km diameter, outcrop of Hiltaba Granite (Palthrubie Granophyre) is located north of the large gravity feature underlying the tenement, and is recognised as a high-level intrusive.

A rare outcrop of Wheepool Rhyolite, east of the Glyde Hills Outstation and extending 3km east of the station, displays a pale green, pink, purple and cream coloured pyroclastic breccia and agglomerate with layers of tuff to 1m thick. The pyroclastic has angular to sub-rounded blocks and fragments up to 1m across of banded rhyolite, welded ash flow tuff, and bands of pumice and rhyodacite. The presence of local eruptive volcanism is encouraging.

4.3 Alteration and Mineralisation

The majority of previous exploration in the Palthrubie area focused on the Glyde Hill Volcanics Complex in which drilling intersected weakly altered, interlayered felsic and or mafic volcanics. Petrological descriptions of selected samples indicate the rocks have undergone weak sericite alteration +/- chlorite, +/- carbonate. Although no intervals of significant mineralisation were encountered there are several recorded types of alteration/mineralisation which are of interest, including;

Glyde Hill Prospect. (30 km North of EL 3043).
Vuggy, rhyolitic breccias and brecciated basalts in several drill holes indicated that "hydrothermal activity seems undisputable in some of the breccias with fluorite replacement of the volcanic matrix but with negligible sulphide". Hole LEV 1 at 18.7m depth contained a fault breccia with matrix predominately of fluorite plus extensive oxidised magnetite in the host. Other intervals in LEV 1 and LEV 7 contained brecciated volcanics with prominent fluorite in the matrix and clasts containing magnetite, +/- rims of hematite. Drill chips in hole LEV 1 were described with "veinlets of sulphides with trace fluorite" from 7-9m depth.

Kulgulya Prospect.
WMC recorded weak chlorite-hematite-sericite alteration of volcanic breccias with slightly elevated Fe, F and Ba. There were minor chlorite veins throughout the basalt interval in hole MGYD-3 with rare quartz-amphibole veins containing minor galena.

Yardea Dacite.
In the Palthrubie district this dacite generally shows less alteration than the underlying Glyde Hill Volcanic Complex, with several notable exceptions. Along the Butterfield Range, 65km east of EL 3043, CRA encountered elevated Cu, Zn, Co, Ni and Cr values associated with a NW striking dolerite sill. They also collected float of a silicified felsic volcanics stained with malachite which assayed 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float has been found.

WMC encountered three "shafts/pits?" in Yardea Dacite containing a thin actinolite rich vein which "suggests moderate temperature, iron-rich hydrothermal activity". This site has been located 48km east of EL 3043.

Hiltaba Granite.
The Hiltaba Granite outcrops in the south-western portion of the Gairdner 1:250,000 sheet, and includes several isolated outcrops in the south of EL 3043 and the Palthrubie Granophyre in the north. There is very little information on the geology of the granite outcrops within the tenement. Petrological studies by WMC on the Palthrubie Granophyre identified it as a high-level granite with alteration assemblages that suggest the magma was "volatile-rich and that the volatiles were oxidised and rich in silica, fluorine, iron and K". Outcrop sampling by WMC revealed the presence of rare veins up to 5mm wide with quartz + malachite + fluorite + hematite which assayed 0.95% Cu,

145ppm Ag, 26ppm Bi and 100ppb Pb. They were unable, however, to reproduce any anomalous Cu values from a follow-up programme of surface rock chip sampling.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV 4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

CRAE reported anomalous uranium, arsenic and fluorite from stream sediment samples near Lake Acraman, with one anomalous sample returning values of 1100ppm F, and 1ppm U. Limited follow up was carried out on the basis of this result, but the reports include mention of altered biotite granitoids with elevated F (100ppm), As (29ppm) and Pb (88ppm).

Pima Mining undertook exploration in areas of Hiltaba age granites under cover to the south-west of EL 3043. RAB/aircore drilling results encountered altered granite at the Yarna and Plunkey's prospects. Assay values were not significant for Cu or Au but Pima Mining noted "significant, elevated rare earth elements (RRE)" in MMI samples. They reported the following values and compared them to samples of typical Olympic Dam mineralisation.

MMI Analyses of RRE elements at Pima Mining's YARNA Prospect:

Yarna Prospect		Olympic Dam Sulphide Ore	
Element	**Result (ppm)**	**Element**	**Result (ppm)**
Ce	377	Ce	2000-2500
La	265	La	1300-1800
Nd	279	Nd	N/A
Yt	174	Yt	35-110

Iron-rich Nodules.

Surface lag deposits of iron-rich nodules were recorded by WMC at several localities throughout the area. Nodules vary from strongly magnetic to hematitic. Rare angular and rounded partially hematised volcanic fragments occur amongst the nodules at several localities. WMC report that the textures of the nodules seen in thin section are strongly suggestive of hematite replacement of porphyritic volcanics. One such area of nodules, (Mt. Cooper Dam, 40km east northeast of EL 3043) shows spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics, namely enrichment in Ba, Cr and U.

The origin of the iron-rich nodules remains equivocal and WMC did not undertake a more thorough study of their chemistry and texture. They report, "the principal contribution appears to be from a Fe-metasomatised volcanic source with some encouraging Olympic Dam-like characteristics (enrichment in Ba, Cr and U relative to precursor compositions)", but tentative textural data also suggests contributions from quenched iron-rich melts (Acraman meteorite ejecta?) and ferruginised quartzose regolith.

4.4 Structurally Controlled Au-only Mineralisation

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. Mineralisation is associated with the Meso-Proterozoic Hiltaba Suite granitoids. The Palthrubie tenement lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes

and Weednanna give the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region with structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease. The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids.

From available literature it appears there are many similar features, which characterise the various gold prospects throughout the proposed central Gawler Craton gold province, including:

- Gold is associated with steeply- to westerly-dipping quartz + sulphide veins
- Sulphide phase is predominantly pyrite. Minor galena has been recorded
- Mineralisation is hosted by granite or granite gneiss spatially associated with Hiltaba Suite intrusions
- Strong spatial association with regional-scale structures which often cross-cut Hiltaba Suite intrusions, or with smaller fault/shears which form as splay off a regional structure
- Mafic/dolerite dykes are often spatially associated with prospects and are commonly present in controlling structures
- Mineralisation is associated with strong hydrothermal alteration. Highest grade gold is usually associated with sericite +/- silica +/- chlorite alteration
- At some prospects, for example Barnes, there is evidence of a more distal propylitic alteration (chlorite-epidote-hematite)

Based upon the above characteristics, Company reporting of gold prospects in the Lake Acraman-Lake Everard region shows there is sufficient information available from RAB/aircore drilling to indicate they can be classified as typical central Gawler Craton Gold-style mineralisation.

The magnetics show a 2km diameter rounded intrusion in the northeast portion of the ‘Palthrubie’ lease. Very limited past exploration suggests it is a high level Hiltaba Suite intrusive body. Rock chip sampling detected up to 0.95% Cu and reported 145g/t Ag associated with small veins characterised by quartz-malachite-fluorite and hematite. Recent calcrete sampling work by Falcon has down graded this target.

5. CALCRETE SAMPLING

Calcrete sampling in the Gawler Craton has been an efficient method for gold exploration on the regional scale. The late 1990s PIRSA grid-controlled calcrete sampling program covered 90% of Exploration Licence 3043. These samples were collected by hand from depths between 25 and 100cm with assays at or above 3ppb considered as anomalous. Only three anomalous samples lie within EL 3043.

Equinox Resources NL found sampling success was better in areas of flat bluebush/mallee terrain whereas sampling in sand dunes proved most difficult. A significant portion of their lease ground was covered by sand dunes leaving less than half the tenements with successful sampling results. A total of 38 samples gave above 3ppb Au values and four targets were selected at Deep Well, Sisters East, Sisters West and Lake Acraman.

Less than half of Exploration Licence 3043 has been covered by previous calcrete sampling and hand sampling methods could not obtain calcrete in areas of sand dunes. The more recent success of Adelaide Resources on their Eyre Peninsula Project, particularly the Barnes Prospect, has increased the knowledge and understanding of geology and mineralisation styles in the central Gawler Craton.

Falcon Minerals contracted Joseph Ogierman to undertake calcrete auger drill sampling over EL 3043 above gravity highs associated with Hiltaba suite granites. A total of 18 targets were selected for testing with a minimum of 5 calcrete samples per target (**Figure 3.**). Spacing of samples varied from 500m to 1000m. At the time of auger drilling Target 8, in the far north west of EL 3043, was too difficult to access and remains untested. In places, the sandy soil cover caused problems with vehicle access and sampling. Shallow auger drilling was conducted along some shallow structural corridors exhibiting hydrothermal alteration to define the extent of gold anomalism.

Only results for EL 3043 will be discussed here. The sampling results of EL 2952 Lake Acraman, which lies inside the boundaries of EL 3043 Palthrubie, were reported in that Annual Technical Report.

A total of 127 samples (see digital text file included with this report and Appendix 2) were collected in EL 3043 at 17 sites using a Garmin 45 GPS unit to record the position, depth, calcrete type, HCl reaction, host regolith and terrain information for each sample taken. Calcrete/calareous intervals were sieved and tested with dilute HCl. A 5+ mm portion was sent for analysis at Genalysis Laboratories in Adelaide. Samples were analysed for low level Au (method Br/EETA at a detection limit of 0.1 ppb Au) and Pb, Zn, Cu, As, Ag, Ni, Fe, Mn, Ca and MG (method BT/OES). All sample holes were back-filled upon completion.

Some difficulties occurred with the sampling particularly in the Moornaba Sands. The most consistent recovery was in the Pooraka Formation. Most of the northern half of EL 3043 is covered by Moornaba Sands (**Figure 3.**). The level of calcrete formation in the Moornaba Sands varies from 1m to 8m. Also some individual calcrete horizons were very thin and required composite samples to be compiled.

The 1990s data considered 3ppb Au values to be anomalous. However, the program carried out by Falcon Minerals required a Carbonate Normalised Gold (CNG) value to be calculated due to the poor recovery within the Moornaba Sands. The CNG was calculated as Au ppb/(Carb%/100), where Carb% is derived from Calcite%+Dolomite% where assayed Mg, multiplied by 7.6, equals the Dolomite percentage. A value of CNG >5ppb Au was taken as anomalous.

Of the 17 sites within EL 3043, five returned anomalous CNG Au ppb values. Target 1, in the top northwest corner of the tenement, gave two CNG values >5, while another assayed 3ppb without the CNG conversion. Target 3 had one sample at CNG >5ppb in Moornaba Sands but adjacent to Pooraka Formation. Target 4 also assayed one sample CNG >5 with two others displaying a weakly elevated value between 2 and 2.5ppb. Two samples from Target 11 gave anomalous CNG values but there were assayed from samples with poor calcrete. Target 20 gave one sample 4.2ppb Au before conversion. This sample extends the anomalous zone, identified by Equinox's Anomaly

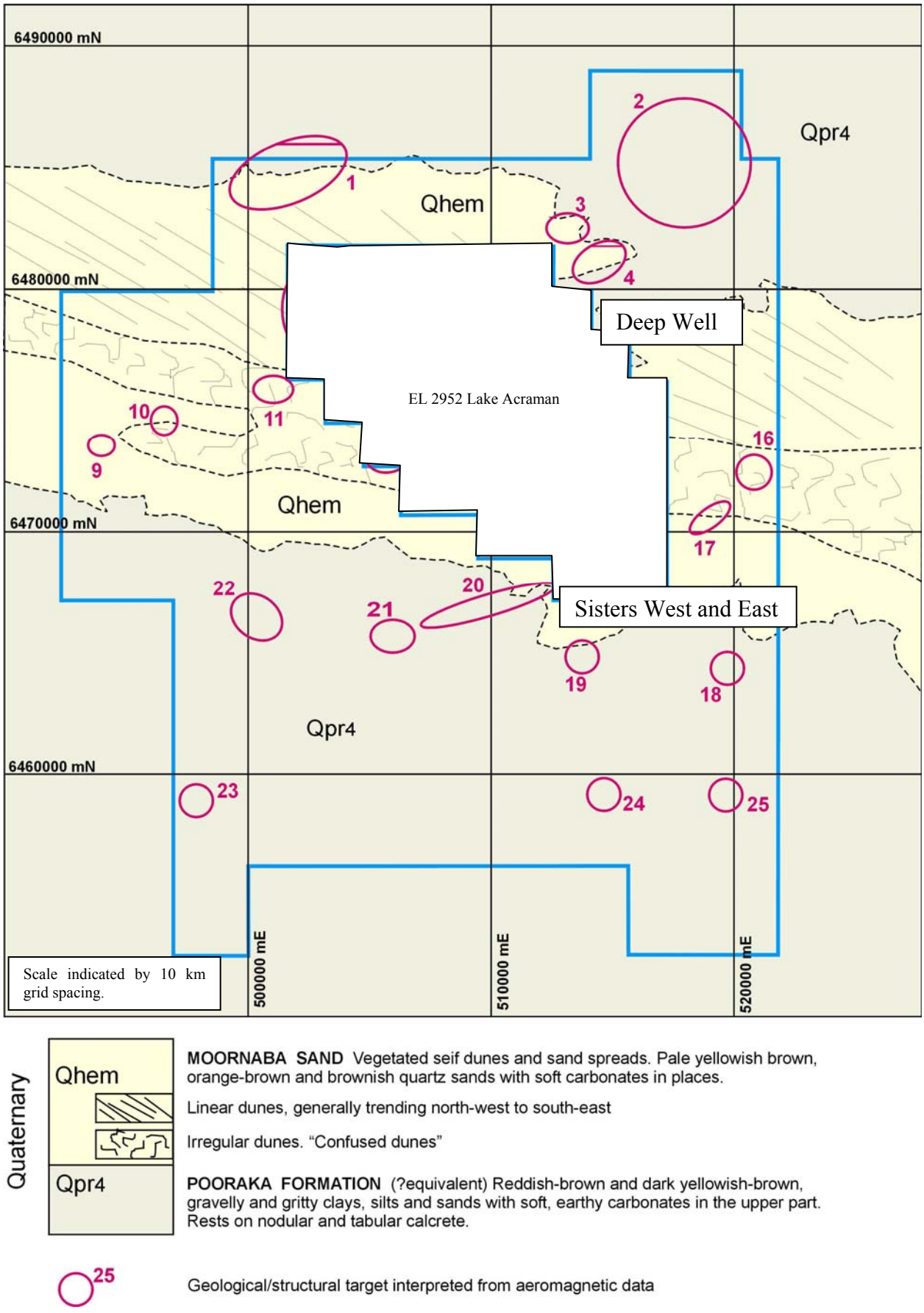


Figure 3 Location of calcrete sampling targets and Quaternary units within the EL 3043 Palthrubie tenement.

14, by 450m to the north and corresponds to a small magnetic high on the opposite side of the north east structure to the Sisters West anomaly. A table of field sampling and assay results is provided in Appendix 2 and in the attached digital .txt file.

These results are not as encouraging as the Lake Acraman calcrete program which lies within the boundaries of EL 3043. However, due to the proximity of good results from the Lake Acraman tenement the calcrete program has shown additional calcrete samples should be undertaken, at 200 m or 100 m spacing, to effectively identify and define targets for deeper drilling.

6. GRAVITY MODELLING

Aero magnetic and ground gravity data were collected over the Palthrubie and Acraman tenements in South Australia. Appendix 3 shows results of the gravity modeling carried out by Falcon Minerals. The majority of the gravity model lies within the border of EL 2952 Lake Acraman.

The bulk densities at Palthrubie were 2.85 g/cc. These are well short of the required densities and indicate a depth 5km which is too deep for drilling. The results are interpreted to be a mafic pile or intrusive body, possibly of gabbro – dolerite composition, or a basaltic volcanic pile.

The gravity model produced results that are not equivalent to Olympic Dam or Prominent Hill style hematite – silica hydrothermal cores. However, the magnetics and to some extent the gravity, indicates a NW trending structure with NE cross structures showing demagnetization, which is relevant in respect of gold mineralisation of the Tunkillia style.

7. FUTURE WORK

Future work will include an infill calcrete sampling program followed by a RAB drilling programme based on a 50x50m grid over selected target areas. The angled or vertical RAB holes, depending on structures, will be drilled to basement and then hammered for approximately 5m to penetrate the basement rocks. The RAB drilling will be followed by angled RC drilling in the more prospective sites. The suitability of RAB drilling instead of more usual air core drilling will need to be checked from past drill logs and notes on drilling conditions.

8. ENVIRONMENT AND HERITAGE

The Central Archive in the Department of State Aboriginal Affairs records Aboriginal Heritage sites within the “Palthrubie” EL 3043 tenement area. Three specific sites have been detailed and involve a ‘Mythological Site’ at Palthrubie Hill, a ‘Water Reserve and Engraving Site’ north of Yarna Hill, and a ‘Painting Site’ at Cottons Nob Tank, in the south-western portion of the tenement. Falcon Minerals Limited have been advised that if during development, Aboriginal sites, objects and remains are discovered, the owner/occupier of the land must report the discovery to the Minister of Aboriginal Affairs as soon as possible.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3043 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

9. EXPENDITURE STATEMENT

Expenditure during the second year of tenure for EL 3043 'Palthrubie' is presented below as a detailed six monthly breakdown of the various exploration activity costs.

TABLE 4.
EXPLORATION EXPENDITURE EL 3043

Exploration Activity	Period ending 18/05/2004	Period ending 18/11/2004
Data acquisition	$482.00	$384.00
Evaluation and assessment of all results to date	$5950.00	$1750.00
Gravity modelling	$10,200.00	
Field investigation	$1800.00	$1927.00
Airfares/travel/food/accommodation/supplies	$2437.00	$1974.00
Vehicle hire/fuel/repairs	$2119.00	$1230.00
Data compilation of past drilling and interp.		$2800.00
Report preparation		$2250.00
Administration/Overheads 15%	$3448.00	$1847.25

Total exploration expenditure for the 12 month period from 19th November 2003 to 18th November 2004 was $40,598.25.

10. REFERENCES

Ogierman, J. (November 2002). Summary of Geology and Previous Exploration. Unpublished report for Falcon Minerals Limited.

Ogierman, J. (July 2003). Review of Current Research into a Proposed Gold-only Province in the Central Gawler Craton, South Australia. Unpublished report for Falcon Minerals Limited.

APPENDIX 1

SUMMARY OF PREVIOUS EXPLORATION PROGRAMMES AND RESULTS

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
ACI	SML 230	Lake Acraman	1968-69	Uranium	1069
TARGET: Follow up of airborne radiometric anomalies from survey flown in 1958.					
WORK DONE/ RESULTS: Follow up ground radiometric surveys did not encounter any anomalous readings. The anomalies in the 1958 survey were attributed to fall out from the Maralinga tests in 1952 which had since decayed or been transported by wind before the 1968 follow up.					

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRAE	SML 722	Hiltaba	1972- 73	Uranium	2127
TARGET: Potential Uranium mineralisation in Hiltaba granite.					
WORK DONE/RESULTS: Regional airborne radiometric survey identified Hiltaba granite as potential for uranium mineralisation. Subsequent helicopter-borne scintillometer survey indicated that the Hiltaba granite was not a "hot" granite with respect to uranium. Uranium content of the Hiltaba granite is only 1.5 times that of an average granite					

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Carpentaria Exp	EL 442 EL 805 EL 1108	Gawler Range	1979-80	Uranium	3520

TARGET:
Search for uranium mineralisation in Gawler Range Volcanics over a large portion of the north western Eyre Peninsula. The major focus of the programme became the definition of a large Tertiary paleo-channel which was 170km in length and up to 10km wide.

GEOPHYSICS:
Reconnaissance aeromagnetic and radiometric surveys conducted over the search area. Follow up resistivity surveys.

DRILLING:
No systematic reconnaissance geochemical sampling undertaken, however an extensive drill programme was devised to test all anomalies. A programme of up to 1, 5000 holes totalling over 120,000 metres was completed. Several drill lines, located approximately 25-30km south west of EL 3043, were sited to define a large, weakly urainiferous, Tertiary paleo-channel. Individual drill holes were terminated once the Proterozoic basement rocks were encountered.
Drill logs from the report contain a very simple description of the basement rock types, such as granite, volcanics, basic volcanics or schist. The report states “all holes were drilled to basement where possible which was generally of granitic composition and frequently pyritic”. There is no mention of alteration assemblages in the bedrock types.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Carpentaria Exp	EL 471	Gawler Range	1979-80	Uranium	3520

TARGET:
Part of the wider search for uranium mineralisation in Gawler Range Volcanics by MIM. This EL was located to the immediate NE of Lake Acraman, including the area covered by EL 2952. The target within this EL was for possible uraniferous Tertiary paleo-channels.

GEOPHYSICS:
Reconnaissance aeromagnetic and radiometric surveys conducted over the search area. Follow up ground resistivity over anomalous areas.

GEOCHEMISTRY:
The only assays available are for samples of the Tertiary and recent sediments overlying the basement which were encountered in the drill programme.

DRILLING:
No systematic reconnaissance geochemical sampling undertaken, a short drill programme was designed to test anomalous areas defined by ground resistivity surveys. A 5 drill hole programme totalling 89 metres was completes. Individual drill holes were terminated once the Proterozoic basement rock was encountered.

The 5 holes were sited along the road leading to the Lake Everard Homestead and lie within the eastern boundary of EL 3043. Drill logs from the report state that all holes bottomed in "weathered granitic basement", there is no additional description of this basement rock, no assays and no petrology.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Afmeco/BHP	EL 615 EL 1012	Lake Everard	1980-83	Uranium/Diamonds	3825

TARGET:
The focus of exploration changed several times during the tenure of the licence area.
Phase1. –Assess uranium potential of the Glyde Hill Volcanic Complex in the Gawler Range Volcanics just south of Lake Everard and north-east of EL 3043.

Phase2. –Uranium –Base Metal exploration.

Phase3. – Kimberlite-hosted diamonds (in the final year of tenure, after JV with BHP)

GEOPHYSICS:
Phase1. An initial airborne magnetic-radiometric survey outlined 6 magnetic targets. All 6 were followed up by ground magnetic surveys with two if these covered by additional ground gravity and SIROTEM surveys. All 6 target areas lie outside the current Falcon Minerals tenements.

Two of these targets with follow up gravity, magnetics and SIROTEM are located 10-15km north of the current Falcon Minerals tenements. It was concluded that all gravity variations and the major SIROTEM features at these two locations were mapping only overburden thicknesses.

Phase2. More detailed airborne magnetics survey, 700 line km at a flight line spacing of 250m, altitude 100m. Followed by helicopter-borne radiometric survey. This helicopter survey area includes a small northern portion of EL 3043. Several anomalous areas were checked by ground radiometric surveys.

Phase 3. Twenty two anomalies were followed up with ground magnetics in search of diamondiferous rocks. Six areas were selected for drill testing.

GEOCHEMISTRY:
Phase 1. No geochemical surveys.

Phase 2. Reconnaissance stream sediment survey. A total of 113 samples were taken. No assay results were deemed worthy of follow-up work. A group of initially anomalous values near Grid L1 were later regarded as being due to laboratory contamination.

Water from 20 windmills/bores in and around the tenement were analysed for uranium and other pathfinder elements. Samples from L1 and L2 were regarded as being high in U (up to 50ppb U)

Eight rock chip samples were taken along a line extending 300m north of anomaly L3 (located 30km NE of EL 3043), the only anomalous values were from sample 15279 – a hematite vein in a vuggy rhyolite pyroclastic (45ppb Mo and 50ppm U)

Phase 3. Twenty two gravel samples were collected to test for kimberlitic indicators. Coincident silt samples were analysed for Cu, Pb, Zn, Co, Ni, Cr, Sn, U, Ba, La, As, Ag, Nb and Y but no results were regarded as anomalous.

DRILLING:

Phase 1. Testing of the 6 magnetic targets with aircore/diamond and RAB/diamond drilling. 8 drill holes for a total of 474m were completed (LEV 1-8). Hole LEV 4 was sited within the north-eastern boundary of EL 3043. No uranium or base metal mineralisation was found. The first magnetic target, LE1, was "most likely" due to a magnetic basalt but the company report expresses doubt over this. Brecciated basalts in several drill holes on LE1 showed "conclusive evidence of hydrothermal activity with void filling and replacement by fluorite, epidote, chlorite and quartz".

Drilling of target LE3, (Hole LEV 4) suggests the anomaly is due to a contrast between weakly magnetic dacite overlying non-magnetic granophyre. This is the inverse of the original drilling interpretation.

Phase 2. The programme planned to test anomaly L3 with 6 x 50m drill holes, however drilling was terminated after only 3 holes (Holes LEV 9-11) totalling 69m due to drilling difficulties. Each hole intersected a vuggy rhyolite breccia. Powellite ($CaMoO_4$) was noted in the breccia in LEV 9 and LEV 11. The interval 7-9m in LEV 11 contained chips with "veinlets of sulphides with trace fluorite". The only anomalous geochemical values were from this section, including 1400ppm Mo, 6.5ppm Ag and 20ppm Bi.

Phase 3. 13 percussion holes (PLE 1-13) totalling 192m were drilled to test 6 magnetic anomalies. All 6 anomalies appear to be due to magnetic volcanics.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125

TARGET:
Epithermal gold in Proterozoic felsic volcanic terrain of Gawler Range Volcanics. The BHP tenements covered part of the Chitanilga and Glyde Hill Volcanic Complexes which were considered prospective for hosting epithermal systems.

GEOCHEMISTRY:
Initial BLEG reconnaissance survey collected 30 samples in EL 1504, 57 samples in EL 1505 and 24 samples in EL 1538. Results were encouraging, particularly in channels draining low hills to the north of the EL 3043 with values up to 2.3ppb Au. Weak anomalism was noted in samples taken around Yeltabinna Dam which is located 35km east of EL 3043. Values were up to 0.5ppb Au.

Follow up sampling was undertaken twice due to sampling error in the first follow attempt. A total of 62 samples were collected over the three tenements. Results were disappointing and the initial results were not reproduced. Only 5 samples recorded more than 0.2 ppb Au.

The failure to replicate was blamed on various factors including:
Sample variability,
Laboratory error, or
A reflection of the sensitivity of the assay technique at the lower limits of detection.

GEOPHYSICS:
No geophysics undertaken.

DRILLING:
No drilling undertaken.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293

TARGET:

- Epithermal gold and volcanogenic base metal deposits associated with volcanic centres in Proterozoic Gawler Range Volcanics. Expected to produce regional gravity lows with low magnetic relief due to alteration.
- Olympic Dam style, volcanic breccia hosted mineralisation beneath younger Gawler Range Volcanics volcanic flows, expected to be represented by large amplitude gravity highs.
- Kimberlite hosted diamonds.

GEOCHEMISTRY:

Gravel and stream sediment samples were taken at 147 localities and assayed for As, Te, F, Pb, Ag, Mo, Nb, Sb, Sn, U, Ba, Ce, Co, Cr, Cu, Fe, La, Mn, Ni, P, Th, Zn, Zr, V, Pd, Pt and Au.
A total of 7 rock chips were collected.

Four areas were considered encouraging for follow up. 'Lake Acraman' showed a co-incident F-U anomaly, 'Perrinalba' and 'South Perrinalba Dams' showed anomalous Te and As, and 'Mungo Tank' showed anomalous U, As and F. Various samples reported apatite, barite, fluorite and cassiterite. The follow up results were not encouraging.

GEOLOGICAL RECONNAISSANCE:

Rock samples of Yardea Dacite from near Mt. Ive Station were collected for petrological examination. Sample 2541573 was described as a "bleached dacite? Porphyry" with quartz veining containing leucoxene, topaz and fluorite.

GEOPHYSICS:

An airborne magnetic-radiometric survey outlined 5 targets based on a model of possible volcanic centres or caldera collapse structures up to several km across. Many of these were outside the area of EL 3043 to the east. Two anomalies were tested by GEOTEM without producing values which would indicate basement conductors. These anomalies lie south of EL 3043.

DRILLING:

No drilling undertaken:

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
CRA Exp	EL 1697	Garden Well	1991	Copper	8427

TARGET:
Acid volcanic hosted copper mineralisation in Yardea dacite units of the Gawler Range Volcanics. Main target area was Garden Well prospect to the north-east of Lake Acraman, approximately 45km east of EL 3043.

GEOCHEMISTRY:
Initial reconnaissance minus 80 mesh stream sediment sampling over most of the tenement (216 samples) and loam sampling in the southern portion of the EL (28 samples).
Follow up minus 80 mesh stream sediment sampling in the Garden Well area (155 samples)

Drainage sample results were generally low to background except for 6 samples in the Garden Well area, which were considered anomalous for Cu and Zn (79ppm Cu, 158ppm Zn).
Follow up drainage sampling in the Garden Well area outlined elevated Cu, Zn, Co, Ni and Cr values over an 8km strike length attributed to a strongly weathered dolerite sill.

A float sample of a silicified acid volcanic with malachite staining was collected just north of Butterfield Hill in the Garden Well prospect area. The sample returned an assay of 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float was found and no further follow up was undertaken.

GEOPHYSICS:
No geophysics undertaken.

DRILLING:
No drilling undertaken.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797

TARGET:

- Precious and base metal mineralisation along the southern margin of the Glyde Hill Volcanic Complex. Interpreted as a possible caldera structure in the lower Gawler Range Volcanics. This was covered by the western half of EL 1800.(In which EL 3043 is now located)
- The eastern portion of EL 1800 is underlain by Yardea Dacite which, although generally considered unprospective, was regarded as having potential for high-level, Acropolis style mineralisation.

Initial exploration focused on two main areas of anomalous high gravity, Bullyonna Well and Mangaroongah.

GEOPHYSICS:

Semi-regional and grid gravity surveys with associated ground magnetics and minor IP and/or SIROTEM were undertaken on 5 local grids and the Mt. Cooper Dam area. Four of these grids, including the 'Sisters', lie within or adjacent to EL 3043. The Mt. Cooper Dam prospect is only 40km east northeast of EL 3043.

Three gravity anomalies were recorded, Mt. Cooper Dam, Kulgulya and Mangaroongah. These three anomalies are spatially coincident with magnetic anomalies and/or signatures (from SAEI data). Another 3 coincident magnetic-gravity anomalies were also identified at Dan's Hole, Emu Bluff and Sisters.

GEOLOGICAL RECONNAISSANCE:

No systematic reconnaissance geochemical sampling was undertaken. Geological observations include a comment that at Bullyonna Well, (35km east of EL 3043), sericitised Yardea Dacite can be observed in three shafts? Including an outcrop containing a thin actinolite-rich vein which "suggests moderate temperature, iron-rich hydrothermal activity"

A small outcrop of Hiltaba Granite, also near Bullyonna Well, has textures indicating an intrusive relationship with the host Yardea Dacite.

Reconnaissance of the Palthrubie Granophyre near Lake Everard Homestead (Rocky Creek Prospect) revealed the presence of rare veins, up to 5mm wide, of quartz + malachite + fluorite + hematite. The host rock is a medium to fine grained granite containing abundant miarolitic cavities filled with fluorite + hematite, and was interpreted as a high-level Hiltaba suite intrusive. The sample returned an assay value of 0.95% Cu and 145ppm Ag.

There was no follow up chip sampling but the prospect was covered by geophysical surveys. A hole drilled by Afmeco/BHP (LEV 4) is sited approximately 1700m to the south, (see EL 615).

Surface lag deposits of iron-rich nodules were recorded at several localities throughout the tenement. Nodules vary from strongly magnetic to hematitic and are interpreted as representing hematitic replacement of porphyritic volcanics. One such area of nodules (Mt. Cooper Dam) shows a spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics (enrichment in Ba, Cr and U).

DRILLING:
A drill programme was undertaken to test some of the geophysical anomalies detected during the grid controlled surveys. Three RC drill holes (totalling 281m) and three diamond holes (totalling 278m) were completed. Five of these holes (MGYC 2-6) were drilled in the Kulgulya prospect . Hole (MGYC 1) was drilled at Mt. Cooper Dam. There were no anomalous results returned from this drill programme.

The single hole at Mt. Cooper Dam targeted a Bouger gravity anomaly, reaching a depth of 95m and intersecting only unaltered Yardea Dacite.

Drilling at Kulgulya was designed to test several magnetic, gravity, IP and SIROTEM anomalies.
MGYC 2 (50m) tested an IP anomaly, encountering unaltered Wheepool Rhyolitic tuffs. The anomaly was interpreted as being due to hypersaline groundwater.
MGYC 3 (105m) tested a magnetic anomaly on the flank of a semi-regional gravity feature. The hole intersected unaltered basaltic trachyandesite which explained the magnetic anomaly.
MGYC 4 (152m) was designed to test a region of broad magnetic and gravity anomalies. The hole encountered Wheepool Rhyolite overlying weakly sericitised and clay-altered, chloritised rhyolite breccia and lapilli stone. No geophysical source was identified, but a deeper lying basalt was inferred.
A SIROTEM anomaly on the side of a semi-coincident magnetic/gravity anomaly was tested by hole MGYC 5 (78m), this hole intersected felsic volcanics with very week clay alteration. Ground water was interpreted as the cause of the SIROTEM anomaly.
MGYC 6 (138m) tested a semi-coincident gravity/magnetic anomaly and intersected felsic volcanics overlying massive basalt. This basalt was interpreted as being the source of the major magnetic and gravity anomaly at Kulgulya.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Homestake	EL 2183	Mt Glyde	1996-1998	Cu-Au/ Base Metals	9200

TARGET:

Homestake interpreted a possible NE-trending gravity corridor extending from the vicinity of Olympic Dam/Acropolis to Streaky Bay in the south west. This gravity feature was interpreted to represent a marginal fault zone, related to a series of 100km wide horst and graben blocks which dissect the Gawler Carton. The gravity feature was interpreted as a potentially deep crustal feature with the potential to tap mineralising fluids.

The main interpreted horst structure, the Arcoona Horst, is host to EL 3043. Homestake identified 3 priority target models:

- "flower structure" caused by the intersection of the regional Yalbrinda Fault zone with the northern margin of the Arcoona Horst.
- Hiltaba Granites to the south-west of EL 3043.
- Interpreted caldera structures around Lake Acraman and Dan's Hole (Eastern boundary of EL 3043).

GEOCHEMISTRY:

The initial field work comprised a grid controlled calcrete sampling program to test the three target zones. A total of 385 calcrete samples were taken on an 800 x 800m grid, and assayed for Au, As, Cu, Pb, Zn and Ca.

A stream sediment sampling programme was also undertaken with 330 samples being collected and submitted for BLEG analysis of Au and Cu. Sampling was based upon TMI anomalies in the Lilly Rocks Dam (SE corner of EL 3043) and Bond Hill Dam (35km east of EL 3043) areas. A weak Au anomaly (3-9ppb Au) was interpreted in the SW of the tenement, coincident with a contact of Hiltaba Granite and Proterozoic basement. This prospect, called Toondulya, lies within the south-western portion of EL 3043.

Follow up calcrete sampling in the following year was designed to give complete coverage to the Homestake tenement. Hand dug calcrete sampling in the eastern half of the EL was completed on a 1000 x 800m spaced grid, a small portion of this grid falls within the north-eastern corner of EL 2947. A total of 1374 calcrete, 160 stream sediment and 38 bulk soil samples were taken. No anomalism was noticed in the BLEG samples and a peak value of 0.9ppb Au was returned from the stream sediment samples. Several small, weak gold-in-calcrete anomalies were returned in the region surrounding EL 2947. Homestake considered these to be attributed to weak deuteric alteration of volcanics and were not followed up.

DRILLING:

The Toondulya prospect was evaluated with 250 aircore holes for a total of 10,600m along 6 traverse lines. This was followed by infill drilling at 200m spacing. Only weak Au values with a peak of 39ppb Au were returned. Homestake interpreted the data as attributing the weakly anomalous Au as due to localised hydrothermal alteration and veining/brecciation in the underlying Hiltaba suite granite.

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

TARGET:
This tenement covers the southern portion of EL 3043.

Targets were initially derived on the basis of TMI and gravity survey images, 5 areas were selected – Yarna, Narlaby, Kaldoonera, Centre and Plunkey. Yarna occurs in the northern portion of the tenement and is the closest to EL 3043.

Yarna is a unique, large circular, magnetic anomaly. Two models were used by Pima Mining:

- It represents a Sudbury situation where a large impact event in Lake Acraman gave the potential for instability in the mantle, forcing basic material up with the potential for a major mineralised system.
- Lake Acraman is actually a large volcanic vent, the source of the enormous volume of Gawler Range Volcanics.

GEOCHEMISTRY:
Three phases of surface geochemical sampling were undertaken over the tenement.
Phase 1. Reconnaissance surface calcrete sampling by hand on a 800 x 400m grid, a total of 266 samples were collected.
Phase 2. Auger calcrete sampling in the SW corner of the tenement, with 323 samples collected on a 800 x 400m grid.

All calcrete samples were analysed for Ca, Cu, Au, Pb and Ni. The second phase samples were also analysed for As, Ag, Bi, Cd, Co, Fe, Mn, Mo, Zn, and Mg. A total of 47 drill holes drilled in the early 1980s by CEC for sedimentary uranium were reassayed, if they penetrated bedrock. There is no analysis of the drill hole reassay programme in the Pima report, but they mention anomalous results of up to 27ppb Au in granite.

Phase 3. RAB/Aircore drilling focused on 5 target areas. A total of 63 holes for 2314m were completed. Additional surface sampling was required at Yarna due to drilling difficulties. An additional 231 calcrete, 71 soils, 142 stream sediment, 104 MMI and 14 rock samples were collected during this phase.

Analysis of assay results is again limited, but Pima notes that there is significant elevated REEs for the Yarna and Punkeys prospects with anomalous Ce, La, Nd and Yt. The Yarna prospect also returned anomalous Au values up to 32ppb Au in rock chips.

APPENDIX 2

CALCRETE SAMPLING PROGRAM
FIELD DATA AND ASSAY RESULTS

Target	SITE	EASTING	NORTHING	SAMPLE	DEPTH	CALCRETE TYPE	CALCETE HOST	HCL	TERRAIN	COMMENT
16	1	520815	6472682	167201	4 - 4.5	friable calcrete	sand	3	mallee-covered red sand	
16	2	521344	6472598	167202	3.5 - 4	friable calcrete	sand/clay	3	mallee-covered red sand	
				167203	4 - 4.5	friable calcrete	sand	3	mallee-covered red sand	
16	3	521847	6472589	167204	7.5 - 8	friable calcrete	sand	1 - 2	mallee-covered red sand	common m.gr. Sand grains with white calcareous cement
16	4	521265	6473037	167205	3.5 - 4	friable calcrete	sand	3	mallee-covered red sand	"
16	5	521347	6471991	167206	3.5 - 4	friable calcrete	sand	1	mallee-covered red sand	very weakly calcareous sand
17	3	519681	6470783	167207	2.5 - 3	friable calcrete	sand	2 - 3	mallee-covered red sand	Calcareous-ce,ented sand grains incl. rhyzomes
17	2	519414	6470476	167208	2.5 - 3.5	friable calcrete	sand	2 - 3	mallee-covered red sand	Calcareous-ce,ented sand grains incl. rhyzomes
17	1	518849	6470153	167209	2.5 - 3	friable calcrete	sand	2	mallee-covered red sand	
17	4	520065	6471099	NS	2		sand		mallee-covered red sand	No sample - clay with no calcareous content
17	5	518900	6470859	NS	2		sand		mallee-covered red sand	No sample - clay+gypsum - no calcareous content. Near salt lake
1	9	503564	6485980	167210	0 - 0.5	nodular	loamy soil/sand	4	bluebush	Near surafce granite subcrop
				167211	0 - 0.5	nodular	loamy soil/sand	4		duplicate sample
1	13	503678	6485233	167212	0 - 0.5	nodular	loamy soil/sand	5	low hills/sheoak-saltbush	Near surafce granite subcrop
1	14	503085	6485010	167213	1 - 1.5	nodular	sand	4	low dunes/sheoak-saltbush	
1	8	502709	6485445	167214	0.5 - 1	nodular	loamy soil/sand	4	low hills/saltbush	
1	4	502299	6485897	167215	0 - 0.5	nodular	loamy soil/sand	5	saltbush plain	
1	3	501401	6485385	167216	0 - 0.5	nodular	loamy soil/sand	5	low hills/saltbush	subcrop GRV
1	7	501776	6485039	167217	0 - 0.5	nodular	loamy soil/sand	5	low hills/saltbush-sheoak	subcrop GRV
1	12	502275	6484824	167218	0 - 0.5	nodular	loamy soil/sand	5	low hills/saltbush-sheoak	subcrop GRV
1	11	501542	6484251	167219	0.5 - 1	nodular	sand	5	sandy mallee scrub	
1	6	500896	6484415	167220	0 - 0.5	nodular	loamy soil/sand	5	low hills/sheoak-saltbush	subcrop GRV
1	2	500542	6484812	167221	0 - 0.5	nodular	loamy soil/sand	5	low sand dune/sheoak-saltbush	abundant nodular calcrete
1	1	499804	6484336	167222	0.8 - 1.4	nodular	sandy soil	5	low sand dune/sheoak-saltbush	abundant nodular calcrete
1	5	500082	6483955	167223	2.3 - 2.5	nodular	sand	5	low sand dune/mallee	abundant nodular calcrete
1	10	500750	6483698	167224	2 - 2.5	nodular	sand	5	low sand dune/mallee-sheoak	
3	4	513956	6482951	167243	2 - 2.5	nodular-coating	red sand	2	sandy sheoak/mallee	
3	5	514040	6482450	167244	2 - 2.5	"friable" calcrete	red sand	2	sandy sheoak/mallee	orange-white sandy calcrete
3	3	513490	6482742	167246	2 - 2.5	"friable" calcrete	red sand	2	sandy sheoak/mallee	
3	1	512992	6482998	167247	2 - 2.5	"friable" calcrete	sandy loam	3	sandy mallee	

3	2	512997	6482533	167248	2 - 2.5	"friable" calcrete	sandy loam	2 - 3	sandy mallee	1.5 - 2.5m calcareous sand. 2.5 - 3m calcrete coated GRV
4	7	515158	6481889	167249	1.5 - 2	"friable" calcrete	sandy loam	2	sandy sheoak/mallee	2m abunadant calcrete-coated GRV fragaments
4	5	515663	6481355	167250	0 - 0.1	"friable" / nodular	soil	2	low hill-minor outcrop	
4	6	515611	6481162	167251	1.5 - 2	friable calcrete	sandy loam	3 - 4	sandy sheoak mallee	very friable calcret with rare fragments of GRV
4	4	515223	6481383	167252	1.5 - 2	friable calcrete	sandy loam	3 - 4	sandy bluebush-sheoak	hard, sandy calcrete
4	3	514838	6481278	167253	0 - 0.5	"friable" / nodular	sandy loam	4	sandy bluebush-mulga	Core of weakly indurated sandy calcrete with thin, banded outer rim
4	2	514279	6480984	167254	0.2 - 0 .5	"friable" / nodular	loamy soil/sand	4	mulga in low hills	abuandant sandy calcrete
4	1	513940	6480764	167255	1.5 - 2	"friable" / nodular	sandy loam	3	sandy sheoak-mulga	abuandant sandy calcrete
11	5	501691	6475772	NS		"friable" calcrete	orange sand		low dunes - mallee	very thin horizon of friable calcrete. Insufficient
										for sample
		518000	6474995	167280	STD					Calcrete collected from top of aircore hole at Deep Well
		504540	6473342	167281						calcrete from surface near outcrop of hematite alt GRV
11	4	501109	6476283	167282	3 - 4.0	"friable" calcrete	orange sand		low dunes - mallee	composite of 2 holes. Composite of several thin horizons
11	3	501793	6476010	167283	2 - 2.5	"friable" calcrete	orange sand	3	low dunes - mallee	composite of 3 holes. Composite of several thin horizons
11	3a	501019	6475966	167284	3 - 3.5	"friable" calcrete	orange sand	3	low dunes - mallee	
11	2	500800	6475708	167285	1.5 - 2	"friable" calcrete	orange sand	4	low dunes - mallee	
11	1	500796	6476125	167286	3 - 4.0	"friable" calcrete	orange sand	3	low dunes - mallee	
10	4	496567	6475022	NS			orange sand		low dunes - mallee	2 holes drilled. No calcrete in either
10	3	497059	6474755	167287	1.5 - 2	calcareous sand	orange sand	1 - 2	low dunes - mallee	No calcrete. Weak HCl response in sand
10	2	496565	6474598	167288	1.5 - 2	"friable" calcrete	orange sand	3 - 4	low dunes - mallee	
10	5	496617	6474177	167289	1.5 - 2	"friable" calcrete	orange sand	3	low dunes - mallee	
9	3	494310	6473561	167290	0.5 - 1	ferricrete	orange sand	3	low dunes - mallee	No calcrete. 0 - 0.5m sand/soil + gypsum
										0.5 - 1m ironstone/ferricrete. Very hard
9	2	493837	6473588	NS		"friable" calcrete	orange sand		low dunes - mallee	No calcrete. 0 - 0.5m sand/soil + gypsum
										0.5 - 1m clay. Rods bogged
22	1	499299	6467150	167291	0.5 - 1	nodular	sandy loam	4	open plain - mallee/saltbush	nodular calcrete- layered rim with sandy calcrete core
22	2	499796	6466896	167292	1 - 1.5	nodular	sandy loam/soil	4	open plain - mallee/saltbush	"
22	6	500522	6467037	167293	1 - 1.5	nodular	sandy loam/soil	4	open plain - mallee/saltbush	"
22	3	500252	6466702	167294	0.5 - 1	nodular	sandy loam/soil	4	open plain - mallee/saltbush	"
22	8	500096	6466148	167295	0.5 - 1	nodular	sandy loam/soil	4	open plain - mallee/saltbush	
22	4	500705	6466430	167296	0.5 - 1	nodular	sandy loam/soil	4	open plain - mallee/saltbush	

22	9	500990	6465686	167297	2 - 2.5	"friable" / nodular	sandy loam/soil	3 - 4	open plain - mallee/saltbush	Calcrete not as well developed as previous samples.
										Increasing sand grain content
22	5	501203	6466217	167298	2 - 2.5	"friable" / nodular	sandy loam/soil	3	open plain - mallee/saltbush	initial calcrete horizon 1.5m. 2nd, much better developed
										horizon at 2 - 2.5m (sample taken)
22	7	501366	6466610	167299	1.5 - 2	"friable" / nodular	sandy loam/soil	3	open plain - mallee/saltbush	
21	4	505818	6465407	167300	1.5 - 2	"friable" / nodular	sandy loam/soil	3	open plain - bluebush	
21	5	506198	6465398	167301	2 - 2.5	nodular	sandy loam/soil	3	open plain - bluebush	thin calcrete @ 1m. Better horizon @ 2-2.5m
21	1	505778	6465892	167302	2 - 2.5	nodular	sandy loam/soil	3 - 4	sheoak / bluebush	thin calcrete @ 1m. Better horizon @ 2-2.5m
21	2	506298	6465897	167303	2 - 2.5	nodular	sandy loam/soil	3 - 4	sheoak / bluebush	no upper horizon
21	3	506802	6465906	167304	1 - 1.5	nodular	sandy loam/soil	3 - 4	sheoak / bluebush	no upper horizon
20	1	507748	6466188	167305	1 - 1.5	nodular	sandy loam/soil	3 - 4	mallee	
20	2	508759	6466486	167306	1 - 1.5	nodular	sandy loam/soil	3 - 4	sheoak / bluebush	
20	3	509639	6466804	167307	0 - 0.5	nodular	sandy loam/soil	4	sheoak / saltbush	large (to 40mm) nodular calcrete
20	4	510598	6467150	167308	0 - 0.5	nodular	sandy loam/soil	4	sheoak	large (to 40mm) nodular calcrete
20	5	511578	6467448	167309	0 - 0.5	nodular	sandy loam/soil	4	sheoak	large (to 40mm) nodular calcrete
20	6	512423	6467675	167310	0.5 - 0.7	massive / nodular	sandy loam/soil	4	open, sandy plain - mallee	increasing red sand content from 20-1 to 20-6
19	4	514196	6465300	167311	1.5 - 2	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	
19	1	513650	6464750	167312	1 - 1.5	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	
19	2	514166	6464746	167313	1.5 - 2	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	0.5 - 1m - very friable calcrete
										1.5 - 2m - nodular, well developed calcrete (sample taken)
19	3	514655	6464765	167314	2 - 2.5	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	1 - 1.5m - very friable calcrete
										2.2m - nodular, well developed calcrete (sample taken)
19	5	514184	6464310	167315	2 - 2.5	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	
18	1	519722	6464295	167316	1 - 1.5	massive / nodular	sandy loam/soil	4	open plain - mallee/bluebush	
18	2	520186	6464800	167317	0 - 0.5	massive / nodular	sandy loam/soil	3	sheoak / bluebush	
18	3	520675	6464296	167318	2 - 2.5	nodular	sandy loam/soil	3	sheoak / bluebush	1 - 1.5m - very friable calcrete
										2 - 2.5m - nodular calcrete (sample taken)
18	4	520207	6464320	167319	1 - 1.5	nodular	sandy loam/soil	4	sheoak / bluebush	
18	5	520170	6463840	167320	1 - 1.5	nodular	sandy loam/soil	4	sheoak / bluebush	minor GRV float
25	3	520586	6459150	167321	1 - 1.5	nodular	soil	3	sheoak / bluebush	minor GRV float
25	4	520106	6459192	167322	0 - 0.5	massive	soil / loam	4	sheoak / bluebush	minor GRV float
25	2	520214	6458885	167323	1.5 - 2	"friable"/nodular	soil	4	sheoak / bluebush	

25	5	520400	6458752	167324	0.5 - 1.5	nodular	soil	4	sheoak / bluebush	
25	1	519798	6458692	167325	0 - 0.5	"friable"/nodular	soil	3	sheoak / bluebush	
24	3	515431	6459402	167326	2 - 2.5	nodular	sandy loam/soil	3	sheoak-mulga - saltbush	minor GRV float
24	4	514813	6459454	167327	0 - 0.5	nodular/massive	sandy loam/soil	3	sheoak /saltbush	minor GRV float
24	2	514979	6459100	167328	1.5 - 2	nodular	sandy loam/soil	4	sheoak /saltbush	minor GRV float
24	5	515241	6458695	167329	1.5 - 2	"friable"/nodular	sandy loam/soil	3	sheoak /bluebush	
				167330		STD				
24	1	514595	6458834	167331	2 - 2.5	"friable"/nodular	sandy loam/soil	4	sheoak /saltbush	
2	1	518512	6482996	167351	1 - 1.5	nodular	loamy soil	2	bluebush mulga	clacrete is massive, sandy with common qtz grains
2	2	517861	6484141	167352	0 - 0.5	"friable"/nodular	loamy soil	4	bluebush-mulga adj Rocky Ck	20m to W is outcrop of weathered GRV in Rocky Ck.
2	3	518786	6483981	167353	0 - 0.5	"friable"/nodular	loamy soil	3	bluebush-mulga	Nodular - thin, banded outer rim with core of sandy calcrete
2	4	517823	6484506	167354	0 - 0.1	"friable"/nodular	loamy soil	2 - 3	low hill - bluebush	calcrete at surface with sub/crop of red GRV
2	5	518800	6484500	NS		"friable"/nodular	loamy soil	2 - 3	mulga	outcrop of Gawler Range Volcanics (GRV)
2	6	519821	6484453	167355	0 - 0.5	"friable"/nodular	loamy soil	2 - 3	mulga - bluebush	
2	11	519852	6484979	167356	0 - 0.5	"friable"/nodular	loamy soil	2 - 3	mulga - bluebush	
2	10	519324	6485036	167357	0 - 0.5	"friable"/nodular	loamy soil	2 - 3	mulga	calcrete at surface. Subcrop of GRV
2	9	518748	6485010	NS			loamy soil		mulga	outcrop of Gawler Range Volcanics (GRV)
2	8	518296	6485010	NS			loamy soil		mulga	outcrop of Gawler Range Volcanics (GRV)
2	7	517836	6485020	NS			loamy soil		mulga	outcrop of Gawler Range Volcanics (GRV)
2	12	517299	6485495	167358	0 - 0.5	massive	loamy soil	2 - 3	sheoak - bluebush	subcrop GRV
2	13	517801	6485495	167359	0 - 0.5	massive	loamy soil	2 - 3	bluebush	float of GRV. Small fragments of GRV in calcrete
2	14	518298	6485540	NS						outcrop of Gawler Range Volcanics (GRV)
2	15	518726	6485483	167360	0	massive/nodular	loamy soil	3	low hills / bluebush	
2	19	518804	6485997	167361	0 - 0.5	massive/nodular	loamy soil	3	sandy flat / bluebush-mulga	
2	20a	519218	6485965	167362	0.5 - 1	massive/nodular	loamy soil	3	sandy flat / bluebush-mulga	
2	18	518302	6486002	167363	0.5 - 1	massive/nodular	loamy soil	3	sandy flat / bluebush-mulga	
2	17	517892	6486002	167364	0.5 - 1	massive/nodular	loamy soil	3	bluebush plain	sample taken 30m from bank of large grainage. Granite outcrop
										within 100m.
2	16	517314	6486090	167365	0 - 0.5	massive/nodular	loamy soil	3	bluebush plain	
2	21	516816	6486500	167366	0 - 0.5	massive	loamy soil	3	bluebush plain	calcrete at surface. Subcrop of GRV
2	22	517257	6486520	167367	0 - 0.5	massive	loamy soil	3	bluebush plain	
2	28	516798	6487005	167368	0.5 - 1	massive/nodular	loamy soil	3	bluebush plain	
2	29	517300	6486988	NS					low hills / mulga	outcrop of Gawler Range Volcanics (GRV)

2	30	517869	6486888	167369	0.5 - 1	massive/nodular	loamy soil	3	bluebush plain	outcrop of granite 60m to west of sample site
2	36	517776	6487584	167370	0 - 0.2	massive/nodular	loamy soil	3	bluebush plain	outcrop of granite 100m to west and east of sample site
2	35	517292	6487495	167371	0	massive/nodular	loamy soil	3	bluebush plain	float of GRV. Possible small fragments of GRV in calcrete
2	37	518290	6487495	167372	0 - 0.5	massive/nodular	loamy soil	2-3	bluebush plain	float of GRV. Possible small fragments of GRV in calcrete. Rare
										float of altered granite
2	40	518302	6488015	167373	0 - 0.5	massive/nodular	loamy soil	3	bluebush plain	Site is 40m from airstrip. Subcrop of GRV. Sample taken from
										rabbit burrow
2	38	518799	6487504	167374	0	massive/nodular	loamy soil	3	bluebush plain	Sample taken from rabbit burrow. Subcrop GRV, many frags with
										Fe/Mn? Oxide coating
2	39	519274	6487621	167375	0 - 0.5	massive/nodular	loamy soil	3	bluebush plain	
2	33	519284	6486997	167376	0 - 0.5	massive/nodular	loamy soil	3	bluebush plain	Sample taken from rabbit burrow. Abundant subcrop GRV
2	34	519792	6486994	167377	0 - 0.5	massive/nodular	loamy soil	3	bluebush plain	Sample taken from rabbit burrow. Abundant subcrop GRV
2	32	518795	6486990	167378	1.5 - 2	massive/nodular	loamy soil	3	bluebush-mulga plain	
2	31	518300	6487157	167379	1.4 - 2	nodular/friable	loamy soil	3-4	bluebush plain	granite outcrop 100m to sth
2	24	518249	6486399	167380	0.5 - 1	nodular/friable	loamy soil	3-4		
2	23	517790	6486504	167381	0.5 - 1	nodular/friable	loamy soil	3-4		granite outcrop 100m to sth
2	25	518759	6486477	167382	0.5 - 1	nodular/friable	loamy soil	3-4	bluebush-mulga plain	low hill of granite outcrop with small patch of calcrete
2	26	519378	6486534	167383	0.5 - 1	nodular/friable	loamy soil	3-4	bluebush-mulga plain	subcrop GRV. Granite outcrop 150m to east
2	27	519683	6486586	167384	0 - 0.5	nodular/friable	loamy soil	3	bluebush-mulga plain	
				167385		STD				
2	41	520823	6485007	167386	0 - 0.2	nodular	loamy soil	3	bluebush-mulga plain	calcrete just below surface. Abundant GRV float near surface
23	1	497711	6458403	167387	1 - 1.5	nodular	loamy soil/sand	3	open mallee-bluebush-sheoak	
23	2	498101	6458778	167388	1 - 1.5	nodular	loamy soil/sand	3	open mallee-bluebush-sheoak	outcrop of granite 50m to west
23	3	498470	6459170	167389	1 - 1.5	nodular	loamy soil/sand	3	bluebush-sheoak	outcrop of granite 50m to west
23	4	497802	6459043	167390	1 - 1.5	nodular	loamy soil/sand	3	open mallee-bluebush-sheoak	
23	5	498393	6458487	167391	1 - 1.5	nodular	loamy soil/sand	3	open mallee-bluebush-sheoak	

ELEMENTS	Au ppb	Au-Rp1	Ag ppm	Ag ppm	As ppm	Ca %	Cu ppm	Pb ppm	Zn ppm	Fe %	Mg %	Mn ppm	Ni ppm
167201	0.5		X	X	6	0.04	9	7	7	2.38	0.19	31	6
167202	0.7		0.1	X	7	2.56	9	7	13	1.72	1.01	107	9
167203	0.3		0.2	X	X	0.4	5	X	7	1.24	0.31	33	4
167204	0.5		X	X	5	2.94	5	3	21	0.84	0.29	41	5
167205	0.6		X	X	7	6.03	4	5	2	0.5	1.74	21	3
167206	0.3		X	X	X	0.51	2	2	2	0.3	0.08	22	2
167207	0.7		X	X	3	6.22	7	6	7	0.72	1.27	48	6
167208	1		X	X	11	10.13	9	6	5	0.63	1.95	397	7
167209	0.4		X	X	X	2.57	4	5	9	0.85	0.26	51	6
167210	1.3		X	X	5	5.08	5	9	8	0.77	0.8	119	5
167211	1.7		X	X	26	23.68	10	14	11	0.82	0.44	80	6
167212	4.5	4.8	X	X	18	18.28	7	12	23	1.48	0.54	225	7
167213	0.7		X	X	7	8.88	5	7	14	0.93	1.04	112	6
167214	0.5		X	X	9	8.65	6	14	11	2.53	0.25	104	5
167215	1.2		X	X	15	20.29	11	10	9	0.79	0.72	56	6
167216	0.9		X	X	14	16.28	7	8	18	1.07	0.4	110	5
167217	1.2		X	X	18	15.19	10	9	14	1.22	1.06	87	6
167218	2.5	1.9	X	X	18	20.8	6	12	13	1.08	0.5	209	8
167219	1.4		X	X	17	11.67	9	3	6	0.61	3	38	6
167220	0.9		X	X	14	14.51	8	9	34	2.18	0.84	500	7
167221	1.2		X	X	15	13.68	6	9	13	1.13	1.91	97	6
167222	1.2		X	X	15	15.93	8	9	6	0.52	0.9	48	6
167223	1.3		X	X	17	12.61	9	10	7	0.63	2.83	63	6
167224	0.8		X	X	15	12.69	9	6	5	0.57	1.73	38	6
167243	1.1		X	X	10	7.07	7	11	23	1.69	1.06	373	9
167244	1.2		X	X	11	10.35	9	6	11	0.95	2.31	65	8
167246	0.7		0.1	X	6	6.6	8	7	14	1.17	1.14	87	8
167247	1		X	X	17	15.5	9	13	11	0.86	1.09	80	7
167248	1.2		X	X	8	9.27	9	7	10	0.88	1.43	58	8
167249	1.3		X	X	20	16.51	8	14	14	1.22	1.31	113	7
167250	2.1		X	X	23	23.78	11	12	4	0.33	0.75	38	3
167251	1.9		X	X	12	12	8	10	6	0.56	1.8	38	5
167252	1.2		X	X	12	10.25	7	9	11	1.19	1.3	91	7

167253	1.2		X	X	20	19.24	10	13	11	1.08	0.58	121	6
167254	2.1		0.1	X	24	24.37	9	16	13	0.84	0.48	265	8
167255	1.5		X	X	11	12.43	8	7	6	0.57	1.58	38	5
167280	8.9	7.9	X	X	16	15.71	17	10	37	1.28	1.99	72	9
167281	1.8		X	X	22	19.3	9	10	5	0.89	0.75	37	5
167282	1.9		0.1	X	7	5.59	5	8	5	0.71	0.68	34	4
167283	0.9		X	X	6	7.47	5	6	6	0.49	0.25	34	3
167284	0.9		0.1	X	3	2.69	6	8	10	1.27	0.16	68	6
167285	0.5		X	X	9	9.4	6	5	5	0.43	0.71	33	4
167286	0.5		X	X	8	6.22	5	7	7	0.75	0.21	29	3
167287	0.6		X	X	5	2.24	8	6	14	1.62	0.43	63	7
167288	1.1		X	X	14	10.74	8	17	10	1.47	0.64	76	8
167289	1.5		0.1	X	20	20.74	9	12	6	0.77	0.67	54	4
167291	1.6		X	X	25	23.53	10	14	8	0.89	0.42	60	5
167292	1.9		X	X	21	21.25	11	16	8	0.7	0.54	50	6
167293	1.2		X	X	18	18.47	9	13	12	1.21	0.55	76	6
167294	1.5		X	X	23	19.61	9	12	7	0.73	0.51	44	5
167295	1.3		X	X	21	19.36	10	14	9	0.84	0.55	69	6
167296	1.6		X	X	21	20.22	10	15	9	0.73	0.74	67	6
167297	1.1		X	X	12	9.94	8	8	12	1.24	0.51	79	7
167298	1.1		X	X	20	18.06	9	13	9	0.89	0.59	57	6
167299	1.6		X	X	22	19.26	11	13	9	0.77	0.81	49	6
167300	1.3		X	X	16	13.03	11	11	15	1.18	0.77	103	8
167301	1.2		X	X	24	22.22	10	14	11	0.88	0.59	68	7
167302	1.5		X	X	18	18.75	9	12	11	1.01	0.57	76	7
167303	1		0.1	X	22	19.47	9	11	10	0.9	0.58	66	7
167304	1		X	X	21	19.24	9	10	9	0.64	0.54	69	7
167305	1		X	X	18	16.71	9	11	9	0.79	0.65	70	7
167306	1.1		X	X	15	15.93	9	9	8	0.68	0.75	55	7
167307	1		X	X	17	22.94	11	14	8	0.57	0.46	108	7
167308	0.9		X	X	24	24.31	10	12	6	0.45	0.44	196	8
167309	4.2		X	X	23	20.52	27	10	6	0.41	1.92	62	12
167310	1.3		X	X	18	15.73	11	10	6	0.65	1.29	42	7
167311	1.8		X	X	18	14.09	8	7	6	0.53	1.63	35	6
167312	0.8		X	X	14	15.5	7	9	8	0.71	0.59	63	6

167313	1.2		X	X	11	12.1	8	8	7	0.64	1.29	43	6
167314	1.3		X	X	15	10.51	8	10	11	0.83	1.34	73	8
167315	1.3		X	X	8	8.13	17	11	23	1.78	0.96	203	12
167316	0.8		X	X	18	19.43	8	13	8	1	0.39	81	5
167317	1		X	X	25	22.52	10	12	9	0.53	0.41	85	5
167318	1		X	X	21	18.33	9	15	9	1.23	0.58	100	7
167319	1.2		X	X	20	17.41	9	9	9	0.91	0.64	80	6
167320	1.2		X	X	17	14.56	9	12	13	1.45	0.67	98	7
167321	1		X	X	18	16.04	11	12	22	1.92	0.71	134	10
167322	0.8		X	X	23	24.04	9	19	12	1.35	0.35	174	8
167323	0.9		X	X	15	10.97	12	14	27	2.41	0.71	206	12
167324	1		X	X	17	13.51	11	17	23	2.44	0.68	179	11
167325	0.9		X	X	14	9.72	11	14	23	2.14	0.58	176	10
167326	0.9		X	X	14	12.57	8	12	20	1.93	0.59	206	9
167327	0.7		X	X	13	13.73	7	17	18	1.54	0.43	218	8
167328	0.9		X	X	18	14.46	9	15	17	1.66	0.51	162	9
167329	1.1		X	X	18	16.31	8	13	14	1.32	0.51	109	8
167331	1.6		X	X	15	12.73	8	12	16	1.65	0.56	125	9
167351	1.1		X	X	16	12.8	8	6	11	0.97	2.34	83	7
167352	0.5		X	X	19	15.04	7	8	14	1.09	1.31	81	6
167353	0.6		X	X	19	13.72	8	11	14	1.8	0.73	102	7
167354	0.7		X	X	27	25.34	8	8	5	0.31	0.98	50	3
167355	0.7		X	X	16	10.25	9	8	29	1.95	0.8	229	11
167356	2.5	2.1	X	X	23	21.71	10	12	8	0.76	0.85	63	6
167357	0.2		X	X	27	26.27	8	11	5	0.23	0.31	46	2
167358	1.8		X	X	24	22.14	15	13	12	0.88	0.63	64	6
167359	2.1		0.1	X	10	9.22	13	10	22	2.44	1.23	150	11
167360	0.7		X	X	26	25.51	9	13	7	0.35	0.39	75	3
167361	0.8		X	X	16	15.12	7	12	15	1.24	0.37	79	6
167362	0.8		X	X	23	18.16	10	11	12	1.1	0.42	90	6
167363	0.7		X	X	22	16.79	9	14	16	1.1	0.73	89	7
167364	0.6		X	X	19	21.12	9	11	8	0.55	0.87	70	5
167365	0.5		X	X	18	14	8	9	12	1.36	0.36	89	4
167366	0.5		X	X	23	23.56	10	12	11	0.61	0.46	114	5
167367	0.9		X	X	15	15.79	13	13	22	1.54	0.67	97	8

167368	0.8		X	X	15	13.16	7	13	15	1.01	0.34	82	5
167369	0.8		X	X	19	14.15	9	12	21	1.32	0.43	120	7
167370	0.9		X	X	19	19.14	14	12	25	1.31	0.5	157	8
167371	0.9		X	X	22	19.68	10	19	14	0.81	0.51	75	6
167372	0.9		X	X	14	11.09	12	34	47	1.95	0.35	208	8
167373	0.6		X	X	17	18.58	11	9	13	0.72	0.53	82	5
167374	1.2		X	X	23	20.6	10	10	9	0.64	0.76	55	4
167375	0.5		X	X	25	22.14	6	13	5	0.56	1.63	55	3
167376	0.8		X	X	22	20.07	10	12	10	0.7	0.67	61	4
167377	0.7		0.1	X	19	23.02	6	10	6	0.26	1.03	388	3
167378	0.6		X	X	9	7.67	9	9	21	1.64	0.51	148	9
167379	1		X	X	17	11.71	9	12	17	1.76	0.39	75	8
167380	1.1		X	X	23	20.49	7	9	9	0.79	0.39	52	5
167381	1.6		X	X	23	22.57	9	11	9	0.47	0.36	57	4
167382	1.8		X	X	14	13.33	7	10	30	0.97	0.24	133	5
167383	1.2		X	X	24	20.82	10	11	16	0.91	0.39	91	6
167384	1.8		X	X	16	14.89	10	10	21	1.55	0.66	141	9
167386	0.4		X	X	17	16.89	10	9	20	1.29	0.71	163	7
167387	1.3		X	X	22	20.03	10	15	11	0.76	0.75	116	7
167388	1		X	X	21	19.73	6	9	9	0.91	0.66	88	6
167389	1.2		X	X	27	21.23	10	13	6	0.55	0.55	58	6
167390	0.9		X	X	13	14	10	11	13	0.98	0.76	102	8
167391	1.3		X	X	23	19.29	10	13	11	0.98	0.65	84	7

APPENDIX 3

GRAVITY MODELLING

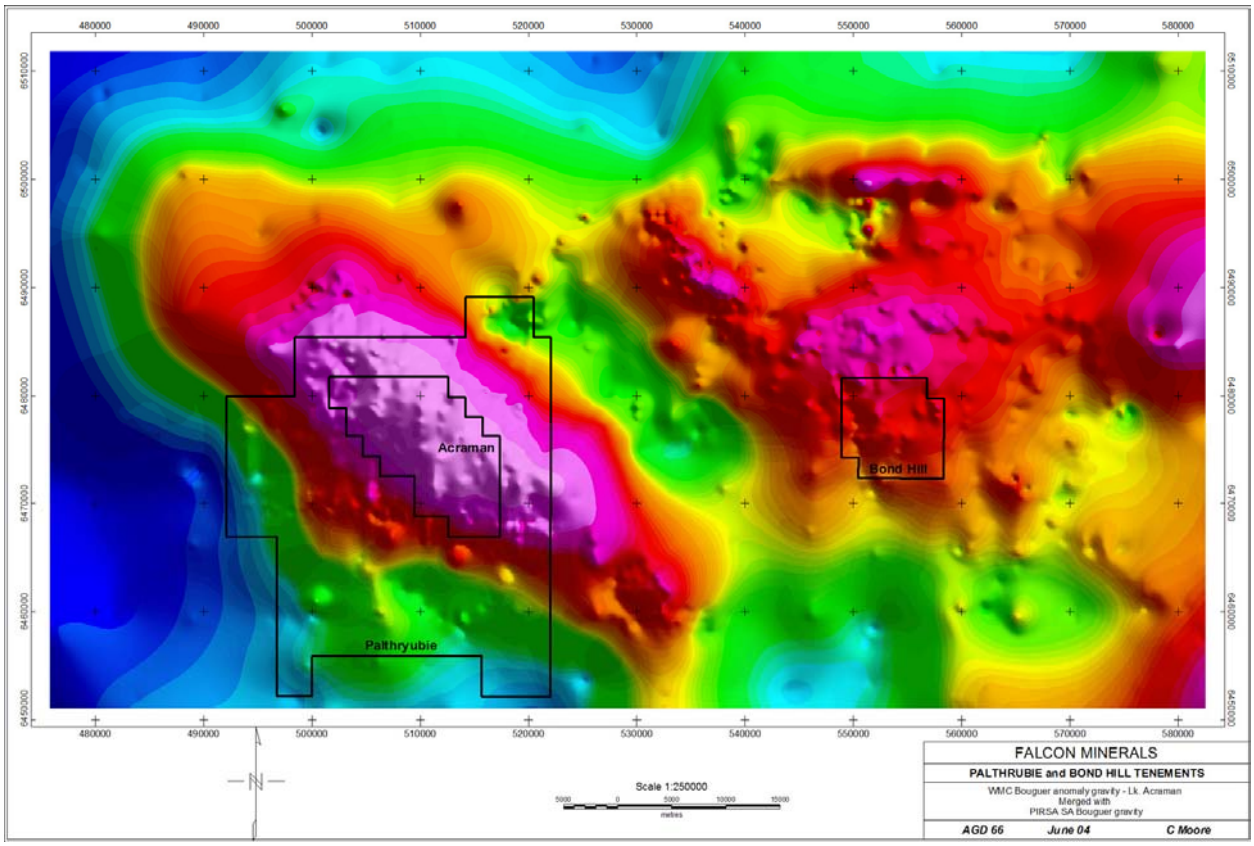
FALCON MINERALS

PALTHRYUBIE PROJECT

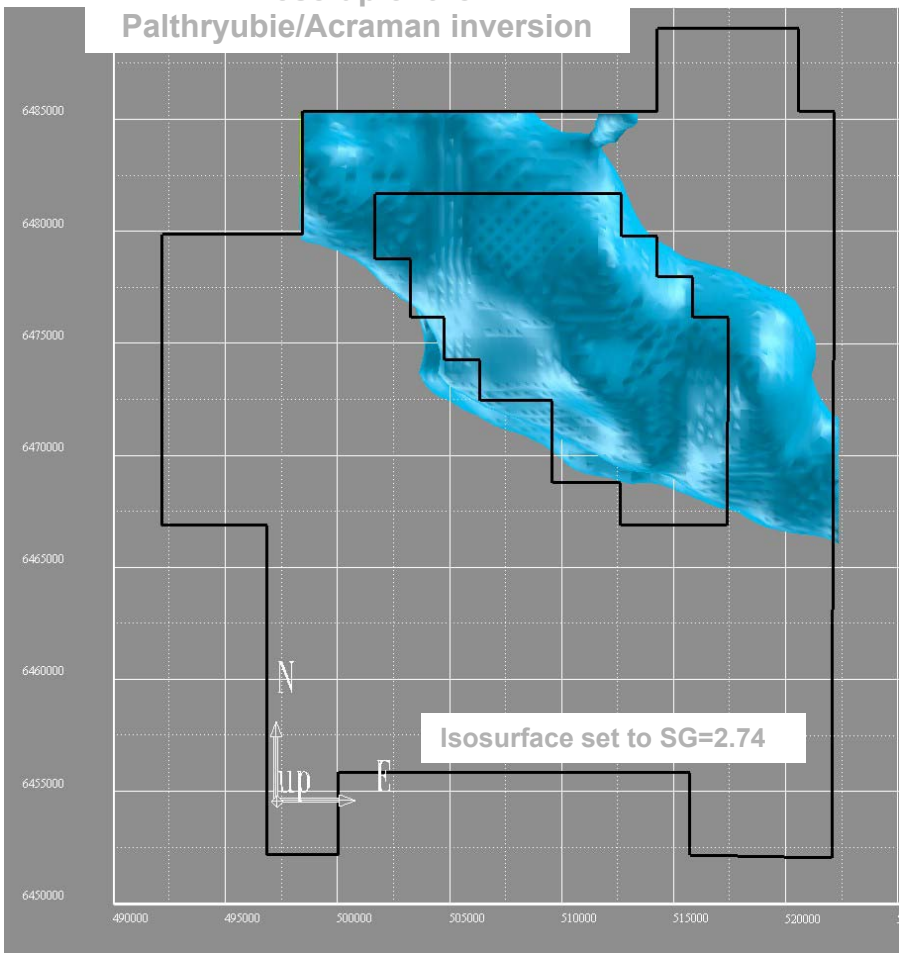
Gravity inversion images and analysis

July 2004

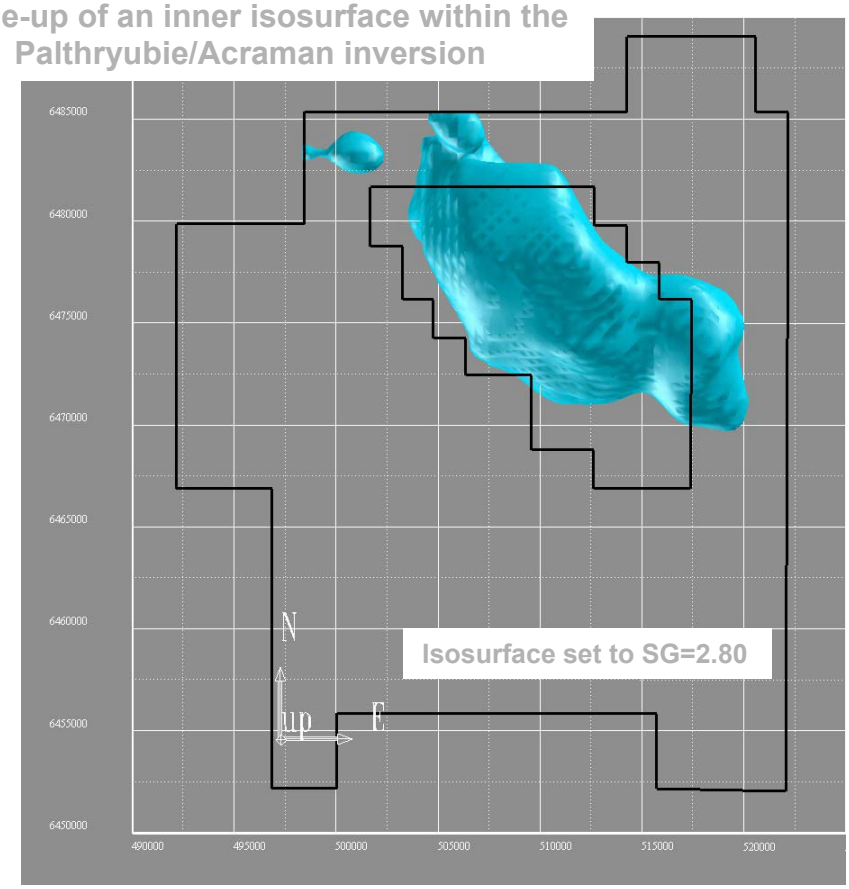
Final merged WMC and PIRSA gravity data

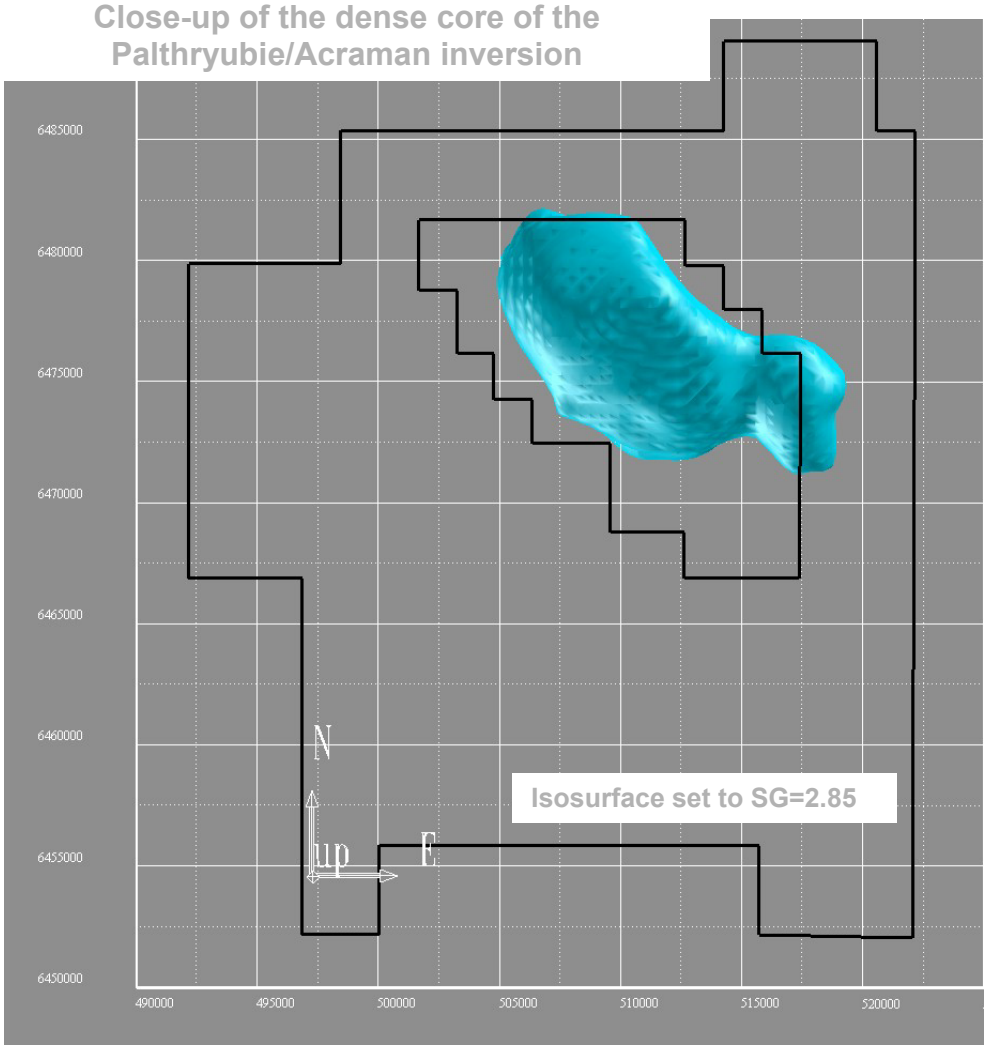


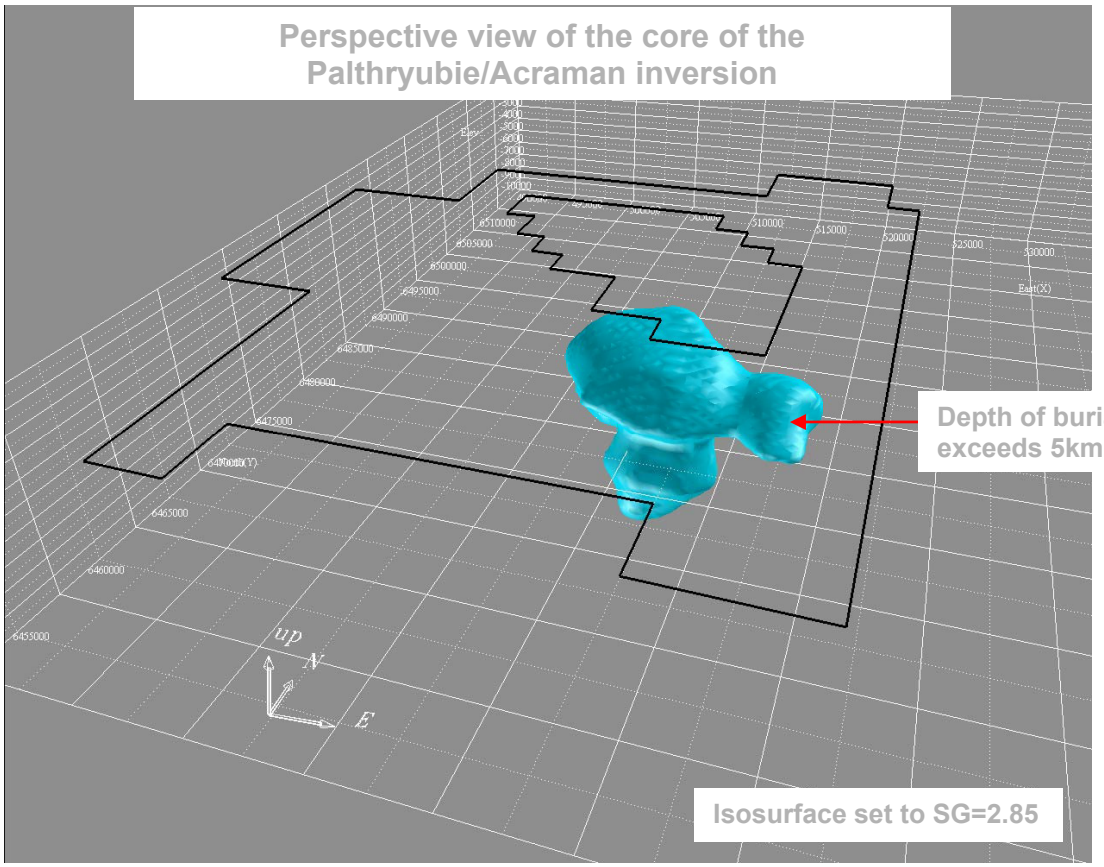
Close-up of the Palthryubie/Acraman inversion



Close-up of an inner isosurface within the Palthryubie/Acraman inversion




Close-up of the dense core of the Palthryubie/Acraman inversion
6485000
6480000
6475000
6470000
6465000
6460000
6455000
6450000
490000
495000
500000
505000
510000
515000
520000
N
up
E
Isosurface set to SG=2.85


Perspective view of the core of the Palthryubie/Acraman inversion
Depth of burial exceeds 5km
up
N
E
Isosurface set to SG=2.85

FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3043

"Palthrubie"

19th November 2004 to 18th November 2005

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

S.MOTTRAM
November 2005

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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1:250 000	Yardea (SI53-3)
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Copper and Gold

KEY WORDS:

Palthrubie Hill, Lake Acraman, Gairdner, Everard, copper, gold, reprocessing of regional geophysics, Calcrete auger sampling, Gawler Craton, Gawler Range Volcanics, Olympic Dam style mineralisation, Central Gawler Craton gold province.

SUMMARY

Exploration activities to date carried out within Exploration Licence 3043 "Palthrubie" involved the following:

- Acquisition of historic Aircore drilling data from PIRSA.
- Mapinfo digital data capture
- Gravity modelling
- Aboriginal Heritage matters
- Interpretation of calcrete sampling by Falcon.
- Assessment of all results to date.
- Target identification and drill program planning.
- Report preparation.

Exploration statistics are summarised below:

TABLE 1.
EXPLORATION STATISTICS 'PALTHRUBIE' EL 3043

Exploration Activity	EL 3043	TOTALS
Acquisition of historic Aircore drilling data from PIRSA.	Whole EL	693 sq km
Interpretation of Calcrete sampling by Falcon.	Whole EL	693 sq km
Assessment of all results of work to data.	Whole EL	693 sq km
Target identification and drill program planning.	Whole EL	693 sq km

1. INTRODUCTION

The Exploration Licence 3043 called Palthrubie, comprising 693 square kilometres, was applied for by Yardarino Limited on 4th July 2002 as Application No. 102/02 and was granted for one year on the 19th November 2002 (Table 2). An application was lodged on the 7th September 2004 for the renewal of the whole 693 square kilometres of EL 3043 for a further period of one year commencing on 19th November 2004. The application was accepted on 20th October 2004.

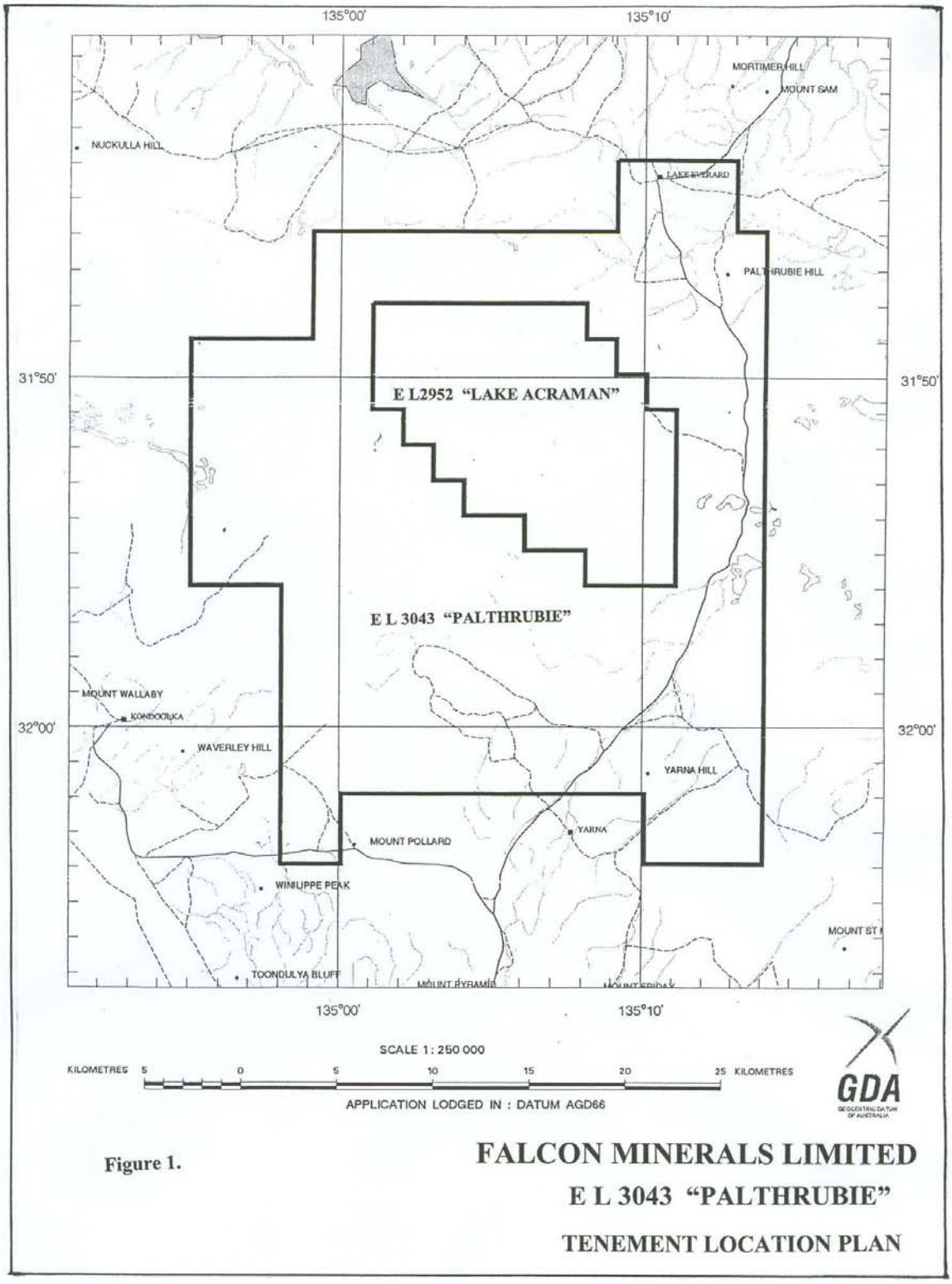
Yardarino Limited changed their name to Falcon Minerals Limited on 16th December 2002 and the lease was then endorsed in that name.

TABLE 2.
TENEMENT SUMMARY

Tenement Number	Initial Date of Application	Date of Last Grant	Date of Expiry	Expenditure Commitment	Area Sq km
EL 3043	**4th July 2002**	**19th November 2004**	**18th November 2005**	**$105,000**	**693**

The tenement lies approximately 180km southwest of Woomera and to the southwest of Palthrubie Hill (**Figure 1**), located in the south-central portion of the Gawler Craton. This exploration area is situated mainly within the south-west corner of the Gairdner 1:250,000 map sheet with portions of the tenement extending into the Childara, Streaky Bay and Yardea map sheets.

Figure 1: Tenement Location Plan



2. HISTORY

Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3043. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying

in of the Palthrubie

find Cu, Ag, Bi or

thin the environs of

Figure 2 'Exploration Work Summary Map' details the spatial distribution of the exploration activities carried out during the period 19th November 2003 to 18th November 2004.

TABLE 3. HISTORICAL EXPLORATION SUMMARY					
COMPANY	**LICENCE**	**PROJECT NAME**	**DATE**	**COMMODITY**	**ENV**
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3. EXPLORATION RATIONALE

Falcon Minerals Limited considered that the Palthrubie tenement had exploration potential for Olympic Dam style Cu-Au mineralisation. Past drilling results in the surrounding region indicated mineralised fluids, consistent with Olympic Dam style mineralisation, were intersected, including sericite, chlorite, hematite, fluorite and barite. Subsequent geophysical work by Falcon down graded its Olympic Dam potential.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. The Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province. Based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

4. GEOLOGY

4.1 Regional Geology

The Palthrubie tenement contained in Exploration Licence 3043 comprises an area dominated by recent sand ridges with an average elevation of approximately 8m. It is situated in a region of extensive Gawler Range Volcanics (GRV), subdivided into Upper and Lower GRV. Rocks of this central portion of the Gawler Craton are characteristically unmetamorphised and little deformed. The Lower GRV comprises the Glyde Hill Volcanic Complex rocks of, predominately, a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

Overlying this sequence is the Upper GRV, composed of a vast blanket of ignimbrite known as the Yardea Dacite and comprising the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and porphyry dykes intrude these volcanics. A co-magmatic Hiltaba Granite out crops

to the south and west of Lake Acraman. RAB drilling in the area during the late 1990s intercepted 'granite breccias' but there was no indication whether they were due to tectonic or hydraulic forces.

The Yalbrinda Fault Zone located 20km west of the EL 3043 lease is a dominant structural feature and probably marks the western boundary of the Gawler Range Volcanic province. The fault is possibly a result of crustal down warping responding to the extrusion of the large volume of the GRV.

A large north-west elongated gravity anomaly beneath EL 3043 reflects a north-west trending sand dune-filled depression, representing an underlying north-west trending regional structure.

The unusual circular feature of Lake Acraman has previously been interpreted as a surficial expression of a Neo-Proterozoic bolide impact structure from evidence of petrographic studies of shattered volcanics collected in the vicinity of the lake. Other studies, showing a low magnetic and low gravity signature within the GRV sheet, suggest either a Hiltaba Granite pluton or a major volcanic vent. It is proposed that the source of the large volume of GRV could be from this vent. Detailed aeromagnetics flown to the south and south east of Lake Acraman have outlined several possible volcanic centres or caldera collapse structures, up to several kilometres across, which may be a possible source of the Gawler Range Volcanics.

4.2 Local Geology

The majority of EL 3043 is covered by sand dunes and sand-covered flats with very little outcrop. The Gairdner Sheet shows only about 5% of the tenement contains isolated outcrops. The northern part of the lease contains outcrops of a series of densely welded ash flows (Mangaroongah Dacite), which form one of the lower units of the Glyde Hill Volcanic Complex (Lower GRV). The Mangaroongah Dacite is overlain by the Wheepool Rhyolite. A small area in the northeast of the tenement and west of Palthrubie Hill contains andesite outcrops while Yardea Dacite, of the Upper GRV, outcrops in the southern portion of the lease.

The 1,478 +/- 38 Ma Hiltaba Granite intruding the GRV is considered to be the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

In the southern portion of the lease isolated outcrops of Hiltaba suite granites, which become more common to the south and west of the lease on the adjoining map sheets. A single small, approximately 2km diameter, outcrop of Hiltaba Granite (Palthrubie Granophyre) is located north of the large gravity feature underlying the tenement, and is recognised as a high-level intrusive.

A rare outcrop of Wheepool Rhyolite, east of the Glyde Hills Outstation and extending 3km east of the station, displays a pale green, pink, purple and cream coloured pyroclastic breccia and agglomerate with layers of tuff to 1m thick. The pyroclastic has angular to sub-rounded blocks and fragments up to 1m across of banded rhyolite, welded ash flow tuff, and bands of pumice and rhyodacite. The presence of local eruptive volcanism is encouraging.

4.3 Alteration and Mineralisation

The majority of previous exploration in the Palthrubie area focused on the Glyde Hill Volcanics Complex in which drilling intersected weakly altered, interlayered felsic and or mafic volcanics. Petrological descriptions of selected samples indicate the rocks have undergone weak sericite alteration +/- chlorite, +/- carbonate. Although no intervals of significant mineralisation were encountered there are several recorded types of alteration/mineralisation which are of interest, including;

Glyde Hill Prospect. (30 km North of EL 3043).
Vuggy, rhyolitic breccias and brecciated basalts in several drill holes indicated that "hydrothermal activity seems undisputable in some of the breccias with fluorite replacement of the volcanic matrix but with negligible sulphide". Hole LEV 1 at 18.7m depth contained a fault breccia with matrix predominately of fluorite plus extensive oxidised magnetite in the host. Other intervals in LEV 1 and LEV 7 contained brecciated volcanics with prominent fluorite in the matrix and clasts containing magnetite, +/- rims of hematite. Drill chips in hole LEV 1 were described with "veinlets of sulphides with trace fluorite" from 7-9m depth.

Kulgulya Prospect.
WMC recorded weak chlorite-hematite-sericite alteration of volcanic breccias with slightly elevated Fe, F and Ba. There were minor chlorite veins throughout the basalt interval in hole MGYD-3 with rare quartz-amphibole veins containing minor galena.

Yardea Dacite.
In the Palthrubie district this dacite generally shows less alteration than the underlying Glyde Hill Volcanic Complex, with several notable exceptions. Along the Butterfield Range, 65km east of EL 3043, CRA encountered elevated Cu, Zn, Co, Ni and Cr values associated with a NW striking dolerite sill. They also collected float of a silicified felsic volcanics stained with malachite which assayed 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float has been found.

WMC encountered three "shafts/pits?" in Yardea Dacite containing a thin actinolite rich vein which "suggests moderate temperature, iron-rich hydrothermal activity". This site has been located 48km east of EL 3043.

Hiltaba Granite.
The Hiltaba Granite outcrops in the south-western portion of the Gairdner 1:250,000 sheet, and includes several isolated outcrops in the south of EL 3043 and the Palthrubie Granophyre in the north. There is very little information on the geology of the granite outcrops within the tenement. Petrological studies by WMC on the Palthrubie Granophyre identified it as a high-level granite with alteration assemblages that suggest the magma was "volatile-rich and that the volatiles were oxidised and rich in silica, fluorine, iron and K". Outcrop sampling by WMC revealed the presence of rare veins up to 5mm wide with quartz + malachite + fluorite + hematite which assayed 0.95% Cu, 145ppm Ag, 26ppm Bi and 100ppb Pb. They were unable, however, to reproduce any anomalous Cu values from a follow-up programme of surface rock chip sampling.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV 4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

CRAE reported anomalous uranium, arsenic and fluorite from stream sediment samples near Lake Acraman, with one anomalous sample returning values of 1100ppm F, and 1ppm U. Limited follow up was carried out on the basis of this result, but the reports include mention of altered biotite granitoids with elevated F (100ppm), As (29ppm) and Pb (88ppm).

Pima Mining undertook exploration in areas of Hiltaba age granites under cover to the south-west of EL 3043. RAB/aircore drilling results encountered altered granite at the Yarna and Plunkey's prospects. Assay values were not significant for Cu or Au but Pima Mining noted "significant, elevated rare earth elements (RRE)" in MMI samples. They reported the following values and compared them to samples of typical Olympic Dam mineralisation.

MMI Analyses of RRE elements at Pima Mining's YARNA Prospect:

Yarna Prospect		Olympic Dam Sulphide Ore	
Element	**Result (ppm)**	**Element**	**Result (ppm)**
Ce	377	Ce	2000-2500
La	265	La	1300-1800
Nd	279	Nd	N/A
Yt	174	Yt	35-110

Iron-rich Nodules.
Surface lag deposits of iron-rich nodules were recorded by WMC at several localities throughout the area. Nodules vary from strongly magnetic to hematitic. Rare angular and rounded partially hematised volcanic fragments occur amongst the nodules at several localities. WMC report that the textures of the nodules seen in thin section are strongly suggestive of hematite replacement of porphyritic volcanics. One such area of nodules, (Mt. Cooper Dam, 40km east northeast of EL 3043) shows spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics, namely enrichment in Ba, Cr and U.

The origin of the iron-rich nodules remains equivocal and WMC did not undertake a more thorough study of their chemistry and texture. They report, "the principal contribution appears to be from a Fe-metasomatised volcanic source with some encouraging Olympic Dam-like characteristics (enrichment in Ba, Cr and U relative to precursor compositions)", but tentative textural data also suggests contributions from quenched iron-rich melts (Acraman meteorite ejecta?) and ferruginised quartzose regolith.

4.4 Structurally Controlled Au-only Mineralisation

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. Mineralisation is associated with the Meso-Proterozoic Hiltaba Suite granitoids. The Palthrubie tenement lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna give the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region with structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease. The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids.

From available literature it appears there are many similar features, which characterise the various gold prospects throughout the proposed central Gawler Craton gold province, including:

- Gold is associated with steeply- to westerly-dipping quartz + sulphide veins
- Sulphide phase is predominantly pyrite. Minor galena has been recorded
- Mineralisation is hosted by granite or granite gneiss spatially associated with Hiltaba Suite intrusions
- Strong spatial association with regional-scale structures which often cross-cut Hiltaba Suite intrusions, or with smaller fault/shears which form as splay off a regional structure
- Mafic/dolerite dykes are often spatially associated with prospects and are commonly present in controlling structures
- Mineralisation is associated with strong hydrothermal alteration. Highest grade gold is usually associated with sericite +/- silica +/- chlorite alteration
- At some prospects, for example Barnes, there is evidence of a more distal propylitic alteration (chlorite-epidote-hematite)

Based upon the above characteristics, Company reporting of gold prospects in the Lake Acraman-Lake Everard region shows there is sufficient information available from RAB/aircore drilling to indicate they can be classified as typical central Gawler Craton Gold-style mineralisation.

The magnetics show a 2km diameter rounded intrusion in the northeast portion of the 'Palthrubie' lease. Very limited past exploration suggests it is a high level Hiltaba Suite intrusive body. Rock chip sampling detected up to 0.95% Cu and reported 145g/t Ag associated with small veins characterised by quartz-malachite-fluorite and hematite. Recent calcrete sampling work by Falcon has down graded this target.

5. WORK COMPLETED 2004/05.

5.1 Acquisition of historic Aircore drilling data for PIRSA.

During the year work was the collection of data relating to previous explorers work was completed. This work included 23 aircore holes for 475m by North Ltd and 77 aircore holes for 4.395m by Equinox Minerals Ltd. This work showed significant anomalism at the Deep Well prospect and in the neighbouring Acraman Tenement 2952. At Deep Well shallow Aircore produced results up to 1g/t Au near surface, from shallow RAB drilling . This work has not been followed up. Results are presented in Figure 2.

5.2 Interpretation and Assessment of all results to date.

Subsequent to the collection of historic data, all information, including recent Calcrete sampling, has been re-assessed as a whole. From this work targets were selected for testing both at Pathrubie 3043 and at Acraman 2952.

5.3 Target identification and drill program planning.

At Palthrubie drilling has been planned at Deep Well to follow up previously untested anomalism from historic Aircore drilling. The program consists of approximately 25 Aircore holes at 100 metres by 100 metres grid spacing to depths of about 80 metres, for 2,000m of drilling.

Details for the proposed drilling are as follows:

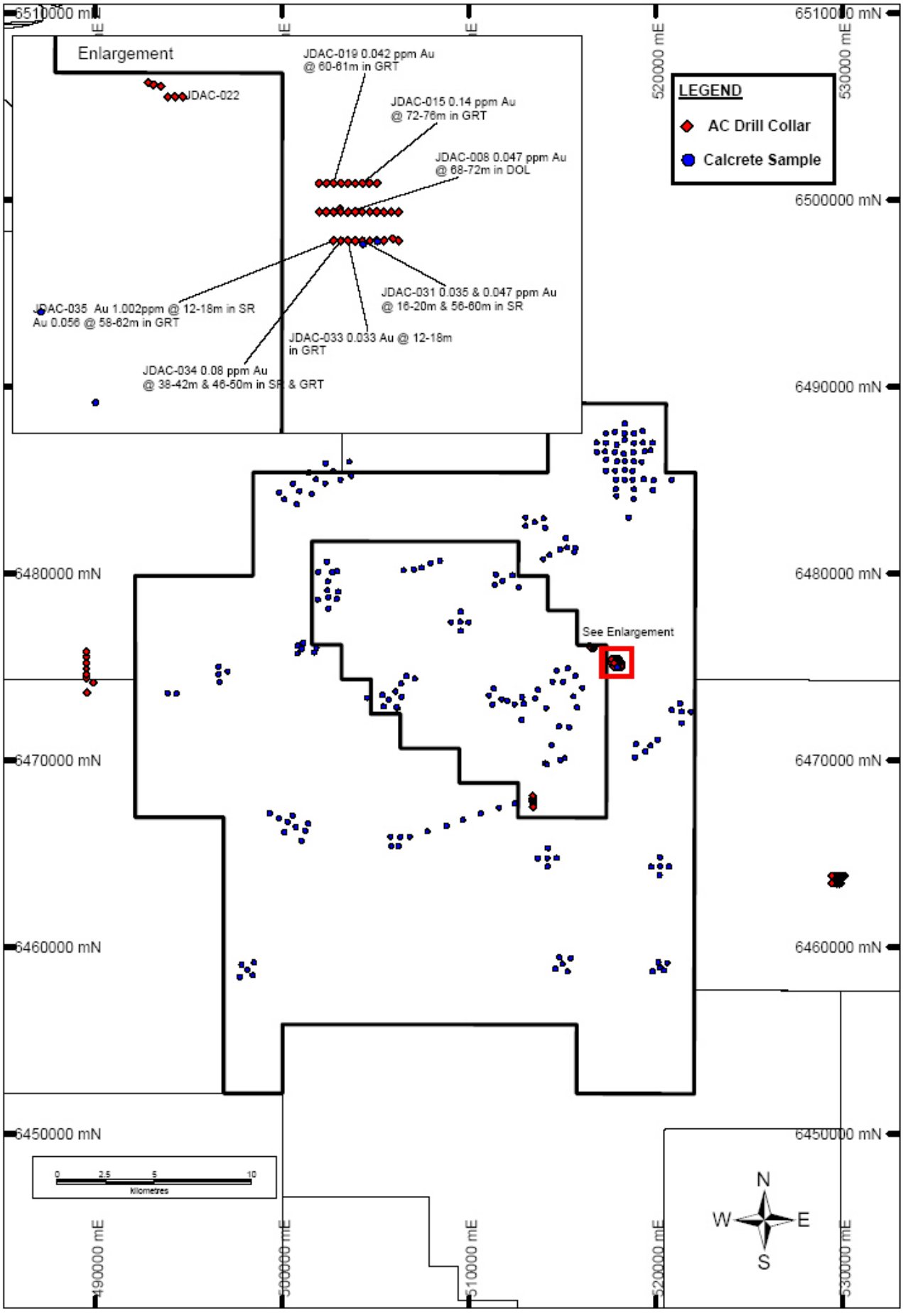
Table 4.
PROPOSED AIRCORE DRILLING

AMG East	AMG North	Dip	Azimuth
517700	6474800	-90	0
517800	6474800	-90	0
517900	6474800	-90	0
517600	6474900	-90	0
517700	6474900	-90	0
517800	6474900	-90	0
517900	6474900	-90	0
518000	6474900	-90	0
517600	6475000	-90	0
517600	6474900	-90	0
517700	6475100	-90	0
517800	6475100	-90	0
517900	6475100	-90	0
518000	6475100	-90	0
517600	6475300	-90	0
517700	6475300	-90	0
517800	6475300	-90	0
517900	6475300	-90	0
518000	6475300	-90	0
517600	6475500	-90	0
517700	6475500	-90	0
517800	6475500	-90	0
517900	6475500	-90	0
518000	6475500	-90	0

The Aircore drilling will be drilled to basement and then hammered for approximately 5m to penetrate the basement rocks.

This drilling was not completed in the previous year as previously proposed, since Aboriginal Heritage clearance has not been received. It is anticipated that drilling will commence early in the 2005/06 year of grant, if the Aboriginal Heritage meeting scheduled for October 2006 is successful.

Figure 2: Historic Drilling Results at Deep Well.



6. FUTURE WORK

Future work will include the completion of the proposed drill program following Aboriginal Heritage clearance. Any significant drill intercepts will be tested with RC drilling. An Aboriginal Heritage meeting is scheduled for October 2006.

7. ENVIRONMENT AND HERITAGE

The Central Archive in the Department of State Aboriginal Affairs records Aboriginal Heritage sites within the "Palthrubie" EL 3043 tenement area. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement. Falcon Minerals Limited have been advised that if during development, Aboriginal sites, objects and remains are discovered, the owner/occupier of the land must report the discovery to the Minister of Aboriginal Affairs as soon as possible.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3043 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

8. EXPENDITURE STATEMENT

Expenditure during the third year of tenure for EL 3043 'Palthrubie' is presented below including a breakdown of the various exploration activity costs.

TABLE 5.
EXPLORATION EXPENDITURE EL 3043

Exploration Activity	**Period ending 18/11/2005**
Data acquisition	$475.00
Evaluation and assessment of all results to date	$2,152.00
Gravity modelling	$2,000.00
Heritage Meeting/Investigation	$3,400.00
Airfares/travel/food/accommodation/supplies	$1,947.00
Vehicle hire/fuel/repairs	$179.00
Mapinfo digital data capture	$1,450.00
Report preparation	$2,670.00
Administration/Overheads 15%	$2,140.95

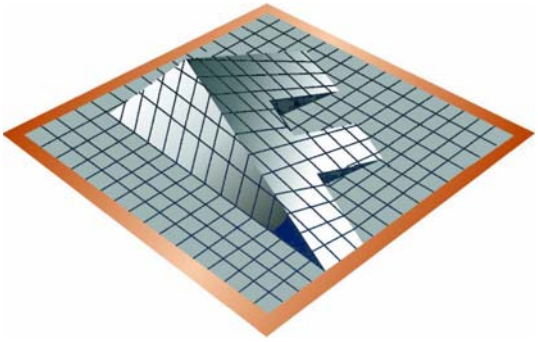
Total exploration expenditure for the 12 month period from 19th November 2004 to 18th November 2005 was $16,413.95.

9. REFERENCES

Hampton, W. (November 2004). Annual Technical Report. Exploration Licence 3043. Palthrubie. 19th November 2003 to 18th November 2004. Unpublished report for PIRSA.

Ogierman, J. (July 2003). Review of Current Research into a Proposed Gold-only Province in the Central Gawler Craton, South Australia. Unpublished report for Falcon Minerals Limited.

Ogierman, J. (November 2002). Summary of Geology and Previous Exploration. Unpublished report for Falcon Minerals Limited.



FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3043

"Palthrubie"

19th November 2005 to 18th November 2006

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

S.MOTTRAM
December 2006

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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1:250 000	Yardea (SI53-3)
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Gold

KEY WORDS:

Palthrubie Hill, Lake Acraman, Gairdner, Everard, copper, gold, reprocessing of regional geophysics, Calcrete auger sampling, Gawler Craton, Gawler Range Volcanics, Olympic Dam style mineralisation, Central Gawler Craton gold province.

SUMMARY

No field work was carried out during the reporting year.

Exploration activities carried out to date within Exploration Licence 3043 "Palthrubie" involved the following:

- Acquisition of historic Aircore drilling data from PIRSA.
- Mapinfo digital data capture
- Gravity modelling
- Aboriginal Heritage matters
- Interpretation of calcrete sampling by Falcon.
- Assessment of all results to date.
- Target identification and drill program planning.
- Report preparation.

Exploration statistics are summarised below:

TABLE 1.
EXPLORATION STATISTICS 'PALTHRUBIE' EL 3043

Exploration Activity	EL 3043	TOTALS
Acquisition of historic Aircore drilling data from PIRSA.	Whole EL	693 sq km
Interpretation of Calcrete sampling by Falcon.	Whole EL	693 sq km
Assessment of all results of work to data.	Whole EL	693 sq km
Target identification and drill program planning.	Whole EL	693 sq km

1. INTRODUCTION

The Exploration Licence 3043 called Palthrubie, comprising 693 square kilometres, was applied for by Yardarino Limited on 4th July 2002 as Application No. 102/02 and was granted for one year on the 19th November 2002 (Table 2). An application was lodged on the 7th September 2004 for the renewal of the whole 693 square kilometres of EL 3043 for a further period of one year commencing on 19th November 2004. The application was accepted on 20th October 2004.

Yardarino Limited changed their name to Falcon Minerals Limited (FCN) on 16th December 2002 and the lease was then endorsed in that name.

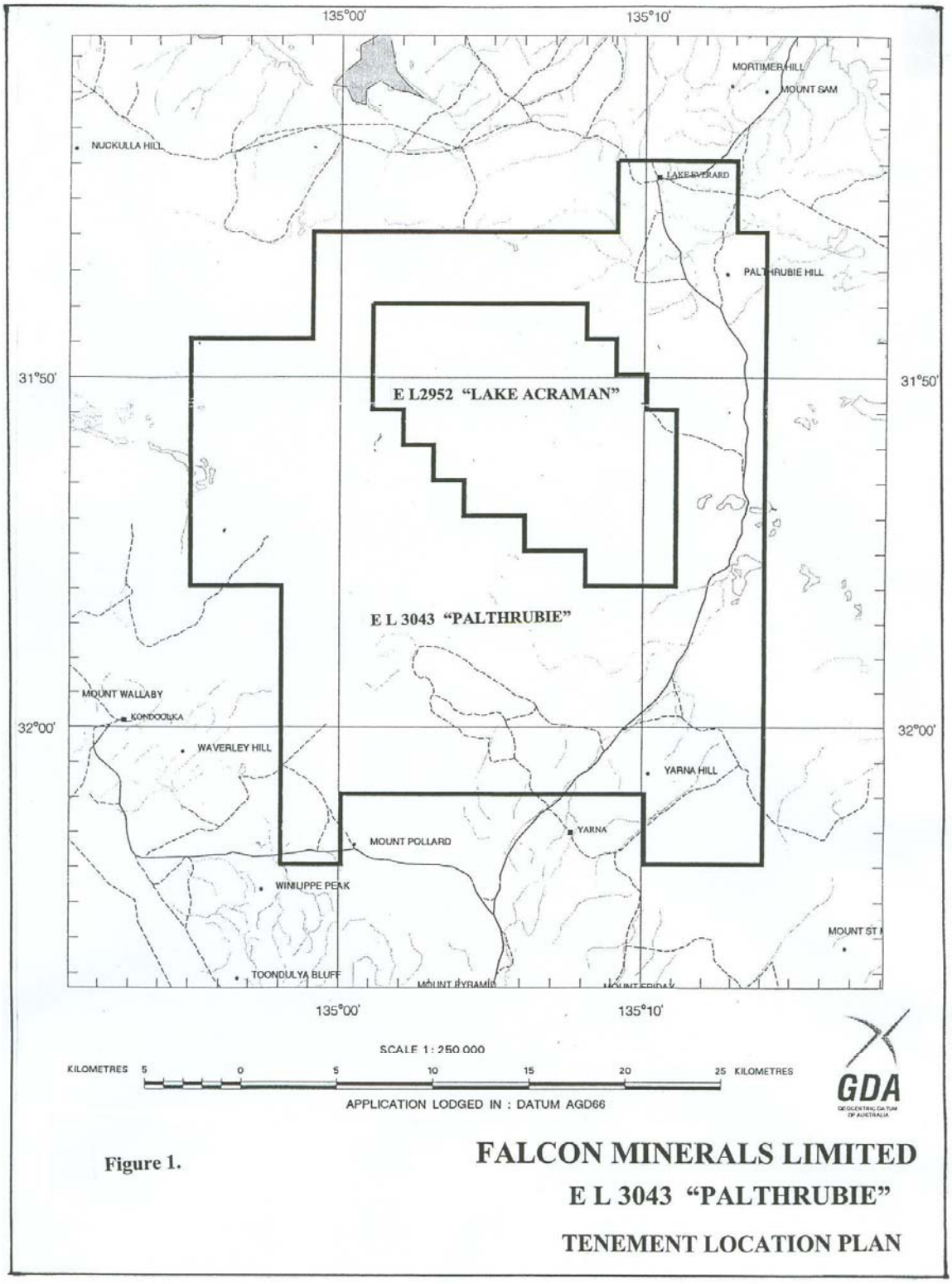
TABLE 2.
TENEMENT SUMMARY

Tenement Number	Initial Date of Application	Date of Last Grant	Date of Expiry	Expenditure Commitment	Area Sq km
EL 3043	**4th July 2002**	**19th November 2004**	**18th November 2005**	**$105,000**	**693**

The tenement lies approximately 180km southwest of Woomera and to the southwest of Palthrubie Hill (**Figure 1**), located in the south-central portion of the Gawler Craton. This exploration area is

situated mainly within the south-west corner of the Gairdner 1:250,000 map sheet with portions of the tenement extending into the Childara, Streaky Bay and Yardea map sheets.

Figure 1: Tenement Location Plan



2. HISTORY

Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3043. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying granophyre. A drill hole (LEV4) over a magnetic high along the southern margin of the Palthrubie Granophyre, drilled by Afmeco/BHP recorded Ba values up to 0.2% but failed to find Cu, Ag, Bi or Pb anomalism. Rock chip samples of the granophyre assayed up to 0.4% Ba.

Table 3 presents a summary of those Companies that carried out exploration within the environs of EL 3043 “Palthrubie”.

TABLE 3. HISTORICAL EXPLORATION SUMMARY					
COMPANY	**LICENCE**	**PROJECT NAME**	**DATE**	**COMMODITY**	**ENV**
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3. EXPLORATION RATIONALE

Falcon Minerals Limited considered that the Palthrubie tenement had exploration potential for Olympic Dam style Cu-Au mineralisation. Past drilling results in the surrounding region indicated mineralised fluids, consistent with Olympic Dam style mineralisation, were intersected, including sericite, chlorite, hematite, fluorite and barite. Subsequent geophysical work by Falcon down graded its Olympic Dam potential.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. The Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province. Based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

4. GEOLOGY

4.1 Regional Geology

The Palthrubie tenement contained in Exploration Licence 3043 comprises an area dominated by recent sand ridges with an average elevation of approximately 8m. It is situated in a region of extensive Gawler Range Volcanics (GRV), subdivided into Upper and Lower GRV. Rocks of this central portion of the Gawler Craton are characteristically unmetamorphised and little deformed. The Lower GRV comprises the Glyde Hill Volcanic Complex rocks of, predominately, a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

Overlying this sequence is the Upper GRV, composed of a vast blanket of ignimbrite known as the Yardea Dacite and comprising the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and porphyry dykes intrude these volcanics. A co-magmatic Hiltaba Granite out crops to the south and west of Lake Acraman. RAB drilling in the area during the late 1990s intercepted 'granite breccias' but there was no indication whether they were due to tectonic or hydraulic forces.

The Yalbrinda Fault Zone located 20km west of the EL 3043 lease is a dominant structural feature and probably marks the western boundary of the Gawler Range Volcanic province. The fault is possibly a result of crustal down warping responding to the extrusion of the large volume of the GRV.

A large north-west elongated gravity anomaly beneath EL 3043 reflects a north-west trending sand dune-filled depression, representing an underlying north-west trending regional structure.

The unusual circular feature of Lake Acraman has previously been interpreted as a surficial expression of a Neo-Proterozoic bolide impact structure from evidence of petrographic studies of shattered volcanics collected in the vicinity of the lake. Other studies, showing a low magnetic and low gravity signature within the GRV sheet, suggest either a Hiltaba Granite pluton or a major volcanic vent. It is proposed that the source of the large volume of GRV could be from this vent. Detailed aeromagnetics flown to the south and south east of Lake Acraman have outlined several possible volcanic centres or caldera collapse structures, up to several kilometres across, which may be a possible source of the Gawler Range Volcanics.

4.2 Local Geology

The majority of EL 3043 is covered by sand dunes and sand-covered flats with very little outcrop. The Gairdner Sheet shows only about 5% of the tenement contains isolated outcrops. The northern part of the lease contains outcrops of a series of densely welded ash flows (Mangaroongah Dacite), which form one of the lower units of the Glyde Hill Volcanic Complex (Lower GRV). The Mangaroongah Dacite is overlain by the Wheepool Rhyolite. A small area in the northeast of the tenement and west of Palthrubie Hill contains andesite outcrops while Yardea Dacite, of the Upper GRV, outcrops in the southern portion of the lease.

The 1,478 +/- 38 Ma Hiltaba Granite intruding the GRV is considered to be the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

In the southern portion of the lease isolated outcrops of Hiltaba suite granites, which become more common to the south and west of the lease on the adjoining map sheets. A single small, approximately 2km diameter, outcrop of Hiltaba Granite (Palthrubie Granophyre) is located north of the large gravity feature underlying the tenement, and is recognised as a high-level intrusive.

A rare outcrop of Wheepool Rhyolite, east of the Glyde Hills Outstation and extending 3km east of the station, displays a pale green, pink, purple and cream coloured pyroclastic breccia and agglomerate with layers of tuff to 1m thick. The pyroclastic has angular to sub-rounded blocks and fragments up to 1m across of banded rhyolite, welded ash flow tuff, and bands of pumice and rhyodacite. The presence of local eruptive volcanism is encouraging.

4.3 Alteration and Mineralisation

The majority of previous exploration in the Palthrubie area focused on the Glyde Hill Volcanics Complex in which drilling intersected weakly altered, interlayered felsic and or mafic volcanics. Petrological descriptions of selected samples indicate the rocks have undergone weak sericite alteration +/- chlorite, +/- carbonate. Although no intervals of significant mineralisation were encountered there are several recorded types of alteration/mineralisation which are of interest, including;

Glyde Hill Prospect. (30 km North of EL 3043).

Vuggy, rhyolitic breccias and brecciated basalts in several drill holes indicated that "hydrothermal activity seems undisputable in some of the breccias with fluorite replacement of the volcanic matrix but with negligible sulphide". Hole LEV 1 at 18.7m depth contained a fault breccia with matrix predominately of fluorite plus extensive oxidised magnetite in the host. Other intervals in LEV 1 and LEV 7 contained brecciated volcanics with prominent fluorite in the matrix and clasts containing magnetite, +/- rims of hematite. Drill chips in hole LEV 1 were described with "veinlets of sulphides with trace fluorite" from 7-9m depth.

Kulgulya Prospect.
WMC recorded weak chlorite-hematite-sericite alteration of volcanic breccias with slightly elevated Fe, F and Ba. There were minor chlorite veins throughout the basalt interval in hole MGYD-3 with rare quartz-amphibole veins containing minor galena.

Yardea Dacite.
In the Palthrubie district this dacite generally shows less alteration than the underlying Glyde Hill Volcanic Complex, with several notable exceptions. Along the Butterfield Range, 65km east of EL 3043, CRA encountered elevated Cu, Zn, Co, Ni and Cr values associated with a NW striking dolerite sill. They also collected float of a silicified felsic volcanics stained with malachite which assayed 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float has been found.

WMC encountered three "shafts/pits?" in Yardea Dacite containing a thin actinolite rich vein which "suggests moderate temperature, iron-rich hydrothermal activity". This site has been located 48km east of EL 3043.

Hiltaba Granite.
The Hiltaba Granite outcrops in the south-western portion of the Gairdner 1:250,000 sheet, and includes several isolated outcrops in the south of EL 3043 and the Palthrubie Granophyre in the north. There is very little information on the geology of the granite outcrops within the tenement. Petrological studies by WMC on the Palthrubie Granophyre identified it as a high-level granite with alteration assemblages that suggest the magma was "volatile-rich and that the volatiles were oxidised and rich in silica, fluorine, iron and K". Outcrop sampling by WMC revealed the presence of rare veins up to 5mm wide with quartz + malachite + fluorite + hematite which assayed 0.95% Cu, 145ppm Ag, 26ppm Bi and 100ppb Pb. They were unable, however, to reproduce any anomalous Cu values from a follow-up programme of surface rock chip sampling.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV 4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

CRAE reported anomalous uranium, arsenic and fluorite from stream sediment samples near Lake Acraman, with one anomalous sample returning values of 1100ppm F, and 1ppm U. Limited follow up was carried out on the basis of this result, but the reports include mention of altered biotite granitoids with elevated F (100ppm), As (29ppm) and Pb (88ppm).

Pima Mining undertook exploration in areas of Hiltaba age granites under cover to the south-west of EL 3043. RAB/aircore drilling results encountered altered granite at the Yarna and Plunkey's prospects. Assay values were not significant for Cu or Au but Pima Mining noted "significant, elevated rare earth elements (RRE)" in MMI samples. They reported the following values and compared them to samples of typical Olympic Dam mineralisation.

MMI Analyses of RRE elements at Pima Mining's YARNA Prospect:

Yarna Prospect		Olympic Dam Sulphide Ore	
Element	**Result (ppm)**	**Element**	**Result (ppm)**
Ce	377	Ce	2000-2500
La	265	La	1300-1800
Nd	279	Nd	N/A
Yt	174	Yt	35-110

Iron-rich Nodules.

Surface lag deposits of iron-rich nodules were recorded by WMC at several localities throughout the area. Nodules vary from strongly magnetic to hematitic. Rare angular and rounded partially hematised volcanic fragments occur amongst the nodules at several localities. WMC report that the textures of the nodules seen in thin section are strongly suggestive of hematite replacement of porphyritic volcanics. One such area of nodules, (Mt. Cooper Dam, 40km east northeast of EL 3043) shows spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics, namely enrichment in Ba, Cr and U.

The origin of the iron-rich nodules remains equivocal and WMC did not undertake a more thorough study of their chemistry and texture. They report, "the principal contribution appears to be from a Fe-metasomatised volcanic source with some encouraging Olympic Dam-like characteristics (enrichment in Ba, Cr and U relative to precursor compositions)", but tentative textural data also suggests contributions from quenched iron-rich melts (Acraman meteorite ejecta?) and ferruginised quartzose regolith.

4.4 Structurally Controlled Au-only Mineralisation

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. Mineralisation is associated with the Meso-Proterozoic Hiltaba Suite granitoids. The Palthrubie tenement lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna give the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region with structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease. The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids.

From available literature it appears there are many similar features, which characterise the various gold prospects throughout the proposed central Gawler Craton gold province, including:

- Gold is associated with steeply- to westerly-dipping quartz + sulphide veins
- Sulphide phase is predominantly pyrite. Minor galena has been recorded
- Mineralisation is hosted by granite or granite gneiss spatially associated with Hiltaba Suite intrusions
- Strong spatial association with regional-scale structures which often cross-cut Hiltaba Suite intrusions, or with smaller fault/shears which form as splay off a regional structure
- Mafic/dolerite dykes are often spatially associated with prospects and are commonly present in controlling structures
- Mineralisation is associated with strong hydrothermal alteration. Highest grade gold is usually associated with sericite +/- silica +/- chlorite alteration
- At some prospects, for example Barnes, there is evidence of a more distal propylitic alteration (chlorite-epidote-hematite)

Based upon the above characteristics, Company reporting of gold prospects in the Lake Acraman-Lake Everard region shows there is sufficient information available from RAB/aircore drilling to indicate they can be classified as typical central Gawler Craton Gold-style mineralisation.

The magnetics show a 2km diameter rounded intrusion in the northeast portion of the 'Palthrubie' lease. Very limited past exploration suggests it is a high level Hiltaba Suite intrusive body. Rock chip sampling detected up to 0.95% Cu and reported 145g/t Ag associated with small veins characterised by quartz-malachite-fluorite and hematite. Recent calcrete sampling work by Falcon has down graded this target.

5. WORK COMPLETED 2005/06.

No work was completed in the 2005/06 year while Falcon awaits Aboriginal Heritage clearance.

In May 2005 advice was received both from PIRSA and the Department for Aboriginal Affairs and Reconciliation that a determination had been made under Section 12 of the Aboriginal Heritage Act 1988 that extensive areas around Lake Gairdner area including FCN's EL 3043 contain Aboriginal Sites have been entered into the Register of Aboriginal Sites and Objects. As a result, prior to being able to conduct any work in the area, FCN attended a community consultation meeting at Whyalla on October 11th 2005 with representatives from the Aboriginal Heritage branch of the Department for Aboriginal Affairs and Reconciliation to discuss the impact of FCN's proposed work program in relation to the heritage sites. To date no decision has been made by the Aboriginal Heritage Board and until such time as this matter has been finalised, FCN is prohibited from undertaking any further exploration work within EL 3043.

6. PROPSED WORK.

Future work will include the completion of the proposed drill program following Aboriginal Heritage clearance. Any significant drill intercepts will be tested with RC drilling.

6.1 Target identification and drill program planning.

At Palthrubie drilling has been planned at Deep Well to follow up previously untested anomalism from historic Aircore drilling. The program consists of approximately 25 Aircore holes at 100 metres by 100 metres grid spacing to depths of about 80 metres, for 2,000m of drilling.

Details for the proposed drilling are as follows:

Table 4.
PROPOSED AIRCORE DRILLING

AMG East	AMG North	Dip	Azimuth
517700	6474800	-90	0
517800	6474800	-90	0
517900	6474800	-90	0
517600	6474900	-90	0
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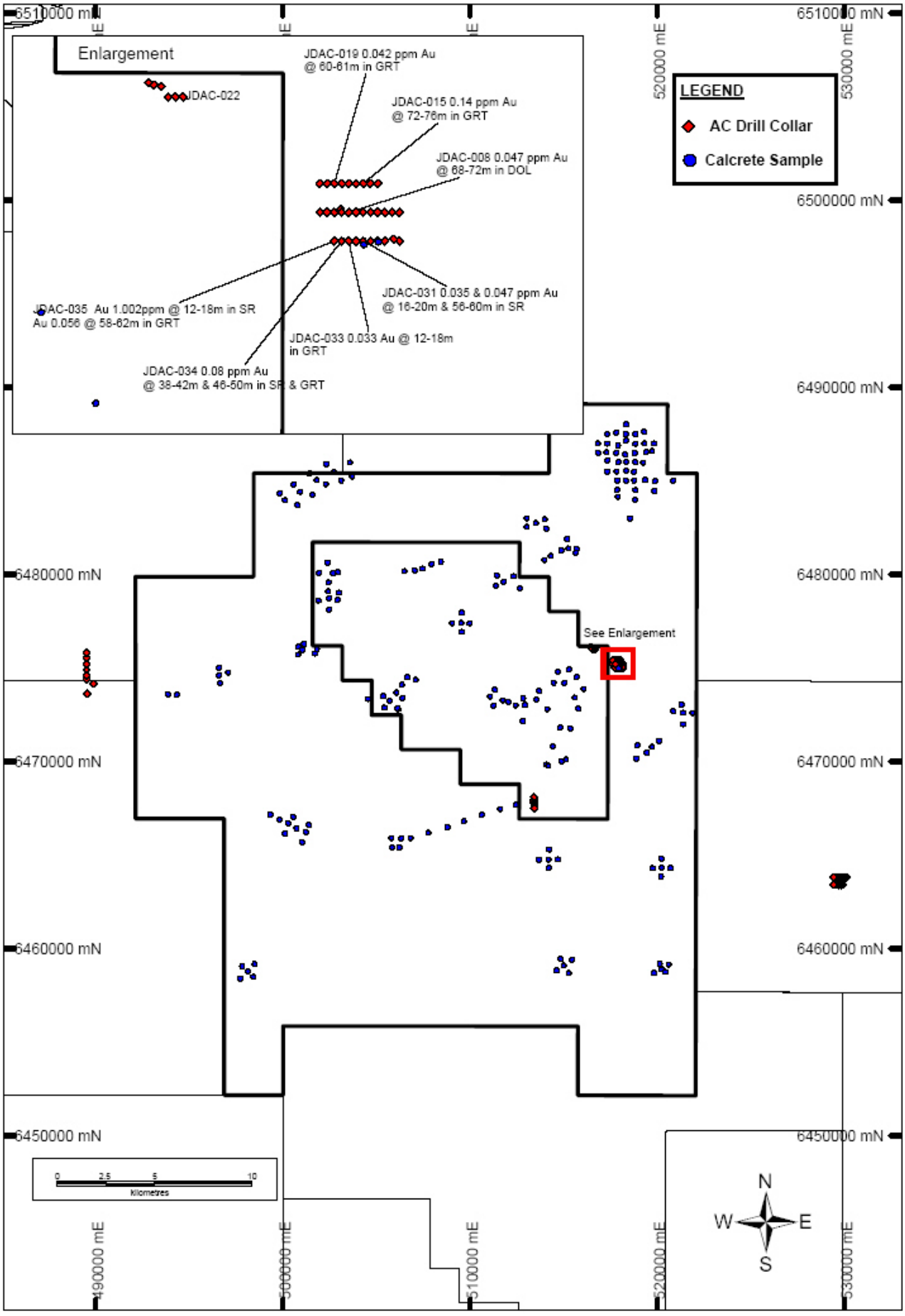
517700	6475500	-90	0
517800	6475500	-90	0
517900	6475500	-90	0
518000	6475500	-90	0

The Aircore drilling will be drilled to basement and then hammered for approximately 5m to penetrate the basement rocks.

This drilling will be completed when Aboriginal Heritage clearance has been received.

Figure 2: Historic Drilling Results at Deep Well.



7. ENVIRONMENT AND HERITAGE

The Central Archive in the Department of State Aboriginal Affairs records Aboriginal Heritage sites within the "Palthrubie" EL 3043 tenement area. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement. Falcon Minerals Limited have been advised that if during development, Aboriginal sites, objects and remains are discovered, the owner/occupier of the land must report the discovery to the Minister of Aboriginal Affairs as soon as possible.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3043 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum Spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

8. EXPENDITURE STATEMENT

Expenditure during the third year of tenure for EL 3043 'Palthrubie' is presented below including a breakdown of the various exploration activity costs.

TABLE 5.
EXPLORATION EXPENDITURE EL 3043

Exploration Activity	**Period ending 18/11/2006**
Heritage Consultants/Review/Administration	$5,671.00

Total exploration expenditure for the 12 month period from 19th November 2004 to 18th November 2006 was $5,671.

9. REFERENCES

Hampton, W. (November 2004). Annual Technical Report. Exploration Licence 3043. Palthrubie. 19th November 2003 to 18th November 2004. Unpublished report for PIRSA.

Ogierman, J. (July 2003). Review of Current Research into a Proposed Gold-only Province in the Central Gawler Craton, South Australia. Unpublished report for Falcon Minerals Limited.

Ogierman, J. (November 2002). Summary of Geology and Previous Exploration. Unpublished report for Falcon Minerals Limited.

FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3043

"Palthrubie"

19th November 2006 to 18th November 2007

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

S.MOTTRAM
December 2007

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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1: 250 000	Streaky Bay (SI53-2)
1:250 000	Yardea (SI53-3)
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Gold, Uranium

SUMMARY

No field work was carried out during the reporting year.

Exploration activities carried out to date within Exploration Licence 3043 "Palthrubie" involved the following:

- Negotiation of Aboriginal Heritage
- Assessment of Uranium potential
- Assessment of all results to date
- Report preparation

Exploration statistics are summarised below:

TABLE 1.
EXPLORATION STATISTICS 'PALTHRUBIE' EL 3043

Exploration Activity	EL 3043	TOTALS
Negotiation of Aboriginal Heritage	Whole EL	693 sq km
Assessment of Uranium potential	Whole EL	693 sq km
Assessment of all results to date	Whole EL	693 sq km
Report preparation.	Whole EL	693 sq km

1. INTRODUCTION

The Exploration Licence 3043 called Palthrubie, comprising 693 square kilometres, was applied for by Yardarino Limited on 4th July 2002 as Application No. 102/02 and was granted for one year on the 19th November 2002 (Table 2). An application was lodged on the 7th September 2004 for the renewal of the whole 693 square kilometres of EL 3043 for a further period of one year commencing on 19th November 2004. The application was accepted on 20th October 2004.

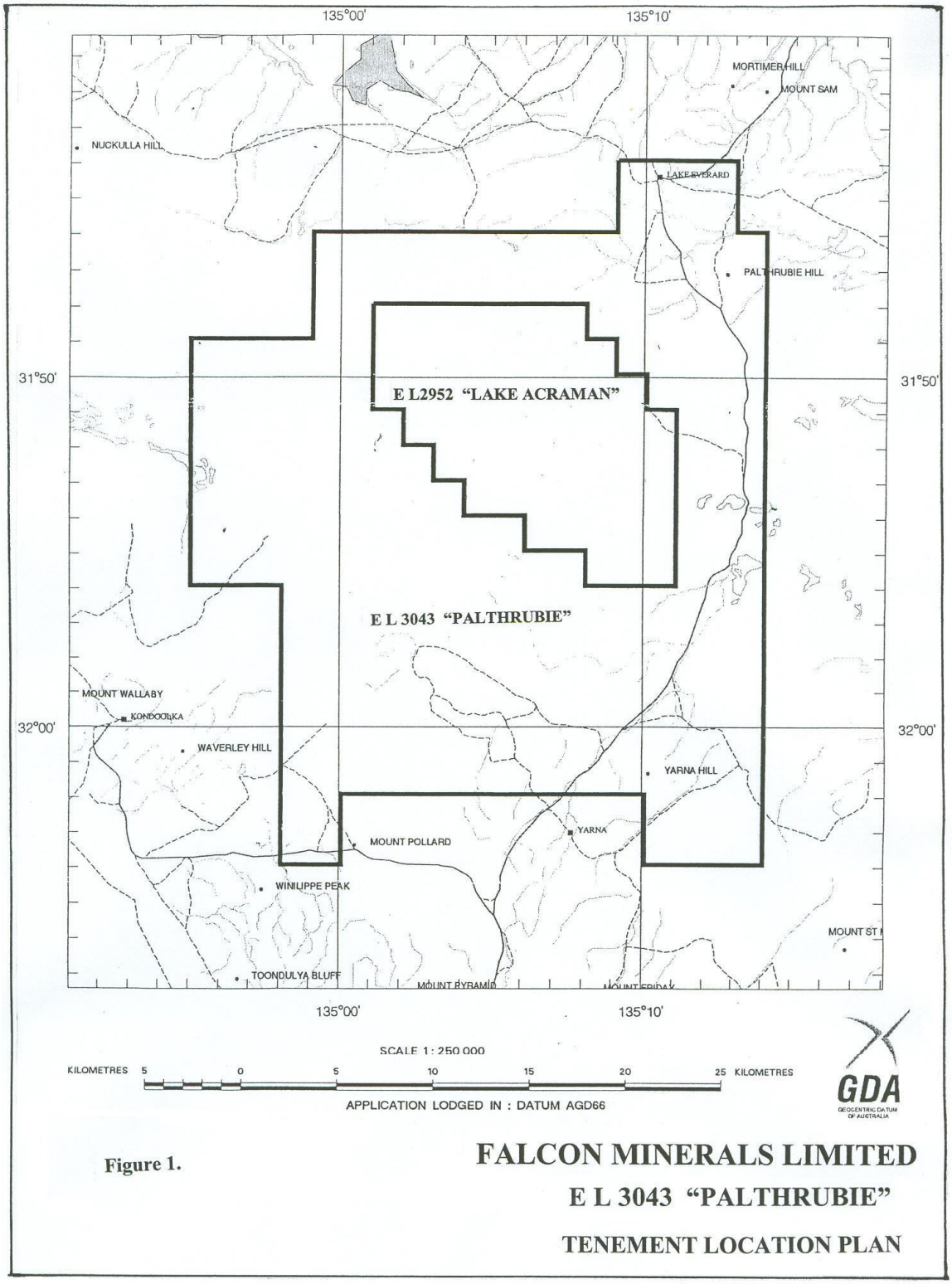
Yardarino Limited changed their name to Falcon Minerals Limited (FCN) on 16th December 2002 and the lease was then endorsed in that name.

TABLE 2.
TENEMENT SUMMARY

Tenement Number	Initial Date of Application	Date of Last Grant	Date of Expiry	Expenditure Commitment	Area Sq km
EL 3043	**4th July 2002**	**19th November 2004**	**18th November 2005**	**$105,000**	**693**

The tenement lies approximately 180km southwest of Woomera and to the southwest of Palthrubie Hill (**Figure 1**), located in the south-central portion of the Gawler Craton. This exploration area is situated mainly within the south-west corner of the Gairdner 1:250,000 map sheet with portions of the tenement extending into the Childara, Streaky Bay and Yardea map sheets.

Figure 1: Tenement Location Plan



2. HISTORY

Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3043. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying granophyre. A drill hole (LEV4) over a magnetic high along the southern margin of the Palthrubie Granophyre, drilled by Afmeco/BHP recorded Ba values up to 0.2% but failed to find Cu, Ag, Bi or Pb anomalism. Rock chip samples of the granophyre assayed up to 0.4% Ba.

Table 3 presents a summary of those Companies that carried out exploration within the environs of EL 3043 “Palthrubie”.

TABLE 3. HISTORICAL EXPLORATION SUMMARY					
COMPANY	**LICENCE**	**PROJECT NAME**	**DATE**	**COMMODITY**	**ENV**
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3. EXPLORATION RATIONALE

Falcon Minerals Limited considered that the Palthrubie tenement had exploration potential for Olympic Dam style Cu-Au mineralisation. Past drilling results in the surrounding region indicated mineralised fluids, consistent with Olympic Dam style mineralisation, were intersected, including sericite, chlorite, hematite, fluorite and barite. Subsequent geophysical work by Falcon down graded its Olympic Dam potential.

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. The Falcon Minerals 'Palthrubie' tenement lies within the central portion of this proposed gold province. Based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

More recent research has shown a significant palaeochannel passes from east to west though the centre of the tenement, which may have the potential to host Uranium mineralisation.

4. GEOLOGY

4.1 Regional Geology

The Palthrubie tenement contained in Exploration Licence 3043 comprises an area dominated by recent sand ridges with an average elevation of approximately 8m. It is situated in a region of extensive Gawler Range Volcanics (GRV), subdivided into Upper and Lower GRV. Rocks of this central portion of the Gawler Craton are characteristically unmetamorphised and little deformed. The Lower GRV comprises the Glyde Hill Volcanic Complex rocks of, predominately, a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

Overlying this sequence is the Upper GRV, composed of a vast blanket of ignimbrite known as the Yardea Dacite and comprising the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and porphyry dykes intrude these volcanics. A co-magmatic Hiltaba Granite out crops

to the south and west of Lake Acraman. RAB drilling in the area during the late 1990s intercepted 'granite breccias' but there was no indication whether they were due to tectonic or hydraulic forces.

The Yalbrinda Fault Zone located 20km west of the EL 3043 lease is a dominant structural feature and probably marks the western boundary of the Gawler Range Volcanic province. The fault is possibly a result of crustal down warping responding to the extrusion of the large volume of the GRV.

A large north-west elongated gravity anomaly beneath EL 3043 reflects a north-west trending sand dune-filled depression, representing an underlying north-west trending regional structure.

The unusual circular feature of Lake Acraman has previously been interpreted as a surficial expression of a Neo-Proterozoic bolide impact structure from evidence of petrographic studies of shattered volcanics collected in the vicinity of the lake. Other studies, showing a low magnetic and low gravity signature within the GRV sheet, suggest either a Hiltaba Granite pluton or a major volcanic vent. It is proposed that the source of the large volume of GRV could be from this vent. Detailed aeromagnetics flown to the south and south east of Lake Acraman have outlined several possible volcanic centres or caldera collapse structures, up to several kilometres across, which may be a possible source of the Gawler Range Volcanics.

4.2 Local Geology

The majority of EL 3043 is covered by sand dunes and sand-covered flats with very little outcrop. The Gairdner Sheet shows only about 5% of the tenement contains isolated outcrops. The northern part of the lease contains outcrops of a series of densely welded ash flows (Mangaroongah Dacite), which form one of the lower units of the Glyde Hill Volcanic Complex (Lower GRV). The Mangaroongah Dacite is overlain by the Wheepool Rhyolite. A small area in the northeast of the tenement and west of Palthrubie Hill contains andesite outcrops while Yardea Dacite, of the Upper GRV, outcrops in the southern portion of the lease.

The 1,478 +/- 38 Ma Hiltaba Granite intruding the GRV is considered to be the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

In the southern portion of the lease isolated outcrops of Hiltaba suite granites, which become more common to the south and west of the lease on the adjoining map sheets. A single small, approximately 2km diameter, outcrop of Hiltaba Granite (Palthrubie Granophyre) is located north of the large gravity feature underlying the tenement, and is recognised as a high-level intrusive.

A rare outcrop of Wheepool Rhyolite, east of the Glyde Hills Outstation and extending 3km east of the station, displays a pale green, pink, purple and cream coloured pyroclastic breccia and agglomerate with layers of tuff to 1m thick. The pyroclastic has angular to sub-rounded blocks and fragments up to 1m across of banded rhyolite, welded ash flow tuff, and bands of pumice and rhyodacite. The presence of local eruptive volcanism is encouraging.

4.3 Alteration and Mineralisation

The majority of previous exploration in the Palthrubie area focused on the Glyde Hill Volcanics Complex in which drilling intersected weakly altered, interlayered felsic and or mafic volcanics. Petrological descriptions of selected samples indicate the rocks have undergone weak sericite alteration +/- chlorite, +/- carbonate. Although no intervals of significant mineralisation were encountered there are several recorded types of alteration/mineralisation which are of interest, including;

Glyde Hill Prospect. (30 km North of EL 3043).
Vuggy, rhyolitic breccias and brecciated basalts in several drill holes indicated that "hydrothermal activity seems undisputable in some of the breccias with fluorite replacement of the volcanic matrix but with negligible sulphide". Hole LEV 1 at 18.7m depth contained a fault breccia with matrix predominately of fluorite plus extensive oxidised magnetite in the host. Other intervals in LEV 1 and LEV 7 contained brecciated volcanics with prominent fluorite in the matrix and clasts containing magnetite, +/- rims of hematite. Drill chips in hole LEV 1 were described with "veinlets of sulphides with trace fluorite" from 7-9m depth.

Kulgulya Prospect.
WMC recorded weak chlorite-hematite-sericite alteration of volcanic breccias with slightly elevated Fe, F and Ba. There were minor chlorite veins throughout the basalt interval in hole MGYD-3 with rare quartz-amphibole veins containing minor galena.

Yardea Dacite.
In the Palthrubie district this dacite generally shows less alteration than the underlying Glyde Hill Volcanic Complex, with several notable exceptions. Along the Butterfield Range, 65km east of EL 3043, CRA encountered elevated Cu, Zn, Co, Ni and Cr values associated with a NW striking dolerite sill. They also collected float of a silicified felsic volcanics stained with malachite which assayed 0.7% Cu, 38ppm Mo, 6ppm Bi and 4ppm Ag. No outcrop source for this float has been found.

WMC encountered three "shafts/pits?" in Yardea Dacite containing a thin actinolite rich vein which "suggests moderate temperature, iron-rich hydrothermal activity". This site has been located 48km east of EL 3043.

Hiltaba Granite.
The Hiltaba Granite outcrops in the south-western portion of the Gairdner 1:250,000 sheet, and includes several isolated outcrops in the south of EL 3043 and the Palthrubie Granophyre in the north. There is very little information on the geology of the granite outcrops within the tenement. Petrological studies by WMC on the Palthrubie Granophyre identified it as a high-level granite with alteration assemblages that suggest the magma was "volatile-rich and that the volatiles were oxidised and rich in silica, fluorine, iron and K". Outcrop sampling by WMC revealed the presence of rare veins up to 5mm wide with quartz + malachite + fluorite + hematite which assayed 0.95% Cu, 145ppm Ag, 26ppm Bi and 100ppb Pb. They were unable, however, to reproduce any anomalous Cu values from a follow-up programme of surface rock chip sampling.

To date only one hole has tested the Palthrubie Granophyre. Hole LEV 4 was drilled by Afmeco/BHP at a magnetic target high along its southern margin. While failing to encounter Cu, Ag, Bi or Pb anomalism, recorded values up to 0.2% Ba. Rock chip sampling of the granophyre also returned values of up to 0.4% Ba.

CRAE reported anomalous uranium, arsenic and fluorite from stream sediment samples near Lake Acraman, with one anomalous sample returning values of 1100ppm F, and 1ppm U. Limited follow up was carried out on the basis of this result, but the reports include mention of altered biotite granitoids with elevated F (100ppm), As (29ppm) and Pb (88ppm).

Pima Mining undertook exploration in areas of Hiltaba age granites under cover to the south-west of EL 3043. RAB/aircore drilling results encountered altered granite at the Yarna and Plunkey's prospects. Assay values were not significant for Cu or Au but Pima Mining noted "significant, elevated rare earth elements (RRE)" in MMI samples. They reported the following values and compared them to samples of typical Olympic Dam mineralisation.

MMI Analyses of RRE elements at Pima Mining's YARNA Prospect:

Yarna Prospect		Olympic Dam Sulphide Ore	
Element	**Result (ppm)**	**Element**	**Result (ppm)**
Ce	377	Ce	2000-2500
La	265	La	1300-1800
Nd	279	Nd	N/A
Yt	174	Yt	35-110

Iron-rich Nodules.

Surface lag deposits of iron-rich nodules were recorded by WMC at several localities throughout the area. Nodules vary from strongly magnetic to hematitic. Rare angular and rounded partially hematised volcanic fragments occur amongst the nodules at several localities. WMC report that the textures of the nodules seen in thin section are strongly suggestive of hematite replacement of porphyritic volcanics. One such area of nodules, (Mt. Cooper Dam, 40km east northeast of EL 3043) shows spatial correlation with a composite gravity anomaly. Geochemical analysis of the nodules shows encouraging Olympic Dam characteristics, namely enrichment in Ba, Cr and U.

The origin of the iron-rich nodules remains equivocal and WMC did not undertake a more thorough study of their chemistry and texture. They report, "the principal contribution appears to be from a Fe-metasomatised volcanic source with some encouraging Olympic Dam-like characteristics (enrichment in Ba, Cr and U relative to precursor compositions)", but tentative textural data also suggests contributions from quenched iron-rich melts (Acraman meteorite ejecta?) and ferruginised quartzose regolith.

4.4 Structurally Controlled Au-only Mineralisation

The recognition of a developing new gold-only mineralisation province in the central Gawler Craton is currently stimulating exploration within this area. Mineralisation is associated with the Meso-Proterozoic Hiltaba Suite granitoids. The Palthrubie tenement lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style Au mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna give the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region with structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease. The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids.

From available literature it appears there are many similar features, which characterise the various gold prospects throughout the proposed central Gawler Craton gold province, including:

- Gold is associated with steeply- to westerly-dipping quartz + sulphide veins
- Sulphide phase is predominantly pyrite. Minor galena has been recorded
- Mineralisation is hosted by granite or granite gneiss spatially associated with Hiltaba Suite intrusions
- Strong spatial association with regional-scale structures which often cross-cut Hiltaba Suite intrusions, or with smaller fault/shears which form as splay off a regional structure
- Mafic/dolerite dykes are often spatially associated with prospects and are commonly present in controlling structures
- Mineralisation is associated with strong hydrothermal alteration. Highest grade gold is usually associated with sericite +/- silica +/- chlorite alteration
- At some prospects, for example Barnes, there is evidence of a more distal propylitic alteration (chlorite-epidote-hematite)

Based upon the above characteristics, Company reporting of gold prospects in the Lake Acraman-Lake Everard region shows there is sufficient information available from RAB/aircore drilling to indicate they can be classified as typical central Gawler Craton Gold-style mineralisation.

The magnetics show a 2km diameter rounded intrusion in the northeast portion of the 'Palthrubie' lease. Very limited past exploration suggests it is a high level Hiltaba Suite intrusive body. Rock chip sampling detected up to 0.95% Cu and reported 145g/t Ag associated with small veins characterised by quartz-malachite-fluorite and hematite. Recent calcrete sampling work by Falcon has down graded this target.

5. WORK COMPLETED 2005/06.

No work was completed in the 2005/06 year while Falcon negotiated Aboriginal Heritage clearance.

In May 2005 advice was received both from PIRSA and the Department for Aboriginal Affairs and Reconciliation that a determination had been made under Section 12 of the Aboriginal Heritage Act 1988 that extensive areas around Lake Gairdner area including FCN's EL 3043 contain Aboriginal Sites have been entered into the Register of Aboriginal Sites and Objects. As a result, prior to being able to conduct any work in the area, FCN attended a community consultation meeting at Whyalla on October 11th 2005 with representatives from the Aboriginal Heritage branch of the Department for Aboriginal Affairs and Reconciliation to discuss the impact of FCN's proposed work program in relation to the heritage sites.

In mid 2007 a favourable determination regarding Native Title Heritage was made, allowing ground exploration to proceed.

Work during the year has also indicated the possibility of Uranium to be hosted in the palaeochannel which runs for 30km, east to west, through the middle of the project. The palaeochannel is flanked to the north and south by radiometric 'hot' granites (source rocks) and displays a number of subtle radiometric anomalies in association with salt lake development. Ground reconnaissance and sampling is planned to follow up these areas.

6. PROPSED WORK.

Future work will include the completion of the proposed drill program. Any significant drill intercepts will be tested with RC drilling.

Additionally work will include reconnaissance on the Uranium potential in the tenement, specifically in areas of radiometric anomalism.

6.1 Target identification and drill program planning.

At Palthrubie drilling has been planned at Deep Well to follow up previously untested anomalism from historic Aircore drilling. The program consists of approximately 25 Aircore holes at 100 metres by 100 metres grid spacing to depths of about 80 metres, for 2,000m of drilling.

Details for the proposed drilling are as follows:

Table 4.
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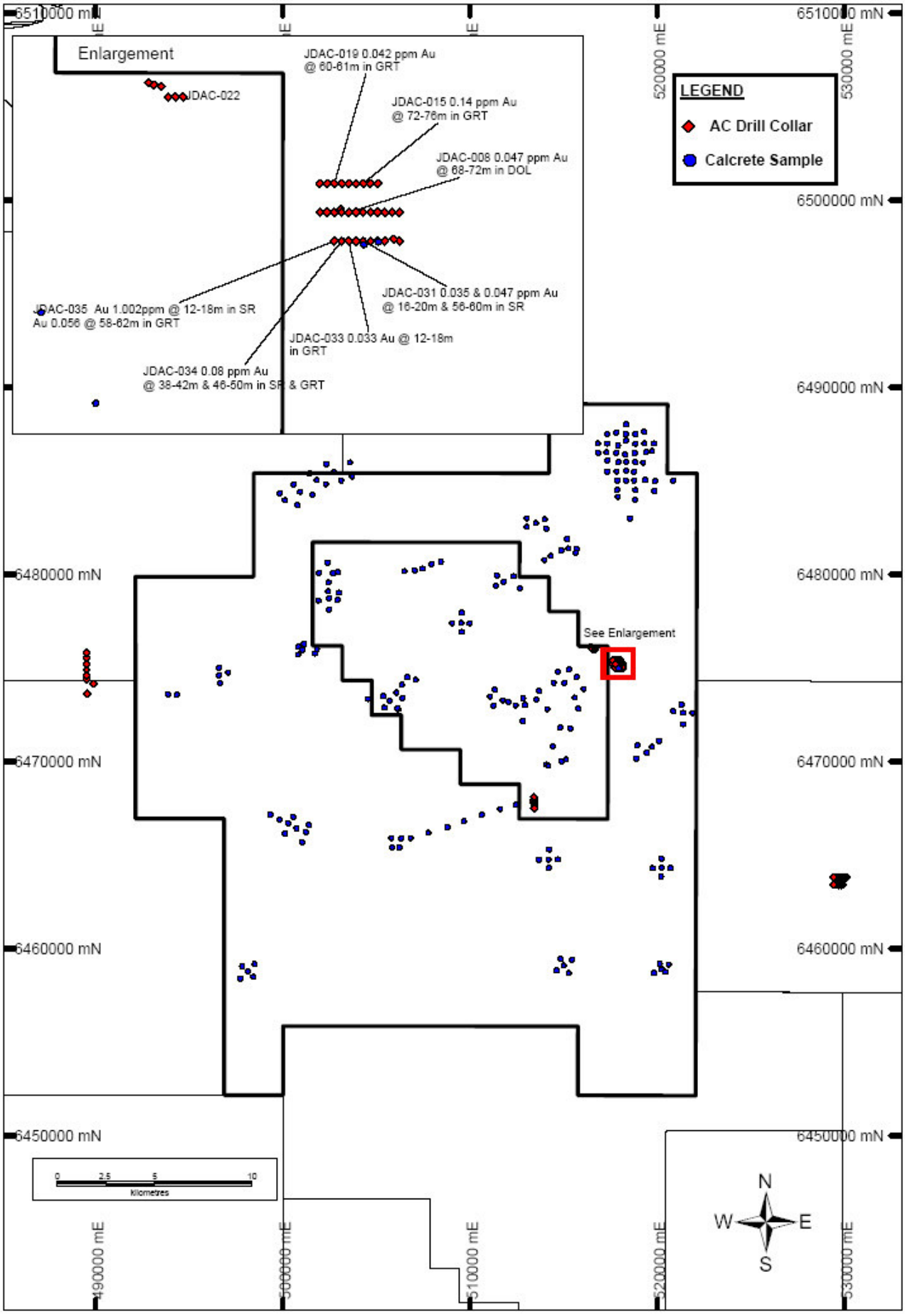
517700	6475500	-90	0
517800	6475500	-90	0
517900	6475500	-90	0
518000	6475500	-90	0

The Aircore drilling will be drilled to basement and then hammered for approximately 5m to penetrate the basement rocks.

This drilling will be completed when Aboriginal Heritage clearance has been received.

Figure 2: Historic Drilling Results at Deep Well.



7. ENVIRONMENT AND HERITAGE

The Central Archive in the Department of State Aboriginal Affairs records Aboriginal Heritage sites within the "Palthrubie" EL 3043 tenement area. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement. Falcon Minerals Limited have been advised that if during development, Aboriginal sites, objects and remains are discovered, the owner/occupier of the land must report the discovery to the Minister of Aboriginal Affairs as soon as possible.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3043 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum Spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

8. EXPENDITURE STATEMENT

Expenditure during the 2007 year of tenure for EL 3043 'Palthrubie' is presented below including a breakdown of the various exploration activity costs.

TABLE 5.
EXPLORATION EXPENDITURE EL 3043

Exploration Activity	**Period ending 18/11/2006**
Uranium Review	$2,500.00
Heritage Consultants/Review/Administration	$4,000.00

Total exploration expenditure for the 12 month period from 19th November 2006 to 18th November 2007 was $6,500.

9. REFERENCES

Hampton, W. (November 2004). Annual Technical Report. Exploration Licence 3043. Palthrubie. 19th November 2003 to 18th November 2004. Unpublished report for PIRSA.

Ogierman, J. (July 2003). Review of Current Research into a Proposed Gold-only Province in the Central Gawler Craton, South Australia. Unpublished report for Falcon Minerals Limited.

Ogierman, J. (November 2002). Summary of Geology and Previous Exploration. Unpublished report for Falcon Minerals Limited.

FALCON
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Website : falconminerals.com.au

8th May 2009

Mineral Tenements Records Officer
Primary Industry and Resources SA
GPO Box 1671
Adelaide SA 5001

Dear Sir

Re: Re Exploration Licences EL's 3995 and 3996 - Lake Acreman and Palthrubie

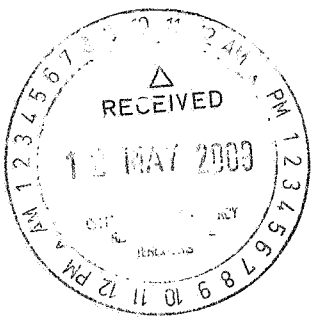
Please find enclosed for your records, copies of the Summary and Expenditure Reports overdue in respect to the abovementioned tenements.

EL's 3995 and 3996 were granted on December 5th 2007 subject for authorisation being sought from the Minister for Aboriginal Affairs and Reconciliation for any planned exploration Falcon wished to undertake. Due to Falcon seeking a resolution and clarification with the Minister for Aboriginal Heritage over this issue, no on ground activity was able to be undertaken and therefore no Annual Technical Reports have been prepared. (2008)

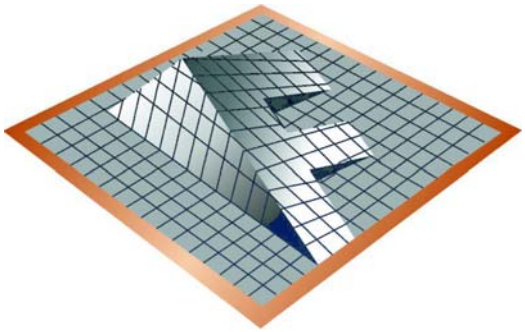
Also as a new geologist was employed by the Company during the year, a review of the gold and uranium potential of the tenement was completed.

Should you have any queries regarding this matter please do not hesitate to contact me at this office.

Yours faithfully



Richard E Diermajer
Director



FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3996

"Palthrubie"

5th December 2008 to 4th December 2009

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

Author: Graeme Cameron
Submitted By: Richard Diermajer
January 2010

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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	1:250 000	Gairdner (SH53-15)
	1: 250 000	Streaky Bay (SI53-2)
	1:250 000	Yardea (SI53-3)
	1:100 000	Everard (5934)
	1:100 000	Childara (5834)
	1:100 000	Yartoo (5933)
	1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Gold, Uranium

KEY WORDS:

Palthrubie Hill, Gairdner, Everard, gold, calcrete sampling, Gawler Craton, Gawler Range Volcanics.

SUMMARY

Exploration activities carried out within the "Palthrubie" Exploration Licence (EL) 3996 during the reporting period involved the following:

- Aboriginal Heritage clearance negotiations.
- Review and validation of previous exploration data.
- Geophysical filtering and regional targeting.
- Design of follow-up drilling and calcrete sampling programs.
- Report preparation.
- Administration.

Exploration statistics are summarised below.

TABLE 1. **EXPLORATION STATISTICS 'PALTHRUBIE EL 3996**		
Exploration Activity	**EL 3996**	**TOTALS**
Aboriginal heritage consultants	Whole EL	693 sq km
Exploration review and work planning	Whole EL	693 sq km
Geophysical filtering and target generation	Whole EL	693 sq km
Report preparation	Whole EL	693 sq km
Administration	Whole EL	693 sq km

1. INTRODUCTION

Exploration Licence 3996 "Palthrubie" encompasses 693 km^2 and was granted on the 5th December 2007.

TABLE 2. **TENEMENT SUMMARY**				
Tenement Number	Initial Date Subsequent Application	Date of last Grant	Expenditure Commitment	Area Sq km
EL 3996	**17 May 2007**	**5 December 2007**	**$120,000**	**693**

EL 3996 is located immediately southwest of Palthrubie Hill and lies approximately 180 km southwest of Woomera (Figure 1). The exploration area is situated in the south-central portion of the Gawler Craton, in the south-west corner of the Gairdner 1:250,000 map sheet.

The six monthly Summary Report on Mineral Exploration detailing the tenement's exploration and expenditure for the period ending 4th June 2009 was submitted by Falcon Minerals Limited on the 10th September 2009.

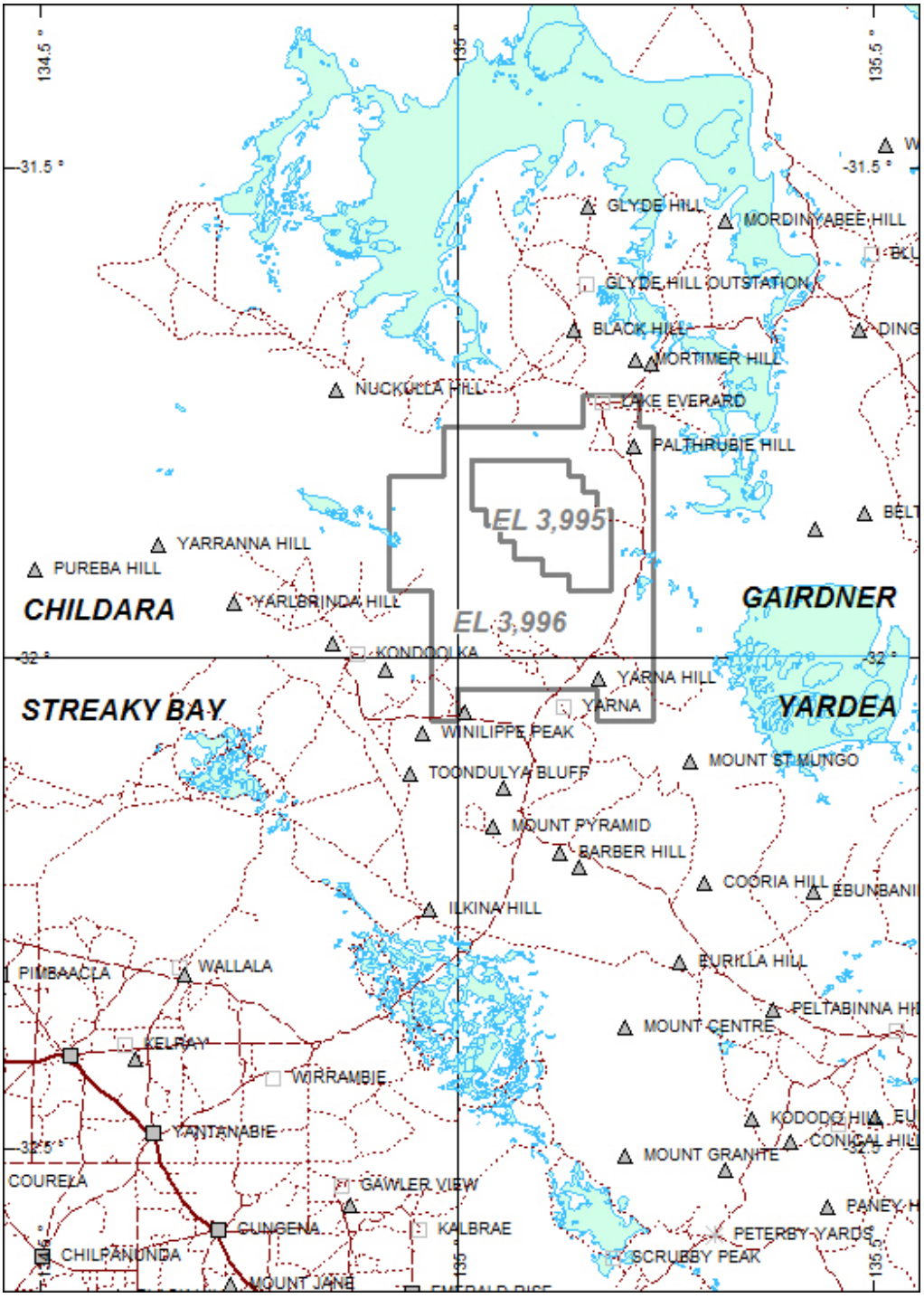

Figure 1. Location of Palthrubie EL 3996 within the south-west corner of the Gairdner 1:250,000 map sheet.

2. GEOLOGY

Palthrubie EL 3996 is located within the south-western corner of the Gairdner 1:250,000 sheet, in an area dominated by recent sand ridges with have an average elevation of about 8m.

2.1. Regional Setting

EL 3996 is situated in the central portion of the Gawler Craton amongst the relatively unmetamorphosed and little-deformed Gawler Range Volcanics (GRV). The Glyde Hill Volcanic Complex represents the Lower GRV, predominately a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

The Upper GRV (Yardea Dacite) overlies the Lower GRV and comprises the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and numerous porphyry dykes intrude the GRV. Co-magmatic Hiltaba Granite (1,478 +/- 38 Ma) crops out to the south and west of Lake Acraman, intruding the Gawler Range Volcanics, and is regarded as the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

The major Yalbrinda Fault Zone lies 20 km west of EL3996 and marks the western boundary of the Gawler Range Volcanic province and is possibly the result of crustal down warping in response to the extrusion of the large volume of the GRV. A large gravity anomaly underlying EL3995 and EL3996 is reflected in the north-west trend of a sand dune-filled depression overlying the anomaly and may represent an underlying north-west trending regional structure.

To the south-east of the Palthrubie tenement, is an unusual circular photo-geographical feature, and may outline a possible volcanic centre or caldera collapse structure that may represent the source of the Gawler Range Volcanics.

2.2. Local Geology

The majority of the Palthrubie EL 3996 tenement is covered by sand dunes or sand-covered flats, with only approximately 5% containing isolated outcrops (Figure 2). The densely welded ash flows of the Mangaroongah Dacite form the lowest unit of the Glyde Hill Volcanic Complex (Lower GRV) and crop out in the northern portion of the tenement. The Wheepool Rhyolite overlies the Mangaroongah Dacite approximately 6 km north of the tenement. Approximately 3 km to the north-east of EL3995, a small area of andesite crops out, while about 3 km in the south Yardea Dacites of the Upper GRV are exposed.

Hiltaba Granite crops out in the southern portion of EL3995 and becomes more common to the south and west of the tenement. A single, 2 km diameter exposure of Hiltaba age granite, 7 km north-east of the tenement, is recognised as a high level intrusive.

At the Glyde Hill Outstation, 25 km to the north of EL 2952, the base of the Wheepool Rhyolite is exposed as a pale green, pink, purple and cream coloured pyroclastic breccia (Waurea Pyroclastics) and agglomerate with layers of tuff up to 1 m thick. The breccia extends about 3 km east of Glyde Hill Outstation and contains angular to sub-rounded blocks, and fragments of banded rhyolite, up to 1 m across, as well as welded ash flow tuff and bands of pumice and rhyodacite. The breccia probably ejected from local vents.

A large WNW trending gravity anomaly is interpreted to exist at some depth in the most sand covered central areas. The source of this anomaly is unknown but considered to be mafic rocks that have not been identified. Its WNW trending southern boundary appears to be a faulted contact.

Most of the tenement EL 3996 is covered by transported sands overlying the gravely and gritty clays, loam and sands of the Pooraka Formation.

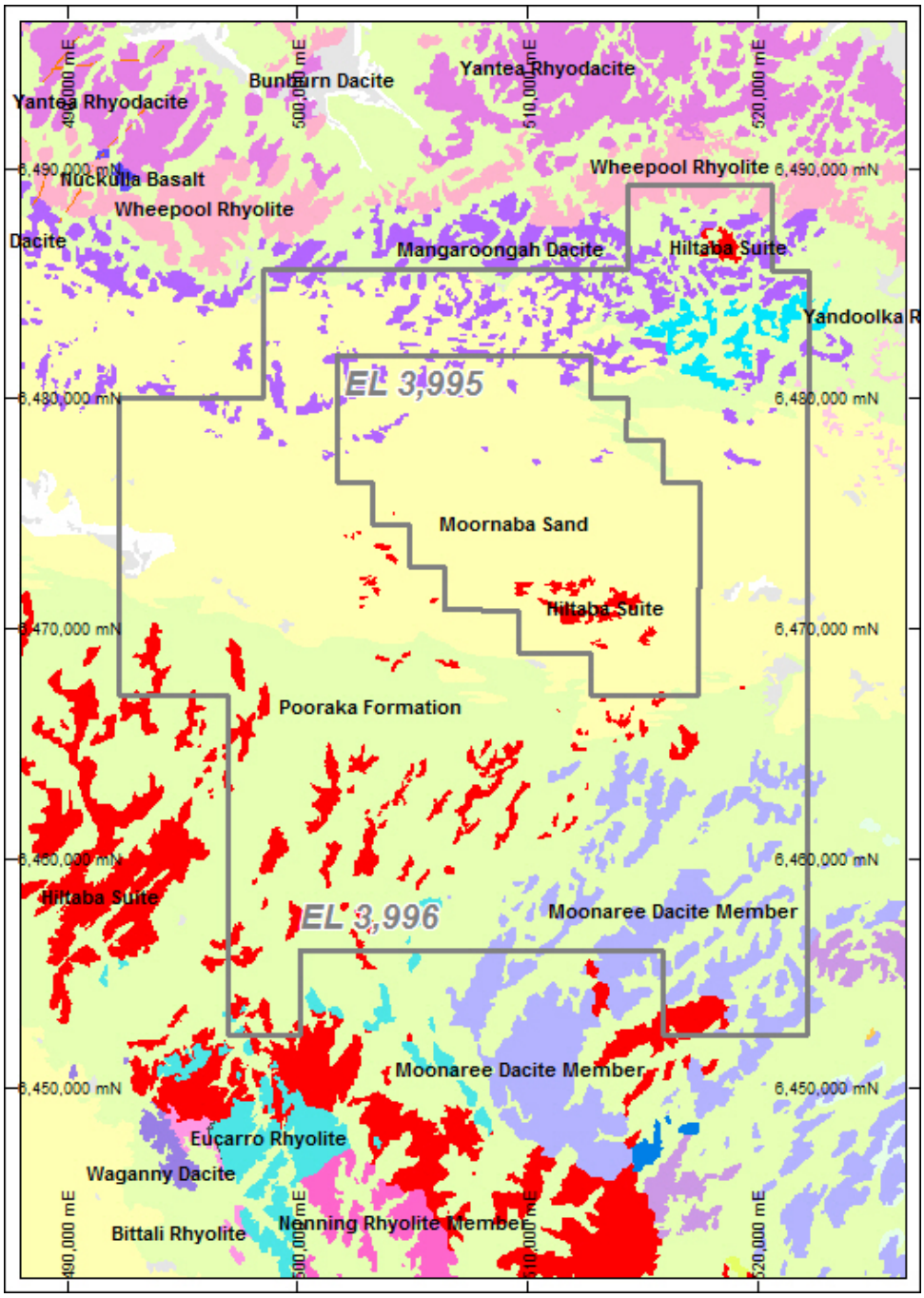

Figure 2. EL 3995 Local Geology.

3. HISTORY AND PREVIOUS EXPLORATION

3.1 Historical Exploration

Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3996. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down-graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying granophyre. A drill hole (LEV4) over a magnetic high along the southern margin of the Palthrubie Granophyre, drilled by Afmeco/BHP recorded Ba values up to 0.2% but failed to find Cu, Ag, Bi or Pb anomalism. Rock chip samples of the granophyre assayed up to 0.4% Ba.

Table 3 presents a summary of those Companies that carried out exploration within the environs of EL 3996 “Palthrubie”.

TABLE 3. HISTORICAL EXPLORATION SUMMARY					
COMPANY	**LICENCE**	**PROJECT NAME**	**DATE**	**COMMODITY**	**ENV**
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972- 1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

Appendix 1 presents a summary of the results of the exploration programmes carried out by the Companies detailed in Table 3.

3.2 Past Exploration by Falcon Minerals

On examination of the PIRSA calcrete sampling data of the 1990s, acquired in August 2003, it was found that several gold-in-calcrete anomalies within EL 3996 remained to be tested (Figure 3). In 2006, Falcon Minerals Limited contracted Joseph Ogierman to undertake calcrete auger drill sampling over EL 3995 and EL3996 to test a major gravity anomaly associated with Hiltaba suite granites. A total of 68 samples were collected in EL 3996 at seven sites. Samples were analysed for low level Au (method Br/EETA at a detection limit of -0.1 ppb Au) and Pb, Zn, Cu, As, Ag, Ni, Fe, Mn, Ca and MG (method BT/OES) at Genalysis Laboratories in Adelaide. Falcon Minerals' calcrete program confirmed three Au anomalies shown in the 1990s data and extended two of them. Some additional anomalies are also indicated under sand cover. It is recommended that additional calcrete samples be taken, at 200 m or 100 m spacing, to effectively identify and define targets for deeper drilling.

Gravity modelling utilised the publicly available gravity data collected by WMC and by PIRSA. Modelling produced a large gravity ridge oriented north west encompassing EL 3995 and continuing into Falcon's surrounding EL 3996 before phasing out at the edges of EL 3996. The general gravity ridge is extensive covering a strike length of approximately 3 km NW and width of 1 km at relatively low density of 2.75 g/cc. At an isosurface density of 2.80 g/cc it extends beyond the tenement boundaries of E 3995 and at a still modest isosurface bulk density of 2.85 g/cc the body is mostly encapsulated by the tenement boundaries but the depth beneath surface at that bulk density is estimated at 5km.

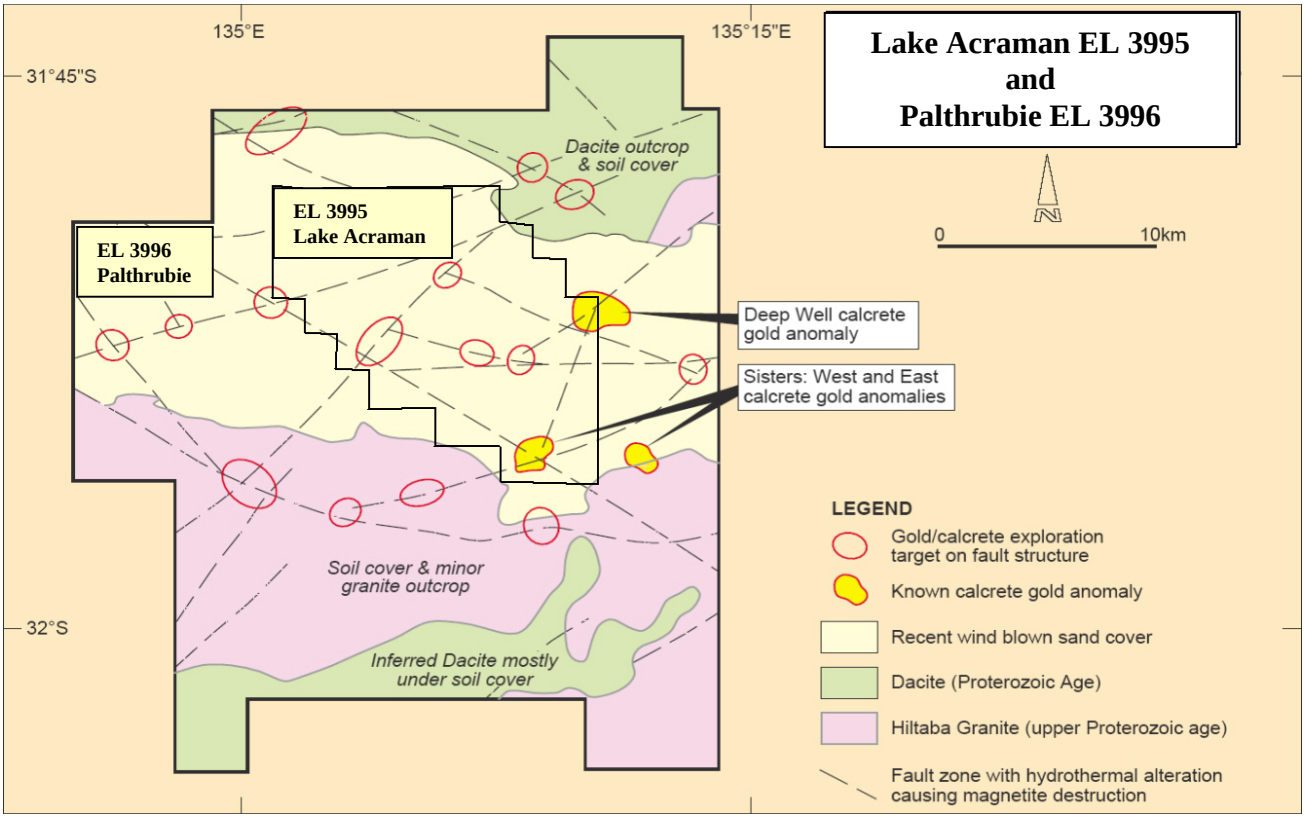

Figure 3. Gold-in-Calcrete Geochemical Anomalies and Interpreted Structural Targets.

4. EXPLORATION RATIONALE

The Palthrubie Project is located in the prospective Gawler Craton region of South Australia (Figure 4). The recognition of a developing new gold-only mineralisation province in the central Gawler Craton has stimulated extensive exploration within this area. Mineralisation is associated with the Mesoproterozoic Hiltaba Suite granitoids. The Palthrubie tenement EL 3996 lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style high grade gold mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna provide the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region comprising structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease (Figure 3). The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids

Falcon Minerals Limited initially applied for tenement EL3996 on the grounds that the region also had good potential for Olympic Dam style Cu-Au-U mineralisation. Evaluation of the historic results from exploratory drilling in the surrounding region indicated that mineralised fluids, including evidence of sericite, chlorite, hematite, fluorite and barite, consistent with Olympic Dam style mineralisation, were located in this general area in past reports.

Subsequent regional targeting by Falcon in 2009 (see below) indicates that the region covered by EL 3996 contains key geophysical attributes that may indicate a large Olympic Dam or Prominent Hill-style iron oxide-copper-gold (IOCG) system in addition to the high-grade gold potential.

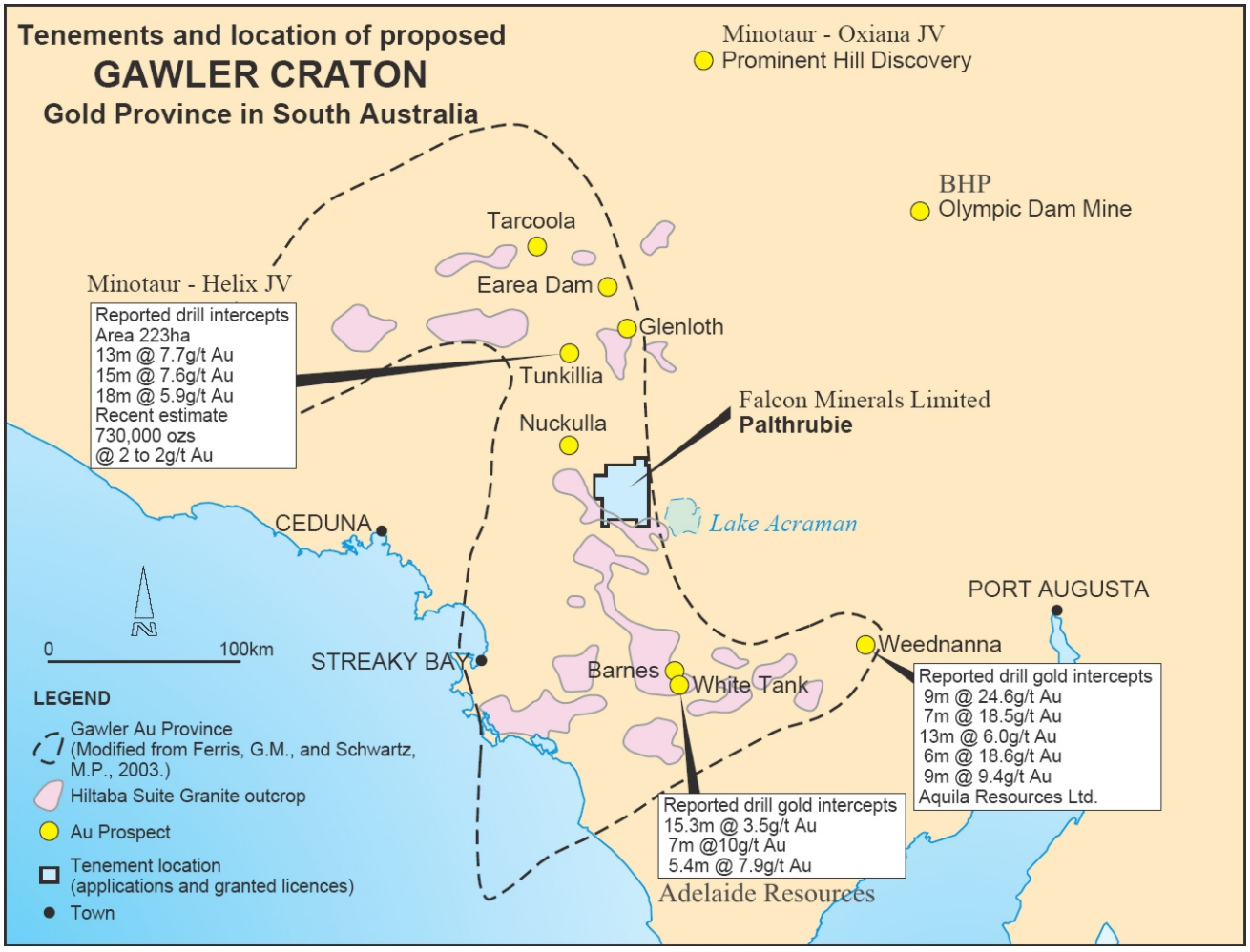

Figure 4. Location of Gawler Gold Province

5. WORK COMPLETED IN THE CURRENT REPORTING PERIOD

5.1 Aboriginal Heritage Clearance

In 2005, advice was received from the Department for Aboriginal Affairs and Reconciliation that a determination had been made under Section 12 of the Aboriginal Heritage Act 1988 that certain areas within EL's 3043 (now EL 3996) contained Aboriginal sites prohibiting Falcon Minerals from conducting any work. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement.

On May 25th 2007 a letter was received from the Minister for Aboriginal Affairs and Reconciliation advising that, as a result of the consultation process which had taken place between Falcon Minerals and members of the aboriginal community, Falcon was authorised to undertake its proposed exploration activities on EL's 3043.

Aware of sensitivities in the area, Falcon contacted the office for Aboriginal Affairs and Reconciliation requesting details in respect to the location of Aboriginal site 6034-6742 prior to commencing any exploration work. This information was duly provided on October 3rd 2007.

Concurrently, EL 3043 expired on the 20th May 2007 leaving little time to conduct any further work.

EL 3043 was subsequently replaced with EL 3996 (granted on 5th December 2007) subject to authorisation being sought from the Minister for Aboriginal Affairs and Reconciliation for any planned exploration activity the Company wishes to undertake. As a consequence, this condition prevented Falcon from carrying out any exploration activities on EL's 3996. Consequently, Falcon sought clarification from the Minister for Aboriginal Heritage on whether consultation and authorisation was still required when authorisation was previously provided in respect to prior EL's 2952 and 3043 covering identical ground.

On June 4th, 2009, formal advice was received from the office of Aboriginal Affairs and Reconciliation that as the new EL's 3995 and 3996 cover exactly the same areas of land (EL's 2952 and 3043) that the previous Section 23 Authorisation applied to, and then there is no requirement to submit a new Section 23 application.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3996 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum Spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

5.2 Exploration Data Review

In the meantime, Falcon has been reviewing the data, planning work programs and conducting high -level targeting to prioritise and better define drill targets for 2010.

During the year, Falcon completed a thorough assessment of all available data including extensive calcrete geochemical data collected during the 1990's. At the same time, interpretation of geophysical data has identified a number of target areas within the tenement associated with large fault zone intersections under variable sand and soil cover. It was also found that large areas within the tenements were not effectively sampled by previous explorers due to the sandy soil cover obscuring the prospective near-surface calcrete layers. These areas remain to be tested by further auger geochemical sampling in 2010.

Furthermore, the review has indicated potential for uranium mineralisation within a major palaeochannel which runs for 30km, east to west, through the middle of EL 3995 and EL 3996. The palaeochannel is flanked to the north and south by radiometrically 'hot' granites (uranium source rocks) and displays a number of subtle radiometric U-anomalies in association with salt lake development. Ground reconnaissance and sampling is required to follow up these areas.

5.3 Geophysical Processing and Target Generation

Comprehensive ore system (i.e. Source-Pathway-Focus-Trap) targeting by Falcon in 2009 has shown that potential exists in this region for an Olympic Dam-style Iron Oxide-Copper-Gold (IOCG) and/or structurally controlled Tunkillia-style gold deposit.

The Falcon targeting approach uses sophisticated geophysical processing to generate input layers that represent different components of an ore system model. Magnetic and gravity data have been filtered to highlight major crustal structures (gradients) associated with coincident radically-symmetric magnetic and dense bodies that may reflect iron oxide/sulphide assemblages (Figure 5). The final outputs define fully integrated target areas that are most likely to host all of the components of the mineralisation model and therefore, the best chance of exploration success.

Five components make up the IOCG exploration model:

1) **Source** – Large Hiltaba intrusive complexes are thought to be a possible source for the metals that are contained in IOCG and/or Tunkillia-style deposits. The gravity data was processed to extract possible dense magmatic bodies.
2) **Pathway** – Deep structures that could act as a pathway for magmas or fluids from deep in the crust. The deep structure was extracted in the form of major gradients (edges) from the gravity and magnetic data.
3) **Structural focus** – Intersections of intermediate-scale structure indicating high structural complexity in the area. The structural intersections were extracted from the Reduced-to-the-Pole (RTP) magnetic data.
4) **Fluid focus** – Broad-scale indication of magnetite-albite-actinolite alteration. The broad scale anomalies were extracted from the RTP magnetic data.
5) **Trap** – Detailed-scale indication of iron oxide-sulphide-metal enrichment. The trap was extracted from both the gravity and RTP magnetic data.

Falcon's 2009 regional targeting work clearly indicates that the Palthrubie Project area satisfies several components of the Olympic Dam exploration model as well containing major structural intersections that may host Tunkillia-style high grade gold mineralisation (Figure 5).

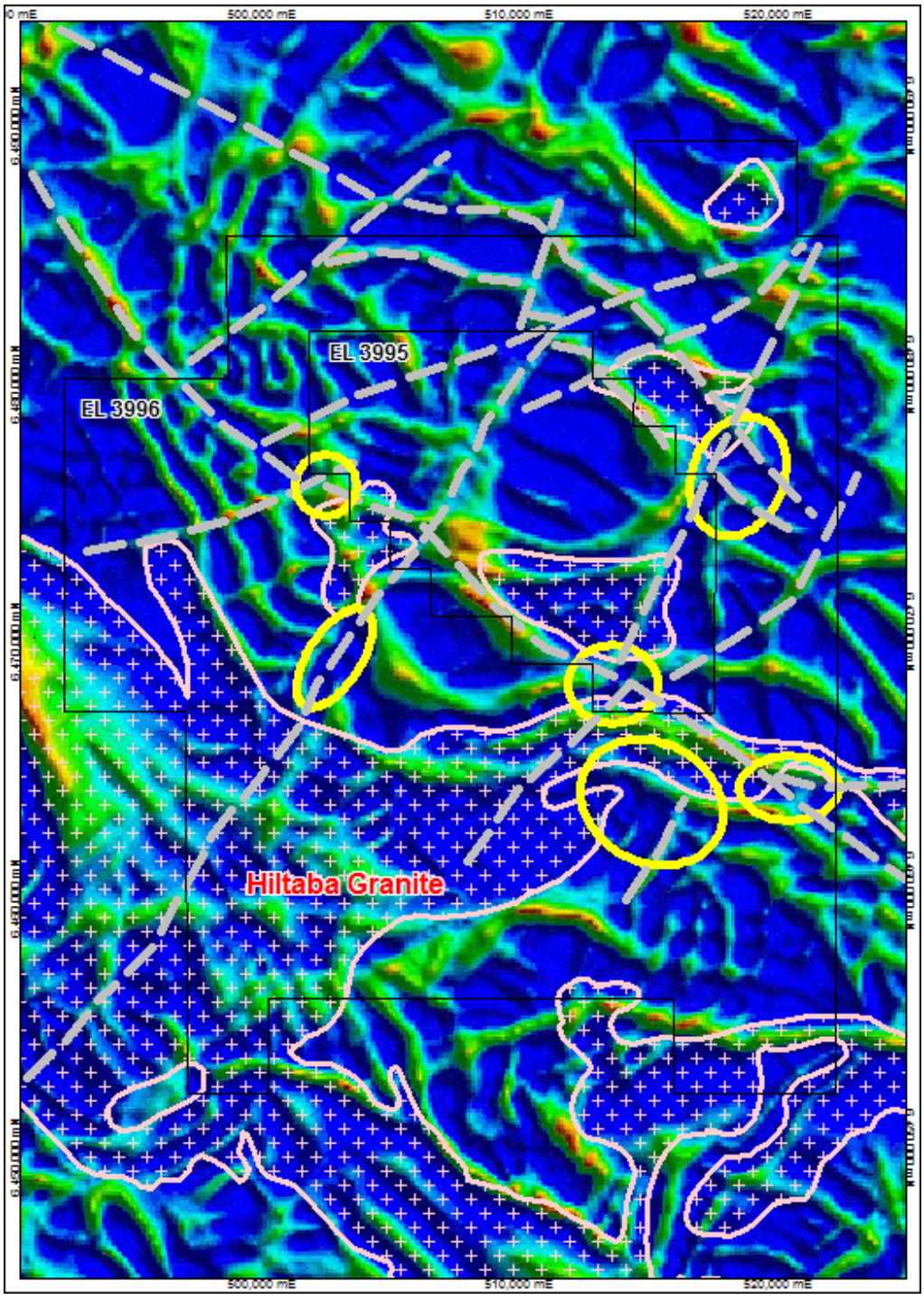

Figure 5. Palthrubie targeting map showing Hiltaba granite, magnetic gradients and major structural trends (grey). Coincident calcrete gold anomalies and structural targets are shown in yellow.

5.4 Proposed Work for 2010

Geochemical and drilling results to date, combined with a favourable geophysical/geological environment have proved to be sufficiently encouraging to progress towards further follow-up exploration on EL 3996 in 2010.

It is proposed to carry out the following work programme during the next 12 months:

- Additional auger calcrete sampling and analysis over structural target areas.
- Air-core drilling and analysis at the Deep Well Prospect within EL 3996.
- Assessment of results.
- Report preparation.

Limited shallow aircore drilling at Deep Well has returned shallow gold intersections up to 1g/t Au with a best result to date of 6m @ 1.002 g/t gold from 12m in drillhole JDAC035 at 517829E, 6475171N. Mineralisation is hosted by quartz veins within Hiltaba granite with associated strong sericite-pyrite alteration. Several gold-in-calcrete anomalies remain untested.

An aircore drilling program has been planned at Deep Well to follow up previously untested anomalism defined by historic aircore drilling. The program consists of approximately 25 Aircore holes at 100 metres by 100 metres grid spacing to depths of about 80 metres for 2,000m of drilling.

6. EXPENDITURE STATEMENT

Expenditure during the current year of tenure for EL3996 'Palthrubie' is presented below.

TABLE 4.
EXPLORATION EXPENDITURE EL 3996

Exploration Activity	Period ending 4th December 2009
Aboriginal heritage clearance negotiations	5278
Exploration review and work planning	5076
Geophysical processing and target generation	15,483
Report preparation	1692
Administration	6638
Overheads	**5125**
Totals	**$39,292**

Total exploration expenditure for the 12 month period from 5thDecember 2008 to 4th December 20069 was $39,292.

7. REFERENCES

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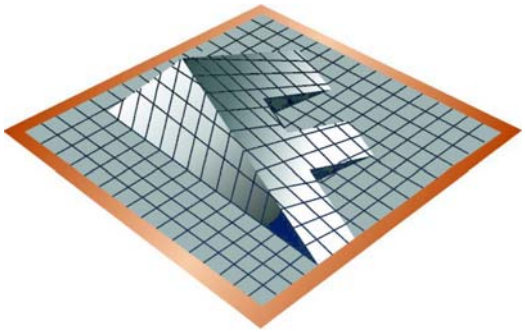

FALCON MINERALS LIMTED

ACN 009-256-535

ANNUAL TECHNICAL REPORT

EXPLORATION LICENCE 3996

"Palthrubie"

5th December 2009 to 4th December 2010

Volume 1 of 1

HELD BY: FALCON MINERALS LIMITED
MANAGER and OPERATOR: FALCON MINERALS LIMITED

Author: Graeme Cameron
Submitted By: Richard Diermajer
January 2011

Distribution:

- Primary Industries and Resources SA
- Falcon Minerals Limited

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1:250 000	Yardea (SI53-3)
1:100 000	Everard (5934)
1:100 000	Childara (5834)
1:100 000	Yartoo (5933)
1:100 000	Wirrulla (5833)

GEOGRAPHIC COORDINATES:

Palthrubie Hill Area, approximately 120km northeast of Streaky Bay, bounded as follows:

Commencing at a point being the intersection of latitude $31^0$44'S and longitude $135^0$09'E, thence east to longitude $135^0$13'E, south to latitude $31^0$46'S, east to longitude $135^0$14'E, south to latitude $32^0$04'S, west to longitude $135^0$10'E, north to latitude $32^0$02'S, west to longitude $135^0$00'E, south to latitude $32^0$04'S, west to longitude $134^0$58'E, north to latitude $31^0$56'S, west to longitude $134^0$55'E, north to latitude $31^0$49'S, east to longitude $134^0$59'E, north to latitude $31^0$46'S, east to longitude $135^0$09'S, and north to the point of commencement,

but excluding the area bounded as follows:

Commencing at a point being the intersection of latitude $31^0$48'S and longitude $135^0$01'E, thence east to longitude $135^0$08'E, south to latitude $31^0$49'S, east to longitude $135^0$09'E, south to latitude $31^0$50'S, east to longitude $135^0$10'E, south to latitude $31^0$51'S, east to longitude $135^0$11'E, south to latitude $31^0$56'S, west to longitude $135^0$08'E, north to latitude $31^0$55'S, west to longitude $135^0$06'E, north to latitude $31^0$54'S, west to longitude $135^0$04'E, north to latitude $31^0$53'S, west to longitude $135^0$03'E, north to latitude $31^0$52'S, west to longitude $135^0$02'E, north to latitude $31^0$51'S, west to longitude $135^0$01'E, and north to the point of commencement. All the within latitudes and longitudes being geodetic and expressed in terms of the Australian Geodetic Datum as defined on p.4984 of Commonwealth Gazette number 84 dated October 6, 1966 (AGD66).

COMMODITY: Copper and Gold

KEY WORDS:

Palthrubie Hill, Gairdner, Everard, gold, calcrete sampling, Gawler Craton, Gawler Range Volcanics.

SUMMARY

Exploration activities carried out within the "Palthrubie" Exploration Licence (EL) 3996 during the reporting period involved the following:

- Aboriginal Heritage clearance negotiations.
- Review and validation of previous exploration data.
- Geophysical filtering and detailed targeting.
- Design of follow-up drilling programmes.
- Report preparation.
- Administration.

Exploration statistics are summarised below.

TABLE 1. EXPLORATION STATISTICS 'PALTHRUBIE' EL 3996		
Exploration Activity	**EL 3995**	**TOTALS**
Aboriginal heritage consultants	Whole EL	693 sq km
Detailed geophysical filtering and target generation	Whole EL	693 sq km
Exploration work planning	Whole EL	693 sq km
Report preparation	Whole EL	693 sq km
Administration	Whole EL	693 sq km

1. INTRODUCTION

Exploration Licence 3996 "Palthrubie" encompasses 693 km^2 and was granted on the 5th December 2007.

TABLE 2. TENEMENT SUMMARY				
Tenement Number	Initial Date Subsequent Application	Date of last Grant	Expenditure Commitment	Area Sq km
EL 3996	**17 May 2007**	**5 December 2007**	**$120,000**	**693**

EL 3996 is located immediately southwest of Palthrubie Hill and lies approximately 180 km southwest of Woomera (Figure 1). The exploration area is situated in the south-central portion of the Gawler Craton, in the south-west corner of the Gairdner 1:250,000 map sheet.

Following a detailed review of the data in 2010, a portion of EL3996 was identified for relinquishment (Figure 1) and was submitted to PIRSA on 28th October 2010. The relinquished area comprises 109 sub-blocks for 313 square kilometres.

The six monthly Summary Report on Mineral Exploration detailing the tenement's exploration and expenditure for the period ending 4th December 2010 was submitted by Falcon Minerals Limited on the 14th December 2010.

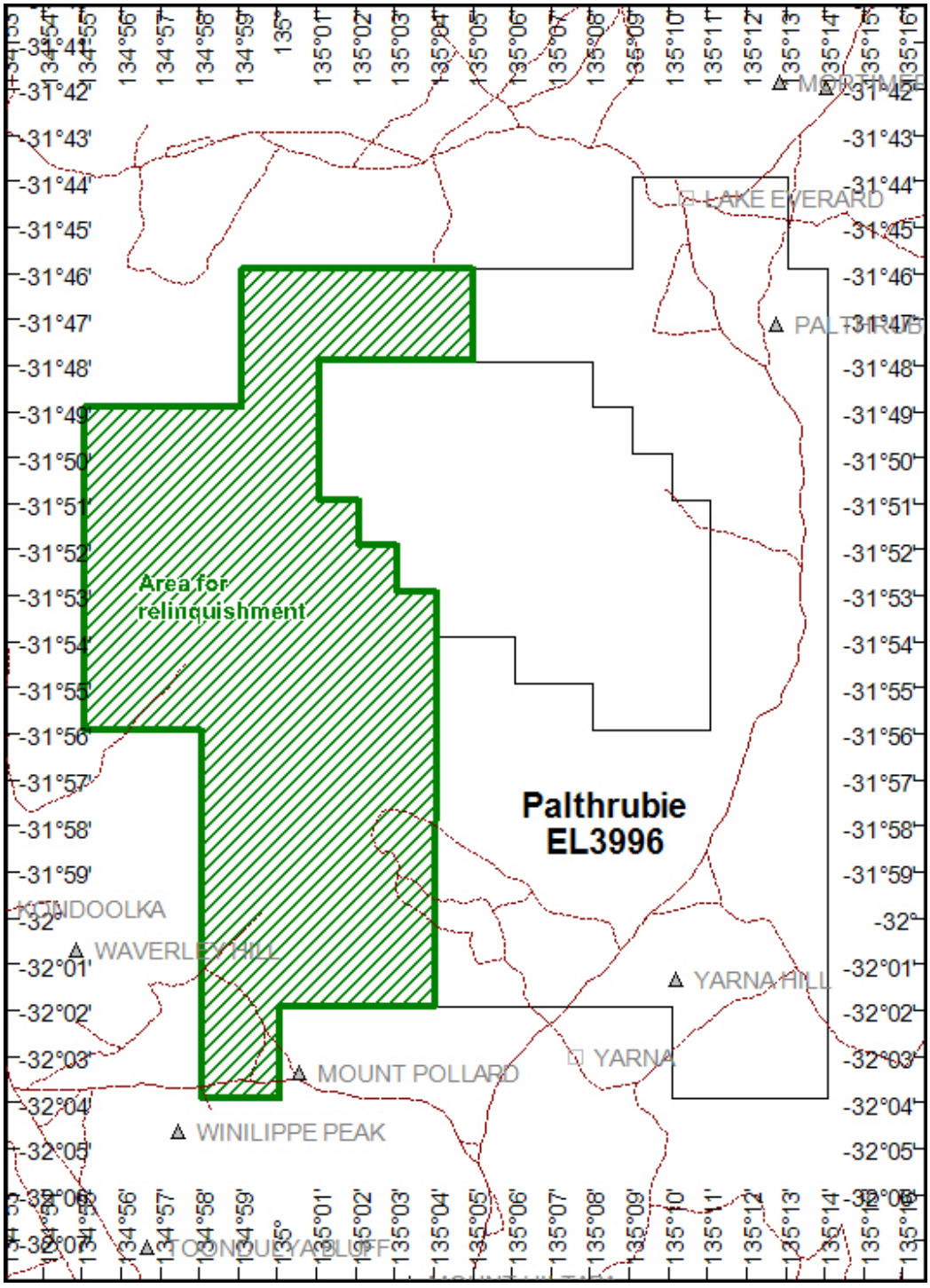

Figure 1. Location of tenement EL 3996 Palthrubie showing area submitted for relinquishment on the 28th October 2010.

2. GEOLOGY

Palthrubie EL 3996 is located within the south-western corner of the Gairdner 1:250,000 sheet, in an area dominated by recent sand ridges with have an average elevation of about 8m.

2.1. Regional Setting

EL 3996 is situated in the central portion of the Gawler Craton amongst the relatively unmetamorphosed and little deformed Gawler Range Volcanics (GRV). The Glyde Hill Volcanic Complex represents the Lower GRV, predominately a calc-alkaline assemblage of dacite, rhyodacite and rhyolite with subsidiary potassic andesite and tholeiitic basalts. The felsic volcanics are mainly ignimbrites with localised lavas and agglomerates erupted sub-aerially in a continental environment.

The Upper GRV (Yardea Dacite) overlies the Lower GRV and comprises the greater part of the Gawler Ranges to the south and east. A number of felsic plugs and numerous porphyry dykes intrude the GRV. Co-magmatic Hiltaba Granite (1,478 +/- 38 Ma) crops out to the south and west of Lake Acraman, intruding the Gawler Range Volcanics, and is regarded as the same Group as the Olympic Dam granite. The Hiltaba Granite comprises a complex series of plutons, rather than a single batholith.

The major Yalbrinda Fault Zone lies 20 km west of EL3995 and marks the western boundary of the Gawler Range Volcanic province and is possibly the result of crustal down warping in response to the extrusion of the large volume of the GRV. A large gravity anomaly underlying EL3995 is reflected in the north-west trend of a sand dune-filled depression overlying the anomaly and may represent an underlying north-west trending regional structure.

To the south-east of the Palthrubie tenement, is an unusual circular geographical feature, and may outline a possible volcanic centre or caldera collapse structure that may represent the source of the Gawler Range Volcanics.

2.2. Local Geology

The majority of the Palthrubie EL 3996 tenement is covered by sand dunes or sand-covered flats, with only approximately 5% containing isolated outcrops (Figure 2). The densely welded ash flows of the Mangaroongah Dacite form the lowest unit of the Glyde Hill Volcanic Complex (Lower GRV) and crop out in the northern portion of the tenement. The Wheepool Rhyolite overlies the Mangaroongah Dacite approximately 6 km north of the tenement. Approximately 3 km to the north-east of EL3995, a small area of andesite crops out, while about 3 km in the south Yardea Dacites of the Upper GRV are exposed.

Hiltaba Granite crops out in the southern portion of EL3996 and becomes more common to the south and west of the tenement. A single, 2 km diameter exposure of Hiltaba age granite, 7 km north-east of the tenement, is recognised as a high level intrusive.

At the Glyde Hill Outstation, 25 km to the north of EL 3996, the base of the Wheepool Rhyolite is exposed as a pale green, pink, purple and cream coloured pyroclastic breccia (Waurea Pyroclastics) and agglomerate with layers of tuff up to 1 m thick. The breccia extends about 3 km east of Glyde Hill Outstation and contains angular to sub-rounded blocks, and fragments of banded rhyolite, up to 1 m across, as well as welded ash flow tuff and bands of pumice and rhyodacite. The breccia probably ejected from local vents.

A large NW trending gravity anomaly is interpreted to exist at some depth in the most sand covered central areas. The source of this anomaly is unknown but considered to be mafic rocks that have not been identified. Its NW trending southern boundary appears to be a fault contact.

Most of the tenement EL 3996 is covered by transported sands overlying the gravely and gritty clays, loam and sands of the Pooraka Formation.

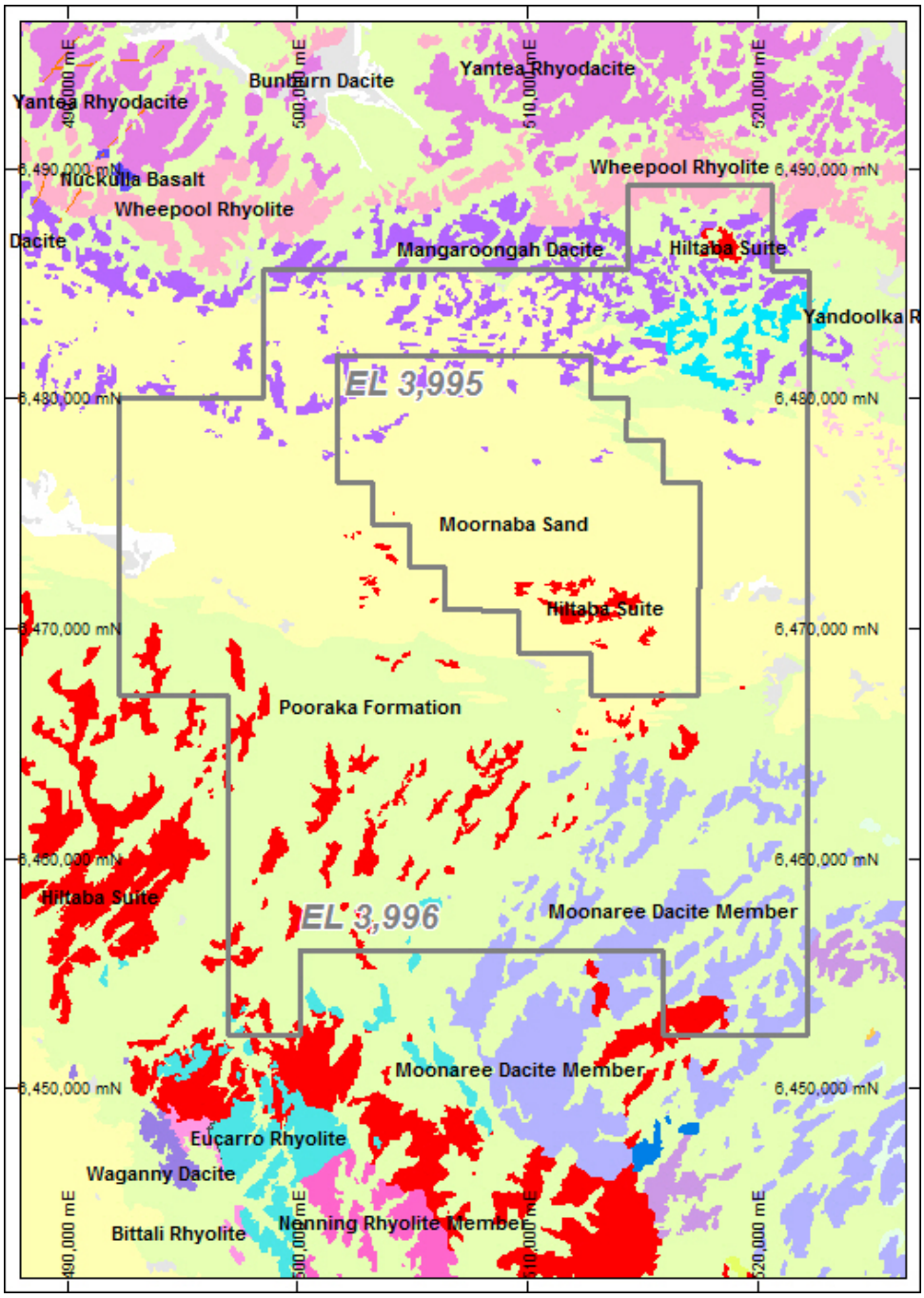

Figure 2. EL 3996 Local Geology.

3. HISTORY AND PREVIOUS EXPLORATION

3.1 Historical Exploration

Previously there has been little exploration within the Palthrubie region and only limited work in the immediate area of EL 3996. A detailed outline of previous exploration work was given in the 2003 annual report and included BLEG sampling, airborne and ground magnetics and gravity, TEM and IP surveys, regional geochemical analysis and geological mapping. No percussion or diamond drilling has been undertaken in 35 years of exploration within the area encompassing EL 3996. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes which have reached the Gawler Range Volcanics basement, with only 17 holes penetrating the basement rock, the deepest being 100m.

During 1992-1993 Western Mining Corporation (WMC) conducted detailed geophysical ground surveys over a large 30 x 15 km, NW-SE trending, gravity high, called the Mangaroongah gravity anomaly, underlying the EL 3996 tenement. They identified three areas of residual gravity highs spatially coincident with zones of magnetic complexity at Dan's Hole, Sisters and Emu Bluff. An IP survey over The Sisters gravity/magnetic anomaly was "discouraging" but may have been influenced by salinity. Emu Bluff, Rocky Creek and Dan's Hole anomalies were followed up by SIROTEM surveys, however no significant bedrock was encountered. TEM anomalies were detected. WMC concluded that responses from near surface sources may have conceivably masked responses from weaker bedrock conductors.

Interpretation of the PIRSA magnetic data indicates at least two strong NW-trending fault zones cross-cut EL Previously the Palthrubie region has seen little exploration and only limited work in the immediate area of EL 3996. This lack of exploration has been largely due to the limited geological outcrop and the absence of exploration encouragement to search beneath the surface cover.

During the 1960s to early 1980s the Hiltaba granites and Tertiary paleo-channels attracted uranium exploration. Some minor drill testing in the Glyde Hill Volcanic Complex was carried out, while follow up on magnetic anomalies were concluded to be due to magnetic basalts.

In the late 1980s, BHP explored for epithermal gold mineralisation in the Gawler Range Volcanics with reconnaissance BLEG sampling showing some encouraging results. However, follow up sampling proved discouraging.

In the early 1990s, CRA conducted a regional geochemistry reconnaissance survey for the potential for hosting Olympic Dam style mineralization. Their Olympic Dam model incorporated a non-magnetic style of Cu-Au-U mineralisation beneath younger volcanics. However, no drilling was undertaken.

Western Mining Corporation (WMC) explored the southern portion of the Glyde Hill Volcanic Complex for precious and base metal mineralisation. The Yardea Dacite was also investigated for hosting high level Acropolis style mineralisation. WMC focused on geophysical methods including gravity, magnetics, TEM, and IP to identify drill targets. Two magnetic anomalies were drill tested and intersected basalts causing the magnetic anomalies. Other additional magnetic and/or gravity anomalies were down-graded using electrical methods, including Emu Bluff and the Sisters on the southern flank of the Mangaroongah. Other WMC targets included the Yalbrinda Shear Zone and possible caldera structures near Lake Acraman, yet no percussion or diamond drilling was undertaken.

Homestake interpreted a possible large NE trending gravity corridor, which they called the Arcoona Horst, within the Hiltaba granites and extending from the Stuart Shelf. They postulated the structure would localise Hiltaba Granite-related Olympic Dam style mineralisation.

Even though the Palthrubie area has been explored by almost 10 companies over the past 35 years very little drilling has taken place. The south-western quadrant of the Gairdner 1:250,000 sheet contains 35 drill holes reaching basement rocks of the Gawler Range Volcanics, however only 17 penetrated, with the deepest at 100m. Six exploratory drill holes have been sunk within Exploration Licence 3043. Five of these holes were drilled by Carpentaria Exploration on the eastern border of the lease, along the road to Lake Everard homestead and all terminated in weathered granitic basement. Afmeco drilled the sixth hole in the early 1980s over a magnetic anomaly within the Palthrubie Granophyre, situated in the northeast part of EL 3043. The anomaly was considered to be the result of the contact between a weakly magnetic dacite and the non-magnetic overlying granophyre. A drill hole (LEV4) over a magnetic high along the southern margin of the Palthrubie Granophyre, drilled by Afmeco/BHP recorded Ba values up to 0.2% but failed to find Cu, Ag, Bi or Pb anomalism. Rock chip samples of the granophyre assayed up to 0.4% Ba.

Table 3 below presents a summary of those Companies that carried out exploration within the environs of EL 3996 "Palthrubie".

TABLE 3
HISTORICAL EXPLORATION SUMMARY

COMPANY	LICENCE	PROJECT NAME	DATE	COMMODITY TARGET	ENV
ACI	SML 230	Lake Acraman	1968-1969	Uranium	1069
CRAE	SML 722	Hiltaba	1972-1973	Uranium	2127
Carpentaria Exp	EL 442	Gawler Range	1979-1980	Uranium	3520
Afmeco/BHP	EL 615/1012	Lake Everard	1980-1983	Uranium/Diamonds	3825
Stockdale	EL 841		1981-1982	Diamonds	8293
BHP Gold	EL 1504	Lake Gairdner N	1988-1990	Gold	8063
BHP Gold	EL 1505	Lake Everard	1988-1990	Gold	8064
BHP Gold	EL 1538	Yeltabinna	1988-1990	Gold	8125
CRA Exp	EL 1627	Peltabinna Hill	1989-1990	Gold/ Base Metals	8293
CRA Exp	EL 1697	Garden Well	1991	Copper	8427
WMC Ltd	EL 1800	My Glyde	1992-1993	Gold/Silver/Base Metals	8797
Homestake	EL 2183	My Glyde	1996-1998	Cu-Au/ Base Metals	9200
Pima Mining	EL 2187	Hiltaba	1996-2000	Gold, Copper-Gold	9223

3.2 Past Exploration by Falcon Minerals

On examination of the PIRSA calcrete sampling data of the 1990s, acquired in August 2003, it was found that several gold-in-calcrete anomalies within EL 3996 remained to be tested. In 2006, Falcon Minerals Limited contracted Joseph Ogierman to undertake calcrete auger drill sampling over EL 3995 and EL3996 to test a major gravity anomaly associated with Hiltaba suite granites. A total of 68 samples were collected in EL 3996 at seven sites. Samples were analysed for low level Au (method Br/EETA at a detection limit of -0.1 ppb Au) and Pb, Zn, Cu, As, Ag, Ni, Fe,

Mn, Ca and MG (method BT/OES) at Genalysis Laboratories in Adelaide. Falcon Minerals' calcrete program confirmed three Au anomalies shown in the 1990s data and extended two of them. Some additional anomalies are also indicated under sand cover. It is recommended that additional calcrete samples be taken, at 200 m or 100 m spacing, to effectively identify and define targets for deeper drilling.

Gravity modelling utilised the publicly available gravity data collected by WMC and by PIRSA. Modelling produced a large gravity ridge oriented north west encompassing EL 3995 and continuing into Falcon's surrounding EL3996 before phasing out at the edges of EL 3996. The general gravity ridge is extensive covering a strike length of approximately 3 km NW and width of 1 km at relatively low density of 2.75 g/cc. At an isosurface density of 2.80 g/cc it extends beyond the tenement boundaries of E 3995 and at a still modest isosurface bulk density of 2.85 g/cc the body is mostly encapsulated by the tenement boundaries but the depth beneath surface at that bulk density is estimated at 5km.

4. EXPLORATION RATIONALE

The Palthrubie Project is located in the prospective Gawler Craton region of South Australia (Figure 3). The recognition of a developing new gold-only mineralisation province in the central Gawler Craton has stimulated extensive exploration within this area. Mineralisation is associated with the Mesoproterozoic Hiltaba Suite granitoids. The Palthrubie tenement EL3996 lies within this proposed gold province and based upon existing structural and geochemical data, the potential for the discovery of central Gawler Craton-style high grade gold mineralisation within this tenement is high.

Currently the only mines within the gold province are located in the northern portion, in the Tarcoola, Glenloth and Earea Dam goldfields. Drill intersections at Tunkillia, Nuckulla Hill, Barnes and Weednanna provide the only examples of gold mineralisation in the central and southern part of the region. The mineralisation style appears to be similar throughout the region comprising structurally controlled quartz veins associated with pyrite and/or galena within a prospect scale envelope of intense sericite-chlorite hydrothermal alteration.

The presence of suitable structures appears to be of utmost importance in focusing gold-bearing hydrothermal systems. Many recently discovered prospects, including Tunkillia and Nuckulla Hill, lie along the Yalbrinda Shear Zone, a large NS to NNW trending regional structure in the central section of the region. The understanding of mineralisation in the central and southern portions of the province is still very limited at this stage, however all major prospects in these regions have been outlined by regional calcrete sampling with follow-up bedrock drilling.

In the mid 1990s calcrete sampling was conducted in the central Gawler Craton for regional gold exploration. The technique worked well in areas dominated by transported cover with three gold targets identified within the Palthrubie lease (Figure 4). The three prospects, Deep Well, Sisters West and Sisters East, occur in areas with a thin veneer of Tertiary and Quaternary sediments overlying postulated Hiltaba Suite granitoids

Falcon Minerals Limited initially applied for tenement EL3996 on the grounds that the region also had good potential for Olympic Dam style Cu-Au-U mineralisation. Evaluation of the historic results from exploratory drilling in the surrounding region indicated that mineralised fluids, including evidence of sericite, chlorite, hematite, fluorite and barite, consistent with Olympic Dam style mineralisation, were located in this general area in past reports.

Subsequent regional targeting by Falcon in 2009 (see below) indicates that the region covered by EL 3996 contains key geophysical attributes that may indicate a large Olympic Dam or Prominent Hill-style iron oxide-copper-gold (IOCG) system in addition to the high-grade gold potential.

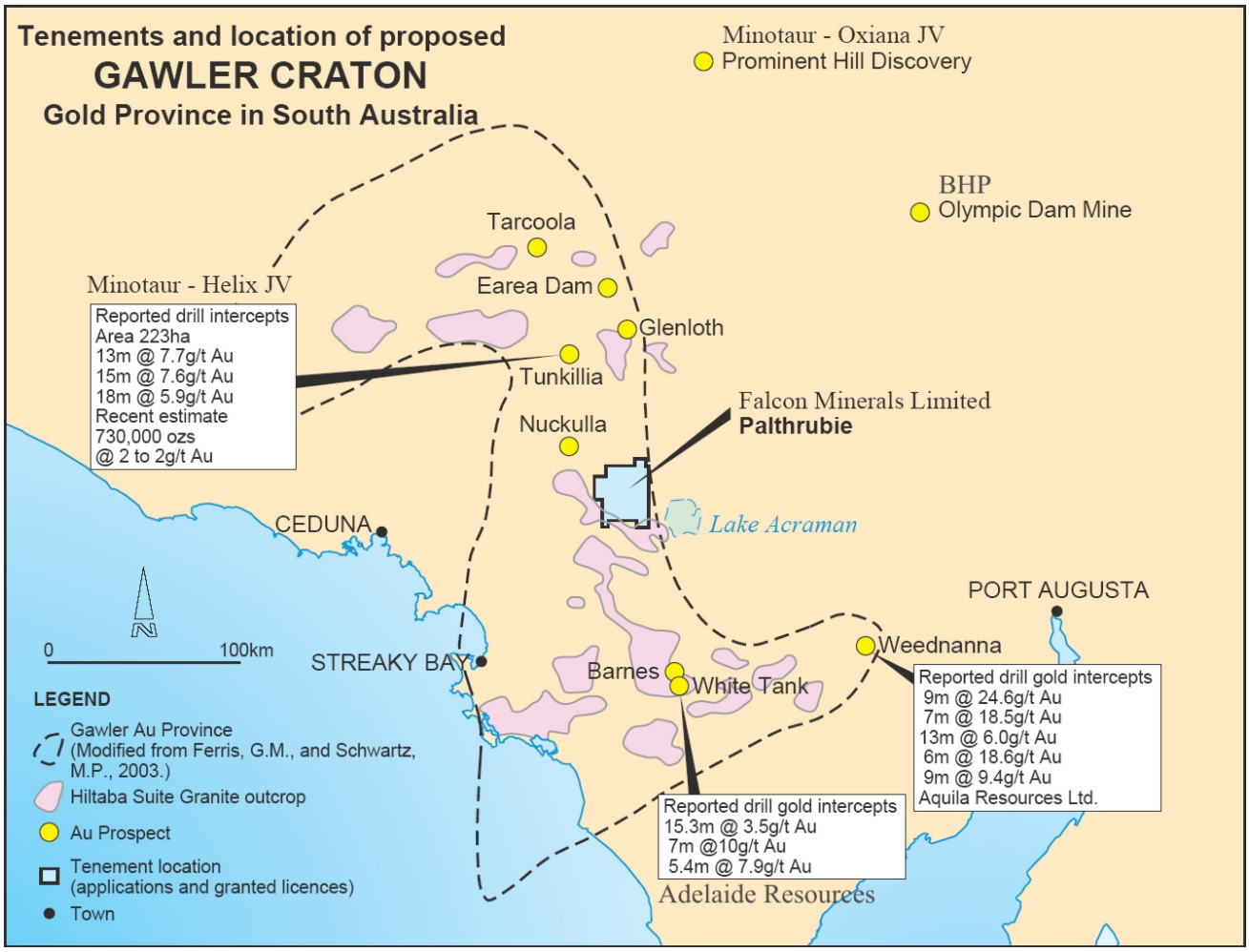

Figure 3. Location of Gawler Gold Province

5. WORK COMPLETED IN THE CURRENT REPORTING PERIOD

5.1 Aboriginal Heritage

In 2005, advice was received from the Department for Aboriginal Affairs and Reconciliation that a determination had been made under Section 12 of the Aboriginal Heritage Act 1988 that certain areas within EL's 3043 (now EL3996) contained Aboriginal sites prohibiting Falcon Minerals from conducting any work. Three specific sites have been detailed and involve a 'Mythological Site' at Palthrubie Hill, a 'Water Reserve and Engraving Site' north of Yarna Hill, and a 'Painting Site' at Cottons Nob Tank, in the south-western portion of the tenement.

On May 25th 2007 a letter was received from the Minister for Aboriginal Affairs and Reconciliation advising that, as a result of the consultation process which had taken place between Falcon Minerals and members of the aboriginal community, Falcon was authorised to undertake its proposed exploration activities on EL's 3043.

Aware of sensitivities in the area, Falcon contacted the office for Aboriginal Affairs and Reconciliation requesting details in respect to the location of Aboriginal site 6034-6742 prior to commencing any exploration work. This information was duly provided on October 3rd 2007.

Concurrently, EL 3043 expired on the 20th May 2007 leaving little time to conduct any further work.

EL 3043 was subsequently replaced with EL3996 (granted on 5th December 2007) subject to authorisation being sought from the Minister for Aboriginal Affairs and Reconciliation for any planned exploration activity the Company wishes to undertake. As a consequence, this condition prevented Falcon from carrying out any exploration activities on EL's 3996. Consequently, Falcon sought clarification from the Minister for Aboriginal Heritage on whether consultation and authorisation was still required when authorisation was previously provided in respect to prior EL's 2952 and 3043 covering identical ground.

On June 4th, 2009, formal advice was received from the office of Aboriginal Affairs and Reconciliation that as the new EL's 3995 and 3996 cover exactly the same areas of land (EL's 2952 and 3043) that the previous Section 23 Authorisation applied to, and then there is no requirement to submit a new Section 23 application.

The Department for Environment and Heritage have advised that there are significant areas of remnant native vegetation within EL 3996 and that off track vehicle use should be kept to an absolute minimum. Vegetation clearance should be avoided either by direct removal or from vehicle passage.

Exploration within the tenement should be scheduled to avoid any disturbance to the sensitive and fragile salt lake environments within the area. The area also contains "National Parks and Wildlife Act 1972 schedule 8 (Vulnerable) species" namely, Santalum Spicatum (Sandalwood). Field crews are to be made aware of this plant and ensure that no individual of the species is disturbed through any work practices.

5.2 Exploration Data Review

In the meantime, Falcon has been reviewing the data, planning work programs and conducting high -level detailed targeting to prioritise and better define drill targets for 2011.

During the year, Falcon completed a thorough assessment and re-processing of all available geochemical data including extensive calcrete sampling data collected during the 1990's. At the same time, interpretation of geophysical data has identified a number of target areas within the tenement associated with large fault zone intersections under variable sand and soil cover. It was also found that large areas within the tenements were not effectively sampled by previous explorers due to the sandy soil cover obscuring the prospective near-surface calcrete layers. These areas remain to be tested by further auger geochemical sampling in 2011.

In addition, the review has indicated potential for uranium mineralisation within a major palaeochannel which runs for 30km, east to west, through the middle of EL3996. The palaeochannel is flanked to the north and south by radiometrically 'hot' granites (uranium source rocks) and displays a number of subtle radiometric U-anomalies in association with salt lake development. Ground reconnaissance and sampling is required to follow up these areas.

5.3 Detailed Geophysical Processing and Target Generation

Comprehensive ore system (i.e. Source-Pathway-Focus-Trap) targeting by Falcon in 2009 has shown that potential exists in the Palthrubie region for a structurally controlled Tunkillia-style gold deposit and/or an Olympic Dam-style Iron Oxide-Copper-Gold (IOCG) deposit.

The Falcon targeting approach uses sophisticated geophysical processing to generate input layers that represent different components of an ore system model. Magnetic and gravity data have been filtered to highlight major crustal structures (Figure 4) associated with coincident radically-symmetric magnetic and dense bodies that may reflect iron oxide/sulphide assemblages The final outputs define fully integrated target areas that are most likely to host all of the components of the mineralisation model and therefore, the best chance of exploration success.

In 2010 Falcon conducted detailed targeting work that identified several major structural intersections and coincident de-magnetised zones on EL3996 that may reflect pervasive quartz-sericite-pyrite alteration zones possibly related to Tunkillia-style high grade gold mineralisation (Figure 4). High frequency edge-detection filters were applied to the magnetic and gravity datasets to better define discrete structural targets, major lithological contacts and granite intrusive bodies. The calcrete geochemistry data was levelled to regolith units and re-processed to produce a series of images for target generation.

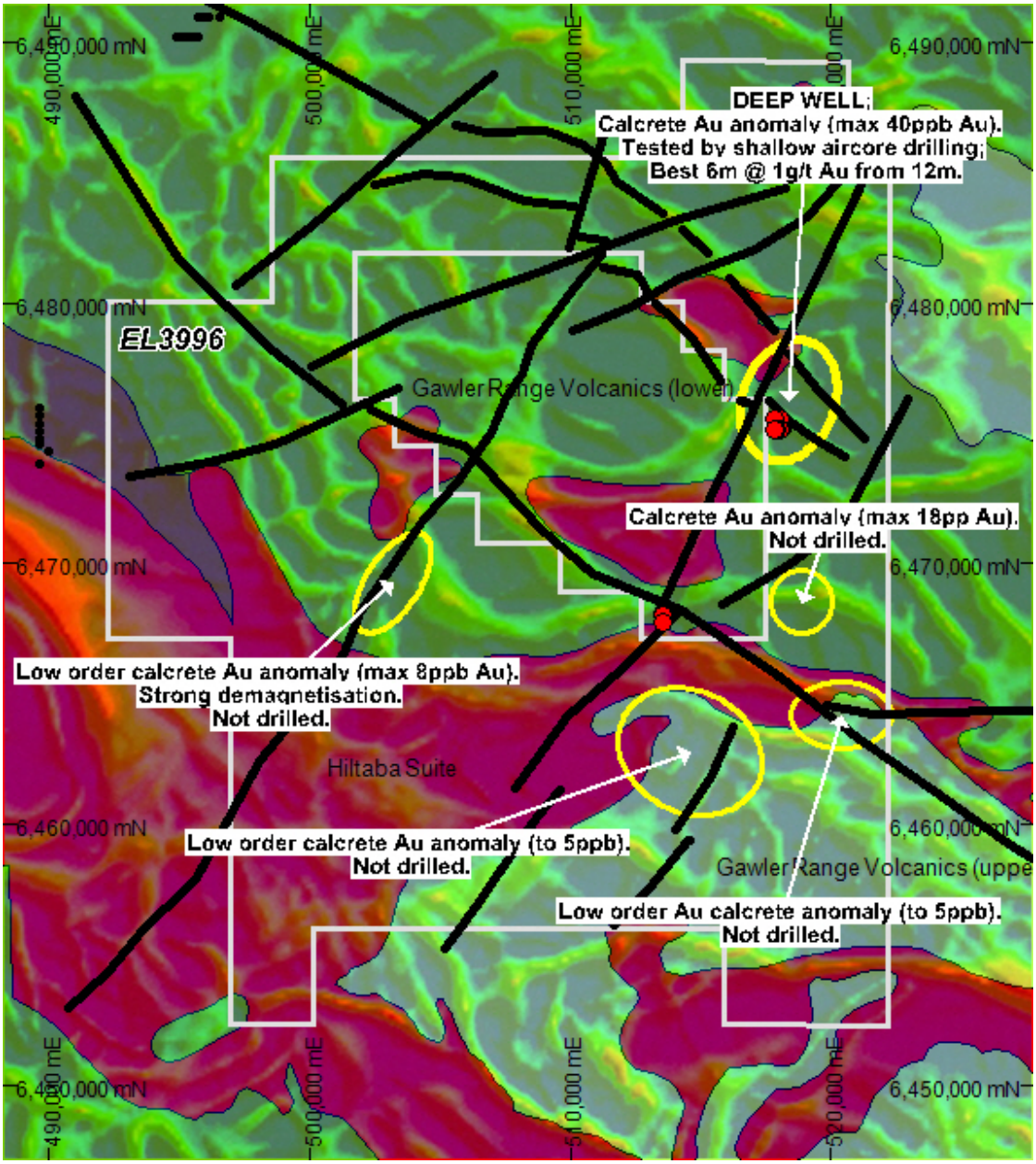

Figure 4. Palthrubie targeting map showing interpreted geology on image of detailed magnetic gradients and interpreted structural trends (black). Coincident calcrete gold anomalies and structural targets are shown in yellow.

5.4 Proposed Work for 2011

The geochemical results to date, combined with a favourable geophysical/geological environment have proved to be sufficiently encouraging to progress towards designing an initial drilling program for EL3996.

Previous geochemical calcrete sampling at the **Deep Well Prospect** defined a 1.5km x 2km large gold anomaly @ 5ppb with at least two higher + 15ppb gold zones (peak value 40ppb Au).

Three traverses of aircore/RAB holes were drilled to test the calcrete anomaly and intersected pyrite-sericite-altered and sheared granite with a best result of 6m @ 1.002g/t Au from 12m in drill hole JDAC035. A work programme comprising 20 angled aircore drill holes is planned for 2011 to test the significance of the previous results, and define the extents of the mineralisation.

Other work planned for EL3996 in 2011 includes:

- Additional auger calcrete sampling and analysis over structural target areas defined in Figure 5.
- Assessment of results and planning of follow up drill programmes.
- Report preparation.

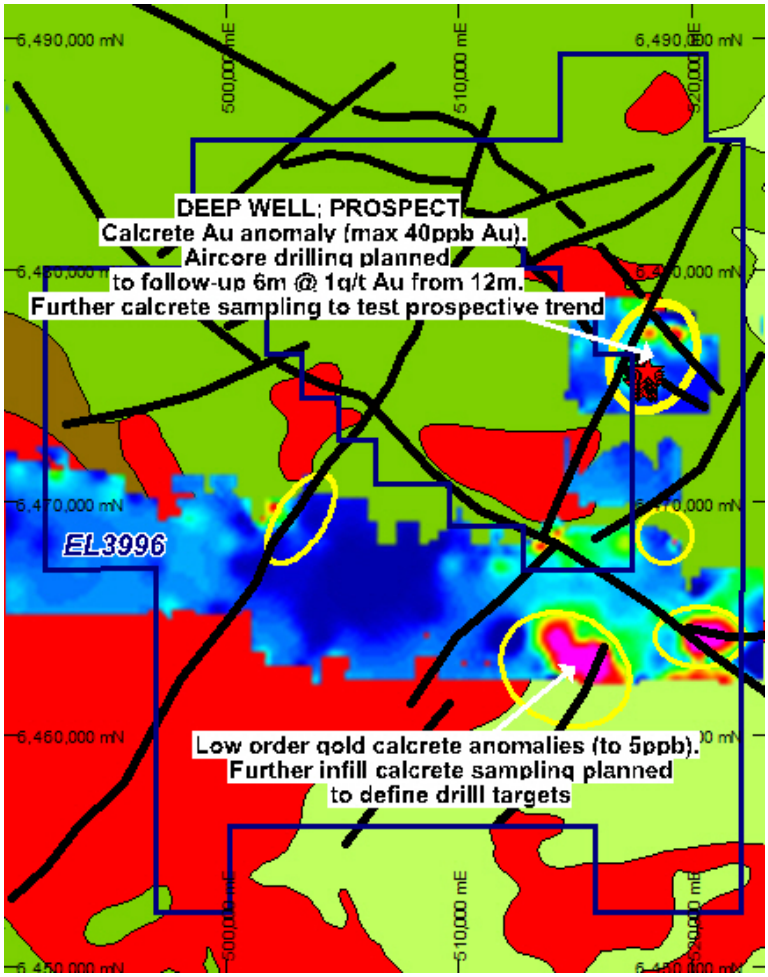

Figure 5. Palthrubie EL3996. Gridded calcrete gold geochemistry on interpreted geology with proposed work programs for 2011.

6. EXPENDITURE STATEMENT

Expenditure during the current year of tenure for EL3996 ‘Palthrubie’ is presented below.

TABLE 4. EXPLORATION EXPENDITURE EL 3996	
Exploration Activity	**Period ending 4th December 2010**
Aboriginal heritage clearance negotiations	$375
Exploration review and work planning	$2463
Geophysical processing and target generation	$2538
Report preparation	$750
Administration	$6444
OVERHEADS	**$1885**
Totals	**$14,455**

Total exploration expenditure for the 12 month period from 5th December 2009 to 4th December 2010 was $14,455.

7. REFERENCES

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