

*Panax Geothermal Limited*

ABN 89 122 203 196

Annual Report

Licence Year 5

24 July 2011 – 23 January 2012

*Geothermal Exploration Licences 220 and 221*

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## 1. Introduction

Geothermal Exploration Licences (GELs) 220 and 221 were acquired by Panax Geothermal Ltd (“Panax”) on the 5th December 2008 when it acquired 100% of the issued capital of Osiris Energy Ltd. The licences are located in the Cooper Basin of South Australia (see Figure 1).

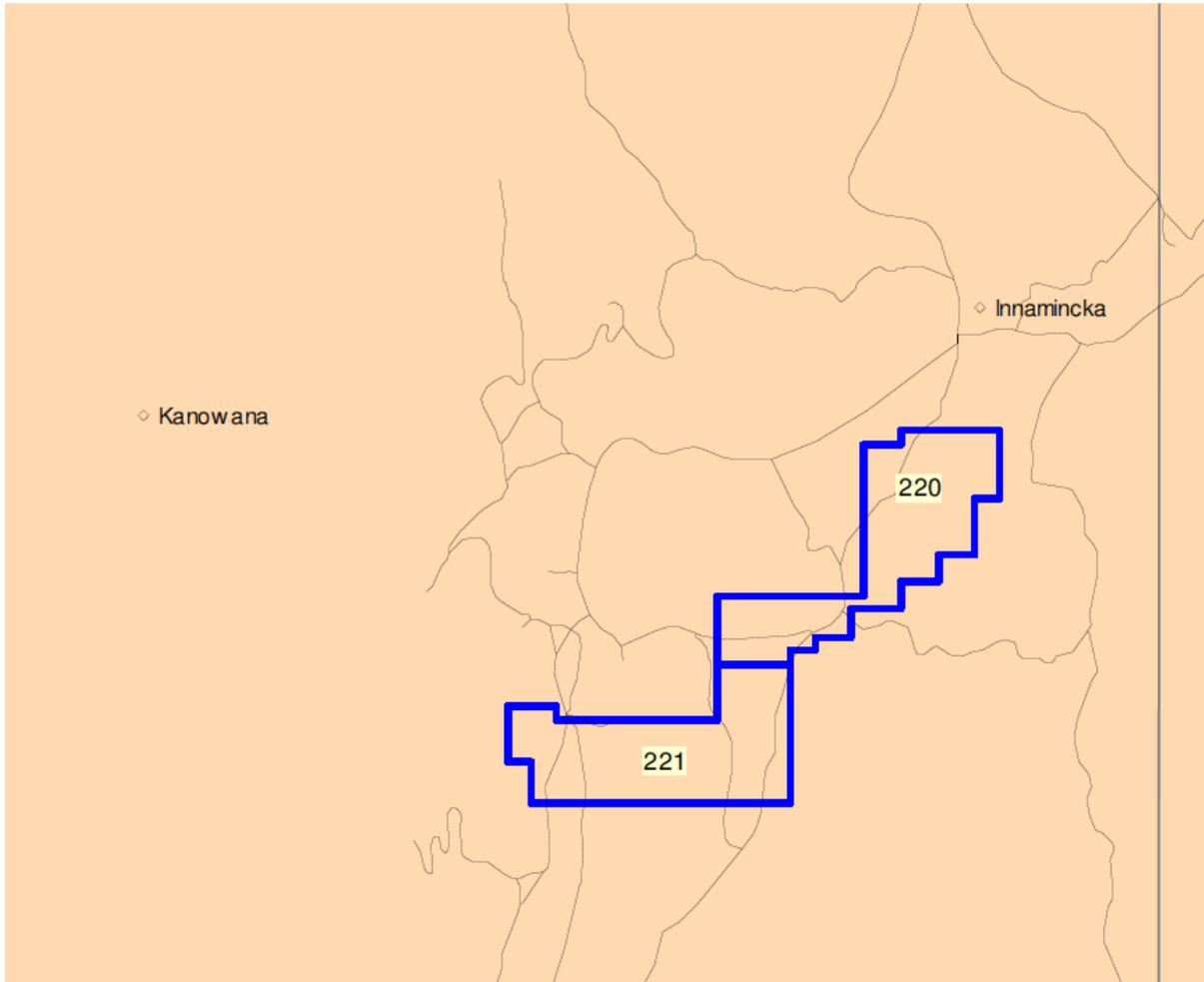


Figure 1. Location of Panax GEL's in the Cooper Basin of South Australia. GELs are annotated on yellow background and localities are in black. The width of the map is about 160km.

This report details the work conducted on GEL 220 and 221 during the period 24th July 2010 to 23rd January 2012 (licence year 5) in accordance with Section 33 of the Geothermal Energy Act/Regulations 2000.

## 2. Permit Summary

For the duration of the licence year, the licensee for the Geothermal Exploration Licences (GEL's) were:

<b>Licence</b>	<b>Owner/s</b>	<b>Interest</b>
GEL 220	Osiris Energy Ltd	100%
GEL 221	Osiris Energy Ltd	100%

Osiris Energy Ltd is 100% owned by Panax Geothermal Ltd.

GELs 220 and 221 are referred to as a Group of Licences and have a combined work programme.

A variation of the second year work programme was requested during Year 1 and was agreed to on the 11<sup>th</sup> September 2007. The variation of the work programme meant that Years 2 and 3 minimum work requirements were merged.

A variation of the fourth and fifth years' Minimum Work programmes was requested and granted on 15<sup>th</sup> March 2011.

The following tables display both the minimum work program (after all variations) and the actual work completed up until the end of the current licence period.

Table 1. Licence work programme (after variation) by licence year.

<b>Year of Licence</b>	<b>Minimum work commitments</b>
1	<ul style="list-style-type: none"> <li>• Review geological and geophysical data.</li> </ul> <p>Note: Year 1 work programme to be carried out within the combined area of GEL 220 and 221</p>
2 & 3	<ul style="list-style-type: none"> <li>• Measurements of detailed geothermal gradients in relevant and accessible water wells;</li> <li>• Conduct infill geophysical surveys if required;</li> <li>• Seismic re-processing;</li> <li>• Geological and geophysical studies</li> </ul> <p>(to be carried out within the area covered by GEL's 220 and 221)</p>
4	<ul style="list-style-type: none"> <li>• Geological and geophysical studies.</li> </ul> <p>(to be carried out within the area covered by GEL's 220 and 221)</p>
5	<ul style="list-style-type: none"> <li>• Geological and geophysical studies.</li> </ul> <p>(to be carried out within the area covered by GEL's 220 and 221)</p>

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

<b>Licence Year</b>	<b>Minimum Work Program</b>	<b>Actual Work</b>
Year 1	<ul style="list-style-type: none"> <li>Review geological and geophysical data.</li> </ul>	<ul style="list-style-type: none"> <li>Review geological and geophysical data.</li> </ul>
Year 2 & 3	<ul style="list-style-type: none"> <li>100km seismic reprocessing</li> <li>Conduct 100 km<sup>2</sup> gravity survey (if required)</li> <li>Measurements of detailed geothermal gradients in relevant and accessible water wells;</li> <li>Geological and geophysical studies</li> </ul>	<ul style="list-style-type: none"> <li>Given wealth of data, it was considered not required to acquire additional measurements of geothermal gradients.</li> <li>Given data available, it was considered not required to collect additional geophysical data at this stage.</li> <li>Seismic re-processing</li> <li>Geological and geophysical studies (see report by Hot Dry Rocks Pty Ltd)</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>Geological and geophysical studies.</li> </ul> <p>(to be carried out within the area covered by GEL's 220 and 221)</p>	<ul style="list-style-type: none"> <li>Geothermal Systems Assessment of GELs 220 &amp; 221 carried out by Hot Dry Rocks Pty Ltd</li> <li>Assessment based on seismic data of the depth, thickness and temperature potential of the Hutton Sandstone carried out by Hot Dry Rocks Pty Ltd</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>Geological and geophysical studies.</li> </ul> <p>(to be carried out within the area covered by GEL's 220 and 221)</p>	<ul style="list-style-type: none"> <li>Multi-client rock properties study of sediments from the Cooper-Eromanga Basin.</li> <li>Review of geothermal potential based on EGS vs HSA prospectivity, completed for relinquishment exercise.</li> </ul>

### **3. Regulated Activities**

#### ***Drilling and Related Activities***

No regulated activities undertaken in the licence reporting period.

#### ***Seismic Data Acquisition***

No regulated activities undertaken in the licence reporting period.

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

No regulated activities undertaken in the licence reporting period.

### ***Processing, inversion and Interpretation***

No regulated activities undertaken in the licence reporting period.

### ***Post-survey activities***

No regulated activities undertaken in the licence reporting period.

### ***Production and Processing***

No regulated activities undertaken in the licence reporting period.

### ***Pipeline/Flowline Construction and Operation***

No regulated activities undertaken in the licence reporting period.

### ***Preliminary Survey Activities***

No regulated activities undertaken in the licence reporting period.

## **4. Non-regulated Activities (Geological and Geophysical Studies)**

One report was commissioned and completed during the reporting period. Hot Dry Rocks Pty Ltd completed this study, a multi-client rock property study on the sedimentary pile in the Cooper-Eromanga Basin.

The study carried out detailed thermal conductivity and density measurements on 115 core samples from virtually the entire geological section of the Cooper-Eromanga Basin.

Panax contributed to the study, along with a small number of other companies.

The aim of the study was to maximise leverage of funds to collect baseline rock property data for the purposes of modelling geothermal resources, targeting well sites and estimating temperature in 3D.

The report provided an excellent baseline data set that can be used for future geological and geophysical studies.

In addition to this study, part of the combined GEL 220-221 set was relinquished during the period.

To decide on the areas to relinquish, the Geothermal Systems Assessment completed by HDRPL during the previous reporting period was reviewed in detail, with areas relinquished and retained based on this review.

Basically, while the areas relinquished do have some EGS potential in the basement, it was HSA that became a priority and thus the division was made based on maximising HSA prospectivity.

## 5. Compliance Issues

### ***Licence and Regulatory Compliance***

All material and significant licence, regulatory and SEO requirements have been fulfilled.

### ***Regulatory Non-Compliance***

No regulatory non-compliance

### ***Management System Audits***

The activities in the period have been desk top studies only no management system audit has been undertaken.

### ***Report and Data Submissions***

	<b>Report/Data</b>	<b>Due Date</b>	<b>Date Submitted</b>	<b>Compliant?</b>
1	Year 5 Annual Report	23rd March, 2012	14th May, 2012	Non Compliant (late submission)

### ***Incidents***

There were no reportable incidents that occurred during the permit year.

### ***Threat Prevention***

There are no foreseeable threats to report in the permit year.

### ***Future Work Program***

Panax intends to continue to assess the most appropriate geothermal model from technical and commercial perspectives as detailed in the work programme for the licences.

In the renewal period Panax will focus on the HSA potential of the remaining area, and possibly also on fault permeability plays near the Della Fault zone.

With the multi-client rock study data, plus further access to core if necessary, Panax will be able to make assessments of the flow potential of some units.

Panax intends to investigate the potential for permeability in the Cooper-Eromanga basin sediments with a collaboration with the University of Adelaide, CSIRO, Origin and Geodynamics. This will involve a review of existing data from wells drilled in the region, lab and theoretical testing, and models of diagenetic consequences.

## 6. **Expenditure Statement**

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

**THE ATTACHED FINANCIAL INFORMATION IS NOT FOR PUBLICATION**