2013 Annual Report
1 January 2013 – 31 December 2013

Production Operations
Katnook & Ladbroke Grove Complex

Petroleum Production Licences
PPL 62, PPL 168 & PPL 202

Pipeline Licence
PL 19

Onshore Otway Basin
South Australia
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1 Introduction

This Annual Report details the work conducted in three (3) Petroleum Production Licences (PPLs) and the Pipeline Licence (PL) 19 in the South Australian Otway Basin for the twelve months from 1 January 2013 to 31 December 2013. This Annual Report has been prepared in accordance with the requirements of Regulation 33 of the *Petroleum and Geothermal Energy Act 2000*. 
2 Permit Summary

This report covers the work conducted for the 12 months from 1 January to 31 December 2013 for:

- Petroleum Production Licence No. 62 (PPL 62) – initially granted on 27 November 1990 for 21 years and subsequently renewed on 18 October 2011 for an unlimited term;
- Petroleum Production Licence No. 168 (PPL 168) – granted on 26 June 1999 for a period of 21 years;
- Pipeline Licence No. 19 (PL 19) – granted to Adelaide Energy Limited on 20 November 2009 for a period of 21 years.

The Katnook, Ladbroke Grove, Haselgrove and Haselgrove South Fields are located within PPL 62 and PPL 202 while the Redman Field is within PPL 168.

PL 19 was granted to connect existing wells within Petroleum Exploration Licence 255 (PEL 255), Petroleum Retention Licence 1 (PRL 1), Petroleum Retention Licence 2 (PRL 2) and PPL 202 to existing operational flow line infrastructure which is connected to Katnook Gas Plant (Figure 1). PL 19 construction was completed in March 2010 and commissioned in April 2010. A summary of the pipeline system is provided in Table 1.

For the duration of the licence year PPL 62, PPL 168, PPL 202 and PL 19 were 100% owned and operated by Adelaide Energy Pty Ltd which is wholly owned by Beach Energy Limited (Beach).
Figure 1: Location of the Katnook and Ladbroke Grove Gas Plants
3 Regulated Activities

Pursuant to Regulations 33(2) (a), an Annual Report must include:

“a summary of the regulated activities conducted during the licence year.”

3.1 Reservoir and Down Hole Work

All wells were shut-in for the entirety of 2013, awaiting evaluation of wellbore integrity and remedial work on existing facilities. All wells were subject to tubing and casing annuli pressure testing on a weekly basis to ensure well integrity. No wellsite separator tests, calliper surveys, production logging testing, well perforation operations or other testing were conducted in 2013 in the relevant licences.

3.2 Production and Processing

2013 Production

There was no production from PPL 62, PPL 168 and PPL 202 fields during the reporting period. All wells were shut-in and plant was undergoing integrity and maintenance programs.

2014 Production Forecasts

Pursuant to Regulations 33(2) (i) and (j) under the Act, an annual report must contain:

“In the case of a production licence – an estimate of the volume likely to be produced, wasted, stored or sold under the licence during the ensuing year, or such longer period as the Minister may require”; and

“In the case of a production licence – an assessment of the development activities proposed to be undertaken under the licence, including the number of completions that are expected to occur, during the ensuing year, or such longer period as the Minister may require”.

No production is planned from the licence areas for the calendar year 2014.

No development activities are proposed to be undertaken under the production licences during 2014.
Maintenance Activities

On-going maintenance of the Katnook and Ladbroke Grove Plant Facilities undertaken during 2013 included:

- Routine Well head surveys;
- Air compressor maintenance; and
- On-going Ground Maintenance including weed spraying (Feb/Aug/Nov) and slashing at well sites and plant.
- Maintaining nitrogen levels in PL19 pipeline.
- Fence repairs around Ladbroke Grove #2 and Limestone Ridge #1 wellheads.

Emergency Response Exercises

No emergency exercises were undertaken in 2013.

3.3 Pipeline

Pursuant to Regulations 33(3) under the Act, an annual report must contain:

“In the case of a pipeline licence –the volume of any regulated substance transported during the relevant licence year”

No regulated substances were transported in the pipeline during the licence year.

Physical construction details

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Constructed</td>
<td>Jan-Mar 2010</td>
<td>Jan-Mar 2010</td>
<td>Jan-Mar 2010</td>
<td>Jan-Mar 2010</td>
</tr>
<tr>
<td>Date commission</td>
<td>April 2010</td>
<td>April 2010</td>
<td>April 2010</td>
<td>April 2010</td>
</tr>
<tr>
<td>Length</td>
<td>10.0km</td>
<td>4.8km</td>
<td>4.8km</td>
<td>4.0km</td>
</tr>
<tr>
<td>Diameter</td>
<td>DN100</td>
<td>DN80</td>
<td>DN80</td>
<td>DN80</td>
</tr>
<tr>
<td>Wall Thickness, mm</td>
<td>4.8mm</td>
<td>4.8mm</td>
<td>4.8mm</td>
<td>4.8mm</td>
</tr>
<tr>
<td>Pipe Grade</td>
<td>API 5L Grade B</td>
<td>API 5L Grade B</td>
<td>API 5L Grade B</td>
<td>API 5L Grade B</td>
</tr>
<tr>
<td>MAOP, kPa</td>
<td>10,200</td>
<td>10,200</td>
<td>14,180</td>
<td>14,180</td>
</tr>
</tbody>
</table>
Operations & Maintenance Activities

Operations and maintenance activities have been conducted in accordance with AS2885 and other relevant standards with work programmed at frequencies in accordance with the Pipeline Operations & Maintenance Manual.

Pipeline Patrol Activities

Regular road patrols were completed in accordance with AS2885.3 requirements ensuring the following:

- Signage is in suitable condition and if not, repairs are made as soon as is practically possible.
- There are no unauthorized activities occurring along the pipeline route or at any of the facilities
- Soil erosion due to wind and water is addressed and restored in accordance with the SEO.
- There was no loss of the pipeline depth of cover during the reporting period.
- There are no leaks occurring at any of the pipeline facilities or along the pipeline route.
- All sites are secure and kept in a good, clean and tidy state.
- Maintenance activities including touching up above ground pipe coating condition, restoring fences, gates, padlocks, signage and fire extinguishers along with other housekeeping activities such as weeds are addressed as required.

During the reporting period no material issues occurred during the patrolling or other routine maintenance activities on the PL 19 pipeline.

Leakage Detection

Beach monitors the pipelines and flowline for leakage:

1. Remotely from KGP control room, where operators monitor the system pressures, flows and alarms which have been set and fine-tuned to indicate leaks in the system; and
2. Through ground patrols as staff travel along the pipeline. Operations personnel look for signs of gas leakage such as dust plumes, the sound of escaping gas and affected vegetation.

If a significant leak occurred on the pipeline system personnel are able to isolate pipeline in a timely manner.

During 2013 there were no instances of any leaking valves or equipment on the pipeline/flowline system.

Cathodic Protection

The PL19 pipeline permanent cathodic protection system was last surveyed in February 2011. Results show that the pipeline is adequately protected along the entire length with all instantaneous off potential readings being within the accepted AS 2832.1 criteria of greater than 0.85 volts with respect to a copper/copper sulphate reference electrode.

This pipeline is currently in preservation mode and cathodic protection will be reviewed upon intent to re-commission.

Emergency Response Exercises

No emergency response exercises relating to PL19 were carried out during 2013. PL19 has been placed in preservation mode and charged with compressed nitrogen gas and connected well heads have been shut in.
4 Compliance Issues

Pursuant to Regulations 33(2) (b) & (c), an Annual Report must include:

“a report for the year on compliance with the Act, these regulations, the licence and any relevant statement of environmental objectives;“ and

“a statement concerning any action to rectify non compliance with obligations imposed by the Act, these regulations or the licence, and to minimise the likelihood of recurrence of any such non-compliances.”

4.1 Licence and Regulatory Compliance
There were no cases of non-compliance with the Petroleum Geothermal Energy Act 2000, the Petroleum Geothermal Energy Regulations 2000, the licence conditions or the relevant Statements of Environmental Objects (SEO) during the reporting period.

4.2 Compliance with SEO
Activities conducted in the subject production licences and pipeline licence must comply with the SEO for the Production and Processing of Petroleum Products and Associated Activities at the Katnook and Ladbroke Grove Gas Plants is provided. A summary of compliance with the SEO is provided in Table 5.
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Assessment Criteria</th>
<th>Compliant / Non-Compliant</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1. Avoid surface water, groundwater and soil contamination               | No contamination of surface water, groundwater or soil as a result of operation activities  
No spills outside areas designed to contain them  
No crossflow behind casing in production wells  
Water re-injection from evaporation ponds in compliance with EPA licence conditions  
No evidence of impacts to soil, water and vegetation as a result of water disposal (i.e. soil erosion, dead vegetation, water discoloration) or pipeline operation/maintenance  
All domestic wastes are disposed of in accordance with EPA licensing requirements  
No evidence of rubbish or litter on easement or at facilities.  
For excavations, surface drainage profiles restored  
For existing easement, drainage is maintained to pre-existing conditions or better | Compliant                  | No incidents involving contamination to groundwater.  
No spills or leaks occurred outside areas designed to contain them.  
Wellhead pressure surveys indicate no casing failures.  
Wells constructed with appropriate barriers in place.  
Regular patrols undertaken to look for evidence of erosion, abnormal vegetation growth or death.                                                                                                                                  |
| 2. Minimise disturbance to native vegetation and native fauna             | Species abundance and distribution on reinstated areas is consistent with the surrounding area (assessment will take into account that regrowth is a time and rainfall dependent process)  
‘Significant environmental benefit’ obligations for native vegetation clearance satisfied / implemented.  
No rare, vulnerable or endangered fauna removed | Compliant                  | No native fauna injured.  
No development resulted in the removal or damage to native vegetation.                                                                                                                                                                                                                     |
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Assessment Criteria</th>
<th>Compliant / Non-Compliant</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 3. Avoid the spread of weeds and pathogens    | - No new weed/pathogen or pest infestations due to site activities reported  
- The presence of weeds and pathogens at facility sites and on pipeline easements is consistent with or better than adjacent land  
- No new introduction or spread of weeds, pathogen or pest plants and animals due to operational activities                                                                                                                                                           | Compliant                 | No introduced exotic weed species as a consequence of activities.  
Presence of weeds and pathogens consistent with or better than adjacent land.                                                                                                                                               |
| 4. Avoid disturbance to sites of Aboriginal and European heritage significance | No unauthorised disturbance to Aboriginal or European heritage areas                                                                                                                                                                                                                                                                   | Compliant                 | No activities conducted outside current operating areas.  
No disturbance to Aboriginal and non-indigenous heritage sites.                                                                                                                                                             |
| 5. Minimise the risk to the public and other third parties | Reasonable measures implemented to ensure no injuries or incidents involving the public or third parties                                                                                                                                                                                                                                                   | Compliant                 | No injuries to the public as a result of facility processes  
Permit-to-Work system is used to manage workplace / worksite safety.  
Emergency Response Plans and procedures are in place.  
Relevant parties are advised of potentially hazardous operations before they are undertaken.                                                                                                                                                    |
| 6. Avoid disturbance to stakeholders and their associated infrastructure. | - No unresolved reasonable complaints from stakeholders.  
- No un-remediated subsidence due to pipeline maintenance                                                                                                                                                                                                                                    | Compliant                 | No complaints received from land users or stakeholders.                                                                                                                                                                    |
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Assessment Criteria</th>
<th>Compliant / Non-Compliant</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No new evidence of subsoil on surface due to pipeline maintenance operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No new evidence of soil compaction due to pipeline maintenance operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soil is consistent with the surrounding areas and no unresolved reasonable complaints from stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The extent of soil erosion on the easement is consistent with surrounding land.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Minimise atmospheric emissions</td>
<td>Compliance with the <em>Environment Protection Act 1993</em></td>
<td>Compliant</td>
<td>No production</td>
</tr>
<tr>
<td></td>
<td>No reasonable stakeholder complaints left unresolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reasonable practical measures implemented in design and operation to minimise emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Minimise impact of noise due to operations</td>
<td>No reasonable stakeholder complaints left unresolved</td>
<td>Compliant</td>
<td>No production</td>
</tr>
<tr>
<td></td>
<td>Noise emissions comply with EPA requirements</td>
<td></td>
<td>Noise emissions from site falls within EPA noise emissions requirements.</td>
</tr>
<tr>
<td>9. RemEDIATE and rehabilitate operational areas to agreed standards</td>
<td>Production Facility Abandonment</td>
<td>Compliant</td>
<td>No remediation work undertaken</td>
</tr>
<tr>
<td></td>
<td>• Surface structures are removed and the ground surface re-contoured to approximate pre-existing contours unless alternative agreement is reached with the regulator and stakeholders.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Contaminated sites are remediated in accordance with criteria developed with the principles of the National Environment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Objectives | Assessment Criteria | Compliant / Non-Compliant | Comments
--- | --- | --- | ---
Protection Measure for contaminated sites and in consultation with the EPA Pipeline Abandonment Attainment of the following (unless otherwise agreed with stakeholders and approved by the regulatory authority):  
- No evidence of waste, redundant equipment / infrastructure or signs and markers on abandoned pipelines  
- Refer to criteria for contaminated site remediation under this objective (above) | |

4.3 **Management Systems**

Pursuant to Regulation 33(2) (d) under the Act, an annual report must include:

*“a summary of 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”.*

Beach Energy continued to be commitment to management of Health, Safety & Environment Management in the Otway Basin during 2013. During the reporting period, there were no operational activities involving the Beach facilities. However general upkeep of the facilities was maintained and where required job specific Job Safety Analysis (JSA’s) were developed prior to the undertaking of any non-routine operations.
4.4 Reports and Data Submissions

Pursuant to Regulation 33(2) (e) under the Act, an annual report must include:

“a list of all reports and data relevant to the operation of the Act generated by the licensee during the licence year”.

<p>| Table 3: List of Report and Data Submissions During the Current Licence Reporting Year |</p>
<table>
<thead>
<tr>
<th>Description of Report / Data</th>
<th>Due Date</th>
<th>Date Submitted</th>
<th>Compliant / Non-compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Report 2012</td>
<td>28 February 2013</td>
<td>28 February 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Monthly Production Reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November 2012</td>
<td>31 January 2013</td>
<td>2 January 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>December 2012</td>
<td>28 February 2013</td>
<td>4 February 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>January 2013</td>
<td>31 March 2013</td>
<td>28 February 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>February 2013</td>
<td>30 April 2013</td>
<td>3 April 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>March 2013</td>
<td>31 May 2013</td>
<td>3 May 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>April 2013</td>
<td>30 June 2013</td>
<td>11 June 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>May 2013</td>
<td>31 July 2013</td>
<td>11 July 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>June 2013</td>
<td>31 August 2013</td>
<td>1 August 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>July 2013</td>
<td>30 September 2013</td>
<td>13 September 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>August 2013</td>
<td>31 October 2013</td>
<td>30 October 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>September 2013</td>
<td>30 November 2013</td>
<td>11 November 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>October 2013</td>
<td>31 December 2013</td>
<td>6 December 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Quarterly Cased Hole Reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4_2012</td>
<td>31 January 2013</td>
<td>31 January 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Q1_2013</td>
<td>30 April 2013</td>
<td>30 April 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Q2_2013</td>
<td>31 July 2013</td>
<td>31 July 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Q3_2013</td>
<td>31 October 2013</td>
<td>31 October 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Quarterly Compliance Report</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q4_2012</td>
<td>31 January 2013</td>
<td>31 January 2013</td>
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</tr>
<tr>
<td>Q1_2013</td>
<td>30 April 2013</td>
<td>30 April 2013</td>
<td>Compliant</td>
</tr>
<tr>
<td>Q2_2013</td>
<td>31 July 2013</td>
<td>18 July 2013</td>
<td>Compliant</td>
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<tr>
<td>Q3_2013</td>
<td>31 October 2013</td>
<td>23 October 2013</td>
<td>Compliant</td>
</tr>
</tbody>
</table>
4.5 Incidents

Pursuant to Regulation 33(2) (f), an annual report must include:

“In relation to any incidents reported to the Minister under the Act and these Regulations during the relevant licence year –

(i) an overall assessment and analysis of the incidents, including the identification and analysis of any trends that have emerged; and

(ii) An overall assessment of the effectiveness of any action taken to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, or to minimise the risk of recurrence of any such non-compliance”.

There were no reportable incidents in the relevant licenses during the reporting period.

4.6 Threat Prevention

Pursuant to Regulation 33(2) (g) under the Act, an annual report must include:

“a report on any reasonably foreseeable threats (other than threats previously reported on) that reasonably present, or may present, a hazard to facilities or activities under the licence, and a report on any corrective action that has, or will be taken”.

No foreseeable threats or hazards are reported for the subject licences.
4.7 Future Work Program

Pursuant to Regulation 33(2) (h) under the Act, an annual report must include:

“unless the relevant licence year is the last year in which the licence is to remain in force – a statement outlining operations proposed for the ensuing year”.

Work planned for 2014 include:

- Economic evaluation of the Katnook Power Plant Project.
- Complete scheduled routine maintenance activities.
- No in-wellbore activities are currently scheduled for 2014 in PPL62, PPL168 or PPL 202. Beach is reviewing all wells and will advise accordingly if any in-wellbore data gathering activity or in-wellbore projects are deemed economically viable to be progressed in 2014.
5 Expenditure

Pursuant to Regulation 33(3) under the Act, an annual report must contain:

“An annual report must be accompanied by a statement of expenditure on regulated activities conducted under the licence for the relevant licence year, showing expenditure under each of the following headings:

(a) drilling activities;
(b) seismic activities;
(c) technical evaluation and analysis;
(d) other surveys;
(e) facility construction and modification;
(f) operating and administration expenses (not already covered under another heading)”.

Expenditure for the reporting period is provided in Appendix 1.