Noise Monitoring Assessment

Dargues Gold Mine

Majors Creek, NSW

Quarter Ending December 2025

Prepared For: Aurelia Metals Ltd

December 2025

MAC201092-01RP24

mac
Muller Acoustic Consulting

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Document Information

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Prepared for: Aurelia Metals Ltd

Dargues Gold Mine

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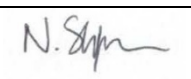	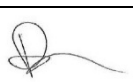			

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Aurelia Metals Ltd to complete a quarterly Noise Monitoring Assessment (NMA) for Dargues Gold Mine, Majors Creek, NSW (the 'mine').

The monitoring has been conducted in accordance with Condition L2 of the Environmental Protection Licence (EPL) #20095, and in accordance with the site's Noise Management Plan (NMP) 20170123, at five representative monitoring locations. This assessment has been undertaken during Quarter 4, 2025 on Wednesday 10 December 2025, and forms part of the noise monitoring program to address relevant conditions.

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

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA), Environment Protection Licence EPL #20095 (EPL);
- NSW Environment Protection Authority (EPA's), Approved methods for the measurement and analysis of environmental noise in NSW, 2022;
- Dargues Gold Mine Noise Management Plan (NMP) (Aurelia Metals Ltd)
- Dargues Gold Mine Project Approval, 10_0054; 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**.

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2 Noise Criteria

2.1 Operational Noise Criteria

Section L2 of the project's EPL (EPL #20095) outlines the applicable operational noise criteria for all privately owned residential receivers surrounding the mine. The criteria outlined in the EPL is reproduced below:

L2.1 Noise from the premises must not exceed the sound pressure level (noise) limits presented in the Table below. Note that the limits apply to the operation of the project and represent the sound pressure level (noise) contribution, at the nominated receiver locations in the table.

Table 1 summaries the applicable noise criteria at the five monitoring locations in accordance with the sites EPL and NMP.

Table 1 Noise Monitoring Program

Monitoring Location	Noise Criteria, dBA $L_{Aeq(15min)}$			Noise Criteria, dB $L_{A1(1min)}$
	Day (7am to 6pm)	Evening (6pm to 10pm)	Night (10pm to 7am)	Night (10pm to 7am)
At any residence	35	35	35	45
Majors Creek State Conservation Area (when in use by any person)	35	35	35	45

L2.2 For the purpose of Noise Limit Conditions above:

'Day' is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays;

'Evening' is defined as the period from 6pm to 10pm on any day; and

'Night' is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

L2.3 The noise emission limits identified in the table above apply under meteorological conditions of:

a) Wind speeds up to 3 m/s at 10m above ground level; or

b) temperature inversion conditions of up to 3 °C/100m and wind speeds up to 2 m/s at 10m above ground level

L2.4 For the purpose of the Condition L4.3:

a) The meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station established at the premises for the purposes of this Environment Protection Licence ("Point 59" as outlined in Weather Monitoring conditions below)

b) Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the New South Wales Industrial Noise Policy (EPA 2000).

L2.5 Determining Compliance

To determine compliance:

a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:

i) approximately on the property boundary, where any dwelling is situated 30 meters or less from the property boundary closest to the premises; or

ii) within 30 meters of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 meters from the property boundary closest to the premises; or, where applicable

iii) within approximately 50 meters of the boundary of a National Park, Nature Reserve or State Conservation Area.

b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 meter of a dwelling façade.

c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located:

i) at the most affected point at a location where there is no dwelling at the location; or

ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.

L2.6 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

L2.7A breach of this license will still occur where noise generated from the premises in excess of the appropriate limit is measured: i) at a location other than an area prescribed in part (a) and part (b) of Condition L4.5; and/or ii) at a point other than the most affected point at a location.

MAC Technical Note: For sleep disturbance, the LA1(1 minute) descriptor is meant to represent a maximum noise level measured under 'fast' time response. DEC will accept analysis based on either LA1(1 minute) or LA(max). https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/nsw-industrial-noise-policy/applying-industrial-noise-policy

3 Methodology

All attended noise surveys for this assessment 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 acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) 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 ±0.5dBA.

3.1 Operator Attended Noise Measurement Methodology

The locality surrounding the mine is primarily rural/residential. Operator attended noise monitoring was undertaken at five representative receivers outlined in the mine's NMP and are presented in **Table 2**.

Table 2 Receiver Location[1]

Monitoring Location	Resident Identifier	Coordinates (GDA94-MGA55)	
		Easting	Northing
NM1	R29	748148	6061931
NM2	R108	747454	6062651
NM3	R20	748672	6061250
NM5	R27	748998	6061467
NM6	R34	751242	6064950

Note 1: As per the Mine's NMP.

The receiver locations and unattended noise measurement location are presented in **Figure 1.**

Attended measurements were carried out using a Svantek Type 1, 971 noise analyser on Wednesday 10 December 2025. Where possible throughout each survey the operator quantified the contribution of any significant noise sources.

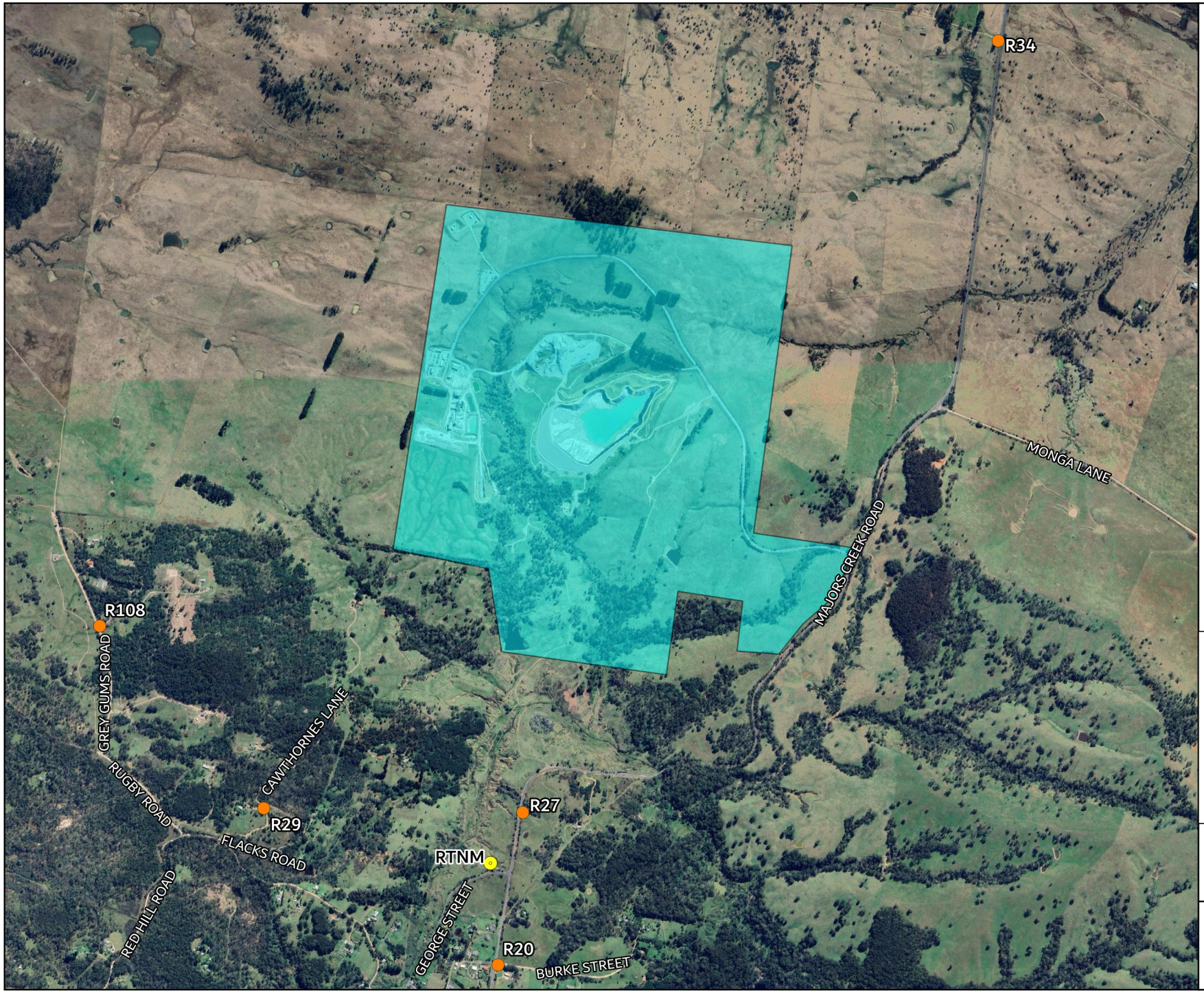

FIGURE 1

LOCALITY PLAN

MAC201092-01

Dargues Gold Mine

KEY

- Project Boundary
- Attended Monitoring Locations
- Unattended Logger Locations

0 200 400 600 800 1,000 m

N

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4 Results

4.1 Meteorological Conditions

Weather data for the noise assessment was sourced from DGMs on-site meteorological station as well as operator measured conditions on site of EPL nominated receiver locations. The data was used to determine prevailing meteorological conditions at the time of the attended measurements, which are presented in **Table 3**. It is noted that as per Condition L2.3 of the EPL, noise emission limits are applicable for the monitoring period.

Table 3 Prevailing Meteorological Conditions

Date & Time	DGM on-site Meteorological Station		Operator Measured Weather Monitoring Location (1.8m AGL)	
	Wind Direction	Wind (m/s)	Wind Direction	Wind (m/s)
10/12/2025 11:10	N	1.1	NW	1.6
10/12/2025 11:32	NNW	1.4	NE	0.8
10/12/2025 11:50	N	1.2	NE	0.5
10/12/2025 12:12	NNE	1.2	NW	0.8
10/12/2025 12:33	ENE	1.0	NW	0.6
10/12/2025 18:06	SE	0.9	W	0.7
10/12/2025 18:30	SSE	1.0	W	0.2
10/12/2025 18:52	SSE	0.8	SE	0.3
10/12/2025 19:11	SSE	0.9	SE	0.3
10/12/2025 19:33	SE	1.0	SE	0.2
10/12/2025 22:00	N	0.6	SE	0.1
10/12/2025 22:22	N	0.6	SE	0.1
10/12/2025 22:39	N	0.7	SE	0.1
10/12/2025 23:01	NNE	0.6	SE	0.1
10/12/2025 23:20	N	0.6	SE	0.3

4.2 Assessment Results – Location R20

The results of the attended noise measurements at location R20 for the December 2025 survey are summarised in **Table 4** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 4 Operator-Attended Noise Survey Results – Location R20

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology[1]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
10/12/2025 (Day)	11:50	83	56	27	35	WD: N WS: 1.2m/s Stab Class: A	Traffic 30-83 Birds 22-51 Insects/frogs 26-38 Wind in trees 27-43 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Evening)	18:30	83	60	32	35	WD: SSE WS: 1.0m/s Stab Class: D	Insects/frogs 30-35 Traffic 29-83 Lawn mowing 29-51 Birds 28-40 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Night)	22:39	45	23	17	35	WD: N WS: 0.7m/s Stab Class: D	Insects/frogs 14-40 Wildlife 18-45 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
Dargues Site L_{Amax} Contribution							<35

Note 1: Meteorology data obtained from DGM onsite weather station.

4.3 Assessment Results – Location R27

The results of the attended noise measurements at location R27 for the December 2025 survey are summarised in **Table 5** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 5 Operator-Attended Noise Survey Results – Location R27

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology[1]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
10/12/2025 (Day)	11:32	81	57	30	35	WD: NNW WS: 1.4m/s Stab Class: B	Traffic 30-81 Birds 27-47 Insects/frogs 26-43 Wind in trees 27-42 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Evening)	19:33	46	28	22	35	WD: SE WS: 0.1m/s Stab Class: D	Insects/frogs 19-32 Wind in trees 28-36 Birds 20-46 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Night)	22:22	74	48	18	35	WD: N WS: 0.6m/s Stab Class: D	Insects/frogs 14-48 Wildlife 20-53 Traffic 23-74 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
Dargues Site L_{Amax} Contribution							<35

Note 1: Meteorology data obtained from DGM onsite weather station.

4.4 Assessment Results – Location R29

The results of the attended noise measurements at location R29 for the December 2025 survey are summarised in **Table 6** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 6 Operator-Attended Noise Survey Results – Location R29

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology[1]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
10/12/2025 (Day)	12:12	73	48	27	35	WD: NNE WS: 1.2m/s Stab Class: A	Birds 26-73 Insects/frogs 28-47 Traffic <25 Wind in trees 25-38 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Evening)	18:52	45	29	24	35	WD: SSE WS: 0.8m/s Stab Class: D	Insects/frogs 22-26 Traffic 23-33 Dogs barking 25-35 Wind in trees 23-34 Birds 22-45 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Night)	23:01	56	27	14	35	WD: NNE WS: 0.6m/s Stab Class: D	Insects/frogs 14-23 Birds 20-28 Wildlife 18-56 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
Dargues Site L_{Amax} Contribution							<35

Note 1: Meteorology data obtained from DGM onsite weather station.

4.5 Assessment Results – Location R34

The results of the attended noise measurements at location R34 for the December 2025 survey are summarised in **Table 7** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 7 Operator-Attended Noise Survey Results – Location R34

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology[1]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
10/12/2025 (Day)	11:10	82	54	30	35	WD: N WS: 1.1m/s Stab Class: A	Livestock 34-40 Birds 25-57 Local residential noise 37-48 Traffic 33-82 Wind in trees 26-48 Insects/frogs 28-37 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Evening)	18:00	87	52	37	35	WD: SSE WS: 1.0m/s Stab Class: D	Traffic 36-87 Birds 32-57 Livestock 40-43 Wind in trees 33-42 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Night)	22:00	43	27	21	35	WD: N WS: 0.6m/s Stab Class: D	Insects/frogs 18-43 Dogs barking 20-33 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
Dargues Site L_{Amax} Contribution							<35

Note 1: Meteorology data obtained from DGM onsite weather station.

4.6 Assessment Results – Location R108

The results of the attended noise measurements at location R108 for the December 2025 survey are summarised in **Table 8** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 8 Operator-Attended Noise Survey Results – Location R108

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			EPL Limit	Meteorology[1]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
10/12/2025 (Day)	12:33	63	41	26	35	WD: ENE WS: 1.0m/s Stab Class: A	Birds 22-48 Insects/frogs 23-28 Traffic 27-58 Livestock 44-63 Wind in trees 24-44 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Evening)	19:11	57	34	20	35	WD: SSE WS: 0.9m/s Stab Class: D	Insects/frogs 17-34 Traffic 25-30 Birds 18-45 Livestock 40-57 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
10/12/2025 (Night)	23:21	50	37	28	35	WD: N WS: 0.6m/s Stab Class: D	Insects/frogs 14-50 Wildlife 16-34 DGM inaudible
Dargues Site $L_{Aeq(15min)}$ Contribution							<35
Dargues Site L_{Amax} Contribution							<35

Note 1: Meteorology data obtained from DGM onsite weather station.

5 Discussion

5.1 Discussion of Results – Location R20

Operator attended measurement results at R20, on Wednesday 10 December 2025 identified that DGM activities remained inaudible during the assessment periods and therefore remained below relevant criteria. Generally, insects, frogs, birds, wind in trees, traffic, lawn mowing and wildlife were audible sources throughout the monitoring period.

In summary, the noise contribution from the mine satisfied the relevant noise criteria for the attended measurements on Wednesday 10 December 2025.

5.2 Discussion of Results – Location R27

Operator attended measurement results at R27, on Wednesday 10 December 2025 identified that DGM activities remained inaudible during the assessment periods and therefore remained below relevant criteria. Generally, insects, frogs, wind in trees, wildlife, wind in tree, birds and traffic noise were audible sources throughout the monitoring period.

In summary, the noise contribution from the mine satisfied the relevant noise criteria for the attended measurements on Wednesday 10 December 2025.

5.3 Discussion of Results – Location R29

Operator attended measurement results at R29, on Wednesday 10 December 2025 identified that DGM activities remained inaudible during the assessment periods and therefore remained below relevant criteria. Generally, insects, dogs barking, frogs, birds, wind in trees, traffic, and wildlife noise were audible sources throughout the monitoring period.

In summary, the noise contribution from the mine satisfied the relevant noise criteria for the attended measurements Wednesday 10 December 2025.

5.4 Discussion of Results – Location R34

Operator attended measurement results at R34, on Wednesday 10 December 2025 identified that DGM activities remained inaudible during the assessment periods and therefore remained below relevant criteria. Generally, birds, livestock, frogs, local residential noise, wind in trees, dogs barking, traffic and insects were audible sources throughout the monitoring period.

In summary, the noise contribution from the mine satisfied the relevant noise criteria for the attended measurements Wednesday 10 December 2025.

5.5 Discussion of Results – Location R108

Operator attended measurement results at R108, on Wednesday 10 December 2025 identified that DGM activities remained inaudible during the assessment periods and therefore remained below relevant criteria. Generally, insects, frogs, wildlife, wind in trees, livestock, birds and traffic were audible sources throughout the monitoring period.

In summary, the noise contribution from the mine satisfied the relevant noise criteria for the attended measurements Wednesday 10 December 2025.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) on behalf of Aurelia Metals Ltd at Dargues Gold Mine, Majors Creek, NSW. The assessment was completed to quantify site noise emissions against relevant noise criteria pertaining to mine operations and offsite traffic noise emissions during Quarter 4, 2025.

Attended monitoring on Wednesday 10 December 2025 has identified that operational noise emissions generated by the mine comply with relevant $LA_{eq(15min)}$ and LA_{max} noise limits at all assessed receivers.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

Table A1 Glossary of Acoustical Terms

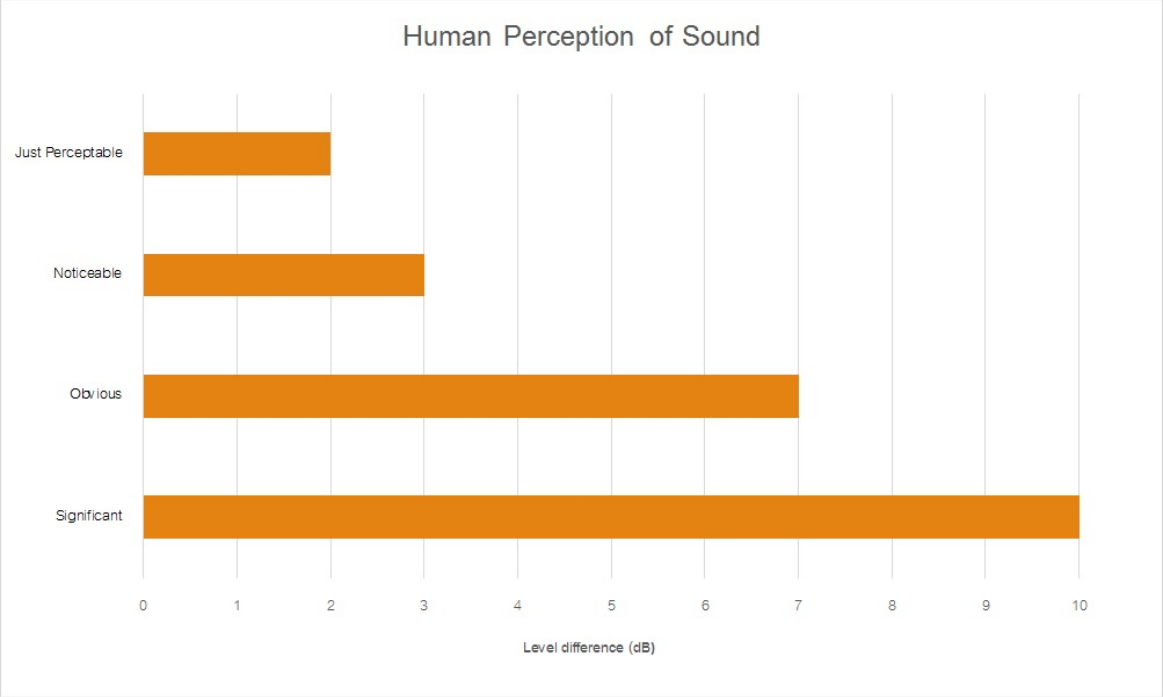
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all 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 sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
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 Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmax	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by 10.log10 (W/Wo). Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

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 Pressure 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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