Noise Monitoring Assessment

Northparkes Mines
Quarter 4 , 2024,

Prepared for: Evolution Mining (Northparkes) Pty Ltd
December 2024
MAC190810-RP23

Muller Acoustic Consulting

Document Information

Noise Monitoring Assessment

Northparkes Mines

Quarter 4, 2024

Prepared for: Evolution Mining (Northparkes) Pty Ltd

PO Box 995

Parkes NSW 2870

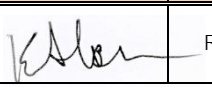
Prepared by: Muller Acoustic Consulting Pty Ltd

PO Box 678, Kotara NSW 2289

ABN: 36 602 225 132

P: +61 2 4920 1833

www.mulleracoustic.com

DOCUMENT ID	DATE	PREPARED	SIGNED	REVIEWED	SIGNED
MAC190810-RP23	18 December 2024	Kristian Allen		Rod Linnett	

Field Officer: Kristian Allen

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Evolution Mining (Northparkes) Pty Ltd to complete a Noise Monitoring Assessment (NMA) for Northparkes Mines (Northparkes), 27km Northwest of Parkes, NSW. The NMA has been completed to quantify operational noise emissions as per Conditions 1 to 5 of Schedule 3 of the Project Approval Conditions (PA #11_0060) and the Northparkes Noise Management Plan (NMP, 2019).

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

- NSW Environment Protection Authority (EPA) 2017, Noise Policy for Industry (NPI);
- NSW Environment Protection Authority (EPA's), Approved Methods for the measurement and analysis of environmental noise in NSW, 2022; and
- Standards Australia AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures.

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

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2 Noise Criteria

2.1 Operational Noise Criteria

This assessment has adopted criteria as per Conditions 1 to 5 of Schedule 3 of PA #11_0060 and the NMP, 2019 (see **Appendix B**) and is summarised below in **Table 1**.

Table 1 Noise Criteria

Location	Day	Evening	Night	
	dB $L_{Aeq(15min)}$	dB $L_{Aeq(15min)}$	dB $L_{Aeq(15min)}$	dB $L_{A1(1min)}$
All privately-owned land	35	35	35	45

Additionally, the conditions state:

> *Operational Noise generated by the project will be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy.*
>
> *These limits apply under all meteorological conditions except the following:*
>
> - *during periods of rain or hail;*
> - *average wind speeds at microphone height exceeds 5 m/s;*
> - *wind speeds greater than 3 m/s at 10 metres above ground level; or*
> - *temperature inversion conditions of up to 3 °C/100m or alternatively a stability class of G.*
>
> *Except for wind speed at the microphone height, the data to be used for determining meteorological conditions will be that recorded by the meteorological station located onsite. Operational noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 5 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.*
>
> *These limits do not apply if NPM have an agreement with the relevant owner/s of the residences or land to generate higher noise levels, and NPM has advised the Department in writing of the terms of the agreement.*

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3 Assessment Methodology

All attended noise monitoring surveys for this assessment were conducted in general accordance with the procedures described in Standards Australia AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the NMP.

The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA.

3.1 Operational Noise Measurement Methodology

The locality surrounding the mine is primarily rural/residential. In accordance with the NMP, five representative receivers were selected for this assessment and are presented in **Table 2.**

Table 2 Noise Monitoring Locations

ID	Location	Coordinate Locations, MGA55	
		Easting (m)	Northing (m)
NM1	Hubberstone	600687	6360754
NM2	Lone Pine	593669	6358933
NM3	Milpose	594827	6352971
NM4	Hillview	602993	6353469
NM5	Adavale	593568	6356920

Note: NM5 is an additional monitoring initiative by NPM.

Monitoring locations with respect to the mine site are shown visually in **Figure 1**.

Measurements were carried out using a Svantek Type 1, 977 noise analyser. The monitoring regime consisted of three 15-minute measurements during the daytime, evening, and night-time periods at each monitoring location. Throughout each survey, the operator quantified the contribution of significant noise sources where possible.

FIGURE 1

Locality Plan

MAC190810

Northparkes Mine

KEY

Monitoring Locations

0 400 800 1200 1600 2000 m

N

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4 Results

4.1 Assessment Information

The noise monitoring assessment for the fourth quarter in the 2024 EPL period was conducted on Wednesday 4 December 2024 to Thursday 5 December 2024 by field officer Kristian Allen.

4.2 Operational Noise Results

The monitoring assessment results for each location are presented in **Table 3** to **Table 7**. Each table contains results for each of the three 15-minute measurements for daytime, evening and night-time periods for each location including wind direction, wind speed and atmospheric stability class.

Table 3 Operator-Attended Noise Survey Results – Location NM1, Hubberstone					
Time(hrs)/Date	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
Duration 15min	L_{Amax}	L_{Aeq}	L_{A90}		
Day					
14:43 05/12/2024	54	41	38	WD: NE WS: 1.0m/s Stab Class: D	Wind Gusts 32-50 Birds 30-58 Traffic 30-60 Insects 34-38 NPM Inaudible
14:58 05/12/2024	60	41	36		
15:13 05/12/2024	58	40	36		
Site $L_{Aeq(15min)}$ Contribution					<35
Evening					
20:08 04/12/2024	58	42	36	WD: E WS: 1.5m/s Stab Class: D	Insects 34-51 Birds 30-55 Traffic 30-58 Aircraft 35-61 NPM Inaudible
20:23 04/12/2024	61	45	43		
20:38 04/12/2024	58	42	39		
Site $L_{Aeq(15min)}$ Contribution					<35
Night					
22:31 04/12/2024	58	45	42	WD: NE WS: 0.5m/s Stab Class: E	Insects 40-51 Traffic 35-55 Distant Thunder 50-58 NPM Inaudible
22:46 04/12/2024	48	44	42		
23:01 04/12/2024	47	44	42		
Site $L_{Aeq(15min)}$ Contribution					<35
Site $L_{A1(1min)}$ Contribution					<45

Note: NPM denotes Northparkes Mines.

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

Table 4 Operator-Attended Noise Survey Results – Location NM2, Lone Pine					
Time(hrs)/Date Duration 15min	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
	L_{Amax}	L_{Aeq}	L_{A90}		
Day					
16:31 05/12/2024	53	41	34	WD: N WS: 1.0m/s Stab Class: A	Wind Gusts 25-35 Birds 25-55 Insects 27-39 Traffic 25-70 NPM Inaudible
16:46 05/12/2024	70	45	33		
17:01 05/12/2024	55	39	32		
Site $L_{Aeq(15min)}$ Contribution					<35
Evening					
21:12 04/12/2024	74	51	46	WD: NE WS: 1.5m/s Stab Class: E	Insects 42-55 Traffic 40-74 NPM – Site Hum <35 (barely audible <50% measurement)
21:27 04/12/2024	66	49	46		
21:42 04/12/2024	Rain Affected – No results[2]				
Site $L_{Aeq(15min)}$ Contribution					<35[1]
Night					
01:41 05/12/2024	50	47	45	WD: NE WS: 0.5m/s Stab Class: E	Insects 44-51 NPM – Site Hum <35 (barely audible <50% measurement)
01:56 05/12/2024	50	47	46		
02:11 05/12/2024	51	48	47		
Site $L_{Aeq(15min)}$ Contribution					<35[1]
Site $L_{A1(1min)}$ Contribution					<45

Note: NPM denotes Northparkes Mines.

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

Note 1: NPM Contribution derived from further analysis.

Note 2: Monitoring was unable to be completed as per Table A1, Fact Sheet A in the Noise Policy for Industry (NPI), 2017 and AS1055:2018.

Table 5 Operator-Attended Noise Survey Results – Location NM3, Milpose					
Time(hrs)/Date Duration 15min	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
	L_{Amax}	L_{Aeq}	L_{A90}		
Day					
13:30 05/12/2024	57	40	31	WD: N WS: 2.0m/s Stab Class: D	Wind Gusts 28-59 Birds 25-51 Aircraft 25-46 NPM Inaudible
13:45 05/12/2024	59	39	29		
14:00 05/12/2024	57	40	32		
Site $LA_{eq(15min)}$ Contribution					<35
Evening					
19:15 05/12/2024	52	35	31	WD: N WS: 1.0m/s Stab Class: E	Insects 29-48 Birds 30-56 Traffic 25-33 NPM – Site Hum <30 (barely audible throughout)
19:30 05/12/2024	51	35	32		
19:45 05/12/2024	56	37	33		
Site $LA_{eq(15min)}$ Contribution					<35
Night					
00:31 05/12/2024	47	41	40	WD: N WS: 0.1m/s Stab Class: E	Insects 38-49 MAC Operator 54 NPM – Site Hum <35 (barely audible throughout)
00:46 05/12/2024	46	40	39		
01:01 05/12/2024	54	41	39		
Site $LA_{eq(15min)}$ Contribution					<35[1]
Site $LA_{1(1min)}$ Contribution					<45

Note: NPM denotes Northparkes Mines.

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

Note 1: NPM Contribution derived from further analysis.

Table 6 Operator-Attended Noise Survey Results – Location NM4, Hillview					
Time(hrs)/Date Duration 15min	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
	L_{Amax}	L_{Aeq}	L_{A90}		
Day					
12:15 05/12/2024	62	46	38	WD: NE WS: 2.0m/s Stab Class: D	Wind Gusts 30-49 Birds 27-52 Traffic 30-62 NPM Inaudible
12:30 05/12/2024	53	44	37		
12:45 05/12/2024	60	42	33		
Site $L_{Aeq(15min)}$ Contribution					<35
Evening					
18:00 05/12/2024	71	46	31	WD: N WS: 0.5m/s Stab Class: D	Birds 25-48 Traffic 28-63 Residential Nosie 30-71 NPM Inaudible
18:15 05/12/2024	61	44	32		
18:30 05/12/2024	66	48	31		
Site $L_{Aeq(15min)}$ Contribution					<35
Night					
23:28 04/12/2024	49	34	31	WD: N WS: 0.1m/s Stab Class: E	Traffic 30-67 Insects 29-38 Aircraft 30-50 NPM Inaudible
23:43 04/12/2024	50	36	31		
23:58 04/12/2024	67	44	31		
Site $L_{Aeq(15min)}$ Contribution					<35
Site $L_{A1(1min)}$ Contribution					<45

Note: NPM denotes Northparkes Mines.

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

Table 7 Operator-Attended Noise Survey Results – Location NM5, Adavale					
Time(hrs)/Date Duration 15min	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
	L_{Amax}	L_{Aeq}	L_{A90}		
Day					
15:40 05/12/2024	71	45	26	WD: N WS: 1.0m/s Stab Class: B	Wind Gusts 24-41 Birds 25-62 Insects 25-45 Traffic 25-86 NPM Inaudible
15:55 05/12/2024	83	57	27		
16:10 05/12/2024	86	56	27		
Site $L_{Aeq(15min)}$ Contribution					<35
Evening					
20:27 05/12/2024	72	53	48	WD: N WS: 0.5m/s Stab Class: E	Insects 45-60 Traffic 40-72 NPM – Site Hum/Vent Fan <35 (barely audible <50% measurement)
20:42 05/12/2024	59	54	51		
20:57 05/12/2024	60	55	52		
Site $L_{Aeq(15min)}$ Contribution					<35[1]
Night					
02:34 05/12/2024	50	46	44	WD: NE WS: 0.1m/s Stab Class: E	Insects 42-53 NPM – Site Hum/Vent Fan <35 (barely audible throughout)
02:49 05/12/2024	53	46	44		
03:04 05/12/2024	53	46	45		
Site $L_{Aeq(15min)}$ Contribution					<35[1]
Site $L_{A1(1min)}$ Contribution					<45

Note: NPM denotes Northparkes Mines.

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

Note 1: NPM Contribution derived from further analysis.

4.3 Road Noise Results

As an additional initiative to operational attended noise monitoring, Northparkes include two, 1-hour attended noise monitoring measurements at the Hillview monitoring location (NM4) to quantify Northparkes road noise levels associated concentrate trucks movements (where present) and shift change traffic flows. **Table 8** presents the results of the road traffic noise measurements with a comparison against the road noise criteria outlined in the NMP which is consistent with the NSW Road Noise Policy (DECCW, 2011).

Table 8 Operator-Attended Road Noise Survey Results – Location NM4, Hillview

Time(hrs)/Date Duration 1 hour	Measured Noise Level dB $LA_{eq(1hr)}$	Meteorology	Criteria dB $LA_{eq(1hr)}$	Description and SPL dBA
12:15 05/12/2024 (Day)	44	WD: NE WS: 2.0m/s Stab Class: D	55	Wind Gusts 30-49 Birds 27-52 Traffic 30-56 NPM Concentrate Truck (offsite) 30-62 (Two passes) (Approx. 10 vehicles Enter/Exit NPM Site)
18:00 05/12/2024 (Evening)	46	WD: N WS: 0.5m/s Stab Class: D	55	Birds 25-48 Traffic 28-63 Residential Nosie 30-71 NPM Concentrate Truck (offsite) 30-66 (Three passes) (Approx. 85 vehicles Enter/Exit NPM Site)

Note: NPM denotes Northparkes Mines.

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

Results of the road noise survey identify that the $LA_{eq(1hr)}$ noise contribution at NM4 is <50dBA for both measurements and hence, satisfy the relevant road noise criteria as outlined in the NMP and the RNP. Observations from MAC operator identified concentrate truck movements at a maximum of two movements per hour during the day and night measurement periods, which is in line with previous NPM quarterly measurements, and at a maximum of three movements per hour, during the evening period, which is one movement per hour higher than previous NPM quarterly measurements.

4.4 Unattended Noise Results

Unattended noise monitors are installed at four attended monitoring locations. Data from the unattended monitors provide a real time method for monitoring noise events, although it is noted that the results include all noise sources (ie project noise and extraneous noise sources). The results are used as a management tool for the project site.

Averaged results of the $L_{A90(15min)}$ and $L_{A1(15min)}$ metrics from the seven-day monitoring period from Monday 2 December 2024 to Sunday 8 December 2024 for NM1, NM3, NM4 and NM5 are summarised in **Table 9**. **Appendix C** presents the unattended results in chart format.

Table 9 Unattended Noise Survey Results

Period[1]	Noise Descriptor (dBA re 20 µPa)	
	Weekly Average $L_{A90(15min)}$	Weekly Average $L_{A1(15min)}$
Location NM1, Hubberstone		
Day	29	-
Evening	32	-
Night	45	54
Location NM3, Milpose		
Day	28	-
Evening	30	-
Night	39	58
Location NM4, Hillview		
Day	35	-
Evening	31	-
Night	31	64
Location NM5, Adavale		
Day	34	-
Evening	33	-
Night	25	59

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

5 Discussion

5.1 Operational Noise Discussion

5.1.1 Discussion of Results – Location NM1, Hubberstone

Attended measurement results for monitoring conducted at NM1, Hubberstone, for the quarter ending December 2024 noise survey, identified that NPM was inaudible during all measurement periods.

External noise sources including traffic, birds, aircraft, insects and wind gusts were audible during the monitoring period.

In summary, the noise contribution from NPM satisfied the relevant noise criteria for all monitored assessment periods at Location NM1.

5.1.2 Discussion of Results – Location NM2, Lone Pine

Attended measurement results for monitoring conducted at NM2, Lone Pine, for the quarter ending December 2024 noise survey, identified that NPM was inaudible during day measurement period and generally barely audible throughout evening and night-time measurement periods.

Contributions from NPM were characterised as general site hum. External noise sources including traffic, wind gusts, birds, and insects were all audible during the monitoring periods.

In summary, the noise contribution from NPM satisfied the relevant noise criteria for all monitored assessment periods at Location NM2.

5.1.3 Discussion of Results – Location NM3, Milpose

Attended measurement results for monitoring conducted at NM3, Milpose, for the quarter ending December 2024 noise survey, identified that NPM was inaudible during the day measurements and generally barely audible throughout evening and night-time measurements.

Contributions from NPM were characterised as general site hum. External noise sources including birds, insects, wind gusts, aircraft and traffic were all audible during the monitoring periods.

In summary, the noise contribution from NPM satisfied the relevant noise criteria for all monitored assessment periods at Location NM3.

5.1.4 Discussion of Results – Location NM4, Hillview

Attended measurement results for monitoring conducted at NM4, Hillview, for the quarter ending December 2024 noise survey, identified that NPM was inaudible during all measurement periods.

External noise sources including traffic, birds, insects, wind gusts, aircraft, and residential noise were all audible during the monitoring period.

In summary, the noise contribution from NPM satisfied the relevant noise criteria for all monitored assessment periods at Location NM4.

5.1.5 Discussion of Results – Location NM5, Adavale

An alternate location to the NNE was selected for attended measurements at the Adavale location due to access issues from recent very heavy rainfall. Attended measurement results for additional monitoring conducted at NM5, Adavale, for the quarter ending December 2024 noise survey, indicated that NPM was inaudible during the day measurements and generally barely audible throughout evening and night-time measurements.

Contributions from NPM were characterised as general site hum and ventilation fan noise. External noise sources including traffic, birds, insects, and wind gusts were all audible during the monitoring period.

In summary, the noise contribution from NPM satisfied the relevant noise criteria for all monitored assessment periods at Location NM5.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) on behalf of Evolution Mining (Northparkes) Pty Ltd. The assessment was completed to quantify site noise emissions against relevant noise criteria pertaining to NPM operations in accordance with Conditions 1 to 5 of Schedule 3 of the Development Consent Conditions (PA #11_0060) and the Northparkes, Noise Management Plan (NMP, 2019) for Quarter 4, ending December 2024.

Road noise monitoring identified that vehicle movements associated with shift change generated noise levels below the relevant road noise criteria specified in the RNP and NMP.

Attended monitoring has identified that operational emissions generated by NPM comply with relevant noise criteria at all monitoring locations for all assessment periods. Furthermore, project related noise emissions were generally barely audible at three monitoring locations during, evening and night periods and inaudible at two monitoring locations. NPM noise sources such as general site hum and ventilation fan noise were audible and extraneous non-mining sources such as wind in trees, traffic, birds, dogs barking, aircrafts, insects, and residential noise, were audible during the monitoring period.

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Appendix A – Glossary of Terms

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

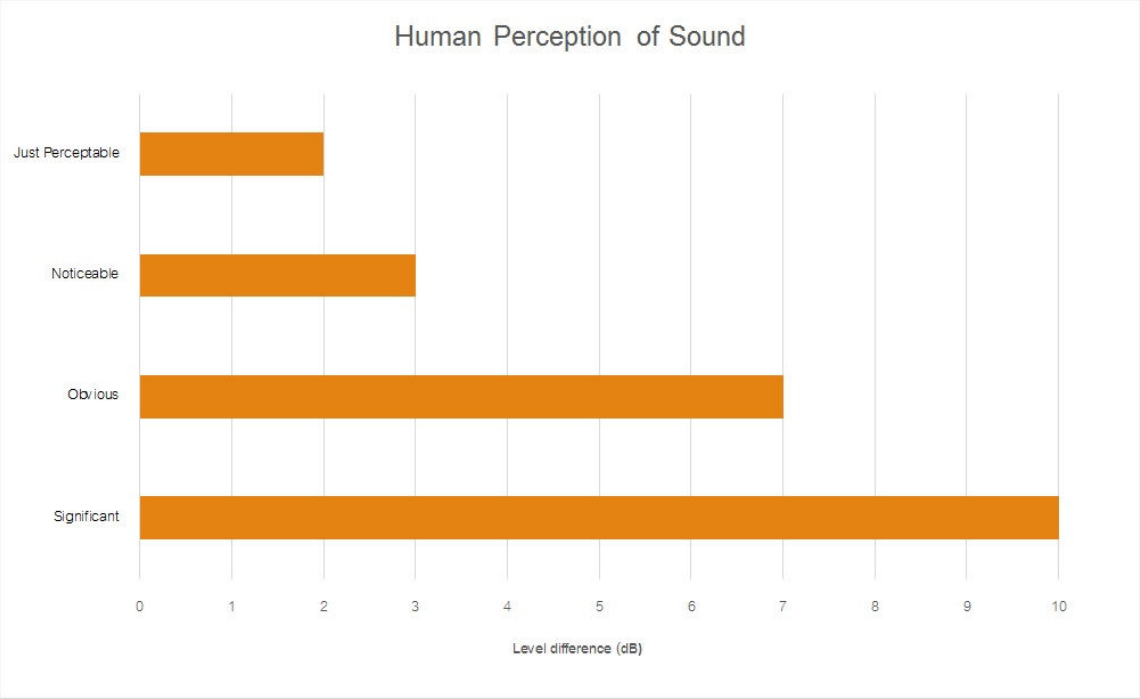
Table A1 Glossary of Acoustical Terms

Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmax	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by 10.log10 (W/Wo). Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

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

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

Figure A1 – Human Perception of Sound



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Appendix B – Regulatory Noise Limits

Table 1 NSW Development Consent Conditions – Schedule 3

<table>
<tr><th>Condition</th><th>Related Section in NMP</th></tr>
<tr><td colspan="2">Noise Criteria</td></tr>
<tr><td>1. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 1 at any residence on privately-owned land.

Table 2 Noise impact assessment criteria dB(A)
<table>
<tr><th rowspan="2">Property</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr>
<tr><th>$L_{Aeq(15min)}$</th><th>$L_{Aeq(15min)}$</th><th>$L_{Aeq(15min)}$</th><th>$L_{A1(1min)}$</th></tr>
<tr><td>All privately-owned land</td><td>35</td><td>35</td><td>35</td><td>45</td></tr>
</table>
Note: To interpret the land referred to in Table 1, see the applicable figures in Appendix 4.

Operational noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 5 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.</td><td>Section 5.4.1</td></tr>
<tr><td>2. The Proponent shall only carry out the construction works associated with the upgrade of McClintocks Lane, the construction of the McClintocks Lane access road and the upgrade of the intersection of McClintocks Lane and Bogan Road during the day.</td><td>Section 5.4.1</td></tr>
<tr><td>3. During construction of the works referred to in condition 2 of schedule 3, the noise criteria in Table 1 do not apply to the residences located in the vicinity of the works. The Proponent shall implement all reasonable and feasible measures to minimise construction noise impacts on the residences in the vicinity of these works.</td><td>Section 6</td></tr>
<tr><td>4. The Proponent shall:
a) implement best management practice to minimise the construction, operational and road noise of the project;
b) operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;
c) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply (see Appendix 5); and
d) carry out regular monitoring to determine whether the project is complying with the relevant conditions of this approval,
To the satisfaction of the Secretary.</td><td>Section 6 & Section 7</td></tr>
<tr><td>5. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:
a) be prepared in consultation with the EPA, and submitted to the Secretary prior to the commencement of construction;
b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
c) describe the proposed noise management system in detail; and
d) include a monitoring program that:
• evaluates and reports on:
– the effectiveness of the noise management system;
– compliance against the noise criteria in this approval; and
– compliance against the noise operating conditions;
• includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring); and
• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents</td><td>Section 6 & Section 7

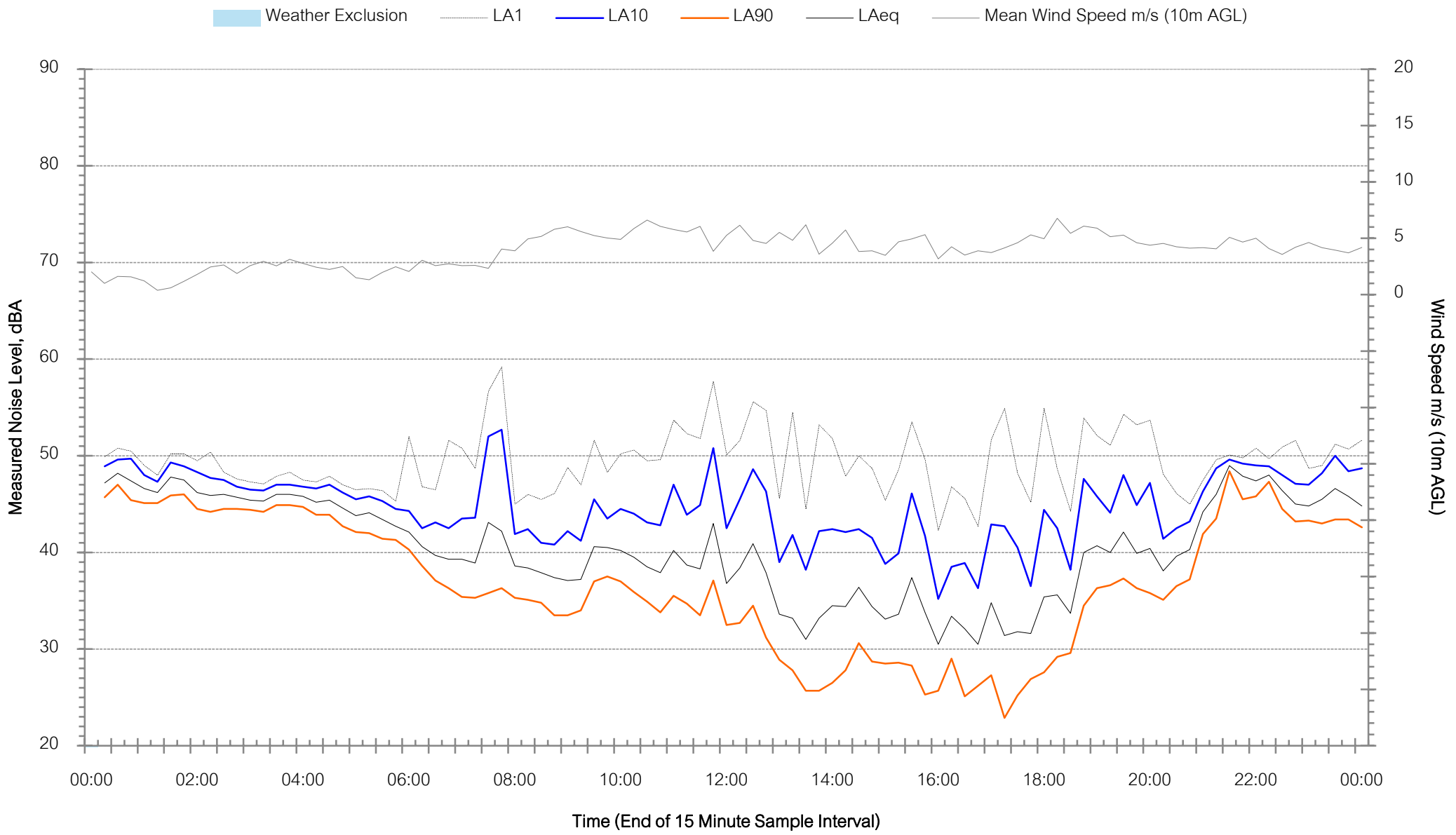
Section 7

Section 7.1</td></tr>
</table>

Appendix C – Noise Monitoring Charts

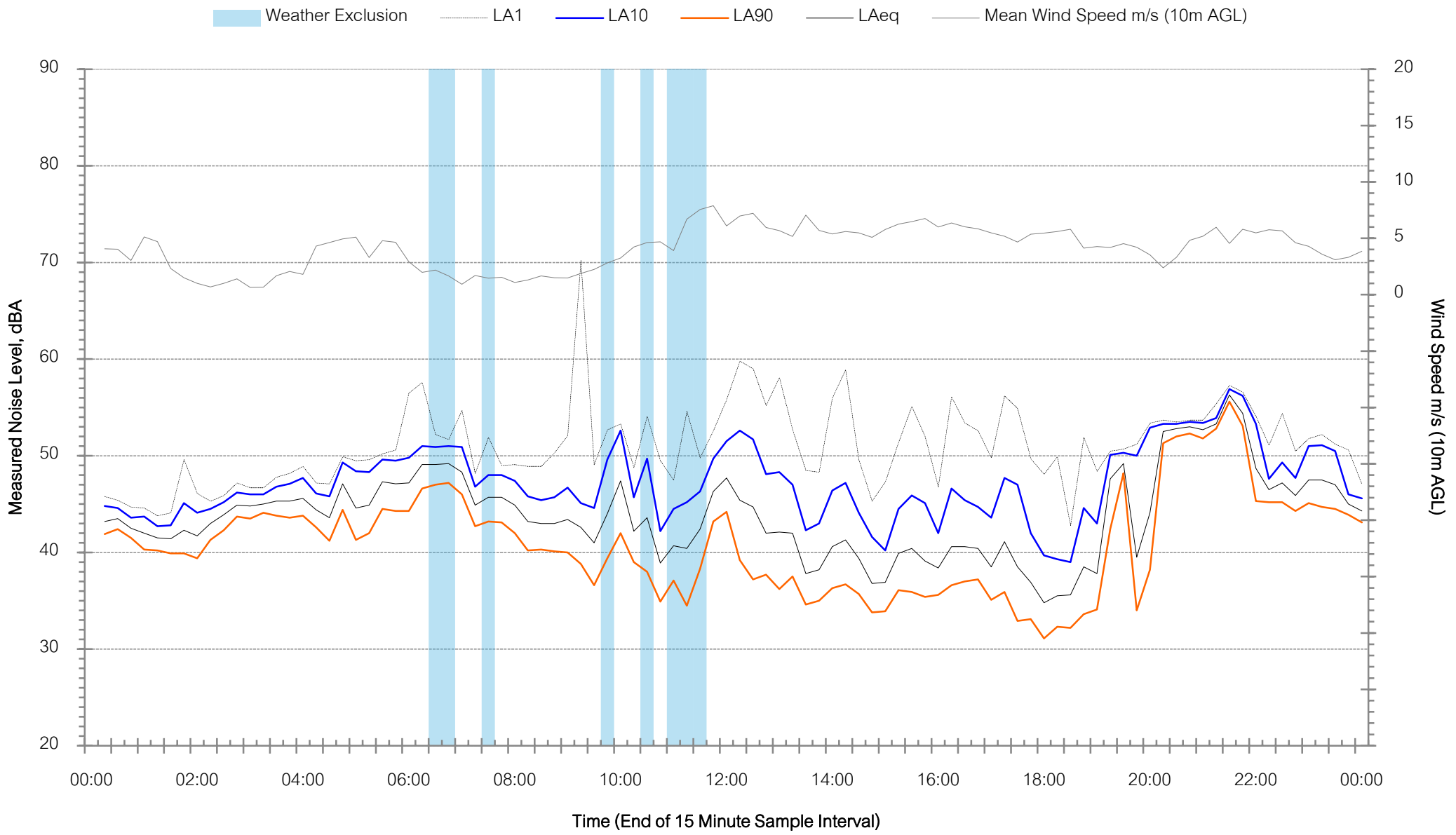
Background Noise Levels

Hubberstone NM1 - Monday 2 December 2024



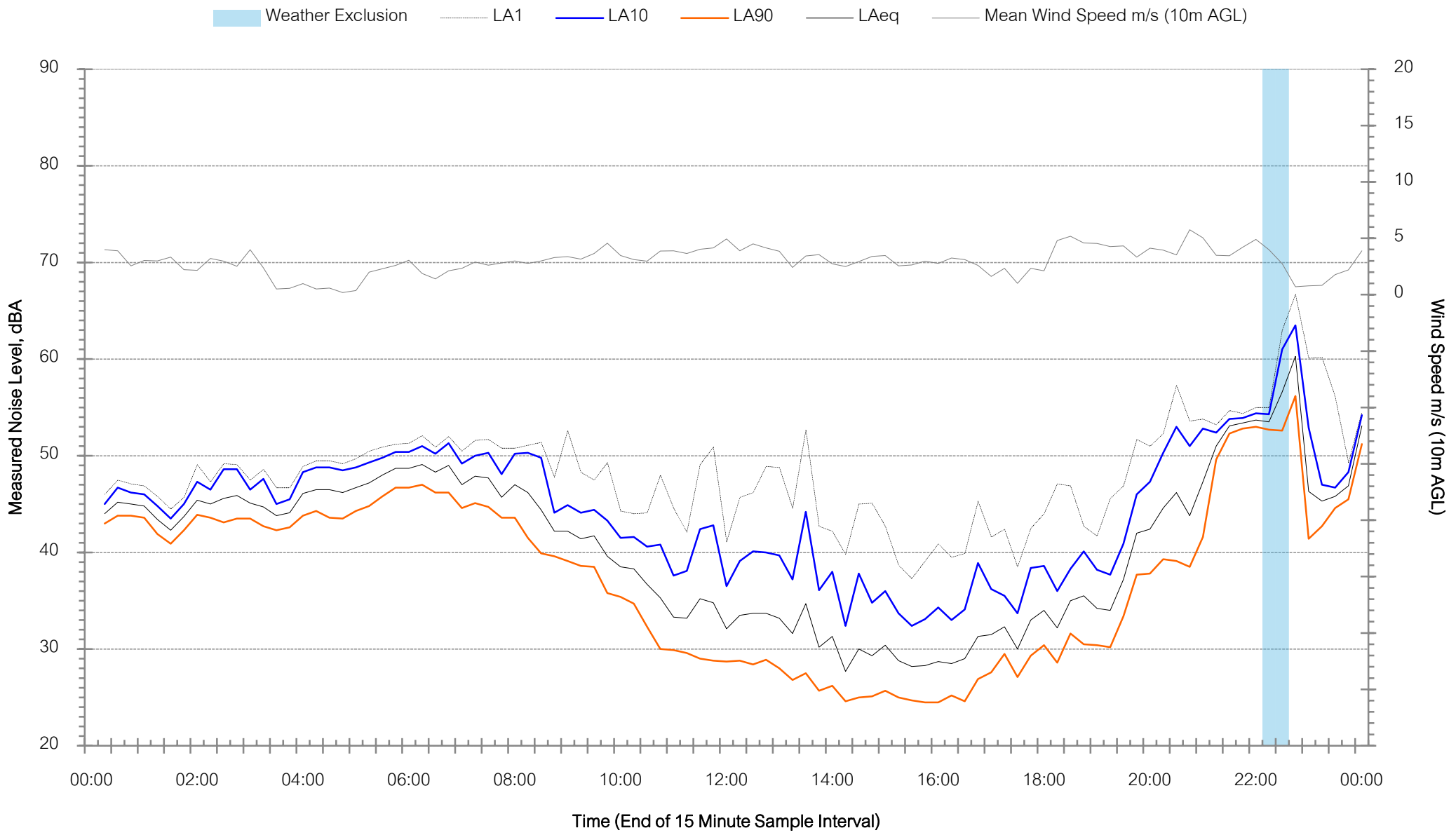
Background Noise Levels

Hubberstone NM1 - Tuesday 3 December 2024



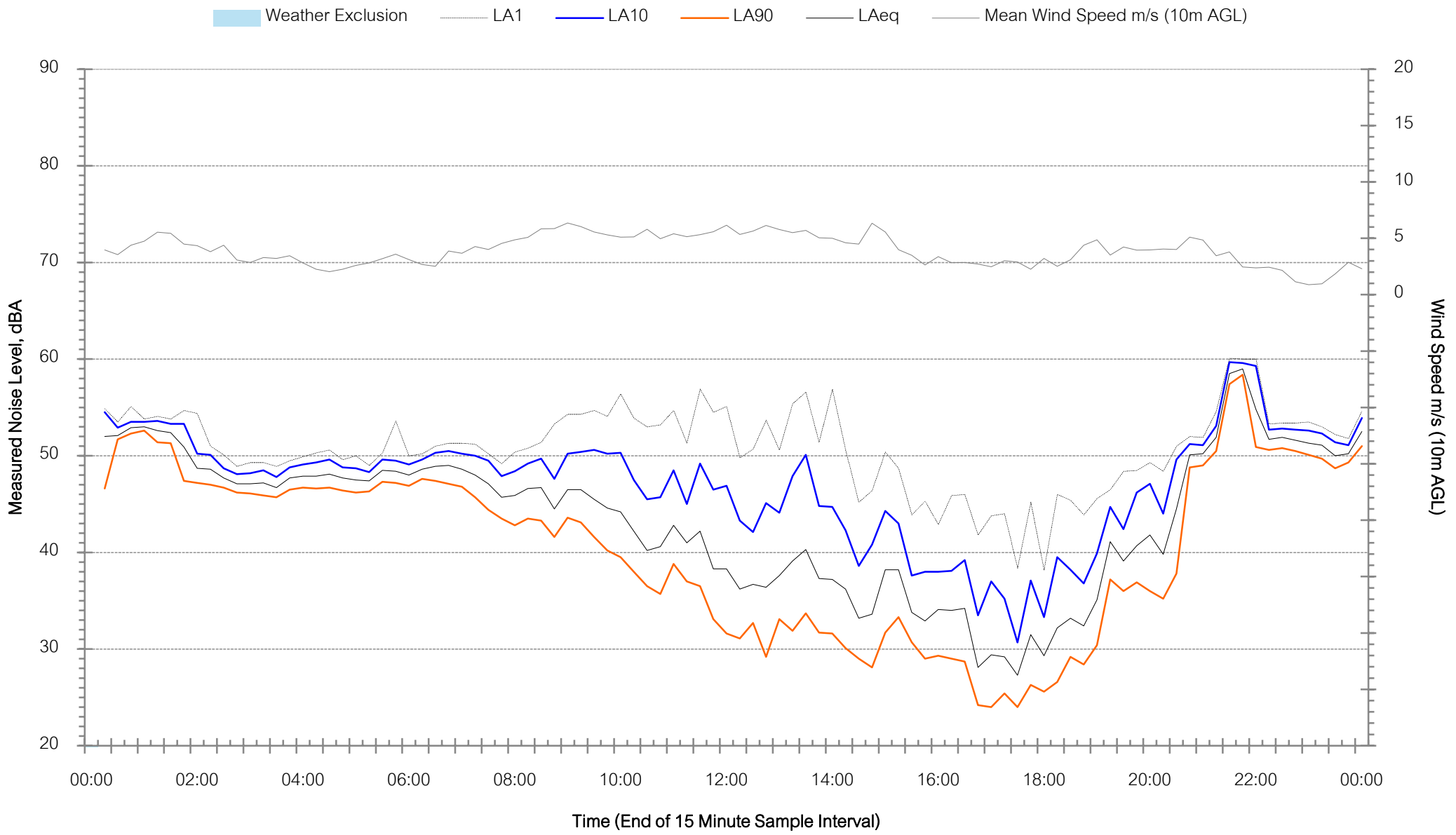
Background Noise Levels

Hubberstone NM1 - Wednesday 4 December 2024



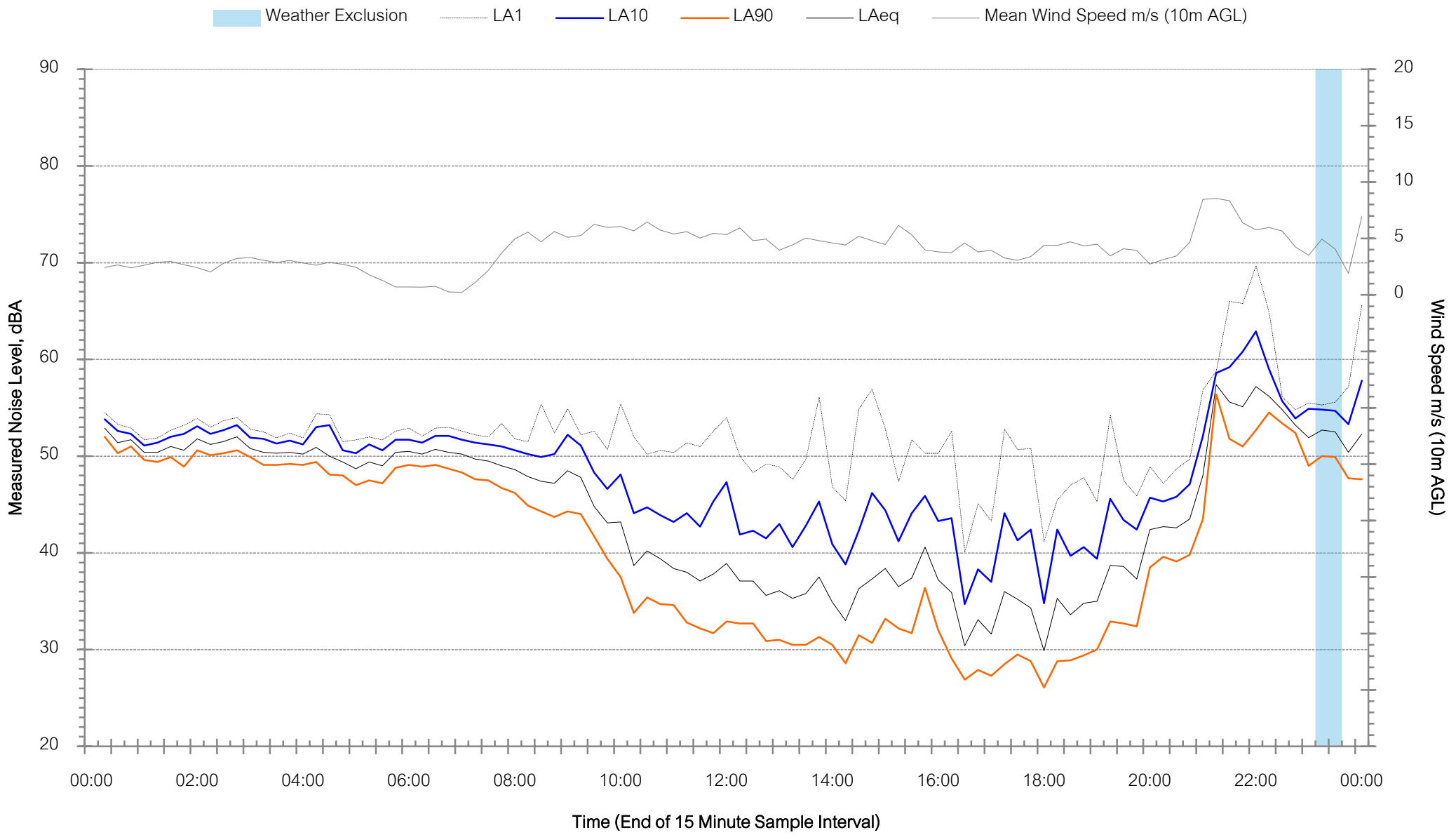
Background Noise Levels

Hubberstone NM1 - Thursday 5 December 2024



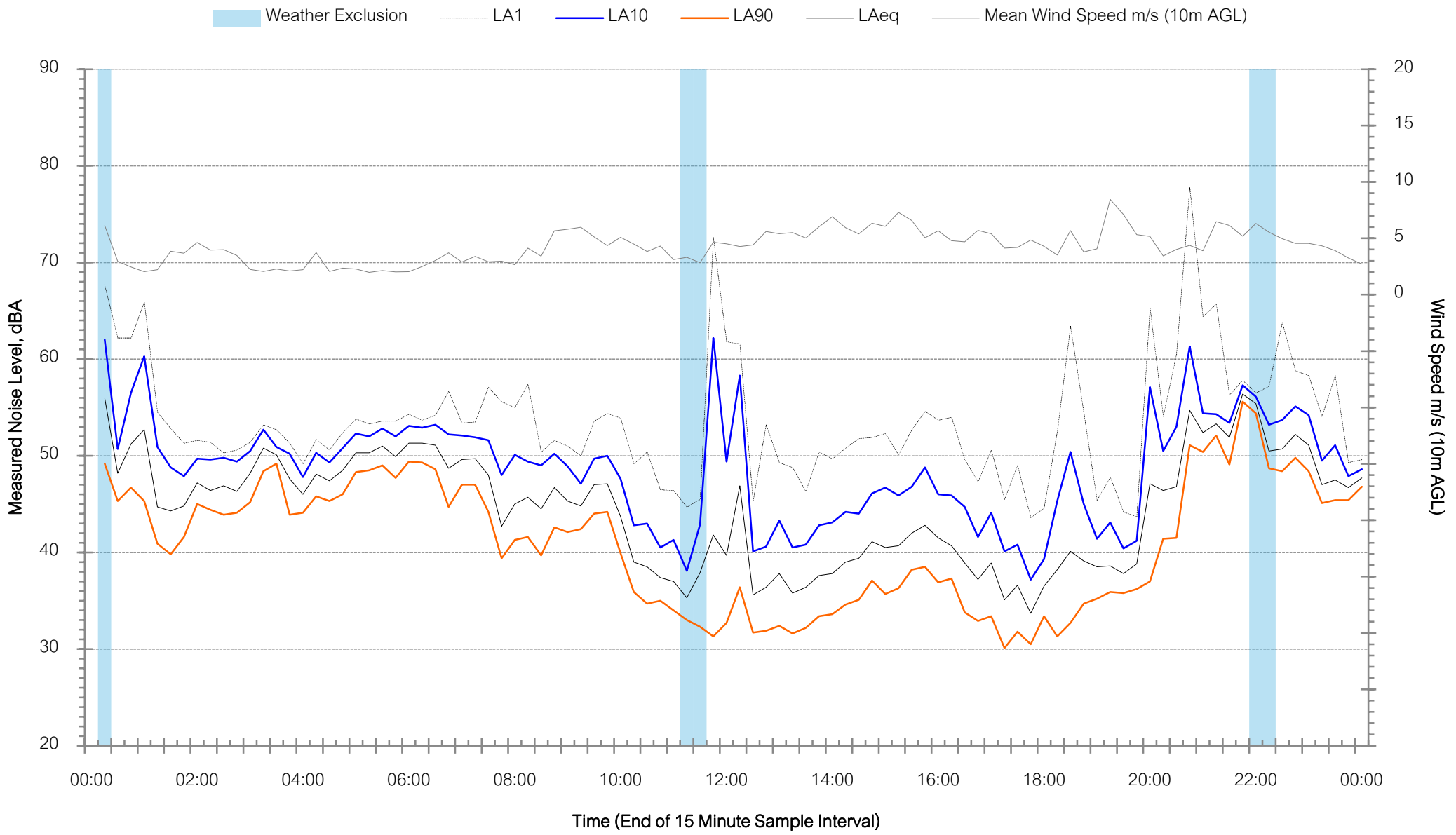
Background Noise Levels

Hubberstone NM1 - Friday 6 December 2024



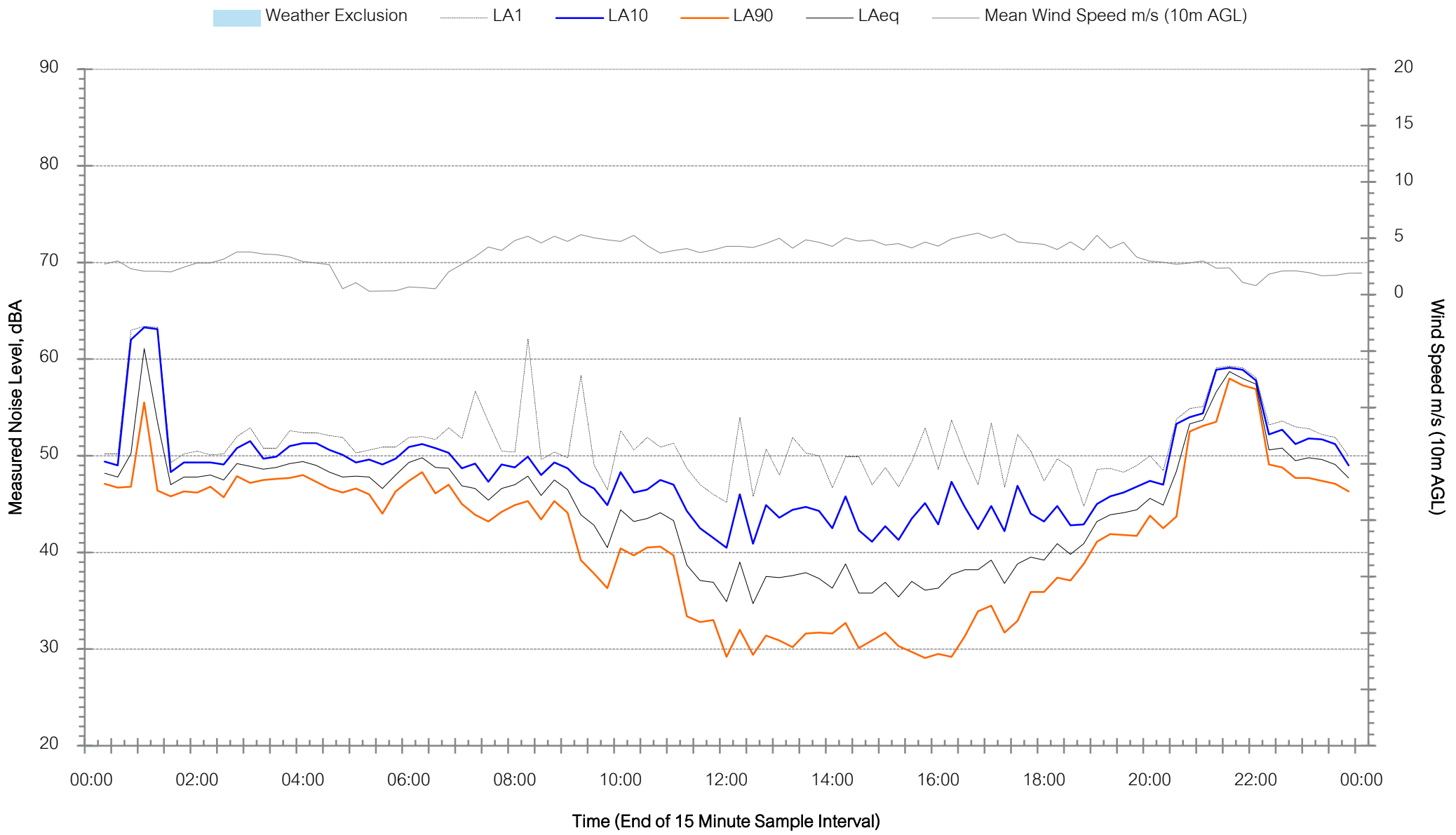
Background Noise Levels

Hubberstone NM1 - Saturday 7 December 2024



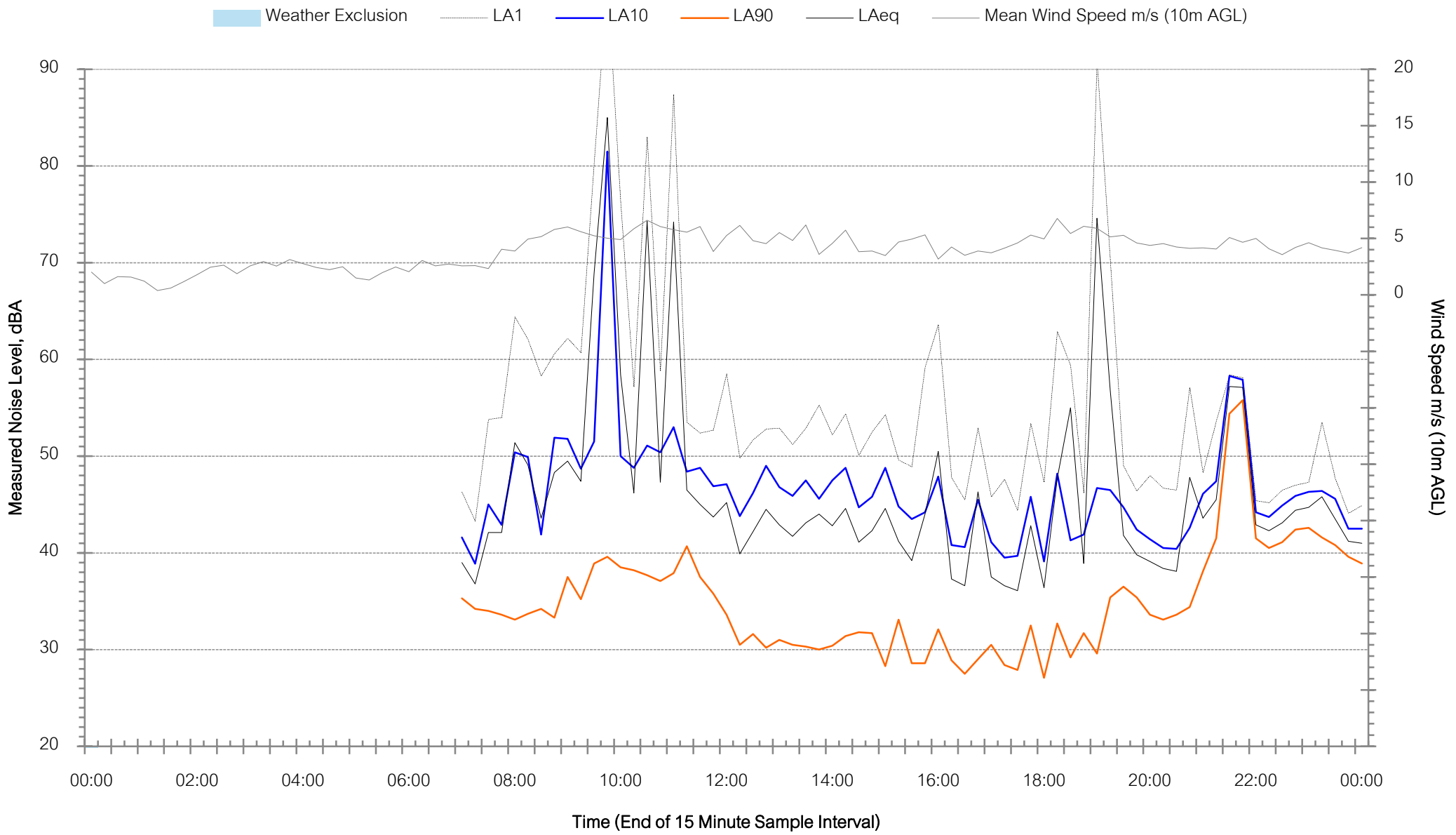
Background Noise Levels

Hubberstone NM1 - Sunday 8 December 2024



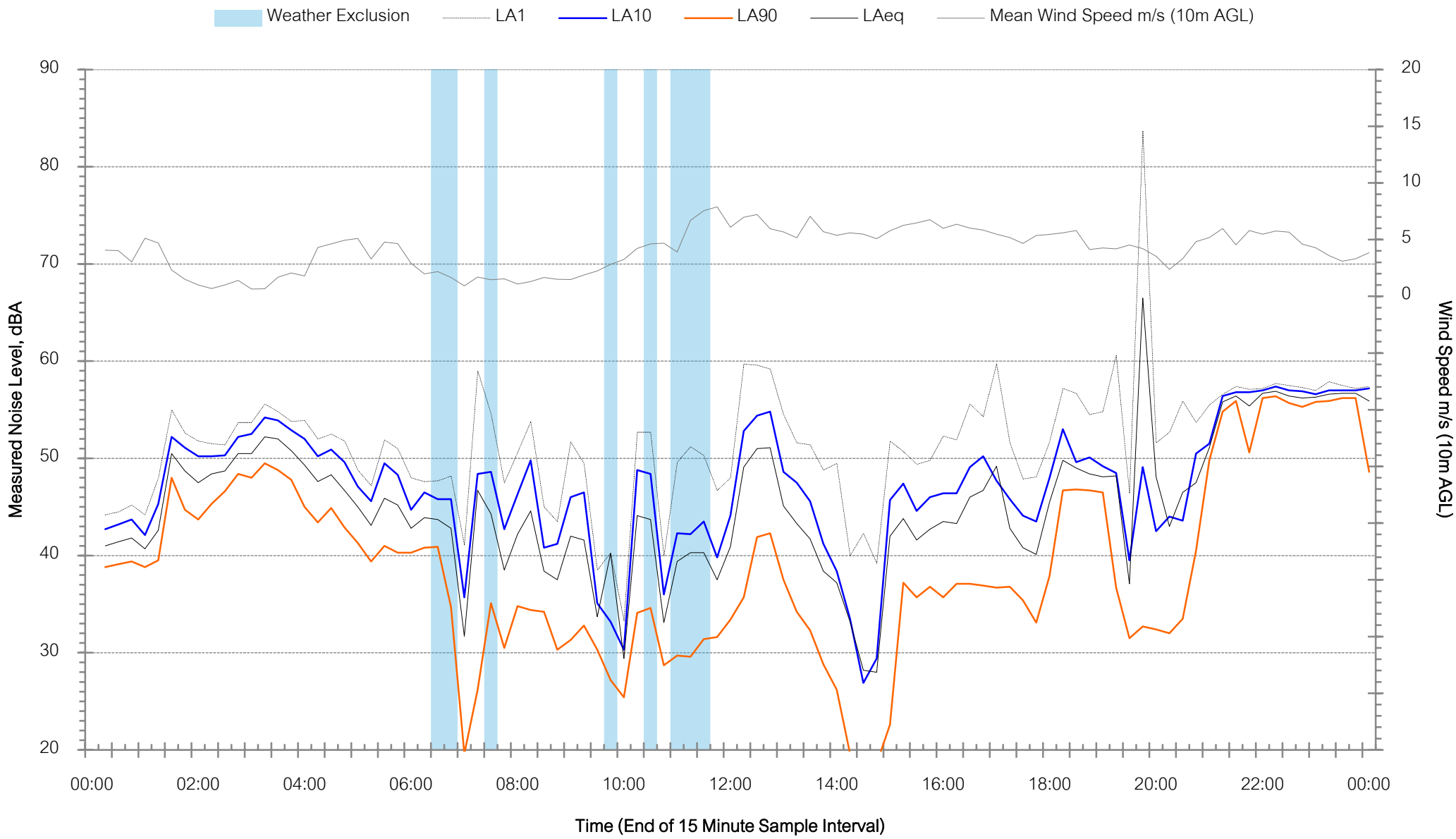
Background Noise Levels

Milpose NM3 - Monday 2 December 2024



Background Noise Levels

Milpose NM3 - Tuesday 3 December 2024



Background Noise Levels

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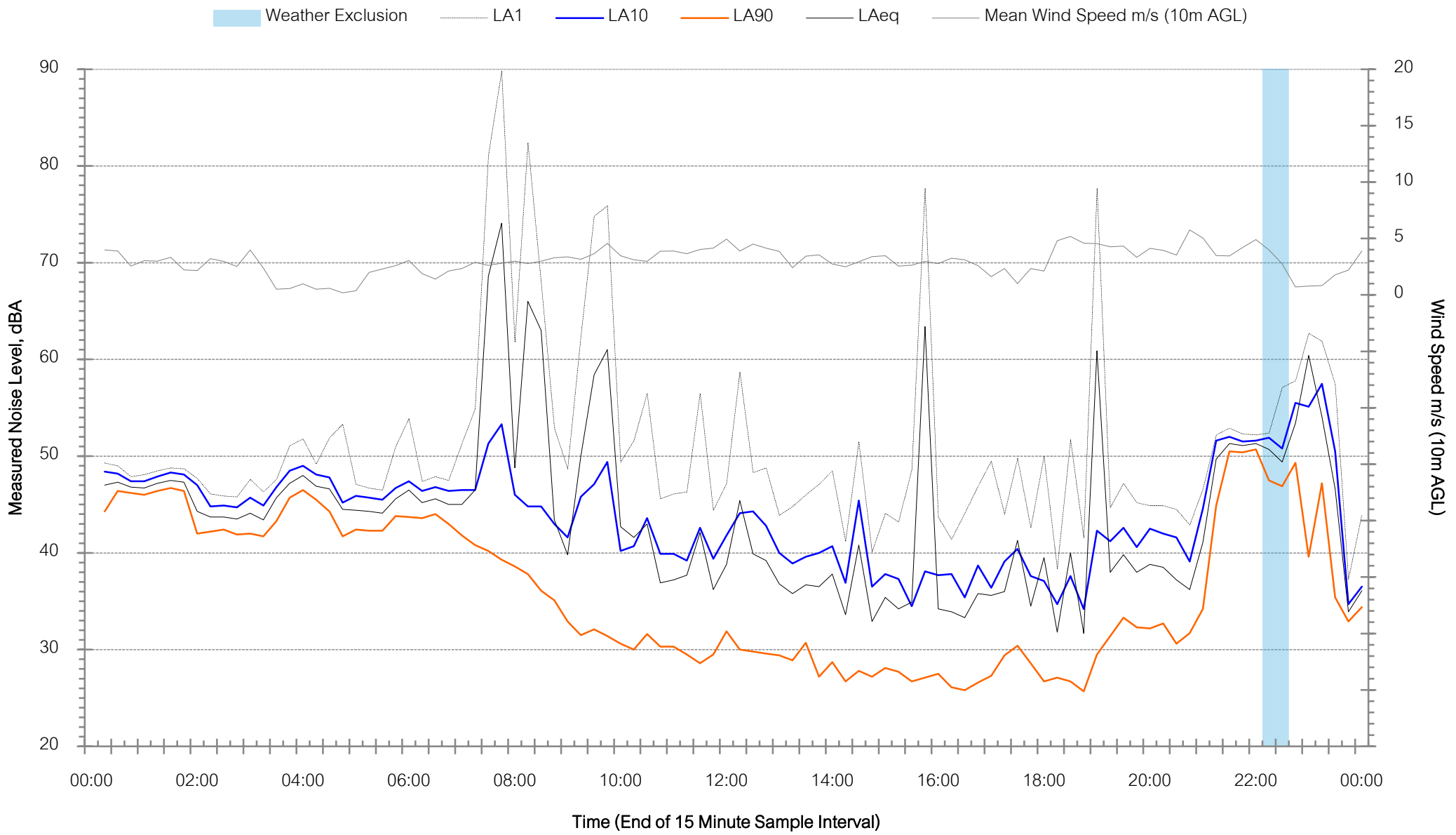

Background Noise Levels

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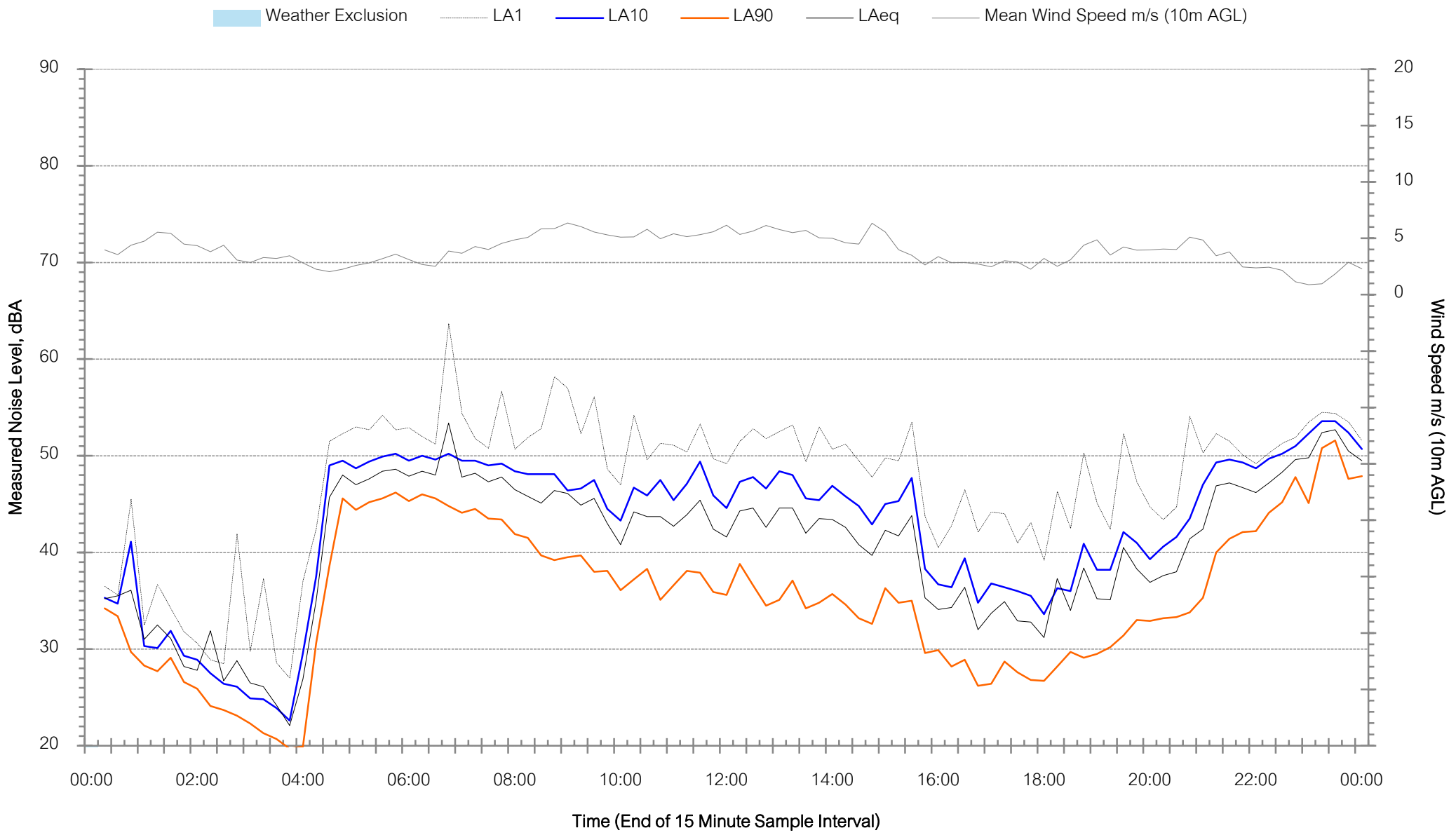

Background Noise Levels

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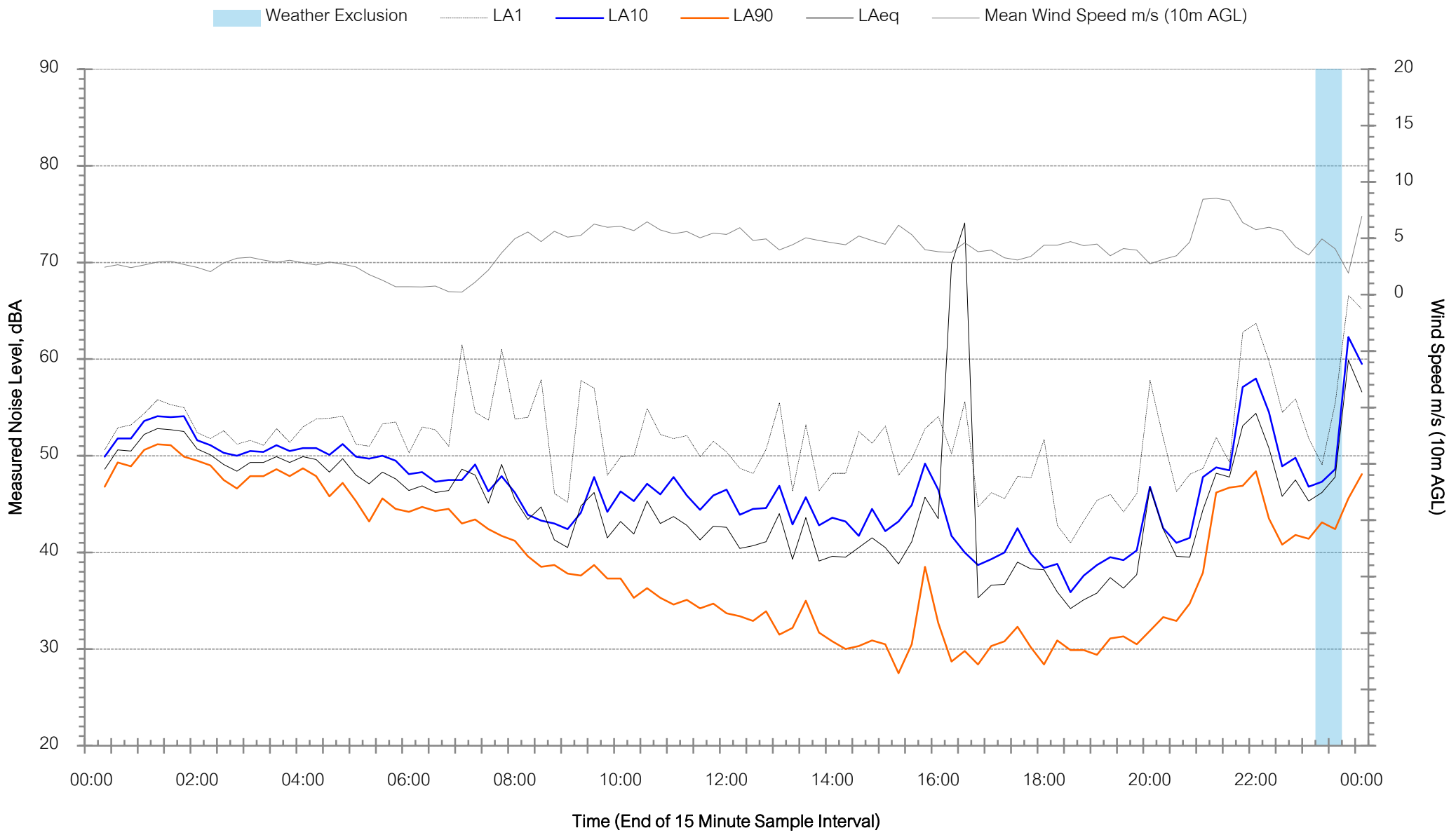

Background Noise Levels

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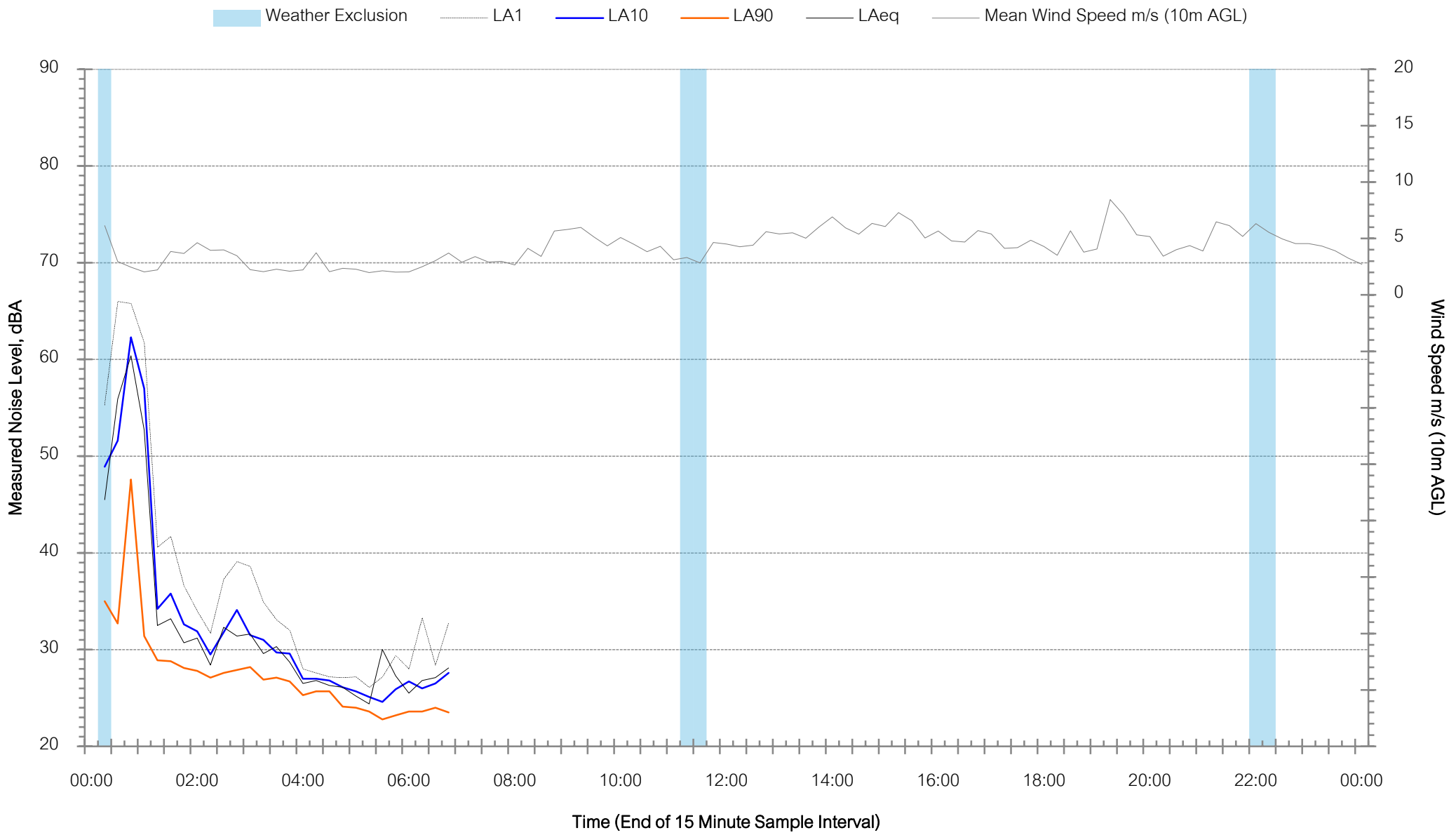
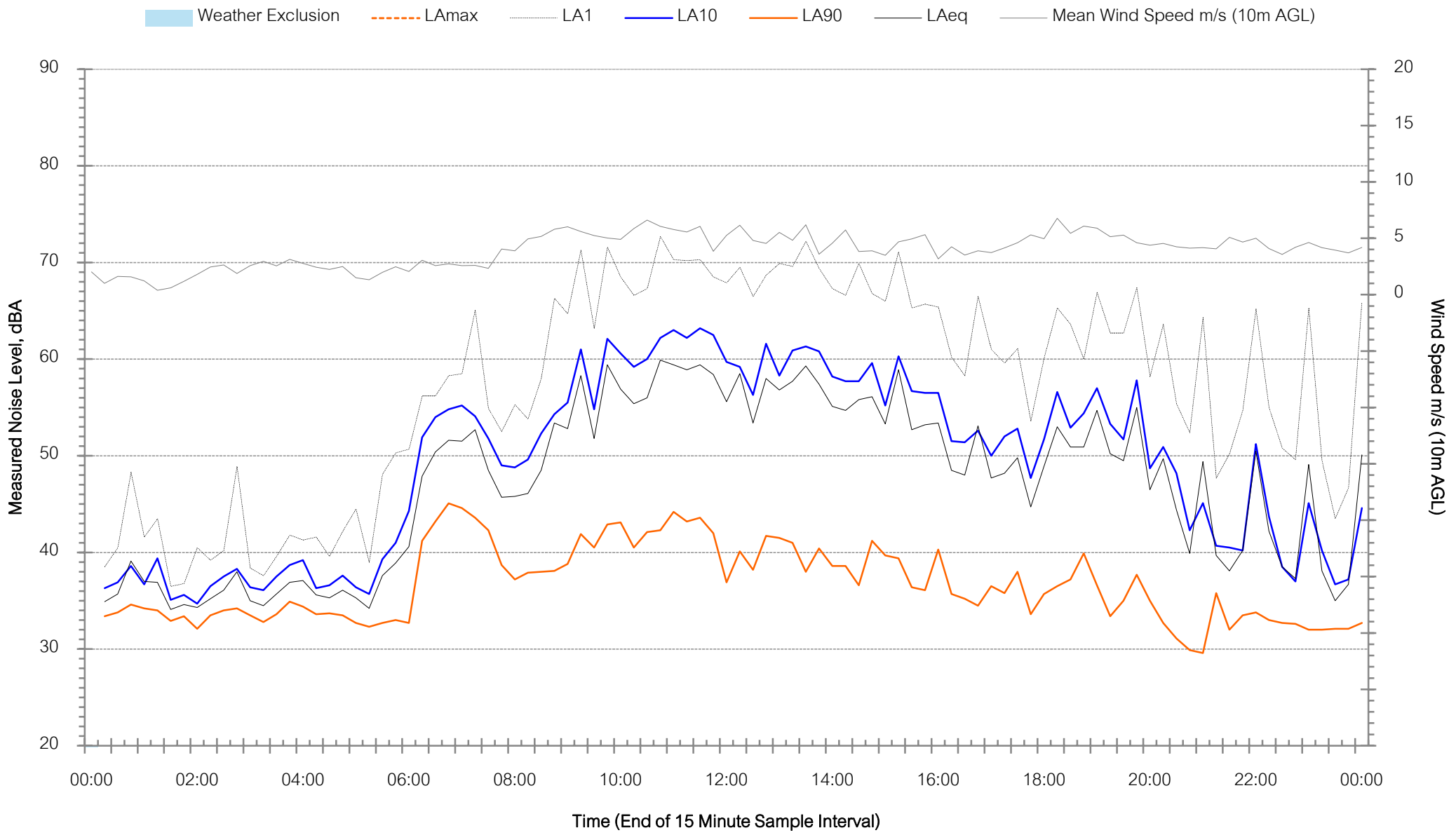


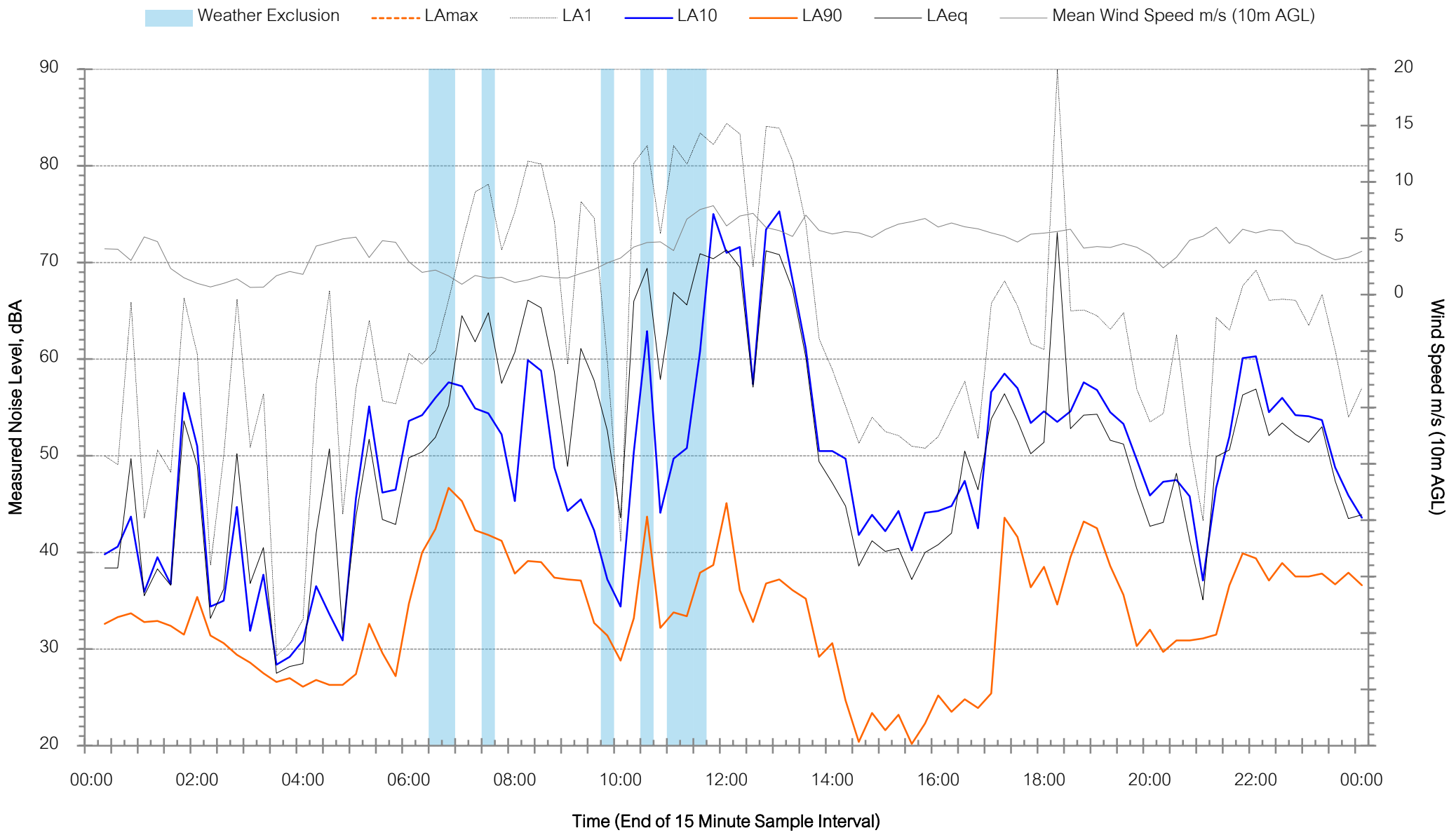
Background Noise Levels

Hillview NM4 - Monday 2 December 2024



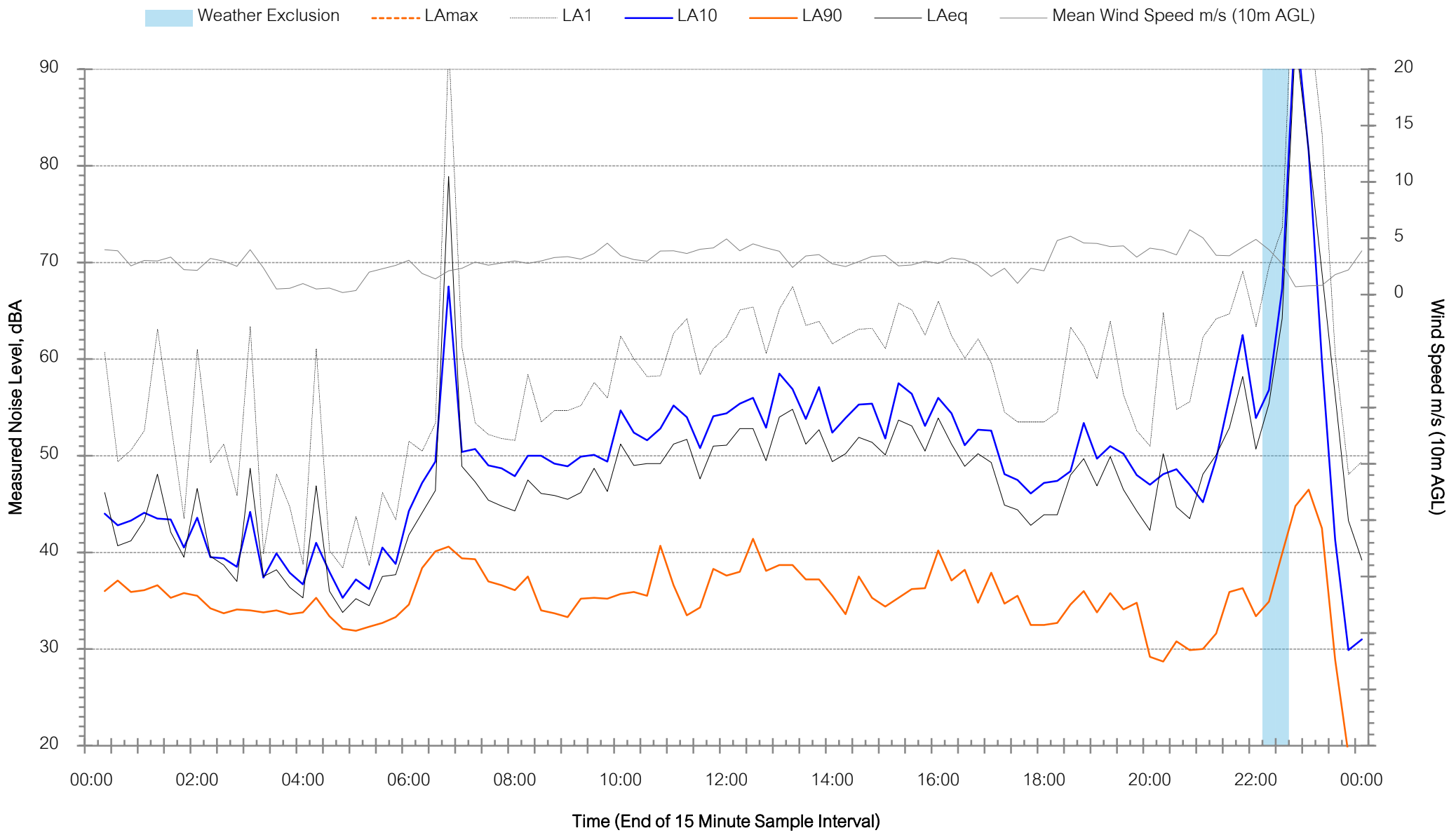
Background Noise Levels

Hillview NM4 - Tuesday 3 December 2024



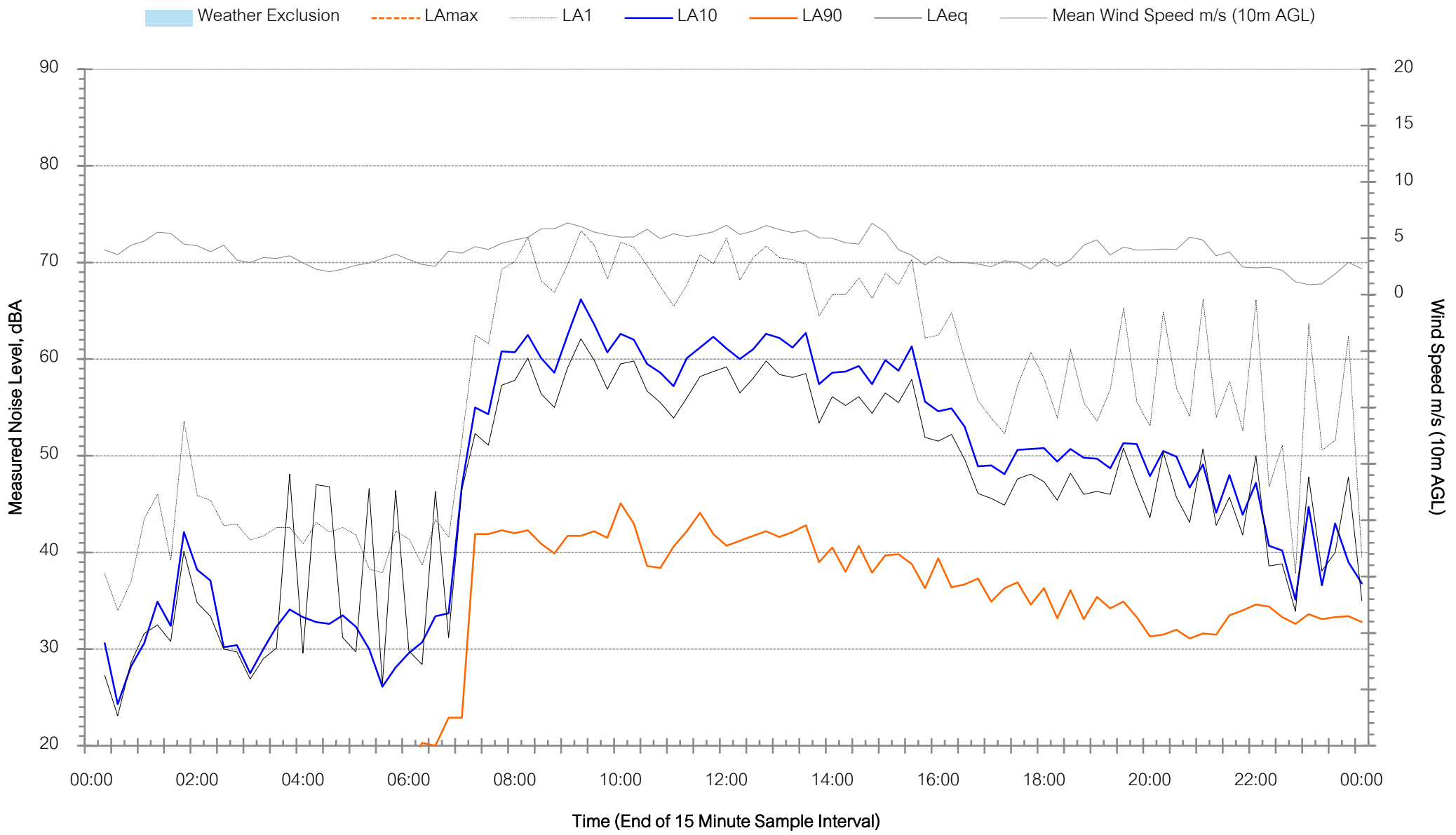
Background Noise Levels

Hillview NM4 - Wednesday 4 December 2024



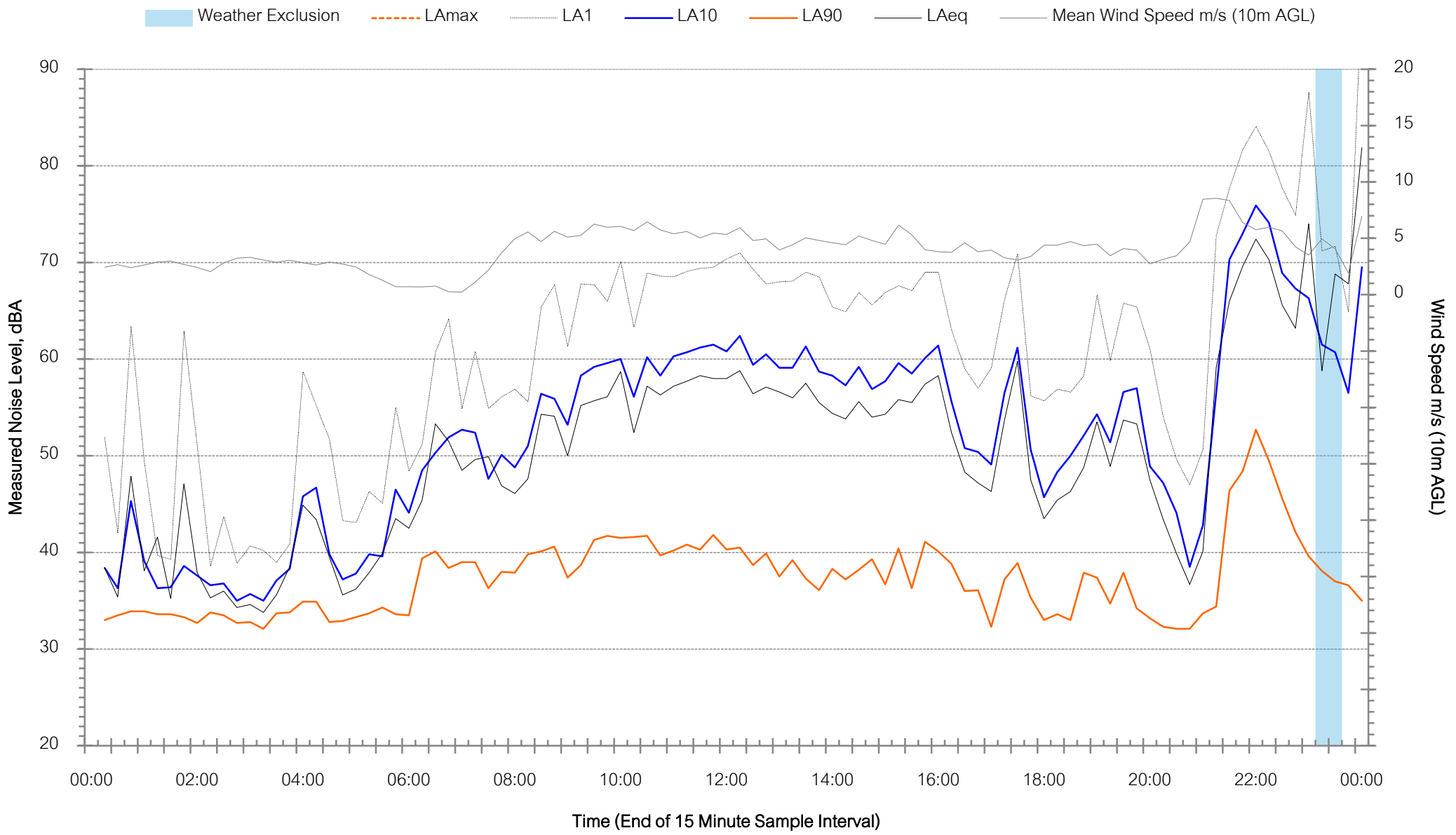
Background Noise Levels

Hillview NM4 - Thursday 5 December 2024



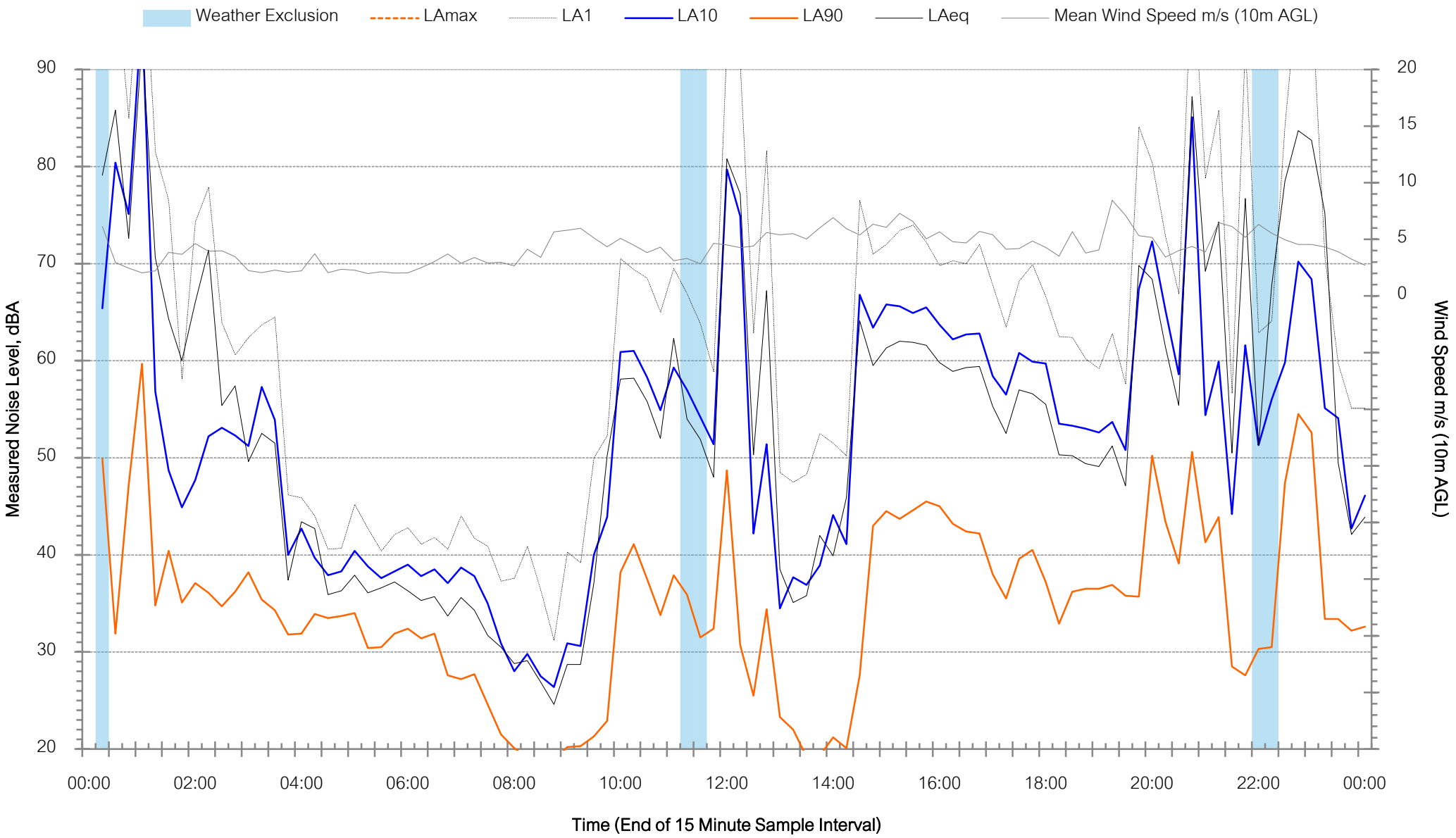
Background Noise Levels

Hillview NM4 - Friday 6 December 2024



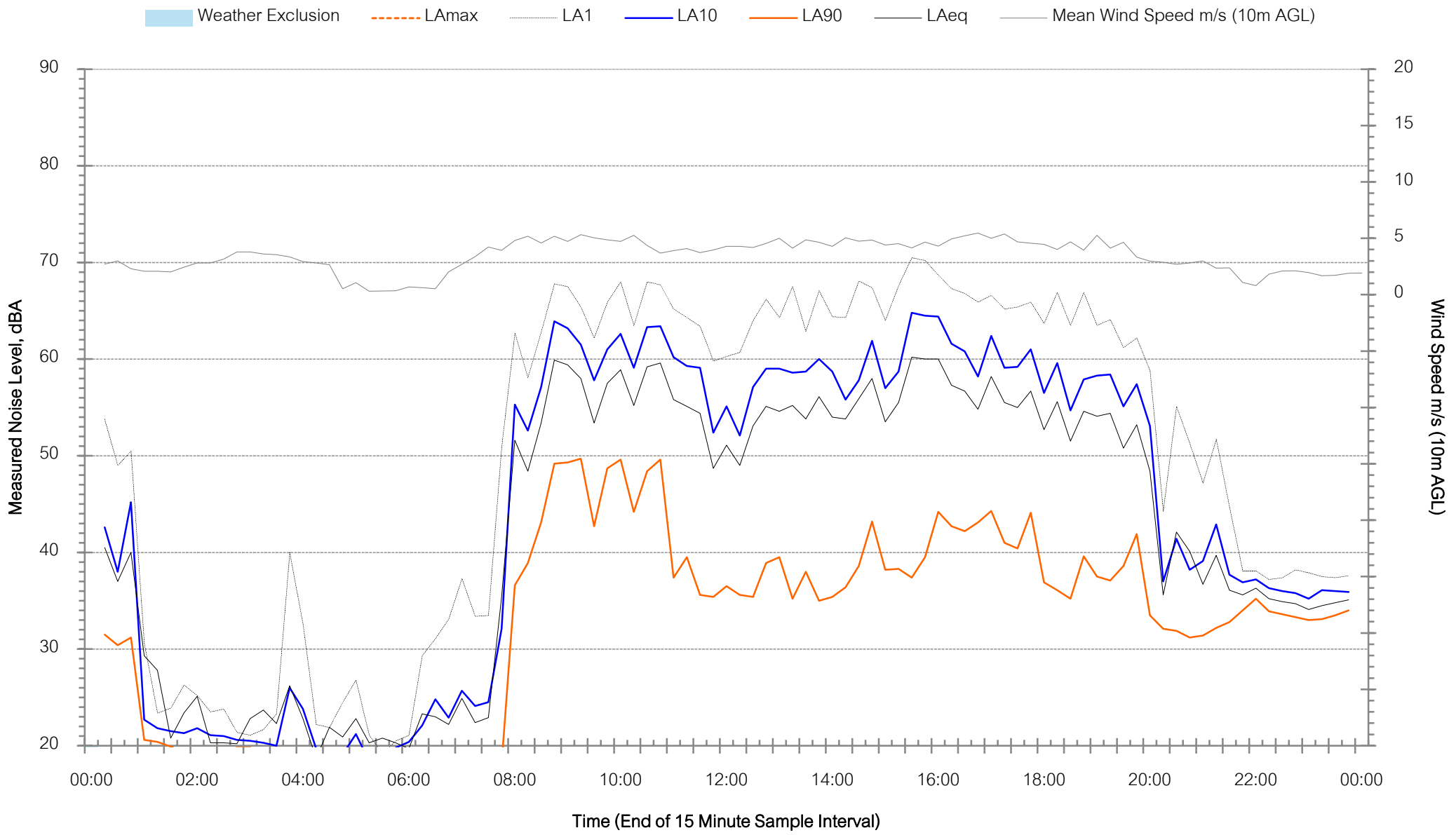
Background Noise Levels

Hillview NM4 - Saturday 7 December 2024



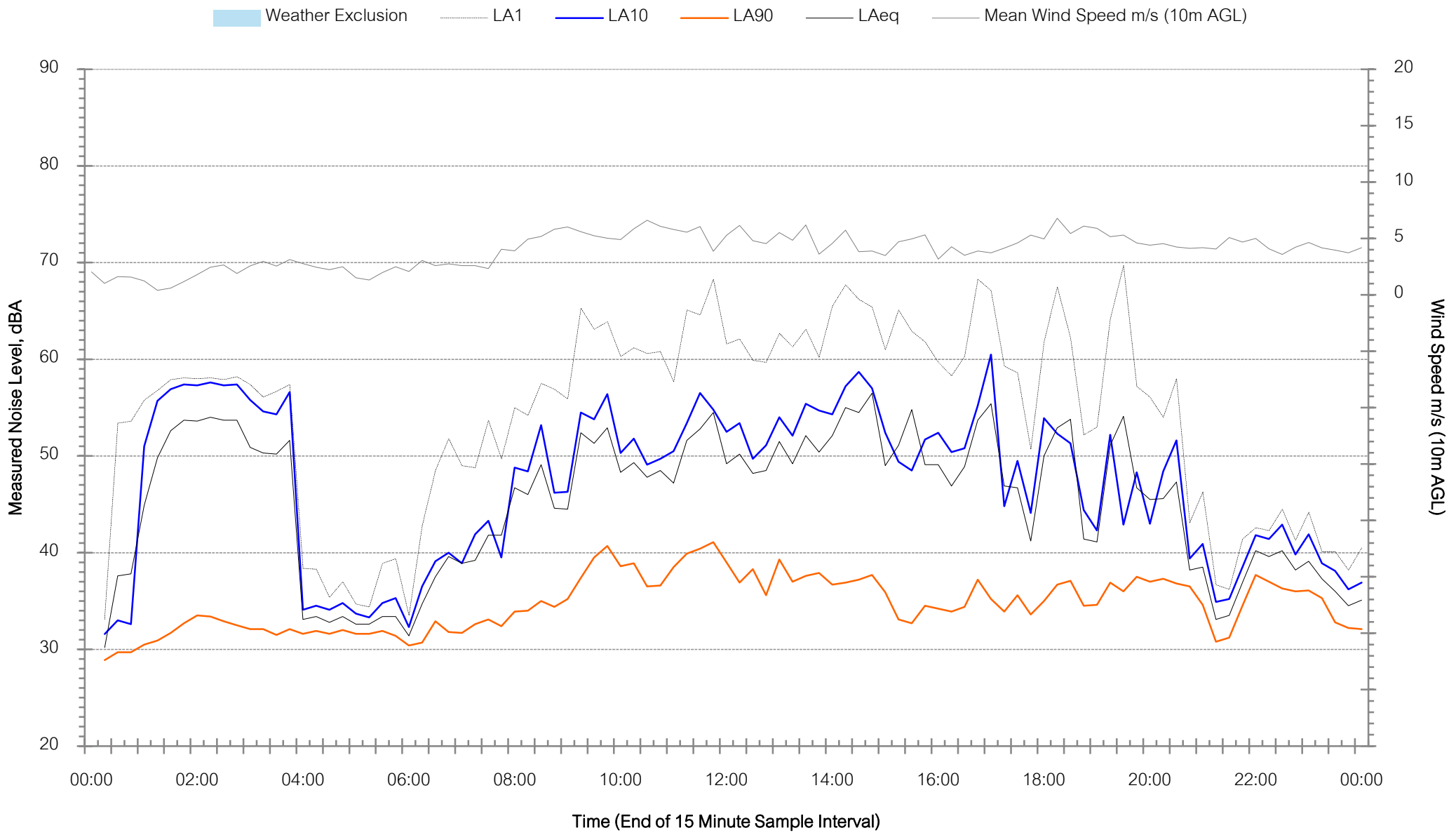
Background Noise Levels

Hillview NM4 - Sunday 8 December 2024



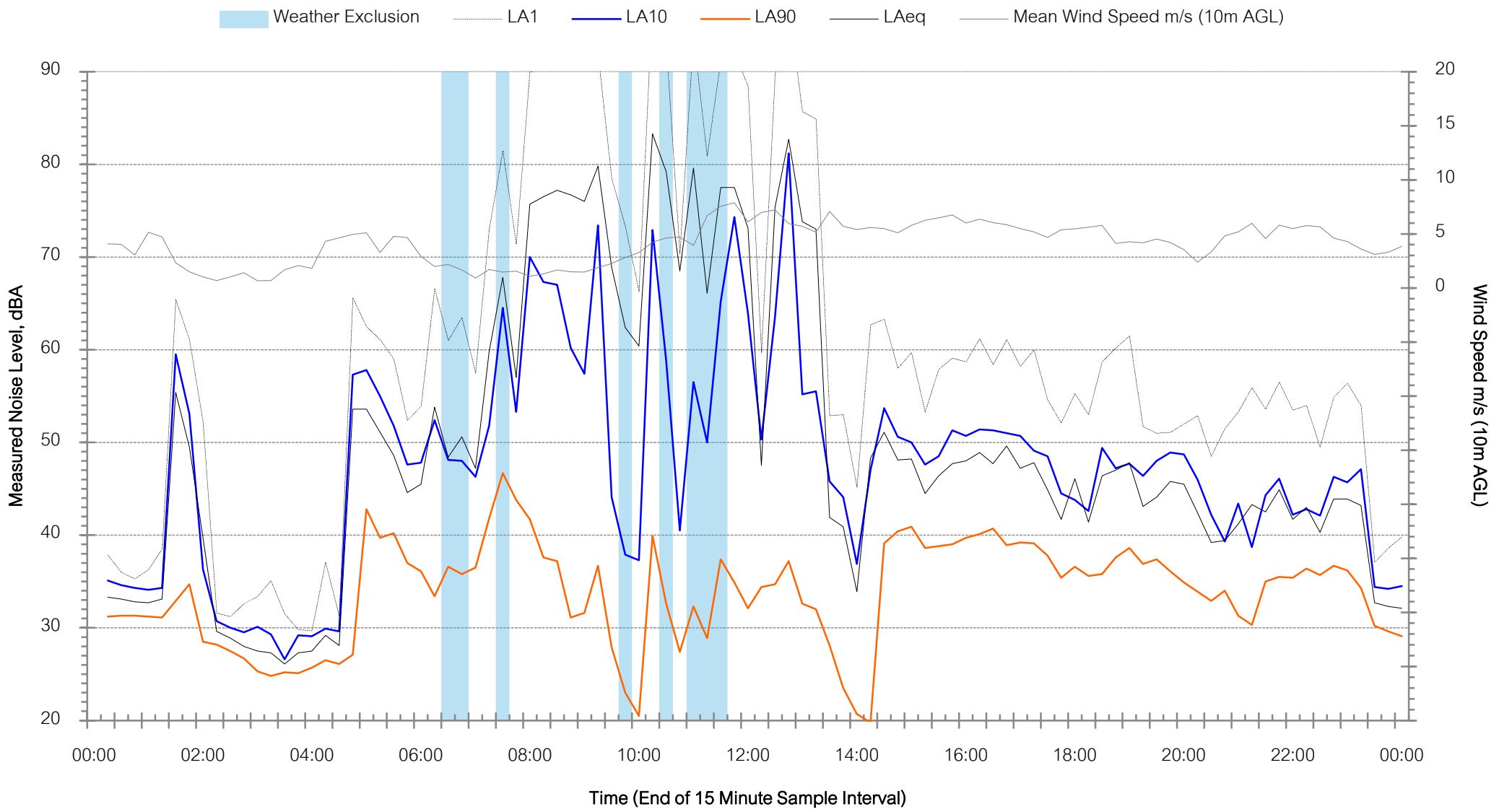
Background Noise Levels

Adavale NM5 - Monday 2 December 2024



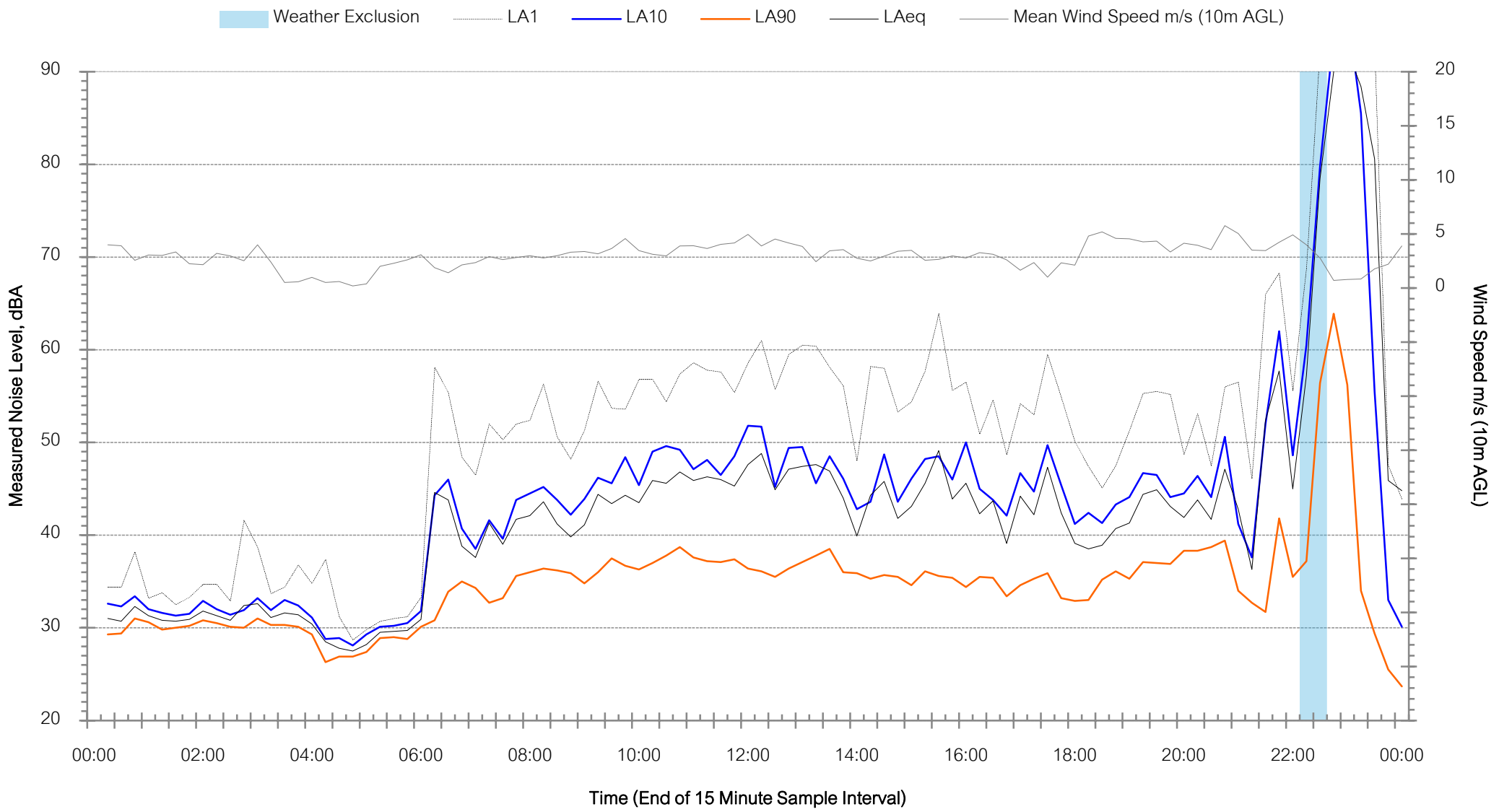
Background Noise Levels

Adavale NM5 - Tuesday 3 December 2024



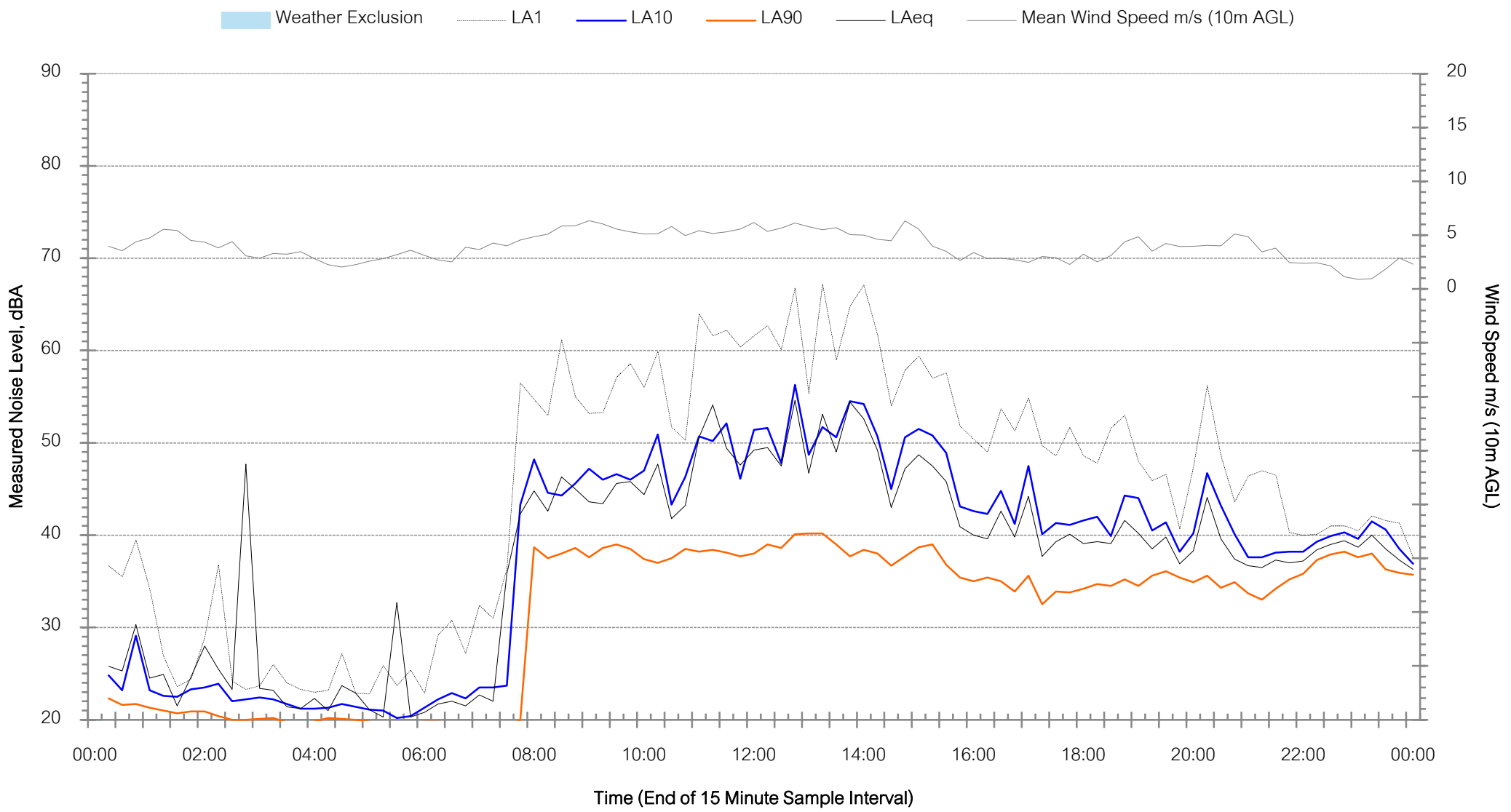
Background Noise Levels

Adavale NM5 - Wednesday 4 December 2024



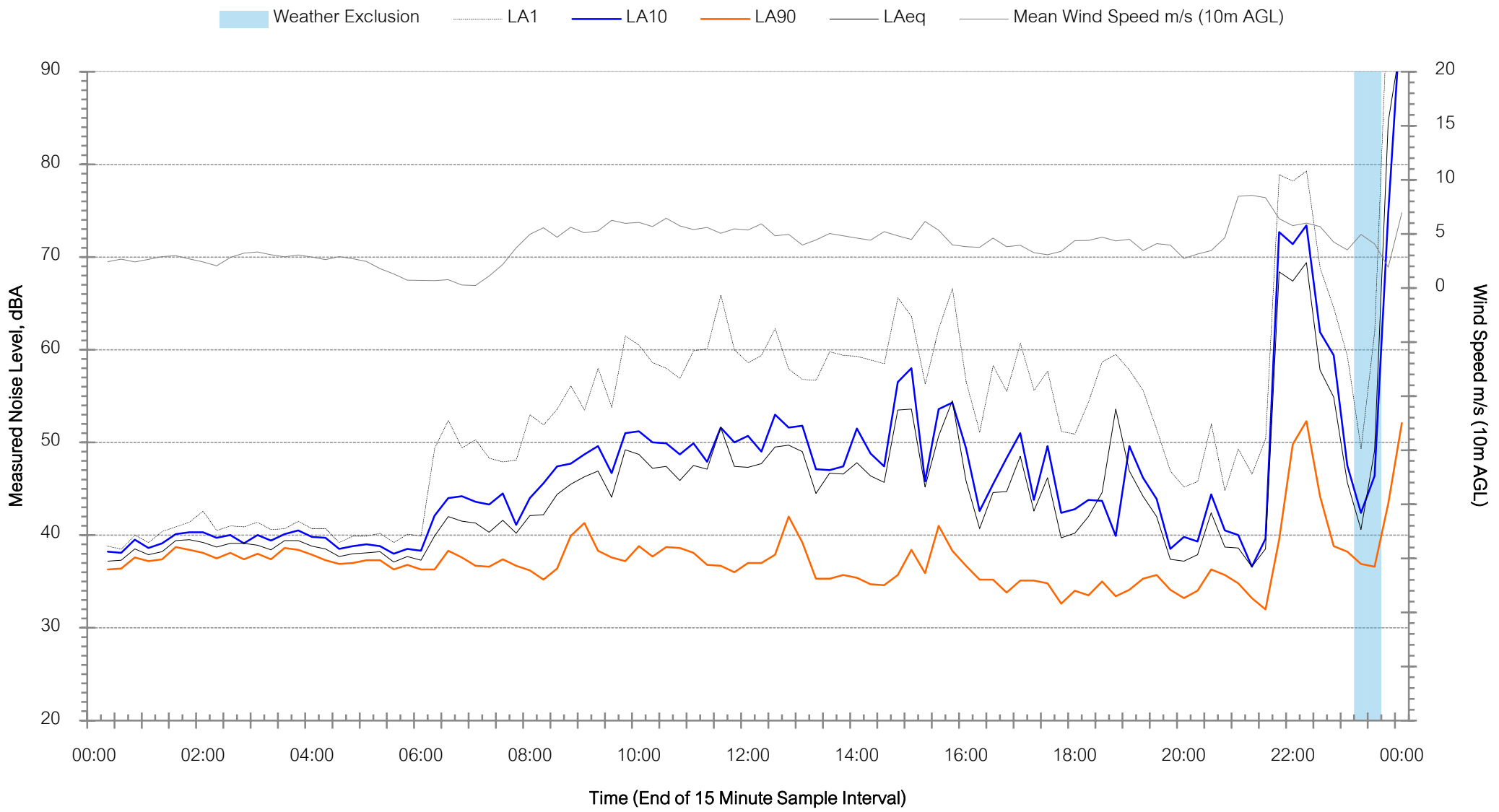
Background Noise Levels

Adavale NM5 - Thursday 5 December 2024



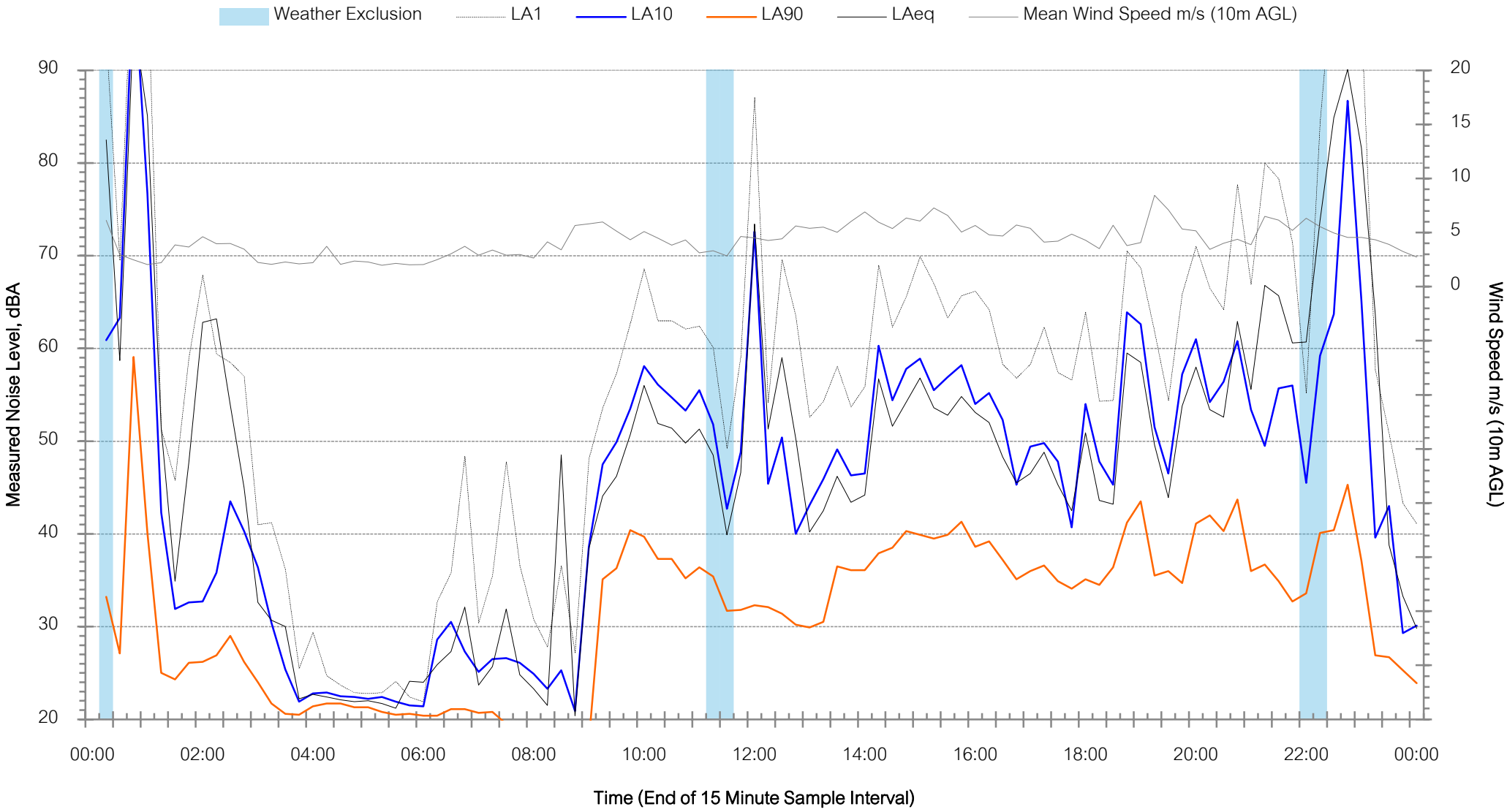
Background Noise Levels

Adavale NM5 - Friday 6 December 2024



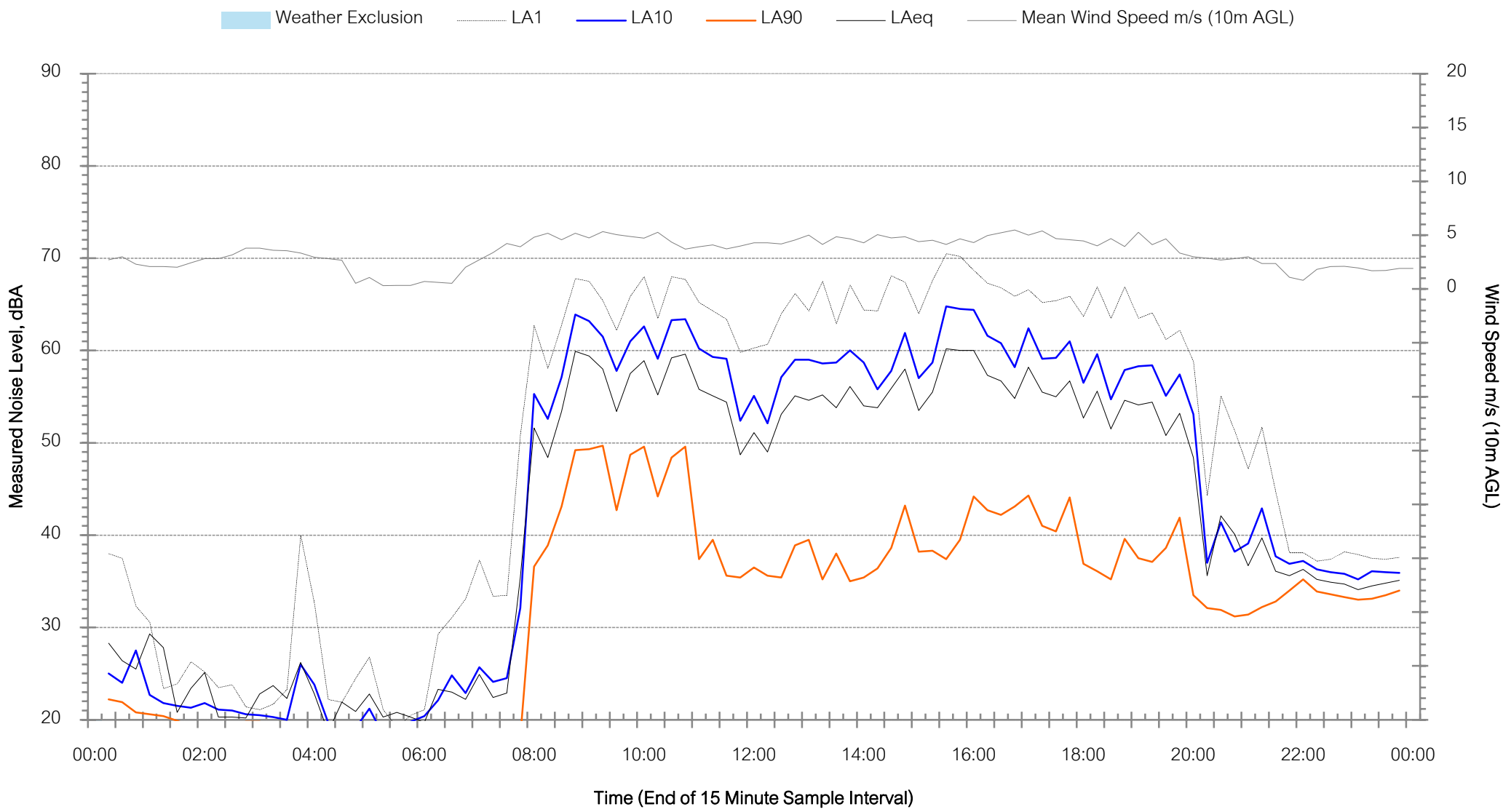
Background Noise Levels

Adavale NM5 - Saturday 7 December 2024



Background Noise Levels

Adavale NM5 - Sunday 8 December 2024



Muller Acoustic Consulting Pty Ltd
PO Box 678, Kotara NSW 2289
ABN: 36 602 225 132
Ph: +61 2 4920 1833
www.mulleracoustic.com

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