ANNUAL REPORT

First Renewal

PERMIT YEAR 3

23 January 2012 to 29 October 2013

PEL 101

COOPER BASIN
SOUTH AUSTRALIA

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ACER ENEGY LIMITED

First Renewal - Permit Year 3

PEL 101 ANNUAL REPORT

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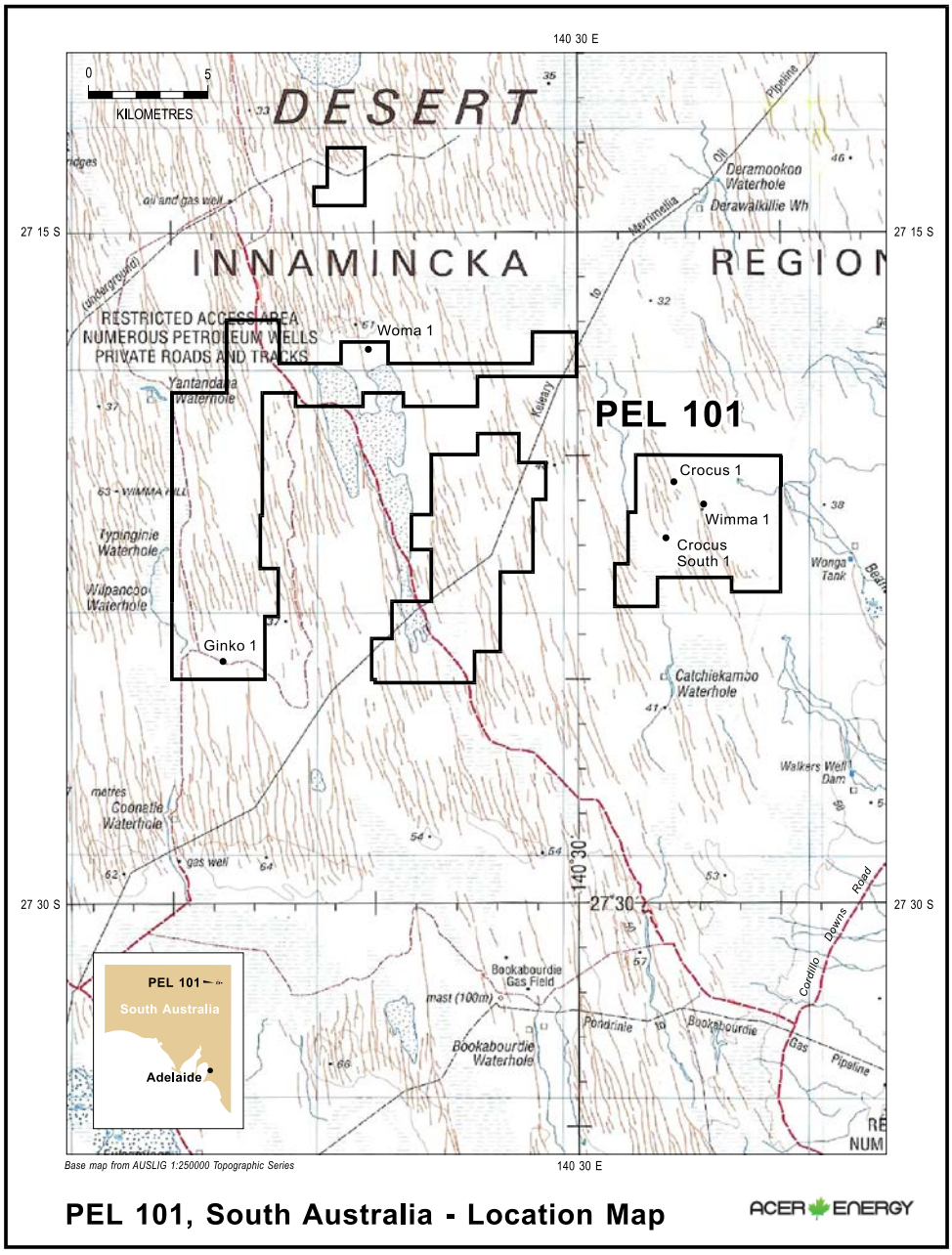
1 Introduction

Petroleum Exploration Licence (PEL) 101 was granted on 30 January 2003. The permit is situated in the central Cooper Basin, near the SA / Queensland border.

This report details the work conducted during **Permit Year 3** of the First Renewal of the licence (the "Reporting Period"), in accordance with the requirements of Regulation 33 of the *Petroleum and Geothermal Energy Regulations 2000* (the "Regulations") under the *Petroleum and Geothermal Energy Act 2000 (the" Act")*.



Permit Location – 1:250,000 Topographic Sheet (SG54-15)

2 Permit Summary

2.1 Background

In accordance with the Petroleum and Geothermal Energy Act 2000, Section 26, the PEL 101 permit was subject to partial relinquishment at the end of the initial 5 year term. The permit was renewed on the 23 January 2010 with an expiry date of 22 January 2015. The accumulated area relinquished amounted to 75% of the original permit area (including 25% offered in lieu of fulfilling work commitment). The renewed PEL 101 is in 4 segments covering approximately 154 km^2.

During the reporting period on 11 April 2012, a 12 month period of suspension to PEL 101 was approved extending the expiry date to 22 January 2016, with a cessation of suspension effective 7 January 2013. Accordingly, the new permit expiry date is 29 October 2015.

Associated Activities Licence (AAL) 190 was granted in 21 January 2013. AAL190 was applied for as an adjunct to PEL101. The granting of the Associated Activities Licence permitted the carrying out the 2013 Coolibah 3D Seismic Survey. This report also pertains to the operations conducted during the licence year of AAL190, in accordance with Regulation 33 of the *Petroleum and Geothermal Energy Regulations 2013*. AAL190 is due to expire on 20 January 2014.

2.2 Permit Year 3

The work programme at the commencement of Permit Year 3 was as follows:

PERMIT YEAR	WORK PROGRAMME
Year 1	Geological & Geophysical Studies
Year 2	Geological & Geophysical Studies
Year 3	Geological & Geophysical Studies
Year 4	Geological & Geophysical Studies
Year 5	Drill 1 well

2.3 Joint Venture

The joint venture for PEL101 at the end of the first renewal Permit Year 3 was:

Acer Energy Limited (ACER) – Operator	-	80%
MidContinent Equipment (Australia) Pty Ltd	-	20%

During the reporting period Acer Energy Limited acquired 20% interest from MidContinent Equipment (Australia) Pty Ltd.

3 Exploration Activity

3.1 Drilling (and related activities)

No drilling or related activity was undertaken during the first renewal Permit Year 3.

3.2 Seismic Data Acquisition

Acer Energy Limited ("ACN"), for and on behalf of the PEL 101 Joint Venture, undertook the 2013 Coolibah 3D Seismic Survey in PEL101, which is situated within the Innamincka Regional Reserve.

The programme comprised approximately 490 km² of 3D seismic acquisition on a grid of lines totalling approximately 2695 kms, within the Innamincka Regional Reserve. The seismic survey, conducted by WesternGeco, commenced 1 February 2013 and was completed 4 March 2013.

The block is around 60 km northwest of Innamincka and 160 kms north of Moomba and initially encompasses an area of 412.84km^2. It covers much of the north central portion of the Patchawarra Trough and extends southward to include part of the GMI ridge. The main areas of interest were the 3 blocks covering Ginko, Kapok and Crocus.

Survey design was targeted to ensure the least possible impact on the environment. Acquisitions parameters were group and shot interval 12.5m. Source and receiver lines 325m. Nominal fold approximately 169 in 6.25m bins. The energy source used was WesternGeco's M-30 low impact Rubber Tracked Vibrators (RTV), fitted with integrated vibrator controllers (IVC). This was coupled with WesternGeco's propriety UniQ recording system utilizing 40,000 channels of UniQ ground equipment with 17,576 active channels. This was a stake-less survey for both receiver as well as source point locations. Each layout crew had a surveyor assigned who positioned the receiver points. The exact receiver position was determined using Satellite Based Augmentation System (SBAS) technology when the receivers were planted. WesternGeco recorded a sparse exploration type survey using a dense symmetric sampling 3D design. The geological objective was structural. It was required to accurately image and position the main structure and map faults controlling structure.

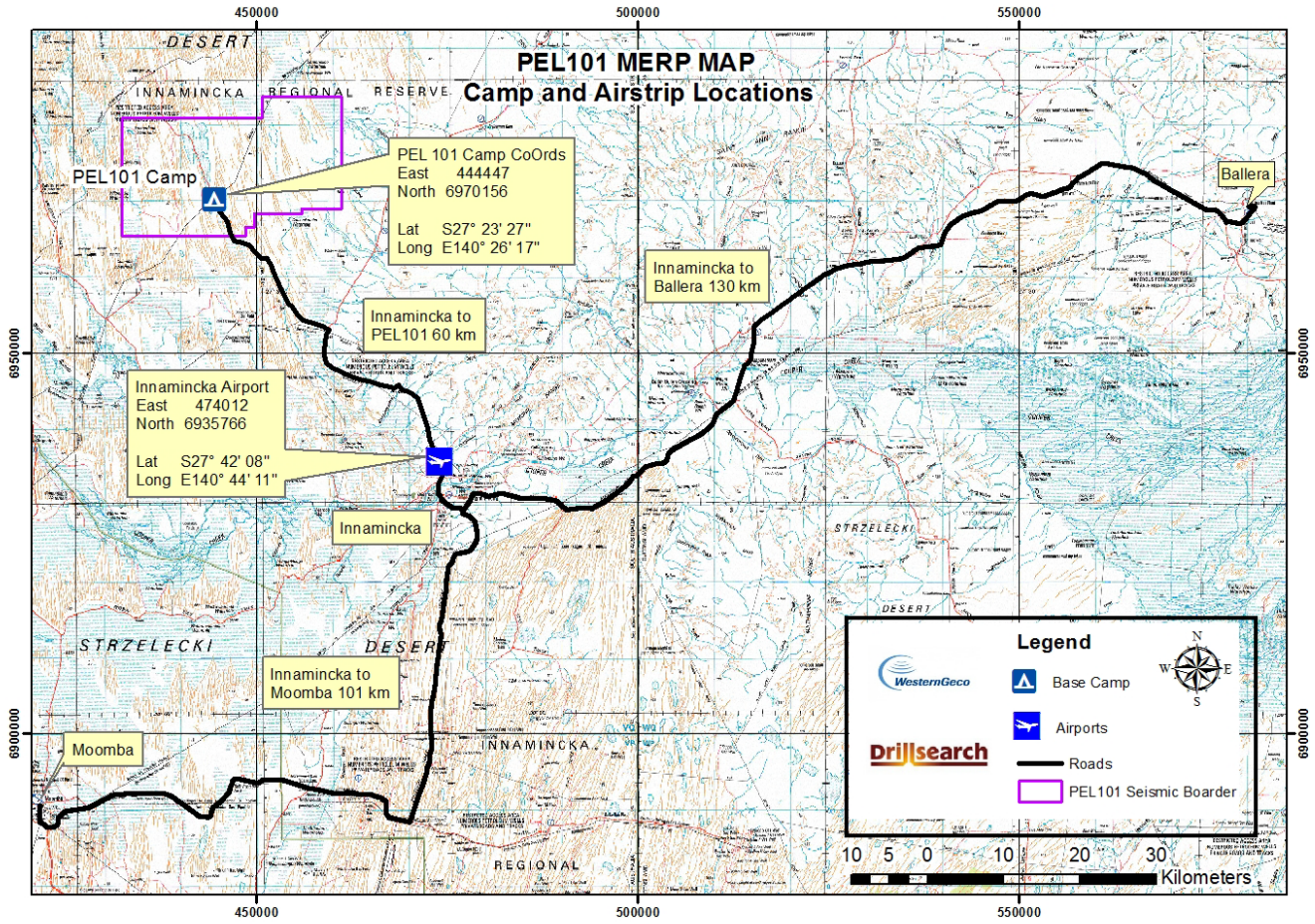


Figure 1: Coolibah 3D Seismic Survey

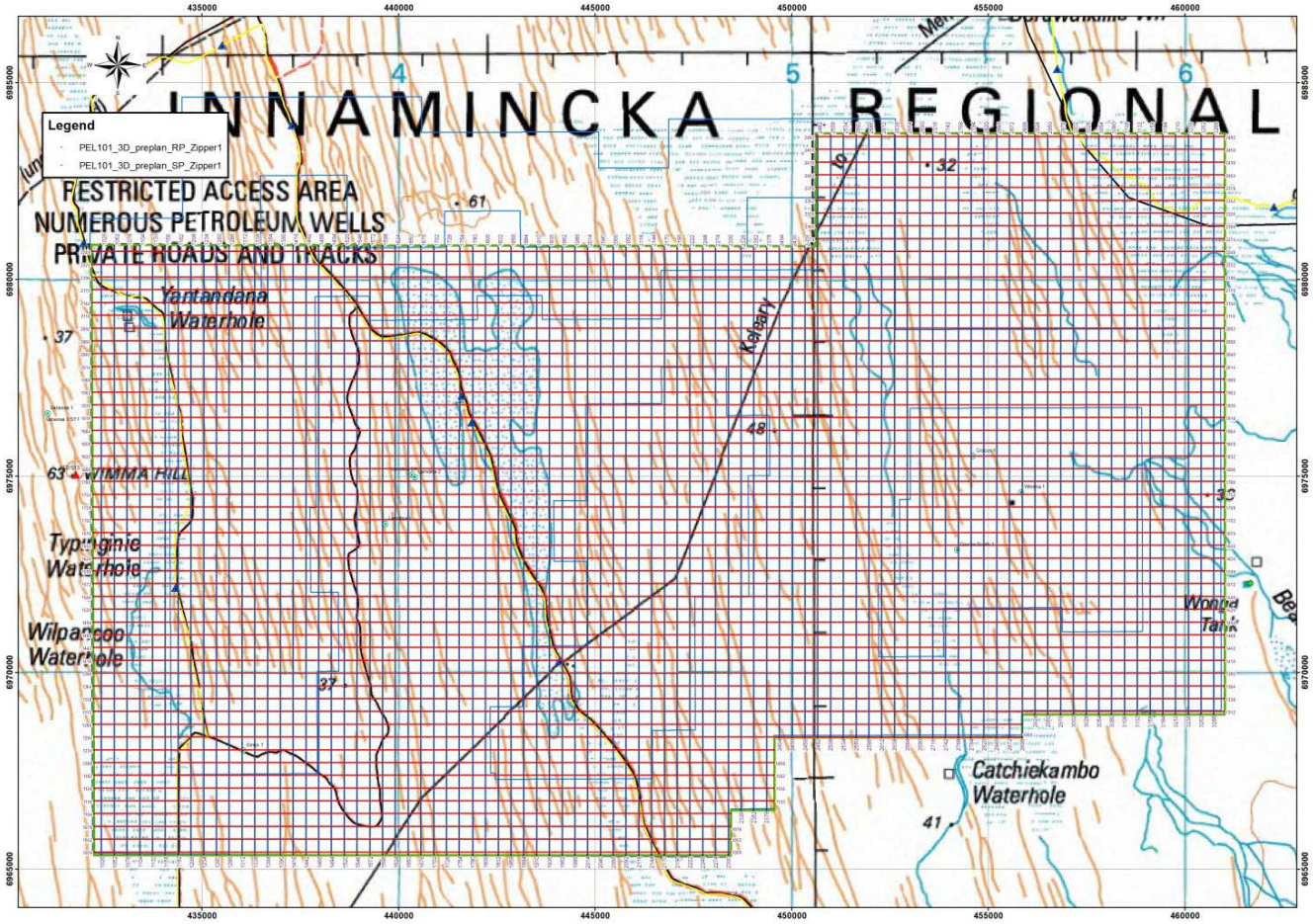


Figure 2: Coolibah 3D Seismic Survey Base Map 1:80,000

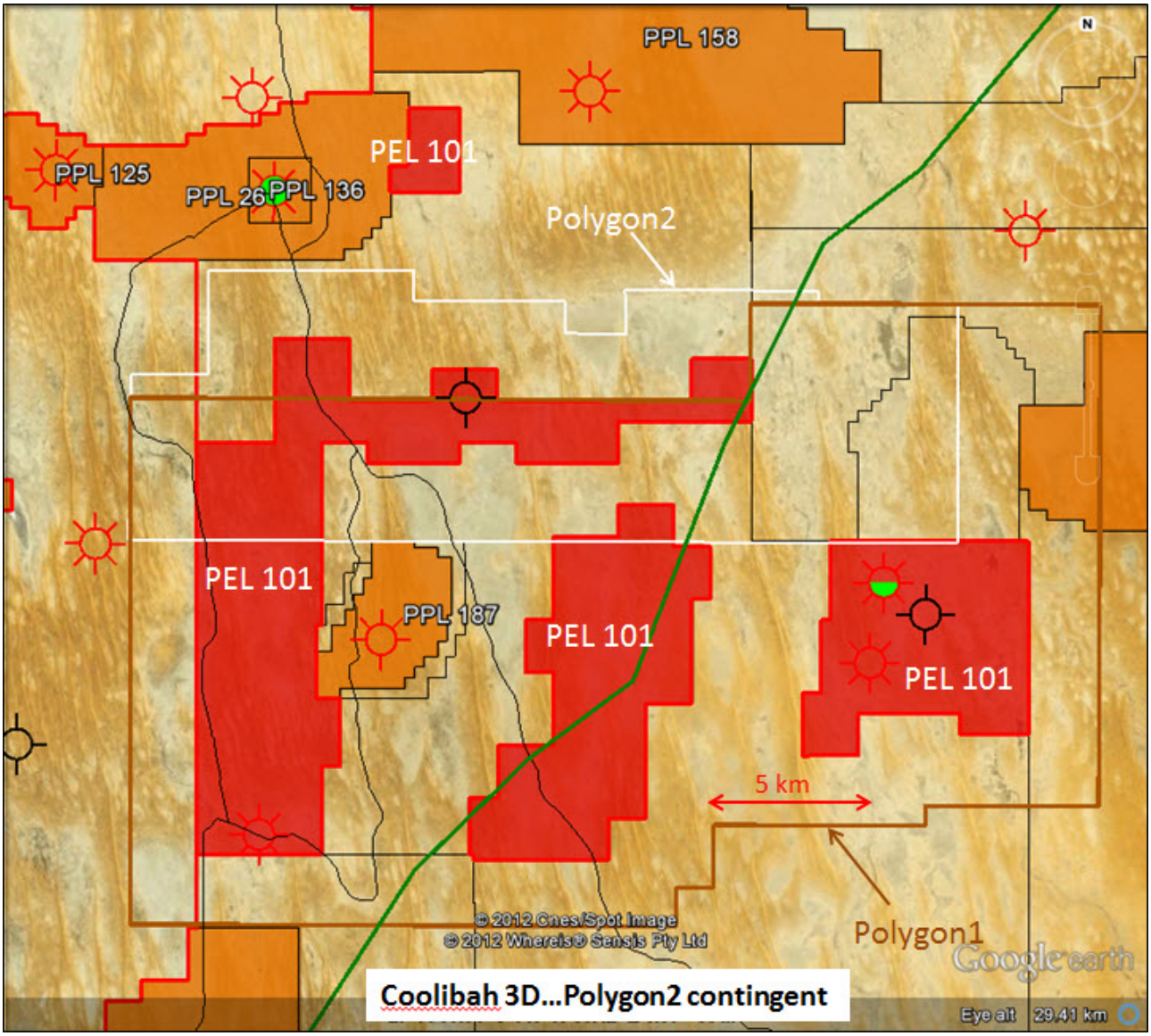


Figure 3: Coolibah 3D Seismic Survey Polygon

3.3 Seismic Data Processing and Reprocessing

No additional seismic reprocessing was undertaken during the first renewal Permit Year 3.

3.4 Geological and Geophysical Studies

In office geological and geophysical studies are ongoing in evaluation of the permits potential and opportunities for development of the already identified resources.

4 Compliance Issues

4.1 License and Regulatory Compliance

As required, ACER maintains a register of non-compliance issues and the following table summarises those matters of non-compliance for the first renewal Permit Year 3.

License Non-Compliance			
No.	Stated Commitment	Reason for Non-Compliance	Rectification of Non-Compliance
1	•	• Nil non-compliance issues to report.	•

Regulatory Non-Compliance (& Formal Warnings):

- 2000 SA Petroleum and Geothermal Energy Regulations/Act
- Approved SEOs under the Act/Regulations
- Approved activity EIRs/EARs/ERCs

No.	Date	Activity	Non-Compliance Description	Rectification of Non-Compliance
1	23/04/12	Documentation	2012 PEL101 Annual Report, First Renewal (Permit Year 2) late submission 23/04/12, due 23/03/12.	A new regulatory compliance register system incorporates improvements in timely completion of compliance reporting.

4.2 Management Systems Audits

4.2.1 Drilling Activities

The status of wellsites in PEL101 are as follows:

WELL NAME	PERMIT	REHABILITATED (yes/no)	Well Status	STATUS (eg Environmental Audit completed)
Crocus 1	PEL101	No	C&S	Initial lease clean-up completed, and site rehabilitated for possible future activities.
Crocus South 1	PEL101	No	C&S	Initial lease clean-up completed, and site rehabilitated for possible future activities.
Ginko 1	PEL101	No	C&S	Initial lease clean-up completed, and site rehabilitated for possible future activities.

Upon completion of site restoration, audits against the EIR/SEO (GAS Scaling) will be undertaken and results reported to DMITRE.

4.2.2 Seismic Activities

An Environmental Audit of the Coolibah 3D Seismic Survey was conducted by RPS Aquaterra Pty Ltd in June 2013, with the field audit carried out 24-26 June 2013, inclusive. The Coolibah 3D Seismic Environmental Audit and Environmental Monitoring Report was submitted to DMITRE.

The principal measure of compliance is Goal Attainment Scoring (GAS). As indicated in the Audit Report, the survey achieved a high level of environmental compliance. GAS scores were generally in the +1 or +2 range, indicating that the compliance requirements were generally exceeded. A very small number of GAS scores of -1 were recorded. In general, these were for relatively minor issues. These are discussed further below.

Other compliance criteria are also contained in the SEO, in the table of objectives and assessment criteria. A checklist against these requirements completed during the audit indicated that for those criteria able to be assessed during a post-survey field audit, there were no significant non-compliances detected. The relatively minor issues detected by the GAS scoring that are discussed below were also reflected in the checklist.

Overall, the survey achieved a very high environmental standard, which was far higher than a 'standard' Cooper Basin seismic survey. In particular, the avoidance of line preparation and dune cutting, the use of tracked vibrator trucks, the absence of pin flags and pegs and the low traffic levels on most lines have resulted in very low impacts. Many lines were barely discernible at the time of the audit, and it is expected that the lines will recover rapidly and are unlikely to require monitoring visits after the first year.

4.3 Data Submissions

The following data was submitted to PIRSA during the permit year:

No.	Document / Report Description	Date Due	Date Submitted	Compliant (Yes/No)
Well Proposal Documents:				
1	None submitted.	NA	NA	NA
Drilling Reports:				
1	None submitted.	NA	NA	NA
Open-Hole Wireline Logs:				
1	None submitted.	NA	NA	NA
Cased-Hole Wireline Logs:				
1	None submitted.	NA	NA	NA
Well Completion Reports:				
1	None submitted.	NA	NA	NA
Quarterly Cased Hole Reports:				
1	Quarterly Cased Hole Report 4Q 2011	31/01/12	30/01/12	Yes
2	Quarterly Cased Hole Report 1Q 2012	30/04/12	30/04/12	Yes

No.	Document / Report Description	Date Due	Date Submitted	Compliant (Yes/No)
3	Quarterly Cased Hole Report 2Q 2012	31/07/12	27/07/12	Yes
4	Quarterly Cased Hole Report 3Q 2012	31/10/12	31/10/12	Yes
Well Down-hole Diagrams:				
1	None submitted.	NA	NA	NA
Production Data Reports:				
1	None submitted.	NA	NA	NA
Other Engineering Reports:				
1	None submitted.	NA	NA	NA
Seismic Reports:				
9	Coolibah 3D Seismic Survey Processing Progress Reports	21/05/13 11/06/13	21/05/13 11/06/13	Yes Yes
10	Coolibah 3D Seismic Environmental Audit and Environmental Monitoring Report	04/03/14	02/10/13	Yes
Other Reports/Documents:				
1	2012_01 Notice of Intended Entry 2012/13 Exploration and Production Activities.	10/03/12	24/02/12	Yes
2	2012_07_Notice of Intended Entry PEL101 Crocus 3D Seismic Survey (renamed to Coolibah)	29/11/12	23/11/12	Yes
3	2012_08_Notice of Intended Entry PEL101 PEL182 Coolibah 3D Seismic Survey (formerly Crocus)	10/01/13	17/12/12	Yes
4	2013_03 Notice of Intended Entry PEL101 Coolibah 3D Seismic Survey (formerly Crocus)	10/1/13	09/01/13	Yes
5	2011 PEL101 Annual Report, First Renewal (Permit Year 2)	21/03/12	23/04/12	No
6	Application Associated Activities Licence – Coolibah 3D Seismic Survey Part 1	21/1/13	21/12/12	Yes
7	Coolibah 3D Seismic Survey Application Part 1	01/02/13	23/11/12	Yes
8	Coolibah 3D Seismic Survey Application Part 2	01/02/13	09/01/13	Yes

4.4 Safety

During the permit year, the following safety incidents were recorded and duly reported:

No.	Date	Activity	Type*	Incident Description
1		Drilling		**Drilling**: • No significant safety Incidents were recorded / reported during any drilling related activities.
2		Engineering		**Engineering / Field Operations**:

No.	Date	Activity	Type*	Incident Description
				• No significant safety Incidents were recorded/reported during any field activities.

* LTI-Lost Time Incident MTI-Medical Treatment Incident ADI-Alternative Duties Incident

4.5 Threat Prevention

No threats were identified or reported on during the year.

4.6 Future Work Program

Proposed activities for Permit Year 4 of PEL 101 include:

- Permit activity will comprise geological and geophysical studies aimed at defining the unconventional potential of PEL101 and further enhancing the understanding of the known discoveries, inclusive of additional data acquired from the 3D seismic survey.
- Undertake a Well Integrity Check Program on the Crocus 1, Ginko 1 & Crocus South 1 wells to conduct Casing and Well Head Integrity checks. The logging will be conducted to confirm the isolation of the hydrocarbon zones, top of cement. The well bore and well head pressure tests will be conducted to confirm the pressure containment of the casing sections and well head components.

5 Expenditure Statement

A Summary of Expenditure to **29 October 2013** has been included in Appendix 2.

This financial statement is "Commercial in Confidence" and to be removed from the website copy of this report.

APPENDIX 1

ACER COMPLIANCE RECORD WITH ACTIVITY SEO(s)

For

PERMIT YEAR 3

TABLE 1

ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES

Note: All Activities undertaken during the permit year (Permit Year 3) and reported on in this Annual Report, relate to activity specific and approved SEOs (generically the same in regards to the Environmental Objectives as listed below).

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES **SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations**			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
1. **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.	▪ All employees and contractor personnel complete a safety induction prior to commencement of work in the field. ▪ All employees and contractor personnel undertake a refresher induction every 2 years. ▪ Signage in place to warn third parties of access restrictions to operational areas, with particular warnings when potentially dangerous operations are being undertaken. ▪ Necessary measures (e.g. signage/fencing) taken to prevent the public accessing the wellhead equipment or waste relating to a given well. ▪ Demobilisation inspections undertaken at random to ensure that backfilling and waste removal requirements are met. ▪ Permit to work systems in place for staff and contractors in dangerous situations. ▪ All appropriate PPE (personnel protective equipment) is issued and available as required in accordance with company operating requirements and applicable standards.	The criteria for assessing the achievement of this objective have been developed on the basis of the current understanding of the risks associated with drilling and well operations. The key to achieving this objective in relation to both downhole abandonment and surface well site restoration is to ensure that the visual prominence of the abandoned well site and its access track(s) is minimised to the extent where it is difficult for third parties to detect and therefore access these sites. The backfilling of the well cellar and the removal of rubbish from the restored well site must be carried out. Fires or explosions at well sites could result in complications resulting in a spill of production fluids (formation water and hydrocarbon), atmospheric emissions, disturbance of native vegetation and wildlife habitat, loss of reservoir pressure, and risk to employees, contractors and the public. The movement of heavy equipment associated with rig moves present a risk to the safety of employees, contractors and

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
		▪ Effective Emergency Response Plan (ERP) and procedures are in place in the event of a fire or explosion; Annual exercise of ERP. ▪ Communication of rig moves and other potential hazards to safety associated with drilling and well operations to potentially affected parties prior to commencement of operations. ▪ Compliance with relevant speed restrictions on access roads and tracks. ▪ Reporting systems for recording injuries and accidents in place, and annual (at minimum) review of records to determine injury trends. ▪ Implementation of appropriate corrective actions. ▪ Ensuring safety management plans are updated and reviewed. • Wastewater disposal in accordance with Objective 11.	third parties (i.e. tourists). **<u>Compliance Statement</u>**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective. All well testing and well abandonment operations are conducted to ensure compliance with this objective.***
2. Minimise disturbance and avoid contamination to soil.	**<u>Well Site and Access Track Construction</u>** ▪ 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. ▪ No unauthorised off-road driving or creation of shortcuts. ▪ No construction activities are carried out on salt lakes or steep tableland slopes (as	**<u>Well Site and Access Track Construction</u>** ▪ Consider alternate routes during planning phase to minimise environmental impacts. ▪ Use existing routes / disturbed ground where practicable. ▪ Gibber mantle on access tracks and well sites (excluding sumps) is not removed where possible, only rolled, in gibber and tableland land systems. Gibber mantle reinstated where appropriate during restoration. ▪ Topsoil stockpiled (including gibber mantle) from sump construction and	The impacts associated with soil disturbance can potentially include wind and water erosion and dust generation. The main source of disturbance to soils is associated with lease and access track construction, creation of borrow pits, restoration activity, vehicle movement in off-road locations and sub-surface excavations (e.g. sumps, flare pits and turkey's nests).

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
	defined in EIR). **Borrow pit construction and restoration** ▪ 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. **Production Testing/Well Blowdowns** ▪ No soil contamination as a result of production testing or well blowdown operations. **Fuel and Chemical Storage and Handling** ▪ No spills/leaks outside of areas designed to contain them. ▪ Level of hydrocarbon continually decreasing for in situ remediation of spills. ▪ Soils remediated to a level as determined by the SHI process. ▪ Also refer to Objective 12.	respread (and gibber recompacted) on abandonment. ▪ The need to traverse sensitive land systems and the methods of managing the impacts must be justified in accordance with company procedures, recorded and available for auditing. **Borrow pit construction and restoration** ▪ Existing borrow pits to be re-used where practicable. ▪ Siting of new borrow pits to avoid sloped areas and gibber as far as practicable. ▪ Topsoil stockpiled (including gibber mantle) and respread on abandonment (gibber to be recompacted). **Production Testing / Well Blowdowns** ▪ If appropriate use: - impermeable or clay lined flare pit to flare / contain hydrocarbons. - flare tanks. **Fuel and Chemical Storage and Handling** ▪ All fuel, oil and chemical storages bunded in accordance with the appropriate standards and guidelines e.g. EPA guideline *080/07 Bunding and Spill Management*. ▪ Records of spill events and corrective actions maintained in accordance with company procedures. ▪ Spills or leaks are immediately reported and clean up actions initiated.	

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
		▪ Logged incidents are reviewed and corrective action taken in accordance with the company internal compliance register. ▪ Chemical and fuel storage procedures, including signage, are reviewed and monitored in audit process. **Spill Response / Contingency Planning** ▪ Oil spill contingency plan is up to date with specific scenarios relating to spills to creeks and floodplain areas. ▪ Spill response equipment is audited annually. ▪ Emergency response / spill response training exercise / rehearsal is undertaken. ▪ Spills or leaks are immediately reports and cleanup actions initiated. **Waste Disposal (domestic, sewage and sludges)** ▪ Covered bins are provided for the collection and storage of wastes. ▪ All loads of rubbish are covered during transport to the central waste facility. ▪ Approved transportable Aerated Wastewater Treatment Plants (AWPs) used for rigs/camps (once approved AWTPs are available from a supplier suitable to Santos[1]). Interim controls for management of sewage effluent (developed in consultation with the Department of Health) implemented[1]. ▪ Use of permanent septic systems with camps where possible.	
	Waste Disposal (domestic, sewage and sludges) ▪ All domestic wastes are disposed of in accordance with EPA licensing requirements. ▪ 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 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
	Table A2. ▪ No spills or leaks from sewage treatment processing. ▪ Refer to Assessment Criteria for Objective 11.	▪ Refer to Objective 11.	 **<u>Compliance Statement</u>**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective. All well testing and well abandonment operations are conducted to ensure compliance with this objective.***
3. Avoid the introduction or spread of pest plants and animals and implement control measures as necessary.	▪ No weeds or feral animals are introduced to, or spread in, operational areas as a consequence of activities.	▪ Where appropriate a weed and feral animal management strategy is in place (avoidance and control strategies). ▪ Rig and vehicle wash downs are initiated in accordance with the management strategy.	Activity associated with lease and access track construction, such as movement of vehicles and equipment, is a potential source of weed or disease introduction and spread. The most effective technique to prevent the introduction and spreading of weed species is to ensure that vehicles and equipment are appropriately cleaned prior to entry into a construction site on a risk-based approach. **<u>Compliance Statement</u>**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective. All well testing and well abandonment operations are conducted to ensure compliance with this objective.***
4. Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow ground water resources.	**<u>Well Lease and Access Track Construction</u>** ▪ 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).	**<u>Well Lease and Access Track Construction</u>** ▪ Sensitive land systems (e.g. wet lands) avoided wherever possible. Where activities are undertaken in or near these areas, appropriate review, assessment and mitigation measures are in place to ensure that surface water flows are maintained and contamination of surface	The main threats to drainage patterns and surface waters and shallow ground waters are considered to be interruption of natural flows as a result of earthworks and contamination.

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
	Drilling Mud Sumps and Flare Pits ▪ No overflow of drill cuttings, muds and other drilling fluids from mud sumps. ▪ No waste material disposal to sumps and flare pits. **Well Heads (Oil and Gas Systems)** ▪ No leaks/spills outside of areas designed to contain them. **Well Blowdown/Production Testing** ▪ No water (surface or groundwater contamination as a result of production testing or well blowdown operations. **Fuel/Chemical Storage and Handling** ▪ No water (surface or groundwater)	water and groundwater is avoided. **Drilling Mud Sumps and Flare Pits** • All drill cuttings, muds and non toxic drill fluids are contained within the designated mud sumps with adequate freeboard at the completion of operations to allow for a 1m cover of clean fill at remediation. **Well Heads (Oil and Gas Systems)** ▪ Where appropriate, imperviously lined well cellars are installed on oil wells. ▪ Bunds / containment devices are installed on gas well skids. ▪ Well heads shut in and chemicals removed prior to flood events. ▪ Jet pumps are installed within containment device with an adequately sized containment sump. **Well Blowdown/Production Testing** ▪ Activity is conducted in accordance with accepted industry standards / good oilfield practice. ▪ If appropriate use: - Impermeable / clay lined flare pit - flare tanks - separators - supervision	

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES

SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations

Environmental objectives	Assessment Criteria	Guide to How Objective Can Be Achieved	Comments
	contamination as a result of fuel or chemical storage and handling. **Waste Management** ▪ Refer to Assessment Criteria for Objective 11.	**Fuel and Chemical Storage and Handling** ▪ All fuel, oil and chemical storages bunded in accordance with the appropriate standards (e.g. AS 1940 and EPA guideline *080/07 Bunding and Spill Management*). ▪ Records of spill events and corrective actions maintained in accordance with company procedures. ▪ Spills or leaks are immediately reported and clean up actions initiated. ▪ Logged incidents are reviewed to determine areas that may require corrective action in order to reduce spill volumes in subsequent years (and drive continual improvement). ▪ Chemical and fuel storage procedures, including signage, are reviewed and monitored in audit process. **Waste Management** ▪ Refer to Objective 11. **Spill Response / Contingency Planning** ▪ Results of emergency response procedures carried out in accord with Regulation 31 show that oil spill contingency plan in place in the event of a spill is adequate and any necessary remedial action needed to the plan is undertaken promptly. ▪ Oil spill contingency plan (reviewed annually) is up to date with specific scenarios relating to spills to creeks and floodplain areas. ▪ Spill response equipment is audited annually. ▪ Bi-annual emergency response / spill response training / rehearsal exercise is undertaken.	There is potential for the contamination of chemical and fuel storage areas, from oil and gas systems at well heads, during transportation of fuel and chemical s and during transportation of wastes. Localised contamination may result from spills or leaks of well operations chemicals (e.g. corrosion inhibitors) during storage and handling. The major threat of spills is the threat to soil, vegetation and watercourses directly impacted by the spill. Therefore, the achievement of this objective also consequently contributes to the achievement of Objectives 2 and 7 in relation to minimising the impacts on soil and natural habitats. Avoidance of spills will be paramount in areas where the spill can be potentially spread beyond the immediate confines of the spill area into sensitive environments such as creeks and wetlands. **Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective. All well testing and well abandonment operations are conducted to ensure compliance with this objective.***
5. Avoid disturbance to sites of cultural and	▪ Proposed well sites and access tracks have been surveyed and any sites of Aboriginal and non- Aboriginal heritage	▪ Consultation with stakeholders (i.e. government agencies, landholders etc) in relation to the possible existence of heritage sites, as	The aim of the objective is to ensure that any sites of cultural (Aboriginal or non-Aboriginal) heritage significance are identified and

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES

SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations

Environmental objectives	Assessment Criteria	Guide to How Objective Can Be Achieved	Comments
heritage significance.	identified. ▪ Any identified cultural and heritage sites have been avoided	necessary. ▪ Heritage report forms completed for any sites or artefacts identified, and report forms forward to the Aboriginal Heritage Branch, Aboriginal Affairs and Reconciliation Division (AARD). ▪ Survey records are kept and are available for auditing. ▪ Areas requiring remediation which lie outside previously surveyed sites should be surveyed in accordance with company heritage clearance procedures. ▪ A procedure is in place for the appropriate response to any sites discovered during drilling activities. **Note**: Where a negotiated agreement or determination for heritage clearance is in place, compliance with the negotiated agreement or determination takes precedence over the above criteria.	protected. **Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR / EAR requirements, believes that it has complied with all obligations required under this SEO objective. All well sites and access tracks were located subject to the clearance given by the NT Clearance Team and all sites of significance were identified and where necessary cordoned off to prevent access. As part of the prespud meetings, all staff are made aware of the regulations and restrictions pertaining to areas of NT significance.***
6. Minimise loss of aquifer pressures and avoid aquifer contamination. *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.*	**Drilling & Completion Activities** • There is no uncontrolled flow to surface (Blow out). • Sufficient barriers exist in casing annulus to prevent crossflow between separate aquifers or hydrocarbon reservoirs. • Relevant government approval obtained for abandonment of any radioactive tool left downhole. **Producing, Injection, Inactive and Abandoned Wells** No cross-flow behind casing between aquifers, and between aquifers and hydrocarbon reservoirs unless approved	**Drilling & Completion Activities** • A competent cement bond between aquifer and hydrocarbon reservoirs is demonstrated. For cases where isolation of these formations is not established, a risk assessment incorporating the use of pressure / permeability / salinity data is undertaken in consultation with DLWBC & SAALNRM Board to determine if lack of cement or poor bond will cause or has caused damaging crossflow which needs to be remediated. **Producing, Injection and, Inactive Wells** • Monitoring programs implemented (eg. through well logs, pressure measurements, casing integrity measurements and corrosion monitoring programs) to assess condition of casing and	This objective seeks to protect the water quality and water pressure of aquifers that may potentially be useful as water supplies, and to maintain pressure in sands that may host petroleum accumulations elsewhere. To address this objective, the risks of cross flow between aquifer cells known to be permeable and in natural hydraulic isolation from each other, or where there is insufficient information to determine that they are permeable or in hydraulic communication, must be assessed on a case by case basis and procedures implemented to minimize the fresh water aquifer cells from contamination and isolate potential and producing formations from formations that may deplete the reservoir pressure when not on production.

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
	by DWLBC.	cross-flow behind casing. • Casing annulus pressures are monitored as part of routine production operations. • The condition of the primary casing barrier is adequate. • For cases where crossflow is detected, a risk assessment incorporating the use of pressure / permeability / salinity data is undertaken in consultation with DLWBC & SAALNRM Board to determine if lack of cement or poor bond will cause or has caused damaging crossflow which needs to be remediated. **Well Abandonment Activities** • Isolation barriers are set in place to ensure that crossflow, contamination or pressure reduction will not occur. • Barriers will be set to meet or exceed the requirements of applicable standards for the decommissioning and abandonment of water bores and abandonment of petroleum wells. • The placement of isolation barriers will in general be to isolate the groups of formations as listed under comments. The number and placement of barriers may be varied from this standard approach on a case-by case basis by Santos personnel using relevant available data and the SA Cooper Basin Water Pressure and Salinity Module Report (2002), and in consultation with DWLBC.	The following geological formations are aquifers in the Cooper-Eromanga Basins. They may contain permeable sands which may be in natural hydraulic isolation from each other (from shallowest to deepest), and in general isolation will be maintained between these groups: ▪ Eyre; ▪ Winton, ▪ Mackunda; ▪ Coorikiana; ▪ Cadna-owie; ▪ Murta (including McKinlay Member) ▪ Namur, Adori, ▪ Birkhead, Hutton, Poolowanna, ▪ Cuddapan; Nappamerri Group formations, Walkandi and Peera Peera formations ▪ Toolachee; Daralingie; ▪ Epsilon, Patchawarra or Mt Toodna or Purni; ▪ Tirrawarra sandstone or Stuart Range; Merrimelia; Boorthanna; Crown Point formations and Basement reservoirs. **Note**: Crossflow (if it occurs), should not compromise the long term sustainability of a particular resource. **Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective.***

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES

SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations

Environmental objectives	Assessment Criteria	Guide to How Objective Can Be Achieved	Comments
7. Minimise disturbance to native vegetation and native fauna.	**Well Lease and Access Track Construction and Restoration** • Any sites with rare, vulnerable and endangered flora and fauna have been identified and avoided. • 0, +1 or +2 GAS criteria are attained for "Minimise impacts on 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. **Borrow Pits Construction and Restoration** • 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. **Waste Management** • Refer to assessment criteria for Objective 11.	**Well Lease and Access Track Construction and Restoration** • Proposed well sites, camp sites, access tracks and borrow pit sites have been assessed for rare, vulnerable and endangered flora and fauna species before the commencement of construction. • Consider alternate routes during planning phase to minimise environmental impacts. • Sensitive land systems (e.g. wetlands) avoided wherever possible. Where activities are undertaken in these areas (i.e. no practicable alternative), appropriate review, assessment and mitigation measures are in place. • Facilities (e.g. borrow pits, well cellars) are designed and constructed as far as practicable to minimise fauna entrapment. • Sumps and mud pits are fenced as appropriate to minimise wildlife access • Assessment records are kept and are available for auditing. • In recognised conservation reserves (i.e. Innamincka Regional Reserve) excavations are left in a state as agreed with the responsible statutory body. • Borrow pits are restored to minimise water holding capacity, where agreements are not in place with stakeholders. **Waste Management** • Covered bins are provided for the collection and storage of wastes. • All loads of rubbish are covered during transport to the central waste facility.	Primary risks to native fauna include clearing of habitat and obstruction of movement through cleared areas, the presence of borrow pits, fuel and chemical storage and management, and waste management activities.

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
	Fuel and Chemical Storage and Management • Refer to assessment criteria for Objectives 2 and 4.	• Refer to Objective 11. **Fuel and Chemical Storage and Handling** • Refer to Objectives 2 & 4. **Fauna Management** • No domestic pets allowed at camps or worksites. • Feeding of wildlife (e.g. dingoes) is not permitted.	**Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective.***
8. Minimise air pollution and greenhouse gas emissions.	• Compliance with EPA requirements.	**Well Testing** • Conduct well testing in accordance with appropriate industry accepted standards. • Continually review and improve operations. • Appropriate emergency response procedures are in place for the case of a gas leak. **Well Blowdown** • Blowdown carried out in accordance with industry accepted standards / good production practice. • Any well that is consistently blown down is identified for a small ID tubing or plunger lift installation to minimise blow downs on that well.	Atmospheric emissions occur as a result of standard practices undertaken during drilling and well operations. Emissions of particular environmental significance are: • combustion by-products (eg. oxides of nitrogen, carbon monoxide and sulphur dioxide); • organic carbon and carbon particulates (black smoke); and • flared/vented hydrocarbons (gases). **Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required under this SEO objective.***
9. Maintain and enhance partnerships with the Cooper Basin community.	▪ No unresolved reasonable complaints from the community.	• Relevant affected parties are notified and consulted on proposed activities. • Forward development plans are presented to the local community. • Local community projects and events are sponsored and supported where appropriate. • Industry membership of appropriate regional land management committees and boards.	The importance of liaison with and contribution to the local community is recognised by the SACB parties. Notification, consultation, contribution to community activities, projects and events and membership of relevant organisations are considered to be key strategies for ensuring partnerships with the local community are enhanced. **Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR/ EAR requirements, believes that it has complied with all obligations required***

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
			under this SEO objective. No issues have been raised by any other stakeholder regarding activities undertaken by ACER
10. Avoid or minimise disturbance to stakeholders and/or associated infrastructure	▪ No reasonable stakeholder complaints left unresolved.	• Induction for all employees and contractors covers pastoral, conservation, legislation and infrastructure issues. • Relevant stakeholders are notified prior to survey and construction of well sites, camp sites and access tracks and undertaking of operations (pursuant to Petroleum and Geothermal Energy Regulations 2000). Borrow pits left open (unrestored) if requested by landholder and upon receipt of letter of transfer of responsibility to landholder. • Gates or cattle grids are installed to a standard, consistent with pastoral infrastructure in fences where crossings are required for access. • All gates left in the condition in which they were found (ie. open/closed). • Potential sources of contamination are fenced as appropriate to prevent stock access. • Excavations are located and managed so as not to pose an unacceptable hazard to stock or wildlife. • System is in place for logging landholder complaints to ensure that issues are addressed as appropriate. • Requirements of the Cattle Care and Organic Beef accreditation programs are complied with. • In recognised conservation reserves (i.e. Innamincka Regional Reserve) excavations are left in a state as agreed with the responsible statutory body (e.g. DEH).	Communication and the establishment of good relations with stakeholders and community is fundamental to minimising disturbance to as low as practicably possible. Many pastoral properties are certified under the Organic Beef or CattleCare accreditation schemes and therefore may be affected by fuel and chemical storage, moving machinery and contaminated sites. **<u>Compliance Statement</u>**: ***ACER, to its knowledge, has complied with all obligations required under this SEO objective. ACER works closely with fellow stakeholders to ensure good relations are maintained and all issues that may have an affect are communicated and resolved.***
11. Optimise (in order of most to least preferable) waste	• All wastes to be disposed of at an EPA licensed facility in accordance with	• Chemicals and oil are purchased in bulk. "Bulki bins" or other storage tanks are in place for large	Waste reduction requires continual improvements in purchasing, efficiency of use and resuse. The geographical isolation

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations			
Environmental objectives	**Assessment Criteria**	**Guide to How Objective Can Be Achieved**	**Comments**
avoidance, reduction, reuse, recycling, treatment and disposal.	EPA Licence conditions, with the exception of drilling fluids, drill cuttings, other fluids disposed during well clean-up and wastewater (see below). • Wastewater (sewage and grey water) disposed of in accordance with the *Public and Environmental Health (Waste Control) Regulations 1995* or to the Department of Health's satisfaction. • Attainment of GAS criteria for "Site to be left in clean, tidy and safe condition" objective during wellsite restoration (refer Appendix 1 Table A2). • Attainment of GAS criteria for "Site to be left in clean and tidy condition" objective during borrow pit restoration (refer Appendix 1 Table A3).	volume items. • Covered bins are provided for the collection and storage of putrescible wastes. All loads of rubbish are covered during transport to a licensed waste facility. • Waste streams are segregated on site to maximise opportunities for waste recovery, resuse and recycling. • Coordinate covered waste transportation on backload. • Production of waste is minimised by purchasing specifying reusable, biodegradable or recyclable materials in procurement, where practical. • Drilling fluids, drill cuttings and other fluids are disposed of to sump on the Act licence area. • Waste water (sewage) disposal is where possible in accordance with the *Public and Environmental Health (Waste Control) Regulations 1995* (which require that the waste water disposal system must either comply with the *Standard for the Construction, Installation and Operation of Septic Tank Systems in SA* or be operated to the satisfaction of the Department of Health) and the *Environmental Protection (Water Quality) Policy 2003.* • Grey water is disposed of to the sewage treatment system. • Secondary treated sewage wastewater is disposed of onto land well away from any place from which it is reasonably likely to enter any waters, and to minimise spray drift and ponding, in accordance with clause 11 of the *Environment Protection (Water Quality) Policy 2003.*	reduces the available opportunities to recycle. However, continual review of recycling options is required and conducted to ensure that emerging opportunities are utilised. Bins are covered to prevent access by fauna and the spread of rubbish by wind. Responsible handling and disposal of waste will reduce both short-term and long-term impacts of waste on the environment. Refer to Objective 2 for comment on approval of transportable wastewater treatment plants and interim measures for wastewater disposal. **<u>Compliance Statement</u>**: ***ACER, to its knowledge, and through implementing the EIR / EAR requirements, believes that it has complied with all obligations required under this SEO objective.***
12. Remediate and rehabilitate operational areas to agreed	▪ No unresolved reasonable stakeholder complaints. **<u>Contaminated Site Remediation</u>**	▪ Rehabilitation / abandonment plans for surface activities will be developed in consultation with relevant stakeholders	

TABLE 1: ACER COMPLIANCE AGAINST SEO(s) OBJECTIVES

SEO: South Australian Cooper Basin Operators Statement of Environmental Objectives: Drilling and Well Operations

Environmental objectives	Assessment Criteria	Guide to How Objective Can Be Achieved	Comments
standards.	▪ Contaminated sites are remediated to a level as determined by the approved SHI process. ▪ 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. **Well Site and Access Track Restoration** ▪ The attainment of 0, +1 or +2 GAS criteria for the objectives (refer Appendix 1 Table A2): - "To minimise the visual impact" - "The revegetation of indigenous species" **Borrow Pit Restoration** ▪ The attainment of 0, +1 or +2 GAS criteria for (refer Appendix 1 Table A3): - "Revegetation of indigenous species." - "Minimise impact on soil" - "Minimise visual impacts" - "Site to be left in a clean and tidy condition" Note: Well abandonment issues are addressed under Objective 6.	**Well Site and Access Track Restoration** • Compacted soil areas have been ripped (except on gibber and tablelands) and soil profile and contours are reinstated following completion of operations.	**Compliance Statement**: ***ACER, to its knowledge, and through implementing the EIR requirements, believes that it has complied with all obligations required under this SEO objective.***

ACER COMPLIANCE (SEO) OBJECTIVES
GEOPHYSICAL OPERATIONS

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
1. **Objective 1:** Minimise the visual impact of operations. .	Campsite and survey line preparation Proposed survey lines and campsites have been appropriately located and prepared to minimise the visual impact. The attainment of 10, +1 or +2 GAS criteria for 'visual impact' objective listed in Appendix 3.	Pre-survey planning has been undertaken to minimise visibility of operations and records are available for audit. Maximise use of vegetation or land forms to disguise operations. Offset sand dune crest cuts along the length of the survey line to minimise visibility. Avoid extensive side cuts on dune flanks. Lessen visual impact of uphole cuttings, where they contrast with the surface, e.g. by use of appropriate colouring agents. Avoid cutting sand dunes facing tourist access tracks. All litter is to be disposed of correctly.	If techniques to disguise their presence are not implemented, the visual impact of survey lines can be significant. Location of and preparation techniques for survey lines are key factors in determining visual impact. **Achieved +1 or better.**
2. Objective 2: Minimise disturbance to and contamination of soil resources	**Campsite and survey line preparation** Attainment of 0, +1 or +2 GAS criteria for 'Minimise impacts to land surface' objective, as listed in Appendix 3. Proposed survey lines and campsites have been appropriately located and prepared to minimise the disturbance to soil resources. **Fuel Storage and Handling**	Pre-survey planning has been undertaken to minimise impacts of operations and records are available for audit. Survey line preparation techniques are monitored and documented to minimise soil disturbance, particularly in gibber and floodplain/wetland terrains. Gibber mantle has not been removed in gibber and tableland land systems. Gibber surface is not ripped at campsites.	The main sources of disturbance to soils are survey line preparation, vehicle traffic along tracks and restoration activity. The impacts associated with soil disturbance can potentially include wind and water erosion and dust generation. All fuel stored and used should be under the control of qualified or trained personnel. **Achieved +1 or better.**

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
	No refuelling occurs outside designated refuelling/servicing areas. Spills or leaks are immediately reported and clean up actions initiated. Records of spill events and corrective actions are maintained in accordance with company procedures. Appropriate spill response equipment is available on site.	Any requirement to traverse sensitive land systems and the method of managing the impacts should be justified in accordance with company procedures. Any records should be available for audit. There is no evidence of off-road driving or creation of shortcuts. No survey line or access track preparation is carried out on salt lakes. Areas subject to inundation have been assessed for conduciveness to support vehicles. Oil spills areas have been ripped to an appropriate depth.	
3. **Objective 3:** Minimise disturbance to native vegetation and fauna.	**Campsite and survey line preparation** The attainment of either 0, +1 or +2 GAS criteria for 'Impact on native vegetation' objective listed in Appendix 3. No mature trees are removed. Vehicle access to survey lines is to be via existing access tracks or pre-existing survey lines, except where they have rehabilitated. Other temporary access tracks may be utilised where such use is likely to result in less environmental impact than other options. **Fuel and Chemical Storage and Management** Refer to assessment criteria for objective.	Terrain and vegetation is considered in planning stage when designing layout of the survey. Records of vegetation clearance/habitat disturbance are kept and available for auditing. Appropriately trained and experienced personnel have scouted proposed survey lines access tracks and campsites. Native vegetation clearance has been minimised and the conservation needs of specific species have been considered. Campsites are established in locations where the preparation of a new access track is not necessary. **Waste Management** Covered bins are provided for the collection and storage of wastes, while all loads of	Primary risks to native fauna include clearing of habitat and obstruction of movement through prepared areas. Current survey line and access track preparation techniques have been shown by a number of studies to have an insignificant impact on wildlife habitat and minimal impact on vegetation. This is due to the small and confined area of impact of survey lines and the rate of recovery of most vegetation types and surface morphology. The aim of this objective is to also maximise the potential for vegetation regrowth. Potential impacts of waste on vegetation and fauna also addressed under Objective 8. **Achieved +1 or better.**

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
	Fire Danger Season restrictions and education All personnel are fully informed on the fire danger season and associated restrictions.	rubbish are covered during transport to the central waste facility. **Fire Danger Season restrictions and education** Include Fire Season education as part of the induction.	
4. Objective 4: Avoid disturbance to sites of cultural and heritage significance.	The following is one possible procedure to achieve the objective. Appropriately trained and experienced cultural/heritage advisors have scouted proposed survey line locations and access tracks. The operator has a mechanism in place to appropriately report and respond to any sites discovered during survey operations. Any sites identified have been flagged and subsequently avoided. *Note:* Where a negotiated agreement or determination for heritage is in place, compliance with the negotiated agreement or determination takes precedence over the above criteria. The EIR details this possible procedure.	The possible procedure may well be achieved by the following: Documents and/or reports of scouting for cultural/heritage are available for audit. Environmental Report Forms (ERF) to be completed for any sites or artefacts identified. The ERFs relating to Aboriginal sites are forwarded to Department for Aboriginal Affairs and Reconciliation (DAARE). *Note*: Where a negotiated agreement or determination for heritage is in place, provisions may include that appropriately trained and experienced cultural/heritage advisors will carry out a Work Area Clearance (WAC) and produce a report for sites of cultural and heritage significance before commencement of line preparation. This provision will take precedence over the above guideline. The EIR details these criteria for the possible procedure.	The aim of this objective is to ensure that any sites of Aboriginal and non-Aboriginal heritage significance are identified and protected. New suspected sites located should be recorded and copies of the records submitted to DAARE. **Achieved.**

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
5. **Objective 5:** Minimise disturbance to livestock, pastoral infrastructure and landholders.	The attainment of 0, +1 or +2 GAS criteria for 'Impact on infrastructure' objective listed in Appendix 3. No reasonable concerns raised by stakeholders are left unresolved. The extent to which the relevant sections of the Petroleum and Geothermal Energy Act and Regulations have been followed and implemented and in particular in relation to landowner liaison and notification.	Relevant landowners and occupiers are notified prior to survey of preparation of campsites, preparation of survey lines and undertaking of operations (pursuant to the Petroleum Regulations). Compliance with requirements of the Cattle Care and Organic Beef accreditation programmes. System is in place for logging landholder complaints to ensure that issues are addressed as appropriate. Seismic sources are not to operate within 20 m of any pipeline, utility, installation or building. This distance may need to be larger for explosive-sources, pending size of explosive used. Damage to station tracks is avoided. Operations in wet weather are not allowed. All gates are left in the condition in which they were found (i.e. open/closed). When necessary, all fences are restored to satisfaction of landowner/managers Inductions for all employees and contractors covers pastoral, conservation, legislation and infrastructure issues.	Communication and the establishment of good relations with landowners and community are fundamental to minimising disturbance as much as practicably possible. Many pastoral properties are certified under the Organic Beef or Cattle Care accreditation schemes and therefore may be affected by fuel and chemical storage, moving machinery and contaminated sites. *Note:* The publication "*Liaison guidelines for landholders and petroleum explorers in South Australia* is a recommended source for effective liaison with landowners. Access to land is a key factor for a long-term sustainable petroleum industry. Community support is vital for the petroleum industry to access land and hence realise the resources beneath the land. It is imperative that the industry establishes and maintains good relations with the landowner/occupier particularly pastoralists and managers of parks and reserves and tourist interests. **Achieved.**
6. **Objective 6:** Avoid the introduction or spread of exotic species and implement control measures as necessary.	Weeds or feral animals are not introduced into, or spread, in operational areas	All vehicles and equipment appropriately cleaned prior to entering the Cooper Basin. Vehicles and equipment are to be cleaned when moving from areas within the Cooper Basin where weeds are present. Cleaning carried out in accordance with specified company procedures and accepted practices.	A potential source of weed or pest introduction is from vehicles and equipment brought in from other regions of the State or interstate. The most effective way of preventing such introduction is by thoroughly cleaning vehicles and equipment prior to entering the Cooper Basin. **Achieved.**

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
		Records of vehicle and equipment cleaning are kept and available for auditing. Records of detection, monitoring or eradication of exotic weed or other pest or noxious species introduced by industry activities are kept and are available for audit.	
7. **Objective 7:** Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.	**Campsite and survey line preparation** Campsites and survey lines/traverses are located and constructed to avoid diversion of water flows. The attainment of 0, +1 or +2 GAS criteria for 'disturbance to land surface' objective listed in Appendix 3. No uncontrolled flows to surface from aquifers intersected in upholes/shallow boreholes. There is no unnecessary interference with natural drainage features. **Fuel Storage and Handling** No spills occur outside of areas designed to contain them. Refuelling occurs at least 1km from watercourses or sensitive ecological environments (wetlands). Appropriate spill response equipment is available on site. Spills or leaks are immediately reported and clean up actions initiated promptly.	All access through watercourses area carefully assessed to determine the locations of least impact to channels and creek banks. Any artesian flows are to be immediately plugged and monitored to ensure effectiveness of plug(s). Any required remediation work carried out as soon as possible after completion of all activities If any contamination from spillage of oils or fuel occurs during vehicular operations, immediate effective clean-up procedures must be employed.	The main threat to drainage patterns and surface waters is the interruption of natural flows as a result of access track preparation through watercourse channels and creek bank disturbance. Campsite and line preparation should aim to minimise impacts to drainage systems, by avoiding sensitive areas and using appropriate preparation methods to avoid or minimise the development of windrows. Any remediation work should be undertaken immediately upon completion of all activities. Localised contamination may result from spills or leaks of vehicles during storage and handling or vehicle travel. The major threat of spills is the threat to soil, vegetation and watercourses directly impacted by the spill. Therefore, the achievement of this objective also consequently contributes to the achievement of Objectives 2 and 4 in relation to minimising impacts on soil and natural habitats. **Achieved +1 or better.**

TABLE 2: ACER COMPLIANCE (SEO) OBJECTIVES **SEO: Statement of Environmental Objectives (SEO): Geophysical Operations, Cooper Basin SA**			
Environmental objective	**Possible impact**	**Means for achieving objectives**	**Assessment Criteria and Compliance Statement**
8. **Objective 8:** Optimise waste reduction and recovery.	Wastes are segregated, burnt or transported to an Environment Protection Authority (EPA) approved waste disposal facility for recycling or burial in accordance with approved procedures. 0, +1 or +2 GAS criteria are attained for 'Negligible survey markers and rubbish in situ' objective listed in Appendix 3.	Production of waste is minimised by purchasing biodegradable or recyclable materials where practical.	Waste reduction requires continual improvements in purchasing, efficiency of use and reuse. Due to the distances involved, the cost of recycling a large range of products may be prohibitive. However, continual review of recycling options is required to ensure that improvements are implemented as far as practical. **Achieved +1 or better.**

APPENDIX 2

Expenditure Report to 29 October 2013