

Annual Report

Licence Year 4 (Term 2)

10 November 2013 – 9 November 2014

Petroleum Exploration Licence (PEL) 110

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REVISION HISTORY

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1 INTRODUCTION

Petroleum Exploration Licence (PEL) 110 was granted on 5 February 2003 and renewed for a further term effective 9 November 2008. The licence is located in the Cooper and Eromanga Basins, South Australia. This report details the work conducted during Licence Year 4 (Term 2) of the licence (10 November 2013 to 9 November 2014 inclusive), in accordance with Regulation 33 of the *Petroleum and Geothermal Energy Act 2000*.

1.1 Associated Activities Licence

Associated Activities Licence (AAL) 189 was granted on 5 February 2013 and renewed for a further term effective 5 February 2014. AAL 189 will expire on 4 February 2015.

This report also pertains to the operations conducted during the licence year of AAL 189 in accordance with Regulation 33 of the *Petroleum and Geothermal Energy Act 2000*.

2 PERMIT SUMMARY

For the duration of the licence year, licensees for Petroleum Exploration Licence (PEL) 110 were:

- Victoria Oil Exploration (1977) Pty Ltd 60%
- Cooper Energy Ltd 20%
- Orca Energy Ltd 20%

The current work commitments (including all variations) associated with PEL 110 can be seen in Table 1.

Table 1 Current work commitments (incl. variations) by licence year

Licence Year	Licence Date	Minimum Work Program
1	9 November 2008 – 8 November 2009	Geological and Geophysical Studies
2	9 November 2009 – 9 November 2012	Geological and Geophysical Studies
3	10 November 2012 – 9 November 2013	100km ² 3D Seismic Acquisition; Geological and Geophysical Studies
4	10 November 2013 – 9 November 2014	Geological and Geophysical Studies
5	10 November 2014 – 9 November 2015	Drill one well; Geological and Geophysical Studies

Licence Year 4 concluded on 9 November 2014. 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

Licence Year	Minimum Work Program	Actual Work
1	Geological and Geophysical Studies	Geological and Geophysical Studies
2	Geological and Geophysical Studies	Geological and Geophysical Studies
3	100km ² 3D Seismic Acquisition; Geological and Geophysical Studies	179km ² 3D seismic acquisition (Dundinna Survey); Processing of Dundinna 3D Seismic data
4	Geological and Geophysical Studies	Drilled 1 well (Akela-1); Geological and Geophysical Studies
5	Drill one well; Geological and Geophysical Studies	-

3 REGULATED ACTIVITIES

Pursuant to Regulation 33(2)(a) of the Regulations, an annual report must include:

“a summary of the regulated activities conducted under the licence during the [current reporting] year.”

This information is detailed below in designated sections.

3.1 *Drilling and Related Activities*

Akela-1 Exploration Well

- Spudded 29 October 2014
- Rig Released 14 November 2014
- TD 2676m
- Cased & Suspended

3.2 *Seismic Data Acquisition*

No regulated activities undertaken in the licence reporting period.

3.3 *Seismic Data Processing and Reprocessing*

Dundinna 3D Seismic Survey

- Processing completed
- Contractor: CGG
- 6967.1 linear kilometres

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

No regulated activities undertaken in the licence reporting period.

3.5 **Production and Processing**

No regulated activities undertaken in the licence reporting period.

3.6 **Pipeline/ Flowline Construction and Operation**

No regulated activities undertaken in the licence reporting period.

3.7 **Preliminary Survey Activities**

No regulated activities undertaken in the licence reporting period.

4 **COMPLIANCE ISSUES**

Licence and Regulatory Compliance

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.”

Detailed information on the individual instances of non-compliances are provided below in designated sections.

4.1 **Licence Non-Compliance**

No licence non-compliances were identified for PEL 110.

4.2 **Regulatory Non-Compliance**

There was one regulatory non-compliance identified for PEL 110 during the reporting period. Further details are recorded in Table 3 and Table 5.

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

Date	Activity	Details	Rectification
21/10/2014	Submission of Dundinna Seismic Processing Data & Processing Report	Report and Data were submitted late	Review of regulatory reporting requirements and associated due dates undertaken.

4.3 Compliance with Statement of Environmental Objectives

No SEO non-compliances were identified for PEL 110.

Drilling activities conducted in PEL 110 have been assessed against the following Statement of Environmental Objectives:

- Statement of Environmental Objectives: Cooper Basin Drilling and Well Operations (Santos Ltd. 2009).

Table 4 SEO for Drilling and Well Operations, Cooper Basin, SA (Santos Ltd. 2009)

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
1.0 To minimise risks to the safety of the public and other third parties.	Reasonable measures implemented to ensure no injuries or health risks to the public or third parties.	Compliant / Achieved	No injuries or health risks to the public or third parties.
2.0 To minimise disturbance and avoid contamination to soil.	<p><u>Well Site and Access Track Construction</u></p> <p>0, +1 or +2 GAS criteria are attained for “Minimise impacts on soil” objective as listed in Appendix 1 Table A1 and “To minimise the visual impact” as listed in Appendix 1 Table A2.</p> <p>No unauthorised off-road driving or creation of shortcuts.</p> <p>No construction activities are carried out on salt lakes or steep tableland slopes (as defined in EIR).</p> <p><u>Borrow pit construction and restoration</u></p> <p>0, +1 or +2 GAS criteria are attained for “Minimise visual impacts”, and “Minimise impact on soil” objectives as listed in Appendix 1 Table A3.</p> <p><u>Production Testing/Well Blowdowns</u></p> <p>No soil contamination as a result of production testing or well blowdown operations.</p> <p><u>Fuel and Chemical Storage and Handling</u></p> <p>No spills/leaks outside of areas designed to contain them.</p> <p>Level of hydrocarbon continually decreasing for in situ</p>	Compliant / Achieved	<p>No disturbances or contamination to soil.</p> <p>All relevant GAS scores were recorded at ‘0’, ‘+1’ or ‘+2’.</p>

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
	<p>remediation of spills.</p> <p>Soils remediated to a level as determined by the SHI process.</p> <p>Also refer to Objective 12.</p> <p><u>Waste Disposal (domestic, sewage and sludges)</u></p> <p>All domestic wastes are disposed of in accordance with EPA licensing requirements.</p> <p>0, +1 or +2 GAS criteria are attained for “Site to be left in a clean and tidy condition” objective listed in Appendix 1 Table A2.</p> <p>No spills or leaks from sewage treatment processing. Refer to Assessment Criteria for Objective 11.</p>		
<p>3.0 To avoid the introduction or spread of pest plants and animals and implement control measures as necessary.</p>	<p>No weeds or feral animals are introduced to, or spread in, operational areas as a consequence of activities</p>	<p>Compliant / Achieved</p>	<p>No weeds or feral animals were introduced to, or spread in operational areas as a consequence of activities.</p>
<p>4.0 To minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow ground water resources.</p>	<p><u>Well Lease and Access Track Construction</u></p> <p>Well sites and access tracks are located and constructed to maintain pre-existing water flows (i.e. channel contours are maintained on floodplains and at creek crossings).</p> <p><u>Drilling Mud Sumps and Flare Pits</u></p> <p>No overflow of drill cuttings, muds and other drilling fluids from mud sumps.</p> <p>No waste material disposal to sumps and flare pits.</p> <p><u>No waste material disposal to sumps and flare pits.</u></p> <p>No leaks/spills outside of areas designed to contain them.</p> <p><u>Well Blowdown/Production Testing</u></p> <p>No water (surface or</p>	<p>Compliant / Achieved</p>	<p>Disturbances to drainage patterns were minimised. Contamination of surface and shallow ground water resources was avoided.</p> <p>No overflow of drill cuttings, muds and other drilling fluids from mud sumps.</p> <p>No waste material disposal to sumps and flare pits.</p> <p>No leaks/spills outside of areas designed to contain them.</p> <p>No water (surface or groundwater) contamination as a result of production testing or</p>

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
	<p>groundwater) contamination as a result of production testing or well blowdown operations.</p> <p><u>Fuel/Chemical Storage and Handling</u></p> <p>No water (surface or groundwater) contamination as a result of fuel or chemical storage and handling.</p> <p><u>Waste Management</u></p> <p>Refer to Assessment Criteria for Objective 11.</p>		<p>well blowdown operations.</p> <p>No water (surface or groundwater) contamination as a result of fuel or chemical storage and handling.</p>
<p>5.0 Avoid disturbance to sites of cultural and heritage significance.</p>	<p>Proposed well sites and access tracks have been surveyed and any sites of Aboriginal and non-Aboriginal heritage identified.</p> <p>Any identified cultural and heritage sites have been avoided.</p>	<p>Compliant / Achieved</p>	<p>Disturbances to sites of cultural and heritage significance were avoided.</p>
<p>6.0 To minimise loss of aquifer pressure and avoid aquifer contamination.</p> <p>Note: This objective is subject to an ongoing review and is currently unchanged from the 2003 SEO. Refer to the addendum to the EIR (Santos 2009a) for details.</p>	<p><u>Drilling & Completion Activities</u></p> <p>There is no uncontrolled flow to surface (blow out).</p> <p>Sufficient barriers exist in casing annulus to prevent crossflow between separate aquifers or hydrocarbon reservoirs.</p> <p>Relevant government approval obtained for abandonment of any radioactive tool left downhole.</p> <p><u>Producing, Injection, Inactive and Abandoned Wells</u></p> <p>No cross-flow behind casing between aquifers, and between aquifers and hydrocarbon reservoirs unless approved by DWLBC.</p>	<p>Compliant/ Achieved</p>	<p>Aquifer contamination and aquifer pressure loss was minimised.</p>
<p>7.0: To minimise disturbance to native vegetation and native fauna.</p>	<p><u>Well Lease and Access Track Construction and Restoration</u></p> <p>Any sites with rare, vulnerable and endangered flora and fauna have been identified and avoided.</p> <p>0, +1 or +2 GAS criteria are attained for "Minimise impact on</p>	<p>Compliant / Achieved</p>	<p>No disturbances to native vegetation and fauna.</p> <p>All relevant GAS scores were recorded at '0', '+1' or '+2'.</p>

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
	<p>vegetation” objective as listed in Appendix 1 Table A1 and “The revegetation of indigenous species” objective as listed in Appendix 1 Table A2, during well lease and access track site selection and construction and restoration.</p> <p><u>Borrow Pit Construction and Restoration</u></p> <p>0, +1 or +2 GAS criteria are attained for “Minimise impacts on vegetation” objectives as listed in Appendix 1 Table A3 during borrow pit site selection, construction, and restoration.</p> <p><u>Waste Management</u></p> <p>Refer to assessment criteria for Objective 11.</p> <p><u>Fuel and Chemical Storage and Handling</u></p> <p>Refer to assessment criteria for objectives 2 and 4.</p>		
8.0 To minimise air pollution and greenhouse gas emissions.	Compliance with EPA requirements	Compliant / Achieved	Air pollution and greenhouse gas emissions were minimised.
9.0 To maintain and enhance partnerships with the Cooper Basin community.	No unresolved reasonable complaints from the community.	Compliant / Achieved	No unresolved reasonable complaints from the community.
10.0 To avoid or minimise disturbance to stakeholders and associated infrastructure.	No reasonable stakeholder complaints left unresolved.	Compliant / Achieved	Disturbances to stakeholders and/or associated infrastructure were avoided.
11.0 To optimise (in order of most to least preferable) waste avoidance, reduction, reuse, recycling, treatment and disposal.	<p>All wastes to be disposed of at an EPA licensed facility in accordance with EPA Licence conditions, with the exception of drilling fluids, drill cuttings, other fluids disposed during well clean-up and wastewater (see below).</p> <p>Wastewater (sewage and grey</p>	Compliant / Achieved	<p>Waste was avoided, reduced, reused, recycled and disposed of in the optimal way.</p> <p>All relevant GAS scores were recorded at ‘0’, ‘+1’ or ‘+2’.</p>

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
	<p>water) disposed of in accordance with the Public and Environmental Health (Waste Control) Regulations 1995 or to the Department of Health's satisfaction.</p> <p>Attainment of GAS criteria for "Site to be left in clean, tidy and safe condition" objective during well site restoration (refer Appendix 1 Table A2).</p> <p>Attainment of GAS criteria for "Site left in clean and tidy condition" objective during borrow pit restoration (refer Appendix 1 Table A3).</p>		
<p>12.0 To remediate and rehabilitate operational areas to agreed standards.</p>	<p>No unresolved reasonable stakeholder complaints.</p> <p><u>Contaminated Site Remediation</u></p> <p>Contaminated sites are remediated to a level as determined by the approved SHI process.</p> <p>Prior to the finalisation and approval of the SHI process, contaminated sites are remediated in accordance with criteria developed with the principles of the National Environment Protection Measure for contaminated sites, and in consultation with the EPA.</p> <p><u>Well Site and Access Track Restoration</u></p> <p>The attainment of 0, +1 or +2 GAS criteria for the objectives (refer Appendix 1 Table A2):</p> <ul style="list-style-type: none"> - "To minimise the visual impact and the revegetation of indigenous species" <p><u>Borrow Pit Restoration</u></p> <p>The attainment of 0, +1 or +2 GAS criteria for (refer Appendix</p>	<p>Compliant / Achieved</p>	<p>No unresolved reasonable stakeholder complaints.</p> <p>All relevant GAS scores were recorded at '0', '+1' or '+2'.</p>

Objective / Goals	Assessment Criteria	Compliant/ Non-Compliant	Comments
	1 Table A3): - "Revegetation of indigenous species", "minimise impact on soil", "minimise visual impacts" and "Site to be left in a clean and tidy condition" <u>Note:</u> Well abandonment issues are addressed under Objective 6.		

4.4 Management System Audits

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".

No management system audits undertaken.

4.5 Report and Data Submissions

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

"a list of all report and data relevant to the operation of the Act generated by the licensee during the licence year".

Table 5 A list of report and data submissions during current licence reporting year

Description of Report/Data	Date Due	Date Submitted	Compliant / Non-Compliant
Geochemical Results of Drillcore Sampling - revised	-	6/12/2013	-
PEL110 Annual Report - Year 3 (Term 2)	9/01/2014	24/12/2013	Compliant
Dundinna 3D Seismic Survey A Tapes	23/09/2014	20/08/2014	Compliant
Dundinna Field Support Data (DVD)	-	26/08/2014	Compliant
Dundinna Seismic Processing Data & Processing Report	23/09/2014	21/10/2014	Non-Compliant
Environmental Audit Report for Dundinna 3D Seismic	-	27/06/2014	Compliant

Description of Report/Data	Date Due	Date Submitted	Compliant / Non-Compliant
Program			
Initial Activity Notification - Akela-1 Drilling	-	4/08/2014	Compliant
Initial Activity Notification - Baloo-1 Drilling	-	28/08/2014	Compliant
Akela-1 Activity Notification - Further Documents (WAC Map, EA, Scout Report, WAC Report)	-	1/09/2014	Compliant
Akela-1 Activity Notification - Further Documents	-	12/09/2014	Compliant
Geophysical Operations Report for Dundinna Seismic Program	23/09/2014	23/09/2014	Compliant
Initial Activity Notification - Bandarlog-1 Drilling	-	2/10/2014	Compliant
Activity Notification - Dundinna Water Bores & Associated Activities	-	15/10/2014	Compliant
Akela-1 Activity Notification - amended ERP	-	17/10/2014	Compliant
Activity Notification - Dundinna Water Bores & Associated Activities – Environmental Assessment	-	22/10/2014	Compliant

4.6 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 during the reporting period.

4.7 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 presents, 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”.

There were no perceived threats; as a result no action was taken.

4.8 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”.

Table 6 Future work program by licence year for renewed term

Area of Activity	Minimum Work Program	Planned Work	Commencement date
Drilling and related activities	-	-	-
Seismic data and acquisitions	-	-	-
Seismic data processing and reprocessing	-	-	-
Production and Processing	-	-	-
Geochemical, Gravity, Magnetics and other surveys	-	-	-
Pipeline Construction and Operation	-	-	-
Geological and Geophysical studies	Geological and Geophysical studies	Interpretation of Dundinna 3D Seismic data Geological and Geophysical studies	Ongoing

5 EXPENDITURE STATEMENT

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)”.

Please refer to Appendix 1 for the expenditure statement for the current reporting period.