

# *Adelaide Energy Limited*

Annual Report

Licence Year 1

*01 November 2007 – 31 October 2008*

*PEL 218*

## CONTENTS

Page No.

1	INTRODUCTION .....	3
2	PERMIT SUMMARY .....	3
3	REGULATED ACTIVITIES .....	4
	Drilling and Related Activities .....	4
	Seismic Data Acquisition .....	4
	Seismic Data Processing and Reprocessing .....	5
	Geochemical, Gravity, Magnetic and other surveys .....	5
	Production and Processing .....	5
	Pipeline Construction and Operation .....	5
	Preliminary Survey Activities .....	5
4	COMPLIANCE ISSUES .....	5
	Licence and Regulatory Compliance .....	5
	Compliance with Statement of Environmental Objectives .....	7
	Management System Audits .....	13
	Report and Data Submissions .....	14
	Incidents .....	15
	Threat Prevention .....	16
	Future Work Program .....	16
5	EXPENDITURE STATEMENT .....	16
	APPENDIX 1 EXPENDITURE STATEMENT .....	17

## **1 Introduction**

Petroleum Exploration Licence *PEL218* was granted on 01 November 2007. The licence is located in the Cooper Basin, South Australia. This report details the work conducted during Licence Year 1 of the licence period 01 November 2007 – 31 October 2012 (inclusive) in accordance with Regulation 33 of the *Petroleum Act 2000*.

## **2 Permit Summary**

For the duration of the licence year, licensees for Petroleum Exploration/Production Licence PEL 218 were:

- Adelaide Energy Limited                      100%

The current work commitments (including all variations) associated with PEL 218 can be seen in Table 1.

**Table 1            Current work commitments by licence year**

<b>Licence Year</b>	<b>Licence dates</b>	<b>Minimum Work Program</b>
Year 1	<i>01 November 2007 – 31 October 2008</i>	<i>180 km 2-D seismic Geological and Geophysical studies</i>
Year 2	<i>01 November 2008 – 31 October 2009</i>	<i>2 Wells 100 km 2-D seismic Geological and Geophysical studies</i>
Year 3	<i>01 November 2009 – 31 October 2010</i>	<i>2 Wells 100 km 2-D seismic Geological and Geophysical studies</i>
Year 4	<i>01 November 2010 – 31 October 2011</i>	<i>2 Wells (not guaranteed)</i>
Year 5	<i>01 November 2011 – 29 October 2012</i>	<i>2 Wells (not guaranteed)</i>

Licence Year 1 concluded on 31 October 2008. The following table displays the minimum work program (after all variations) and the actual work completed up until the end of the current licence period.

**Table 2            Final work program and work completed (as of end of current reporting period) by licence year**

<b>Licence Year</b>	<b>Minimum Work Program</b>	<b>Actual Work</b>
Year 1	<i>150 km 2-D seismic Geological and Geophysical studies</i>	<i>219 km 2D seismic was recorded and is currently being processed. The survey size exceeded the work commitment. Geological and Geophysical studies.</i>

### 3 Regulated Activities

Pursuant to Regulation 33(2)(a) under the Act, the following regulated activities were conducted by Adelaide Energy Limited in PEL 218.

### ***Drilling and Related Activities***

No wells were drilled during Permit Year-1.

## Seismic Data Acquisition

The PEL 218 2-D seismic survey was recorded by Terrex Seismic Limited's Crew #403. The survey commenced 21 September and was completed on 5 October 2008. The survey was shot over 219 line km in conjunction with the preceding PEL 105 component of the 2008 Wakefield Seismic Survey. This was the only seismic survey recorded during the reporting period. A final operations report will be prepared after the seismic processing is completed.

Rim Drilling and Velocity Data were contracted to acquire up-hole data but work commitments delayed commencement of the uphole programme until 8 November (Permit Year 2). Heavy rain further delayed operations and the final hole of the 52 hole programme was completed on 17 December 2008.

No LTI injuries were recorded during the programme.

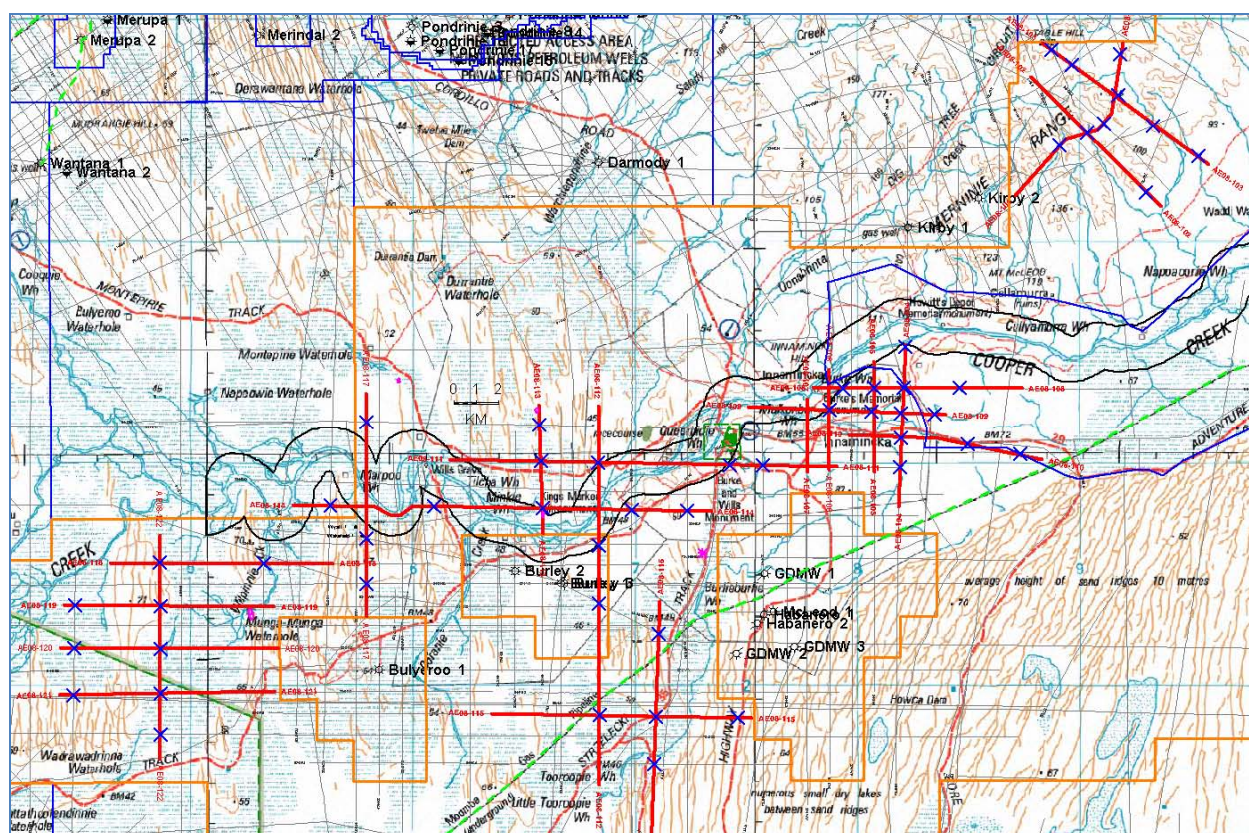


Figure 1: PEL 218 final line and up-hole locations.

### ***Seismic Data Processing and Reprocessing***

The PEL 218 2-D seismic data comprising 219 km are currently being processed in Adelaide by WesternGeco. It is not being integrated with any other surveys.

### ***Geochemical, Gravity, Magnetic and other surveys***

No surveys additional to the planned 2-D seismic survey were conducted. The 2-D survey provides cover over the central region of PEL 218 and will more accurately define the central Nappamerri Trough structures and regional lows for deep basin gas.

Fifty-two new upholes will be drilled during Year 2 to better define variations in the depth and velocity of the near surface weathered layer, assisting the computation of seismic static corrections.

### ***Production and Processing***

No production tests were conducted in PEL 218.

### ***Pipeline Construction and Operation***

No construction of pipelines or related facilities was conducted during the permit year

### ***Preliminary Survey Activities***

No additional preliminary survey activities were conducted during the reporting period.

## **4 Compliance Issues**

### ***Licence and Regulatory Compliance***

Adelaide Energy Limited complied with Regulations 33(2) (b) & (c) in relation to its licence and Statement of Environmental Objectives for activities in PEL 218.

### ***Licence Non-Compliance***

**Table 2 List of licence non-compliances for current reporting year**

<b>No.</b>	<b>Stated Commitment</b>	<b>Reason for Non-Compliance</b>	<b>Rectification of Non-Compliance</b>
	Adelaide Energy Limited complied with all conditions of licence.	ADE complied with the terms of the licence.	Year 1 wells were deferred to Year 2 following approval by PIRSA for a work programme variation due to drilling rig constraints. A 2000 HP rig is required for a proposed deep Nappamerri Trough well with extended laterals – the rig will arrive in Australia during Year 2.

Regulatory Non-Compliance

**Table 3      List of regulatory non-compliances for current reporting year**

<b>No.</b>	<b>Date</b>	<b>Activity</b>	<b>Details of Non-Compliance</b>	<b>Rectification of Non-Compliance</b>
			ADE complied with Regulations under the Act.	

Compliance with Statement of Environmental Objectives

**Table 4 Adelaide Energy SEO PEL 218 – Integrated SEO for drilling and seismic operations**

The SEOs for Drilling and Seismic operations have similar goals and the respective objectives have been comingled in the table below. The source of each objective is referenced by the relevant Objective number and source (**D**rilling or **S**eismic). Adelaide Energy Limited complied with the terms and intent of the SEOs for Drilling, Completion and Initial Well Testing, and Geophysical Operations in the Cooper Basin, South Australia.

<b>Objective</b>	<b>Assessment Criteria</b>	<b>Compliant/Non-Compliant</b> (inc. Compliance statement)	<b>Comments</b>
<b>1D)</b> Avoid disturbance to sites of Aboriginal and non-indigenous heritage significance.  <b>9S)</b> Avoid areas with cultural significance or heritage value.	<ul style="list-style-type: none"> <li>Sites of Aboriginal and European heritage significance are identified for protection in the areas affected by ADE's operations.</li> <li>No requirement to interfere with recognised areas of significance – well location and lines planned to avoid sensitive areas.</li> </ul>	Compliant.	<ul style="list-style-type: none"> <li>ADE has an agreement with the Yandruwandha Yawarrawarrka Aboriginal Corporation, Native Title Claimant Group which specifies the requirements for scouting proposed seismic surveys to identify &amp; avoid areas of heritage &amp; archaeological significance.</li> <li>A Work Area Clearance was carried out by the YY Native Title Claimant Group under the supervision of Sean Freeman, with the assistance of an ADE representative. Proposed line locations &amp; access routes were agreed and given heritage clearance.</li> <li>Sites deemed to have Cultural Heritage significance were recorded and marked as zones to be avoided.</li> <li>Line preparation &amp; survey personnel received Cultural Heritage inductions from ADE's geophysical representative.</li> <li>No impact by Up-hole drilling practices.</li> </ul>

<b>Objective</b>	<b>Assessment Criteria</b>	<b>Compliant/Non-Compliant</b> (inc. Compliance statement)	<b>Comments</b>
<p><b>2D)</b> Avoid disturbance to rare, vulnerable and endangered flora and fauna species.</p> <p><b>2S)</b> Avoid long-term damage or irreparable impacts to areas of high biodiversity or conservation value, including areas with rare, endangered or vulnerable species.</p> <p><b>1S)</b> Minimise the clearing and/or other impacts on native vegetation and associated wildlife habitats.</p> <p><b>7S)</b> Minimise the risk of introduction and/or spread of introduced species and biosecurity threats.</p>	<ul style="list-style-type: none"> <li>This area is generally used for grazing and oil and gas production.</li> <li>Well site and seismic lines rehabilitated in accordance with land owner's requirements</li> <li>All activities planned in order to avoid sensitive areas.</li> </ul>	<p>Compliant.</p> <ul style="list-style-type: none"> <li>No GAS score &lt; 0</li> </ul>	<ul style="list-style-type: none"> <li>All seismic lines and up-hole locations inspected prior to commencement of survey.</li> <li>Line layout planned with avoidance of sensitive areas.</li> <li>Equipment was used in the Cooper Basin prior to the Wakefield 2D Seismic Survey.</li> </ul>
<p><b>3D)</b> Prevent the introduction and establishment of exotic weed species.</p> <p><b>7S)</b> Minimise the risk of introduction and/or spread of introduced species and biosecurity threats.</p>	<ul style="list-style-type: none"> <li>The major potential source of weed introduction is from vehicles and equipment brought in from other regions of the state or interstate for the various well activities.</li> <li>Vehicles cleaned or mobilised from safe regions</li> </ul>	<p>Compliant.</p>	<ul style="list-style-type: none"> <li>Equipment was used in the Cooper Basin prior to the Wakefield 2D Seismic Survey.</li> <li>No introduced exotic weed species as a consequence of activities.</li> </ul>
<p><b>4D)</b> Minimise impacts to soil.</p> <p><b>4S)</b> Minimise the disturbance to surface drainage patterns.</p> <p><b>6D)</b> Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.</p> <p><b>3S)</b> Minimise disturbance to soil.</p>	<ul style="list-style-type: none"> <li>The main impact to soil is caused by the stripping off of topsoil, the importation of foreign material for the construction of the site, and the compaction of this material and the remaining soil below this fill.</li> <li>Seismic line preparation avoids dozing and soil disruption</li> <li>Seismic operations conducted to ensure no spills of toxic chemicals and/ or fuel, storage areas bunded as required</li> <li>Seismic line clearing conducted to avoid removal of top soil, rehabilitation in accordance with the land owners' wishes and approval.</li> </ul>	<p>Compliant with the exception of a short section of line AE08-106 deemed non-compliant.</p> <ul style="list-style-type: none"> <li>Dune fields, no GAS score &lt; -1</li> <li>Gibber Plains\Tableland, no GAS Score &lt; 0 with the exception of a short section of AE08-106 rated GAS -2 due to wheel rut.</li> <li>Flood Plains\Wetlands, No GAS Score &lt; 0</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance to soil profiles as a result of construction activities.</li> <li>Lines rolled and slashed, not cleared by skimming upper layers of soil</li> <li>Low regional relief avoids risk of erosion</li> <li>A short section of gibber surface was damaged on line AE08-106 and required remediation to moderate down-slope runoff.</li> <li>"Eyebrows" using Geotech Fabric were constructed at the top of affected slopes on Line 106 following advice from DEH/PIRSA. This procedure will take place upon completion of the 2008 Wakefield Survey during Permit Year 2.</li> <li>No disruption to drainage patterns as a result of up-hole drilling.</li> <li>No contamination of surface waters and</li> </ul>



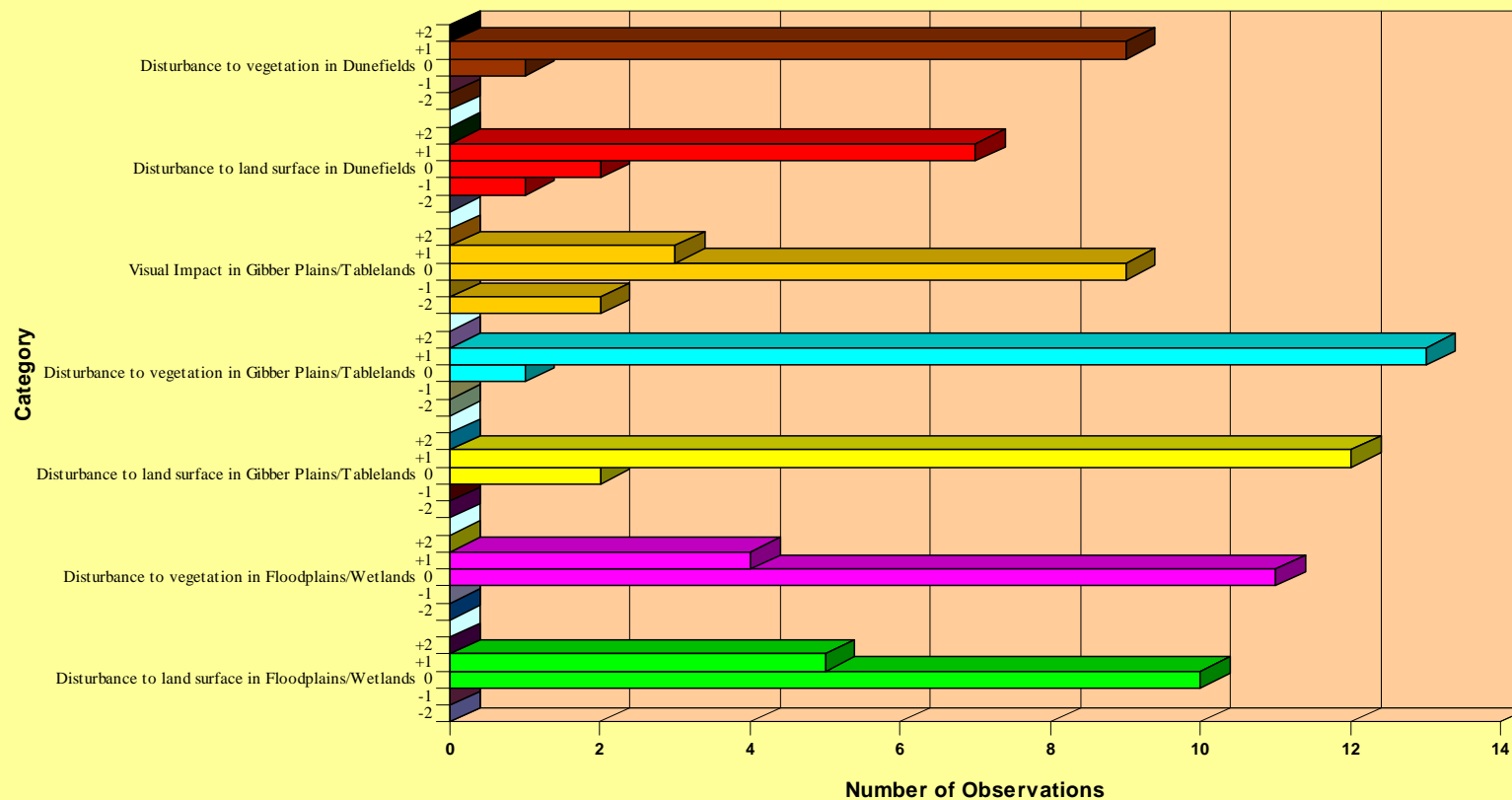
			shallow groundwater resources.
--	--	--	--------------------------------

<b>Objective</b>	<b>Assessment Criteria</b>	<b>Compliant/Non-Compliant</b> (inc. Compliance statement)	<b>Comments</b>
<b>5D)</b> Minimise loss of reservoir and aquifer pressures and avoid aquifer contamination. <b>5S)</b> Avoid the contamination of surface and ground waters.	<ul style="list-style-type: none"> <li>Shallow water bores for seismic up-hole drilling would have been required but the programme was delayed until Permit Year 2.</li> </ul>	N/A	N/A
<b>7D)</b> Minimise risks to the safety of the public, employees and other third parties. <b>12S)</b> Minimise the risk of initiation and/or propagation of wildfire.	<ul style="list-style-type: none"> <li>Dust resulting from activities and supply truck movements minimised</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No injuries to the public or third parties.</li> <li>No fires were initiated by seismic activities</li> </ul>

<b>Objective</b>	<b>Assessment Criteria</b>	<b>Compliant/Non-Compliant</b> (inc. Compliance statement)	<b>Comments</b>
<b>8D)</b> Minimise disturbance to the local community and other land users. <b>8S)</b> Minimise the visual impacts of geophysical operations and any future third party use. <b>10S)</b> Minimise the disturbance to other land users.	<ul style="list-style-type: none"> <li>• Slow heavy vehicles associated with operations</li> <li>• The cleared open nature of the region minimized natural attenuation and made noise moderation difficult.</li> <li>• Risk to livestock injury from vehicle movements minimised.</li> <li>• No wildfires caused by activities</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>• No adverse impact on livestock as a result of activities.</li> <li>• No complaints from the local community or other land users.</li> <li>• No fires initiated during construction, drilling or rehabilitation.</li> <li>• No spills.</li> <li>• Lines crossing major access tracks were rehabilitated using the "rill-kill" method or light tyne ripping for approximately 50m either side of any tracks following advice from PIRSA.</li> </ul>
<b>9D)</b> Minimise visual impact. <b>8S)</b> Minimise the visual impacts of geophysical operations and any future third party use.	<ul style="list-style-type: none"> <li>• Visual impact of access track construction minimised. Assessment criteria used to determine impact based on PIRSA field guide for environmental assessment of recently completed seismic lines in the Cooper Basin, 2006.</li> <li>• GAS scoring <math>2 &lt; x &lt; 0</math></li> </ul>	<p>Compliant based on GAS criteria 0 to +1 "Only wheel tracks are evident" (Page 26).</p> <p>Non-compliant in the goal to "Minimise the visual impact of geophysical operations".</p>	<ul style="list-style-type: none"> <li>• Lines were weaved to break the line of sight;</li> <li>• Water courses were not obstructed to prevent flow.</li> <li>• No litter was in evidence.</li> <li>• Following a field trip by PIRSA personnel and subsequent discussions a short section of Line AE08-106 has been acknowledged as highly visible to third parties and would rate GAS -2 based on GAS definition "line is clearly evident" (Page 13). The visible section amounts to approximately 0.09% of a 219 line km survey.</li> <li>• No trees in native vegetation were removed.</li> <li>• Close consultation was maintained between ADE representatives and stake holders to minimise the impact on their activities.</li> <li>• A hand-held slasher was available for clearing hand-carry sections near the creek but it did not need to be used.</li> <li>• Each vehicle carried fire extinguishers, shovels and rakes to guard against fire outbreaks.</li> </ul>

<p><b>10)</b> Minimise impact of domestic and industrial waste.</p> <p><b>11S)</b> Minimise the loss of resources and optimise waste recovery</p>	<ul style="list-style-type: none"> <li>• Waste refers to all wastes with the exception of the Listed Wastes in Schedule 1 Part B of the Environment Protection Act 1993.</li> <li>• Liquid and solid waste was treated as discussed in the Environmental Impact Report.</li> <li>• All waste removal contractors were licensed and operated within EPA guidelines.</li> </ul>	<p>Compliant</p>	<ul style="list-style-type: none"> <li>• No soil or groundwater contamination as a result of waste storage and disposal.</li> <li>• No impact on stake holders as a result of waste storage and disposal.</li> <li>• No uncontained domestic waste on site.</li> </ul>
---	---	------------------	--

**Fig # 5: GAS Audit of Adelaide Energy Limited's 2008 Wakefield 2D Seismic Survey, PELs 105, 218 Cooper Basin**



### ***Management System Audits***

Adelaide Energy Limited complied with Regulation 33(2) (d) under the Act by conducting internal reviews of all operations and procedures. No significant issues were raised.

**Report and Data Submissions**

Pursuant to Regulation 33(2) (e) under the Act, Adelaide Energy submitted the following reports

**Table 5      List of report and data submissions during current licence reporting year**

<b>Description of Report/Data</b>	<b>Date Due</b>	<b>Date Submitted</b>	<b>Compliant / Non-Compliant</b>
Interpretation of Magnetic, Gravity and Radiometric Data Sets for PEL 218, Cooper Basin, Australia.	N/A	12 June 2008	Compliant
Seismic digital data tapes, 'B' set, with accompanying documentation, for the 2008 Wakefield Seismic Survey.		31 October 2008	Compliant

## ***Incidents***

There were no reportable environmental incidents during the 2-D seismic survey.

Pursuant to Regulation 33(2) (f) Adelaide Energy Limited includes the following data.

**Table 6      List of incidents during current licence reporting year**

<b>Date of Incident</b>	<b>Activity</b>	<b>Incident Description</b>	<b>Type of Loss</b>	<b>Action to Rectify &amp; Effectiveness of Action</b>	<b>Date Reported / Reported to Whom</b>
		Nil			

### ***Threat Prevention***

Pursuant to Regulation 33(2) (g) under the Act, Adelaide Energy Limited reports that no reasonably foreseeable threats or hazards are recognised.

### ***Future Work Program***

Pursuant to Regulation 33(2) (h) under the Act, Adelaide Energy Limited plans the following activities in permit year 2 (01 November 2008 – 31 October 2009).

- Drill one well targeting the Mesozoic and Permian section.
- Drill one well targeting the Mesozoic section.
- Complete processing and interpretation of the 219 km Wakefield 2-D seismic data. These data will be interpreted with the aim of identifying one or more drillable prospects or appraisal drilling locations as well as identifying regions requiring additional seismic.
- Conduct Geological and Geophysical studies to improve chance of success in the deep basin gas environment

## ***5     Expenditure Statement***

Pursuant to Regulation 33(3) under the Act, Adelaide Energy Limited has submitted to PIRSA a list of expenditure in Permit Year 1 as Appendix I.

## ***6     Additional Information for Production Licence Reports***

Adelaide Energy Limited does not operate any production facilities.

## ***7     Additional Information for Pipeline Licence Reports***

Adelaide Energy Limited does not operate any pipelines.



**APPENDIX 1      Expenditure Statement Permit Year 2**

***Commercial in Confidence***