

# Noise Monitoring Assessment

Austen Quarry, Hartley, NSW  
September 2019



# Document Information

## Noise Monitoring Assessment

Austen Quarry, Hartley, NSW

September 2019

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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;
- 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 undertaken during September 2019 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 Attended Noise Compliance

Schedule 3, Condition 3 of the Austen Quarry Development Consent (SSD-6084), approved on 15 July 2015 and modified on 15 August 2018, outlines the applicable noise criteria for all privately owned residential receivers surrounding the quarry site. The operating criteria specified in SSD-6084 also aligns with criteria in EPL#12323 for the quarry at all receivers ie 35dB LAeq(15min).

Furthermore, SSD-6084 specifies an LAmax criteria for site operations of 52dBA during the morning shoulder period. **Table 1** presents the criteria for privately owned residential receivers surrounding the quarry, as outlined in SSD-6084 and EPL#12323.

Table 1 Noise Criteria				
Receiver	Day	Evening	Morning Shoulder	Morning Shoulder
	dB LAeq(15min)	dB LAeq(15min)	dB LAeq(15min)	dB LAmax
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 5 September 2019 and Friday 6 September 2019. The acoustic instrumentation used carries current NATA calibration and complies with AS 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  $\pm 0.5$  dBA.

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, undertaken at Location A - 200 Jenolan Caves Road, 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 from Thursday 5 September 2019 to Thursday 12 September 2019. 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  $\pm 0.5$  dBA.

A 60-second audio sample was recorded at the commencement of each 15-minute monitoring period to identify the dominant noise sources contributing to the ambient noise environment at that time. 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 transportation activities commence at 5am and work shifts for processing equipment commence 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 6 September 2019 to capture the commencement of onsite operations at the nominated monitoring locations. It is noted that for noise monitoring during the morning shoulder period, the secondary crusher and associated processing equipment (screens, conveyors and the air separator) had not yet commenced operation. **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	Ceased Crushing	Commenced Crushing	Ceased Crushing
05/09/19	06:40	15:10	15:07	21:45
06/09/19	06:45	15:10	06:28	19:07





**FIGURE 1**  
**LOCALITY PLAN**  
REF: MAC170523



KEY	
	MONITORING LOCATION
	SITE LOCATION



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## 4 Results

### 4.1 Assessment Results - Location A, 200 Jenolan Caves Road

Operational attended noise monitoring was completed in each assessment period at Location A on Thursday 5 September 2019 and Friday 6 September 2019. **Table 3** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 3 Operator-Attended Noise Survey Results – Location A							
Date	Time (hrs)	Period	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
			L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>		
05/09/19	17:14	Day	74	49	39	WD: NW WS: 1.2m/s Rain: Nil	Insects 30-32
							Traffic 55-70
							Birds 40-74
							Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
05/09/19	18:36	Evening	73	54	35	WD: NE WS: 2.1m/s Rain: Nil	Wind in Trees 40-43
							Traffic 50-73
							Birds and Insects 35-40
							Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
06/09/19	06:18	Shoulder	67	52	40	WD: NE WS: 0.4m/s Rain: Nil	Aircraft 44-46
							Birds 46-67
							Traffic 50-66
							Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
						<40dB L <sub>Amax</sub>	

Note 1: Estimated quarry noise contribution.

## 4.2 Assessment Results - Location B, 781 Jenolan Caves Road

Operational attended noise monitoring was completed in each assessment period at Location B on Thursday 5 September 2019 and Friday 6 September 2019. **Table 4** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 4 Operator-Attended Noise Survey Results – Location B							
Date	Time (hrs)	Period	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
			L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>		
05/09/19	16:43	Day	67	39	30	WD: NW WS: 0.7m/s Rain: Nil	Insects 30-31
							Distant Traffic 33-39
							Birds 30-67
							Quarry Truck (10secs) 33
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
05/09/19	18:12	Evening	54	35	25	WD: NE WS: 1.8m/s Rain: Nil	Aircraft 40-44
							Birds 38-54
							Car in Driveway 40-43
							Quarry inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
06/09/19	06:44	Shoulder	53	45	36	WD: N WS: 1.7m/s Rain: Nil	Wind in Trees 40-46
							Birds 42-53
							Distant Traffic 39-51
							Quarry Truck (10secs) 38
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
						<40dB L <sub>Amax</sub>	

Note 1: Estimated quarry noise contribution.



### 4.3 Assessment Results - Location C, 64 Carroll Drive

Operational attended noise monitoring was completed in each assessment period at Location C on Thursday 5 September 2019 and Friday 6 September 2019. **Table 5** presents the monitored noise level contributions and observed meteorological conditions for each measurement.

Table 5 Operator-Attended Noise Survey Results – Location C							
Date	Time (hrs)	Period	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
			L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>		
05/09/19	17:38	Day	65	46	41	WD: NE WS: 2.8m/s Rain: Nil	Wind in Trees 30-46 Distant Traffic 40-48 Birds 40-65 Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
05/09/19	19:04	Evening	50	41	34	WD: NE WS: 1.4m/s Rain: Nil	Wind in trees 41-49 Distant Traffic 42-46 Car in Drive 38-41 Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
06/09/19	05:56	Shoulder	67	50	44	WD: NE WS: 0.1m/s Rain: Nil	Birds 48-67 Distant Traffic 40-54 Quarry Inaudible
Austen Quarry Contribution <sup>1</sup>						<30dB L <sub>Aeq</sub> (15min)	
						<40dB L <sub>Amax</sub>	

Note 1: Estimated quarry noise contribution.

#### 4.4 Unattended Noise Monitoring Results

Unattended noise monitoring was conducted at Location A from Thursday 5 September 2109 to Thursday 12 September 2019 while the quarry was operational. A comparison of attended and unattended noise monitoring data has been completed. **Table 6** presents the result of this comparison, focusing on the 15-minute statistics for the same measurement times.

**Table 6 Comparison of Unattended Logging versus Operator-Attended Noise Survey – Location A**

Date	Time (hrs)	Un-attended descriptors (dBA re 20 µPa)			Attended descriptors (dBA re 20 µPa)		
		dB LA <sub>max</sub>	dB LA <sub>eq</sub>	dB LA <sub>90</sub> <sup>1</sup>	dB LA <sub>max</sub>	dB LA <sub>eq</sub>	dB LA <sub>90</sub>
05/9/19	17:15	64	48	39	74	49	39
05/9/19	18:30	67	47	40	73	54	35
06/9/19	06:15	72	54	41	67	52	40

Note 1: LA<sub>min</sub> value adopted to exclude continuous extraneous local sources.

Results of the comparison identify that measured levels are generally consistent. Some variation in the metrics are expected due to the proximity of noise sources to the microphones, the moderate separation between the unattended and attended monitoring positions and slight variance in the monitored 15-minute period.

Attended noise monitoring identified that quarry noise was generally inaudible at Location A. 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 5 September 2019 to Thursday 12 September 2019 is presented in **Table 7**. **Appendix C** presents the logger charts of the results of the unattended monitoring survey.

**Table 7 Unattended Noise Logging Summary – Location A**

Date	Unattended descriptors (dBA re 20 µPa)		
	dB LA <sub>eq</sub>		
	Day	Evening	Night
Thursday, 5 September 2019	N/A	46	47
Friday, 6 September 2019	55	51	54
Saturday, 7 September 2019	64	61	54
Sunday, 8 September 2019	52	44	50
Monday, 9 September 2019	52	47	48
Tuesday, 10 September 2019	52	46	47
Wednesday, 11 September 2019	50	52	48
Thursday, 12 September 2019	53	N/A	N/A

Note 1: Influenced by elevated wind speed, see Appendix B. N/A



## 5 Noise Compliance Assessment

The compliance assessment for the nominated monitoring locations are presented in **Table 8** to **Table 11** for day, evening and morning shoulder assessment periods.

**Table 8 Daytime LAeq(15min) Noise Compliance Assessment**

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB LAeq(15min)	dB LAeq(15min)	
A	<30	35	✓
B	<30	35	✓
C	<30	35	✓

**Table 9 Evening LAeq(15min) Noise Compliance Assessment**

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB LAeq(15min)	dB LAeq(15min)	
A	<30	35	✓
B	<30	35	✓
C	<30	35	✓

**Table 10 Morning Shoulder LAeq(15min) Noise Compliance Assessment**

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB LAeq(15min)	dB LAeq(15min)	
A	<30	35	✓
B	<30	35	✓
C	<30	35	✓

**Table 11 Morning Shoulder LAmax Noise Compliance Assessment**

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB LAmax	dB LAmax	
A	<40	52	✓
B	<40	52	✓
C	<40	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 during the September 2019 survey. Other extraneous noise sources audible during the three attended surveys included birds and insects.

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, 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 was audible at this monitoring location during the day and morning shoulder monitoring periods. Quarry sources included trucks accessing the pit at the start/end of the shift. Notwithstanding, emissions from the quarry remained below applicable noise criteria for all measurements. The site was not audible during the evening monitoring period. Extraneous noise sources dominated the noise environment which included birds, distant traffic hum and insect noise.

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

Quarry noise was inaudible during all three survey periods at Location C, 64 Carroll Drive, Hartley, NSW, during the attended noise survey for the period of September 2019. Highway traffic, local birds and dogs barking dominated the ambient noise environment.

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 5 September 2019 and Friday 6 September 2019 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.

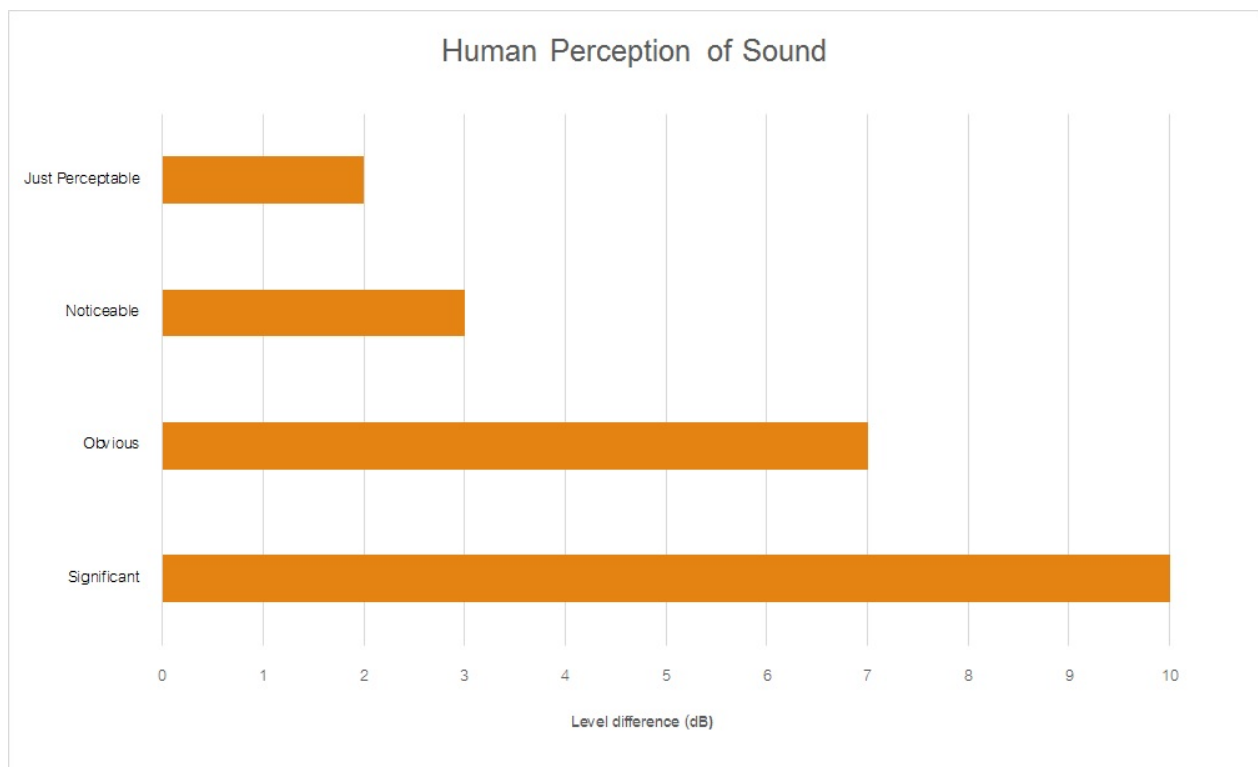
Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single 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.
LAm <sub>ax</sub>	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 : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W <sub>0</sub> 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: 6.9.19 Operator: Kingoly

Weather Conditions: Fine Quarry Bench ID: 750

Shift Start Time	6:00	Shift Finish Time	3:30
Crusher Start Time	6:45	End of day Crusher stopped	3:10

### Belt Weightometer Reading - Daily

Conveyor 1 Start 928398	Conveyor 1 Finish 934134	Total Tonnes Crushed 5736
Conveyor 6 Scalps Start	Conveyor 6 Scalps Finish 37	Total Tonnes Stockpiled

### Cartage of Raw Feed from Face to Boot - Number of loads

KK1 Loads to Boot	44	KK3 Loads to Boot	
KK2 Loads to Boot	48	Contractor Loads to Boot	

Stoppages due to Trucks	Stoppages due to Jaw
-------------------------	----------------------

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
6:00	6:45	45m	tool box
7:30	7:50	20m	CVT u/s
8:00	8:10	10m	check water on CV3 head, close CV5 flap.
9:25	9:55	30m	smoke
12:55	1:35	40m	smoke.
3:10			end crushing

Pre start checks;

Generator hours 26558-26566 Generator oil level. ✓

Plant Visual ✓

### COMMENTS

\* plant running : 6:35 am  
 \* 6:45 : dealping  
 \* 7:50 : surge pile



# DAILY PRODUCTION LOG & CHECKLIST - PRIMARY

Date: 5.9.19 Operator: Kingly  
 Weather Conditions: Part Quarry Bench ID: 760

Shift Start Time	<u>6:00</u>	Shift Finish Time	<u>5:00</u>
Crusher Start Time	<u>6:40</u>	End of day Crusher stopped	<u>3:10</u>

## Belt Weightometer Reading - Daily

Conveyor 1 Start <u>923100</u>	Conveyor 1 Finish <u>928398</u>	Total Tonnes Crushed <u>5298</u>
Conveyor 6 Scalps Start	Conveyor 6 Scalps Finish <u>209</u>	Total Tonnes Stockpiled

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

KK1 Loads to Boot	<u>41</u>	KK3 Loads to Boot	
KK2 Loads to Boot	<u>38</u>	Contractor Loads to Boot	

Stoppages due to Trucks	Stoppages due to Jaw
-------------------------	----------------------

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
<u>6:00</u>	<u>6:40</u>	<u>40</u>	<u>tool box</u>
<u>6:50</u>	<u>7:35</u>	<u>45</u>	<u>CV7 DIS</u>
<u>9:25</u>	<u>9:55</u>	<u>30</u>	<u>smoko</u>
<u>10:50</u>	<u>11:40</u>	<u>45</u>	<u>CV7 DIS</u>
<u>12:55</u>	<u>1:35</u>	<u>40</u>	<u>smoko</u>
<u>3:10</u>			<u>end crushing</u>

Pre start checks;

Generator hours 26547 Generator oil level

Plant Visual

### COMMENTS

\* 6:30 = plant running  
 \* 6:40 = scalping  
 \* 11:40 = surge pile

## DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

Date: 5.9.19 Operator: Jezza

Weather Conditions; fine

Shift Start Time	<u>1.00</u>	Shift Finish Time	<u>10.00</u>
Crusher Start Time	<u>3.07</u>	End of day Crusher stopped	<u>9.45</u>

Weightometer Reading; Start: 3448657 Finish: .....

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
<u>1.00</u>	<u>3.07</u>	<u>2hr 7m</u>	<u>PRE-START / Change cloths on S3</u>
<u>5.38</u>	<u>5.40</u>	<u>2m</u>	<u>Adj: 450 TSSO</u>
<u>8.09</u>	<u>8.10</u>	<u>1m</u>	<u>Adj: 450</u>

### PRODUCTION SUMMARY

FINES - 148

Belts	Size	Description	Total	Gate open	Comments
<u>CV 8</u>	<u>20 mm</u>	<u>Concrete Aggregate</u>	<u>804</u>		
<u>CV 20</u>	<u>Course Sand 4-0mm</u>	<u>Manufactured Sand</u>	<u>425</u>		
<u>CV19*</u>	<u>10-7mm Blend*</u>	<u>Concrete Blend</u>			
<u>CV19</u>	<u>7mm</u>	<u>Concrete Aggregate</u>	<u>275</u>		
<u>CV17</u>	<u>10mm</u>	<u>Concrete Aggregate</u>	<u>518</u>		
<u>CV15</u>	<u>14mm</u>	<u>Concrete Aggregate</u>	<u>144</u>		
<u>CV5</u>	<u>Ballast/40mm</u>	<u>Non Spec Aggregate</u>			

TOTAL - 2314

### COMMENTS

<u>NEW 450 LINER</u>

## DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

Date: 6.9.19 Operator: Shan / Jazz

Weather Conditions: Fine

Shift Start Time	<u>6am</u>	Shift Finish Time	<u>8.00</u>
Crusher Start Time	<u>6.28</u>	End of day Crusher stopped	

Weightometer Reading; Start: 3151057 Finish: .....

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
<u>6am</u>	<u>6.28</u>	<u>28min</u>	<u>pre start</u>
<u>6.40</u>	<u>6.45</u>	<u>5min</u>	<u>metal detector keeps tripping</u>
<u>6.47</u>	<u>6.57</u>	<u>10min</u>	<u>Metal detector</u>
<u>8.50</u>	<u>9.00</u>	<u>10min</u>	<u>Clean screen 5</u>
<u>9.19</u>	<u>9.21</u>	<u>2min</u>	<u>Adj 450</u>
<u>11.26</u>	<u>11.38</u>	<u>12min</u>	<u>change gate to 10/7 Blend</u>
<u>12.10</u>	<u>12.15</u>	<u>5m</u>	<u>genny over heat</u>
<u>2.20</u>	<u>2.28</u>	<u>8m</u>	<u>Clean 10/7 chute.</u>
<u>2.45</u>	<u>2.46</u>	<u>1m</u>	<u>Adj 450</u>
<u>6.17</u>	<u>6.19</u>	<u>2</u>	<u>Adj 450 + 550</u>

6.58 7.07 9m CV19 motion

### PRODUCTION SUMMARY

fines = 300

Belts	Size	Description	Total	Gate open	Comments
CV 8	20 mm	Concrete Aggregate	<u>1544</u>		
CV 20	Course Sand 4-0mm	Manufactured Sand	<u>978</u>		
CV19*	10-7mm Blend*	Concrete Blend	<u>929</u>		
CV19	7mm	Concrete Aggregate	<u>243</u>		
CV17	10mm	Concrete Aggregate	<u>428</u>		
CV15	14mm	Concrete Aggregate	<u>308</u>		
CV5	Ballast/40mm	Non Spec Aggregate			

4730

### COMMENTS

<u>CV14 tracking checked, is good!</u>

*(Handwritten mark)*

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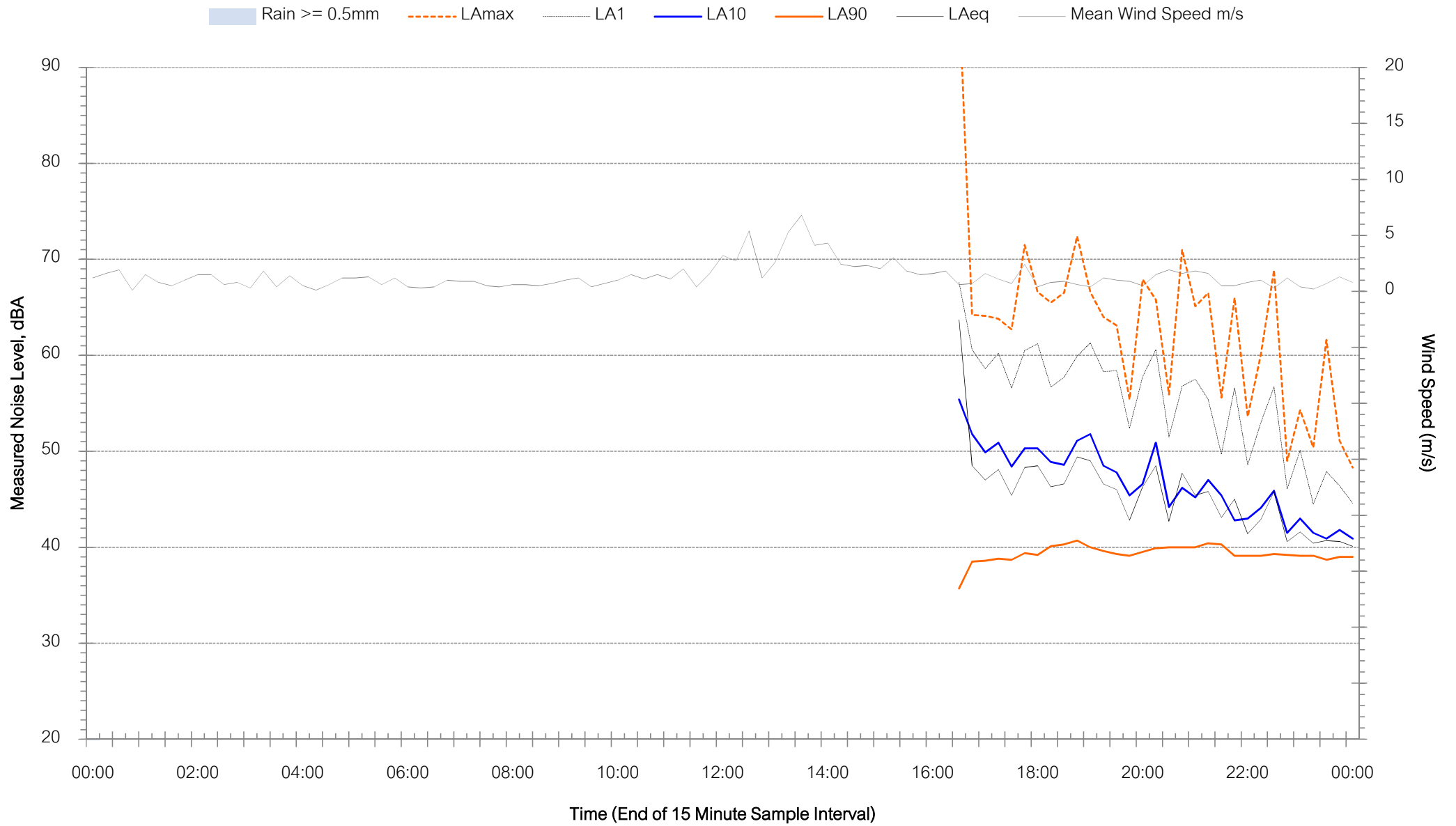


# Appendix C – Noise Monitoring Charts



# Background Noise Levels

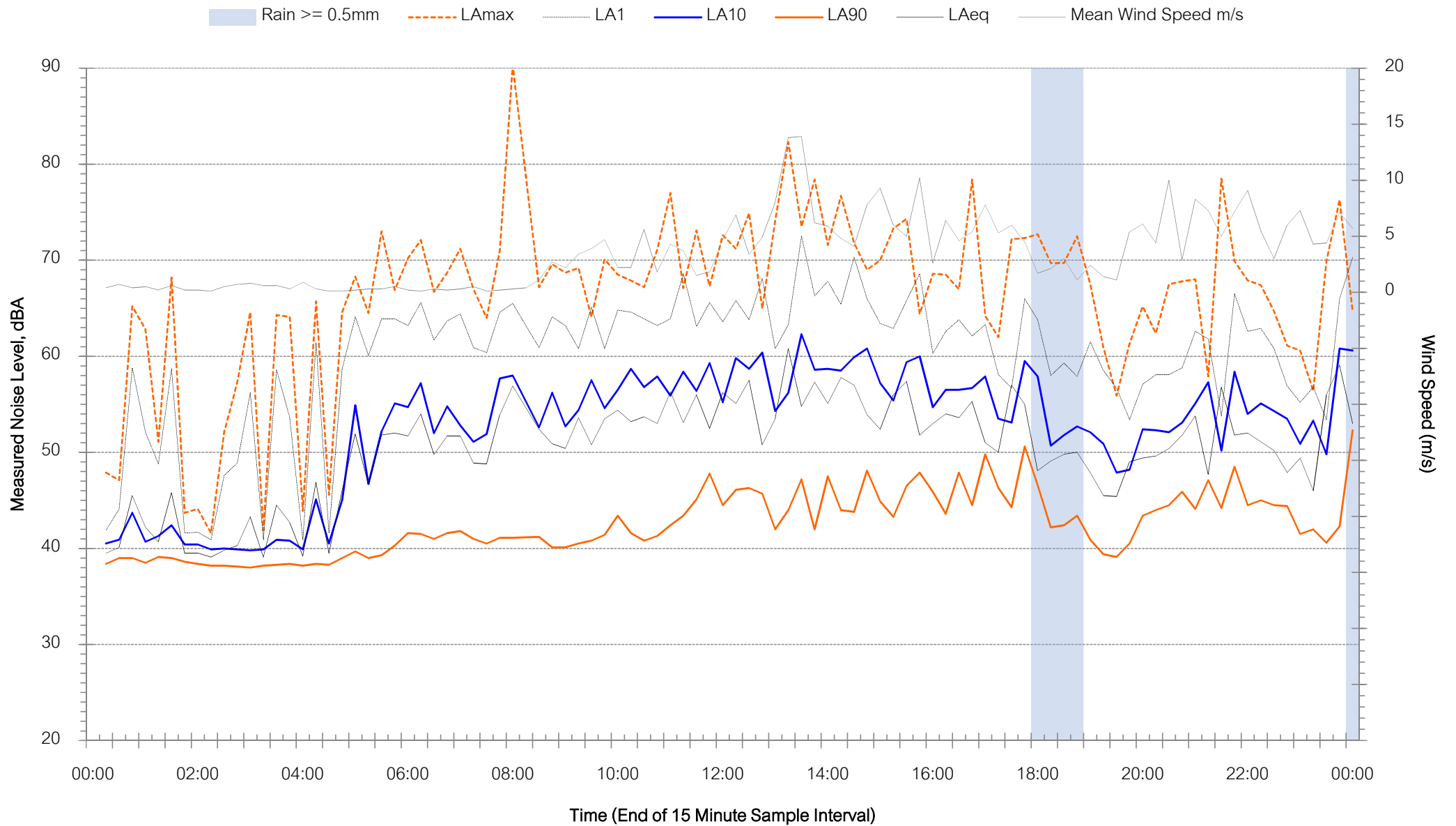
Location A- Glenroy, 200 Jenolan Caves Road - Thursday 5 September 2019





# Background Noise Levels

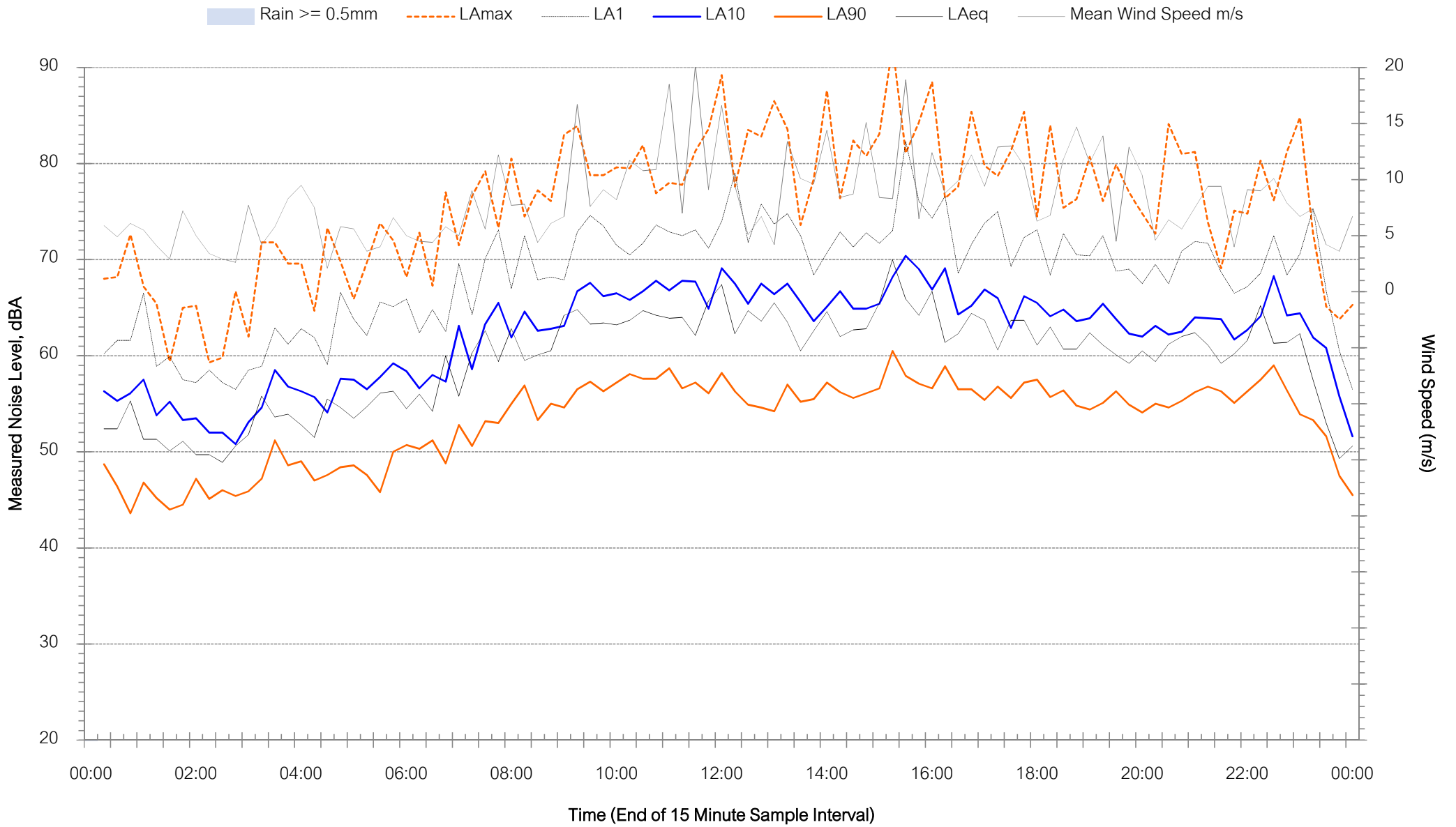
Location A- Glenroy, 200 Jenolan Caves Road - Friday 6 September 2019





# Background Noise Levels

Location A- Glenroy, 200 Jenolan Caves Road - Saturday 7 September 2019

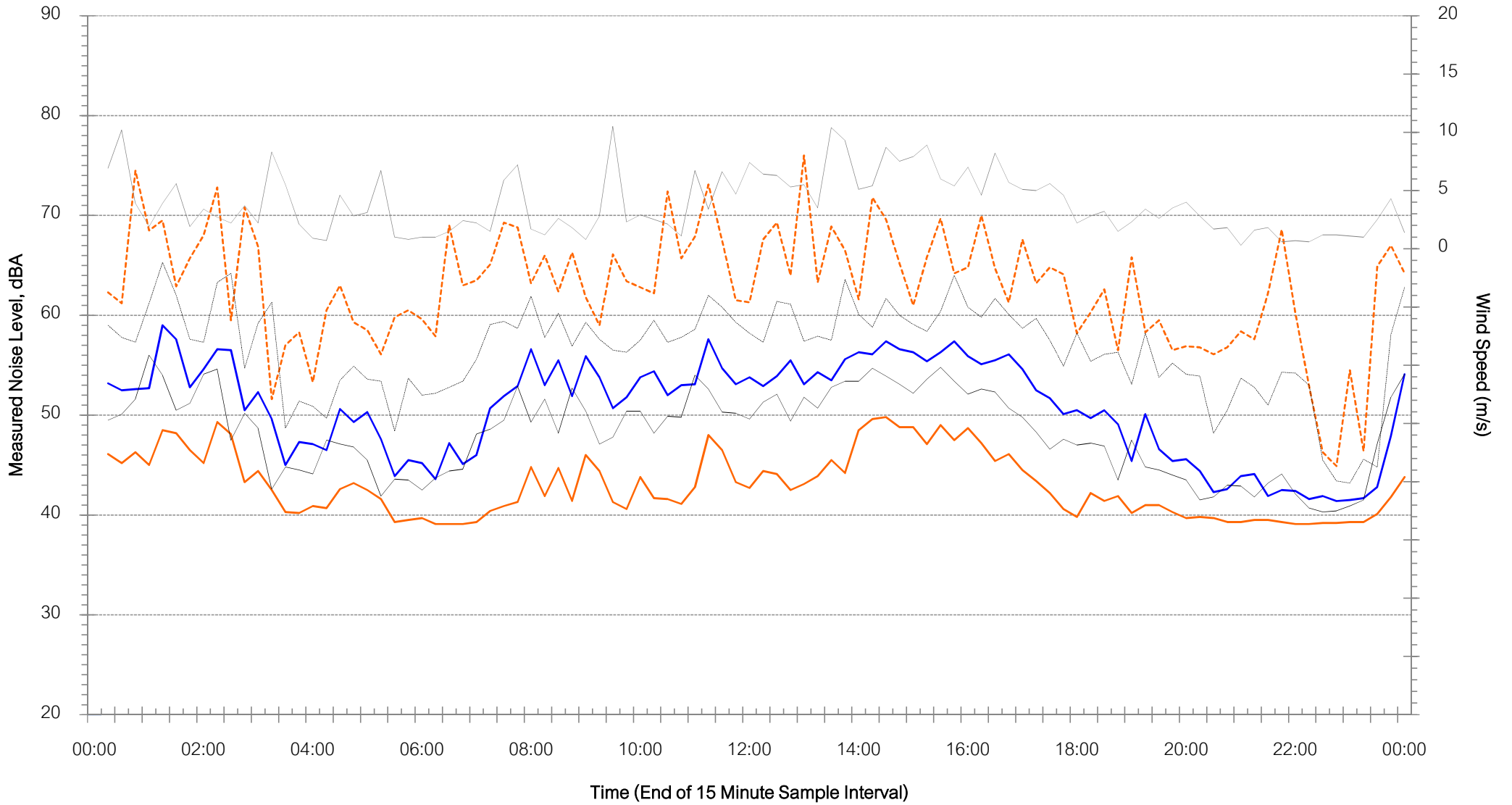




# Background Noise Levels

Location A- Glenroy, 200 Jenolan Caves Road - Sunday 8 September 2019

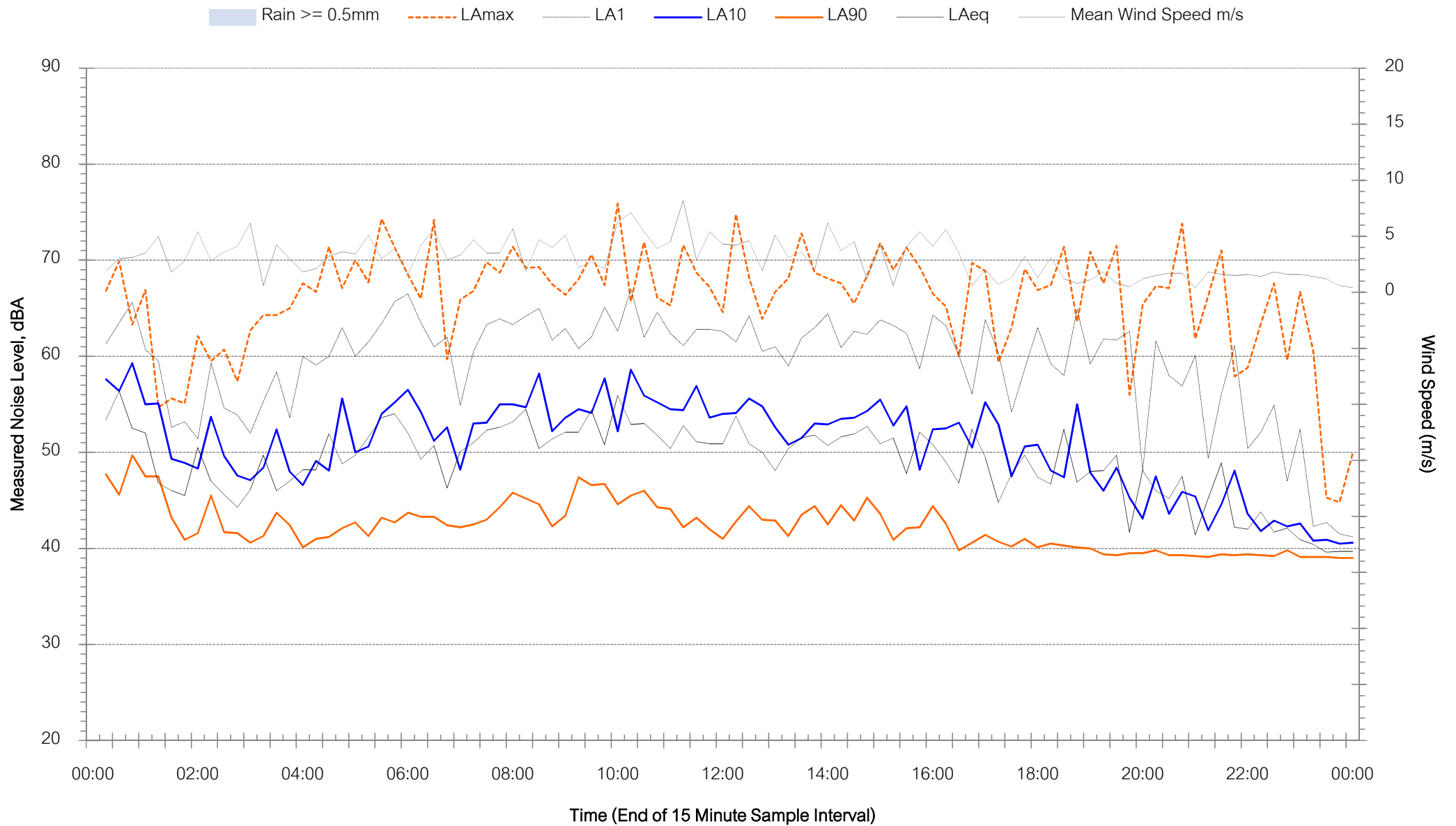
Rain >= 0.5mm    LAmax    LA1    LA10    LA90    LAeq    Mean Wind Speed m/s





# Background Noise Levels

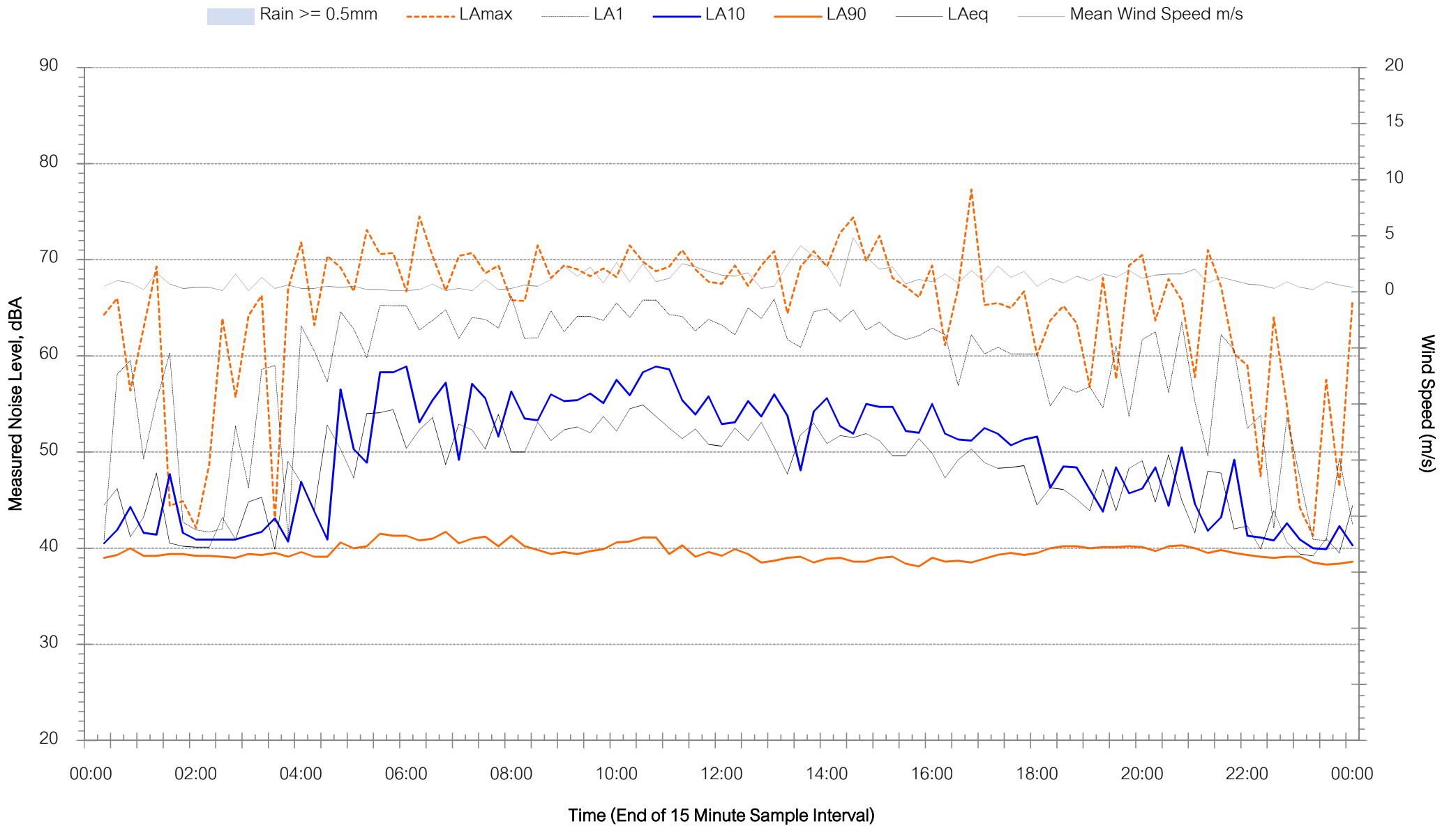
Location A- Glenroy, 200 Jenolan Caves Road - Monday 9 September 2019





# Background Noise Levels

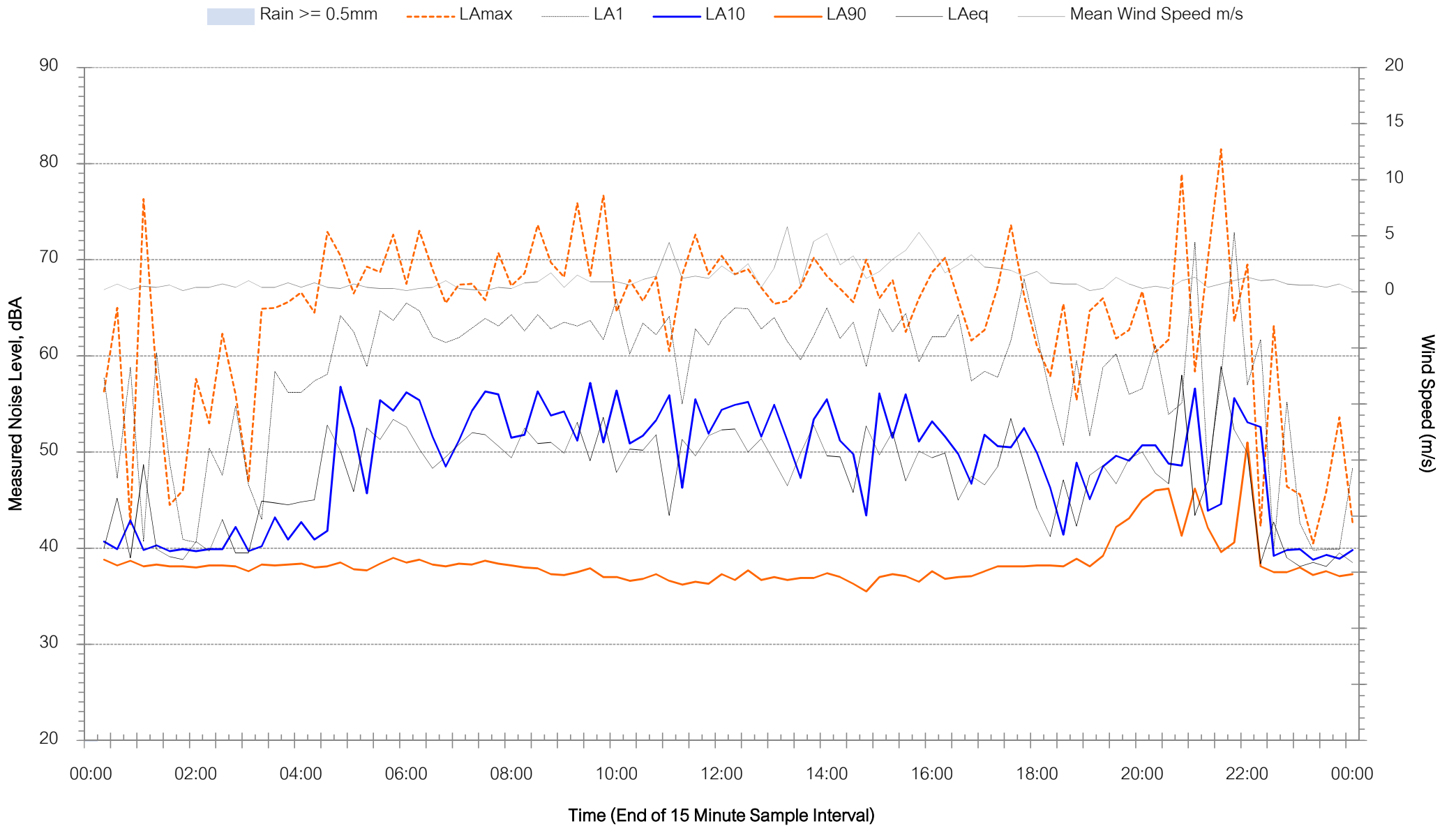
Location A- Glenroy, 200 Jenolan Caves Road - Tuesday 10 September 2019





# Background Noise Levels

Location A- Glenroy, 200 Jenolan Caves Road - Wednesday 11 September 2019

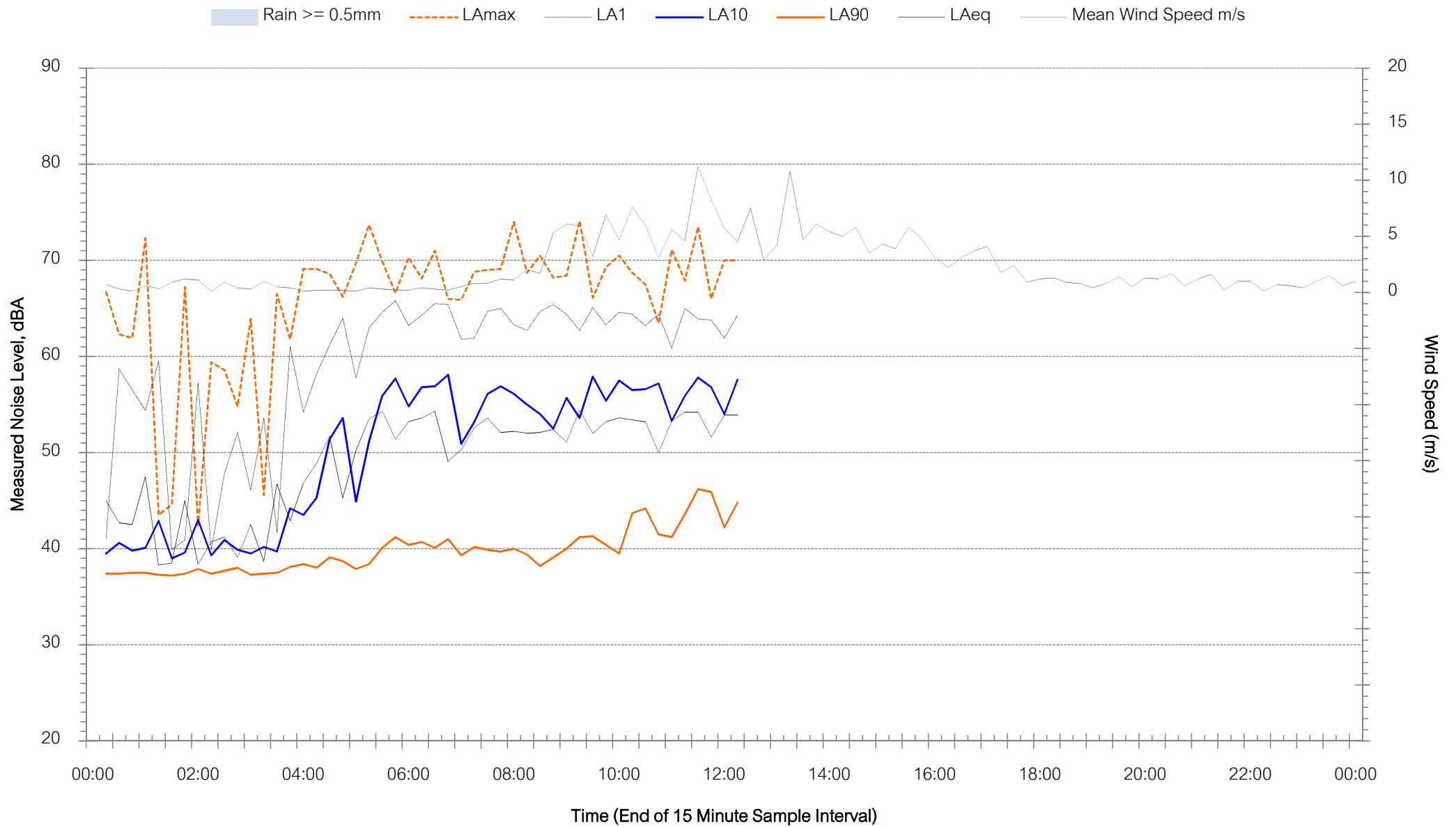






# Background Noise Levels

Location A- Glenroy, 200 Jenolan Caves Road - Thursday 12 September 2019



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