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GEL 156 – Paralana
GEL 178 – Paralana East
GEL 180 – Paralana South
Combined Annual Report Year 1
23 November 2004 – 22 November 2005



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GEL 178 – Paralana East
GEL 180 – Paralana South
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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 public offering. Neighbouring tenements GEL 156 (Paralana), GEL 178 (Paralana East) and GEL 180 (Paralana South) were granted to MNGI Pty Ltd, a wholly owned subsidiary of Petratherm Ltd, on 23 November 2004 for a period of 5 years each. In December 2005 Petratherm applied for Variations to the Work Programs of each of the three Paralana tenements with the view of amalgamating their work programs into a single regional project and streamlining compliance reporting.

1.2 Overview

The Paralana Hot Rock Project represents a new exploration play for hot rock energy informally known as the Thermally Anomalous Granite (TAG) model. 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.

The Paralana tenements are located immediately adjacent to and east of the outcropping Mt Painter Inlier (Figure 1), over the Poontana Sub-basin which is defined by existing seismic data as a deep graben structure lying between the Mt Painter Inlier and Benagerie Ridge (Figure 2). Petratherm's three licenses, GEL156, GEL 178 and GEL180, collectively cover about 1500 square kilometres over the centre of the Poontana Sub-basin.

Paralana-1B within GEL178 was spudded in early September 2005 and drilled to 491 metres to evaluate the geothermal potential of the Paralana Project Area.

2. Work Requirements

The revised work program negotiated by MNGI Pty Ltd with Primary Industries and Resources South Australia (PIRSA) for the combined Paralana tenements (GEL 156, GEL 178 and GEL 180) is presented below.

Year of Licence	Work Program for Paralana: GEL156, GEL178 & GEL180
1	<ul style="list-style-type: none">• Geological and geophysical review• Modelling and interpretation of geophysical data• Historical bore hole thermal data collection (where possible) and analysis• Shallow geothermal gradient test well (500m depth)• Down hole temperature and wireline logging



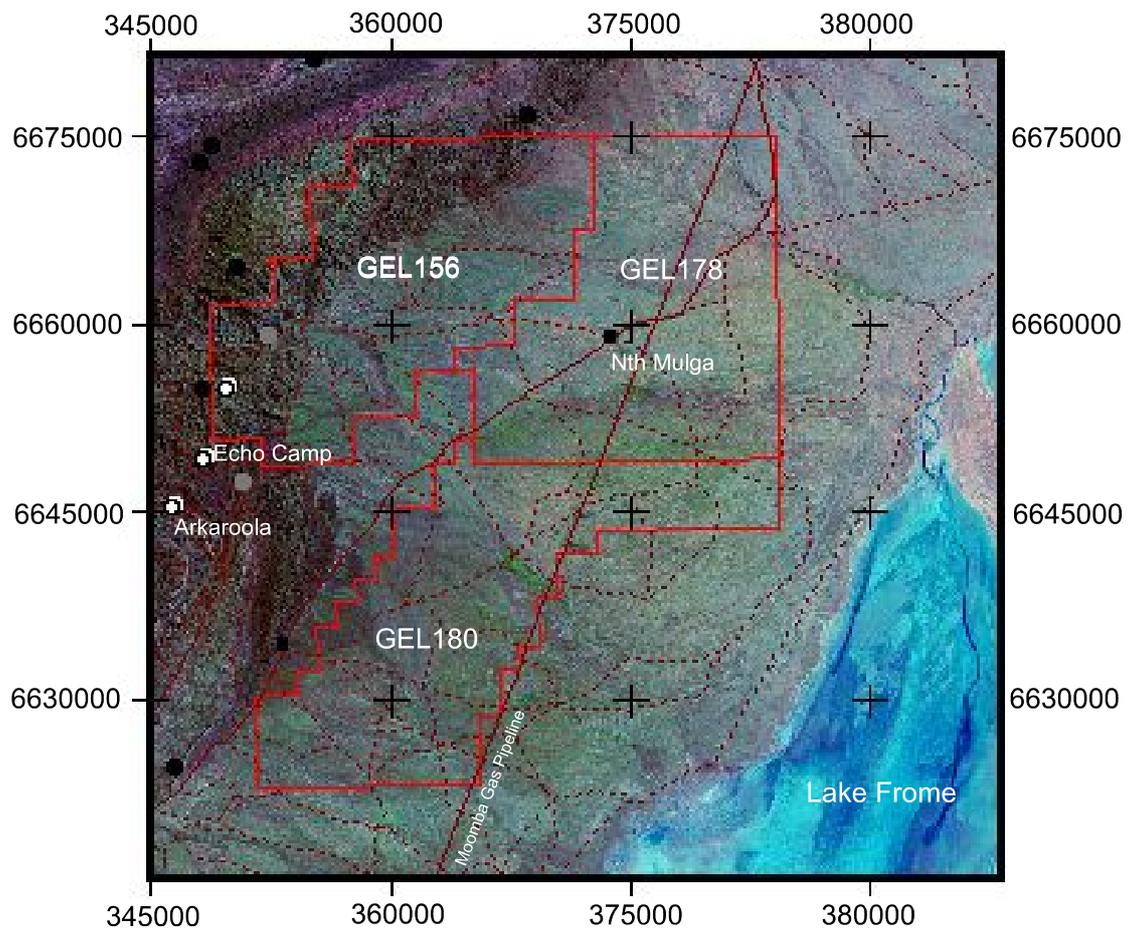


Figure 1. Location of the Paralana Project Area, GEL156, GEL178 and GEL180. Known high heat producing granites crop out in the Mt Painter and Mt Babbage Inliers to the east of the Paralana Project area, and modelling of existing regional gravity, magnetic and seismic data suggest that these granites may continue to the east of the Ranges underneath the covering sediments of the Poontana Sub-basin. Depth to basement modelling of the Poontana Sub-basin in the Paralana Project Area suggests there is about 3 km of sedimentary overburden, providing the requisite insulating blanket to retain heat in the granite (Figure 2).

3. Work Conducted

3.1 Geological and geophysical review

During the first year of the licence, Petratherm has gathered and reviewed available open file data including well logs and well completion reports relating to the Paralana tenements and surrounding areas. There has also been a review of published literature on the geology of the area and on the topics of heat production from radiogenic granites, modelling of geothermal gradients using data from shallow wells and the influence of groundwater circulation.

3.2 Modelling and interpretation of geophysical data (including gravity and seismic data).

Compilation of existing seismic, regional aeromagnetic and gravity datasets and preliminary modelling and inversion of this data has been completed.



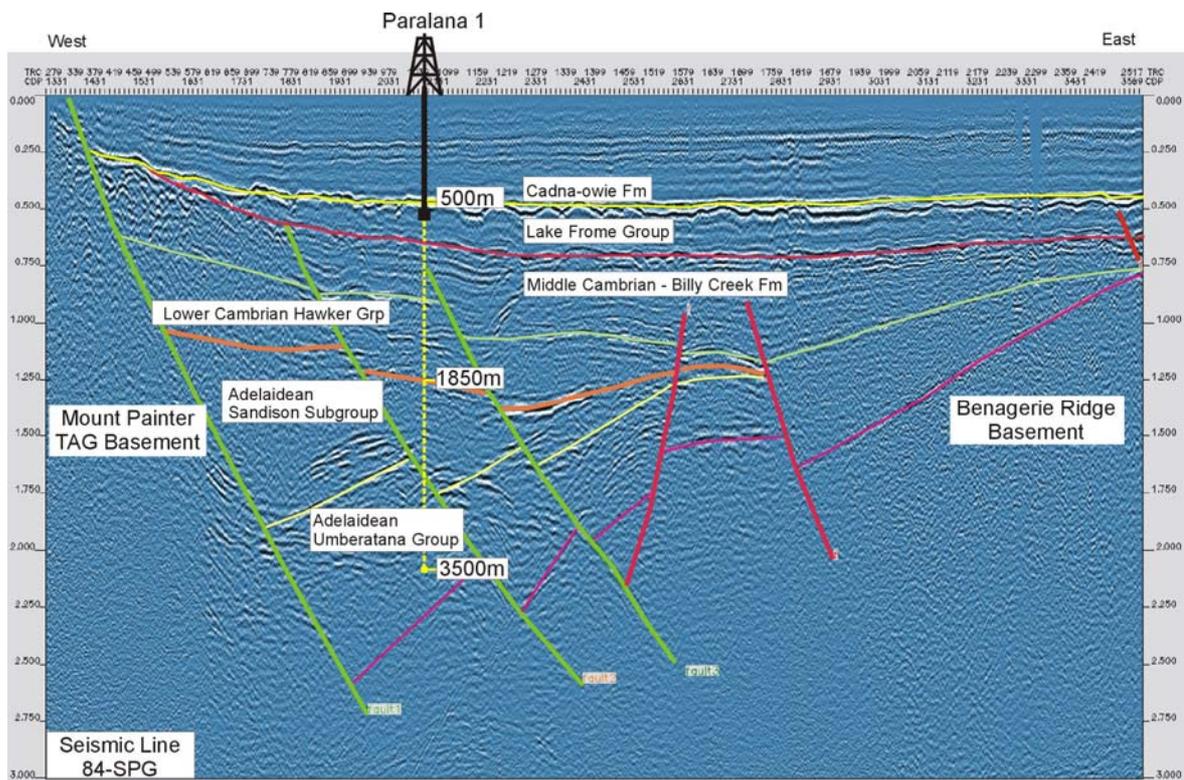


Figure 2. Interpreted geology from Seismic Line 84-SPG.

3.3 Historical bore hole thermal data collection (where possible) and analysis

Available thermal data from existing exploration holes has been collected and reviewed. In addition significant time has been spent collecting, collating and analysing thermal data from artesian bores in the region.

3.4 Target Selection and Drilling of First Test Hole.

Paralana-1B was spudded on September 11th, 2005 and drilled to 491 metres in order to evaluate the geothermal potential of the Paralana Project area. The hole was logged on 23-24th September and successfully completed on September 25th, 2005. Evaluation of the data collected from drilling operations is in progress and will be more thoroughly reported in the pending Well Completion Report.

4. Year 1 Expenditure

Commercial in Confidence



5. Operations Proposed for Year 2

The work program for Year 2 of the Paralana Project tenements will be aimed at extending our understanding of the depth to basement, in situ temperature and geothermal gradient, and thermal conductivity of the known cover. Part of this aim will be accomplished by conducting a magneto-telluric trial survey of the area and by completing data collection and analysis, geophysical and thermal modelling studies initiated during the first year. First stage drilling of the Paralana-1B shallow test hole was completed in Year 1, and a second stage diamond drilling program to deepen the hole during Year 2 is under development.

Year of Licence	Work Program for Paralana: GEL156, GEL178 & GEL180
2	<ul style="list-style-type: none">• Commercial negotiations for funding• Magneto-telluric trial survey• Diamond tail extension to geothermal test well (1500m TD approx.)• Down hole temperature and wireline logging• Injection well design process initiated

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 Paralana Hot Rock Project Area during the licence year include;

- First stage rotary mud drilling and wireline logging of Paralana-1B Geothermal Exploration Hole to 491 metres.

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

An independent consultant was engaged to prepare an Environmental Assessment Report for drilling operations at Paralana-1B, and found that the existing EIR and SEO for drilling operations in the Cooper Basin were applicable and sufficient to guide operations at the Paralana site, with some minor modifications which were specifically addressed in the EAR.

During drilling of Paralana-1B a number of minor breaches of the SEO occurred. In the main these incidents related to small spills of diesel fuel or oil leaks from heavy machinery and pump equipment generally estimated at less than one litre each. Incident reports were generated for these incidents however and information on each was provided to PIRSA in a quarterly report on reportable incidents. A copy of the quarterly report is attached as Appendix 1.



In most instances fuel or oil leaks were able to be repaired or banded to prevent further loss. In accordance with the SEO, soil contaminated by fuel or other chemicals has either been disposed of in the sumps as part of the partial rehabilitation and fencing of the site, or is being allowed to volatilize and will be disposed of in sumps and buried in accordance with the SEO once complete rehabilitation has been undertaken. Complete rehabilitation will not be undertaken until sumps at the site have dried, and second stage drilling of the well is completed. This will avoid additional movement of heavy equipment and disturbance of soils at the site.

The requirement to report these incidents could have been avoided by the construction of a full drilling pad at the operational site, as this constitutes a surface constructed to contain such spills. However construction of such a pad was felt to inflict greater material impact on the environment (e.g. construction of borrow pits and an increase of earthworks before and after drilling) than the few minor spills that did occur. In addition, representatives of the Native Title claimants expressed a preference that pad construction and other major earthworks (e.g. borrow pits and road building) be avoided if possible.

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 is being implemented to ensure compliance with all regulations and obligations under the Act.

An on-site inspection by PIRSA inspectors was conducted during drilling of Paralana-1B in the presence of Petratherm personnel. Findings and recommendations of the inspections are currently under review by Petratherm.

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	Activity Application for Paralana Project Drilling Program		Phase 1 Drilling Operations Paralana	GEL178	
Fatchen Environmental, Consultant	Environmental Assessment Report Paralana Hot Rock Project: Proposed Preliminary Drilling at 30° 12' 36.8" S 139° 42' 48.5" E.	Dec 2004	Phase 1 Drilling Operations Paralana	GEL178	Dec 2004



Ellis, Bob Consultant Anthropologist	Summary Report of Field Survey of Proposed Drill Sites for Petratherm Ltd, Northern Flinders Ranges SA (Aboriginal Heritage Survey)	Nov 2004	Drilling operations Paralana	GEL178	Nov 2004
Petratherm	Paralana Hot Rock Project Standard Operating Procedures.	June 2005	Phase 1 Drilling Operations Paralana	GEL178	June 2004
Geoscience Associates, Contractor	Wireline Logs for Paralana-1B.	Oct 2005	Phase 1 Drilling Operations Paralana	GEL178	Oct 2005
Petratherm	Quarterly incident report 3 rd quarter 2005		Phase 1 Drilling Operations Paralana	GEL178	Oct 2005
Petratherm	Quarterly cased hole activity report 3 rd quarter 2005		Additional wireline logging Paralana-1B	GEL178	Nov 2005

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

Please see comments in section b) above and Appendix 1.

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 program for Year 2 of GEL 156, GEL 178 and GEL180 is presented in Section 5 above.



Appendix 1

Report on Reportable Incidents Third Quarter 2005



Petratherm Ltd: Reportable Incidents Report

3rd Quarter 2005

Tenement: GEL178 Paralana Wells: Paralana -1A & Paralana-1B

Well	Date	Quantity/Area Affected	Incident Description	Actions taken to clean-up / rehabilitate	Actions to Prevent Re-occurrence
Paralana -1A	9-13/2	1.5 x 2 m area south of Paralana 1A hole	Spill or leak of fuel previously unidentified by operator during drilling of Paralana 1A, located by PIRSA Inspector during routine inspection of Paralana site. NB constitutes a reporting breach.	Sumps and area around Paralana 1 and 1A wells back filled and topsoil replaced. Contaminated soil buried in sumps.	Longer term: construction of full operating pad.
Paralana -1B	9/9/05	1.5 x 2 m Fuel bund 40m SE of well head	Slow drip of diesel from fuel tanker contained by bund but movement of foot traffic in & out of fuel bund tracking diesel onto adjacent soil. Potential for spills while refuelling.	Tanker valve packed to prevent leak. Small plastic-lined bund area constructed adjacent to tanker bund for use by refuelling vehicles.	Small plastic lined bund area constructed adjacent to tanker bund for use by refuelling vehicles. Longer term: construction of full operating pad.
Paralana-1B	12/9/05 1400	30 cm x 30 cm 20m NNE of well head	Oil patch on ground under mud pump no.1 due to leak from worn seal.	Cannot access under pump to bund or repair in short term. Contaminated soil buried in sumps on completion of well.	Cannot access under pump to bund or repair in short term. Longer term: construction of full operating pad.
Paralana-1B	12/9/05 1405	20 cm x 20 cm 25m NE of well head	Oil patch on ground under mud pump no.2 due to leak from worn seal.	Contaminated soil buried in sump. Small bund created under leak.	Repairs to seal. Longer term: construction of full operating pad.
Paralana-1B	13/9/05	30 cm x 30 cm 40m E of well head	Small spills of mud materials noted in mud store from bags of mud torn in transport.	Contaminated soil to be buried in sumps on completion of well.	Longer term: construction of full operating pad.
Paralana-1B	13/9/05	Safety Incident	"Near Miss" incident Report made. Normal operational wear & tear on Kelly hose caused thinning of the hose near the swivel connection leading to partial separation of hose from steel connector fitting.	Hose and fitting removed. Hose checked and trimmed to unworn section and fitting reconnected. New hose ordered.	Normal wear pattern resulting from normal operating conditions. Hose to be replaced.



Paralana -1B	16/9/05 0310 0330	1.5 x 1 m east end of ditch sump	Spill of cement contaminated water onto ground. Wash down water from agitator to be dumped in ditch sump. Contractor did not back truck close enough to sump and some water missed.	Contaminated soil to be disposed of in sumps during rehabilitation of site	Spill shown to Contractor and verbally reminded to take greater care. Longer term: construction of full operating pad.
Paralana -1B	17/9/05 1100	1.2 x 1 m east of suction sump	Spill of barite from torn bags while mixing mud at pre-mix tank.	Contaminated soil disposed of in sump.	Longer term: construction of full operating pad.
Paralana -1B	17/9/05 1200	Safety Hazard	Slip hazard noted on refuelling bund after heavy rains on site. See Item 1 above for 9/9/05.	Plastic liner from refuelling bund removed to prevent slippage.	Longer term: construction of full operating pad.
Paralana -1B	18/9/05 1100	30 cm x 30 cm 24m NE of well head	Leak of diesel from tap on mud pump no 2 fuel tank when refuelling	Tap replaced & small bund constructed under tank.	Longer term: construction of full operating pad.
Paralana -1B	19/9/05	2m x 2m 5 m of well head	Mud & rust on ground from cleaning & preparation of casing.	Contaminated soil disposed of in sump.	Longer term: construction of full operating pad.
Paralana -1B	20/9/05 1300	1 m x 30 cm 35m east of well head	Spill of diesel from jerry can being carried from bund to generator.	Small bund constructed next to generator for storage of jerry cans, to minimise need to transport.	Longer term: construction of full operating pad.
Paralana -1B	20/9/05	30 cm x 30 cm	Leak of diesel from mud pump no 2 fuel tank & from refuelling	Tap replaced & small bund constructed under tank.	Longer term: construction of full operating pad.
Paralana -1B	20/9/05 1430	2 x 2 m west end of ditch sump	Cement dust & grout spilt during mixing & pumping of grout.	Contaminated soil to be disposed of in sumps during rehabilitation of site	Longer term: construction of full operating pad.
Paralana -1B	21/9/05	30cm x 30cm 20 m E of well head	Spill of diesel while refuelling light tower.	Contaminated soil disposed of in sump.	Longer term: construction of full operating pad.
Paralana -1B	24/9/05 1430	2m x 2m E end of water sump	Spill of cement contaminated water onto ground. Wash down water from mixing tank being dumped in sump splashed outside of sump.	Contaminated soil disposed of in sump.	Longer term: construction of full operating pad.

