

# About Hot Rock

Hot Rock Limited is an Australian energy company formed to develop geothermal energy in Australia and overseas.

The company is one of the largest holders of geothermal acreage in Australia with its positions in the Otway Basin Geothermal Province and Queensland. It is also acquiring quality high temperature geothermal concessions in Chile and Peru. HRL is planning to drill its first flagship geothermal project at Koroit in the Otway Basin, Victoria in early 2011

## **Executive Management**

Mark Elliott – Executive Chairman Peter Barnett – Managing Director

# Hot Rock Limited

# **Registered Office**

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Preparations at Koroit for proof-of-concept drilling advancing well, significant increase in Otway Basin resources, further prospect grants imminent in Chile, new geothermal prospect applications made in Peru

### <u>Funding</u>

Funding agreement near finalisation with the Commonwealth Government following the announcement in December 2009 of HRL's successful application for a \$7 million grant from Geothermal Drilling Programme.

### Otway Basin, Victoria

- Preparations continued for the drilling of the first of two proof-of-concept wells at Koroit: operations plans have been prepared and submitted to DPI, the Victorian regulator; well casings for the first well have been procured, manufactured in China and now delivered to site; and well head assemblies for both well are under manufacture.
- Drilling contract near finalisation for Ensign International's Rig 16. Rig now available in January 2011.
- Assessments have been completed for geothermal resources in the Penola and Tantanoola Troughs in permits GEP23 and GEP-6. The results were released in late July in the form of estimates of in-place heat for both Inferred and Indicated Resources. The total geothermal resource estimate has increased by 170% at the company's Otway Basin permits in Victoria with Inferred and Indicated Geothermal Resources increased by 122,700 PJ to now stand at 180,000 PJ.

### South America

- With the change in March to a strongly pro-business government in Chile, the nascent geothermal sector in Chile has been galvanised with fresh impetus. Surface exploration studies have commenced on the three geothermal tenements so far awarded to HRL in Chile. A further eight uncontested and two successful bid tender prospects are expected to be awarded within the next quarter.
- A further two tenement applications have been submitted in Peru bringing total applications to six. In response to revisions made in March 2010 to the geothermal law in Peru, HRL is resubmitting all six tenement applications by mid August to conform to these new requirements.

### Corporate

HRL is in discussions with several energy companies who have made unsolicited expressions of interest on joint venture possibilities with HRL in both Australia and South America.

# **GEOTHERMAL EXPLORATION ACTIVITIES**

Hot Rock Limited (HRL) has five permits granted over the major portion of the prospective geothermal province in the Otway Basin in Victoria, and has a recently granted permit at the Walsh Creek area, west of Cairns in Queensland (Figure 1).

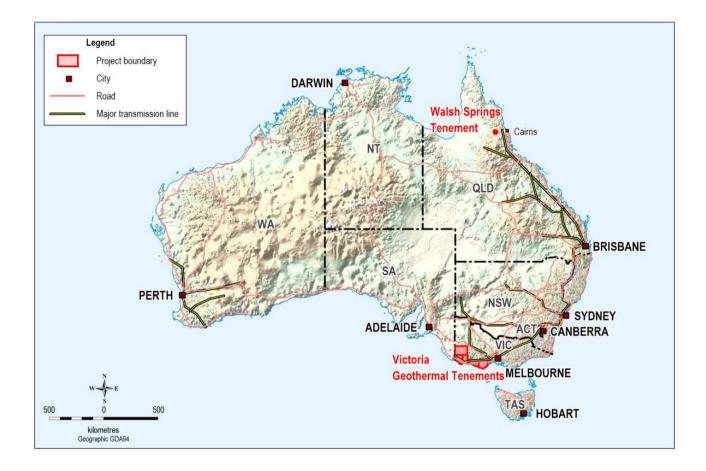
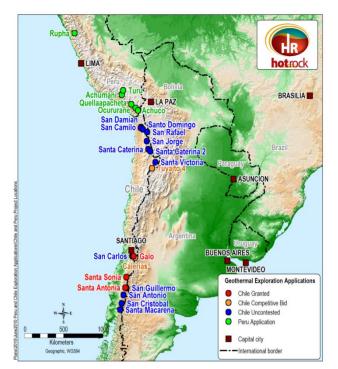


Figure 1: Geothermal Tenements held by Hot Rock in Australia



In addition to its projects in Australia, HRL is also developing a portfolio of high quality volcanic geothermal prospects in both Chile and Peru to diversify its business interest in terms of resource types and growth opportunities for adding significant shareholder value. These include:

- HRL's wholly owned subsidiary Hot Rock Chile SA (HRC) has been awarded three geothermal permits on an uncontested basis and has been selected for the award of a further two exploration permits resulting from a competitive bidding round held in August 2009. Eight further permit applications are being fast tracked to grant in the next quarter (Figure 2).
- HRL's wholly owned subsidiary Hot Rock Peru SA has filed a further two tenement applications in addition to four earlier filed applications (Figure 2). It is expected the outcome of all six applications will be announced before year end.



**Figure 2:** HRL's portfolio of geothermal prospects applied for and/or granted in South America

# OTWAY BASIN, VICTORIA (GEP- 6, 7, 8, 9 & 23 - 100% HRL)

# 1. The Koroit Geothermal Project, GEP-8

### Project Background

The objective of HRL's proof of concept Hot Sedimentary Aquifer (HSA) geothermal power project near Koroit, within GEP-8, in the Otway Basin of Victoria is to define 'Measured Geothermal Resource' and 'Proven Reserves' through the drilling and testing of two deep standard size production appraisal wells – referred to as proof of concept wells.

The Koroit Project is currently estimated to have Indicated and Inferred Geothermal Resources of 7,600PJ and 67,000PJ, respectively, of in-place stored heat. The Indicated Resource alone has the potential (at a P50 level of certainty) to generate over 100MWe of geothermal power, enough electricity to supply around 100,000 homes. On the same basis, the Inferred Resource has the potential to generate more than 1,000MWe of electricity long term (Figure 3).

The Koroit Project could result in the commissioning of the first geothermal pilot power plant in Victoria in late 2011, followed by a 10MW demonstration plant by late 2012 and subsequent commercial scale plants, via the following project development stages:

- > Proof-of-concept well drilling, testing and reservoir evaluation
- > Development of a small pilot plant of less than 1 MWe capacity
- > Development of a 10MWe demonstration power plant
- Development of a further 4 x 10MWe units to complete an initial 50MWe commercial scale power plant



Development of further 50MWe geothermal power plant modules as geothermal resource and power plant performance permits

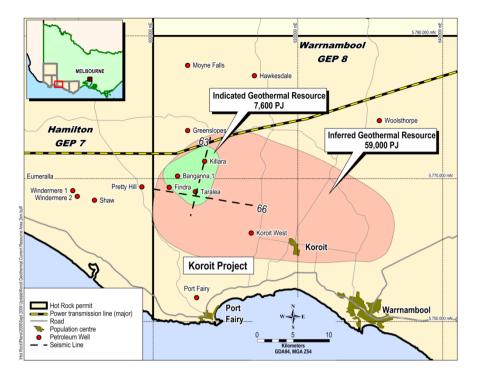


Figure 3: Location of the Koroit Project showing Inferred and Indicated geothermal resource areas

# Koroit Proof-of-Concept Program

### Project Funding:

HRL was advised in December 2009 by the Department of Resources, Energy & Tourism that its application made in August 2009 for a \$7 million grant from the Commonwealth Government's "Geothermal Drilling Programme (GDP)" had been successful. The grant is in support of HRL's Proof of Concept Program at Koroit.

Since this announcement, progress with securing a funding agreement with Government has been slow and this has, and is continuing to, constrain project progress. An initial funding agreement was not made available to HRL until May 2010 and this introduced stringent additional technical and commercial requirements not covered in the original grant award criteria and which have since been the subject of detailed discussion and negotiation with Government. HRL remains optimistic that the GDP agreement will be agreed and signed in August; one year after the original application was made. Once the agreement is signed, the site preparation will move ahead ready for drilling when the rig becomes available.

### Drilling Rig:

Detailed discussion continued throughout the quarter with Ensign International Energy Services on provision of its Rig 16 to drill the two proof of concept wells at the Koroit Geothermal Resource<sup>1</sup>. With

<sup>&</sup>lt;sup>1</sup> Ensign International is an Australian based integrated drilling company which is a wholly owned subsidiary of Ensign Energy Services Inc. of Canada which has more than 50 years of experience specializing in the drilling of petroleum and geothermal wells. Rig 16 is an Ideco ED1200 drilling rig, rated at 1,200 horse power (HP)



the ongoing delays in finalising the GDP grant funding, HRL has not yet been able to sign a drilling contract with Ensign. In spite of this, the contract should be executed in August. Ensign has notified HRL that the drilling commencement date has slipped to January 2011, rather than September 2010 as announced in last quarters' report.

### Drilling Procurement:

Two shipments of steel well casings for the first proof- of-concept well were delivered to Melbourne in June from China. These included all 9-5/8" production casing and 7" perforated production liner requirements for the well. The casings have been transported to a storage facility near Koroit where they are now stacked in preparation for commencement of drilling (Figure 4). A third shipment comprised of all 13-3/8" casing is on schedule for delivery to Melbourne in early August. This will complete all casing requirements for the first well.

Geothermal wellhead assemblies for both proof of concept wells are under manufacture by Wood Group Pressure Control Australia Pty Ltd and will be delivered in the next quarter.

Specification and tender documents for shorter lead time drilling procurement, including procurement of drilling services and drilling consumables, have been prepared and will be issued for tender in the next quarter, within a time frame to comfortably meet the January 2011 drilling commencement date.



Figure 4: Part of the 9-5/8 inch production casing order for well KHR-1 stacked at Koroit storage facility, ready for commencement of proof of concept drilling

### Proof of Concept Well Sites

Well collar locations, geological targets and well designs have been completed for both KHR-1 and KHR-2. A land access agreement has been negotiated and signed with the owner of land on which KHR-1 is to be drilled. A site development plan has been prepared.

Negotiations on a land access agreement with the owners of the KHR2 well site are in advanced stage of negotiation.

and capable of drilling to 4,300m, which is well within the planned depth of 3,700m for HRL's first proof of concept well KHR-1.



### Operations Plan:

Detailed operations plans for the drilling and testing of both the two proof-of-concept wells were submitted to DPI on 14 May 2010. Additionally, a smaller environmental and safety management plan was submitted on 13 May 2010 to cover a geotechnical site study at the KHR-1 well site which will form the basis for the detailed civil works design for the drilling site.

### Preparation of KHR-1 drill pad:

With the delay in commencing drilling, civil works for forming the KHR-1 well pad have not yet commenced.

## 2. Ongoing Assessment of Geothermal Resource at other GEP's

HRL advised the market on 27 July that its total geothermal resource estimate has increased by 170% at the company's Otway Basin permits in Victoria.

The substantial increase is due to the addition of two new Hot Sedimentary Aquifer (HSA) geothermal reservoirs into the resource estimate, namely Penola and Tantanoola, located to the south-west of Casterton, Victoria. As such, total Inferred and Indicated Geothermal Resources have increased by 122,700 PJ to now stand at 180,000 PJ.

Geothermal resources in the Penola and Tantanoola troughs have been delineated and assessed <sup>2</sup> as detailed in Table 1. As the Penola Trough straddles both GEP-23 and GEP-6, the resource estimation is split over each tenement. These results are reported in conformance with the Australian Geothermal Reporting Code (Edition 1, 2008)<sup>3</sup>.

Resource Name	Resource Type	Resource Classification	Resource Vol (km3)	In-place stored heat (PJ)
			(at P50 level of certainty)	(at P50 level of certainty)
Penola-23	HSA	Indicated	24	5,000
Penola-23	HSA	Inferred	151	29,000
Penola-6	HSA	Indicated	9	1,700
Penola-6	HSA	Inferred	306	55,000
Tantanoola-6	HSA	Inferred	130	22,000
S/Totals		Indicated	33	6,700
		Inferred	587	106,000
Totals		Indicated + Inferred	620	112,700

Table 1: Indicated and Inferred Resources for the Penola and Tantanoola Troughs

PJ - Peta Joules (10<sup>15</sup> Joule).

The total Penola HSA geothermal resource contained in the GEP-23 and GEP-6 tenements is relatively large. At the P50 probability level it is estimated to cover 440km<sup>2</sup> of resource area, with a volume of 490km<sup>3</sup> and containing an estimated 84,000 PJ of Inferred Resource, plus 6,700 PJ of Indicated Resource. The Tantanoola Trough at a P50 level has an estimated geothermal resource area of 180km<sup>2</sup>, a volume of 130km<sup>3</sup> and a total of 22,000 PJ of Inferred Resource.

<sup>&</sup>lt;sup>3</sup> The Geothermal Reporting Code - Australian Code for Reporting of Exploration Results, Geothermal Resource and Geothermal Reserves, 2008 Edition. Prepared by the Australian Geothermal Code Committee, AGEA and AGEG,



<sup>&</sup>lt;sup>2</sup> Assessment employs a probabilistic Monte Carlo simulation method to estimate in-place heat

The resource assessment has been carried out by HRL's Peter Barnett who qualifies as a Competent Person as defined by the Australian Code. Dr Subir Sanyal, an international expert in geothermal resource and reserve estimation and President of US based GeothermEx Inc, which offers expert global geothermal consulting services and was recently acquired by Schlumberger, has independently reviewed the HRL resource estimation. His review is attached. A full copy of HRL's resource assessment report is available on Hot Rock Limited website – www.hotrockltd.com

## WALSH CREEK, QUEENSLAND (EPG-19, 100% HRL)

The Queensland Government announced on 1 June that HRL has been granted geothermal exploration permit EPG19 with a five year term, following its announcement in 2009 that HRL was selected as the preferred tendered in a competitive bidding process.

The permit is located 115 km west of Cairns in north Queensland (Figure 5) and covers an area of approximately 657 km2. It is within 75 km of major transmission lines and electricity markets in north Queensland.

HRL believes it to be one of the most prospective of the geothermal permits offered by the Queensland Government in Land Release Area GLR2007-1. It appears to be associated with Carboniferous age, heat generating plutonic rocks and associated fractured volcanic rocks in the Featherbed Cauldron Complex. Two thermal springs have been identified in the permit area with recorded surface discharge temperatures of 42°C and 56°C. No previous geothermal exploration has been carried out in the area to test the potential of these geothermal fluids at depth for electricity generation.

HRL will commence initial exploration work to sample and examine the geochemical composition of springs and water bores to investigate possible connections between the surface springs and a higher temperature geothermal reservoir in fractured rocks at depths of up to 3.5km below surface. The exploration program will be funded from the company's cash reserves.

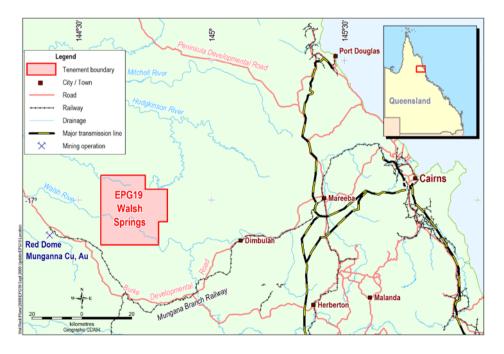


Figure 5: Location of HRL geothermal permit GEP19, Walsh Springs



### CHILE GEOTHERMAL PROJECTS

Following a primary election in December 2009 and a secondary election in January 2010, a new government assumed office in Chile in March under President Piñera. This has resulted in a marked change in Chilean politics and brings into power the first right-wing government in 20 years. The new government was elected on a strongly pro-business platform, with strong interest in energy issues, particularly in accelerating the development of geothermal energy in Chile for which there is a large resource base and no electricity generation to date.

Under the new government, regulation of the geothermal industry has passed from the Ministry of Mines to a newly created Ministry of Energy which has been mandated to clear the back log of unresolved geothermal applications that had accumulated under the previous Government. With this stream lining, HRL has resubmitted unresolved applications carried over from the previous government to conform to new Ministry's requirements. HRL now expect that over the next quarter eight of its uncontested tenement applications shown in Figure 2 will be awarded together with the granting of the Tuyatjo-4 and Calerias prospects which HRL won in the competitive tender process in 2009.

During the past quarter, HRL continued work on the Galo, Santa Sonia and Santa Antonia concessions that were granted on the 1 April. This included semi detailed gesocientific studies preparatory to running MT geophysics surveys, land access and community relations work. Additional staff has been engaged to cope with the increasing geothermal workload.

### PERU GEOTHERMAL PROJECTS

During the past quarter, HRL filed a further two geothermal permit applications in Peru. These are the Rupha and Turu prospects shown in Figure 6 together with the four earlier tenement applications discussed in the last quarterly report.

The Peru Ministry for Energy and Mining (MEM) issued in March revisions to the geothermal law of Peru which have the objective of promoting geothermal investments in Peru. These revisions have required that HRL resubmit its current six applications to conform with the revised law. These are in preparation and submission by mid August.



**Figure 6**: Location of the six HRL tenement applications filed in Peru relative to electricity transmission grids and urban load centers



# FUNDING

Negotiations are advanced with the Commonwealth government on executing the GDP Funding Agreement to gain access to \$7 million to assist funding the Koroit Proof of Concept project.

# CORPORATE

Over the past quarter, HRL has continued to receive unsolicited expressions of interest from energy companies looking for joint venture possibilities with HRL on projects in both the Otway Basin in Australia and South America. These negotiations are ongoing with announcements likely in the next quarter.

### Cash Position

At the end of the June 2010 Quarter, the company had approximately \$935,000 cash at bank. The net cash operating and exploration expenditure for the quarter was \$488,000.

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For further information please contact:

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or visit the website <u>www.hotrockltd.com</u>



#### Compliance Statement

The information in this Statement that relates to Geothermal Resources has been compiled by Peter Barnett, an employee of Hot Rock Limited. Mr Barnett qualifies as a Competent Person as defined by the Australian Code of Reporting of Exploration Results, Geothermal Resources and Geothermal Reserves (2008 Edition). He has over 30 years' experience in the determination of crustal temperatures and stored heat for the style relevant to the style of geothermal play outlined in this release. He is a member of the Geothermal Resources Council and the International Geothermal Association, a current board member of the New Zealand Geothermal Association, a past board member of the Auckland University Geothermal Institute Board of Studies and a current member of the Economics Sub Committee of the Australian Geothermal Association.

In this work Mr Barnett has drawn freely from reports on the geothermal resources in GEP-23 and GEP-6, prepared under his supervision, by both staff of Hot Rock Limited and by external consultants, notably 3D-Geo of Melbourne. The estimation of in-place has been undertaken directly by Mr Barnett.

Mr Barnett consents to the public release of this report in the form and context in which it appears. Neither Mr Barnett nor Hot Rock Limited takes any responsibility for selective quotation of this Statement or if quotations are made out of context.

## **CORPORATE DIRECTORY**

#### **Board of Directors - HRL**

Mark Elliott	Executive Chairman
Peter Barnett	Managing Director
Mike Sandy	Non-Executive Director
Stephen Bizzell	Non-Executive Director

#### **Company Secretary & CFO**

Paul Marshall

#### **Issued Share Capital**

Hot Rock has 92.45 million ordinary shares currently on issue and 24.75 million options.

#### **Quarterly Share Price Activity**

	High	Low	Last
Jun 2010	\$0.135	\$0.065	\$0.07

#### **Registered Office**

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Please direct shareholding enquiries to the share registry.

