



GEOTHERMAL RESOURCES LIMITED

ABN 45 115 281 144

Annual Report

Licence Year 1

For the Period:

25 Aug. 2008 to 24 Aug. 2009

GEL 446

1st October 2009

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1 Introduction

Geothermal Exploration Licence (GEL) 446 was granted on 25th August, 2008. The licence is located in the Yalkalpo Sub-Basin of the Arrowie Basin, South Australia. This report details the work conducted during Licence Year 1 of the licence (25/08/2008 – 24/08/2009 inclusive), in accordance with Regulation 33 of the Petroleum Act 2000.

2 Permit Summary

For the duration of the licence year, the licensee for Geothermal Exploration Licence (GEL) 446 was:

- Geothermal Resources Limited 100%

The current work commitments (including all variations) associated with GEL 446 can be seen in Table 1.

Table 1 Current work commitments by licence year

Licence Year	Licence dates	Minimum Work Program
Year 1	25/08/2008 – 24/08/2009	<ul style="list-style-type: none">• Review of open file geophysical and drilling data to obtain accurate cover depth and bedrock lithology information;• 3D modelling to determine subsurface geology and location of buried granite bodies; and• Measure temperatures in any accessible water wells and oil wells.
Year 2	25/08/2009 – 24/08/2010	<ul style="list-style-type: none">• Thermal resource modelling and rock fracture studies; and• Interpretation of all data to determine optimum drill site locations.
Year 3	25/08/2010 – 24/08/2011	<ul style="list-style-type: none">• Drill one shallow hole to a depth of at least 250 metres and temperature logging; and• Re-evaluation of theoretical thermal resources and fracture/permeability models based on drilling results.
Year 4	25/08/2011 – 24/08/2012	<ul style="list-style-type: none">• Drill one shallow hole to a depth of at least 250 metres and temperature logging; and• Re-evaluation of theoretical thermal resources and fracture/permeability models based on drilling results.
Year 5	25/08/2012 – 24/08/2013	<ul style="list-style-type: none">• Drill one deep hole to at least 1000 metres deep and temperature logging; and• Evaluation of thermal data and fracture/permeability models.

Licence Year 1 concluded on 24/08/2009. The following table displays the minimum work program (after all variations) and the actual work completed up until the end of the current licence period.

Table 2 Final work program and work completed (as of end of current reporting period) by licence year

Licence Year	Minimum Work Program	Actual Work
Year 1	<ul style="list-style-type: none"> • Review of open file geophysical and drilling data to obtain accurate cover depth and bedrock lithology information; • 3D modelling to determine subsurface geology and location of buried granite bodies; and • Measure temperatures in any accessible water wells and oil wells. 	<ul style="list-style-type: none"> • Cover depth and bedrock lithology obtained from open file geophysical and drilling data. • Location of buried granite bodies approximated via sparse 3D modelling. • Temperature measurements in oil wells attempted; unsuccessful owing to cement plugs (see figure below).



Figure 1. Yalkalpo 2 collar – note cement plug

- GEL 446 was active for the full year.

3 Regulated Activities

Pursuant to Regulation 33(2)(a) under the Act, the following regulated activities were undertaken:

No regulated activities were undertaken in the licence reporting period.

4 Compliance Issues

Licence and Regulatory Compliance

Licence Non-Compliance

Geothermal Resources was compliant with all licence requirements.

Regulatory Non-Compliance

Geothermal Resources was compliant with all regulatory requirements.

Report and Data Submissions

Table 3 List of report and data submissions during current licence reporting year

Description of Report/Data	Date Due	Date Submitted	Compliant / Non-Compliant
Annual Report GEL 446	24/10/2009	1/10/2009	Compliant

Incidents

Pursuant to Regulation 33(2) (f), as no regulated activities were undertaken no incidents occurred.

Threat Prevention

Pursuant to Regulation 33(2) (g), no foreseeable threats identified.

Future Work Program

Pursuant to Regulation 33(2) (h) under the Act, an outline of the planned operations and activities is listed below:

- thermal resource modelling, and
- interpretation of all data to determine optimum drill site locations.

5 Expenditure Statement

Pursuant to Regulation 33(3) under the Act, the expenditure on GEL 446 for the first year of the licence was \$20,519.

Please refer to Appendix 1 for the expenditure statement for the current reporting period.

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