PANAX GEOTHERMAL

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Barry Goldstein
Director, Petroleum and Geothermal Group
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Dear Barry

GEL 281 Annual Report
14 November 2008 – 13 November 2009

Panax Geothermal Ltd has the pleasure of submitting its Annual Report for GEL 281. The anniversary date is 13 November. This report covers the annual work commitments for Panax's GEL 281 as detailed below.

We thank you for the opportunity of presenting our report to you.

Please do not hesitate to contact us should you require any additional information or clarification.

Yours faithfully

Ron Palmer
Chief Operating Officer

Panax Geothermal Limited

ABN 89 122 203 196

Annual Report

Licence Year *2*

14 November 2008 – 13 November 2009

Geothermal Exploration Licence 281

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1 Introduction

Geothermal Exploration Licence *(GEL) 281* was acquired by Panax Geothermal Ltd ("Panax") on 5 December 2008 when Panax acquired 100% of the issued capital of Osiris Energy Ltd. The licence is located in the Cooper Basin of South Australia (see Figure 1).

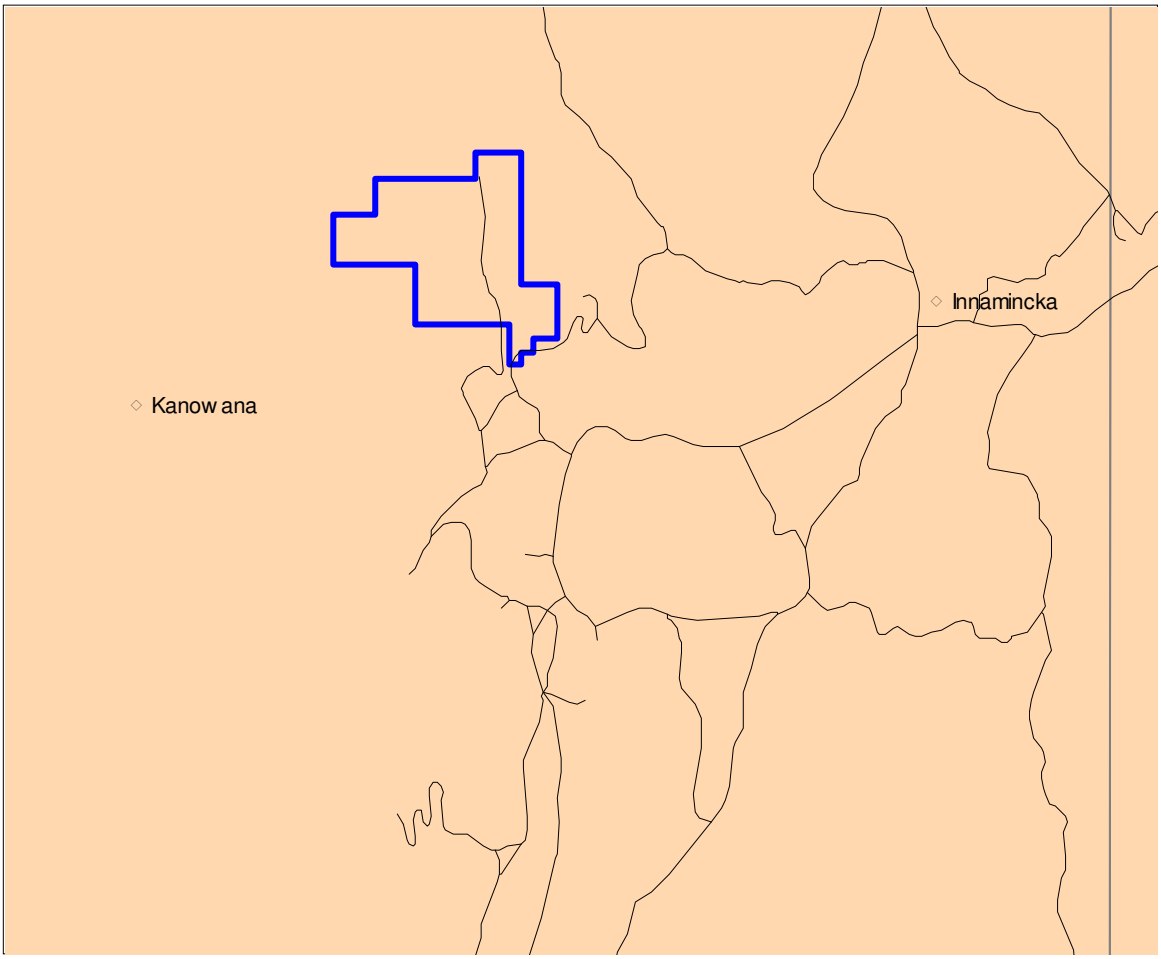

Figure 1. Location of Panax GEL 281 in the Cooper Basin of South Australia. The GEL is annotated on yellow background and localities are in black. The width of the map is about 160km.

This report details the work conducted on GEL 281 during the year 14 November 2008 to 13 November 2009 (Licence Year 2) in accordance with Regulation 33 of the Petroleum Act 2000.

2 ***Permit Summary***

For the duration of the Licence Year, the licensee for the Geothermal Exploration Licence (GEL) was:

Licence	Owner/s	interest
GEL 281	Osiris Energy Ltd	100%

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

The current work commitments (including all variations) associated with GEL281 can be seen in Table 1.

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

Licence Year	Minimum work commitments
1	• Geological and Geophysical studies.
2	• Geological and Geophysical studies.
3	• Reprocess and reinterpret 150 line km of 2D seismic
4	• Conduct shallow pilot drilling to 600-800m for more detailed thermal measurements or undertake such measurements in an existing suitable well.
5	• Drill one deep well or re-complete an existing suitable petroleum well to a depth of 2700m to assess the geothermal energy and reservoir quality of a suitable sedimentary heat exchanger.

Licence Year 2 concluded on 13 November 2009. The following table displays the minimum work program (after all variations) and the actual work completed up until the end of the current licence period.

Table 2. Final work program and work completed by licence year.

Licence Year	**Minimum Work Program**	**Actual Work**
Year 1	Geological and geophysical studies.	Geological and geophysical studies
Year 2	Geological and geophysical studies.	Geological and geophysical studies
Year 3	Reprocess and reinterpret 150 line km of 2D seismic	Not yet due.
Year 4	Conduct shallow pilot drilling to 600-800m for more detailed thermal measurements or undertake such measurements in an existing suitable well.	Not yet due.
Year 5	Drill one deep well or re-complete an existing suitable petroleum well to a depth of 2700m to assess the geothermal energy and reservoir quality of a suitable sedimentary heat exchanger.	Not yet due.

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.

Seismic Data Processing and Reprocessing
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 Compliance Issues

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

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

	Report/Data	Due Date	Date Submitted	Compliant?
1	Year 2 Annual Report	14 Jan, 2010	14 Jan 2010	Compliant

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. Year 3 re-processing and re-interpreting of seismic data will be applied to that part of the licence where we believe we have the most appropriate opportunity to develop the project.

5 Non-regulated Activities

Hot Dry Rocks Pty Ltd (HDRPL) was commissioned by Panax Geothermal Ltd (Panax) to assess the licence area with the aim of establishing a Geothermal Resource.

HDRPL used a 'stored heat' method to estimate the Geothermal Resource in the target reservoir. The method requires the estimation of the volume, density, specific heat capacity and temperature of the target reservoir formations, a consideration of the realistic lowest economically extractable temperature ('cut-off temperature') and the amount of thermal energy that might be extracted from the resource fluids (related to the 'base temperature').

HDRPL also built a numerical 'earth model' of GEL 281 to estimate the stored heat within the target reservoir. It was developed from 3D regional depth grids from PIRSA, based upon seismic interpretation conducted by PIRSA. The earth model divided the stratigraphy of the Geothermal Play into four (4) units: Surface to Top Cadna-owie Formation, Cadna-owie Formation to Top Nappamerri Formation, Nappamerri Formation to Basement (reservoir units) and the Basement. Note that although the earth model extends beyond the licence boundaries, the Geothermal Resource was estimated only within GEL 281.

HDRPL assigned thermal conductivity and heat generation values to the units, based on measured open file data. Thermal conductivity was assumed to be isotropic for all units.

For the purposes of this stored heat assessment, HDRPL defines the cut-off temperature as the minimum economic reservoir fluid temperature for commercial energy extraction, and the base temperature as the temperature of the geothermal fluid once it has passed through a power conversion process, prior to reinjection. HDRPL assumed a cut-off

temperature of 125°C and a base temperature of 70°C. These are appropriate for low-temperature organic rankine cycle (ORC) technology that PAX proposes to use for power generation. Should technological advances decrease the base temperature, the estimated Resource may increase over time.

For the purpose of reservoir volume estimates the Nappamerri and Gidgealpa Groups were both included. The top of the reservoir is the deepest of: a) the cut-off (125°C) isotherm, or b) the top of the Nappamerri Group. The base of the reservoir is the Basement. The estimated reservoir volume is 204 km3.

The density and specific heat of the combined Nappamerri and Gidgealpa Groups were estimated based on a simple quartz-water mix in the ratio 92:08. The density of a 92:08 quartz-water mixture is about 2540 kg/m3. The specific heat of a 95:05 quartz-water mix over the temperature range T = 50–250°C is approximated by the equation:
cp = 997.7 + 1.263 x T J/kgK

HDRPL used the principle of 'inversion' to estimate reservoir temperature. Known information about surface temperature (25°C) and surface heat flow was entered into a software module. A numerical process computed in three dimensions the distribution of temperature that best matched the observed surface heat flow distribution, while respecting the laws of conductive heat transfer and the thermal properties of the geological strata. The model predicts that the depth to the cut off isotherm of 125°C does not exceed 2,800 m and is deepest in the central part of the tenement. The model predicts that the depth to 125°C is shallowest in the Merrimelia field (2,200 m). The apparent shallow isotherm depth to the NW of GEL 281 may be an artefact of the inversion algorithm, as it is not constrained by well data. Surface heat flow was constrained by one-dimensional heat flow models of twenty seven petroleum exploration wells for which measured borehole temperature data were considered reliable.

The total stored heat estimated within the target reservoir units is 41,361 PJ, occupying a volume of 204 km^3.

This Geothermal Resource Statement is available on Panax Geothermal Ltd's website, www.panaxgeothermal.com.au.

6 Expenditure Statement

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

Commercial in Confidence