

TORRENS ENERGY LIMITED

ABN 79 118 065 704

1/338 Hay Street

Subiaco WA 6008

PO Box 2106 Subiaco WA 6904

T: +61 8 6380 1003

F: +61 8 6380 1026

[www.torrensenergy.com](http://www.torrensenergy.com)



GEL 559

# ANNUAL TECHNICAL REPORT

Mulgaria Project Area, SA

TERM 1, YEAR 3 REPORT, Period 27/07/2012 – 26/07/2013



John Canaris

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Monday 21 October 2013

Lee Kinnear  
Senior Licensing Officer , Energy Resources Division  
Department for Manufacturing, Innovation, Trade, Resources and Energy  
Level 6, 101 Grenfell Street, Adelaide, SA 5000  
Phone: 08 8226 5003  
pirsa.compliance@sa.gov.au

Dear Lee

**ANNUAL REPORT FOR GEL559,  
TERM 1, YEAR 3 REPORT, Period 27/07/2012 – 26/07/2013**

In accordance with Regulation 33 of the Petroleum and Geothermal Energy Act 2000, please find attached Torrens Energy Limited (Torrens Energy) Year 3 Annual Report for the GEL 559, Mulgaria Project SA.

Yours sincerely



John Canaris  
Consulting Geologist  
**Torrens Energy Limited**

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## INTRODUCTION

Torrens Energy Ltd ("Torrens Energy") is an Australian public company formed to discover, quantify and develop energy opportunities including geothermal in Australia and overseas; in addition to the GEL559 reported here Torrens Energy holds other geothermal exploration licences (GELs) in South Australia and an applications in the Northern Territory. It has also investigated conventional and non-conventional energy opportunities in Australia and overseas.

The Company's activities in South Australia centre on the geological feature known as the Torrens Hinge Zone. The northern extent of Torrens Hinge Zone which is substantially captured by GEL 559 is geothermally anomalous, having both a heat producing basement of radiogenic granite, and thermally insulating met sedimentary cover. The licence was granted in July 2010 for 5 years.

The license covers a total area of approximately 1,775 square kilometres (below) and is located on the north-east side of Lake Torrens, and the associated power infrastructure leading to Lee Creek. This report details the work conducted for the GEL during the Year 3 of the 5 year work program.

Tenement No	Licensee	Area Km2
GEL 559	Torrens Energy Ltd 100%	1,775

### Permit Summary (Table 1.)

Licence Year	Minimum Work Program GEL 559
Year 1	Geological and geophysical studies
Year 2	Geological and geophysical studies
Year 3	Complete and case 2 fully cored holes to a depth of approximately 400m. Geological and geophysical studies
Year 4	Geological and geophysical studies
Year 5	Drill test well to full depth (4,000 to 5,000m). Geological and geophysical studies

### Work Undertaken (Table 2.)

Licence Year	Minimum Work Program GEL 559
Year 3	Geological and geophysical studies

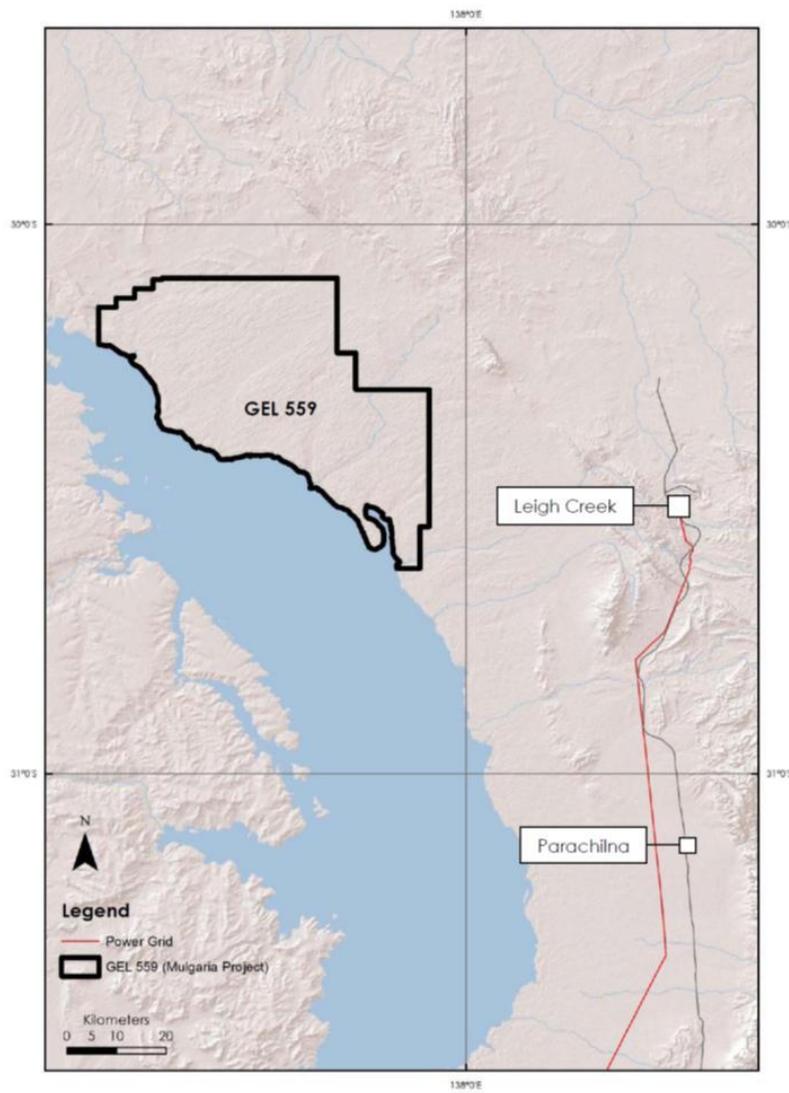


Figure 1: Location Map GEL 559

## 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.”

a. Drilling and related activities

No drilling and related activities were undertaken during the reporting period.

b. Seismic data acquisition

None undertaken

c. Seismic Data Processing and Reprocessing

None undertaken

d. Geochemical, gravity, Magnetic and other surveys

None undertaken

e. Preliminary survey activities

None undertaken

## Compliance Issues

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 not complied with the Year 3 work program for the completion of 2 fully cored holes to 400m; the Company is in the process of transferring GEL 559 [from Torrens Energy Pty Ltd] to its wholly owned subsidiary Torrens Energy (SA) Pty Ltd, for the purpose of amalgamating its future reporting and work programs with its other licence holdings in SA. In line with this the Company now seeks to rectify with DMITRE by applying for a work program variation for the GEL.

## 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 period.

### **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”.

The Year 2 Annual Report was submitted during the reporting period (due 26 August 2012). With the exception of the lateness of the report there were no compliance issues.

### **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 the reporting period.

### **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 new threats were identified during the reporting period.

### **Future Work Programs**

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”.

Please refer to Table 1. (above) for future work programs.

## Interpretation and Summary

The GEL covers a 500 kilometre square section of the thermally anomalous South Australian Heat Flow Anomaly (SAHFA) – a “corridor” of known heat producing basement geology. The interpretation of the Nilpena seismic line [south] has confirmed the continuation of target basement rocks overlain by thick sub-horizontal insulating Tertiary, Cambrian and Pre-Cambrian sediments, forming an effective insulator over the geothermal prospect, effectively de-risking this highly prospective geothermal ground.

It is located approximately 70 kilometres northwest of the Parachilna Geothermal Play containing one of Australia's largest geothermal resource estimates and [high] modelled temperatures of ~220°C at 4,100m. Despite the paucity of information available for assessment, due to the generally high surface heat flows encountered to the south, encouraging thermal conductivity results & low degree of deformation of the Cambrian and Pre-Cambrian sediments interpreted for the area, prospectivity has been upgraded.

Maps and sections provided in this report are in Map Grid of Australia (GDA94)  
and information provided is taken from the Australian National Topographic Map Series.