

temperature of 58.3°C at 799 metres depth measured at the time of drilling Yalkalpo 2 in 1976.

Contrary to advice in the last quarterly report, GEL 222 was retained, pending publication of results of a new seismic survey traverse that runs through the GEL area. GEL 222 may cover buried granite in its northeastern portion, and if the depths to the granite body look to be optimal based on the seismic results, a shallow test hole to 500 metres depth may be contemplated in the future.

## PRESENTATION

A presentation by Dr Bob Johnson, Geothermal Resources Chairman, given at the recent Australian Geothermal Energy Conference is posted on the Company's website. The conference was well attended, with over 180 delegates. In the presentation Dr Johnson highlighted the technical merit of Geothermal Resources projects, and the systematic and staged manner in which all exploration work has been conducted to date, leading to the decision to drill Frome 12.

A recurring theme of the conference was the major exploration effort being mounted in Australia and the world for geothermal energy. For example, Dr Barry Goldstein of PIRSA stated that geothermal work program investment over the period from 2002-2013 in Australia was expected to top \$853 million by more than 33 companies. Geothermal energy exploration is therefore a rapidly expanding business, and as in all exploration endeavours, success will favour those companies having the best projects. In this respect, Geothermal Resources is very well placed for the future.

## FINANCE

As at 31 July 2008 the Company had available funds of \$1.81 million of which the majority is held in a term deposit. Exploration expenditure in the next quarter is expected to be considerably higher than the current quarter owing to drilling of Frome 12. It is important to note that half of the drilling expenditure incurred by Geothermal Resources on Frome 12 will be reimbursed by the REDI grant.

Dr K R Johnson  
CHAIRMAN

Further technical details relating to Geothermal Resources activities will be found on the Company's website:

[www.geothermal-resources.com.au](http://www.geothermal-resources.com.au)

*The information in this report has been prepared by Dr Bob Johnson who is a member of the Australasian Institute of Mining and Metallurgy and Dr Chris Giles who is a member of The Australian Institute of Geoscientists. Drs Johnson and Giles are employed by the Company on consulting contracts. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as Competent Persons as defined in the JORC Code 2004. Drs Johnson and Giles consent to the release of the information compiled in this report in the form and context in which it appears.*

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# GEOHERMAL RESOURCES LIMITED

ACN 115 281 144



Quarterly Report  
August 2008

## HIGHLIGHTS

**1800 METRE FROME DRILLHOLE  
POISED TO COMMENCE**

- *Drilling to 1800 metre depth (Frome 12) to commence early September*
- *Planning advanced for five shallow holes on the Crower project to commence in February 2009*
- *New GEL 446 (Yalkalpo) granted in Frome Project area*

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## REVIEW OF OPERATIONS

### FROME PROJECT

Most of Geothermal Resources Limited's (Geothermal Resources – ASX : GHT) effort during the quarter was focused on completing all permitting and planning work in preparation for the proposed deep drillhole. This hole, named Frome 12, is to be drilled to a target depth of 1800 metres using a heavy duty diamond core drill rig. The objective of this hole will be to confirm continuity of the high temperature gradient recorded in nearby Frome 3 at much greater depths.

Diamond drilling has been chosen over conventional rotary drilling with an oil rig, owing to the current availability of diamond drill rigs, and the considerably lower cost of mobilisation and drilling. While it will not be possible to use the hole for production purposes because of its small diameter, the drill core will provide additional valuable information on the insulating properties of the cover rocks.

Prior to commencement of drilling it is necessary to meet the strict regulatory requirements imposed by PIRSA and considerable time has been devoted to this aspect during the quarter. Owing to the depth of the hole and the remote possibility that gas may be encountered, it has been necessary to put in place precautionary measures. These include the use of gas detectors, equipment to shut off the hole in the event of a gas kick (stabbing valve, diverter, flare line) and weighted mud to overcome the gas pressure in the hole.

In addition it has been necessary to carefully plan the drilling of all stages of the hole with the drilling contractor, in order to minimise any possible risk of failure. For example, if the hole stops short of its target depth for technical reasons, the funds expended to that point will have been largely wasted because the critical temperature measurement at 1800 metres depth will not be possible. Geothermal Resources has therefore been working closely with the drilling contractor to ensure that all reasonable steps are taken to ensure that the hole reaches its target depth. The contractor is experienced in deep diamond drilling and is able to provide well experienced and competent drill crews for the job.

An essential requirement for diamond drilling is a reliable water supply for mixing appropriate drilling muds, and

during the quarter a water bore was drilled nearby as there is no surface water available in the region. A good quantity of water was obtained, which although extremely saline, is suitable for the purpose.

The drilling contractor has advised that they plan to mobilise their drilling equipment to site during the first week in September. It is expected that it will take six to nine weeks to reach the target depth of 1800 metres with the drill rig operating on two shifts, assuming a trouble free run.

Subject to obtaining encouraging temperatures at 1800 metres, Frome 12 will be a precursor to a subsequent drillhole exceeding 3500 metres depth to be drilled into the granite geothermal reservoir.

All drilling work so far on the Frome Project has been supported by a \$2.4 million REDI (Renewable Energy Development Initiative) grant from the Federal Government, which is matching the Company's expenditure.

### CROWER PROJECT

Based on evaluation of geological information available for the Crower project area, including extensive seismic data, preliminary locations for five 500 metre deep holes have been selected. Drilling in this region, where there are multiple high flow water aquifers, is challenging and requires considerable expertise. An experienced drilling contractor has been secured to commence drilling in February 2009, subject to obtaining PIRSA approvals for the drilling program.

In the meantime, Geothermal Resources is working on the planning aspects of the drilling program with the contractor. In addition work has commenced on preparation of an Activity Notification document that must be approved by PIRSA prior to commencement of drilling.

## NEW GEOTHERMAL EXPLORATION LICENCE

New GEL 446 (Yalkalpo) was granted during the quarter. It lies approximately 115 km northeast of Frome 3 in a comparable geological setting to the Frome Project GELs. It covers a portion of the Yalkalpo sub-basin, where gravity data suggests a thick sedimentary sequence is underlain by granite. Located within the application area is abandoned petroleum well, Yalkalpo 2, which has a geothermal gradient amongst the highest in Australia with a value of 52°C/km. This is based on a bottom of hole

