



ACN 109 200 900

# First Annual Report

## Pirie Project

### GELs 411–422

For the period 18/8/08 to 13/5/10.

**HELD BY:** Eden Energy Ltd

**MANAGER & OPERATOR:** Eden Energy Ltd

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# **1. Introduction**

## ***1.1 Background***

The Pirie project is located between Port Wakefield and Port Augusta, and was selected by Terratherma Ltd because the licence areas were interpreted to exhibit some of the key technical and commercial parameters required for a viable geothermal project.

The Pirie project area is located on the western margin of the Adelaide Geosyncline, close to its junction with the eastern edge of the Gawler Craton, a region referred to as the Torrens Hinge Zone. In this position Neoproterozoic age (Adelaidean) sediments thicken rapidly to the east, and although there is a lack of drilling data, it is likely that a significant portion of this area is underlain, at least in part, by granitoids – including thermally anomalous granites of the Hiltaba Suite – based on analogy with the Torrens Hinge Zone geology further to the north.

The presence of granitoids is considered to be a potentially significant geothermal heat source within the project area. The potential geothermal heat source is interpreted to be effectively insulated and trapped by a thick sequence of fine-grained, locally carbonaceous, Neoproterozoic sediments, up to several kilometres thick, forming the western margin of the Adelaide Geosyncline. The basal coarse-grained sediments of the Adelaide Geosyncline provide a hot sedimentary aquifer style geothermal exploration target for the Pirie Project, however the focus of the Pirie project is the potential for granite or fractured basement targets for engineered geothermal systems.

## ***1.2 Licence Data***

Geothermal Exploration Licences 411 to 422 were granted on the 18<sup>th</sup> August 2008 for initial terms of five years.

## ***1.3 Period***

In accordance with Section 33 of the Petroleum and Geothermal Energy Regulations 2000, this report details work conducted during the first permit year of these GELs.

# **2. Work Requirements**

During the duration of the licence year licencees for GELs 411-422 were Terratherma Ltd.

The original work programme for GELs 411–422 is shown in Table 1.

<b>Year of Term of Licence</b>	<b>Minimum Work Requirements</b> <i>(Years one to five work requirements may be conducted anywhere within the combined areas of GELs 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421 and 422)</i>
<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; and</li> <li>• Temperature logging of existing boreholes (where accessible);</li> </ul>
<b>Three</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical studies</li> <li>• Drill six geothermal prospecting holes to depths of 450m;</li> <li>• Acquire 100 km 2D seismic; and</li> <li>• Collect temperature gradient and thermal conductivity data;</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>• Drill 1 deep test well to reservoir depth;</li> <li>• Evaluate water flow potential and fracture stimulation potential;</li> <li>• Conduct hydraulic stimulation (if required); and</li> <li>• Geological and geophysical studies</li> </ul>

The GELs were suspended from 7/4/2009 until 31/12/2009 and the expiry date of the licences adjusted to 13/5/2014, meaning the first year date moved to 13/5/2010.

### **3. Work Conducted**

The work conducted in Year 1 of the licences has included a preliminary desktop study of available public domain data including seismic data, a risk assessment and initial geothermal systems analysis to identify key areas for ongoing investigation.

### **4. Year 1 Expenditure**

Expenditure for Year 1 is summarised in Appendix 1.

### **5. Year Two Work Programme**

Work for Year 2 of the licences is to include as a minimum geological and geophysical studies including temperature logging of an existing holes that are accessible.

The licences are currently suspended until 31/7/2011.

## **6. Compliance with the Petroleum Act (Reg. 33)**

### ***6.1 Summary of the regulated activities conducted under the licence during the year***

This information is detailed below in designated sections.

#### **Drilling and regulated activities**

- No regulated activities undertaken in the licence reporting period

#### **Seismic Data Acquisition**

- No regulated activities undertaken in the licence reporting period

#### **Seismic data processing and reprocessing**

- No regulated activities undertaken in the licence reporting period

#### **Geochemical, Gravity, Magnetic and other surveys**

- No regulated activities undertaken in the licence reporting period

#### **Production and processing**

- No regulated activities undertaken in the licence reporting period

#### **Pipeline/Flowline Construction and Operation**

- No regulated activities undertaken in the licence reporting period

#### **Geological and Geophysical studies**

- The work conducted in Year 1 of the licences has included a preliminary desktop study of available public domain data including seismic data, a risk assessment and initial geothermal systems analysis to identify key areas for ongoing investigation.

#### **Preliminary Survey Activities**

- No regulated activities undertaken in the licence reporting period

### ***6.2 Report for the year on compliance with the Act, these Regulations, the licence and any relevant Statement of Environmental Objectives***

Eden complied with all relevant sections of the Act and Regulations as they pertain to the regulated activities conducted during the year, apart from Eden not complying with Section 33 (1) of the Regulations pertaining to the provision of an annual report within two months after the end of the licence year.

### ***6.3 Statement concerning any action to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, and to minimise the likelihood of the recurrence of any such non-compliance***

Eden recognises the importance of achieving regulatory compliance and is committed to achieving appropriate practices in its management strategies, work practices and procedures. Eden is committed to operating in an environmentally and socially responsible manner.

Eden is aware of the non compliance regarding the lodgement date of this report. Greater attention will be paid in future to the administration of the licensing and reporting requirements for Eden Energy tenements.

**6.4 Summary of any management system audits undertaken during the relevant licence year, including information on any failure or deficiency identified by the audit and any corrective action that has, or will be, taken**

Eden is a new company and has developed appropriate systems and documentation to cover Field Operations, Environmental Management, Health and Safety issues and compliance checklists to ensure the requirements of relevant Acts and Regulations are met.

As these systems are newly developed and the work conducted to date has not shown any deficiencies in the systems, no management system audits have been undertaken as yet.

**6.5 List of all reports and data relevant to the operation of the Act generated by the licensee during the relevant licence year**

One report was generated during Year 1 relevant to the operation of the Act:

1. HDRPL Proposal to progress licence areas to Inferred Resource status.

This report covers all of Eden Energy and Terratherma's current GELs.

**6.6 Report on any Incidents reportable to the Minister under the Act and Regulations during the relevant Licence Year**

No reportable incidents occurred.

**6.7 Report on any reasonably foreseeable threats (other than threats previously reported on) that reasonably present, or may present, a hazard to facilities or activities under the licence, and a report on any corrective action that has, or will be, taken**

No threats have been identified.