Ashton Coal

Monthly attended noise monitoring - October 2026

Prepared for Ashton Coal Operations Pty Ltd

October 2026

Ashton Coal

Monthly attended noise monitoring - October 2026

Ashton Coal Operations Pty Ltd

E251266 RP10

October 2026

Version	Date	Prepared by	Reviewed by	Comments
1	22 October 2026	Lucas Adamson	Robert Kirwan	Draft
2	29 October 2026	Lucas Adamson	Robert Kirwan	Final

Approved by



Robert Kirwan
Senior Associate – Team Leader
29 October 2026

Level 3 175 Scott Street
Newcastle NSW 2300
ABN: 28 141 736 558

This report has been prepared in accordance with the brief provided by Ashton Coal Operations Pty Ltd and, in its preparation, EMM has relied upon the information collected at the times and under the conditions specified in this report. All findings, conclusions or recommendations contained in this report are based on those aforementioned circumstances. The contents of this report are private and confidential. This report is only for Ashton Coal Operations Pty Ltd's use in accordance with its agreement with EMM and is not to be relied on by or made available to any other party without EMM's prior written consent. Except as permitted by the *Copyright Act 1968* (Cth) and only to the extent incapable of exclusion, any other use (including use or reproduction of this report for resale or other commercial purposes) is prohibited without EMM's prior written consent. Except where expressly agreed to by EMM in writing, and to the extent permitted by law, EMM will have no liability (and assumes no duty of care) to any person in relation to this document, other than to Ashton Coal Operations Pty Ltd (and subject to the terms of EMM's agreement with Ashton Coal Operations Pty Ltd).

© EMM Consulting Pty Ltd, Level 10, 201 Pacific Highway, St Leonards NSW 2065. 2026.
ABN: 28 141 736 558

TABLE OF CONTENTS

1 Introduction 1

1.1 Background 1

1.2 Attended monitoring locations 1

1.3 Terminology and abbreviations 3

2 Noise limits 4

2.1 Development consent 4

2.2 Environment protection licence 4

2.3 Noise management plan 4

2.4 Noise limits 4

2.5 Meteorological conditions 4

2.6 Additional considerations 4

3 Methodology 5

3.1 Overview 5

3.2 Attended noise monitoring 5

3.3 Meteorological data 6

3.4 Modifying factors 6

3.5 Instrumentation and personnel 6

4 Results 7

4.1 Total measured noise levels and atmospheric conditions 7

5 Discussion 9

5.1 Noted noise sources 9

5.2 N2 – Camberwell Village (west) 10

5.3 N3 – Camberwell Village (north-east) 11

5.4 N4 – South of New England Highway 12

6 Summary 13

Appendices

Appendix A Noise perception and examples A.1

Appendix B Regulator documents B.1

Appendix C Calibration certificates C.1

Tables

Table 1.1	Attended noise monitoring locations	1
Table 1.2	Terminology and abbreviations	3
Table 2.1	Noise impact limits, dB	4
Table 3.1	Attended noise monitoring equipment	6
Table 4.1	Total measured noise levels, dB – October 2026[1]	7
Table 4.2	Atmospheric conditions measured at microphone height – October 2026	7
Table 4.3	Site noise levels and limits – October 2026	8
Table A.1	Perceived change in noise	A.1

Figures

Figure 1.1	Noise monitoring locations and Ashton Coal boundary	2
Figure 5.1	Example graph	9
Figure 5.2	Environmental noise levels - N2, Camberwell Village (West)	10
Figure 5.3	Environmental noise levels – N3, Camberwell Village (North-East)	11
Figure 5.4	Environmental noise levels – N4, South of New England Highway	12
Figure A.1	Common noise levels	A.1

1 Introduction

1.1 Background

EMM Consulting Pty Limited (EMM) was engaged by Ashton Coal Operations Pty Ltd to conduct a monthly noise survey of operations at Ashton Coal Operations (Ashton Coal, the site) located at Glennies Creek Road, Camberwell NSW. The survey purpose was to quantify the acoustic environment and compare site noise levels against specified limits.

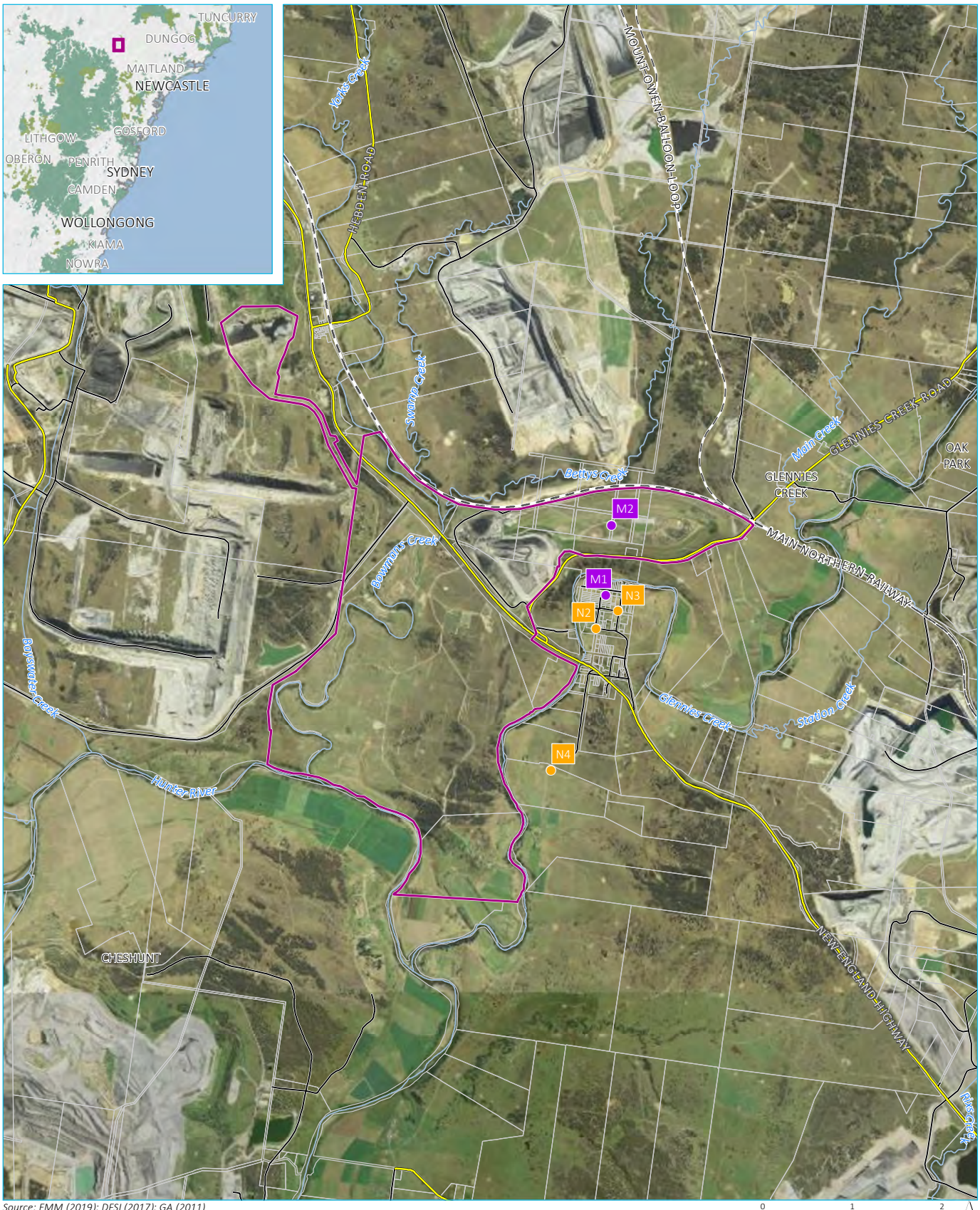
Attended environmental noise monitoring described in this report was done during the night period of Monday 19 October 2026 at three monitoring locations.

1.2 Attended monitoring locations

Site monitoring locations are detailed in Table 1.1 and shown on Figure 1.1. It should be noted that Figure 1.1 shows actual monitoring positions, not necessarily the location of residences.

Table 1.1 Attended noise monitoring locations

Location descriptor/ID	Description/address	Coordinates (GDA94 MGA Zone 56)	
		Easting	Northing
N2	Camberwell Village (west)	320297	6405670
N3	Camberwell Village (north-east)	320554	6405839
N4	South of New England Highway	319776	6404101



Source: EMM (2019); DFSI (2017); GA (2011)

0 1 2 km

GDA 1994 MGA Zone 56

N

KEY

- Site boundary
- Noise monitoring location
- Meteorological station
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Cadastral boundary

Noise monitoring locations and Ashton colliery boundary

Ashton Coal
Monthly attended noise monitoring
Figure 1.1

EMM creating opportunities

\\emmsvr1\EMM\Jobs\2019\H190081 - Ashton Coal Noise Monitoring\8 GIS\02_Maps\N001_NoiseMonitoring_20190312_02.mxd 12/03/2019

1.3 Terminology and abbreviations

Some definitions of terms and abbreviations which may be used in this report are provided in Table 1.2.

Table 1.2 Terminology and abbreviations

Term/descriptor	Definition
dB(A)	Noise level measurement units are decibels (dB). The "A" weighting scale is used to approximate how humans hear noise.
L_{Amax}	The maximum root mean squared A-weighted noise level over a time period.
L_{A1}	The A-weighted noise level which is exceeded for 1% of the time.
$L_{A1,1minute}$	The A-weighted noise level which is exceeded for 1% of the specified time period of one minute.
L_{A10}	The A-weighted noise level which is exceeded for 10% of the time.
L_{Aeq}	The energy average A-weighted noise level.
L_{A50}	The A-weighted noise level which is exceeded for 50% of the time, and is also the median noise level during a measurement period.
L_{A90}	The A-weighted noise level exceeded for 90% of the time, also referred to as the "background" noise level and commonly used to derive noise limits.
L_{Amin}	The minimum A-weighted noise level over a time period.
L_{Ceq}	The energy average C-weighted noise energy during a measurement period. The "C" weighting scale is used to take into account low-frequency components of noise within the audibility range of humans.
SPL	Sound pressure level. Fluctuations in pressure are measured as 10 times a logarithmic scale, with the reference pressure being 20 micropascals.
Hertz (Hz)	The frequency of fluctuations in pressure, measured in cycles per second. Most sounds are a combination of many frequencies together.
AWS	Automatic weather station used to collect meteorological data, typically at an altitude of 10 metres (m).
VTG	The vertical temperature gradient in degrees Celsius per 100 m altitude.
Sigma-theta	The standard deviation of the horizontal wind direction over a period of time.
IA	Inaudible. When site noise is noted as IA then there was no site noise at the monitoring location.
NM	Not Measurable. If site noise is noted as NM, this means some noise was audible but could not be quantified.
Day	Monday–Saturday: 7:00 am to 6:00 pm, on Sundays and public holidays: 8:00 am to 6:00 pm.
Evening	Monday–Saturday: 6:00 pm to 10:00 pm, on Sundays and public holidays: 6:00 pm to 10:00 pm.
Night	Monday–Saturday: 10:00 pm to 7:00 am, on Sundays and public holidays: 10:00 pm to 8:00 am.
Temperature inversion	A meteorological condition where the atmospheric temperature increases with altitude.

Appendix A provides further information that gives an indication as to how an average person perceives changes in noise level, and examples of common noise levels.

2 Noise limits

2.1 Development consent

Ashton Coal noise limits are provided in Table 1, Condition 2 of Appendix 6 of the current development consent 309-11-2001-i (DC) dated 6 July 2022. Relevant sections of the DC are reproduced in Appendix B.1.

2.2 Environment protection licence

Ashton Coal noise limits are provided in Condition L4.1 of the current EPL 11879 (EPL) dated 20 August 2025. Relevant sections of the EPL are reproduced in Appendix B.2.

2.3 Noise management plan

The approved current NMP (dated April 2023) adopts three attended noise monitoring locations that are representative of residences outlined in the DC and EPL. Relevant sections of the NMP are reproduced in Appendix B.3.

2.4 Noise limits

Noise limits based on the NMP and consistent with the DC and EPL are as shown in Table 2.1.

Table 2.1 Noise impact limits, dB

Location	Day $L_{Aeq,15minute}$	Evening $L_{Aeq,15minute}$	Night $L_{Aeq,15minute}$	Night $L_{A1,1minute}$
N2	38	38	36	46
N3	38	38	36	46
N4	38	38	36	46

2.5 Meteorological conditions

The DC and EPL specify the following meteorological conditions under which noise limits do not apply during:

- periods of rain or hail
- average wind speed at microphone height exceeds 5 metres per second (m/s)
- wind speeds are greater than 3 m/s at 10 m above ground level
- temperature inversion conditions are greater than 3°C/100 m.

2.6 Additional considerations

Monitoring and reporting have been done in accordance with the NSW EPA 'Noise Policy for Industry' (NPfI) issued in October 2017 and the 'Approved methods for the measurement and analysis of environmental noise in NSW' (Approved Methods) issued in January 2022.

3 Methodology

3.1 Overview

Attended environmental noise monitoring was done in general accordance with Australian Standard AS1055:2018 'Acoustics, Description and Measurement of Environmental Noise' and relevant EPA requirements. Meteorological data was obtained from the Ashton Coal on-site weather station (AWS) which allowed the correlation of atmospheric parameters with measured noise levels.

3.2 Attended noise monitoring

Attended noise monitoring was done during the night period at each location. The duration of each measurement was 15 minutes. Atmospheric conditions (at microphone height) were measured at each monitoring location.

Measured sound levels from various sources were noted during each measurement, and particular attention was paid to the extent of site contribution (if any) to measured levels. At each monitoring location, the site-only $L_{Aeq,15minute}$ and L_{Amax} were measured directly or determined by other methods detailed in Section 7.1 of the NPfI.

The terms 'Inaudible' (IA) or 'Not Measurable' (NM) may be used in this report. When site noise is noted as IA, it was inaudible at the monitoring location. When site noise is noted as NM, this means it was audible but could not be quantified. All results noted as IA or NM in this report were due to one or more of the following:

- Site noise levels were very low, typically more than 10 dB below the measured background (L_{A90}), and unlikely to be noticed.
- Site noise levels were masked by more dominant sources that are characteristic of the environment (such as breeze in foliage or continuous road traffic noise) that cannot be eliminated by monitoring at an alternate or intermediate location.
- It was not feasible or reasonable to employ methods, such as to move closer and back calculate. Cases may include rough terrain preventing closer measurement, addition/removal of significant source to receiver shielding caused by moving closer, and meteorological conditions where back calculation may not be accurate.

If exact noise levels from site could not be established due to masking by other noise sources in a similar frequency range but were determined to be at least 5 dB lower than relevant limits, then a maximum estimate may be provided. This is expressed as a 'less than' quantity, such as <20 dB or <30 dB.

For this assessment, the measured L_{Amax} has been used as a conservative estimate of $L_{A1,1minute}$. The EPA accepts sleep disturbance analysis based on either the $L_{A1,1minute}$ or L_{Amax} metrics, with the L_{Amax} representing a more conservative assessment of site noise emissions.

3.3 Meteorological data

As per EPL Condition L4.4, this assessment determined stability categories for the attended monitoring period using the direct measurement method as per Fact Sheet D of the Noise Policy for Industry (2017).

The temperature lapse rate was calculated using data from two weather stations; Sentinex Unit 41 weather station (M1) located in Camberwell Village and Ashton Coal 'repeater' weather station (M2 – the site AWS) located in the north-eastern open cut area as shown in Figure 1.1. This was calculated for each 15-minute measurement using the following formula:

$$\text{Temperature lapse rate} = (\Delta T) \times (100/(\Delta H))$$

Where:

- ΔT = temperature measured at M2 (at 10 m above local ground level) minus temperature measured at M1 (at 10 m above local ground level).
- ΔH = the vertical height difference between M2 and M1 (equal to 73 m).

3.4 Modifying factors

All measurements were evaluated for potential modifying factors in accordance with the NPfI. If applicable, modifying factor penalties have been reported and added to the measured site only L_{Aeq} noise levels.

Low-frequency modifying factor penalties have only been applied to site-only L_{Aeq} if the site was the only contributing low-frequency noise source. Specific methodology for assessment of each modifying factor is outlined in Fact Sheet C of the NPfI.

3.5 Instrumentation and personnel

Attended noise monitoring was conducted by Isaac Hepworth. Qualifications, experience, and/or demonstration of competence is in accordance with the EPA's Approved methods and supportive documentation is available upon request.

Equipment used to measure environmental noise levels is detailed in Table 3.1. Calibration certificates are provided in Appendix C.

Table 3.1 Attended noise monitoring equipment

Item	Serial number	Calibration due date	Relevant standard
NTi XL3 sound level meter	ACA-02523-F0	26/6/2028	IEC 61672-1:2013
SVAN SV-36 acoustic calibrator	138017	9/9/2028	IEC 60942:2017

4 Results

4.1 Total measured noise levels and atmospheric conditions

Overall (all sources) noise levels measured at each location during attended measurements are provided in Table 4.1. Discussion as to the sources responsible for measured levels is provided in Chapter 5 of this report.

Table 4.1 Total measured noise levels, dB – October 2026[1]

Location	Date	Time	L_{Amax}	L_{A1}	L_{A10}	L_{Aeq}	L_{A50}	L_{A90}	L_{Amin}
N2	19/10/2026	22:45	58	55	49	44	36	31	28
N3	19/10/2026	22:24	58	45	40	36	33	29	26
N4	19/10/2026	22:00	58	49	43	40	36	33	30

Notes: 1. Levels in this table are not necessarily the result of activity at the site.

Atmospheric condition data measured by the operator during each measurement using a hand-held weather meter is shown in Table 4.2. The wind speed, direction and temperature were measured at approximately 1.5 m above ground. Attended noise monitoring is not done during rain, hail, or wind speeds above 5 m/s at microphone height.

Table 4.2 Atmospheric conditions measured at microphone height – October 2026

Location	Date	Time	Temperature °C	Wind speed m/s	Wind direction °Magnetic north[1]	Cloud cover 1/8s
N2	19/10/2026	22:45	21.2	<0.5	-	1
N3	19/10/2026	22:24	18.5	<0.5	-	1
N4	19/10/2026	22:00	17.6	1.1	60	1

Note: 1. Degrees magnetic north, "-" indicates calm conditions.

4.1.1 Modifying factors

There were no modifying factors, as defined in the NPfI, applicable during the survey.

4.1.2 Monitoring results

Table 4.3 provides site noise levels in the absence of other sources, where possible, and includes weather data from the site AWS. Limits are applicable if weather conditions were within specified parameters during each measurement.

Table 4.3 Site noise levels and limits – October 2026

Location	Start date	Time	Wind		Stability class	VTG °C/100 m	Limits apply? [1]	Limit, dB		Site level, dB [2]		Exceedance, dB	
			Speed m/s	Direction° [3]				$L_{Aeq,15minute}$	$L_{A1,1minute}$	$L_{Aeq,15minute}$	L_{Amax}	$L_{Aeq,15minute}$	L_{Amax}
N2	19/10/2026	22:45	1.7	112	E	1.2	Yes	36	46	IA	IA	Nil	Nil
N3	19/10/2026	22:24	1.6	104	E	0.4	Yes	36	46	IA	IA	Nil	Nil
N4	19/10/2026	22:00	2.7	87	E	0.0	Yes	36	46	IA	IA	Nil	Nil

Notes:
1. Noise emission limits are applicable if weather conditions were within parameters specified in Section 2.5. 'N/A' in exceedance column indicates that limits were not applicable due to weather conditions.
2. Site-only $L_{Aeq,15minute}$, includes modifying factor penalties if applicable.
3. Degrees magnetic north, "-" indicates calm conditions.
4. IA in the site level column means that the site was deemed inaudible at that location.
5. NM (not measurable) in the site level column means that the site noise was audible and satisfied the relevant limits but could not be quantified.

5 Discussion

5.1 Noted noise sources

During attended monitoring, the time variations (temporal characteristics) of noise sources are considered in each measurement via statistical descriptors. From these observations, summaries have been derived for the location and provided in this chapter. Statistical 1/3 octave-band analysis of environmental noise was undertaken, and the following figures display frequency ranges of various noise sources at each location for L_{A1}, L_{A10}, L_{Aeq}, L_{A50}, and L_{A90} descriptors. These figures also provide, graphically, statistical information for these noise levels.

An example is provided as Figure 5.1, where frogs and insects are seen to be generating noise at frequencies above 1,000 Hz, while industrial noise is observed at frequencies less than 1,000 Hz.

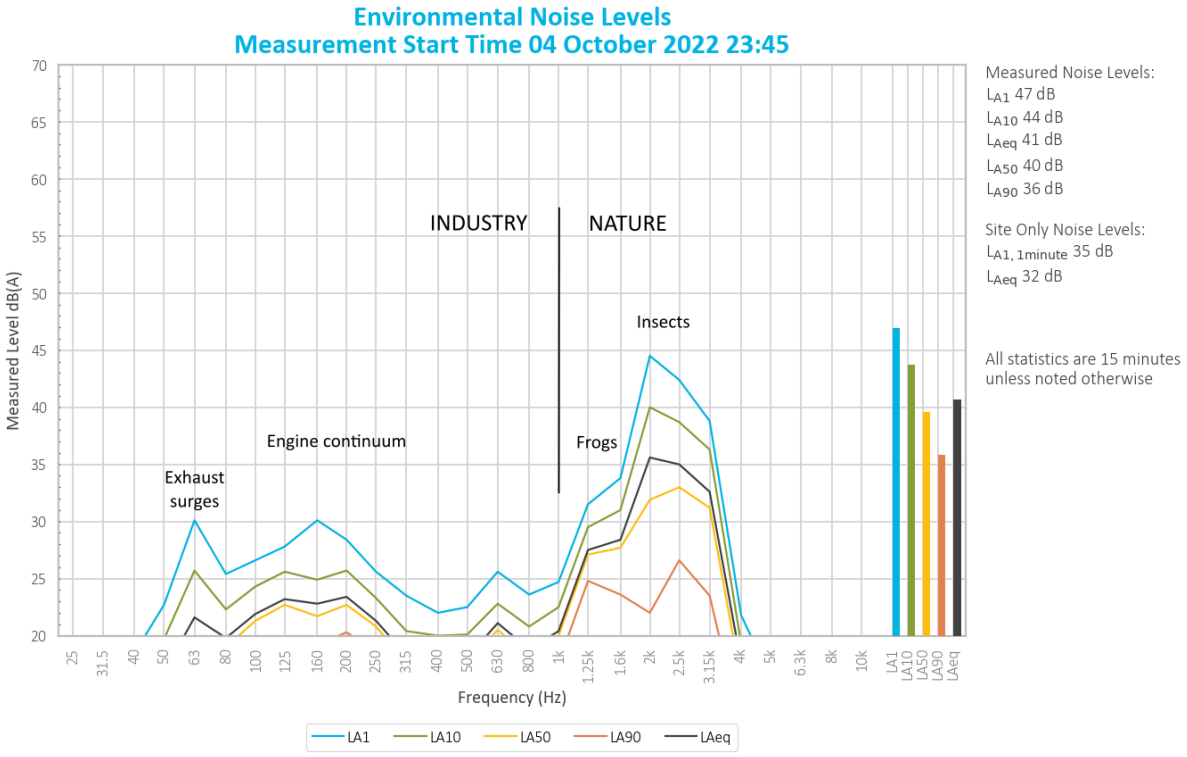


Figure 5.1 Example graph

5.2 N2 – Camberwell Village (west)

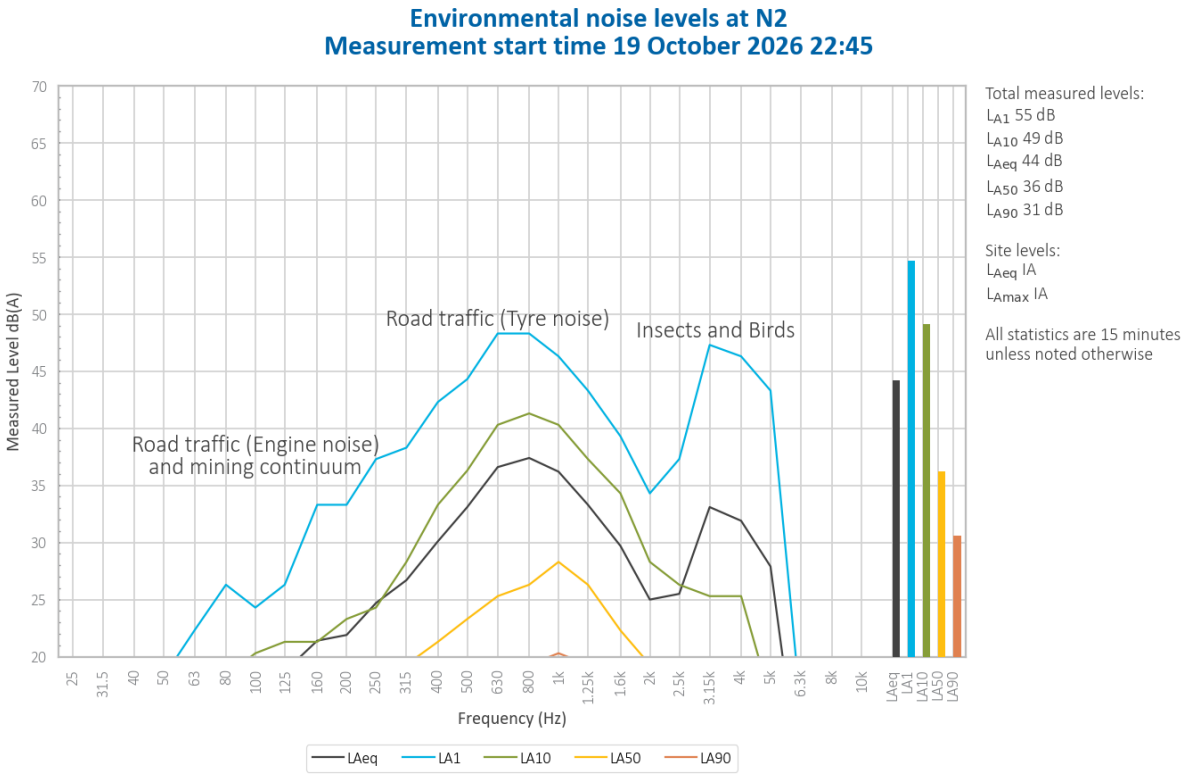


Figure 5.2 Environmental noise levels - N2, Camberwell Village (West)

Ashton Coal was inaudible throughout the entire measurement.

Road traffic was the dominant contributor to the total measured levels.

Noise from other mines, insects, frogs, birds, livestock and trains was also noted.

Ashton Coal $L_{Aeq,15minute}$ and L_{Amax} levels were below the relevant noise limits.

5.2.1 Cumulative mining noise at N2

Other mining operations in the vicinity were audible at $L_{Aeq,15minute}$ ≤25 dB during the operator-attended noise survey at monitoring location N2. The cumulative mining noise level was estimated to be $L_{Aeq,night}$ ≤22 dB, which is below the relevant $L_{Aeq,night}$ 40 dB limit. A graph of the total noise levels measured in the one-third octave frequency bands is shown in Figure 5.2.

5.3 N3 – Camberwell Village (north-east)

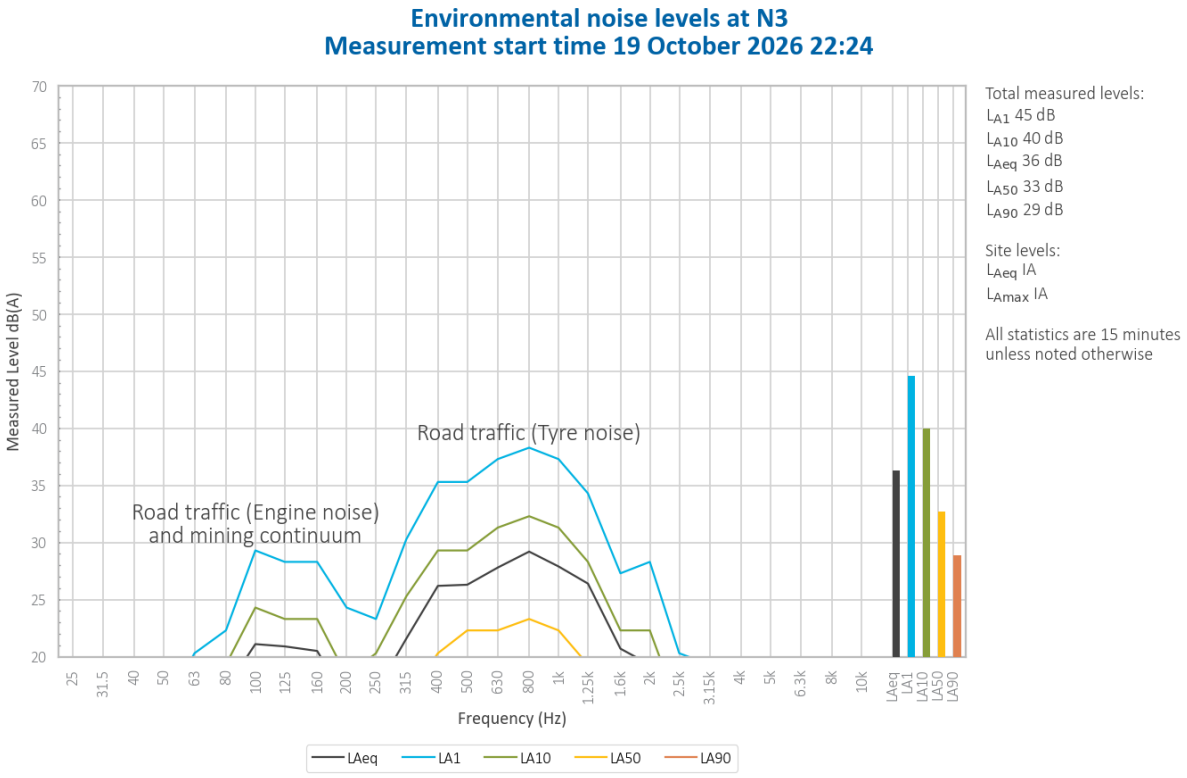


Figure 5.3 Environmental noise levels – N3, Camberwell Village (North-East)

Ashton Coal was inaudible throughout the entire measurement.

Road traffic was the dominant contributor to the total measured levels.

Noise from other mines, insects, frogs, dogs and trains was also noted.

Ashton Coal $L_{Aeq,15minute}$ and L_{Amax} levels were below the relevant noise limits.

5.3.1 Cumulative mining noise at N3

Other mining operations in the vicinity were audible at $L_{Aeq,15minute}$ 30 dB during the operator-attended noise survey at monitoring location N3. The cumulative mining noise level was estimated to be $L_{Aeq,night}$ 27 dB, which is below the relevant $L_{Aeq,night}$ 40 dB limit. A graph of the total noise levels measured in the one-third octave frequency bands is shown in Figure 5.3.

5.4 N4 – South of New England Highway

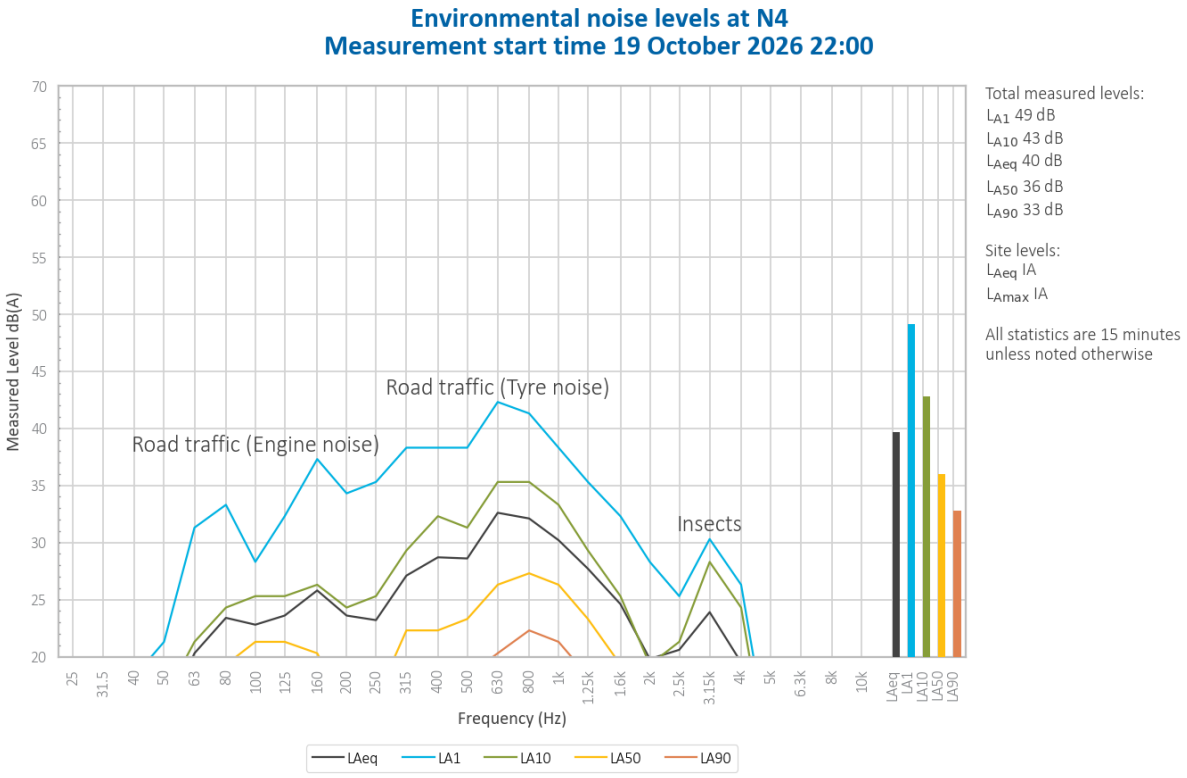


Figure 5.4 Environmental noise levels – N4, South of New England Highway

Ashton Coal was inaudible throughout the entire measurement.

Road traffic was the dominant contributor to the total measured levels.

Noise from insects, frogs, aircraft and livestock were also noted.

Ashton Coal $L_{Aeq,15minute}$ and L_{Amax} levels were below the relevant noise limits.

5.4.1 Cumulative mining noise at N4

Noise from any mining operations were inaudible during the operator-attended noise survey at monitoring location N4, and was therefore below the relevant $L_{Aeq,night}$ 40 dB limit. A graph of the total noise levels measured in the one-third octave frequency bands is shown in Figure 5.4.

6 Summary

EMM Consulting Pty Limited (EMM) was engaged by Ashton Coal Operations Pty Ltd to conduct a monthly noise survey of operations at Ashton Coal. The survey purpose was to quantify the acoustic environment and compare site noise levels against specified noise limits.

Attended environmental noise monitoring described in this report was done during the night period of Monday 19 October 2026 at three monitoring locations as per the approved NMP.

Noise from the site complied with relevant limits at all monitoring locations during the October 2026 survey.

Appendix A
Noise perception and examples

EMM
creating opportunities

A.1 Noise levels

Table A.1 gives an indication as to how an average person perceives changes in noise level. Examples of common noise levels are provided in Figure A.1.

Table A.1 Perceived change in noise

Change in sound pressure level (dB)	Perceived change in noise
Up to 2	Not perceptible
3	Just perceptible
5	Noticeable difference
10	Twice (or half) as loud
15	Large change
20	Four times (or a quarter) as loud

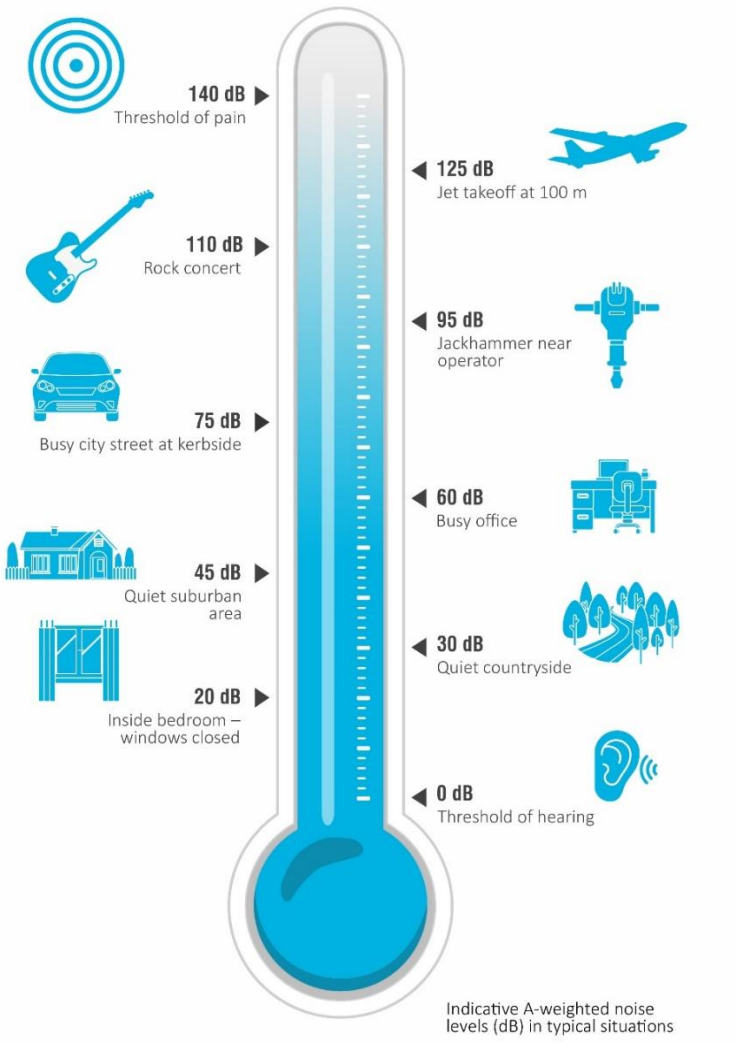


Figure A.1 Common noise levels

Appendix B
Regulator documents

EMM
creating opportunities

B.1 Development consent

APPENDIX 6

ALTERNATE NOISE CONDITIONS

NOISE

Application

1. Conditions 2 to 3 below have effect during times when open cut mining operations are not being undertaken at the Ashton Mine Complex, in the opinion of the Planning Secretary.

Noise Criteria

2. Except for the noise-affected land in Table 1 of Schedule 3, the Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Table 1: Noise Criteria dB(A)

Receiver No.	***Receiver***	***Day*** ($L_{Aeq\ (15min)}$)	***Evening*** ($L_{Aeq\ (15min)}$)	***Night*** ($L_{Aeq\ (15min)}$)	***Night*** ($L_{A1\ (1\ min)}$)
-	All privately-owned land	38	38	36	46

Noise generated by the development is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 8 sets out the requirements for evaluating compliance with these criteria.

However, these noise criteria do not apply if the Applicant has an agreement with the relevant owner/s of the residence/land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

Additional Noise Mitigation Measures

3. Upon receiving a written request from the owner of any residence on any privately-owned land where subsequent operational noise monitoring shows the noise generated by the development exceeds the noise limits in Table 2, the Applicant must implement additional reasonable and feasible noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at the residence in consultation with the owner.

If within 3 months of receiving this request from the landowner, the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution.

Table 2: Additional Noise Mitigation Criteria dB(A) $L_{Aeq\ (15min)}$

Receiver No.	***Receiver***	***Day*** ($L_{Aeq\ (15min)}$)	***Evening*** ($L_{Aeq\ (15min)}$)	***Night*** ($L_{Aeq\ (15min)}$)
-	All privately-owned land	38	38	38

Notes:

- *Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 8 sets out the requirements for evaluating compliance with these criteria.*
- *For this condition to apply, the exceedance of the criteria must be systemic.*

APPENDIX 8

NOISE COMPLIANCE ASSESSMENT

Compliance Monitoring

1. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.

2. Data collected for the purposes of determining compliance with the relevant conditions of this approval is to be excluded under the following meteorological conditions:
   a) during periods of rain or hail;
   b) average wind speed at microphone height exceeds 5 m/s;
   c) wind speeds greater than 3 m/s measures at 10 m above ground level; and
   d) temperature inversion conditions greater than 3°C/100m.

3. Unless otherwise agreed with the Planning Secretary, this monitoring is to be carried out in accordance with the relevant requirements relating for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
   a) monitoring locations for the collection of representative noise data;
   b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
   c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

4. To the extent that there is any inconsistency between the Industrial Noise Policy and the requirements set out in this Appendix, the Appendix prevails to the extent of the inconsistency.

Determination of Meteorological Conditions

5. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station located in the vicinity of the site (as required by condition 18 of Schedule 3).

B.2 Environmental protection licence

31	Groundwater monitoring	Monitoring mid-gradient of Upper Liddell coal seam, marked and shown as "WML183" on the Plan.

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
12	Meteorological Station – to determine meteorological conditions for noise monitoring	Meteorological monitoring, marked and shown "Repeater - Meteorological Station" on the Plan.
13	Noise monitoring	Noise monitor, marked and shown "N3" on the Plan.
14	Noise monitoring	Noise monitor, marked and shown "N2" on the Plan.
15	Noise monitoring	Noise monitor, marked and shown "N4" on the Plan.
32	Meteorological Station – to determine meteorological conditions for noise monitoring	Meteorological Station, marked and shown as "M1" on the Plan.

P1.5 For the purposes of conditions P1.1 to P1.4 and L4.1; the "Plan" refers to the Plan titled "Ashton Underground Mine Environment Protection Licence 11879 Premises Boundary", Drawing No. A-1005_Mon, Revision No. 2025, dated 29 May 2025 (EPA ref. DOC25/503163).

The datum for grid references in the Plan is the Geodetic Datum of Australia 1994 (GDA94), MGA Zone 56.

3 Limit Conditions

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 Flares must be operated by the licensee such that there is no visible emission other than for a total period of no more than 5 minutes in any 2 hours, except for heat haze.

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste to be received at the premises unless specified in this licence.

L3.2 The licensee must not dispose of waste on the premises unless authorised by a condition of this Licence.

L4 Noise limits

L4.1 Noise from the premises must not exceed the noise limits specified in the table below.

Residences referenced in this table are from the consent DA 309-11-2001-i and the Plan.

Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)	Night LAeq(1 minute)
EPA Point 13	38	38	36	46
EPA Point 14	38	38	36	46
EPA Point 15	38	38	36	46
All other privately owned residences	38	38	36	46

L4.2 For the purpose of condition L4.1:
a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays,
b) Evening is defined as the period from 6pm to 10pm, and
c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays

L4.3 The noise emission limits identified in condition L4.1 apply under the following meteorological conditions:

a) wind speeds up to 3m/s at 10m above ground level; and
b) temperature inversion conditions up to 3 degrees C/100m.

L4.4 For the purposes of condition L4.1:

a) Data recorded by the closest and most representative meteorological station installed on the premises at Point 12 must be used to determine meteorological conditions; and
b) Temperature inversion conditions (stability category) are to be determined by the methods referred to in Fact Sheet D of the Noise Policy for Industry (2017) using Points 12 and 32.

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.

B.3 Noise management plan

Relevant parts of the DA have been reproduced in Appendix A along with reference to where they have been addressed in this document.

4.2 Applicable Criteria

Noise criteria for the ACP are divided into three categories:

- Impact assessment criteria;
- Additional noise mitigation criteria; and
- Cumulative noise acquisition criteria.

The RUM must adhere to a single set of noise criteria relating to noise generated by the RUM development.

4.2.1 Impact Assessment Criteria

In accordance with Condition 2, Appendix 6 of the Ashton DA and Condition L4.1 of EPL 11879, noise generated by the development within the ACP must not exceed the limits specified in **Table 3** at any privately-owned land or on more than 25 per cent of any privately-owned land. The noise limits are provided in decibels (dB).

Table 3: Ashton Noise Impact Criteria dB(A)

Location	Day	Evening	Night	
	L_{Aeq} (15 minute)	L_{Aeq} (15 minute)	L_{Aeq} (15 minute)	L_{A1} (1 minute)
Any residence not owned by the Applicant or not subject to an agreement between the Applicant and the residence owner as to an alternate noise limit.	38	38	36	46

In accordance with Condition 12, Schedule 3 of the RUM DA, noise generated by development in the ACOL-operated RUM must not exceed the limits specified in **Table 4** at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Table 4 RUM Noise Impact Criteria dB(A)

Location	Day	Evening	Night	
	L_{Aeq} (15 minute)	L_{Aeq} (15 minute)	L_{Aeq} (15 minute)	L_{A1} (1 minute)
Any residence not owned by the Applicant or not subject to an agreement between the Applicant and the residence owner as to an alternate noise limit.	35	35	35	45

4.2.2 Additional Noise Mitigation Criteria

If noise emissions generated by the ACP exceed the criteria displayed in **Table 5** at any residence on privately-owned land, then, upon receiving a written request from the landowner, ACOL will implement additional reasonable and feasible noise mitigation measures (such as double glazing, insulation and/or air conditioning) at the residence in consultation with the owner.

Table 5 Additional Noise Mitigation Criteria dB(A)#

Location	Day	Evening	Night
	LAeq (15 minute)	LAeq (15 minute)	LAeq (15 minute)
Any residence not owned by the Applicant or not subject to an agreement between the Applicant and the residence owner as to an alternate noise limit.	38	38	38

* Exceedance of the criteria must be systemic.

4.2.3 Cumulative Noise Acquisition Criteria

If noise emissions generated by the ACP, and other mines exceed the criteria in **Table 6** at any residence on privately-owned land or on more than 25 per cent of any privately-owned land (except for noise affected residential receivers in Condition 1, Schedule 3 of the Ashton DA) then, upon receiving a written request for acquisition from the landowner, ACOL together with the relevant mines, will acquire the land in accordance with the Acquisition Process (as defined in Conditions 7 and 8, Schedule 4 of the Ashton DA).

Table 6 Cumulative Noise Acquisition Criteria dB(A)

Location	Day	Evening	Night
	LAeq (period)	LAeq (period)	LAeq (period)
Camberwell Village	60	50	45
All other privately-owned land	55	50	45

4.3 Existing Environment

The ACP is located in the Hunter Valley region of New South Wales and is bound by the Main Northern Railway to the north, Hunter River to the south and Glennies Creek to the east with the New England Highway dividing the open cut from the underground mining areas.

Other mining operations in the area include the Ravensworth Complex, the Mount Owen Complex, Rix's Creek Open Cut, Integra Underground and Hunter Valley Operations.

The closest sensitive receivers are located in Camberwell. There are currently 13 private landholdings in the local area, 11 of these have an occupied residence.

Ambient noise levels within the village of Camberwell are influenced by the New England Highway to the south, the railway line to the northeast and surrounding mining operations. Attended noise monitoring has confirmed that the major contributing noise source is usually the New England Highway. Noise from ACP has been noted at times in Camberwell Village, historical reports show this has been infrequent and at relatively low levels.

Based on the historical meteorological data collected by ACOL's M2 (repeater) weather station the most common winds in winter are from the west-northwest and the east-southeast in summer. Prevailing winds act to enhance noise from surrounding noise sources (road, rail and mining).

Appendix C
Calibration certificates

EMM
creating opportunities

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM59007

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	NTi Audio XL3	**Serial No:**	A3A-02523-F0
Mic. Model:	NTi Audio MC230A	**Serial No:**	A40310
Pre-Amp. Model:	NTi Audio MA220	**Serial No:**	16140
Band-Pass Filter:	1/3 Octave	**Test No:**	F059008

Owner: EMM Consulting Pty Ltd
Level 3, 175 Scott Street
Newcastle NSW 2300

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016
Classification : Class 1
Conformance: Conforms to quoted clauses or indicated tests.

CONDITIONS OF TEST:

Ambient Pressure	1018	hPa ±1 hPa	**Date of Receipt:**	23/06/2026
Temperature	24	°C ±1° C	**Date of Calibration:**	26/06/2026
Relative Humidity	46	% ±5%	**Date of Issue:**	30/06/2026

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ..... L. Gail

AUTHORISED SIGNATURE: ..... H. Soe, Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS
Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au

NATA
WORLD RECOGNISED ACCREDITATION
Accredited Laboratory No. 9262
Acoustic and Vibration Measurements

CERTIFICATE NO: SLM59007

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	*Clause*	*Result*
Absolute Calibration	10	Pass
Acoustical Frequency Weighting	12	Pass
Self-Generated Noise	11.1	Observed
Electrical Noise	11.2	Observed
Long Term Stability	15	Pass
Electrical Frequency Weightings	13	Pass
Frequency and Time Weightings	14	Pass
Reference Level Linearity	16	Pass
Range Level Linearity	17	Not Tested, Single Range
Toneburst	18	Pass
Peak C Sound Level	19	Pass
Overload Indicator	20	Pass
High Level Stability	21	Pass

Statement of Compliance: The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:-2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:-2013 because evidence was not publically available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:-2013 and because the periodic tests of IEC 61672-3:-2013 cover only a limited subset of the specifications in IEC 61672-1:-2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	*Clause*	*Result*
Test of relative attenuation at filter midband frequency	10	Pass
Linear operating range including range control if fitted	11	Not Tested, Single Range
Test of lower limit of linear operating range	12	Pass
Measurement of relative attenuation (filter shape)	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: C59950

EQUIPMENT TESTED : Acoustic Calibrator

Make & Model: Svantek SV 36 **Serial No:** 138017

Owner: EMM Consulting
Level 3, 175 Scott Street
Newcastle NSW 2300

Tests Performed: Measured Output Pressure level, Frequency & Distortion
Classification: IEC 60942 Class 1
Remarks: No corrections applied.
Adjustments, if any as indicated.

CONDITION OF TEST:

Ambient Pressure	1008	hPa ±1 hPa
Temperature	25	°C ±1° C
Relative Humidity	44	% ±5%

Date of Receipt : 04/09/2026
Date of Calibration : 09/09/2026
Date of Issue : 10/09/2026

Acu-Vib Test Procedure: AVP02 (Calibrators)
Test Method: AS IEC 60942 - 2017

CHECKED BY: ..... L. Gail

AUTHORISED SIGNATURE: ..... H Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS
Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au

NATA
WORLD RECOGNISED ACCREDITATION
Accredited Laboratory No. 9262
Acoustic and Vibration Measurements

CERTIFICATE NO: C59950

The Calibrator described in this report has been tested to the requirements of the standard IEC 60942-[Ed 4]:2017-11.
The tests described in Annex B of the standard (Periodic tests) were carried out under the environmental conditions listed above to the following clauses:

Clause	Test description
B4.6	Sound Pressure Level (By comparison with a reference calibrator).
B4.7	Frequency (By measurement with a calibrated frequency meter).
B4.8	Total distortion and noise. (By measurement with a calibrated Noise and Distortion meter).

Notes:

1. The calibrator was calibrated with the main axis vertical and facing down.
2. No corrections have been made for atmospheric pressure, temperature, or humidity.
3. Unless otherwise indicated, a WS2 transfer microphone is used with the supplied adaptors or with suitable adaptors from the laboratory.

Parameter	Pre-Adj	Adj Y/N	Output: **(dB re 20 µPa)**	Frequency **(Hz)**	THD&N **(%)**
Level1:	NA	N	93.98 dB	999.98 Hz	1.00 %
Level2:	NA	N	114.00 dB	999.98 Hz	0.18 %
Uncertainty			±0.11 dB	±0.05%	±0.40 %
Uncertainty (at 95% c.l.) k=2					

Parameter	Class 1		Class 2	
Nominal Frequency	250 Hz	1 kHz	250 Hz	1 kHz
Output dB SPL	0.25 dB	0.25 dB	0.40 dB	0.40 dB
Frequency Hz	0.7 % (1.75 Hz)	0.7 % (7 Hz)	1.7 % (4.25 Hz)	1.7 % (17 Hz)
THD&N	2.5 %	2.5 %	3.0 %	3.0 %

Tolerance limits from AS/IEC60942 (edition 4)

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

----oooo0oooo----

Australia

SYDNEY
Level 10 201 Pacific Highway
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE
Level 3 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE
Level 2 95 North Quay
Brisbane QLD 4000
T 07 3648 1200

CANBERRA
Suite 2.04 Level 2
15 London Circuit
Canberra City ACT 2601

ADELAIDE
Level 4 74 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE
Suite 9.01 Level 9
454 Collins Street
Melbourne VIC 3000
T 03 9993 1900

PERTH
Suite 3.03
111 St Georges Terrace
Perth WA 6000
T 08 6430 4800

Canada

TORONTO
2345 Yonge Street Suite 300
Toronto ON M4P 2E5
T 647 467 1605

VANCOUVER
2015 Main Street
Vancouver BC V5T 3C2
T 604 999 8297

CALGARY
700 2nd Street SW Floor 19
Calgary AB T2P 2W2

linkedin.com/company/emm-consulting-pty-limited

emmconsulting.com.au