

Licence

Environmental Protection Act 1986, Part V

Licensee: Redgate Holdings Pty Ltd

Licence: L8492/2010/2

Registered office:	566 Redgate Road REDGATE WA 6286
ACN:	066 604 117
Premises address:	Redgate Lime Quarry Redgate Road REDGATE WA 6286 Being Lot 2 on Diagram 65863
Issue date:	Thursday, 23 January 2014
Commencement date:	Friday, 31 January 2014
Expiry date:	Friday, 30 January 2026

Prescribed premises category

Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
12	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	50 000 tonnes or more per year	100,000 tonnes per annual period

Conditions

This Licence is subject to the conditions set out in the attached pages.

Date signed: 19 December 2016

Tim Gentle

Officer delegated under section 20 of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- Environmental Protection (Unauthorised Discharges) Regulations 2004 these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- Environmental Protection (Controlled Waste) Regulations 2004 these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- Environmental Protection (Noise) Regulations 1997 these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.



Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

The Redgate Line Pit (Redgate) is situated on Redgate Road, Redgate, in the Shire of Augusta-Margaret River. Agricultural line is mined from the site using loaders, and then screened to size according to market demand. Redgate was established in the mid-1980s as a small quarry that supplied line products for the construction of roads in the area. Operations expanded in 1996 to supply a variety of farming practices including the dairy industry, horticultural, viticultural and land development (for the correction of acid sulphate soils). The Redgate Line Pit currently extracts between 55,000 and 95,000 tonnes of line products per year depending on market demand.

The nearest sensitive human receptor is a residence approximately 35 metres from the North West boundary of the premises (fence line). It is understood that this residence was built in 2010 (after the quarry commenced operations). Other nearby sensitive human receptors (scattered residences and some tourist chalets) are situated on the opposite (northern) side of Redgate Road. The nearest of these receptors is approximately 150 metres from the premises boundary.

The main emissions from this type of industry are dust and noise. Dust emissions originate from screening and associated quarry operations and vehicle movements. Noise emissions originate from vehicles and machinery onsite.

This Licence is the result of an amendment initiated by DER to improve dust management in response to complaints from neighbouring residents. The licence has also been updated into the current format.

Instrument log		
Instrument	Issued	Description
R983/1998/1	26/08/1998	New Registration
L8492/2010/1	31/01/2011	New licence
L8492/2010/2	31/01/2014	Licence re-issue
L8492/2010/2	15/12/2016	Licence amendment to require dust monitoring and to update
		licence to new format

The licences, Registrations and works approvals issued for the Premises are:

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

- 1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.
- 1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the Environmental Protection Act 1986;

'annual period' means a 12 month period commencing from 1 January until 31 December in the same year;

'Anniversary Date' means 31 December of each year;

'AS 3580.1.1' means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment;*

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer Department Div.3 Pt.V EP Act Locked Bag 33 Cloisters Square PERTH WA 6850 info@der.wa.gov.au;

'Compliance Report' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'Department' means the department established under s.35 of the Public Sector Management Act 1994 and designated as responsible for the administration of Division 3 Part V of the Environmental Protection Act 1984;

'Licence' means this Licence numbered L8492/2010/2 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'PM' means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

'PM₁₀' means particles with an aerodynamic diameter of less or equal to 10 \Box m;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated; and



'µS/cm' means microsiemens per centimetre.

- 1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.
- 1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

2 Emissions

2.1 Fugitive emissions

2.1.1 The Licensee must undertake the fugitive dust management requirements in Table 2.2.1

Description	Operation details
Water carts / sprays	Operate when visible dust is generated from ground surfaces on the premises.
	Operate proactively subject to weather forecasting over a 24 hour period.
Dust suppressants (other than water)	Apply proactively.
(,	Re-apply proactively subject to visual inspection and weather forecasting over a 24 hour period.
Vehicles	Vehicle speeds limited to less than 25 km/h on areas of unconsolidated or unsealed road.
	All loaded trucks leaving the premises are to be covered to prevent dust generation.
	Use water sprays or other appropriate means to suppress wheel generated dust.
Cessation of activities	Cease an activity causing visible dust lift-off where dust management measures have not prevented dust lift-off and there is a risk of dust affecting sensitive receptors (residences).
Management response to dust trigger exceedance	In the event the trigger value is reached based on the real-time dust monitoring required by condtion 3.1.1, and the dust is confirmed as attributable to operations at Redgate Lime, management measures (use of water cart, sprays or other appropriate methods) are to be promptly activated to control the dust to avoid further exceedance of the trigger value.
Continuous improvement	The Licensee shall continuously improve site dust management through identification of dust sources and identifying and implementing improved dust controls.



3 Monitoring

3.1 Dust monitoring

3.1.1 The Licensee shall carry out dust monitoring in accordance with the requirements set out in Table 3.1.1 below.

Table 3.1.1 Dust monitoring	
Required action	Date of
	commencement
 The Licensee shall utilise dust monitoring and remedial management measures including, but not limited to, the following: continuous dust monitoring for operational management purposes for particulate matter 10 micrometres or less in diameter (PM10) at the premises boundary; the dust monitoring station to be located at the premises boundary between operations and the closest receptor (resident A) as shown in Schedule 1; automatic feedback (SMS text message or other form of alert) to the quarry manager or supervisor if a trigger level of 0.5 mg/m³ of PM10 is reached over a one hour averaging period; the dust monitoring system is to be used at all times the quarry is in operation during the months of November to April inclusive; the Licensee shall reduce the trigger level if necessary in response to verified complaints; and the Licensee shall keep a written log, signed by the responsible person, of dust trigger exceedance events including identification of the sources of dust and action taken to control dust. 	14 February 2017

4 Information

4.1 Records

- 4.1.1 All information and records required by the Licence shall:
 - (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 4.1.2 The Licensee must submit to the CEO within 90 days after the Anniversary Date, a Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence for the Annual Period.



4.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 90 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual	Environmental Report	
Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.	None specified
4.1.2	Compliance Compliance Rep	
4.1.3	Complaints summary	
-	Monthly quantity of raw material extracted from the ground and screened (tonnes). To be calculated based on initial screening of excavated material, not including any subsequent rescreening.	None specified
-	Summary of dust monitoring data, including any dust trigger exceedance events and remedial actions taken.	
-	Measures taken to manage noise.	

Note 1: Forms are in Schedule 2

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement ¹	Format or form
-	Any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	Part A: As soon as practicable but no later than 5 pm of the next usual working day. Part B: As soon as practicable	N/A

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.





Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

The current version of the Annual Audit Compliance form is available on the DER website.



SECTION B DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:			
b) Date(s) when the non compliance occurred, if applicable:			
c) Was this non compliance reported to DER?:			
Yes Reported to DER verbally Date Reported to DER in writing Date	□ No		
d) Has DER taken, or finalised any action in relation to the non cor	npliance?:		
e) Summary of particulars of the non compliance, and what was th	e environmental impact:		
f) If relevant, the precise location where the non compliance occur	f) If relevant, the precise location where the non compliance occurred (attach map or diagram):		
g) Cause of non compliance:			
h) Action taken, or that will be taken to mitigate any adverse effect	s of the non compliance:		
i) Action taken or that will be taken to prevent recurrence of the non compliance:			

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is	The Annual Audit Compliance Report must be signed and certified:	
	by the individual licence holder, or	
An individual	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.	
A firm or other	by the principal executive officer of the licensee; or	
unincorporated company	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.	
	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or	
	by two directors of the licensee; or	
	by a director and a company secretary of the licensee, or	
A corporation	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or	
	by the principal executive officer of the licensee; or	
	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.	
A public outbority	by the principal executive officer of the licensee; or	
A public authority (other than a local government)	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.	
a local government	by the chief executive officer of the licensee; or	
a local government	by affixing the seal of the local government.	

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE:	SIGNATURE:
NAME: (printed)	NAME: (printed)
POSITION:	POSITION:
DATE://	DATE://
SEAL (if signing under seal)	



Licence: Form: L8492/2010/2 N1 Licensee: Redgate Holdings Pty Ltd Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit			
Emission point reference/ source			
Parameter(s)			
Limit			
Measured value			
Date and time of monitoring			
Measures taken, or intended to			
be taken, to stop the emission			



Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to	
prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify,	
limit or prevent any pollution of the environment	
which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the	
Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of:	
Redgate Holdings Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent:	Redgate Holdings Pty Ltd L8492/2010/2		
Licence:			
Registered office:	566 Redgate Road REDGATE WA 6286		
ACN:	066 604 117		
Premises address:	Redgate Lime Quarry Redgate Road REDGATE WA 6286 Being-Lot 2 on Diagram 65863		
Issue date:	Thursday, 23 January 2014		
Commencement date:	Friday, 31 January 2014		
Expiry date:	Thursday, 22 June 2028		

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by:

Jamie Piotrowski Licensing Officer

Decision Document authorised by:

Tim Gentle Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval New Licence Licence amendment Works Approval amendme	□ □ ≥ ent
Activities that cause the premises to become	Category number(s)	Assessed design capacity
prescribed premises	12: Screening, etc. of material	100,000 tonnes per annual period
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes No N//	$A \boxtimes$
Compliance Certificate received	Yes No N/	Δ
Commercial-in-confidence claim	Yes No	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes No	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes No Mana	rral decision No: aged under Part V □ essed under Part IV □



Is the proposal subject to Ministerial Conditions?	Yes	No⊠	Ministerial statement No: EPA Report No:		
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes Departme	No⊠ nt of Wate	er consulted Yes 🗌 No 🖂		
Is the Premises within an Environmental Protection Policy (EPP) Area Yes No					
Are the Premises subject to any EPP requirements? Yes No \boxtimes If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.					

3 Executive summary of proposal and assessment

The Redgate Lime Pit (Redgate) is situated on Redgate Road, Redgate, in the Shire of Augusta-Margaret River. Agricultural lime is mined from the site using loaders, and then screened to size according to market demand. Redgate was established in the mid-1980s as a small quarry that supplied lime products for the construction of roads in the area. Operations expanded in 1996 to supply a variety of farming practices including the dairy industry, horticultural, viticultural and land development (for the correction of acid sulphate soils).

The Redgate Lime Pit currently extracts between 55,000 and 95,000 tonnes of lime products per year depending on market demand. The nearest sensitive human receptor (residence) is immediately adjacent to the north-western boundary. There are also a number of nearby residences and some tourist chalets on the opposite side of Redgate Road.

Redgate Lime Pit operates under an Extractive Industry Licence (EIL) issued by the Shire of Augusta/Margaret River (AMRS).

This licence amendment has been initiated by the Department of Environment Regulation (DER) to address complaints received by DER from nearby residents about dust. The licence has also been updated into the current format.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TAB			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.2, 1.2.3 and 1.2.4	 The following conditions: have been removed as they are now deemed redundant under DER's Guidance Statement on redundant conditions. 1.2.2 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system. 1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods. 1.2.4 The Licensee shall: (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises. 	DER Guidance Statement – Redundant Conditions (November 2015)
Point source emissions to air including monitoring	N/A	There are no point source emissions to air.	N/A
Point source emissions to surface water including monitoring	N/A	There are no point source emissions to surface water.	N/A
Point source emissions to	N/A	There are no point source emissions to groundwater.	N/A



DECISION TABL	.E		
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
groundwater including monitoring			
Emissions to land including monitoring	N/A	There are no emissions to land.	N/A
Fugitive emissions	L2.2, L3.1	 The following conditions have been removed as they are now deemed redundant under DER's Guidance Statement on redundant conditions. 2.6.1 The Licensee shall use all reasonable and practical measures to prevent and where that is not practicable to minimise dust emissions from the Premises. 2.6.2 The Licensee shall ensure that no visible dust generated by the activities on the Premises crosses the boundary of the Premises. 2.6.3 The licensee shall ensure the measures required by condition 2.2.1 include, but are not limited to, the following: (a) use of water sprays, dust collection systems, coverings on conveyors and transfer points from the materials handling and plant operations; (b) sealing of access roads, load-out and turn around areas; (c) use of water sprays, sprinklers or cannons, onto working and nonworking faces of stockpiles; and (e) routine maintenance and housekeeping practices to ensure no accumulation of waste materials in or around the premises. However in view of the proximity of the premises to sensitive receptors, and consequent risk of amenity or health impacts from dust, licence condition 3.1 has been added requiring specific dust management actions. In addition condition 3.1 has been added requiring the licensee to commence real-time dust monitoring at the premises' boundary as part of site operational dust management. DER's assessment and decision making are detailed in Appendix A. 	DER Guidance Statement – Redundant Conditions (November 2015)

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DECISION TAE	BLE		
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Odour		There are no significant odour emissions.	N/A
Noise		The operation is required to meet the provisions of the <i>Environmental Protection</i> (<i>Noise</i>) <i>Regulations 1997</i> . The layout of the operations at Redgate sees most of the major noise generating activities situated in the mining pit. There is a 15+ metre rise between the pit floor and the northern and western boundaries, providing a noise buffer to sensitive receivers. No noise complaints have been received by DER about the operations at Redgate in the past 5 years.	Environmental Protection (Noise) Regulations 1997
Information	L5.1.2	 The following condition has been removed as it is now deemed to be redundant under DER's Guidance Statement on redundant conditions. 5.1.2 The Licensee shall ensure that: (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing. 	DER Guidance Statement – Redundant Conditions (November 2015)
Licence Duration	N/A	Licence expiry has been set as 22 June 2028 to align with the Extractive Industry Licence issued by the Shire of Augusta/Margaret River.	N/A

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5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
10/11/2016	Proponent sent a copy of draft instrument	The Licensee clarified that the operation has not expanded in size since 2010 and that there are two screening plants at the site, only one of which is in use at any one time. The Licensee objected to a requirement for wheel washing or other appropriate methods for control wheel-generated dust from vehicles exiting the premises. The Licensee contended that appropriate means for control of wheel- generated dust are already in place and that wheel washing is therefore unnecessary The Licensee also objected to a proposed requirement for two dust monitoring stations with continuous monitoring for both PM10 and TSP.	Noted. The requirement to suppress wheel generated dust has been retained but the reference to wheel washing has been removed. The dust monitoring condition has been retained and now requires one dust monitoring station on the premises boundary between the operations and the closest residence. Monitoring is to be for PM10 only, which is the more important measure as it is directly related to potential health risks from dust inhalation.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence						
	Insignificant	Insignificant Minor Moderate Major Severe					
Almost Certain	Moderate	High	High	Extreme	Extreme		
Likely	Moderate	Moderate	High	High	Extreme		
Possible	Low	Moderate	Moderate	High	Extreme		
Unlikely	Low	Moderate	Moderate	Moderate	High		
Rare	Low	Low	Moderate	Moderate	High		



Appendix A

Fugitive Dust Emissions

Operation

Emission: Dust is generated during the operation of the screening plants and associated quarry activities. The pit floor is an open area where screening, stockpiling and loading activities are undertaken. The site is in a relatively exposed and windy location which increases the potential for dust lift-off. Dust may also be generated via trucks entering and leaving site.

A dust assessment was commissioned by the proponent in April 2010 (Environmental Alliances Pty Ltd – 2010). Field monitoring over three days at the quarry concluded that there are four main contributors to dust emissions. These are:

- loading of trucks;
- screening of material;
- wheel-generated dust (trucks); and
- wind generated dust.

The assessment found that:

- the percentage of fine particles (<50 µm in diameter) in the raw material, which are most prone to form airborne dust, is very low;
- during excavation, screening, stockpiling and loading of products to trucks, dust emissions were at worst generally barely visible;
- wheel-generated dust from trucks entering and leaving the site was "highly visible at the source".

The 2010 dust assessment included modelling to predict emissions of PM10 (particulate matter 10 micrometres or less in diameter) relative to the National Environmental Protection Measure (NEPM) standard for Ambient Air Quality. The dust assessment concluded that in a "worst case" scenario, the PM10 levels at the closest sensitive receptor (the house on the North West boundary of the premises) would only reach 54% of the NEPM criterion level, including background. However the Delegated Officer notes that predictive modelling of fugitive dust emissions from a small quarry operation such as this is likely to be of limited reliability because of complex small-scale topography, variable dust sources and emissions and general assumptions made about the effectiveness of dust control techniques. Also the modelling prediction of meeting the required 24 hour average dust level does not account for possible short term "spikes" in dust levels

The proximity of the operations on Lot 2 to sensitive receptors increases the risk of fugitive dust incidents. Sensitive receptors are located on the north-western boundary, and to the north, across Redgate Road. The closest sensitive receptor (residence) to Lot 2 is approximately 35 metres from the premises' boundary fence and approximately 40 metres from the unsealed main access road. Other receptors (residences and tourist chalets) are located on the opposite side of Redgate Road. The nearest of these other receptors is located approximately 150 metres from the premises boundary.

Impact: Air-borne dust can affect human health and amenity. Given the proximity of sensitive receptors (residences), there is a risk that public health criteria may not be met (risk from inhaled dust particles). Mid-level impacts to amenity on a local scale (dust deposition causing nuisance to residents).

Controls: Current dust controls are as follows:

- A synthetic polymer is applied to stock piles and road surfaces.
- Dustex is applied to road surfaces.



Government of Western Australia Department of Environment Regulation

- A water cart runs continually while the quarry is in operation and as needed outside operating hours.
- A sprinkler system provides dust suppression along the entrance road.
- Vehicle speed is limited to 25 km/h on unsealed roads.
- All loaded vehicles are covered before leaving the site.
- The entrance road along the NW boundary has been lowered to 1.5 metres below ground level to reduce noise and any dust generated from vehicle tyres.
- A 4 metre high vegetated bund has been installed along the NW boundary and trees have been planted along the northern boundary.

Risk Assessment

Notwithstanding the existing proponent controls, given the proximity of the premises to sensitive receptors and the relatively wind-exposed location, there remains a risk of fugitive dust affecting the receptors. DER has received a number of recent dust complaints from residents.

Consequence: Moderate. Specific consequence criteria for public health are at risk of not being met. Mid-level impacts to amenity on a local scale *Likelihood:* Likely. *Risk Rating:* High

Regulatory Controls

Condition 2.2.1 has been added to the licence requiring the licensee to carry out specified dust management actions. This condition incorporates the existing proponent commitments as formal licence requirements and includes requirements to use water carts or sprays when visible dust is generated, proactive use of dust suppressants, limiting vehicle speeds, and ceasing an activity causing visible dust lift off where dust management measures have not prevented dust lift-off and there is a risk of dust affecting sensitive receptors (residences).

In addition, condition 3.3.1 has been added requiring the licensee to carry out real-time dust monitoring on the premises boundary between the operations and the closest residence. The monitoring system is to include an automated system to send an alert to the quarry manager or supervisor if dust levels reach a pre-defined trigger level. Technology is now widely available for this purpose using solar-powered dust monitors, thus avoiding logistical difficulties associated with mains-connected dust monitoring equipment. The dust monitoring is to be used to enhance on-site operational dust management and is to be in use at all times the quarry is in operation during the dry months of the year (November to April inclusive). The condition also includes specific requirements for continuous improvement in dust management and for the proponent to keep a written log of dust exceedance events, including identification of dust sources and action taken. The requirement for real-time dust monitoring is appropriate to the level of risk.

Residual Risk Consequence Moderate Likelihood: Unlikely Risk Rating: Moderate

<u>Additional note:</u> Local residents contend that the access road should be relocated further away from the nearby houses. This matter is beyond the scope of the DER licence and would need to be addressed by the Shire of Augusta - Margaret River.



References

• Environmental Alliances Pty Ltd (2010) *Dust Assessment of Redgate Lime Quarry, Redgate*, April 2010.