

# Scopenergy Ltd

Annual Report

Licence Year 2

22 November 2005 to 21 November 2006

GELs 170-173, 184 & 212

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## **1 Introduction**

Geothermal Exploration Licences numbered 170-173, 184 & 212 (“the GELs”) are situated in the South Australian sector on the onshore Otway Basin. The second year of the licence covers the period 22 November 2005 to 21 November 2006.

This report outlines the work performed by Scopenergy during the second year of the licence in accordance with Section 33 of the Petroleum Regulations 2000 (SA).

## 2 Permit Summary

Scopenergy holds 100% of the GELs. The combined agreed work commitments for the GELs are shown below.

Licence Year	Minimum Work Program	Actual Work
<b>Year 1</b> (22/11/04 - 21/11/05)	1. Review of open file geological and geophysical data	Year 1 work completed
<b>Year 2</b> (22/11/05 - 21/11/06)	2.1 3D modelling of geological and heat resources, including detailed 3D lithology  2.2 Conceptual development planning, engineering and commercial scoping study  2.3 Measure detailed geothermal gradients in any accessible water wells	Year 2 work completed 2.1 Completed 2.2 Completed 2.3 Completed
<b>Year 3</b> (22/11/06 - 21/11/07)	3.1 Reprocess available seismic data for detailed resolution of target areas: and/or  3.2 Conduct geophysical surveying <sup>1</sup>	Year 3 work not yet commenced
<b>Year 4</b> (22/11/07 - 21/11/08)	4.1 Drill narrow diameter holes to an aggregate of at least 3000 metres and measure detailed geothermal gradients  4.2 Conduct 100km <sup>2</sup> 3D seismic survey	Year 4 work commenced 4.1 Completed 1840 metres of narrow diameter holes, measurements of conductivity and temperature taken, but geothermal gradient estimates may be unreliable  4.2 Not yet commenced.
<b>Year 5</b> (22/11/08 - 21/11/09)	5.1 Drill and complete 3 geothermal wells 5.2 Log sedimentary sequence 5.3 Measure detailed temperature gradient 5.4 Measure reservoir temperature 5.5 Analysis of reservoir properties 5.6 Analysis of reservoir fracturing 5.7 Conduct production testing	Year 5 work not yet commenced.

<sup>1</sup>

Please note that item 3.2 is either additional to or an alternative to item 3.1

### 3 Regulated Activities

#### Drilling

Scopenergy undertook "slimhole" drilling activities within the GELs aimed at securing continuous core samples for thermal conductivity measurement and heat flow estimation purposes. Drilling operations commenced on 11/01/2006. Five holes were drilled and completed/abandoned or suspended in three locations, HF1, HF3 and HF4 (see Appendix 1), with 1840 metres drilled, as follows:

- HF1 - plugged and abandoned
- HF1A - completed and suspended
- HF3 - plugged and abandoned
- HF3A - completed and suspended
- HF4 - completed and suspended.

A 5 location program had been planned, but HF2 and HF5 were not drilled due to drilling difficulties in the other locations, and budget overruns.

All three holes were drilled with a diamond drill rig in an attempt to secure a continuous core record of the upper sediments in the Tantanoola, Rendlesham and Rivoli Troughs of the onshore Otway Basin. Core taken was PQ (85mm), HQ (63.5mm) and NQ size (47.6mm).

The stratigraphic units intersected in these holes were:

- Recent volcanics
- Bridgewater Formation
- Gambier Limestone
- Narrawaturk Marl
- Dilwyn Formation

The Pember Mudstone was not reliably intersected. HF4 was intended to obtain core from the Eumeralla Formation, but the hole was suspended at a final depth of 531m in unconsolidated Dilwyn Formation sediments due to equipment failure. The rig was released on 13/03/2006.

This program generally failed to meet its objective of obtaining core suitable for thermal conductivity measurements, for several reasons:

- all three holes encountered mostly unconsolidated sediments below the Gambier Limestone to TD. This resulted in:
  - the need to drill with rotary/mud (as opposed to diamond core rotary) bits through large sections of the holes because core could not be obtained and several hole collapses experienced while attempting to retrieve core;
  - high rates of core loss, and rapid deterioration of the recovered core due to moisture loss and decrepitation, from those sections in which coring was attempted;
  - most of the core obtained was unsuitable for reliable conductivity measurement due to a combination of factors including:
    - decrepitation;
    - uncertainty about relative moisture content for insitu and laboratory samples;
    - rapid variation in vertical lithology within the resolution of the temperature instrument, which meant that it was not possible to determine whether the laboratory samples accurately represented the temperature differential data.

A total of 333.4 metres of core was recovered from this program, as follows:

HF1	93.2
HF1A	0
HF3	69.4
HF3A	73.1
HF4	97.8

All core not used in conductivity measurements has been forwarded to PIRSA's Glenside core library.

#### Geophysical surveys

Scopenergy undertook permitting, surveying and land access activities in preparation for a proposed 100 square kilometre 3-D seismic survey in the Tantanoola trough east of the Mount Burr township. The survey was postponed due to the slim hole drilling program continuing past the end of the seasonal period from November to April during which dry weather would permit reliable land access for the survey. The survey was later cancelled due to the poor reliability of heat flow estimates obtained from the slim hole drilling program.

Monash University conducted thermal logging on HF1A, HF3A and HF4 for Scopenergy using a proprietary temperature probe. Each hole was log repeatedly until its temperature profile had stabilised or the final profile could be reliably predicted.

Geoscience Associates Australia conducted gamma and high resolution temperature logs on HF3A and HF4.

#### Other

There were no other regulated activities undertaken on the GELs during the reporting period.

## 4 Compliance Issues

### 4.1 Licence and Regulatory Compliance

<b>Licence Non-Compliance</b>			
<i>No.</i>	<i>Stated Commitment</i>	<i>Reason for Non-Compliance</i>	<i>Rectification of Non-Compliance</i>
NA	NA	NA – Fully compliant	NA

<b>Regulatory Non-Compliance</b>				
<i>No.</i>	<i>Date</i>	<i>Activity</i>	<i>Details of Non-Compliance</i>	<i>Rectification of Non-Compliance</i>
1	Various	Reporting	Failure to file this report, and other reports noted in this report, by their respective due dates	Reports filed, management system audit undertaken to improve future compliance

#### **Compliance against Statement of Environmental Objectives**

Scopenegy submitted an Environmental Impact Report in respect of its Otway Basin Slimhole Drilling Program in February 2005. The report was updated in January 2006. The report adopted a Statement of Environmental Objectives submitted by Origin Energy Resources Ltd in May 2001 for drilling and well operations at Limestone Ridge 1. Scopenegy's operations were compliant with the objectives of the SEO.

#### **Management System Audits**

There were no management system audits undertaken during the year. Since the end of the year a review has been undertaken to ensure future reporting compliance.

## Data Submissions

Description of Report	Date Due	Date Submitted	Compliant / Non-Compliant
Drilling reports			
Heat Flow 1 & 1A	01/08/2006	23/8/2006	non compliant (late)
Heat Flow 3 & 3A	20/08/2006	20/9/2006	non compliant (late)
Heat Flow 4	13/09/2006	20/9/2006	non compliant (late)
Logging reports			
Heat Flow 1A	03/04/2006, 14/04/2006, 24/04/2006, 10/05/2006, 13/09/2006	18/4/2007	non compliant (late)
Heat Flow 3A	24/04/2006, 10/05/2006, 16/05/2006	18/4/2007	non compliant (late)
Heat Flow 3A	18/05/2006	23/8/2006	non compliant (late)
Heat Flow 4	19/05/2006	2/5/2007	non compliant (late)
Heat Flow 4	16/05/2006, 13/09/2006	18/4/2007	non compliant (late)

## Incidents

There were no incidents reported or reportable to the Minister under the Act in respect of the licence areas.

Date of Incident	Activity	Incident Description	Type of Loss	Action Rectify to	Date Reported / Reported to Whom
NA	NA	NA	Nil	NA	NA

## Threat Prevention

### Environmental

There were no environmental threats identified that were not addressed in the SEO adopted by Scopenergy and approved by PIRSA in respect of its drilling operations.

### Safety

There were no OHS threats identified that were not covered by the licensee's and its contractors' OHS systems, plans and procedures. There were no formal HAZOPS undertaken during the year, and none are currently proposed.

### Other

There were no other threats identified and reportable in accordance with Regulation 33(2)(g).

### **Future Work Program**

The activities proposed for the third year of the licence are those nominated under the licence conditions.

### **5 Expenditure Statement**

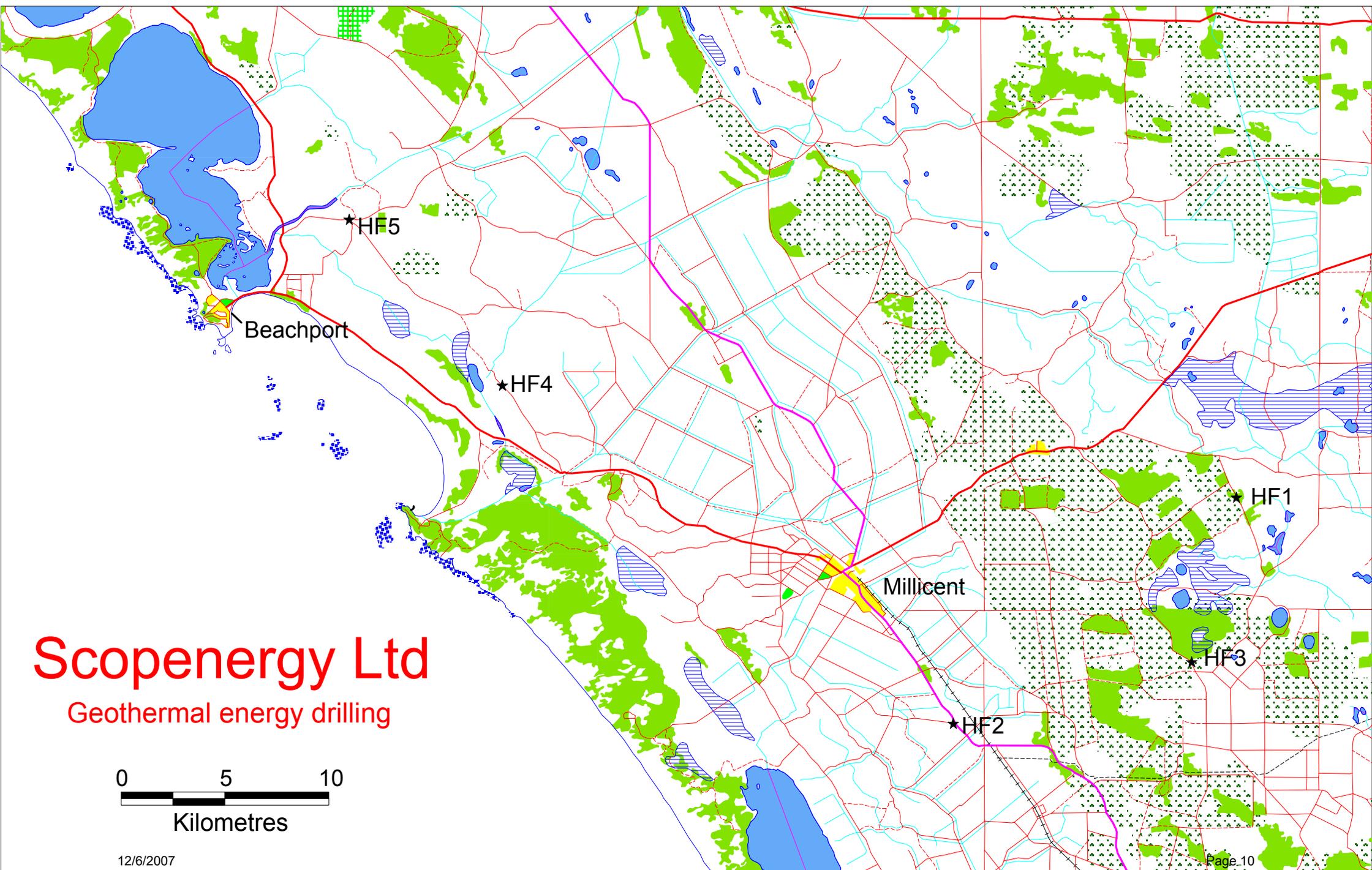
Please refer to Appendix 2

### **6 Additional Information for PPL (Production Licence) Reports**

Not applicable

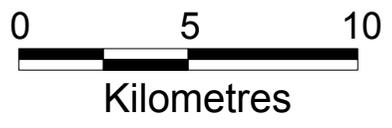
### **7 Additional Information for PL (Pipeline Licence) Reports**

Not applicable



# Scopenergy Ltd

Geothermal energy drilling



## Appendix 2 - Expenditure Report

The following table provides Scopenenergy's expenditure incurred directly in respect of GELs 170-173, 184 & 212 during the second year of the licences, from 22 November 2005 to 21 November 2006, inclusive.

Drilling activities	
Seismic activities	
Technical evaluation and analysis	
Other surveys	Commercial in Confidence
Facility construction and modification	
Operating and administration expenses (not already covered under another heading)	
Total	