Noise Monitoring Assessment

Austen Quarry, Hartley, NSW.
August 2018

Prepared for: RW Corkery & Co Pty Limited
September 2018
MAC170523RP4V1

Muller Acoustic Consulting

Document Information

Noise Monitoring Assessment

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

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Document ID	Status	Date	Prepared By	Signed	Reviewed By	Signed
MAC170523RP4V1	Final	28 September 2018	Robin Heaton		Oliver Muller	

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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 1055.1:1997 - Acoustics - Description and measurement of environmental noise - General Procedures.

This assessment was undertaken during August 2018 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 $LA_{eq(15min)}$.

Furthermore, SSD-6084 specifies an LA_{max} 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 dB $LA_{eq(15min)}$	Evening dB $LA_{eq(15min)}$	Morning Shoulder dB $LA_{eq(15min)}$	Morning Shoulder 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 and 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 location are presented in the locality plan shown in Figure 1.

3.3 Assessment Methodology

The attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055-1997, "Acoustics - Description and Measurement of Environmental Noise" and EPL#12323. The measurements were carried out using a Svantek Type 1, 971 noise analyser on Tuesday 28 August 2018 and Wednesday 29 August 2018. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2004-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 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 4:00am and work shifts for processing equipment commence at 6:00am. Daily pre-shift meetings and safety checks often delay commencement of onsite operations until closer to 7:00am. Morning shoulder measurements were conducted from 6:00am to 7:00am on Wednesday 29 August 2018 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
28/08/18	06:50	16:40	07:15	20:45
29/08/18	08:10	16:40	09:05	20:20

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 Assessment Results - Location A, 200 Jenolan Caves Road

Operational attended noise monitoring was completed in each assessment period at Location A on Tuesday 28 August 2018 and Wednesday 29 August 2018. **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_{Amax}	L_{Aeq}	L_{A90}		
28/08/18	16:22	Day	81	62	33	Dir: NW Wind Speed: 0.1m/s Rain: Nil	Water Flowing 32-35 Cars 60-70 Trucks 55-81 Aircraft 40-50 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
28/08/18	18:25	Evening	80	57	37	Dir: NW Wind Speed: 0.1m/s Rain: Nil	Trucks 55-80 Insects 35-40 Water Flowing 34-36 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
29/08/18	06:22	Shoulder	87	66	40	Dir: NW Wind Speed: 0.1m/s Rain: Nil	Birds 35-40 Water Flowing 34-36 Cars 64-72 Trucks 67-87 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$ <40dB L_{Amax}	

4.2 Assessment Results - Location B, 781 Jenolan Caves Road

Operational attended noise monitoring was completed in each assessment period at Location B on Tuesday 28 August 2018 and Wednesday 29 August 2018. **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_{Amax}	L_{Aeq}	L_{A90}		
28/08/18	17:02	Day	67	40	27	Dir: NW Wind Speed: 1.4m/s Rain: Nil	Birds 28-32 Aircraft 35-52 Wind in Trees 33-35 Traffic Hum 23-35 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
28/08/18	18:02	Evening	62	32	22	Dir: NW Wind Speed: 1.0m/s Rain: Nil	Wind in Trees 30-34 Distant Traffic 27-39 Dogs 28-34 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
29/08/18	06:46	Shoulder	69	43	31	Dir: NW Wind Speed: 0.1m/s Rain: Nil	Birds 36-39 Traffic 30-36 Site Noise 32-44
Austen Quarry Contribution						34 $L_{Aeq(15min)}$ 44 L_{Amax}	

4.3 Assessment Results - Location C, 64 Carroll Drive

Operational attended noise monitoring was completed in each assessment period at Location C on Tuesday 28 August 2018 and Wednesday 29 August 2018. 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_{Amax}	L_{Aeq}	L_{A90}		
28/08/18	16:00	Day	62	44	34	Dir: NW Wind Speed: 1.4m/s Rain: Nil	Wind Noise 49-54 Distant Dogs 38-40 Traffic 30-42 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
28/08/18	18:50	Evening	62	40	26	Dir: NW Wind Speed: 0.1m/s Rain: Nil	Insects 29-33 Traffic 30-50 Aircraft 34-50 Gun Shots 48-62 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$	
29/08/18	06:00	Shoulder	62	45	38	Dir: N Wind Speed: 0.1 m/s Rain: Nil	Birds 40-62 Traffic 38-49 Quarry not audible
Austen Quarry Contribution						<30dB $L_{Aeq(15min)}$ <40dB L_{Amax}	

4.4 Unattended Noise Monitoring Results

Unattended noise monitoring was conducted at Location B from Tuesday 28 August 2018 to Thursday 6 September 2018 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 both methods.

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

Date	Time (hrs)	Un-attended descriptors (dBA re 20 µPa)			Attended descriptors (dBA re 20 µPa)		
		dB L_{Amax}	dB L_{Aeq}	dB L_{Amin}[1]	dB L_{Amax}	dB L_{Aeq}	dB L_{A90}
28/08/18	17:02	67	40	32	91	61	27
28/08/18	18:02	70	40	31	62	32	22
29/08/18	06:46	68	49	30	69	43	31

Note 1: L_{Amin} 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 B with the exception of the brief period when trucks access the quarry during the morning shoulder 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 Tuesday 28 August 2018 to Thursday 6 September 2018 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 B

Date	Unattended descriptors (dBA re 20 µPa)		
	dB LA_{eq}		
	Day	Evening	Night
Tuesday, 28 August 2018	N/A	41	39
Wednesday, 29 August 2018	47	45	38
Thursday, 30 August 2018	40	37	40
Friday, 31 August 2018	55[1]	59[1]	50[1]
Saturday, 1 September 2018	50[1]	41	37
Sunday, 2 September 2018	40	54	35
Monday, 3 September 2018	40	39	38
Tuesday, 4 September 2018	44	34	35
Wednesday, 5 September 2018	46	35	38
Thursday, 6 September 2018	42	N/A	N/A

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

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

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB $LA_{eq(15min)}$	dB $LA_{eq(15min)}$	
A	<30	35	✓
B	<30	35	✓
C	<30	35	✓

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

Receiver No.	Quarry Noise Contribution	Quarrying Noise Criteria	Compliant
	dB $LA_{eq(15min)}$	dB $LA_{eq(15min)}$	
A	<30	35	✓
B	<30	35	✓
C	<30	35	✓

Table 10 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	<30	35	✓
B	34	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	44	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. It was noted that Austen trucks were observed to predominantly approach and cross the Glenroy Bridge at a slower speed than other road trucks, as per the instructions of Austen Management. Quarry noise emissions were inaudible during all three monitoring periods during the August 2018 survey. Other extraneous noise sources audible during the three attended surveys included birds, and water flowing from nearby Coxs River.

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 morning shoulder period as trucks accessed the pit at the start of shift from the workshop area, however remained below applicable noise criteria. The quarry was inaudible during the daytime and evening monitoring periods. Extraneous noise sources dominated the noise environment which included birds, distant traffic hum, dog barking, insects and aircraft noise.

6.3 Discussion of Results - Location C

Quarry noise was inaudible during all three survey periods at Location C, 64 Carroll Drive, Hartley, NSW. Highway and passing local traffic, local wildlife and distant dogs barking dominated the ambient noise environment.

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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 Tuesday 28 August 2018 and Wednesday 29 August 2018 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

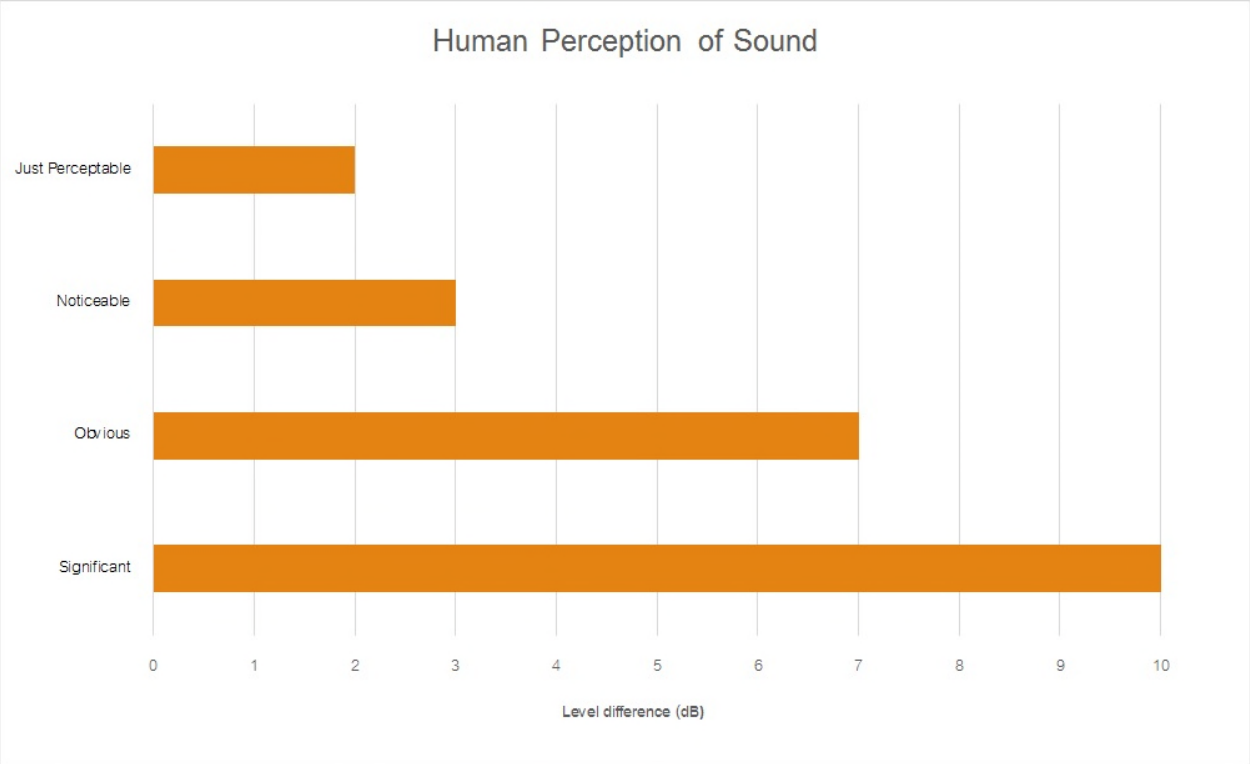
Table A1 provides a number of technical terms have been used in this report.

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: 28.6.18 Operator: Kingsley

Weather Conditions; fine Quarry Bench ID. 760

Shift Start Time	6:00	**Shift Finish Time**	5 00
Crusher Start Time	6:50	**End of day Crusher stopped**	4.40

Belt Weightometer Reading - Daily

Conveyor 1 Start	**Conveyor 1 Finish**	**Total Tonnes Crushed**
164 5597	165 2209	6124
Conveyor 6 Scalps Start	**Conveyor 6 Scalps Finish**	**Total Tonnes Stockpiled**
	415	

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

KK1 Loads to Boot	37	**KK3 Loads to Boot**	28
KK2 Loads to Boot	37	**Contractor Loads to Boot**	

Stoppages due to Trucks	Stoppages due to Jaw

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
6:00	6:50	50m	tool box, main breaker MCC tripped ?
12.55	1.35	40m	smoke
3.25	3.55	30m	DB. bogged
4.40			end crushing

Pre start checks;

Generator hours. 23924 - Generator oil level.. ✓

Plant Visual ✓

COMMENTS

4021

Owner: Quarry Manager		HY-TEC CONCRETE & QUARRIES	Form: HTQY-P-SFT-035
Forms & Templates	Revision: 3	Status: Approved	Issue Date: 14.02.12

DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

Date: 28.8.18 Operator: Leon

Weather Conditions; Overcast

Shift Start Time	6am	Shift Finish Time	4PM
Crusher Start Time	7.15	End of day Crusher stopped	8 45 PM

Weightometer Reading; Start: 2456421 **Finish:**

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
6am	704am	1h 4m	Toolbox prestart 450 new liner ADJ to suit
8.23	8.24	1m	ADJ 450 - 550
1138	1140	2 min	Adj 450 + 550
240	241	1 min	Adj 550 + 450
430	431	1 min	Adj 450
653	655	2 min	Adj 450+550

PRODUCTION SUMMARY

527

Belts	Size	Description	Total	Gate open	Comments
CV 8	20 mm	Concrete Aggregate	1584		
CV 20	Course Sand 4-0mm	Manufactured Sand	868		
CV19*	10-7mm Blend*	Concrete Blend	1269		
CV19	7mm	Concrete Aggregate			
CV17	10mm	Concrete Aggregate			
CV15	14mm	Concrete Aggregate	247		
CV5	Ballast/40mm	Non Spec Aggregate			

4494

COMMENTS

SECONDARY CRUSHER - PRE START CHECK

Date: 28.8.18 Operator: Leon

GENERATOR

	GENERATOR 1	GENERATOR 2
OIL LEVEL	✓	✓
FUEL DAY TANK	✓	✓
ENGINE DIP STICK	✓	✓
HOURS	15409	16652
AIR FILTER	✓	

CRUSHERS

	MVP 450	MVP 550
OIL LEVEL	Full	Full
CSS	✓	✓
VISUAL LINER CHECK	✓	✓

CARTAGE OF FINSIHED PRODUCTS TO YORKIES

Dump Truck ID	Manufactured Sand	Primary Scalps
KK01		
KK02		
KK03		
KK04		
	Load @ 35t per load	Load @ 35t per load

COMMENTS

6124

DAILY PRODUCTION LOG & CHECKLIST - PRIMARY

Date: 29.8.18 Operator: Kingsley

Weather Conditions; ice - fine Quarry Bench ID. 760

Shift Start Time	6.00	**Shift Finish Time**	5.00
Crusher Start Time	8.10	**End of day Crusher stopped**	4.50

Belt Weightometer Reading - Daily

Conveyor 1 Start	**Conveyor 1 Finish**	**Total Tonnes Crushed**
1652209	1657787 5578	5463
Conveyor 6 Scalps Start	**Conveyor 6 Scalps Finish**	**Total Tonnes Stockpiled**
	57	

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

KK1 Loads to Boot	33	**KK3 Loads to Boot**	28
KK2 Loads to Boot	32	**Contractor Loads to Boot**	

Stoppages due to Trucks	Stoppages due to Jaw

Plant Stopped	**Plant Started**	**Downtime (Hrs/Min)**	**Reason**
6.00	8.10	2hr 10m	tool box, breaker MCC tripping ?, ice
9.25	9.55	30m	smoko
1.15	2.25	1hr 10m	blast - smoko,
4.40			and crushing

Pre start checks;

Generator hours. 23937 - 23947 Generator oil level.. ✓

Plant Visual ..... ✓

COMMENTS

Owner: Quarry Manager		HY-TEC CONCRETE & QUARRIES	Form: HTQY-P-SFT-035
Forms & Templates	Revision: 3	Status: Approved	Issue Date: 14.02.12

DAILY PRODUCTION LOG & CHECKLIST - SECONDARY

Date: 29:8:18 Operator: Leon Peter STEW

Weather Conditions; Sunny

Shift Start Time	6am	Shift Finish Time	10 PM
Crusher Start Time	905	End of day Crusher stopped	

Weightometer Reading; Start: 2461553 **Finish:**

Plant Stopped	Plant Started	Downtime (Hrs/Min)	Reason
6am	905	3h5m	Toolbox for frost
920	609	8h 47min	PRC Belt Torn Belt Repaired
624	626	2min	Adj 450 + 550
805	818	13 min	Clean 53
450			Finish Day

PRODUCTION SUMMARY

Belts	Size	Description	Total	Gate open	Comments
CV 8	20 mm	Concrete Aggregate	427		
CV 20	Course Sand 4-0mm	Manufactured Sand	318		
CV19*	10-7mm Blend*	Concrete Blend	432		
CV19	7mm	Concrete Aggregate			
CV17	10mm	Concrete Aggregate			
CV15	14mm	Concrete Aggregate	71		
CV5	Ballast/40mm	Non Spec Aggregate			

Fines 96

1344 total

COMMENTS

SECONDARY CRUSHER - PRE START CHECK

Date: ..... Operator: .....

GENERATOR

	GENERATOR 1	GENERATOR 2
OIL LEVEL	✓	✓
FUEL DAY TANK	✓	✓
ENGINE DIP STICK	✓	✓
HOURS	15423	16666
AIR FILTER		

CRUSHERS

	MVP 450	MVP 550
OIL LEVEL	Full	Full
CSS	29 mm	23mm
VISUAL LINER CHECK	New	Good

CARTAGE OF FINSIHED PRODUCTS TO YORKIES

Dump Truck ID	Manufactured Sand	Primary Scalps
KK01		
KK02		
KK03		
KK04		
	Load @ 35t per load	Load @ 35t per load

COMMENTS

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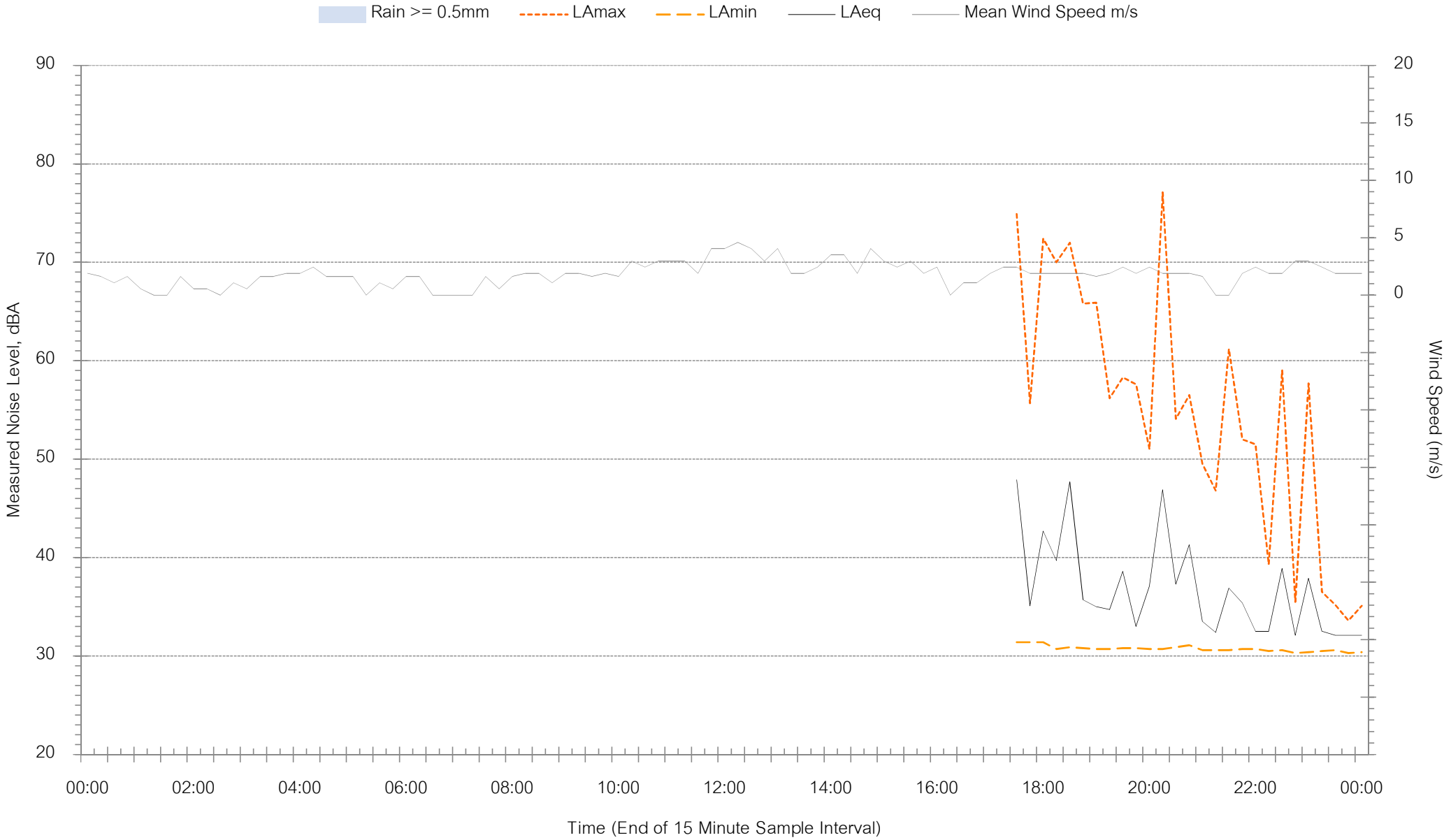
Appendix C – Noise Logger Charts

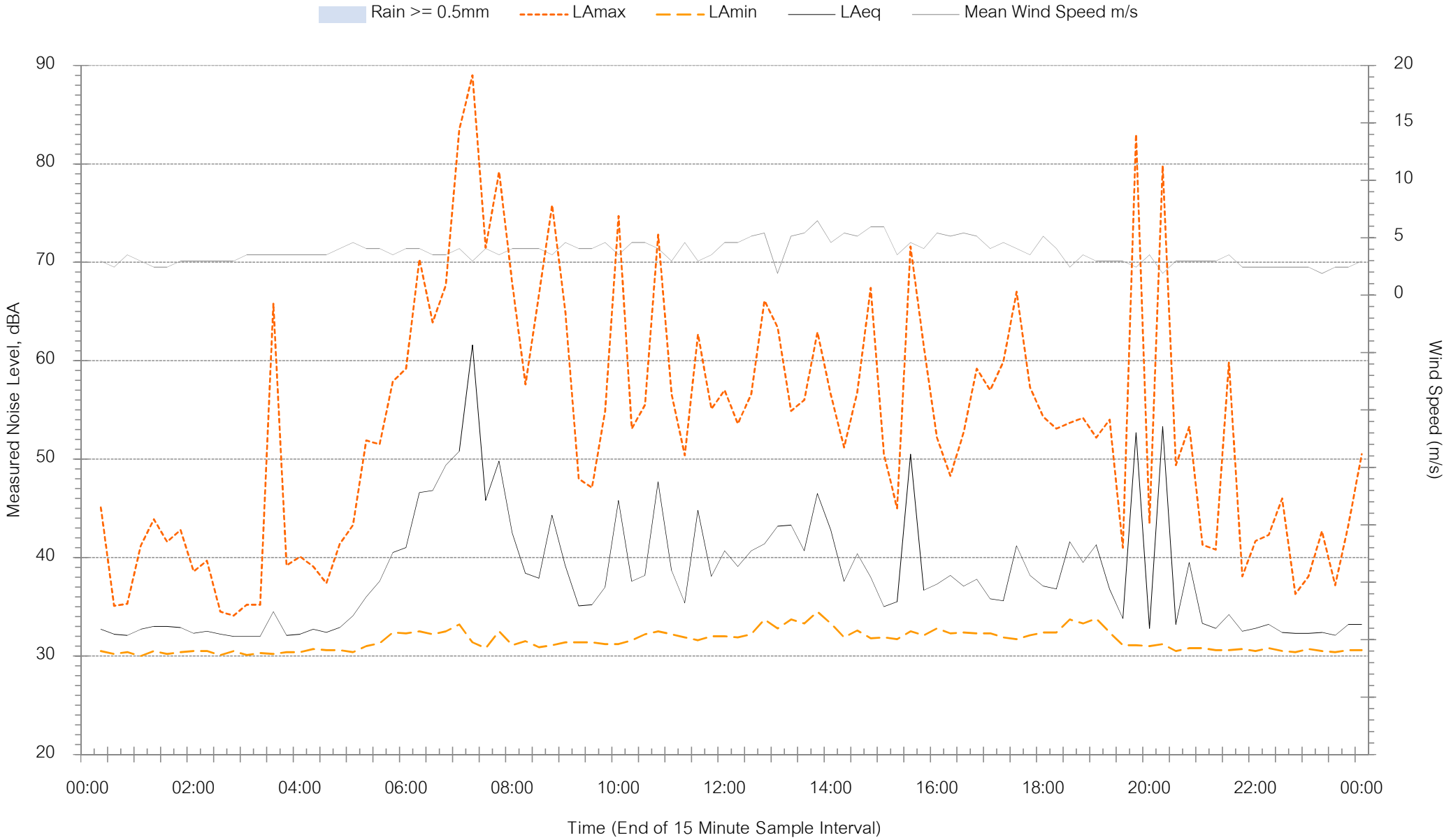
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Tuesday 28 August 2018



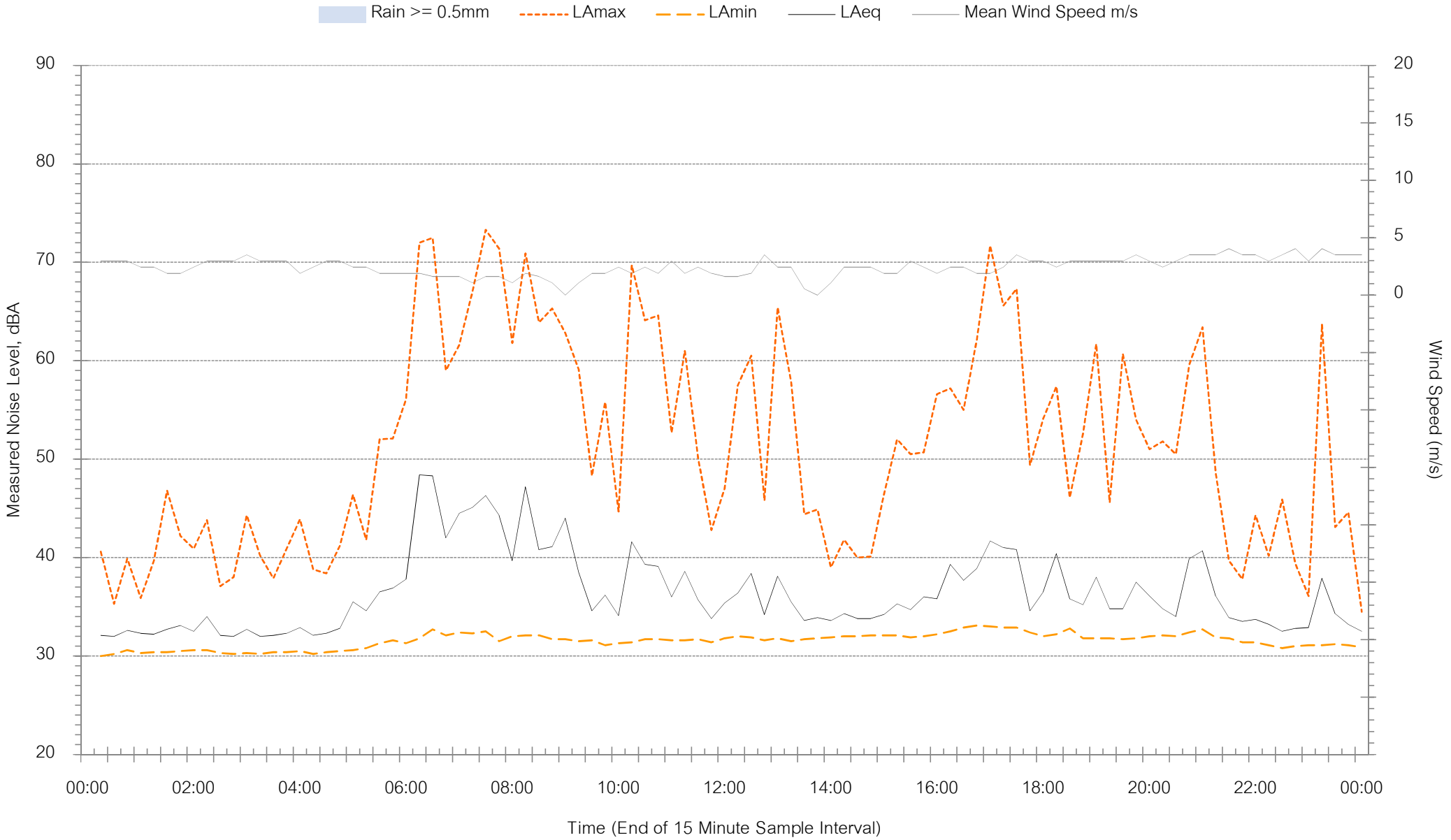
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Wednesday 29 August 2018



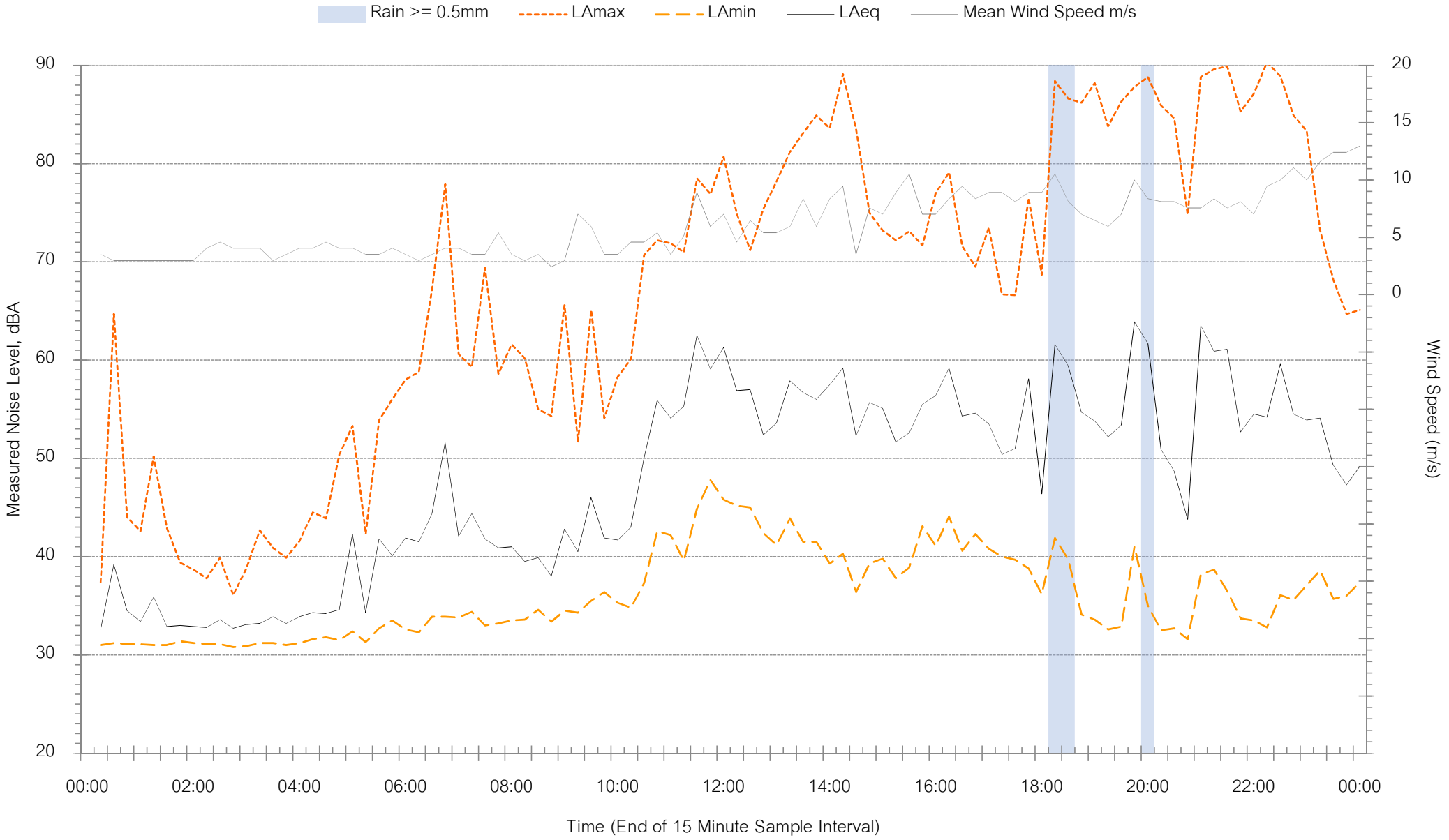
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Thursday 30 August 2018



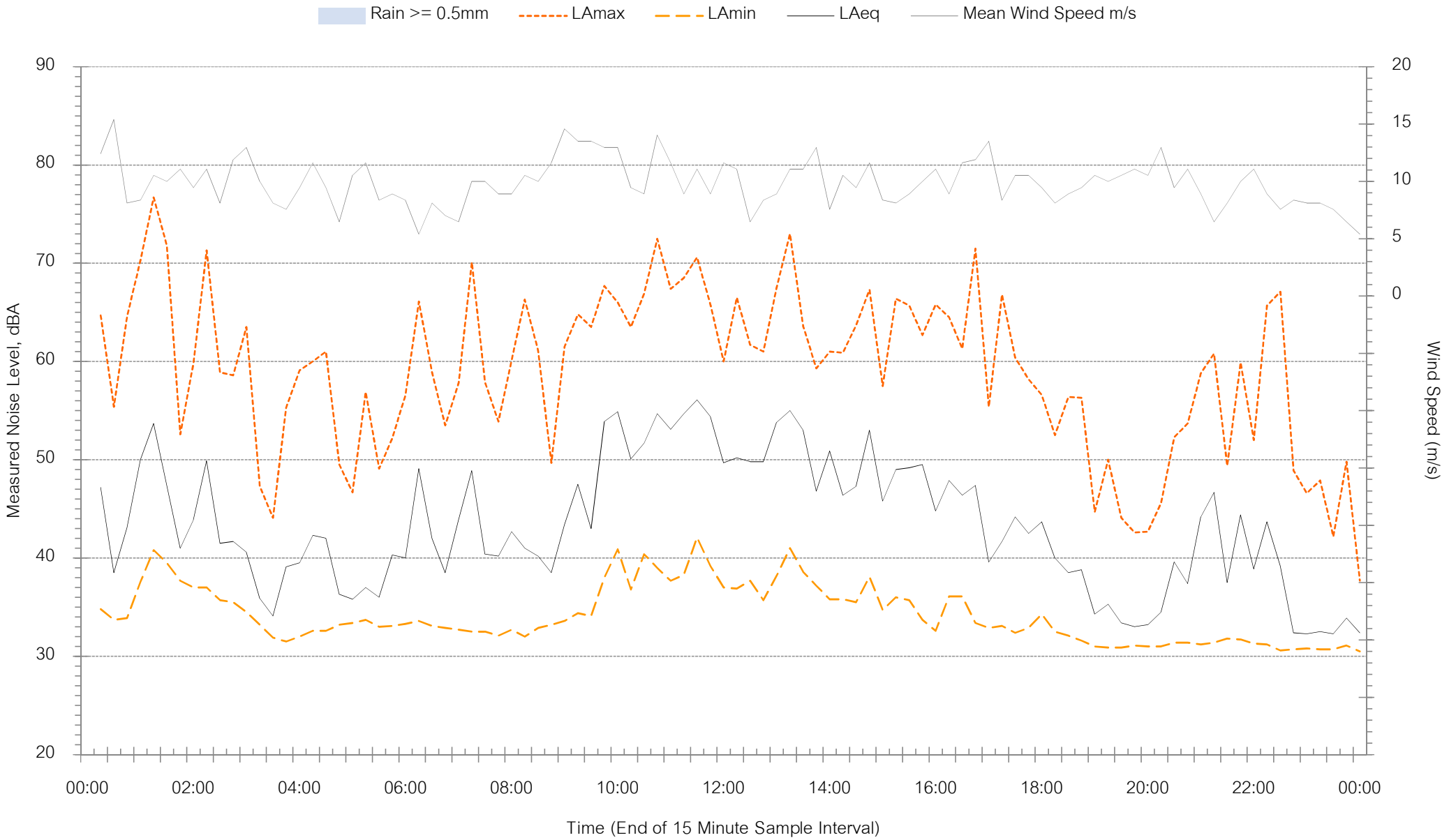
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Friday 31 August 2018



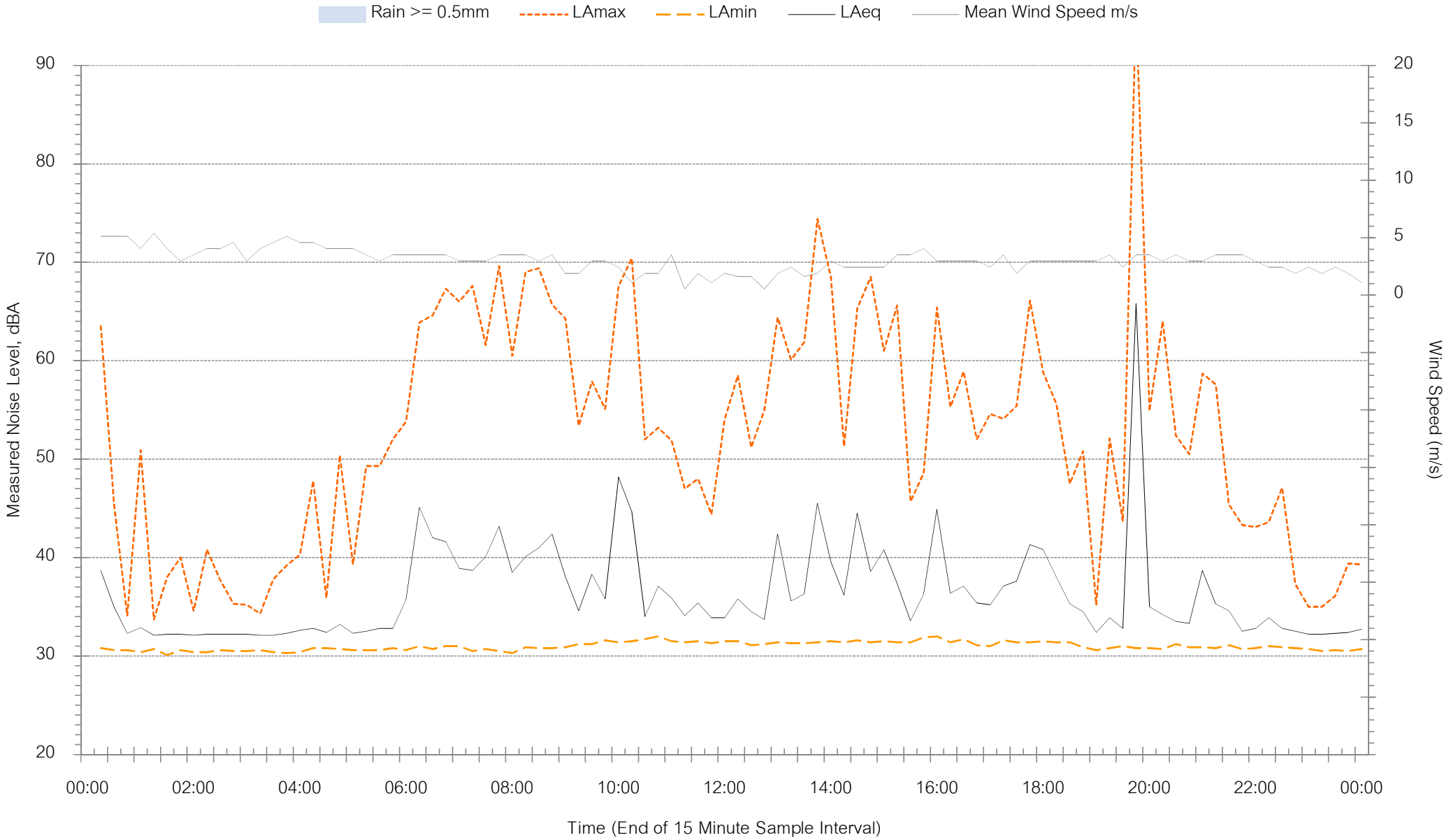
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Saturday 1 September 2018



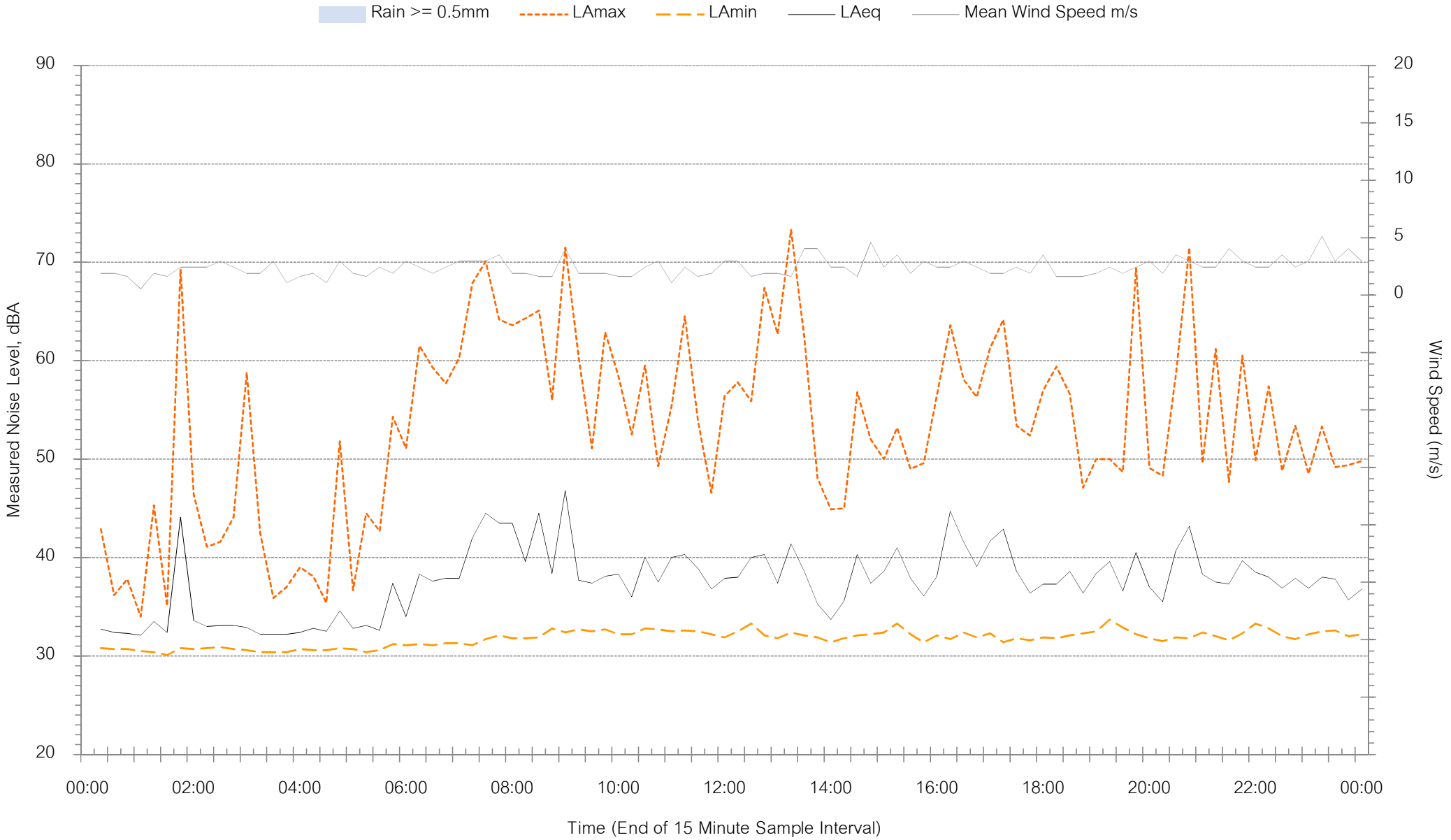
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Sunday 2 September 2018



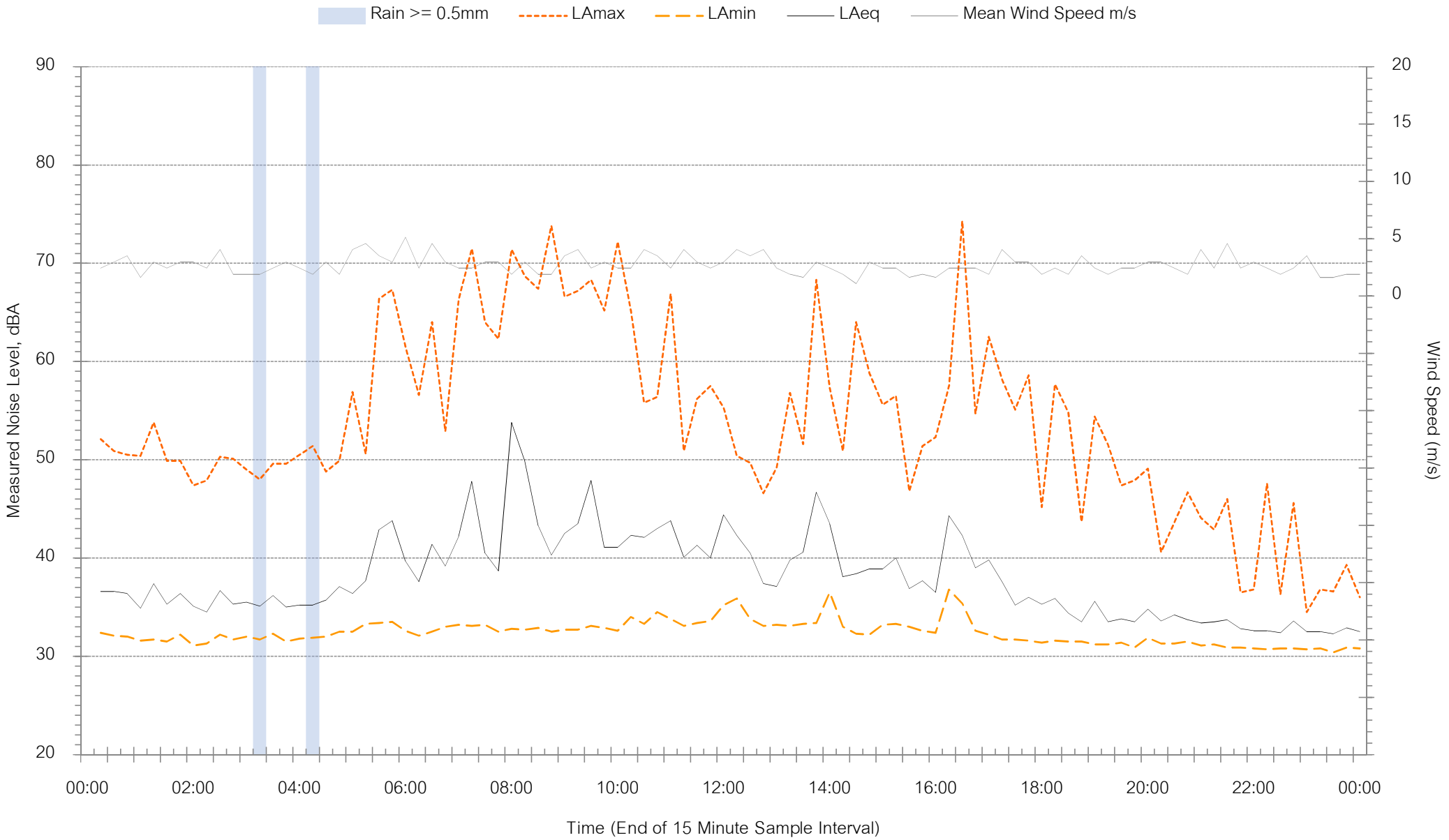
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Monday 3 September 2018



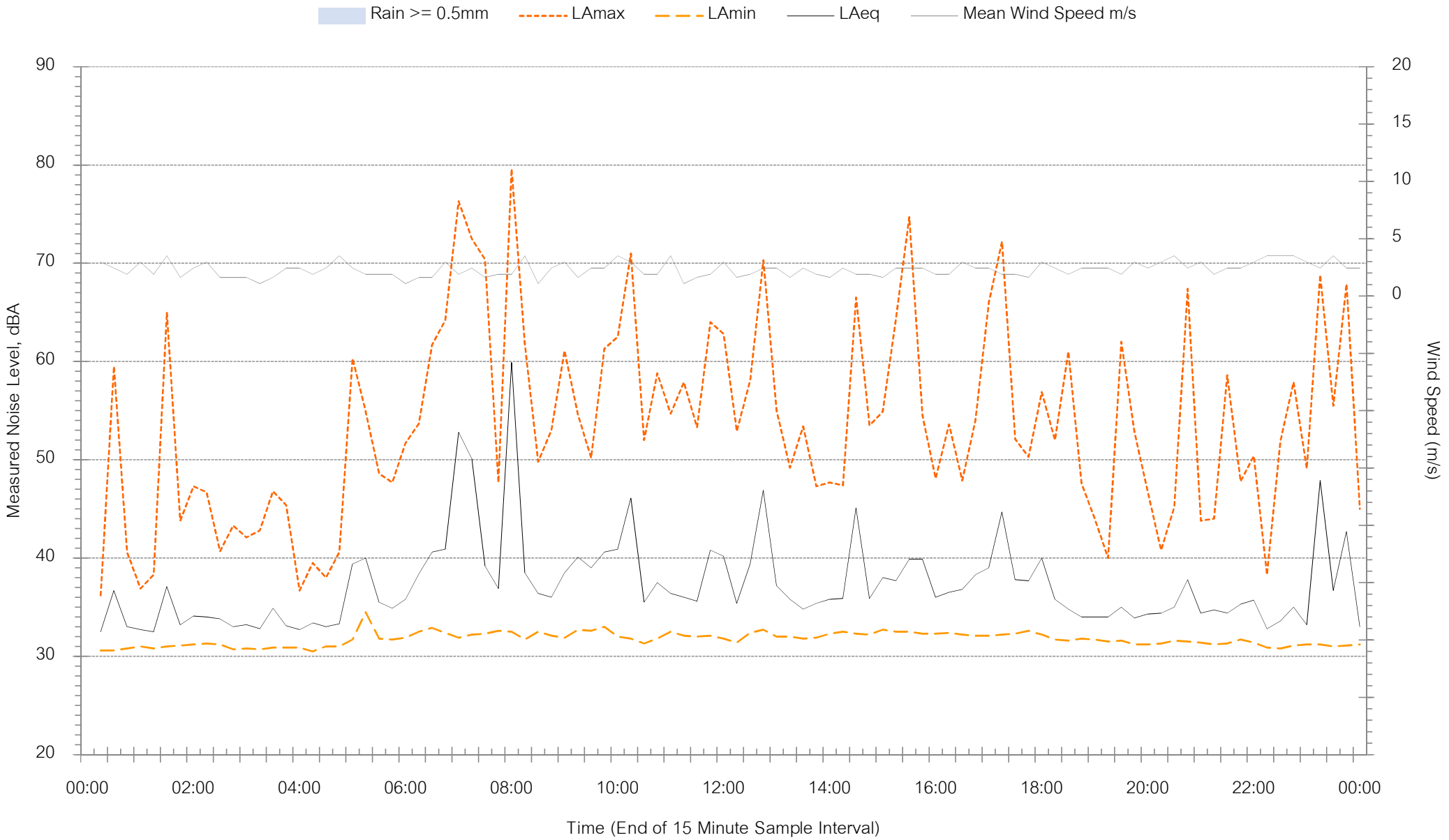
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Tuesday 4 September 2018



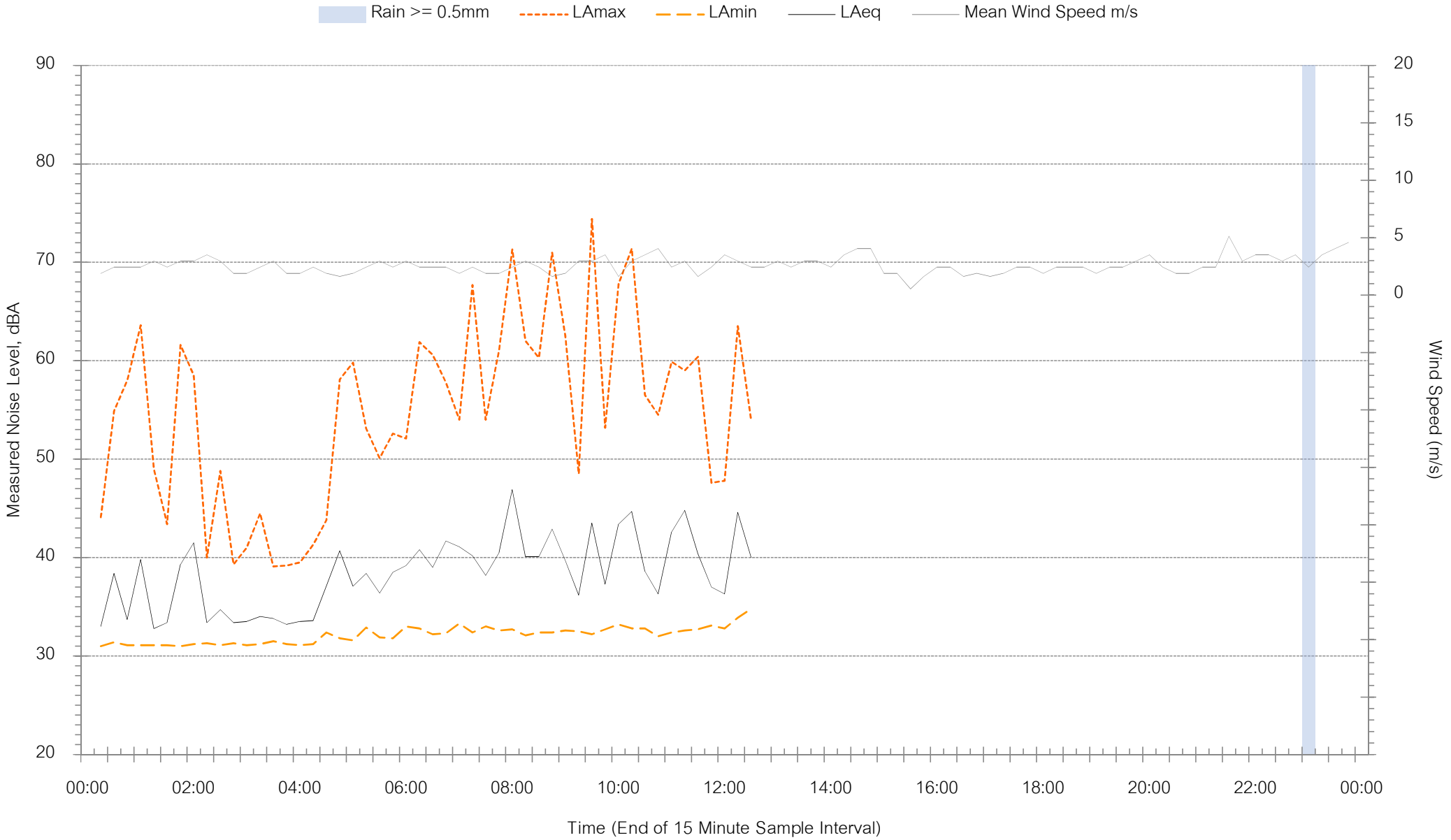
Background Noise Levels

791 Jenloan Caves Road, Good Forest - Wednesday 5 September 2018



Background Noise Levels

791 Jenloan Caves Road, Good Forest - Thursday 6 September 2018



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