



**PEL 496**

**Annual Report**

**Licence Year 4**

**24 March 2012 to 19 December 2012**

**Onshore Otway Basin**

**South Australia**

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## 1 Introduction

Petroleum Exploration Licence (PEL) 496 was granted on 24 March 2009. The Licence is located in the onshore Otway Basin, South Australia.

The Annual Report for PEL 496 details the work conducted during Licence Year 4 which corresponds to the period commencing 24 March 2012. The permit was surrendered during the licence year effective from 19 December 2012.

This Annual Report has been prepared to comply with the Section 33 of the Petroleum and Geothermal Energy Regulations 2000.

## 2 Permit Summary

### *Licence Holder*

PEL 496 was originally granted on 24 March 2009 for a period of five years to:

- Adelaide Energy Limited      100%

In 2011-12, Beach Energy Limited (Beach) acquired Adelaide Energy Limited. On 12 September 2012 Beach registered with DMITRE a change of company name of the licence holder to Adelaide Energy Pty Ltd.

### *Licence Variations*

On 25 February 2011, the year 2 work commitments under licence condition 1 were suspended for the period from and including 24 March 2011 to 23 December 2011.

The work commitments for the first term of PEL 496 are detailed in Table 1. A variation to condition 1 of the licence was approved on 29 November 2011 to move the well commitments in Years 2 and 3 to Years 4 and 5 of the licence. The variation to the work program and the work completed is summarised in Table 2.

**Table 1:** Original Work Commitments for PEL 496

<b>Licence Year</b>	<b>Licence Dates</b>	<b>Minimum Work Program</b>
Year 1	24 March 2009 – 23 March 2010	35 km 2D seismic; Geological & Geophysical Studies
Year 2	24 March 2010 – 23 March 2011	One well; Geological & Geophysical Studies
Year 3	24 March 2011 – 23 March 2012	One well; Geological & Geophysical Studies
Year 4	24 March 2012 – 23 March 2013	Geological & Geophysical Studies
Year 5	24 March 2013 – 23 March 2014	Geological & Geophysical Studies

**Table 2:** Work Program and Work Completed by Licence Year

<b>Licence Year</b>	<b>Minimum Work Program</b>	<b>Work Completed</b>
Year 1	35 km 2D seismic; Geological & Geophysical Studies	Acquired Weatherall 2D seismic; Geological & Geophysical Studies
Year 2	Geological & Geophysical Studies	Geological & Geophysical Studies
Year 3	Geological & Geophysical Studies	Geological & Geophysical Studies
Year 4	One well; Geological & Geophysical Studies	
Year 5	One well; Geological & Geophysical Studies	

On 23 March 2012, Beach submitted an application to DMITRE to surrender PEL 496. DMITRE approved the surrender of the licence effective on 19 December 2012.

### **3 Regulated Activities**

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

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

Construction of a lease pad for the drilling of a proposed exploration well was conducted in a previous licence year. Rehabilitation of the access track, borrow pit and well lease was carried out during the licence year.

No other regulated activities were undertaken during the reporting period.

## 4 Compliance Issues

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

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

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

### 4.1 Licence and Regulatory Compliance

The licensee has complied with the *Petroleum and Geothermal Energy Act 2000*, the *Petroleum and Geothermal Energy Regulations 2000* and the Licence Conditions for PEL 496.

### 4.2 Compliance with Statements of Environmental Objectives

The licensee has complied with the Statement of Environmental Objectives (SEO) - Drilling, Completion and Initial Production Testing, PEL 255, Otway Basin SEO (May 2007) in relation to the rehabilitation of the access track, borrow pit and lease pad in PEL 496. The SEO is provided in Appendix 2.

### 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 have, or will be taken”.*

No management system audits specific to PEL 496 that were conducted during reporting period.

#### 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 in relation to the operations undertaken during the reporting period is provided in Table 3.

**Table 3:** List of Reports and Data Submissions for the Current Reporting Period

<i>Description of Report / Data</i>	<i>Date Due</i>	<i>Date Submitted</i>	<i>Compliant / Non-Compliant</i>
Annual Report for Year 3 of PEL 496	23 May 2012	16 May 2012	<i>Compliant</i>
Annual Report for Year 4 of PEL 496	18 Feb 2013	13 Feb 2013	<i>Compliant</i>

#### 4.5 Incidents

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

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

- (i) an overall assessment and analysis of the incidents, including the identification and analysis of any trends that have emerged; and*
- (ii) an overall assessment of the effectiveness of any action taken to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, or to minimise the risk of recurrence of any such non-compliance”.*

There were no reportable incidents within PEL 496 during the reporting period.

#### 4.6 Threat Prevention

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

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

There were no threats to report within PEL 496 during the reporting period.

#### 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 licence was surrendered effective on 19 December 2012.

### 5 Expenditure Statement

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

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

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

An Expenditure Summary for PEL 496 for the period is presented in Appendix 1.

## ASSESSMENT AGAINST PEL 255 SEO

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
<p><b>1)</b> Avoid disturbance to sites of Aboriginal and non-indigenous heritage significance.</p>	<ul style="list-style-type: none"> <li>The aim of this objective is to ensure that any sites of Aboriginal and European heritage significance are identified and protected.</li> <li>There are no current land rights claims over this area.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate earthworks personnel to be reminded of identification of heritage items/objects and remains. Also to be reminded of their obligations to respond appropriately to any sites discovered during construction and operation activities.</li> <li>Site to be inspected by Site Supervisor prior to earthworks commencing.</li> <li>The Murrapeena Heritage Association group will be contacted if deem appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance to Aboriginal and non-indigenous heritage sites.</li> </ul>
<p><b>2)</b> Avoid disturbance to rare, vulnerable and endangered flora and fauna species.</p>	<ul style="list-style-type: none"> <li>The permit area has predominately been cleared of any native vegetation, and is currently used for blue gum plantation.</li> <li>This also impacts on native fauna. Roadside flora and fauna have been similarly affected.</li> <li>A search of the EPBC site and of the National Parks and Wildlife Act 1972 has been carried out and species of significance identified and included in the Environmental Factors</li> </ul>	<ul style="list-style-type: none"> <li>Excavation areas like the sumps, flarepit, grey water and septic will also be checked regularly.</li> <li>Wellsite and these open pits will remain fenced whenever wellsite is vacated.</li> <li>Fire prevention is important and dependent on construction, drilling and testing timing, fire breaks may need to be cleared. The local CFS may also be required at any testing.</li> <li>Local CFS will be invited to attend during the initial drilling stage to make themselves familiar with the site, water availability etc.</li> <li>Current daily Fire Danger sign present on site. This will be changed daily if in the fire danger season.</li> <li>Response to fire will be included in the Emergency Response Plan.</li> <li>Site to be inspected by Site Supervisor prior to earthworks commencing.</li> </ul>	<p><u>Wellsite and Access Track Construction</u></p> <ul style="list-style-type: none"> <li>Any sites of rare, vulnerable and endangered flora and fauna have been identified, flagged and subsequently avoided.</li> </ul> <p><u>Drilling and Production Testing Activities</u></p> <ul style="list-style-type: none"> <li>No fires during drilling and production testing activities.</li> </ul>
<p><b>3)</b> Prevent the introduction and establishment of exotic weed species and other pathogens.</p>	<p>The major potential source of weed introduction is from vehicles and equipment brought in from other regions of the state or interstate for the various well activities.</p>	<ul style="list-style-type: none"> <li>All vehicles, equipment and personnel entering the region to be assessed for risk of transporting weeds and plant pathogens.</li> <li>Paving materials will be sourced from sites free of weeds.</li> <li>The site and access will be monitored on a regular basis for new weed species and treated as necessary in accordance with the landowner's wishes.</li> <li>All personnel to remain on site and or confined to the roads</li> </ul>	<ul style="list-style-type: none"> <li>No introduced exotic weed species as a consequence of activities.</li> </ul>



OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
		when driving to and from the rig .	
<p><b>4) Minimise impacts to soil.</b></p>	<ul style="list-style-type: none"> <li>• The main impact to soil is caused by the stripping off of topsoil, the importation of foreign material for the construction of the site, and the compaction of this material and the remaining soil below this fill.</li> <li>• Whilst every endeavour will be made to keep vehicle movement to the access track and gravelled areas sometimes wheel ruts do occur on the undisturbed soil within the lease area.</li> <li>• Earthworks to be undertaken in timely fashion and in due consideration of SE weather conditions.</li> <li>• Contamination from accidental spillages of chemicals or hazardous substances during well operations is another potential risk to the soil.</li> <li>• Precautions will be taken to prevent and contain spills at all sites where fuels are used or transferred (generators, vehicle re-fuelling).</li> <li>• Bunded areas will be constructed to collect any oil and grease at the campsite and drill rig generators and initial production storage tanks.</li> <li>• Cleanup and rehab need to be done close to the break of season to minimise wind erosion and blowing away of reseeded pasture</li> </ul>	<p><u>Wellsite and Access Track Construction and Restoration</u></p> <ul style="list-style-type: none"> <li>• Consult “ Wellsite and Access Track Construction and Restoration” (PIRSA) as a guideline.</li> <li>• Place wellsite to minimise amount of cut and fill.</li> <li>• Soil removed in construction to be stored on site and returned to its original stratigraphic level upon restoration of the drill site.</li> <li>• Restoration of the drill site to be approved by the landowner or in accordance with landowner's wishes should retention of specific parts of the site be requested (e.g. pad).</li> <li>• Landowner to be consulted about earthworks required, location of access tracks and general information to minimise surface damage and to facilitate rehabilitation.</li> <li>• Separate storage of topsoil, subsoil and clays or marls to assist rehabilitation will be undertaken to assist in regeneration of pasture or crops.</li> <li>• During rehabilitation the soil beneath the tracks, camp and pad will be ripped after removal of imported fill but before the returning of topsoil.</li> </ul> <p><u>Drilling and Production Testing</u></p> <ul style="list-style-type: none"> <li>• Any oil contamination of sump from drill cuttings to be controlled by an absorbent barrier and pumped out to a disposal tank.</li> <li>• All bunded areas will be in accordance with EPA guideline 080/04 “Bunding and Spill Management”.</li> <li>• Camp and drill rig generators to be located in polyethylene lined bunded areas to contain any spills.</li> <li>• Production storage tanks, fuels, oils and chemicals to be stored in polyethylene lined bunded areas</li> <li>• Initial production lines and tanks to be inspected prior to use.</li> <li>• MSDS info readily available on the wellsite.</li> </ul>	<p><u>Wellsite and Access Track Construction and Restoration</u></p> <ul style="list-style-type: none"> <li>• No disturbance to soil profiles as a result of construction activities.</li> <li>• No significant increase of surface limestone on surface following restoration.</li> </ul> <p><u>Drilling and Production Testing Activities</u></p> <ul style="list-style-type: none"> <li>• No soil contamination as a result of drilling and production testing activities.</li> </ul> <p><u>Fuel and Chemical Storage and Handling</u></p> <ul style="list-style-type: none"> <li>• Areas affected by any spill are removed and/or bio-remediated.</li> <li>• No soil contamination as a result of fuel and chemical storage and handling</li> </ul>

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
	<p>or crop areas.</p>	<p><u>Fuel and Chemical Storage and Handling</u></p> <ul style="list-style-type: none"> <li>• Fuel tanks and delivery systems are to be inspected by ADE Drilling Supervisor for any potential leaks and refused entry to the site if found to be unsuitable.</li> <li>• Hazardous material stored, used and disposed of in accordance with relevant legislation on dangerous substances.</li> <li>• All hazardous materials stored in approved containers in polyethylene lined bunded area.</li> <li>• Contaminated soil will be removed and replaced with clean fill or will undergo bio-remediation. “Sokero” (or similar) absorbent material will be stored at the rig for use in the event of a spill.</li> <li>• Any contaminated soil removed from the site will be treated / disposed of at an EPA approved facility.</li> <li>• All wastes generated on wellsite (except grey water) recycled or disposed of at an EPA licensed facility.</li> <li>• Septic tanks will be used at camp and drill rig ablutions. Septic tanks will be pumped out on an “as required basis” by a licensed septic waste removal contractor and disposed of at a licensed facility.</li> <li>• All wastewater disposed in accordance with the <i>Public and Environmental Health (Waste Control) Regulations 1995</i>.</li> </ul>	
<p><b>5) Minimise loss of reservoir and aquifer pressures and avoid aquifer contamination.</b></p>	<ul style="list-style-type: none"> <li>• This objective seeks to protect the water quality and pressure of any aquifers and to maintain pressure in potential petroleum aquifers.</li> <li>• The following geological formations in the Otway Basin may contain permeable sands (aquifers) which may be in natural hydraulic isolation from each other : Gambier Limestone; Dilwyn Formation; Pebble Point Formation; Sherbrook Group Eumeralla Formation Crayfish Unconformity Laira Formation Pretty Hill Formation.</li> </ul>	<p><u>Drilling and Completion Activities</u></p> <ul style="list-style-type: none"> <li>• Observed volumes of cement return to surface match calculations.</li> <li>• Where there is evidence of insufficient isolation, remedial action such as cement squeeze to be conducted.</li> <li>• Casing will be centred with centralisers to ensure full radial cement coverage, mud cake will be removed to maximize cement bond to formation and excess cement volumes will be pumped to cater for unforeseen cavities and overgauge hole.</li> <li>• Casing seating depths will be designed to cover formations at risk and the cementing programme will allow for sufficient cement returns at surface to ensure bond to the Formation.</li> <li>• Water bore compliant to SEO already available</li> </ul>	<ul style="list-style-type: none"> <li>• No aquifer contamination as a result of drilling, completion or production testing activities.</li> </ul> <p><u>Drilling and Completion Activities</u></p> <ul style="list-style-type: none"> <li>• No uncontrolled flow to surface (i.e. blow out).</li> <li>• Sufficient barriers exist in casing annulus to prevent crossflow between separate aquifers or hydrocarbon reservoirs.</li> <li>• Dilwyn is not penetrated in any water bore.</li> </ul>

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
		<ul style="list-style-type: none"> <li>• Water bore license to be restricted to stock/domestic to ensure future use by landowner is not for irrigation</li> <li>• The geological prognosis has identified the interval of Gambier Limestone and Dilwyn Formation to be penetrated</li> <li>• Mudloggers to monitor drilling parameters to ensure no loss of fluid to the formation or uncontrolled pit gain</li> </ul> <p><u>Well Abandonment Activities</u></p> <ul style="list-style-type: none"> <li>• Well abandonment program to be submitted to PIRSA with wireline logs for prior approval.</li> <li>• Plugs set to isolate potential aquifers through the well bore.</li> <li>• Records of plug depths and intervals are kept.</li> </ul>	<p><u>Production Testing and Well Abandonment Activities</u></p> <ul style="list-style-type: none"> <li>• No cross-flow behind casing between aquifers, and between aquifers and hydrocarbon reservoirs unless approved by the Department of Water, Land and Biodiversity Conservation.</li> </ul>
<p><b>6) Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.</b></p>	<ul style="list-style-type: none"> <li>• Near-well bore invasion by mud filtrate is an accepted process during drilling.</li> <li>• Fresh water mud is used in the top hole and has no impact.</li> <li>• Saline mud is used in the mid to bottom hole section but its impact is minimised because of the following factors:- <ul style="list-style-type: none"> <li>(a) deeper aquifers are saline and are not used for agriculture;</li> <li>(b) shallow aquifers are behind cemented casing;</li> <li>(c) the volume of filtrate is insignificant relative to the volume of the aquifer.</li> </ul> </li> <li>• Potential spills can originate from the well while the well is producing or from the mud pits during drilling.</li> <li>• Due to the small and confined area impacted on well sites, there should be minimal impact to surface water drainage patterns in the region.</li> <li>• The main threat to the surface</li> </ul>	<p><u>Wellsite and Access Track Construction and Restoration</u></p> <ul style="list-style-type: none"> <li>• Any soil removed during the construction of the drill pad will be respread over the disturbed area during restoration.</li> <li>• Any area artificially elevated via pad or access track construction will be lowered to original ground level by removal of paving material unless otherwise instructed by the landowner.</li> <li>• Temporary drainage depressions / culverts may be required to maintain surface runoff</li> <li>• Original drainage patterns will be restored.</li> <li>• Restoration will be completed by ripping, cultivating and sowing a pasture or crop depending on landowner requests</li> </ul> <p><u>Drilling and Production Testing Activities</u></p> <ul style="list-style-type: none"> <li>• Information on muds and chemicals to be readily available on the rig.</li> <li>• The sump will be lined with a 20 micron HPDE impermeable plastic membrane to prevent percolation into the soil.</li> <li>• If required the sump may be pumped and excess fluid disposed of as appropriate.</li> <li>• On completion of drilling the drill cuttings and sump water will be tested to analyse their suitability for industrial recycle, fill or contaminated fill and will be disposed of accordingly, along</li> </ul>	<ul style="list-style-type: none"> <li>• No disruption to drainage patterns as a result of construction activities.</li> <li>• No contamination of surface waters and shallow groundwater resources.</li> </ul>

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	<p>water is contamination from spills during times of heavy rainfall and localised flooding.</p> <ul style="list-style-type: none"> <li>• Rainfall data show that on average most rain falls during the mid year period but some exceptions occur (e.g. March 1983, 121mm).</li> <li>• The sump can handle a significant volume of fluid and has sufficient excess volume to accommodate intermittent periods of high rainfall and associated run-off.</li> <li>• A two stage sump is generally used so that water / drilling mud can be recycled back into the mud system keeping sufficient freeboard.</li> </ul>	<p>with the sump liner.</p> <ul style="list-style-type: none"> <li>• Fluid losses will be controlled during drilling.</li> <li>• Any oil contamination of sump from contaminated drill cuttings will be controlled and pumped out to a disposal tank.</li> <li>• Camp and drill rig generators will be located in polyethylene lined bunded areas.</li> <li>• Production storage tanks, fuels, oils and chemicals will be stored in polyethylene lined bunded areas.</li> <li>• Initial production lines and tanks will be inspected prior to use.</li> <li>• No spills/leaks outside areas designed to contain them.</li> </ul> <p><u>Fuel and Chemical Storage and Handling</u></p> <ul style="list-style-type: none"> <li>• Fuel tanks and delivery systems are to be inspected by Adelaide Energy Drilling Supervisor for any potential leaks and refused entry to the site if found to be unsuitable.</li> <li>• All hazardous materials stored in approved containers in polyethylene lined bunded area.</li> <li>• Drilling fluid materials that may contribute to pollution will be clearly identified and stored with MSDS.</li> <li>• No spills/leaks outside areas designed to contain them.</li> </ul>	
<p><b>7) Minimise risks to the safety of the public, employees and other third parties.</b></p>	<ul style="list-style-type: none"> <li>• The guide to how to achieve this objective has been developed on the basis of the current understanding of the risks of wells to third party safety.</li> <li>• Risks may span in time from immediate (e.g. unauthorised access, abandoned waste), to long term (e.g. breakdown over time of cement integrity around casing allowing cross flow).</li> <li>• Rig practices need to be monitored and training / induction programs maintained and upgraded as necessary.</li> <li>• The wellsite will be under the</li> </ul>	<p><u>Unauthorised Access by Third Parties</u></p> <ul style="list-style-type: none"> <li>• “No Entry” signs warning of dangers associated with drilling operations placed at the entry to the site access track</li> <li>• Site area to be fenced with a gate on the access track.</li> <li>• Wellsite office and parking area located within the lease area.</li> <li>• Drilling Supervisor and Drilling Contractor Manager given authority to refuse entry of unauthorized third parties.</li> <li>• Access gate to wellsite will be closed during testing and appropriate signage will be in place to restrict entry.</li> <li>• No access to the site by uninvited third parties.</li> <li>• Log kept of Safety induction for all invited visitors</li> <li>• Fence around sump and wellhead if no immediate production /cleanup action is to be undertaken.</li> <li>• Necessary measures taken to prevent the public accessing the</li> </ul>	<ul style="list-style-type: none"> <li>• No injuries to the public or third parties.</li> </ul>

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	<p>control of Drilling Supervisor.</p> <ul style="list-style-type: none"> <li>All reasonable steps will be taken to prevent unauthorised access to the site and warning signs will be appropriately located.</li> <li>The key to achieving the third party safety objective in relation to both downhole abandonment and surface wellsite restoration is to ensure that the visual prominence of the abandoned wellsite and access track is minimised.</li> <li>Rural areas typically have high vehicle speeds on main roads and intersections with minor roads are hazardous.</li> <li>Dust resulting from drilling activities and supply truck movements may become inconvenient and a road safety issue.</li> </ul>	<p>wellhead equipment or waste relating to the well.</p> <ul style="list-style-type: none"> <li>Wellhead and sump to be individually fenced if delay in cleanup / workover rig operations to occur.</li> </ul> <p><u>Drilling and Completion Activities</u></p> <ul style="list-style-type: none"> <li>Drill rig, ancillary and any testing equipment to comply with Regulations, meet relevant industry standards and be "Fit for Purpose".</li> <li>Casing design carried out to meet worst case expected loads and environmental conditions determined for the specific geology intercepted by the well. Details of work to be performed are set out in the Drilling Program.</li> <li>Casing set in accordance with design parameters.</li> <li>Casing cemented to surface with visible return.</li> <li>Blow out prevention precautions in place in accordance with defined procedures and appropriate to the expected downhole conditions.</li> <li>Satisfactory kick tolerance in casing program design.</li> <li>Emergency Response Procedures in place.</li> <li>Confinement of flammable sources, restrictions on certain procedures and ready access to suitable fire fighting equipment.</li> </ul> <p><u>Well Abandonment and Site Restoration Activities</u></p> <ul style="list-style-type: none"> <li>Downhole abandonment is carried out to meet worst case expected loads and downhole environmental conditions.</li> <li>Effective isolation maintained between any potential aquifers to prevent crossflow.</li> <li>Abandonment plugs must be set to ensure long term isolation of any potential aquifers intersected to avoid shallow zones becoming overpressured.</li> <li>All minor holes eg septic and grey water to be backfilled soon after rig release.</li> <li>Effective rehabilitation of the wellsite so that potentially dangerous perturbations in ground level do not remain.</li> </ul>	

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
		<p><u>Vehicle Movement</u></p> <ul style="list-style-type: none"> <li>• Control production and dispersion of dust on unsealed roads and drilling lease areas.</li> <li>• Roads will be sprayed with water as required to minimise dust generation.</li> <li>• Appropriate speed limit on unsealed roads included in all inductions.</li> <li>• Speed reduction signs to be positioned on unsealed roads in vicinity of wellsite.</li> </ul>	
<p><b>8) Minimise disturbance to the local community and other land users.</b></p>	<ul style="list-style-type: none"> <li>• Slow heavy vehicles associated with operations can cause interference to local community vehicular traffic.</li> <li>• The cleared open nature of the region minimizes natural attenuation and makes noise moderation difficult.</li> <li>• Drilling rigs are inherently noisy and need to operate 24 hours per day.</li> <li>• Paddocks within the licence area have limited vegetation barriers.</li> <li>• The main risk to livestock is injury from vehicle movements and open sumps and cellars.</li> <li>• Spills must invoke a rapid response by drilling personnel to minimise impact on the environment and any stock.</li> <li>• Wildfire caused by construction/drilling/rehabilitation activities are of real concern.</li> <li>• Plan vehicle movements and schedule activities as best as possible to minimize inconvenience.</li> </ul>	<ul style="list-style-type: none"> <li>• Driver behaviour and vehicle speed limits to be included in compulsory induction.</li> <li>• Rig mobilization and demobilization to detour around town centres where possible.</li> <li>• Major vehicle movements on minor roads to be scheduled so as to not clash with school bus times.</li> <li>• Noise limitation to be included as part of induction procedures (e.g. noisy tubular/pipe handling, unnecessary use of horns).</li> <li>• Heavy truck drivers to be instructed not to use engine brake near dwellings.</li> <li>• Vehicle speed limits observed.</li> <li>• Adequate fencing of wellsite area to landholders' satisfaction.</li> <li>• In the event of an oil spill, contingency plan to be implemented after the spill event.</li> <li>• In the case of an abandoned restored site, the entire area will be restored to original land surface topography with no irregularities likely to cause injury to running stock.</li> <li>• Consultation with local CFS during construction/ drilling/rehabilitation phases to ensure fire concerns are addressed.</li> <li>• Compliance with Part 10 of the Petroleum Act 2000 (notice of entry requirements).</li> </ul>	<ul style="list-style-type: none"> <li>• No adverse impact on livestock, cropping and pasture as a result of activities.</li> <li>• No complaints from the local community or other land users</li> <li>• No fires initiated during construction, drilling or rehabilitation.</li> </ul>

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
	<ul style="list-style-type: none"> <li>• Vehicle movements on gravel roads, access tracks and lease can cause excessive dust.</li> <li>• Drilling in winter minimises dust generation.</li> </ul>		
<p><b>9)</b> Minimise visual impact.</p>	<p>Fatchen and Woodburn (1997) study concluded that the major impacts of wellsite and access track construction are predominantly visual and not ecological. On the basis of this study a set of assessment criteria was established for assessing rehabilitation of abandoned and restored wellsites and access tracks (PIRSA Field Guide 2002).</p>	<ul style="list-style-type: none"> <li>• The drilling of the deviated well bores from a common pad is an established technique for minimizing the environmental impact used in high activity drilling areas in the US</li> </ul>	<ul style="list-style-type: none"> <li>• The attainment of 0, +1 or +2 GAS criteria (refer to PIRSA Field Guide 2002) for minimising visual impact.</li> </ul>
<p><b>10)</b> Minimise impact of domestic and industrial waste.</p>	<ul style="list-style-type: none"> <li>• Waste refers to all wastes with the exception of the Listed Wastes in Schedule 1 Part B of the Environment Protection Act 1993.</li> <li>• Liquid and solid waste will be treated as discussed in the Environmental Impact Report.</li> <li>• All waste removal contractors will be licensed and will operate within EPA guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• All wastes generated on the wellsite (except grey water) recycled or disposed of at an EPA licensed facility.</li> <li>• Grey water will be contained in a pit and pumped into the sump or onto the adjoining paddock as appropriate.</li> <li>• If required the sump may be pumped and excess fluid disposed at an approved waste facility.</li> <li>• Septic tanks will be used at camp and drill rig ablutions. Septic tanks will be pumped out on an “as required basis” by a licensed septic waste removal contractor and disposed of at a licensed facility.</li> <li>• All wastewater disposed in accordance with the <i>Public and Environmental Health (Waste Control) Regulations 1995</i>.</li> <li>• Wellsite will be kept free of litter/rubbish.</li> </ul>	<ul style="list-style-type: none"> <li>• No soil or groundwater contamination as a result of waste storage and disposal.</li> <li>• No impact on landowner as a result of waste storage and disposal.</li> <li>• No uncontained domestic waste on site.</li> </ul>

OBJECTIVE	COMMENT	GUIDE TO HOW OBJECTIVES CAN BE ACHIEVED	ASSESSMENT CRITERIA
<p>11) Remediate and rehabilitate operational areas to agreed standards.</p>		<ul style="list-style-type: none"> <li>• Rehabilitation/ abandonment plans for surface activities will be developed in consultation with relevant stakeholders</li> </ul> <p><u>Well Site and Access Track Restoration</u></p> <ul style="list-style-type: none"> <li>• Compacted soil areas will be ripped and soil profile and contours are reinstated following completion of operations.</li> </ul>	<ul style="list-style-type: none"> <li>• No complaints from the local community or other land users</li> </ul> <p><u>Well Site and Access Track Restoration</u></p> <ul style="list-style-type: none"> <li>• The attainment of 0, +1 or +2 GAS criteria (refer to PIRSA Field Guide 2002) for the revegetation of indigenous species.</li> </ul> <p><i>Note:</i></p> <ul style="list-style-type: none"> <li>• Remediation of contamination addressed under objective 4.</li> <li>• Well abandonment issues addressed under objective 6.</li> <li>• Visual impact addressed under objective 9.</li> </ul>