

Our Ref: 21963_R13_BPS_2024.docx

12 July 2024

Ben Crawford Independent Cement & Lime Group 750 Lorimer St, Port Melbourne Victoria 3207

E bcrawford@indcem.com.au

Dear Ben

Re: 2024 Annual Environmental Noise Monitoring – Building Product Services

Umwelt has completed 2024 Annual Environmental Attended Noise Monitoring for Building Product Services (BPS), Kembla Grange to satisfy BPS's Environment Protection Licence (EPL) 20747 requirements.

This report presents the results of noise monitoring carried out on 8 and 9 July 2024. The purpose of attended noise surveys is to quantify and describe the ambient noise environment in the region surrounding BPS and to estimate the BPS contribution to the ambient noise levels. Meteorological conditions present at the time of monitoring and the measured BPS noise levels are compared to criteria outlined in EPL20747.

Noise monitoring methodology

The compliance assessment methodology includes the following activities:

- Attended noise monitoring measurements, of fifteen-minute duration, at monitoring locations to measure the ambient noise levels in the surrounding region and to assess the BPS contribution (reported as an LAeq, 15 minute measurement) to the measured noise levels.
- Comparison of the BPS LAeq, 15 minute contribution with the relevant EPL LAeq, 15 minute noise criteria to assess compliance of BPS operations.
- Comparison of the BPS LAF,Max night-time attended noise monitoring results with the night-time LAF,Max criteria outlined in the EPL.

Attended noise monitoring for BPS was conducted in accordance with the NSW Environment Protection Authority (EPA) *Noise Policy for Industry* (NPfI, 2017), *Approved methods for the measurement and analysis of environmental noise in NSW* (EPA, 2022) and the Australian Standard *AS1055:2018, Acoustics – Description and Measurement of Environmental Noise*. Inspired People Dedicated Team Quality Outcomes

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During the attended monitoring sessions, noise measurements were taken with a SVAN 958A Precision Integrating Sound Level Meter (Serial Number 59838) which was calibrated on-site using a Type SV-36, Svantek Sound Level Calibrators (Serial Number 90124). The noise meter was run using three measurement profiles, Z Weighting (linear), C Weighting and A Weighting and records A-weighted 1/3 octave noise levels at 10th of a second intervals over a 15-minute measurement period.

During the attended monitoring sessions, the operator maintained a log of noise-related events that occurred and contributed to the ambient noise environment. Particular attention and note were made for contributions associated with BPS operations.

Attended noise monitoring data and results recorded include:

- The LAeq,15minute, LA10,15minute and LA90,15minute noise levels of the ambient acoustic environment for each 15-minute measurement period.
- The recorded A-weighted 1/3 octave noise levels at 10th of a second intervals over each 15-minute measurement period.
- The results of a 1000 Hz low pass filter at 10th of a second intervals over each 15-minute measurement period.
- An assessment of the maximum LAFmax noise level recorded over each 15-minute measurement period.
- Operator comments regarding any extraneous noise sources contributing to the ambient noise levels.

EPL20747 identifies three noise monitoring locations, which are shown in **Figure 1**. EPL20747 calls for monitoring to be carried out during the day, evening and night period as defined in the Noise Policy for Industry for a minimum of two (2) of the residential locations and one (1) near-field location.

The noise criteria specified in EPL20747 for three residential locations, NML1, NML2 and NML3 are described in **Table 1**.

Table 1 Noise Criteria, dB(A)

Time of d	ay	Parameter	Noise Level
Day	7 am-6 pm Monday -Saturday 8 am-6 pm Sunday & Public Holidays)	LAeq(15minute)	46
Evening	6 pm – 10 pm	LAeq(15minute)	43
Night	10 pm to commencement of day period	LAeq(15minute)	40
		LAFmax	52

Source: EPL20747



- 🔲 BPS Kembla Grange Site
- Near Field Monitoring Location
- EPL Monitoring Location EPA Kembla Grange Air Quality Monitoring Station (526)

FIGURE 1 Location Figure



The noise criteria in Table 1 apply under the following meteorological conditions:

- Day Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Evening Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Night Stability categories A, B, C, 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.

For those meteorological conditions not referred to above the noise limits include a plus 5dB allowance.

Identification of suitable meteorological conditions

Umwelt aims to conduct compliance monitoring during meteorological conditions where criteria will apply. Publicly available weather forecasts, such as Weatherzone and the Bureau of Meteorology's (BOM's) synoptic charts and Meteye forecasts are reviewed and periods of low wind speeds and no rain are selected for monitoring. It is noted that inversion conditions can occur during periods of low wind speeds. Therefore, preferentially targeting calm periods may inadvertently result in the monitoring being undertaken during inversion conditions. During strong inversion conditions, the noise criteria include a 5 dB allowance and the value of the noise monitoring process is potentially diminished. The 5 dB allowance also applies to periods when the wind speed exceeds those nominated above (as per EPL20747).

Additionally, local radars may be checked immediately prior to monitoring to confirm the absence of rain or storms during summer months. Based on the forecast prevailing meteorological conditions, monitoring was conducted at NM1 and NM2 as well as an additional near-field location on Sylvester Avenue, Unanderra.

Meteorological conditions during monitoring were determined from meteorological data obtained from the EPA Kembla Grange Air Quality Monitoring Station (Station ID 526). Averaged data was available in one-hour intervals. Stability categories present during monitoring were determined using the method from Fact Sheet D of the NPfl using the sigma theta data to estimate the Pasquill-Gifford stability category, as outlined in Section D1 of the NPfl, as specified in EPL20747.

The July 2024 attended noise monitoring results in **Table 2** and **Table 3** for NML1 and NML2 respectively include:

- The noise criteria for each monitoring location (for the period when the measurement was taken).
- The estimated noise contribution from BPS.
- Whether the meteorological conditions include a plus 5 dB allowance.
- Whether BPS is complying with the noise criteria at the time of monitoring.

At times, the contribution of BPS to total measured noise levels can only be estimated due to the presence of other more dominant noise sources. In these circumstances, the estimated contribution of BPS is determined during lulls of extraneous noise, such as wind or road traffic noise. Additionally, the near field monitoring conducted at Sylvester Avenue assists in determining the contribution of BPS noise levels in the acoustic environment.



Results in **Table 2** for NML1, Orana Parade, note that BPS was inaudible during all day period measurements. This was largely due to the masking effect of road traffic noise and, at times, nearby construction noise continuum. Background noise data was used to confirm that measured noise levels in the frequencies expected from BPS were below the noise limit. These levels have been used to estimate a day period noise level for BPS at NML1 Orana Parade to confirm compliance, even though BPS operations were noted as inaudible by noise monitoring personnel.

Further details on the operator comments regarding any extraneous noise sources contributing to the ambient noise levels during the evening and night time monitoring period can be found in **Appendix A** for NML1 and in **Appendix B** for NML2 as notated run charts. Noise levels over the fifteen-minute period are presented in terms of an overall all pass noise level and the low pass level showing the noise level up to and including 1000 Hz is also shown.

The meteorological conditions present during each measurement interval are presented in Table 4.

Calibration certificates for the sound and vibration analyser and sound level calibrator used are provided in **Appendix C**.



	Start Date	Amt Noise	pient Levels		Estimated ¹	BPS Contr	ibution and	Criteria, dB(A)			
Period	and Time of 15 min period	of EPL EPL Criteria LAeq, 15min LAeq, 15min LAeq, 15min LAeq, 15min Criteria LAeq, 15min L		BPS Complies (Yes/No)	Comments						
Day	08/07/2024 15:30	56	61	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Princes Highway (highway). BPS was inaudible during the measurement. A raw material truck was observed on the BPS site. The FEL working on site was inaudible. Other sources included a passing freight train, birds, noise from a nearby industrial area local traffic.	
Day	08/07/2024 15:47	56	60	46	<40	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was inaudible during the measurement. Other sources included a train horn, some wind noise, birds and local traffic.	
Day	08/07/2024 16:04	57	60	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was inaudible during the measurement. Other sources included local traffic, train noise and birds.	
Day	08/07/2024 16:19	55	59	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible during the measurement. Other sources included wind gusts and insects.	
Day	08/07/2024 17:10	55	59	46	IA	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was inaudible during the measurement. Other sources included local traffic.	

Table 2 Quarter 4 2023 Attended Noise Monitoring Results – NML1 Orana Parade



	Start Date	Amt Noise	oient Levels		Estimated ¹	ted ¹ BPS Contribution and Criteria, dB(A)					
Period	and Time of 15 min period	LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments	
										The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway.	
Day	08/07/2024 17:25	52	58	46	< 45	-	-	0 dB	Yes	BPS was just audible during the measurement during lulls in the road traffic noise	
	17.25									Other sources included local traffic, industrial noise from the north, and noise from a passenger train and a freight train.	
										The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway.	
Evening	08/07/2024 21:15	024 48 55	48 55	55 4	43	< 40	-	-	0 dB	Yes	The BPS plant was inaudible during the measurement, but the FEL was audible scraping the bucket on the ground.
										Other sources noted during the measurement included train noise (freight and passenger), local traffic and distant traffic on the Motorway	
										The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway.	
Evening	08/07/2024	43	52	43	< 40	-	-	0 dB	Yes	BPS was audible even during lulls in traffic noise.	
	21.50									Other sources noted during the measurement included a freight train, local traffic and distant traffic on the Motorway.	
							< 40			The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway.	
Night	08/07/2024 22:00	08/07/2024 22:00 44	/07/2024 22:00 44 56	56	56 40	< 40	52	No specific event	0 dB	Yes	BPS was just audible in the background of the measurement as the dust collector fan discharge continuum.
							noted			Other sources noted during the measurement included train noise, insects and frogs, and the railway crossing bells.	



	Start Date	Ambient Noise Levels			Estimated ¹	BPS Conti	ribution and	Criteria, dB(A)		
Period	and Time of 15 min period	LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Night	08/07/2024 22:15	44	54	40	< 40	52	44 Dust collector pulse	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was just audible in the background of the measurement as the dust collector fan discharge continuum. The dust collector pulse was just audible during lulls in traffic noise. Other sources noted during the measurement included local traffic, tyre squeal noise and train noise.
Night	08/07/2024 22:30	40	52	40	< 40	52	44 Dust collector pulse	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was audible in the background of the measurement as the dust collector fan discharge continuum. The dust collector pulse was just audible during lulls in traffic noise. Other sources noted during the measurement included insects and frogs, local traffic, and distant traffic from the Motorway.
Night	08/07/2024 22:45	41	52	40	< 40	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway. BPS was audible in the background of the measurement as the dust collector fan discharge continuum. Other sources noted during the measurement included insects and frogs, local traffic, and distant traffic from the Motorway.

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.

2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).

3. See **Table 4** for specific meteorological data during the monitoring period.

4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.



Ambient Noise Estimated¹ BPS Contribution and Criteria, dB(A) Levels Start Date Period and Time of Comments Met ^{2,3,4} EPL EPL BPS BPS BPS 15 min period LA90, LAeq, criteria criteria Allowance Complies LAeq,15min¹ LAFmax¹ 15min 15min LAFmax (0dB/+5dB)(Yes/No) LAeq,15min The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. 09/07/2024 Day 46 49 0 dB 46 IA Yes 07:15 BPS was inaudible during the measurement. Other sources included birds and industry to the north. The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. 09/07/2024 47 50 IA 0 dB Day 46 Yes 07:30 BPS was inaudible during the measurement. Other sources included birds and industry to the north. The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. 09/07/2024 Day 47 51 46 IA 0 dB Yes 07:45 BPS was inaudible during the measurement. Other sources included birds and industry to the north. The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. 09/07/2024 45 49 IA 0 dB Day 46 Yes 08:00 BPS was inaudible during the measurement. Other sources included birds and industry to the north.

Table 3 Quarter 4 2023 Attended Noise Monitoring Results – NML2 Farmborough Road



	Start Date	ate e of eriod LA90, LAeq, 15min 15m								
Period	and Time of 15 min period			EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Day	09/07/2024 08:15	46	49	46	IA	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. BPS was inaudible during the measurement. Other sources included birds and industry to the north.
Day	09/07/2024 08:30	47	49	46	IA	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic. BPS was inaudible during the measurement. A cement tanker was observed on the BPS site. Other sources included birds and industry to the north.
Evening	08/07/2024 19:45	42	57	43	IA	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by insects and road traffic noise from the highway and local traffic. BPS was inaudible during the measurement. Other sources included birds and industry to the north and distant traffic from the motorway.
Evening	08/07/2024 20:00	43	52	43	IA	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by insects and road traffic noise from the highway and local traffic. BPS was inaudible during the measurement. Other sources included birds and industry to the north and distant traffic from the motorway.



	Start Date	Ambient Noise Levels			Estimated	¹ BPS Con	tribution and			
Period	and Time of 15 min period	LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Night	08/07/2024 23:15	34	49	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic and insects. BPS was just audible during lulls in traffic. Other sources included industry to the north and distant traffic from the motorway
Night	08/07/2024 23:30	35	52	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic and insects. BPS was just audible during lulls in traffic. Other sources included industry to the north and distant traffic from the motorway
Night	08/07/2024 23:45	37	50	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic and insects. BPS was just audible during lulls in traffic. Other sources included industry to the north and distant traffic from the motorway
Night	09/07/2024 00:00	37	50	40	< 35	52	< 40 No specific event noted	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway and local traffic and insects. BPS was just audible during lulls in traffic. Other sources included industry to the north and distant traffic from the motorway

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.

2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).

3. See **Table 4** for specific meteorological data during the monitoring period.

4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.



		Meteorolog	ical Assessment	ring Period ^{1,2}	Includes	
EPL Id	Start Date and Time of 15 min period	Rain (mm)	Avg. Wind Speed @ Mic. ³ (m/s)	Avg. Wind Speed @ 10m (m/s)	Atmospheric Stability Category (ASC)	Meteorological Allowance ^{4,} (0dB/+5dB)
NML1	08/07/2024 15:30	0	< 5	3.3	D	+ 5 dB
NML1	08/07/2024 15:47	0	< 5	3.3	D	+ 5 dB
NML1	08/07/2024 16:04	0	< 5	3.9	D	+ 5 dB
NML1	08/07/2024 16:19	0	< 5	3.9	D	+ 5 dB
NML1	08/07/2024 17:10	0	< 5	2.5	D	0 dB
NML1	08/07/2024 17:25	0	< 5	2.5	D	0 dB
NML1	08/07/2024 21:15	0	< 5	0.4	D	0 dB
NML1	08/07/2024 21:30	0	< 5	0.4	D	0 dB
NML1	08/07/2024 22:00	0	< 5	1.1	F	0 dB
NML1	08/07/2024 22:15	0	< 5	1.1	F	0 dB
NML1	08/07/2024 22:30	0	< 5	1.1	F	0 dB
NML1	08/07/2024 22:45	0	< 5	1.1	F	0 dB
NML2	09/07/2024 07:15	0	< 5	1.5	D	0 dB
NML2	09/07/2024 07:30	0	< 5	1.5	D	0 dB
NML2	09/07/2024 07:45	0	< 5	1.5	D	0 dB
NML2	09/07/2024 08:00	0	< 5	1.7	D	0 dB
NML2	09/07/2024 08:15	0	< 5	1.7	D	0 dB
NML2	09/07/2024 08:30	0	< 5	1.7	D	0 dB
NML2	08/07/2024 19:45	0	< 5	0.5	F	0 dB
NML2	08/07/2024 20:00	0	< 5	2.1	D	0 dB
NML2	08/07/2024 23:15	0	< 5	2.8	D	0 dB
NML2	08/07/2024 23:30	0	< 5	2.8	D	0 dB
NML2	08/07/2024 23:45	0	< 5	2.8	D	0 dB
NML2	09/07/2024 00:00	0	< 5	2.4	F	+ 5 dB

Table 4 Meteorological Conditions During Attended Monitoring

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.

2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).

3. Wind speed at microphone height was determined by the operator.

4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.



Night-time Compliance Assessment at NML1 - Orana Parade

The contribution of BPS to the acoustic environment at monitoring location NML1 was assessed for modifying factors due to tonal and low frequency noise observed during lulls in the night-time traffic.

The one-third octave noise levels monitored at NML1 - Orana Parade for the night-time period is presented in **Appendix A**. The estimated BPS source contribution at monitoring location NML1 was 39 dB(A) and did not attract a modifying factor penalty.

Near-field Monitoring

To investigate the contribution of BPS noise levels to the acoustic environment at the monitoring locations near-field monitoring was undertaken to the north of BPS at Sylvester Avenue during the evening period.

Figure 2 shows a run chart of two frequency band noise levels used to investigate the frequency and time stamps of the two air pulse discharge sounds observed at the near-field monitoring location at Sylvester Avenue. The run-chart shows two air pulse discharge sounds operating to different time sequences and producing different frequency noises.





The higher frequency sound in **Figure 2** comes from a dust collector air pulse system operating on 13.4 second cycle time producing a noise in the 5,000 to 8,000Hz range. The pulse sound is between 45 to 50 dB(A) when measured at Sylvester Avenue. It is not specifically audible at Orana Parade.

The lower frequency sound in **Figure 2** is operating on a 10 second cycle time producing a noise in the 2,000 to 2,500Hz range. The cycle time can vary from 8 seconds 15 seconds. The pulse sound is between 50 to 52 dB(A) when measured at Sylvester Avenue. The lower frequency pulse sound was observed at Orana Parade, but only during lulls in the night-time traffic noise. As the pulse sound is not clearly audible at Orana Parade it does not attract a modifying factor penalty as an intermittent noise.



Review of monitoring results

As has been previously reported, the cement tanker discharge blower system was found to be inaudible at NML1 and NML2.

It is recommended the lower frequency air pulse sound shown in **Figure 2** operating on the 10 second cycle time producing a noise 2000 to 2500Hz range noise is further investigated.

Statement of Compliance

The results of the July 2024 noise monitoring program have been assessed against the EPL 20747 noise criteria and the meteorological conditions identified in the license for BPS.

The July 2024 attended noise monitoring results show that BPS was compliant with the BPS EPL 20747 noise criteria for LAeq,15minute and LAFmax noise levels for all monitoring locations.

We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further details of the noise monitoring parameters recorded during this monitoring round.

Yours sincerely

Tim Procter Practice Lead – Acoustic Environment

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Day Monitoring Results for NML1, Orana Parade



Day Monitoring Results for NML1, Orana Parade





Day Monitoring Results for NML1, Orana Parade



Day Monitoring Results for NML1, Orana Parade







Day Monitoring Results for NML1, Orana Parade

Day Monitoring Results for NML1, Orana Parade





Evening Monitoring Results for NML1, Orana Parade



Evening Monitoring Results for NML1, Orana Parade





Night Monitoring Results for NML1, Orana Parade



Night Monitoring Results for NML1, Orana Parade





Night Monitoring Results for NML1, Orana Parade



Night Monitoring Results for NML1, Orana Parade







Analysis of the Contribution from Source to the Night Monitoring Results for NML1, Orana Parade

Analysis of the Modifying Factor for the Source to the Night Monitoring Results for NML1, Orana Parade





Attended Monitoring Run Charts NML2 – Farmborough Road



Day Monitoring Results for NML2, Farmborough Road



Day Monitoring Results for NML2, Farmborough Road





Observations ---- Recorded LA1,1min ---- Recorded LA10 ----- Recorded LAeg - Measured SPL 1000Hz Filter 100 95 90 85 Traffic on highway Local traffic Traffic on highway 80 raffic on highway Traffic on highway Truck on highway Cars on highway Cars on highway Train in distance Traffic on highwa raffic on highwi Truck on highwa Truck on highwa Car on highway Car on highway BPS Inaudibe Birds **BPS** Inaudibe Local traffic Birds Local traffic Local traffic cocal traffic Local traffic Local traffic 75 Measured SPL, dB(A) Birds Birds 70 65.2 65 60 55 52.2 51.0 50 46.7 45 40 35 07:45 07:46 07:47 07:48 07:49 07:50 07:51 07:52 07:53 07:54 07:55 07:56 07:57 07:58 07:59 08:00 Time 9 July 2024 - Farmborough Road

Day Monitoring Results for NML2, Farmborough Road

Day Monitoring Results for NML2, Farmborough Road





Day Monitoring Results for NML2, Farmborough Road



Day Monitoring Results for NML2, Farmborough Road







Evening Monitoring Results for NML2, Farmborough Road

Evening Monitoring Results for NML2, Farmborough Road







Night Monitoring Results for NML2, Farmborough Road

Night Monitoring Results for NML2, Farmborough Road





Measured SPL 1000Hz Filter Observations - · - · Recorded LA1,1min - · · - Recorded LA10 ------ Recorded LAeg ---- Recorded LA90 100 95 Dust collector fan in background Dust collector fan in background 90 Distant traffic on motorway Distant traffic on motorway Distant traffic Industial noise from north 85 Traffic on highway 80 + Insects & frogs + Insects & frogs Distant traffic Local traffic Local traffic Local traffic Local traffic Local traffic Local traffic 75 Measured SPL, dB(A) + Birds Birds Birds 70 65 + + 60 59.3 + 55 54.7 50 49.7 45 40 35 23:49 23:50 23:53 23:45 23:46 23:47 23:48 23:51 23:52 23:54 23:55 23:56 23:57 23:58 23:59 00:00

Time

Night Monitoring Results for NML2, Farmborough Road

Night Monitoring Results for NML2, Farmborough Road



8 July 2024 - Farmborough Road



CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM33564

EQUIPMENT TESTED: Sound & Vibration Analyser

Manufacturer:	Svantek			
Type No:	SVAN-958A		Serial No:	59838
Mic. Type:	7052E		Serial No:	71100
Pre-Amp. Type:	SV12L	-	Serial No:	73582
Filter Type:	1/3 Octave		Test No:	F033563

Umwelt (Australia) Pty Ltd **Owner:** 75 York Street Teralba, NSW 2284

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

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

Ambient Pressure Temperature **Relative Humidity**

993 hPa ±1 hPa 24 °C ±1° C 39 % ±5%

Date of Receipt : 22/08/2022 Date of Calibration : Date of Issue :

23/08/2022 24/08/2022

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters) CHECKED BY: .. **AUTHORISED SIGNATURE:**

Hein

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

Page 1 of 2 Calibration Certificate AVCERT10.14 Rev.2.0 14/04/2021

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: C36976

EQUIPMENT TESTED : Sound Level Calibrator

Manufacturer: Type No:		Svantek SV36 Serial No: 90124							
1		Teralba	NSW/ 2284		CV and and				
Tests Perfor	med:	Measure	d Output Pressure le	evel, Frequency 8	Distortion				
Comm	ents:	See Deta	ails overleaf. All Test	Passed.					
Parameter	Pre- Adj	Adj Y/N	Output: (dB re 20 µPa)	Frequency (Hz)	THD&N (%)				
Level1:	NA	N	93.99 dB	1000.03 Hz	0.63 %				
Level2:	NA	N	114.02 dB	1000.02 Hz	0.18 %				
Unce	ertainty	1	±0.11 dB	±0.05%	±0.20 %				
Incertainty (at	95% c.l	.) k=2	1	9	ON STREET				
CONDITION O Ambient Pro Temper Relative Hur	F TEST: essure rature nidity	1020 hl 23 °C 44 %	Pa±1 hPa D C±1º C Date 5±5%	Date of Receipt : of Calibration : Date of Issue :	01/08/2023 02/08/2023 03/08/2023				
Acu-Vib Test Procedure: CHECKED BY:		AVP02 (Calibrators) Test Method: AS IEC 60942 - 2017 AUTHORISED							
		NON CON	SIGNATURE:	Hei	n 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%.



ACCREDITATION Accredited Lab No. 9262 Acoustic and Vibration Measurements

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Page 1 of 2 Calibration Certificate AVCERT02.1 Rev.2.0 14.04.2021