



Petratherm Ltd (ASX:PTR) - UPDATE

Speculative Buy

Drilling Date set for first 4,000m deep well

\$0.32

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**Capital Summary**

Issued Capital	65.56 m ordinary 6.895 m options
Market Capitalisation (dil.)	\$21.47m
Share Price (14/04/09)	\$0.32
52 week low	\$0.22
52 week high	\$0.95

**Cash**

Cash reported 31/12/08	\$3.38m
7.6m options exercised at \$0.20 March 2009	\$1.52m
Taylor Collison assumed quarterly expenditure rate	(\$0.54m)
<b>Forecast cash position 3QFY09</b>	<b>\$4.36m</b>

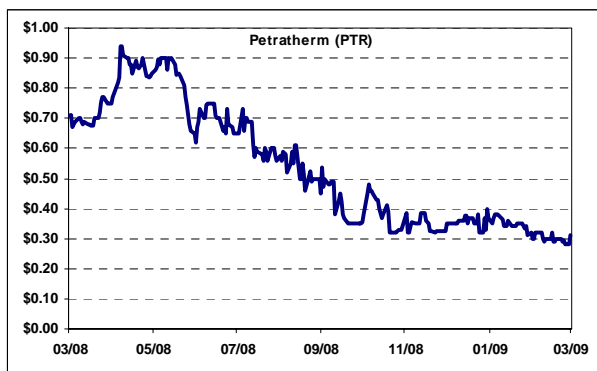
**Directors**

Mr Derek Carter	Chairman
Mr Terry Kallis	Managing Director
Mr Richard Hillis	Non-Exec Director
Mr Richard Bonython	Non-Exec Director
Mr Simon O'Loughlin	Non-Exec Director
Mr Donald Stephens	Company Secretary

**Major Shareholders**

Minotaur Exploration Ltd	20,437,501	31.17%
Australian Ethical Trust	4,122,386	6.284%

**Share Price Graph (A\$)**



**Summary**

The setting of a spud date for the first 3,500 – 4,000m deep well on the Paralana Project (SA) marks the advancement towards a key milestone for the Company.

Drilling of Paralana 2 Deep Well is to commence on 15 June 2009. The Company plans to provide first power by end of 2010.

The Company's projects in Spain are attracting the attention of some major European utility companies.

Petratherm has a diverse portfolio of conventional and "hot rock" geothermal energy projects in Australia, Spain and China that lower the risk profile of the Company.

**Our View**

- By establishing a portfolio of quality projects across Australia, Europe and China, Petratherm has differentiated themselves from most of their competitors. Being a multiple project company reduces the company risk profile.
- Petratherm's diverse portfolio of projects across Australia, Europe and China, includes both conventional and "hot rocks" geothermal projects.
- The geothermal sector in Australia is still a high risk development area therefore these projects are balanced with lower risk conventional based geothermal projects in Europe.
- There is significant potential for high gains as the global community strives for viable green energy sources that deliver base load power.
- The staged development of the Company's flagship project at Paralana (SA) and its three-way joint venture with Beach Petroleum and TRUenergy reduce the needs on the Company's capital program.
- The JV investment and the Federal Governments awarding of a \$5m REDI Grant, reflect third party endorsement of the company's projects and technical abilities.
- The forecast capital cost to successfully complete the proof of concept and develop a 30MW plant at Paralana are approximately A\$230m. Of this Petratherm's exposure over several years is approximately \$20m. Any success with the government grants currently in application will reduce this capital commitment.
- A recent report commissioned by the Australian Geothermal Energy Association (AGEA), showed that for production of electricity from "hot rock" geothermal sources the costs will be in the range of \$80/MWh to \$150/MWh, depending on the scale of the plant. When compared to an average cost of \$50/MWh to \$55/MWh for conventional electricity production geothermal is expected to viable with a renewable energy certificate subsidy of \$40/MWh.

## Projects

### Paralana, (South Australia) (PTR 100%, diluting to 34%)

The drilling contractors have advised that drilling will commence on the Paralana 2 Deep well on 15 June 2009. The drill hole will be targeting depths of up to 4,000m deep and temperatures in excess of 200°C. The Paralana 2 well will assist in better evaluating the geothermal potential of the project. To date Petratherm has successfully completed a 1807m drill hole at the project and based on this earlier hole the target temperatures are modelled at a depth of 3,600m.

*The Paralana Project is located 11kms away from a customer – the Beverley Uranium Mine*

Proposed Paralana Project Schedule	
15 June 2009	Paralana 2 spud date
Mid August – September 2009	Drilling Completed (forecast to take 2 to 2½ months)
October 2009	Release of down hole temperatures
October 2009 – March 2010	Fracture stimulation program
1Q 2010	Drilling of Paralana 3 to commence
2 Q 2010	Complete HEWI proof of concept
4Q 2010	Supply power to Beverley Uranium Mine

The joint venture arrangements now in place for the Paralana Project include:

**Beach Petroleum Farm-in** (announced Jan 2007) for up to \$30M for 36% equity – plus equity share of project costs

**TRUenergy Farm-in** (announced Aug 2008) for up to \$57M for 30% equity – plus equity share of project costs

The milestones at Paralana and associated approximate costs are:

- Proof of Concept for the Heat Exchange within Insulator (HEWI) model - \$20 - \$30m
- Development of 7.5MW plant followed by development of 30MW plant - Total cost \$200m

The recent announcement by Geodynamics that they have successfully achieved the proof of concept for their closed loop testing, reinforces the validity of geothermal energy potentially delivering base load power into the national energy grid. Petratherm believes that the targeting of commercial heat sources within the insulating sediments rather than the underlying source granites will provide them with a competitive advantage when it comes to establishing a production facility.

Petratherm propose that the Paralana commercialisation plan is viable at all stages of development. The development strategy follows an initial 7.5 MW installation growing to 30 MW to supply the adjacent Beverley Mine and the new mining activities at Four Mile. Then connection via a high voltage transmission line into the National electricity market at Port Augusta and/or Olympic Dam. The Beverley Mine currently produces their own electricity at 'off-grid' prices. These prices are comparable with the forecast production costs from the Paralana Project.

At the Paralana project a passive seismic array has been installed. The data gathered will establish the background seismicity of the project site. In addition the array will provide information on microseismic events created during the stimulation phase, enabling a better understanding of reservoir characteristics that will assist in the location of the Paralana 3 deep well.

An independent statement of estimated inferred resources, in accordance with Australian Geothermal Reporting Code has been completed with the total inferred geothermal resource at Paralana is calculated to be 230,000 ± 40,000 Peta Joules (PJ). The minimum thermal energy required to run a 260 MW power plant over a 30 year period is 2,273 PJ or just 1% of the total median inferred resource.

*The Paralana project is has the potential to up-scale and commercially supply power to the National Electricity grid at Port Augusta.*

## Spain (100%)

In addition to the existing projects in the Madrid region, Petratherm announced in February 2009 that it was awarded a geothermal investigation permit in the Barcelona region, with more permits being applied for. Like the Madrid projects, the new projects are prospective for both geothermal district heating (GDH) applications and engineered geothermal system (EGS) development for electricity production.

The Madrid projects have attracted the attention of Dalkia ([www.dalkia.com](http://www.dalkia.com)), one of Europe's largest energy services providers. Dalkia has energy facilities across Europe, Canada and Asia and is co-owned by Veolia (66%) and Electricite de France (34%) – the largest water utility in Europe and the world's largest power utility, respectively.

Dalkia and Petratherm have entered into an exclusivity agreement to assess the joint venture potential of the Geo- Madrid Project. The agreement provides for Dalkia to undertake due diligence of the project which is now entering the final stages of its feasibility assessment.

The exclusivity agreement includes a requirement to develop agreed principles to guide the establishment of a joint venture by the end of the exclusivity period (that expires on 31 May 2009).

An independent assessment undertaken by GPC-IP (specialist geothermal consultants based in France) indicated that Petratherm's north-eastern Madrid license area has an exploitable energy potential of 170 PJ (slightly more than the annual gas production from SA's Cooper Basin).

From its Spanish base Petratherm has ventured into the Canary Islands. The **Tenerife Project** is a conventional geothermal project designed to exploit high temperatures at shallow depths. Tenerife is an active volcanic island with a population in excess of 1 Million people. High power demand (up to 800MW) is currently being met by high cost diesel power generation. The current cost of electricity on the island make the harnessing of geothermal energy an attractive proposition. The next phase of work will involve an extended regional geophysical survey to determine an optimum site for drill testing. The Company is speaking with potential joint venture partners to help fund the proposed deep drilling test program to follow.

## China

Following on from the targeting of geothermal prospective regions from desktop analysis Petratherm representatives have visited China, meetings with provincial representatives in three target regions have been held.

## Victoria

Recently Petratherm was granted a geothermal permit in the Gippsland region of Victoria. The Gippsland permit covers the onshore component of Gippsland basin and targets potential permeable reservoir sequences which may contain brine fluid of 150 °C at depths of 3.5 to 4.0 kilometres.

A program of early stage exploration is required to fully access the potential for the permit.

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