



Mulga Baseline Noise Monitoring

Technical Report – August 2024 to July 2025

JBS&G Australia Pty Ltd

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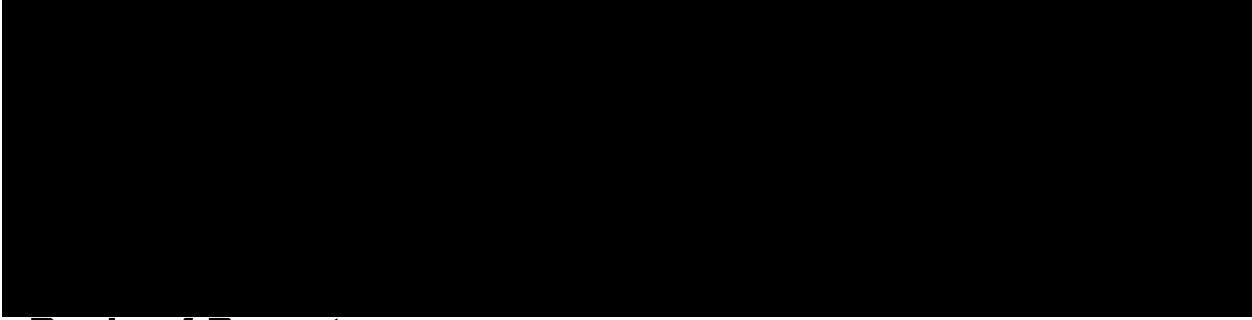
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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



Executive Summary

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

This monitoring was performed to obtain ambient sound level data over an extended period (one year). The data will be used to inform and support the environmental studies, since:

- Obtaining such data is considered appropriate to determine the extent of any potential noise impacts on nearby sensitive receptors and to support the extent of any noise management measures, hours of operation or engineering treatments proposed; and
- In the absence of information to the contrary, noise levels in the area are expected to vary significantly due to seasonal weather and the influence of noise sources such as local fauna.

From 31 July 2024, SLR installed the monitoring equipment and performed maintenance and reporting tasks to meet project objectives.

This report summarises the monitoring data measured over a 12-month period from 1 August 2024 to 31 July 2025 inclusive. The data collected over this period is considered to be suitable to define baseline noise levels in support of an application for approval under the Act.

The results indicate that

- Ambient sound levels recorded by the monitor were determined to be linked to seasonal changes, wind activity, local insect activity, and, potentially, operation of a diesel generator that services the Community; and
- Ambient sound levels were typically above Assigned Noise Levels (noise limits under the Environmental Protection (Noise) Regulations 1997), for most of the months and time periods.

Suitable construction and/or operational design targets for noise can be developed from the measured baseline noise levels, conditional on the time period, season or live weather conditions.



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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine (the Project) lease boundary.

This report summarises the monitoring data for a continuous 12-month period from 1 August 2024 to 31 July 2025.

Appendix A presents six bimonthly baseline noise monitoring reports covering the monitoring period.

1.1 Background and aims

The Project was referred under the *Environmental Protection Act 1986* (the Act) for approval under assessment number 2326.

This baseline noise monitoring is considered in Table 14-3 of the Environmental Review Document¹ (ERD) to provide an indication of the existing noise environment before any earthworks / construction activities for the Project commences. The data will be used to inform and support the environmental studies, since:

- Obtaining such data is considered appropriate to determine the extent of any potential noise impacts on nearby sensitive receptors, and to support the extent of any noise management measures, hours of operation or engineering treatments proposed; and
- In the absence of information to the contrary, noise levels in the area are expected to vary significantly due to seasonal weather and the influence of noise sources such as local fauna.

2.0 Noise assessment framework

Table 1 outlines the noise assessment framework for construction and operation of mining facilities in Western Australia.

Table 1 Noise assessment framework

Aspect	Source	Statutory / Government Policy	Australian / International Standards	Industry best practice
Construction noise effects	Construction plant and activities within site	EPNR1997 ²	AS/NZS 2107:2016 ³	EPNR1997
Operational environmental noise	Airborne noise from rail operations	SPP 5.4 ⁴	-	SPP 5.4
	Vehicle movements on public roads			SPP 5.4

¹ MDM-0000-EN-REP-0002 Rev 4 Environmental Review Document - Mulga Downs Iron Ore Mine, dated April 4, 2025. epa.wa.gov.au/sites/default/files/PER_documentation2/2326_Mulga_Downs_Iron_Ore_Mine_Environmental_Review_Document_PART_3_Redacted.pdf

² Western Australia Environmental Protection (Noise) Regulations 1997.

³ AS/NZS 2107. (2016). Recommended design levels and reverberation times for building interiors. Australia/NZ.

⁴ DPLH. (2019, September). State Planning Policy 5.4 Road and Rail Noise. WA, Australia.



Aspect	Source	Statutory / Government Policy	Australian / International Standards	Industry best practice
	Mining activities Mechanical ventilation plant On site power generation	EPNR1997 EPA guidance ⁵	AS/NZS 2107:2016	EPNR1997
	Airblast overpressure from blasting		ANZEC guidelines ⁶	

The aspects in Table 1 are further discussed in the following subsections.

2.1.1 Construction noise regulations

Construction noise emissions are regulated by the Western Australia Environmental Protection (Noise) Regulations 1997 (The Regulations), which operate under the *Environmental Protection Act 1986*. Noise from the construction of mining assets falls under Regulation No. 13, 'Construction Sites'. Depending on application, the Regulations may require a noise management plan (NMP) to be prepared, specific to the proposed activities.

Regulation 13 states, in part, the following (noting that the following criteria are independent of ambient noise levels in the area, but monitoring helps to inform the relative change in noise levels over time):

"13. *Construction Sites*

(1) *In this regulation —*

ancillary measure means a measure designated to be an ancillary measure under subregulation (7);

construction site means premises or a public place on which the sole or principal activity is the carrying out of construction work;

construction work means —

- (a) the construction, erection, installation, alteration, repair, maintenance, cleaning, painting, renewal, removal, excavation, dismantling or demolition of, or addition to, any building or structure, or any work in connection with any of these things, that is done at or adjacent to the place where the building or structure is located; or
- (b) work on which a hoisting appliance or any scaffold or shoring is used; or
- (c) work in driving or extracting piles, sheet piles or trench sheet; or
- (d) work in laying any pipe or work in lining pipe that is done at or adjacent to the place where the pipe is laid or to be laid; or
- (e) work in sinking or lining or altering, repairing, maintaining, renewing, removing, or dismantling a well or borehole; or
- (f) reclamation or site works including road works and earth works; or
- (g) the removal or reinstatement of vegetation or topsoil for the purpose of or in relation to a mining operation; or

⁵ EPA WA. (2023). Environmental Assessment Guideline for Environmental principles, factors and objectives. WA, Australia.

EPA WA. (2023). Environmental Factor Guideline - Social Surroundings. WA, Australia.

⁶ Australian and New Zealand Environment Council. (1990, September). Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration.



(h) tunnelling.

[..]

(3) Regulation 7 does not apply to noise emitted from a construction site as a result of construction work carried out other than between the hours specified in subregulation (2) if the occupier of the construction site shows that—

(a) the construction work was carried out in accordance with control of environmental noise practices set out in section 4 of AS 2436-2010 Guide to noise and vibration control on construction, maintenance and demolition sites; and

(b) the equipment used on the premises was the quietest reasonably available;

(c) the construction work was carried out in accordance with a noise management plan, excluding any ancillary measure, in respect of the construction site —

(i) prepared and given to the CEO not later than 7 days before the construction work commenced; and

(ii) approved by the CEO; the equipment used to carry out the works is the quietest reasonably available; and

(d) at least 24 hours before the construction work commenced, the occupier of the construction site gave written notice of the proposed construction work to the occupiers of all premises at which noise emissions received were likely to fail to comply with the standard prescribed under regulation 7; and

(e) it was reasonably necessary for the construction work to be carried out at that time.

[..]

(6) A noise management plan prepared under subregulation (3)(c), (4) or (5A) is to include, but is not limited to —

(a) details of, and reasons for, construction work on the construction site; and

(b) details of, and the duration of, activities on the construction site likely to result in noise emissions that fail to comply with the standard prescribed under regulation 7; and

(c) predictions of noise emissions on the construction site; and

(d) details of measures to be implemented to control noise (including vibration) emissions; and

(e) procedures to be adopted for monitoring noise (including vibration) emissions; and

(f) complaint response procedures to be adopted.

[..]”

From the above, the assigned noise levels do not apply to construction sites where the proponent:

- Demonstrates that the construction work is carried out in accordance with section 4 of AS 2436-2010;
- Uses the quietest reasonably available equipment;
- Prepares and supplies the relevant authority with a Noise Management Plan (NMP) no later than 7 days before the proposed works if requested by the local shire or there is potential for exceedance of ‘Assigned Levels’ at receptors, outside of the regulation ‘weekday’ period;
- Provides notice to potentially affected residents at least 24 hours prior the start of the proposed works; and
- Provides reasonable justification for the works to take place outside standard hours.

Generally, NMPs must include:

- Details of the construction site;



- Details of the planned activities and duration;
- Predictions of noise emissions;
- Recommended mitigation measures;
- Noise and/or vibration monitoring requirements; and
- Complaint response and management procedures.

2.1.2 Blasting

Blasting is covered by Regulation 11 (Airblast levels due to blasting), which in part states that:

- (4) *Subject to subregulation (5), no airblast level resulting from blasting on any premises or public place, when received at any other premises between 0700 hours and 1800 hours on any day, may exceed —*
- (a) *for an airblast level received at noise sensitive premises —*
- (i) *when received at a sensitive site — 120 dB LZ peak; or*
- (ii) *when received at a location other than a sensitive site — 125 dB LZ peak; or*
- (b) *for an airblast level received at any other premises — 125 dB LZ peak.*
- (5) *The levels specified in subregulation (4) do not apply in respect of an airblast level when received at premises, or a part of premises, on which the blaster believes on reasonable grounds no person is present at the time of the blast.*
- (6) *Despite subregulation (4), airblast levels for 9 in any 10 consecutive blasts (regardless of the interval between each blast), when received at any other single premises between 0700 hours and 1800 hours on any day, must not exceed —*
- (a) *for airblast levels received at noise sensitive premises —*
- (i) *when received at a sensitive site — 115 dB LZ peak; or*
- (ii) *when received at a location other than a sensitive site — 120 dB LZ peak; or*
- (b) *for airblast levels received at any other premises — 120 dB LZ peak.*

[..]

- (8) *Subject to subregulation (9), no airblast level resulting from blasting on any premises or public place, when received at other premises outside the periods between 0700 hours and 1800 hours on any day, may exceed 90 dB LZ peak except where that blasting is carried out in accordance with the Mines Safety and Inspection Regulations 1995 regulation 8.28(4).*
- (9) *The level specified in subregulation (8) does not apply in respect of an airblast level when received at premises, or a part of premises, on which the blaster believes on reasonable grounds no person is present at the time of the blast.*
- (10) *Where blasting is carried out in accordance with the Mines Safety and Inspection Regulations 1995 regulation 8.28(4) outside the periods between 0700 hours and 1800 hours on any day —*
- (a) *the blasting is taken to be carried out between 0700 hours and 1800 hours; and*
- (b) *subregulations (4), (5), (6) and (7) apply accordingly.*

2.1.3 Operational noise regulations

Noise emissions from mining operations are covered by the Regulations. Generally, to achieve compliance with the Regulations, the noise levels at nearby residential areas are not to exceed defined limits (Assigned Noise Levels, or simply, assigned levels).

A summary of the applicable noise limits is provided in **Table 2**. From this table it can be seen that the Regulations adopt three noise metrics to quantify the noise limits. The 'LA10'



assigned noise level (level exceeded more than 10% of the time) is used to assess noise from continuous operation mining facilities.

The assigned levels are determined from consideration of prevailing background noise levels and 'influencing factors' (IFs) that consider the level of commercial and industrial zoning in the locality. The influencing factor takes into account zoning and road traffic around each noise sensitive receiver of interest, within a 100 m and 450 m radius.

For the Project area, the IF is expected to be zero, so the typical Assigned Noise Level would be L_{A10} 35 dB at night, and up to L_{A10} 45 dB at other times, except Sundays and evenings where it is L_{A10} 40 dB.

Table 2 Assigned Noise Levels summary

Part of premises receiving noise	Time of day	Assigned level		
		L_{A10}	L_{A1}	L_{Amax}
Noise Sensitive premises at locations within 15 m of a building directly associated with a noise sensitive use	7.00 am to 7.00 pm Monday to Saturday ('Day')	45 + IF	55 + IF	65 + IF
	9.00 am to 7.00 pm Sunday and public holidays ('Sundays')	40 + IF	50 + IF	65 + IF
	7.00 pm to 10.00 pm all days ('Evening')	40 + IF	50 + IF	55 + IF
	10.00 pm on any day to 7.00 am Monday to Saturday and 9.00 am Sunday and public holidays ('Night')	35 + IF	45 + IF	55 + IF
Noise Sensitive premises at location further than 15 m from a building directly associated with a noise sensitive use	All hours	60	75	80
Commercial premises	All hours	65	75	80
Industrial and utility premises	All hours	65	80	90

Under the Regulations, if noise emitted from any premises, when received at any other premises, cannot reasonably be free of intrusive characteristics of tonality, modulation and impulsiveness, a series of adjustments are added to the emitted levels (measured or calculated) and the adjusted level must comply with the assigned level. These adjustments are detailed in Table 3 and are further defined in Regulation 9(1) of the Regulations.



Table 3 Definition of noise characteristics

Noise characteristic	Definition	Adjustment if present ¹
Tones	Where the difference between the A weighted sound pressure level in any one third octave band and the arithmetic average of the A weighted sound pressure levels in the two adjacent one third octave bands is greater than 3 dB in terms of LAeq,T where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as LASlow levels.	+5 dB
Modulation	A variation in the emission of noise that – <ul style="list-style-type: none"> • is more than 3 dB LAFast or is more than 3 dB LAFast in any one third octave band; • is present for at least 10% of the representative assessment period; and, • is regular, cyclic and audible. 	+5 dB
Impulsiveness	Present where the difference between the LApeak and LAmax is more than 15 dB when determined for single representative event.	+10 dB

Note 1: Where noise emission is not music, these adjustments are cumulative to a maximum of 15 dB.

3.0 Methodology

3.1 Monitoring

3.1.1 Location

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** presents the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of a power station's diesel generator is audible at the monitoring site. The generator is approximately 230 m from the logger and operates intermittently to support the Community's power needs.



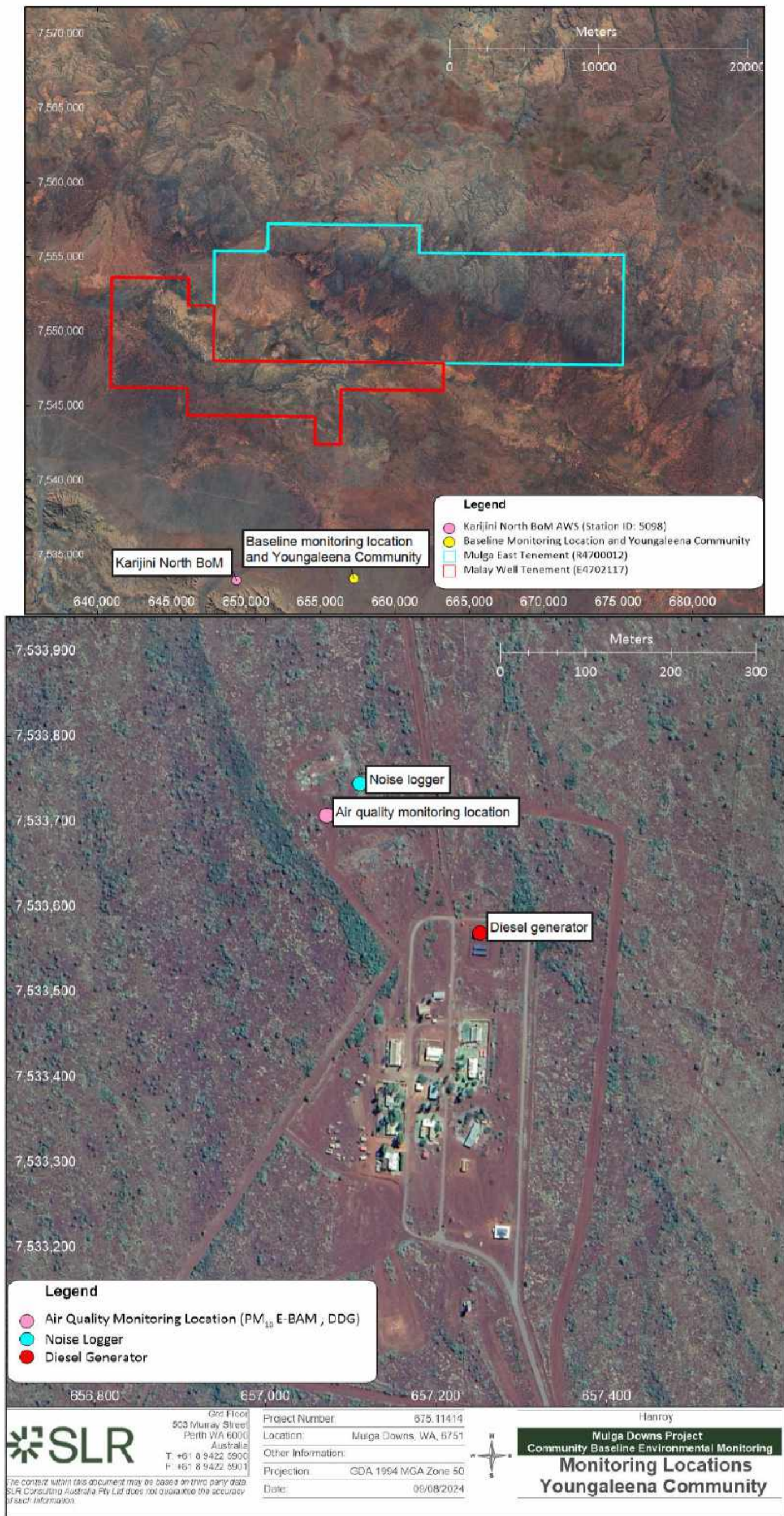



Figure 1 Monitoring locations



3.1.2 Equipment details

Table 4 presents the details of the noise logger (Type 1 approved and NATA calibrated) and weather station.

Table 4 Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-

The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The air quality team visited the site three times throughout the monitoring period to collect dust samples and perform a visual inspection of the noise monitor and its enclosure, noting that site visits were subject to agreed access. The noise monitor appeared to be in good condition throughout their site visits.

The noise monitor operated correctly throughout the monitoring period, with the exception of

- Two downtime events (data from these periods was not included in the results):
 - between 3:00 am and 12:00 pm on 4th July 2025;
 - between 1:30 pm on 19th November and 5:00 am on 20th November; and
- A total of 13 15-minute periods were indicated to contain under-range events⁷, during which noise levels fell below the rated lower limit of 23 dB(A) RMS. Table 5 lists the dates of these occurrences. Given that one day contains 96 15-minute periods, and the monitoring period contains approximately 35,000 15-minute periods, the number of under-range events is considered insignificant to the results. Data from these periods was retained in the results.

⁷ Under-range events are events where the actual sound pressure level approaches or is below the rated operating range of the equipment. In such instances, the equipment presents a warning.



Table 5 Under-range event occurrences by date, 15-minute periods

Date	Number of under-range events indicated
13/08/2024	1
20/07/2025	1
24/07/2025	10
03/08/2025	1

3.2 Data processing

Measurement data was processed in terms of 15-minute intervals, and also in terms of

- Wet season (defined here as November to April); and
- Dry season (defined here as May to October).

The L_{A90} parameter is used in the analysis to represent the lowest normal background noise level. Lowest noise levels typically occur during calm conditions, such as during the night when noise from animals, human activity, and insects is minimal.

The 10th percentile L_{A90} (L_{90} of L_{A90}), instead of the median, is useful to indicate the levels in the quieter times of each period.

3.2.1 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
 - 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and
- Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.
- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.3 Uncertainty of measurement

The expected level of system measurement uncertainty (as estimated according to the ISO Guide to Measurement Uncertainty) is outlined in **Table 6**.

Table 6 Estimated uncertainty of measurement by system

Parameter	System	U_{95} ¹	Student's t-factor
Airborne noise L_{A90} , L_{Aeq} , L_{A10} , L_{A1} , L_{Amax}	Svantek SV307A	1.5 dB	2.00

Note 1: The U_{95} is the expanded uncertainty of measurement for a 95% confidence interval. It represents the estimated range in which the true value lies for 95 out of 100 repeated events.



4.0 Results

This section summarises the processed noise levels over the monitoring period.

4.1 Monthly summary

The measured noise levels, processed in accordance with WA Environmental Protection (Noise) Regulations 1997, are summarised in **Table 7**. The table indicates that

- L_{A10} levels are typically higher than the Assigned Noise Levels (**Table 2**) for most of the months and time periods; and
- Background noise levels (L_{90} of L_{A90}) are typically higher than the nighttime Assigned Noise level of L_{A10} 35 dB from January to March 2025.

Table 7 Monthly summary of noise levels

Month	L_{A90}^1			L_{Aeq}			L_{A10}			L_{A1}			L_{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Aug 24	30	35	33	38	39	39	38	39	39	42	42	42	64	51	54
Sep 24	33	35	32	39	40	41	40	40	41	42	42	45	56	51	61
Oct 24	33	36	30	43	41	39	44	41	39	47	46	44	60	54	61
Nov 24	35	35	32	45	40	42	45	40	41	48	45	45	63	56	64
Dec 24	38	37	35	48	43	43	49	45	43	51	49	47	61	56	64
Jan 25	43	37	37	52	46	47	53	47	47	55	49	50	66	55	65
Feb 25	42	42	40	49	46	47	50	47	48	52	49	50	63	56	67
Mar 25	44	39	37	51	46	48	51	48	48	53	49	50	64	54	65
Apr 25	39	37	34	48	42	43	49	43	43	50	46	46	59	51	70
May 25	36	35	35	41	39	42	42	40	42	44	41	46	59	50	68
Jun 25	34	35	33	39	39	40	39	39	40	41	41	44	59	54	62
Jul 25	33	35	35	39	38	39	39	39	39	43	41	41	62	51	56

Note 1: L_{90} of L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 3.2.1**.

Figure 2 presents the typical day, evening, and night background noise levels (L_{90} of L_{A90}) versus month of year. The figure indicates that in the wet season, levels are higher from January to March.



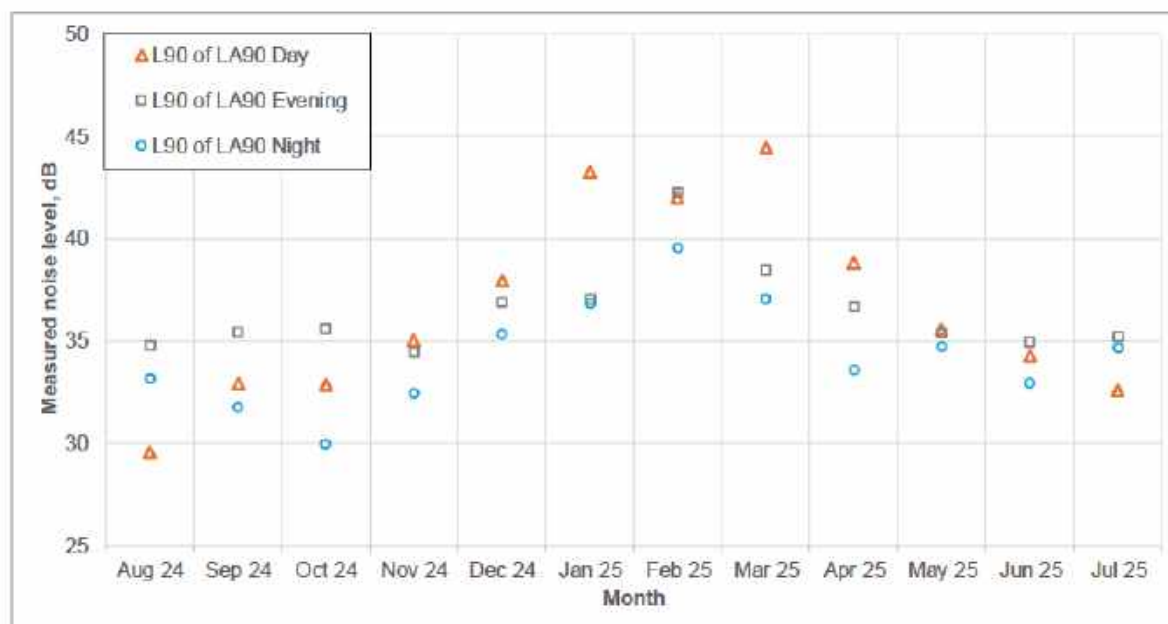


Figure 2 Typical day, evening and night background noise levels versus month of year

4.2 Spectral

Results in terms of third-octave and full-octave band noise levels are presented here to investigate any relevant spectral characteristics and potential contributors to elevated levels.

4.2.1 Per period

Table 8 presents the typical octave band L_{Aeq} noise levels per period and season.

Table 8 Typical octave band L_{Aeq} noise levels per period and season

Season	Period	Octave band centre frequency, Hz, L_{Aeq}								Sum (A-weighted)
		63	125	250	500	1000	2000	4000	8000	
Wet (Nov-April)	Day	37	38	34	29	30	30	29	42	45
	Evening	23	32	31	29	31	30	31	34	40
	Night	37	37	33	31	30	31	28	26	42
Dry (May-Oct)	Day	23	31	30	30	31	27	26	25	38
	Evening	23	32	30	31	32	28	25	25	38
	Night	23	31	31	32	31	29	26	25	38



4.2.2 Per hour

Table 9 and Table 10 present the typical third octave band L_{Aeq} by hour of day during the wet and dry season respectively.

Noise during the wet season contains significantly higher content than during the dry season in the following frequency ranges:

- low-frequency range (80 to 250 Hz) from 1:00 am to 5:00 pm. Source(s) of this content are unconfirmed but are likely associated with operation of the diesel generator (Figure 1) and electrical assets; and
- high-frequency range (5000 to 8000 Hz) from 9:00 am to 9:00 pm. This is considered attributable to insect activity.

Table 9 Typical third-octave band L_{Aeq} by hour of day during the wet season

Hour	Third-octave band centre frequency, Hz, L_{Aeq}																						Sum (A-weighted)		
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300		8000	10000
0 (to 1)	21	18	25	25	26	32	30	28	26	27	23	23	24	25	27	26	28	28	26	25	23	22	21	19	40
1	20	19	36	24	26	36	30	30	27	27	24	23	24	24	26	26	27	27	25	24	23	22	21	20	42
2	19	19	39	24	26	38	30	31	28	28	25	24	24	24	26	26	26	26	24	23	22	22	21	19	43
3	18	19	40	24	25	39	30	31	28	28	26	25	24	24	25	25	25	25	23	22	22	22	21	19	44
4	18	19	40	23	25	38	30	30	28	28	26	25	24	24	25	24	25	25	23	22	21	22	21	19	44
5	17	20	40	23	25	39	29	30	28	28	26	25	24	24	25	24	24	24	22	22	21	22	21	19	44
6	17	20	41	24	25	39	30	31	28	28	26	25	24	24	25	25	25	25	23	22	21	22	22	19	44
7	19	20	41	24	25	39	30	31	28	28	25	24	24	24	26	25	26	25	23	22	21	23	24	19	45
8	16	20	41	25	26	40	31	31	27	27	24	24	24	24	26	26	26	26	23	22	21	26	28	19	45
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17	21	15	20	25	24	31	29	26	23	24	22	23	24	26	26	24	24	23	21	22	34	45	28	21	46
18	21	15	18	25	24	31	29	26	23	24	23	24	25	27	26	24	24	23	21	22	34	43	25	21	45
19	21	14	16	25	23	30	29	25	23	24	23	24	25	27	26	24	24	23	21	22	34	40	23	20	43
20	22	14	16	26	24	30	29	25	23	25	24	25	25	27	26	25	25	24	22	22	30	34	21	19	40
21	22	14	16	26	24	30	29	25	23	25	25	26	26	27	27	27	31	30	24	22	27	28	21	19	40
22	22	14	17	26	24	30	29	25	24	25	24	25	25	27	27	27	29	29	26	24	25	24	20	19	40
23	21	16	19	25	24	30	29	26	25	26	23	24	24	26	27	26	28	28	26	25	24	23	21	19	39



Table 10 Typical third-octave band L_{Aeq} by hour of day during the dry season

Hour	Third-octave band centre frequency, Hz, L_{Aeq}																							Sum (A-weighted)	
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000		10000
0 (to 1)	22	14	15	25	24	29	28	24	25	26	28	27	27	27	27	25	25	24	23	22	21	21	20	19	39
1	22	15	16	25	24	29	28	25	26	27	28	27	27	28	27	25	25	24	23	22	21	21	20	19	39
2	22	14	16	25	23	29	28	25	26	27	28	27	27	27	27	25	25	24	22	21	21	21	20	19	39
3	22	14	15	25	23	28	28	25	26	27	28	26	26	27	26	24	24	23	22	21	21	21	20	19	38
4	21	14	14	24	23	28	28	24	26	27	27	26	26	26	25	24	24	23	21	21	21	21	20	19	38
5	21	13	14	24	23	28	28	24	25	27	27	26	26	26	25	24	23	23	21	21	21	21	20	19	38
6	21	14	14	24	23	28	28	24	25	27	27	26	25	26	25	24	24	24	21	21	21	22	21	19	38
7	21	13	14	23	22	28	28	25	25	26	25	24	24	25	25	24	24	23	21	21	21	22	21	19	37
8	21	13	14	23	22	28	28	24	25	25	24	24	24	25	25	24	24	23	21	21	21	23	21	19	37
9	21	13	13	23	22	28	28	24	24	25	24	24	24	25	25	23	24	23	21	20	21	23	21	19	37
10	22	13	12	24	23	29	28	23	22	24	25	25	25	26	25	24	23	21	20	21	22	22	20	19	38
11	22	13	13	25	23	29	28	23	22	25	27	26	26	27	25	24	23	21	20	22	24	22	20	19	38
12	22	13	13	25	23	29	28	23	22	25	27	26	27	27	26	24	23	21	20	22	23	22	20	19	38
13	22	13	13	25	23	29	28	23	22	25	28	26	26	27	26	24	22	21	20	22	23	21	20	19	38
14	22	13	13	25	23	29	28	23	22	26	27	26	27	27	25	24	22	21	20	22	22	21	20	19	38
15	22	13	12	25	23	29	28	23	23	25	27	26	26	27	25	24	22	21	20	21	21	21	20	19	38
16	21	13	12	25	23	29	28	23	22	25	27	25	26	27	25	24	22	21	20	21	21	21	20	19	38
17	21	12	12	25	23	29	28	23	22	24	27	25	26	26	25	24	22	21	20	21	21	21	20	19	38
18	22	12	12	25	23	29	28	22	21	24	27	26	26	27	26	24	22	21	20	21	20	21	20	19	38
19	22	13	12	26	23	29	28	23	21	24	28	26	27	27	26	24	22	20	20	20	20	21	20	19	38
20	22	13	12	26	24	29	28	23	21	24	28	26	27	27	26	24	23	21	20	20	20	21	20	19	38
21	22	13	13	26	24	29	28	23	21	25	29	27	27	27	26	25	24	21	21	20	20	21	20	19	38
22	22	13	13	27	24	29	28	23	22	25	28	27	27	27	26	25	26	24	21	21	20	21	20	19	39
23	22	13	13	26	24	29	28	24	23	25	28	26	27	27	27	25	25	24	22	21	21	21	20	19	38



4.3 Diurnal observations

Figure 3 presents the typical / median L_{A90} noise levels versus hour of day for all months, wet season, and dry season, with error bars indicating the 10th and 90th percentile levels. The figure indicates that:

- Median hourly L_{A90} levels in the wet season are higher than the dry season by generally 5 dB in the morning hours to around 11 dB in the afternoon; and
- In the wet season, L_{A90} levels begin increasing from 1:00 am, peaks at 11:00 am onwards, and then aligns with dry season levels from 10:00 pm onwards. This pattern is consistent with the timing of the dominant low-frequency and high-frequency content discussed in Section 4.2.2.

On the basis of the above and Section 4.2.2, factors contributing to the seasonal difference in noise levels include insect activity and, potentially, operation of the diesel generator.

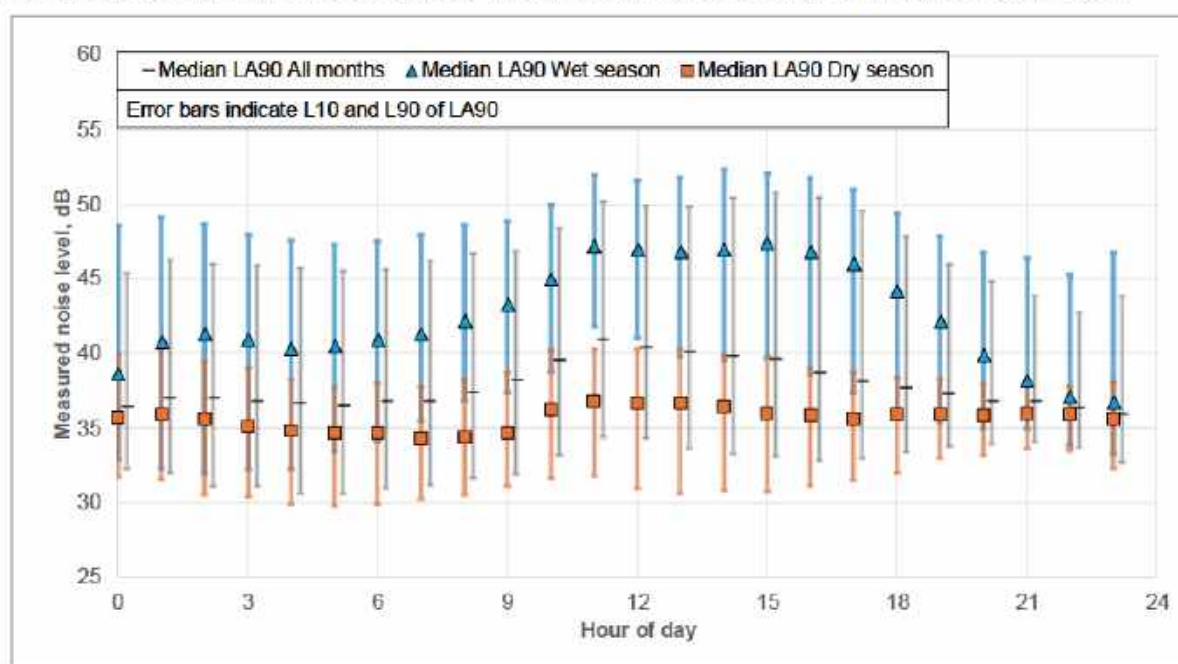


Figure 3 Median L_{A90} noise levels versus hour of day, with error bars indicating the 10th and 90th percentile levels

4.4 Wind speed impact

4.4.1 Wind speed and direction

Figure 4 presents the measured wind roses at a height of approximately 1.5 m for all months, dry season and wet season. The figure indicates that prevailing winds are mainly from the east and southeast, and generally remains consistent throughout the 12-month period.

The results are compared to the automatic weather station operated by the Bureau of Meteorology at Karijini North (station 05098) from June 2019 to February 2021⁸, approximately 8 km west of the weather station SLR deployed. Findings are similar in that prevailing winds are mainly from the east.

⁸ SLR Consulting Australia. Phase 2 Mulga East Iron Ore Project – Ambient Air Quality Monitoring Program Technical Report, 675.11414-R04-v3.0, dated 18 March 2021.



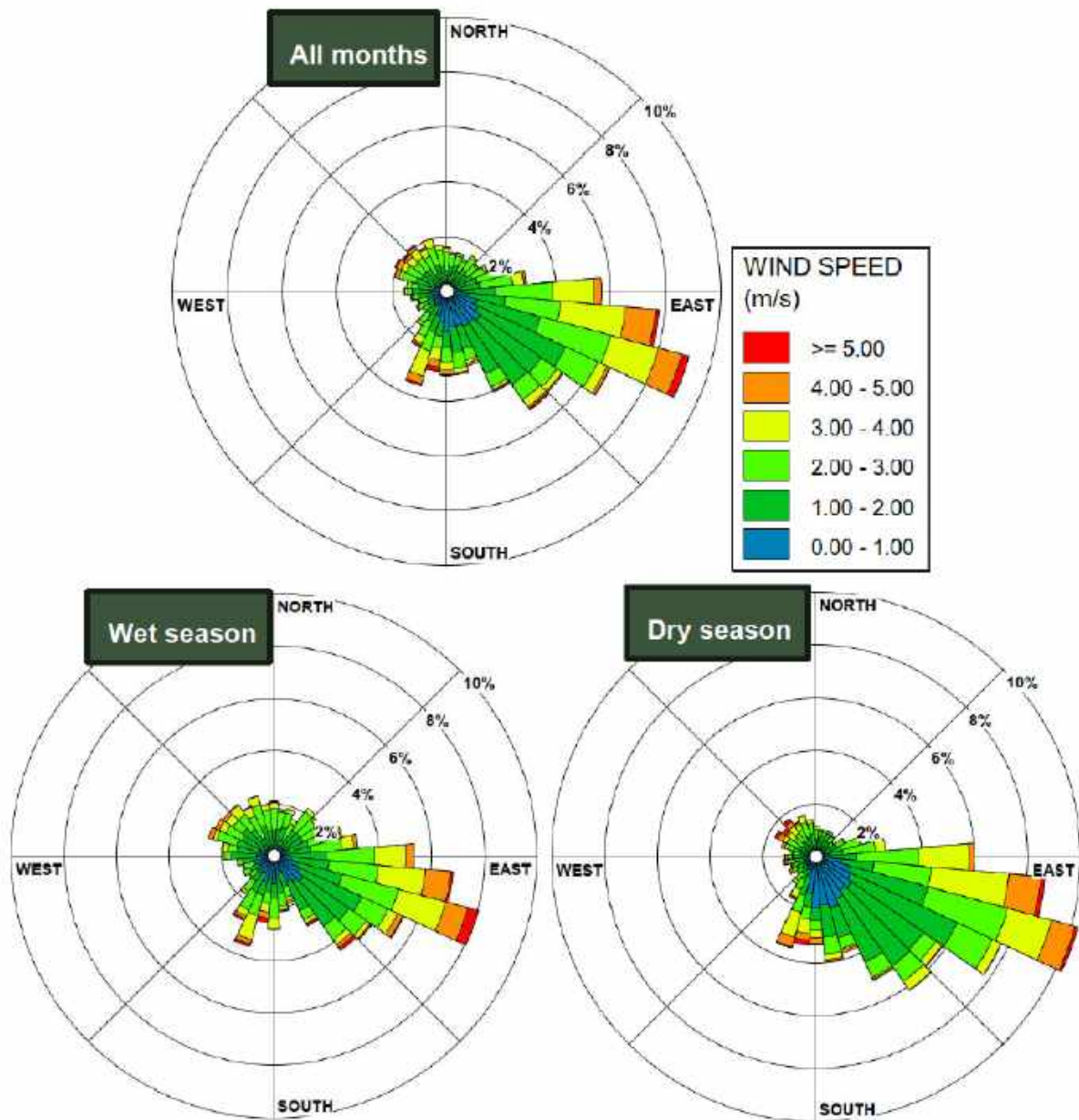


Figure 4 Wind rose: Top: All months; Bottom left: Wet season (Nov – Apr); Bottom right: Dry season (May – Oct)

Figure 5 presents noise levels versus wind speed. The figure indicates that at wind speeds above 3 m/s, noise levels generally increase with wind speed. This is typical of monitoring in locations where trees generate noise associated with wind inducing movement and interaction of branches and leaves.

Figure 5 also presents background noise levels during prevailing winds from the north (i.e. from the direction of the Project), indicating levels are generally similar.





Figure 5 Noise levels versus wind speed

5.0 Discussion

5.1 Compliance

A suitably large sample set has been obtained over a twelve-month period.

On this basis, the noise monitoring program to date is therefore considered to be adequate to establish appropriate baseline noise levels in the context of the following relevant Regulations, policies and EPA guidance:

- Environmental Protection (Noise) Regulations 1997;
- State Planning Policy 5.4: Road and Rail Noise (SPP 5.4);
- Environmental Protection Authority, 2023, Environmental Factor Guideline – Social Surroundings; and
- Environmental Protection Authority, 2023, Environmental Assessment Guideline for Environmental principles, factors and objectives.

5.2 Key observations

The data obtained during the baseline monitoring program indicates the following:

- L_{A10} levels are typically higher than relevant Assigned Noise Levels for most of the months and time periods;
- Background noise levels (L_{90} of L_{A90}) are typically higher than the nighttime Assigned Noise level of L_{A10} 35 dB from January to March 2025; and
- Key contributors to ambient noise levels are insect noise, wind behaviour, and, potentially, operation of the diesel generator;
- Background noise levels (L_{90} of L_{A90}) are typically higher during the wet season than during the dry season by generally 5 to 11 dB depending on the time of day. Factors



for the seasonal difference in noise levels include insect noise and, potentially, operation of the diesel generator;

- During the wet season, background noise levels are higher from January to March. These months may have increased insect activity, and longer diesel generator runtime due to weather conditions; and
- Ambient noise levels generally increase with wind speeds (1.5 m above ground) once above 3 m/s.

The 12 months of noise monitoring demonstrates the dependence of background noise on seasonal conditions and provides baseline data that can be referenced at any time of the year.





Appendix A Bimonthly reports

Mulga Baseline Noise Monitoring

Technical Report – August 2024 to July 2025

JBS&G Australia Pty Ltd

SLR Project No.: 675.V11414.00001

3 October 2025



Mulga Baseline Noise Monitoring

Bimonthly Report – September 2024

JBS&G Australia Pty Ltd

Allendale Square, Level 9/77 St Georges Terrace,
Perth WA 6000

Prepared by:

SLR Consulting Australia

Level 1, 500 Hay Street, Subiaco WA 6008, Australia

SLR Project No.: 675.V11414.00001

9 September 2025

Revision: 1.1

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** illustrates the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of the power station's diesel generator is audible at the monitoring site. The generator operates intermittently.

This report presents the measured baseline noise for the period of August to September 2024.



Figure 1: Monitoring locations



Baseline noise measurements are carried out to:

- Provide data on existing background noise levels. This allows for a comparison of noise levels before and after the commencement of mining or other noise-generating activities under similar weather conditions.
- Determine the lowest normal background noise level to assess whether predicted noise from proposed developments nearby would be audible above the background noise.

The L_{A90} 15-minute measurement parameter is commonly used to represent the lowest normal background noise level during a 15-minute period. These lowest noise levels typically occur during calm conditions, such as night when noise from animals, human activity, and insects is minimal.

For daily summaries, the 10th percentile L_{A90} (L_{90} of L_{A90}), instead of the median, is useful to indicate the levels in the quieter times of each period.

2.0 Method

2.1 Equipment status


The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The noise monitor operated correctly throughout the August–September period

The air quality team visits the site every two months to collect dust samples and perform a visual inspection of the noise monitor and its enclosure. During the site visit from 30th September to 2nd October 2024, the noise monitor appeared to be in good condition.

One self-powered Type 1 approved, NATA calibrated noise logger and weather station has been deployed on site. **Table A** presents the equipment details.

Table A: Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



2.2 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
- 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and

Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.

- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.0 Baseline noise - August 2024

3.1 Weather

Figure 2 presents meteorological data recorded by the installed weather station during this period.

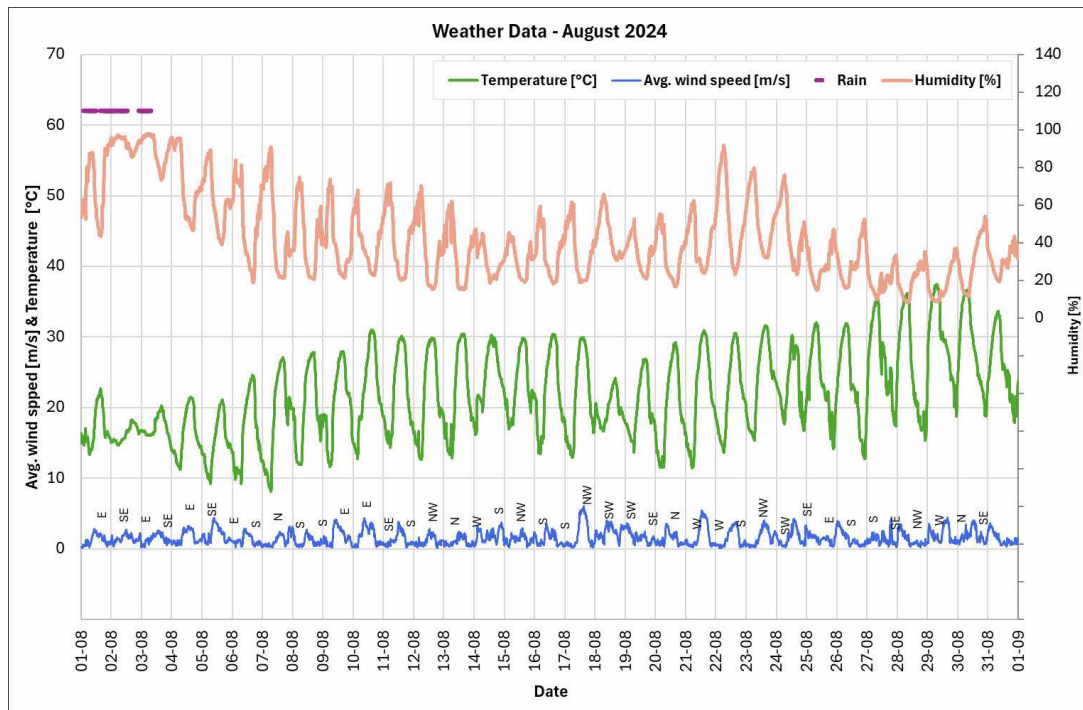


Figure 2: Daily weather data, August 2024

Wind direction and windspeed (1.5m elevation) are presented as a wind rose in Figure 3 for the period. Prevailing winds for the measurement period are from the south and east.



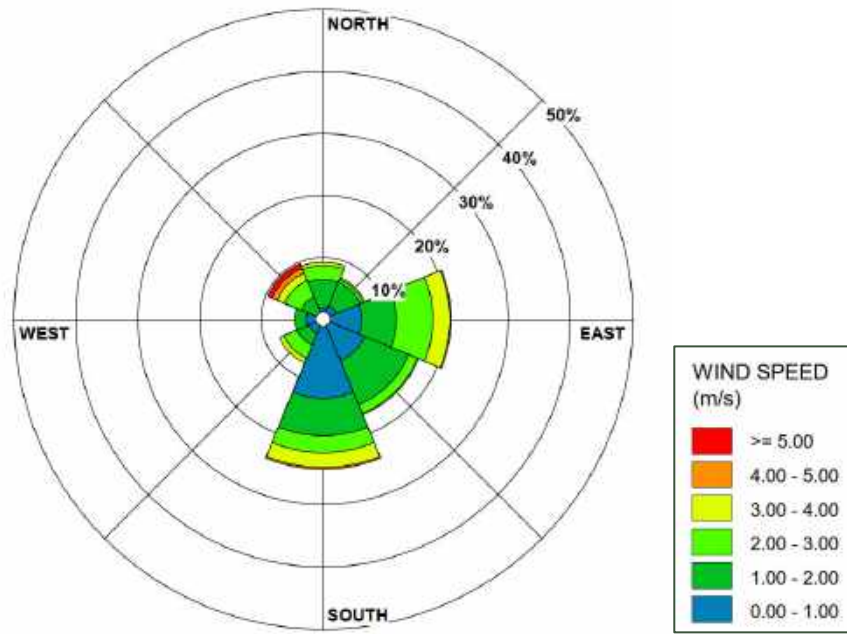


Figure 3: Wind rose, August 2024

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

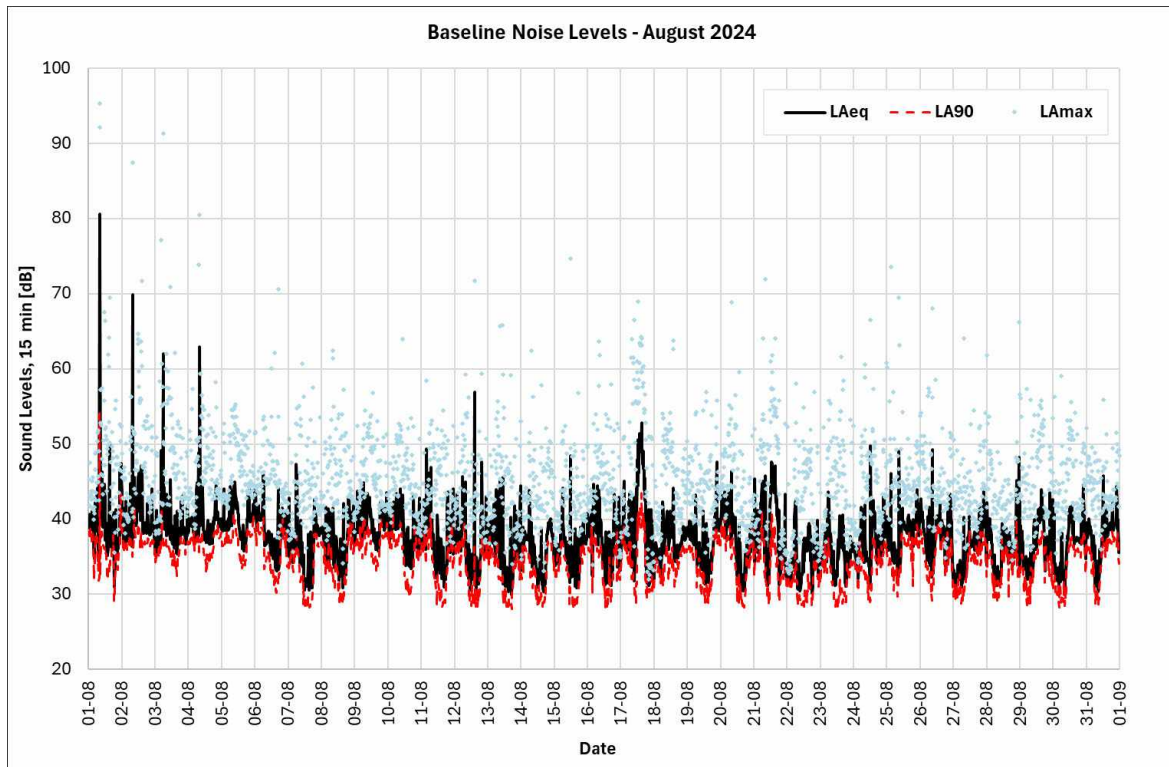


Figure 4: Baseline noise measurements, August 2024



3.3 Notes and discussion

A site visit was undertaken on the 30th and 31st July 2024, with the noise monitoring equipment installed on 31st July.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period shows that background noise is consistently within the range of 28 – 54 dB(A), with typical level below 40 dB(A).

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise - September 2024

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

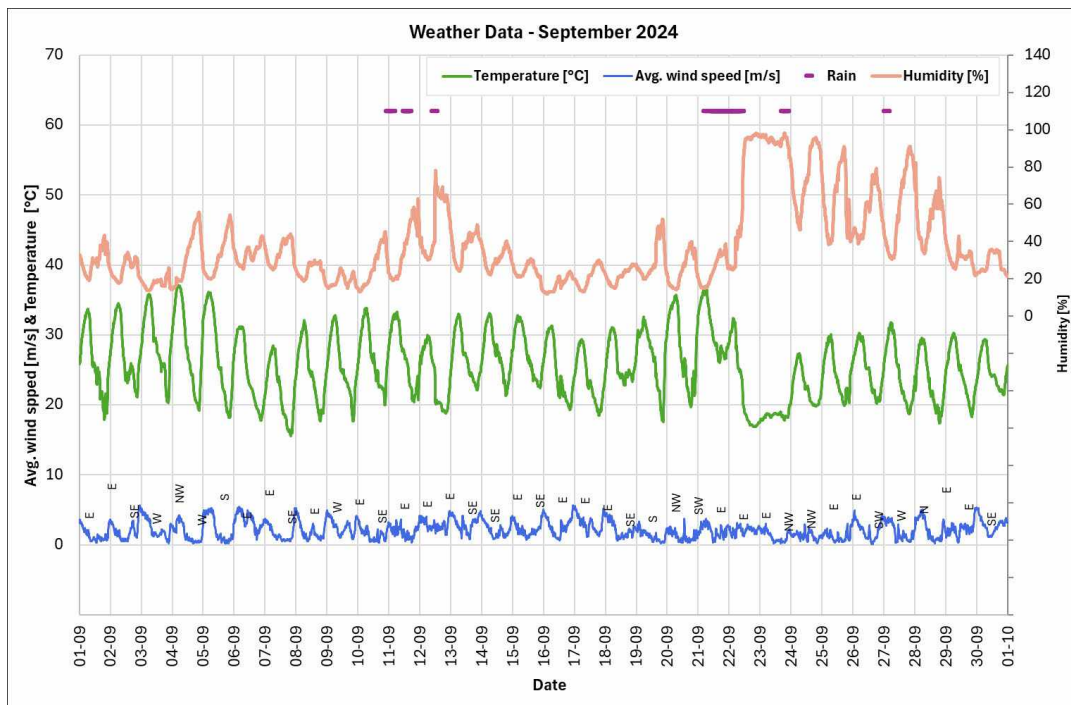


Figure 5: Weather data, September 2024

Wind direction and windspeed (1.5m elevation) are presented as a wind rose in Figure 6 for the period. Prevailing winds for the measurement period are from the south-east and east. Some of the wind from the east was at wind speeds greater than 5 m/s (18 km/hour).



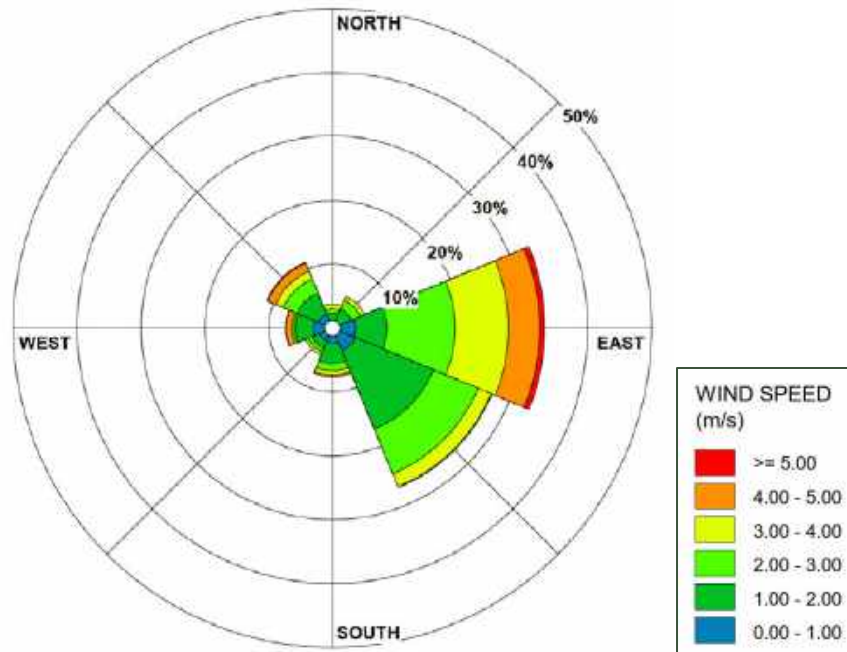


Figure 6: Wind rose, September 2024

4.2 Airborne Noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

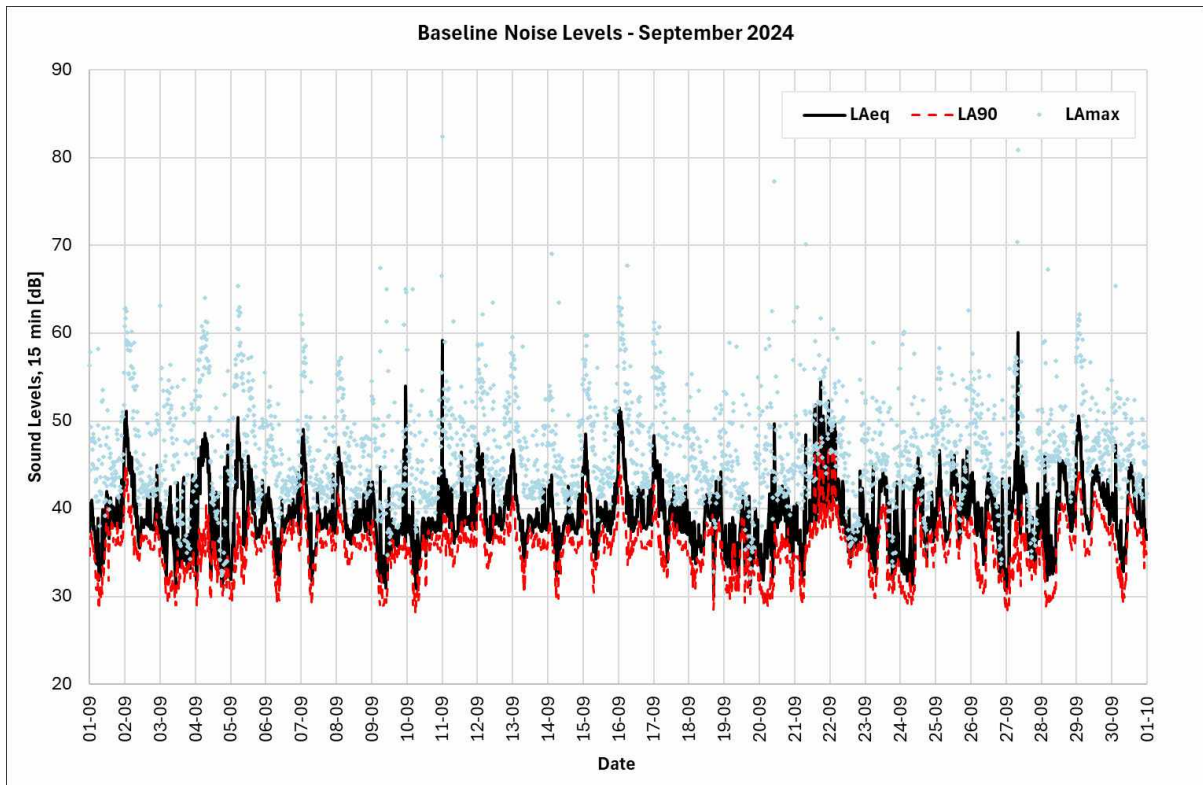


Figure 7: Baseline noise measurements, September 2024



4.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no reportable incidents or equipment downtime.

The data for this period shows that background noise is consistently within the range of 28 – 49 dB(A), with typical level below 40 dB(A).

Same as August, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
August 2024	30	35	33	38	39	39	38	39	39	42	42	42	64	51	54
September 2024	33	35	32	39	40	41	40	40	41	42	42	45	56	51	61

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

Mulga Baseline Noise Monitoring

Bimonthly Report – September 2024

JBS&G Australia Pty Ltd

SLR Project No.: 675.V11414.00001

9 September 2025

Table C: Daily noise levels, filtered for adverse weather

Date	L ₉₀ of L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
01/08/2024	32	34	36	65	38	40	40	38	40	44	41	42	95	56	56
02/08/2024	36	36	35	54	40	47	41	40	40	45	42	41	87	52	91
03/08/2024	34	36	36	39	39	40	39	40	40	43	42	42	71	51	57
04/08/2024	35	38	37	47	41	40	40	42	41	45	43	43	81	58	53
05/08/2024	34	38	37	41	41	42	41	42	42	45	43	44	55	52	54
06/08/2024	31	37	34	37	40	39	37	41	39	41	43	40	71	44	55
07/08/2024	28	36	33	35	39	38	34	41	39	39	42	41	61	48	54
08/08/2024	29	37	36	36	41	40	36	42	40	40	44	42	62	50	52
09/08/2024	34	37	36	40	40	40	41	41	41	45	42	43	57	51	51
10/08/2024	30	35	35	39	38	41	39	39	40	44	41	42	64	45	58
11/08/2024	29	35	34	36	39	39	37	39	40	42	41	42	54	50	53
12/08/2024	29	35	34	41	40	39	35	39	39	39	40	41	72	59	54
13/08/2024	29	34	32	37	37	38	34	37	39	39	38	41	66	51	53
14/08/2024	29	36	33	35	39	38	35	41	38	39	45	39	62	50	52
15/08/2024	29	34	35	36	38	40	35	39	40	39	41	43	75	49	54
16/08/2024	29	32	33	38	39	39	38	39	39	42	42	41	64	53	53
17/08/2024	30	30	31	41	36	37	38	33	37	47	34	38	67	51	54
18/08/2024	32	35	35	38	38	39	38	39	40	43	42	42	64	49	54
19/08/2024	29	37	36	35	42	41	36	41	42	39	43	43	57	56	55
20/08/2024	29	34	34	37	37	40	36	38	40	39	40	42	69	46	64
21/08/2024	29	32	31	41	35	37	40	36	35	47	37	36	72	40	58
22/08/2024	28	33	32	35	37	38	36	37	37	42	39	38	55	57	56
23/08/2024	29	32	33	36	35	37	36	36	37	42	38	39	62	53	52
24/08/2024	30	33	32	39	39	38	37	38	38	41	39	41	66	51	74
25/08/2024	32	37	32	39	41	39	40	41	41	42	43	44	70	50	57
26/08/2024	32	34	29	39	40	34	40	40	34	41	43	37	68	52	51
27/08/2024	32	34	30	37	40	38	38	41	39	39	43	43	64	50	62
28/08/2024	30	34	30	36	39	38	37	38	36	38	39	40	49	50	66
29/08/2024	32	32	29	39	38	35	39	39	35	45	40	38	56	50	59
30/08/2024	29	35	31	38	40	38	39	39	40	41	41	42	56	50	52
31/08/2024	29	37	30	38	40	38	40	41	39	42	42	43	56	52	58
01/09/2024	31	36	36	39	40	44	40	40	47	42	42	53	54	51	60



Date	L ₉₀ of L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
02/09/2024	34	35	30	38	40	38	40	40	39	42	42	42	54	51	63
03/09/2024	31	33	31	37	38	43	37	38	46	39	42	52	55	52	61
04/09/2024	31	31	30	44	40	41	38	34	38	40	37	44	57	56	62
05/09/2024	33	35	32	41	39	39	43	39	41	47	41	45	57	50	56
06/09/2024	31	37	31	38	41	42	40	41	42	41	42	46	52	50	62
07/09/2024	33	35	35	38	39	42	40	40	44	41	42	49	50	49	57
08/09/2024	34	35	30	38	39	39	39	40	39	42	41	43	50	48	67
09/09/2024	29	35	30	36	40	41	37	39	39	39	41	42	65	61	65
10/09/2024	32	36	35	37	40	41	39	40	42	41	41	47	53	52	67
11/09/2024	34	36	34	39	40	43	40	42	46	42	45	50	61	52	62
12/09/2024	35	37	34	39	42	42	40	44	43	43	48	48	63	53	60
13/09/2024	34	36	32	38	40	40	40	40	40	41	42	44	49	49	69
14/09/2024	34	35	33	38	39	43	40	40	45	41	43	50	64	50	60
15/09/2024	34	36	35	39	40	44	40	42	46	42	45	50	56	51	68
16/09/2024	35	36	33	40	40	43	41	40	46	44	42	51	56	49	61
17/09/2024	33	35	32	39	39	37	40	39	38	42	42	42	52	49	55
18/09/2024	33	35	31	39	41	36	41	42	37	42	46	41	51	52	59
19/09/2024	31	32	29	37	37	36	39	38	38	40	40	42	58	49	59
20/09/2024	30	31	30	41	39	36	42	42	38	44	45	41	77	49	63
21/09/2024	36	38	37	41	44	41	41	41	43	44	44	46	70	52	55
22/09/2024	34	36	31	38	39	38	38	38	38	39	39	41	54	55	59
23/09/2024	31	31	30	41	38	35	41	38	35	45	42	40	52	50	60
24/09/2024	30	36	35	40	39	41	39	40	42	42	42	46	58	50	58
25/09/2024	35	37	32	41	41	41	41	41	42	43	43	47	55	54	63
26/09/2024	31	31	29	40	37	40	43	35	42	45	38	46	55	52	57
27/09/2024	33	33	29	45	38	38	44	38	38	46	39	43	81	51	67
28/09/2024	30	36	35	42	40	43	45	41	45	47	43	51	57	51	59
29/09/2024	35	37	32	42	41	39	44	43	40	47	46	45	57	54	65
30/09/2024	31	36	30	41	40	37	41	40	38	43	43	42	53	50	69

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in Section 2.2.





Appendix B Weekly Graphs

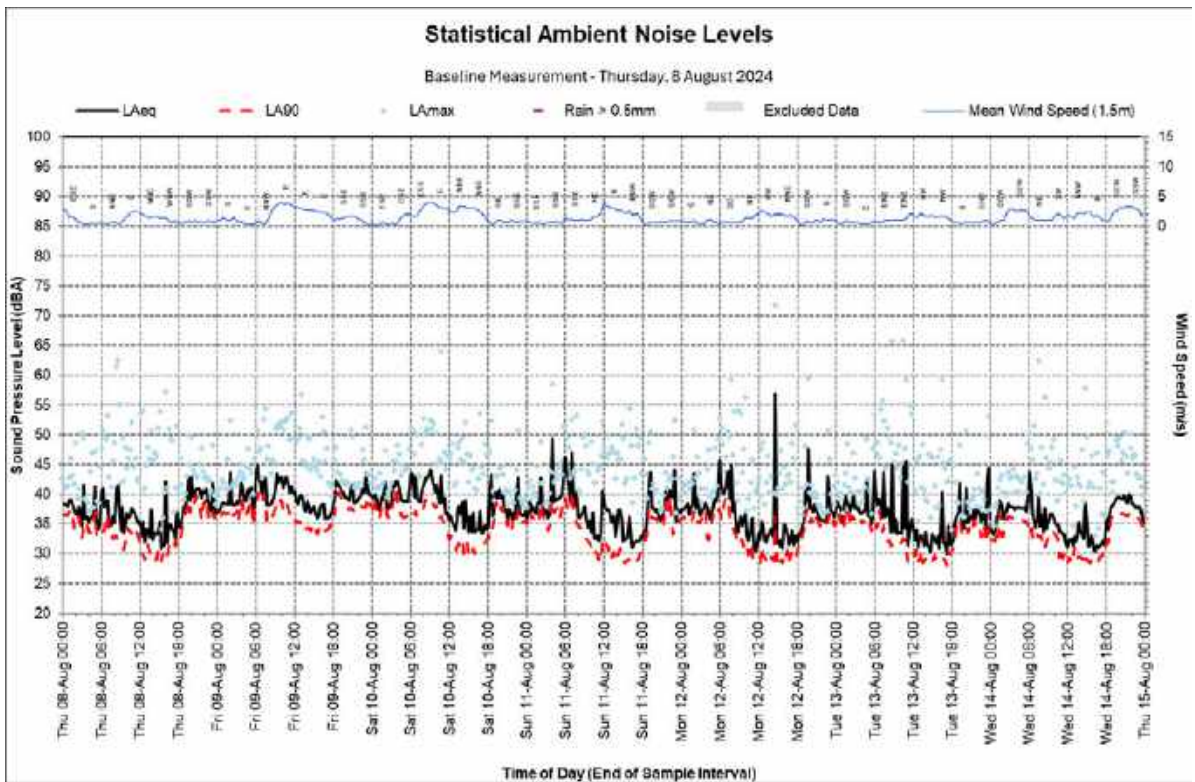
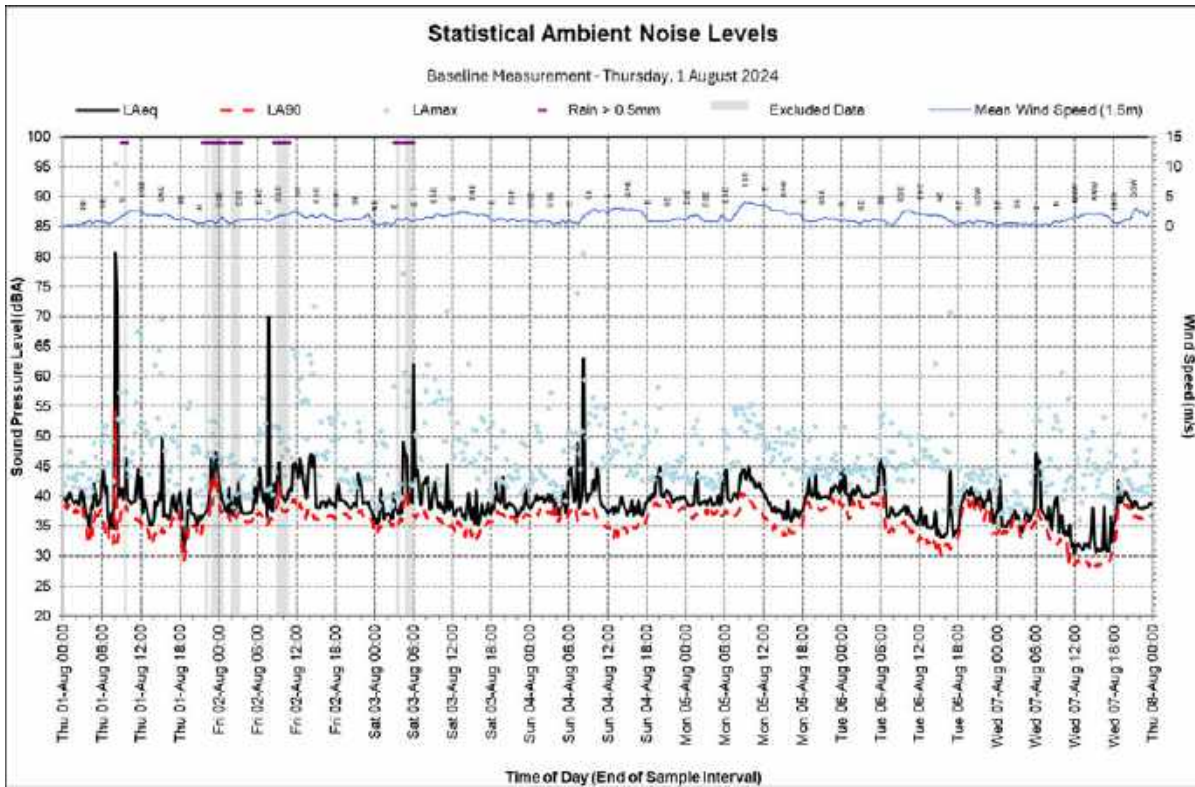
Mulga Baseline Noise Monitoring

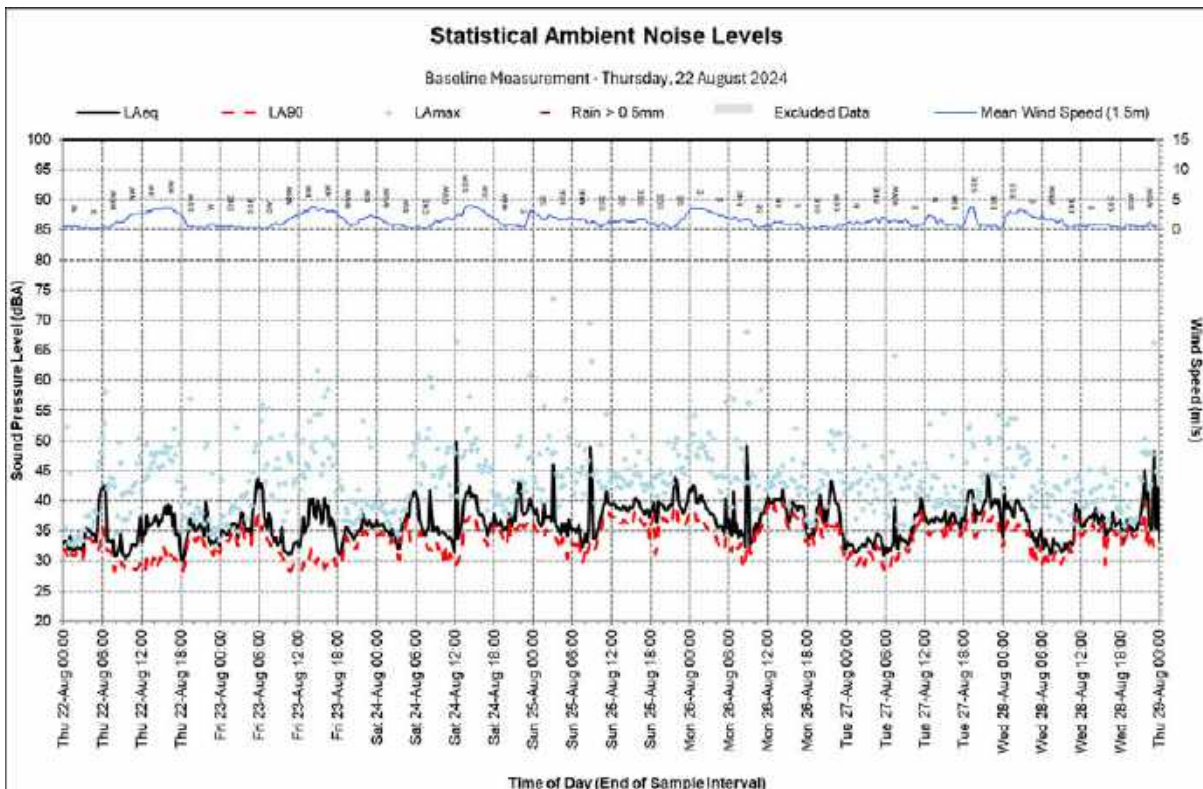
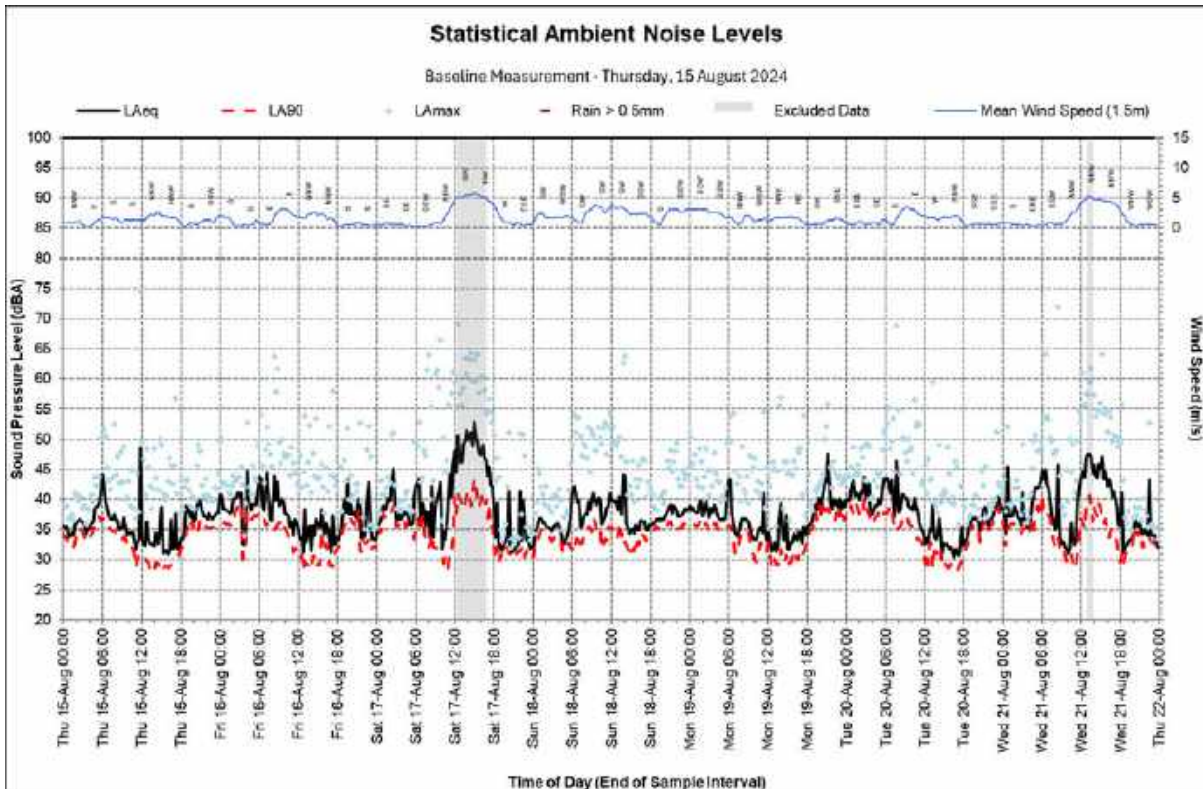
Bimonthly Report – September 2024

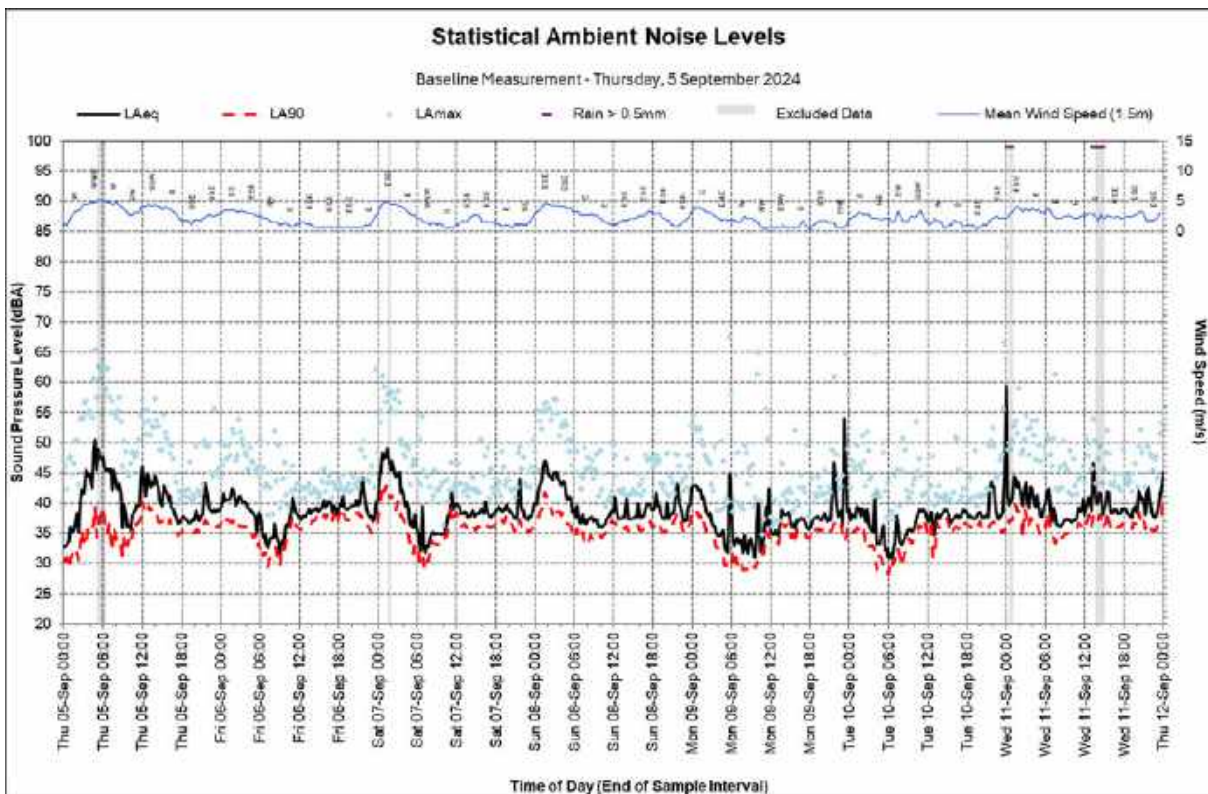
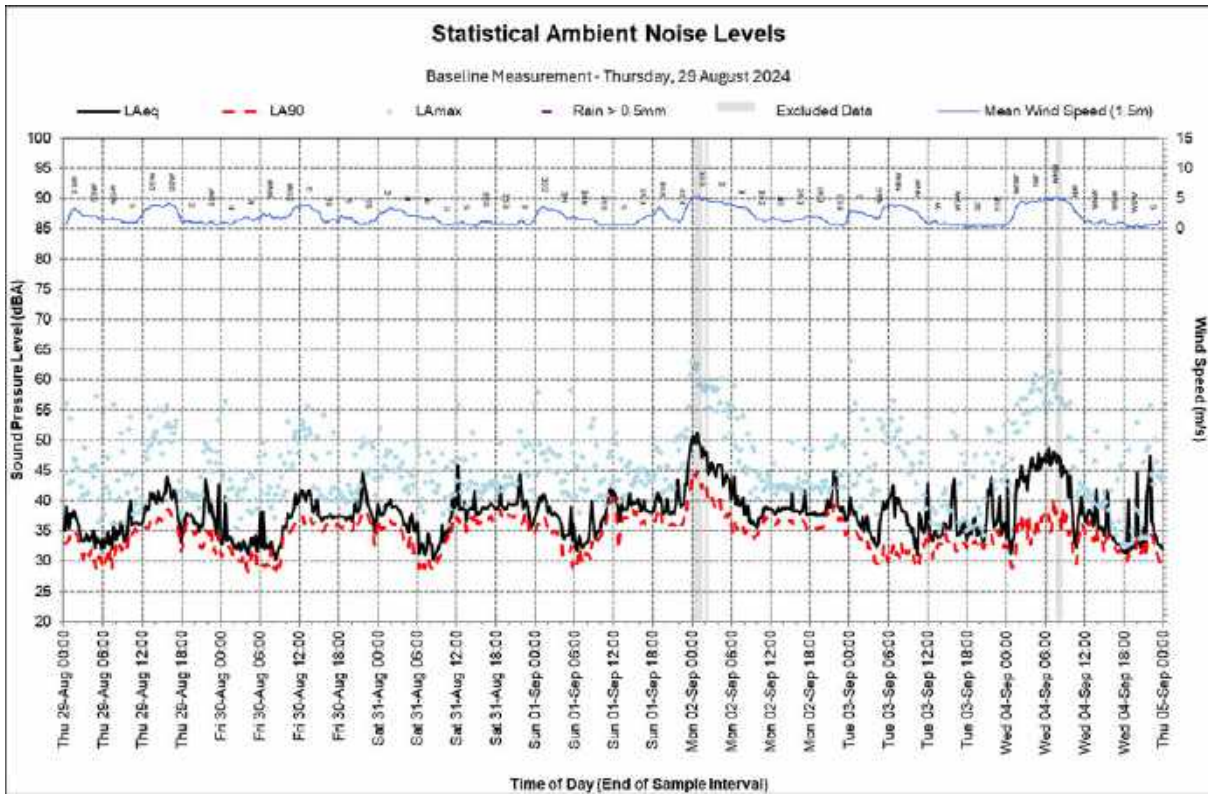
JBS&G Australia Pty Ltd

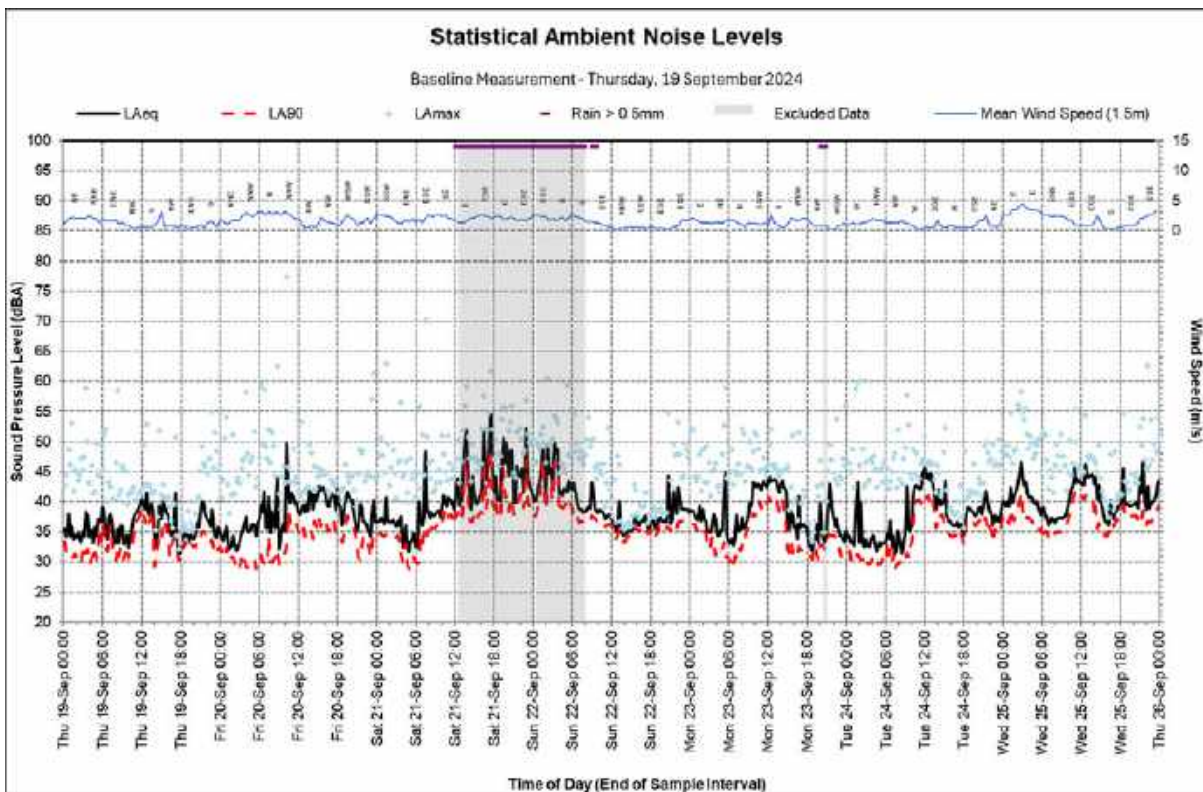
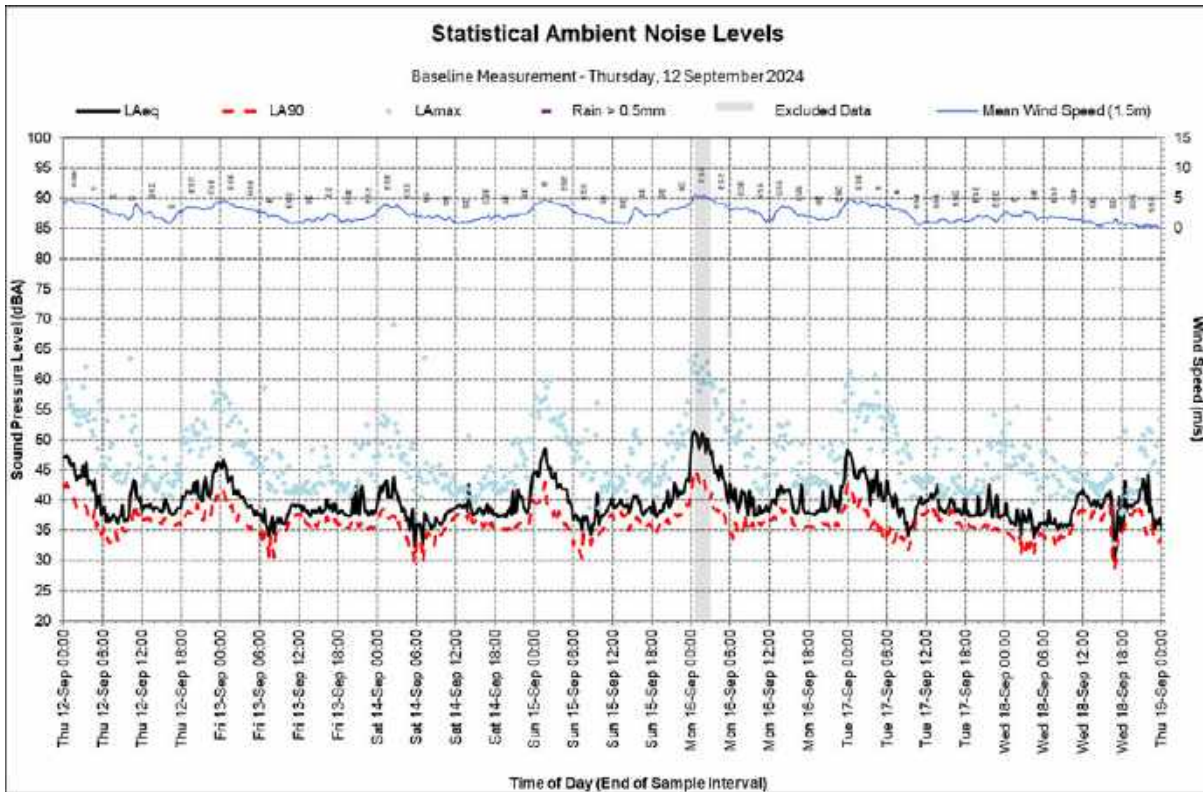
SLR Project No.: 675.V11414.00001

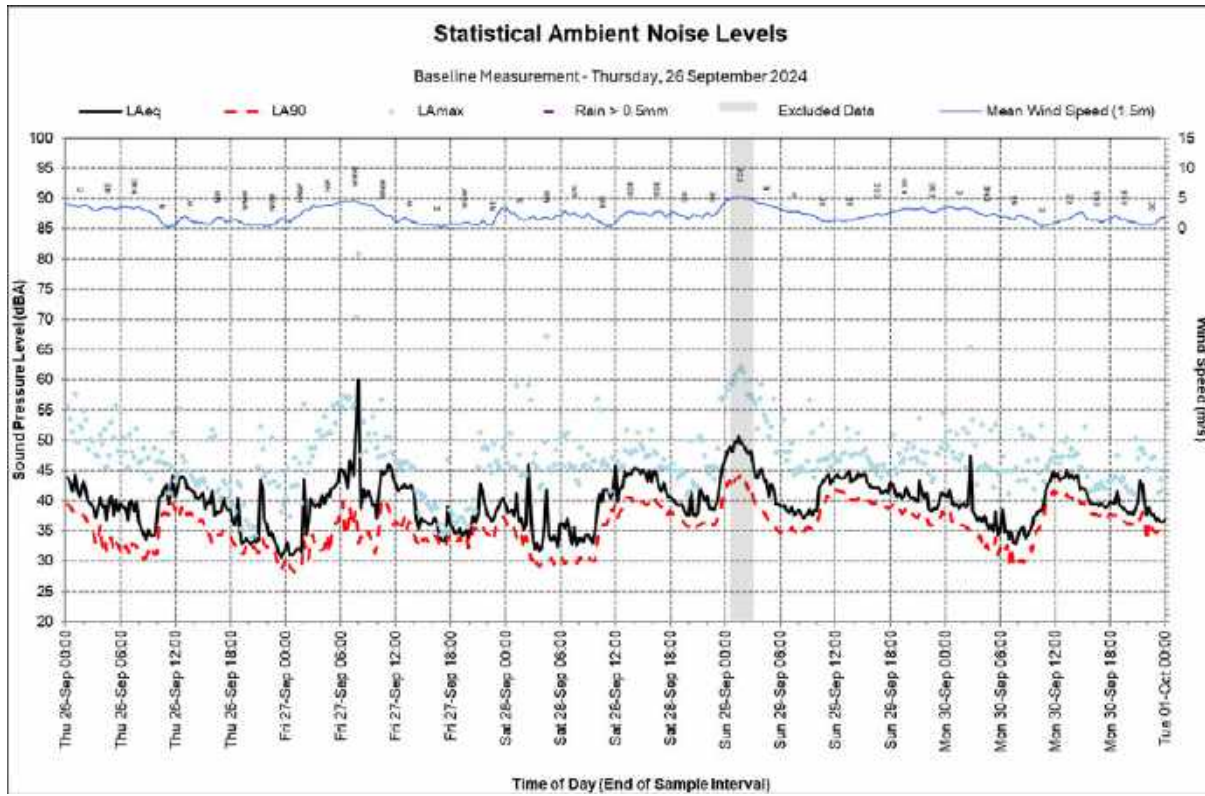
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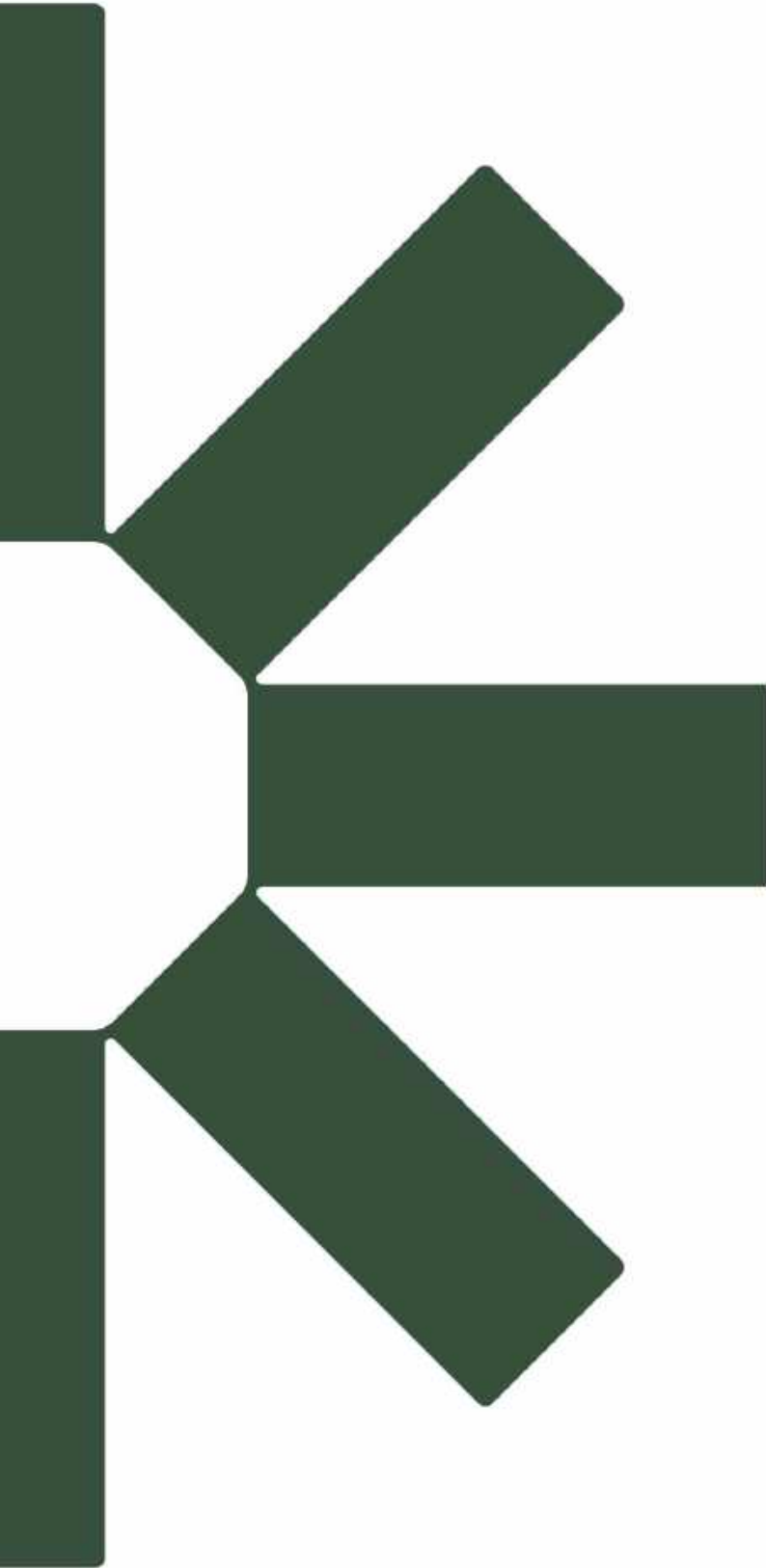














Mulga Baseline Noise Monitoring

Bimonthly Report – November 2024

JBS&G Australia Pty Ltd

Allendale Square, Level 9/77 St Georges Terrace,
Perth WA 6000

Prepared by:

SLR Consulting Australia

Level 1, 500 Hay Street, Subiaco WA 6008, Australia

SLR Project No.: 675.V11414.00001

9 September 2025

Revision: 1.1

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** illustrates the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of the power station's diesel generator is audible at the monitoring site. The generator operates intermittently.

This report presents the measured baseline noise for the period of October to November 2024.



Figure 1: Monitoring locations



Baseline noise measurements are carried out to:

- Provide data on existing background noise levels. This allows for a comparison of noise levels before and after the commencement of mining or other noise-generating activities under similar weather conditions.
- Determine the lowest normal background noise level to assess whether predicted noise from proposed developments nearby would be audible above the background noise.

The LA90 15-minute measurement parameter is commonly used to represent the lowest normal background noise level during a 15-minute period. These lowest noise levels typically occur during calm conditions, such as night when noise from animals, human activity, and insects is minimal.

For daily summaries, the 10th percentile LA90 (L90 of LA90), instead of the median, is useful to indicate the levels in the quieter times of each period.

2.0 Method

2.1 Equipment status

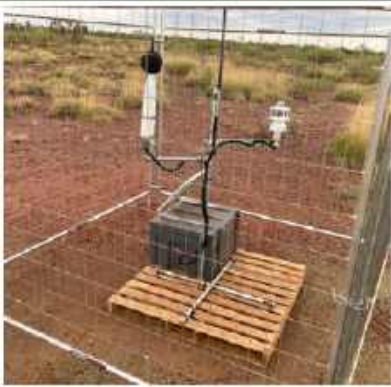
The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The air quality team visits the site every two months to collect dust samples and perform a visual inspection of the noise monitor and its enclosure. During the site visit from 30th September to 2nd October 2024, the noise monitor appeared to be in good condition.

The noise monitor operated correctly throughout the October–November period, with the exception of a downtime from 1:30 pm on 19th November to 5:00 am on 20th November. Data from this period has been excluded from the results.

One self-powered Type 1 approved, NATA calibrated noise logger and weather station has been deployed on site. **Table A** presents the details of the equipment.

Table A: Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



2.2 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
- 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and

Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.

- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.0 Baseline noise - October 2024

3.1 Weather

Figure 2 presents meteorological data recorded by the installed weather station during this period.

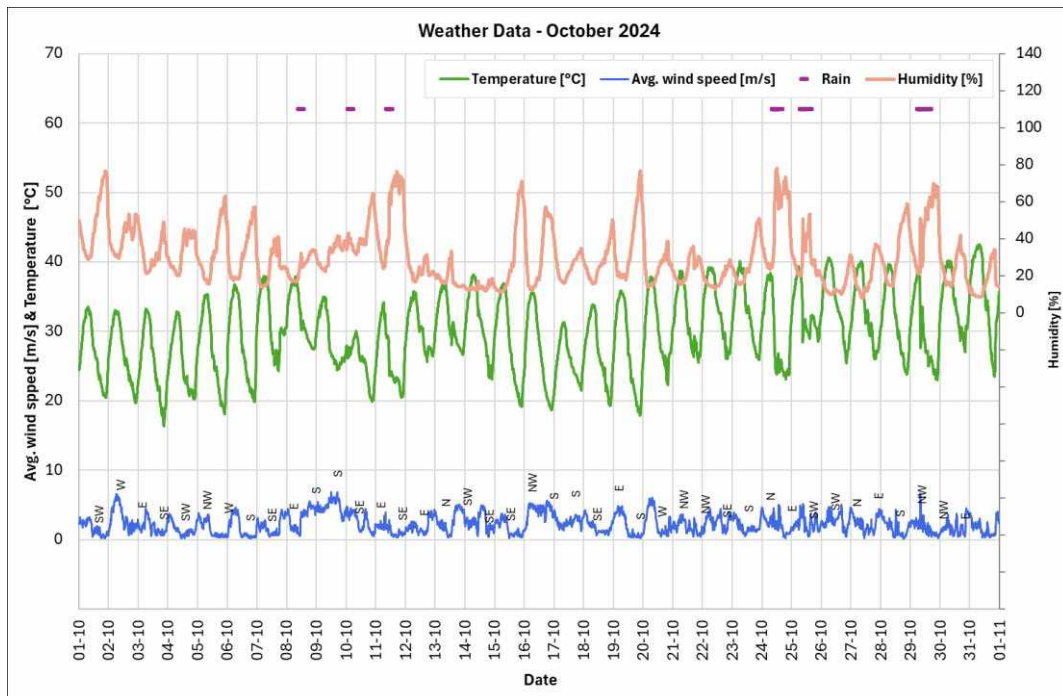


Figure 2: Daily weather data, October 2024

Wind direction and windspeed (1.5m elevation) are presented as a wind rose in Figure 3 for the period. Prevailing winds for the measurement period are from the south.



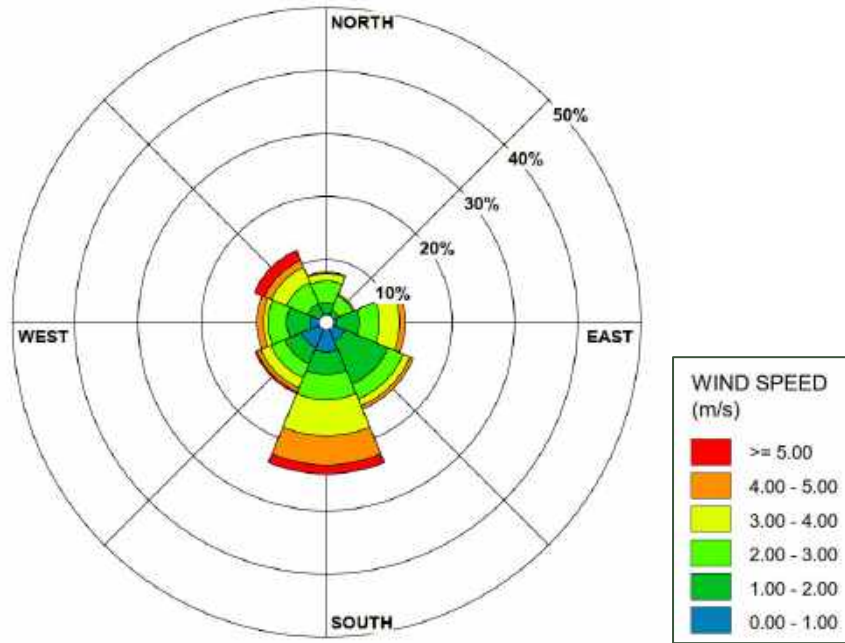


Figure 3: Wind rose, October 2024

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

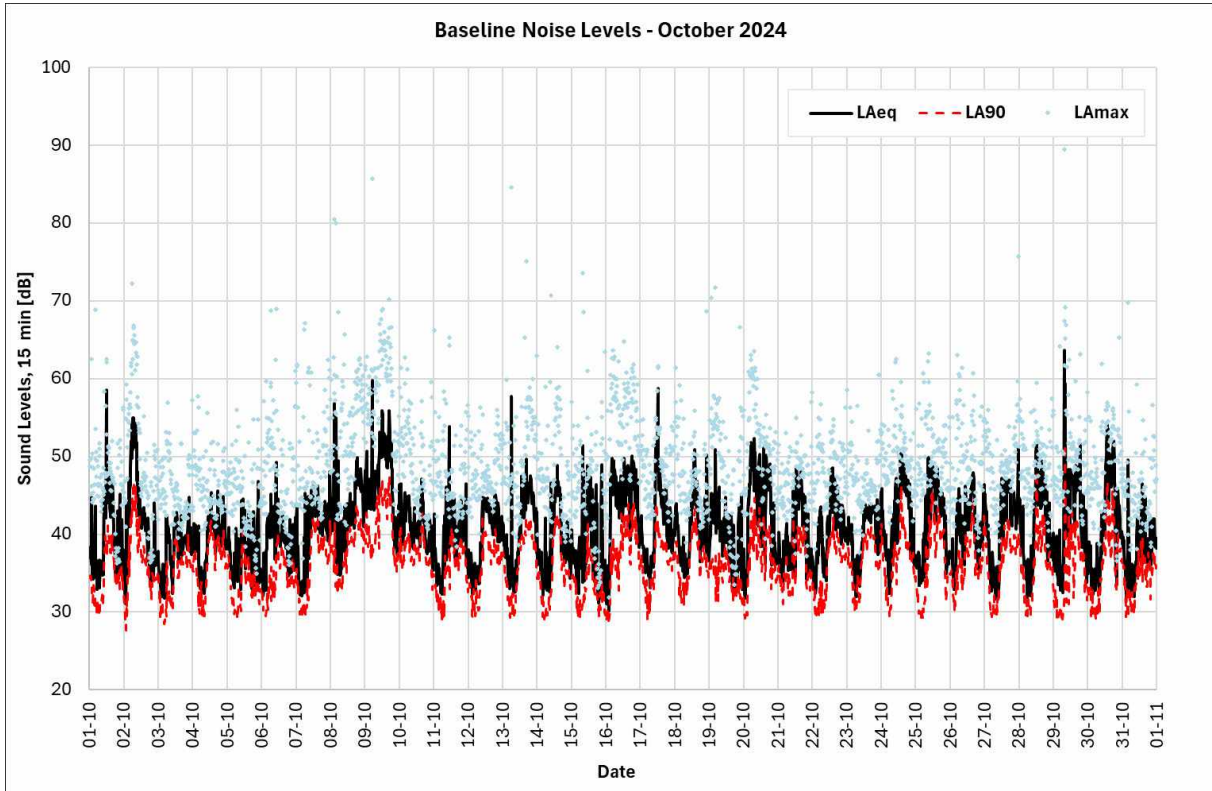


Figure 4: Baseline noise measurements, October 2024



3.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no reportable incidents or equipment downtime.

The data for this period shows that background noise is consistently within the range of 28 – 52 dB(A), with typical level below 40 dB(A).

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise – November 2024

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

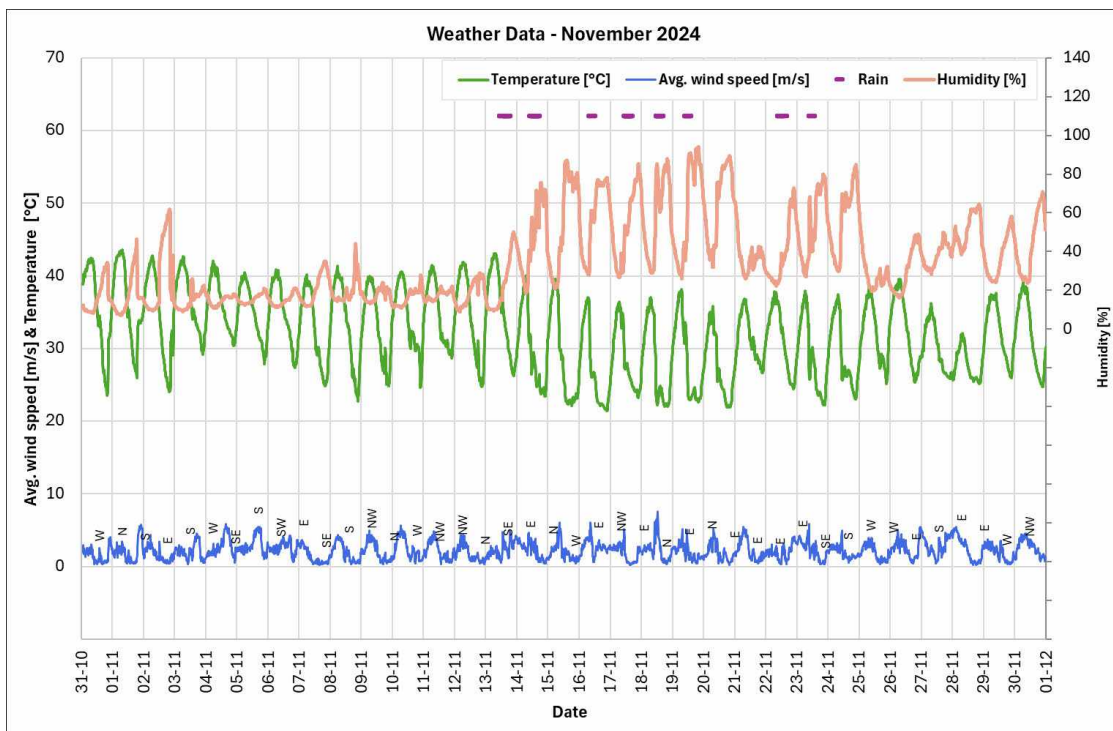


Figure 5: Weather data, November 2024

Wind direction and windspeed (1.5m elevation) are presented as a wind rose in **Figure 3** for the period. Prevailing winds for the measurement period are from the north-west and east. Some of the wind from the south was at wind speeds greater than 5 m/s (18 km/hour).



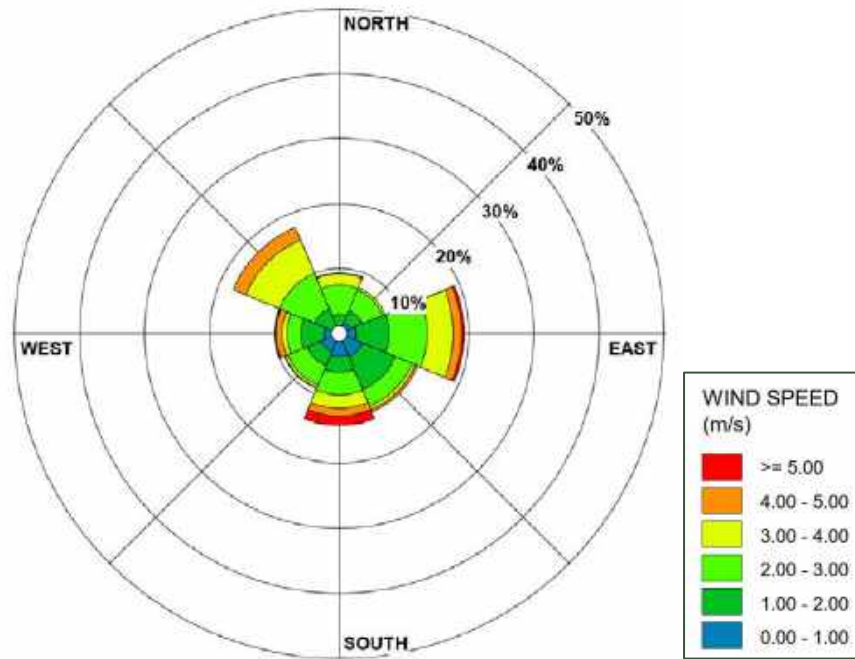


Figure 6: Wind rose, November 2024

4.2 Airborne Noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

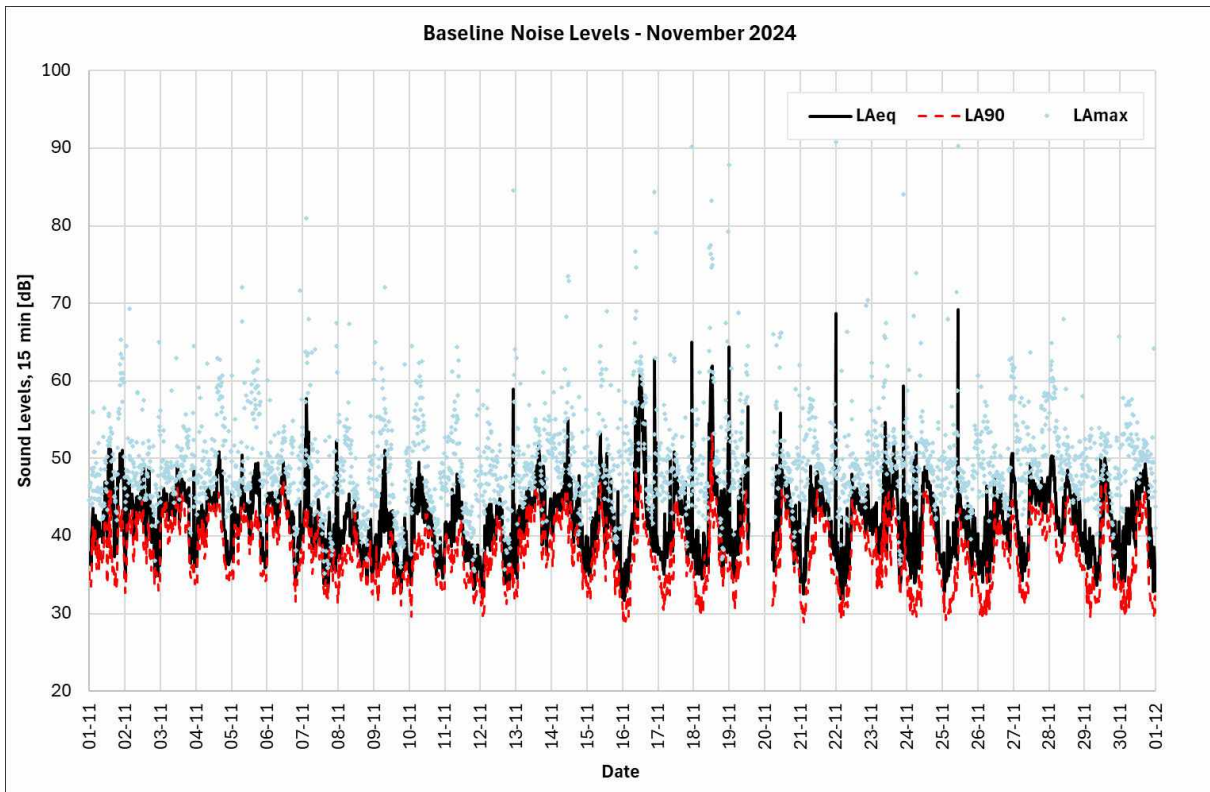


Figure 7: Baseline noise measurements, November 2024



4.3 Notes and discussion

The noise monitor operated correctly throughout the November period, with the exception of a downtime from 1:30 pm on 19th November to 5:00 am on 20th November. There were some periods of rain. During rain events measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period shows that background noise is consistently within the range of 29 – 43 dB(A), with typical level below 40 dB(A).

Same as October, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
October 2024	33	36	30	43	41	39	44	41	39	47	46	44	60	54	61
November 2024	35	35	32	45	40	42	45	40	41	48	45	45	63	56	64

Note 1: L₉₀ of L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

Mulga Baseline Noise Monitoring

Bimonthly Report – November 2024

JBS&G Australia Pty Ltd

SLR Project No.: 675.V11414.00001

9 September 2025

Table C: Daily noise levels, filtered for adverse weather

Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
01/10/2024	31	33	29	46	40	41	45	39	39	47	45	48	63	52	59
02/10/2024	34	33	29	47	38	37	45	38	36	47	41	41	58	52	57
03/10/2024	31	36	30	39	41	38	41	41	40	43	43	43	53	50	58
04/10/2024	31	37	30	41	41	38	42	41	40	44	43	43	56	51	56
05/10/2024	31	32	30	39	40	39	40	36	37	42	37	43	55	55	69
06/10/2024	33	33	30	41	39	38	42	41	36	44	46	40	69	52	67
07/10/2024	32	36	33	42	42	46	44	44	44	46	49	50	61	59	81
08/10/2024	34	40	38	43	47	48	43	50	47	49	56	53	66	63	86
09/10/2024	38	36	36	47	42	43	50	43	45	56	48	51	61	58	63
10/10/2024	36	36	30	42	39	37	43	40	37	45	42	41	57	51	66
11/10/2024	35	37	30	41	42	37	43	42	37	45	47	41	57	54	57
12/10/2024	34	36	30	42	42	44	45	44	39	48	50	44	56	56	85
13/10/2024	30	39	30	43	44	38	45	47	38	48	53	43	75	60	63
14/10/2024	30	35	30	43	38	37	43	38	38	46	40	43	71	49	57
15/10/2024	31	30	29	43	41	40	40	35	35	46	37	41	74	57	63
16/10/2024	36	39	31	45	43	39	48	48	40	53	54	45	62	59	55
17/10/2024	34	36	32	47	40	40	47	41	41	50	44	45	62	54	61
18/10/2024	34	36	34	43	41	43	43	41	45	45	43	50	56	52	72
19/10/2024	32	32	30	39	40	41	41	36	37	44	45	41	55	67	61
20/10/2024	35	34	33	46	41	37	49	41	38	52	46	41	60	52	53
21/10/2024	32	34	30	44	39	39	46	39	39	49	42	45	55	49	58
22/10/2024	31	36	31	44	41	39	43	43	41	47	46	45	55	52	59
23/10/2024	33	36	31	41	42	40	44	45	40	46	47	45	56	52	61
24/10/2024	36	36	30	46	42	38	50	43	38	52	49	44	62	52	61
25/10/2024	36	32	32	46	41	40	48	42	39	50	48	42	63	54	63
26/10/2024	34	34	30	43	38	41	43	40	41	47	43	47	61	55	56
27/10/2024	31	38	30	43	43	42	46	46	41	49	49	46	54	54	76
28/10/2024	31	36	29	46	42	37	48	41	38	50	48	44	60	53	64
29/10/2024	32	36	30	50	41	37	49	41	37	52	46	43	90	52	58
30/10/2024	33	33	30	48	42	39	50	44	39	52	48	42	62	65	70
31/10/2024	31	34	35	40	40	41	41	42	43	43	48	45	59	57	56
01/11/2024	34	41	34	45	48	43	44	51	45	48	55	47	56	61	69



Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
02/11/2024	37	34	34	45	38	44	45	39	45	47	42	47	59	47	65
03/11/2024	41	35	34	45	40	42	47	40	43	50	43	45	63	56	65
04/11/2024	40	35	35	45	39	42	46	39	43	47	44	45	62	55	72
05/11/2024	38	35	34	45	39	44	45	39	46	48	42	47	68	57	60
06/11/2024	37	34	37	45	37	47	45	39	44	48	41	47	55	50	81
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16/11/2024	39	36	31	54	52	41	49	41	40	54	45	44	77	84	79
17/11/2024	35	35	30	44	40	50	46	40	39	48	45	44	63	50	90
18/11/2024	34	34	32	45	41	49	45	41	40	48	47	45	61	67	88
19/11/2024	36	-	31	44	-	38	45	-	39	48	-	44	62	-	66
20/11/2024	36	36	30	45	41	40	47	41	40	49	46	45	66	59	62
21/11/2024	38	35	30	45	41	53	46	42	38	49	46	42	57	55	91
22/11/2024	33	38	34	44	43	41	45	45	43	47	50	48	66	70	62
23/11/2024	35	33	30	47	49	42	48	39	40	50	45	46	67	84	74
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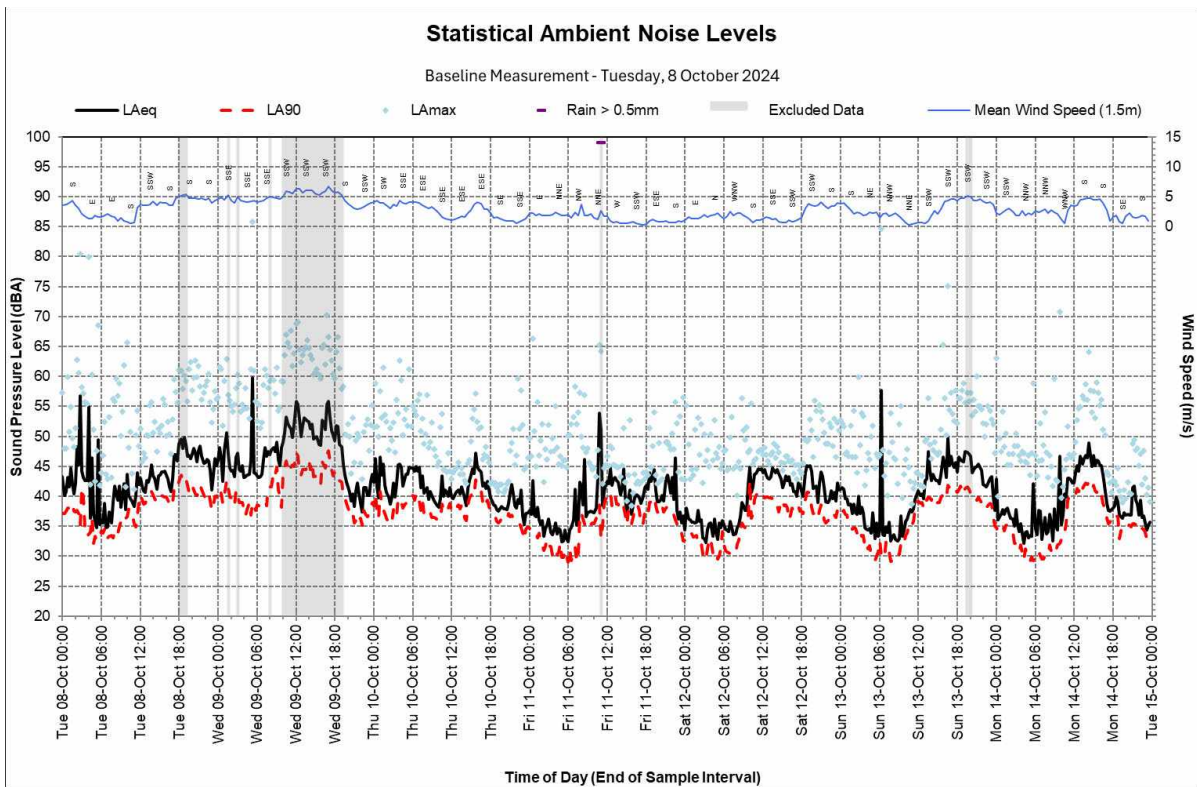
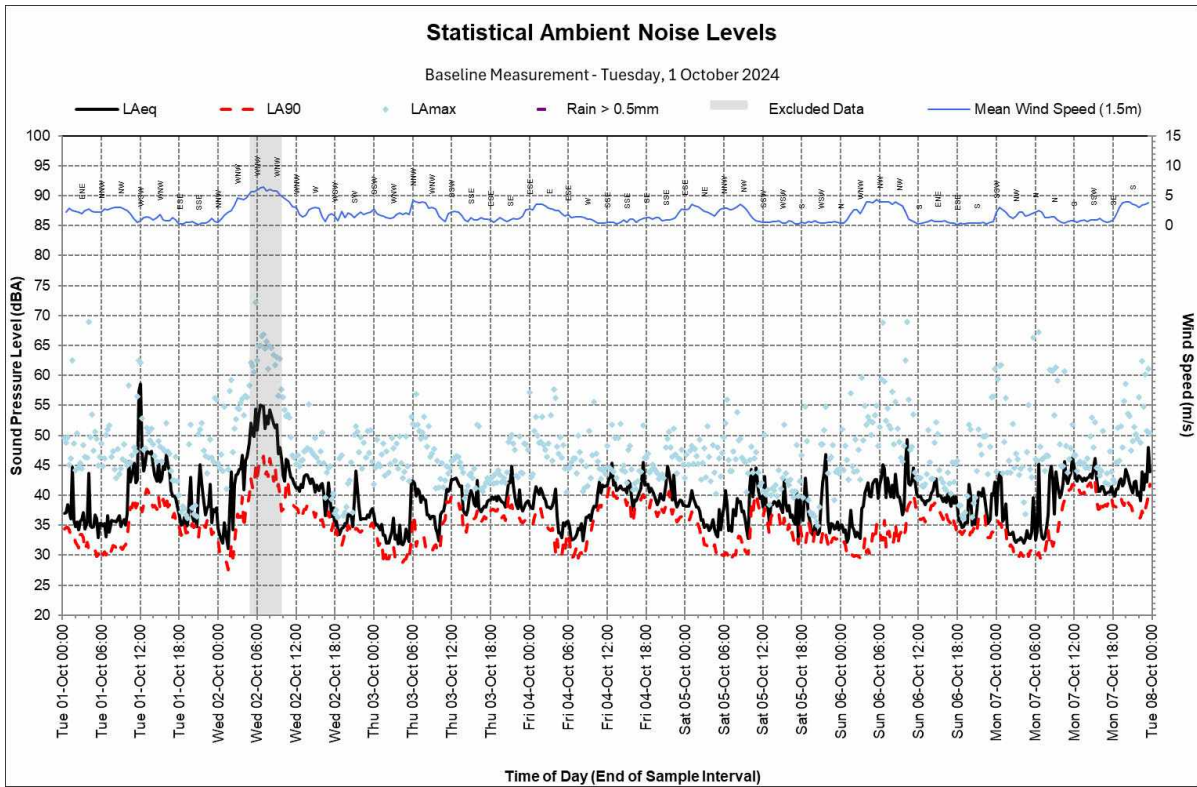
Mulga Baseline Noise Monitoring

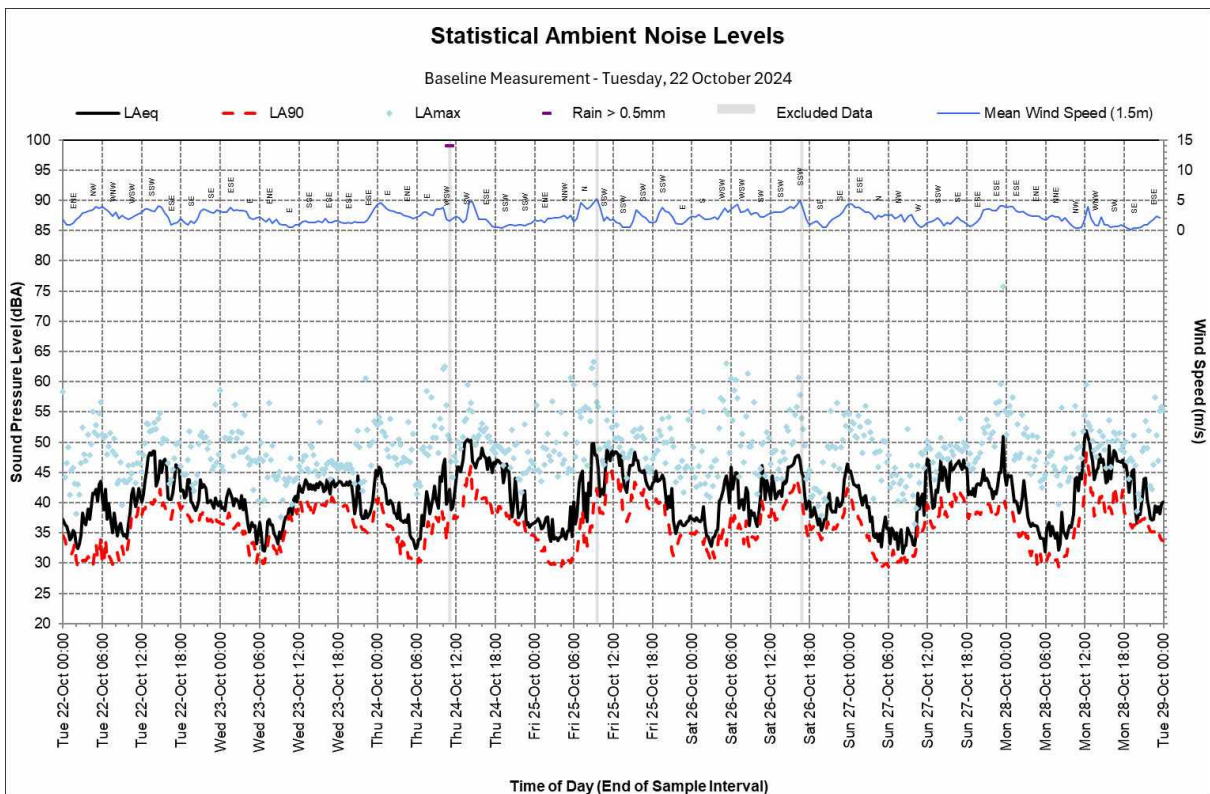
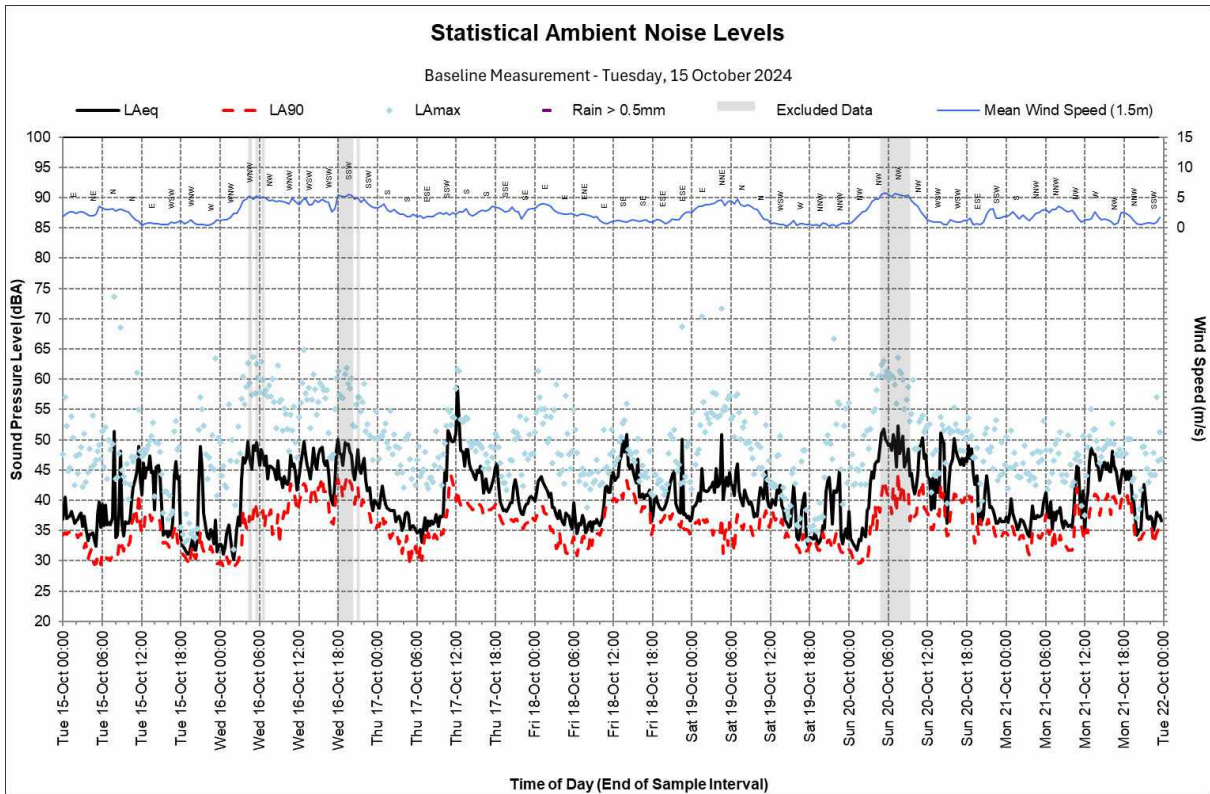
Bimonthly Report – November 2024

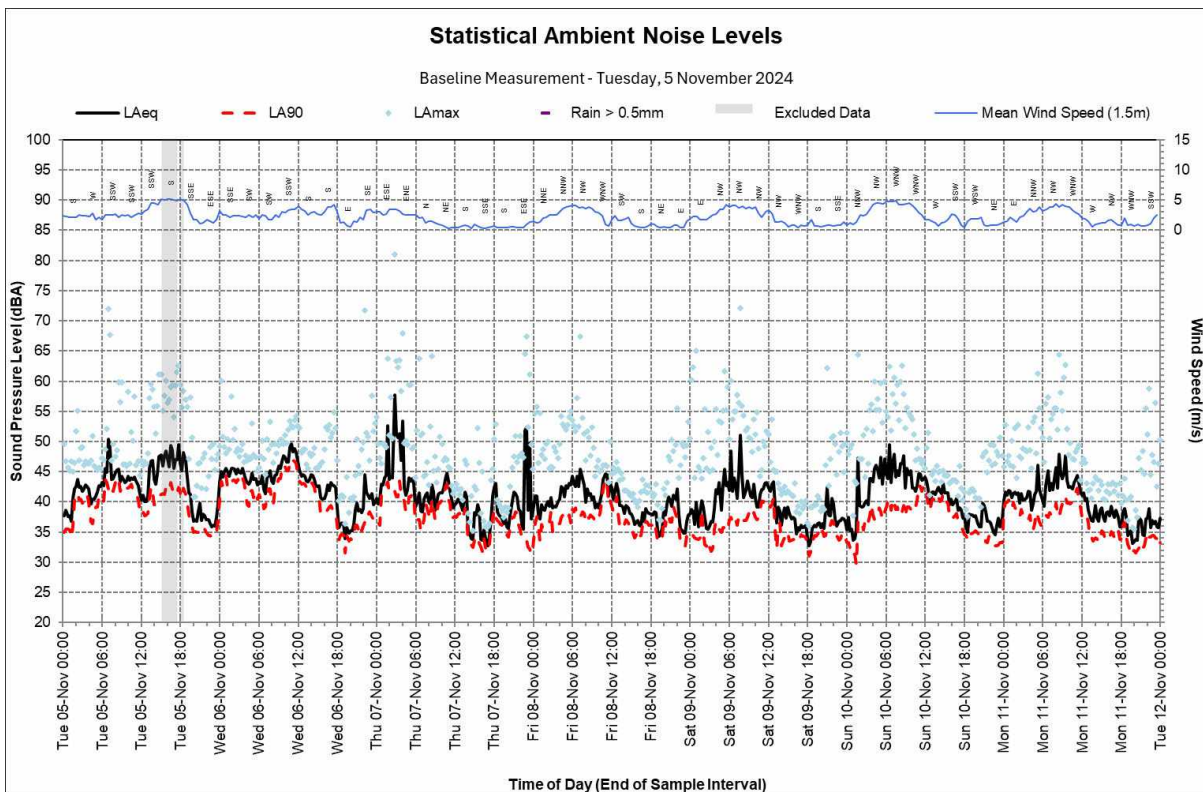
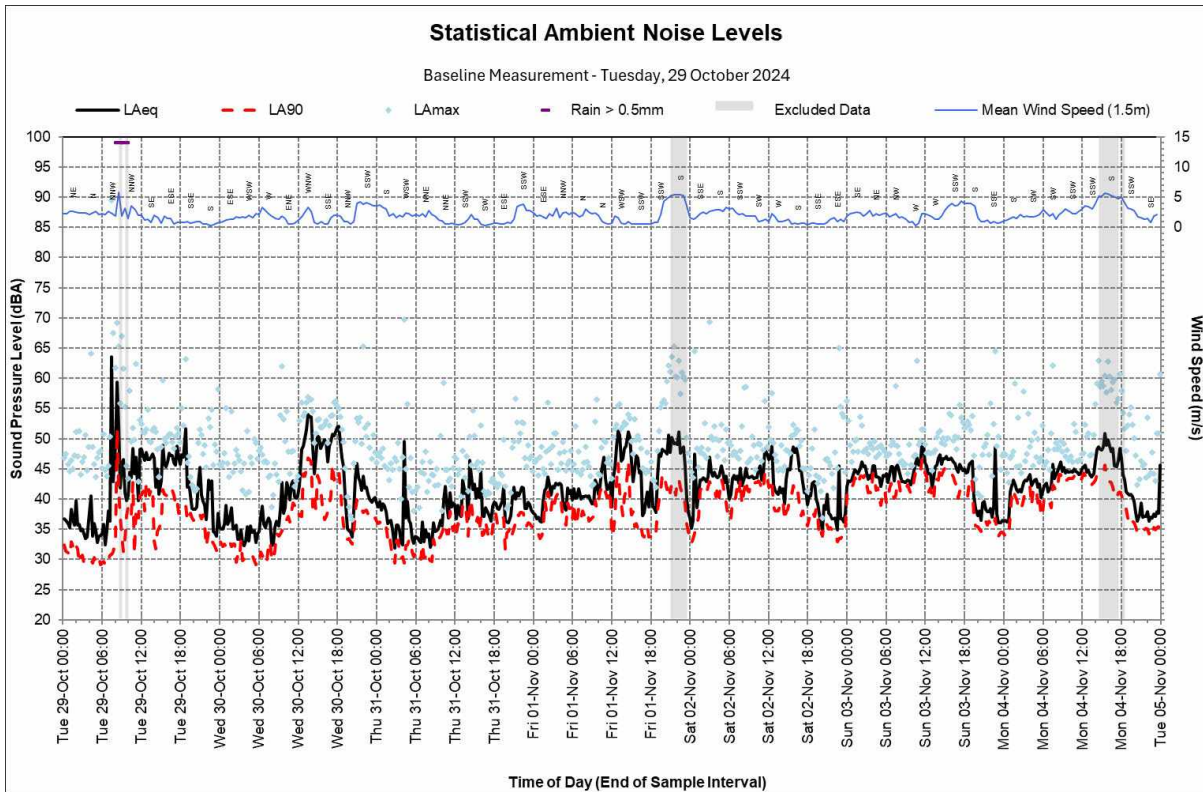
JBS&G Australia Pty Ltd

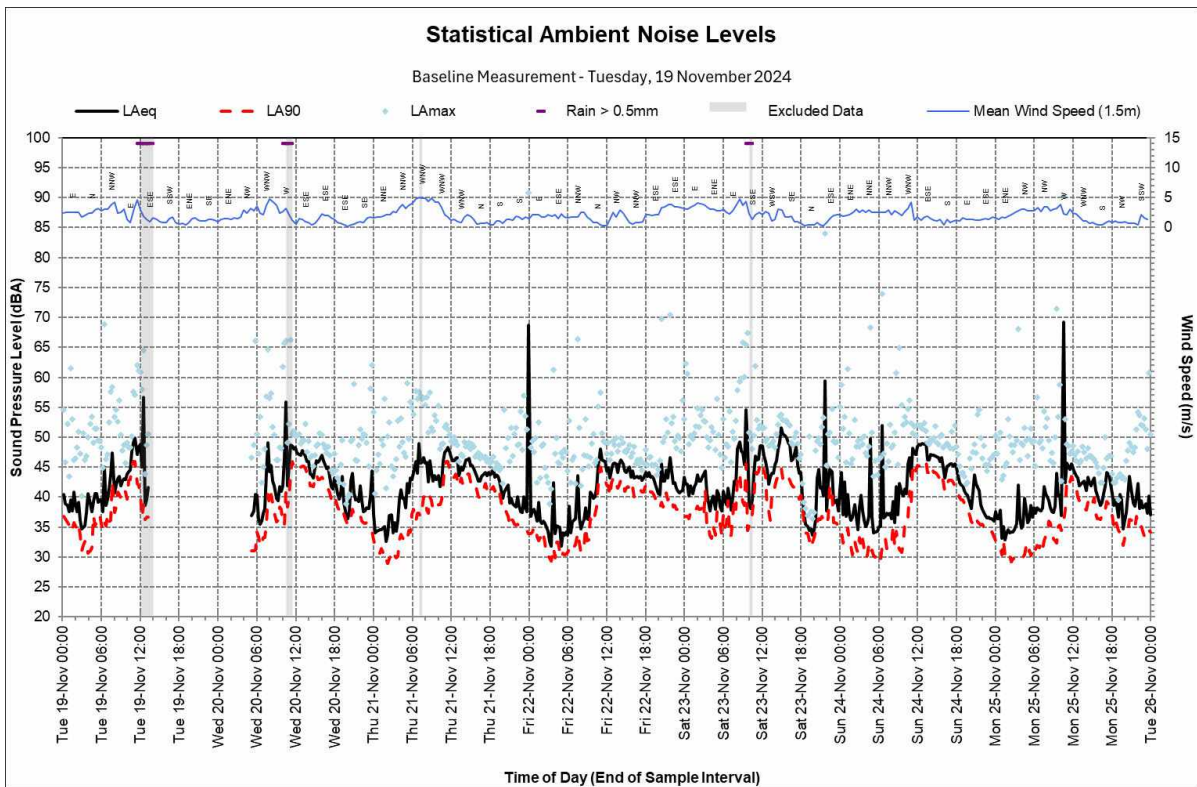
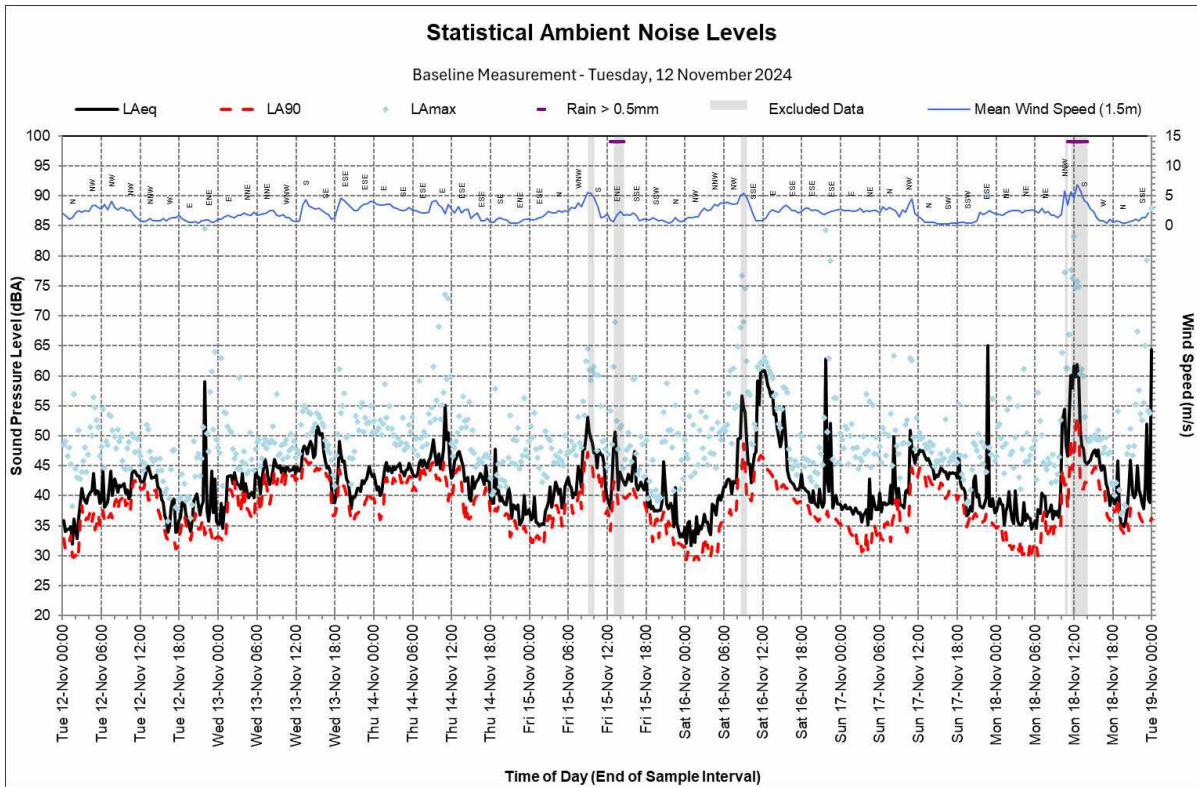
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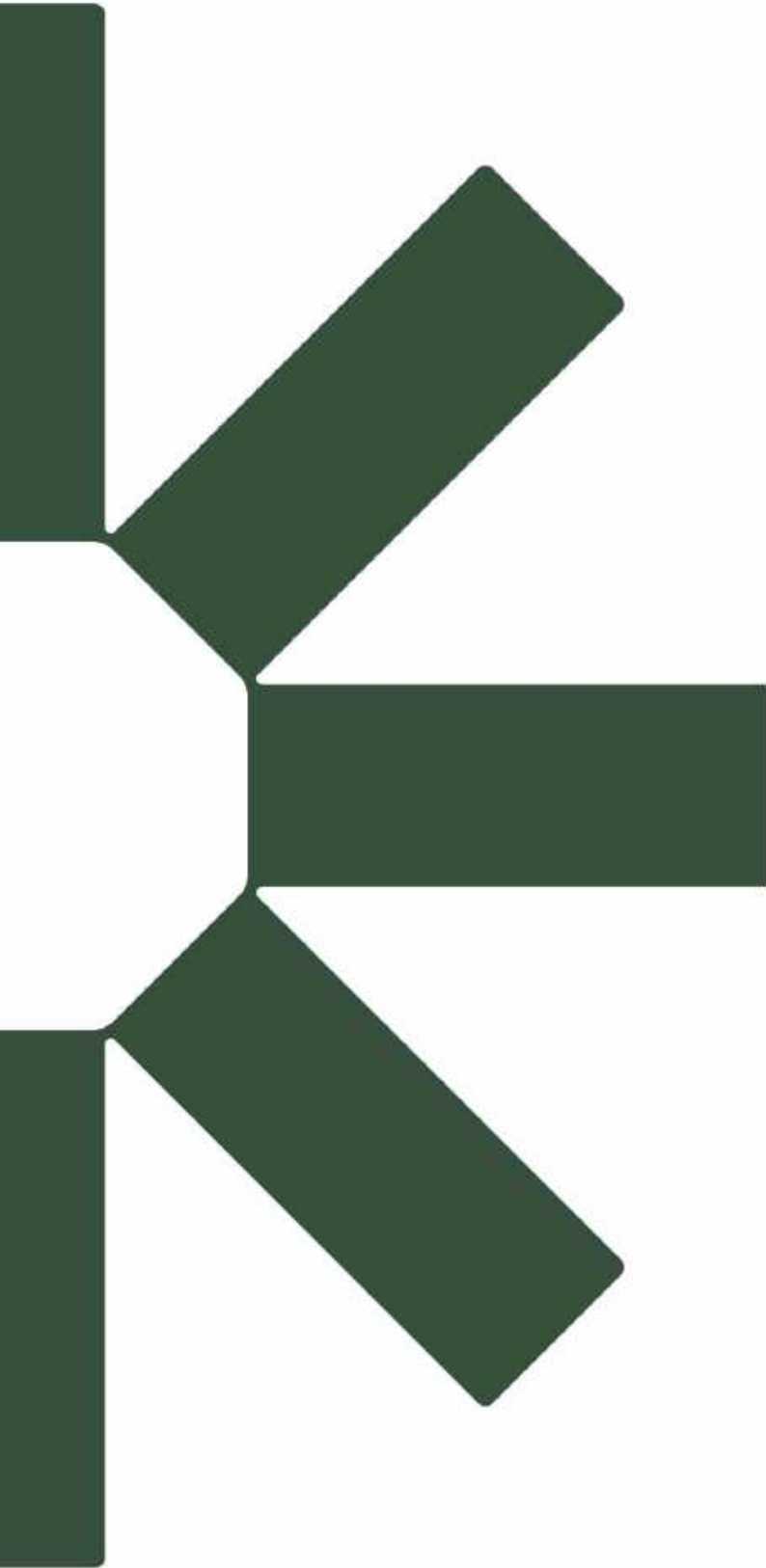
9 September 2025













Mulga Baseline Noise Monitoring

Bimonthly Report – January 2025

JBS&G Australia Pty Ltd

Allendale Square, Level 9/77 St Georges Terrace,
Perth WA 6000

Prepared by:

SLR Consulting Australia

Level 1, 500 Hay Street, Subiaco WA 6008, Australia

SLR Project No.: 675.V11414.00001

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Figure 1: Monitoring locations



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2.0 Method

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Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



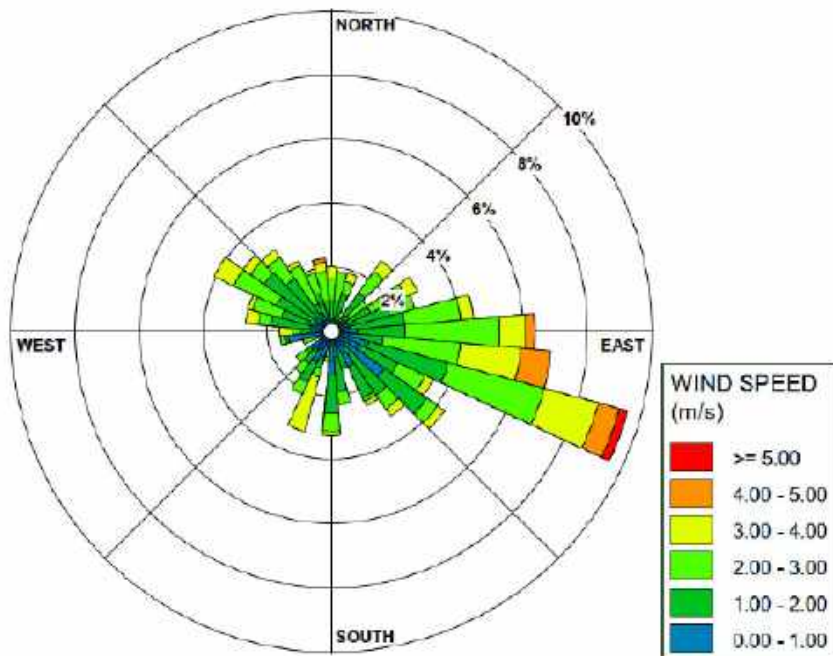


Figure 3: Wind rose, December 2024

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

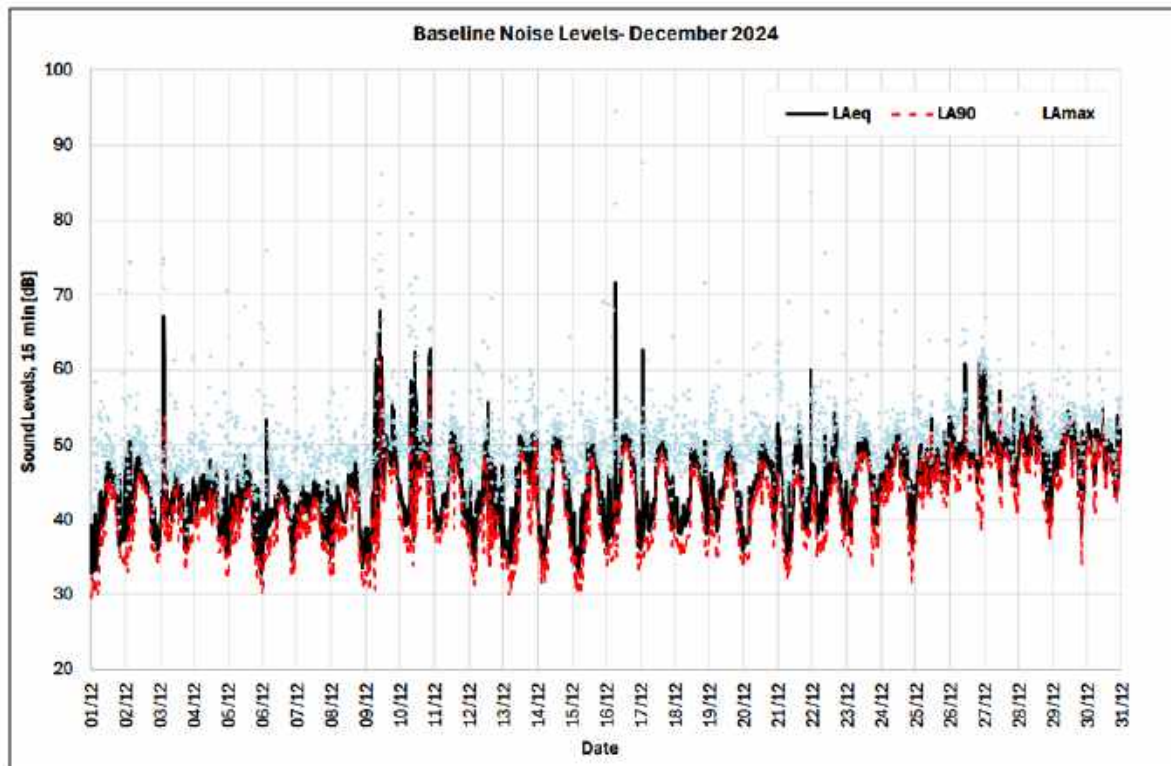


Figure 4: Baseline noise measurements, December 2024



3.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 31 – 46 dB, with typical level below L_{A90} 37 dB.

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise – January 2025

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

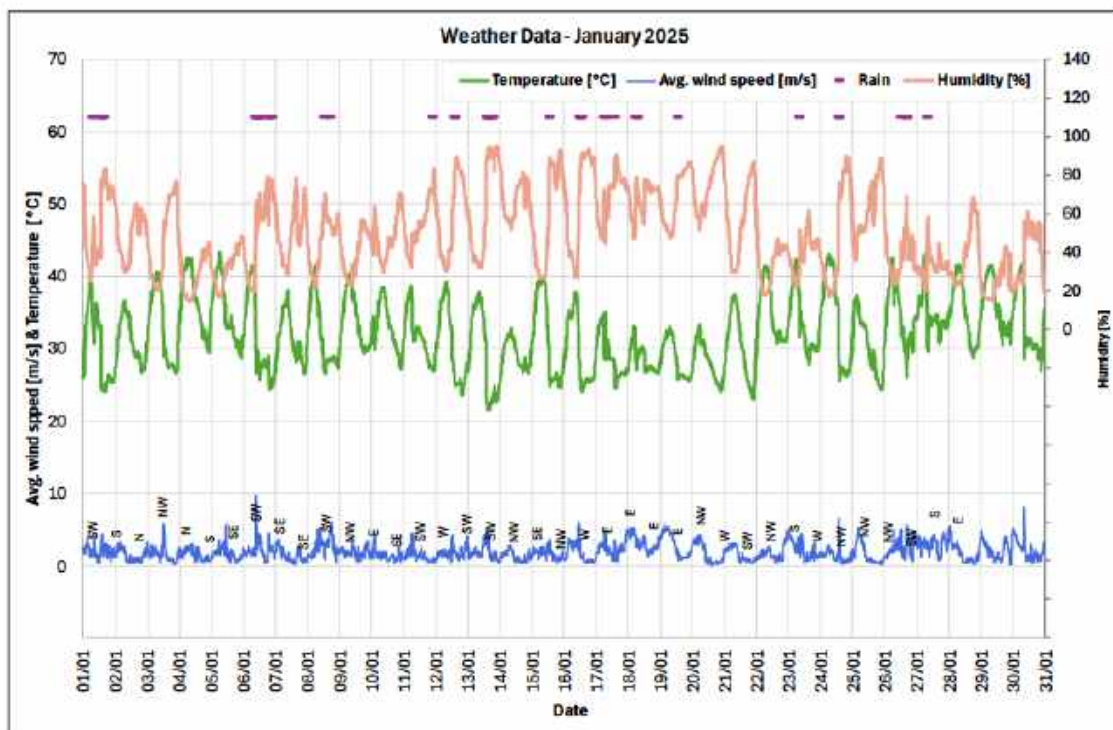


Figure 5: Weather data, January 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 6 for the period. Winds for the measurement period cover the full range of wind direction at some time during the month of January. Some of the wind was at wind speeds greater than 5 m/s (18 km/hour).



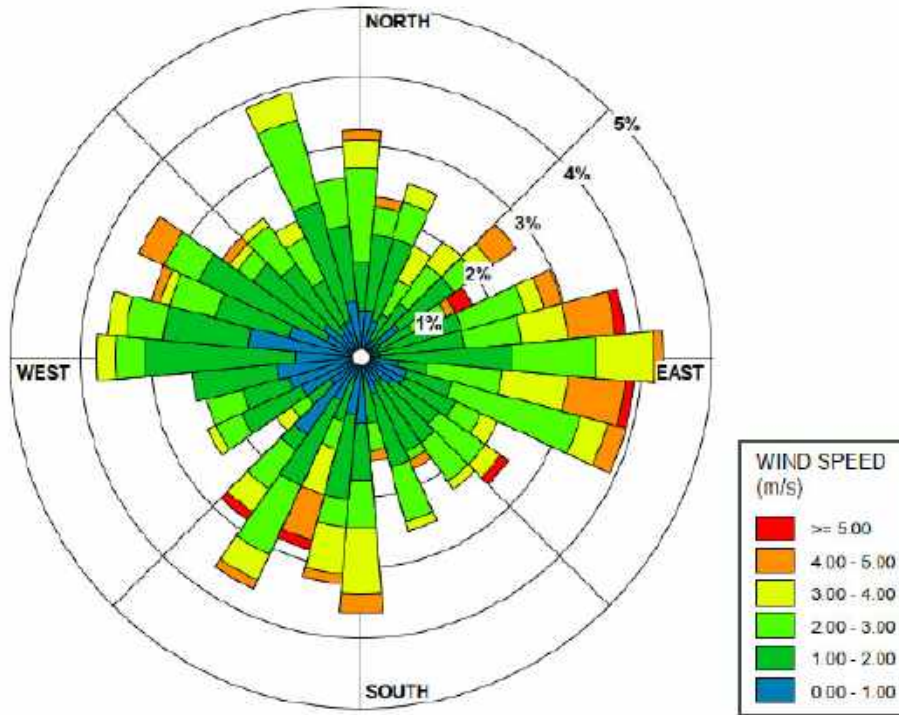


Figure 6: Wind rose, January 2025

4.2 Airborne noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

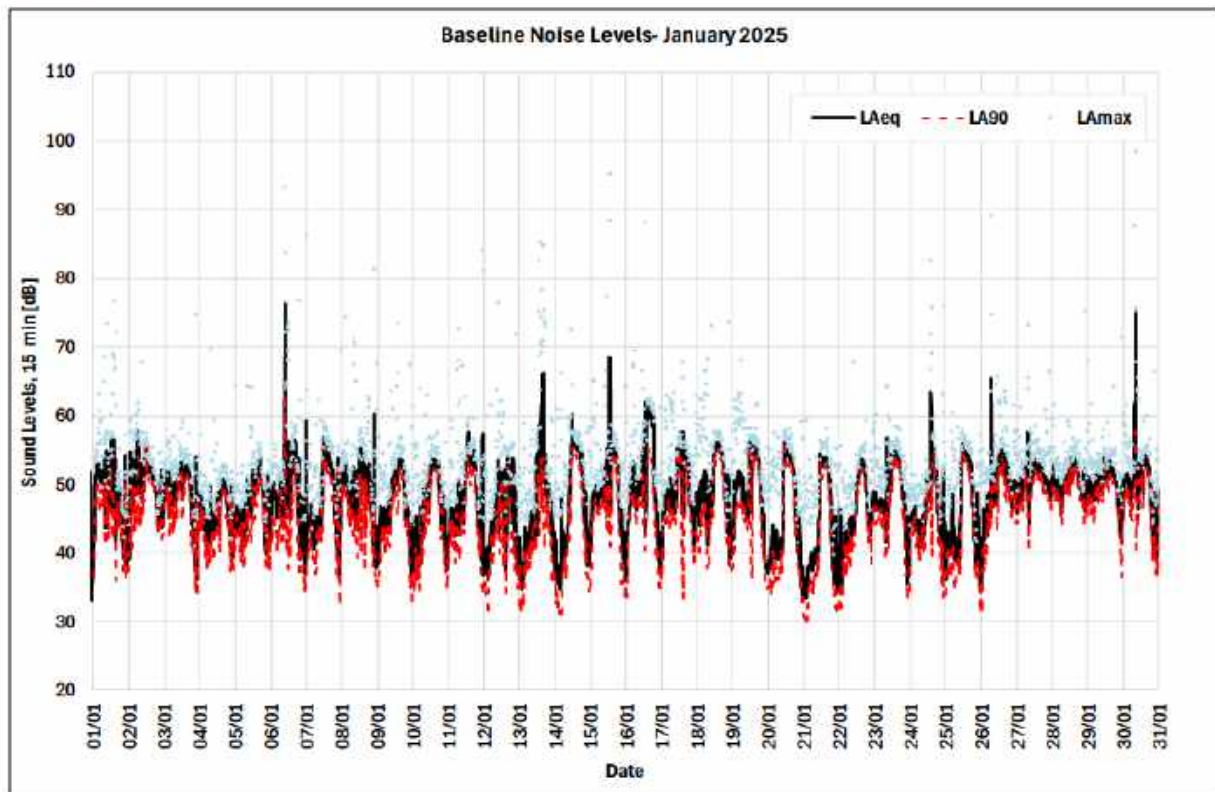


Figure 7: Baseline noise measurements, January 2025



4.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 30 – 50 dB, with typical level below L_{A90} 40 dB.

Same as December, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
December 2024	38	37	35	48	43	43	49	45	43	51	49	47	61	56	64
January 2025	43	37	37	52	46	47	53	47	47	55	49	50	66	55	65

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

Mulga Baseline Noise Monitoring

Bimonthly Report – January 2025

JBS&G Australia Pty Ltd

SLR Project No.: 675.V11414.00001

9 September 2025

Table C: Daily noise levels, filtered for adverse weather

Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
01/12/2024	38	35	34	45	40	43	46	40	43	48	44	47	55	71	74
02/12/2024	40	36	35	46	39	53	47	40	44	48	46	45	57	53	75
03/12/2024	34	36	38	43	41	44	44	43	45	46	48	48	61	52	62
04/12/2024	37	36	33	44	40	42	45	40	43	46	45	46	62	57	70
05/12/2024	36	32	31	44	38	42	45	37	40	46	44	45	68	57	76
06/12/2024	38	32	36	43	38	42	45	38	43	46	42	45	53	57	56
07/12/2024	37	35	33	43	40	41	45	42	43	46	44	46	52	56	57
08/12/2024	38	32	31	44	38	41	47	38	40	48	43	44	58	53	75
09/12/2024	37	45	36	49	50	42	49	50	43	53	52	48	73	60	66
10/12/2024	38	41	37	44	46	42	50	47	43	53	49	46	78	53	53
11/12/2024	40	39	33	48	42	40	50	44	41	52	48	44	60	52	61
12/12/2024	36	38	32	46	42	38	47	43	38	50	45	41	70	53	59
13/12/2024	34	38	33	48	46	43	50	48	39	52	51	43	60	59	55
14/12/2024	39	40	31	48	43	38	51	45	38	52	49	42	57	54	64
15/12/2024	36	37	34	47	42	56	48	43	41	50	49	45	57	69	95
16/12/2024	37	37	34	49	45	48	51	48	40	52	50	47	58	55	88
17/12/2024	37	37	36	48	43	41	49	46	42	51	50	47	57	55	64
18/12/2024	37	35	35	47	45	42	48	45	44	50	49	49	57	72	61
19/12/2024	42	35	34	47	42	40	48	44	39	50	48	44	54	56	59
20/12/2024	43	37	33	48	45	43	50	48	44	51	51	47	63	51	59
21/12/2024	34	37	36	47	42	47	46	43	45	51	49	50	69	51	84
22/12/2024	37	37	36	48	44	43	48	46	44	50	49	48	76	51	62
23/12/2024	41	37	42	49	42	46	50	43	47	51	48	48	66	50	65
24/12/2024	44	33	37	49	42	46	51	44	47	52	47	50	68	57	60
25/12/2024	43	42	44	48	47	50	49	47	51	50	50	53	64	56	64
26/12/2024	46	39	46	51	53	54	50	48	55	52	57	58	65	61	70
27/12/2024	46	43	43	50	49	50	51	48	52	53	51	53	61	57	58
28/12/2024	43	38	40	52	45	47	53	45	49	54	49	51	63	57	65
29/12/2024	45	34	43	51	46	50	52	46	52	53	49	53	63	55	59
30/12/2024	45	42	46	50	48	51	51	47	53	52	49	54	62	56	60
31/12/2024	42	32	33	51	44	50	52	46	52	53	48	54	60	55	69
01/01/2025	42	37	37	50	46	52	50	45	55	52	47	57	73	57	62



Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
02/01/2025	45	42	43	52	47	49	53	47	51	54	48	52	68	55	58
03/01/2025	45	34	39	51	45	45	52	44	47	53	47	48	58	75	70
04/01/2025	41	37	38	48	44	45	49	45	46	51	47	48	59	52	64
05/01/2025	43	38	42	50	46	48	51	46	50	53	48	51	64	53	56
06/01/2025	40	38	37	52	43	46	52	43	44	55	48	49	73	59	86
07/01/2025	42	37	41	53	46	49	54	45	51	56	48	53	62	56	74
08/01/2025	40	37	36	51	51	44	53	47	46	56	49	50	71	81	68
09/01/2025	44	37	34	51	45	42	52	47	43	54	51	46	73	52	68
10/01/2025	44	36	37	51	46	45	52	47	46	54	51	48	63	56	73
11/01/2025	43	36	32	52	45	46	54	46	42	55	48	45	67	53	84
12/01/2025	40	37	32	50	49	40	50	50	42	53	53	44	76	72	59
13/01/2025	40	41	31	53	47	40	51	47	41	56	51	45	83	60	66
14/01/2025	41	36	36	54	46	47	56	46	49	57	53	51	73	58	65
15/01/2025	43	36	34	53	44	47	53	46	47	55	49	50	88	53	70
16/01/2025	44	38	35	57	46	46	55	49	47	59	53	49	88	52	63
17/01/2025	44	40	40	52	46	47	54	47	50	56	49	54	66	54	63
18/01/2025	44	39	37	53	46	47	55	47	48	56	49	52	73	74	61
19/01/2025	44	37	35	53	45	40	55	47	42	56	51	47	62	54	57
20/01/2025	38	36	30	52	42	37	54	44	38	55	47	43	58	52	59
21/01/2025	36	32	32	51	40	41	52	40	42	53	45	44	58	55	56
22/01/2025	40	41	44	50	45	47	52	46	49	53	49	51	68	55	60
23/01/2025	41	34	35	52	46	44	54	49	46	55	53	47	64	54	51
24/01/2025	41	36	34	51	44	43	51	45	43	51	48	47	69	52	76
25/01/2025	38	37	32	52	43	51	54	42	47	55	46	51	58	53	89
26/01/2025	46	45	46	53	49	50	54	50	51	55	52	53	66	62	61
27/01/2025	47	47	46	52	50	50	53	52	51	54	54	52	66	61	66
28/01/2025	48	45	45	52	49	50	53	50	51	54	51	52	59	55	75
29/01/2025	48	44	42	52	48	50	52	49	51	53	51	53	64	53	71
30/01/2025	45	38	38	52	45	49	53	46	51	55	48	52	88	66	55
31/01/2025	50	42	43	53	48	52	54	49	53	55	51	54	59	53	83

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in Section 2.2.





Appendix B Weekly Graphs

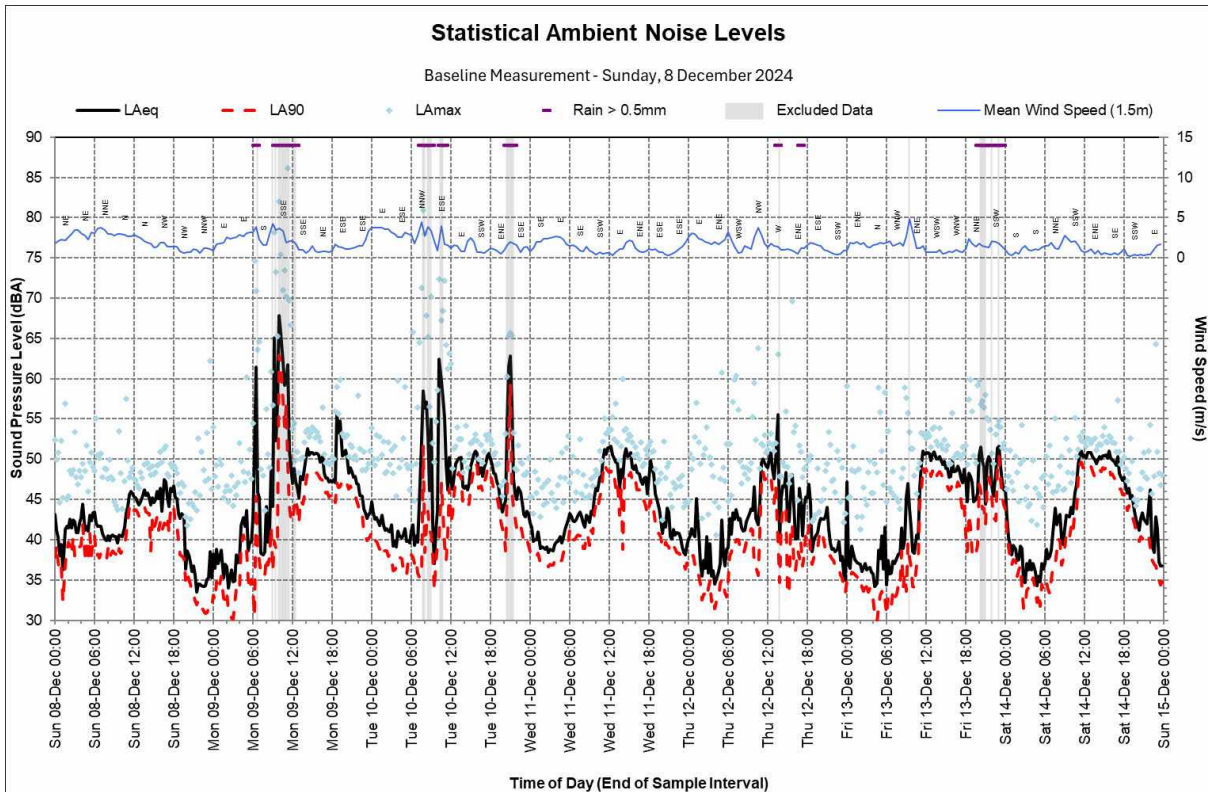
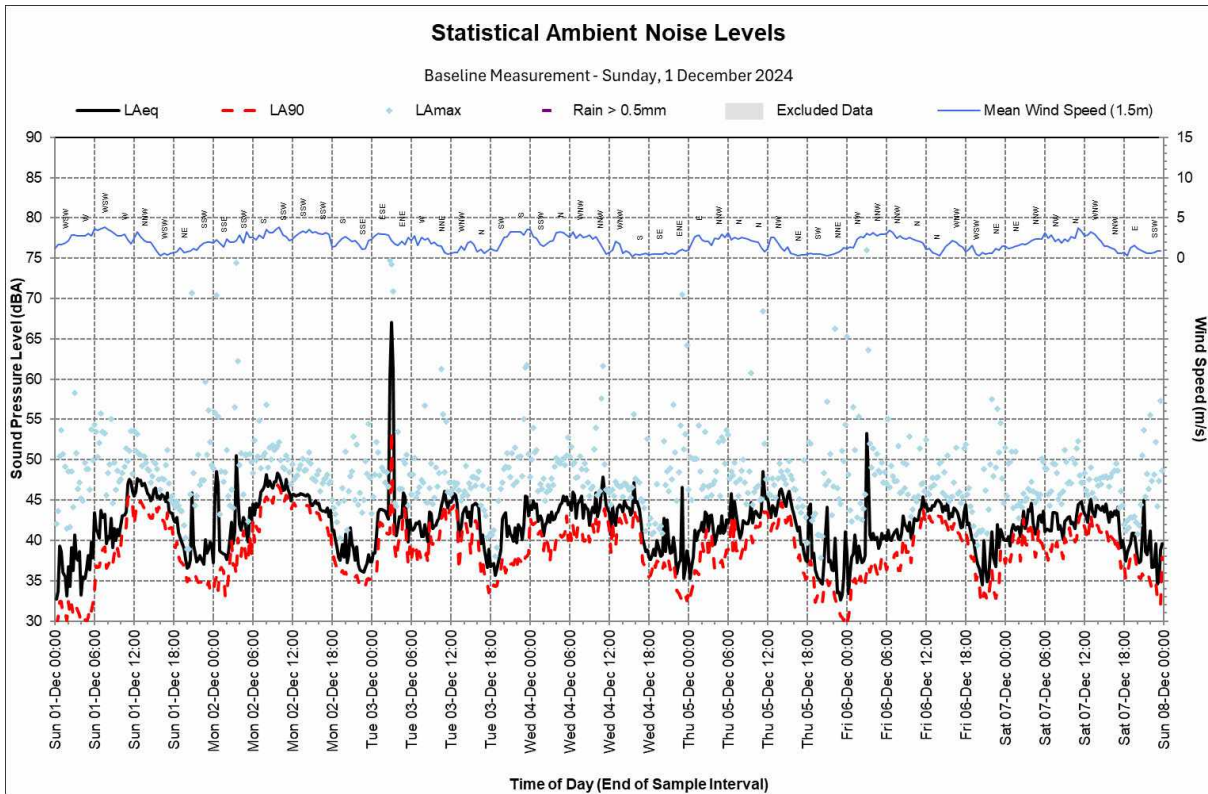
Mulga Baseline Noise Monitoring

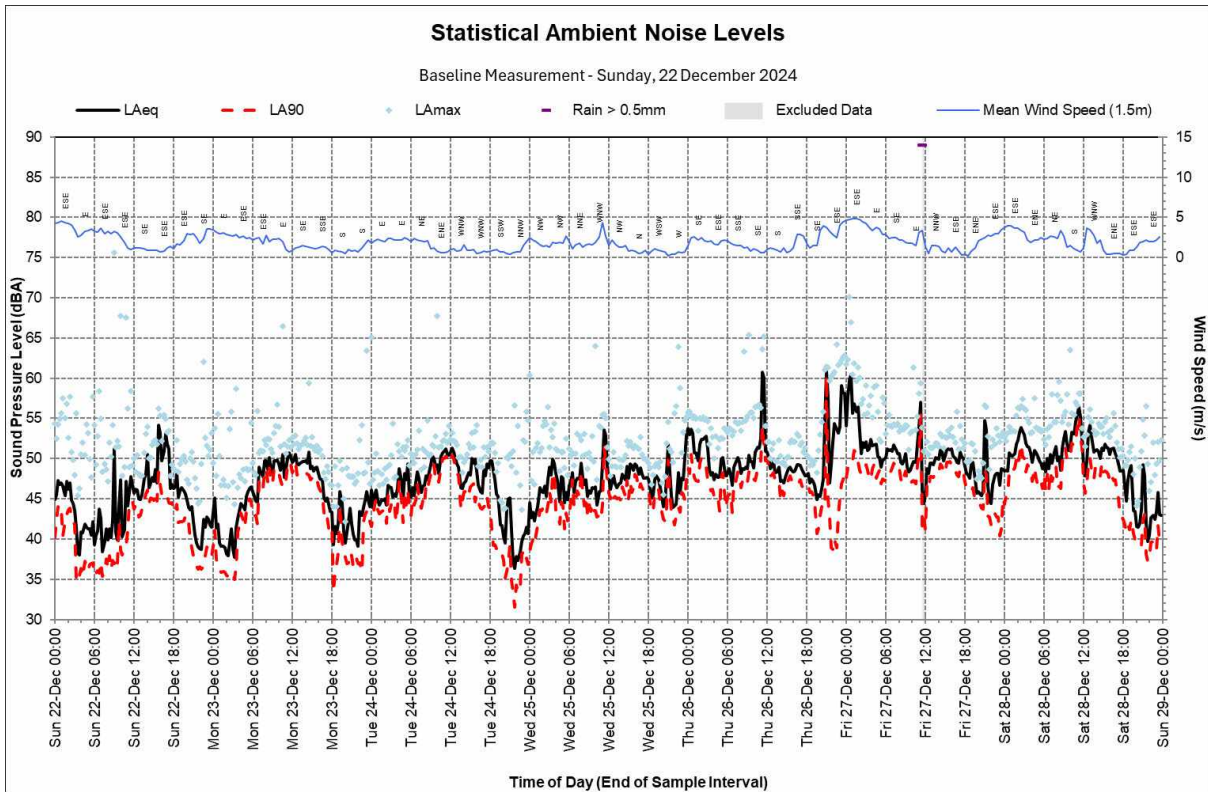
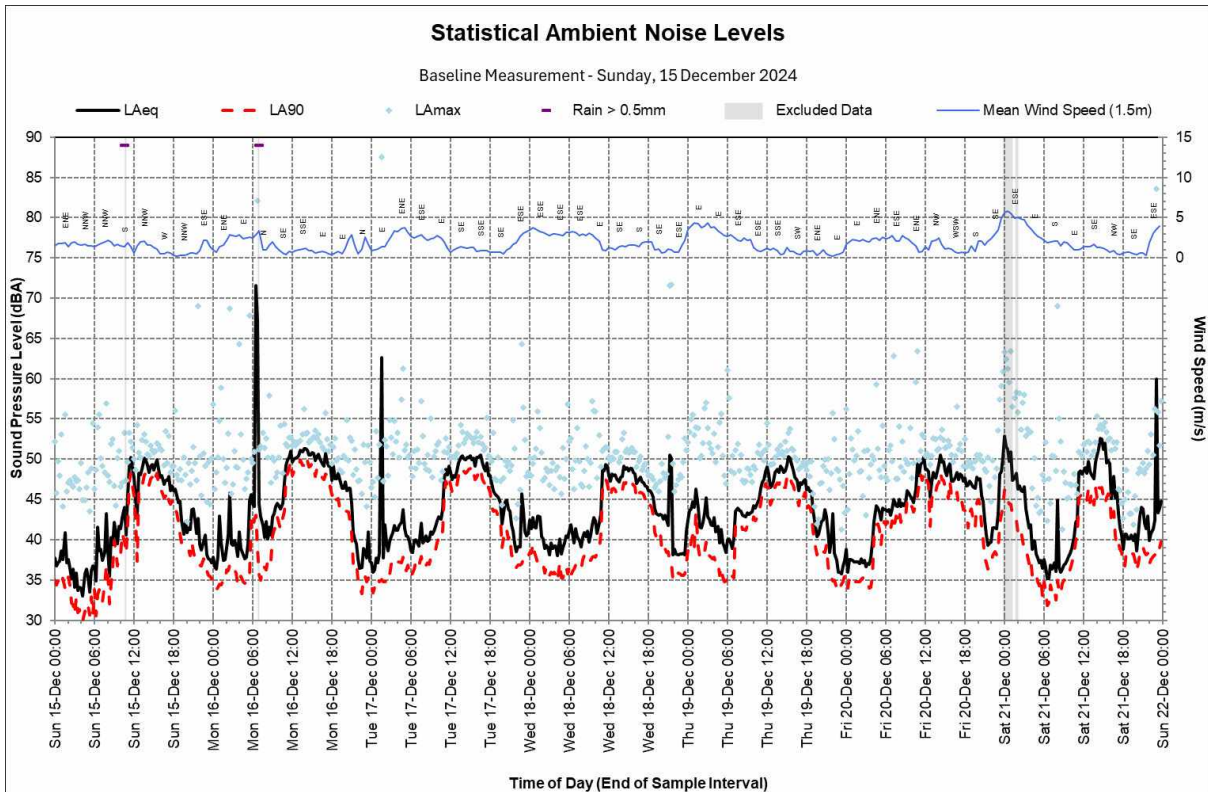
Bimonthly Report – January 2025

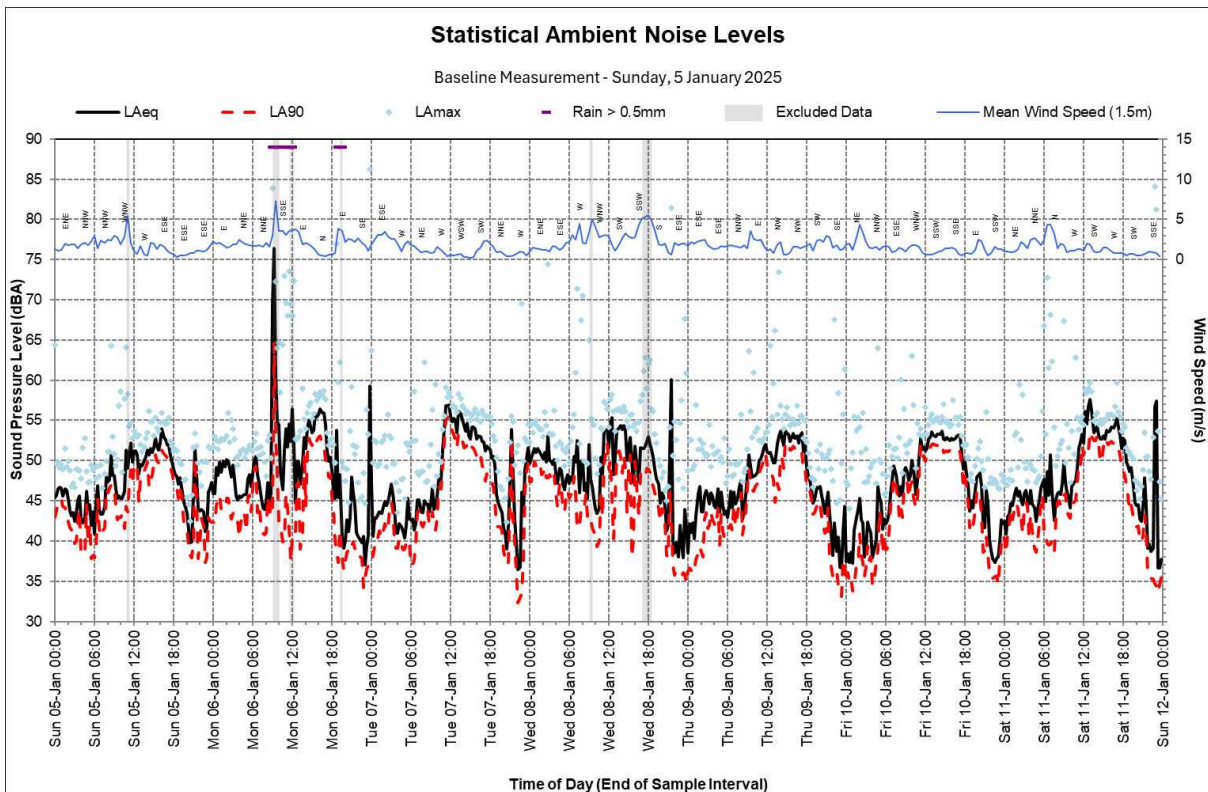
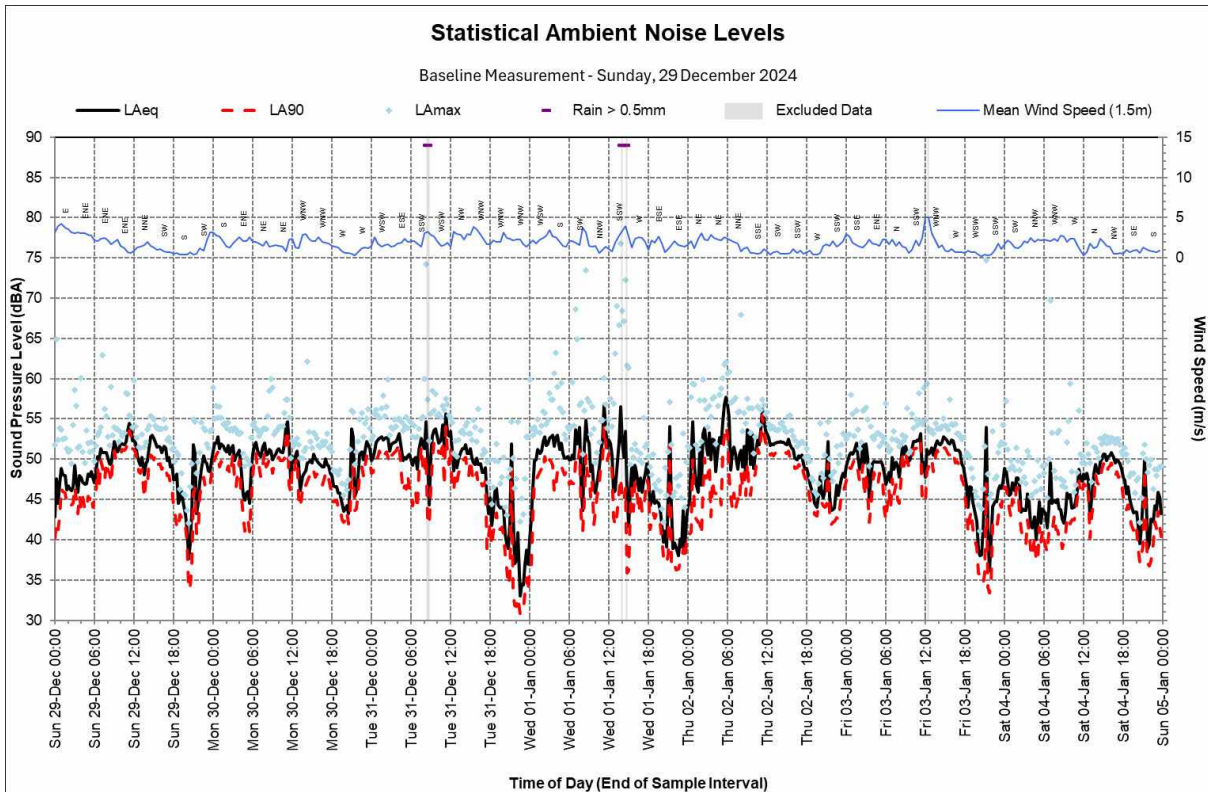
JBS&G Australia Pty Ltd

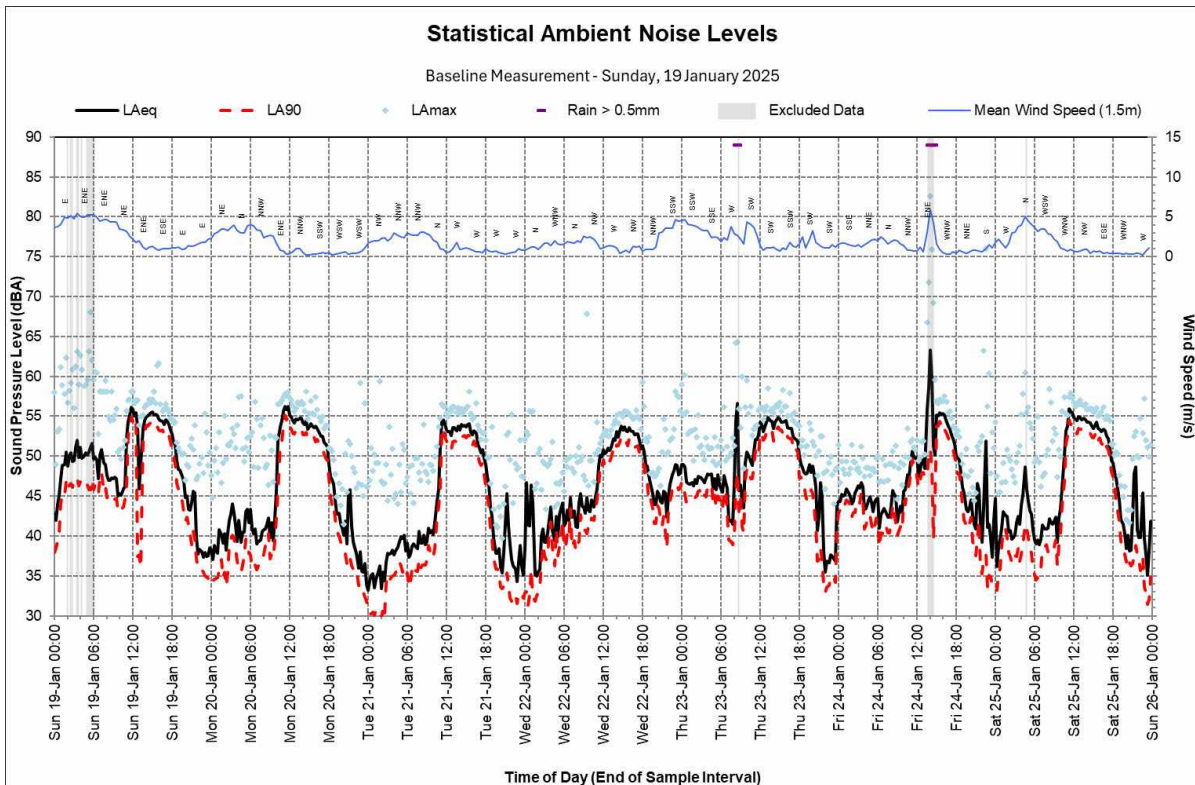
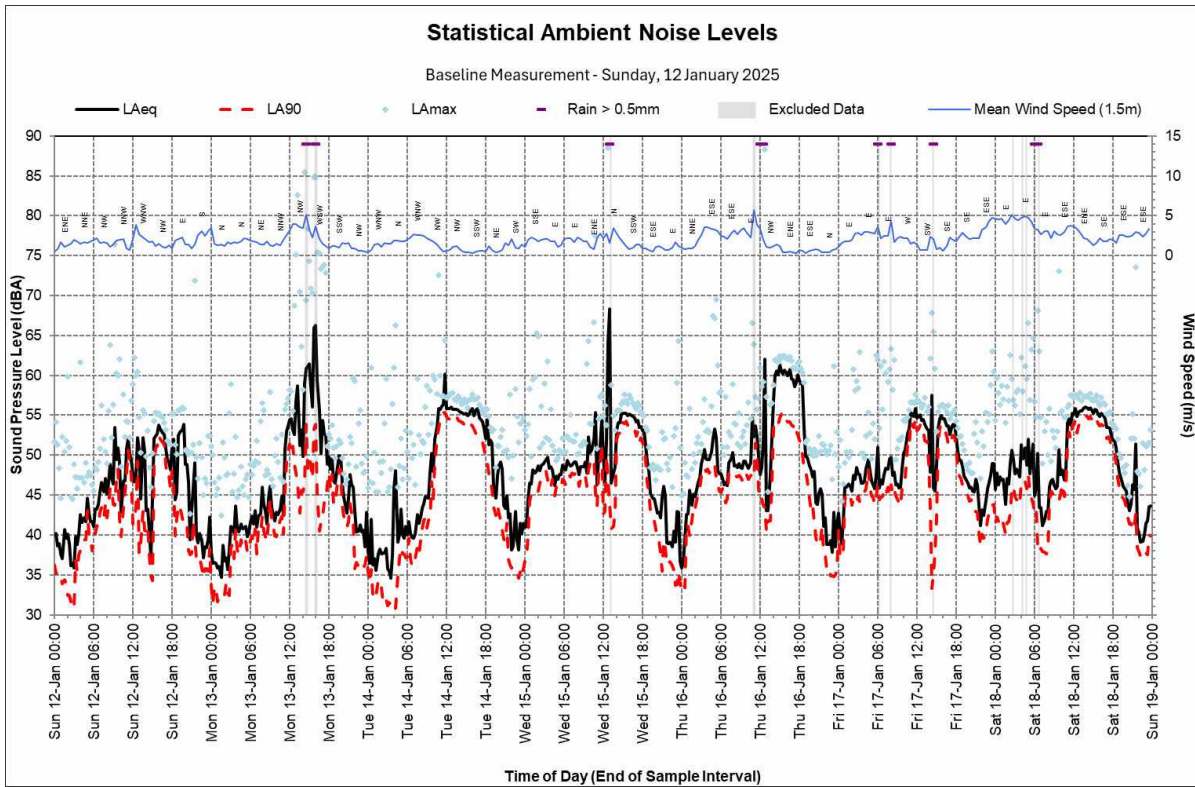
SLR Project No.: 675.V11414.00001

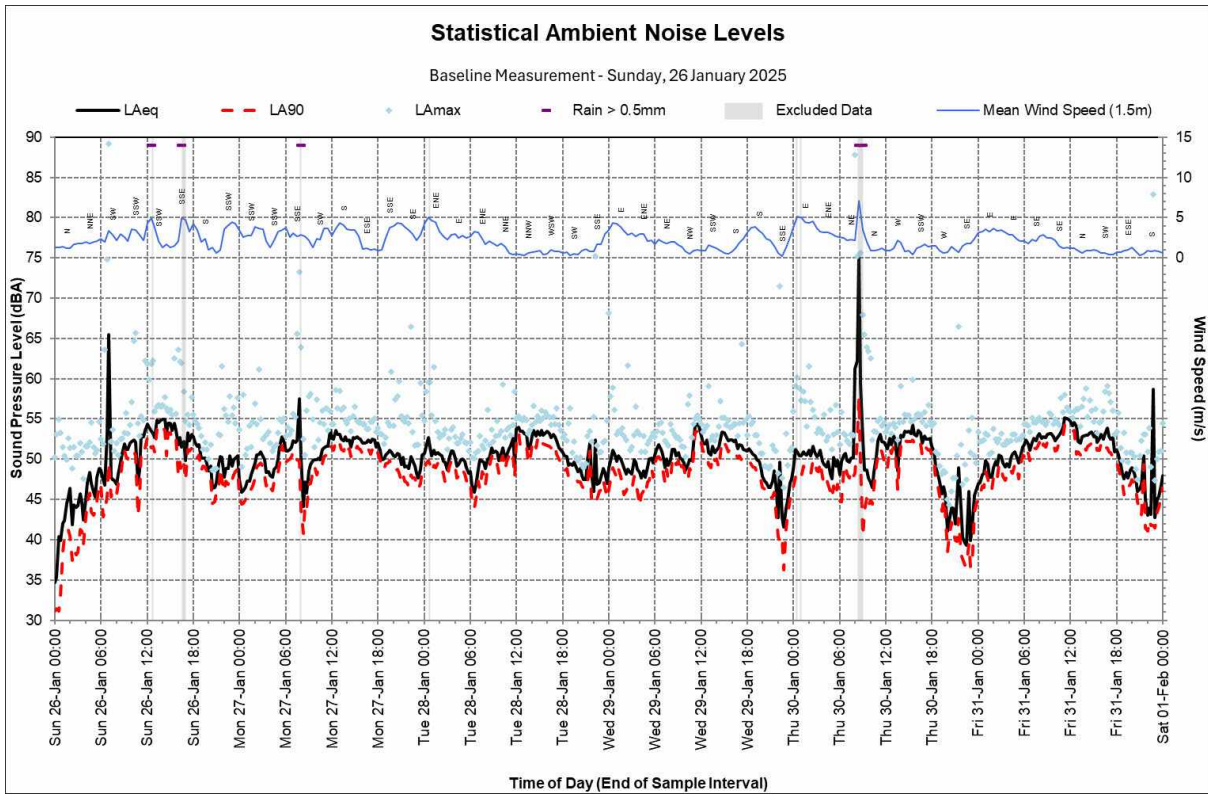
9 September 2025

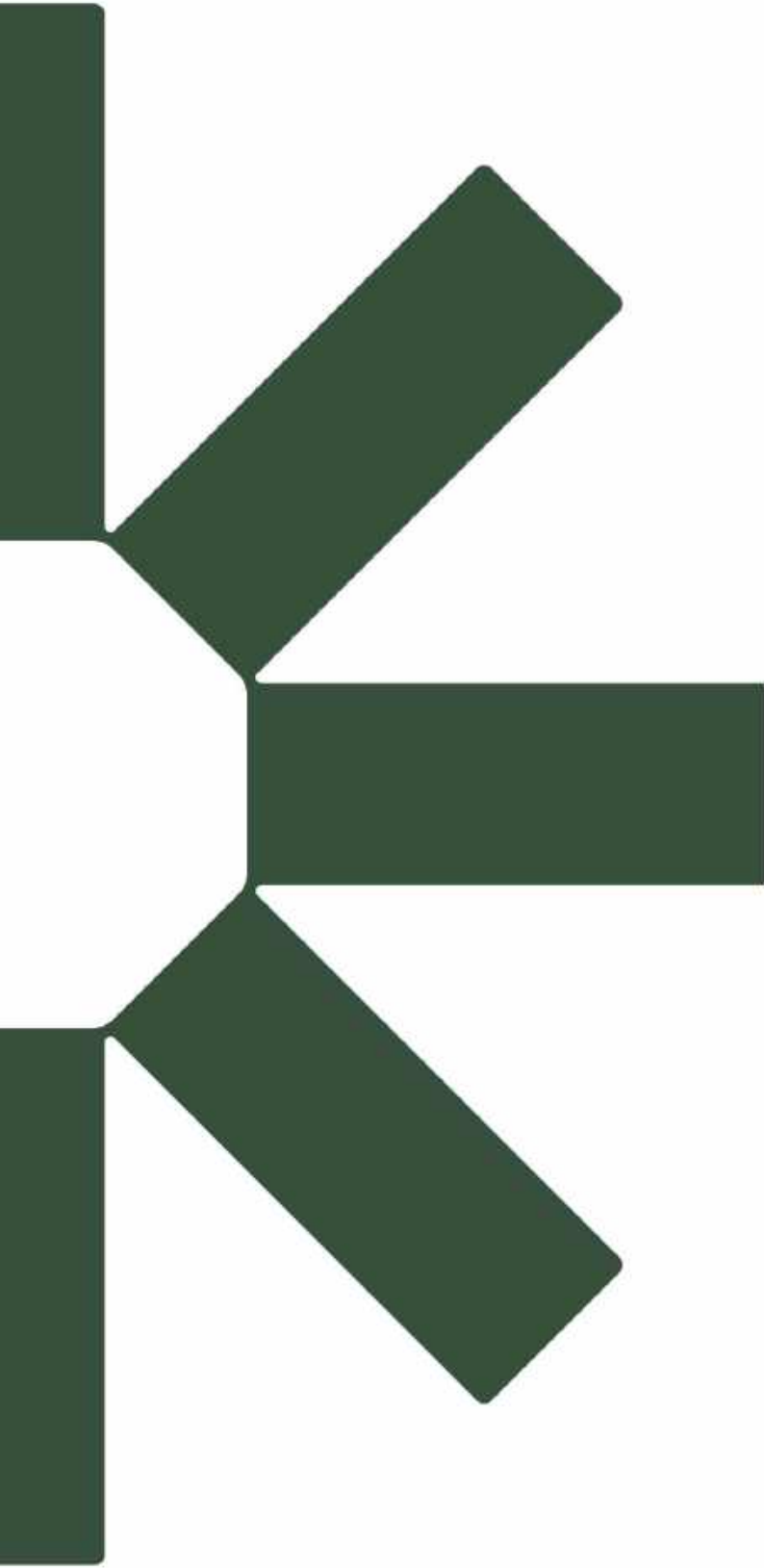












Making Sustainability Happen



Mulga Baseline Noise Monitoring

Bimonthly Report – March 2025

JBS&G Australia Pty Ltd

Allendale Square, Level 9/77 St Georges Terrace,
Perth WA 6000

Prepared by:

SLR Consulting Australia

Level 1, 500 Hay Street, Subiaco WA 6008, Australia

SLR Project No.: 675.V11414.00001

9 September 2025

Revision: 1.1

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** illustrates the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of the power station's diesel generator is audible at the monitoring site. The generator operates intermittently.

This report presents the measured baseline noise levels for the period of February to March 2025.



Figure 1: Monitoring locations



Baseline noise measurements are carried out to:

- Provide data on existing background noise levels. This allows for a comparison of noise levels before and after the commencement of mining or other noise-generating activities under similar weather conditions.
- Determine the lowest normal background noise level to assess whether predicted noise from proposed developments nearby would be audible above the background noise.

The LA90 15-minute measurement parameter is commonly used to represent the lowest normal background noise level during a 15-minute period. These lowest noise levels typically occur during calm conditions, such as night when noise from animals, human activity, and insects is minimal.

For daily summaries, the 10th percentile LA90 (L90 of LA90), instead of the median, is useful to indicate the levels in the quieter times of each period.

2.0 Method


2.1 Equipment status

The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The air quality team visits the site every two months to collect dust samples and perform a visual inspection of the noise monitor and its enclosure. During the site visit from 30th September to 2nd October 2024, the noise monitor appeared to be in good condition.

One self-powered Type 1 approved, NATA calibrated noise logger and weather station has been deployed on site. **Table A** presents the equipment details.

Table A: Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



2.2 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
- 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and

Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.

- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.0 Baseline noise – February 2025

3.1 Weather

Figure 2 presents meteorological data recorded by the installed weather station during this period.

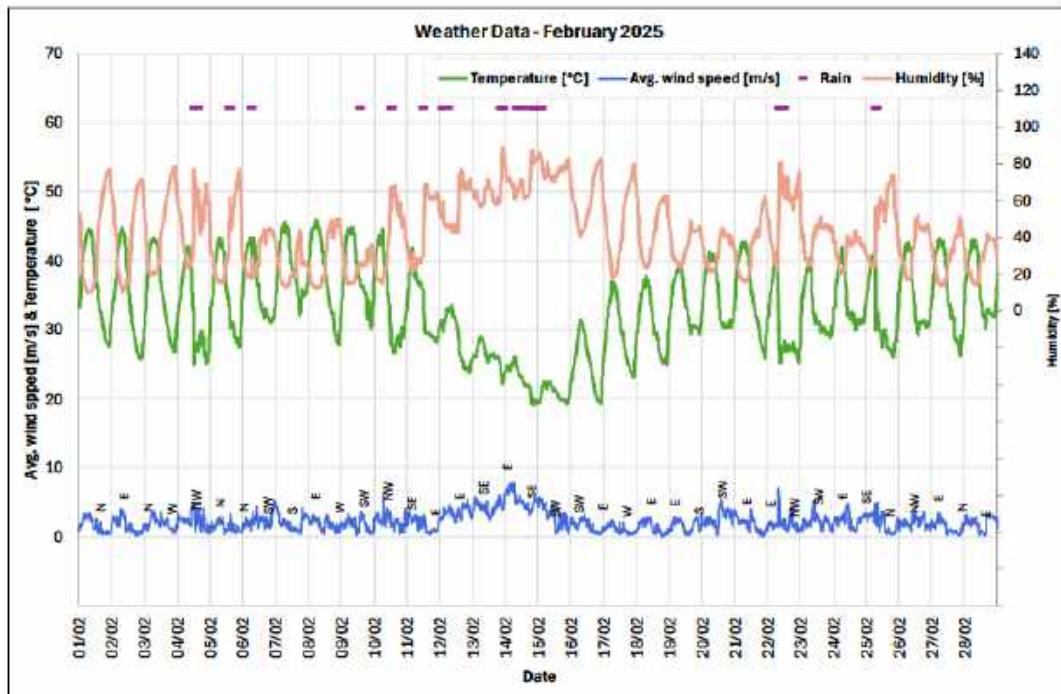


Figure 2: Daily weather data, February 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 3 for the period. Winds for the measurement period cover the full range of wind direction at some time during the month of February. Some of the wind was at speeds greater than 5 m/s (18 km/hr).



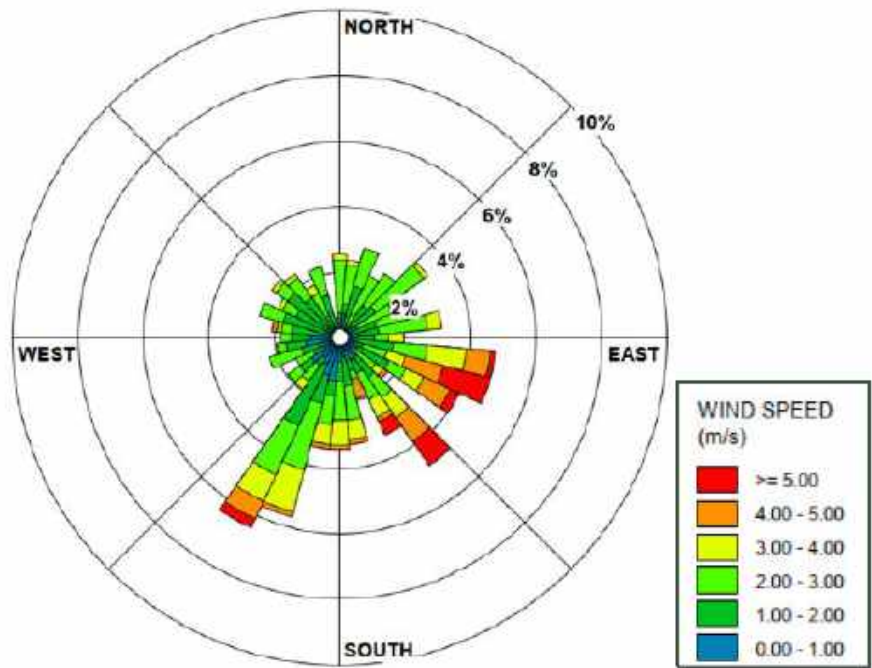


Figure 3: Wind rose, February 2025

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

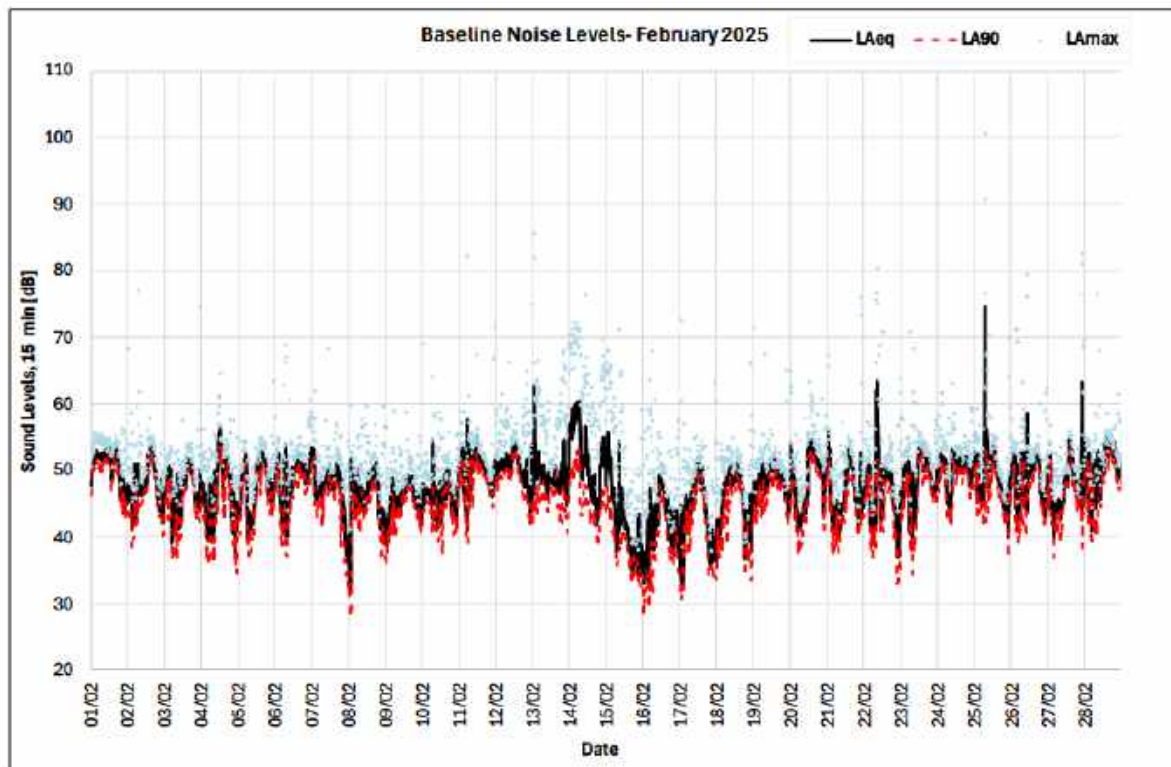


Figure 4: Baseline noise measurements, February 2025



3.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 30 – 48 dB, with typical level below L_{A90} 41 dB.

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise – March 2025

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

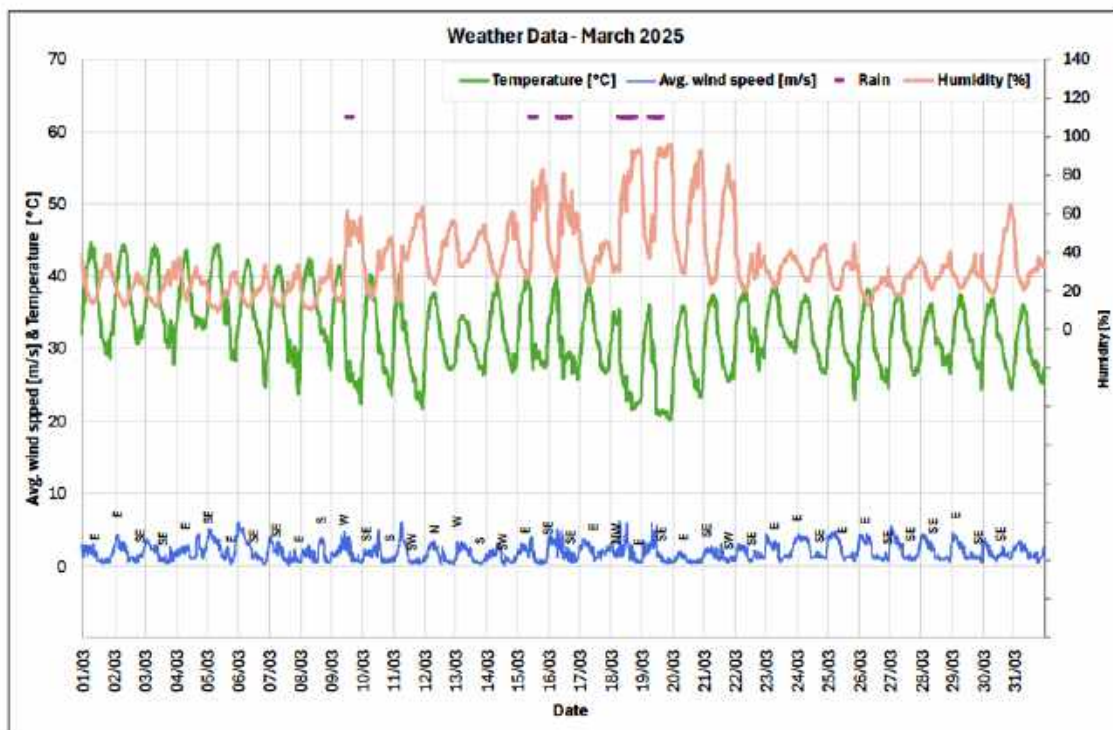


Figure 5: Weather data, March 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 6 for the period. Prevailing winds for the measurement period are from the east and southeast. Some of the wind was at wind speeds greater than 5 m/s (18 km/hr).



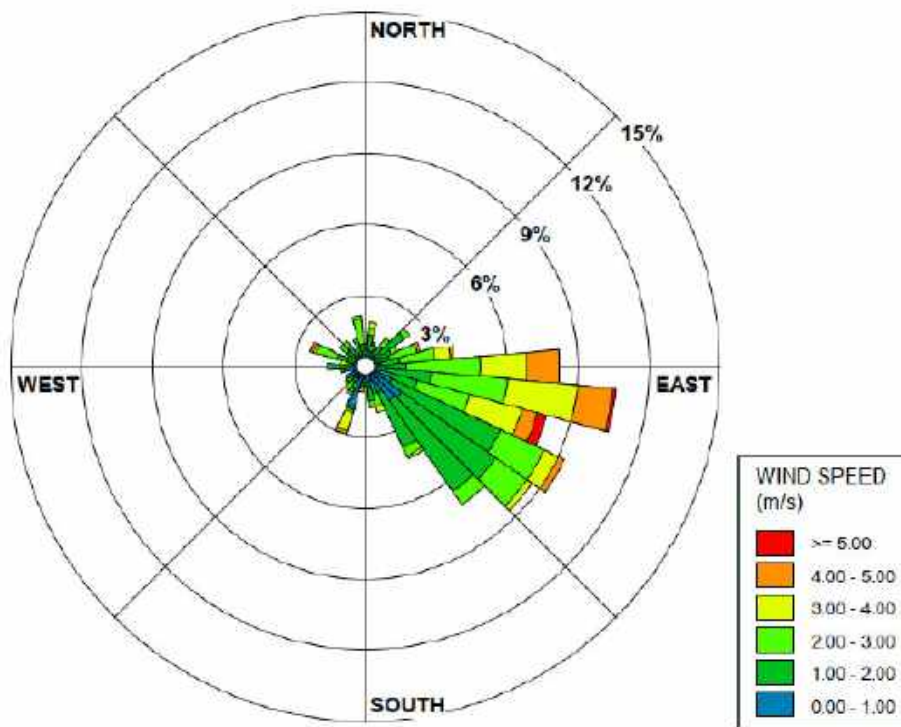


Figure 6: Wind rose, March 2025

4.2 Airborne noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

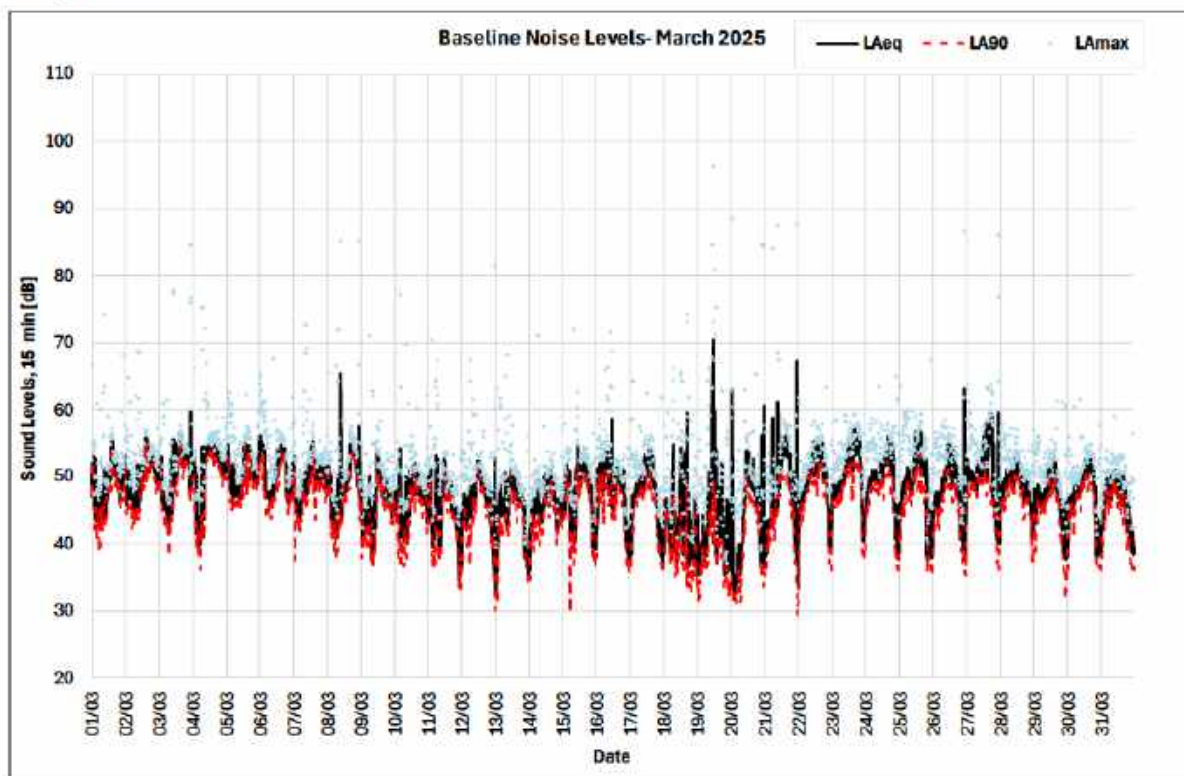


Figure 7: Baseline noise measurements, March 2025



4.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 31 – 50 dB, with typical level below L_{A90} 39 dB.

Similar to February, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
February 2025	42	42	40	49	46	47	50	47	48	52	49	50	63	56	67
March 2025	44	39	37	51	46	48	51	48	48	53	49	50	64	54	65

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

Mulga Baseline Noise Monitoring

Bimonthly Report – March 2025

JBS&G Australia Pty Ltd

SLR Project No.: 675.V11414.00001

9 September 2025

Table C: Daily noise levels, filtered for adverse weather

Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
01/02/2025	48	44	40	52	47	46	53	48	47	54	49	49	55	56	77
02/02/2025	45	43	37	50	46	47	50	47	47	52	48	50	62	54	53
03/02/2025	40	43	37	49	46	46	50	47	47	51	49	49	57	56	75
04/02/2025	39	36	39	51	44	48	52	44	46	53	48	48	61	57	55
05/02/2025	40	43	40	49	47	49	51	48	49	52	50	50	55	52	69
06/02/2025	42	47	44	49	49	50	51	50	49	52	52	50	67	57	62
07/02/2025	46	36	30	49	45	45	50	47	47	51	49	48	68	55	60
08/02/2025	43	37	37	48	44	44	49	45	45	51	50	47	60	52	60
09/02/2025	43	42	41	47	45	46	48	47	47	49	48	49	59	52	69
10/02/2025	39	41	40	47	45	50	48	46	50	51	47	52	59	51	82
11/02/2025	48	45	46	52	47	50	53	48	52	54	49	54	67	54	71
12/02/2025	46	44	42	52	48	53	52	50	50	54	55	56	66	61	86
13/02/2025	44	42	41	48	48	47	50	51	49	53	57	54	64	59	60
14/02/2025	40	40	36	47	49	45	49	51	48	55	55	54	62	64	61
15/02/2025	35	34	30	43	39	40	42	39	39	45	43	44	71	50	68
16/02/2025	37	36	31	45	41	42	46	41	43	48	44	47	61	49	72
17/02/2025	39	34	34	48	38	44	49	39	44	50	42	46	55	49	63
18/02/2025	42	36	37	48	41	47	50	42	49	51	44	51	55	56	71
19/02/2025	45	43	39	49	48	47	50	49	47	51	51	50	68	65	65
20/02/2025	42	47	39	51	49	49	53	51	47	54	52	49	63	61	67
21/02/2025	40	41	39	48	47	47	49	46	46	51	46	49	57	76	63
22/02/2025	41	38	35	50	44	48	50	47	49	52	49	52	80	57	71
23/02/2025	40	45	45	50	48	50	52	49	52	53	51	53	68	53	62
24/02/2025	43	46	43	51	50	49	52	51	49	53	52	51	63	54	62
25/02/2025	44	42	40	51	45	49	51	46	49	52	47	51	76	52	71
26/02/2025	43	42	40	51	46	47	52	47	46	53	48	49	79	60	62
27/02/2025	41	44	40	50	47	52	50	47	50	51	48	52	56	76	83
28/02/2025	42	48	41	51	51	49	53	52	48	54	53	51	76	61	67
01/03/2025	44	45	43	51	49	48	51	50	49	53	51	51	74	60	68
02/03/2025	44	48	43	51	51	49	52	52	48	54	53	50	69	55	61
03/03/2025	43	47	39	52	52	50	54	53	49	54	54	50	78	55	85
04/03/2025	50	49	45	54	52	51	55	52	52	56	53	54	72	59	61



Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
05/03/2025	46	48	44	52	50	50	52	51	50	53	52	54	62	56	60
06/03/2025	46	45	42	52	47	48	53	48	48	54	49	49	68	53	62
07/03/2025	46	48	39	51	51	48	52	52	49	53	53	50	73	54	66
08/03/2025	43	49	39	53	52	47	50	53	46	52	54	47	85	56	85
09/03/2025	39	43	38	49	47	46	50	48	46	51	49	49	63	53	77
10/03/2025	39	45	37	49	47	47	50	48	46	51	49	50	70	50	70
11/03/2025	38	34	35	48	43	45	48	45	47	49	47	49	54	50	67
12/03/2025	44	40	31	49	46	45	50	47	47	51	49	49	61	54	81
13/03/2025	42	36	34	48	44	44	49	45	46	51	47	47	68	49	71
14/03/2025	42	40	40	48	45	48	50	47	47	51	48	49	58	50	58
15/03/2025	41	38	38	50	46	50	52	48	52	53	50	53	72	52	59
16/03/2025	45	38	36	50	46	46	51	45	48	52	47	50	72	53	64
17/03/2025	46	39	36	51	43	43	51	45	44	52	47	45	62	48	62
18/03/2025	34	34	33	46	39	41	45	40	41	49	43	45	74	58	56
19/03/2025	37	34	31	50	40	48	48	37	37	51	39	41	85	57	88
20/03/2025	38	36	35	49	44	49	50	44	44	51	47	47	65	53	85
21/03/2025	44	38	32	53	47	53	54	49	47	57	51	49	87	53	88
22/03/2025	48	39	37	52	49	47	54	50	49	55	51	51	58	63	58
23/03/2025	48	39	38	54	53	48	55	54	50	56	56	53	59	57	59
24/03/2025	48	38	37	52	50	48	53	50	49	55	53	54	63	58	65
25/03/2025	46	37	37	52	45	46	54	41	48	55	44	51	60	56	67
26/03/2025	46	37	37	51	43	52	53	43	51	54	46	53	58	51	86
27/03/2025	46	37	38	54	46	50	55	47	50	57	48	52	64	58	86
28/03/2025	45	43	39	50	48	46	51	49	48	52	51	50	57	54	57
29/03/2025	45	36	35	49	43	46	50	45	48	52	47	49	61	61	61
30/03/2025	46	37	36	50	45	46	52	45	47	53	48	49	61	52	58
31/03/2025	43	37	34	49	43	43	50	46	43	52	48	45	59	49	56

Note 1: L₉₀ of L_{A90} daily levels by period were taken instead of the median, as discussed in Section 2.2.





Appendix B Weekly Graphs

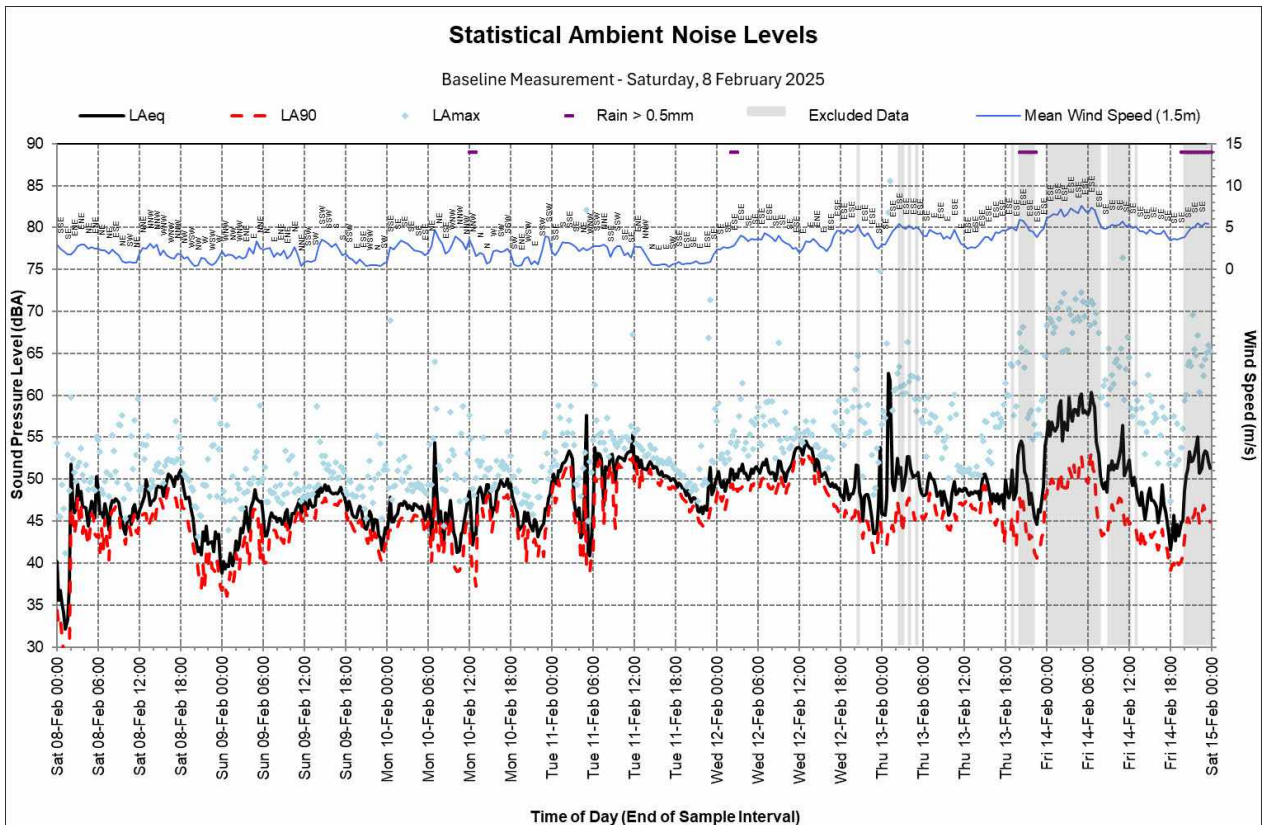
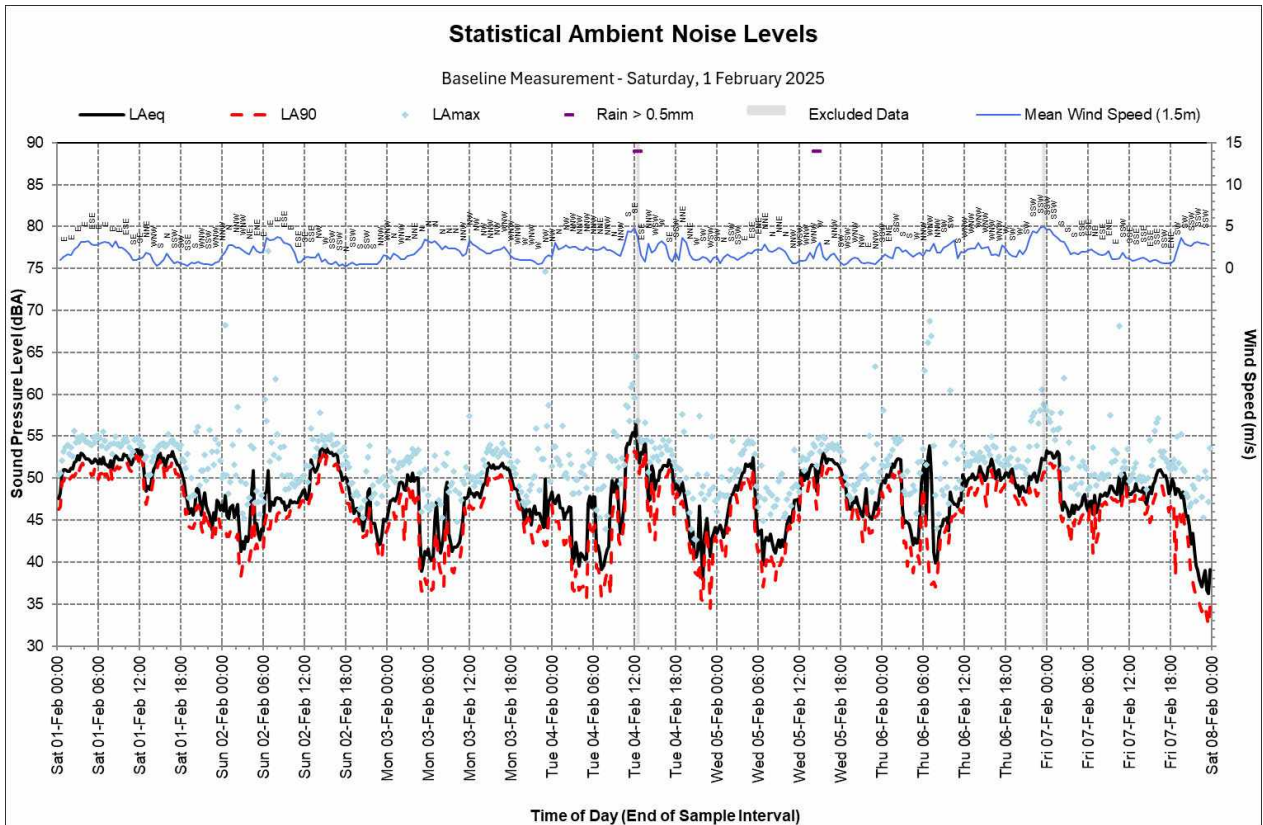
Mulga Baseline Noise Monitoring

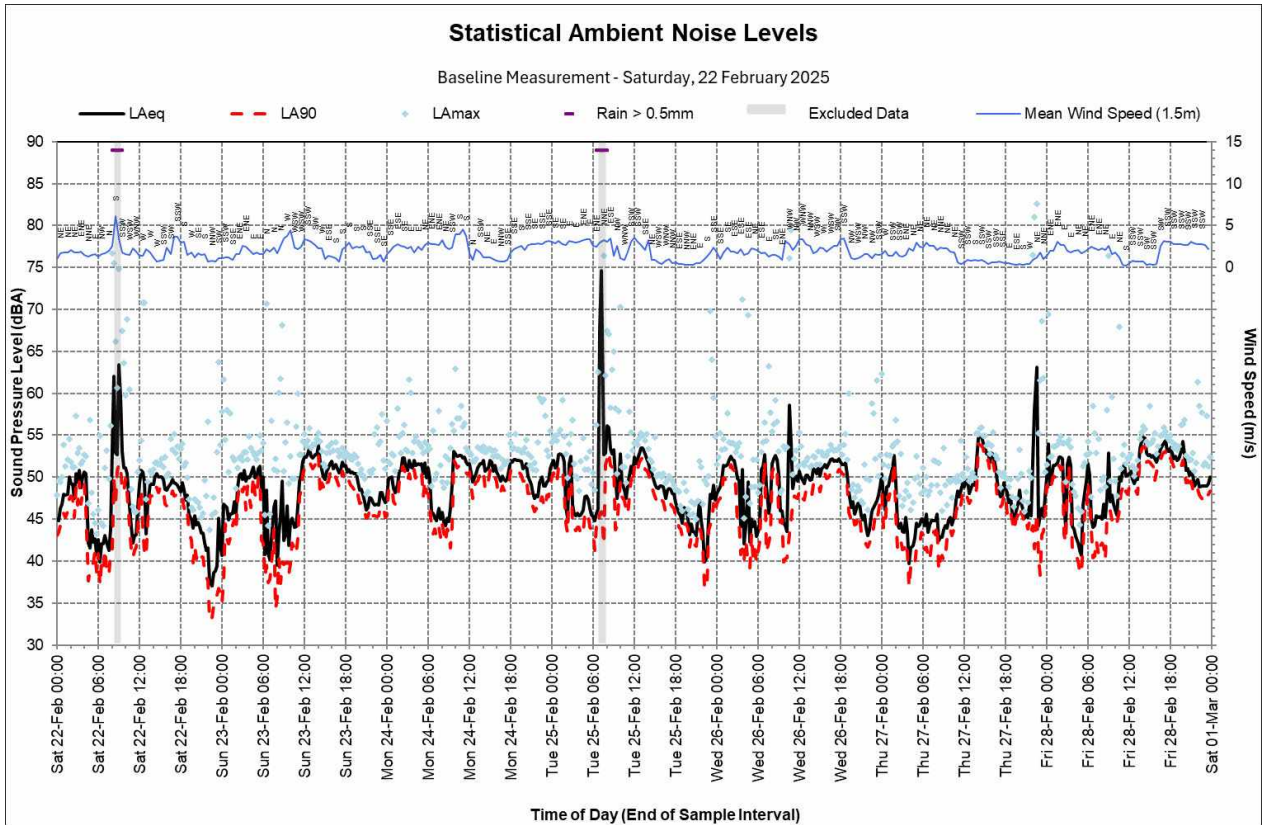
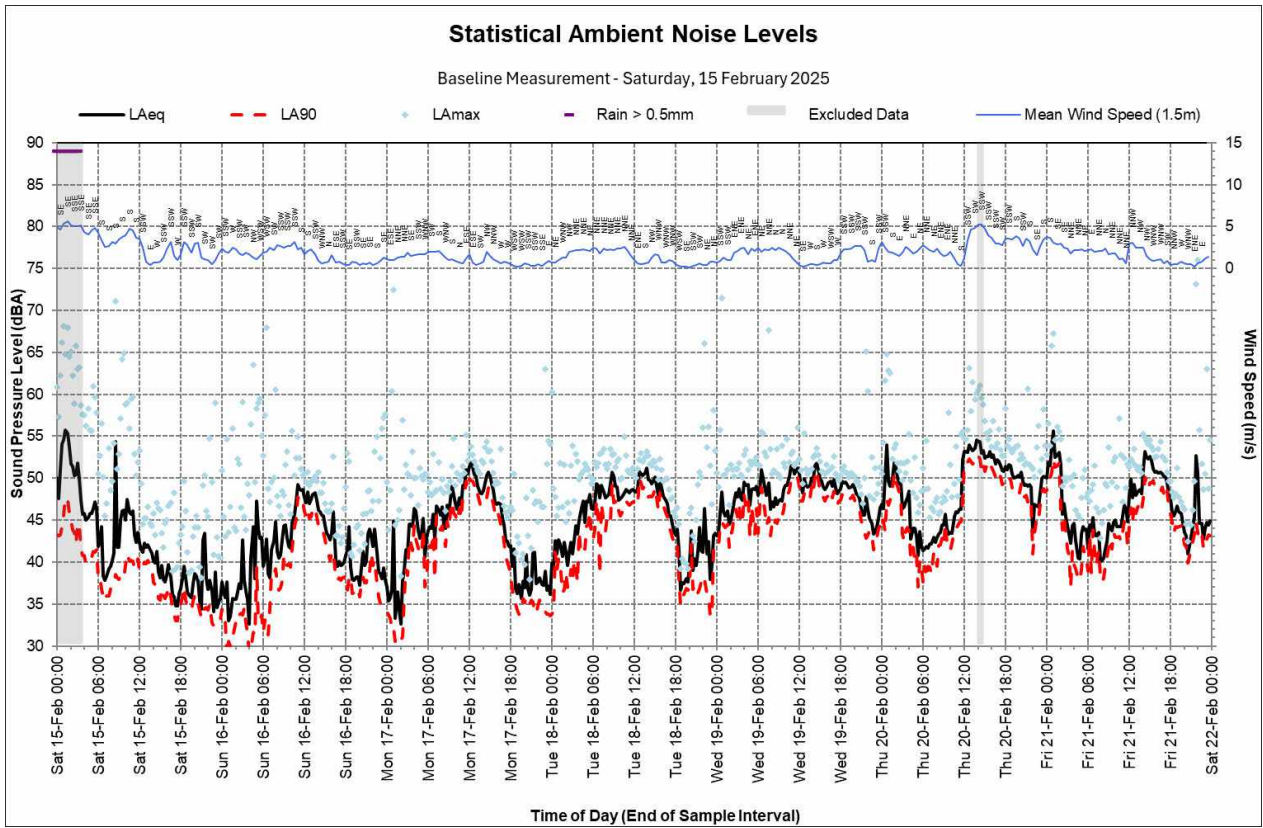
Bimonthly Report – March 2025

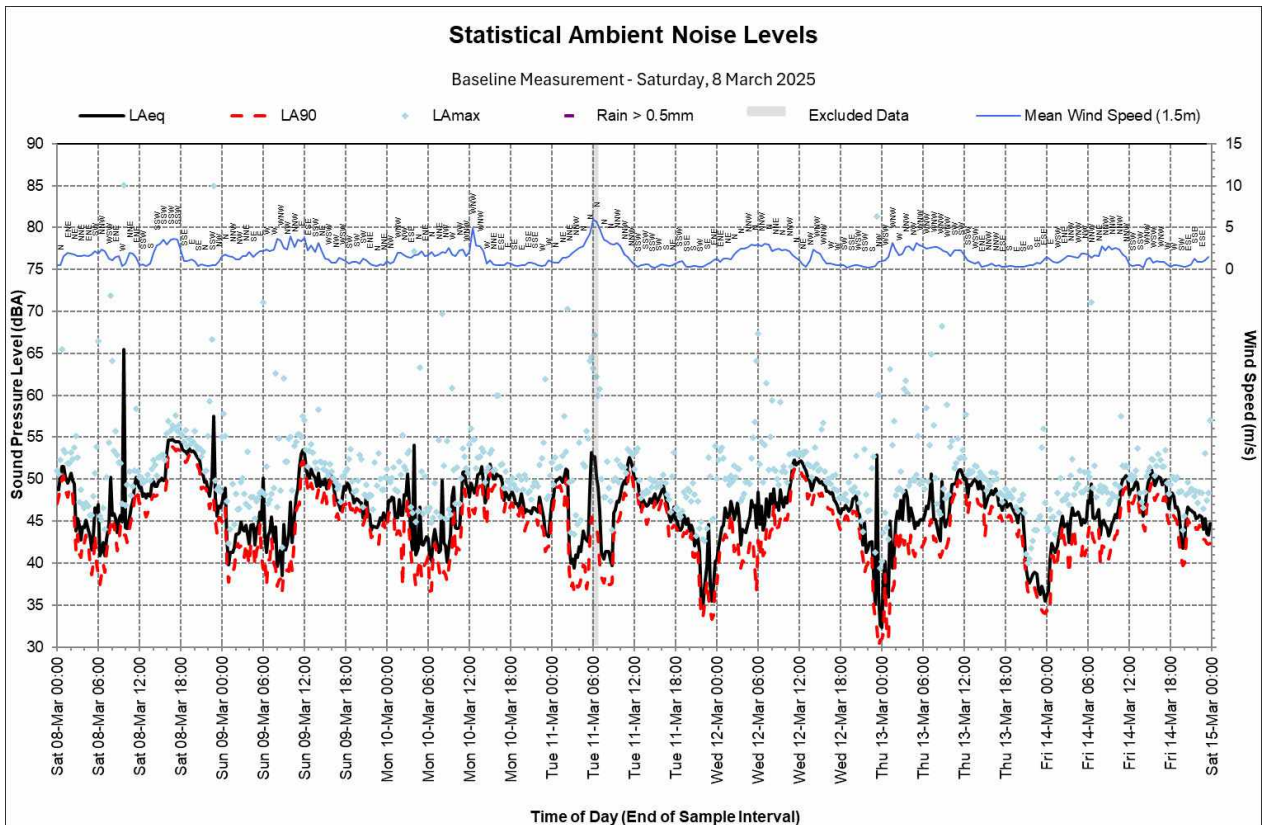
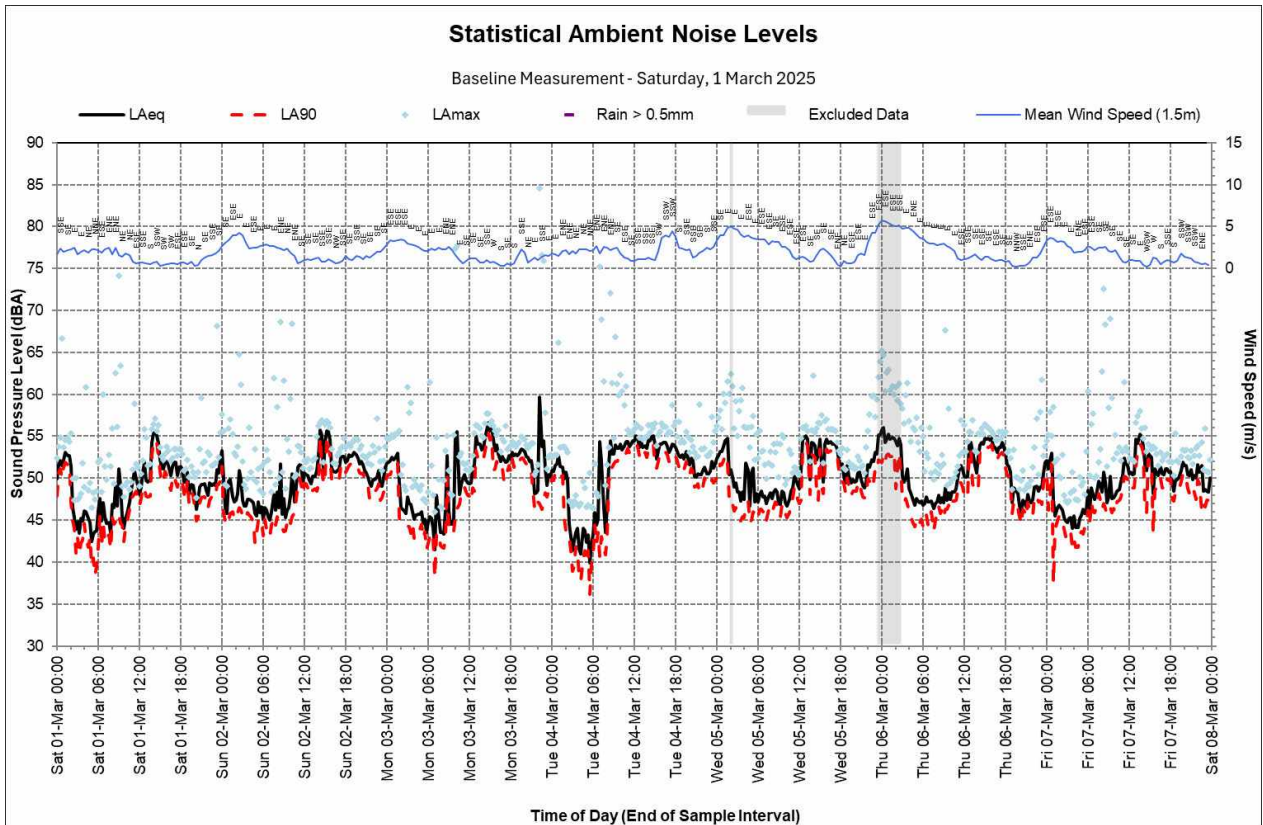
JBS&G Australia Pty Ltd

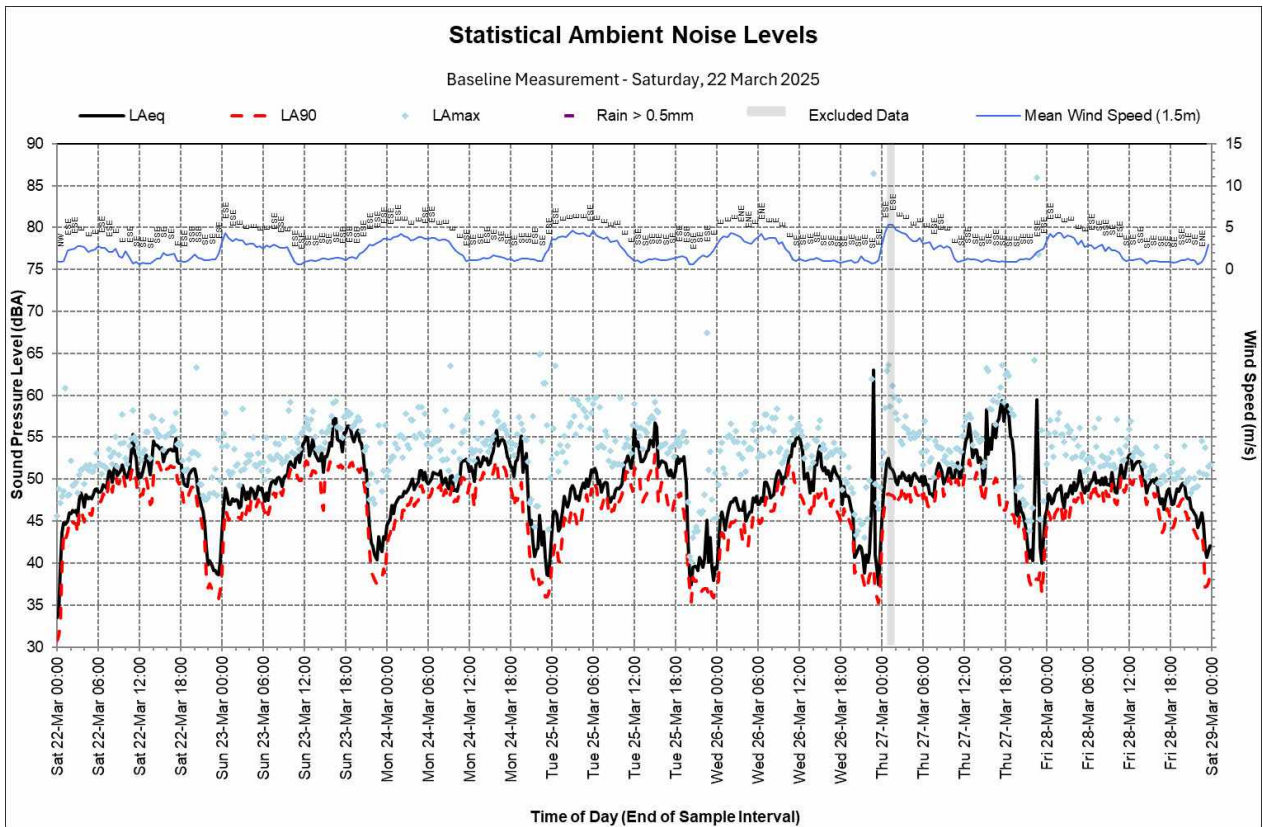
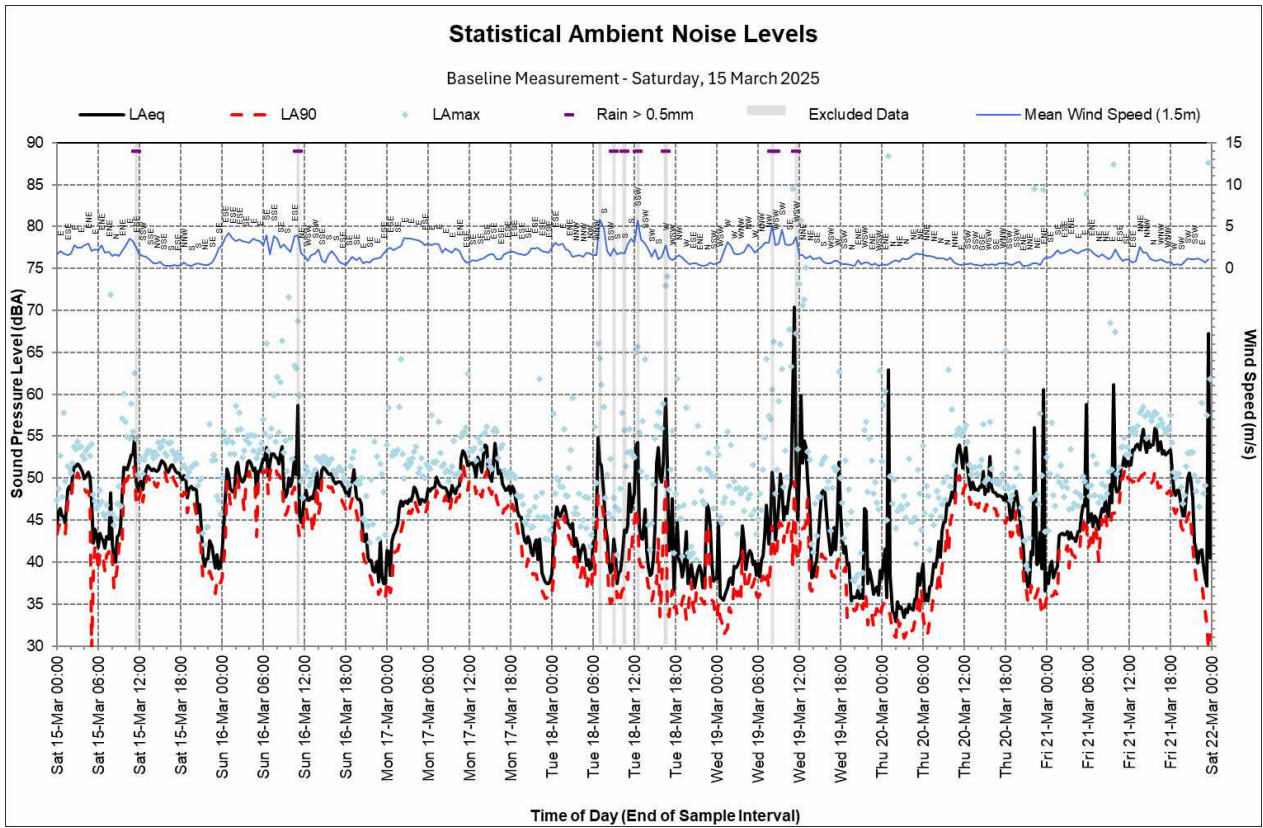
SLR Project No.: 675.V11414.00001

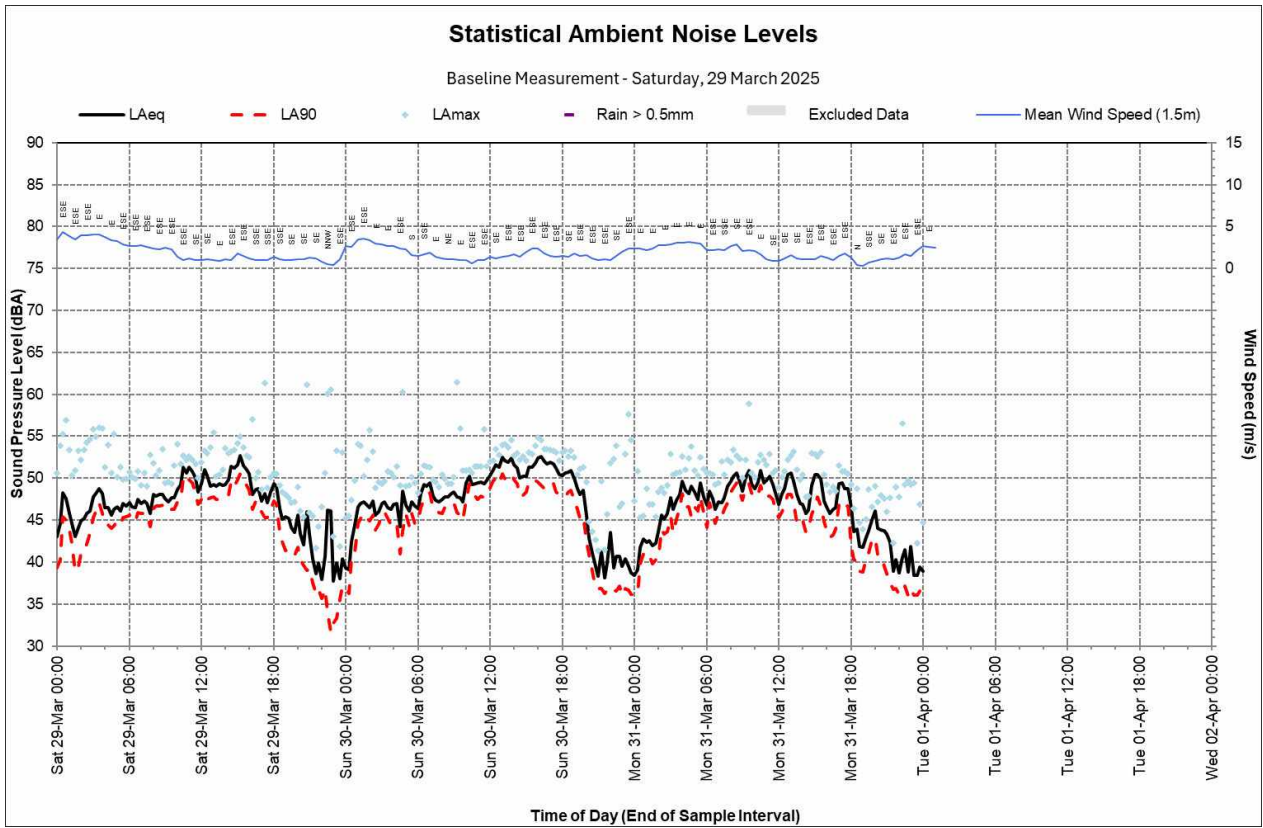
9 September 2025

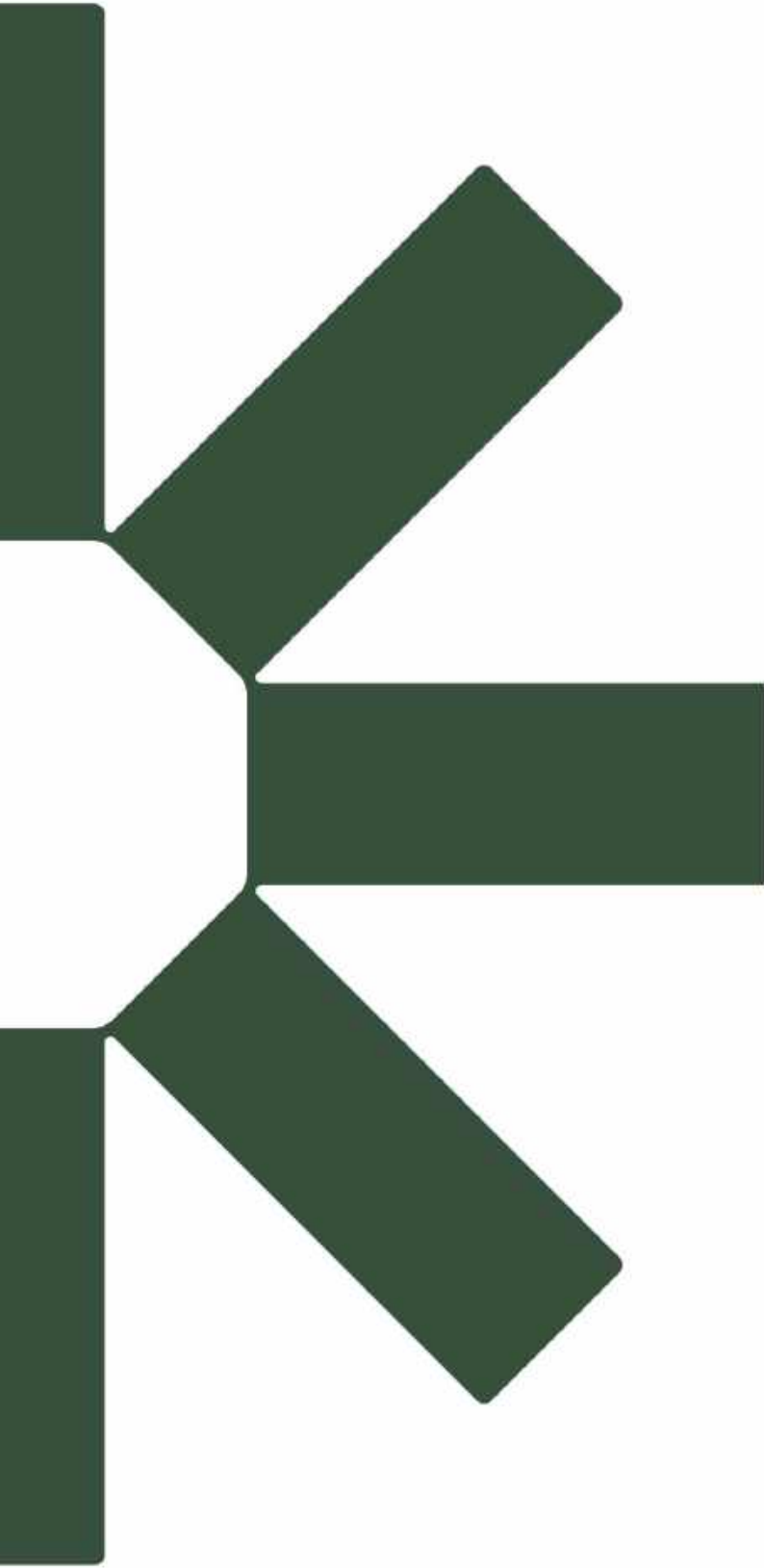












Making Sustainability Happen



Mulga Baseline Noise Monitoring

Bimonthly Report – May 2025

JBS&G Australia Pty Ltd

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Perth WA 6000

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SLR Project No.: 675.V11414.00001

9 September 2025

Revision: 1.0



Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** illustrates the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of the power station's diesel generator is audible at the monitoring site. The generator operates intermittently.

This report presents the measured baseline noise levels for the period of April to May 2025.



Figure 1: Monitoring locations



Baseline noise measurements are carried out to:

- Provide data on existing background noise levels. This allows for a comparison of noise levels before and after the commencement of mining or other noise-generating activities under similar weather conditions.
- Determine the lowest normal background noise level to assess whether predicted noise from proposed developments nearby would be audible above the background noise.

The LA90 15-minute measurement parameter is commonly used to represent the lowest normal background noise level during a 15-minute period. These lowest noise levels typically occur during calm conditions, such as night when noise from animals, human activity, and insects is minimal.

For daily summaries, the 10th percentile LA90 (L90 of LA90), instead of the median, is useful to indicate the levels in the quieter times of each period.

2.0 Method

2.1 Equipment status


The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The air quality team visits the site every two months to collect dust samples and perform a visual inspection of the noise monitor and its enclosure. During the site visit from 30th September to 2nd October 2024, the noise monitor appeared to be in good condition.

The noise monitor operated correctly throughout the April to May period.

One self-powered Type 1 approved, NATA calibrated noise logger and weather station has been deployed on site. **Table A** presents the equipment details.

Table A: Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



2.2 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
- 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and

Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.

- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.0 Baseline noise – April 2025

3.1 Weather

Figure 2 presents meteorological data recorded by the installed weather station during this period.

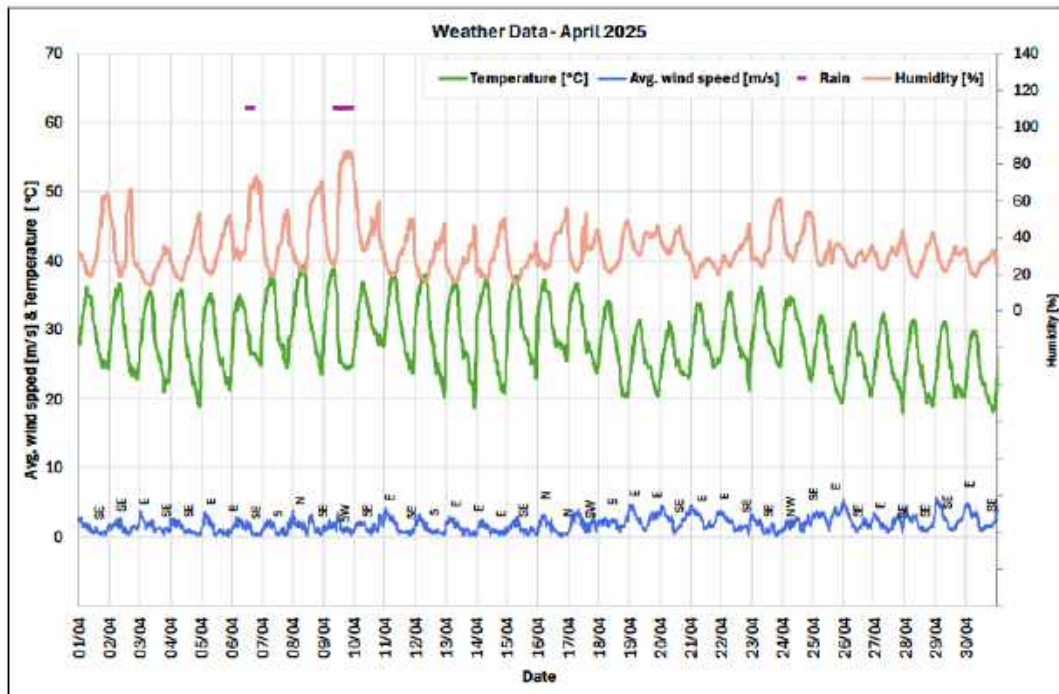


Figure 2: Daily weather data, April 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 3 for the period. Prevailing winds for the measurement period are from the east and southeast.



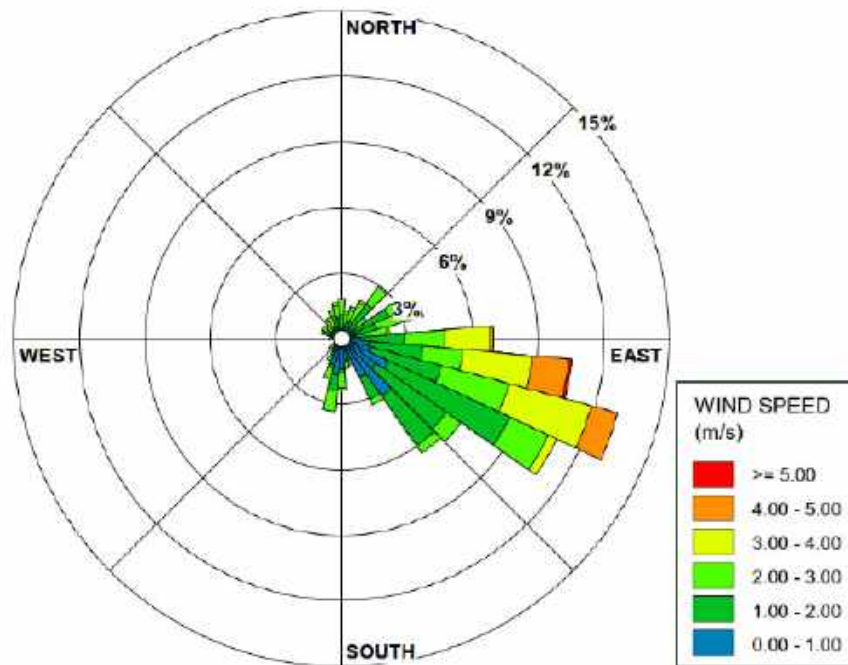


Figure 3: Wind rose, April 2025

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

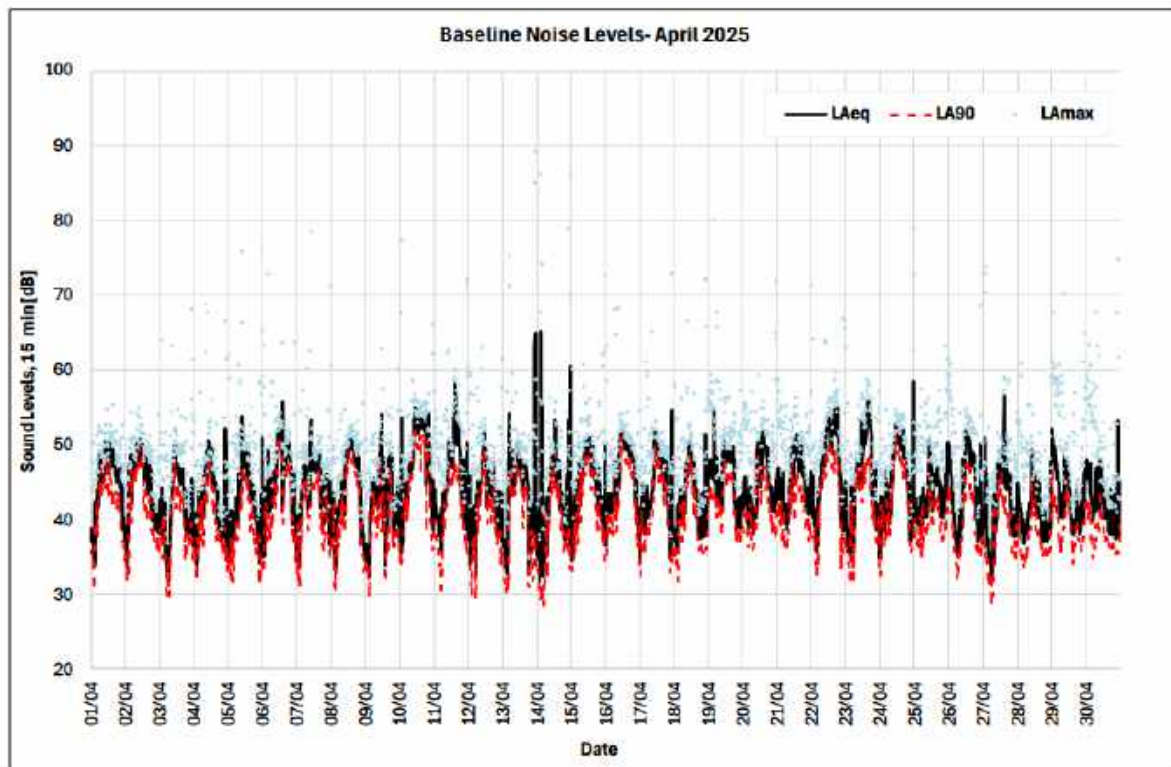


Figure 4: Baseline noise measurements, April 2025



3.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 29 – 46 dB, with typical level below L_{A90} 36 dB.

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise – May 2025

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

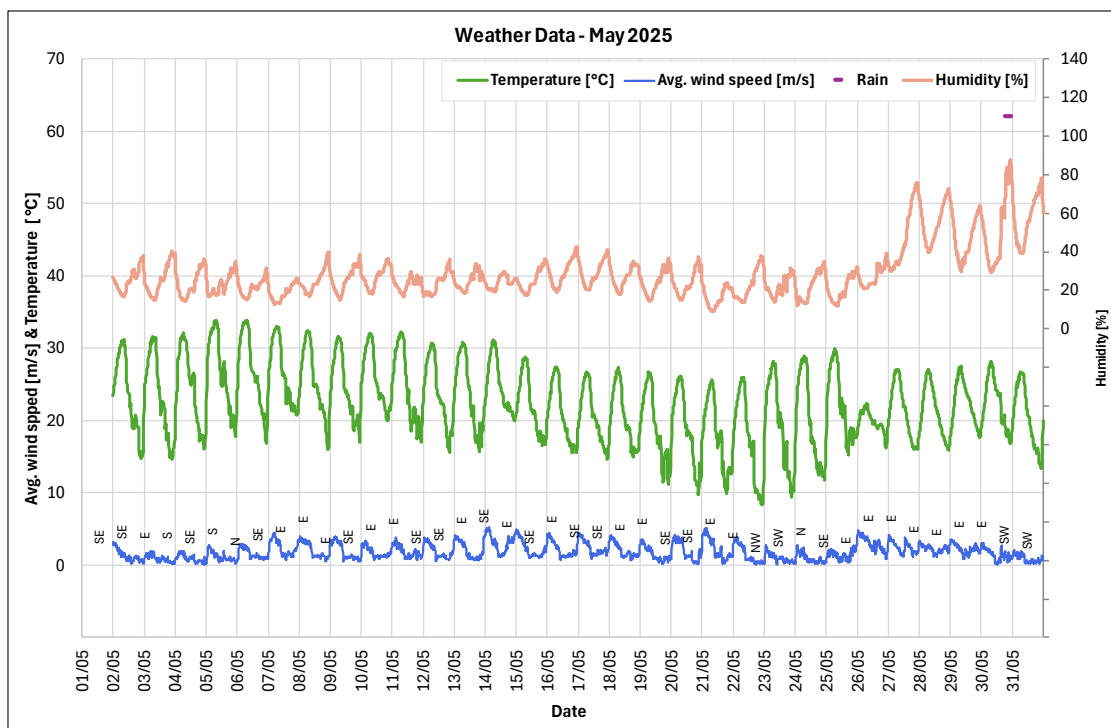


Figure 5: Weather data, May 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 6 for the period. Prevailing winds for the measurement period are from the east and southeast.



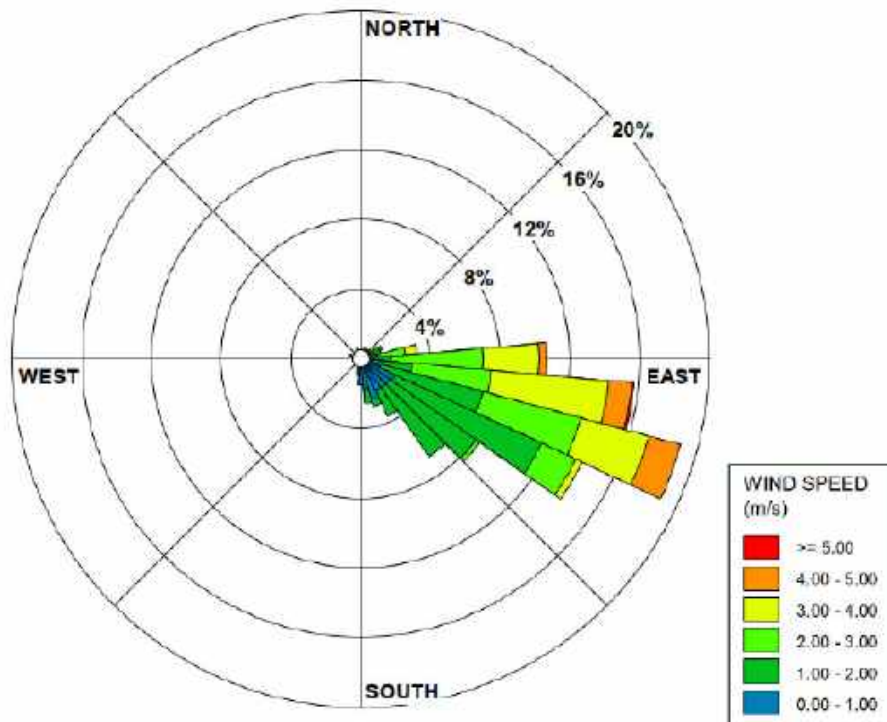


Figure 6: Wind rose, May 2025

4.2 Airborne noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

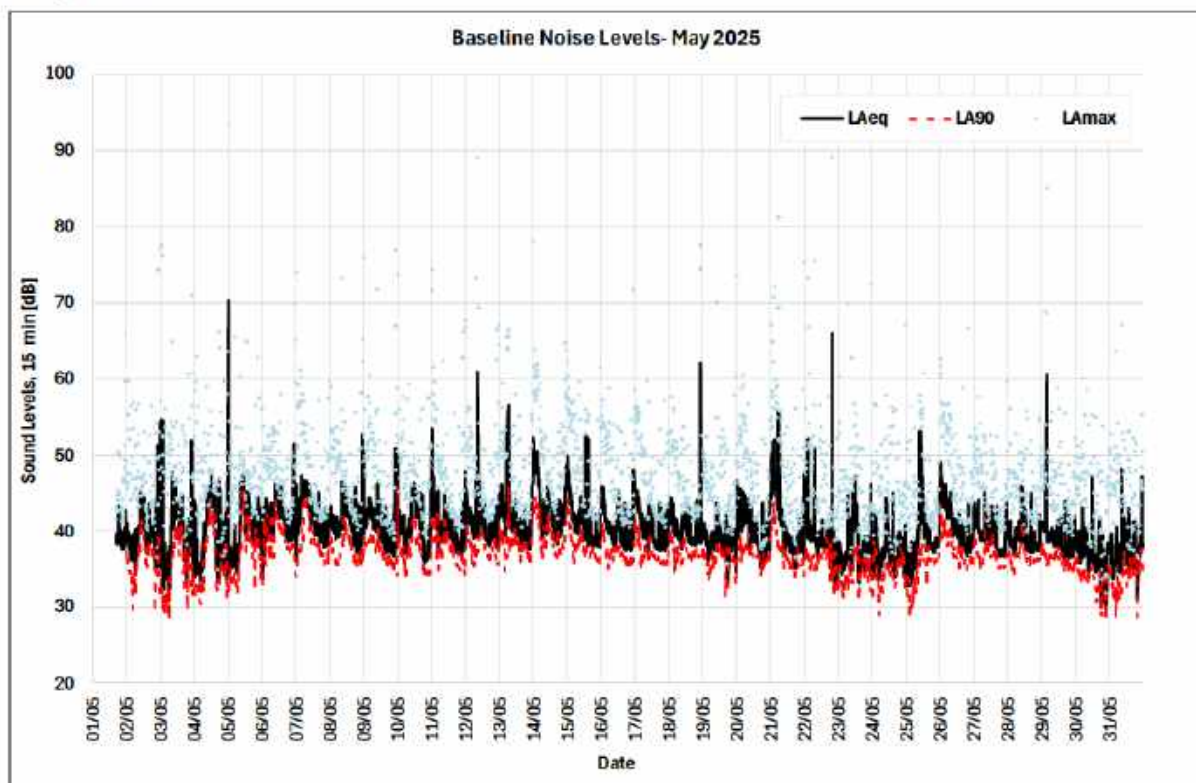


Figure 7: Baseline noise measurements, May 2025



4.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 29 – 37 dB, with typical level below L_{A90} 36 dB.

Similar to April, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
April 2025	39	37	34	48	42	43	49	43	43	50	46	46	59	51	70
May 2025	36	35	35	41	39	42	42	40	42	44	41	46	59	50	68

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

Mulga Baseline Noise Monitoring

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Table C: Daily noise levels, filtered for adverse weather

Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
1/04/2025	42	37	33	47	45	44	49	48	45	51	49	47	55	51	54
2/04/2025	41	37	31	48	40	40	49	41	41	51	45	44	55	49	64
3/04/2025	35	37	34	46	39	41	48	41	42	50	43	44	63	46	68
4/04/2025	37	35	33	46	39	41	47	40	42	48	42	45	69	54	67
5/04/2025	39	32	33	46	39	43	47	41	43	50	43	46	76	49	76
6/04/2026	42	38	33	49	46	43	49	46	43	51	48	45	64	51	64
7/04/2026	39	38	33	47	44	41	48	45	42	50	47	45	79	49	71
8/04/2026	41	36	32	48	44	41	50	45	40	52	47	44	55	50	56
9/04/2026	35	37	35	46	41	44	46	43	44	49	44	46	57	49	77
10/04/2026	45	41	34	52	50	41	54	51	43	55	53	47	59	57	66
11/04/2026	42	38	31	50	44	42	51	44	42	53	46	46	63	54	72
12/04/2026	40	38	31	46	42	44	47	44	40	49	47	45	63	52	75
13/04/2025	39	33	29	46	40	54	48	41	37	50	43	44	57	51	89
14/04/2025	38	36	33	47	40	47	47	41	43	49	43	46	56	54	86
15/04/2025	42	38	35	48	43	43	49	45	44	50	46	47	61	56	73
16/04/2025	41	39	36	49	46	41	51	48	43	52	50	45	68	50	61
17/04/2025	40	34	34	48	41	43	49	40	41	50	44	44	65	50	73
18/04/2025	36	36	37	46	39	47	47	40	47	48	42	53	67	51	80
19/04/2025	39	37	37	48	41	43	50	43	45	52	46	49	58	52	57
20/04/2025	38	39	37	48	43	43	51	44	44	52	48	49	59	52	72
21/04/2025	38	39	34	48	43	42	50	46	43	51	48	47	56	54	71
22/04/2025	46	37	33	52	45	40	54	48	41	56	50	43	64	52	67
23/04/2025	43	37	33	51	44	42	53	47	43	55	49	45	59	54	57
24/04/2025	43	35	36	49	43	45	51	44	43	52	47	46	55	49	79
25/04/2025	38	37	33	45	43	44	47	46	45	50	49	49	57	54	63
26/04/2025	35	36	31	48	41	42	51	43	39	53	46	42	55	52	74
27/04/2025	37	36	34	47	42	41	48	43	41	50	47	45	59	51	61
28/04/2025	36	35	36	43	39	45	45	41	48	47	43	54	55	49	68
29/04/2025	36	36	36	43	40	45	44	42	47	46	45	52	70	50	65
30/04/2025	36	35	35	43	41	43	44	43	44	46	46	50	68	68	75
1/05/2025	37	36	33	42	39	39	43	40	40	45	42	45	57	50	66
2/05/2025	36	31	29	41	39	45	42	40	36	44	42	44	57	54	77



Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
3/05/2025	34	33	32	42	39	40	43	41	37	45	43	41	65	61	71
4/05/2025	33	34	32	43	38	55	45	38	38	47	39	41	66	60	93
5/05/2025	36	38	34	43	41	41	44	42	43	46	44	46	65	63	56
6/05/2025	37	37	35	43	40	44	44	40	45	46	42	51	58	50	74
7/05/2025	37	36	36	43	39	41	44	40	43	45	41	47	57	51	60
8/05/2025	36	35	36	42	39	44	43	39	44	45	41	49	73	51	76
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11/05/2025	36	35	36	41	38	42	42	39	43	43	40	47	62	54	68
12/05/2025	37	36	36	46	41	48	42	42	45	44	44	50	89	54	67
13/05/2025	37	36	37	42	39	46	42	41	48	44	42	52	65	50	78
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15/05/2025	36	36	36	44	39	42	43	40	44	45	42	48	60	55	61
16/05/2025	36	36	36	40	39	43	41	40	45	42	42	49	54	50	72
17/05/2025	36	36	36	40	39	41	41	39	43	42	41	47	60	57	58
18/05/2025	36	37	34	40	40	48	41	40	40	43	42	44	54	50	78
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20/05/2025	36	35	36	40	38	47	40	38	47	42	39	52	57	51	81
21/05/2025	35	35	35	39	39	42	40	39	42	42	41	46	56	50	75
22/05/2025	35	32	32	40	55	37	40	38	38	42	41	41	75	89	60
23/05/2025	33	34	32	41	38	38	41	39	39	43	40	41	70	43	72
24/05/2025	33	36	30	38	38	36	38	40	37	40	42	41	58	45	67
25/05/2025	33	36	36	44	38	44	42	40	46	44	42	51	61	44	63
26/05/2025	36	35	36	41	38	41	42	39	42	45	40	46	59	67	58
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28/05/2025	36	36	36	40	38	46	40	40	42	43	42	46	56	46	85
29/05/2025	35	35	34	39	38	39	40	39	40	42	40	44	59	49	60
30/05/2025	31	30	31	38	35	37	39	35	39	41	37	43	59	54	64
31/05/2025	32	33	31	39	37	38	38	38	38	41	40	44	67	48	60

Note 1: L₉₀ of L_{A90} daily levels by period were taken instead of the median, as discussed in Section 2.2.





Appendix B Weekly Graphs

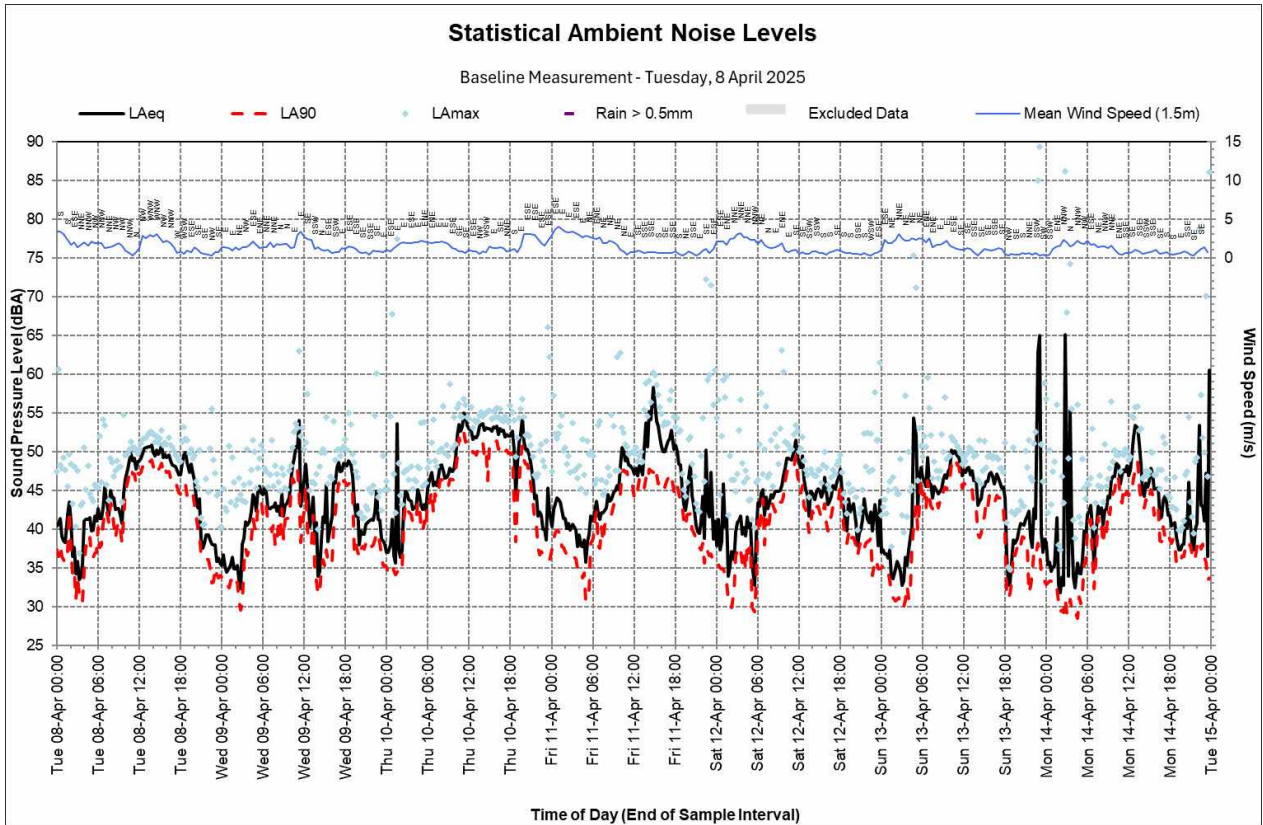
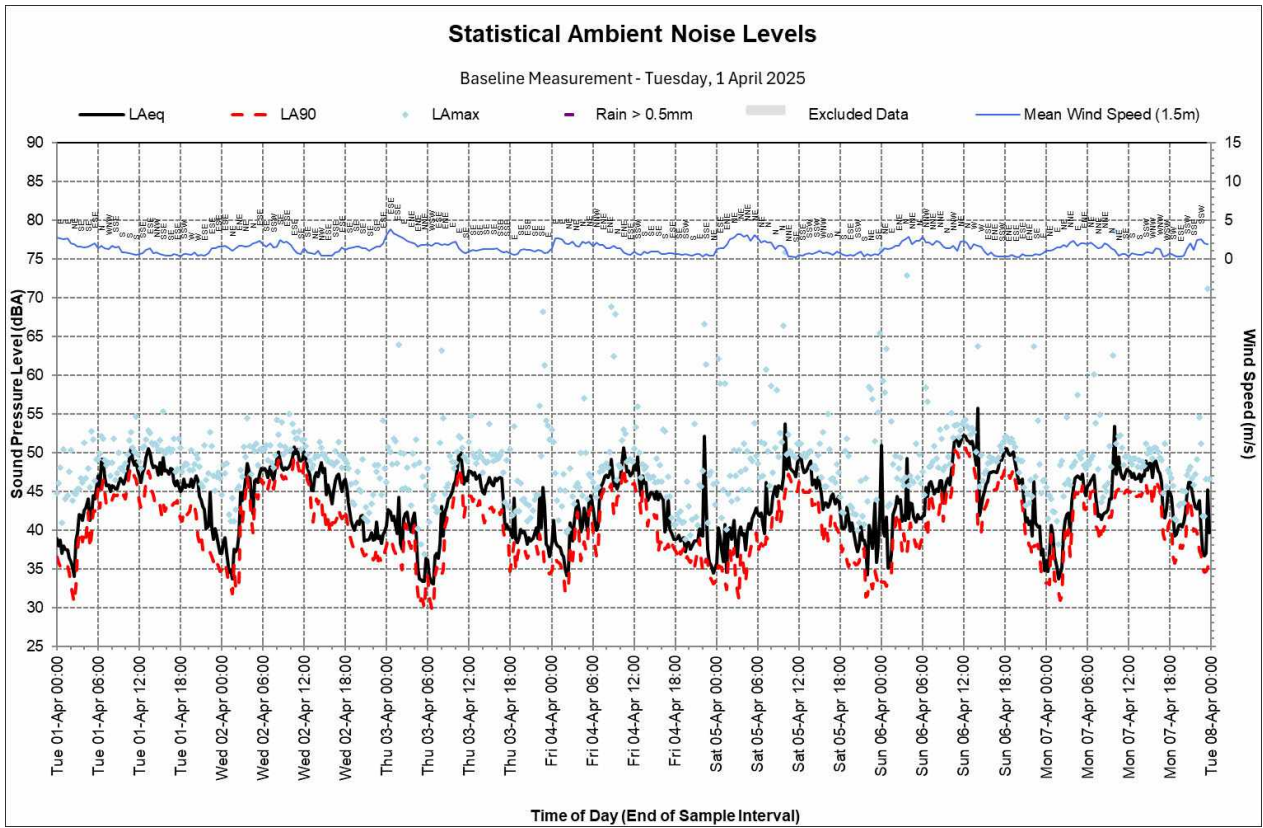
Mulga Baseline Noise Monitoring

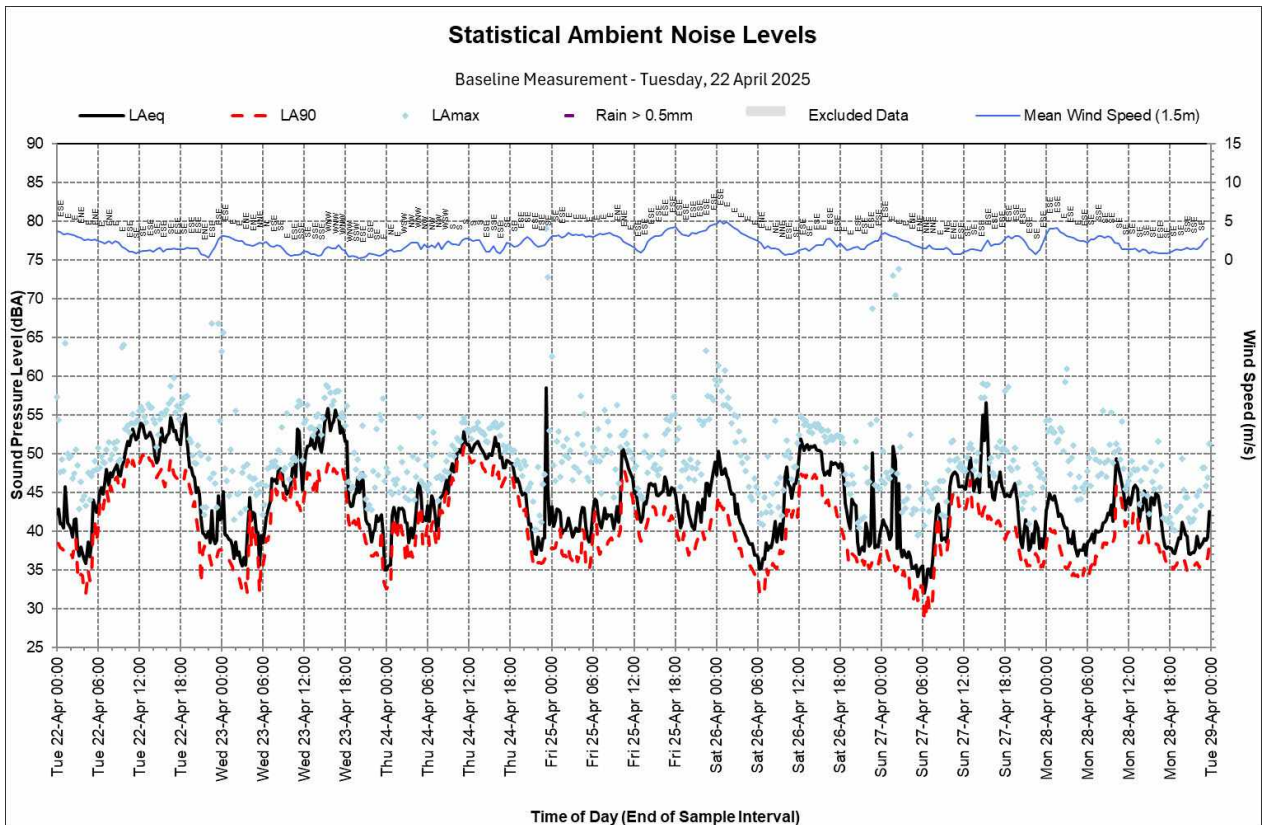
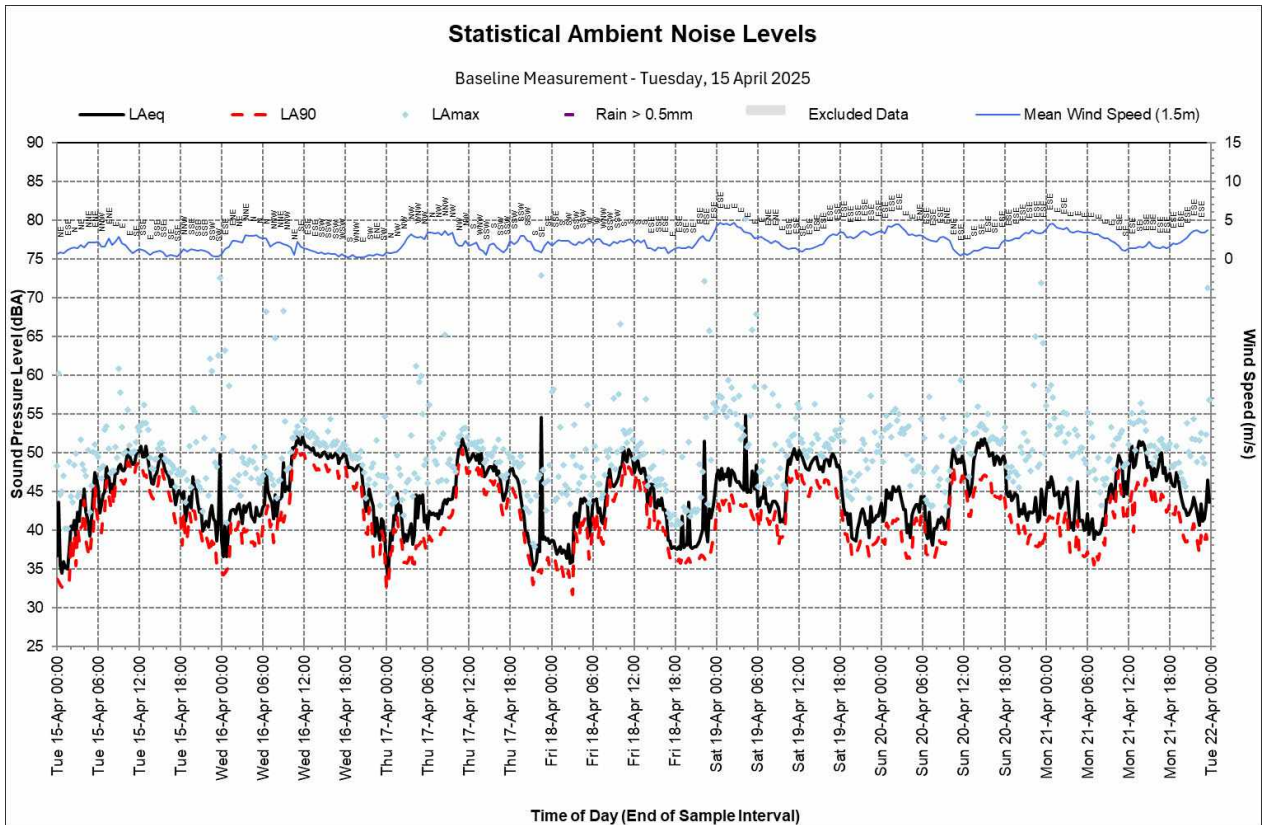
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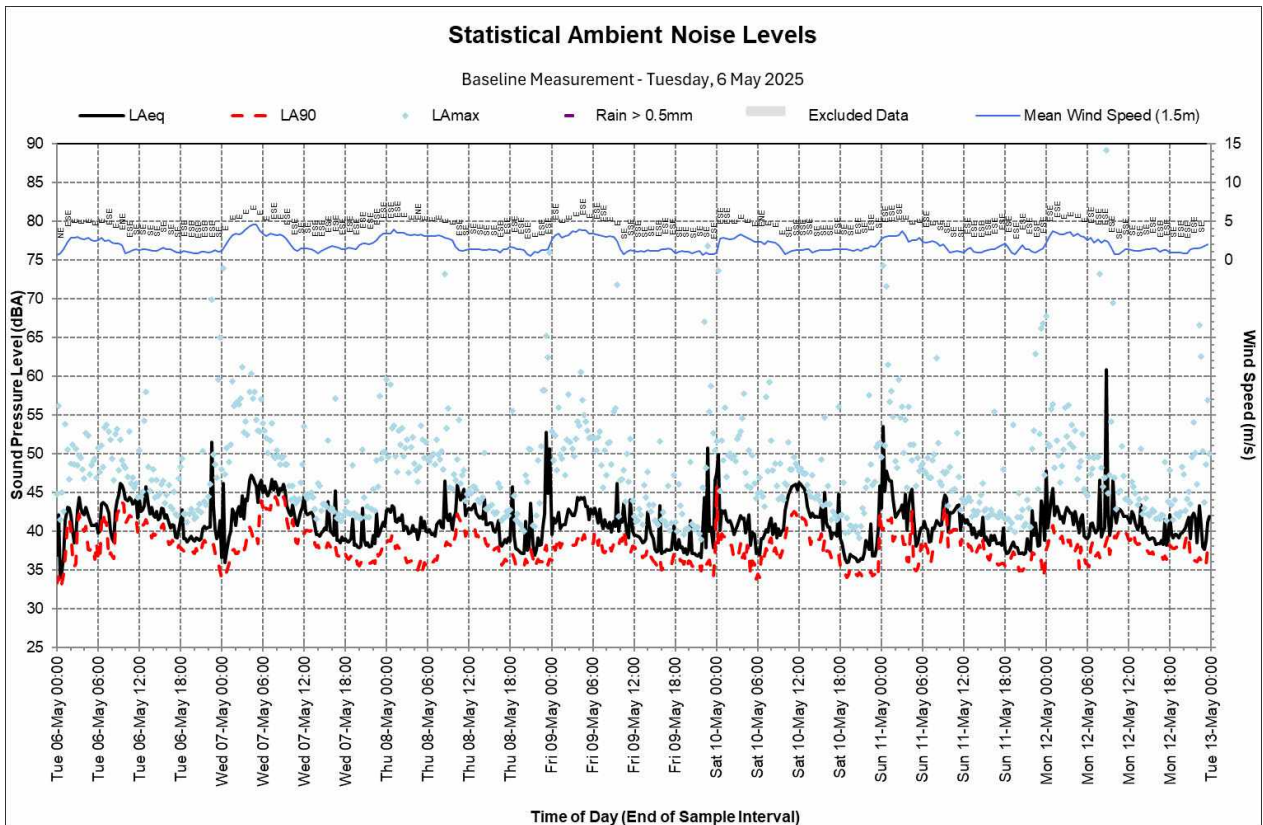
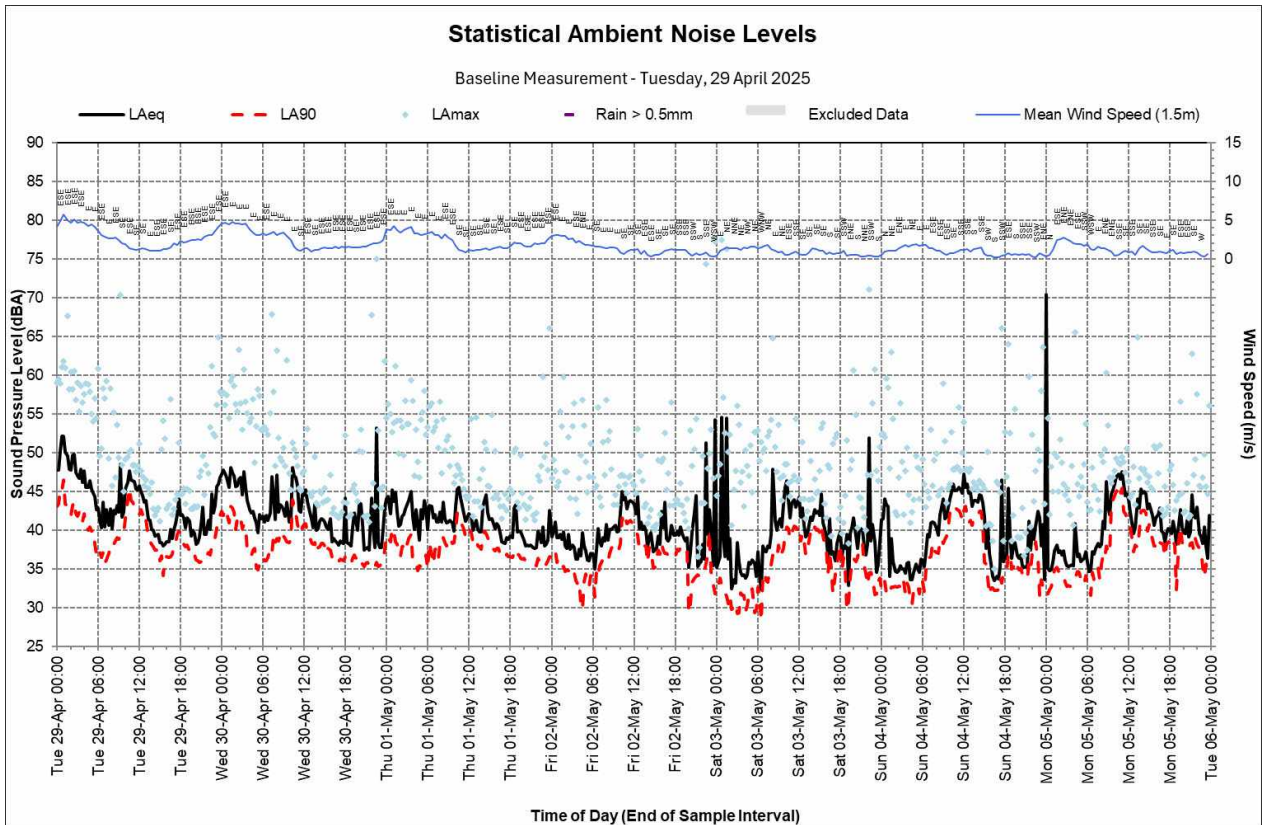
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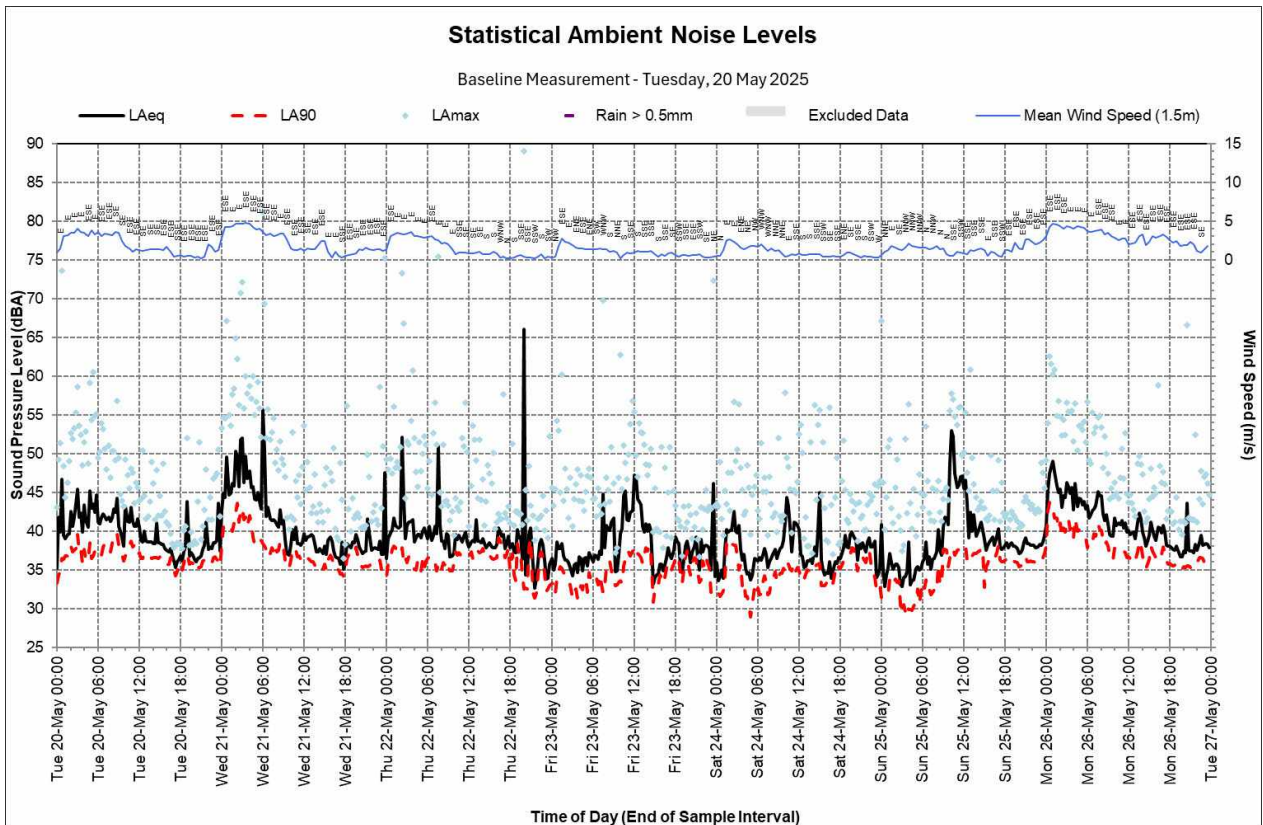
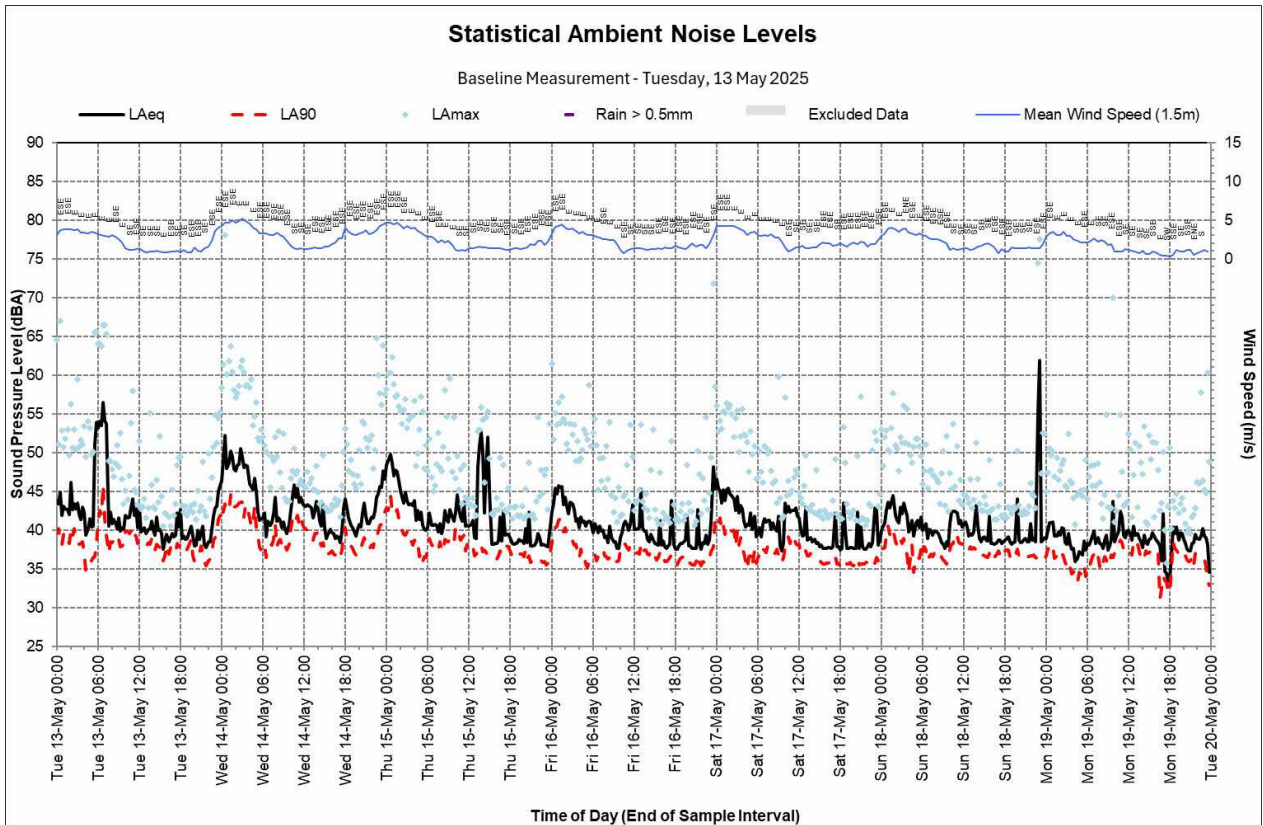
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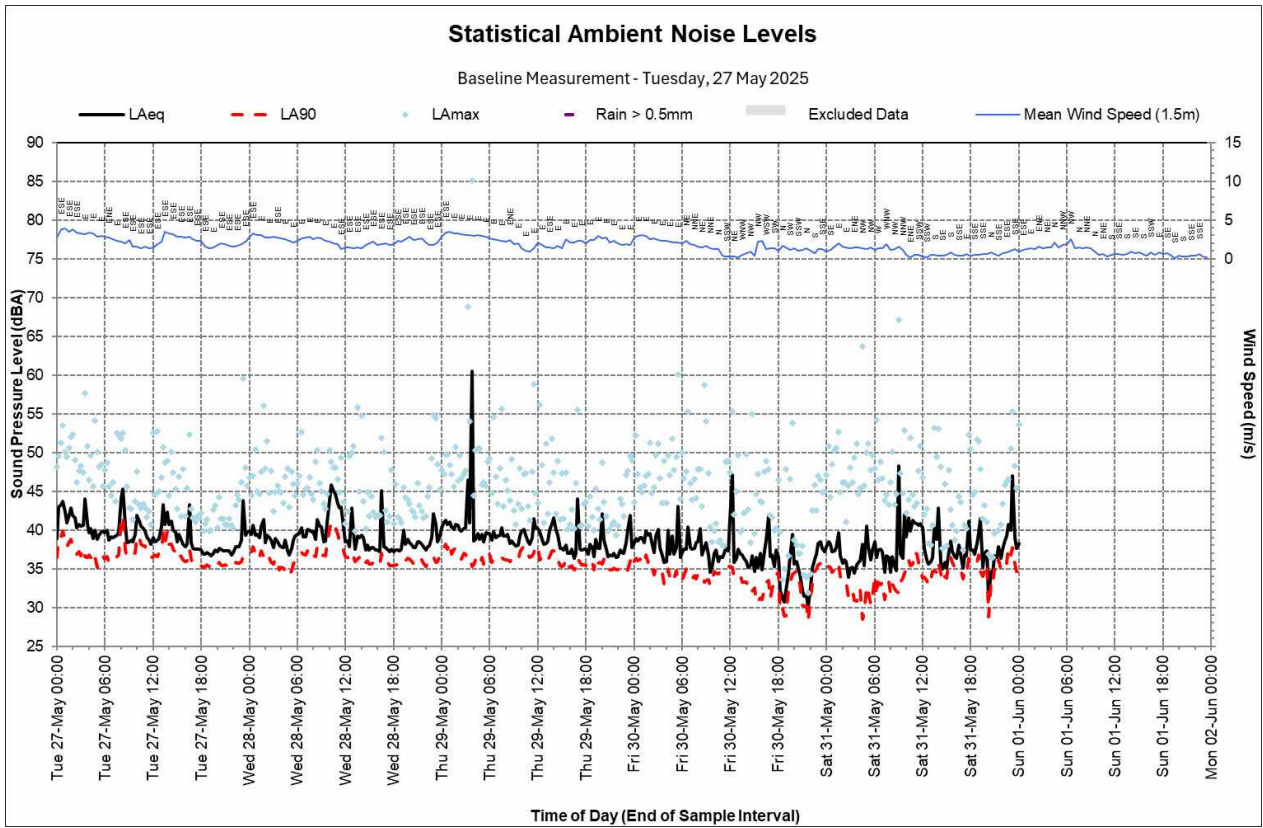
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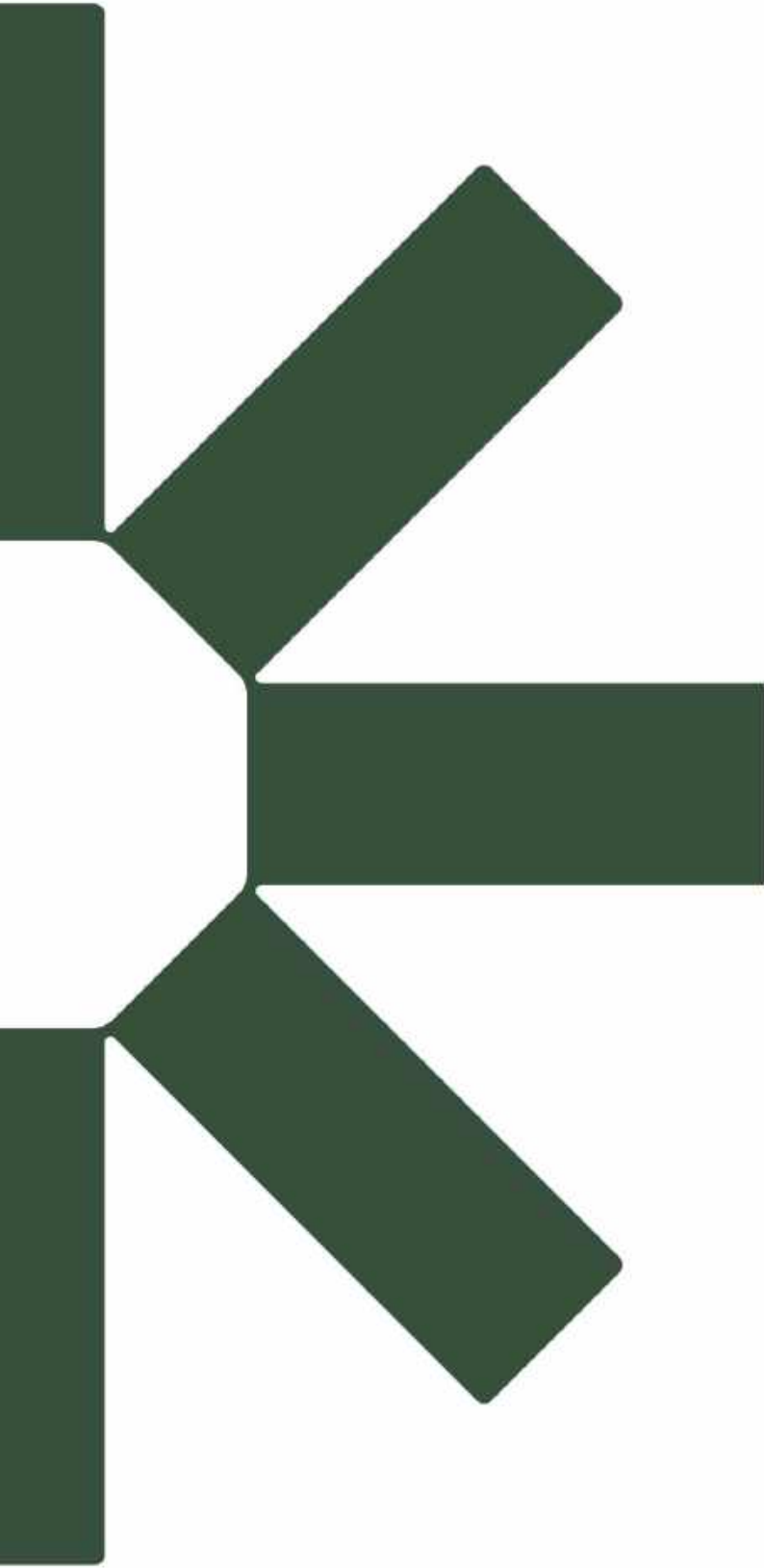












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Mulga Baseline Noise Monitoring

Bimonthly Report – July 2025

JBS&G Australia Pty Ltd

Allendale Square, Level 9/77 St Georges Terrace,
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SLR Project No.: 675.V11414.00001

9 September 2025

Revision: 1.0

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with JBS&G Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



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1.0 Introduction

SLR Consulting was engaged by JBS&G to conduct baseline noise monitoring at the Youngaleena Community (the Community) located approximately 14 km south of the proposed Mulga Downs Iron Ore Mine lease boundary.

On 31st July 2024, SLR deployed a noise logger and a weather station at the community, near the rubbish tip. **Figure 1** illustrates the monitoring locations. Air quality monitoring equipment was deployed by the SLR Air Quality team at the same time.

The monitoring location is representative of background noise levels within the community, with minimal interference from community noise. Noise from the operation of the power station's diesel generator is audible at the monitoring site. The generator operates intermittently.

This report presents the measured baseline noise levels for the period of June to July 2025.



Figure 1: Monitoring locations



Baseline noise measurements are carried out to:

- Provide data on existing background noise levels. This allows for a comparison of noise levels before and after the commencement of mining or other noise-generating activities under similar weather conditions.
- Determine the lowest normal background noise level to assess whether predicted noise from proposed developments nearby would be audible above the background noise.

The LA90 15-minute measurement parameter is commonly used to represent the lowest normal background noise level during a 15-minute period. These lowest noise levels typically occur during calm conditions, such as night when noise from animals, human activity, and insects is minimal.

For daily summaries, the 10th percentile LA90 (L90 of LA90), instead of the median, is useful to indicate the levels in the quieter times of each period.

2.0 Method

2.1 Equipment status


The noise monitor can be operated remotely via the Telstra mobile data network. It features automatic self-checking capabilities and will indicate any issues with the instrument through the remote connection.

The air quality team visits the site every two months to collect dust samples and perform a visual inspection of the noise monitor and its enclosure. During the site visit in early July 2025, the noise monitor appeared to be in good condition.

The noise monitor operated correctly throughout the June to July period.

One self-powered Type 1 approved, NATA calibrated noise logger and weather station has been deployed on site. **Table A** presents the equipment details.

Table A: Equipment details as of 31st July 2024

Parameter	Noise Logger	Weather Station
Photo (on 31 st July 2024)		
Serial Number	131853	24220054
Make/Model	Svantek SV307A	Maximet GMX600-1B
Calibration date	2 nd July 2024	-
Calibration date due	1 st July 2026	-



2.2 Monthly levels

The following steps were carried out to present the monthly levels:

- 1 Measurement periods that contained adverse weather conditions for monitoring were excluded as per the below:
 - a) Rainfall > 0.5 mm/hr;
 - b) Average wind speed > 5 m/s; and
- 2 Daily summarisation – the median daily noise levels by period (day, evening and night) were calculated; and

Note: The exception to this is L_{A90} , where the 10th percentile is taken instead.

- 3 Monthly summarisation – the above daily values were then aggregated by taking the median for each month.

3.0 Baseline noise – June 2025

3.1 Weather

Figure 2 presents meteorological data recorded by the installed weather station during this period.

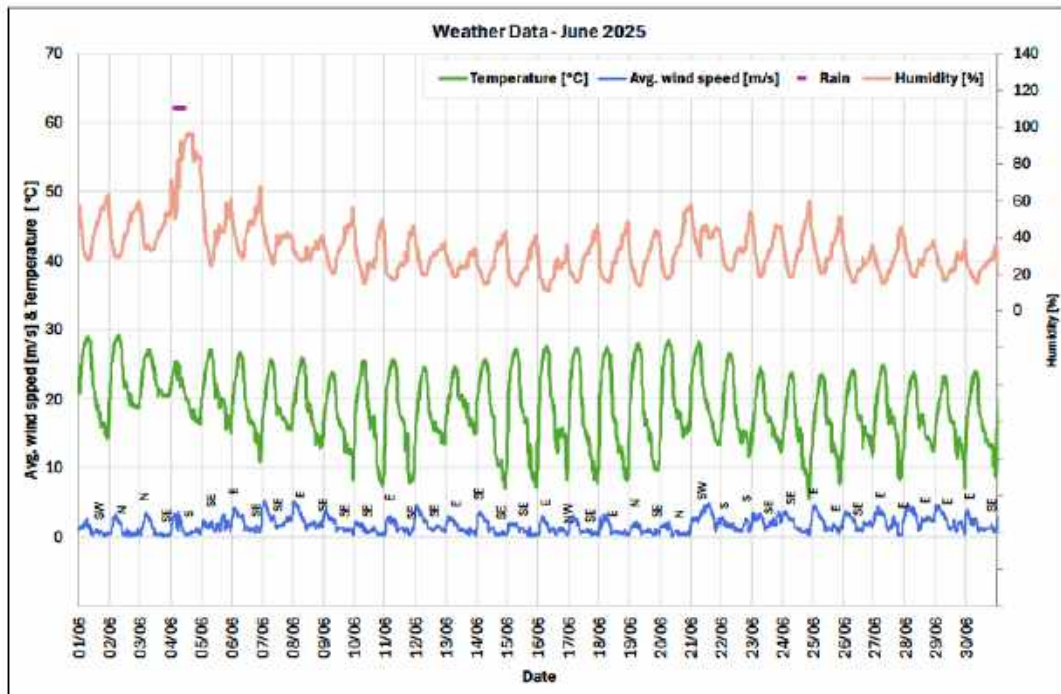


Figure 2: Daily weather data, June 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 3 for the period. Prevailing winds for the measurement period are from the east and southeast.



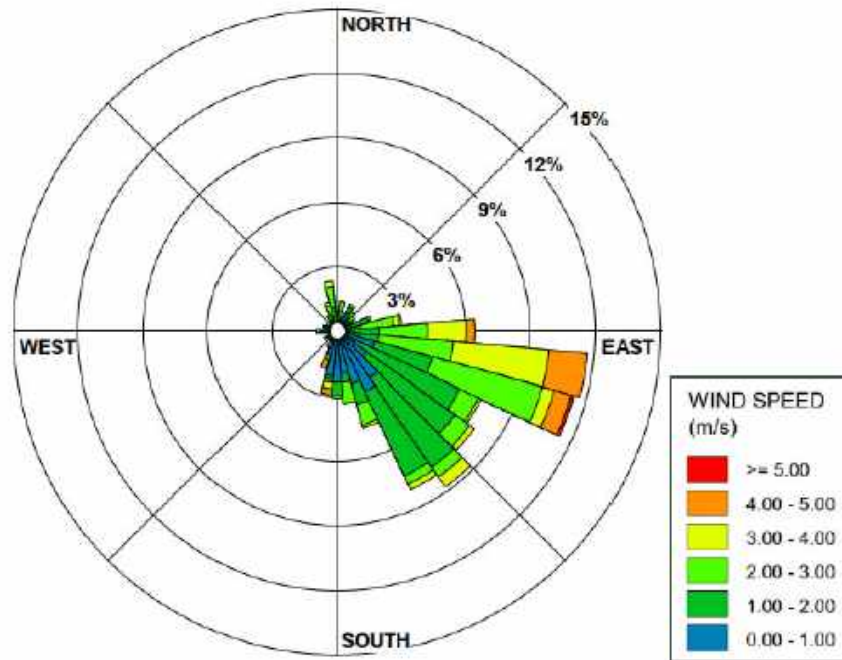


Figure 3: Wind rose, June 2025

3.2 Airborne noise

Figure 4 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

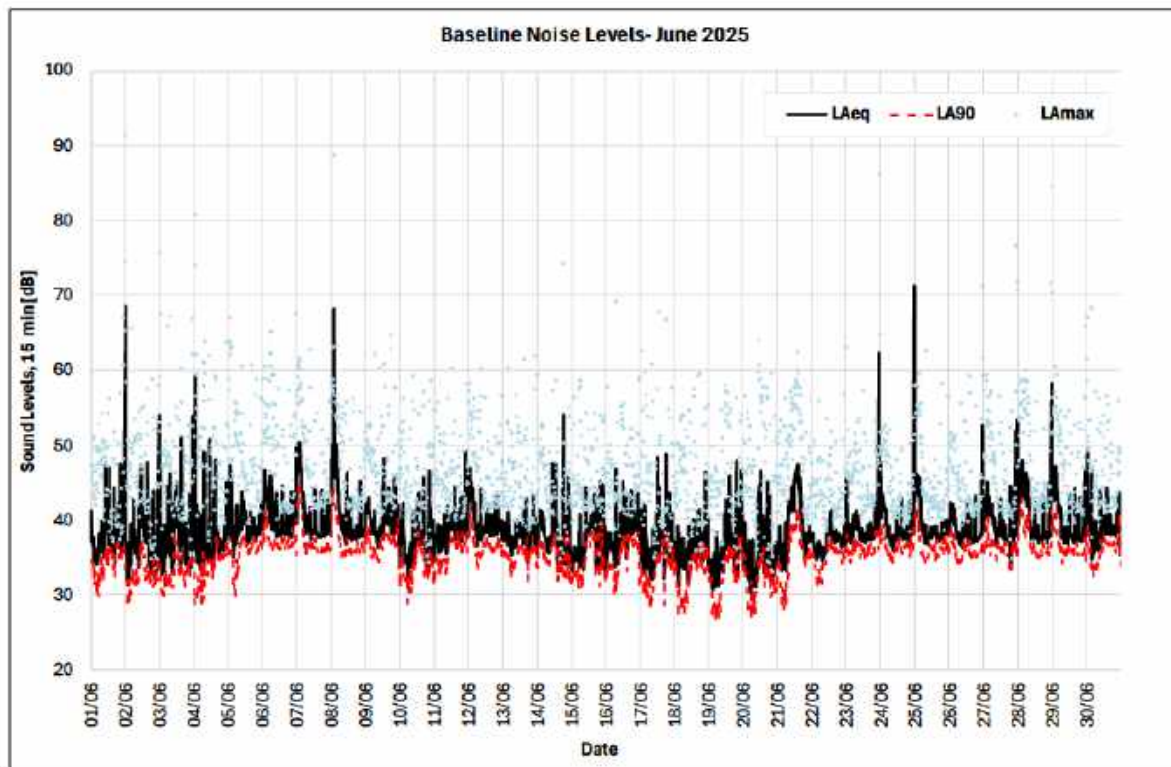


Figure 4: Baseline noise measurements, June 2025



3.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with no equipment downtime.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 27 – 37 dB, with typical level below L_{A90} 34 dB.

Background noise due to the local surroundings follows a pattern linked to the daily cycle of sun-up to sun-down, in part due to bird activity at dawn and dusk. Background noise is also affected by wind speed, with higher wind speeds generating noise from trees and grasses because of the movement of leaves.

4.0 Baseline noise – July 2025

4.1 Weather

Figure 5 presents meteorological data recorded by the installed weather station during this period.

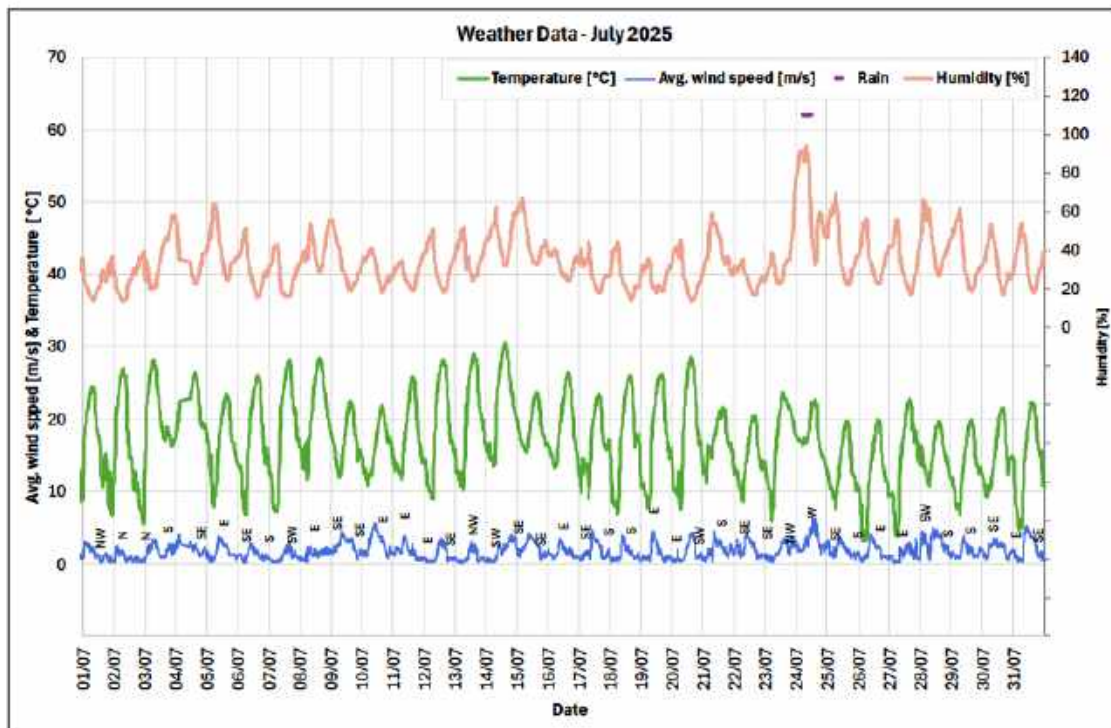


Figure 5: Weather data, July 2025

Wind direction and windspeed (1.5 m elevation) are presented as a wind rose in Figure 6 for the period. Prevailing winds for the measurement period are from the east to south.



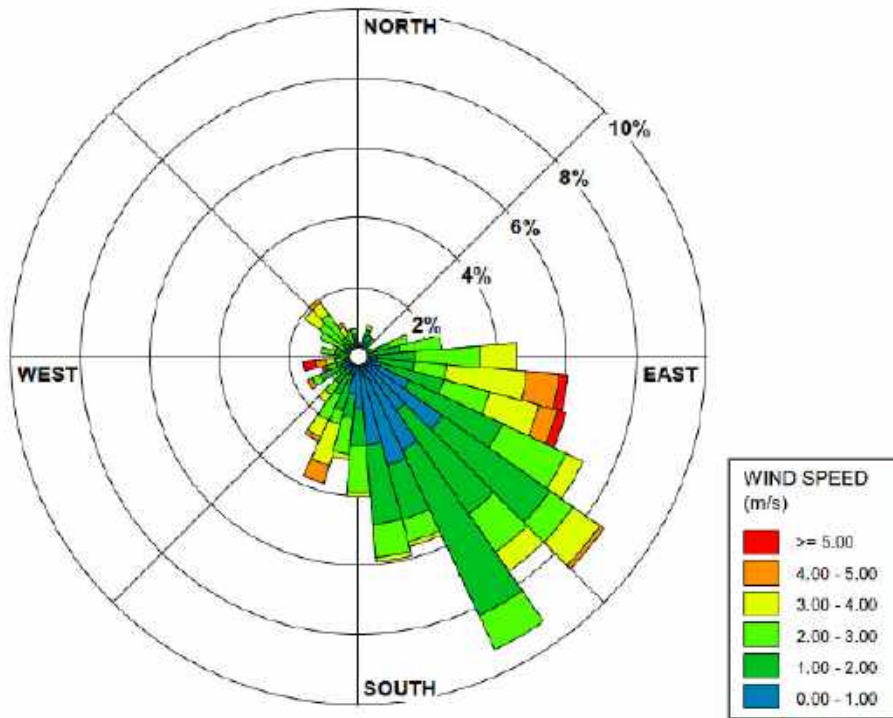


Figure 6: Wind rose, July 2025

4.2 Airborne noise

Figure 7 presents the measured baseline noise levels regarding L_{Aeq} , L_{A90} and L_{Amax} during this period.

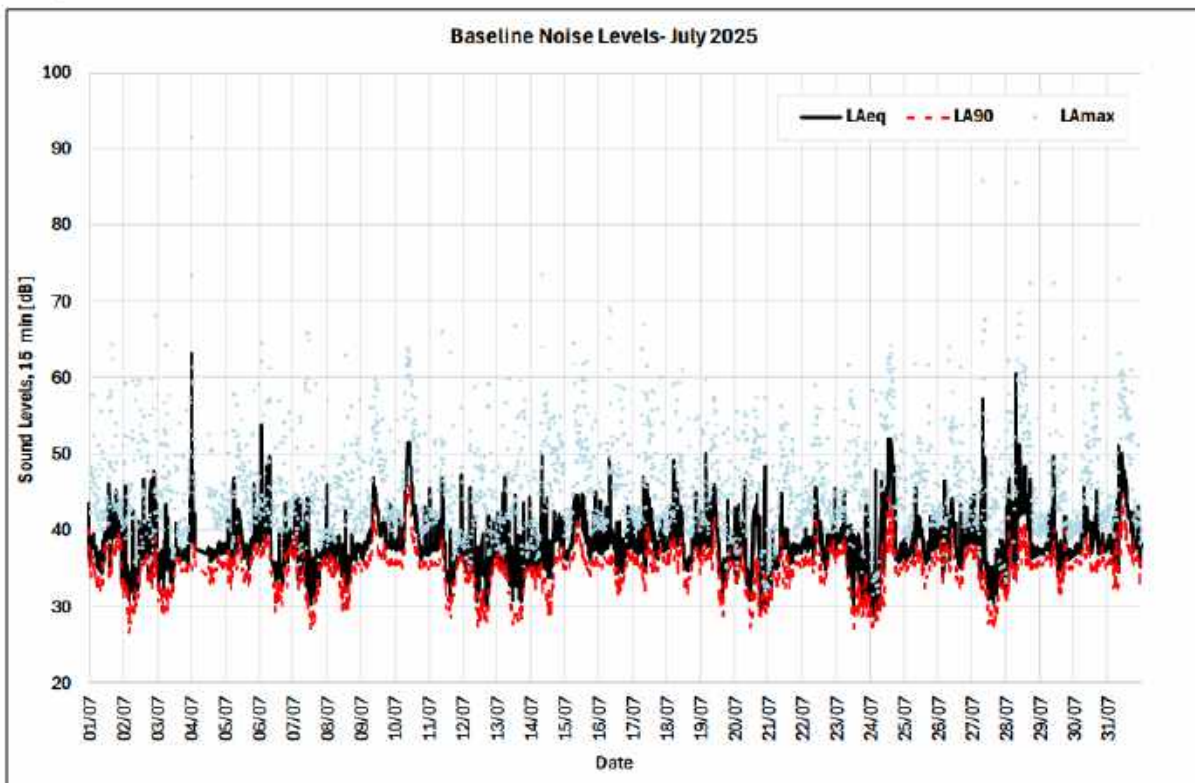


Figure 7: Baseline noise measurements, July 2025



4.3 Notes and discussion

Baseline noise monitoring was undertaken for this entire month, with equipment downtime only on 4 July between 3:00AM and 12:00PM.

There were some periods of rain. During rain events, measured noise levels can be affected by raindrop impact on the microphone windshield.

The data for this period, filtered to remove rain/wind affected measurements, shows that background noise is consistently within the range of 10th percentile L_{A90} 28 – 37 dB, with typical level below L_{A90} 34 dB.

Similar to June, the background noise in the local surroundings follows a daily cycle influenced by the natural environment and affected by wind speed.

5.0 Results summary

The measured noise levels, processed in accordance with *WA Environmental Noise Regulations 1997*, are summarised in **Table B**.

Table B: Summary of noise levels

Month	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
June 2025	34	35	33	39	39	40	39	39	40	41	41	44	59	54	62
July 2025	33	35	35	39	38	39	39	39	39	43	41	41	63	51	56

Note 1: L₉₀ or L_{A90} daily levels by period were taken instead of the median, as discussed in **Section 2.2**.





Appendix A Daily Noise Results Table

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Table C: Daily noise levels, filtered for adverse weather

Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
01/06/2025	33	35	29	40	40	53	39	38	39	41	39	44	56	57	91
02/06/2025	32	31	30	40	37	41	41	35	38	44	36	43	57	59	76
03/06/2025	31	33	29	40	37	46	41	36	38	43	37	46	67	53	81
04/06/2025	33	35	31	40	37	41	37	38	40	39	39	48	62	50	67
05/06/2025	36	35	36	40	38	42	41	40	43	45	42	49	61	59	65
06/06/2025	36	36	36	39	40	45	40	40	45	42	42	50	59	53	68
07/06/2025	36	36	36	39	39	53	40	40	47	42	43	52	63	51	89
08/06/2025	35	36	35	39	40	40	39	40	41	42	42	46	56	54	62
09/06/2025	35	37	31	40	41	37	41	41	37	42	43	43	65	58	56
10/06/2025	32	32	32	38	39	38	38	36	39	40	37	43	59	59	56
11/06/2025	34	36	35	39	39	43	40	40	43	42	41	47	60	49	58
12/06/2025	35	36	34	39	39	38	40	40	39	42	42	42	60	50	60
13/06/2025	34	35	34	38	38	39	39	38	40	40	40	44	61	51	62
14/06/2025	32	33	31	41	40	36	38	39	36	41	41	40	74	55	59
15/06/2025	32	33	31	39	40	37	40	41	37	42	42	42	54	54	58
16/06/2025	32	37	30	40	40	38	40	41	38	42	43	43	69	52	63
17/06/2025	29	33	29	39	39	36	37	37	38	39	38	41	68	55	58
18/06/2025	29	34	27	36	39	35	37	39	34	39	40	39	60	55	55
19/06/2025	30	31	28	38	40	37	38	38	36	40	40	41	58	56	56
20/06/2025	28	30	29	39	34	36	36	35	37	38	36	42	64	60	56
21/06/2025	35	34	32	43	37	37	45	39	38	50	40	41	62	52	56
22/06/2025	34	35	35	38	37	39	39	39	40	41	41	44	54	51	63
23/06/2025	35	36	35	38	40	48	39	42	42	41	45	47	57	53	86
24/06/2025	34	35	35	38	39	56	39	39	43	41	40	48	50	50	93
25/06/2025	35	36	35	38	39	40	39	40	41	41	42	45	63	58	56
26/06/2025	34	35	36	38	38	43	39	39	43	41	41	48	59	43	71
27/06/2025	35	33	36	38	40	46	39	40	47	41	41	52	57	55	77
28/06/2025	35	35	36	40	39	46	40	40	45	42	42	50	56	52	85
29/06/2025	35	35	33	39	38	41	39	39	41	41	41	45	55	53	68
30/06/2025	34	36	33	39	39	38	40	40	39	42	42	42	56	56	58
01/07/2025	33	37	28	39	40	37	40	41	35	42	43	38	64	44	60
02/07/2025	31	32	29	38	41	38	37	39	38	39	40	42	60	60	68



Date	L _{A90} ¹			L _{Aeq}			L _{A10}			L _{A1}			L _{Amax}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
03/07/2025	31	34	35	37	37	51	38	38	41	39	40	45	58	56	92
04/07/2025	33	35	35	37	38	39	39	39	39	41	41	41	53	45	58
05/07/2025	33	37	37	39	40	43	40	40	42	43	42	43	56	58	65
06/07/2025	31	35	33	38	38	39	37	40	39	39	41	40	57	56	55
07/07/2025	28	35	34	37	37	38	35	38	38	39	39	39	66	48	57
08/07/2025	30	35	35	37	37	38	37	39	39	42	40	41	63	52	57
09/07/2025	36	35	35	42	39	39	43	40	40	47	41	42	60	53	54
10/07/2025	35	35	35	46	38	39	46	38	39	51	40	41	64	53	55
11/07/2025	30	35	33	38	37	39	37	38	38	39	39	39	66	44	56
12/07/2025	28	34	34	36	37	39	37	37	38	42	38	40	59	50	57
13/07/2025	28	34	33	36	37	37	35	37	38	41	38	39	67	57	54
14/07/2025	30	36	35	40	40	39	38	42	39	46	47	41	73	55	65
15/07/2025	35	35	35	41	38	39	43	39	39	48	41	41	62	50	54
16/07/2025	33	36	35	40	39	38	39	39	39	43	41	41	69	51	64
17/07/2025	33	36	35	41	39	40	41	40	40	45	41	41	67	60	59
18/07/2025	33	37	36	39	40	41	39	40	40	41	41	42	61	55	60
19/07/2025	32	36	34	40	39	39	38	39	39	42	40	40	58	53	56
20/07/2025	28	30	30	39	40	35	39	34	36	44	35	37	57	57	48
21/07/2025	33	35	35	39	37	38	40	39	40	45	41	42	56	48	51
22/07/2025	33	37	36	40	39	40	40	40	40	43	41	42	59	46	56
23/07/2025	28	29	28	37	38	36	37	39	32	43	42	37	62	51	58
24/07/2025	31	34	35	46	37	38	47	38	39	52	41	40	64	50	53
25/07/2025	34	36	35	39	38	39	40	39	40	44	41	42	62	49	55
26/07/2025	33	36	33	40	39	40	39	40	40	44	41	42	64	49	56
27/07/2025	28	32	31	42	36	39	36	36	39	40	38	43	86	50	62
28/07/2025	35	35	35	47	37	38	46	39	39	52	41	40	86	47	55
29/07/2025	33	35	35	40	37	38	39	37	39	43	39	40	72	41	54
30/07/2025	35	35	34	40	38	38	41	39	39	46	41	41	65	45	50
31/07/2025	35	36	34	45	39	37	45	39	38	52	41	39	73	51	42

Note 1: L₉₀ of L_{A90} daily levels by period were taken instead of the median, as discussed in Section 2.2.





Appendix B Weekly Graphs

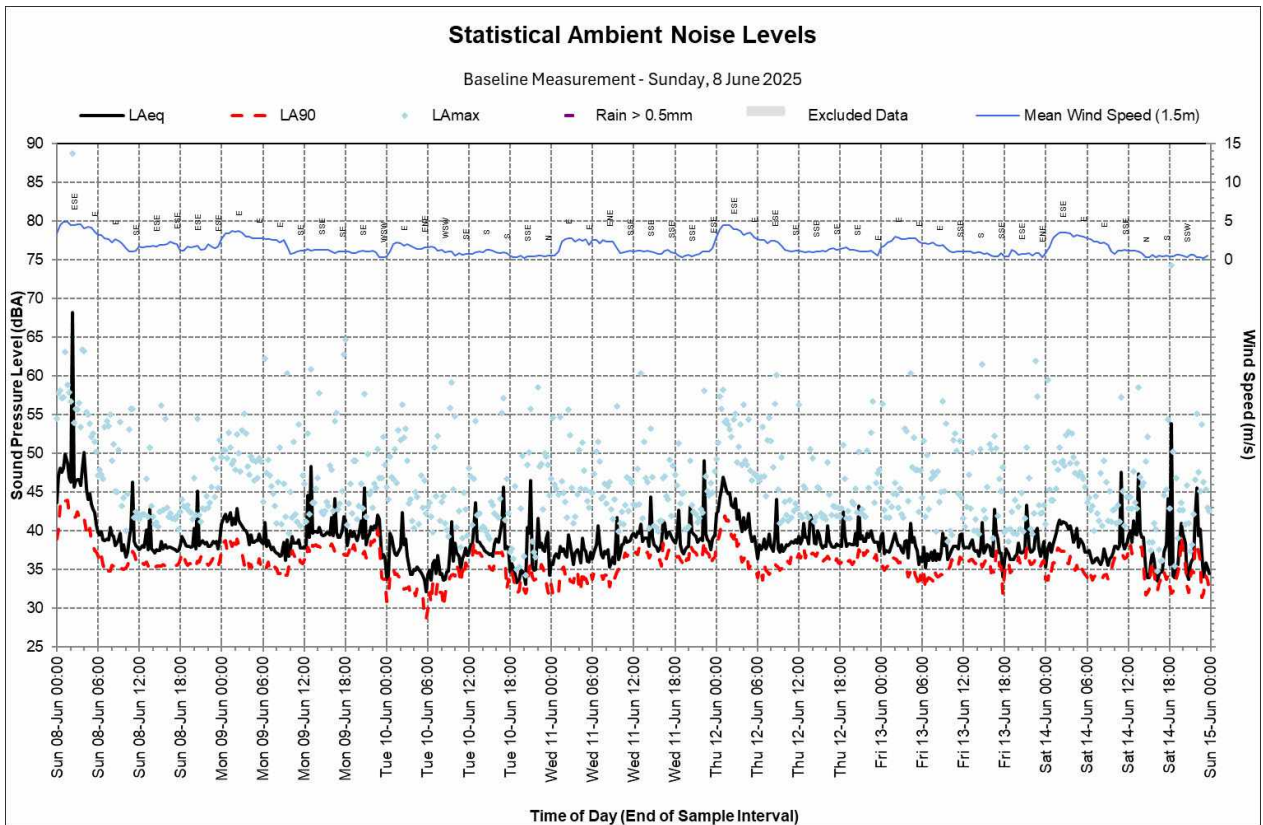
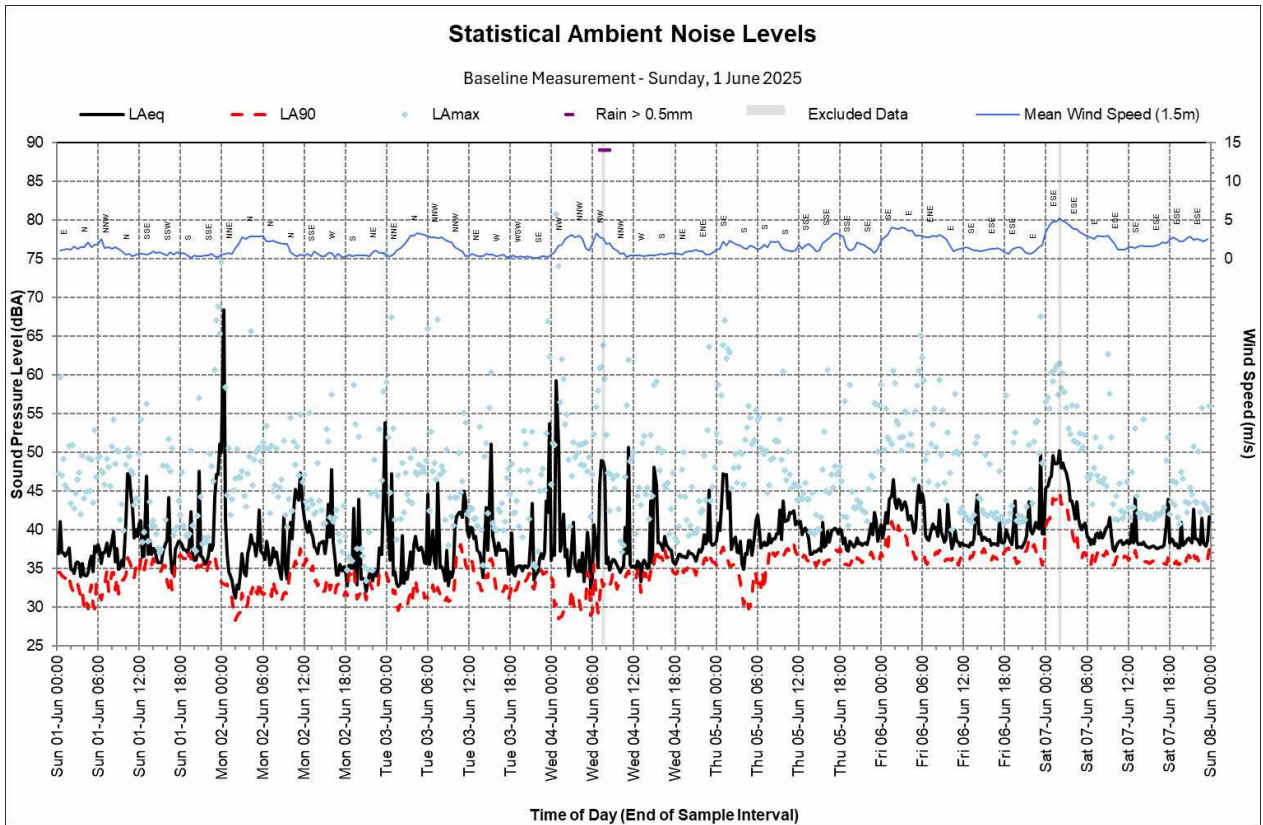
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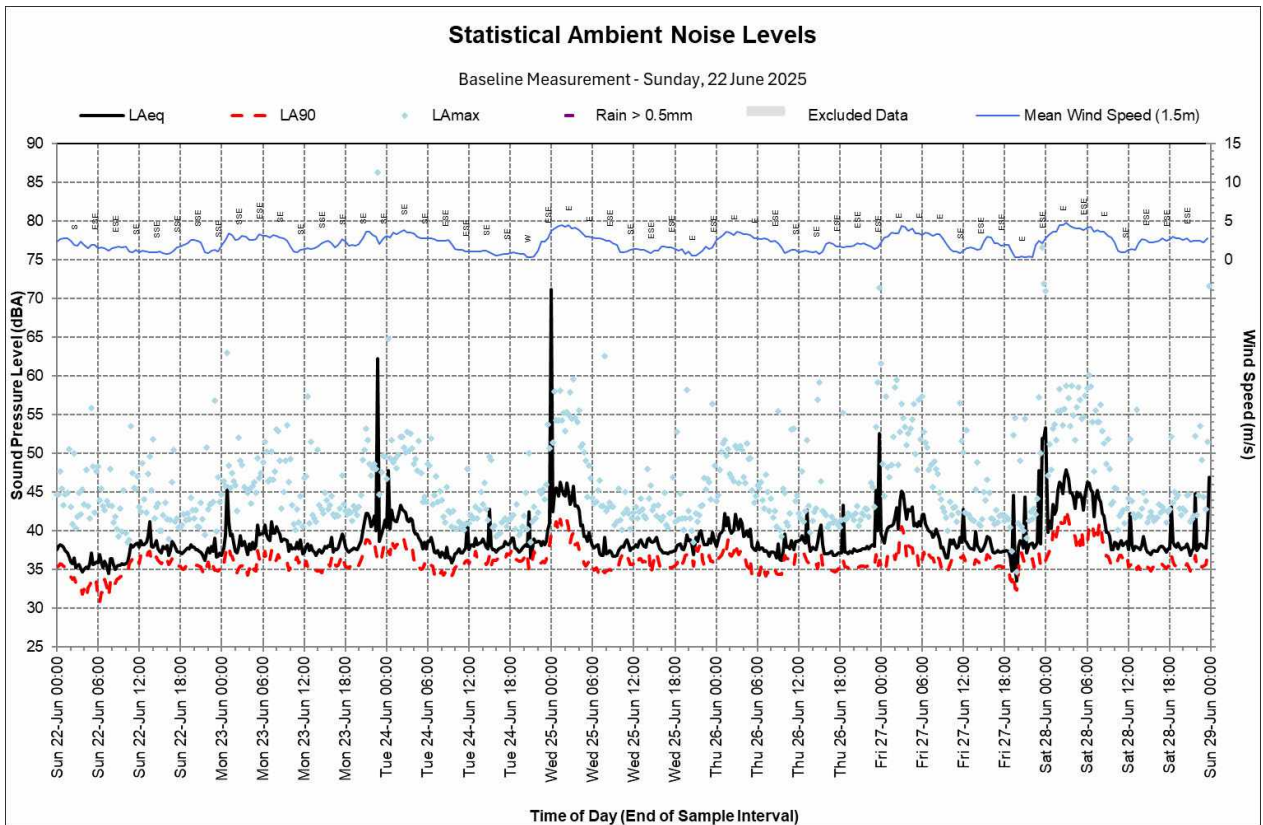
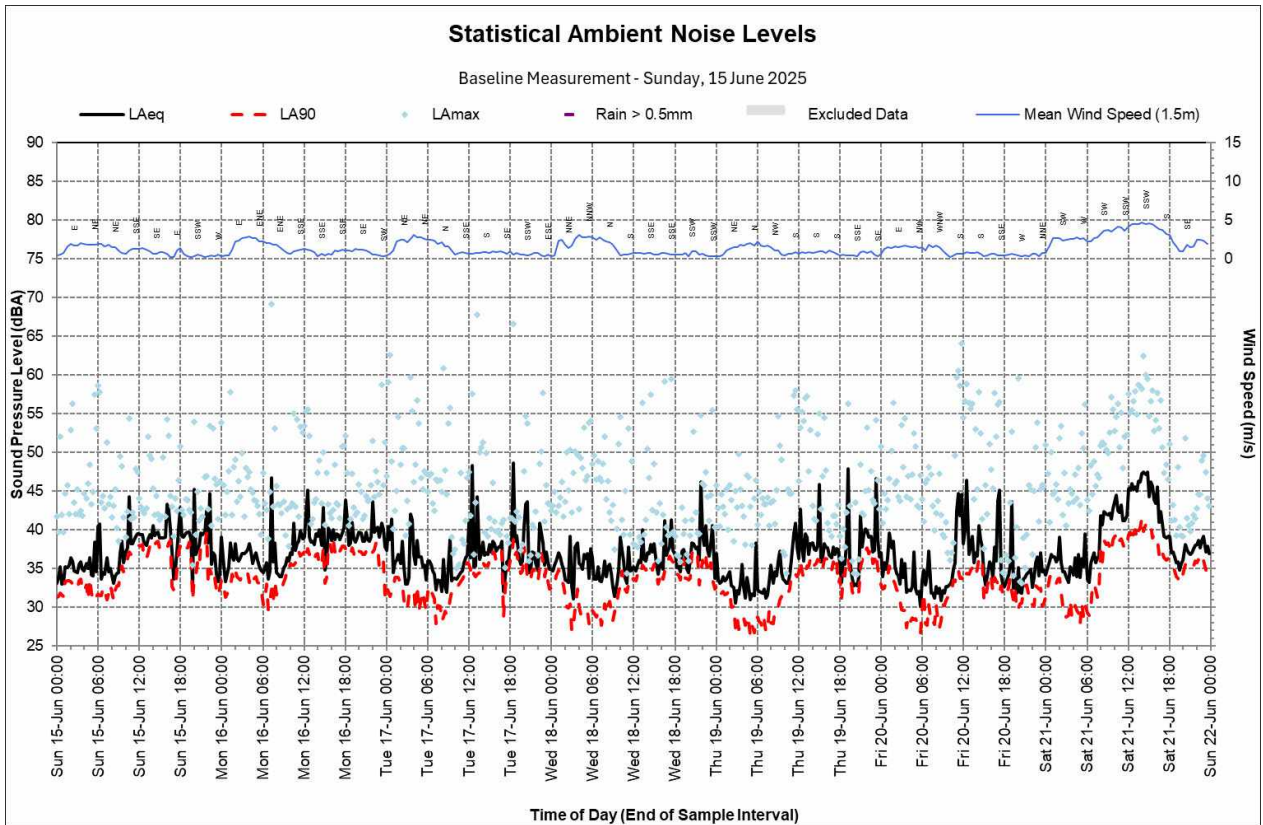
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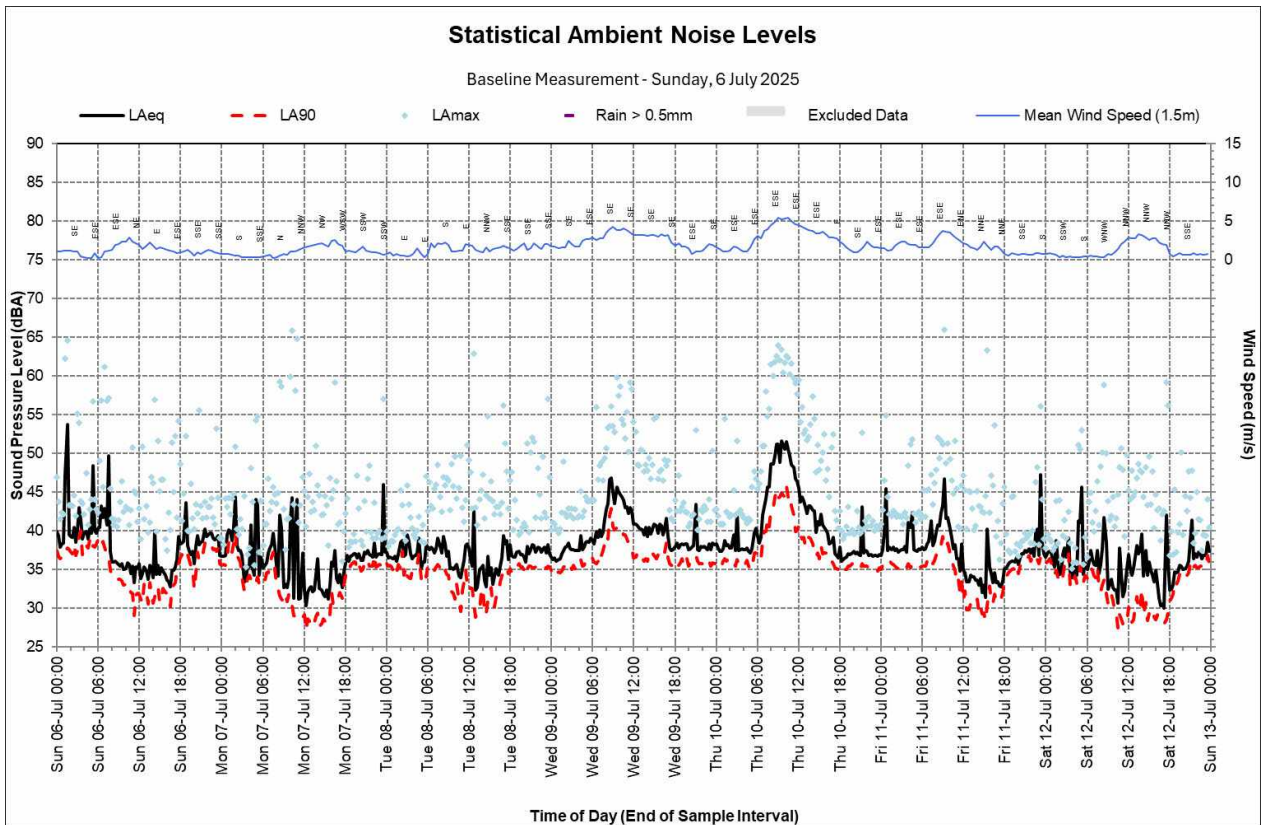
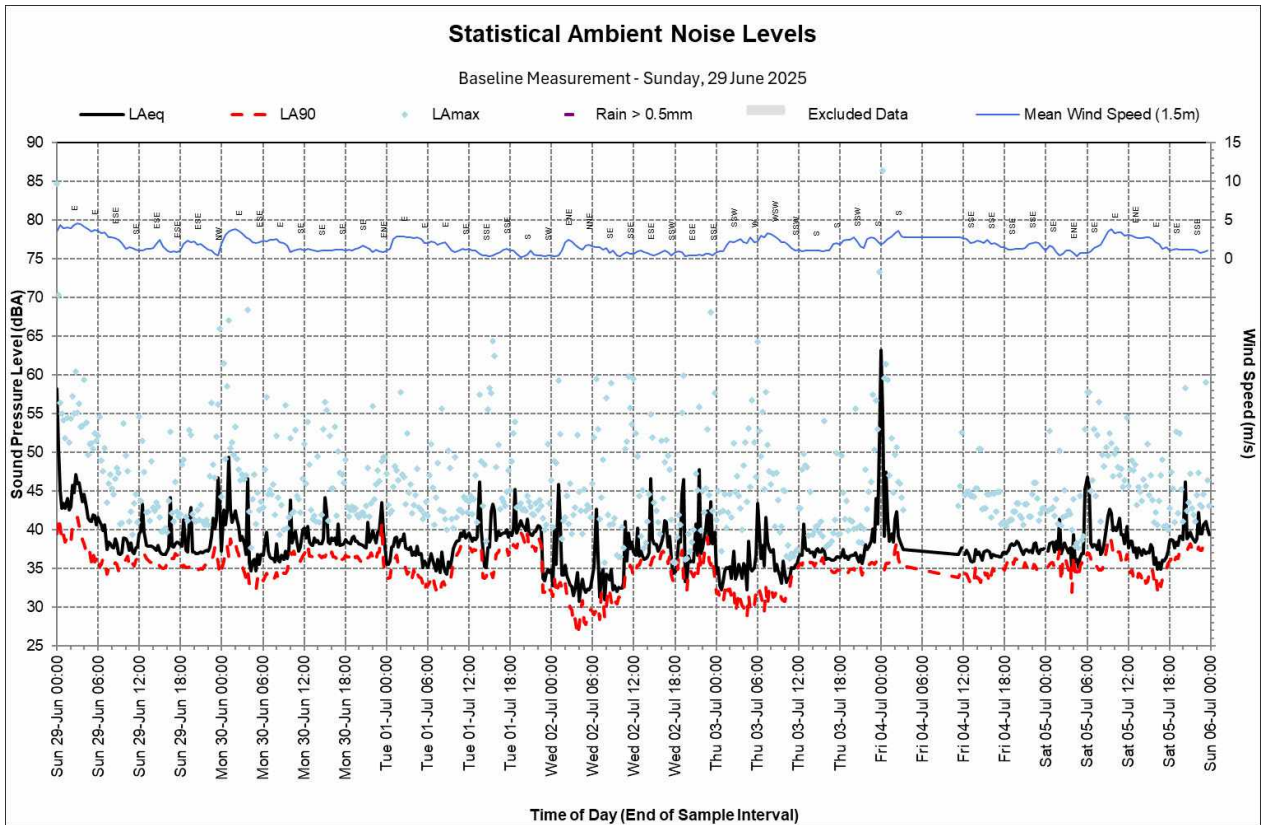
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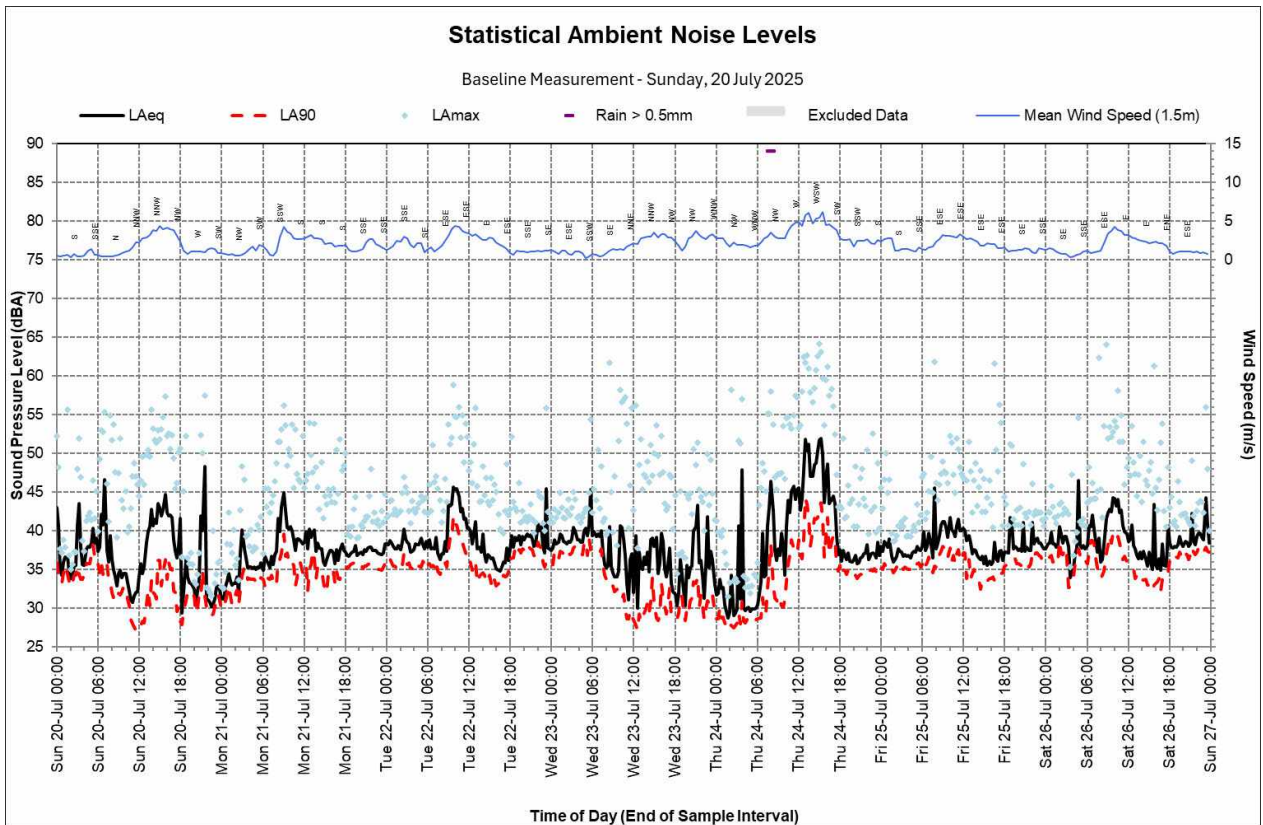
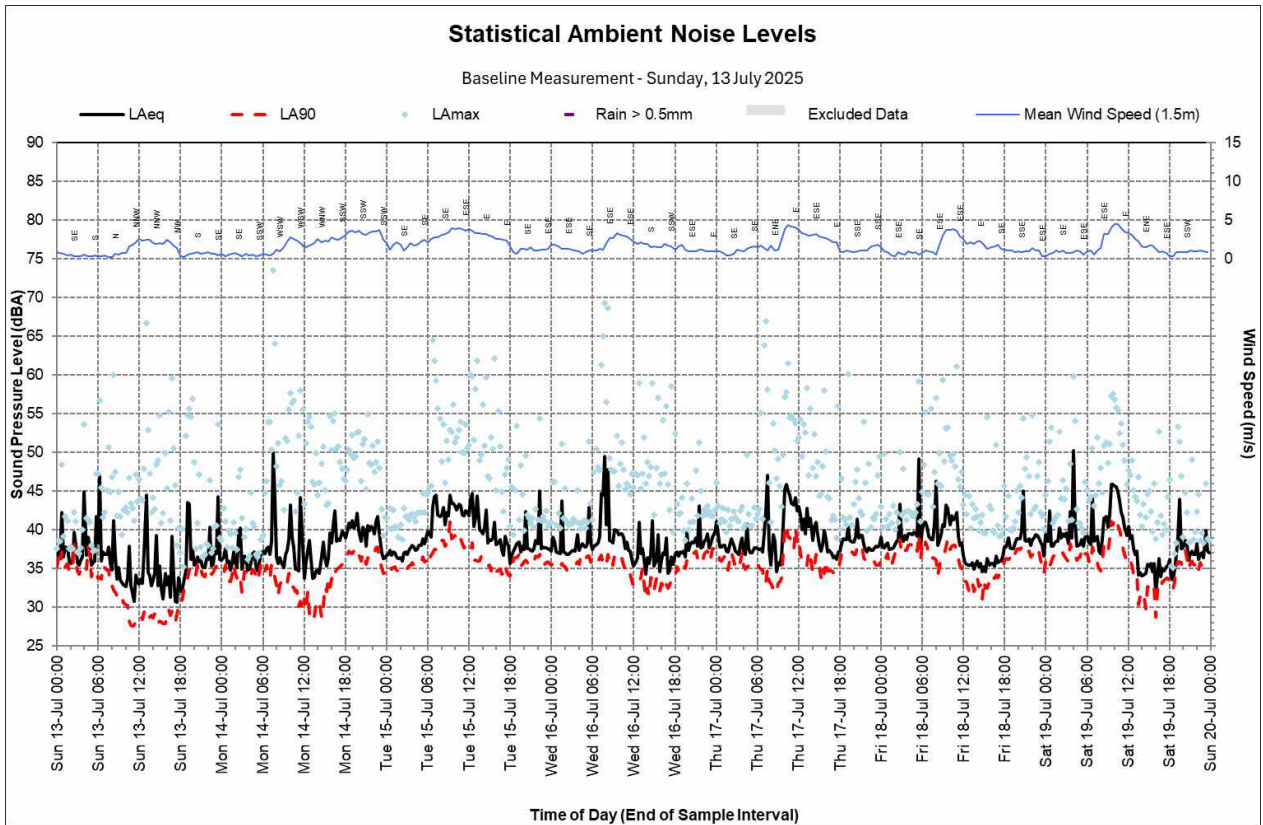
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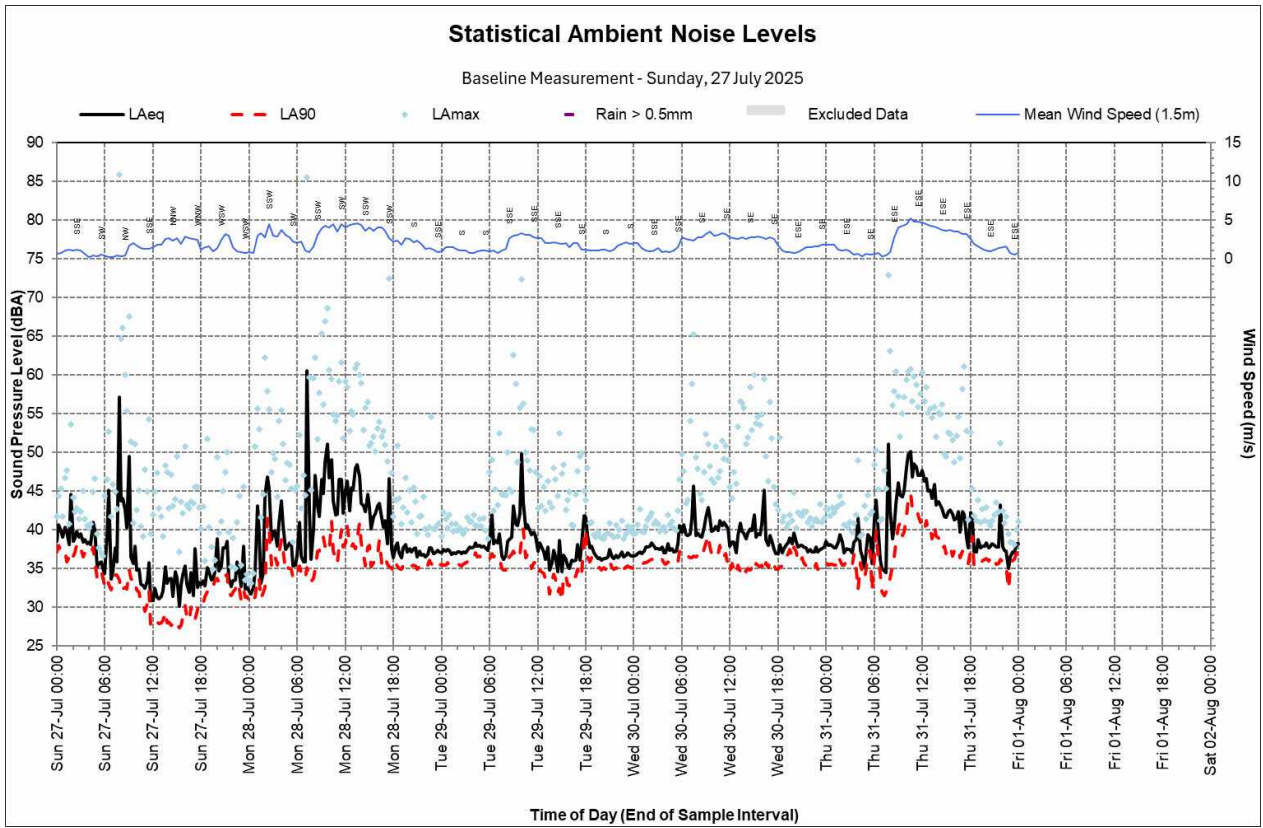
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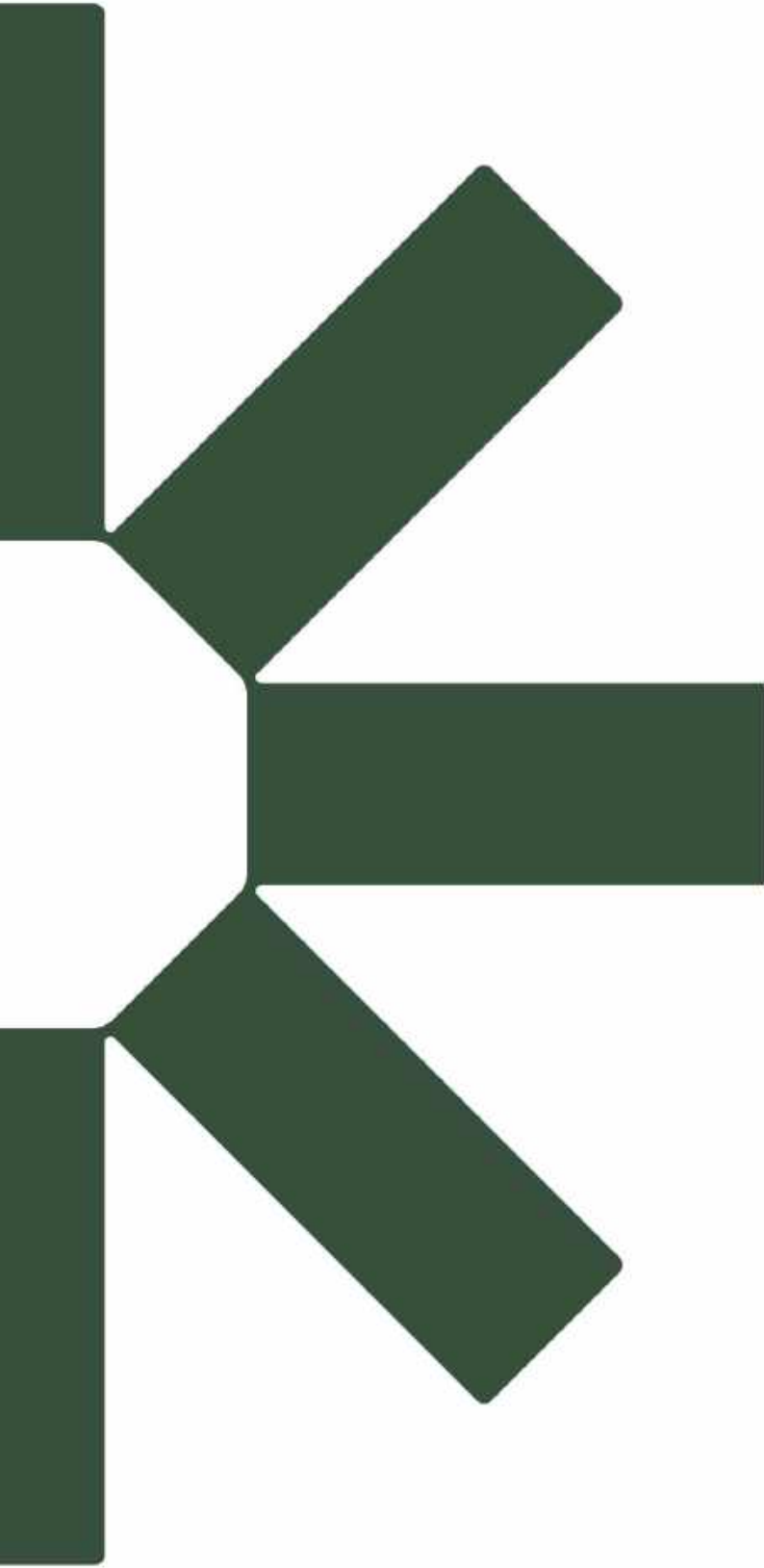












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