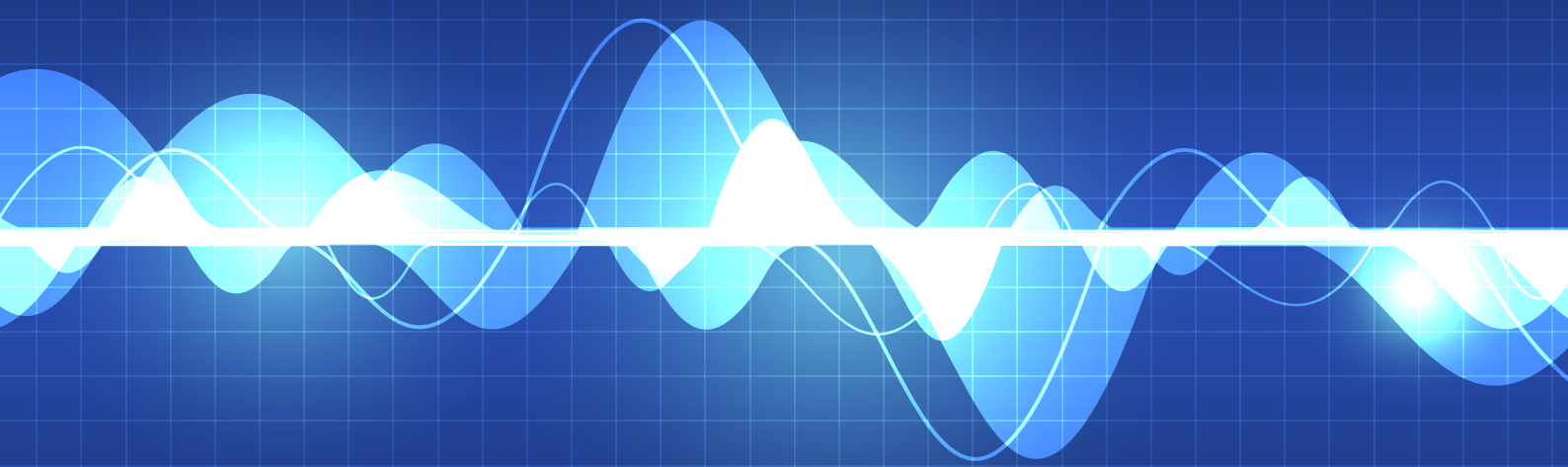


# KLF Holdings Pty Ltd Recycling Facility

Noise compliance report - Quarter 1 2022

---

Prepared for KLF Holdings Pty Ltd  
May 2022





# Servicing projects throughout Australia and internationally

## SYDNEY

Ground Floor, 20 Chandos Street  
St Leonards NSW 2065  
T 02 9493 9500

## NEWCASTLE

Level 3, 175 Scott Street  
Newcastle NSW 2300  
T 02 4907 4800

## BRISBANE

Level 1, 87 Wickham Terrace  
Spring Hill QLD 4000  
T 07 3648 1200

## ADELAIDE

Level 4, 74 Pirie Street  
Adelaide SA 5000  
T 08 8232 2253

## MELBOURNE

Ground Floor, 188 Normanby Road  
Southbank VIC 3006  
T 03 9993 1905

## PERTH

Suite 9.02, Level 9, 109 St Georges Terrace  
Perth WA 6000  
T 02 9339 3184

## CANBERRA

Level 2, Suite 2.04, 15 London Circuit  
Canberra City ACT 2601

# KLF Holdings Pty Ltd Recycling Facility

Noise compliance report - Quarter 1 2022

## Report Number

---

E220281 RP2022Q1

## Client

---

KLF Holdings Pty Ltd

## Date

---

16 May 2022

## Version

---

v2 Final

## Prepared by

---



**Jared Blackburn**  
Graduate Acoustic Consultant  
16 May 2022

## Approved by

---



**Najah Ishac**  
Director  
15 May 2022

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

© Reproduction of this report for educational or other non-commercial purposes is authorised without prior written permission from EMM provided the source is fully acknowledged. Reproduction of this report for resale or other commercial purposes is prohibited without EMM's prior written permission.

# Table of Contents

1	Introduction	1
2	Noise limits and monitoring requirements	2
2.1	Noise limits	2
2.2	Meteorological conditions	2
3	Assessment methodology	4
3.1	Attended noise monitoring	4
3.2	Instrumentation	4
3.3	Weather conditions	6
3.4	Site operating hours	6
4	Monitoring data and discussion	7
5	Conclusion	14
	Glossary	15

## Appendices

Appendix A	EPL 12700	
Appendix B	Calibration certificates	

## Tables

Table 2.1	Noise limits	2
Table 2.2	Applicable meteorological conditions	3
Table 3.1	Attended noise monitoring locations	4
Table 3.2	Stability categories and vertical temperature gradients	6
Table 4.1	Attended noise monitoring results – Q1 2022, 20-21 April	9
Table G.1	Glossary of acoustic terms	15
Table G.2	Perceived change in noise	16

## Figures

Figure 3.1	Site locality and attended noise monitoring locations	5
Figure G.1	Common noise levels	17

# 1 Introduction

EMM Consulting Pty Limited (EMM) has been engaged to complete quarterly attended compliance noise monitoring for the Camelia Waste Recycling Facility (the site) on behalf of KLF Holdings Pty Limited (KLF). This quarterly monitoring is a requirement as detailed in the site's Environment Protection Licence (12700) dated 20 July 2021.

This report presents the results and findings of Quarter 1 2022 attended noise monitoring conducted during the day, evening and night periods of 20 and 21 April 2022. EMM acknowledges the attended noise monitoring was conducted outside of the regular quarter 1 period. This was due to heavy rainfall and weather conditions, covid health protocols and equipment at the site under maintenance throughout quarter 1.

The following documents were referenced as part of this assessment:

- KLF Holdings Pty Ltd Environment Protection Licence (EPL) 12700 (20 July 2021);
- AS 1055.2018 Acoustics - Description and measurement of environmental noise;
- Environment Protection Authority (EPA), Noise Policy for Industry (NPfI) (2017); and
- Environment Protection Authority (EPA), Road Noise Policy (RND) (2011).

Several technical terms are discussed in this report. These are explained in the glossary.

## 2 Noise limits and monitoring requirements

Noise assessment criteria for the site are provided in the site's EPL. The noise assessment criteria are specified for day, evening and night periods at locations which are representative of residences potentially most impacted by site noise. Pages from the site's EPL pertaining to noise are shown in Appendix A.

### 2.1 Noise limits

Condition L3.1 of the site's EPL nominates noise limits KLF Camelia, which are reproduced in Table 2.1.

**Table 2.1** Noise limits

Location	Noise limits, dB $L_{Aeq,15min}$			Noise limits, dB $L_{AFmax}$
	Day	Evening	Night	Night
523-530 John Street Rydalmere	50	48	43	59
28 & 30 Sylvie Street Rydalmere, 33 Nowill Street Rydalmere	50	48	43	59
37-45 John Street Rydalmere	50	48	43	59
22 & 24 Milton Street Rydalmere, 33 & 35 John Street Rydalmere	50	48	43	59

Notes: 1. Day is the period from 7 am to 6 pm Monday to Saturday and 8 am to 6 pm Sunday and public holidays. Evening is the period from 6 pm to 10 pm. Night is the period from 10 pm to 7 am Monday to Saturday and 10 pm to 8 am Sunday and public holidays.

### 2.2 Meteorological conditions

Condition L3.2 of the EPL states the meteorological conditions which the noise limits apply under:

- L3.2 Noise-enhancing meteorological conditions:
- The noise limits set out in condition L3.1 apply under the meteorological conditions listed in the table below.
  - For those meteorological conditions not referred to in condition L3.2(a) table, the noise limits that apply are the noise limits in conditions L3.1 table plus 5 dB.

The table from Condition L3.2 is reproduced in Table 2.2 below.

**Table 2.2**      **Applicable meteorological conditions**

<b>Assessment period</b>	<b>Meteorological conditions</b>
Day	Stability Categories A, B, C and D with wind speeds up to and including 3 m/s at 10 m above ground level.
Evening	Stability Categories A, B, C and D with wind speeds up to and including 3 m/s at 10 m above ground level.
Night	Stability Categories A, B, C and D with wind speeds up to and including 3 m/s at 10 m above ground level; or Stability category E and F with wind speeds up to and including 2 m/s at 10 m above ground level.

Condition L3.4 specifies the source of meteorological data to be used and method for determining stability categories:

- L3.4      For the purpose of condition L3.2:
  - a)      The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station identified as Bureau of Meteorology AWS at Sydney Olympic Park, NSW (Station no 066212).
  - b)      Stability category shall be determined using the following method from Fact Sheet D of the Noise Policy for Industry (NSW EPA, 2017):
    - i. Use of sigma-theta data (section D1.4).

# 3 Assessment methodology

## 3.1 Attended noise monitoring

To quantify noise emissions from the site, 15-minute attended noise surveys were completed at monitoring locations as per Condition L3.1 of the site’s EPL. Three attended noise monitoring locations were chosen to represent the most affected residences in proximity to the site, it is anticipated that any residences located further from the site would experience lesser or similar noise levels. The attended noise monitoring locations and their coordinates are listed in Table 3.1 and shown in Figure 3.1.

**Table 3.1** Attended noise monitoring locations

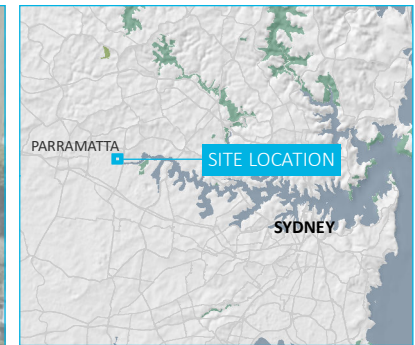
Monitoring location	Description	Location	MGA56	
			Easting (m)	Northing (m)
A1	Approximately 200 m east of the site	530 John Street, Rydalmere	319369	6255948
A2	Approximately 225 m northeast of the site	45 John Street, Rydalmere	319319	6256051
A3	Approximately 260 m north of the site	24 Milton Street, Rydalmere	319230	6256149

## 3.2 Instrumentation

A Brüel & Kjær Type 2250 sound level meter (serial number 3008201) was used to conduct 15-minute attended measurements and record 1/3 octave band centre frequency and statistical noise indices. The sound analyser was calibrated before and on completion of the survey using a Svantek SV36 calibrator (s/n 86311). The instruments were within their NATA laboratory calibration period during the time of these readings. Refer to Appendix B for calibration certificates.



\\lemmsvr1\emms3\2021\E210583 - KLF Noise Monitoring\8 GIS\02 Maps\A001 - AttendedNoiseMonitoring\_202111029\_01.mxd 1/11/2021



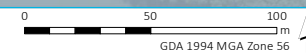
- KEY**
- A Noise measurement location - attended
  - Site boundary
  - Named waterbody
- INSET KEY**
- Major road
  - NPWS reserve
  - State forest

Site locality and attended noise monitoring locations

KLF Holdings Camelia  
Quarterly noise compliance  
Figure 3.1



Source: EMM (2021); MetroMap (2021); DFSI (2017); GA (2011); ASGC (2006)



### 3.3 Weather conditions

Weather data for the monitoring period was sourced from the Bureau of Meteorology (BoM) Automated Weather Station (AWS) located at Sydney Olympic Park (Station ID 066212). Wind speeds are stated with reference to a height of 10 m above ground level (AGL).

The presence of temperature inversion conditions was determined for the monitoring period in accordance with the Sigma Theta method specified in Fact Sheet D of the NPfl (EPA 2017). Table 3.2 is an excerpt from Fact Sheet D of the NPfl (EPA 2017) showing the range of vertical temperature gradients for each Pasquill-Guilford stability category.

**Table 3.2 Stability categories and vertical temperature gradients**

Stability category	Range of vertical temperature gradient, DT/DZ (°C/100 m)
A	$DT/DZ < -1.9$
B	$-1.9 \leq DT/DZ < -1.7$
C	$-1.7 \leq DT/DZ < -1.5$
D	$-1.5 \leq DT/DZ < -0.5$
E	$-0.5 \leq DT/DZ < 1.5$
F	$1.5 \leq DT/DZ < 4.0$
G	$DT/DZ \geq 4.0$

Source: NPfl (EPA 2017).

### 3.4 Site operating hours

The site typically operates from 4:30 am to 4:30 pm on Monday to Friday and from 5:00 am to 1:00 pm on Saturdays (closed Sundays), with hours extended when demand and processing is required.

## 4 Monitoring data and discussion

The results of the attended noise monitoring are summarised in Table 4.1.

A review of the weather data confirmed that the EPL meteorological criteria (Condition L3.2) were exceeded during 7 of the e24 attended measurements. In accordance with the EPL, the noise limits for those periods were those listed in Condition L3.1 plus 5 dB. Details of the average wind speed, wind direction, cloud cover and stability category present during each 15-minute attended measurement are shown in Table 4.1.

During the periods that site was operational, typical activities included:

- Night (5:30 am to 7:00 am):
  - front end loader;
  - two excavators; and
  - trucks tipping/being loaded out.
- Day (7:00 am to 6:00 pm):
  - front end loader;
  - two excavators;
  - processing plant;
  - one excavator loading processing plant;
  - one excavator loading residual material out; and
  - trucks tipping/being loaded out.
- The site was not operational during the evening (6:00 pm to 10:00 pm):

Site operations were audible during all attended measurements in the night and day periods, including the constant hum of processing plant and “bangs” and “clangs” of material handling. Site contributions were estimated using a combination of operator observations at the time of measurement, filtering of extraneous noise and the application of a low pass filter in order to filter out extraneous noise such as birdsong and insects. The site was not operating during the evening period on the days that monitoring took place.

Site contributions were compliant (below) EPL  $L_{Aeq,15min}$  or within 1 dB of the noise limits during all attended daytime measurements. A 1 to 2 dB exceedance is considered by the EPA as negligible in accordance with Section 4.2 of the NPfl (EPA 2017). This is because a 1 to 2 dB change in noise level in an environmental context is indiscernible to the human ear.

Site contributions were estimated to exceed the EPL  $L_{Aeq,15min}$  noise limits by 1 - 2 dB on two of the eight night-time measurements.

Typical  $L_{Amax}$  noise levels from the site were caused by “bangs” from the excavator bucket impacts and material handling. The EPL  $L_{Amax}$  noise limit was breached for four of the eight attended measurements. Two of these measurements were within a 1-2 dB range which is considered by the EPA as negligible in accordance with Section 4.2 of the NPfl (EPA 2017) as discussed earlier. One measurement exceeded the limit by 3dB which is considered by the EPA as marginal in accordance with section 4.2 of the NPfl (EPA 2017).

During one of the eight night time measurements, the  $L_{Amax}$  limit was exceeded by 6 dB. This exceedance was due to “bangs” and “clangs” from the site excavator handling material. While the measurement results demonstrate an exceedance of the EPL  $L_{Amax}$  limit, the events causing the exceedance were infrequent, occurring only once during this measurement.

According to section 5.4 of the Road Noise Policy (EPA 2011):

- a maximum internal noise level ( $L_{Amax}$ ) below 50 to 55 dBA are unlikely to awaken people from sleep; and
- one or two noise events per night, with maximum internal noise levels ( $L_{Amax}$ ) of 65 to 70 dBA, are not likely to affect health and wellbeing significantly.

It is commonly accepted by acoustic practitioners and regulatory bodies that a façade of a residential building of standard construction including a partially open window will reduce external noise levels by 10 dB. Therefore, external noise levels in the order of 60 to 65 dB  $L_{Amax}$  calculated at the façade of a residence are unlikely to cause sleep disturbance affects. The 65 dB  $L_{Amax}$  was the highest value recorded during all night period measurements which due to the reduction of the façade is unlikely to awaken people from sleep according to the RNP.

Based on a detailed review and analysis of noise measurement data, there was no evidence of low frequency noise, tonality or any other modifying factors as defined in the NPfl (EPA 2017) at any monitoring location; therefore, modifying factors were not applicable.

**Table 4.1 Attended noise monitoring results – Q1 2022, 20-21 April**

Location	Start time (period) <sup>1</sup>	Total noise levels, dB				Estimated site contribution, dB		EPL limits, dB		Meteorological conditions EPL limits apply (Y/N) <sup>2</sup>	Exceedance, dB		Notes
		L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>		L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	
A1	5:32 am (Night)	47	49	50	63	40	55	43	59	1.1 m/s NNW, Category F, Y	Nil	Nil	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Occasional local cars.
A1	5:51 am (Night)	49	51	53	69	44	61	43	59	2.2 m/s NW, Category D, Y	1	2	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant).
A2	6:10 am (Night)	50	52	55	72	45	65	43	59	2.2 m/s WNW, Category D, Y	2	6	<b>Site audible for 10 mins of measurement. Persistent debris handling, scoop impacts and steady state industrial hum. Occasional reverse sirens.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant).
A3	6:31 am (Night)	51	52	56	76	40	54	43	59	1.5 m/s NNW, Category F, Y	Nil	Nil	<b>Site audible for 5 mins of measurement. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant, 75 dB max), hum of other industry and distant traffic (constant). 1 aircraft (67 dB max)
A3	7:43 am (Day)	48	51	53	70	39	-	55 <sup>3</sup>	-	1.9 m/s NW, Category E, N	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Nearby residential noise (54 dB).

**Table 4.1 Attended noise monitoring results – Q1 2022, 20-21 April**

Location	Start time (period) <sup>1</sup>	Total noise levels, dB				Estimated site contribution, dB		EPL limits, dB		Meteorological conditions EPL limits apply (Y/N) <sup>2</sup>	Exceedance, dB		Notes
		L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>		L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	
A3	8:00 am (Day)	48	50	54	69	<40	-	50	-	Calm, Category C, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant).
A2	8:21 am (Day)	49	52	55	70	45	-	50	-	1.2 m/s NW m/s NW, Category , <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Lawnmower nearby operating (55 -58 dB). Aircraft pass by (70 dB max).
A2	8:41 am (Day)	49	51	56	80	46	-	50	-	1.2 m/s NW, Category A, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Pass by traffic .
A1	9:03 am (Day)	49	52	54	65	51	-	50	-	2.4m/s NNW, Category A, <b>Y</b>	1	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant).
A1	9:20 am (Day)	49	51	55	71	49	-	55 <sup>3</sup>	-	3.1 m/sm/s NNW, Category A, <b>N</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong(dominant), hum of other industry and distant traffic (constant). Processing of material stopped at site for last 5 mins of measurement. Aircraft pass by (71 dB max).



**Table 4.1 Attended noise monitoring results – Q1 2022, 20-21 April**

Location	Start time (period) <sup>1</sup>	Total noise levels, dB				Estimated site contribution, dB		EPL limits, dB		Meteorological conditions EPL limits apply (Y/N) <sup>2</sup>	Exceedance, dB		Notes
		L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>		L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	
A1	6:00 pm (Evening)	47	48	51	64	n/a	-	53 <sup>3</sup>	-	Calm, Category G, <b>N</b>	Nil	-	<b>Site not operating.</b> Other noise included constant hum of other industry, persistent birdsong & cicadas (dominant) and distant traffic (constant). Occasional local cars.
A2	6:17 pm (Evening)	47	49	53	71	n/a	-	53 <sup>3</sup>	-	Calm, Category F, <b>N</b>	Nil	-	<b>Site not operating.</b> Other noise included constant hum of other industry, persistent birdsong & cicadas (dominant) and distant traffic (constant). Occasional local cars.
A1	5:30 am (Night)	49	51	52	62	40	57	43	59	Calm, Category E, <b>Y</b>	Nil	Nil	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum. Occasional reverse siren.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Occasional local cars (71 dB av).
A1	5:46 am (Night)	50	52	53	67	41	58	43	59	0.5 m/s NW, Category F, <b>Y</b>	Nil	Nil	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant)..
A2	6:06 am (Night)	51	52	58	81	43	61	43	59	0.5 m/s NW, Category F, <b>Y</b>	Nil	2	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Helicopter pass by (59 dB).

**Table 4.1 Attended noise monitoring results – Q1 2022, 20-21 April**

Location	Start time (period) <sup>1</sup>	Total noise levels, dB				Estimated site contribution, dB		EPL limits, dB		Meteorological conditions EPL limits apply (Y/N) <sup>2</sup>	Exceedance, dB		Notes
		L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>		L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	
A3	6:25 am (Night)	50	52	60	78	<40	62	43	59	Calm, Category E, <b>Y</b>	Nil	3	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Occasional local traffic including garbage truck (79 dB max)
A1	7:00 am (Day)	53	54	56	72	50	-	55 <sup>3</sup>	-	Calm, Category G, <b>N</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum. Occasional reverse sirens.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Occasional local cars. Ferry and garbage truck pass by
A1	7:17 am (Day)	51	53	55	65	49	-	50	-	Calm,  Category B, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum. Occasional reverse sirens.</b> Other noise included persistent birdsong (dominant), hum of other industry and distant traffic (constant). Occasional local cars and ferry pass by.
A3	7:37 am (Day)	49	51	53	72	40	-	50	-	Calm, Category B, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), hum of other industry, aircrafts and distant traffic (constant).
A3	7:54 am (Day)	48	50	55	76	40	-	50	-	2 m/s NW, Category A, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts and steady state industrial hum.</b> Other noise included persistent birdsong (dominant), ferry pass by, local resident operating power tool, hum of other industry and distant traffic (constant).



**Table 4.1 Attended noise monitoring results – Q1 2022, 20-21 April**

Location	Start time (period) <sup>1</sup>	Total noise levels, dB				Estimated site contribution, dB		EPL limits, dB		Meteorological conditions EPL limits apply (Y/N) <sup>2</sup>	Exceedance, dB		Notes
		L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>		L <sub>Aeq, 15min</sub>	L <sub>Amax</sub>	
A2	8:12 am (Day)	48	50	53	86	48	-	50	-	2 m/s NW, Category A, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts. Steady state industrial hum is masked by local ambient noise.</b> Other noise included persistent birdsong (dominant), activity from other industry and distant traffic (constant). Occasional local traffic and aircrafts. Ute in nearby street idling.
A2	8:28 am (Day)	49	51	55	69	48	-	50	-	2.6 m/s W, Category A, <b>Y</b>	Nil	-	<b>Site audible. Persistent debris handling, scoop impacts. Steady state industrial hum is masked by local ambient noise.</b> Other noise included persistent birdsong (dominant), activity from other industry and distant traffic (constant). Occasional local traffic.
A1	6:09 pm (Evening)	45	47	50	65	n/a	-	53 <sup>3</sup>	-	2.3m/s SSE, Category F, <b>N</b>	Nil	-	<b>Site not operating.</b> Other noise included persistent birdsong & cicadas (dominant), noise from other industry and distant traffic (constant). Occasional local cars.
A2	6:26 pm (Evening)	44	46	50	66	n/a	-	53 <sup>3</sup>	-	2.8m/s SSE, Category E, <b>N</b>	Nil	-	<b>Site not operating.</b> Other noise included persistent birdsong & cicadas (dominant), noise from other industry and distant traffic (constant). Occasional local cars.

Notes: 1. Day is the period from 7 am to 6 pm Monday to Saturday and 8 am to 6 pm Sunday and public holidays. Evening is the period from 6 pm to 10 pm. Night is the period from 10 pm to 7 am Monday to Saturday and 10 pm to 8 am Sunday and public holidays.  
2. Weather data for the monitoring period was sourced from the Bureau of Meteorology (BoM) Automated Weather Station (AWS) located at Sydney Olympic Park (Station ID 066212). Wind speeds are stated with reference to a height of 10 m above ground level (AGL).  
3. In accordance with Condition L3.2, where meteorological conditions exceed those specified in Condition L3.2, the EPL limits for these periods are those listed in Condition L3.1 plus 5 dB.

## 5 Conclusion

EMM has completed a review of operational noise from the KLF Holdings Camelia site for Quarter 1, 2022.

Attended noise monitoring was conducted during the day, evening and night periods on 20 and 21 April 2022. The applicability of noise limits was assessed with reference to weather data from the BoM's Sydney Olympic Park AWS.

The site was operational during all day and night period attended measurements. The site was not operational during the evening.

Attended noise monitoring observations and results demonstrate that operational noise from the site was audible during all attended measurements. Site contributions were demonstrated to be compliant during most of the 24 samples captured at residences. Some exceedances of the EPL noise limits by 1-2 dB were found on one daytime and two of the eight night-time measurements. A 1 to 2 dB exceedance is considered by the EPA as negligible in accordance with Section 4.2 of the NPfI (EPA 2017).

Maximum  $L_{Amax}$  noise events measured from the site were largely compliant with the EPL  $L_{Amax}$  noise limits during attended measurements at night. These exceedances were due to "bangs" and "clangs" from the site excavator handling material. While the measurement results demonstrate an exceedance of the EPL  $L_{Amax}$  limits, the events causing the exceedance were infrequent. However they occurred four times of the eight night measurements with an exceedance of 2, 3 or 6 dB. The highest  $L_{Amax}$  value recorded was 65 dB which is considered unlikely to awaken people from sleep according to the RND (EPA 2011).

# Glossary

Several technical terms are discussed in this report. These are explained in Table G.1.

**Table G.1**      **Glossary of acoustic terms**

Term	Description
dB	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.
L <sub>A1</sub>	The 'A-weighted' noise level which is exceeded 1% of the time.
L <sub>A1,1 minute</sub>	The 'A-weighted' noise level exceeded for 1% of the specified time period of 1-minute.
L <sub>A10</sub>	The 'A-weighted' noise level which is exceeded 10% of the time. It is approximately equivalent to the average of maximum noise level.
L <sub>A90</sub>	Commonly referred to as the background noise level. The 'A-weighted' noise level exceeded 90% of the time.
L <sub>Aeq</sub>	The energy average noise from a source. This is the equivalent continuous 'A-weighted' sound pressure level over a given period. The L <sub>Aeq,15 minute</sub> descriptor refers to an L <sub>Aeq</sub> noise level measured over a 15--minute period.
L <sub>Amin</sub>	The minimum 'A-weighted' noise level received during a measuring interval.
L <sub>Amax</sub>	The maximum root mean squared 'A-weighted' sound pressure level (or maximum noise level) received during a measuring interval.
L <sub>Ceq</sub>	The equivalent continuous 'C-weighted' sound pressure level over a given period. The L <sub>Ceq,15 minute</sub> descriptor refers to an L <sub>Ceq</sub> noise level measured over a 15-minute period. C-weighting can be used to measure low frequency noise.
Day period	Monday – Saturday: 7 am to 6 pm, on Sundays and Public Holidays: 8 am to 6 pm.
Evening period	Monday – Saturday: 6 pm to 10 pm, on Sundays and Public Holidays: 6 pm to 10 pm.
Night period	Monday – Saturday: 10 pm to 7 am, on Sundays and Public Holidays: 10 pm to 8 am.
Temperature inversion	A meteorological condition where the atmospheric temperature increases with altitude.
Vibration Dose Value (VDV)	Vibration Dose is a parameter that combines the magnitude of vibration and the time for which it occurs. VDV is a cumulative measurement of the vibration level received over a 15-hour or 9-hour period (Day and night).

It is useful to have an appreciation of the decibel (dB), the unit of noise measurement. Table G.2 gives an indication as to what an average person perceives about changes in noise levels in the environment. Examples of common noise levels are provided in Figure G.1.

**Table G.2**      **Perceived change in noise**

<b>Change in sound pressure level (dB)</b>	<b>Perceived change in noise in surrounding environment</b>
up to 2	not perceptible
3	just perceptible
5	noticeable difference
10	twice (or half) as loud
15	large change
20	four times (or quarter) as loud

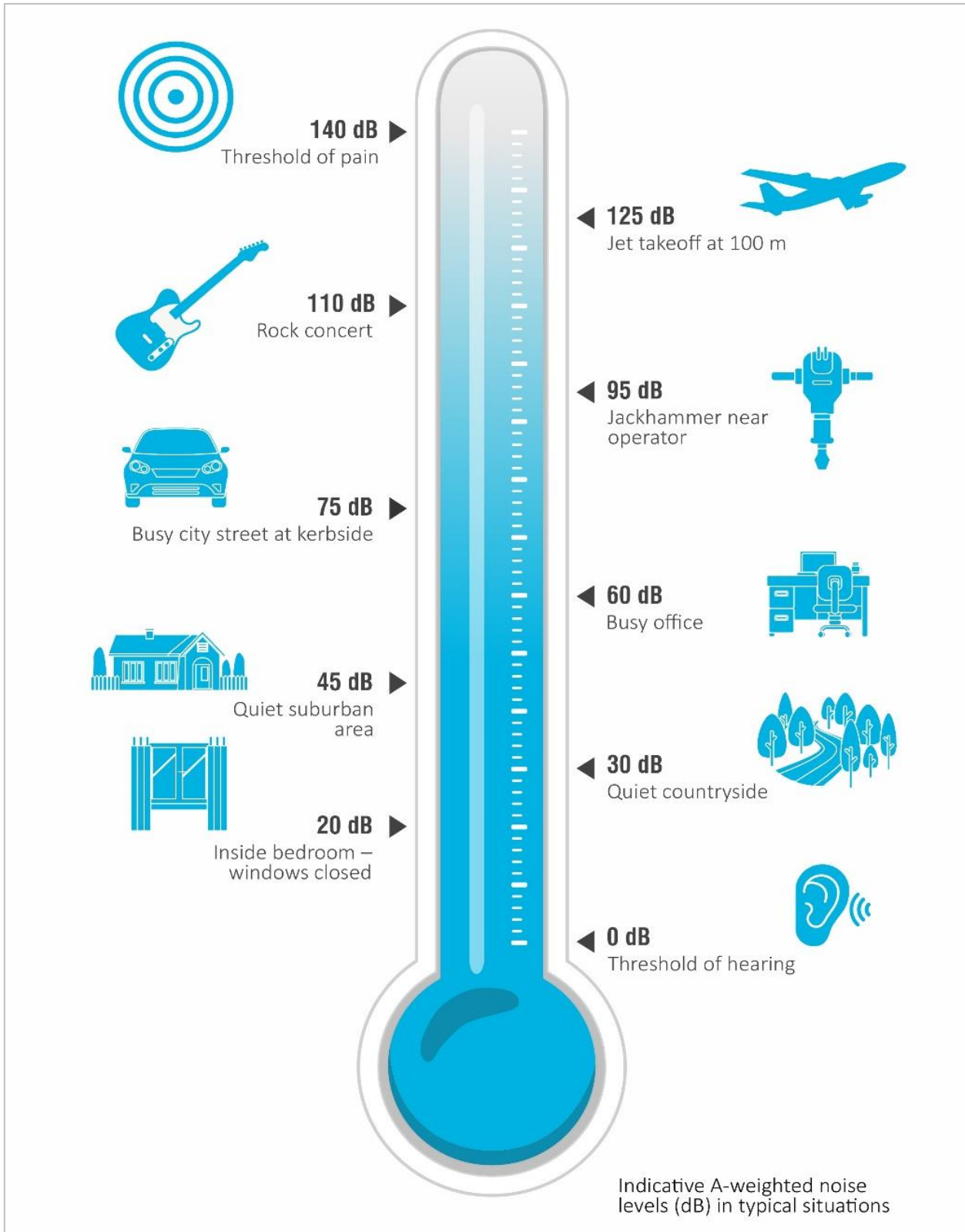
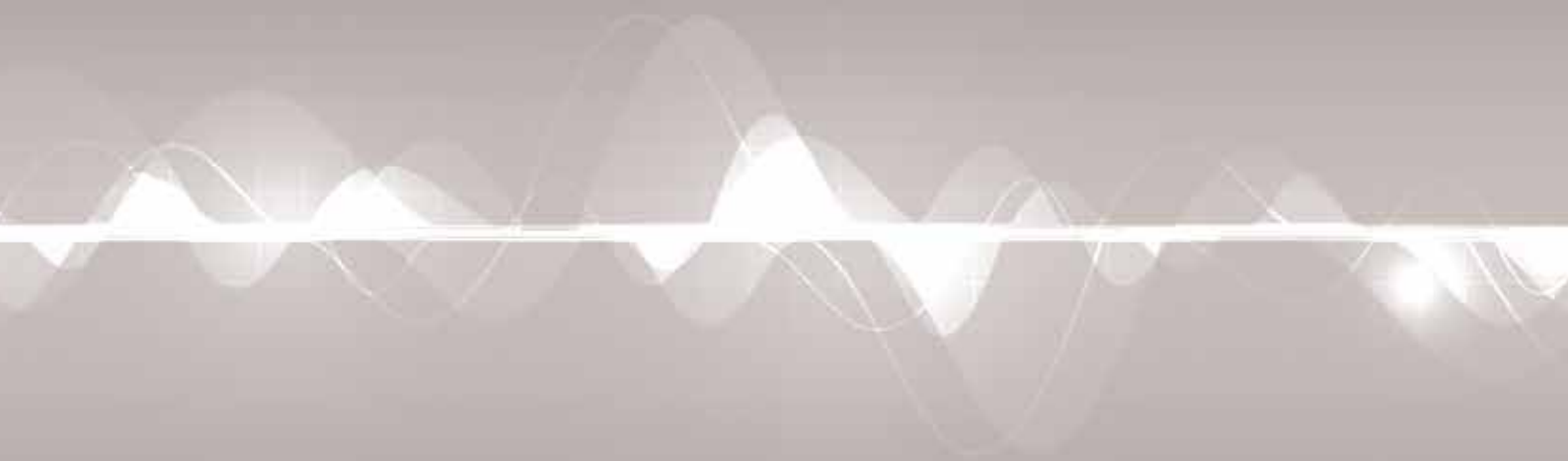


Figure G.1 Common noise levels

# Appendix A

---

EPL 12700



# Environment Protection Licence

Licence - 12700

the exception of the maximum threshold values for contaminants specified in the 'Other Limits' column

Petroleum Hydrocarbons C6-C9 150mg/kg; Petroleum Hydrocarbons C10-C36 1600mg/kg; Polycyclic aromatic hydrocarbons 80mg/kg; Polychlorinated biphenyls (individual) 1mg/kg. No Acid Sulfate Soil or Potential Acid Sulfate Soil is to be received at the Premises. Soil thresholds will be subject to review from time to time.

- L2.2 The height of any stockpile of waste or any processed substance must not exceed four (4) metres.
- L2.3 The licensee must install and maintain a visible permanent stockpile marker that shows the permitted height of stockpiles, being four metres.
- L2.4 The authorised amount of waste permitted on the premises cannot exceed 6,500 tonnes at any one time.
- L2.5 Any waste that is not listed in table L2.1, including asbestos waste, that is found after receipt at the premises must be:
- stored in an isolated and appropriately sign-posted area;
  - removed from the premises within one business day of receipt of the non-conforming waste to a place that can lawfully accept that type of waste; and
  - details (date, amount, type of waste, disposal location, disposal dated) must be logged in a register that is kept at the premises.

## L3 Noise limits

- L3.1 Noise generated at the premises must not exceed the noise limits (in dB(A)) at the times and locations in table below.

Location	Day	Evening	Night	Night
-	LAeq(15 minute)	LAeq(15 minute)	LAeq(15 minute)	LAFmax
523-530 John Street Rydalmere	50	48	43	59

# Environment Protection Licence

Licence - 12700

28 & 30 Sylvia Street Rydalmere, 33 Nowill Street Rydalmere	50	48	43	59
37-45 John Street Rydalmere	50	48	43	59
22 & 24 Milton Street Rydalmere, 33 & 35 John Street Rydalmere	50	48	43	59

## L3.2 Noise-enhancing meteorological conditions

- The noise limits set out in condition L3.1 apply under the meteorological conditions listed in table below.
- For those meteorological conditions not referred to in condition L3.2(a) table, the noise limits that apply are the noise limits in condition L3.1 table plus 5dB.

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level
Evening	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level
Night	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level; or Stability category E and F with wind speeds up to and including 2m/s at 10m above ground level.

## L3.3 For the purpose of condition L3.1;

- Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.
- Evening means the period from 6pm to 10pm.
- Night means the period from 10pm to 7am Monday to Saturday and the period from 10pm to 8am Sunday and public holidays.

## L3.4 For the purposes of condition L3.2:

- The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station identified as Bureau of Meteorology AWS at Sydney Olympic Park, NSW (Station no 066212).
- Stability category shall be determined using the following method from Fact Sheet D of the *Noise Policy for Industry* (NSW EPA, 2017):
  - Use of sigma-theta data (section D1.4).

## L3.5 Noise measurements must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

## L3.6 To assess compliance:



# Environment Protection Licence

Licence - 12700

a) with the LAeq(15mins) and LAmax noise limits in condition L3.1 and L3.2, the noise measurement equipment must be located:

(i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to the premises; or where applicable,

(ii) in an area within 30 metres of a residence façade, but not closer than 3 metres where any residence on the property is situated more than 30 meters from the property boundary closest to the premises; or, where applicable,

(iii) in an area within 50 metres of the boundary of a National park or a Nature Reserve,

(iv) at any other location identified in condition L3.1.

b) with the LAeq(15 minutes) or the LAmax noise limits in condition L3.1 and L3.3, the noise measurement equipment must be located:

(i) at the reasonably most affected point at a location where there is no residence at the location; or,

(ii) at the reasonably most affected point within an area at a location prescribed by condition L3.5(a).

L3.7 A non-compliance of conditions L3.1 and L3.2 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the receiver locations referred to in conditions L3.6(a) or L3.6(b).

NOTE to Conditions L3.6 and L3.7. The reasonably most affected point is a point at a receiver location or within an area at a receiver location experiencing or expected to experience the highest sound pressure level from the premises.

L3.8 For the purposes of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

Note: **Definition of Terms for noise limits**

- Noise Policy for Industry - the document entitled "*Noise Policy for Industry*" published by the NSW Environment Protection Authority in October 2017.

- Noise – 'sound pressure levels' for the purposes of conditions L3.1 to L3.8.

- LAeq (15 minute) - the value of the A-weighted sound pressure level of a continuous steady sound that, over a 15 minute time interval, has the same mean square sound pressure level as a sound under consideration with a level that varies with time (Australian Standard AS 1055:2018 *Acoustics: description and measurement of environmental noise*).

- LAFmax – the maximum sound pressure level of an event measured with a sound level meter satisfying Australian Standard AS IEC 61672.1-2013 *Electroacoustics - Sound level meters - Part 1: Specifications* set to 'A' frequency weighting and fast time weighting.

## L4 Hours of operation

L4.1 The hours of operation of the use of the premises is permitted 24 hours per day, Monday to Sunday, except those activities restricted by conditions L4.2 to L4.8.

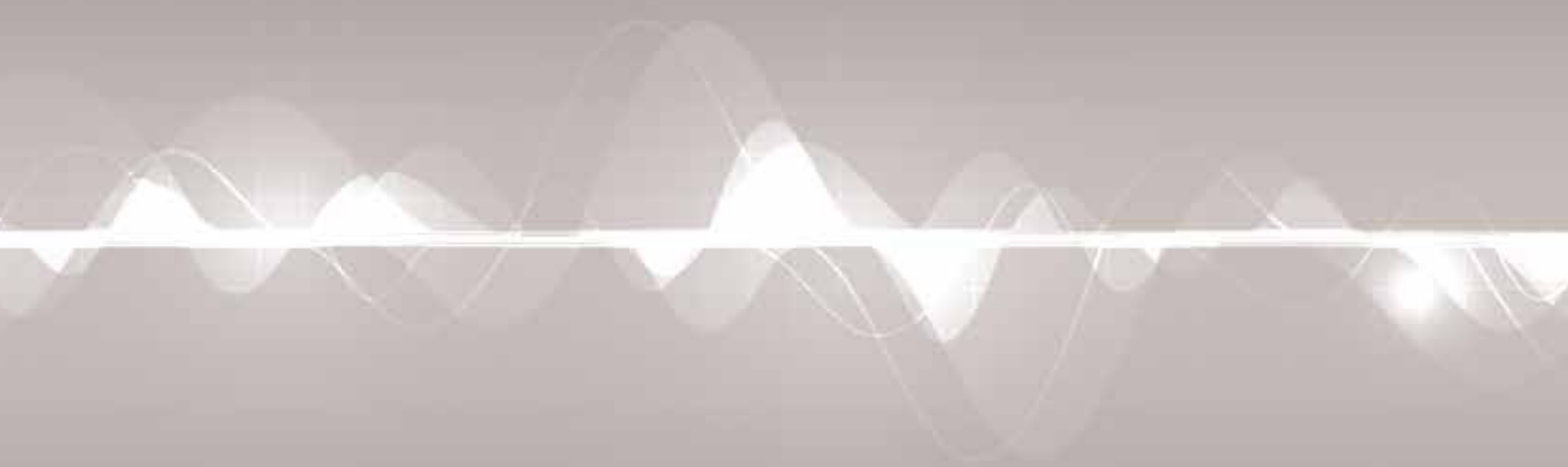
### L4.2 **Truck Movement**

Between 10pm to 7am: A maximum of 8 truck movements per hour are permitted to deposit waste material on the premises.

# Appendix B

---

Calibration certificates





# CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM 30138**

**EQUIPMENT TESTED:** Sound Level Meter

**Manufacturer:** B & K

**Type No:** 2250

**Mic. Type:** B&K 4189

**Pre-Amp. Type:** ZC0032

**Serial No:** 3008201

**Serial No:** 2888134

**Serial No:** 16037

**Filter Type:** 1/3 Octave

**Test No:** FILT 6597

**Owner:** EMM Consulting

Ground Floor, Suite 01, 20 Chandos St  
St Leonards NSW 2065

**Tests** IEC 61672-3:2013,

**Performed:** IEC 1260:1995, & AS/NZS 4476:1997

**Comments:** All Test passed for Class 1. (See overleaf for details)

## CONDITIONS OF TEST:

**Ambient Pressure** 1001 hPa  $\pm 1$  hPa

**Temperature** 22  $^{\circ}\text{C} \pm 1^{\circ}\text{C}$



**Relative Humidity** 36 %  $\pm 5\%$

**Date of Receipt :** 23/07/2021

**Date of Calibration :** 26/07/2021

**Date of Issue :** 26/07/2021

**Acu-Vib Test Procedure:** AVP10 (SLM) & AVP06 (Filters)

**CHECKED BY:**  **AUTHORISED SIGNATURE:** 

*Hein Soe*

Accredited for compliance with ISO/IEC 17025 - Calibration  
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.



WORLD RECOGNISED  
ACCREDITATION

Accredited Lab No. 9262  
Acoustic and Vibration  
Measurements

  
**Acu-Vib Electronics**  
CALIBRATIONS SALES RENTALS REPAIRS

Head Office & Calibration Laboratory  
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154  
(02) 9680 8133  
www.acu-vib.com.au



# CERTIFICATE OF CALIBRATION

CERTIFICATE NO: C30881

EQUIPMENT TESTED : Sound Level Calibrator

Manufacturer: Svantek  
Type No: SV-36 Serial No: 86311  
Owner: EMM Consulting  
Suite 01, 20 Chandos St  
St Leonards NSW 2065

Tests Performed: Measured Output Pressure level, Frequency & Distortion  
Comments: See Details overleaf. All Test Passed.

Parameter	Pre-Adj	Adj Y/N	Output: (dB re 20 µPa)	Frequency (Hz)	THD&N (%)
Level1:	NA	N	94.05 dB	999.99 Hz	1.00 %
Level2:	NA	N	114.05 dB	999.99 Hz	1.00 %
Uncertainty			±0.11 dB	±0.05%	±0.20 %

Uncertainty (at 95% c.l.) k=2

#### CONDITION OF TEST:

Ambient Pressure 1002 hPa ±1 hPa Date of Receipt : 20/10/2021  
Temperature 23 °C ±1° C Date of Calibration : 20/10/2021  
Relative Humidity 41 % ±5% Date of Issue : 20/10/2021

Acu-Vib Test AVP02 (Calibrators)  
Procedure: Test Method: AS IEC 60942 - 2017

CHECKED BY:  AUTHORISED SIGNATURE:   
*Jack Kiehl*

Accredited for compliance with ISO/IEC 17025 - Calibration  
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.  
The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.



WORLD RECOGNISED  
ACCREDITATION

Accredited Lab No. 9262  
Acoustic and Vibration  
Measurements

  
**Acu-Vib Electronics**  
CALIBRATIONS SALES RENTALS REPAIRS

Head Office & Calibration Laboratory  
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154  
(02) 9680 8133  
www.acu-vib.com.au



