Compliance Noise Monitoring

Byron Resource Recovery Centre The Manse Road Myocum



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Tim Fitzroy & Associates
ABN: 94120188829

ACN: 120188829

Tim Fitzroy

Environmental Health Scientist Environmental Educator Environmental Auditor

> 61 Pine Avenue East Ballina NSW 2478 T | 02 6686 5183 M | 0448 483 837 tim@timfitzroy.com.au www.timfitzroy.com.au

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1. Introduction

1.1 Purpose

Tim Fitzroy & Associates (TFA) were engaged by Byron Shire Council (BSC) to undertake an operational noise assessment at the Byron Resource Recovery Centre (BRRC) (former Myocum Landfill), The Manse Road Myocum. Key components of the noise assessment were to:

- undertake compliance noise monitoring during:
 - o Operation mulching of stockpiled green waste at the BRRC; and
 - Routine operations at Myocum Quarry;
- provide an updated noise assessment of site operations.

The focus of compliance noise monitoring undertaken on the 29 June 2021 was the Peterson 2710D green waste grinder and associated excavator.

1.2 Site Description and Surrounds

The subject site is described as Lot 1 DP 1052900 The Manse Road, Myocum. The BRCC is established between two remnant ridgelines. The BRCC is located at Myocum around 6km south of Mullumbimby and 9km southwest of Brunswick Heads. The Myocum guarry is located immediately to the west of the site on Lot 1 DP591441.

The Resource Recovery Area is located on the crest of a hill. The surrounding area is undulating.

A number of residences are within close proximity of the BRCC. Residences R1 to R5 (inclusive) are identified in **Illustration 2.1**. Residences R1, R3 and R4 are owned by BSC, while the other residences are privately owned. Residences R1 and R5 are two storey dwelling houses while the other dwellings are single storey.

A BSC operated quarry is located to the immediate west of the BRCC, while Leela Quarry (privately operated) is located to the north (see **Illustration 2.1**). Vegetation provides a visual screen from the BRCC to residences R1, R2, R3 and R5.



Resource Recovery Operations

Typical Operations 2.1

Byron Resource Recovery operations are carried out in the transfer station and public drop off areas. The Byron Resource Recovery Centre operating hours are 7:30 am to 4:00pm (Monday to Friday) and 8:30am to 11:30am (Saturday and Sunday). Landfilling operations ceased in late September 2013. Additional infrastructure has been installed at the existing transfer station for the temporary storage and bulk transfer of waste to South east Queensland. A new Green waste and Metals Recycling Area has been established on a level area between the redundant northern and southern landfill cells.

Council operates a single body, dual axle, hook lift truck for the purpose of transporting water and roll on roll off bins (RORO). The water tank is used for dust suppression and firefighting while the RORO bins (e.g. 10m) are used for the transfer of waste and recycling. Council operates a Backhoe (Cat 432D) for the management of green waste, metals recycling and putrescible waste.

An excavator is used to load the putrescible waste at the transfer station, load the metal recycling and green waste and construction and demolition waste into a RORO bin (e.g. 60m).

The Litter bins (L-bins) in the public drop-off area are emptied using a loader. The loader is also used for loading the organics in the pasteurisation process. Waste is deposited into L-bins at the public drop-off area.

A variety of vehicles including private vehicles, mini skips, council rubbish trucks (up to 8 per day), deposit waste either at the transfer station or the resource recovery area. Semi-trailers operate in the Resource Recovery area with RORO bins. Walking floor trucks operate in the transfer station. Average movements are four a day, Monday to Friday.

To the northwest face are the weighbridge, waste transfer station and second-hand shop. This area is not in a direct line of site to residences R1, R2, R4 and R5.

2.2 Intermittent Operations

Resource Recovery Centre June 2021

Intermittent noise generating activities include grinding of green waste (every 6 to 8 weeks) and loading out of metals recycling (every 2 weeks).

The following corrective actions are employed by BSC to reduce noise impacts from intermittent noise generating activities:

- Green waste and metal processing do not occur on weekends and public holidays;
- Commencement of these operational activities shall take place on weekdays only, commencing no earlier than 9:00 a.m. and ceasing no later than 4:00 p.m.;



 Dates for green waste processing will be scheduled at least two weeks in advance of commencement, and potentially affected resident neighbours will be notified by a letter box drop.

2.3 Licence Conditions

The NSW Environment Protection Authority (EPA) has issued licence conditions for the Myocum Landfill and the Byron Resource Recovery Centre. Noise Monitoring locations are to be located within 30m of Residence R1 to R5 (inclusive) are identified in **Table 2.1**.

Condition L3.1 of EPL 13127 states

Noise from the premises must not exceed an LAeq(15 minute) noise emission criterion of 43 dB(A) at monitoring points 8 (N1), 9 (N2), 11 (N4) and 12 (N5) and an LAeq(15 minute) noise emission criterion of 39 dB(A) at monitoring point 10 (N3) during operations at the premises.

L3.2 of EPL 13127 states that:

To determine compliance with condition L3.1 noise must be measured at, or computed for, the most affected point on or within the boundary of the residential property (N1, N2, N3, N4, N5), or if this is more than 30m from the residence, at the most affected point within 30m of the residence. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the "Noise Policy for Industry (NSW EPA 2017)".

Other Monitoring and Recording Conditions:

Condition M6 of EPL 13127:

M6 of EPL 13127 states:

- M6.1 The licensee must monitor noise at noise monitoring points 8, 9, 10, 11 and 12 during high noise impact activities such as the processing of green waste, during the activities, using a noise meter and dB(A) as the unit of measure.
- M6.2 Condition M6.1 only applies to noise monitoring points N1, N3 and N4 if the residences to which the monitoring points relate are sold, leased or otherwise lawfully occupied, and in any case of lease or occupation, for the full term of the lease or occupation.

Table 2.1 Noise Monitoring Locations in EPL 30m from dwellings

Location	Description	Distance from BRRC (m)
N1	Council owned house, 127	200
	Manse Rd, southeast of BRRC	
N2	Private House, 110 Manse Road,	300
	south of BRRC	
N3	Council owned house, 1 Dingo	700
	lane, west of quarry and BRRC	
N4	Council owned house, 147 The	200
	Manse Road, east of BRRC	
N5	Private house, 149 Manse Road,	250
	south east of BRRC	



This report refers to a number of different acoustical terms. Particularly the L_{Aeq} , L_{Amax} , L_{A10} and L_{A90} descriptors. Each descriptor is briefly explained below.

- The L_{Aeq} is essentially the average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time; varying sound over a defined measurement period.
- The L_{Amax} noise level is the maximum A-weighted noise level.
- The L_{A10} is the A-weighted sound pressure level exceeded 10% of a given measurement period and is utilised normally to characterise typical maximum noise levels.
- The L_{A90} noise level is the A-weighted sound pressure level exceeded 90% of a given measurement period and is representative of the average minimum background sound level (in the absence of the source under consideration), or simply the "background" level.

Sound power level is the **acoustic energy** emitted by a source which produces a **sound** pressure **level** at some distance. While the **sound power level** of a source is fixed, the **sound** pressure **level** depends upon the distance from the source and the **acoustic** characteristics of the area in which it is located.

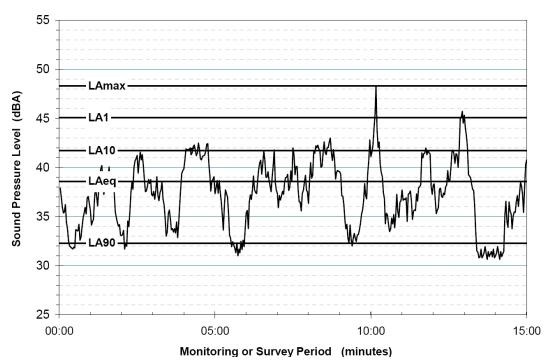


Figure 2.1 Graphical Display of Typical Noise Indices

The L_{Aeq} is essentially the average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy at a given time; varying sound over a defined measurement period.

In accordance with the NSW Industrial Noise Policy (INP) (NSW EPA 2000), the BRRC is classified as an industrial/commercial noise source. The assessment procedure for an industrial noise source should comprise of:

Controlling intrusive noise impacts in the short term for surrounding residences; and

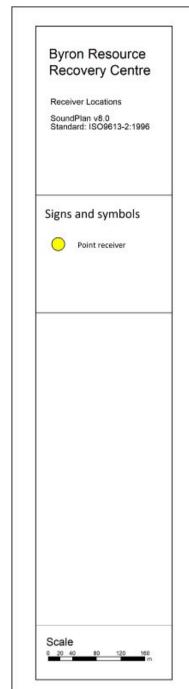
 Maintaining noise level amenity for particular land uses for residences and other land uses.

In assessing the noise impact of the BRRC on the surrounding land use, both components must be considered for residential receivers, but, in most cases, only one will become the limiting factor forming the project-specific noise level. The intrusiveness of an industrial noise source may be generally considered to be acceptable if the equivalent continuous A-weighted level of noise from the source, measured over a 15-minute period, does not exceed the background noise level by more than 5dB. Therefore, the limiting criteria for the control of intrusive noise impacts is if the $L_{Aeq,15-minute}$ descriptor is < RBL + 5 dB.

In accordance with the INP, the project specific noise criteria are the lesser of either the amenity or intrusiveness criterion. The work to derive the PSNL was carried out previously, endorsed by the EPA and has resulted in the licence conditions imposed in EPL 13127 and EPL 6057.



Illustration 2.1 Prescribed Noise Monitoring Locations and Dwelling Sites







3. Noise Assessment

3.1 Acoustical Equipment

Tim Fitzroy & Associates utilised the following equipment in this Noise Impact Assessment:

 A Type 1, 1/3 Octave Band Larson Davis Noise Meter with sound recording and event trigger features.

Calibration of the noise monitoring equipment was undertaken prior to use. To ensure no significant tonal drift occurred over the monitoring period, the calibration was checked before and after each measurement period.

3.2 Monitoring Methodology

Noise monitoring was undertaken during typical resource recovery operations.

Typical operations include the operation of the excavator and unloading activities at the transfer station and resource recovery area plus vehicular movements.

Ambient sound pressure levels were measured generally in accordance with Australian Standard AS1055.1:1997 - 'Acoustics-Description and measurement of environmental noise - Part 1: General procedures'. The monitoring locations reflect as much as possible the requirement for monitoring at the most affected point within 30m of each dwelling.

Noise monitoring of green waste mulching operations was carried out on Tuesday 29 June 2021 between 1:30pm and 3:30pm.

15 minute samples were taken at each of the monitoring locations using a Larson Davis, type 1 Sound Level Meter. The Fast and A weighting settings were used. The microphone at each location was 1.35m above ground level.

The weather during the noise monitoring was fine. Winds conditions ranged from light to light moderate westerly winds.

Photographs of the Grinder in operation are provided in **Appendix A**.



3.3 Noise Monitoring Results

The noise monitoring results (nmr) are provided in Table 3.1.

During green waste mulching operations, the main sources of noise from the BRCC was the mulching operation and excavator tracking and feeding the mulcher in the resource recovery area and in the transfer area. Other sources of noise included vehicle entering and leaving the BRRC and vehicle movements on the site and along The Manse Road. Environmental noise including crows was significant in some locations. During monitoring wind speed varied up to 15km/hr from the west.

In addition, there was audible noise emanating from the Myocum Quarry during the monitoring period.

Table 3.1 Monitoring Results at N1, N2, N3, N4 and N5 during Green waste Mulching

Date	Location	Time	Measured L _{Aeq(15min)} dB(A)	Estimated BRCC Contribution	Comments	Licence Condition dB(A)
29/06/2021	N1	1:36pm- 1:51m	62	62	Main noise the mulcher coupled with excavator operation in the Resource Recovery Area. Secondary noises included bird calls.	43
29/06/2021	N2	2:46pm— 3:01pm	55.5	49	Main noise vehicles travelling along the Manse Road. The mulcher coupled with excavator and vehicle operation in the Resource Recovery Area can be heard in the distance Secondary noises intermittent bird calls.	43
29/06/2021	N3	3:15pm-	45.3	35	Primary noise	39

		3:30pm			related to natural sounds including bird calls. Resource Recovery activities were barely audible	
29/06/2021	N4	1:58pm- 2:13pm	59	59	Main noise green waste mulcher. Background noise bird calls	43
29/06/2021	N5	2:17pm – 2:32pm	54.8	52	Main noise green waste mulcher. Background noise bird calls	43

Note: Full noise monitoring results are located in **Appendix B**.

3.4 Green Waste Mulching

At location N1, the measured LAeq was 62 dB(A). The dominant noise was the mulcher coupled with excavator operation in the Resource Recovery Area. Secondary noises included bird calls.

The measured LAeq of 62dB(A) is 19 dB(A) above the noise limit of 43 dB (A). The estimated contribution from Resource Recovery Operations was 62 dB (A). The residence, R1 is owned by BSC, the operator of the Byron Resource Recovery Centre. This is 19 dB (A) above the noise limit of 43 dB (A). The residence, R1 is owned by BSC, the operator of Byron Resource Recovery Centre.

At location N2, the measured LAeq was 55.5dB (A) with the dominant noise being vehicle movements along the Manse Road. The green waste mulcher and excavator operation could be heard in the distance. Noise estimated from Resource Recovery operations account for 49 dB (A). This is 6dB (A) above the noise limit of 43dB (A). The residence, R2 is privately owned.

At Location N3, the measured LAeq was 45.3dB (A) with the dominant noise being natural noises (bird calls). The green waste mulcher and excavator operation were barely audible. Noise estimated from Resource Recovery operations account for 35dB (A). This is below the noise limit of 39dB (A). The residence, R3 is owned by BSC, the operator of Byron Resource Recovery Centre.

At location N4, the measured LAeq was 59dB (A) with the dominant noise being the green waste mulcher and excavator operation. Noise estimated from Resource Recovery operations account for 59 dB (A). This is 16dB (A) above the noise limit of



43dB (A). The residence, R4 is owned by BSC, the operator of Byron Resource Recovery Centre.

At location N5, the measured LAeq was 54.8dB (A). During the monitoring period the primary noise was the mulching operation at BRRC, secondary noises included bird calls. Noise estimated from Resource Recovery operations account for 52 dB (A). This is 9dB (A) above the noise limit of 43dB (A). The residence, R5 is privately owned.

Note: Full noise monitoring results are located in Appendix B.

4. Conclusions & Recommendations

It is concluded from the noise monitoring carried at sensitive receivers during green waste mulching on 19 June 2021 that:

- The noise level at location N1 exceeded the noise limit of 43 dB(A) by 19dB;
- The noise level at location N2 exceeded the noise limit of 43 dB(A) by 6dB;
- The noise level at location N3 was below the noise limit of 39 dB(A);
- The noise limit at location N4 exceeded the noise limit of 43 dB(A) by 16dB;
- The noise limit at location N5 exceeded the noise limit of 43 dB(A) by 9dB

Residence R1, R3 and R4 are owned by Byron Shire Council.

Tim Fitzroy Environmental Health Scientist **Environmental Auditor**

References

NSW DECC, 2009 Noise Guide for Local Government, Department of Environment,

Climate Change & Water, Sydney

NSW EPA, 2017 Noise Policy for Industry. Environmental Protection Authority,

Sydney

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Tim Fitzroy and Associates declares that does not have, nor expects to have, a beneficial interest in the subject project.

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A Photographs





Photo A Green Waste Mulching

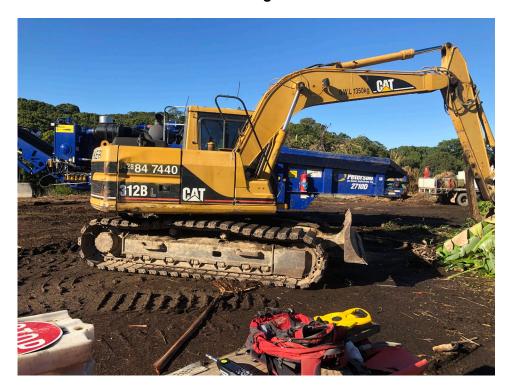


Photo B Excavator feeding Mulcher

B Noise Data



File Name on Meter831_Data.163File Name on PCSLM_10998_831_Data_163.00.ldbinSerial Number0010998ModelSoundAdvisor™ Model 831CFirmware Version04.0.7R0

User TFA Location N1

Job Description BRRC Moinitoring Grinder Operation

Note

Measurement

Description

GPS Not Synchronized Latitude GPS Not Synchronized Longitude Elevation **GPS Not Synchronized** Start 2021-06-29 13:36:37 2021-06-29 13:51:47 Stop Duration 00:15:09.6 00:15:09.6 Run Time Pause 00:00:00.0

Pre Calibration 2021-06-06 11:38:28
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight A Weighting Peak Weight C Weighting Detector Preamp PRM831 Off Microphone Correction Integration Method Linear **OBA Range** Normal 1/1 and 1/3 **OBA Bandwidth OBA Freq. Weighting** Z Weighting **OBA Max Spectrum** Bin Max Gain 0.0 dB 144.3 dB Overload

 Index Range Peak
 G6.1
 G7.1
 69.1 dB

 Under Range Limit
 25.6
 26.2
 37.1 dB

 Noise Floor
 16.5
 17.0
 24.7 dB

System Metrics

	Min	Max	Last
Internal Temperature	76.1 °F	90.8 °F	90.8 °F
External Voltage	-99.94 V	-99.94 V	-99.94 V

89.2 dB

Results

LAeq	61.6
LAE	91.1
EA	144.715 μPa²h
LCpeak (max)	2021-06-29 13:47:54
LAFmax	2021-06-29 13:40:32

 LAFmax
 2021-06-29 13:40:32
 67.6 dB

 LAFmin
 2021-06-29 13:42:42
 55.9 dB

SEA -99.94 dB

LAFTM5	63.4 c	IB							
LAF > 65.0 dB (Exceedance Counts / Duration)	16	35.6 s							
LAF > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s							
LCpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s							
LCpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s							
LCpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s							
Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00		
·	61.6	61.6	-99.94	61.6	61.6	-99.94	-99.94	dB	
LCeq	70.4 c	lB							
LAeq	61.6 c	IB							
LCeq - LAeq	8.8 c	IB							
LAleq	62.3 c	IB							
LAeq	61.6 c	IB							
LAleq - LAeq	0.7 d	IB							
	A			С		Z			
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp			
Leq	61.6		70.4		72.0				
LS(max)	66.7	2021/06/29 13:44:01	76.6	2021/06/29 13:43:48	83.2	2021/06/29 13:38:57			
LF(max)	67.6	2021/06/29 13:40:32	78.2	2021/06/29 13:43:47	86.2	2021/06/29 13:51:11			
Li(max)	69.2	2021/06/29 13:40:31	80.3	2021/06/29 13:47:54	88.6	2021/06/29 13:51:11			
LS(min)	57.0	2021/06/29 13:42:43	63.6	2021/06/29 13:42:43	65.0	2021/06/29 13:39:22			
LF(min)	55.9	2021/06/29 13:42:42	62.5	2021/06/29 13:42:41	63.7	2021/06/29 13:42:41			
Li(min)	56.7	2021/06/29 13:42:41	63.6	2021/06/29 13:42:41	65.3	2021/06/29 13:42:42			
LPeak(max)	90.4	2021/06/29 13:38:45	89.2	2021/06/29 13:47:54	93.4	2021/06/29 13:38:56			
# Overloads	0								
Overload Duration	0.0 s								
# OBA Overloads	0								
OBA Overload Duration	0.0 s								
Statistics									
LAI1.00	64.9 c								
LAI5.00	63.9 0	IB							
LAI10.00	63.4 c								
LAI50.00	61.4 c								
LAI90.00	58.5 c								
LA199.00	57.1 c	IB							
Calibration History							l		
Preamp	Date	dB re. 1V/Pa		6.3	8.0	10.0	l 12.5	16.0 20.0	0 25.0
PRM831	2021-06-06 11:38:28	-27.1		38.8	51.2	41.9	46.9		1 51.3
PRM831	2021-00-00 11:38:28	-27.1		50.2	50.5	56.3		54.8 57.3	
PRM831	2021-03-07 12:43:42	-27.1		50.3	53.6	54.4		53.9 45.2	
PRM831	2021-04-15 13:47.24 2021-04-15 13:40:55	-27.1 -27.2		50.5	55.0	54.4 52.8		54.2 47.2	

Calibration History					
Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0
PRM831	2021-06-06 11:38:28	-27.1	38.8	51.2	41.9
PRM831	2021-05-07 12:45:42	-27.1	50.2	50.5	56.3
PRM831	2021-04-15 13:47:24	-27.1	50.3	53.6	54.4
PRM831	2021-04-15 13:40:55	-27.2	57.1	58.7	52.8
PRM831	2021-01-11 11:13:06	-27.1	47.6	42.1	54.2
PRM831	2020-09-30 08:39:30	-27.1	58.8	64.1	58.7
PRM831	2020-09-07 12:39:03	-27.7	48.3	43.4	41.9
PRM831	2020-05-22 13:10:55	-27.1	58.6	52.9	49.9
PRM831	2020-02-25 15:12:48	-27.1	46.6	67.4	64.3
PRM831	2020-01-10 00:14:47	-26.8	56.0	67.8	58.7
PRM831	2019-12-16 14:38:16	-26.8	38.1	48.0	50.7
Unknown	2021-04-15 13:48:38	-27.2	51.7	50.6	53.9
Unknown	2021-04-15 13:43:05	-27.1	50.1	48.2	52.6

40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
43.6	45.0	51.7	59.3	52.6	49.8	50.0	49.7	43.0	38.5	40.0	36.4	32.9	30.7	114.0	49.3	20.1	65.3	20.0	59.6	25.1	30.3	21.7	22.4	23.1	24.3	25.3	26.6
59.3	60.1	58.5	55.1	55.5	57.6	58.8	61.2	55.8	48.8	45.0	41.1	36.8	35.0	114.1	49.5	20.2	65.7	20.0	59.7	25.0	30.1	22.0	22.8	23.3	24.8	25.5	26.6
39.1	42.8	26.9	31.7	32.1	37.8	42.4	37.5	45.5	46.2	50.7	43.8	44.6	39.4	114.0	49.5	30.6	65.7	20.3	59.8	25.8	30.2	22.1	22.7	24.5	29.1	25.9	26.8
38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	26.6
60.7	61.1	54.2	55.3	51.2	49.3	54.7	51.1	49.8	49.5	45.2	46.9	34.6	31.8	114.0	49.5	21.2	65.5	20.2	59.6	24.8	30.6	22.1	22.8	23.3	24.1	25.4	26.6
41.1	51.7	43.8	40.3	40.7	31.1	28.7	23.5	24.3	21.0	23.3	25.5	23.9	30.3	114.6	49.9	20.7	65.9	20.6	60.2	26.2	31.2	22.4	22.9	23.9	24.9	26.1	27.1
46.4	53.5	46.4	46.2	46.1	43.1	41.1	35.3	31.5	27.9	26.5	24.8	22.8	28.8	113.4	48.8	19.4	64.9	20.3	59.5	25.9	31.3	21.8	22.6	23.4	24.3	25.7	26.6
45.6	44.1	46.7	43.1	48.2	42.5	36.1	33.2	40.2	43.1	38.5	32.9	37.7	34.2	113.9	49.2	24.4	65.2	19.9	59.6	25.0	30.5	21.6	22.7	23.2	24.4	25.4	26.4
40.4	36.4	39.8	36.3	42.9	45.6	36.4	35.1	36.0	34.3	33.5	33.7	34.9	33.4	113.7	49.0	20.2	65.2	19.2	59.4	25.1	30.1	21.1	22.1	23.2	24.0	25.2	26.1
45.5	45.7	43.0	42.8	45.7	44.3	39.3	39.8	39.0	39.9	38.6	35.7	30.3	29.9	114.0	49.2	19.3	65.4	20.0	59.5	24.6	29.9	21.7	22.2	23.2	24.4	25.2	26.3
46.3	51.7	51.5	56.6	56.2	55.8	52.9	53.1	53.8	48.7	44.0	39.3	31.7	33.1	113.9	49.3	20.6	66.1	19.5	58.3	23.5	28.9	21.3	22.3	23.0	28.0	25.0	26.2
49.9	52.5	51.3	53.6	47.2	37.1	32.3	35.1	35.7	32.3	34.1	33.6	30.2	29.7	113.9	49.3	20.1	65.6	20.2	59.6	25.5	30.5	21.8	23.1	24.1	28.6	26.1	26.9
42.7	32.3	30.0	30.1	27.2	38.7	30.0	34.9	36.2	32.6	31.8	28.9	31.0	30.9	112.9	48.2	18.4	64.5	18.8	58.6	24.1	29.1	20.8	21.7	22.3	23.7	24.6	25.4

File Name on Meter 831 Data.167 File Name on PC SLM_10998_831_Data_167.00.ldbin Serial Number

0010998

SoundAdvisor™ Model 831C Model 04.0.7R0 **Firmware Version**

User TFA Location N2

BRRC Grinder Operation Job Description

Note

Measurement

Description

Latitude **GPS Not Synchronized** Longitude **GPS Not Synchronized** Elevation **GPS Not Synchronized** Start 2021-06-29 14:46:08 Stop 2021-06-29 15:01:26 00:15:18.7 Duration **Run Time** 00:15:18.7 00:00:00.0 Pause

Pre Calibration 2021-06-06 11:38:28 **Post Calibration** None **Calibration Deviation**

Overall Settings

RMS Weight A Weighting **Peak Weight** C Weighting Detector Fast Preamp PRM831 **Microphone Correction** Off Integration Method Linear **OBA Range** Normal **OBA Bandwidth** 1/1 and 1/3 OBA Freq. Weighting Z Weighting **OBA Max Spectrum** Bin Max Gain 0.0 dB 144.3 dB Overload

Α С Z **Under Range Peak** 69.1 dB 66.1 67.1 **Under Range Limit** 25.6 26.2 37.1 dB Noise Floor 16.5 17.0 24.7 dB

System Metrics

Min Max Last **Internal Temperature** 79.1 °F 81.1 °F 81.1 °F **External Voltage** -99.94 **V** -99.94 **V** -99.94 **V**

Results

55.5 LAeq LAE 85.1 EΑ 36.299 μPa²h

LCpeak (max) LAFmax LAFmin SEA LAFTM5 LAF > 65.0 dB (Exceedance Counts / Duration) LAF > 85.0 dB (Exceedance Counts / Duration) LCpeak > 135.0 dB (Exceedance Counts / Duration) LCpeak > 137.0 dB (Exceedance Counts / Duration) LCpeak > 140.0 dB (Exceedance Counts / Duration)	2021-06-29 14:57:12 7 2021-06-29 14:57:56 4 -99.94 dB 62.0 dB 15 1 0 0 0	5.9 dB 5.8 dB 1.5 dB 9.5 s 9.0 s 9.0 s 9.0 s					
Community Noise	Ldn LDay 07:00-22 55.5 5	00 LNight 22:00-07:00 5.5 -99.94		LDay 07:00-19:00 55.5	LEvening 19:00-22:00 -99.94	LNight 22:00-07:00 -99.94	dB
LCeq LAeq LCeq - LAeq LAleq LAeq LAleq - LAeq	74.8 dB 55.5 dB 19.3 dB 60.5 dB 55.5 dB 5.0 dB		55.5	33.3			u.b
Laied - Faed	A A		С		Z		
Leq	dB Time Stamp	dB 74.8	Time Stamp	dB 83.4	Time Stamp		
LS(max) LF(max)	73.6 2021/06/29 14:57:1 76.8 2021/06/29 14:57:1	2 93.6 2 95.9	2021/06/29 14:57:11 2021/06/29 14:57:11	99.5 102.5	2021/06/29 14:57:13 2021/06/29 14:59:03		
Li(max) LS(min) LF(min)	43.1 2021/06/29 14:53:5 41.5 2021/06/29 14:57:5	0 54.7 6 52.7	2021/06/29 14:55:51 2021/06/29 14:50:02	105.4 57.3 55.0	2021/06/29 14:59:16 2021/06/29 14:54:11 2021/06/29 14:55:51		
LI(min) LPeak(max)	42.4 2021/06/29 14:53:4 89.3 2021/06/29 14:57:1			57.5 112.0	2021/06/29 14:54:10 2021/06/29 14:59:09		
# Overloads Overload Duration # OBA Overloads OBA Overload Duration	0 0.0 s 0 0.0 s						
Statistics LAI1.00 LAI5.00 LAI10.00 LAI50.00 LAI90.00 LAI99.00	68.0 dB 59.4 dB 56.9 dB 49.9 dB 45.3 dB 43.3 dB						

Calibration History						
Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5 16.0 20.0
PRM831	2021-06-06 11:38:28	-27.1	38.8	51.2	41.9	46.9 55.0 53.1
PRM831	2021-05-07 12:45:42	-27.1	50.2	50.5	56.3	46.5 54.8 57.3
PRM831	2021-04-15 13:47:24	-27.1	50.3	53.6	54.4	52.6 53.9 45.2
PRM831	2021-04-15 13:40:55	-27.2	57.1	58.7	52.8	47.3 54.2 47.2

PRM831	2021-01-11 11:13:06	-27.1	47.6	42.1	54.2	47.8 46.9 51.4
PRM831	2020-09-30 08:39:30	-27.1	58.8	64.1	58.7	57.0 49.6 48.3
PRM831	2020-09-07 12:39:03	-27.7	48.3	43.4	41.9	47.6 56.8 45.4
PRM831	2020-05-22 13:10:55	-27.1	58.6	52.9	49.9	47.3 54.6 58.6
PRM831	2020-02-25 15:12:48	-27.1	46.6	67.4	64.3	48.2 51.0 39.9
PRM831	2020-01-10 00:14:47	-26.8	56.0	67.8	58.7	55.6 53.4 48.7
PRM831	2019-12-16 14:38:16	-26.8	38.1	48.0	50.7	46.3 43.8 56.0
Unknown	2021-04-15 13:48:38	-27.2	51.7	50.6	53.9	50.9 62.9 72.8
Unknown	2021-04-15 13:43:05	-27.1	50.1	48.2	52.6	48.3 48.8 44.2
Chance	2021 04 15 15.45.05	27.1	30.1	40.2	32.0	40.5 40.6 44.2

25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
51.3	52.5	43.6	45.0	51.7	59.3	52.6	49.8	50.0	49.7	43.0	38.5	40.0	36.4	32.9	30.7	114.0	49.3	20.1	65.3	20.0	59.6	25.1	30.3	21.7	22.4	23.1	24.3	25.3	26.6
61.1	60.7	59.3	60.1	58.5	55.1	55.5	57.6	58.8	61.2	55.8	48.8	45.0	41.1	36.8	35.0	114.1	49.5	20.2	65.7	20.0	59.7	25.0	30.1	22.0	22.8	23.3	24.8	25.5	26.6
51.6	51.9	39.1	42.8	26.9	31.7	32.1	37.8	42.4	37.5	45.5	46.2	50.7	43.8	44.6	39.4	114.0	49.5	30.6	65.7	20.3	59.8	25.8	30.2	22.1	22.7	24.5	29.1	25.9	26.8
47.5	41.3	38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	26.6

55.8	52.1	60.7	61.1	54.2	55.3	51.2	49.3	54.7	51.1	49.8	49.5	45.2	46.9	34.6	31.8	114.0	49.5	21.2	65.5	20.2	59.6	24.8	30.6	22.1	22.8	23.3	24.1	25.4	26.6
53.6	42.3	41.1	51.7	43.8	40.3	40.7	31.1	28.7	23.5	24.3	21.0	23.3	25.5	23.9	30.3	114.6	49.9	20.7	65.9	20.6	60.2	26.2	31.2	22.4	22.9	23.9	24.9	26.1	27.1
45.7	47.6	46.4	53.5	46.4	46.2	46.1	43.1	41.1	35.3	31.5	27.9	26.5	24.8	22.8	28.8	113.4	48.8	19.4	64.9	20.3	59.5	25.9	31.3	21.8	22.6	23.4	24.3	25.7	26.6
59.9	51.5	45.6	44.1	46.7	43.1	48.2	42.5	36.1	33.2	40.2	43.1	38.5	32.9	37.7	34.2	113.9	49.2	24.4	65.2	19.9	59.6	25.0	30.5	21.6	22.7	23.2	24.4	25.4	26.4
47.9	52.6	40.4	36.4	39.8	36.3	42.9	45.6	36.4	35.1	36.0	34.3	33.5	33.7	34.9	33.4	113.7	49.0	20.2	65.2	19.2	59.4	25.1	30.1	21.1	22.1	23.2	24.0	25.2	26.1
48.5	51.4	45.5	45.7	43.0	42.8	45.7	44.3	39.3	39.8	39.0	39.9	38.6	35.7	30.3	29.9	114.0	49.2	19.3	65.4	20.0	59.5	24.6	29.9	21.7	22.2	23.2	24.4	25.2	26.3
51.2	48.6	46.3	51.7	51.5	56.6	56.2	55.8	52.9	53.1	53.8	48.7	44.0	39.3	31.7	33.1	113.9	49.3	20.6	66.1	19.5	58.3	23.5	28.9	21.3	22.3	23.0	28.0	25.0	26.2
57.4	51.6	49.9	52.5	51.3	53.6	47.2	37.1	32.3	35.1	35.7	32.3	34.1	33.6	30.2	29.7	113.9	49.3	20.1	65.6	20.2	59.6	25.5	30.5	21.8	23.1	24.1	28.6	26.1	26.9
39.3	44.9	42.7	32.3	30.0	30.1	27.2	38.7	30.0	34.9	36.2	32.6	31.8	28.9	31.0	30.9	112.9	48.2	18.4	64.5	18.8	58.6	24.1	29.1	20.8	21.7	22.3	23.7	24.6	25.4

File Name on Meter 831 Data.168 File Name on PC SLM_10998_831_Data_168.00.ldbin 0010998 Serial Number

SoundAdvisor™ Model 831C Model 04.0.7R0 **Firmware Version**

User TFA Location N3

BRRC Grinder Operation Job Description

Note

Measurement

Description

Latitude **GPS Not Synchronized** Longitude **GPS Not Synchronized** Elevation **GPS Not Synchronized** Start 2021-06-29 15:14:04 Stop 2021-06-29 15:29:06 00:15:02.9 Duration **Run Time** 00:15:02.9 00:00:00.0 Pause

Pre Calibration 2021-06-06 11:38:28 **Post Calibration** None **Calibration Deviation**

Overall Settings

RMS Weight A Weighting **Peak Weight** C Weighting Detector Fast Preamp PRM831 **Microphone Correction** Off Integration Method Linear **OBA Range** Normal **OBA Bandwidth** 1/1 and 1/3 Z Weighting **OBA Freq. Weighting OBA Max Spectrum** Bin Max Gain 0.0 dB 144.3 dB Overload

Α С Z 69.1 dB **Under Range Peak** 66.1 67.1 **Under Range Limit** 25.6 26.2 37.1 dB Noise Floor 16.5 17.0 24.7 dB

System Metrics

Min Max Last **Internal Temperature** 83.8 °F 93.0 °F 91.8 °F **External Voltage** -99.94 **V** -99.94 **V** -99.94 **V**

Results

45.3 LAeq LAE 74.8 EΑ 3.376 µPa²h

LCpeak (max)	2021-06-29 15:14:13	99.3 d	IB					
LAFmax	2021-06-29 15:14:13	74.9 d						
LAFmin	2021-06-29 15:17:37	34.8 d						
SEA	-99.94 dB							
LAFTM5	56.3 dB							
LAF > 65.0 dB (Exceedance Counts / Duration)	3	1.2 s						
LAF > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s						
,								
Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00	
,	45.3	45.3	-99.94	45.3	45.3	-99.94	-99.94	dB
LCeq	60.3 dB							
LAeq	45.3 dB							
LCeq - LAeq	15.0 dB							
LAleq	55.5 dB							
LAeq	45.3 dB							
LAleq - LAeq	10.2 dB							
	Α			С		Z		
	dB T	ime Stamp	dB	Time Stamp	dB	Time Stamp		
Leq	45.3		60.3		71.0			
Ls(max)	67.0	2021/06/29 15:14:13	77.4	2021/06/29 15:26:13	86.0	2021/06/29 15:26:14		
LF(max)	74.9	2021/06/29 15:14:13	83.7	2021/06/29 15:14:13	90.7	2021/06/29 15:26:13		
LI(max)	79.9	2021/06/29 15:14:13	87.7	2021/06/29 15:14:13	93.5	2021/06/29 15:26:13		
Ls(min)	37.1	2021/06/29 15:17:00	48.3	2021/06/29 15:17:09	52.0	2021/06/29 15:17:38		
LF(min)		2021/06/29 15:17:37	46.7	2021/06/29 15:17:09	50.0	2021/06/29 15:17:06		
LI(min)	36.8	2021/06/29 15:17:00	49.2	2021/06/29 15:19:41	52.9	2021/06/29 15:17:38		
LPeak(max)	98.6	2021/06/29 15:16:23	99.3	2021/06/29 15:14:13	101.3	2021/06/29 15:14:13		
			•		•			
# Overloads	0							
Overload Duration	0.0 s							
# OBA Overloads	0							
OBA Overload Duration	0.0 s							
Statistics								
LAI1.00	54.3 dB							
LAI5.00	47.6 dB							
LAI10.00	45.9 dB							
LAI50.00	41.4 dB							
LAI90.00	38.6 dB							
LAI99.00	36.9 dB							
Calibratian History								

Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5 16.0 20.0
2021-06-06 11:38:28	-27.1	38.8	51.2	41.9	46.9 55.0 53.1
2021-05-07 12:45:42	-27.1	50.2	50.5	56.3	46.5 54.8 57.3
2021-04-15 13:47:24	-27.1	50.3	53.6	54.4	52.6 53.9 45.2
2021-04-15 13:40:55	-27.2	57.1	58.7	52.8	47.3 54.2 47.2
	2021-06-06 11:38:28 2021-05-07 12:45:42 2021-04-15 13:47:24	2021-06-06 11:38:28 -27.1 2021-05-07 12:45:42 -27.1 2021-04-15 13:47:24 -27.1	2021-06-06 11:38:28 -27.1 38.8 2021-05-07 12:45:42 -27.1 50.2 2021-04-15 13:47:24 -27.1 50.3	2021-06-06 11:38:28 -27.1 38.8 51.2 2021-05-07 12:45:42 -27.1 50.2 50.5 2021-04-15 13:47:24 -27.1 50.3 53.6	2021-06-06 11:38:28 -27.1 38.8 51.2 41.9 2021-05-07 12:45:42 -27.1 50.2 50.5 56.3 2021-04-15 13:47:24 -27.1 50.3 53.6 54.4

PRM831	2021-01-11 11:13:06	-27.1	47.6	42.1	54.2	47.8 46.9 51.4
PRM831	2020-09-30 08:39:30	-27.1	58.8	64.1	58.7	57.0 49.6 48.3
PRM831	2020-09-07 12:39:03	-27.7	48.3	43.4	41.9	47.6 56.8 45.4
PRM831	2020-05-22 13:10:55	-27.1	58.6	52.9	49.9	47.3 54.6 58.6
PRM831	2020-02-25 15:12:48	-27.1	46.6	67.4	64.3	48.2 51.0 39.9
PRM831	2020-01-10 00:14:47	-26.8	56.0	67.8	58.7	55.6 53.4 48.7
PRM831	2019-12-16 14:38:16	-26.8	38.1	48.0	50.7	46.3 43.8 56.0
Unknown	2021-04-15 13:48:38	-27.2	51.7	50.6	53.9	50.9 62.9 72.8
Unknown	2021-04-15 13:43:05	-27.1	50.1	48.2	52.6	48.3 48.8 44.2
Chance	2021 04 15 15.45.05	27.1	30.1	40.2	32.0	40.5 40.6 44.2

25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
51.3	52.5	43.6	45.0	51.7	59.3	52.6	49.8	50.0	49.7	43.0	38.5	40.0	36.4	32.9	30.7	114.0	49.3	20.1	65.3	20.0	59.6	25.1	30.3	21.7	22.4	23.1	24.3	25.3	26.6
61.1	60.7	59.3	60.1	58.5	55.1	55.5	57.6	58.8	61.2	55.8	48.8	45.0	41.1	36.8	35.0	114.1	49.5	20.2	65.7	20.0	59.7	25.0	30.1	22.0	22.8	23.3	24.8	25.5	26.6
51.6	51.9	39.1	42.8	26.9	31.7	32.1	37.8	42.4	37.5	45.5	46.2	50.7	43.8	44.6	39.4	114.0	49.5	30.6	65.7	20.3	59.8	25.8	30.2	22.1	22.7	24.5	29.1	25.9	26.8
47.5	41.3	38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	26.6

55.8	52.1	60.7	61.1	54.2	55.3	51.2	49.3	54.7	51.1	49.8	49.5	45.2	46.9	34.6	31.8	114.0	49.5	21.2	65.5	20.2	59.6	24.8	30.6	22.1	22.8	23.3	24.1	25.4	26.6
53.6	42.3	41.1	51.7	43.8	40.3	40.7	31.1	28.7	23.5	24.3	21.0	23.3	25.5	23.9	30.3	114.6	49.9	20.7	65.9	20.6	60.2	26.2	31.2	22.4	22.9	23.9	24.9	26.1	27.1
45.7	47.6	46.4	53.5	46.4	46.2	46.1	43.1	41.1	35.3	31.5	27.9	26.5	24.8	22.8	28.8	113.4	48.8	19.4	64.9	20.3	59.5	25.9	31.3	21.8	22.6	23.4	24.3	25.7	26.6
59.9	51.5	45.6	44.1	46.7	43.1	48.2	42.5	36.1	33.2	40.2	43.1	38.5	32.9	37.7	34.2	113.9	49.2	24.4	65.2	19.9	59.6	25.0	30.5	21.6	22.7	23.2	24.4	25.4	26.4
47.9	52.6	40.4	36.4	39.8	36.3	42.9	45.6	36.4	35.1	36.0	34.3	33.5	33.7	34.9	33.4	113.7	49.0	20.2	65.2	19.2	59.4	25.1	30.1	21.1	22.1	23.2	24.0	25.2	26.1
48.5	51.4	45.5	45.7	43.0	42.8	45.7	44.3	39.3	39.8	39.0	39.9	38.6	35.7	30.3	29.9	114.0	49.2	19.3	65.4	20.0	59.5	24.6	29.9	21.7	22.2	23.2	24.4	25.2	26.3
51.2	48.6	46.3	51.7	51.5	56.6	56.2	55.8	52.9	53.1	53.8	48.7	44.0	39.3	31.7	33.1	113.9	49.3	20.6	66.1	19.5	58.3	23.5	28.9	21.3	22.3	23.0	28.0	25.0	26.2
57.4	51.6	49.9	52.5	51.3	53.6	47.2	37.1	32.3	35.1	35.7	32.3	34.1	33.6	30.2	29.7	113.9	49.3	20.1	65.6	20.2	59.6	25.5	30.5	21.8	23.1	24.1	28.6	26.1	26.9
39.3	44.9	42.7	32.3	30.0	30.1	27.2	38.7	30.0	34.9	36.2	32.6	31.8	28.9	31.0	30.9	112.9	48.2	18.4	64.5	18.8	58.6	24.1	29.1	20.8	21.7	22.3	23.7	24.6	25.4

 File Name on Meter
 831_Data.164

 File Name on PC
 SLM_10998_831_Data_164.00.ldbin

 Serial Number
 0010998

 Model
 SoundAdvisor™ Model 831C

 Firmware Version
 04.0.7R0

User TFA Location N4

Job Description BRRC Monitoring Grinder Operation

Note

Measurement

Description

Latitude **GPS Not Synchronized** Longitude **GPS Not Synchronized** Elevation **GPS Not Synchronized** Start 2021-06-29 13:57:59 Stop 2021-06-29 14:13:03 00:15:04.1 Duration **Run Time** 00:15:04.1 00:00:00.0 Pause

Pre Calibration 2021-06-06 11:38:28
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight A Weighting **Peak Weight** C Weighting Detector Fast Preamp PRM831 Microphone Correction Off Integration Method Linear **OBA Range** Normal **OBA Bandwidth** 1/1 and 1/3 **OBA Freq. Weighting** Z Weighting **OBA Max Spectrum** Bin Max Gain 0.0 dB 144.3 dB Overload

 Under Range Peak
 66.1
 67.1
 69.1 dB

 Under Range Limit
 25.6
 26.2
 37.1 dB

 Noise Floor
 16.5
 17.0
 24.7 dB

System Metrics

	Min	Max	Last
Internal Temperature	89.1 °F	91.5 °F	89.1 °F
External Voltage	-99.94 V	-99.94 V	-99.94 V

Results

LCpeak (max)								
Lepeux (max)	2021-06-29 13:58:26	95.8 0	IB					
LAFmax	2021-06-29 13:58:27	74.4 0	IB					
LAFmin	2021-06-29 14:09:12	51.8 c	IB					
SEA	-99.94 d							
LAFTM5	62.6 d	3						
LAF > 65.0 dB (Exceedance Counts / Duration)	11	8.1 s						
LAF > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s						
LCpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s						
Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00	
,	59.0	59.0	-99.94	59.0	59.0	-99.94	-99.94	dB
LCeq	67.5 d	3						
LAeq	59.0 d							
LCeg - LAeg	8.5 d							
LAleq	61.3 d							
LAeq	59.0 d							
LAleq - LAeq	2.3 d							
	A			С		Z		
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp		
Leq	59.0		67.5		72.9			
LS(max)	67.7	2021/06/29 13:58:27	78.0	2021/06/29 14:11:05	91.6	2021/06/29 14:11:05		
LF(max)	74.4	2021/06/29 13:58:27	81.5	2021/06/29 14:11:04	95.8	2021/06/29 14:11:04		
Li(max)	78.1	2021/06/29 13:58:27	85.1	2021/06/29 14:11:05	98.1	2021/06/29 14:11:04		
LS(min)	52.7	2021/06/29 14:09:19	61.0	2021/06/29 14:09:12	62.9	2021/06/29 14:09:12		
LF(min)	51.8	2021/06/29 14:09:12	59.5	2021/06/29 14:08:56	61.2	2021/06/29 14:08:56		
LI(min)	52.6	2021/06/29 14:09:19	61.1	2021/06/29 14:09:12	63.4	2021/06/29 14:09:12		
LPeak(max)	97.0	2021/06/29 13:58:26	95.8	2021/06/29 13:58:26	100.7	2021/06/29 14:11:04		
# Overloads	0							
Overload Duration								
• · · · · · · · · · · · · · · · · · · ·	0.0 s							
# OBA Overloads	0.0 s 0							
# OBA Overloads OBA Overload Duration	0							
# OBA Overloads	0	3						
# OBA Overloads OBA Overload Duration Statistics	0 0.0 s							
# OBA Overloads OBA Overload Duration Statistics LAI1.00	0 0.0 s 63.8 d	3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00	0 0.0 s 63.8 d 61.9 d	3 3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00	0 0.0 s 63.8 d 61.9 d 61.1 d	3 3 3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00 LAI50.00	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d	3 3 3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00 LAI50.00 LAI90.00	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d	3 3 3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00 LAI50.00 LAI90.00	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d	3 3 3						
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00 LAI50.00 LAI90.00 LAI99.00	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d	3 3 3		6.3	8.0	10.0	12.5	16.0
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI50.00 LAI90.00 LAI99.00 Calibration History Preamp PRM831	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d 52.9 d	dB re. 1V/Pa -27.1		38.8	51.2	41.9		16.0 55.0
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00 LAI90.00 LAI90.00 LAI99.00 Calibration History Preamp PRM831 PRM831	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d 52.9 d Date 2021-06-06 11:38:28 2021-05-07 12:45:42	dB re. 1V/Pa -27.1 -27.1		38.8 50.2	51.2 50.5	41.9 56.3	46.9 46.5	55.0 54.8
# OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI50.00 LAI90.00 LAI99.00 Calibration History Preamp PRM831	0 0.0 s 63.8 d 61.9 d 61.1 d 58.5 d 55.7 d 52.9 d	dB re. 1V/Pa -27.1		38.8	51.2	41.9	46.9 46.5	55.0 54.8 53.9

PRM831	2021-01-11 11:13:06	-27.1	47.6	42.1	54.2	47.8 46.9
PRM831	2020-09-30 08:39:30	-27.1	58.8	64.1	58.7	57.0 49.6
PRM831	2020-09-07 12:39:03	-27.7	48.3	43.4	41.9	47.6 56.8
PRM831	2020-05-22 13:10:55	-27.1	58.6	52.9	49.9	47.3 54.6
PRM831	2020-02-25 15:12:48	-27.1	46.6	67.4	64.3	48.2 51.0
PRM831	2020-01-10 00:14:47	-26.8	56.0	67.8	58.7	55.6 53.4
PRM831	2019-12-16 14:38:16	-26.8	38.1	48.0	50.7	46.3 43.8
Unknown	2021-04-15 13:48:38	-27.2	51.7	50.6	53.9	50.9 62.9
Unknown	2021-04-15 13:43:05	-27.1	50.1	48.2	52.6	48.3 48.8

20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
53.1	51.3	52.5	43.6	45.0	51.7	59.3	52.6	49.8	50.0	49.7	43.0	38.5	40.0	36.4	32.9	30.7	114.0	49.3	20.1	65.3	20.0	59.6	25.1	30.3	21.7	22.4	23.1	24.3	25.3	26.6
57.3	61.1	60.7	59.3	60.1	58.5	55.1	55.5	57.6	58.8	61.2	55.8	48.8	45.0	41.1	36.8	35.0	114.1	49.5	20.2	65.7	20.0	59.7	25.0	30.1	22.0	22.8	23.3	24.8	25.5	26.6
45.2	51.6	51.9	39.1	42.8	26.9	31.7	32.1	37.8	42.4	37.5	45.5	46.2	50.7	43.8	44.6	39.4	114.0	49.5	30.6	65.7	20.3	59.8	25.8	30.2	22.1	22.7	24.5	29.1	25.9	26.8
47.2	47.5	41.3	38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	26.6
47.2	47.5	41.3	38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	

51.4	55.8	52.1	60.7	61.1	54.2	55.3	51.2	49.3	54.7	51.1	49.8	49.5	45.2	46.9	34.6	31.8	114.0	49.5	21.2	65.5	20.2	59.6	24.8	30.6	22.1	22.8	23.3	24.1	25.4	26.6
48.3	53.6	42.3	41.1	51.7	43.8	40.3	40.7	31.1	28.7	23.5	24.3	21.0	23.3	25.5	23.9	30.3	114.6	49.9	20.7	65.9	20.6	60.2	26.2	31.2	22.4	22.9	23.9	24.9	26.1	27.1
45.4	45.7	47.6	46.4	53.5	46.4	46.2	46.1	43.1	41.1	35.3	31.5	27.9	26.5	24.8	22.8	28.8	113.4	48.8	19.4	64.9	20.3	59.5	25.9	31.3	21.8	22.6	23.4	24.3	25.7	26.6
58.6	59.9	51.5	45.6	44.1	46.7	43.1	48.2	42.5	36.1	33.2	40.2	43.1	38.5	32.9	37.7	34.2	113.9	49.2	24.4	65.2	19.9	59.6	25.0	30.5	21.6	22.7	23.2	24.4	25.4	26.4
39.9	47.9	52.6	40.4	36.4	39.8	36.3	42.9	45.6	36.4	35.1	36.0	34.3	33.5	33.7	34.9	33.4	113.7	49.0	20.2	65.2	19.2	59.4	25.1	30.1	21.1	22.1	23.2	24.0	25.2	26.1
48.7	48.5	51.4	45.5	45.7	43.0	42.8	45.7	44.3	39.3	39.8	39.0	39.9	38.6	35.7	30.3	29.9	114.0	49.2	19.3	65.4	20.0	59.5	24.6	29.9	21.7	22.2	23.2	24.4	25.2	26.3
56.0	51.2	48.6	46.3	51.7	51.5	56.6	56.2	55.8	52.9	53.1	53.8	48.7	44.0	39.3	31.7	33.1	113.9	49.3	20.6	66.1	19.5	58.3	23.5	28.9	21.3	22.3	23.0	28.0	25.0	26.2
72.8	57.4	51.6	49.9	52.5	51.3	53.6	47.2	37.1	32.3	35.1	35.7	32.3	34.1	33.6	30.2	29.7	113.9	49.3	20.1	65.6	20.2	59.6	25.5	30.5	21.8	23.1	24.1	28.6	26.1	26.9
44.2	39.3	44.9	42.7	32.3	30.0	30.1	27.2	38.7	30.0	34.9	36.2	32.6	31.8	28.9	31.0	30.9	112.9	48.2	18.4	64.5	18.8	58.6	24.1	29.1	20.8	21.7	22.3	23.7	24.6	25.4

File Name on Meter 831 Data.165 File Name on PC SLM_10998_831_Data_165.00.ldbin Serial Number

0010998

SoundAdvisor™ Model 831C Model 04.0.7R0 **Firmware Version**

TFA User Location N5

BRRC Grinder Operation Job Description

Note

Measurement

Description

Latitude **GPS Not Synchronized** Longitude **GPS Not Synchronized** Elevation **GPS Not Synchronized** Start 2021-06-29 14:16:50 Stop 2021-06-29 14:32:01 00:15:10.9 Duration **Run Time** 00:15:10.9 Pause 00:00:00.0

Pre Calibration 2021-06-06 11:38:28 **Post Calibration** None **Calibration Deviation**

Overall Settings

RMS Weight A Weighting **Peak Weight** C Weighting Detector Fast Preamp PRM831 Microphone Correction Off Integration Method Linear **OBA Range** Normal **OBA Bandwidth** 1/1 and 1/3 **OBA Freq. Weighting** Z Weighting **OBA Max Spectrum** Bin Max Gain 0.0 dB 144.3 dB Overload

Α С Z **Under Range Peak** 69.1 dB 66.1 67.1 **Under Range Limit** 25.6 26.2 37.1 dB Noise Floor 16.5 17.0 24.7 dB

System Metrics

	Min	Max	Last
Internal Temperature	83.9 °F	87.4 °F	83.9 °F
External Voltage	-99.94 V	-99.94 V	-99.94 V

Results

LAeq	54.8
LAE	84.4
EA	30.791 μPa²h

LCpeak (max) LAFmax LAFmin SEA LAFTM5 LAF > 65.0 dB (Exceedance Counts / Duration) LAF > 85.0 dB (Exceedance Counts / Duration) LCpeak > 135.0 dB (Exceedance Counts / Duration)	2021-06-29 14:17:33 2021-06-29 14:17:33 2021-06-29 14:29:36 -99.94 df 66.2 df		dB dB G					
LCpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0	5					
LCpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0	5					
Community Noise	Ldn 54.8	LDay 07:00-22:00 54.8	LNight 22:00-07:00 -99.94	Lden 54.8	LDay 07:00-19:00 54.8	LEvening 19:00-22:00 -99.94	LNight 22:00-07:00 -99.94	dB
LCeq LAeq LCeq - LAeq LAleq LAeq LAleq - LAeq	62.8 dt 54.8 dt 8.0 dt 66.0 dt 54.8 dt 11.1 dt	B B B						
Dried Dred	Α			С		Z		
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp		
1	F4.0							
Leq Le(may)	54.8	2021/06/20 14:17:22	62.8	2021/06/20 14:17:22	68.9	2021/06/20 14:24:50		
LS(max)	78.3	2021/06/29 14:17:33	80.3	2021/06/29 14:17:33	82.1	2021/06/29 14:24:59		
LS(max) LF(max)	78.3 87.0	2021/06/29 14:17:33	80.3 88.6	2021/06/29 14:17:33	82.1 88.9	2021/06/29 14:17:33		
LS(max) LF(max) LI(max)	78.3 87.0 92.5	2021/06/29 14:17:33 2021/06/29 14:17:33	80.3 88.6 93.7	2021/06/29 14:17:33 2021/06/29 14:17:33	82.1 88.9 94.1	2021/06/29 14:17:33 2021/06/29 14:17:33		
LS(max) LF(max) LI(max) LS(min)	78.3 87.0 92.5 45.9	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42	80.3 88.6 93.7 53.7	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44	82.1 88.9 94.1 56.4	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40		
LS(max) LF(max) LI(max) LS(min) LF(min)	78.3 87.0 92.5 45.9 44.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36	80.3 88.6 93.7 53.7 51.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37	82.1 88.9 94.1 56.4 55.1	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40		
LS(max) LF(max) LI(max) LS(min) LF(min)	78.3 87.0 92.5 45.9 44.6 46.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36	80.3 88.6 93.7 53.7 51.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37	82.1 88.9 94.1 56.4 55.1	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overloads	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overload Duration Statistics	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overload Duration Statistics LAI1.00	78.3 87.0 92.5 45.9 44.6 46.6 116.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00	78.3 87.0 92.5 45.9 44.6 46.6 116.6 0 0.0 s 1 2.0 s	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00	78.3 87.0 92.5 45.9 44.6 46.6 116.6 0 0.0 s 1 2.0 s	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI5.00 LAI50.00	78.3 87.0 92.5 45.9 44.6 46.6 116.6 0 0.0 s 1 2.0 s	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:29:36 2021/06/29 14:20:10 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		
LS(max) LF(max) LI(max) LS(min) LF(min) LI(min) LPeak(max) # Overloads Overload Duration # OBA Overloads OBA Overload Duration Statistics LAI1.00 LAI5.00 LAI10.00	78.3 87.0 92.5 45.9 44.6 46.6 116.6 0 0.0 s 1 2.0 s	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:29:42 2021/06/29 14:20:10 2021/06/29 14:17:33 2021/06/29 14:17:33	80.3 88.6 93.7 53.7 51.3 53.6	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:44 2021/06/29 14:29:37 2021/06/29 14:20:44	82.1 88.9 94.1 56.4 55.1 57.3	2021/06/29 14:17:33 2021/06/29 14:17:33 2021/06/29 14:20:40 2021/06/29 14:20:40 2021/06/29 14:20:39		

Calibration History								
Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0
PRM831	2021-06-06 11:38:28	-27.1	38.8	51.2	41.9	46.9	55.0	53.1
PRM831	2021-05-07 12:45:42	-27.1	50.2	50.5	56.3	46.5	54.8	57.3
PRM831	2021-04-15 13:47:24	-27.1	50.3	53.6	54.4	52.6	53.9	45.2
PRM831	2021-04-15 13:40:55	-27.2	57.1	58.7	52.8	47.3	54.2	47.2

PRM831	2021-01-11 11:13:06	-27.1	47.6	42.1	54.2	47.8 46.9 51.4
PRM831	2020-09-30 08:39:30	-27.1	58.8	64.1	58.7	57.0 49.6 48.3
PRM831	2020-09-07 12:39:03	-27.7	48.3	43.4	41.9	47.6 56.8 45.4
PRM831	2020-05-22 13:10:55	-27.1	58.6	52.9	49.9	47.3 54.6 58.6
PRM831	2020-02-25 15:12:48	-27.1	46.6	67.4	64.3	48.2 51.0 39.9
PRM831	2020-01-10 00:14:47	-26.8	56.0	67.8	58.7	55.6 53.4 48.7
PRM831	2019-12-16 14:38:16	-26.8	38.1	48.0	50.7	46.3 43.8 56.0
Unknown	2021-04-15 13:48:38	-27.2	51.7	50.6	53.9	50.9 62.9 72.8
Unknown	2021-04-15 13:43:05	-27.1	50.1	48.2	52.6	48.3 48.8 44.2
Chance	2021 04 15 15.45.05	27.1	30.1	40.2	32.0	40.5 40.6 44.2

25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
51.3	52.5	43.6	45.0	51.7	59.3	52.6	49.8	50.0	49.7	43.0	38.5	40.0	36.4	32.9	30.7	114.0	49.3	20.1	65.3	20.0	59.6	25.1	30.3	21.7	22.4	23.1	24.3	25.3	26.6
61.1	60.7	59.3	60.1	58.5	55.1	55.5	57.6	58.8	61.2	55.8	48.8	45.0	41.1	36.8	35.0	114.1	49.5	20.2	65.7	20.0	59.7	25.0	30.1	22.0	22.8	23.3	24.8	25.5	26.6
51.6	51.9	39.1	42.8	26.9	31.7	32.1	37.8	42.4	37.5	45.5	46.2	50.7	43.8	44.6	39.4	114.0	49.5	30.6	65.7	20.3	59.8	25.8	30.2	22.1	22.7	24.5	29.1	25.9	26.8
47.5	41.3	38.0	38.0	41.3	36.2	47.3	38.7	35.8	49.5	36.7	45.2	44.5	36.9	35.4	33.3	113.9	49.2	21.6	65.4	19.6	59.6	24.8	30.4	21.7	22.5	23.4	24.4	25.5	26.6

55.8	52.1	60.7	61.1	54.2	55.3	51.2	49.3	54.7	51.1	49.8	49.5	45.2	46.9	34.6	31.8	114.0	49.5	21.2	65.5	20.2	59.6	24.8	30.6	22.1	22.8	23.3	24.1	25.4	26.6
53.6	42.3	41.1	51.7	43.8	40.3	40.7	31.1	28.7	23.5	24.3	21.0	23.3	25.5	23.9	30.3	114.6	49.9	20.7	65.9	20.6	60.2	26.2	31.2	22.4	22.9	23.9	24.9	26.1	27.1
45.7	47.6	46.4	53.5	46.4	46.2	46.1	43.1	41.1	35.3	31.5	27.9	26.5	24.8	22.8	28.8	113.4	48.8	19.4	64.9	20.3	59.5	25.9	31.3	21.8	22.6	23.4	24.3	25.7	26.6
59.9	51.5	45.6	44.1	46.7	43.1	48.2	42.5	36.1	33.2	40.2	43.1	38.5	32.9	37.7	34.2	113.9	49.2	24.4	65.2	19.9	59.6	25.0	30.5	21.6	22.7	23.2	24.4	25.4	26.4
47.9	52.6	40.4	36.4	39.8	36.3	42.9	45.6	36.4	35.1	36.0	34.3	33.5	33.7	34.9	33.4	113.7	49.0	20.2	65.2	19.2	59.4	25.1	30.1	21.1	22.1	23.2	24.0	25.2	26.1
48.5	51.4	45.5	45.7	43.0	42.8	45.7	44.3	39.3	39.8	39.0	39.9	38.6	35.7	30.3	29.9	114.0	49.2	19.3	65.4	20.0	59.5	24.6	29.9	21.7	22.2	23.2	24.4	25.2	26.3
51.2	48.6	46.3	51.7	51.5	56.6	56.2	55.8	52.9	53.1	53.8	48.7	44.0	39.3	31.7	33.1	113.9	49.3	20.6	66.1	19.5	58.3	23.5	28.9	21.3	22.3	23.0	28.0	25.0	26.2
57.4	51.6	49.9	52.5	51.3	53.6	47.2	37.1	32.3	35.1	35.7	32.3	34.1	33.6	30.2	29.7	113.9	49.3	20.1	65.6	20.2	59.6	25.5	30.5	21.8	23.1	24.1	28.6	26.1	26.9
39.3	44.9	42.7	32.3	30.0	30.1	27.2	38.7	30.0	34.9	36.2	32.6	31.8	28.9	31.0	30.9	112.9	48.2	18.4	64.5	18.8	58.6	24.1	29.1	20.8	21.7	22.3	23.7	24.6	25.4