



Geothermal Exploration Licence No. 207  
(Roxby Downs)  
South Australia

Third Annual Report

Period 19 July 2007 to 18 January 2009

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## **1 INTRODUCTION**

### **1.1 Background**

Exploration was initiated in the Roxby Downs area to investigate the geothermal potential of basement rocks underlying thick sequences of Late Proterozoic sediments to the south of the northwest-trending Andamooka fault. This geothermal target is located 20 km southwest of the Olympic Dam mine, presenting a local market for any generated power. In addition, Olympic Dam is connected to the Eastern Australian high voltage power lines.

### **1.2 Period**

This report covers the third year of tenure from 19 July 2007 to 18 January 2009. This reporting period includes a six month suspension period from 3 July 2008 to 2 January 2009 (inclusive).

### **1.3 Licence data**

Geothermal Exploration Licence No. 207 (Roxby Downs) ("GEL 207") was granted on 19 July 2005, for a period of five years, to Proactive Energy Developments Ltd ("PED"). On 19 February 2007, PED changed its name to Granite Power Ltd ("Granite Power").

On 3 July 2008, an application for suspension of GEL 207 was submitted to Primary Industries and Resources, South Australia ("PIRSA") by the Granite Power. This application was approved by PIRSA on 18 July 2008, with the suspension in place from 3 July 2008 to 2 January 2009 (inclusive).

GEL 207 covers an area of approximately 386 km<sup>2</sup>, commencing at a point of intersection of 30°36'00"S (GDA94) and longitude 136°35'00"E (GDA 94). From there the tenement extends east to longitude 136°41'06"E (GDA94), south to latitude 30°41'30"S (GDA94), east to longitude 136°50'00"E (GDA94), south to latitude 30°48'00"S (GDA94), west to longitude 136°35'00"E (GDA94) and north to point of commencement.

## **2 WORK REQUIREMENTS**

The original minimum work requirements for GEL 207 are contained in Table 1 below:

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none"> <li>Geological and geophysical studies.</li> </ul>
Two	<ul style="list-style-type: none"> <li>Geological and geophysical studies.</li> <li>Deepening of existing stratigraphic holes.</li> </ul>
Three	<ul style="list-style-type: none"> <li>Conduct down-hole seismic induction probes, cross-well tomography, gamma, resistivity and temperature logging.</li> <li>Drill one deep well to test the temperature gradient within the target granite host rock reservoir.</li> </ul>
Four	<ul style="list-style-type: none"> <li>Drill one deep well (within 1000 metres of the year three well) and conduct circulation testing between the two wells.</li> </ul>
Five	<ul style="list-style-type: none"> <li>Construction of a 25MW pilot power station.</li> </ul>

Table 1: Original yearly work requirements for GEL 207

Changes to the minimum work requirements for GEL 207 were accepted by the Minister on 10 August 2007 and subsequently entered on the public register.

The revised minimum work requirements as at 10 August 2007 are detailed in Table 2 below.

Year	Minimum Work Requirements
One	<ul style="list-style-type: none"> <li>Geological and geophysical studies</li> </ul>
Two	<ul style="list-style-type: none"> <li>Geological and geophysical studies</li> <li>Environmental studies</li> </ul>
Three	<ul style="list-style-type: none"> <li>Drill one stratigraphic hole (or deepen existing stratigraphic hole) to a depth of 1,000m</li> <li>Conduct down-hole seismic induction probes, cross-well tomography, gamma, resistivity and temperature logging</li> <li>Acquire 10km of 2D seismic</li> <li>Geological and geophysical studies</li> </ul>
Four	<ul style="list-style-type: none"> <li>Drill one pilot well to a depth of 4,000m</li> <li>Conduct well tests and fracture stimulation</li> </ul>
Five	<ul style="list-style-type: none"> <li>Drill second well to a depth of 4,000m</li> <li>Conduct circulation testing between the two wells</li> <li>Commence planning review of pilot plant.</li> </ul>

Table 2: Minimum yearly work requirements for GEL 207 as at 10 August 2007

Further changes to the minimum work requirements for GEL 207 were accepted by the Minister on 9 December 2008 and subsequently entered on the public register.

The revised minimum work requirements as at 9 December 2008 are detailed in Table 3 below.

Year of Term of Licence	Minimum Work Requirements
<b>One</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies</li> </ul>
<b>Two</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies</li> <li>• Environmental studies</li> </ul>
<b>Three</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies;</li> </ul>
<b>Four</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies;</li> </ul>
<b>Five</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies.</li> <li>• Drill at least one heat flow hole (or deepen existing hole for heat flow purposes) to depth of up to 1,000 metres.</li> <li>• Undertake thermal conductivity measurements on sampled core and follow-up thermal modelling.</li> </ul>

Table 3: Minimum yearly work requirements for GEL 207 as at 9 December 2008

### 3 WORK CONDUCTED

Granite Power undertook both a reinterpretation of the regional magnetics and gravity data publicly available across the tenement. Granite Power also undertook thermal conductivity analyses and 1D thermal modelling for GEL 207 (see reports in Table 5).

## 4 THIRD YEAR EXPENDITURE

Commercial in Confidence

Table 4: Third year expenditure to 18 January 2009

## 5 COMPLIANCE WITH THE PETROLEUM ACT (REGULATION 33)

### 5.1 Regulated activities

No regulated activities were conducted during this reporting period.

### 5.2 Compliance

No matters of non-compliance are noted for this reporting year.

### 5.3 Management of non-compliance

Granite Power continually monitors its exploration activities to ensure compliance with the Petroleum Act. The Company understands the importance of regulatory observance and is committed to future compliance.

### 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 2007-8 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
Peter Gunn	Identification of Basement Lithologies using Gravity and Magnetic Data GEL 207, Olympic Dam Area, SA.	Basement Lithologies GEL 207.pdf
Duanne White, Granite Power Ltd	Assessment of Thermal Conductivity and Heat Flow in GEL 207	Thermal Conductivity GEL 207.pdf

Table 5: Third year reports for GEL 207

## 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

Operations this year will comprise continued geological and geophysical review and analysis and interpretation of existing data and any newly acquired data.