



# Annual Report

## Origin Energy Geothermal Pty Ltd

Licence Year

*8 January 2012 - 7 January 2013*

GEL 185

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## 1 Introduction

Geothermal Exploration Licence (GEL) 185 was granted on 14 April 2005 with an initial term of five years. The licence is located in the Cooper Basin, South Australia. The location of GEL 185 is seen in Figure 1 below.

This report details the work conducted during Year 7 of the licence (8 January 2012 - 7 January 2013 inclusive) in accordance with Regulation 33 of the *Petroleum and Geothermal Energy Act 2000*.

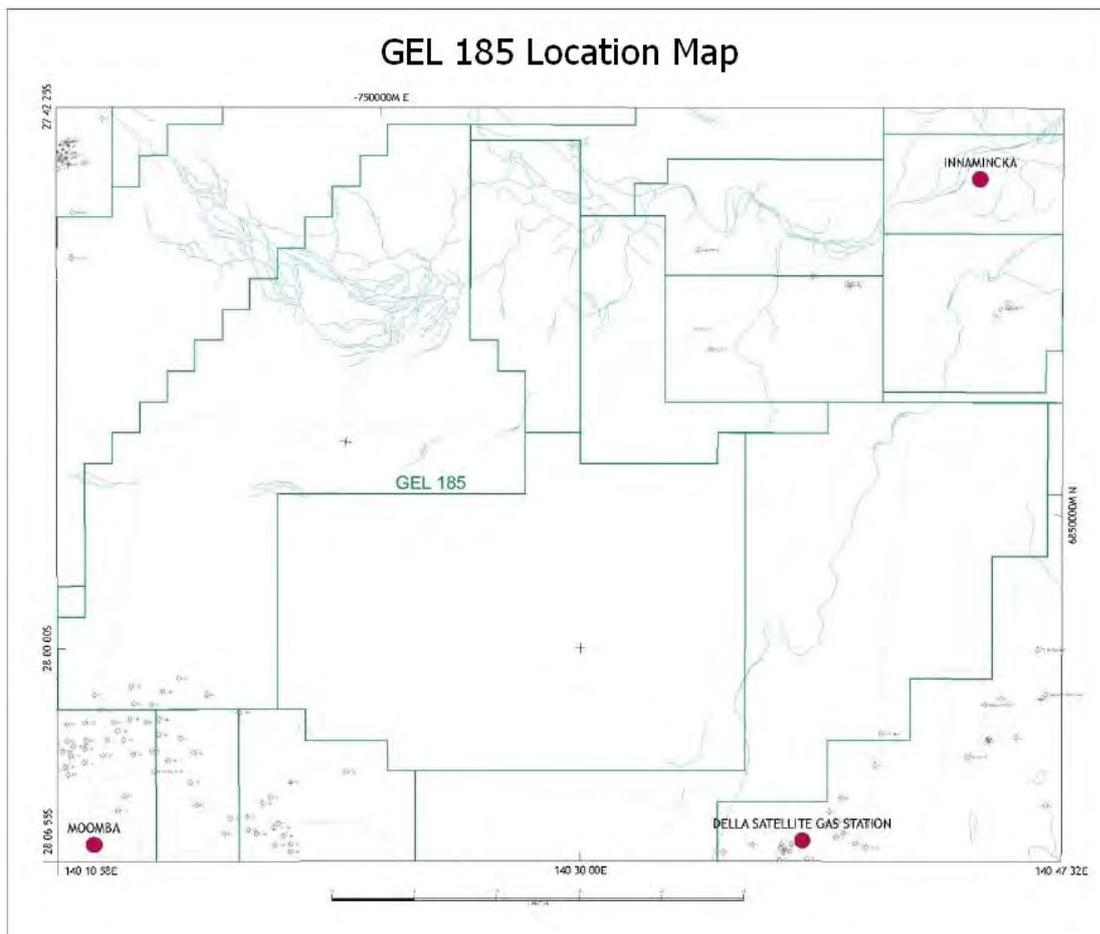


Figure 1 GEL 185 Location Map

## 2 Permit Summary

For the duration of Licence Year 7 licensee for Geothermal Exploration Licence (GEL) 185 was Origin Energy Geothermal Pty Ltd. The original work commitments (including variations) associated with GEL 185 are shown in Table 1.

| Year of term of Licence | Minimum Work Requirements   |
|-------------------------|---|
| One                     | <ul style="list-style-type: none"> <li>Geological and geophysical studies</li> </ul>  |
| Two                     | <ul style="list-style-type: none"> <li>Geological and geophysical studies</li> </ul>  |
| Three                   | <ul style="list-style-type: none"> <li>Review of seismic data;</li> <li>Acquisition and modelling of magneto-telluric data</li> </ul> |
| Four                    | <ul style="list-style-type: none"> <li>Geological and geophysical studies</li> </ul>  |
| Five                    | <ul style="list-style-type: none"> <li>Drill one well</li> </ul>  |

Table 1: Original work commitments by licence year

Licence Year 7 concluded on 7 January 2013. Table 2 displays the minimum work program (after all variations) and the actual work completed up until the end of the current reporting period. Note that work commitments for Year 5 and 6 were suspended.

| Licence Year                      | Minimum Work Program   | Actual Work   |
|-----------------------------------|--|---|
| Year 1<br>(14/04/2005-13/04/2006) | Geological and geophysical studies   | See GEL 185 Year 1 Annual Report (Eden Energy Ltd)  |
| Year 2<br>(14/04/2006-13/04/2007) | Geological and geophysical studies   | See GEL 185 Year 2 Annual Report (Eden Energy Ltd)  |
| Year 3<br>(14/04/2007-13/04/2008) | Review of seismic data;<br>Acquisition of modelling of magneto-telluric data                                 | See GEL 185 Year 3 Annual Report (Eden Energy Ltd)  |
| Year 4<br>(14/04/2008-07/01/2010) | Geological and geophysical studies   | See GEL 185 Year 4 Annual Report (Eden Energy Ltd)  |
| Year 5<br>(08/01/2010-07/01/2011) | Commitment to Drill one well was suspended until Licence Year 6  | Cultural Heritage and Environmental Survey  |
| Year 6<br>(08/01/2011-07/01/2012) | Commitment to Drill one well was suspended until Licence Year 7.   | Cultural Heritage Work Area Clearance negotiations  |
| Year 7<br>(08/01/2012-07/01/2013) | Commitment to Drill one well was varied in Licence Year 7, and replaced by technical report (See Appendix 2) | <ul style="list-style-type: none"> <li>Cultural Heritage Work Area Clearance Agreement negotiations completed</li> <li>Completion of technical studies relating to Hot Shallow Aquifer (HSA) Geothermal resources in the Cooper Basin.</li> </ul> |

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

## GEL 185 - 2012/2013 Annual Report Licence - Year 7

On 21 November 2012, Origin and DMITRE executives met. Origin presented the results obtained from the HSA technical studies within the Cooper Basin over license Year 7 (08/01/2012-07/01/2013). A variation of GEL 185 licence work program for Year 7 was granted (to be replaced by a detailed technical report) as was acceptance of Origins intent to Surrender GEL 185 on the 7<sup>th</sup> of January 2013.

Origin also highlighted that it had successfully completed negotiations with the Yandruwandha / Yawarrawarrka Indigenous Group (YY) over a cultural heritage management plan for Origin's operated geothermal activities in the Cooper Basin. This consisted of a Work Area Clearance Agreement (WACA) and a Community Skills Scholarships Agreement (CSSA).

### 3 Regulated Activities 1

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.

#### 3.1 Drilling and Related Activities

No regulated activities undertaken in the licence reporting period

#### 3.2 Seismic Data Acquisition

No regulated activities undertaken in the licence reporting period

#### 3.3 Seismic Data Processing and Reprocessing

No regulated activities undertaken in the licence reporting period

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

No regulated activities undertaken in the licence reporting period

#### 3.5 Production and Processing

No regulated activities undertaken in the licence reporting period

#### 3.6 Pipeline/Flowline Construction and Operation

No regulated activities undertaken in the licence reporting period

#### 3.7 Preliminary Survey Activities

No regulated activities undertaken in the licence reporting period

## 4 Compliance Issues

### 4.1 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."*

Origin was fully compliant with licence, regulatory and SEO requirements during the reporting year ending 7 January 2013, including timely payment of forward licence fees.

#### Compliance with Statement of Environmental Objectives

Origin has conducted its activities in GEL 185 under the Statement of Environmental Objectives, Drilling and Well Operations, South Australian Cooper Basin, November 2009 (Santos). These objectives are listed below.

1. Minimise risks to the safety of the public and other third parties.
2. Minimise disturbance and avoid contamination to the soil.
3. Avoid the introduction or spread of pest plants and animals and implement control measures as necessary.
4. Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.
5. Avoid disturbance to sites of cultural and heritage significance.
6. Minimise loss of aquifer pressure and avoid aquifer contamination.
7. Minimise disturbance to native vegetation and native fauna.
8. Minimise air pollution and greenhouse gas emissions.
9. Maintain and enhance partnerships with the Cooper Basin community.
10. Avoid or minimise disturbance to stakeholders and/or associated infrastructure.
11. Optimise (in order of most to least preferable) waste avoidance, reduction, reuse, recycling, treatment and disposal.
12. Remediate and rehabilitate operational areas to agreed standards.

Origin was fully compliant with the SEO for Licence Year 7. As Origin did not conduct any on-ground work in Licence Year 7, the assessment of compliance of individual activities against the SEO for this year is not required.

### 4.2 Management System Audit

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"*.

No audits were conducted during Licence Year 7.

### 4.3 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"*.

As agreed at the meeting on the 21<sup>st</sup> of November with DMITRE, Origin has included as an Appendix to this Year 7 Annual report, a technical report - Appendix 2 Final Technical report on the results of exploration work conducted to investigate the Shallows Geothermal Play, with attached seismic assessment report - Moomba-Big Lake-Daralingie 3D Seismic Attribute Mapping for Hutton Sandstone Geothermal Evaluation, detailing the technical studies results which were presented at the meeting. Both these technical report are to remain permanently confidential material, as agreed at the meeting with DMITRE on 21<sup>st</sup> of November.

### 4.4 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 incidents occurred in GEL 185 during the reporting year.

### 4.5 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".*

There are no threats to activities under the licence as GEL 185 tenement has been surrendered.

### 4.6 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".*

There are no future work commitments for GEL 185 as Origin has surrendered the GEL 185 tenement.

## 5 Expenditure Statement

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

## 6 Appendices

Appendix 1 - Expenditure Statement (Commercial in confidence)

Appendix 2 - Shallows Geothermal Play Interpretive Technical Report Post Drilling of Celsius 1