

Petratherm Ltd

105-106 Greenhill Rd, Unley, 5061, South
Australia
Tel: +61 8 8274 5000 Fax: +61 8 8272 8141
Website www.petratherm.com.au
Email admin@petratherm.com.au
A.C.N. 106 806 884



GEL 156 – Paralana
GEL 178 – Paralana East
GEL 180 – Paralana South
GEL 254 – Paralana North

Combined Annual Report
23 November 2006 – 22 November 2007

GEL 156 – Paralana
GEL 178 – Paralana East
GEL 180 – Paralana South
GEL 254 – Paralana North
Combined Annual Report
23 November 2006 – 22 November 2007

Contents

1. Introduction	1
1.1 Licence Data	1
1.2 Overview	1
2. Work Requirements	3
3. Work Conducted	4
3.1 Paralana Energy Joint Venture	4
3.2 Injection well design process completed	4
3.3 First Injection Well	4
3.4 Regional 2D Reflection Seismic Survey	4
3.5 Regional Magneto-telluric Survey	4
4. Year 3 Expenditure	5
5. Operations Proposed for Year 4	5
6. Compliance with the Petroleum Act 2000 (Reg. 33)	6

1. Introduction

1.1 Licence Data

Petratherm Ltd listed on the Australian Stock Exchange on 27 July 2004, 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, and was granted, Variations to the Work Programmes of each of the three Paralana tenements with the view of amalgamating their work programs into a single regional project and streamlining compliance reporting.

Subsequently, on 23 November 2006, GEL 254 (Paralana North) was added to the Paralana Project licences followed by GEL 336 (Paralana Extension) on 20 September 2007. As such GELS 156, 178, 180 and 254 share a common anniversary and work program. This report provides a summary of work activities performed on these four tenements over the period 23 November 2006 to 22 November 2007 which represents Year 3 of the GELS 156, 178 and 180 work programs, and Year 1 of the GEL 254 work program.

1.2 Overview

The Paralana Hot Rock Project is being developed as an Engineered Geothermal System using an exploration model informally known as the Thermally Anomalous Granite (TAG) model. This model suggests that areas with high heat production granitic rocks buried below thick insulating sequences of sedimentary overburden, are prospective for elevated heat flow and high geothermal gradients. Such areas are attractive targets for geothermal energy exploration.

GELS 156, 178, 180, 254 and 336 are bound to the west by the outcropping Mt Painter Inlier (Figure 1), and stretch eastward toward the western shore of Lake Frome covering a large part of the Poontana Sub-basin. Existing seismic data images the sub-basin as a deep graben structure lying between the Mt Painter Inlier and the Benagerie Ridge of the Curnamona Craton (Figure 2). Petratherm's five licenses collectively cover about 2500 square kilometres of the Poontana Sub-basin.

Immediately west of the Paralana licences, high heat producing granites crop out in the Mt Painter and Mt Babbage Inliers. Modelling of existing regional potential field, seismic, and magneto-telluric data suggest that these granites may continue east of the Ranges, where they are buried beneath thick sediments of the Poontana Sub-basin. Depth to basement modelling in the Paralana Project Area suggests there is about 6 km of sedimentary overburden, providing the requisite insulating blanket to retain the heat produced by the underlying granitic basement.

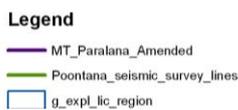
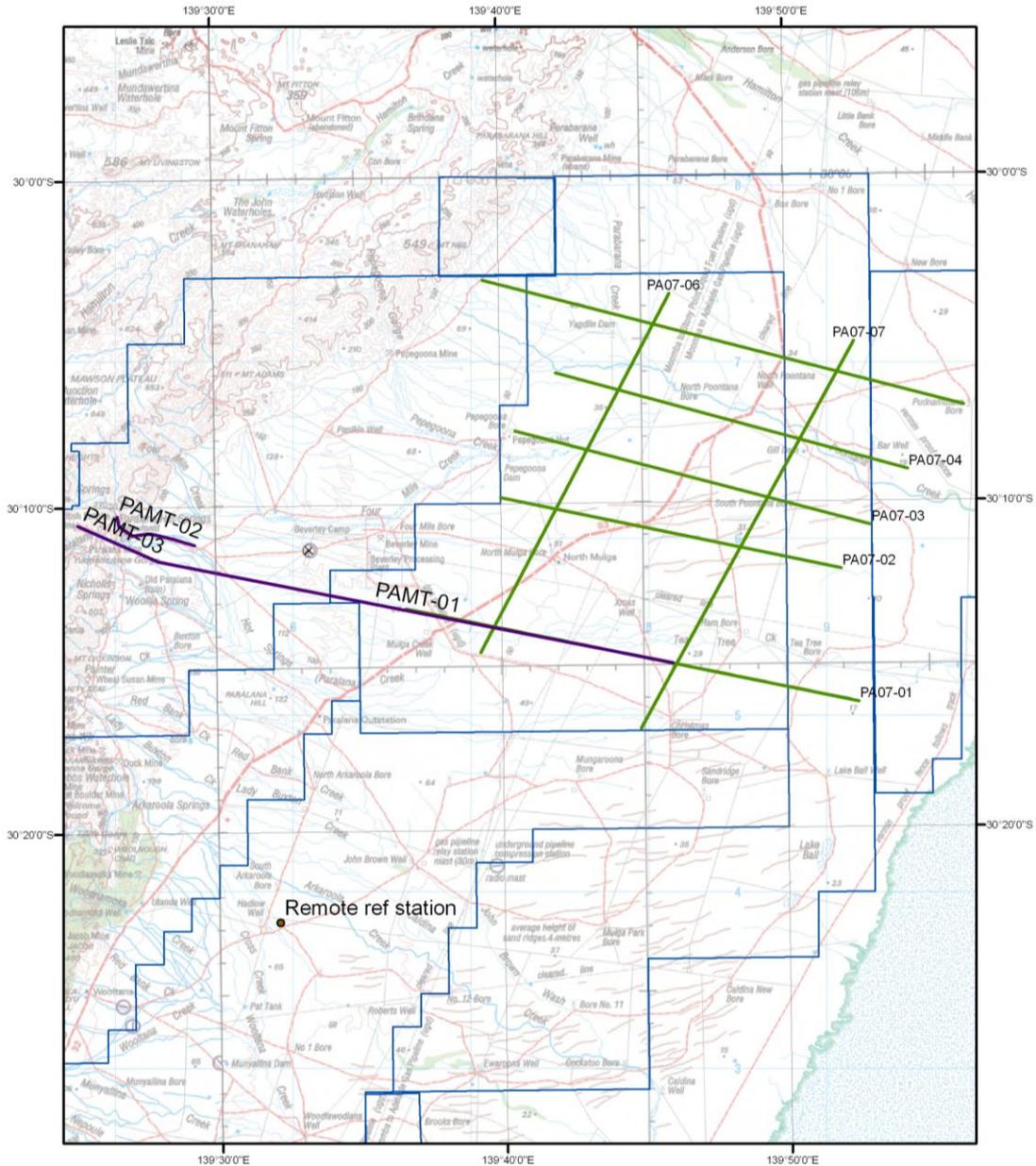


Figure 1. Location of the Paralana Project Area. The boundaries of GEL156, GEL178, GEL180, GEL 254 and GEL 336 are displayed in blue. Also displayed are the locations of the 2D seismic survey lines (green) and the Magneto-telluric survey lines (purple) which were surveyed during the reporting period.

In the first year of operations on-site, Petratherm spudded Paralana-1B the first geothermal exploration well in the area. Paralana-1B was spudded within GEL178 in early September 2005 and drilled to 491 metres to evaluate the geothermal potential of the Paralana Project Area. To provide further constraint on the geothermal potential of the area, Paralana-1B was extended with a diamond tail to a depth of 1807.5m, as part of the Year 2 work program

in May-June 2006. This stage of the drilling program is officially noted as Paralana-1B DW1.

Year 3 of the work program has focussed on preparing for drilling of the first deep well into the reservoir zone at Paralana. Part of this preparatory work has been directed toward the specific design and logistics of drilling of the well, including locating and contracting a rig of suitable capacity to undertaking the drilling and securing long lead time items. The other main focus of the work performed has been the acquisition of significant new geophysical data, in the form of regional 2D Reflection Seismic and Magneto-telluric surveys, to assist in understanding the structural architecture of the sub-basin and selecting the best location for the deep well.

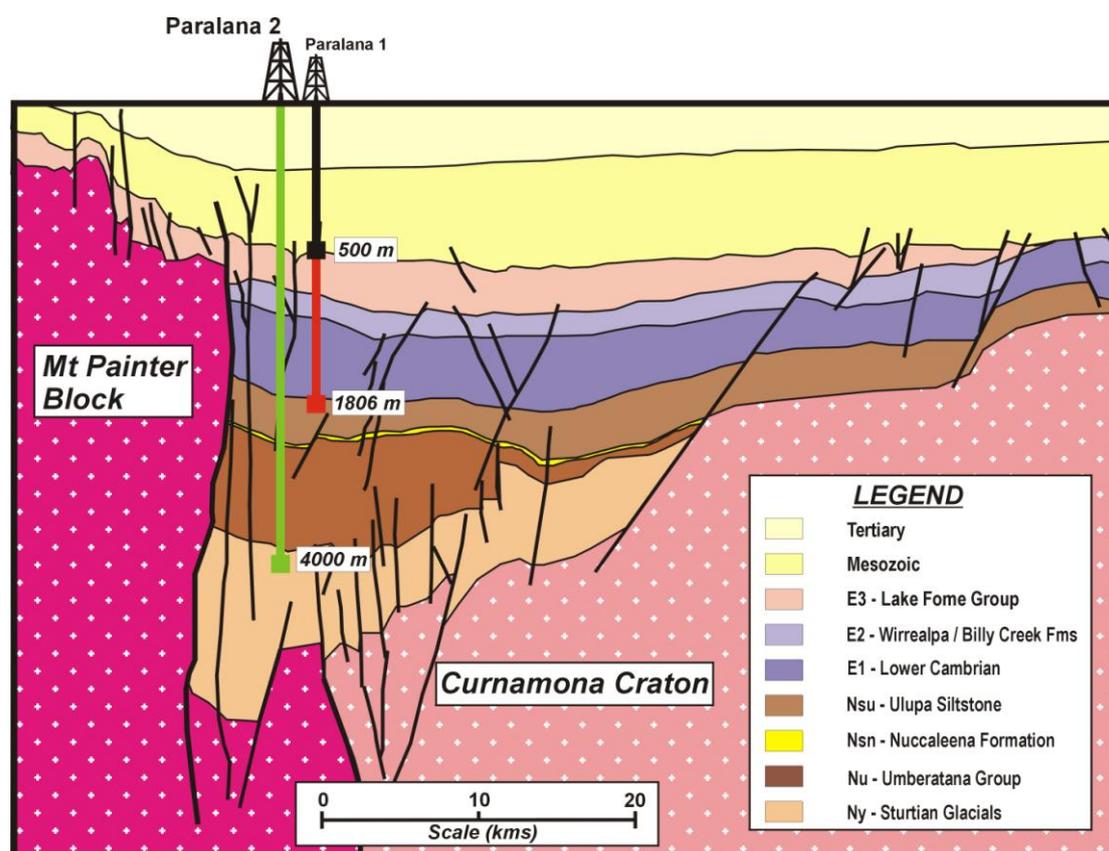


Figure 2. Interpretation of seismic line 84-SPG showing major structures.

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, GEL 180 and GEL 254) is presented below.

Year of Licence	Work Program for Paralana: GEL156, GEL178 & GEL180
3	<ul style="list-style-type: none"> • Injection well design completed • Drill 1st injection well • Down hole thermal analysis • Down hole stress analysis

	Work Program for Paralana: GEL 254
1	<ul style="list-style-type: none"> • As above

3. Work Conducted

3.1 Paralana Energy Joint Venture

Early in Year 3 of the work program, Petratherm entered into a Joint Venture agreement with Beach Petroleum on the Paralana geothermal project. The first priority for the JV Operating Committee was oversight on the design and management of the first deep well at Paralana.

3.2 Injection well design process completed

Since its commencement, the JV Operating Committee has successfully developed work contracts for the design and management of the drilling operations for the first injection well. This has included the engineering and design of the well, specification of rig requirements and identification and logistics on long lead materials.

3.3 Drill First Injection Well

Procurement of a suitable rig has been the limiting factor in drilling the first injection well at Paralana. Enquiries were made with the operators of a number of rigs with the capacity to drill the deep well, however existing schedules for these rigs precluded drilling occurring before the end of Year 3. A Letter of Intent has been signed with Ensign International Energy Services to undertake drilling of the injection well in the second half of 2008 (year 4).

3.4 Regional 2D Reflection Seismic survey

A regional 2D Reflection Seismic survey of about 166 line km was successfully conducted on GELs 156, 178, 180, 254 and 336 from the 28th September to the 17th October 2007, with the aim of further constraining the depth to basement, gaining insight into the stratigraphy and architecture of the Poontana Sub-basin, and aiding in the selection of the most suitable location for the intended deep well. Processing of the resultant data is in progress and will be reported on in the pending Operations and Interpretation reports.

3.5 Regional Magneto-telluric survey

A regional magneto-telluric (MT) survey of about 48 km total line length was successfully conducted on GELs 156 and 178 from the 12th November to the 1st December 2007. Two lines were recorded in the vicinity of the Paralana Hot Springs, with one of these lines then extending eastward across the deepest portion of the Poontana sub-basin. This longer MT line was recorded over the same track as one of the seismic lines, in order to directly compare the data imaged by the two different geophysical techniques.

4. Year 3 Expenditure

A break down on the combined expenditure for the Paralana tenements for Year 3 is presented in Appendix 3.

5. Operations Proposed for Year 4

Much of the work conducted in Year 3 of the Paralana licenses consisted of design and preparation for drilling of the first deep well in the project area, and assessing the best location for siting of the well by acquiring and modelling new geophysical datasets.

Unfortunately, the scheduled drilling of the deep well in Year 3 was unable to be undertaken due to the difficulties in securing an appropriate rig within the Year 3 timeframe. As a result additional work to be undertaken in Year 3 involving analysis and characterisation of the downhole thermal and stress regimes, was unable to be conducted.

An appropriate rig has been secured but due to its tight schedule, drilling of the deep well has been pushed back to the second half of 2008 (Year 4), thus the work program for Year 4 of the Paralana Project tenements will follow on with the work specified for Year 3 of the work program. This will involve final site selection and drilling of the first deep well, and subsequent analysis of the downhole environment which will be aimed at extending our understanding of the in situ thermal and stress regimes of the Poontana Sub-basin. Petrathern recognises this is a non-compliance to our current work program and will seek a variation to the work program ensure the licences are in good standing.

Year of Licence	Work Program for Paralana: GEL156, GEL178 & GEL180
4	<p>Carried Over from Year 3</p> <ul style="list-style-type: none">• Drill 1st injection well• Down hole thermal analysis• Down hole stress analysis <p>Original Year 4 program</p> <ul style="list-style-type: none">• Reservoir Development• Reservoir Modelling• Drill 1st Production well• Circulation testing• Commercial feasibility and development study• Commercial negotiations for further funding

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

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

Regulated activities undertaken by Petratherm in the Paralana Hot Rock Project Area during the licence year include;

- Acquisition of the ~ 166 line km Poontana 2D reflection seismic survey.
- Acquisition of a ~ 48 line km Magneto-telluric survey.

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

An independent consultant engaged in 2005 to prepare an Environmental Assessment Report for drilling operations at Paralana-1B, 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, as environmental conditions at the sites were substantively similar. Based on this assessment, Petratherm determined that the existing EIR and SEO for seismic operations in the Cooper Basin were also appropriate for application to seismic operations carried out on the Paralana licences. An assessment of SEO compliance is attached as Appendix 2.

The Poontana 2D Reflection Seismic survey was conducted under the scope of the existing SEO prepared for Seismic Operations in the Cooper and Eromanga Basins, South Australia. During acquisition of the seismic survey, two breaches of the SEO occurred. The first incident involved one of the vibrator drivers walking a vibrator across the Beverley Mine underground spur gas pipeline at an unprepared location. No damage was caused. The second incident related to the leaking of ~ 20 litres of hydraulic fluid from a blown hydraulic hose on one of the vibrators. The blown hose was replaced and all other hoses rechecked to prevent further fluid loss. In accordance with the SEO, soil contaminated by the hydraulic fluid was removed and disposed of at the Moomba Waste Management facility. Incident reports were generated for these incidents and information on each was provided to PIRSA in the 2007 4th Quarter Reportable Incidents Report. A copy of the quarterly report is attached as Appendix 1.

The magnetotelluric survey fell under the scope of the existing SEO prepared for Ground-based Geophysical Operations (non seismic) in South Australia (Aug 2007). The survey complied with all aspects of this SEO.

In addition final rehabilitation of the Paralana-1B drilling site was conducted on the 11th to 13th August 2007, some 10 months after completion of final site operations. Rehabilitation of the site was delayed until drilling fluids in the sumps had dried out to a point where the sumps could be backfilled. Intermittent rains in the ensuing months had prevented the sumps from completely drying out until about July 2007. The main works to be carried out were the backfilling of the sumps, removal of the fuel bund liner and levelling of the fuel bund, re-spreading of the stock-piled soil, and erection of a fence around the wellhead to prevent stock access.

An environmental audit of the site was undertaken immediately after rehabilitation works were completed. A copy of the audit report has been submitted to PIRSA. In general, the condition of the site was good. Minor rains had aided in reducing the visual impact of vehicle tracks at the site, but unfortunately were not enough to promote substantial growth of perennial

species. The area has been in drought for a number of years, and the overall level of vegetation remains sparse. As presented in the summary table in Appendix 2 below, objectives assessed as 'defined conditions' were all achieved and those assessed under the GAS technique achieved +1 or +2 scores.

Due to the issues in obtaining a suitable rig Petratherm was unable to meet its current work program commitments. Petratherm acknowledges this and will seek a work program variation from PIRSA to rectify this non-compliance issue.

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. Currently Petratherm is working with Business SA to review and improve its management systems.

To minimise the risk of another vehicle crossing the pipe line at an unprepared location, Petratherm will continue to provide detailed maps of crossing areas and will also ensure that this issue is included within the induction process. By educating contractors of the issues and consequences involved in crossing the pipeline on non-designated crossings Petratherm endeavours to minimise the risk of this incident occurring again. Also Petratherm staff will attend some pre-start meetings to offer advice on where it is appropriate to cross the pipeline.

In an effort to ensure that oil spills from hydraulic and other equipment do not occur on site again, Petratherm is developing documentation to ensure all contractors have suitable environmental and safety documentation in place (e.g. vehicle pre-start checks). By ensuring contractors have suitable policies and procedures in place and by conducting on site safety inspections Petratherm endeavours to minimise the potential for an incident such as this occurring again.

Due to the issues in obtaining a suitable rig Petratherm was unable to meet its current work program. Petratherm acknowledges this and will seek a work program variation from PIRSA to rectify this non-compliance issue.

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	Paralana-1BDW1 Well Completion Report	Dec 2006	WCR stage 2	GEL 178	20/12/06
Petratherm	Combined Year 2 Annual Report for Paralana tenements (GELs 157, 178, 180).	Jan 2007	Annual Report	GEL 178/156 /180 All Paralana	10 Jan 2007
Beach /Petratherm	2007 Poontana Seismic Survey Notice of Intent to Conduct Seismic Operations	July 2007	Seismic survey	GEL 178/156/180/254/336	July 2007
Petratherm	2007 Paralana MT survey Activity Application	July 2007	MT survey	GEL 178/156/180	03/09/07
Petratherm	Application for GELA 336	Aug 2007	GELA Application	GEL 336	13/8/07
Beach	2007 Poontana Seismic Survey weekly progress reports (1 of)	Sept-Oct 2007	Seismic survey	GEL 178/156/180/254/336	Sept-Oct 2007
Beach	2007 Poontana Seismic Survey GEL 156, 178, 254 Arrowie Basin SA Environmental Report	Oct - Nov	Seismic survey	GEL 156, 178, 254, 336	
Petratherm	2007 Paralana MT survey weekly progress reports (3 of)	Nov-Dec 2007	MT survey	GEL 156/178	Nov-Dec 2007
Petratherm	Paralana-1B DW1 environmental audit	August 2006	Audit of drilling	GEL 178/156	20/12/07
Petratherm	Quarterly incident report and cased hole activity report 4th quarter 2006	Oct-Dec 2006		GEL 178/156/180	Jan 2007
Petratherm	Quarterly incident and cased hole activity report 1 st quarter 2007	Jan-Mar 2007		GEL 178/156 /180	Apr 2007
Petratherm	Quarterly cased hole activity report and incident reports 2nd quarter 2007	Apr-June 2007		GEL 178/156 /180	July 2007
Petratherm	Quarterly incident and cased hole activity reports 3rd quarter 2007	Jul-Sept 2007		GEL 178/156/180/254/336	Oct 2007

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.

A detailed risk analysis of up coming drilling activities scheduled for Year 4 of the Paralana work program will be performed in due course, as part of the Activity Application documentation.

h) Operations proposed for the ensuing year

A discussion on the proposed work program for Year 4 of GEL 156, GEL 178 and GEL 180 is presented in Section 5 above.

Appendix 1

Report on Reportable Incidents Fourth Quarter 2007

Petratherm Ltd: Reportable Incidents Report
4th Quarter 2007 (October – December)



Tenement: GEL178 Paralana Well: Paralana-1BDW1

Well	Date	Quantity/Area Affected	Incident Description	Actions taken to clean-up / rehabilitate	Actions to Prevent Re-occurrence
Paralana -1B DW1			No activities undertaken No Reportable Incidents		

Tenements: GEL156 Paralana; GEL178 Paralana East; GEL180 Paralana South; GEL254 Paralana North; GEL336 Paralana Extension

Survey	Date	Quantity/Area Affected	Incident Description	Actions taken to clean-up / rehabilitate	Actions to Prevent Re-occurrence
Poontana 2D Seismic Survey	9 th Oct	NA	Vibrator driver walked vibrator over the Beverley Mine underground gas spur pipeline at an unprepared location.	NA	Maps detailing all potential hazards including pipeline locations provided to all drivers. Scout suitable locations for vibrator drop off.
	12 th Oct	~20 litres	Vibrator blew a hydraulic hose and lost approx. 20 litres of hydraulic fluid onto the soil below.	Hose replaced. Contaminated soil removed and disposed of at Moomba Waste Management Facility.	All other hoses and fittings checked. Routine maintenance inspection had been
2007 Paralana Magneto-Telluric survey			No Reportable Incidents		

Appendix 2

Assessment of SEO Compliance

Appendix 3

Combined Expenditure

Commercial in Confidence