



Annual Report

Licence Year 4 of First Renewal Term

5 June 2011 to 4 June 2012

Petroleum Exploration Licence (PEL) 91

**Cooper / Eromanga Basin
South Australia**

3 August 2012

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1 Introduction

Petroleum Exploration Licence (PEL) 91 was granted on 8 January 2002. The Licence is located on the western margin of the Cooper/Eromanga Basin, South Australia.

This report details the work conducted during Licence Year 4 of the first renewal Term (5 June 2011 to 4 June 2012) in accordance with Regulation 33 of the *Petroleum and Geothermal Energy Act 2000*.

2 Licence Summary

Petroleum Exploration Licence 91 was originally awarded in January 2002 to:

- Great Artesian Oil and Gas (formerly Tyers Investments) 100%

Beach Petroleum farmed into the Licence in December 2002 and became the Operator. The participating interests in PEL 91 subsequently became:

- Great Artesian Oil and Gas Limited 60%
- Beach Petroleum Limited (Operator) 40%

The Licence was renewed after a 33.3 percentage relinquishment, effective 5 June 2008, for a further five year term. The area now occupied by PEL 91 is 1972 square kilometres, approximately.

The current registered interests in PEL 91 are:

- Great Artesian Oil and Gas Limited 60%
- Beach Energy Limited (Operator) 40%

Interests in the Udacha Block (Udacha Unit Area, PEL 91 and PEL 106), effective from 1 July 2010, were entered on the public register on 7 December 2010 as:

- Great Artesian Oil and Gas Limited 45%
- Beach Energy Limited 15%
- Drillsearch Gas Pty Limited 30%
- Rawson Resources Limited 10%

The original work commitments for the first renewal term of PEL 91 are detailed in Table 1.

Table 1 Original Work Program Commitments by Licence Year

Licence Year	Licence Dates	Minimum Work Program
Year 1 (firm)	5 June 2008 to 4 June 2009	Geological and Geophysical studies
Year 2	5 June 2009 to 4 June 2010	100km of 2D seismic acquisition Geological and Geophysical studies
Year 3	5 June 2010 to 4 June 2011	Geological and Geophysical studies
Year 4	5 June 2011 to 4 June 2012	Geological and Geophysical studies
Year 5	5 June 2012 to 4 June 2013	Geological and Geophysical studies Drill one well

A 12 month suspension of work commitments was granted on 16 August 2011 for the period 5 June 2011 to 4 June 2012. The term of the PEL 91 was also extended and will expire on 4 June 2015. The suspension and extension was granted due to widespread flooding in the basin which significantly compromised planned seismic and drilling operations in the permit.

The Licence carries the rights to one further renewal subject to the provisions of the *Petroleum and Geothermal Energy Act 2000*.

Table 2 below details the current minimum work program and corresponding licence years. There have been no variations to the work program since the Licence renewal was awarded, hence the original commitments listed above also constitute the final work program.

Table 2 Final Work Program Commitments by Licence Year (varied August 2011)

Licence Year	Licence Dates	Minimum Work Program
Year 1	5 June 2008 to 4 June 2009	Geological and Geophysical Studies
Year 2	5 June 2009 to 4 June 2012	100km of 2D seismic acquisition Geological and Geophysical Studies
Year 3	5 June 2010 to 4 June 2013	Geological and Geophysical Studies
Year 4	5 June 2011 to 4 June 2014	Geological and Geophysical Studies
Year 5	5 June 2012 to 4 June 2015	Geological and Geophysical Studies Drill one well

Table 3 summarises the work completed by the Joint Venture as at 4 June 2012. The minimum work commitments for the first renewal term have been exceeded with the drilling of eight exploration wells and acquisition of 600 km² of 3D seismic data and 250 km of 2D seismic data.

Table 3 Work Program and Work Completed (to 4 June 2012) by Licence Year

Licence Year	Minimum Work Program	Work Completed
Year 1	Geological and Geophysical studies	Modiolus 3D seismic survey, plus Geological and Geophysical studies
Year 2	100km of 2D seismic acquisition Geological and Geophysical studies	Chiton-1 and Marino-1 exploration wells, plus Geological and Geophysical studies
Year 3	Geological and Geophysical studies	Hanson-1
Year 4	Geological and Geophysical studies	Snellings-1, Arno-1, Bauer-1, Bauer-2, Bauer-3, Bauer-4, Searcy-1, Basham-1. Undatus 2D , Aquillus 3D & Limbatus 3D
Year 5	Geological and Geophysical studies Drill one well	

3 Regulated Activity

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

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

3.1 Drilling

Five exploration wells were drilled during the permit year. Three of the wells, Snellings-1, Arno-1 and Bauer-1, were drilled as vertical oil exploration wells to test the mapped crest of anticlinal 4-way dip structures at the Namur Sandstone. Snellings-1, Arno-1 and Bauer-1 all intersected oil and were cased and suspended as future Jurassic Namur Sandstone oil producers.

The Bauer discovery well intersected the largest McKinlay/Namur oil column found to date on the PEL 91 and PEL 92 Cooper Basin western flank area. A further three appraisal/development wells were also drilled in the Bauer field during the reporting period to test the aerial extent of the mapped crest of an anticlinal 4-way dip structure at the Namur Sandstone level intersected by Bauer-1. Birkhead Formation sands were considered secondary targets, with minor oil shows encountered whilst drilling this section in Bauer-1. Bauer appraisal/development wells were also designed to further understand the local velocity fields, provide an understanding of the McKinlay Member and provide a further drainage point to develop reserves.

Searcy-1 was drilled as a vertical oil exploration well to test Jurassic stratigraphically trapped sandstone reservoirs. Basham-1 was drilled as a sub-vertical exploration well (due to surface topography constraints) to test for stratigraphically trapped hydrocarbons within the Jurassic Birkhead Formation. Searcy-1 was plugged and abandoned with minor shows through the basal Birkhead formation. Basham-1 was cased and suspended as a potential future water injector.

A summary of the wells drilled in PEL 91 during the reporting period is provided in Table 4 below.

The location of the wells drilled in PEL 91 during the reporting period is shown in the below map (Figure 1).

Tables 4 Summary of Wells Drilled in PEL 91 in Licence Year 4

Well Name	Snellings-1
Type of well	Exploration
Contractor	Ensign International Energy Services
Date Spudded	6 June 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	0.3m net pay in McKinlay Member
Status	Cased and Suspended
Rig release	25 June 2011
Rig	Ensign Rig 18
Pad & Track construction	Earthworks commenced 28 February 2011 to build standard lease and 100m access track. Construction was completed on 8 March 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Arno-1
Type of well	Exploration
Contractor	Ensign International Energy Services
Date Spudded	30 June 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	0.2m net pay in Namur Sandstone
Status	Cased and Suspended
Rig release	18 July 2011
Rig	Ensign Rig 18
Pad & Track construction	Earthworks commenced 5 June 2011 to build standard lease and 500m access track. Construction was completed on 19 June 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Bauer-1
Type of well	Exploration
Contractor	Ensign International Energy Services
Date Spudded	24 July 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	0.46m net pay in McKinlay Mbr and 10.67 m net pay in Namur Sst
Status	Cased and Suspended
Rig release date	3 August 2011
Rig	Ensign Rig 18
Pad & Track construction	Earthworks commenced 15 June 2011 to build standard lease and approx. 1 km access track. Construction was completed on 23 June 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Searcy-1
Type of well	Exploration
Contractor	Ensign International Energy Services
Date Spudded	10 August 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	0 m
Status	Plugged and Abandoned
Rig release	21 August 2011
Rig	Ensign Rig 18
Pad & Track construction	Earthworks commenced 29 June 2011 to build standard lease and 2.3 km access track. Construction was completed on 17 July 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

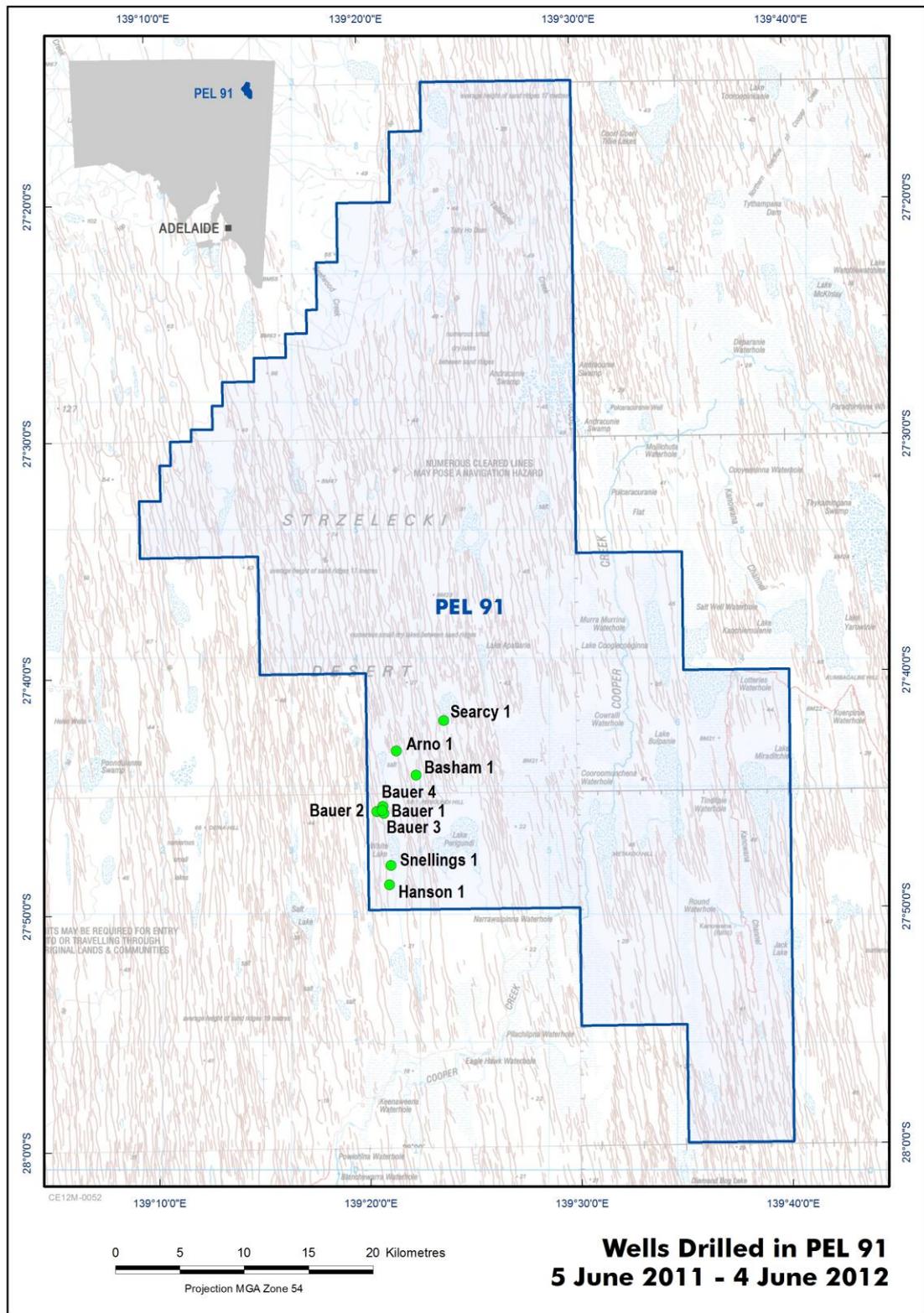
Well Name	Bauer-4
Type of well	Appraisal / Development
Contractor	Ensign International Energy Services
Date Spudded	23 September 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	11.5 m net pay in Namur Sst
Status	Cased and Suspended
Rig release	30 September 2011
Rig	Ensign Rig 30
Pad & Track construction	Earthworks commenced 14 September 2011 to build standard lease and 300m access track. Construction was completed on 18 September 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Bauer-3
Type of well	Appraisal / Development
Contractor	Ensign International Energy Services
Date Spudded	3 October 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	1.2 m net pay in McKinlay Mbr and 3.2 m net pay in Namur Sst
Status	Cased and Suspended
Rig release	10 October 2011
Rig	Ensign Rig 30
Pad & Track construction	Earthworks commenced 18 September 2011 to build standard lease and 150m access track. Construction was completed on 25 September 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Bauer-2
Type of well	Appraisal / Development
Contractor	Ensign International Energy Services
Date Spudded	13 October 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	1.7m of net pay in Namur Sandstone
Status	Cased and Suspended
Rig release	22 October 2011
Rig	Ensign Rig 30
Pad & Track construction	Earthworks commenced 28 September 2011 to build standard lease and 350m access track. Construction was completed on 9 October 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Well Name	Basham-1
Type of well	Exploration
Contractor	Ensign International Energy Services
Date Spudded	26 October 2011
Formations Intersected	Full representation of Eromanga and Cooper Basin strata was intersected. The depths at which each of the formation tops was intersected is provided to DMITRE in the Well Completion Report
Evaluated hydrocarbon pay	2.1 m of net pay in Birkhead
Status	Cased and Suspended
Rig release	7 November 2011
Rig	Ensign Rig 30
Pad & Track construction	Earthworks commenced 5 September 2011 to build standard lease and 800m access track. Construction was completed on 14 September 2011
Borrow Pit construction	New borrow pits were excavated. Rehabilitation will be undertaken in accordance with guidelines

Figure 1 Location of wells drilled in PEL 91 in Licence Year 4



3.2 Well Completions and Production Testing

Chiton-1 production was heavily affected by Cooper Creek flooding during the reporting period. The well was shut in for most of May 2011 to January 2012. The well was back online at the start of February after the flood waters had receded and road access was again established. Chiton was produced on free-flow from the start of February until the end of the reporting period with an 18 day shut-in at the start of March due to localised rain preventing trucking access. On the 1st June the field was shut in due to localised rain. All the crude transported from Chiton from February was trucked directly to Moomba.

A production facility was constructed at the Bauer Field during the reporting period. The facility comprises three crude oil storage tanks, three tanks equipped as dewatering separators and has an emergency shutdown (ESD) system to provide overfill protection of tanks. The facility is equipped with PPD storage and a road tanker loadout system. Produced formation water disposal is via two AXOL lined interceptor ponds and two HDPE lined holding ponds with pumped discharge to an adjacent freeform evaporation area. Bauer-1, Bauer-2, Bauer-3, and Bauer-4 are connected to the facility via surface laid steel flowlines.

The Bauer field facility and flowlines were completed mid-May 2012 allowing the Bauer wells the option to commence EPT. Bauer-1, Bauer-2, Bauer-3 and Bauer-4 were completed in January 2012. Bauer-1 and Bauer-3 were also perforated during the completions process and flowed at approximately 6050 BOPD from the Namur sandstone and approximately 1150 BOPD from the McKinlay formation respectively. The perforations of Bauer -2 and Bauer-4 were not undertaken during the report period.

Bauer-3 was produced from the 16 May 2012 from the McKinlay formation into the Bauer facility but was shut in on the 30 May 2012 due to localised rain. All oil produced was trucked direct to Moomba.

Hanson-1 was completed and perforated on the 23 January 2012 and flowed at approximately 760 BOPD from the McKinlay-Namur formation. The well will remain shut until the Hanson facility and flowlines are constructed.

Table 5 Extended Production Testing in PEL 91 Fields in Licence Year 4

Field	Oil (BPD)	Water (BPD)
Bauer	9,301	0
Chiton	21,123	278,022

3.3 Seismic Data Acquisition

Three seismic surveys were acquired in PEL 91 during the reporting period.

Acquisition of the Aquillus 3D Survey was originally scheduled for 2010, but heavy rainfalls and floodwaters in the Cooper Basin, forced the seismic acquisition to be deferred. The acquisition of Aquillus commenced in September 2011 and was completed in December 2011. The Limbatus and Undatus surveys were also acquired in Licence Year 4.

Table 6 Seismic Surveys in PEL 91 in Licence Year 4

Survey	Acquisition Start Date	Acquisition Completion Date	Length/Area
Undatus 2D	19 August 2011	2 September 2011	252 km
Aquillus 3D	12 September 2011	4 December 2011	310 sq km
Limbatus 3D	5 December 2011	23 January 2012	151 sq km

The Undatus data covers the north western part of the permit and addresses an area that is very sparse in seismic data. The region is anticipated to be prospective for Birkhead Formation and Namur Sandstone hydrocarbon accumulations. The Undatus 2D survey along with the re-processed data will address nine leads that are currently in the seriatim and may also reveal leads that are not currently covered by any data.

3.4 Seismic Data Processing / Reprocessing

The Undatus 2D Seismic Survey was processed by Fugro Seismic Imaging Pty Ltd in Perth between September 2011 and August 2012. An additional 300km of existing 2D data was reprocessing in conjunction with the Undatus survey. The Aquillus 3D Seismic Survey was processed by Velseis Processing Pty Ltd in Brisbane between December 2011 and July 2012. The Limbatus 3D Seismic Survey is currently being processed by Velseis Processing Pty Ltd. Processing for this survey commenced in February 2012.

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 regulation, 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 likelihood of recurrence of any such non-compliances”.

4.1 Licence and Regulatory Compliance

There were cases during the current reporting period in which the PEL 91 Operator failed to comply with Regulation 20, Regulation 39 and Regulation 40 of the Petroleum and Geothermal Energy Regulations 2000 (the Regulations). A summary of the non-compliances is provided in Table 7. With the exception of the incidents listed below, the PEL 91 licensee complied with the Act, the Regulations and the Licence.

Table 7 Regulatory non-compliances in Licence Year 4

Activity	Details of Non-Compliance	Rectification of Non-Compliance
Construction of access and lease for Searcy-1	Regulation 20 - Detailed activity information for construction activities at Searcy-1 not provided prior to commencement of work.	Regulation 20 - Detailed activity information provided. Review of systems and process to ensure submission of information prior to commence of construction activities
Submission of Wireline logs	Regulation 39 – Incomplete logs submitted for Hanson-1, Snellings-1, Arno-1.	Quality control process implemented to ensure complete dataset is provided
	Regulation 39 – Logs submitted late for Bauer-1, Bauer-2, Bauer-3 & Bauer-4 due to late submission of data from contractors	In some cases extensions of time were requested and granted. However, in some cases logs were over 1 month late. Ongoing discussions with contractors regarding resourcing issues
Submission of Well Completion Reports	Regulation 40 – WCR submitted late for Bauer-2, Bauer-3, Searcy-1 and Basham-1 due to late submission of data from contractors	In some cases extensions of time were requested and granted. However, in some cases data (CBL, mudlogs) were over 1 month late. Ongoing discussions with contractors regarding resourcing issues

4.2 Compliance with Statement of Environmental Objectives (SEO)

4.2.1 Drilling

The PEL 91 licensee complied with the *Statement of Environmental Objectives for Drilling and Well Operations (November 2009)* (the **Drilling SEO**) for the activities associated with the drilling of wells during the reporting period. One exception was a non-compliance with objective 2 of the Statement of Environmental Objectives for Drilling and Well Operations as a result of a spill of hydraulic fluid from a hose at the Arno-1 well. Rectification action included clean-up and review of contractors' work practices to include more regular inspections.

A detailed report and statement of compliance against all the Drilling SEO is provided in Appendix 1.

4.2.2 Seismic

An extensive seismic program was undertaken in PEL 91 during the reporting period. Seismic acquisition was carried out in accordance with the *Statement of Environmental Objectives for Cooper Basin Geophysical Operations (June 2006)* (the **Seismic SEO**). Non-compliances with the Seismic SEO involved two spills from hydraulic hoses on dozers and one spill at the seismic camp. The spills were immediately cleaned-up and in the case of the dozer, the equipment was repaired..

A detailed report and statement of compliance against all the Seismic SEO is provided in Appendix 1.

4.2.3 Production

The PEL 91 Licensee complied with the Statement of Environmental Objectives for Petroleum Production Operations (the **Production SEO**). A detailed report and statement of compliance against all the Production SEO is provided in Appendix 1.

4.3 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 were undertaken during the current reporting period that were specific to exploration activities on PEL 91.

4.4 Report 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”.

A list of the reports and data generated and samples submitted to DMITRE in relation to the operations undertaken during the current reporting period for PEL 91 is provided in Table 8.

Table 8 Reports and Data submitted to DMITRE

Annual Reports

Description of Report / Data	Date Due	Date Submitted	Compliant / Non-compliant
Annual Report for Licence Year 3	3 August 2011	3 August 2011	Compliant

Quarterly Reports

Quarterly Compliance Report 2nd Quarter 2011	31 July 2011	29 July 2011	Compliant
Quarterly Compliance Report 3rd Quarter 2011	31 October 2011	28 October 2011	Compliant
Quarterly Compliance Report 4th Quarter 2011	31 January 2012	31 January 2012	Compliant
Quarterly Compliance Report 1st Quarter 2012	30 April 2012	30 April 2012	Compliant
Quarterly Cased Hole Report 2nd Quarter 2011	31 July 2011	29 July 2011	Compliant
Quarterly Cased Hole Report 3rd Quarter 2011	31 October 2011	28 October 2011	Compliant
Quarterly Cased Hole Report 4th Quarter 2011	31 January 2012	31 January 2011	Compliant
Quarterly Cased Hole Report 1st Quarter 2012	30 April 2012	30 April 2012	Compliant

Hanson Field

Wireline logs	2 months after logs acquired ⁽¹⁾	4 August 2011	Non-Compliant ⁽³⁾
Wireline logs (Resubmission)		14 December 2011	
Well Completion Report	6 months after rig release ⁽¹⁾	9 December 2011	Compliant

Well samples	6 months after rig release	14 September 2011	Compliant
Activity Notification for Hanson Facility	21 days prior to commencing activity	21 December 2011	Compliant

Snellings Field

Wireline logs	2 months after acquisition ⁽¹⁾	23 August 2011	Non-Compliant ⁽³⁾
Well Completion Report	6 months after rig release	21 December 2011	Compliant
Well samples	6 months after rig release	17 August 2011	Compliant

Arno Field

Wireline logs	2 months after acquisition ⁽¹⁾	6 October 2011	Non-Compliant ⁽³⁾
Wireline logs (Resubmission)		16 February 2012	
Well Completion Report	6 months after rig release	18 January 2012	Compliant
Well Completion Report (Resubmission)		28 March 2012	
Well samples	6 months after rig release	14 September 2011	Compliant

Bauer Field

Wireline logs Bauer-1	2 months after logs acquired ⁽¹⁾	28 October 2011	Non-Compliant ⁽⁴⁾
Wireline logs Bauer-1 (Resubmission)		23 January 2012	
Well Completion Report Bauer-1	6 months after rig release ⁽¹⁾	5 March 2012	Compliant
Well samples Bauer-1	6 months after rig release	22 September 2011	Compliant
Wireline logs Bauer-4	2 months after logs acquired	23 January 2011	Non-Compliant ⁽⁴⁾
Well Completion Report Bauer-4	6 months after rig release	29 March 2012	Compliant
Well samples Bauer-4	6 months after rig release	31 January 2012	Compliant
Wireline logs Bauer-3	2 months after logs acquired	23 January 2012	Non-Compliant ⁽⁴⁾
Wireline logs Bauer-3 (Resubmission)		23 January 2012	
Well Completion Report Bauer-3	6 months after rig release ⁽¹⁾	6 June 2012	Non-Compliant ⁽⁴⁾

Well samples Bauer-3	6 months after rig release	16 February 2012	Compliant
Wireline logs Bauer-2	2 months after logs acquired	8 December	Non-Compliant ⁽⁴⁾
Wireline logs Bauer-2 (Resubmission)		23 January 2012	
Wireline logs Bauer-2 (Resubmission)		4 June 2012 (depth shift)	
Well Completion Report Bauer-2	6 months after rig release	6 June 2012	Non-Compliant ⁽⁴⁾
Well samples Bauer-2	6 months after rig release	13 March 2012	Compliant
Activity Notification for Bauer Facility	21 days prior to commencing activity	30 November 2011	Compliant

Searcy Field

Wireline logs	2 months after logs acquired	14 December 2011	Compliant
Well Completion Report	6 months after rig release ⁽¹⁾	20 March 2012	Non-Compliant ⁽⁴⁾
Well samples	6 months after rig release	5 December 2011	Compliant

Basham Field

Wireline logs	2 months after logs acquired	8 December 2011	Compliant
Well Completion Report	6 months after rig release	19 June 2012	Non-Compliant ⁽⁴⁾
Well samples	6 months after rig release	20 January 2011	Compliant

Notifications of Activity

Activity notification for construction for Bauer-2	21 days prior to commencing activity	5 September 2011	Compliant ⁽²⁾
Activity notification for construction for Bauer-3	21 days prior to commencing activity	9 September 2011	Compliant ⁽²⁾
Activity notification for construction for Bauer-4	21 days prior to commencing activity	9 September 2011	Compliant ⁽²⁾
Activity notification for drilling Bauer-4	21 days prior to activity commencing	9 September 2011	Compliant ⁽²⁾
Activity notification for drilling Bauer-3	21 days prior to commencing activity	9 September 2011	Compliant
Activity notification for drilling Bauer-2	21 days prior to commencing activity	5 September 2011	Compliant

Notification of regulated activities for Basham-1	21 days prior to commencing activity	9 August 2011	Compliant
Notification of regulated activity – Undatus 2D and Limbatus 3D seismic	21 days prior to commencing activity	7 June 2011	Compliant

(1) Extension to original submission date provided by DMITRE

(2) Approval to waive 21 day notice period provided by landholders and DMITRE

(3) Non-Compliance - Incomplete data sent to DMITRE – Complete datasets resubmitted

(4) Non-Compliance – Late submission to DMITRE due to late submission of well data by contractors

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*

Health, Safety and Environmental incidents are reported to DMITRE through quarterly compliance reporting. A total of eight (8) reportable incidents occurred in PEL 91 during the reporting period. These incidents are summarised in Table 9.

Table 9 Reportable Incidents During Licence Year 3 of the First Renewal Term

Field	Date	Quantity / Area Affected	Incident Description	Root Cause	Steps taken for clean-up and rehabilitation	Steps taken for prevention of recurrence
Arno-1	10/07/2011	200Ltrs 4m ²	Hydraulic hose that runs from the Carrier to the Hydraulic bank at the drillers console on the floor burst.	Monitoring & maintenance	Spill kit was used to clean up in situ. When rig moves off location a final inspection and clean-up was done.	Ensign PMS modified to incorporate increased regularity inspections pertaining specifically to hydraulic lines.
Undatus 2D Line BC11-26	19/08/2011	1000m ²	Line BC11-26 was dozed past the intended shortened cut-off point by 1.07km. This was a new cultural heritage cut-off point which was given to survey when it was received. The intention was to cut line BC11-05 and BC11-26 short on the south east end as the cultural heritage crew was not able to get there due to floodwaters. The GPS points were supposed to be updated in the GPS receivers of all dozers. This had been discussed at several toolbox meetings and it was incorrectly assumed that this had been done.	Training	Not required as fits within normal line preparation procedures. WAC crew visited site & determined there was no impact to cultural heritage sites.	Training of the surveyor was upgraded immediately after incident by survey manager visit to crew.

Undatus Line BC11-04	17/08/2011	70	The dune was damaged due to excessive ramping by the dozer operator.	Supervision	Following survey, dozer will return and undertake recontouring of dune to reduce visual impact.	Operators to be more closely supervised and instructed by Terrex contracting manager in new terrains
Aquillus 3D Seismic	29/10/2012		cardboard boxes were alight under the kitchen stairs	Induction & Training	extinguisher to contain the fire while the HSE Advisor filled 2 buckets of water and assisted in extinguishing the fire.	New control measures have been put in place to avoid potentially serious accidents related to fire. Designated smoking area has been set up in a safe location with large metal bins for cigarette butts to be put into. A written warning for not smoking in designated areas is now in place. Cooks have been told not to keep any empty boxes around the kitchen as the same for other areas of the camp e.g. workshops, offices, etc.
Limbatus 3D Seismic	8/12/2011	4m	Dozer 7 missed Detour around cultural heritage site located at the intersection of S5042 and R1357	Communication	Rehab not required. No line prep in this area - vehicles walked through only.	New system put into place using updated technology. Operators not to work on any lines without prior discussion with line pointer.
Limbatus 3D Seismic	10/01/2012	10Litres	TC Dozer #4 blew a hydraulic hose	Monitoring and Maintenance	Contaminated soil was picked up and bagged.	Dozer Repaired

Limbatus 3D Seismic	14/01/2012	15Litres	TC Dozer #4 blew a hydraulic hose	Monitoring and Maintenance	Contaminated soil was picked up and bagged.	Dozer removed from the field and the hydraulic pump will be replaced.
Limbatus 3D Seismic Camp	29/01/2012	5Litres	Small oil spills on the ground around the camp	Monitoring and Maintenance	Contaminated soil removed	Ensure Seismic camps have oil spill kits/urea to remediate in situ.

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”.

There are no foreseeable threats to the proposed exploration activities for PEL 91, other than the disruptive influence of occasional flooding of the Cooper Creek or abnormally high rainfalls in the basin itself.

Flooding events in the headwaters of the Cooper Creek are closely monitored by satellite surveillance to predict well in advance the time of their arrival in the PEL 91 area. Drilling schedules will continue to be amended accordingly.

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”.

The Joint Venture intends to drill additional exploration wells delineated from the Aquillus 3D seismic survey.

Appraisal/development wells will also be drilled to further understand the extent of the PEL 91 fields (Chiton, Hanson and Bauer). The development of PEL 91 oil fields will also be progressed with development of facilities and construction of pipelines underway.

Additional 3D seismic acquisition is also planned for in 2012-13 financial year.

5 Statement of Expenditure

Pursuant to Regulation 33(2) (h) 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”

The Expenditure Statement for Licence Year 4 of the first renewal term is presented as Appendix 2.

APPENDIX 1

Compliance with the SEO for Drilling and Well Operations PEL 91 Licence Year 4

Beach's strategies for achieving each of the SEO objectives during the drilling of wells (Snellings-1, Arno-1, Bauer-1, Bauer-2, Bauer-3, Bauer-4, Searcy-1, Basham-1) are outlined in Table below.

Note: The Santos SEO for Drilling and Well Operations has been adopted by Beach Energy Limited for its Drilling and Well Operations in the South Australian sector of the Cooper Basin. References to 'Appendix 1 Table A2' and 'Appendix 1 Table A3' refer to tables included in Santos' "South Australia Cooper Basin Statement of Environmental Objectives: Drilling and Well Operations November 2009"

Table A1-1 SEO for Cooper Basin Drilling Operations			
Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 1:</u> Minimise risks to the safety of the public and other third parties.</p>	<p>Reasonable measures implemented to ensure no injuries or health risks to the public or to third parties.</p>	<p>Compliant</p>	<p>Communication of all potential hazards to safety associated with drilling and other well site operations including the rig move to all affected parties, prior to the commencement of such activities. Beach maintained regular contact with the landholder and associated stakeholders during drilling operations.</p> <p>The design and operation of the PEL 91 activities was undertaken in accordance with Beach safety policies, standards and guidelines. All employees visiting or working on the Ensign 18 or 30 rig undertook a safety induction prior to commencing work in the field and will undertake a refresher course if/when required. Beach's Permit to Work System was in operation during drilling operations to control potentially dangerous situations.</p>

		<p>Appropriate Personal Protective Equipment (PPE) was issued to all personnel involved in the drilling operations. Accident / incident reporting systems were in place as defined in the Beach Drilling Operation Manual. Records are reviewed regularly to assess trends.</p> <p>Beach Safety Management Plans are updated and reviewed on a regular basis. The Beach Emergency Response System which includes; Emergency Management Manual, Site Emergency Response Plans and Emergency Management Initial response guidelines were reviewed during 2009 with documentation being updated to meet the changing roles and responsibilities in the organisation.</p> <p>Signage was erected along the access road to advise that only authorised personnel are permitted on to the well site.</p>
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Objective	Assessment Criteria	Compliant / Non-compliant	Comments
	<p><u>Production Testing / Well Blowdowns</u> No soil contamination as a result of production testing or well blowdown operations.</p> <p><u>Fuel and Chemical Storage and Handling</u> No spills/leaks outside of areas designed to contain them.</p> <p>Level of hydrocarbon continually decreasing for in-situ remediation of spills.</p> <p>Soils remediated to a level as determined by the Soil Health Index process</p> <p><u>Waste Disposal (domestic, sewage and sludges)</u> 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*. No spills or leaks from sewage treatment processing.</p> <p>Refer to Assessment Criteria for Obj 11.</p>	<p>Compliant</p> <p>Non-Compliant</p> <p>Compliant</p>	<p>There were no spills as a result of production testing or well blowdown operations or drilling operations outside of areas that were designed to contain them.</p> <p>There was one instances of non-compliance with regards to spills of hydraulic fluid at Arno-1 well site. The spill was reported in the Quarterly Compliance reports as per Beach Incident Reporting system. Beach's Oil Spill Contingency Plan is included in the Emergency Response Plan.</p> <p>Domestic Wastes were managed as described in the Cooper Basin Drilling & Well Operations EIR. Wastes were collected, stored and transported in covered bins / containers. All rubbish was disposed of at a licensed waste facility.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 3</u></p> <p>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</p>	<p>Rigs and associated equipment is washed down prior to entering and leaving different state borders as per Beach Policy.</p>
<p><u>Objective 4</u></p> <p>Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow ground resources</p>	<p><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).</p> <p><u>Drilling Mud Sumps and Flare Pits</u> No overflow of drill cuttings, muds and other drilling fluids from mud sumps. No waste material disposal to sumps and flare pits.</p> <p><u>Well Heads (Oil and Gas Systems)</u> No leaks/spills outside of areas designed to contain them.</p>	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	<p>The drill pads and access track for PEL 91 wells were constructed and located to avoid the possibility of flood waters being diverted from their natural direction of drainage in the event of local inundation.</p> <p>All drill cuttings, muds, and non toxic drill fluids were contained within designated mud sumps with adequate freeboard at the completion of operations to allow for a 1m cover of clean fill at remediation.</p>

	<p><u>Well Blowdown/Production Testing</u> No water (surface or groundwater) contamination as a result of production testing or well blowdown operations.</p> <p><u>Fuel/Chemical Storage and Handling</u> No water (surface or groundwater) contamination as a result of fuel or chemical storage and handling.</p> <p><u>Waste Management</u> Refer to Assessment Criteria for Objective 11.</p>	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	<p>Although there was non-compliances with regard to fuel and chemical spills, the spill did not affect surface waters and shallow ground water resources.</p> <p>Beach's Oil Spill Contingency Plan is included in Beach's Emergency Response Plan.</p> <p>Waste was removed from the well site. Bins are covered to prevent access by wildlife and prevent spread of rubbish by wind.</p> <p>Non-putrescible waste material (including hazardous material) was stored safely on site for later removal to an EPA approved disposal facility.</p>
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Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 5</u></p> <p>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. Any identified cultural and heritage sites have been avoided.</p> <p><i>Note:</i> 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.</p>	<p>Compliant</p>	<p>Beach has an agreement with the Dieri Native Title Claimant group which specifies the requirements for scouting proposed well sites and access tracks to identify and avoid areas of heritage value and archaeological significance.</p> <p>Joint site visits were carried out with Dieri Native Title Claimant group. The proposed drilling location and access route were agreed and given heritage clearance for activities within PEL 91</p> <p>Areas of significance were recorded and marked as exclusion zones.</p>
<p><u>Objective 6</u></p> <p>Minimise loss of aquifer pressure and avoid aquifer contamination</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>Compliant</p>	<p>The Drilling Programs for wells were designed to ensure minimal loss of reservoir and aquifer pressures and minimal contamination of freshwater aquifers.</p> <p>Wells have been either been cased from total depth to surface or plugged and abandoned.</p> <p>Competent cement bonds between aquifers encountered by the well bores and the Namur Sandstone hydrocarbon reservoir were established.</p> <p>Monitoring programs will be implemented to assess future behind casing cross-flow.</p>

	<u>Producing, Injection, Inactive and Abandoned Wells</u> No cross-flow behind casing between aquifers, and between aquifers and hydrocarbon reservoirs unless approved by DWLBC.	Compliant	
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Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 8</u></p> <p>Minimise air pollution and greenhouse gas emissions.</p>	<p>Compliance with EPA requirements.</p>	<p>Compliant</p>	<p>Open hole testing was undertaken. Emissions are not considered to be material.</p>
<p><u>Objective 9</u></p> <p>Maintain and enhance partnerships with the Cooper Basin community.</p>	<p>No unresolved reasonable complaints from the community.</p>	<p>Compliant</p>	<p>Beach maintained regular contact with the landholder and associated stakeholders prior to, and while undertaking well operations.</p>

<p><u>Objective 12</u></p> <p>Remediate and rehabilitate operational areas to agreed standards.</p>	<p>No unresolved reasonable stakeholder complaints.</p> <p><u>Contaminated Site Remediation</u> 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.</p> <p><u>Well Site and Access Track Restoration</u> 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" - "The revegetation of indigenous species" <p><u>Borrow Pit Restoration</u> The attainment of 0, +1 or +2 GAS criteria for (refer Appendix 1 Table A3):</p> <ul style="list-style-type: none"> - "Rejuvenation of indigenous species" - "Minimise impact on soil" - "Minimise visual impacts" - "Site to be left in a clean and tidy condition" 	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	<p>Once petroleum operations are complete, these leases will be rehabilitated.</p> <p>Contaminated sites are remediated in accordance with Beach Guidelines and Industry Standards.</p> <p>Discussions will be undertaken with the landowners to determine whether they wish to have any rehabilitation work undertaken on the access track and well site.</p> <p>Beach will complete post operations audit of each wellsite after rehabilitation work has been completed.</p> <p>Borrow pits will be rehabilitated and restored using effective contouring in accordance with the guidelines set down in DMITRE's Field Guide for the Environmental Assessment of Abandoned Petroleum Wellsites in the Cooper Basin, South Australia, to attain the highest feasible GAS rating.</p>
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Compliance with the SEO for Cooper Basin Geophysical Operations PEL 91 Licence Year 4 of Term 1

Three seismic surveys were recorded in PEL 91 during Licence Year 4 Term 1.

Line preparation for the Undatus 2D commenced on 4th August 2011 and was completed on 20th August 2011. Line preparation for the Aquillus 3D survey commenced immediately afterwards on the 21st August 2011 and was completed on 13th November 2011. Line preparation for the Limbatus 3D commenced immediately afterwards on 14th November 2011 and was completed on 11th December 2011.

Data acquisition for the Undatus 2D survey commenced on 19th August 2011 and was completed on 2nd September 2011. Data acquisition for the Aquillus 3D commenced 10 days later on 12th September 2011 and was completed on 4th December 2011. Data acquisition for the Limbatus 3D started immediately afterwards on 5th December 2011 and was completed on the 23rd January 2012, with a break for Christmas between 19th December 2011 and 7th January 2012.

Government approval for Beach to undertake the Undatus 2D, Aquillus 3D and Limbatus 3D seismic surveys were conditional on Beach committing to the objectives defined in the "Statement of Environmental Objectives: Geophysical Operations - for the Cooper / Eromanga Basin – South Australia (June 2006)".

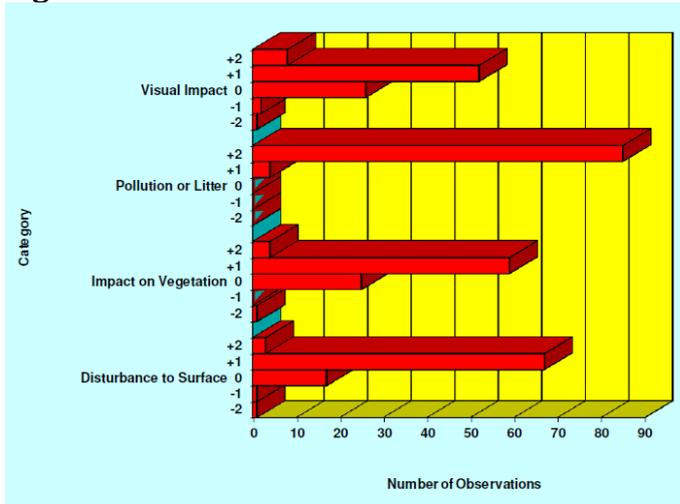
Beach's strategies for achieving each of the SEO objectives during the recording the 3 Surveys are outlined in the attached table, Table A1-2.

Several Work Area Clearances were undertaken by representatives of the Dieri people in advance of the forthcoming seismic operations. These began in January 2010 and continued in February 2011, June 2011 and September 2011.

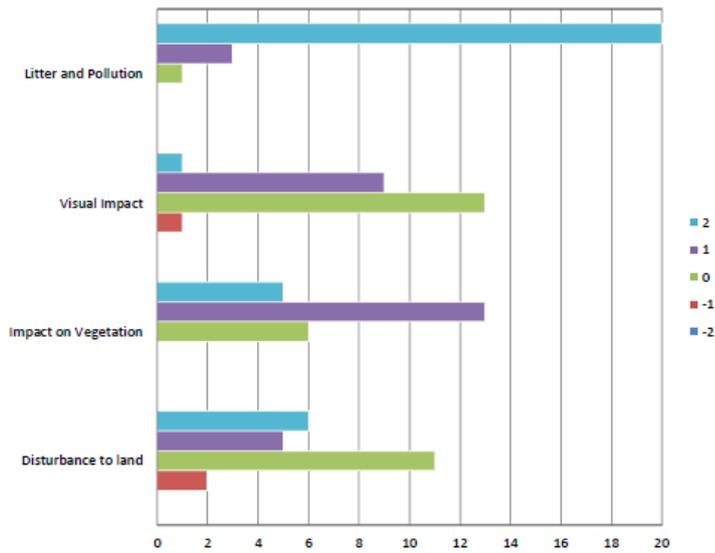
At the completion of the three surveys, assessments of the impacts from the surveys were undertaken against a set of GAS criteria. GAS audit scores were recorded at 90 locations around the Undatus survey grid, 18 locations around the Aquillus survey grid and 25 locations around the Limbatus survey grid. The results of the audits against the GAS criteria are presented in the three bar charts below.

As part of the GAS audits, sites were selected as Environmental Monitoring Points (EMPs) for future photo monitoring of the rate of natural rehabilitation. Two EMPs were established on each of the three surveys.

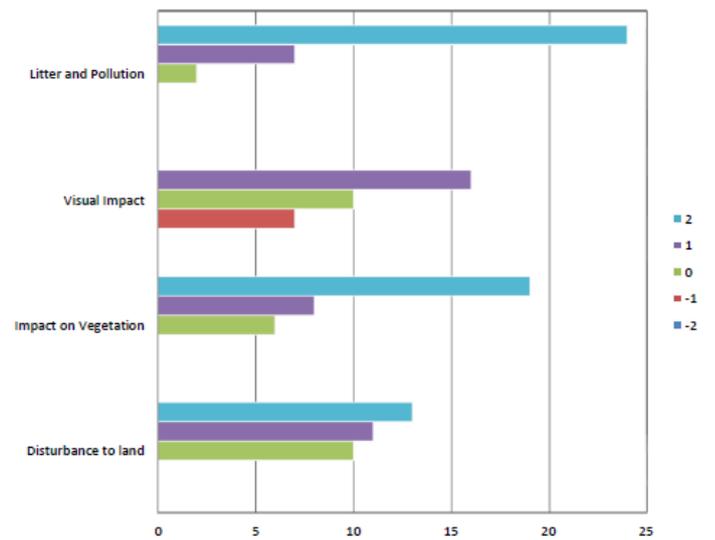
Figure A1-1 Scores from GAS Audits of Year 4 Seismic Surveys



Undatus 2D Survey



Aquillus 3D Survey



Limbatu 3D

**Compliance with the SEO for Cooper Basin Seismic Operations
PEL 91 Licence Year 4 of Term 1**

Beach’s strategies for achieving each of the SEO objectives during the Undatus 2D, Aquillus 3D and Limbatus 3D seismic surveys are outlined in Table below.

Table A1-2 SEO for Cooper Basin Seismic Operations			
Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 1:</u> Minimise the visual impact of operations.</p>	<p><u>Campsite and survey line preparation</u> Proposed survey lines and campsites have been appropriately located and prepared to minimise the visual impact. The attainment of 0, +1 or +2 GAS criteria for ‘visual impact’ objective listed in Appendix 3.</p>	<p>Compliant</p>	<p>Goal Attainment Scaling audits for the Undatus 2D survey were taken at approximately 90 locations, spread throughout the 252 kilometres of the survey area. A further 18 audits were recorded at locations around the 310 square kilometres of the Aquillus 3D survey and 25 around the 151 square kilometres of the Limbatus 3D survey.</p> <p>An incident occurred on the Undatus 2D where a dune was damaged due to excessive ramping by the dozer operator. However, following the survey a dozer returned and undertook re-contouring of the dune to reduce the visual impact.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 4:</u></p> <p>Avoid disturbance to sites of cultural and heritage significance.</p>	<p>The following is one possible procedure to achieve the objective.</p> <p>Appropriately trained and experienced cultural/heritage advisors have scouted proposed survey line locations and access tracks.</p> <p>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.</p> <p>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.</p> <p>The EIR details this possible procedure.</p>	<p>Compliant</p>	<p>Beach has an agreement with the Dieri people which specifies the requirements for scouting proposed seismic lines to identify and avoid areas of heritage value and archaeological significance.</p> <p>Site visits were carried out with representatives from the Dieri, and proposed line locations and access routes were agreed and given heritage clearance.</p> <p>Areas of significance were recorded and marked as exclusion zones.</p> <p>An incident occurred when survey crews dozed past the intended end of line at the Undatus 2D survey. An additional site visit with representatives of the Dieri was undertaken and it was determined there was no impact to cultural heritage sites.</p> <p>Another incident occurred on the Limbatus 3D when a dozer missed a detour around the cultural heritage site. No rehabilitation was required as the dozer only walked through the area with its blade up. New systems were put into place using updated technology to ensure no repeat incident.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 5:</u></p> <p>Minimise disturbance to livestock, pastoral infrastructure and landholders.</p>	<p>The attainment of 0, +1 or +2 GAS criteria for 'Impact on infrastructure' objective listed in Appendix 3.</p> <p>No reasonable concerns raised by stakeholders are left unresolved.</p> <p>The extent to which the relevant sections of the Petroleum Act and Regulations have been followed and implemented and in particular in relation to landowner liaison and notification.</p>	<p>Compliant</p>	<p>Beach maintained regular contact with the pastoral lessees prior to, and while undertaking, survey operations.</p> <p>None of the seismic lines interfered with cattle watering points and cattle were not present in significant numbers.</p> <p>No issues of concern have been raised by the landowner in relation to these activities.</p>
<p><u>Objective 6:</u></p> <p>Avoid the introduction or spread of exotic species and implement control measures as necessary.</p>	<p>Weeds or feral animals are not introduced into, or spread, in operational areas</p>	<p>Compliant</p>	<p>Machinery and vehicles used for line preparation and survey recording were already working in the Cooper Basin prior to commencing the Undatus, Aquillus and Limbatus surveys.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 7:</u></p> <p>Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.</p>	<p>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.</p> <p>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.</p>	<p>Compliant</p>	<p>Many of the survey lines in the Aquillus 3D survey were planned to traverse the Cooper Creek. However, due to extensive flooding during the period of the survey, the Aquillus 3D area was reduced by on site supervisors, so that there were no lines that traversed the Cooper Creek or had impact on any surface waters.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 8:</u></p> <p>Optimise waste reduction and recovery.</p>	<p>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.</p> <p>0, +1 or +2 GAS criteria are attained for 'Negligible survey markers and rubbish in situ' objective listed in Appendix 3.</p>	<p>Compliant</p>	<p>Every GAS score in relation to "Pollution and litter" (control) at each of the 133 sites across the three surveys were "0", "+1" or "+2" indicating no litter was observed on any part of the survey.</p>

**Compliance with the SEO for Cooper Basin Petroleum Production Operations (Nov 2009)
 PEL 91 Licence Year 4 of Term 1**

Beach’s strategies for achieving each of the SEO objectives during the production testing in PEL 91 Fields (Chiton, Hanson, Bauer) are outlined in Table below.

Table A1-3 SEO for Cooper Basin Production and Processing Operations			
Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<u>Objective 1</u> To avoid unnecessary disturbance to 3 rd party infrastructure, landholders or land use	Where disturbance is unavoidable or accidental, infrastructure or land use is restored to as is reasonably appropriate to the original undisturbed condition or as agreed with the landholder No unresolved reasonable landholder / 3 rd party complaints Landholder activities not restricted or disturbed as a result of activities unless by prior arrangement.	Compliant	Rehabilitation of production sites will be undertaken in consultation with the landholder when activities cease. PEL 91 fields are located within Clifton Hills Pastoral Lease. Regular liaison with landholders provides advance warning of any significant developments or activities.

<p><u>Objective 2</u> To maintain soil stability / integrity</p>	<p>The extent of soil erosion is consistent or less than surrounding land.</p> <p>Vegetation cover is consistent with surrounding land</p> <p>No evidence of significant subsoil on surface (colour).</p> <p>No production activities undertaken on salt lakes, steep tableland land systems or wetlands land systems (as defined in the EIR)</p> <p>Abandoned areas (e.g. borrow pits) are remediated and rehabilitated to be reasonably consistent with the surrounding area</p> <p>0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained (Appendix B)</p>	<p>Compliant</p>	<p>Disturbance was minimised and restricted to the existing well leases.</p> <p>No significant erosion has been reported either at the facilities or along the access roads. Topsoil was stockpiled when the sites were originally cleared for the drilling operations.</p> <p>None of the PEL 91 fields are located on or within salt lakes, steep tableland areas or wetlands.</p> <p>All vehicle movements are restricted to the designated access roads and lease areas. The production site and access tracks are located both in a dunefield environment and a floodplain environment and production activities are carefully controlled to minimise impact on these areas.</p> <p>Clay surfaces on the access roads minimise disturbance to the soil beneath.</p> <p>Rehabilitation of the production sites and access tracks will be undertaken in consultation with the landowner when production ceases.</p> <p>Borrow pits will be remediated and rehabilitated to be reasonably consistent with the surrounding topography.</p>
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<p><u>Objective 3</u></p> <p>To minimise disturbance to native vegetation</p>	<p>Species abundance and distribution on the reinstated areas was consistent with the surrounding area Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process</p> <p>0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained (Appendix B).</p> <p>Vegetation clearing is limited to previously disturbed areas or areas assessed to be of lowest sensitivity.</p> <p>No rare, vulnerable or endangered flora removed without appropriate permits</p> <p>No production activities undertaken on salt lakes, steep tableland land systems or wetlands land systems (as defined in the EIR)</p> <p>Significant environmental benefit obligation satisfied / implemented.</p> <p>Native fauna casualties are restricted to as low as reasonably practical.</p> <p>Work in aquatic habitats has been approved by DMITRE.</p>	<p>Compliant</p>	<p>The sites will be restored according to industry standards (e.g. SEO, PIRSA (2009) Field Guide for the Environmental Assessment of Abandoned Petroleum Wellsites in the Cooper Basin, South Australia).</p> <p>The existing well lease will be used as far as practicable.</p> <p>No significant or priority 1 vegetation will be removed. Where possible, areas with low vegetation density were utilised. Minor vegetation clearing was undertaken during the reporting period for the establishment of both temporary and permanent access tracks, facilities and accommodation camps.</p> <p>No salt lakes, steep tableland land systems or wetlands land systems are impacted.</p> <p>Existing borrow pits will be used in preference to new borrow pits where feasible and rehabilitation will be in accordance with GAS criteria.</p> <p>On application and grant of PLs, earthworks pertaining to production activity will be incorporated into Beach Energy's ongoing commitments for SEB.</p> <p>No work undertaken in aquatic habitats</p>
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Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 4</u></p> <p>To prevent the introduction or spread of weeds, pathogens and pest fauna</p>	<p>The presence of weeds and pathogens is consistent with or better than adjacent land</p> <p>No new outbreak or spread of weeds reported</p>	<p>Compliant</p>	<p>No new outbreak or spread of weeds reported.</p>
<p><u>Objective 5</u></p> <p>To minimise the impact of the production operations on water resources</p>	<p>For excavations, surface drainage profiles area restored to be as reasonably consistent with surrounding area as possible.</p> <p>For existing easements, drainage is maintained similar to pre-existing conditions.</p> <p>Volume of water produced is recorded.</p> <p>No uncontrolled flow to the surface (i.e. no free flowing bores)</p> <p>Note: the “Cooper Basin Drilling and well Operations” SEO provides detail on aquifer issues.</p>	<p>Compliant</p>	<p>Production testing at Holdfast had no impact on surface drainage</p>

<p><u>Objective 6</u></p> <p>To avoid land or water contamination</p>	<p>No evidence of any spills or leaks to areas not designated to contain spills</p> <p>In the event of a spill, the spill was:</p> <ul style="list-style-type: none"> Contained Reported Cleaned-up Cause investigated and corrective and/or preventative action implemented <p>Compliance with the Environment Protection Act, Australian Standard 1940 and the Australian Dangerous Goods Code.</p> <p>Contamination restricted to known areas and remediation strategies investigated and implemented where practical. Level of hydrocarbon contamination continually decreasing, ultimately to meet Environment Protection Authority (EPA) guidelines</p> <p>No evidence of rubbish or litter on easements or at facilities.</p>	<p>Compliant</p>	<p>No spills or contamination occurred during production testing at PEL 91 fields</p>
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Objective	Assessment Criteria	Compliant / Non-compliant	Comments
Objective 6 (Continued):	<p>No evidence that waste material is not contained and disposed of in accordance with Beach approved procedures.</p> <p>Evidence of waste tracking certificates for prescribed wastes.</p> <p>Evidence of compliance with any waste disposal licence conditions (e.g. EPA permits)</p>	Compliant	All waste material has been and continues to be disposed of in accordance with Beach approved procedures.
	No evidence of impacts to soil, water and vegetation as a result of water disposal (i.e. soil erosion, dead vegetation, water discoloration)	Compliant	All water continues to be disposed of in accordance with Beach approved procedures.

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
Objective 6 (Continued):	<p>No evidence of non-compliance with local or state government regulations</p> <p>Water monitoring results indicated levels of Total Petroleum Hydrocarbons (TPH) below 30mg/L in bunded holding ponds and 10mg/L in bunded and / or freeform evaporation ponds</p> <p>No evidence of overflow of product from interceptor pit.</p> <p>No evidence of hydrocarbon contamination immediately adjacent to bunded ponds</p> <p>Periodic reports as required detail quantity, level of contamination and proposed ongoing operation of the Land</p> <p>Treatment Unit.</p>		

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 8</u></p> <p>To minimise impact of emergency situations</p>	<p>Emergency response procedures are effectively implemented in the event of an emergency</p> <p>Emergency response exercises are aligned with credible threats and consequences identified in the risk assessment</p> <p>Refer to previous criteria (Objective 1, 2, 3 & 6)</p>	<p>Compliant</p>	<p>No emergency situations arose in PEL 91 fields</p> <p>Beach's HSE system includes periodic simulation of Emergency situations at production facilities.</p>
<p><u>Objective 9</u></p> <p>To minimise noise due to operations</p>	<p>Operational activities have taken reasonable practical measures to comply with noise regulations, under the Environment Protection Act 1993</p> <p>No unresolved reasonable complaints.</p>	<p>Compliant</p>	<p>All PEL 91 fields are located in remote areas away from dwellings. No noise issues or complaints from production activities.</p>

Objective	Assessment Criteria	Compliant / Non-compliant	Comments
<p><u>Objective 10</u></p> <p>To minimise atmospheric emissions</p>	<p>Reasonable practical measures implemented in design and operation to minimise emissions</p> <p>Annual Report includes atmospheric emissions data</p> <p>No reasonable complaints received</p> <p>No dust related injuries recorded</p>	<p>Compliant</p>	<p>Production testing was undertaken in accordance with appropriate industry accepted standards.</p> <p>PEL 91 fields are oil producers. Production testing in PEL 91 has minimal impact on emissions.</p> <p>Atmospheric emissions are being reported on a financial year basis as part of Beach's obligations under the <i>National Greenhouse and Energy Reporting Act</i> (NGER).</p> <p>No complaints/injuries received.</p>
<p><u>Objective 11</u></p> <p>To adequately protect cultural heritage sites and values during operations and maintenance</p>	<p>Proposed construction areas and access tracks surveyed by relevant cultural heritage group</p> <p>Any new sites identified are recorded and reported to appropriate authority</p> <p>No impact to identified sites</p>	<p>Compliant</p>	<p>Beach has an agreement with Dieri Native Title Claimant group which specifies the requirements for scouting proposed well sites and access tracks to identify and avoid areas of heritage value and archaeological significance.</p> <p>Joint site visits were carried out with the Dieri Native Title Claimant group. The proposed facilities and access route were agreed and given heritage clearance for activities within PEL 91</p> <p>Areas of significance were recorded and marked as exclusion zones.</p>