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GEL00251

PROMINENT HILL PROJECT

PROGRESS AND ANNUAL REPORTS
FOR THE PERIOD 17TH OCT 2006 TO 10TH AUGUST 2007

Submitted by
Granite Power Ltd
2007

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Government of South Australia
Department of State Development

GEL 251 “Prominent Hill”
South Australia

First Annual & Final Report

Prepared by

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21 September 2007

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TABLES

1 INTRODUCTION

1.1 Background

Exploration was initiated in the Prominent Hill area to investigate the geothermal potential of basement rocks underlying Proterozoic sediments to the northwest of the Stuart Shelf and south-east of the Arckaringa Basin.

1.2 Period

This report covers the whole period of tenure from 17 October 2006 (grant) to 10 August 2007 (surrender).

1.3 Licence data

GEL 251 was granted to Proactive Energy Developments Ltd (PED) on 17 October 2006 for a period of five years to explore for geothermal energy.

On 19 February 2007, PED changed its name to Granite Power Ltd ("Granite Power").

The tenement covers an area of approximately 479 km^2.

2 WORK REQUIREMENTS

The minimum work requirements for each year of tenure are detailed in Table 1 below:

Year	Minimum Work Requirements
One	1. Geological and geophysical studies.
Two	2. Geological and geophysical studies. 3. Deepening of existing stratigraphic holes.
Three	4. Conduct down-hole seismic induction probes, cross-well tomography, gamma, resistivity and temperature logging. 5. Drill one deep well to test the temperature gradient within the target granite host rock reservoir.
Four	6. Drill one deep well (within 1000 metres of the year 3 well) and conduct circulation testing between the two wells.
Five	7. Construction of a 25MW pilot power station.

Table 1: Revised yearly work requirements for GEL 251

3 WORK CONDUCTED

In accordance with the Year One Minimum Work Requirement, geological and geophysical studies were undertaken for the GEL 251 licence area.

3.1 Geological and geophysical studies

A geological consultancy, Earth Resources Australia (ERA), was commissioned by Granite Power to undertake a review of geothermal prospectivity for all of the Company's South Australian tenements and licence application areas, including GEL 251. This review was completed in May 2007.

The attached report, detailed in Table 3, contains the extract of ERA's report pertinent to GEL 251. Based on the findings of this work, Granite Power decided to discontinue exploration on GEL 251 and surrender the tenement.

4 YEAR TWO EXPENDITURE

Activity	**Year 1 Cost AUD**
Drilling activities	
Seismic activities	Commercial in
Technical evaluation and mapping	Confidence
Other surveys	
Facility construction and modification	
Operating and administration expenses (not already covered under another heading	
Total for year	

Table 2: Tenure expenditure to 10 August 2007

5 COMPLIANCE WITH THE PETROLEUM ACT (REGULATION 33)

5.1 Regulated activities

No regulated activities were undertaken during tenure

5.2 Compliance

Other than the abovementioned geological and geophysical studies, no work was conducted on the tenement.

GEL 251 has been surrendered.

There are no issues of non-compliance to report.

5.3 Management of non-compliance

GEL 251 has been surrendered.

5.4 Management systems

Granite Power is committed to ensuring the highest standards of corporate governance. To this end the company has a suite of policies in place or being implemented which substantially comply with ASX 'best practice' guidelines. Audits to date (the last being for the 2006-7 financial year) which (pursuant to the IFR Standards with which the company complies) cover management systems have not identified any deficiency or failure and have not identified a potential need for corrective actions.

5.5 Reports and data

Author	Title	Digital file
Earth Resources Australia.	Review of Geothermal Potential of GEL 251 "Prominent Hill" and GEL 252 "Millers Creek" Extracted from "Review of Geothermal Potential of Tenements held by Granite Power Ltd in South Australia"	Earth Resources Australia GEL 251 and GEL 252 Review.pdf

Table 3: Work program reports for GEL 251

5.6 Reportable incidents

No reportable incidents occurred.

5.7 Foreseeable threats

No threats have been identified.

5.8 Proposed operations for the ensuing year

There are no further proposed activities.

Review of Geothermal Potential of GEL 251 “Prominent Hill” and GEL 252 “Millers Creek”

Extracted from

“Review of Geothermal Potential of Tenements held by Granite Power Ltd in South Australia”

by M.R. Bunny and I.M. Milligan

ERA Report A473 April 2007

MAP REFERENCE:
1:250,000 Billa Kalina SH53-7

Extract of ERA Report No A473
Date: April 2007
Prepared by
M.R.Bunny & I.M.Milligan
for
Granite Power Ltd

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1.0 INTRODUCTION

Earth Resources was engaged by Granite Power Ltd to review a number of geothermal exploration licences (GELs) and exploration licence applications (GELAs) in South Australia, as shown in Figures 1.1 and 1.2:

Tenement	Name Area	Applied	Granted	Expires	km^2
GEL207	Roxby Downs	12-Jul-06	19-Jul-05	18-Jul-10	386
GEL251	Prominent Hill	18-Jul-06	17-Oct-07	16-Oct-11	479
GEL252	Millers Creek		17-Oct-07	16-Oct-11	452
GELA256	Westfield				452
GELA257	Weedina				451
GELA258	Phillipson	18-Aug-06			491
GELA259	Karkaro				460

Preamble

A study by Neumann et al (2000), based on sparse heat flow data, defined a broad zone of above average heat flows extending from the South Australia coast northwards through the central-east and north-east of the state. This covers the Stuart Shelf, Delamarien (Adelaide) Fold Belt and the Curnamona Province and is referred to as the **South Australian Heat Flow Anomaly (SAHFA)**.

The high heat flows are related to anomalously high levels of uranium and thorium in Mesoproterozoic granite, felsic volcanics and gneisses. Where such granites are overlain by a substantial thickness of later sediments, the heat generated by radioactive decay within the granites is trapped, and temperatures may reach levels amenable to exploitation by hot fractured rock technologies.

Other heat sources relevant to this zone are

- Mesoproterozoic radiogenic iron oxide deposits (Olympic Dam style mineralisation) which may generate higher heat flows than the granites.
- Palaeozoic (mid-Carboniferous) granites underlying the Cooper Basin; whilst of lower heat flow the thick (>3km) cover of coal, sandstone and siltstone provides a very effective thermal blanket.

Whilst no definitive references have been located, high heat production is not noted from the Palaeoproterozoic and Archaean granites of the Gawler Craton.

In the far south-east of the state, more recent volcanic activity in the Mount Gambier area has produced locally anomalous heat flows which are unrelated to the SAHFA.

Target areas for geothermal exploration in the SAHFA require the following:

- Thick sedimentary cover, preferably by rocks with good insulating properties (eg coal measures) and poor permeability to limit heat loss through conductive water movement. Cover in the range of 2 to 4 kilometres is desirable.
- A high heat source – Mesoproterozoic granite and/or radiogenic iron oxide deposit or – if sufficient cover - Palaeozoic granite.

Data Sources

Principal data sources for this study are the South Australian State MGA GIS Data Set (2006), and numerous downloads from the SARIG website. Certain drillhole data have been obtained from the online SARIG drillhole database without downloading. All relevant data are appended to this report in digital (DVD) format.

3.0 GEL 251 (“Prominent Hill”) & GEL 252 (“Millers Creek”)

GEL 251 and GEL 252 form a contiguous block in the southern part of the Billa Kalina 1:250,000 sheet with GEL252 extending slightly into the northern part of the Kingoonya sheet. GEL251 has an area of 479 square kilometres while GEL252 comprises 452 square kilometres (Figures 1.1 and 1.2).

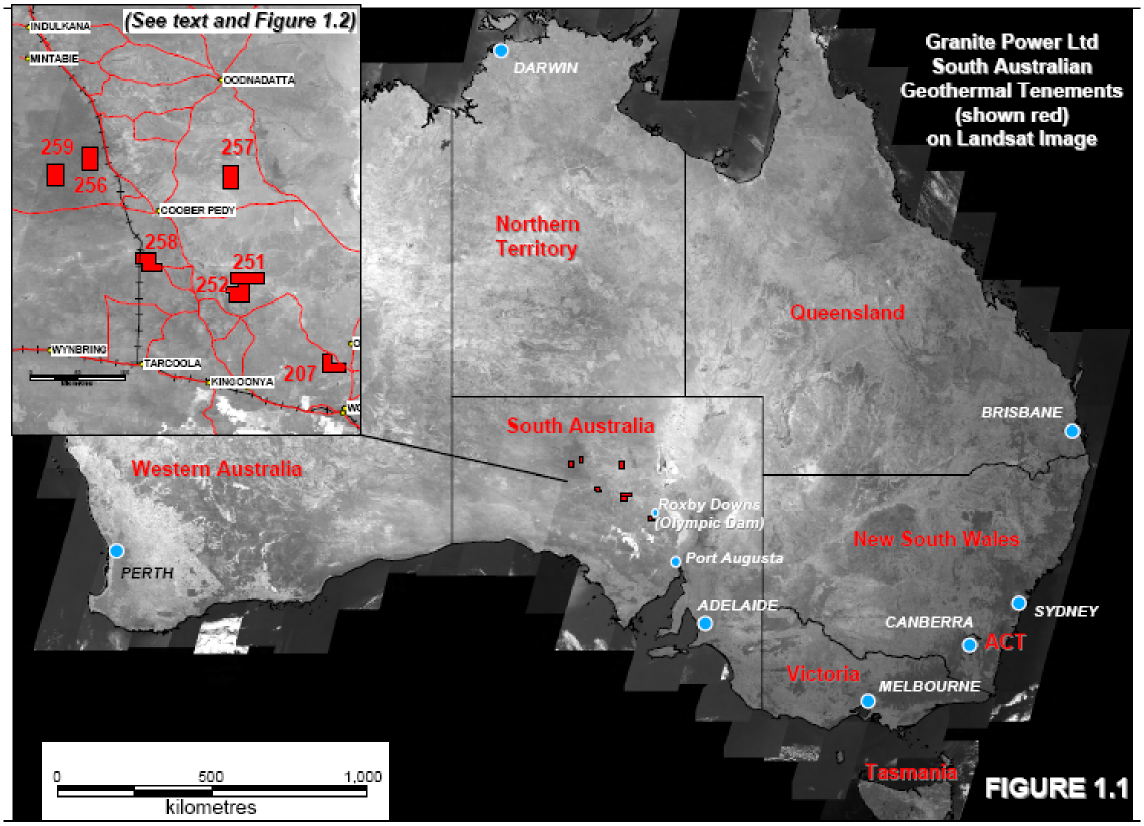


FIGURE 1.1

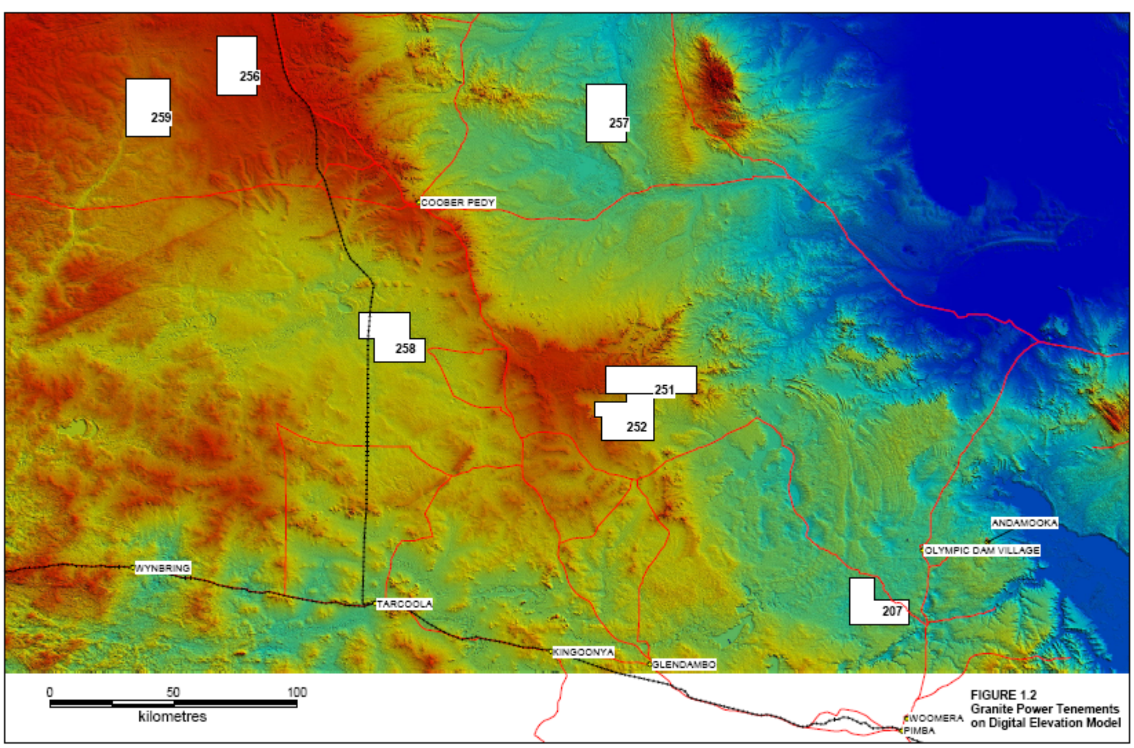
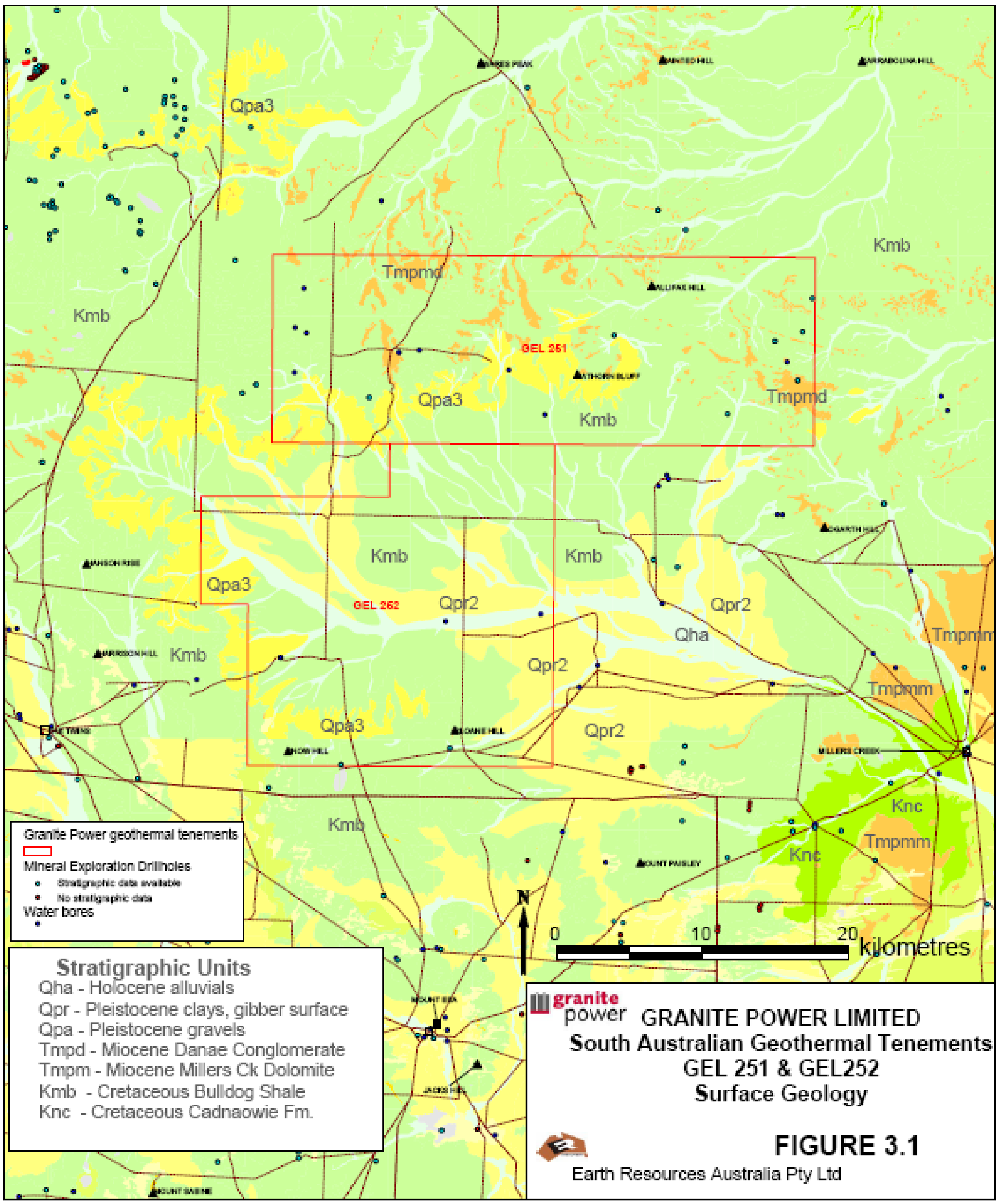


FIGURE 1.2
Granite Power Tenements
on Digital Elevation Model

This area lies just to the north-west of the Stuart Shelf and south-east of the Arkaringa Basin and has little post-Mid-Proterozoic cover.

Surface Geology (Figure 3.1)

Cretaceous **Bulldog Shale** (Kmb) is lightly dissected by generally eastwards-flowing drainage. The Bulldog Shale is mantled by a range of surficial deposits of Tertiary and Pleistocene age. Remnant areas of the Tertiary age **Danae Conglomerate Member** are scattered across the northern half of GEL251; alluvial fans occur in the drainage headwaters and gibber-mantled clay across lower areas.

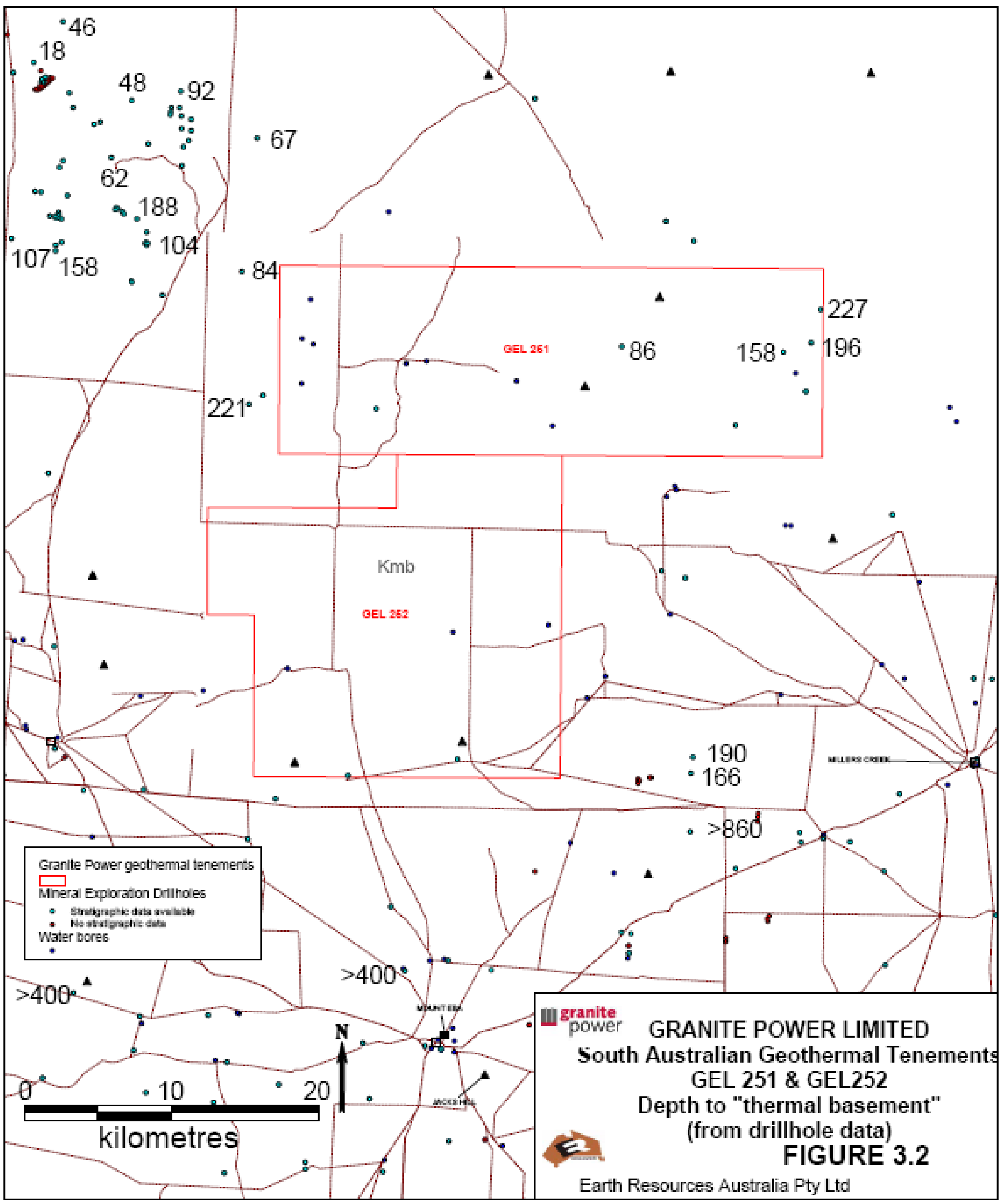


Drillhole Data (Figure 3.2)

Drillhole data within the tenements and to the north and east is very sparse, however there is a reasonable spread of data to the north-west and south-west. Only two drillholes report from the SA state data set within GEL252 (Sloanes Bore and drillhole 9751) and both terminate at 79 metres in sedimentary cover rocks.

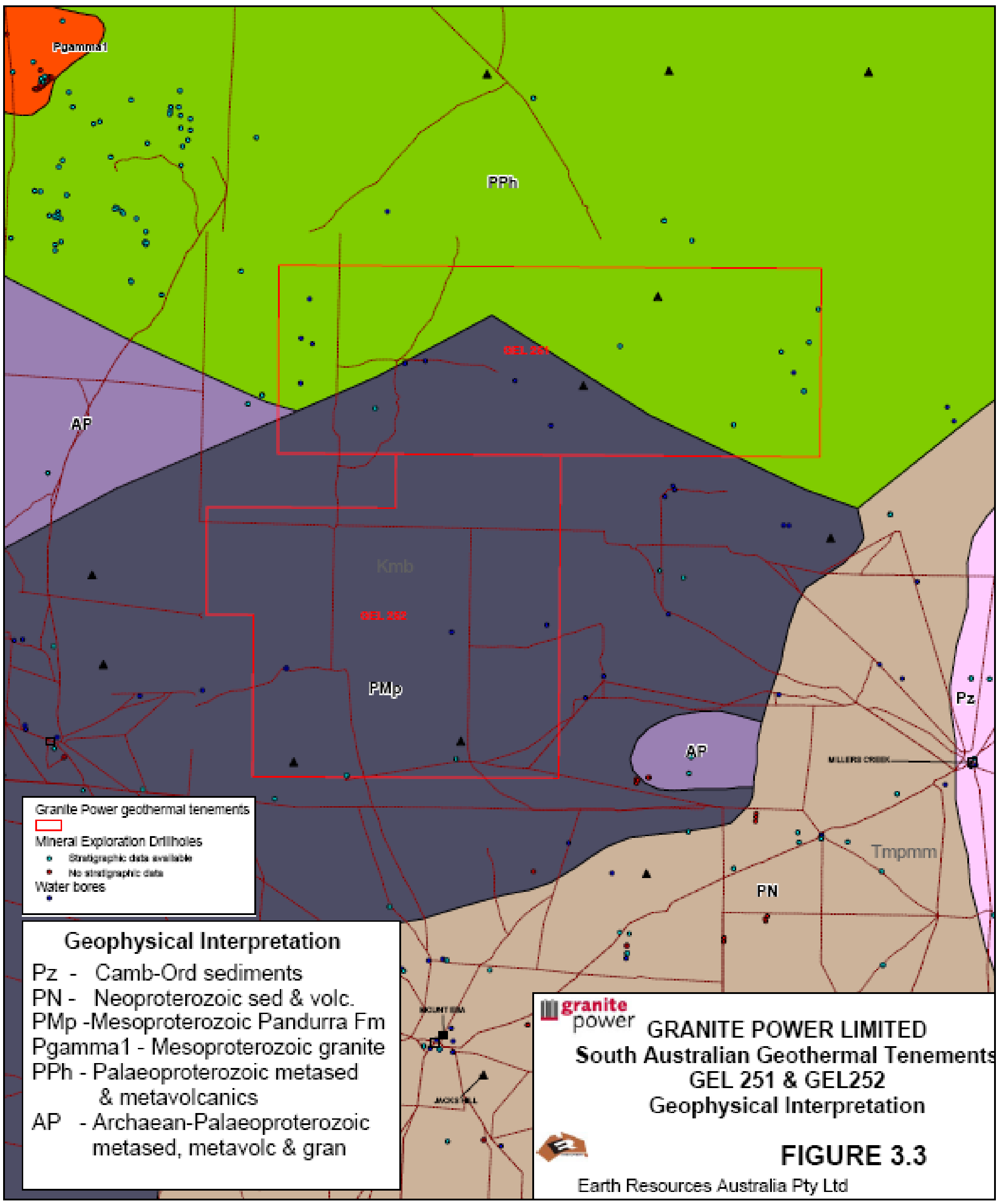
Seven holes fall within GEL251 and four of these (in the eastern half of the tenement) extend beyond the base of the post-Proterozoic cover; at depths ranging from 86 metres to 227 metres. Basement rocks are amphibolites, dolerite and schist. Immediately to the west of GEL251, basement is intersected in three holes between depths of 84 and 221 metres (into Lower Proterozoic marble and Mid-Proterozoic volcanics).

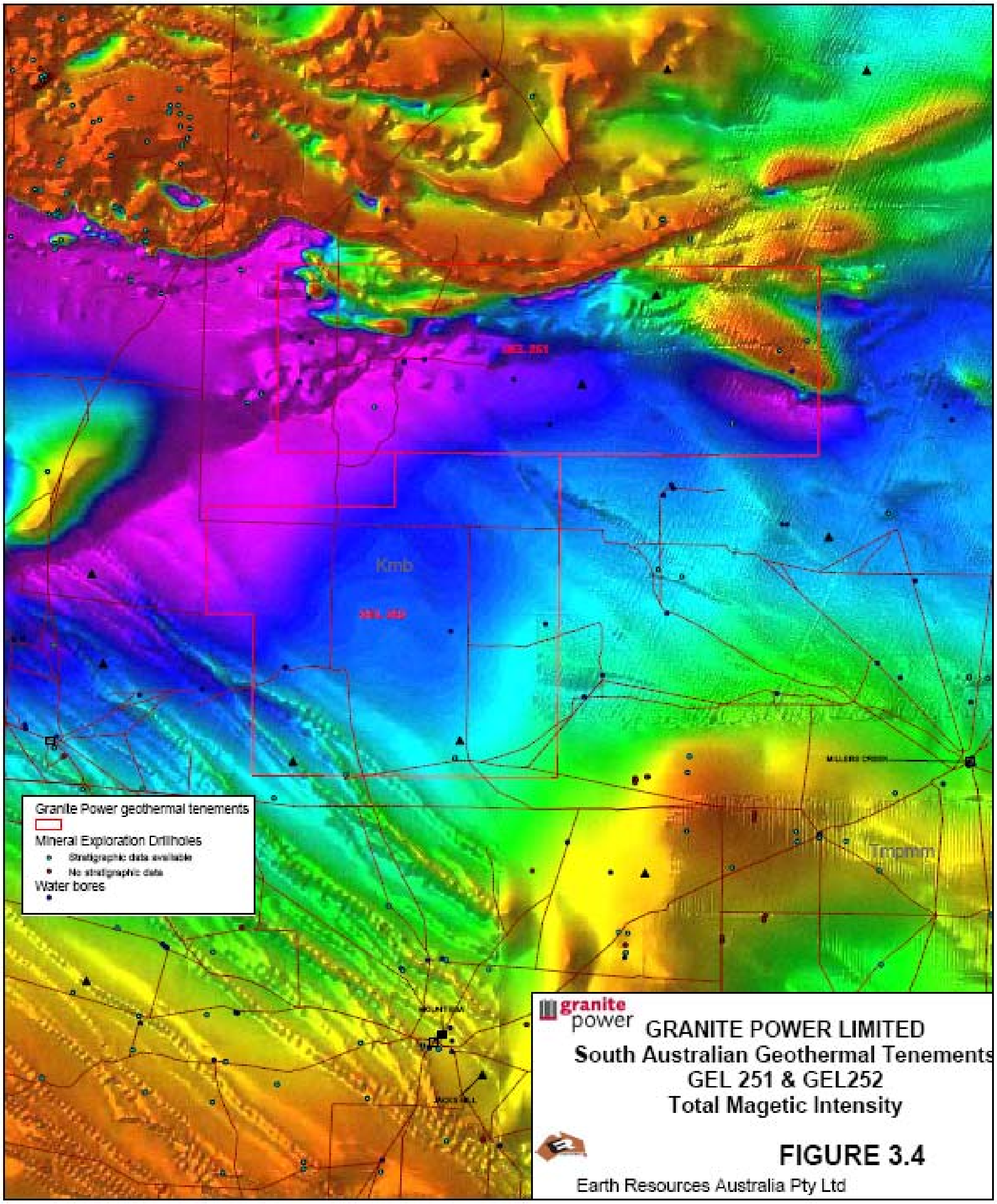
To the north-west, cover rocks shallow rapidly towards basement outcrop of the Mt Woods Inlier. In other directions, there is a low density of holes penetrating to basement, but sufficient to indicate post-Proterozoic cover depths are unlikely to be greater than 250 metres, and in places significantly less.



Geophysical Interpretation of Basement Features & Lithologies
(Figures 3.3 & 3.4)

The following notes on the basement are based on data and images supplied in the SA state dataset - viz magnetics, gravity and the *A4tect* (interpreted basement units) layer. Both the magnetics and gravity images are relatively subdued over most of GEL252 and in the southern-central part of GEL251. This corresponds with an area of Mesoproterozoic **Pandurra Formation** indicated on the *A4tect* layer. This unit typically comprises a monotonous sequence of unmetamorphosed arenaceous redbed sediments (Drexel et al., 1993). The thickness of the Pandurra Formation in this area is unknown, however Table 2.1 includes data relevant to GEL207 and indicates the unit may reach thicknesses in excess of





900 metres. Aeromagnetic interpretation by Anderson (1978) has indicated a thickness of almost 1,600 metres near Mt Eba, 18 kilometres south of GEL2.

As discussed above, the Pandurra Formation, despite being of Mid-Proterozoic age, can be regarded as a thermal insulating cover unit over the older rocks. The unmetamorphosed and generally coarse sandstone of this unit can be expected to have a relatively low thermal conductivity, but not as effective as younger coal measures sequences. A high degree of cementation may reduce the blanketing effectiveness, as could loss of heat by water convection if the sequence is highly permeable.

The possibility of uranium mineralisation and associated radiogenic heat generation within or at the base of the Pandurra Formation has been discussed above (section 2 GEL207).

The northern part of GEL251 has much higher magnetic relief and corresponds with an area of Palaeoproterozoic metasediments and metavolcanics which crops out as the **Mt Woods Inlier** to the north-west of GEL251. The southern boundary of this unit trends in an east-south-easterly direction through GEL251, and is displaced in the centre of the tenement by a regional-scale north-east trending fault, prominent on both the TMI and gravity images. This creates a broad wedge of Pandurra Formation in the southern central part of GEL251 (Figure 3.3). These Palaeoproterozoic rocks also exhibit higher gravity, increasing towards the Mt Woods Inlier, but with a very prominent circular gravity low with a diameter of 10 to 11 kilometres centred just to the north of GEL251. This feature is of unknown origin, but data density at around 6 kilometre spacing, is relatively sparse.

To the west of the tenements, basement comprises Archaean-Palaeoproterozoic metasediments, metavolcanics and granitoids. A small area of this unit also occurs to the south-east of GEL251 and it is presumed that these rocks underlie the Pandurra Formation in the subject tenements.

For this area to have any geothermal potential, the Archaean rocks would be required to provide the heat source beneath the blanketing Pandurra Formation. Prospects for this are not high, as there is no geophysical indication of a significant granite body. The gravity image indicates a slight high over the western part of GEL252 with a low, more indicative of a granite body, to the east. Irrespective of the presence of a granite body, granites of this age are not considered good heat producers, certainly by comparison with the later Hiltaba Suite granites.

Adelaidean sediments and volcanics, which constitute the thermal cover of the Stuart Shelf, do not occur over GELs 251 or 252. They do occur however approximately 6 kilometres to the south-east of GEL252, and this can be considered the north-western extent of the Stuart Shelf in this area. These Adelaidean rocks extend (and thicken) to the south and south-east to form the large expanse of the Stuart Shelf. These are in turn overlain by Cambrian-Ordovician sediments which extend to the Olympic Dam area and GEL207.

Summary of Potential and Recommendations

Thermal insulation may be provided by the Mesoproterozoic Pandurra Formation and verlying sediments. Although not specifically demonstrated within the tenements, such over may extend to in excess of 1.5 kilometres.

Irrespective of the nature and thickness of cover, there is no indication of a significant heat source in this area. Basement below the Pandurra Formation is Archaean-Palaeoproterozoic metasediments, metavolcanics and granitoids, and as noted above, granites of this age are not considered to be good heat sources. In this context, the gothermal potential of these tenements cannot be considered high.

Should further work be considered, preliminary activities should include:

- Detailed geophysical modelling to estimate cover depth and, if possible, interpret basement rocks.
- Inspection, thermal conductivity testing and spectrometer logging of Pandurra Formation core from the SA core library

Selection of an initial drill site would be largely dependent on results from the geophysical interpretation.

7.0 REFERENCES

(Downloaded data which has been referenced in the text – including Open File Envelope references- is not reiterated below. This information accompanies the digital copy of this report)

Anderson C.G. 1978 Magnetic interpretation in the northwestern Stuart Shelf area, South Australia. *South Australia. Geological Survey. Quarterly Geological Notes,* 68:4-7

Direen, N.G.and Lyons, P., compilers. 2002. Geophysical interpretation of the Central Olympic Cu-Au Province. Canberra: Geoscience Australia. MapInfo data from Geoscience Australia
website at *http://www.ga.gov.au/rural/projects/gawler.jsp*

Drexel J.F., Preiss W.V. and Parker A.J., 1993. The geology of South Australia. Vol.1, The Precambrian. *South Australia. Geological Survey. Bulletin, 54.*

Lyons P., 2005. Crustal structure of the Olympic Dam region: Constraints from deep seismic reflection profiles. In: Abstracts of the Mineral Exploration Through Cover Conference, Adelaide, South Australia, June 24, 2005, p.36.

Lyons P., Goleby B., Drummond B., Jones L., Skirrow R. & Fairclough M., 2006 Seismic structure and crustal architecture of the Fe oxide Cu-Au (IOCG) minerals system of the eastern Gawler Craton *Australian Earth Sciences Convention 2006, Melbourne, Australia*

Neumann, N., Sandiford, M., and Foden, J., 2000 Regional geochemistry and continental heat flow: implications for the origin of the South Australian heat flow anomaly. *Earth and Planetary Science Letters, 183:107–120.*