Noise Monitoring Assessment

Austen Quarry, Hartley, NSW
March 2023

Prepared for: RW Corkery & Co Pty Limited
April 2023
MAC170523RP13

Muller Acoustic Consulting

Document Information

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Prepared for: RW Corkery & Co Pty Limited (on behalf of Hy-Tec Pty Ltd)

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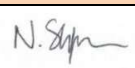
MAC170523RP13	03 April 2023	Nicholas Shipman		Oliver Muller	

CONTENTS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by RW Corkery & Co Pty Limited (RWC) on behalf of Hy-Tec Industries Pty Ltd (HT) to complete a Noise Monitoring Assessment (NMA) for Austen Quarry Operations, Hartley, NSW.

The monitoring has been conducted in accordance with the approved Austen Quarry Noise Management Plan and in general accordance with Conditions L4.1 to L4.3 of EPL#12323 (EPL); at three representative monitoring locations.

The assessment was conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Environment Protection Licence EPL#12323;
- NSW Environment Protection Authority (EPA's), Approved methods for the measurement and analysis of environmental noise in NSW, 2022;
- RW Corkery & Co Pty Limited, Austen Quarry Noise Management Plan (NMP); and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

This assessment was completed on Thursday 16 March 2023 and Friday 17 March 2023 and forms part of the noise monitoring program to address conditions of EPL#12323, Austen Quarry Development Consent SSD 6084 (SSD-6084) and the Noise Management Plan.

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 Environmental Protection License Noise Limits

Section L4 of the project's EPL (EPL #12323) outlines the applicable operational noise criteria for all privately owned receivers surrounding the mine. The criteria outlined in the EPL is reproduced below:

L4.1 Noise from the premises must not exceed 35 dB(A)LAeq (15 minute) at any time.

Where LAeq means the equivalent continuous noise level - the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.

L4.2 To determine compliance with condition(s) L4.1 noise must be measured at, or computed for, any affected noise sensitive locations (such as a residence, school or hospital). A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the "Environmental Noise Management - NSW Industrial Noise Policy (January 2000)".

L4.3 The noise emission limits identified in this licence apply under all meteorological conditions except:

a) *during rain and wind speeds (at 10m height) greater than 3m/s; and*
b) *under "non-significant weather conditions".*

Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.

2.2 State Significant Development Consent Noise Limits

The operating criteria specified in Schedule 3, Condition 3 of the Austen Quarry Development Consent (SSD-6084), approved and modified on 15 July 2019 aligns with criteria outlined in EPL#12323 for the quarry at all privately owned receivers, ie 35dB $LA_{eq(15min)}$. Furthermore, SSD-6084 specifies an LA_{max} criteria for site operations of 52dBA during the morning shoulder period.

2.3 Noise Limits Summary

Table 1 presents a summary of the noise criteria for privately owned residential receivers surrounding the quarry, as outlined in SSD-6084 and EPL#12323.

Table 1 Noise Criteria

Receiver	Day dB $LA_{eq(15min)}$	Evening dB $LA_{eq(15min)}$	Morning Shoulder dB $LA_{eq(15min)}$	Morning Shoulder dB LA_{max}
All privately owned residences	35	35	35	52

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3 Methodology

3.1 Locality

The quarry is located on Jenolan Caves Road, Hartley, NSW, approximately 10km south of Lithgow, NSW. Receivers in the locality surrounding the quarry are primarily rural/residential. The Great Western Highway is situated to the north east of the site and Jenolan Caves Road to the west of the site.

3.2 Noise Monitoring Locations

Three monitoring locations have been selected as part of the NMA in accordance with the Noise Management Plan (NMP) and are summarised below:

- Location A (residence identifier R24A as per NMP), is located at 200 Jenolan Caves Road, Hartley, NSW, approximately 2.5km north of the project;
- Location B (residence identifier R31 as per NMP), is located at 781 Jenolan Caves Road, Good Forest, NSW, approximately 1km south west of the project site; and
- Location C (residential identifier R48 as per NMP) is located at 64 Carroll Drive, Hartley, NSW, approximately 2.5km north east of the quarry.

The monitoring locations with respect to quarry are presented in the locality plan shown in **Figure 1**.

3.3 Attended Monitoring Methodology

The attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and EPL#12323. The measurements were carried out using a Svantek Type 1, 971 noise analyser on Thursday 16 March 2023 and Friday 17 March 2023. 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.

Noise measurements were of 15 minutes in duration and where possible, throughout each survey, the operator quantified the contribution of each significant noise source. One measurement was conducted at each of the monitoring locations during the day, evening and morning shoulder monitoring periods to quantify the noise sources in the ambient noise environment.

3.4 Unattended Monitoring Methodology

The unattended noise survey, completed at Location A - 200 Jenolan Caves Road, Hartley was conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise". The measurements were carried out using a Svantek Type 1, 977 noise analyser. Monitoring was conducted between Thursday 16 March 2023 and Thursday 23 March 2023. The acoustic instrumentation used carries current NATA calibration and complies with AS/NZS IEC 61672:2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA. Data affected by adverse meteorological conditions (ie winds greater than 10m/s at 10m elevation and rain periods) have been excluded from the results.

3.5 Operational Logs

Operational logs for the primary and secondary crushers have been provided by Austen Quarry management. It is noted that processing equipment commences at 6am. Daily pre-shift meetings and safety checks often delay commencement of onsite operations until closer to 7am. Morning shoulder measurements were conducted from 6am to 7am on Friday 17 March 2023 to capture the onsite operations at the nominated monitoring locations.

Table 2 presents a summary of the hours of operation of the primary and secondary crushers with the quarry operational logs which are reproduced **Appendix B**.

Table 2 Primary and Secondary Crushers Hours of Operation

Date	Primary Crusher		Secondary Crusher	
	Commenced Crushing (hrs)	Ceased Crushing (hrs)	Commenced Crushing (hrs)	Ceased Crushing (hrs)
16/03/2023	06:45	20:00	06:00	17:00
17/03/2023	06:45	15:00	06:00	19:00

FIGURE 1

LOCALITY PLAN

REF: MAC170523

0 500m

KEY

A MONITORING LOCATION

SITE LOCATION

MAC
Muller Acoustic Consulting

*Imagery Source : nearmaps

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4 Results

4.1 Meteorological Conditions - Location B

As prescribed in Condition L3.2 of the EPL (EPL #12323) weather data for the noise assessment period was sourced from the onsite weather station (station #3490) as well as operator measured conditions on site of EPL nominated receiver Location B to determine prevailing meteorological conditions at the time of the attended measurements and are presented in **Table 3**.

Table 3 Prevailing Meteorological Conditions

Time & Date	Onsite Weather Station Station #3490 (10mAGL)		Operator Measured Weather EPL Monitoring Location (1.8m AGL)	
	Wind Direction	Wind (m/s)	Wind Direction	Wind (m/s)
16:12, 16/03/2023	W	4.4	W	2.6
18:30, 16/03/2023	W	1.8	W	1.6
06:01, 17/03/2023	S	0.3	E	0.6

Location B was selected as the nearest monitoring location to weather station #3490

4.2 Assessment Results - Location A

Operational attended noise monitoring was completed in each assessment period at Location A, 200 Jenolan Caves Road on Thursday 16 March 2023 and Friday 17 March 2023. **Table 4** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 4 Operator-Attended Noise Survey Results – Location A

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}		
16/03/2023	15:45 (Day)	84	63	47	WD: W WS: 2.5m/s Rain: Nil	Insects <45 Birds <48 Traffic 45-84 Wind 45-56 Quarry inaudible
Austen Quarry Contribution[1]						<35dB $L_{Aeq(15min)}$
16/03/2023	18:56 (Evening)	79	57	38	WD: W WS: 1.4m/s Rain: Nil	Traffic 37-79 Insects <38 Creek flow 38-41 Birds 39-49 Wind 38-46 Quarry inaudible
Austen Quarry Contribution[1]						<28dB $L_{Aeq(15min)}$
17/03/2023	06:28 (Morning Shoulder)	85	67	41	WD: W WS: 0.1m/s Rain: Nil	Traffic 38-85 Birds 38-44 Creek flow 38-40 Quarry inaudible
Austen Quarry Contribution[1]						<31dB $L_{Aeq(15min)}$ <31dB L_{Amax}

Note 1: Estimated quarry noise contribution.

4.3 Assessment Results - Location B

Operational attended noise monitoring was completed in each assessment period at Location B, 781 Jenolan Caves Road on Thursday 16 March 2023 and Friday 17 March 2023. **Table 5** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 5 Operator-Attended Noise Survey Results – Location B

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}		
16/03/2023	16:12 (Day)	76	55	42	WD: W WS: 2.6m/s Rain: Nil	Insects <39 Wind 42-58 Aircraft 44-51 Local residential noise 42-76 Quarry inaudible
Austen Quarry Contribution[1]						<32dB $L_{Aeq(15min)}$
16/03/2023	18:30 (Evening)	65	42	32	WD: W WS: 1.6m/s Rain: Nil	Insects <29 Wind 29-36 Birds 38-65 Livestock 30-34 Aircraft 29-38 Quarry inaudible
Austen Quarry Contribution[1]						<22dB $L_{Aeq(15min)}$
17/03/2023	06:01 (Morning Shoulder)	51	35	31	WD: W WS: 0.6m/s Rain: Nil	Traffic 28-47 Wind 30-34 Birds 32-51 Quarry inaudible
Austen Quarry Contribution[1]						<21dB $L_{Aeq(15min)}$ <21dB L_{Amax}

Note 1: Estimated quarry noise contribution.

4.4 Assessment Results - Location C

Operational attended noise monitoring was completed in each assessment period at Location C, 64 Carroll Drive on Thursday 16 March 2023 and Friday 17 March 2023. **Table 6** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 6 Operator-Attended Noise Survey Results – Location C

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}		
16/03/2023	16:44 (Day)	71	54	46	WD: W WS: 2.6m/s Rain: Nil	Wind 44-64 Traffic 44-71 Insects <44 Quarry inaudible
Austen Quarry Contribution[1]						<35dB $L_{Aeq(15min)}$
16/03/2023	18:00 (Evening)	70	51	45	WD: W WS: 2.4m/s Rain: Nil	Traffic 42-70 Insects <42 Wind 42-58 Quarry inaudible
Austen Quarry Contribution[1]						<35dB $L_{Aeq(15min)}$
17/03/2023	06:49 (Morning Shoulder)	61	43	38	WD: W WS: 1m/s Rain: Nil	Birds 38-61 Traffic 36-56 Dog bark 34-39 Quarry inaudible
Austen Quarry Contribution[1]						<28dB $L_{Aeq(15min)}$ <28dB L_{Amax}

Note 1: Estimated quarry noise contribution.

4.5 Unattended Noise Monitoring Results

Unattended noise monitoring was conducted at Location A from Thursday 16 March 2023 and Thursday 23 March 2023 while the quarry was operational. A comparison of attended and unattended noise monitoring data has been completed. **Table 7** presents the result of this comparison, focusing on the 15-minute statistics for the corresponding measurement times.

Table 7 Unattended Logging versus Operator-Attended Noise Survey – Location A

Date	Time (hrs)	Attended descriptors (dBA re 20 µPa)			Unattended descriptors (dBA re 20 µPa)		
		dB L_{Amax}	dB L_{Aeq}	dB L_{A90}	dB L_{Amax}	dB L_{Aeq}	dB L_{A90}
16/03/2023	15:45	84	63	47	66	51	47
16/03/2023	18:56	79	57	38	61	44	37
17/03/2023	06:28	85	67	41	63	48	38

Results of the comparison identify that the unattended results are generally lower due to the offset to the road, although results remain relativity consistent during the measurement periods.

Attended noise monitoring identified that quarry noise remained inaudible during the monitoring period. Accordingly, it is deemed that the monitored unattended noise levels are not representative of the quarry emissions but rather representative of the ambient local environment. A summary of daily metrics for the assessment period from Thursday 16 March 2023 and Thursday 23 March 2023 is presented in **Table 8**. **Appendix C** presents the logger charts of the results of the unattended monitoring survey.

Table 8 Unattended Noise Logging Summary – Location A

Date	Unattended descriptors (dBA re 20 µPa)		
	dB L_{Aeq}		
	Day	Evening	Night
Thursday, 16 March 2023	50	44	44
Wednesday, 17 March 2023	47	44	41
Thursday, 18 March 2023	51	43	41
Friday, 19 March 2023	43	42	45
Saturday, 20 March 2023	48	42	43
Sunday, 21 March 2023	49	41	44
Monday, 22 March 2023	49	57	44
Tuesday, 23 March 2023	49	N/A	N/A

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5 Noise Compliance Assessment

The compliance assessment for the nominated monitoring locations are presented in **Table 9** to **Table 12** for day, evening and morning shoulder assessment periods.

Table 9 Daytime $LA_{eq(15min)}$ Noise Compliance Assessment

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB $LA_{eq(15min)}$	dB $LA_{eq(15min)}$	
A	<35	35	✓
B	<35	35	✓
C	<35	35	✓

Table 10 Evening $LA_{eq(15min)}$ Noise Compliance Assessment

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB $LA_{eq(15min)}$	dB $LA_{eq(15min)}$	
A	<28	35	✓
B	<22	35	✓
C	<35	35	✓

Table 11 Morning Shoulder $LA_{eq(15min)}$ Noise Compliance Assessment

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB $LA_{eq(15min)}$	dB $LA_{eq(15min)}$	
A	<31	35	✓
B	<21	35	✓
C	<28	35	✓

Table 12 Morning Shoulder LA_{max} Noise Compliance Assessment

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB LA_{max}	dB LA_{max}	
A	<31	52	✓
B	<21	52	✓
C	<28	52	✓

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6 Discussion

6.1 Discussion of Results - Location A

Monitoring conducted at Location A, 200 Jenolan Caves Road, Hartley, NSW, was dominated by passing traffic. Traffic included trucks from Austen Quarry, adjacent (non-project) quarries and several transport firms. Local light vehicle traffic also contributed to the overall ambient environment. Quarry noise emissions were inaudible during all three monitoring periods for the March 2023 survey. Other extraneous noise sources audible during the three attended surveys included insects, birds, traffic, wind and creek flow.

The measured quarry day, evening and morning shoulder noise contribution for Location A are consistent with the noise levels predicted in the Noise and Blasting Impact Assessment (NBIA) (Ref: MAC170511RP1, Muller Acoustic Consulting Pty Ltd, 2018) prepared for the Stage 2 extension of the quarry.

6.2 Discussion of Results - Location B

Monitoring results at Location B, 781 Jenolan Caves Road, Good Forest, NSW, identified that the quarry remained inaudible during all three assessment periods. Extraneous noise sources dominated the noise environment which included insects, wind, aircraft, local residential noise, birds, livestock and aircraft.

The measured quarry day, evening and morning shoulder noise contribution for Location B are consistent with the noise levels predicted in the NBIA.

6.3 Discussion of Results - Location C

Monitoring results at Location C, 64 Carroll Drive, Hartley, NSW, identified that the quarry remained inaudible during all three assessment periods. Extraneous noise sources dominated the noise environment which included wind, traffic, insects. birds and dogs barking.

The measured quarry day, evening and morning shoulder noise contribution for Location C are consistent with the noise levels predicted in the NBIA.

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7 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment for RW Corkery & Co Pty Limited on behalf of Hy-Tec Industries Pty Ltd for Austen Quarry, Hartley, NSW. The assessment was completed to assess the quarry's compliance with the relevant criteria outlined in EPL#12323 and SSD-6084 for three nominated residential receivers surrounding the quarry.

Operator attended noise monitoring was undertaken on Thursday 16 March 2023 and Friday 17 March 2023 at the nominated monitoring locations with quarry noise contributions compared against the relevant criteria.

The assessment has identified that noise emissions generated by Austen Quarry comply with relevant noise criteria specified in EPL#12323 and SSD-6084 at all assessed locations for the three relevant assessment periods.

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Appendix A – Glossary of Terms

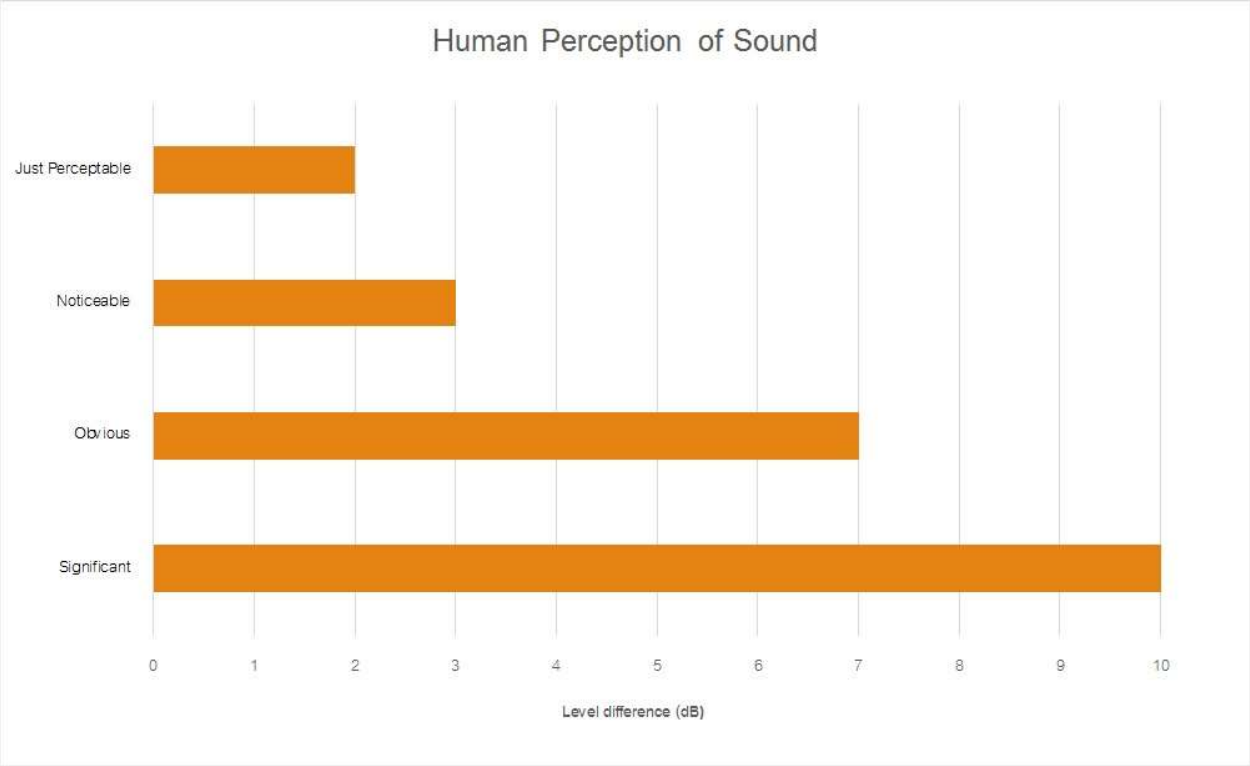
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAmax	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : = 10.log10 (W/Wo) Where : W is the sound power in watts and Wo is the sound reference power at 10-12 watts.

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

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

Figure A1 – Human Perception of Sound



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Appendix B – Operational Logs

DAILY PRODUCTION LOG & CHECKLIST - PRIMARY

Date: 16/3/23 Operator: ARETT

Weather Conditions; FINE Quarry Bench ID. 745

Shift Start Time	6 AM	Shift Finish Time	
Crusher Start Time	6.45	End of day Crusher stopped	~~8.23 pm~~ 8.00

Belt Weightometer Reading - Daily

Conveyor 1 Start	Conveyor 1 Finish	Total Tonnes Crushed
		7054

Cartage of Raw Feed from Face to Boot – Number of loads

DU4 Loads to Boot	115 +4 +17	DU1 Loads to Boot	
DU6 Loads to Boot	136	Contractor Loads to Boot	272

CAT 769 37 - 999

Stoppages due to Trucks	Stoppages due to Jaw
7344	

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
		VM	Pre start / tool box / grease plant / Both lanyards cv2, dismantle
			one to get to reset / CV3 General Fault when trying
	5:50	.45	to start
8.05pm	9.52pm	53min	CV7 under speed fault and drift
			switch

Pre start checks;

Generator hours. 35022 Generator oil level.. ✓

Plant Visual ..... Pilot hours .....

COMMENTS

DAILY PRODUCTION LOG & CHECKLIST - PRIMARY

Date: 17/3/23 Operator: BRETT

Weather Conditions; FINE Quarry Bench ID. 745

Shift Start Time	6 AM	**Shift Finish Time**	3.30
Crusher Start Time	6.45	**End of day Crusher stopped**	3.00

Belt Weightometer Reading - Daily

Conveyor 1 Start	Conveyor 1 Finish	Total Tonnes Crushed
		4755

Cartage of Raw Feed from Face to Boot – Number of loads

DU4 Loads to Boot	46	**DU1 Loads to Boot**	
DU6 Loads to Boot	45	**Contractor Loads to Boot**	

Stoppages due to Trucks	Stoppages due to Jaw
4914	

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
	~~6.45~~	.45	Startup
3:00		.5	Shutdown

Pre start checks;

Generator hours. 35038 Generator oil level.. ✓

Plant Visual ..... Pilot hours .....

COMMENTS

DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

an ADBRI company

Date: 16-3-23 Operator: NEIL G

Weather Conditions; Fine

Shift Start Time	6x 5AM	Shift Finish Time	10PM
Crusher Start Time	6.0am	End of day Crusher stopped	5PM

Weightometer Reading; Start: 6298489 **Finish:** 6302675 = 4186

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
	6.0am		
6.9am	8.7am	2.22	No Surge P.le Rak
9.21	9.22	.1	450 Adjust (7 teeth)
932	933	.1	550 Adjust (12 teeth)
1120	1121	.1	450 + 550 Adj
145	155	.10	Clear PRC Head Box Metal alarm
244	246	.2	Adj 450+550
320	326	.6	Metal alarm
430	431	.1	Adj 450+550
5:00		5.	Run P.P

62533600

PRODUCTION SUMMARY

Belts	Size	Description	Total Tonnes	Comments
CV 8	20 mm	Concrete Aggregate	1100	
CV 20	Course Sand 4-0mm	Manufactured Sand	1000	
CV 20	Old Man Sand	Man sand By-Pass Air-Sep		
CV 21	Super Fine –50micron	Super Fine Sand	80	
CV19*	10-7mm Blend*	Concrete Blend	1200	
CV19	7mm	Concrete Aggregate		
CV17	10mm	Concrete Aggregate		
CV15	14mm	Concrete Aggregate	250	
CV5	Ballast/40mm	Non Spec Aggregate		

DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

an ADBRI company

Date: 17-3-23 Operator: NEIL G

Weather Conditions; FINE

Shift Start Time	5AM	Shift Finish Time	10PM
Crusher Start Time	6.01am	End of day Crusher stopped	

Weightometer Reading; Start: 6302675 **Finish:** 6309440 = 6765

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
	6.01am		
6.01am	7.10am	1.10	PLC Lanyard trouble
9.08am	9.09am	.1	450 Adjust (5 teeth)
	925		550 Adjust (5 teeth)
1010	1019	.9	Metal detector
			Adjustment 450 & 550
12.17	12.27	.10	metal detector
141	142	.1	ADJ 450 +550
155	241	.46	CV4 Motion Sensor Fault PTE Fixed IT
250	252	.2	Adj 450 +550
6PM	615	.15	CV2 EMERGENCE STOP Lanyard.
650	651	.1	Adj 450

PRODUCTION SUMMARY

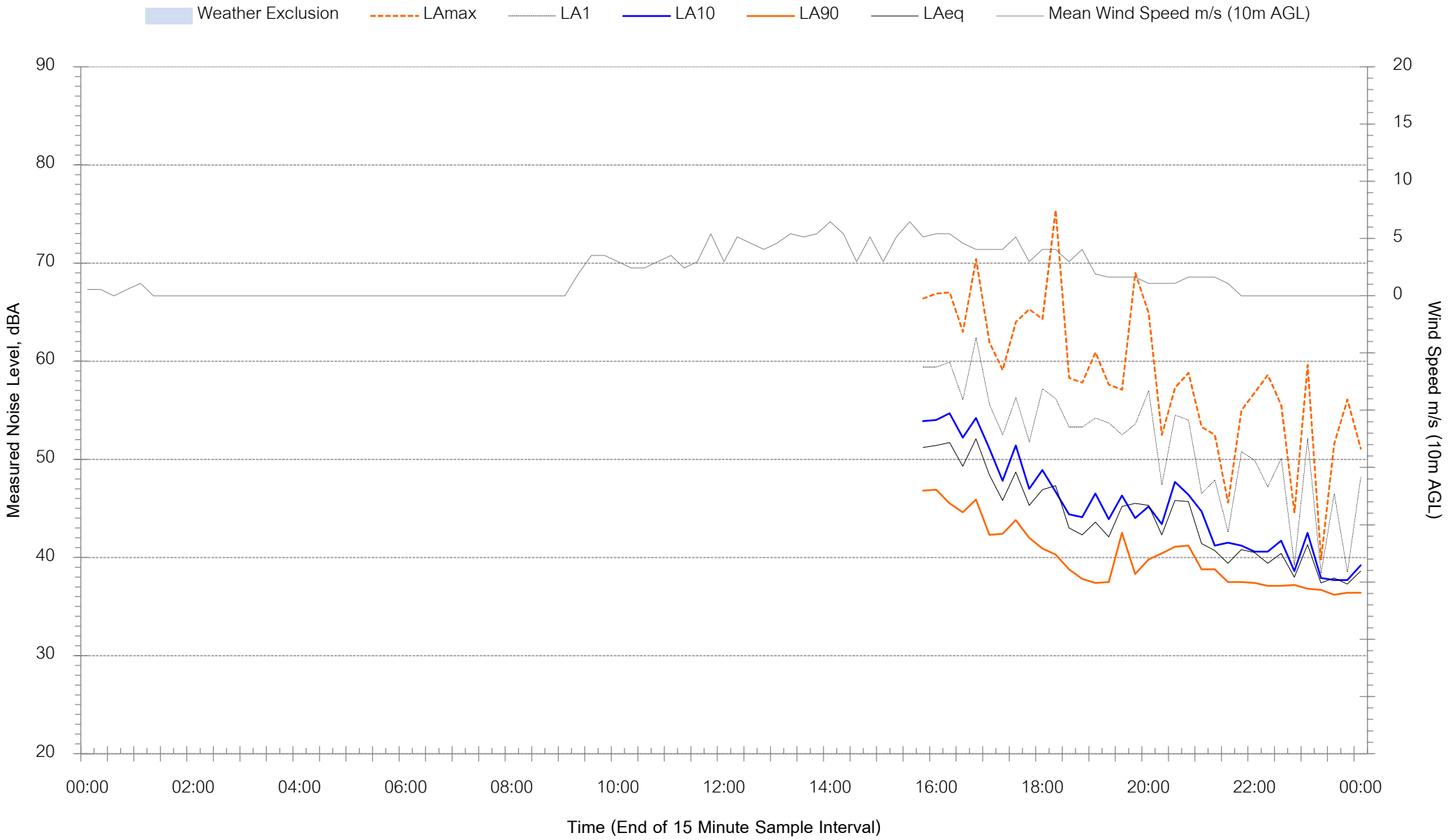
Belts	Size	Description	Total Tonnes	Comments
CV 8	20 mm	Concrete Aggregate	1800	
CV 20	Course Sand 4-0mm	Manufactured Sand	1600	
CV 20	Old Man Sand	Man sand By-Pass Air-Sep		
CV 21	Super Fine –50micron	Super Fine Sand	250	
CV19*	10-7mm Blend*	Concrete Blend	1600	
CV19	7mm	Concrete Aggregate		
CV17	10mm	Concrete Aggregate		
CV15	14mm	Concrete Aggregate	500	
CV5	Ballast/40mm	Non Spec Aggregate		

5750

Appendix C – Noise Monitoring Charts

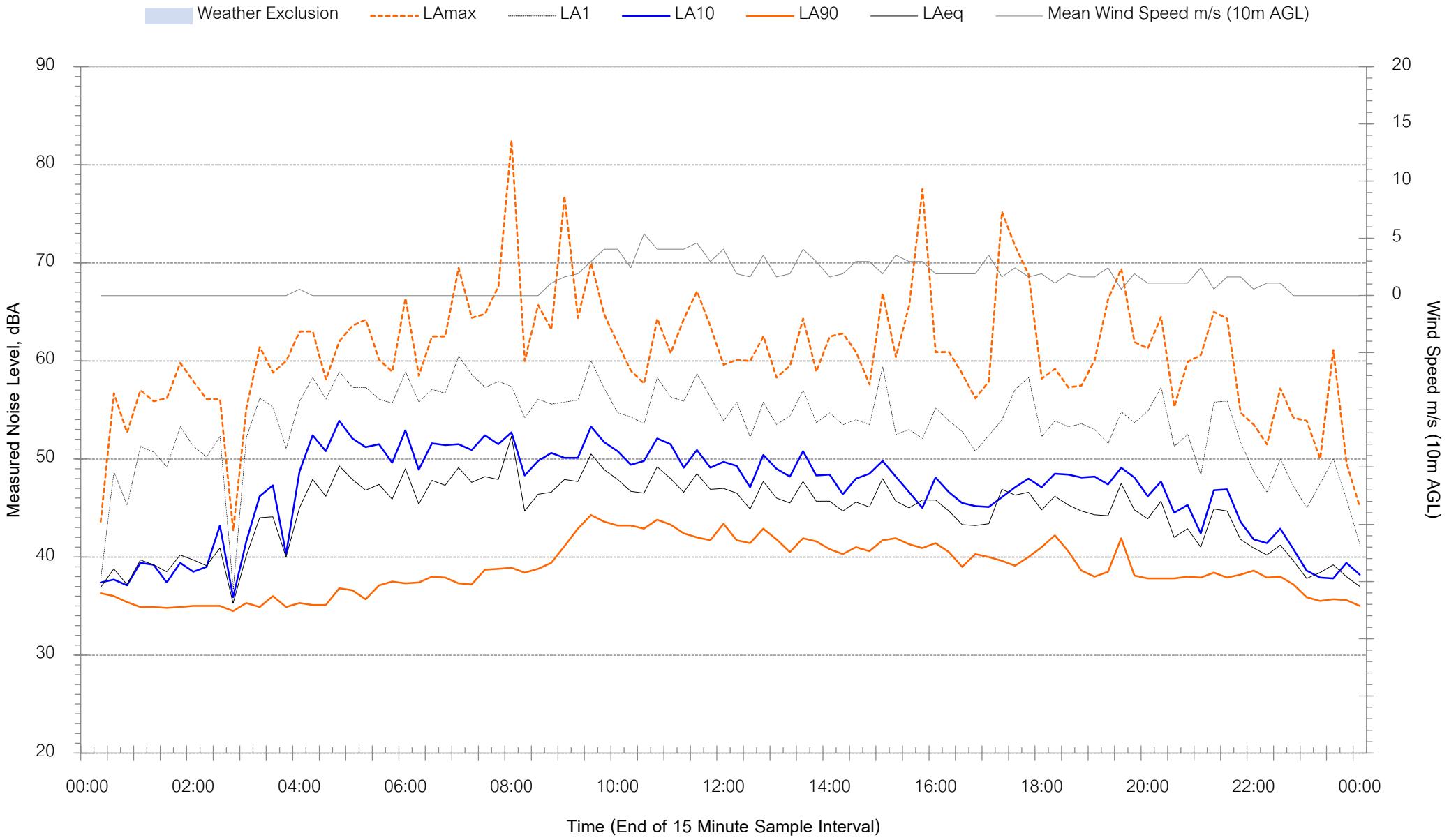
Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Thursday 16 March 2023



Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Friday 17 March 2023



Background Noise Levels

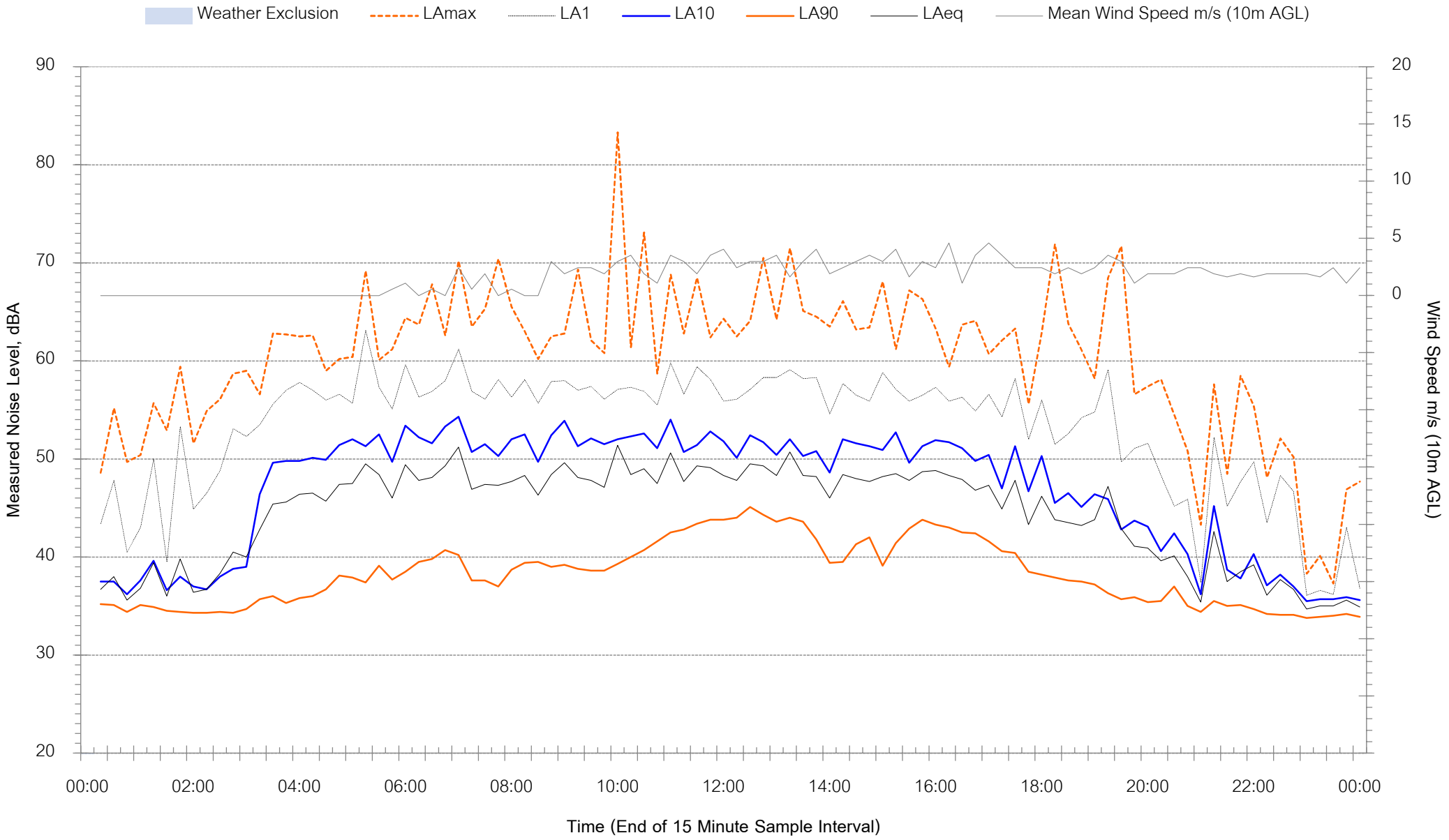
Location A - 200 Jenolan Caves Road, Hartley - Saturday 18 March 2023

Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Sunday 19 March 2023

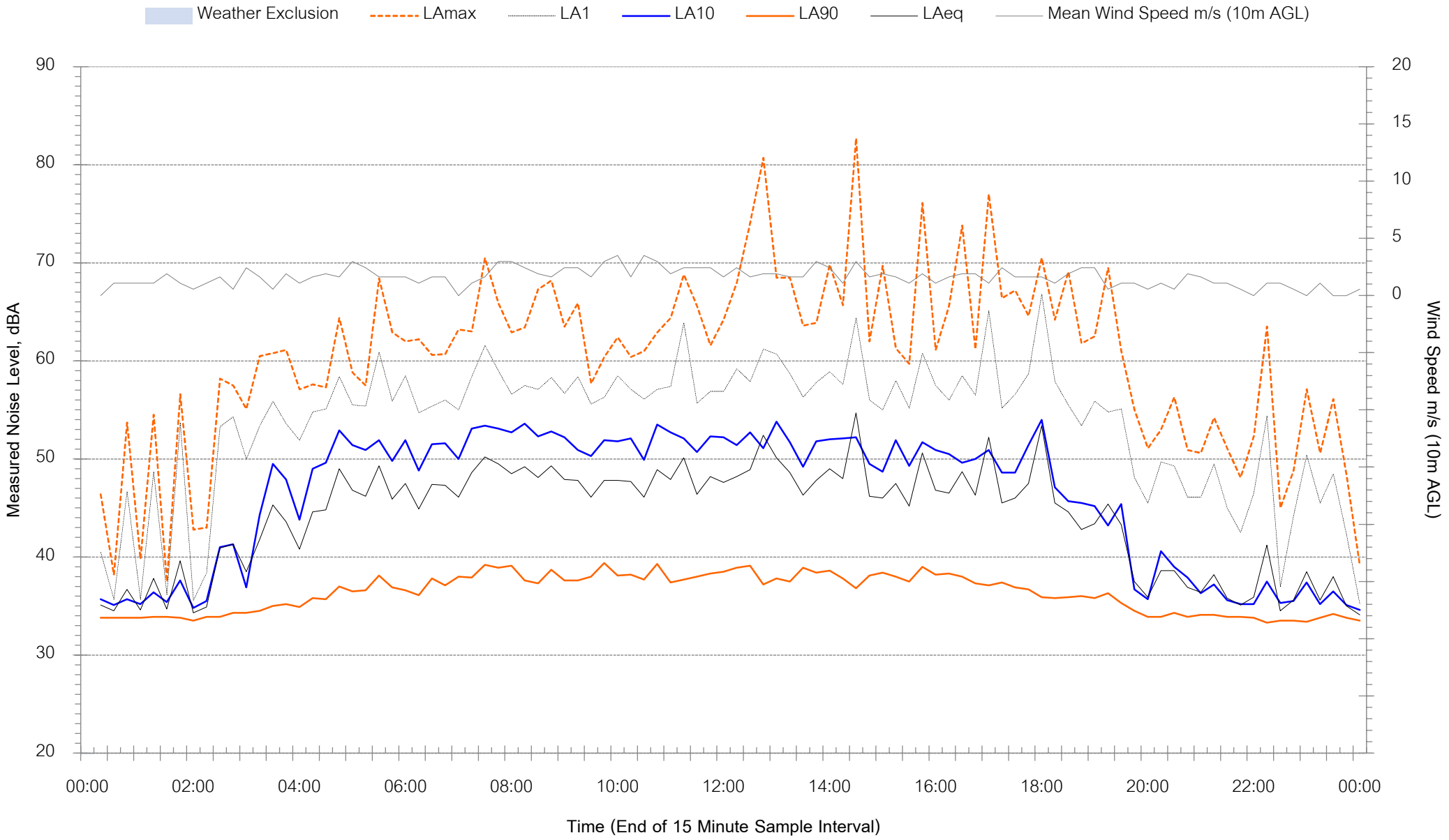
Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Monday 20 March 2023



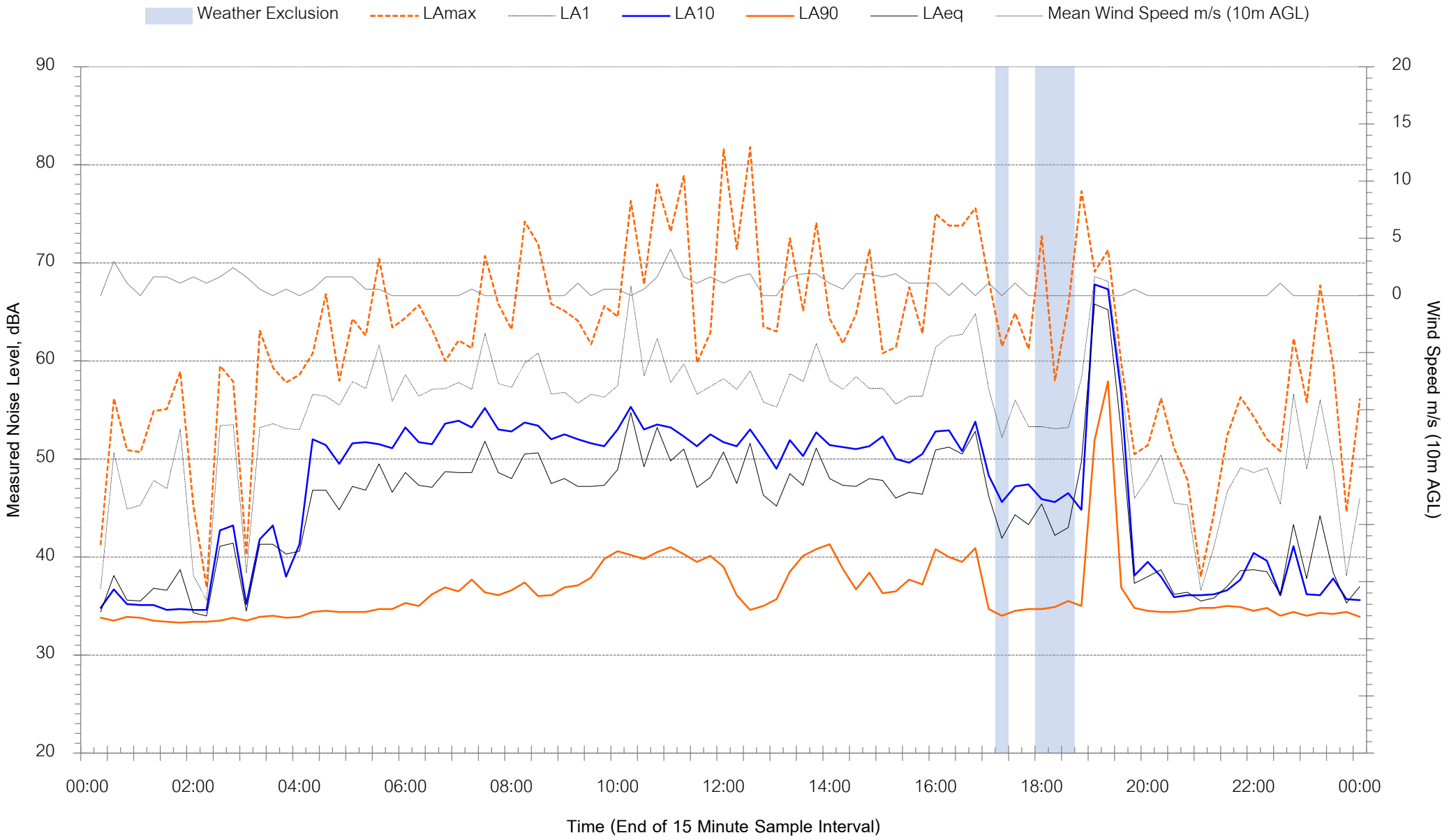
Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Tuesday 21 March 2023



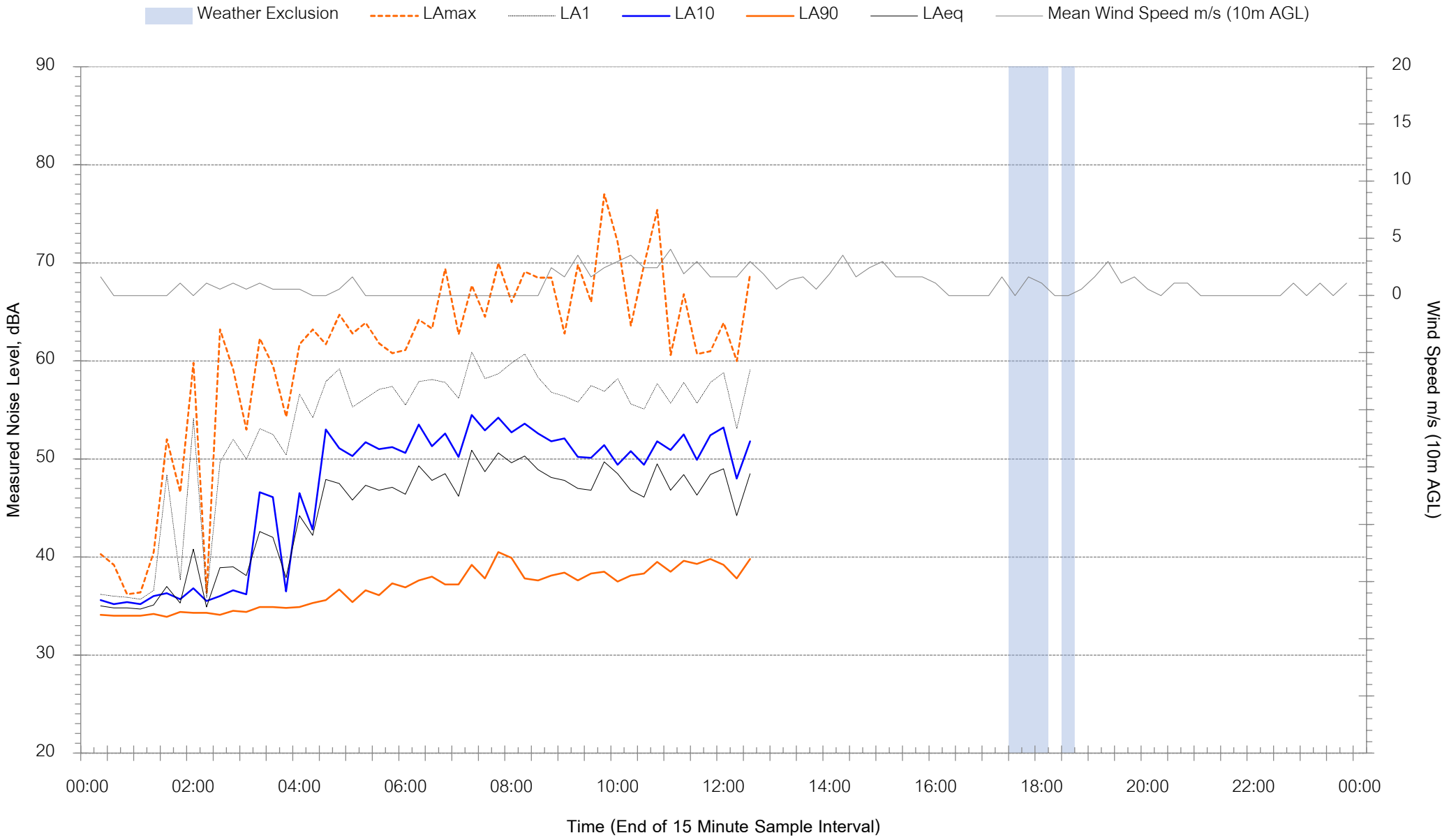
Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Wednesday 22 March 2023



Background Noise Levels

Location A - 200 Jenolan Caves Road, Hartley - Thursday 23 March 2023



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