Decision Report

Application for Licence

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L9044/2017/1
Applicant	Lime Nominees Pty Ltd
ACN	008 793 191
File Number	DER2017/000101-1
Premises	Lancelin Quarry Swan Location 8616, Reserve 31258 Old Ledge Point Road LANCELIN WA 6044 Mining Tenement: M70/697
Date of Report	20 December 2018
Status of Report	Final

Table of Contents

1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
DWER	Department of Water and Environmental Regulation
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DER	means the Department formerly responsible for administering the *Environmental Protection Act 1986.* This Department is now part of DWER.
DMIRS	Department of Mines, Industry Regulation and Safety (from 1 July 2017 Department of Mines and Petroleum (DMP) became part of the Department of Mines, Industry Regulation and Safety – see https://publicsector.wa.gov.au/public-administration/machinery-government/2017-machinery-government-changes for further details)
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EP Noise Regulations	*Environmental Protection (Noise) Regulations 1997 (WA)*
Licence Holder	Lime Nominees Pty Ltd

Minister	the Minister responsible for the EP Act and associated regulations
Mining Proposal	Mining Proposal ID 45591
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Primary Activities	as defined in Schedule 2 of the Licence
Risk Event	As described in *Guidance Statement: Risk Assessment*
RIWI Act 1914	*Rights in Water and Irrigation Act 1914*

2. Purpose and scope of assessment

Lime Nominees Pty Ltd (Lime Nominees) has applied for a licence to screen up to 500,000 tonnes per annum of limesand at mining tenement M70/697 at Swan Location 8616, Reserve 31258, Lancelin in Western Australia.

The lime quarry has been operating since 1971. However as the extraction and processing proposal by Lime Nominees will exceed the threshold for Category 12 under Schedule 1 of the EP Regulations, the premises will become prescribed premises and requires a licence to operate.

2.1 Application details

This licence application is for the extraction of up to 500,000 tonnes per annum of limesand within Mining Tenement M70/697. No previous licences or works approval exist for this proposal as it was previously managed pursuant to the *Cement Works (Cockburn Cement Ltd) Act 1971*.

As the site has been operational since 1971 the application was solely assessed as a licence application.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Lime Nominees Pty Ltd Concurrent Works Approval and Licence Application, comprising Application Form and supporting documentation. Prepared by Landform Research, December 2016	Submitted: 23 December 2016 Received: 13 January 2017

3. Background

The limesand dunes in Lancelin have been mined for limesand since 1971. Initial limesand extraction at the premises subject to this licence application was undertaken by Adelaide Brighton Cement Limited (ABCL) under the *Cement Works (Cockburn Cement Ltd) Act 1971* (State Agreement) for the purpose of cement manufacturing. However, more recently the limesand mined at Lancelin is being used in agriculture to manage soil acidity.

Table 3 lists the prescribed premises categories that have been applied for.

Table 3: Prescribed Premises Categories applied for

Classification of Premises	Description	***Proposed Premises production or design capacity or throughput***
Category 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

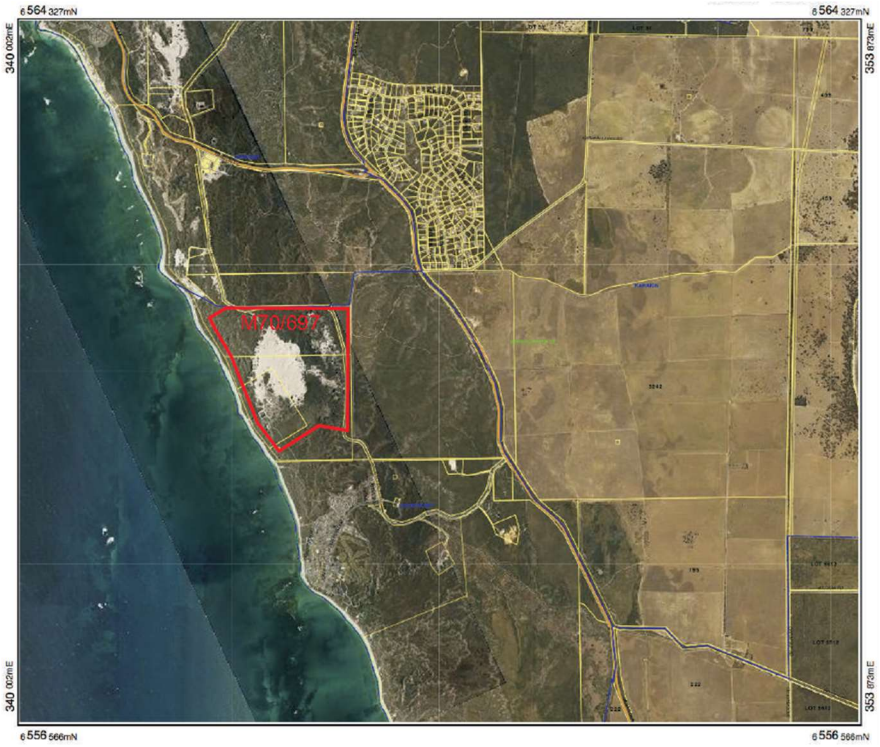


Figure 1: Premise Boundary map – M70/697

4. Overview of Premises

4.1 Historical operations

ABCL is the lessee of ML70/697 and both ABCL and Cockburn Cement Limited are wholly owned subsidiaries of Adelaide Brighton Limited.

Cockburn Cement Limited (Cockburn Cement) is a well-established Western Australian industrial company, which has carried out cement production at Munster and Dongara since 1955 including lime extraction at this site in Lancelin since 1971. These operations were carried out under the Cement Works Agreement, which was ratified by the Cement Works (Cockburn Cement Ltd) Act 1971 (State Agreement).

Cockburn Cement has long term contracts with major users to supply an estimated 90% market share of lime product sales in Western Australia.

Limesand extraction at Lancelin was reduced around 1995-96 when cement production at the Munster cement plant was redesigned to incorporate a new wet kiln process, producing cement clinker from the Munster limesand quarry and therefore reducing the need for Lancelin limesand.

Limesand is also used on agricultural land to reduce soil acidity. The agricultural use of nitrogenous fertilisers and legumes has led to the gradual increase of soil acidity. This can affect plant growth by reducing the availability of some nutrients. Limesand neutralizes the soil and returns crop productivity.

4.2 Operational aspects

Currently, limesand is extracted seasonally from mining tenement M70/697, from late spring into early autumn, for use as a lime amendment for agriculture lands. Typically, the limesand has a calcium carbonate content of 80 plus percent and contains Magnesium carbonate of around 6%. The acid insoluble fraction is normally about 12% and consists of fine silica sand. With the magnesium carbonate content the neutralizing value is 87% for agricultural soils.

The applicant is proposing to increase extraction and processing on the tenement, using a mobile screening plant which will process up to 500,000 tonnes per year of limesand extracted from the ground at the Lancelin quarry. The life of the project is estimated to be 15 years.

The total area of extraction will be 60ha of the 446.6ha tenement area. The Mining Proposal limits the extraction area to a 300m buffer to the south western portion of Reserve 31258 used by Water Corporation's Ledge Point sewerage treatment plant.

It is likely that 15ha of the Limesand Quarry will be opened by 2025, with up to 5ha of pit floor to be open at any one time. The location of the Extraction Area is shown by the red boundaries numbered 1 to 11 in Figure 2 below. Future limesand reserves indicated in Figure 2 will not be addressed in this assessment.

Excavation will be staged (as shown in Figure 2 below) and will commence with extraction from cells 1 to 7 (Stage 1), then cell 8 (Stage 2) followed by cells 9 to 11 (Stage 3). Limesand is taken from the pit in campaigns normally late summer and autumn months (150 calendar days per year).

The processing plant and product stockpiles will be located on the quarry floor at least 2m below natural ground level. Limesand may be directly loaded and transported off-site, or loaded into the screening plant to remove organic fragments (sticks and roots) and consolidated limesand rocks and then stockpiled for haulage later. Organic fragments will be used in rehabilitation whereas the rocks will be buried at the base of the working face.

Depth of excavation is to the full thickness of the face varying from 2 to 15m below natural ground level, and the lowest excavation will have approximately 4m separation to maximum ground water level. The quarry will progress as a one face excavation up to 50 to 100m long using a front end loader or excavator perpendicular to the excavation working face.

The pit will be internally draining with stormwater infiltrating through the ground due to the porosity and permeability of the dune system.

No dewatering will be required. No blasting will be required. No noise bunds are required. No waste storage, tailings or tailings ponds are required for this operation.

No fuel will be stored on-site and refuelling will be serviced by a mobile maintenance vehicle. If spills occur, contaminated soils will be recovered and removed off-site to approved treatment facility.

Water supply will be brought in from Water Corporation scheme supply. A water truck will be on-site as required to manage dust.

The site will operate Monday to Saturday from 7:00am to 6:00pm, with no operations on Sundays and Public Holidays. Limesand operations may occur intermittently when the material is spread on farms during summer and autumn but may be worked continuously if limesand is used for cement and lime based products.

All top soil will be removed ahead of mining operations and stockpiled for later respreading as rehabilitation progresses.

All waste materials, rubbish, plastics, abandoned equipment and temporary buildings will be removed from the premises prior to tenement termination or at regular intervals. A serviced portable toilet for use by operational staff will be used during operations.

Limestone road base will be introduced to provide a base for the access road and loading areas as required. This will either be progressively removed when no longer required or removed at the completion of each cells excavation.

As excavation progresses, the existing perimeter fence and warning signs will be relocated ahead of each cells excavation, on the top of the dune to minimise the risk of inadvertent incursion onto the pit face.

Figure 2: The proposal is shown by the red boundaries numbered 1 to 11

4.3 Infrastructure

The Lancelin facility infrastructure, as it relates to Category 12 activities, is detailed in Table 4.

Table 4: Lancelin Quarry Category 12 infrastructure

Infrastructure	
Prescribed Activity Category 12	
Up to 500,000 tonnes per year or raw material (limesand) screened into various sizes and stockpiled on the premises.	
1	Mobile screening plant
2	Excavator (Cat 330 or equivalent)
3	Loader (Cat 980 G or equivalent)
4	Water tanker – 10,000 Litre (L)
Directly related activities	
1	Extractive operations
2	Loading of limesand product into haul trucks (and truck movements)

5. Legislative context

5.1 Part IV of the EP Act

The proposal was referred to the Environmental Protection Authority (EPA) with an appeal to the level of assessment for the limesand extraction proposal. On 30 July 2004, the Minister for the Environment determined to support the EPA's level of assessment for this proposal under Part IV of the EP Act as "Not assessed, public advice given" and therefore will be managed by other public authorities in conjunction with approvals under Part V, Division 3 of the EP Act.

5.2 Other relevant approvals

5.2.1 Department of Mines, Industry Regulation and Safety

Mining Proposal for Tenement M70/697 commenced on 10/12/1996 for a 21 year term expiring on 9/12/2038.

5.3 Part V of the EP Act

5.3.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations. DWER guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (February 2017)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessments (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

5.3.2 Works approval and licence history

Table 5 summarises the works approval and licence history for the premises.

Table 5: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
L9044/2017/1	18/12/2018	New licence

5.3.3 Clearing

A clearing permit CPS723/1 was issued on 22 December 2007 and expired on 22 December 2012. The assessment of this Licence does not include vegetation clearing. The Licence associated with this Decision Report does not authorise vegetation clearing.

No clearing of vegetation is required at this stage. Should clearing need to be undertaken in the future, a clearing permit will be required.

6. Consultation

The Application was advertised in the *West Australian* newspaper on 1 May 2017 for a comment period ending on 22 May 2017. No comments were received.

Letters inviting comment on the Application were sent to the DMIRS and Shire of Gingin on 1 May 2017. No comments were received.

7. Location and siting

7.1 Siting context

The Premises is located at Swan Location 8616, Reserve 31258 on mining tenement M70/695 Old Ledge Point Road, Lancelin. The boundary of M70/695 is identical to Reserve 31258 vested in the Shire of Gingin.

Land immediately to the north and east is freehold titled zoned ‘Rural’ under the Local Town Planning Scheme and is vegetated with coastal dune species. The old Ledge Point Road reserve separates the project Premises from the freehold titled properties.

Land immediately south is unallocated crown land zoned for the Ledge Point town-site that is

also vegetated coastal dune.

7.2 Residential and sensitive premises

There are three residential subdivisions, one special rural zone subdivision and a golf course located greater than 1,500 m from the active edge of the extraction cells. The location of potential sensitive receptors (dwellings) from the extraction area, are shown as yellow squares in Figure 3 below. Extraction areas is shown by brown boundary with pink infill polygon in Figure 3.

The distances of representative receptors from the Extraction Area are listed in Table 6 and shown in Figure 3.

Table 6: Representative receptors

Representative receptors	Closest distance from the Extraction Area (approximate)
Residential subdivision 1 (A)	1,562 m south south east of cell 8
Residential subdivision 2 (B)	1,610 m south south east of cell 6
Residential subdivision 3 (C)	2,725 m north north west of cell 5
Special Rural subdivision (D)	1,840 n north east of cell 11
Golf Course – club house (E)	2,950 m north west of cell 5

Figure 3: Location of sensitive receptors (dwellings and golf course) from extraction areas.

7.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances from the extraction area to specified ecosystems and designated areas (as listed in *Guidance Statement: Environmental Siting (*November 2016) are shown in Table 7.

Table 7: Environmental values

Specified ecosystems	**Distance from the Premises**
Carnaby's Black Cockatoo breeding area	A confirmed breeding area is located ~7.7 km south east of the active cell area.
Designated Areas	
RIWI Act 1914 (WA) - Gingin Groundwater Area	Premises located within the Groundwater Area.
CAWS Act 1947 (WA) - Water Reserves	Ledge Point Groundwater Reserve boundary is located ~1.3 km south east of cell 8 boundary; and, Seaview Park Groundwater Reserve boundary is located ~3.4 km north east of cell 11 boundary.

7.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 8.

Table 8: Groundwater and water sources

Groundwater	**Distance from Premises**	**Environmental Value**
RIWI Act 1914 (WA) Gingin Groundwater Area Karakin Lakes subarea	Lowest excavation level will be approximately 4 m above maximum groundwater table at 1m AHD (from Mining Proposal).	Used for public town water supply, industrial and domestic uses.
	A number of groundwater users located greater than 3km from the boundary of the active extraction cells at Lancelin and Ledge Point. (based on available GIS dataset - WIN Groundwater Sites).	Required to facilitate conservation and protection of coastal vegetation and wetlands.

7.5 Soil type

Local soil is derived from the Quindalup dunes complex overlaying Tamala limestone. The extraction areas will target the shallow Limesands of the costal dunes within the tenement M70/697. Surface geology is Tamala Limestone predominantly calcarentite coastal dunes. (Heddle et al, 1980, *Vegetation Complexes of the Darling System, Western Australia in Atlas of Natural Resources, Darling System, Western Australia*, Department of Environment).

7.6 Meteorology

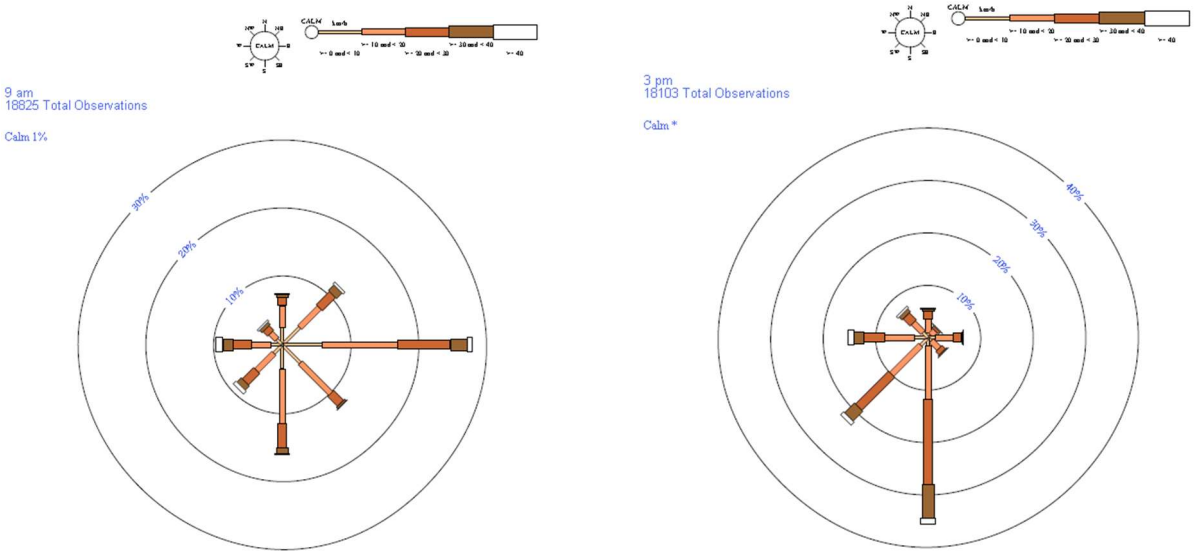
7.6.1 Regional climatic aspects

The locality has a Mediterranean climate with hot dry summers and cool wet winters.

Winds are predominantly from easterly quadrants in the mornings and from the southwest in the afternoons.

Climate statistics for the local area are provided below. Wind roses, rainfall and temperature graphs presented in Figures 4 to 6 are from observations at Lancelin approximately 6 km north of the site (sourced from Bureau of Meteorology).

7.6.2 Wind direction and strength



Figures 4 and 5: Wind roses, Lancelin from 1965 to 2010 annual average at 9:00 am & 3:00 pm

7.6.3 Rainfall and temperature

The mean rainfall in the Lancelin locality for the years 1965 to 2017 (over 51 years) is 590mm (BOM website, accessed 17 August 2017). The annual mean maximum temperature over the same duration was 24.2 °C with February the highest maximum of 29.9 °C and July the lowest maximum temperature of 19.2 °C.

Noise abatement measures and excavating the pits 5m below natural ground level will assist when wind speed, wind direction and land temperatures combine to create adverse weather conditions whilst operating the screening plant.

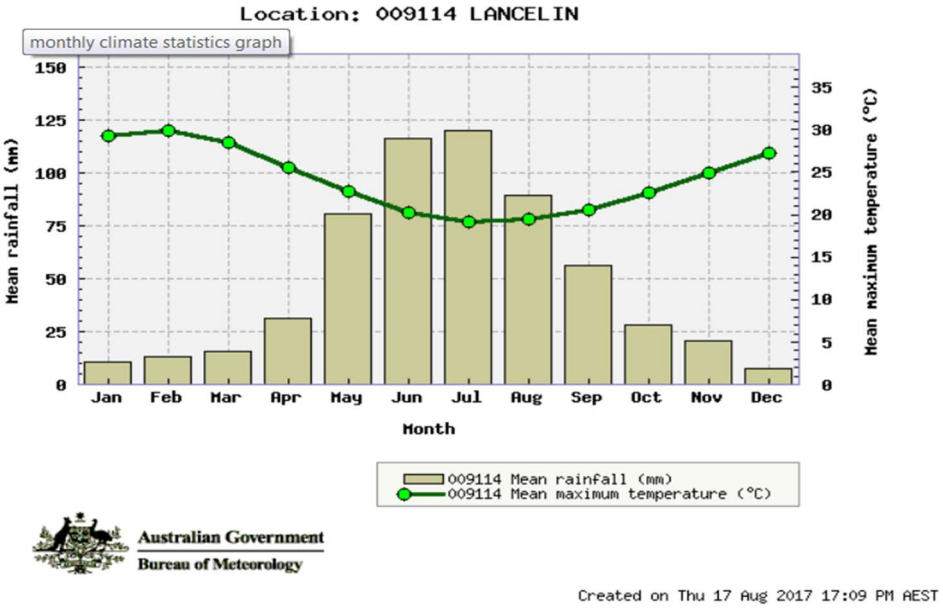


Figure 6: Plot of Mean Maximum temperature versus mean rainfall from 1965 to 2017

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years
Mean rainfall (mm) for years 1965 to 2017	10.8	13.3	15.7	31.1	80.6	116.6	120.2	89.4	56.6	28.4	20.5	7.9	589.6	51
Statistics	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**	**Years**
Mean maximum temperature (°C) for years 1965 to 2017	29.2	29.9	28.5	25.5	22.7	20.3	19.2	19.4	20.5	22.6	24.9	27.3	24.2	50

12.3 = Not quality controlled

Figure 7: Mean rainfall and mean maximum temperature for Lancelin from 1965 to 2017

8. Risk assessment

8.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions, pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 9 below. Table 9 also identifies which potential emissions will be progressed to a full risk assessment.

Table 9: Identification of emissions, pathway and receptors during operation

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**		
Operation of infrastructure	Vehicle movements on unsealed access roads Loading and unloading of material stockpiles	Noise	Adjacent rural lots Residential receptors	Air / wind dispersion	Amenity impacts	Yes – refer to section 8.4	Noise causing an impact to adjacent rural lots and residential receptors during operation.
		Dust				No	The distance to receptors is greater than 1560m and considered to be too great for dust impacts to occur to receptors. Water cart and dust suppressants will be incorporated during operations at the pit. Machine, conveyors and stockpiles will be located in the pits at 2m below natural ground level.
	Operation of processing plant	Noise	Adjacent rural lots	Air / wind dispersion	Amenity impacts	Yes – refer to section 8.4	Noise causing an impact to adjacent rural lots and residential receptors.

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
		Dust	Residential receptors			No	The distance to receptors is greater than 1560m and considered to be too great for dust impacts to occur to receptors. Water cart and dust suppressants will be incorporated when dust lift-off is observed. Plant, conveyors and material stackers will be located at least 2m below natural ground level
Operation of infrastructure		Waste: Contaminated stormwater	Shallow groundwater	Flow through the soil and intercepts local shallow groundwater	Erosion and scouring of ground. Sedimentation inhibiting vegetation growth and survival. Groundwater quality impacts inhibiting plant growth. Poor quality groundwater reducing beneficial users	No	Stormwater within the active mining area and where the process plants are located will infiltrate rapidly into the limesand soils. Size and extent of operation is unlikely to cause impacts to groundwater quality or have detrimental impact on environment and public health. Public drinking water is protected by a separation buffer for the Lancelin Water Supply.
	Use and storage of hydrocarbons / lubricants	Leaks and spills causing hydrocarbon/ lubricant discharge to land	Soil and coastal vegetation adjacent to areas of spill or breach Underlying groundwater supply Surface water systems and aquatic ecosystems	Direct discharge to land and seepage to groundwater	Soil contamination impacting vegetation growth and survival. Degradation of groundwater quality Run-off into surface water system and impacts to surface water ecosystems Degradation of water supply	No	Hydrocarbon refuelling will be completed using mobile refuelling tankers. No hydrocarbons will be stored on the premises. Leaks and spills causing contamination of localised soil, vegetation and groundwater managed under the sites management plans. The size and extent of leaks and spills is insignificant and unlikely to adverse impact upon receptors.

8.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 10 below.

Table 10: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 11 below.

Table 11: Risk criteria table

Likelihood		**Consequence**		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		**The following criteria has been used to determine the consequences of a Risk Event occurring:**		
			Environment	**Public health* and amenity (such as air and water quality, noise, and odour)**
Almost Certain	The risk event is expected to occur in most circumstances	Severe	• **onsite impacts**: catastrophic • **offsite impacts local scale**: high level or above • **offsite impacts wider scale:** mid-level or above • Mid to long-term or permanent impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are significantly exceeded	• Loss of life • **Adverse health effects:** high level or ongoing medical treatment • Specific Consequence Criteria (for public health) are significantly exceeded • **Local scale impacts:** permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	• **onsite impacts**: high level • **offsite impacts local scale**: mid-level • **offsite impacts wider scale**: low level • Short-term impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are exceeded	• **Adverse health effects:** mid-level or frequent medical treatment • Specific Consequence Criteria (for public health) are exceeded • **Local scale impacts**: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	• **onsite impacts**: mid-level • **offsite impacts local scale**: low level • **offsite impacts wider scale**: minimal • Specific Consequence Criteria (for environment) are at risk of not being met	• **Adverse health effects:** low level or occasional medical treatment • Specific Consequence Criteria (for public health) are at risk of not being met • **Local scale impacts:** mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	• **onsite impacts**: low level • **offsite impacts local scale**: minimal • **offsite impacts wider scale**: not detectable • Specific Consequence Criteria (for environment) likely to be met	• Specific Consequence Criteria (for public health) are likely to be met • **Local scale impacts:** low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	• **onsite impact**: minimal • Specific Consequence Criteria (for environment) met	• **Local scale**: minimal to amenity • Specific Consequence Criteria (for public health) met

^ Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting.*

* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines.*

"onsite" means within the Prescribed Premises boundary.

8.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment Table 12 below:

Table 12: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

8.4 Risk Assessment – Noise (operations)

8.4.1 Description of Risk Event

Noise emissions from the Lancelin Limesand Quarry could impact on sensitive receptors located nearby.

8.4.2 Identification and general characterisation of emission

Noise is generated from the processing of extracted material, loading and unloading of material stockpiles and vehicle movement within the Premises. Table 13 contains the general sound power levels for the average type of equipment used for the operations.

The site is to operate as follows:

- Day period – all plant and equipment listed in Table 13 operating 7:00am to 6:00pm Monday to Saturday; and
- No operations at night or on Sundays and Public Holidays.

Table 13. Sound power levels of the equipment to be used at the quarry pit and processing area

Item (number of)	Sound Power Level dB(A)
Screening plant	112
Stockpile stacker and conveyor	104
Excavator	109
Front End Loaders	109
Haulage Trucks	104

8.4.3 Description of potential adverse impact from the emission

Noise has the potential to impact on the amenity of residential receptors. Where assigned noise levels are exceeded regularly, health impacts may arise from stress and/or loss of sleep.

8.4.4 Criteria for assessment

The operation of the quarry and processing areas must meet the assigned levels prescribed by the *Environmental Protection (Noise) Regulations 1997*.

8.4.5 Applicant controls

The Applicant must ensure the mobile processing operation is;

1. Located within 20m of the working face of the sand extraction pit therefore providing an acoustics barrier during excavation and processing operations;
2. The screening plant shall be located on the pit floor; and,
3. The staging of the screening operation shall be as shown in the Figure 2 red boundaries numbered 1 to 11.

8.4.6 Consequence

The operational activities are expected to be managed to comply with the assigned levels prescribed in the *Environmental Protection (Noise) Regulations 1997*. However, there may be minimal impacts to amenity on a local scale during adverse weather conditions. Therefore, the consequence rating has been determined as ***slight***.

8.4.7 Likelihood of Risk Event

Based on the Applicant's controls, impacts to amenity will probably not occur in most circumstances. Therefore, the likelihood rating has been determined as ***unlikely***.

Table 14: Applicant's proposed controls for operational noise

Site infrastructure	Description	Operation details	Reference to issued Licence plan
Controls for noise			
Acoustics barrier	Using the excavation working face of each staged operation plus natural ground level	Minimum of 2 metres below natural ground level	Schedule 1 Plan of processing plant stages shown in red and numbered 1 to 11.

8.4.8 Overall rating of risk of noise during operation

A comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (Table 10) has determined that the overall risk rating for noise is ***low***.

8.5 Summary of acceptability and treatment of Risk Events

A summary of the risk assessment and the acceptability or unacceptability of the risk events set out above, with the appropriate treatment and control, are set out in Table 15. Controls are described further in section 9.

Table 15: Risk assessment summary

	Description of Risk Event			Applicant controls	Risk rating	Acceptability with controls (conditions on instrument)
	Emission	**Source**	**Pathway/ Receptor (Impact)**			
1.	Noise	Processing equipment Vehicular movement Loading and unloading of material stockpiles	Noise causing amenity impacts to residential receptors.	Working face of pit to be utilised as an acoustic barriers as the processing plant moves from Stage 1 to 11 ensuring compliance with the assigned levels of the Noise Regulations.	Slight consequence Unlikely **Low risk**	Acceptable subject to proponent controls

9. Licence controls

In accordance with *Guidance Statement: Risk Assessments* (February 2017), DWER has regard for the Applicant's proposed controls and where they lower the assessed consequence or likelihood of a risk event, these controls are conditioned in the instrument.

The controls outlined below will be imposed as conditions on the Licence to manage the risk of emissions during operation of the premises.

9.1 Infrastructure and activities

Table 16: Specified requirements for infrastructure and activities

Site Infrastructure/activities	Specified requirements
Processing plant (mobile crushing and screening)	When in operation, located at the base of the pit floor at least 2m below natural ground level and within 20 metres of the excavation working face.
Front end loader Excavator	When completing screening operations shall be located on the pit floor level or 2m below the natural ground level.
Processing stockpiles	Located in the base of the pit at least 2m below natural ground level.
Management	
Temporary cessation of activities	Cease an activity causing nuisance noise where there is a risk of noise affecting sensitive receptors (residences).

Signage at the premises	Easily visible, to include the premises site-manager's phone contact information

Grounds for variation to controls

- A water truck is required to be on site when any earthmoving, crushing, screening, or cartage activities are occurring, to ensure water is always available on site when required for dust suppression.
- Dust suppressants may be required to be used to manage dust.
- Water is required to be used proactively to prevent dust lift off, as well as reactively in response to potential impact.
- Signage is required to enable complainants to contact the on-site management. If complaints are received DWER may consider imposing conditions requiring dust monitoring.

9.2 Record Keeping and Reporting

General record keeping requirements will be imposed including recording complaints and actions taken.

Table 17: Complaints management system requirements

Management controls	
Complaints management system	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.

Reporting required will include an Annual Environment Report to include a summary of complaints and a Compliance Report.

10. Determination of Licence conditions

The conditions in the issued L9044/2017/1 in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

The *Guidance Statement: Licence Duration* has been considered in granting the licence; a 20 year period has been applied which correlates with the duration of the mining proposal for Tenement M70/697 which expires on 9/12/2038.

Table 18 provides a summary of the conditions to be applied to this licence.

Table 18: Summary of conditions to be applied

Condition Ref	Grounds
Emissions Condition 1	This condition is valid, risk-based and consistent with the EP Act.
Infrastructure and Equipment Condition 2	This condition is valid, risk-based and contains appropriate controls.
Record-keeping Condition 3, 4, 5 and 6	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the licence under the EP Act.

11. Applicant's comments

The Applicant was provided with the draft Decision Report and draft Licence on 5 December 2018. The Applicant advised that natural ground level varies from 2m to 15m, not 5m to 15m as stated in the draft documents. This was updated in the final licence.

12. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Issued Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Jarrod Abrahams

A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES (ENVIRONMENT)

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

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Application documents - Email: *Subject: Re: Application for Licence – Lime Nominees Pty Ltd, M 70/697, Old Ledge Point Road Lancelin dated 23/12/2016*	Application	accessible at www.dwer.wa.gov.au DWER records (A1395103)
2	*Atlas of Australian Soils, Sheets 1 to 10. With explanatory data,* Northcote,K.H. with Beckmann,G.G., Bettenay,E., Churchward,H.M., Van Dijk,D.C., Dimmock,G.M., Hubble,G.D., Isbell,R.F., McArthur,W.M., Murtha,G.G., Nicolls K.D., Paton,T.R., Thompson,C.H., Webb,A.A. and Wright,M.J. (1960-1968). (CSIRO Aust. and Melbourne University Press: Melbourne).	Northcote *et al.* 1960-1968	External publication - CSIRO
3	*Notice of Intent – Proposed Limesand Quarry M70/697 – Excavation and Rehabilitation Management Plan, Old Ledge Point Road, Ledge Point by Cockburn Cement Limited dated 1 December 2003*	Notice of Intent (NoI)	accessed at www.dwer.wa.gov.au DWER Record (A1395102)
4	DER *Guidance Statement: Setting Conditions*, October 2015	-	Part of application documents accessible at www.der.wa.gov.au
5	DER *Guidance Statement: Licence Duration*, August 2016	-	
6	DER *Guidance Statement: Risk Assessment*, February 2017	-	
7	DER *Guidance Statement: Decision Making*, November 2016	-	
8	DER *Guidance Statement: Environmental Siting*, November 2016	-	
9	DER *Guidance Statement: Regulatory Principles,* July 2015		
10	Australian Bureau of Meteorology	BOM Website	Accessed at www.bom.gov.au

Attachment 1: Licence L9044/2017/1