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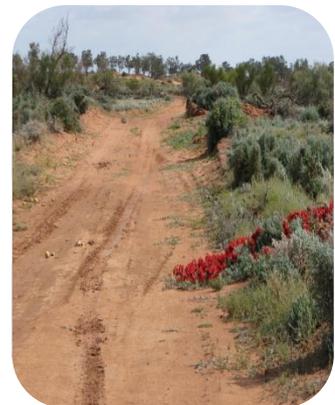


GEL 559

# ANNUAL TECHNICAL REPORT

YEAR 1 PERIOD – 27/07/2010 – 26/07/2011

MULGARIA PROJECT, SA



John Canaris

January 2012

Thursday 4 October 2012

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Dear Lee

**ANNUAL REPORT FOR GEL559,  
12 MONTH PERIOD ENDING SEPTEMBER 2011**

In accordance with Regulation 33 of the Petroleum and Geothermal Energy Act 2000, please find attached Torrens Energy Limited (Torrens Energy) Year 1 Annual Report for the GEL 559, Mulgaria Project SA.

The GEL 559 (Year 1 work program) report was due on 26 September 2011, and is therefore subject to Regulation 33(1) of the Petroleum and Geothermal Energy Act 2000 which states: "A licensee must, within 2 months after the end of each licence year, furnish to the Minister a written report for the relevant licence year (annual report)", and [therefore] non-compliance will need to be listed in the report for the late lodgement stating the reasoning for the late report.

By way of explanation Torrens Energy was for much of the licence period strategically planning its future and in discussions and preoccupied with the Department for the reduction of licence expenditure conditions – the Company plans to take advantage of recent changes in the Petroleum and Geothermal Energy Act 2000 include an increase in the maximum allowed size of a Geothermal Exploration Licence (GEL). In addition licences that comprise equivalent work programs have been allowed to be merged.

In this way Torrens Energy has been able to put in systems allowing it to decrease its annual reporting and administrative loading, as well as benefit by way of considerable cost savings due to decreased annual fees payable per GEL.

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 specifically to develop geothermal opportunities in Australia. In addition to GEL 559 Torrens Energy holds other geothermal exploration licences (GELs) in South Australia, Victoria and an application in the Northern Territory.

Geothermal Exploration Licence (GEL) 559 was granted on 27 July 2010 for an initial period of 5 years. The license covers approximately 1,775 square kilometres and is located to the east of Lake Torrens (Figure 1. below). The Mulgaria Project Area expands Torrens Energy's landholding in South Australia to 13,846 square kilometres, representing the largest geothermal licence holding in the state. Mulgaria is located 230 kilometres north of Port Augusta within a geological domain known as the Torrens Hinge Zone (THZ), a highly prospective geothermal terrain known for high heat flows coinciding with insulating sedimentary cover.

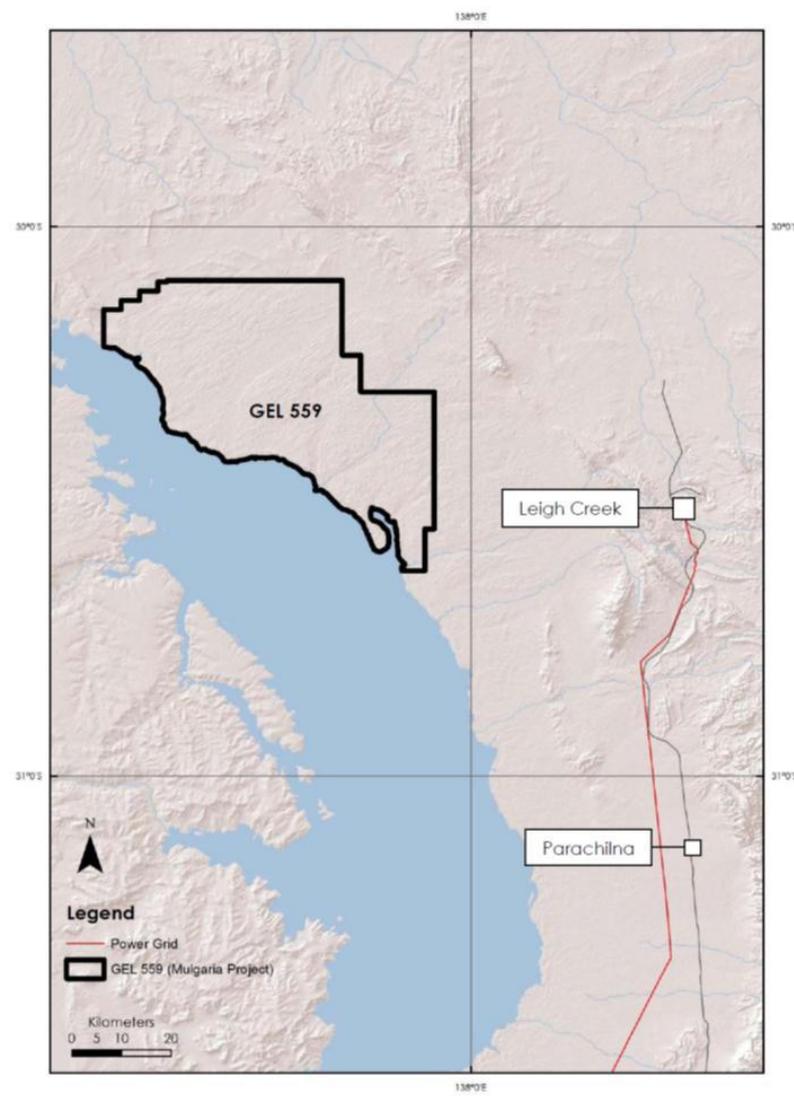


Figure 1: Location Map GEL 559

## PERMIT SUMMARY

Tenement Holder: Torrens Energy (100%)

Agreed Work Program & Expenditure: (Table 1 below)

Licence Year	Licence dates	Minimum Work Program
Year 1	27/07/10 – 26/07/11	Geological and geophysical studies
Year 2	27/07/11 – 26/07/12	Geological and geophysical studies
Year 3	27/07/12 – 26/07/13	Complete and case 2 fully cored holes to a depth of approximately 400m Geological and geophysical studies
Year 4	27/07/13 – 26/07/14	Geological and geophysical studies
Year 5	27/07/14 – 26/07/15	Drill test well to full depth (4,000 to 5,000m) Geological and geophysical studies

Table 1: Licence Work Program

Licence Year	Minimum Work Program	Actual Work
Year 1	Geological and geophysical studies	<ul style="list-style-type: none"> <li>Internal geological and geophysical review</li> </ul>

Table 2: Work Program Undertaken

### 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."

With the exception of the lateness of this report Torrens Energy has complied with the Act and the license agreement during the reporting period. Torrens Energy has people and systems in place to prevent non-compliance issues from reoccurring.

## 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".

No reports were submitted during the reporting period.

## 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.

## **EXPENDITURE STATEMENT** (to July 2011)

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.