



# **ANNUAL REPORT**

**GEL 128**

**First Renewal - Year 1**

**3 February 2010  
to  
2 February 2011**

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## **Olympic Dam Geothermal Project**

### **GEL 128**

#### **First Renewal – Year 1**

**3 February 2010 to 2 February 2011**

## **CONTENTS**

- 1. INTRODUCTION**
- 2. WORK REQUIREMENTS**
- 3. WORK CONDUCTED DURING REPORTING PERIOD**
- 4. COMPLIANCE WITH PETROLEUM ACT**
- 5. EXPENDITURE - Annexure**

## 1. INTRODUCTION

### 1.1. Background

Exploration for geothermal energy was focussed on stored heat in buried hot rocks in the licence to the west of the Olympic Dam mine and the existing high voltage power line.

### 1.2. Licence Data & Period

Geothermal Exploration Licence (GEL) 128 was renewed on the 3<sup>rd</sup> February 2010 for a period of five years. This was after consolidation with GELs 129, 161, 162 and 163 which occurred on the 21<sup>st</sup> January 2010. The renewal covers a reduced area of 1,457km<sup>2</sup> compared to the total area of the previous leases.

This report includes activities on GEL 128 during the period 3<sup>rd</sup> February 2010 to 2<sup>nd</sup> February 2011. This is the first reporting period of the renewal period.

### 1.3. Licensees

GEL 128 is held in equal shares by Green Rock Geothermal Pty Ltd and Green Heat Resources Pty Ltd respectively. Both companies are wholly owned subsidiaries of Green Rock Energy Limited.

There was no change in working interest of the licence during the period.

## 2. WORK REQUIREMENTS

A work program over GEL 128 was approved and entered on the public register on the 8<sup>th</sup> April 2010. The exploratory operations required to be conducted in GEL 128 are:

Year	Minimum Work Requirements
1	Trial shallow drilling/ radon/ temperature survey.
2	Conduct VSP survey.
3	Drill one deep well.
4	Fracture stimulation and Microseismic monitoring.
5	Geological and geophysical studies.

## 3. WORK CONDUCTED DURING REPORTING PERIOD

Work completed during the year under review included planning a VSP survey and administration of the licence. A VSP survey is required as the next step before reprocessing a seismic survey that passes through the drill site Blanche 1.

Additionally, shallow temperature probes were designed and developed under a collaborative effort between Green Rock Energy, Hot Dry Rocks PL, Barrick Gold of Australia and The

University of Adelaide. The probes were developed and extensively tested in the laboratory and in the field during the first year of the licence period but were not deployed in an exploration environment in the field to test known thermal anomalies against background values until July 2011 (ie during the second year of the licence period). One set of three probes was installed using a portable drill in GEL 128 in the Snake Gully area, an area known to have a high heat flow. Another set of three probes was employed to the south of GEL128 in a known much cooler area. This will be reported when final results are obtained and have been analysed.

Also during the first year of GEL 128 it was decided not to measure Radon soil gas emissions after receiving expert advice about the potential ineffectiveness of this method. This was primarily due to the extensive cover rocks overlying granite basement. The Radon Gas detector measures Radon gas emissions from decay of radioactive heat producing elements that emanate from radioactive granitic basement rocks. It was considered that the thick insulating cover would mask, diffuse or offset the Radon concentration above any areas with anomalous heat producing radioactive elements. There was too much potential for Radon gas to be channelled through random fractures or carried in advective groundwater currents and to not reach the soil profile directly above the basement anomaly.

#### **4. COMPLIANCE WITH PETROLEUM ACT**

##### **4.1. Regulated Activities**

No regulated activities were carried out during the report period.

##### **4.2. Compliance**

No instances of non-compliance were noted.

##### **4.3. Management Systems**

Green Rock Energy is committed to implementing the highest standards of corporate governance. In determining what those high standards should involve, the Company has been guided by the ASX Corporate Governance Council's Principles of Good Corporate Governance and Best Practice Recommendations. The Company has in place a detailed Health, Safety and Environment Management Plan, Occupation Health and Safety Procedures and Emergency Response Procedures to cover the activities of the Company, its contractors and visitors. No significant change was made to these procedures in the licence year.

##### **4.4. Relevant Reports and Data**

No reports were completed during the licence period.

##### **4.5. Reportable Incidents**

There were no reportable incidents.

##### **4.6. Foreseeable Threats**

No material threats have been identified.