

Noise Monitoring Assessment

Jandra Quarry, Possum Brush, NSW
Quarter 1 Ending March 2021.

Document Information

Noise Monitoring Assessment

Jandra Quarry, Possum Brush, NSW

Quarter 1 Ending March 2021

Prepared for: Holcim (Australia) Pty Ltd



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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Holcim (Australia) Pty Ltd (Holcim) to complete a Noise Monitoring Assessment (NMA) for the quarterly period ending March 2021 for Jandra Quarry (the 'quarry'), Possum Brush, NSW.

Noise monitoring has been conducted in accordance with the Jandra Noise and Blast Management Plan and in accordance with additional clarifications and requirements specified by the EPA in the recent variation (6 November 2019) of the EPL 2796 (EPL).

The following variations have been made to the licence:

- Amendment of condition M8.1 to clarify the requirement to undertake noise monitoring during quarrying operations and to update reference to the contemporary NSW Noise Policy for Industry;
- Amendment of condition M8.2 referencing the contemporary NSW Noise Policy for Industry; and
- Amendment to Condition R4.1 requires that noise monitoring reports contain details of all quarrying activities that were occurring during each of the monitoring periods.

Specifically, the amendment to M8.1 is reproduced below.

M8 Noise monitoring

M8.1 To assess compliance with the noise limits of this licence, attend noise monitoring must be undertaken in accordance with the conditions of this licence and:

- a) during a period of normal quarry operations;*
- b) at each one of the noise monitoring locations listed in the noise limits table of this licence;*
- c) occur quarterly in a reporting period, and*
- d) occur during the night period as defined in the NSW Industrial Noise Policy, and in conjunction with an asphalt campaign if any such campaign occurs within the quarterly monitoring period.*

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Environment Protection Licence (EPL), 2796 and Variation 6 November 2019;
- Jandra Quarry Conditions of Consent (CoC), 2015;
- Jandra Quarry Noise and Blast Management Plan (NBMP), 2015; and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

The operations log during the noise monitoring is provided in **Appendix B**.

A copy of the recent licence variation is provided in **Appendix C**.

2 Noise Criteria

Section L4 of the Jandra Environment Protection Licence (EPL 2796) presents noise limits for residential receivers surrounding the quarry site, which are applicable for two different operational modes – quarrying and quarrying plus asphalt production.

Furthermore, Section 5 of the Jandra Noise and Blast Management Plan (NBMP) outlines that noise criteria do not apply at R1, R3, R8, R9, R10. Section 5 of the NBMP states:

- *'Holcim has executed a negotiated agreement with the property owner of R1 which excludes this receptor from the approved noise criteria';*
- *'R3 is not included in the approved noise criteria as this receiver represented road noise and the EA concluded that road noise impacts as a consequence of the development were below guideline thresholds and didn't warrant further assessment'; and*
- *'Receivers R8, R9 & R10 are Holcim owned residences and the approved criteria only apply to privately owned land'.*

Table 1 presents the EPL Noise Limits for the receivers where compliance is required for both quarry operation and combined quarry and asphalt production operations.

Table 1 Noise Limits				
Location	Quarry Operations ¹		Quarry Operations and Asphalt Plant Production ²	
	6am – 10pm		6am – 10pm	10pm – 6am
	dB LAeq(15min)		dB LAeq(15min)	dB LA1(1min)
EPA13 (R2)	36		40	35
EPA14 (R4)	36		40	39
EPA15 (R5)	40		41	39
EPA16 (R6)	36		40	35
EPA17 (R7)	35		36	35

Note 1: EPL Noise Limits

Note 2: Noise criteria are applicable as per Section 5 of the NBMP.

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3 Methodology

3.1 Locality

The quarry is located at Possum Brush, NSW approximately 16km south of Taree, NSW. Receivers in the locality surrounding the quarry are primarily rural/residential. The Pacific Highway is situated to the west of the site, with highway traffic a dominant noise source at receivers within its' proximity. To the east, the quarry is bounded by rural properties with noise from The Lakes Way dominating the acoustic environment. The monitoring locations with respect to the quarry and assessed receivers are presented in the locality plan shown in **Figure 1**.

3.2 Noise Monitoring Locations

Noise measurements were conducted at five monitoring locations specified in the EPL on Monday 15 March 2021 and Tuesday 16 March 2021 during the morning shoulder and daytime periods. The measurement locations are presented in **Figure 1**.

3.3 Assessment Methodology

Attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. The measurements were carried out using Svantek Type 1, 971 noise analyser on Monday 15 March 2021 and Tuesday 16 March 2021. The acoustic instrumentation used carries current NATA calibration and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Noise measurements were of 15 minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. One measurement was conducted at each of the EPL monitoring locations during the morning shoulder and daytime periods. Monitoring during the evening period was not conducted due to the quarry not being operational.

Extraneous noise sources were excluded from the analysis to determine the $L_{Aeq}(15\text{min})$ noise contribution for comparison against the relevant criteria. Where the quarry was inaudible, the contribution is estimated to be at least 10dB below the ambient noise level.



4 Results

4.1 Assessment Results

The monitored noise level contributions and observed meteorological conditions for each assessment period at location are presented in **Table 2** to **Table 6**.

Table 2 Operator-Attended Noise Survey Results – Location EPA13

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
15/03/2021	16:20 (Day)	71	46	40	WD:SE WS: 0.6m/s Rain: Nil	Birds 40-71
						Distant Traffic 39-41
						Insects 38-41
						Quarry Impact 42-44
						(2 seconds)
						Quarry Operations 30-38 (20 seconds)
Jandra Quarry Contribution						<35 dBLAeq(15min)
16/03/2021	06:24 (Morning Shoulder)	54	44	40	WD: E WS: 0.1m/s Rain: Nil	Birds 38-54
						Insects 35-40
						Distant Traffic 39-42
						Quarry Operations 41-47
						(12-15 minutes)
						Jandra Quarry Contribution

Note: Morning Shoulder – the period from 6am to 7am Monday to Saturday or 6am to 8am on Sundays and public holidays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Table 3 Operator-Attended Noise Survey Results – Location EPA14

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _A max	L _A eq	L _A 90		
16/03/2021	07:07 (Day)	70	52	46	WD: E	Highway Traffic 48-58
					WS: <0.5m/s	Local Traffic 53-70
					Rain: Nil	Birds 55-66
						Insects <40-42
						Quarry Not Audible
Jandra Quarry Contribution						<36dB L _A eq(15min)
16/03/2021	06:00 (Morning Shoulder)	66	50	46	WD: E	Highway Traffic 42-56
					WS: <0.5m/s	Birds 36-66
					Rain: Nil	Insects 38-40
						Quarry Operation 36-40
						(60 seconds)
Jandra Quarry Contribution						<36dB L _A eq(15min)

Note: Morning Shoulder – the period from 6am to 7am Monday to Saturday or 6am to 8am on Sundays and public holidays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Table 4 Operator-Attended Noise Survey Results – Location EPA15

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LAmax	LAeq	LA90		
16/03/2021	07:24 (Day)	66	50	48	WD: E WS: <0.5m/s Rain: Nil	Insects 40-42
						Highway Traffic 42-57
						Birds 51-56
						Frogs 45-48
						Operator 65-66
						Quarry Not Audible
						Jandra Quarry Contribution
<40dB LAeq(15min)						
16/03/2021	06:16 (Morning Shoulder)	65	51	48	WD: E WS: <0.5m/s Rain: Nil	Insects 40-42
						Highway Traffic 42-57
						Birds 44-50
						Operator 60-65
						Frogs 46-50
						Quarry Not Audible
						Jandra Quarry Contribution
<40dB LAeq(15min)						

Note: Morning Shoulder – the period from 6am to 7am Monday to Saturday or 6am to 8am on Sundays and public holidays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Table 5 Operator-Attended Noise Survey Results – Location EPA16

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _A max	L _A eq	L _A 90		
15/03/2021	16:04 (Day)	71	43	38	WD: E WS: <0.5m/s Rain: Nil	Insects 44-53
						Birds <41-71
						Distant Traffic <41-48
						Wind 41-53
						Quarry Operation 35-37 (60 seconds)
Jandra Quarry Contribution						<36dB L _A eq(15min)
16/03/2021	06:40 (Morning Shoulder)	68	48	45	WD: E WS: <0.5m/s Rain: Nil	Birds 47-68
						Distant Traffic 35-42
						Insects 35-43
						Quarry Operation 38-40 (160 seconds)
						Jandra Quarry Contribution

Note: Morning Shoulder – the period from 6am to 7am Monday to Saturday or 6am to 8am on Sundays and public holidays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Table 6 Operator-Attended Noise Survey Results – Location EPA17

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _A max	L _A eq	L _A 90		
16/03/2021	07:06 (Day)	62	50	39	WD: E	Insects 40-44
					WS: <0.5m/s	Birds 40-62
					Rain: Nil	Distant Traffic 40-45
						Quarry Not Audible
Jandra Quarry Contribution						<35dB L _A eq(15min)
16/03/2021	06:00 (Morning Shoulder)	60	46	37	WD: SW	Insects 36-43
					WS: 0.5m/s	Birds 38-60
					Rain: Nil	Frogs 34-50
						Distant Traffic 36-46
Jandra Quarry Contribution						Quarry Operation <36-38 (20 seconds)
Jandra Quarry Contribution						<35dB L _A eq(15min)

Note: Morning Shoulder – the period from 6am to 7am Monday to Saturday or 6am to 8am on Sundays and public holidays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Discussion of Results - Location EPA13

Quarry noise was audible for both the morning shoulder and daytime periods during monitoring conducted on Monday 15 March 2021 and Tuesday 16 March 2021. During the morning shoulder measurement, an uncharacteristic noise emission was observed that had potential to exceed the noise limits. The site was contacted upon making this observation. The noise source was a bulldozer conducting overburden maintenance, an activity that is required for approximately two weeks every two years. The resulting quarry contribution was estimated to be 39dB LAeq(15min), and above the morning shoulder noise limit of 36dB LAeq(15min).

Upon receiving the notification, the quarry modified operations by relocating the bulldozer to a lower level in the quarry pit. In the subsequent measurement at EPA16 (approx. 60m from EPA13), quarry contributed noise levels were estimated to satisfy the morning shoulder noise limit, indicating that noise contributions at location EPA13 would also satisfy the morning shoulder noise limit.

The bulldozer was also audible during the daytime period, however, noise emissions were estimated to satisfy the daytime noise limits.

As a result of the noise monitoring, the quarry will implement a management measure that ensures that the overburden maintenance activities will not occur prior to 7am.

The quarry was not operational during the evening or night period and hence, no measurements were conducted for these periods.

Non-quarry noise sources observed during the measurements included distant traffic, insects and birds.

5.2 Discussion of Results - Location EPA14

Quarry noise was audible during the morning shoulder period and inaudible during the day period on Tuesday 16 March 2021. Quarry noise contributions were estimated to satisfy the morning shoulder and daytime noise limits. The quarry was not operational during the evening or night period and hence, no measurements were conducted for these periods.

Non quarry noise sources observed during the measurements included highway traffic, local traffic, insects, and birds.

5.3 Discussion of Results - Location EPA15

Quarry noise was inaudible during the morning shoulder and daytime measurement conducted on Tuesday 16 March 2021, with background noise levels dominated by insect and highway traffic noise. Quarry noise contributions were estimated to satisfy the morning shoulder and daytime noise limits. The quarry was not operational during the evening or night period and hence, no measurements were conducted for these periods.

Non quarry noise sources observed during the measurements included highway traffic, insects, frogs and birds.

5.4 Discussion of Results - Location EPA16

Quarry noise was audible during the morning shoulder and daytime measurement conducted on Tuesday 16 March 2021, with background noise levels dominated by insect and bird noise. Quarry noise contributions were estimated to satisfy the morning shoulder and daytime noise limits. The quarry was not operational during the evening or night period and hence, no measurements were conducted for these periods.

Quarry noise sources observed during the measurement were truck movements. Non-quarry noise sources observed during the measurements included distant traffic, wind, insects, and birds.

5.5 Discussion of Results - Location EPA17

Quarry noise was audible during the morning shoulder and daytime measurement conducted on Tuesday 16 March 2021, with background noise levels dominated by insect and bird noise. Quarry noise contributions were estimated to satisfy the morning shoulder and daytime noise limits. The quarry was not operational during the evening or night period and hence, no measurements were conducted for these periods.

Quarry noise sources observed during the measurement were truck movements. Non-quarry noise sources observed during the measurements included distant traffic, frogs, insects and birds.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for Holcim (Australia) Pty Ltd at the Jandra Quarry, Possum Brush, NSW. The assessment was completed to determine compliance with the relevant noise criteria for the quarterly period ending March 2021.

Attended noise monitoring was completed on Monday 15 March 2021 and Tuesday 16 March 2021 at five nominated EPL monitoring locations with quarry noise contributions compared against the relevant criteria. The assessment has identified that noise emissions from a bulldozer conducting overburden maintenance contributed to an exceedance of the morning shoulder noise limit at location EPA13. Upon notification, the quarry modified the operation and a subsequent measurement at EPA16 (approx. 60m from EPA13), identified that contributed noise levels were estimated to be within the morning shoulder noise limits as a result of the corrective actions. The bulldozer was also audible during the daytime period, however, noise emissions were estimated to satisfy the daytime noise limits. Furthermore, the quarry will implement a corrective action plan to avoid overburden maintenance activities prior to 7am.

The assessment has identified that noise emissions generated at Holcim Jandra Quarry during typical operations comply with relevant noise limits specified in the EPL at all assessed locations.

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Appendix A – Glossary of Terms

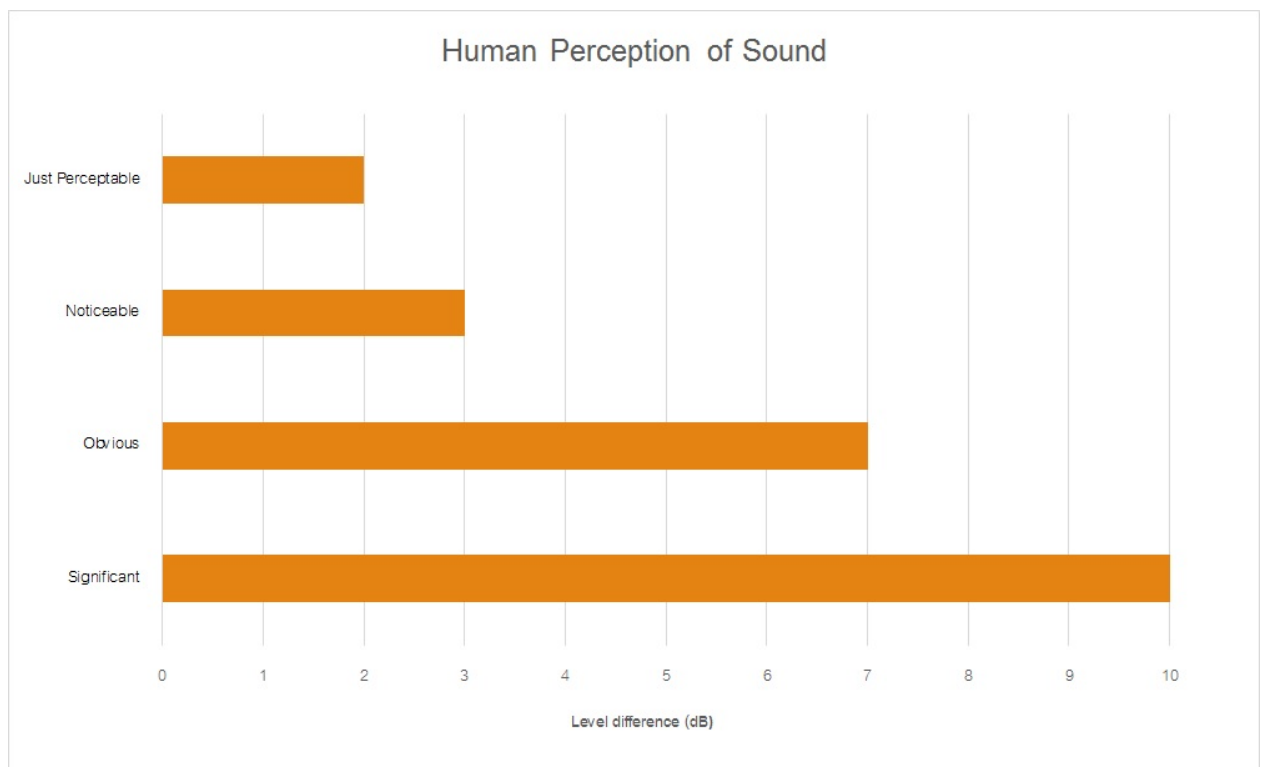
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	<p>This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by :</p> $= 10 \cdot \log_{10} (W/W_0)$ <p>Where : W is the sound power in watts and W₀ is the sound reference power at 10-12 watts.</p>

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Operations Log

Operations Log – Jandra Quarry

Date	Time (15min ending)	Pit	Plant
15.3.2021	4.00pm	Dozer working in the Overburden Dump	Production 1 x WA500 loader at ROM 1 x WA500-8 loading Road Trucks
15.3.2021	4.15pm	Dozer working in the Overburden Dump	Production 1 x WA500 loader at ROM 1 x WA500-8 loading Road Trucks
15.3.2021	4.30pm	Dozer working in the Overburden Dump	Production 1 x WA500 loader at ROM 1 x WA500-8 loading Road Trucks
15.3.2021	4.45pm	Dozer working in the Overburden Dump	Production 1 x WA500 loader at ROM 1 x WA500-8 loading Road Trucks
15.3.2021	5.00pm	Dozer parked up	Plant and loaders shut down
15.3.2021	5.15pm	No operations	No operations

Operations Log – Jandra Quarry

Date	Time (15min ending)	Pit	Plant
15.3.2021	5.30pm	No operations	No operations
15.3.2021	5.45pm	No operations	No operations
15.3.2021	6.00pm	No operations	No operations
16.3.2021	6.00am	Prestart meetings	Prestart meetings
16.3.2021	6.15am	Dozer working in the Overburden Dump Loading Road trucks with overburden	Sales loader loading trucks on the sales floor
16.3.2021	6.30am	Dozer working in the Overburden Dump Loading Road trucks with overburden Load and Haul from RL35	Sales loader loading trucks on the sales floor
16.3.2021	6.45am	Dozer working in the Overburden Dump Loading Road trucks with overburden Load and Haul from RL35	Sales loader loading trucks on the sales floor

Operations Log – Jandra Quarry

Date	Time (15min ending)	Pit	Plant
16.3.2021	7.00am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	7.15am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	7.30am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	7.45am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>

Operations Log – Jandra Quarry

Date	Time (15min ending)	Pit	Plant
16.3.2021	8.00am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	8.15am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	8.30am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>
16.3.2021	8.45am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>

Operations Log – Jandra Quarry

Date	Time (15min ending)	Pit	Plant
16.3.2021	9.00am	<p>Dozer working in the Overburden Dump</p> <p>Loading Road trucks with overburden</p> <p>Load and Haul from RL35</p>	<p>Sales loader loading trucks on the sales floor</p> <p>Fixed plant production</p>

Appendix C – EPL Variation

Licence Variation



Licence - 2796

HOLCIM (AUSTRALIA) PTY LTD
ABN 87 099 732 297 ACN 099 732 297
LOCKED BAG 5007
BAULKHAM HILLS NSW 1755

Attention: Ian Vernon & Matt Neil

Notice Number 1585343
File Number EF13/3895
Date 06-Nov-2019

The Proper Officer

NOTICE OF VARIATION OF LICENCE NO. 2796

BACKGROUND

- A. HOLCIM (AUSTRALIA) PTY LTD ("the licensee") is the holder of Environment Protection Licence No. 2796 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the POEO Act"). The licence authorises the carrying out of activities at PACIFIC HIGHWAY, POSSUM BRUSH, NSW, 2430 ("the premises").
- B. On 3 September 2019, the Environment Protection Authority ("the EPA") conducted a compliance inspection of the premises. During the compliance inspection, the EPA discussed relevant noise conditions with the licensee including the location and timing of noise monitoring.
- C. Condition L4.2 states "noise from the premises during quarrying operations only must not exceed the limits specified in the following table". Noise monitoring at a time when the quarry is operating is required to determine compliance with the noise limits specified at condition L4.2.
- D. Condition M8.1 of the licence outlines the requirements for noise compliance monitoring and includes the requirement to undertake attended noise monitoring that "c) occur during the night period as defined in the NSW Industrial Noise Policy, and in conjunction with an asphalt campaign if any such campaign occurs within the quarterly monitoring period".
- E. During the discussions with the EPA, the licensee's representative advised that the premises does not operate after 4:30pm, however noise compliance monitoring by the licensee's consultant has occurred at times when the quarry is not operating. The licensee's representative also advised that the quarry has not had an asphalt plant for some time, however development consent allows for such a plant.
- F. The EPA has made an amendment to condition M8.1 to clarify the requirement to monitor during quarrying operations and update reference to contemporary noise policy. Condition M8.2 has also been amended to reference the contemporary noise policy.

Licence Variation



- G. The NSW Industrial Noise Policy has been superseded by the NSW Noise Policy for Industry. Definition of the "night" period remains unchanged between the two policy documents.
- H. The EPA has made an amendment to condition R4.1 to require in reports of noise monitoring that details be provided of all quarrying activities that were occurring during each of the periods of monitoring.
- I. This Notice does not authorise a significant increase in the environmental impact of the activities authorised or controlled by the licence.
- J. This variation has been undertaken with consideration of section 45 of the POEO Act.

VARIATION OF LICENCE NO. 2796

- 1. By this Notice the EPA varies the licence. The attached licence document contains all variations that are made to the licence by this notice.
- 2. The following variations have been made to the licence:
 - Amendment of condition M8.1 to clarify the requirement to undertake noise monitoring during quarrying operations and to update reference to the contemporary NSW Noise Policy for Industry.
 - Amendment of condition M8.2 to reference the contemporary NSW Noise Policy for Industry.
 - Amendment to Condition R4.1 to require in reports of noise monitoring that details be provided of all quarrying activities that were occurring during each of the periods of monitoring.

A handwritten signature in blue ink, appearing to read 'Matthew Corradin', is positioned above a dotted line.

.....
MATTHEW CORRADIN
A/Unit Head Hunter North
Environment Protection Authority
(by Delegation)

INFORMATION ABOUT THIS NOTICE

- This Notice is issued under Section 58(5) of the POEO Act.
- Details provided in this Notice, along with an updated version of the licence, will be available on the EPA's Public Register (<http://www.epa.nsw.gov.au/prpoeo/index.htm>) in accordance with section 308 of the POEO Act.

Licence Variation



Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The variations to the licence specified in this Notice begin to operate immediately from the date of this Notice, unless another date is specified in this Notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Licence Variation



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Environment Protection Licence

Licence - 2796

Licence Details

Number:	2796
Anniversary Date:	01-May

Licensee

HOLCIM (AUSTRALIA) PTY LTD

LOCKED BAG 5007

BAULKHAM HILLS NSW 1755

Premises

JANDRA QUARRY

PACIFIC HIGHWAY

POSSUM BRUSH NSW 2430

Scheduled Activity

Crushing, grinding or separating

Extractive activities

Resource recovery

Waste storage

Fee Based Activity

Scale

Crushing, grinding or separating	> 100000-500000 T annual processing capacity
Extractive activities	> 100000-500000 T annual capacity to extract or process
Recovery of general waste	Any general waste recovered
Waste storage - other types of waste	Any other types of waste stored

Region

North - Hunter

Ground Floor, NSW Govt Offices, 117 Bull Street
NEWCASTLE WEST NSW 2302

Phone: (02) 4908 6800

Fax: (02) 4908 6810

PO Box 488G

NEWCASTLE NSW 2300

Environment Protection Licence

Licence - 2796



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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

HOLCIM (AUSTRALIA) PTY LTD
LOCKED BAG 5007
BAULKHAM HILLS NSW 1755

subject to the conditions which follow.

Environment Protection Licence

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1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity
Extractive activities	Extractive activities	> 100000 - 500000 T annual capacity to extract or process
Resource recovery	Recovery of general waste	Any general waste recovered
Waste storage	Waste storage - other types of waste	Any other types of waste stored

Note: The condition titled "Waste" under the Limit Conditions of this licence restricts what types of waste may be received at the Premises.

A1.2 Notwithstanding the fee scales noted above, the licensee must not:

- (a) extract more than 490,000 tonnes of quarry products from the premises per calendar year; and
- (b) transport more than 475,000 tonnes of quarry products from the premises per calendar year

Note: This condition has been added to be consistent with development consent DA231-10-99 MOD 5.

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
JANDRA QUARRY
PACIFIC HIGHWAY
POSSUM BRUSH
NSW 2430
LOT 2 DP 255621, LOT 11 DP 790056, LOT 12 DP 790056, LOT 13 DP 790056, LOT 14 DP 790056, LOT 15 DP 790056

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A3 Information supplied to the EPA

- A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

- P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
11	Ambient PM10 monitoring		Receiver location R1 identified on map titled "Jandra Environmental Monitoring Locations" within the Holcim Environmental Management Strategy - Jandra Quarry. See EPA document DOC16/387391, EF13/3895.
18	Dust deposition monitoring		Dust monitoring point on the northern site boundary identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Air Quality Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391.
19	Dust deposition monitoring		Dust monitoring point on southern site boundary identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Air Quality Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391.
20	Dust deposition monitoring		Dust monitoring point on the eastern site boundary identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Air Quality Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391.

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21	Dust deposition monitoring	Dust monitoring point on the western site boundary identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Air Quality Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391.
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P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge quality monitoring	Discharge quality monitoring	Discharge from final sediment dam as shown in the CSR Readymix Site Photo - Jandra Quarry Water Monitoring Location Figure 1 provided to the EPA 13 May 2002

P1.4 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
2	Air blast overpressure & ground vibration peak particle velocity monitoring	Receiver location R4 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residence and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
3	Air blast overpressure & ground vibration peak particle velocity monitoring	Receiver location R2 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residence and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.

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4	Meteorological Station – to determine meteorological conditions for noise monitoring	Meteorological station adjacent to the "Main Dam" and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Air Quality Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
13	Noise monitoring	Monitoring location R2 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
14	Noise monitoring	Monitoring location R4 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
15	Noise monitoring	Monitoring location R5 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
16	Noise monitoring	Monitoring location R6 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.
17	Noise monitoring	Monitoring location R7 in accordance with development consent 231-10-99 MOD 5 and identified on "Figure 1 Surrounding land use, residences and environmental monitoring locations" within the Holcim Noise and Blast Management Plan, Jandra Quarry 31/08/2015. See EPA document DOC16/387391, EF13/3895.

3 Limit Conditions

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L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

- L2.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.
- L2.4 Water and/or Land Concentration Limits

POINT 1

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

L3 Waste

- L3.1 The licensee must not cause, permit or allow any waste to be received at the premises, except concrete "wash-out" waste from concrete batch plants. All other wastes are not permitted on the premises, except as expressly permitted by this licence.
- L3.2 The licensee must not:
- Process more than 3000 tonnes of concrete "wash-out" per annum;
 - Store more than 1000 tonnes of concrete "wash-out" on the premises at any one time.
- L3.3 Concrete 'wash-out' must be stockpiled on site in bunded areas and can be processed and blended with

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quarry raw product to produce quarry product(s).

L4 Noise limits

L4.1 Noise generated at the premises must not exceed the noise limits in the tables below. The locations referred to in the tables below are indicated in the document titled: "Jandra Quarry Intensification of Production Environmental Assessment (DA 231-10-99 MOD 5)" Dated July 2014

L4.2 Noise from the premises during quarrying operations only must not exceed the limits specified in the following table:

EPA identification no.	Limit dB(A) LAeq(15 min) Shoulder, Day & Evening
15	40
13, 14, 16	36
17	35

L4.3 Noise from the premises during operations including asphalt plant must not exceed the limits specified in the following table:

EPA identification no.	Limit dB(A) LAeq(15 min) Shoulder, Day & Evening	Limit dB(A) LAeq(15 minute) Night	Limit dB(A) LA1(1 minute) Night
15	41	39	51
14	40	39	51
13,16	40	35	48
17	36	35	48

Note:

1. Condition 10 of Schedule 2 of development consent DA 213 -10-99 MOD 5 prohibits quarrying operations during the hours of 10 pm-6 am;
2. Receiver locations are shown on the figure in Appendix 2 of development consent DA 213-10-99 a copy of which has been filed as EPA document DOC15/85830;
3. Noise limits are in accordance with development consent DA 231-10-99 MOD 5;
4. A negotiated agreement is in place for Residence R1 as referred to in development consent DA 231-10-99 MOD 5 & any noise issues from this premises will be addressed by the Department of Planning and Environment.

L4.4 For the purpose of the conditions above:

- Shoulder, Day and Evening is defined as the period from 6am - 10pm

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- Night is defined as the period from 10pm - 6am

L4.5 The noise limits set out in the above tables apply under all meteorological conditions except the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

L4.6 For the purpose of the conditions above:

- a) Data recorded by the meteorological station identified in this licence must be used to determine meteorological conditions; and
- b) Temperature inversion conditions (stability category) when determined by the sigma-theta method must be determined in accordance with Part E3 of the NSW Industrial Noise Policy. Temperature inversion conditions (determined by vertical temperature gradient in degrees C) are to be determined by direct measurement over a minimum 50m height interval as referred to in Part E2 to the NSW Industrial Noise Policy

L4.7 To determine compliance:

a) with Leq (15 minute) noise limits in this licence, the noise measurement equipment must be located:

- approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
- within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or
- where applicable within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) With the LA1 (1 minute) noise limits in this licence, the noise measurement equipment must be located within 1 metre of a dwelling façade.

c) with the noise limits in this licence, the noise measurement equipment must be located:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by this licence.

L4.8 A non-compliance of the noise limit conditions will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by this licence; and/or
- at a point other than the most affected point at a location

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L5 Blasting

- L5.1 Blasting in or on the premises must only be carried out between 9am and 5pm, Monday to Friday and 9am and 3pm, Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.
- L5.2 The airblast overpressure level from blasting operations in or on the premises must not exceed: 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period; at either monitoring point 2 or 3 of this licence.
- L5.3 The airblast overpressure level from blasting operations in or on the premises must not exceed: 120 dB (Lin Peak) at any time; at either monitoring point 2 or 3 of this licence.
- L5.4 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: 5 mm/second for more than 5% of the total number of blasts during each reporting period; at either monitoring point 2 or 3 of this licence.
- L5.5 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: 10 mm/second at any time; at either monitoring point 2 or 3 of this licence.
- L5.6 Error margins associated with any monitoring equipment used to measure blasts must not be taken into account when determining whether or not the limit has been exceeded.
- L5.7 Offensive blast fume must not be emitted from the premises.

Definition:

Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances:

- 1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or*
- 2. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.*

L6 Hours of operation

- L6.1 In accordance with development consent DA 231-10-99 MOD 5, hours of operation for the premises are specified in the table below:

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Day	Extraction and processing operations	Transportation operations	Asphalt Plant & associated transport (campaigns)
Monday - Friday	6am to 10pm	6am to 10pm	24 hours a day
Saturday	6am to 6pm	6am to 10 pm	24 hours a day
Sunday and Public Holidays	None	None	24 hours a day

- L6.2 In accordance with development consent DA 231-10-99 MOD 5, the following activities may be conducted at the premises outside the hours specified in the table above:
- (a) return of trucks to the premises prior to midnight Monday to Saturday;
 - (b) delivery or dispatch of materials as requested by Police, Fire Brigade or other similar authorities;
 - (c) emergency work to avoid the loss of lives, property and/or prevent environmental harm; and
 - (d) maintenance activities provided it is inaudible at residential premises.
- In circumstances outlines in (b) and (c), the Licensee shall notify affected residents prior to undertaking the activities, or as soon as practical thereafter

L7 Potentially offensive odour

- L7.1 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.
This includes:
- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
 - b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- a) must be maintained in a proper and efficient condition; and
 - b) must be operated in a proper and efficient manner.

O3 Dust

- O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

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O4 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must be developed in accordance with the requirements in Part 5.7A of the POEO Act and Regulations.

The licensee must keep the PIRMP on the premises at all times. The PIRMP must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with the activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

O5 Processes and management

O5.1 The licensee must take all reasonable measures to prevent the tracking of mud and debris onto the Pacific Highway including, but not limited to, ensuring all vehicles leaving the premises pass through the vehicular wheel wash.

O6 Waste management

O6.1 The licensee must comply with the conditions as specified in this licence or where no specific conditions outlined in this licence, this licensee must comply with the *Protection of the Environment Operations (Waste) Regulation 2014*.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

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M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 11

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Every 6 days	AM-18

POINT 18,19,20,21

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

M2.3 Water and/ or Land Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
pH	pH	Each overflow event	Grab sample
Total suspended solids	milligrams per litre	2 times daily during discharge	Grab sample
Turbidity	nephelometric turbidity units	2 times daily during discharge	Grab sample

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- if no such requirement is imposed by or under the Act or by a condition of this licence, any

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methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

- M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Weather monitoring

- M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

POINT 4

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 10 metres	AM-4	degrees Celsius	1 hour	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	15 minutes	Continuous
Wind Speed	AM-2 & AM-4	metres per second	15 minutes	Continuous
Sigma Theta	AM-2 & AM-4	Degrees	15 minutes	Continuous
Rainfall	AM-4	millimetres	15 minutes	Continuous
Relative humidity	AM-4	percent	1 hour	Continuous

- M4.2 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

Note: The rainfall monitoring data collected in compliance with the above condition will assist in interpreting the effectiveness of stormwater management at the quarry.

M5 Recording of pollution complaints

- M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

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M5.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M7 Blasting

M7.1 To determine compliance with the blasting limits of this licence:

- a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 2 and 3 for the parameters specified in Column 1 of the table below; and
- b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.

Parameters	Units of Measure	Frequency	Sampling Method
Airblast Overpressure	Decibels (Linear Peak)	All blasts	Australian Standard AS 2187.2-2006
Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006

M8 Noise monitoring

M8.1 To assess compliance with the noise limits of this licence, attend noise monitoring must be undertaken in accordance with the conditions of this licence and:

- a) during a period of normal quarry operations;

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- b) at each one of the noise monitoring locations listed in the noise limits table of this licence;
- c) occur quarterly in the reporting period; and
- d) occur during the night period as defined in the NSW Noise Policy for Industry, and in conjunction with an asphalt campaign if any such campaign occurs within the quarterly monitoring period.

Note: The extent and frequency of noise monitoring required by this licence will be reviewed upon request after eight quarterly monitoring campaigns.

M8.2 Noise monitoring must be carried out in accordance with Australian Standard AS 2659.1 - 1998: Guide to the use of sound measuring equipment - Portable sound level metres and in accordance with any relevant factors provided in the NSW Noise Policy for Industry.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is

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given; or

b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

a) the licence holder; or

b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

a) where this licence applies to premises, an event has occurred at the premises; or

b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,

and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

a) the cause, time and duration of the event;

b) the type, volume and concentration of every pollutant discharged as a result of the event;

c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;

d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;

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- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

R4.1 Noise Compliance Assessment Report

A noise compliance assessment report(s) must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limits detailed in the limit conditions of this licence;
- b) details of all quarrying activities that were occurring during each of the periods of monitoring, and
- c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits detailed in the limit conditions of this licence.

R4.2 Blast Monitoring Report

The licensee must supply, with each Annual Return, a Blast Monitoring Report which must include the following information relating to each blast carried out within the premises during the reporting period covered by the Annual Return:

- a) the date and time of the blast;
- b) the location of the blast on the premises;
- c) the blast monitoring results at each blast monitoring station; and
- d) an explanation for any missing blast monitoring results.

R4.3 The licensee must report any exceedence of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedence becomes known to the licensee or to one of the licensee's employees or agents.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G2 Other general conditions

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G2.1 Completed Programs

Program	Description	Completed Date
PRP 1: Installation and Use of a Wheel Wash at the Premises	Contruction and Utilisation of a vehicular wheel wash for all vehicles exiting the premises.	28-October-2011

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Date of this edition: 10-March-2000

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End Notes

- 1 Licence varied by notice 1006152, issued on 21-Feb-2002, which came into effect on 18-Mar-2002.
- 2 Licence varied by notice 1016675, issued on 20-Jun-2002, which came into effect on 15-Jul-2002.
- 3 Licence transferred through application 141653, approved on 19-Dec-2002, which came into effect on 01-Oct-2002.
- 4 Licence varied by notice 1042128, issued on 14-Jan-2005, which came into effect on 08-Feb-2005.
- 5 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 6 Licence varied by notice 1106247, issued on 08-Sep-2009, which came into effect on 08-Sep-2009.
- 7 Licence varied by notice 1503538 issued on 04-Jan-2012
- 8 Licence varied by notice 1507470 issued on 26-Sep-2012
- 9 Licence varied by notice 1535107 issued on 17-Oct-2016
- 10 Licence varied by notice 1577456 issued on 12-Jun-2019
- 11 Licence format updated on 18-Jul-2019

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