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## Koroit Project (Otway Basin) estimated to have an Inferred and Indicated Geothermal Resource of 67,000 PJ

Hot Rock Limited ("HRL") (ASX code HRL) advises that a geothermal resource assessment has been completed for a Hot Sedimentary Aquifer (HSA) reservoir in the Koroit Project located in GEP8, Otway Basin, in south-west Victoria (Figure 1). This has been carried out in accordance with the Australian Code for Reporting Exploration Results, Geothermal Resources and Geothermal Reserves, 2008 Edition.

The assessment of in-place stored heat has been made using a probabilistic Monte Carlo simulation model with results reported at the 50 per cent (P50) level of certainty as follows:

Resource Type	Resource Area	Resource Volume	In-place stored heat
	(km <sup>2</sup> )	(km <sup>3</sup> )	(PJ)
Indicated	50	47	7,600
Inferred	400	340	59,000
		Total	67,000

1. All information is provided at the P50 level of certainty from the Monte Carlo model.

2. PJ - Petajoules (10<sup>15</sup> Joule).

The classification of the 67,000PJ geothermal resources is based on interpretation of extensive reprocessed seismic data which defines the geothermal reservoir and 14 petroleum wells from which measured temperatures at depth have been obtained.

The Indicated Geothermal Resource of 7,600PJ is estimated from direct temperature measurements within the geothermal reservoir in three petroleum wells over a volume of 47km<sup>3</sup>. The Inferred Geothermal Resource of 59,000PJ covers a volume of 340km<sup>3</sup> and surrounds the Indicated Geothermal Resource, where temperatures of the reservoir have been extrapolated.

The geothermal reservoir consists mainly of fractured porous sandstone units located in the Cretaceous age Crayfish Subgroup of the Otway Basin where temperature are estimated at greater than 140°C from about 2,800m depth to a depth of at least 4,000m. The reservoir is based on a minimum thickness of 500m and is over 2,500m thick in places. Figure 2 shows two interpreted geological cross sections based on seismic and well log data with the geothermal reservoir overlaid by isothermal contours estimated from direct measurements of bottom of hole temperatures recorded in nearby petroleum wells. The locations of the Indicated Geothermal and Inferred Geothermal Resources are shown in these sections.

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 GeothermEx Inc, the largest and most comprehensive geothermal consulting and services firm in the Western Hemisphere, has independently reviewed the HRL resource estimation. In his review he concluded that:

- the HRL resource estimate report provides a succinct review of the geologic structure and stratigraphy, porosity and permeability characteristics and temperature distribution in the Koroit geothermal resource as deciphered from the well and seismic databases
- the conceptual model developed by HRL for the geothermal resource provides a solid basis for the resource assessment for the Koroit Project.
- the in-place heat estimates of 7,600PJ and 59,000 PJ by HRL are reasonable for the conceptual resource model and parameters defined in the conceptual model
- the magnitude of the resource estimates testify to the considerable scope of the Koroit project.

Commenting on HRL's maiden resource statement, Managing Director Dr Mark Elliott said: "This is an important step in confirming a significant resource in the Koroit Project, which is located near national transmission infrastructure and power markets in Victoria, allowing rapid development".

"We are planning to drill proof-of-concept wells into this resource in early 2010 with a view to completing testing and a feasibility study by the end of 2010. This may lead to the development of our first geothermal power plant in 2011. The resource potential at Koroit is large and if converted into reserves has the potential of producing significant power from the Koroit Project alone".

"We are also working on resource estimation studies on a number of other attractive troughs in our permits similar to Koroit and expect further resources to be announced in the future. These have similar potential for generating significant power near existing national transmission infrastructure and rapid development."

To provide perspective on the amount of heat estimated in the Koroit geothermal reservoir a hypothetical case has been modelled in the HRL resource assessment report in which it is assumed that 5% of the in-place heat can be recovered from the geothermal resource over a period of 30 years and converted into electricity with an assumed conversion efficiency of 12%. The results of these computations indicate that at a P50 level of certainty the 7,600 PJ Indicated Geothermal Resource at Koroit would be sufficient to support a power plant with 100MWe gross generation capacity and the 59,000 MWe Inferred Geothermal Resource sufficient for a power plant of about 1,100 MWe gross generation capacity.

Confirmation of actual generation capacity of the Koroit resource will of course need to wait until characterisation of the resource has advanced to the level of a Measured Geothermal Resource, through well drilling and flow testing. At that stage, issues on the rates at which in-place heat can be recovered from the resource and utilised in surface power plant will be addressed in detail and more precisely quantified. Nonetheless, it is instructive to note that a power plant of 100MWe capacity would meet the electricity needs of about 100,000 typical Australian homes and a 1,100MWe plant about 1 million homes.

A full copy of the Statement of Geothermal Resources of the Koroit Project will also be released to the market today.

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The information in this Statement that relates to Geothermal Resources has been compiled by Peter Barnett, an employee of Hot Rock Limited. Mr Barnett 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. 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). 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.



**Figure 1:** Location of the Koroit geothermal project showing areas of Inferred and Indicated Geothermal Resource delineated in the assessment study

**Figure 2** Resource cross sections showing the extent of the Inferred and Indicated Geothermal Resources contained within the geothermal reservoir in the Pretty Hill Formation (in yellow)

(a) East-West section;



(b) North-South section;

