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GEL 157 - Callabonna

GEL 179 – Callabonna East

Combined Annual Report Year 2

17 February 2006 – 16 February 2007

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1. Introduction

1.1 Licence Data

On 27 July 2004, Petratherm Ltd listed on the Australian Stock Exchange following the successful completion of a \$4,000,000 dollar public offering. MNGI Pty Ltd, a wholly owned subsidiary of Petratherm Ltd, was granted GEL 157 (Callabonna) on 23 November 2004 and GEL 179 (Callabonna East) on 28 January 2005, each for a period of 5 years. The licence areas are located in the Arrowie Basin north of the Mt Painter and Mt Babbage Inliers in the Northern Flinders Ranges (Figure 1).

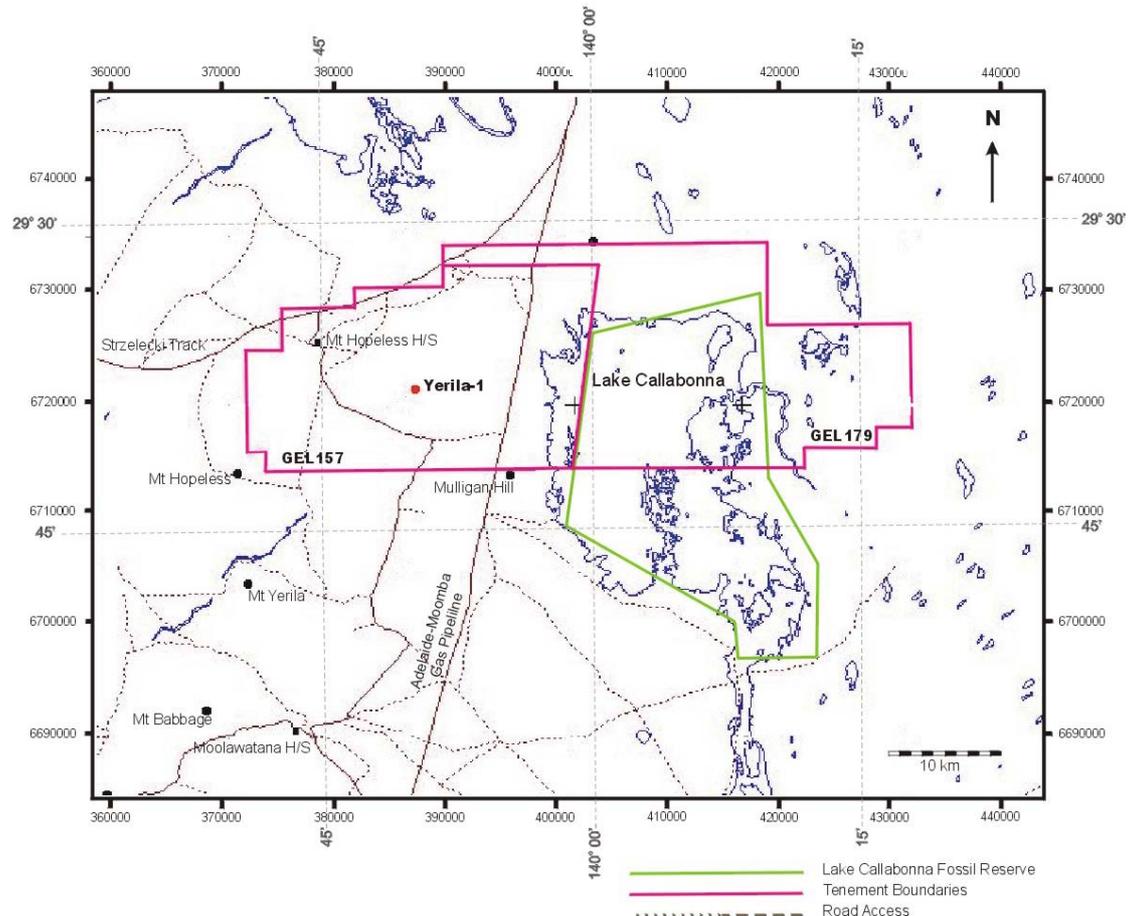


Figure 1. Map indicating the location of GEL157 Callabonna, GEL179 Callabonna East and the Yerila-1 well.

In December 2005 Petratherm applied for Variations to the Work Programs of each of the two Callabonna tenements with the view of amalgamating their work programs into a single regional project and streamlining compliance reporting. The proposed variations were approved by PIRSA, and the revised first anniversary of the combined tenements was the 17th February 2006. In accordance with Section 33 of the Petroleum Regulations 2000, this report details work conducted during the second permit year of the licences.

1.2 Overview

The Callabonna Hot Rock Project represents an exploration play for hot rock energy informally known as the Thermally Anomalous Granite (TAG) model (Figure 2). This model focuses on areas where uraniferous granitic rocks, with associated high heat production rates, are covered by thick insulating sequences of sedimentary overburden which maximise the harbouring of heat derived from radiogenic decay.

Known high heat producing granites outcropping in the Mt Painter and Mt Babbage Inliers to the south of the Callabonna Project area are defined by a strong gravity low. Modelling of existing regional gravity and magnetic data suggests that a distinct area of low density within the Callabonna Project area, covering approximately 1200 km² immediately north-northeast of the outcropping Mt Painter and Mt Babbage Inliers, is an intrusive body underlying about 2-3 km of sedimentary overburden (Figure 2). This interpretation has been supported by new gravity data collected by Petratherm during the first permit year. Petratherm's two licenses, GEL157 and GEL179, cover about 1000 square kilometres over the centre of this body.

In May 2005 Petratherm was successful in obtaining a \$140,000 South Australian Government "Plan for Accelerating Exploration" (PACE) grant to support the drilling and wireline logging of a geothermal exploration well at Callabonna. Yerila-1 was spudded in early August 2005 and drilled to 693.5 metres to evaluate the geothermal potential of the Callabonna Gravity Low.

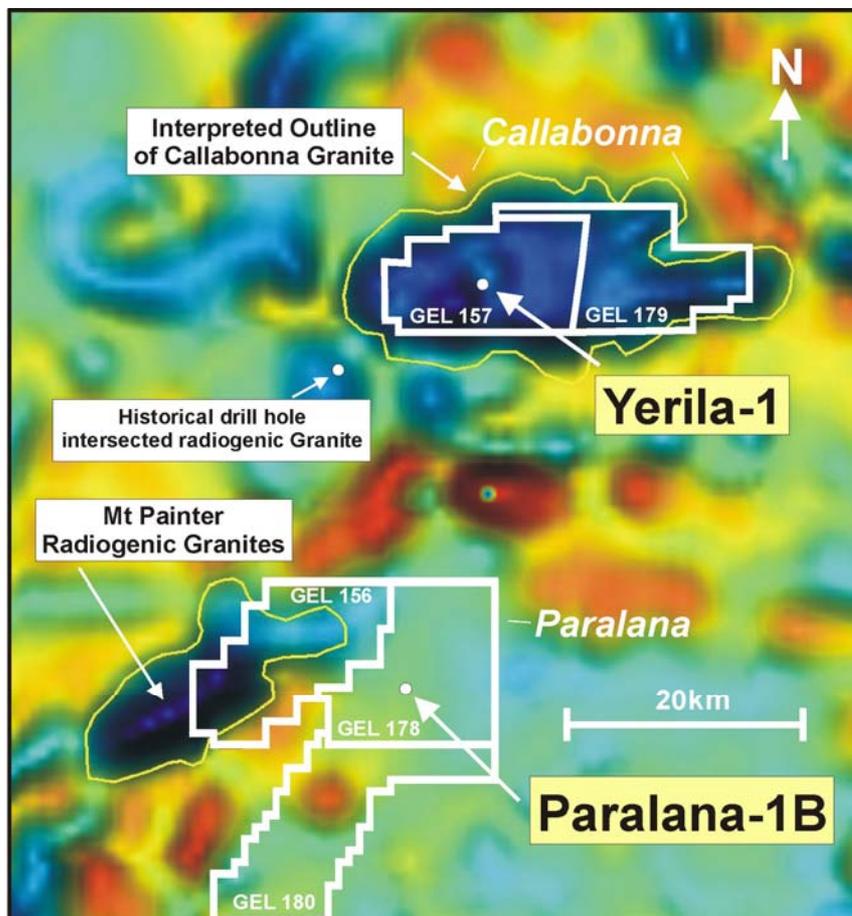


Figure 2: Regional 1VD Gravity Image, highlighting extent of the Callabonna Gravity Low (northern dark blue area), Petratherm's Licence Areas, and the location of Yerila-1.

2. Work Requirements

The revised work program negotiated by MNGI Pty Ltd with Primary Industries and Resources South Australia (PIRSA) for year 2 of the combined Callabonna tenements (GEL 157 and GEL 179) is presented below.

Year of Licence	Work Program
2	<ul style="list-style-type: none">• Commercial negotiations for funding• Magnetotelluric (MT) trial survey• MT modelling of basement• Revised thermal modelling

3. Work Conducted

3.1 Magnetotelluric Trial Survey

A 1600m Magnetotelluric survey was conducted over tenements 157 and 179 on the 27th June 2006. The survey was intended to be some 5000m long, however severe storm activity on the 27th June caused damage to the electronic equipment which could not be repaired in the field, resulting in cancellation of the remainder of the survey.

3.2 Modelling and interpretation of Magnetotelluric data

A final report on the results and interpretation of the magnetotelluric data has been prepared and submitted to PIRSA in accordance with Regulations.

3.3 Revised thermal modelling

The MT survey confirmed initial interpretations of the depth to basement, and was used to adjust thermal models in conjunction with new stratigraphic data gained from the drilling of Yerila-1 and thermal conductivity measurements from the Paralana1BDW1 drillhole.

3.4 Commercial negotiations for funding

Petratherm entered into discussions with a number of potential joint venture partners during Year 2 of the Callabonna licenses. The Company has successfully negotiated an exploration joint venture agreement with Beach Petroleum on the Paralana Project, and these negotiations include an intent to develop an Exploration Alliance Agreement. If the Alliance is formalised, Callabonna will be offered to Beach under the terms outlined in the agreement.

4. Year 2 Expenditure

A break down on the combined expenditure for the Callabonna tenements for Year 2 is presented below and amounts to \$32,360.46

Combined Expenditure for the period up to 17/02/07 (Year 2)

Drilling Activities	\$1,700.00
Seismic Activities	-
Technical Evaluation and Analysis	-
Other Surveys	\$ 13,071.52
Facility Construction or Modification	\$ 133.91
Operating and Administrative	\$ 17,455.03
EXPENDITURE Year 1	\$ 32,360.46

5. Operations Proposed for Year 3

The work program for Year 3 of the Paralana Project tenements will be aimed at extending our understanding of the geothermal resource by drilling the diamond tail extension to the Yerila-1 rotary hole, and measuring varied properties of the cover sequence with the proposed wireline logging.

Year of Licence	Work Program
3	<ul style="list-style-type: none">• Diamond tail extension to geothermal test well (1500m approx)• Downhole temperature and wireline logging• Revised thermal and reservoir models• Commercial feasibility and development study• Injection/Production well (3.5km) design process underway

6. Compliance with the Petroleum Act 2000 (Reg. 33)

a) Summary of the regulated activities conducted during the licence year.

Regulated activities undertaken by Petrathern in the Callabonna Project Area during the licence year include;

- Magnetotelluric survey – data collection, interpretation and environmental audit.

b) Report for the year on compliance with the Act, these regulations, the licence and any relevant statement of environmental objectives.

A Compliance Register is maintained for the Callabonna Project to ensure legislative compliance is achieved, and to document any breaches of the Petroleum Act, 2000. No breaches of the Act or relevant SEOs occurred during the Year 2 license period. An environmental audit of the Magneto-telluric survey was undertaken, and a report on the audit findings forwarded to PIRSA. Appendix 1 presents a synopsis of the Magneto-telluric environmental audit findings. The high GAS scores achieved throughout the audit indicate that these operations were carried out in accordance with the SEO and resulted in minimal disturbance or impact on the local environment.

c) Actions taken to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, and to minimise the likelihood of the recurrence of any such non-compliance; and d) summarise any management system audits undertaken during the relevant licence year including information on any failure or deficiency identified by the audit and any corrective actions that has, or will be, taken.

Petratherm Ltd recognises the importance of achieving regulatory compliance and is committed to achieving best practice in its management strategies, work practices and procedures, in an environmentally and socially responsible manner. Petratherm has a policy of continuing review and improvement in the developing of management systems to ensure it meets this commitment.

At present documented management systems include an Environmental and Operational Health and Safety Manual, Field Operations Manual, and Standard Operating Procedures Manuals for individual tenements/projects. A computer based tracking system has been implemented to ensure compliance with all regulations and obligations under the Act.

e) List all reports and data relevant to the operation of the Act generated by the licensee during the licence year,

Author	Title	Date	Activity	GEL	Submitted
Petratherm	Year 1 Combined Annual Report GEL157 Callabonna & GEL179 Callabonna East	16/3/06	Annual Report	GEL157	7/3/06
Petratherm	Yerila 1 Well Completion Report	28/2/06	WCR	GEL157	10/3/06
Petratherm	Callabonna MT survey Activity Application	May 2006	MT survey	GEL 157	10/05/06
Petratherm	2006 MT survey environmental audit	15/08/06	MT survey	GEL 157	15/08/06
Zonge Engineering	Callabonna AMT Logistics Survey	June 2006	MT survey	GEL157	Dec 2006
Petratherm	Callabonna MT Operations Report	Nov 2006	MT Survey	GEL157	Dec 2006
Petratherm	Callabonna MT Interpretation Report	Dec 2006	MT Survey	GEL 157	Dec 2006

f) Report on any incidents reportable to the Minister under the Act and regulations during the relevant licence year.

No reportable incidents occurred during Year 2 of the Callabonna licences.

g) Report on any reasonably foreseeable threats that reasonably present , or may present, a hazard to facilities or activities under the licence, and report on any corrective action that has, or will be, taken.

No threats have been identified.

h) Operations proposed for the ensuing year

A discussion on the proposed work programs for Year 3 of tenements GEL 157 and GEL 179 is presented in Section 5 above.

Appendix 1

Assessment of SEO Compliance: Excerpt from 2006 Callabonna Magneto-telluric Survey Environmental Audit Report

Objective 2.

Monitor and manage those activities that have, or are likely to have, temporary impacts on biological diversity, cultural components of the environment, groundwater or other land users, and facilitate rehabilitation so as to minimise such impacts if they occur.

Goal 2.1 Minimise the impact on vegetation		Gas Score
Actions	Comments	
No land clearing is proposed.	No earthworks or land clearing was required or undertaken for this operation.	+2
Quad bikes and 4WD will use existing tracks or cleared areas wherever possible.	A single 4WD vehicle was used for the operation. Area is poorly serviced by roads and tracks necessitating crossing of open ground for much of the survey area. Inspection of individual stations and survey lines indicate minimal soil disturbance, however some vehicle tracks are visible. See Section 2.2.1 for examples	+1
Goal 2.2 Minimise the impact on fauna		Gas Score
Noise is to be kept at a minimum.	Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp. Crew consisted of 2 operators using a 4WD vehicle. No large generators, earthmoving equipment or other machinery were used.	+2
Field camp will be at an established off-site camp location.	Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp.	+2
No pets or other domestic animals are to be brought on-site.	Petrathern's Standard Operating Procedure does not allow pets or other domestic animals to be taken on-site. Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp.	+2
Goal 2.3 Minimise the impact on soil.		Gas Score
Vehicles to travel at appropriate low speed to prevent soil disturbance and dust hazard.	Inspection of individual stations and traverse lines indicate minimal soil disturbance, however vehicle tracks are visible. See Section 2.2.1 for examples.	+1
Minimal impact of use of 4WD and quad bikes (e.g. use of existing tracks) should result in low or no impact.	A single 4WD vehicle was used for the operation. Inspection of individual stations and traverse lines indicate minimal soil disturbance, however vehicle tracks are visible. See Section 2.2.1 for examples.	+1
Vehicles will be excluded from drainage lines and cross only at established fords.	Landscape in this region is flat-lying gibber plains. No major watercourses were impacted by the operations. Drainage lines were avoided where possible however flat-lying nature of country results in unavoidable crossing of large flood-prone areas by survey vehicle.	+1
Goal 2.4 Minimise the impact on surface drainage		Gas Score
No land clearing or earthworks are to be undertaken.	No earthworks or land clearing was required or undertaken for this operation.	+2
Vehicles are to use existing tracks and cleared areas wherever possible.	Area is poorly serviced by roads and tracks necessitating crossing of open ground for much of the survey area. Inspection of individual stations and survey lines indicate minimal soil disturbance, however some vehicle tracks are visible. See Section 2.2.1 for examples	+1

Creeks and drainage lines are to be avoided and crossing of watercourses by vehicles is only to occur at well defined existing fords.	Landscape in this region is flat-lying gibber plains. No major watercourses were impacted by the operations. Drainage lines were avoided where possible however flat-lying nature of country results in unavoidable crossing of large flood-prone areas by survey vehicle.	+1
Goal 2.5 Minimise the visual impact		Gas Score
Field camp will be at an established off-site camp location.	Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp.	+2
All litter is to be removed off-site.	Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp. All litter was collected and taken off-site for disposal. No litter was observed during field inspection.	+2
Base stations will be located along existing fencelines.	No permanent station markers were required to be erected.	+2
Individual stations will not be marked.	No permanent marking of magnetotelluric stations was necessary. Inspection of individual stations indicate no disturbance to soil or vegetation. Receiving stations are not visible, and pits dug for survey pots are barely visible. See Section 2.2.1 for examples.	+1
Goal 2.6 Minimise the impact on other land users		Gas Score
Consultation and permitting of affected landholders, managers and stakeholders including known Native Title Claimants.	Registered Native Title Claimants were identified via the National Native Title Tribunal. Notice of Intended Entry documentation was issued to all affected land holders, stakeholders and Native Title Claimants prior to operations commencing.	+2
Area not near major road routes.	Survey was performed over a very remote area. Most of the road routes are local station tracks. Only relatively heavily used road is the Strzelecki Track.	+2
Road operations to be conducted with full consideration of other road users.	Area is very remote and unfrequented except by local traffic. Strzelecki Track is only major traffic corridor also infrequently used. The survey did not cross any major roads.	+2
Water to be taken from dams and tanks only with consent of landholder, manager or statutory authority.	Water was required for personal use only, and was carried in from the off-site camp.	+2
Goal 2.7 Discourage third party use.		Gas Score
Field camp will be at an established off-site camp location.	Contractor personnel camped at the Petrathern Paralana1BDW1 drilling camp.	+2
Vehicles will only use existing tracks to gain access and entry.	Vehicles used existing tracks, roads and survey lines wherever possible to access survey lines. Travel to and from site was via the main station tracks. Area is poorly serviced by roads and tracks necessitating crossing of open ground for much of the survey area. Inspection of individual stations and survey lines indicate minimal soil disturbance, however some vehicle tracks are visible. See Section 2.2.1 for examples	+1