

# **ANNUAL REPORT**

# GEL 128, 129, 161, 162, 163

# 2 June 2004 to 1 June 2005

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# **Olympic Dam Geothermal Project**

# GEL 128, 129, 161, 162, 163

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# CONTENTS

- 1. INTRODUCTION
- 2. WORK REQUIREMENTS
- 3. WORK CONDUCTED
- 4. YEAR 1 EXPENDITURE
- 5. YEAR 2 WORK PROGRAM
- 6. COMPLIANCE WITH PETROLEUM ACT

## 1. INTRODUCTION

## 1.1 Background

Exploration was initiated near the Olympic Dam mine and existing high voltage power line for geothermal energy stored in buried hot rocks which derive their heat from low level radioactive decay in granitic bodies and radiogenic iron oxides.

## 1.2 Period

This report covers the activities in respect of the licences for Year 1 being the period from 2 June 2004 to 1 June 2005.

## 1.2 Licence Data

Exploration Licences GEL 128 (308 km<sup>2</sup>), 129 (408 km<sup>2</sup>), 161 (496 km<sup>2</sup>), 162 (488 km<sup>2</sup>), 163 (497 km<sup>2</sup>), were granted on 2 June 2004 for an initial term of 5 years.

The licences were applied for where previous relatively shallow drilling by WMC and others had mapped a heat flow anomaly and intersected granitic bodies and radiogenic iron oxides exhibiting relatively high temperatures. The granitic bodies were also outlined by extensive gravity surveys in the area and by limited seismic surveys traversing the GELs.

There was no change in the area of the licences during the year.

## 1.3 Licencee

The 5 licences were awarded on 2 June 2004 to Perilya Limited (50%) and Green Rock Energy Pty Ltd (50%). Perilya subsequently assigned its 50% interest to Perilya Geothermal Energy Pty Ltd. In May 2005, Green Rock Energy Limited (previously named Mokuti Mining Limited) acquired all the issued share capital of Perilya Geothermal Energy Pty Ltd and of Green Rock Energy Pty Ltd and changed the name of the acquired companies to Green Rock Geothermal Pty Ltd and Green Heat Resources Pty Ltd respectively.

There was no change in working interests during the period.

# 2. WORK REQUIREMENTS

The exploratory operations required to be conducted in each GEL are:

Year	Minimum Work Requirements	Estimated Cost \$
1	Review data & assess technical application of HDR technology	Commercial in confidence
2	Design & plan statigraphic well to evaluate temperatures, stress regime & rock characteristics	Ť
3	Drill stratigraphic well to 1,500-2,000m	†

4	Evaluate results of stratigraphic well, re-evaluate economics of HDR technology, design an appropriate pilot program	Commercial in confidence
5	Drill pilot well to assess geothermal energy potential of HDR regime	

No variations to the Year 1 Work Program for any GEL were requested or approved during the period.

## 3. WORK CONDUCTED

The following work conducted during the year fulfilled the Year 1 Work Requirement:

### 3.1 Data & Technical Reviews

## a. Market Analysis

Evaluation of the electric power market and electricity generation technologies and preliminary economic assessment of the Hot Dry Rock technologies (sub-surface and surface) were carried out.

Preliminary studies were carried out into the requirements for water for generation of electricity from hot dry rocks and the availability of water supplies for injection into hot rock reservoirs and for cooling of power plants generating electricity from hot rocks within the GEL areas.

# b. Acquisition & Review of Geological, Geophysical & Thermal Data

Geophysical, geological and thermal data from mineral exploration drill holes obtained from WMC and others in the public domain together with information provided in confidence by WMC in respect of the licence areas was collected, analysed and mapped to assist siting of geothermal exploration wells in the licence areas. The Company's proposed exploration program was reviewed in confidence by external consultants having suitable experience in development of geothermal energy.

## c. Seismic Reprocessing

Reflection seismic data acquired by Geoscience Australia and PIRSA in lines running N-S and E-W was reprocessed using CSIRO & Curtin University and modelled to enhance the response from the top 10 kilometres of crust within the Company's GELs. This work was designed to assist the Company to map the granite boundaries, to distinguish un-fractured granite from fractured rocks and to assist the siting of the first geothermal exploratory well.

# d. Exploratory Well Drilling

A contract was let in February 2005 to Boart Longyear to drill a number of geothermal exploration wells in the licence areas and preparations were made to commence drilling by June 30, 2005.

# 4. YEAR 1 EXPENDITURE (commercial in confidence)

Commercial in confidence

## 5. WORK PROGRAM for YEAR 2

Drilling of Blanche No 1 - the Company's first geothermal exploration well commenced after the start of the second permit on June 18, 2005 in GEL 128. Logging of temperature profiles and geophysical properties, stress and mechanical properties will be carried out after reaching the total depth for the well. Other exploratory wells are planned to be drilled in the GELs. The results will be used to select the most suitable location for drilling much deeper wells in the GELs to recover geothermal energy for power generation and other purposes. The exploratory wells will better define at depth the temperature, geothermal gradients and geo-mechanical rock stress regime and other rock properties at different locations within the heat flow anomaly.

## 6. COMPLIANCE WITH PETROLEUM ACT

## 6.1 Regulated Activities

There were no regulated activities undertaken by Green Rock Energy in any of the GELs during the licence year. All activities undertaken in respect of the GELs were in preparation for the commencement of exploration drilling.

# 6.2 Compliance

No instances of non-compliance were noted.

# 6.3 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 Heath, 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.

#### 6.4 Relevant Reports and Data

Much of the work conducted during the first licence year for each GEL involved the acquisition and compilation of open file data and geo-scientific information from WMC in relation to the GELs disclosed to the Company in confidence. A confidential report on the seismic reprocessing of the Geoscience Australia/PIRSA seismic survey was provided to the Company by CSIRO. Other confidential reports concerning the Company's program, were provided to the Company in confidence by external consultants.

#### 6.5 Reportable Incidents

No reportable incidents occurred.

#### 6.6 Foreseeable Threats

No threats have been identified.

# Commercial in Confidence.

# Statement of Estimated Expenditure for Year 1

Commercial in confidence