



TORRENS ENERGY LIMITED

Annual Report

Licence Year 1

24 January 2007 to 23 January 2008

Geothermal Exploration Licences 227 – 228, 263

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1 Introduction

Geothermal Exploration Licences (GELs) 227 & 228 were granted on 05 July 2006, for an initial period of 5 years. Torrens Energy Limited was then granted an additional adjacent licence (GEL 263) on 24 January 2007. A subsequent variation to the anniversary and work program GELs 227 & 228 was requested and authorised, enabling the grouping of GELs 227-228 & 263 to form the 1471 km² Barossa-Clare project. These licences are located in the Adelaide Geosyncline, South Australia.

This report details the work conducted during Year 1 of the Barossa-Clare project, in accordance with Regulation 33 of the Petroleum Act 2000.

2 Permit Summary

For the duration of the licence year, licensee for Geothermal Exploration Licence (GELs) 227, 228 & 263 was:

- *Torrens Energy* 100%

The current work commitments (including all variations) associated with GELs 227, 228 & 263 can be seen in Table 1.

Table 1 Current work commitments by licence year

Licence Year	Licence dates	Minimum Work Program
Year 1	24/01/07 – 23/01/08	<ul style="list-style-type: none">• Geological and geophysical review
Year 2	24/01/08 – 23/01/09	<ul style="list-style-type: none">• Geological and geophysical review
Year 3	24/01/09 – 23/01/10	<ul style="list-style-type: none">• Complete and case 3 fully cored holes to depths of 400-500 metres• Geological and geophysical review
Year 4	24/01/10 – 23/01/11	<ul style="list-style-type: none">• Geological and geophysical review
Year 5	24/01/11– 23/01/12	<ul style="list-style-type: none">• Drill test well to full depth (4000-5000 kilometres)

Licence Year 1 concluded on 23 January 2008. 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	Geological and geophysical review	<ul style="list-style-type: none"> • <i>Data and information gathering (geological and geophysical)</i> • <i>Interpretation of existing data</i> • <i>Conductivity analysis of core samples</i> • <i>Heat flow estimates based on data from existing drillholes</i> • <i>Geological mapping</i>

License suspensions during the reporting year:

- GELs 227 & 228 06/07/2006 – 24/01/2007

3 Regulated Activities

Pursuant to Regulation 33(2)(a) under the Act, an annual report must include:

“a summary of the regulated activities conducted under the licence during the [current reporting] year.”

This information is detailed below:

Geological Mapping

- Consultant: Ian Dyson
- Commencement date: 17/07/2007
- Completion date: 31/08/2007
- Survey: Line traverse ground mapping, over several line segments, totalling 65 line kilometres.
- Report yet to be submitted to Torrens Energy

4 Compliance Issues

Licence and Regulatory Compliance

Pursuant to Regulations 33(2) (b) & (c), an annual report must include:

“a report for the year on compliance with the Act, these regulations, the licence and any relevant statement of environmental objectives;” and

“a 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 recurrence of any such non-compliances.”

Torrens Energy has complied with the Act and regulations, the license agreement and the approved SEO during Year One. No instances of non-compliance with obligations imposed by the Act occurred during Year One.

Compliance with Statement of Environmental Objectives

Table 3 South Australian Cooper Basin Operators Statement of Environmental Objectives: Geophysical Operations – as adapted by Torrens Energy for Geological Mapping (approved by PIRSA)

Environmental Objective	Assessment Criteria	Compliant / Non-compliant	Comments
1. Minimise the visual impact of operations.	<p><u>Campsite and survey line preparation</u></p> <p>Proposed survey lines and campsites have been appropriately located and prepared to minimise the visual impact.</p> <p>The attainment of 0, +1 or +2 GAS criteria for 'visual impact' objective.</p>	Compliant	<p>Seismic survey line activities were not undertaken and campsites were not required.</p> <p>Mapping carried out on foot, no discernible visual impact (i.e. GAS criteria of +2 for 'visual impact' objective).</p> <p>Any waste generated by the mapping personnel (e.g. food wrappers) were retained and disposed of at an appropriate bin or facility.</p>
2. Minimise disturbance to and contamination of soil resources.	<p><u>Campsite & survey line preparation</u></p> <p>Attainment of 0, +1 or +2 GAS criteria for 'Minimise impacts to land surface' objective.</p> <p>Proposed survey lines and campsites have been appropriately located and prepared to minimise the disturbance to soil resources.</p> <p><u>Fuel Storage and Handling</u></p> <p>No refuelling occurs outside designated refuelling/servicing areas.</p> <p>Spills or leaks are immediately reported and clean up actions initiated.</p> <p>Records of spill events and corrective actions are maintained in accordance with company procedures.</p> <p>Appropriate spill response equipment is available on site.</p>	Compliant	<p>Access to mapping areas via light vehicle using existing roads and tracks. Mapping conducted on foot.</p> <p>There was no survey line clearance or other soil-disturbing work required.</p> <p>Vehicle refueling was undertaken at existing service station facilities only.</p>
3. Minimise disturbance to native vegetation and fauna.	<p><u>Campsite and survey line preparation</u></p> <p>The attainment of either 0, +1 or +2 GAS criteria for 'Impact on native vegetation' objective.</p> <p>No mature trees are removed.</p> <p>Vehicle access to survey lines is to be via existing access tracks or pre-existing survey lines, except where they have rehabilitated. Other temporary access tracks may be utilised where such use is likely to result in less environmental impact than other options.</p> <p><u>Fuel and Chemical Storage and Management</u></p> <p>Refer to assessment criteria for objective.</p> <p><u>Fire Danger Season restrictions & education</u></p> <p>All personnel are fully informed on the fire danger season and associated restrictions.</p>	Compliant	<p>No clearing of vegetation or vegetation disturbance was undertaken during the mapping process.</p> <p>Any waste generated by the mapping personnel (e.g. food wrappers) were retained and disposed of at an appropriate bin or facility.</p> <p>Fire restrictions were taken into account by mapping personnel and the appropriate actions taken to minimise fire risk where required. No campfires were required.</p> <p>A small fire extinguisher and contact to local fire fighting services were available at all times</p>

Environmental Objective	Assessment Criteria	Compliant / Non-compliant	Comments
4. Avoid disturbance to sites of cultural and heritage significance.	<p>The following is one possible procedure to achieve the objective.</p> <p>Appropriately trained and experienced cultural/heritage advisors have scouted proposed survey line locations and access tracks.</p> <p>The operator has a mechanism in place to appropriately report and respond to any sites discovered during survey operations.</p> <p>Any sites identified have been flagged and subsequently avoided.</p>	Compliant	<p>The geological mapping did not involve any activity that poses a risk to heritage sites. No survey lines or access tracks are required.</p> <p>Activities were carried out in a heavily modified rural environment.</p> <p>No significant sites were located during the mapping.</p>
5. Minimise disturbance to livestock, pastoral infrastructure and landholders.	<p>The attainment of 0, +1 or +2 GAS criteria for 'Impact on infrastructure' objective.</p> <p>No reasonable concerns raised by stakeholders are left unresolved.</p> <p>The extent to which the relevant sections of the Petroleum Act and Regulations have been followed and implemented and in particular in relation to landowner liaison and notification.</p>	Compliant	<p>Mapping activities had little or no impact on livestock, landholders or landholder infrastructure.</p> <p>Landowners were notified in accordance with Petroleum Act requirements. Mapping personnel liaised directly with landholders/managers for access to mapping sites.</p> <p>There were no landowner complaints made to the mapping personnel or Torrens Energy.</p> <p>Gates were left in the condition in which they were found or as directed by the landholder.</p>
6. Avoid the introduction or spread of exotic species and implement control measures as necessary.	Weeds or feral animals are not introduced into, or spread, in operational areas.	Compliant	<p>Vehicles were cleaned prior to starting work in the survey area and were maintained in a clean condition. Vehicles generally remained on established roads and tracks.</p> <p>Mud and plant material were removed from boots and clothing before moving between properties.</p> <p>Landholders were consulted to ascertain whether there are weed issues or specific requirements for weed hygiene on their properties.</p>

Environmental Objective	Assessment Criteria	Compliant / Non-compliant	Comments
7. Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.	<p><u>Campsite and survey line preparation</u></p> <p>Campsites and survey lines/traverses are located and constructed to avoid diversion of water flows.</p> <p>The attainment of 0, +1 or +2 GAS criteria for 'disturbance to land surface' objective.</p> <p>No uncontrolled flows to surface from aquifers intersected in upholes/shallow boreholes.</p> <p>There is no unnecessary interference with natural drainage features.</p> <p><u>Fuel Storage and Handling</u></p> <p>No spills occur outside of areas designed to contain them.</p> <p>Refuelling occurs at least 1km from watercourses or sensitive ecological environments (wetlands).</p> <p>Appropriate spill response equipment is available on site.</p> <p>Spills or leaks are immediately reported and clean up actions initiated promptly.</p>	Compliant	<p>Geological mapping did not result in the disturbance of drainage features or patterns.</p> <p>There were no campsites, survey line clearance or other soil-disturbing work required.</p> <p>Vehicle refueling was undertaken at existing service station facilities to avoid fuel spills and potential contamination of surface or ground waters.</p>
8. Optimise waste reduction and recovery.	<p>Wastes are segregated, burnt or transported to an Environment Protection Authority (EPA) approved waste disposal facility for recycling or burial in accordance with approved procedures.</p> <p>0, +1 or +2 GAS criteria are attained for 'Negligible survey markers and rubbish in situ' objective.</p>		<p>Geological mapping activities will result in the production of minimal quantities of domestic waste.</p> <p>All waste generated by the mapping personnel (e.g. food wrappers) was retained disposed of at an appropriate bin or facility.</p>

Management System Audits

Pursuant to Regulation 33(2) (d) under the Act, an annual report must include:

“a 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 actions that has, or will be taken”.

There were no management systems audits undertaken during the reporting year.

Report and Data Submissions

Pursuant to Regulation 33(2) (e) under the Act, an annual report must include:

“a list of all reports and data relevant to the operation of the Act generated by the licensee during the licence year”.

Table 4 List of report and data submissions during current licence reporting year

Description of Report/Data	Date Due	Date Submitted	Compliant / Non-Compliant
Consultant’s Report: Thermal Conductivity of Adelaide Geosyncline Core Samples	Jan 2007	Jan 2007	Compliant

Incidents

Pursuant to Regulation 33(2) (f), an annual report must include:

“in relation to any incidents reported to the Minister under the Act and these Regulations during the relevant licence year –

- (i) an overall assessment and analysis of the incidents, including the identification and analysis of any trends that have emerged; and*
- (ii) an overall assessment of the effectiveness of any action taken to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, or to minimise the risk of recurrence of any such non-compliance”.*

No reportable incidents occurred during Year One.

Threat Prevention

Pursuant to Regulation 33(2) (g) under the Act, an annual report must include:

“a report on any reasonably foreseeable threats (other than threats previously reported on) that reasonably presents, 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 to activities under the licences have been identified.

Future Work Program

Pursuant to Regulation 33(2) (h) under the Act, an annual report must include:

“unless the relevant licence year is the last year in which the licence is to remain in force – a statement outlining operations proposed for the ensuing year”.

Torrens Energy plans to undertake further review of any known and collected geological and geophysical data within the Barossa-Clare project in order to more accurately assess the area prior to any future drilling operations and geophysical surveys.

5 Expenditure Statement

Pursuant to Regulation 33(3) under the Act, an annual report must contain:

“An annual report must be accompanied by a statement of expenditure on regulated activities conducted under the licence for the relevant licence year, showing expenditure under each of the following headings:

- a) drilling activities;*
- b) seismic activities;*
- c) technical evaluation and analysis;*
- d) other surveys;*
- e) facility construction and modification;*
- f) operating and administration expenses (not already covered under another heading)”.*

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

APPENDIX 1 Expenditure Statement

Commercial in confidence