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1 Introduction

Petroleum Exploration Licence No. 32 ("PEL 32") is located in the onshore portion of the Otway Basin, South Australia. This report covers the work performed by Origin Energy Resources Ltd as Operator of PEL 32 *in accordance with requirements of Section 33 of the Petroleum Regulations 2000.* The reporting period is 19 February 2001 to 18 February 2002, being the second year of the fourth permit term.

PEL 32 is in good standing with all required work commitments for the current permit term exceeded.

2 Administration

The working interests in the permit are as follows:

Origin Energy Resources Ltd	20%
SAGASCO South East Inc	55.7143%
Omega Oil NL	24.2857%

The first and second year work commitments for PEL 32 are G&G Studies to \$80,000, and a 100 square kilometre 3D seismic survey. The acquisition of the 213 square kilometres Balnaves 3D seismic survey and its interpretation in the first year, combined with the drilling of two exploration wells during June and July 2001, greatly exceed these commitments. PEL 32 is therefore in good standing.

The Joint Venture requested an extension to the deadline for the submission of the Well Completion Report for Limestone Ridge 1. PIRSA granted an extension on 16 January 2002, of 2 months until 31 March 2002. This was due to the loss of key technical staff.

3 Regulated Activities

Section 33.(2) (a) a summary of the regulated activities conducted under the licence during the year:

3.1 Drilling

Two exploration wells were drilled on the results of the Balnaves 3D seismic data. Both prospects were targetting Pretty Hill Sandstone reservoirs in easterly trending tilted fault blocks at the western end of the Katnook graben. The Balnaves 1 and Limestone Ridge 1 wells were located six kilometres west, and seven kilometres west-northwest of the Katnook Field respectively.

Balnaves 1 spudded on June 10th 2001 and drilled to a total depth of 2874 metres. The well tested gas to surface at 1.2 mmcfd with water from the Pretty Hill Sandstone, but was plugged and abandoned as being non-commercial. Limestone Ridge 1, spudded on July 12th 2001, encountered gas within the Pretty Hill Sandstone, and was cased and suspended for future evaluation as a gas producer.

3.2 Seismic Data Acquisition

No new seismic data were recorded during the reporting period.

3.3 Seismic Data Processing/Reprocessing

The PEL 32 Joint Venture commenced reprocessing the Balnaves and Haselgrove 3D seismic data sets in February 2002. WesternGeco have developed several new processing algorithms that were used very effectively on the recent St George 3D Seismic Survey in the adjacent permit PEL 83. Initial results indicate a significant data improvement.

It is expected that the reprocessing will be completed by the end of April 2002.

3.4 Geological and Geophysical Studies

The Geological and Geophysical studies during the reporting period have focussed on refining the well locations for the drilling of the Balnaves and Limestone Ridge Prospects and subsequent post-mortem analyses. Prospect risking and economic studies have also been completed and well proposal documents prepared.

Primary focus of the G&G effort has subsequently been the planning, preparation, monitoring and evaluation of the drilling of the two wells.

Balnaves 3D Interpretation

Interpretation of the Balnaves 3D seismic data was completed, with the prospects identified on the time structure map produced at the Top Pretty Hill Formation. An RMS amplitude map at the Top Pretty Hill Formation level was produced, and used to fine tune the final drilling locations for Balnaves 1 and Limestone Ridge 1.

4 Compliance Issues

4.1 Regulatory Compliance

Section 33.(2) (b) a report for the year on compliance with the Act, these regulations, the licence and any relevant statement of environmental objectives.

Origin Energy Resources Ltd, as Joint Venture Operator for the PEL 32 petroleum exploration licence area, comply with all relevant conditions under the *Petroleum Act 2000*, and the *Petroleum Regulations 2000*. Seismic operations in the Permit are operated as per the requirements of the "Statement of Environmental Objectives for Seismic Operations in the Otway Basin, South Australia"¹, and a report issued by PIRSA entitled "The Environmental Management of Seismic Operations in the South East of South Australia"². Drilling operations are conducted as per the requirements of the "Statement of Environmental Objectives for Drilling Pad and Access Road Construction On Private Land, Otway Basin, South Australia"³, the "Statement of Environmental Objectives for Drilling and Well Operations in Limestone Ridge 1, Otway Basin, South Australia"⁴, and "Statement of Environmental Objectives for Drilling and Well Operations in Balnaves 1, Otway Basin, South Australia"⁵.

No environmental incidents were reported during the Permit year.

4.2 Rectification of Non-Compliance

Section 33.(2) (c) a statement concerning any action to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, and to minimize the likelihood of the recurrence of any such non-compliance.

As detailed in Section 4.4, the following reports and data were non-compliant due to late submission:

- Balnaves 3D Seismic Survey Operations and Interpretation Reports.
- Balnaves 1 Well Completion Report.
- Balnaves 3D Seismic Survey final processed volume.
- Basic field data for Balnaves 3D Seismic Survey (still outstanding).

The delays were caused by several factors including the late arrival of data from the seismic contractors, the loss of key personel, the inadequate time allowed for in the *Petroleum Regulations* to conduct complex tasks such as 3D seismic interpretation, and inadequate internal company monitoring procedures.

To ensure future compliance with report submission Origin has developed a computer database called the Permits and Lands Management System (PLMS) designed to track critical dates and provide prompts for impending reports. The objective of this system is to ensure compliance with the requirements of the *Act* and *Regulations*.

4.3 Management System Audits

Section 33.(2) (d) 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 action that has, or will be, taken.

A checklist (Checklist 13) has been developed to demonstrate compliance with the environmental objectives as stated in the relevant SEO's for drilling operations and drilling pad construction. Checklist 13 for the Balnaves 1 and Limestone Ridge 1 wells are contained in Appendices 1 and 2 respectively.

As shown in these documents all environmental objectives were achieved.

4.4 Data Submissions

Section 33.(3). (e) a list of all reports and data relevant to the operation of the Act generated by the licensee during the relevant licence year.

- Balnaves 3D Seismic Survey Operations report: submitted 27 July 2001 (due 20 November 2000).
- Balnaves 3D Seismic Survey Interpretation report: submitted 10 January 2002 (due 9 August 2001).
- Balnaves 1 Well Completion Report: submitted 25 January 2002 (due 9 January 2002).
- Limestone Ridge 1 Well Completion Report: submitted 26 February 2002 (due 31 March 2002).
- Year 2 Annual Report (this report).
- Limestone Ridge 1 and Balnaves 1 well and drilling proposals.
- As required under the *Petroleum Act 2000* an Environmental Impact report and a Statement of Environmental Objectives report were prepared for the Drilling and Well Operations in Limestone Ridge 1⁴ and Balnaves 1⁵ wells, and submitted in May 2001.
- Lease preparation for the two wells was conducted under a separate Environmental Impact report and a Statement of Environmental Objectives report for Drilling Pad and Access Road Construction on Private Land³. These were submitted in May 2001.
- Digital logs and cuttings samples and other basic well data have been submitted for the Limestone Ridge 1 and Balnaves 1 wells.
- The final processed 3D seismic volume for the Balnaves 3D Seismic Survey was submitted on 26 March 2002 (due 9 August 2001).
- The basic field data for the Balnaves 3D Seismic Survey (Field tapes, Observer's Logs, Field Statics etc) were due for submission on 9 August 2001, and are currently being compiled for delivery.

4.5 Safety

Section 33.(2) f in relation to any incidents reported to the Minister under the Act and these regulations during the relevant licensing year-

Section 33.(2) f (i) an overall assessment and analysis of the incidents, including the identification and analysis of any trends that have emerged.

Section 33.(2) f (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 minimize the risk of recurrence of any such non-compliance.

One reportable incident occurred during the drilling of the Limestone Ridge 1 well when an injury occurred to a Floorman during routine drilling operations. The incident was investigated and several recommendations for the future have been instigated. A full report was sent to PIRSA and is included here as Appendix 3.

4.6 Threat Prevention

Section 33.(2) (g) 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 were no perceived threats, and no action taken.

4.7 Licence Conditions and Future Work Program

Section 33.(2) (h) 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 permit Year 2 commitment was 100 square kilometres of 3D seismic data. This was acquired during Year 1 with the Balnaves 3D Seismic Survey of 213 square kilometres. The drilling of the Balnaves 1 and Limestone Ridge 1 wells fulfils the Year 4 and Year 5 work commitments.

As all work commitments for the current permit term are now completed, subsequent activities are additional to the work commitment for the permit.

The Balnaves and Haselgrove 3D seismic surveys are currently being reprocessed by WesternGeco Australia Pty Ltd, to improve data quality and structural confidence in the PEL 32 area. The data is being reprocessed using the F KX KY 3D velocity filter which significantly increases the signal to noise ratio. Specific objectives include:

- Reconcile the differences between reserves calculated from material balance verses structural mapping over the Ladbroke Grove and Haselgrove gas fields.
- Remap the existing fields by integrating all newly drilled wells in the area, to supply a structural model and attribute model for reservoir simulation.
- Remap the leads located south of the Ladbroke Grove gas field and re-evaluate for prospectivity.
- Improve structural mapping in the area between the Pyrus and Haselgrove faults, to the northeast of the Haselgrove Field.
- Investigate the area of the Balnaves and Limestone Ridge structures for updip potential or new prospects.

The Sawpit Sandstone oil play will be evaluated in the northern part of the permit, in conjunction with the area covered by PEL 27. This will include an analysis of the Wynn Updip Prospect, that requires reserves and economics be completed for final evaluation.

5. Expenditure Statement

Section 33.(3) An annual report must be accompanied by a statement of expenditure on regulated activities conducted under the licence for the relevant licence year.

An Expenditure Statement for PEL 32 Joint Venture during the period from 19 February 2001 to 18 February 2002 is attached.

PEL 32 ONSHORE OTWAY BASIN, SOUTH AUSTRALIA

19 FEBRUARY 2001 TO 18 FEBRUARY 2002 (PERMIT YEAR 2)

STATEMENT OF EXPENDITURE

Confidential

2 References

- 1. CD Cockshell and KR Langley, 2001. "Statement of Environmental Objectives for Seismic Operations in the Otway Basin, South Australia". Primary Industries and Resources SA, Report Book 2001/020.
- 2. "The Environmental Management of Seismic Operations in the South East of South Australia", 4th edition 1996. Issued by the Department of Primary Industries and Resources Petroleum Division (formerly MESA).
- 3. "Statement of Environmental Objectives for Drilling Pad and Access Road Construction On Private Land, Otway Basin, South Australia". May 2001. Origin Energy Resources Ltd.
- 4. "Statement of Environmental Objectives for Drilling and Well Operations in Limestone Ridge 1, Otway Basin, South Australia". May 2001. Origin Energy Resources Ltd.
- 5. "Statement of Environmental Objectives for Drilling and Well Operations in Balnaves 1, Otway Basin, South Australia". May 2001. Origin Energy Resources Ltd.

APPENDIX 1

CHECKLIST 13

COMPLIANCE WITH STATEMENT OF ENVIRONMENTAL OBJECTIVES-BALNAVES 1

Checklist 13: Compliance with Statement of Environmental Objectives

Checklist 13 has been developed to provide a method of demonstrating compliance with SEO documentation developed in accord with Part 12 of the Schedule to the Petroleum Act 2000, for drilling operations in South Australia. In SA drilling is managed by OCA on behalf of Origin Energy Resources Limited. Checklist 13 replaces Checklists 1 and 2 in South Australia and covers the generic SEO for Drilling Pad and Access Road Construction on Private Land posted May 2001 as well as site specific SEO developed for Drilling & Well Operations at each drilling location based on an Environmental Impact Report prepared for that site.

Project Name:	Balnaves 1	General Location:	Otway Basin SA
Permit:	PEL32	Project Manager (Responsible Person):	Ross Naumann
Date Checklist 1	3 completed:	Signature:	
SEO Reference:_	•	EIR Reference:	

Issue	Actions that may resolve the issue	How / was this achieved?
DRILLING PAD & ACCESS ROA	AD CONSTRUCTION ON PRIVATE LAND	
Avoid disturbance to known sites of Aboriginal and European heritage significance	Proposed well sites and access tracks scouted by appropriate personnel for sites of Aboriginal and European heritage significance	Inspected by Kungari representatives together with Origin representative - Chris Annear. May 2001
	Records for investigation retained	Invoice from Kungari Aboriginal Organisation
	Mechanism in place for response to discovery of sites of Aboriginal and European heritage significance	Yes
	Sites of Aboriginal and European heritage significance clearly identified or avoidance	No significant sites identified at this location
Avoid disturbance to rare and threatened flora and fauna species	Proposed well sites and access tracks scouted by appropriate personnel for rare & threatened species	EPBC check - results referred to HSE Dept - recommended non referral
	Sites of rare & threatened species clearly identified or avoidance	Photo of Litoria Raniformis frog on rig site-crew to report sitings
	Records for investigation retained	Siting of frogs noted
Prevent the introduction and establishment of weed species and pathogens	Vehicles and equipment assessed for risk of weed or pathogens prior to entering the region	No known risk of weeds - all vehicles from within Otway Basin
	Notification of weed risks to landholders	Yes
	Nil detection of exotic weeds as a result of OERL activities	Landholder has been requested to advise of any weeds observed post rehab
	Landholder approval of procedures to manage risks	Yes
Minimise impact to soils	Soil not removed unless requested by landholder	Pad over top soil - geotextile laid over top soil
	Stockpiled soil returned to original stratigraphic level on restoration of drill site	To be completed in final rehab in April/May 2002
	Landholder approval attained at completion	ТВА
	Seepage of potential contaminants into soil underlying the drill pad or surrounding site prevented	Yes - geotextile in place
	Oil and grease spills confined and removed	Yes
	Bioremediation completed to required level per developed criteria, as required	N/A
Avoid initiating erosion on	Topsoil restored to landholder satisfaction	April/May 2002
shallow limestone soil substrates and any area of	Minimised activity on fragile landforms as far as practicable	Traffic restricted to roads and pad

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Issue	Actions that may resolve the issue	How / was this achieved?
	Areas from which pad material removed, reseeded and rehabilitated to landowners satisfaction	April/May 2002
	Original drainage patterns restored or modified in accordance with landholders wishes	April/May 2002
	Landholder approval attained at completion	ТВА
Minimise impact on surface water and drainage patterns	Oil and grease spills confined and removed	Yes
	Assess track design and location to avoid water diversion that may cause erosion	Yes
	Culverts installed where necessary	Yes
	Where soil removal from drill pads required, soil respread and rolled over the disturbed area during restoration	April/May 2002 - soil only removed from sump area
	Areas from which pad material removed, reseeded and rehabilitated and original drainage patterns restored in accordance with landowners wishes and the SEO for Drilling and Well Operations	April/May 2002
Conduct all operations in relation to landholder and access to the land according to the Act	Procedures relating to access to land and notification to landowners of proposed activities conducted in accordance with <i>Petroleum Act 2000</i> and Company Policy	Yes. Notice of Entry signed. Compensation agreement signed pre pad construction.
Minimise risks to the safety of the public, employees	Construction conducted without incident from third parties approaching the site	Yes
and other third parties	Construction personnel aware of their responsibility to their own safety and that of co-workers	Yes - no reported incidents
Minimise impact on the environment of waste handling and disposal	Landholder approval attained at completion	April/May 2002
	Waste generated recycled or disposed of at EPA licensed facility	All waste disposed by Northcott at approved sites - see dockets
Avoid Adverse impacts on livestock	Fenced off some areas involving moving machinery to avoid incidents with livestock	Entire pad and camp fenced off
	Operators aware of potential for startling stock with equipment and of the potential consequences	Yes
	Waste collected diligently so as to minimise risk of rubbish causing lacerations to stock	No rubbish in stock areas - all waste in designated bins - emptied at approved sites.

In the event of an oil spill,	In the event of a spill, contingency plan	No spills
minimise the impacts on	implemented	
fauna, flora, soil, livestock and surface and ground	Oil spill contingency plan in place in accordance with Regulation 31	
water	Bio-remediation taken out on soil affected by on and off site as required	N/A
	Oil spill assessment criteria specific for the relevant environment developed.	N/A
Control production and	-	Generally damp conditions. Dust was
Control production and dispersal of dust on	Roads lightly sprayed with water when dust problem identified	not a problem.
unsealed roads and drill	Weather conditions monitored and heavy	N/A
lease area	vehicle operating procedures during	
	periods of extremely still air and	
	negligible wind regulated accordingly	
	Vehicle speed limits established	Yes (refer photos of signs on site)
Control noise from road vehicles and machinery	Vehicle speed limits established	Yes (refer photos of signs on site)
	Personnel aware of requirement for noise control	Yes
	Loading and unloading conducted with minimal noise	Yes
Plan vehicular movements	Induction on safe driving given to drivers	Yes - at prespud meetings
and schedule activities as best as possible to minimise	Schedule deliveries during low periods of rural community activity on roads	Daylight deliveries where possible
inconvenience to the local community	Nil complaints regarding vehicular impacts	No complaints received
Confinement of flammable	Eliminated high levels of grass fuel in	Cleared pad with adequate fire break -
sources, restrictions on	proximity to the site	also wet conditions
certain procedures and ready access to suitable fire	Clearing performed in consultation with landowner	Yes
fighting equipment	Systems in place to highlight increased risk of fire on days of high wind and temperature	Yes - appropriate Fire Danger sign in place - similar sign to that used by Forestry
	In the event of a fire, procedures	No fires
	implemented to protect plant operators in	
	accordance with the Emergency Response plan	
	Procedures in place to minimise risk of initiating and propagating fire during	Yes - no hot work permits issued on high fire danger days
	periods of high temperature and winds	
	Risk of fire clearly defined to supply truck drivers	N/A
	Minimised movement of heavy vehicles on high risk days	N/A
	Contact with local Country Fire Service to	Yes - CFS aware of rigs presence
	keep roads clear during fire and to predict their likely movements	res ers aware of figs presence
	Fire fighting equipment maintained in	N/A
	readiness during periods of high fire danger	
Drilling & Well operation		1
Avoid disturbance to known	Activities that were assessed to	No long term harm risk assessed
sites of Aboriginal and	potentially result in long-term harm in the	
European heritage	regions defined in the scope of the SEO	
significance	carried out with prior specific approval of	
	the respective landowner and, where	
	necessary, local authorities and/or state	
I	Government	

	Proposed well sites and access tracks scouted by appropriate personnel for sites of Aboriginal and European heritage significance before commencement of construction Records for investigation retained	Yes - Kungari Aboriginal Organisation Invoice from Kungari Aboriginal
	Compliance with Aboriginal Heritage Act	Organisation
	1998	
	Personnel trained to identify and respond appropriately to sites discovered during construction and operation activities	Yes - Chris Annear supervised all excavations - contractor aware to look out for items of cultural significance
	Work on freehold land was to the satisfaction of the landowner unless it would have involved impact likely to contravene environmental State legislation	No complaints to date. Final rehabilitation April/May 2002.
Avoided disturbance to rare, vulnerable and endangered flora and fauna species	Drilling pad and access road scouted for rare, vulnerable & endangered flora & fauna species by appropriately trained and experienced personnel before commencement of construction	EPBC search
	Areas affected by construction of the campsite, sump and flare pit scouted for rare, vulnerable & endangered flora & fauna species by appropriately trained and experienced personnel before commencement of construction	EPBC search
	Sites of rare, vulnerable & endangered flora & fauna species clearly identified or avoidance	Non identified
	Records for scouting retained	N/A
Prevent the introduction and establishment of weed species	Vehicles and equipment assessed for risk of weeds or plant pathogens prior to entering the region	Assessed as no risk - all vehicles of local (Otway) origin
	Records related to equipment and vehicle inspection retained	N/A
	Nil detection of exotic weeds as a result of OERL activities	Yes
	Landholder aware of the risk and approved of procedures	Yes
Minimised impacts to soil	Soil only removed when required for the building of a sump and flare pit	Yes
	Soil removed in construction of sump and flare pit stored on site and returned to original stratigraphic level on restoration of drill site	Due in April/May 2002
	Restoration of drill site approved by landowner or in accordance with landowners wishes where retention of specific parts of the pad requested	April/May 2002
	Landholder approval attained at completion	April/May 2002
	Nil seepage into soil underlying or surrounding the sumps	Lined sump - pits drained for disposal, liner removed
	Oil and grease spills at campsite generators confined and removed, as required	Yes
	Hazardous material stored, used and disposed of in accordance with relevant state legislation on dangerous substances	Yes - Northcott docket for sump disposal

	MSDS available on the well site	Yes
	Oil-spill bioremediation, as required meets end point assessment criteria	N/A
	Oil spill end point assessment criteria specific for the relevant environment developed (use Victorian EPA limit until developed)	N/A
Avoid initiating erosion on shallow limestone soil substrates and any area of	Soil not removed from drill pad and access track in accordance with landowner wishes	Yes
relief such as palaeo-dunes	Soil removed during construction of the sump and flare pit respread and rolled over the disturbed area during restoration	April/May 2002
	Area artificially elevated via pad or access track construction lowered by removal of compacted material unless retention requested by landowner	April/May 2002 - landowner required gravel for use on his farm after removal from drill pad
	Areas from which pad material removed, reseeded and rehabilitated in accordance with landowners wishes	April/May 2002
	Original drainage patterns restored or modified in accordance with landholders wishes	April/May 2002
	Landholder approval attained at completion	April/May 2002
Drilling & Completion Activit		
Minimise loss of reservoir and aquifer pressures and contamination of freshwater aquifers	Casing design (including setting depths) carried out in accordance with the well's Drilling Programme and Company defined procedures which satisfy worst case expected loads and environmental conditions determined for the well	Yes
	Casing set in accordance with design parameters, the Drilling Programme and Company approved procedures and records kept	Yes - refer casing reports
	Sufficient isolation between formations listed in the adjacent column - where present -substantiated	Yes - surface casing cemented to surface - see cementing report
	Where isolation of formations was not established sufficient evidence available to demonstrate that they are in natural hydrologic communication	N/A
	Where isolation of formations was not established and formations are not in a natural hydrologic communication remediation action taken in accordance with Company procedures to ensure cement squeezed and circulated to achieve sufficient isolation	N/A
	Well Abandonment Activities	
	Plugs set to isolate aquifers through the well bore designed and set in accordance with defined procedures to satisfy worst case expected loads and downhole environmental conditions	Yes - plugs based on calliper log hole diameter - refer daily drilling report
	Plugs set to isolate aquifers which are present and which are not in a natural hydrologic communication nor have been isolated by cement behind casing	Yes - open hole plugs set as per program - refer daily drilling report

	Where isolation of formations behind	N/A
	casing was not established and formations	
	are not in a natural hydrologic	
	communication remediation action taken	
	in accordance with Company procedures	
	to ensure cement squeezed and circulated	
	to achieve sufficient isolation	
	Records of plug depths and interval	Drilling records and Cementing
	retained	
		Contactor job logs
Avoid contamination of	MSDS relating to mud chemicals readily	Yes, plus wall plaque and CD
aquifers and minimise	accessible on the rig	
impact on surface water	Mud pit fluids pumped out and disposed of	Yes - refer Northcott dockets
and drainage	at an EPA approved facility on completion	
	of drilling	
	Sump allowed to dry out then backfilled	Sump was pumped out by contractor,
	level with surrounding landscape	residual fluid absorbed in sawdust and
	5 .	the sump back filled
	Drill colide trucked to an EDA enproved	Yes - refer Northcott dockets
	Drill solids trucked to an EPA approved	
	facility for disposal	
	In the unlikely event that soil removed	N/A
	from drill pad or access tracks, soil	
	respread and rolled over the disturbed	
	area during restoration	Due April (May 2002
	Area artificially elevated via pad or access	Due April/May 2002
	track construction lowered by removal of	
	compacted material unless retention	
	requested by landowner	
	Areas from which pad material removed,	Due April/May 2002
	reseeded and rehabilitated in accordance	
	with landowners wishes	
	Original drainage patterns restored in	Due April/May 2002
	accordance with landholders wishes	
	Fluid loss control maintained in drilling	Yes - refer Drilling Fluid reports
	mud according to good industry practice	
Conduct all operations in	All procedures related to access to land	Yes
relation to landowners and	and notification to the landowner of	
access to the land according	proposed activities conducted in	
to the Act	• •	
to the ACL	accordance with the Petroleum Act 2000	
	and Company policy of best practice	
Minimise risks to the safety	Unauthorised Access by Third Parties	
of the public, employees	No Entry signs warning of dangers	Yes - all visitors advised to report to
and other third parties	associated with drilling rigs placed at the	rig office. Must have PPE.
	entry to the rig access road	
	Drill crew instructed to report to the	Yes
	Drilling Supervisor and Drilling Contractor	
	Rig Manager if third parties approach the	
	rig	
	Rig Supervisor and Drilling Contractor Rig	Yes
	Manager given authority to request	
	unauthorised parties to leave the rig site	
	Drilling & Completion Activities	Mar.
	Casing design (including setting depths)	Yes
	carried out in accordance with Company	
	approved procedures which satisfy worst	
	case expected loads and environmental	
	conditions determined for the specific	
	geology intercepted by the well	
	Casing set in accordance with design	Yes
	parameters and Company approved	
	procedures	
	Maximum cement bond with the formation	Yes - cement to surface on 9 5/8"
	ensured by the use of centralisers,	surface casing
	cement grade and volumes excess to	
	calculated requirements	
-		

	Blow out prevention precautions in place	Yes - BOP tests conducted
	and operational in accordance with	
	defined procedures and appropriate to	
	the expected loads and downhole	
	environmental conditions	
	Well Abandonment Activities	
	Downholde abandonment of well carried	Yes
		163
	out in accordance with Company approved	
	procedures to satisfy worst case expected	
	loads and downhole environmental	
	conditions	
	Effective isolation maintained between	Yes
	aquifers to prevent cross flow between	
	zones and over-pressuring of shallow	
	aquifers	
	Well site Restoration Activities	
		Voc
	Assessment of the threats to third party	Yes
	safety from well completion or downhole	
	abandonment conducted	
	Necessary measures taken to prevent the	Yes. No well head in place. Well was
1	public accessing wellhead equipment and	abandoned and casing cut below GL
	waste relating to the well	
	Effective rehabilitation of the rig site to	Yes - initial rehabilitation after drilling
	remove potentially dangerous	- final rehabilitation April/May 2002
	perturbations in ground level	······································
Minimise impact on the	Landholder approval attained at	April/May 2002
environment of waste	completion	Apint/May 2002
	•	Vec removal by contractor
handling and disposal	Waste generated on well site (excluding	Yes - removal by contractor
	grey water) recycled or disposed of at EPA	
	licensed facility	
	Records show that sewerage at drilling	Yes - covered septic system - regular
	camp stored and disposed of in a manner	disposal be Northcott contractors.
	that posed no risk to human health or	
	hygiene	
	Inglicite	
		Yes
	MSDS readily available on well site	Yes
	MSDS readily available on well site	
Avoid Adverse impacts on	MSDS readily available on well site Mud pits and/or flare pits and moving	Yes Yes - entire drilling pad fenced
Avoid Adverse impacts on livestock	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents	
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock	
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents	
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock	Yes - entire drilling pad fenced
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may	Yes - entire drilling pad fenced
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may promote panic in stock and consequent	Yes - entire drilling pad fenced
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may promote panic in stock and consequent collision with other animals, fences or	Yes - entire drilling pad fenced
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may promote panic in stock and consequent collision with other animals, fences or other solid objects	Yes - entire drilling pad fenced Yes
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may promote panic in stock and consequent collision with other animals, fences or other solid objects Rubbish collected diligently so that stock	Yes - entire drilling pad fenced Yes Yes - dedicated rubbish bins on site -
	MSDS readily available on well site Mud pits and/or flare pits and moving machinery fenced off to avoid incidents with livestock Drill crews aware that sudden starting of machinery or vehicular motion may promote panic in stock and consequent collision with other animals, fences or other solid objects Rubbish collected diligently so that stock do not come into contact with waste	Yes - entire drilling pad fenced Yes
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	In the event of a fire approaching or being	Yes - Fire drill - crews to muster at
	initiated on the drilling rig, planning for	the assembly point
	the safety of the rig personnel in place	
	Procedures in place to minimise risk of	Yes- no Hot Work permits to be
	initiating and propagating fire during	issued on High Fire danger days.
	periods of high temperature and winds	
	Risk of fire clearly defined to supply truck	Yes
	drivers	
	Minimised movement of heavy vehicles on	There were no high fire danger days
	defined high risk days	on the well
	Contact with local Country Fire Service to	Yes - CFS contacted
	keep roads clear during fire and to predict	
	their likely movements	
	During periods of high fire danger,	N/A but abundant water supply on
	maintained pumps and water supply in	site
	readiness	
	Informed the Country Fire Service that a	Yes
	volume of water in the "Turkeys Nest"	
	suitable for high extraction rates should it	
	be required	
Other		
other		
Other		

Accepted by Drilling Manager: _____

Signature:

Dat e _____

APPENDIX 2

CHECKLIST 13

COMPLIANCE WITH STATEMENT OF ENVIRONMENTAL OBJECTIVES – LIMESTONE RIDGE 1

Checklist 13: Compliance with Statement of Environmental Objectives

Checklist 13 has been developed to provide a method of demonstrating compliance with SEO documentation developed in accord with Part 12 of the Schedule to the Petroleum Act 2000, for drilling operations in South Australia. In SA drilling is managed by OCA on behalf of Origin Energy Resources Limited. Checklist 13 replaces Checklists 1 and 2 in South Australia and covers the generic SEO for Drilling Pad and Access Road Construction on Private Land posted May 2001 as well as site specific SEO developed for Drilling & Well Operations at each drilling location based on an Environmental Impact Report prepared for that site.

Project Name: Limestone Ridge 1 General Location: Otway Basin SA Permit: PEL32 Project Manager (Responsible Person): Ross Naumann Date Checklist 13 completed: Signature:		
SEO Reference:		
Issue	Actions that may resolve the issue	How / was this achieved?
DRILLING PAD & ACCESS ROA	AD CONSTRUCTION ON PRIVATE LAND	
Avoid disturbance to known sites of Aboriginal and European heritage significance	Proposed well sites and access tracks scouted by appropriate personnel for sites of Aboriginal and European heritage significance	Inspected by Kungari representatives together with Origin representative - Chris Annear. May 2001
	Records for investigation retained	Invoice from Kungari Aboriginal Organisation
	Mechanism in place for response to discovery of sites of Aboriginal and European heritage significance	Yes
	Sites of Aboriginal and European heritage significance clearly identified or avoidance	No significant sites identified at this location
Avoid disturbance to rare and threatened flora and fauna species	Proposed well sites and access tracks scouted by appropriate personnel for rare & threatened species	EPBC check - results referred to HSE Dept - recommended non referral
	Sites of rare & threatened species clearly identified or avoidance Records for investigation retained	Photo of Litoria Raniformis frog on rigsite-crew to report sitings Siting of frogs noted
Prevent the introduction and establishment of weed species and pathogens	Vehicles and equipment assessed for risk of weed or pathogens prior to entering the region	No known risk of weeds - all vehicles from within Otway Basin
	Notification of weed risks to landholders	Yes
	Nil detection of exotic weeds as a result of OERL activities	Landholder has been requested to advise of any weeds observed post rehab
	Landholder approval of procedures to manage risks	Yes
Minimise impact to soils	Soil not removed unless requested by landholder	Pad over top soil - geotextile laid over top soil
	Stockpiled soil returned to original stratigraphic level on restoration of drill site	To be partially completed in interim rehab in April/May 2002 - to convert drill pad to production pad area
	Landholder approval attained at completion	ТВА
	Seepage of potential contaminants into soil underlying the drill pad or surrounding site prevented	Yes - geotextile in place
	Oil and grease spills confined and removed	Yes
	Bioremediation completed to required level per developed criteria, as required	N/A
Avoid initiating erosion on	Topsoil restored to landholder satisfaction	April/May 2002 - partial rehab
shallow limestone soil substrates and any area of	Minimised activity on fragile landforms as far as practicable	Traffic restricted to roads and pad
relief such as palaeo-dunes	Areas from which pad material removed, reseeded and rehabilitated to landowners satisfaction	April/May 2002 - partial rehab

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Issue	Actions that may resolve the issue	How / was this achieved?
	Original drainage patterns restored or modified in accordance with landholders wishes	April/May 2002 - partial rehab
	Landholder approval attained at completion	ТВА
Minimise impact on surface water and drainage patterns	Oil and grease spills confined and removed	Yes
	Assess track design and location to avoid water diversion that may cause erosion	Yes
	Culverts installed where necessary	Yes
	Where soil removal from drill pads required, soil respread and rolled over the disturbed area during restoration	April/May 2002 - soil only removed from sump area
	Areas from which pad material removed, reseeded and rehabilitated and original drainage patterns restored in accordance with landowners wishes and the SEO for Drilling and Well Operations	April/May 2002 - partial rehab
Conduct all operations in relation to landholder and access to the land according to the Act	Procedures relating to access to land and notification to landowners of proposed activities conducted in accordance with <i>Petroleum Act 2000</i> and Company Policy	Yes. Notice of Entry signed. Compensation agreement signed pre pad construction. Two landowners involved - one with access road only
Minimise risks to the safety of the public, employees	Construction conducted without incident from third parties approaching the site	Yes
and other third parties	Construction personnel aware of their responsibility to their own safety and that of co-workers	Yes - no reported incidents
Minimise impact on the environment of waste	Landholder approval attained at completion	April/May 2002 - partial rehab
handling and disposal	Waste generated recycled or disposed of at EPA licensed facility	All waste disposed by Northcott at approved sites - see dockets
Avoid Adverse impacts on livestock	Fenced off some areas involving moving machinery to avoid incidents with livestock	Entire pad and camp fenced off. Entire access road through 2 properties fenced off
	Operators aware of potential for startling stock with equipment and of the potential consequences	Yes
	Waste collected diligently so as to minimise risk of rubbish causing lacerations to stock	No rubbish in stock areas - all waste in designated bins - emptied at approved sites.
In the event of an oil spill,	In the event of a spill, contingency plan	No spills
minimise the impacts on fauna, flora, soil, livestock and surface and ground	implemented Oil spill contingency plan in place in accordance with Regulation 31	
water	Bio-remediation taken out on soil affected by on and off site as required	N/A
	Oil spill assessment criteria specific for the relevant environment developed.	N/A
Control production and dispersal of dust on	Roads lightly sprayed with water when dust problem identified	Generally damp conditions. Dust was not a problem.
unsealed roads and drill lease area	Weather conditions monitored and heavy vehicle operating procedures during periods of extremely still air and negligible wind regulated accordingly	N/A
	Vehicle speed limits established	Yes (refer photos of signs on site)
Control noise from road vehicles and machinery	Vehicle speed limits established	Yes (refer photos of signs on site)
· ····,	Personnel aware of requirement for noise control	Yes
	Loading and unloading conducted with minimal noise	Yes

Issue	Actions that may resolve the issue	How / was this achieved?
Plan vehicular movements	Induction on safe driving given to drivers	Yes - at prespud meetings
and schedule activities as best as possible to minimise	Schedule deliveries during low periods of rural community activity on roads	Daylight deliveries where possible
inconvenience to the local community	Nil complaints regarding vehicular impacts	No complaints received
Confinement of flammable	Eliminated high levels of grass fuel in	Cleared pad with adequate fire break
sources, restrictions on certain procedures and	proximity to the site Clearing performed in consultation with	- also wet conditions Yes
ready access to suitable fire	landowner	
fighting equipment	Systems in place to highlight increased risk of fire on days of high wind and temperature	Yes - appropriate Fire Danger sign in place - similar sign to that used by Forrestry
	In the event of a fire, procedures implemented to protect plant operators in accordance with the Emergency Response plan	No fires
	Procedures in place to minimise risk of initiating and propagating fire during periods of high temperature and winds	Yes - no hot work permits issued on high fire danger days
	Risk of fire clearly defined to supply truck drivers	N/A
	Minimised movement of heavy vehicles on high risk days	N/A
	Contact with local Country Fire Service to keep roads clear during fire and to predict their likely movements	Yes - CFS aware of rigs presence
	Fire fighting equipment maintained in readiness during periods of high fire danger	N/A
Drilling & Well operation		
Avoid disturbance to known sites of Aboriginal and European heritage significance	Activities that were assessed to potentially result in long-term harm in the regions defined in the scope of the SEO carried out with prior specific approval of the respective landowner and, where necessary, local authorities and/or state Government	No long term harm risk assessed
	Proposed well sites and access tracks scouted by appropriate personnel for sites of Aboriginal and European heritage significance before commencement of construction	Yes - Kungari Aboriginal Organisation
	Records for investigation retained	Invoice from Kungari Aboriginal Organisation
	Compliance with Aboriginal Heritage Act 1998	
	Personnel trained to identify and respond appropriately to sites discovered during construction and operation activities	Yes - Chris Annear supervised all excavations - contractor aware to look out for items of cultural significance
	Work on freehold land was to the satisfaction of the landowner unless it would have involved impact likely to contravene environmental State legislation	No complaints to date. Partial rehabilitation April/May 2002.
Avoided disturbance to rare, vulnerable and endangered flora and fauna species	Drilling pad and access road scouted for rare, vulnerable & endangered flora & fauna species by appropriately trained and experienced personnel before commencement of construction	EPBC search

Issue	Actions that may resolve the issue	How / was this achieved?
	Areas affected by construction of the	EPBC search
	campsite, sump and flare pit scouted for	
	rare, vulnerable & endangered flora &	
	fauna species by appropriately trained	
	and experienced personnel before	
	commencement of construction	
	Sites of rare, vulnerable & endangered	None identified
	flora & fauna species clearly identified or avoidance	
	Records for scouting retained	Ν/Α
	Records for scouling relatived	N/A
Prevent the introduction	Vehicles and equipment assessed for risk	Assessed as no risk - all vehicles of
and establishment of weed	of weeds or plant pathogens prior to	local (Otway) origin
species	entering the region	
	Records related to equipment and vehicle	N/A
	inspection retained	
	Nil detection of exotic weeds as a result	Yes
	of OERL activities	
	Landholder aware of the risk and	Yes
	approved of procedures	
Minimised impacts to soil	Soil only removed when required for the	Yes
	building of a sump and flare pit	
	Soil removed in construction of sump and	Due in April/May 2002 - partial rehab
	flare pit stored on site and returned to	- production pad to remain in place
	original stratigraphic level on restoration	
	of drill site	
	Restoration of drill site approved by	April/May 2002 - partial rehab -
	landowner or in accordance with	production pad to remain in place
	landowners wishes where retention of	F F
	specific parts of the pad requested	
	Landholder approval attained at	April/May 2002 - will request interim
	completion	sign off
	Nil seepage into soil underlying or	Lined sump - pits drained for
	surrounding the sumps	disposal, liner removed
	Oil and grease spills at campsite	Yes
	generators confined and removed, as	
	required	Vac Northcott dockat for sump
	Hazardous material stored, used and disposed of in accordance with relevant	Yes - Northcott docket for sump
	state legislation on dangerous substances	disposal
	MSDS available on the well site	Yes
	Oil-spill bioremediation, as required	N/A
	meets end point assessment criteria	
	Oil spill end point assessment criteria	N/A
	specific for the relevant environment	
	developed (use Victorian EPA limit until	
	developed)	
Avoid initiating erosion on	Soil not removed from drill pad and access	Yes
shallow limestone soil	track in accordance with landowner	
substrates and any area of	wishes Sail removed during construction of the	April (May 2002 partial rabab
relief such as palaeo-dunes	Soil removed during construction of the sump and flare pit respread and rolled	April/May 2002 - partial rehab
	over the disturbed area during restoration	
	Area artificially elevated via pad or access	April/May 2002 - partial removal of
	track construction lowered by removal of	drill pad to production size
	compacted material unless retention	
	requested by landowner	
	Areas from which pad material removed,	April/May 2002 - partial removal of
	reseeded and rehabilitated in accordance	drill pad to production size
	with landowners wishes	

Issue	Actions that may resolve the issue	How / was this achieved?
	Original drainage patterns restored or	April/May 2002 - partial removal of
	modified in accordance with landholders	drill pad to production size
	wishes	
	Landholder approval attained at	April/May 2002 - will request interim
	completion	sign off
Minimise loss of reservoir	Drilling & Completion Activities	
and aquifer pressures and	Casing design (including setting depths)	Yes
contamination of freshwater	carried out in accordance with the well's	
aquifers	Drilling Programme and Company defined	
	procedures which satisfy worst case	
	expected loads and environmental conditions determined for the well	
	Casing set in accordance with design	Vac refer casing reports
	parameters, the Drilling Programme and	Yes - refer casing reports
	Company approved procedures and	
	records kept	
	Sufficient isolation between formations	Yes - surface casing cemented to
	listed in the adjacent column - where	surface - see cementing report
	present -substantiated	surface - see cementing report
	Where isolation of formations was not	N/A
	established sufficient evidence available	
	to demonstrate that they are in natural	
	hydrologic communication	
	Where isolation of formations was not	N/A
	established and formations are not in a	
	natural hydrologic communication	
	remediation action taken in accordance	
	with Company procedures to ensure	
	cement squeezed and circulated to	
	achieve sufficient isolation	
	Well Abandonment Activities	
	Plugs set to isolate aquifers through the	N/A - well was cased and suspended
	well bore designed and set in accordance	awaiting production operations and
	with defined procedures to satisfy worst	testing - refer daily drilling report
	case expected loads and downhole	
	environmental conditions	
	Plugs set to isolate aquifers which are	N/A
	present and which are not in a natural	
	hydrologic communication nor have been	
	isolated by cement behind casing	
	Where isolation of formations behind	N/A
	casing was not established and formations	
	are not in a natural hydrologic	
	communication remediation action taken	
	in accordance with Company procedures	
	to ensure cement squeezed and circulated	
	to achieve sufficient isolation	
	Records of plug depths and interval	N/A
	retained	
Avoid contamination of	MSDS relating to mud chemicals readily	Yes, plus wall plaque and CD
aquifers and minimise	accessible on the rig	
impact on surface water	Mud pit fluids pumped out and disposed of	Yes - refer Northcott dockets
and drainage	at an EPA approved facility on completion	
-	of drilling	-
	Sump allowed to dry out then backfilled	Sump was pumped out by contractor
	level with surrounding landscape	residual fluid absorbed in sawdust
		and the sump back filled
	Drill solids trucked to an EPA approved	Yes - refer Northcott dockets
	facility for disposal	
	In the unlikely event that soil removed	N/A
	from drill pad or access tracks, soil	
	respread and rolled over the disturbed	
	area during restoration	

Issue	Actions that may resolve the issue	How / was this achieved?
	Area artificially elevated via pad or access	Due April/May 2002- partial removal
	track construction lowered by removal of compacted material unless retention	of drill pad to production size
	requested by landowner	
	Areas from which pad material removed,	Due April/May 2002 - partial remova
	reseeded and rehabilitated in accordance	of drill pad to production size
	with landowners wishes	
	Original drainage patterns restored in accordance with landholders wishes	Due April/May 2002 - partial remova of drill pad to production size
	Fluid loss control maintained in drilling mud according to good industry practice	Yes - refer Drilling Fluid reports
Conduct all operations in	All procedures related to access to land	Yes
elation to landowners and	and notification to the landowner of	
ccess to the land according	proposed activities conducted in	
o the Act	accordance with the Petroleum Act 2000	
Ainimise risks to the safety	and Company policy of best practice Unauthorised Access by Third Parties	
of the public, employees	No Entry signs warning of dangers	Yes - all visitors advised to report to
and other third parties	associated with drilling rigs placed at the entry to the rig access road	rig office. Must have PPE.
	Drill crew instructed to report to the	Yes
	Drilling Supervisor and Drilling Contractor	
	Rig Manager if third parties approach the	
	rig	
	Rig Supervisor and Drilling Contractor Rig	Yes
	Manager given authority to request	
	unauthorised parties to leave the rig site	
	Drilling & Completion Activities Casing design (including setting depths)	Yes
	carried out in accordance with Company	165
	approved procedures which satisfy worst	
	case expected loads and environmental	
	conditions determined for the specific	
	geology intercepted by the well	
	Casing set in accordance with design	Yes
	parameters and Company approved procedures	
	Maximum cement bond with the formation	Yes - cement to surface on 9 5/8"
	ensured by the use of centralisers,	surface casing. A Cement Bond Log
	cement grade and volumes excess to	will be run through the 7" casing
	calculated requirements	prior to completion operations Yes - BOP tests conducted
	Blow out prevention precautions in place and operational in accordance with	res - bop lesis conducted
	defined procedures and appropriate to	
	the expected loads and downhole	
	environmental conditions	
	Well Abandonment Activities	
	Downholde abandonment of well carried	N/A - well was cased and suspended
	out in accordance with Company approved	for production operations and testin
	procedures to satisfy worst case expected	
	loads and downhole environmental conditions	
	Effective isolation maintained between	Yes - all aquifers isolated behind
	aquifers to prevent cross flow between	cemented casing
	zones and over-pressuring of shallow	5
	aquifers	
	Well site Restoration Activities	
	Assessment of the threats to third party	Yes
	safety from well completion or downhole abandonment conducted	
	Necessary measures taken to prevent the	Yes. Well head area is fenced off.
	public accessing wellhead equipment and waste relating to the well	When installed, the Xmas tree will have a protective fence.
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Issue	Actions that may resolve the issue	How / was this achieved?
	Effective rehabilitation of the rig site to	Yes - initial rehabilitation after
	remove potentially dangerous	drilling - interim rehabilitation to
	perturbations in ground level	production pad in April/May 2002
Minimise impact on the	Landholder approval attained at	April/May 2002 - will request interim
environment of waste	completion	sign off
handling and disposal		
	Waste generated on well site (excluding	Yes - removal by contractor
	grey water) recycled or disposed of at EPA	
	licensed facility	
	Records show that sewerage at drilling	Yes - covered septic system - regular
	camp stored and disposed of in a manner	disposal be Northcott contractors.
	that posed no risk to human health or	
	hygiene	
	MSDS readily available on well site	Yes
Avaid Advance imposts	Mud pite and/or flare pite and maying	Voc. optico drilling and forced
Avoid Adverse impacts on	Mud pits and/or flare pits and moving	Yes - entire drilling pad fenced.
livestock	machinery fenced off to avoid incidents	Entire access road fenced off through
	with livestock	2 properties
	Drill crews aware that sudden starting of	Yes
	machinery or vehicular motion may	
	promote panic in stock and consequent	
	collision with other animals, fences or	
	other solid objects	
	Rubbish collected diligently so that stock	Yes - dedicated rubbish bins on site -
	do not come into contact with waste	emptied regularly
	material or objects likely to cause	
	lacerations	
	For producing well, well cellar, rat hole	Rat hole and mouse hole filled after
	and mouse hole made safe for livestock	drilling. Cellar to remain in place for
	through appropriate covering or fencing	service rig operations - pad area
		fenced off
	For an abandoned restored well site, the	N/A
	cellar was backfilled to a level with the	
	surrounding landscape	
Avoid spills of oil or	No spills that pose a significant threat to	No spills
hazardous material outside	aquifers and immediate drainage system	
of impermeable sumps or	outside containment areas	
other areas designed to		
contain such spills		
	MSDS available for all chemicals likely to	Yes
	be in a spill	

	Vehicle mishaps on tracks and access roads minimised by driver induction and	All vehicle access restricted to pad area and designated access road
	education program	
In the event of an oil spill,	In the event of a spill, contingency plan	No spills
minimise the impacts on fauna, flora, soil, livestock	implemented Results of emergency response procedures	Drains were constructed to direct any
and surface and ground water	carried out in accordance with Regulation 31 show that oil spill contingency plan in place in the event of an oil spill is adequate and necessary remedial action to the plan taken promptly by the licensee as required	potential spills to the containment area of the sump
	Bio-remediation undertaken on affected soil, on or off site as required	N/A
	Oil spill bioremediation meets end point assessment criteria developed specifically for the relevant environment	N/A
	Oil spill end point assessment criteria specific for the relevant environment developed (use Victorian EPA limit until this developed)	N/A
Control production and dispersal of dust on	Roads lightly sprayed with water when dust problem identified	Damp conditions throughout the program - no dust problem
unsealed roads and drill lease area	Weather conditions monitored and heavy vehicle operating procedures during periods of extremely still air and negligible wind regulated accordingly	N/A
	Vehicle speed limits established	Yes
Control noise from road vehicles and machinery	Drill crews aware of requirement for noise control, especially while 'tripping-out', laying out drill pipe or running casing	Yes
	Rig service necessary if brake noise excessive	Yes
	Supply truck drivers aware of need to control noise when approaching and leaving drill site	Yes
	Loading and unloading conducted with minimal noise	Daylight deliveries programmed
	Vehicle speed limits established	Yes
Plan vehicular movements and schedule activities as	Drivers aware of risks of intersections	Yes - additional Caution signs placed on road adjacent to access track
best as possible to minimise inconvenience to the local community	Schedule deliveries during low periods of rural community activity on roads	Yes - all drivers advised to give way to school bus
Minimise chance of fire by clearing of dry pasture	Eliminated high levels of grass fuel in proximity to the rig and flare pit	Yes - fire break area around rig pad - also damp ground conditions
around facilities	Clearing activities performed in consultation with landowner	Yes
	In the event of a fire approaching or being initiated on the drilling rig, implemented procedures for protection of drill crew in accordance with Emergency Response Plan	Evacuation plan was in place
Confinement of flammable sources, restrictions on certain procedures and	Systems in place to highlight increased risk of fire on days of high wind and temperature	Yes - High Fire danger sign on site
ready access to suitable fire fighting equipment	In the event of a fire approaching or being initiated on the drilling rig, planning for the safety of the rig personnel in place	Yes - Fire drill - crews to muster at the assembly point
	Procedures in place to minimise risk of initiating and propagating fire during periods of high temperature and winds	Yes- no Hot Work permits to be issued on High Fire danger days.

	Risk of fire clearly defined to supply truck drivers	Yes
	Minimised movement of heavy vehicles on defined high risk days	There were no high fire danger days on the well
	Contact with local Country Fire Service to keep roads clear during fire and to predict their likely movements	Yes - CFS contacted
	During periods of high fire danger, maintained pumps and water supply in readiness	N/A but abundant water supply on site
	Informed the Country Fire Service that a volume of water in the "Turkeys Nest" suitable for high extraction rates should it be required	Yes
Other		
Other		

Accepted by Drilling Manager:

Signature:

Dat e _____

APPENDIX 3

INVESTIGATION OF THE LTI 28TH JULY 2001

AND SUBSEQUENT CORRECTIVE ACTIONS TAKEN

O.D. & E. PTY LIMITED

A.B.N. 94 000 385 704

ADELAIDE OFFICE: 15-17 Westport Road, ELIZABETH WEST SA 5113 Telephone: (08) 8255 3011 Facsimile: (08) 8252 0272 E-Mail: odeadel@ode.com.au

HEAD OFFICE: 10th Level, 74 Castlereagh Street SYDNEY NSW 2000

FACSIMILE MESSAGE

DATE:	Friday, 10 May 2002	PAGE 1 OF 2
FAX #	07 3369 7840	
TO:	Oil Company of Australia	
ATTENTION:	Ross Naumann	
FROM:	Neil Dean	
RE:	EXECUTIVE SUMMARY - INCIDENT AUS 30 28/07/01 01063 LTI	

Introduction

At approximately 1730 hours on the 28th July 2001, a Floorman (Greg Rohlach) on OD&E Rig 30 suffered a finger injury when running casing on the Rig floor. In the words of the Assistant Driller and Floorman "Everything was running well" and "We were working the floor at a slow pace". At the time of the incident the crew was on the 32nd joint.

At the time of the incident Greg Rohlach was stabbing the casing and using a tag line attached around the base of the casing. The Assistant Driller had moved over to assist Greg and the Lead Floorman was operating the power tong.

When the 32nd joint of casing came up the V-Door the tag line, which is tied to one hold back post and around another, slipped off the casing allowing it to swing towards the stump. Greg Rohlach attempted to hold the casing back using his hand to hold onto it. The casing swung in and hit the edge of the power tong and trapping Greg's finger.

Nature of Injury

A crush injury was sustained to the right hand middle finger. The injury was first treated on site and the employee was then transported to Penola Hospital. A Doctor treated the injury and referred the injured employee to a Surgeon at Mount Gambier Hospital. The employee was transported to Mount Gambier and underwent surgery on Sunday the 29th July.

Surgery resulted in partial amputation of the finger (Finger Tip). Greg was released from hospital on Monday the 30th July and was flown back to Adelaide.

The employee presented himself for examination at the Work Health Clinic in Adelaide on Tuesday the 31st July. The employee is classed as "Unfit for Work" and as such the injury is classified a "Lost Time Injury".

Incident Investigation

An investigation team was formed comprising:

- Daryl Whitbread Tour Pusher
- Steven Bailey Rig Manager
- Matthew Vella
 Floorman

With input and guidance from Brad Richards - Group OHSE Manager and James Van Rooen - Area Manager SA.

Investigation Findings

- The task at hand at the time of the incident is considered to be a part of "normal operations".
- A Pre-Tour Safety Meeting was held with all concerned and the likely hazards to be encountered were discussed.
- Prior to commencing the task of running the casing another meeting was held to reiterate hazards and controls.
- Greg Rohlach had not run casing before and he was specifically targeted during the safety meetings to ensure that he was aware of the procedures and controls required.
- There is no evidence of "Time pressure" or "Rushing the Job".
- With the assistant driller working on the floor there was a full complement of crew and they had settled into a smooth running pattern prior to the incident.
- The Rig Manager left the floor as the operation was run smoothly to unload a trailer of 7" casing.
- The immediate cause is attributed to Greg Rohlach maintaining a hold on the swinging casing regardless of warning/instruction to "Let it go".
- An underlying cause is attributed to the injured employee's relative inexperience.
- A further underlying cause is the arrangement that led to the tag line slipping down the hold back post and then slipping from the casing joint.

4.5 Corrective Actions

- Operations were ceased immediately and a Safety Meeting was held to discuss the incident.
- A hazard hunt was conducted and the method of securing the tag line was specifically examined.
- A Modification Proposal for V-Door Posts has been submitted to allow for better securing of the tag line.
- A continued focus on training of new rig personnel with an added focus on hand hazard awareness.
- The injured employee will be interviewed / counselled at Adelaide office and his condition will be monitored with a view to returning him to work (Initially Restricted Duties) as soon as practical.

Regards,

<u>NEIL DEAN</u> Operations Manager – Australia & NZ