

2 Lovell Road, Eastwood

## Compliance Noise Measurements

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Attention To	BKB Motor Vehicle Repairs

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## 1 INTRODUCTION

This report presents the results of unattended noise monitoring and attended noise measurements at the commercial development located at 2 Lovell Road, Eastwood to address the requirements of the *Directive to Take Preventive Action* for Lot 14 Sec 1 DP7076 issued by the City of Ryde Council dated 24<sup>th</sup> July 2020.

## 2 SITE DESCRIPTION AND OPERATION

### 2.1 SITE DESCRIPTION

The project site is located at 2 Lovell Road, Eastwood in close proximity to the intersection with Blaxland Road (Blaxland Road being a road carrying a high volume of traffic between 20,000 to 40,000 as indicated by the NSW RTA (now RMS) *Traffic Volume Maps for Noise Assessment for Building on Land Adjacent to Busy Roads*).

Land use surrounding the project site is predominantly residential, with the nearest affected residence being located along the eastern common boundary.

An aerial photo of the site indicating measurement locations, bounding roads and nearby receivers is presented in Figure 1 below.

### 2.2 CURRENT OPERATION



Acoustic Logic has been advised of the following operations conducted within the premises:

- Hours of operation are limited between 8:00am to 5:00pm on Monday to Saturday. No operation occurs on Sundays.
- Internal works are limited to general car servicing and tyre changes.
- Use of hand tools, limited use of powered hand tools (hand held drills) and single compressor within the shop at the rear of the building (internally).
- Bodywork/smash repairs and the like (panel beating) are not carried out on the premises. Vehicles that require this are moved to another location off-site.
- No works are carried out outside.
- No ventilation equipment serves the workshop.
- Roller door at the rear of the development is generally closed when the workshop is in use.





**Figure 1 – Site Map, Receivers and Proposed Measurement Locations**  
(Sourced from SixMaps NSW)

-  Unattended Noise Monitor
-  Attended Noise Measurements

-  Vehicle Repair Shop
-  Lot Boundary
-  Residential Receiver



### 3 COUNCIL DIRECTIVE

The City of Ryde *Directive to Take Preventive Action* states the following:

*The City of Ryde directs BKB Motor Vehicle Repairs Pty Ltd to take the following action:*

1. *Engage the services of an independent environmental consultant with ISO 14001 environmental certification to carry out a compliance audit at Lot 14, Sec 1, DP 7076, 2 Lovell Road, Eastwood, NSW, 2122 to identify potential non-compliance with the Protection of the Environment Operations Act 1997 (NSW).*
2. *The environmental consultant with ISO 14001 environmental certification shall submit a written report outlining recommendations to rectify any matters of non-compliance, in particular assessing the potential for water and the adequacy of panel beating and associated activities at Lot 14, Sec 1, DP 7076, 2 Lovell Road, Eastwood NSW 2122.*

#### **Background**

8. *That activity is being carried out in an environmentally unsatisfactory manner because there is the potential for noise, air and stormwater pollution as a result of activities currently being undertaken on the premises.*

The Protection of the Environment Act (POEA) does not provide specific noise goals, but instead prohibits the emission of "offensive noise". Offensive noise, as defined by the act is:

- a) *That, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances: (i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or (ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or;*
- b) *That is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.*

The general assessment indicator of noise impact is that where noise emissions are less than a "Background + 5dB(A)" noise level, there will be a minimal impact. A BG+5dB(A) noise goal is also equivalent to the NSW EPA *Noise Policy for Industry* "Intrusiveness" criterion.

At higher exceedances above background, the level of impact would need to be assessed based on a number of factors including the time at which noise occurs, the absolute noise level, characteristics of the noise, and how many receivers are affected by the noise.

Notwithstanding the above, we note the City of Ryde DCP also does not provide specific noise emission goals for the use of commercial development.

## 4 NOISE DESCRIPTORS

Ambient noise constantly varies in level from moment to moment, so it is not possible to accurately determine prevailing noise conditions by measuring a single, instantaneous noise level.

To quantify ambient noise, a 15 minute measurement interval is typically utilised. Noise levels are monitored continuously during this period, and then statistical and integrating techniques are used to characterise the noise being measured.

The principal measurement parameters obtained from the data are:

**$L_{eq}$**  - represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period.  $L_{eq}$  is important in the assessment of noise impact as it closely corresponds with how humans perceive the loudness of time-varying noise sources (such as traffic noise).

**$L_{90}$**  – This is commonly used as a measure of the background noise level as it represents the noise level heard in the typical, quiet periods during the measurement interval. The  $L_{90}$  parameter is used to set noise emission criteria for potentially intrusive noise sources since the disturbance caused by a noise source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the  $L_{90}$  level.

**$L_{10}$**  is used in some guidelines to measure noise produced by an intrusive noise source since it represents the average of the loudest noise levels produced at the source. Typically, this is used to assess noise from licenced venues.

**$L_{max}$**  is the highest noise level produced during a noise event, and is typically used to assess sleep arousal impacts from short term noise events during the night. It is also used to assess internal noise levels resulting from aircraft and railway ground vibration induced noise.

**$L_1$**  is sometimes used in place of  $L_{max}$  to represent a typical noise level from a number of high level, short term noise events.

## 5 NOISE MEASUREMENTS

Acoustic Logic has undertaken long-term unattended noise monitoring at the project site to establish background noise levels.

### 5.1 UNATTENDED NOISE MONITORING

Unattended noise monitoring was conducted using two Acoustic Research Laboratories Pty Ltd noise loggers. The loggers were programmed to store 15-minute statistical noise levels throughout the monitoring period. The equipment was calibrated at the beginning and the end of the measurement period using a Rion NC-73 calibrator; no significant drift was detected. All measurements were taken on A-weighted fast response mode.

Unattended noise monitoring was conducted from Friday 13<sup>th</sup> May 2022 to Monday 23<sup>rd</sup> May 2022.

The NSW EPA's RBL assessment procedure requires determination of background noise level for each day (the ABL) then the median of the individual days as set out for the entire monitoring period. Appendix A and B provides detailed results of the unattended noise monitoring. The processed Rating Background Noise Levels (lowest 10<sup>th</sup> percentile noise levels during operation time period) are presented in the table below.

Weather data was obtained from records provided by the Bureau of Meteorology for the weather station located at Sydney Olympic Park.

**Table 1 -Unattended Noise Monitoring RBL Results**

<b>Monitor Location</b>	<b>Time of Day</b>	<b>Rating Background Noise Level dB(A)L<sub>90(period)</sub></b>
M1 - 2 Lovell Road, Eastwood, Western Boundary facing Lovell Road	Day	51
	Evening	49
	Night	37
M2 – 2 Lovell Road, Eastwood, Western Boundary at rear of development	Day	39
	Evening	39
	Night	32

The NPfI day, evening and night periods are defined as

- Day - period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- Evening - the period from 6 pm to 10 pm
- Night - the remaining periods



## 5.2 ATTENDED NOISE MEASUREMENTS

Acoustic Logic has undertaken attended noise measurements on Monday 23<sup>rd</sup> May 2022 during workshop operation. We are instructed that the activities conducted at the time were typical. This included:

- Compressor running at the rear of shop.
- Shop worker conducting car servicing. Included use of hand tools and battery powered hand-held drill.

During this time, the average noise level within the shop was 60dB(A). Measured and predicted noise levels are summarised in the table below. We note the rear roller door was closed at the time of the measurements. None of the noise sources measured at the boundary were assessed as requiring modifying factor adjustment in accordance with the EPA Noise Policy for Industry.

**Table 2 – Attended Noise Measurement Results**

<b>Measurement Location</b>	<b>Measured Noise Level dB(A)<math>L_{eq}(15min)</math></b>	<b>Criteria Noise Level dB(A)<math>L_{eq}(15min)^{(2)}</math></b>	<b>Comment</b>
Eastern Boundary (rear of development)	< 34 <sup>(1)</sup>	BG + 5 = 39 + 5 = 44	Complies with BG + 5 noise goal.
Eastern Boundary (front of development)	Shop activity was not audible at an ambient noise level of 60dB(A) $L_{90}$ indicating the intrusive level is at least 10 dB(A) lower, or not exceeding 50dB(A).	BG + 5 = 51 + 5 = 56	Complies with BG + 5 noise goal.

**Table Note:**

1. Noise level predicted based on attended noise measurements at the property boundary. Access to the residential development was not available at the time of the measurement. A solid Colorbond fence runs along the eastern boundary, providing a 7 dB(A) barrier to the adjacent residential receiver and the tabled noise level includes this attenuation.
2. BG+5 criterion based on background noise level during the hours of use.

## 5.3 DISCUSSION

Based on attended noise measurements above, noise emissions from typical use of the workshop as advised to this office satisfies a background + 5dB(A) noise criterion and therefore the noise emissions measured do not constitute "offensive noise".

## 6 CONCLUSION

This report presents the results of unattended noise monitoring and attended noise measurements at the commercial development located at 2 Lovell Road, Eastwood to address the requirements of the *Directive to Take Preventive Action* for Lot 14 Sec 1 DP7076 issued by the City of Ryde Council dated 24<sup>th</sup> July 2020.

Based on the measurements carried out we conclude the following:

- Typical use of the workshop has been summarised in Section 2.2.
- Attended noise measurements during typical operation of the workshop indicate external noise levels satisfy a Background+5dB(A) noise goal.
- Where a Background + 5dB(A) noise goal is achieved, noise emissions are not considered "offensive".
- Notwithstanding the above in the event activities outside of the typical use advised to this office summarised in Section 2.2 are conducted at the workshop, attended noise measurements should be undertaken to determine if noise emissions are compliant.

We trust this information is satisfactory. Please contact us should you have any further queries.

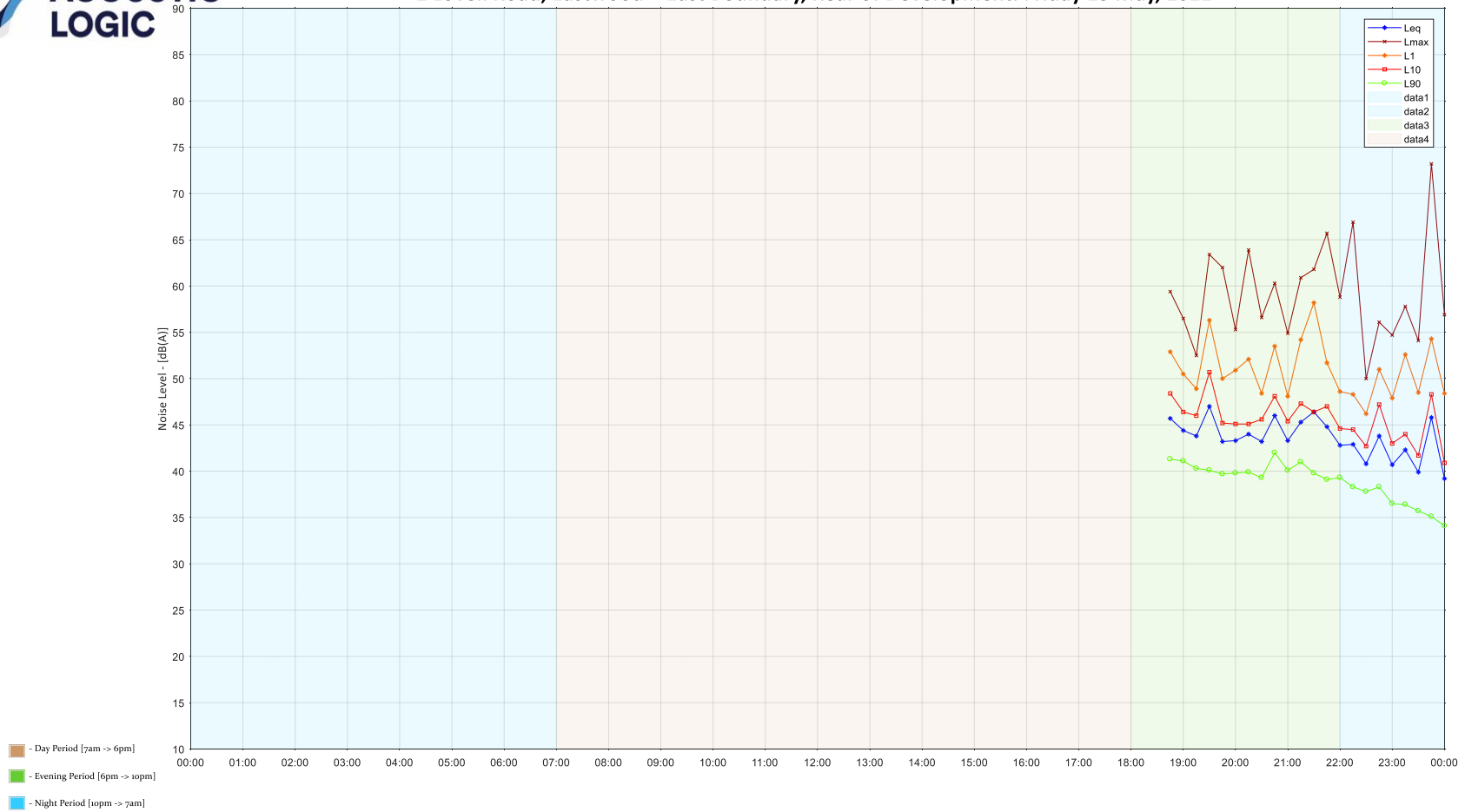
Yours faithfully,

A handwritten signature in black ink, appearing to read 'Artie', with a stylized flourish at the end.

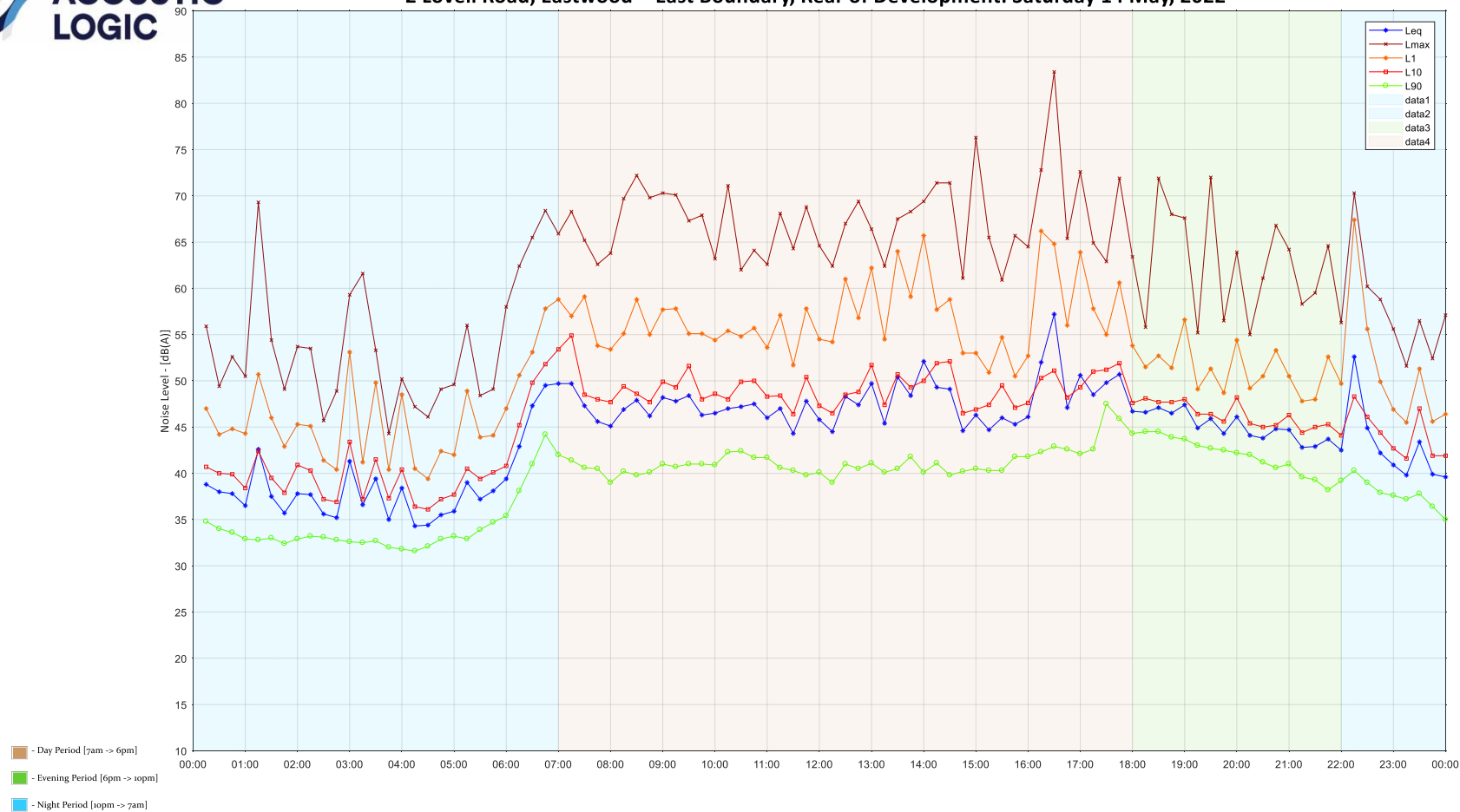
Acoustic Logic Pty Ltd  
Artie Rattananikom

## **APPENDIX A – UNATTENDED NOISE MONITORING RESULTS (M1 – REAR MONITOR)**

## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Friday 13 May, 2022

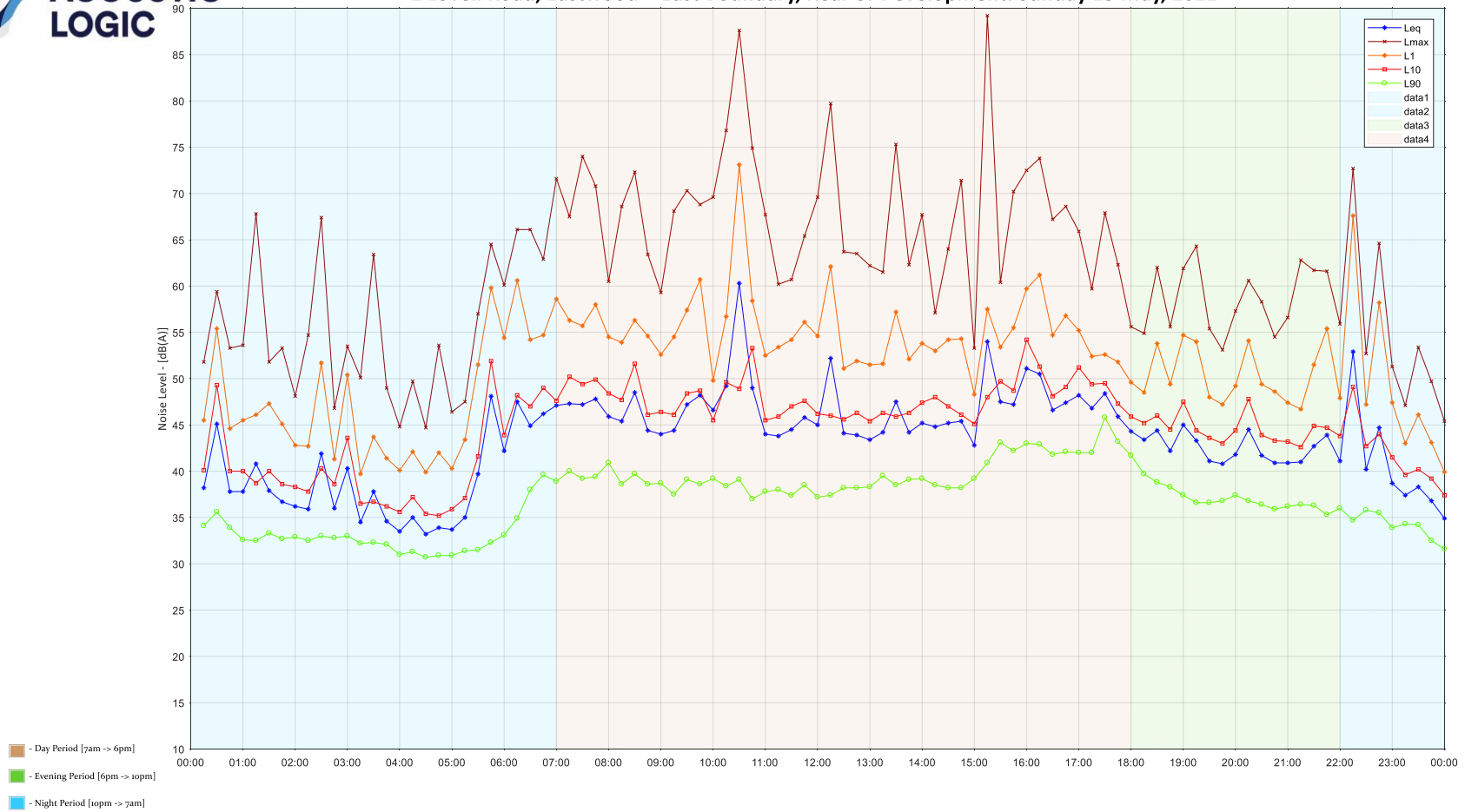


## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Saturday 14 May, 2022

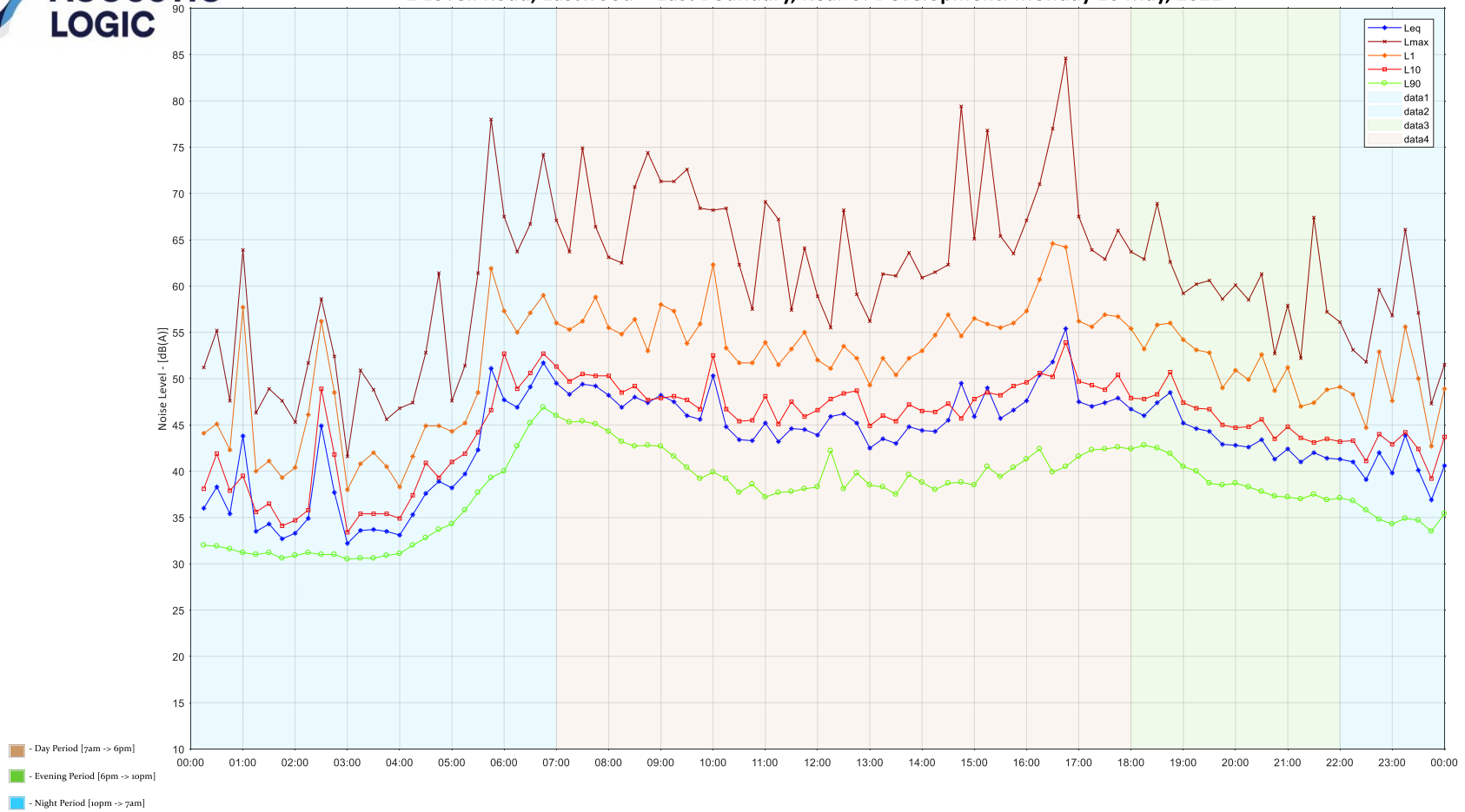




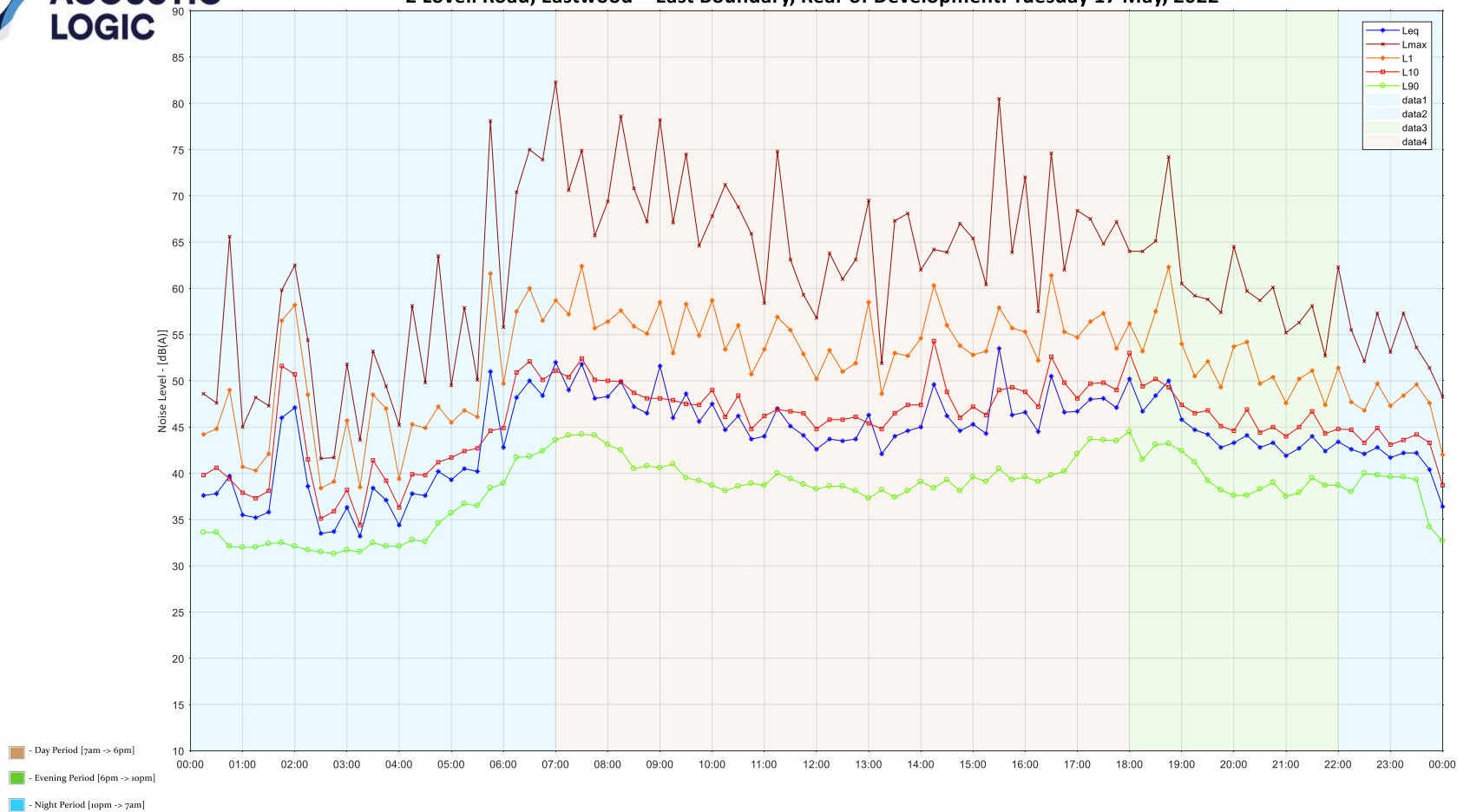
## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Sunday 15 May, 2022



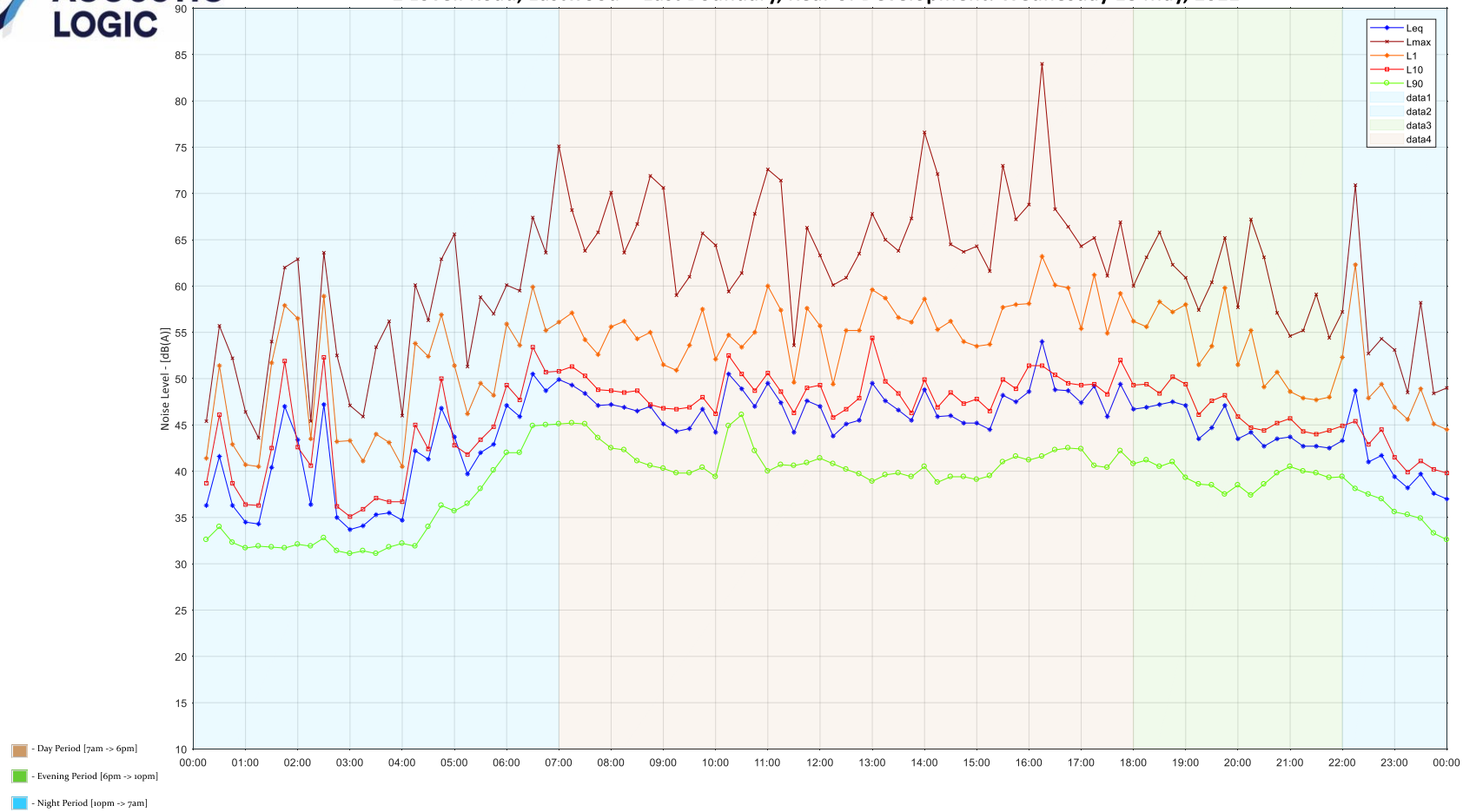
## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Monday 16 May, 2022



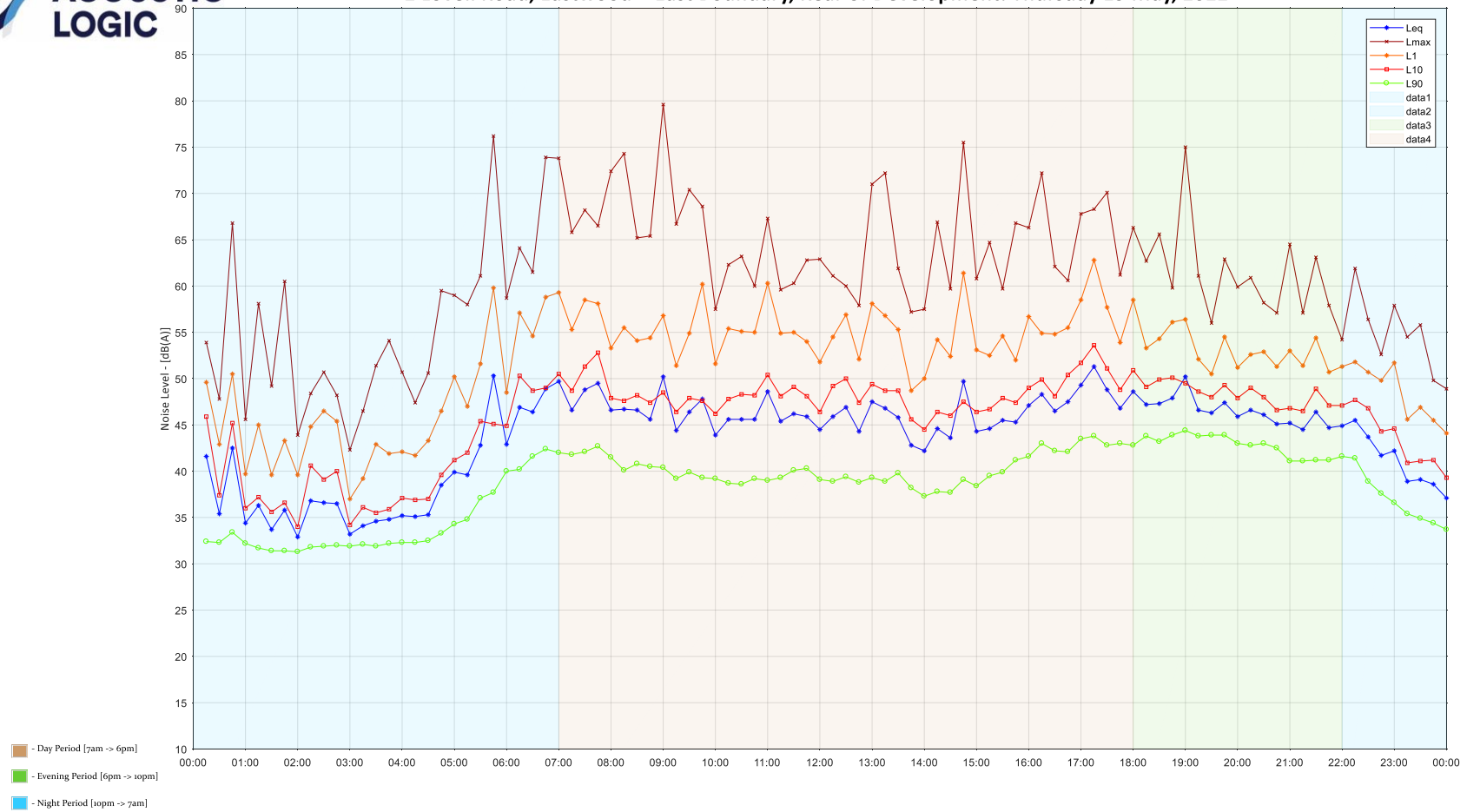
## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Tuesday 17 May, 2022



## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Wednesday 18 May, 2022

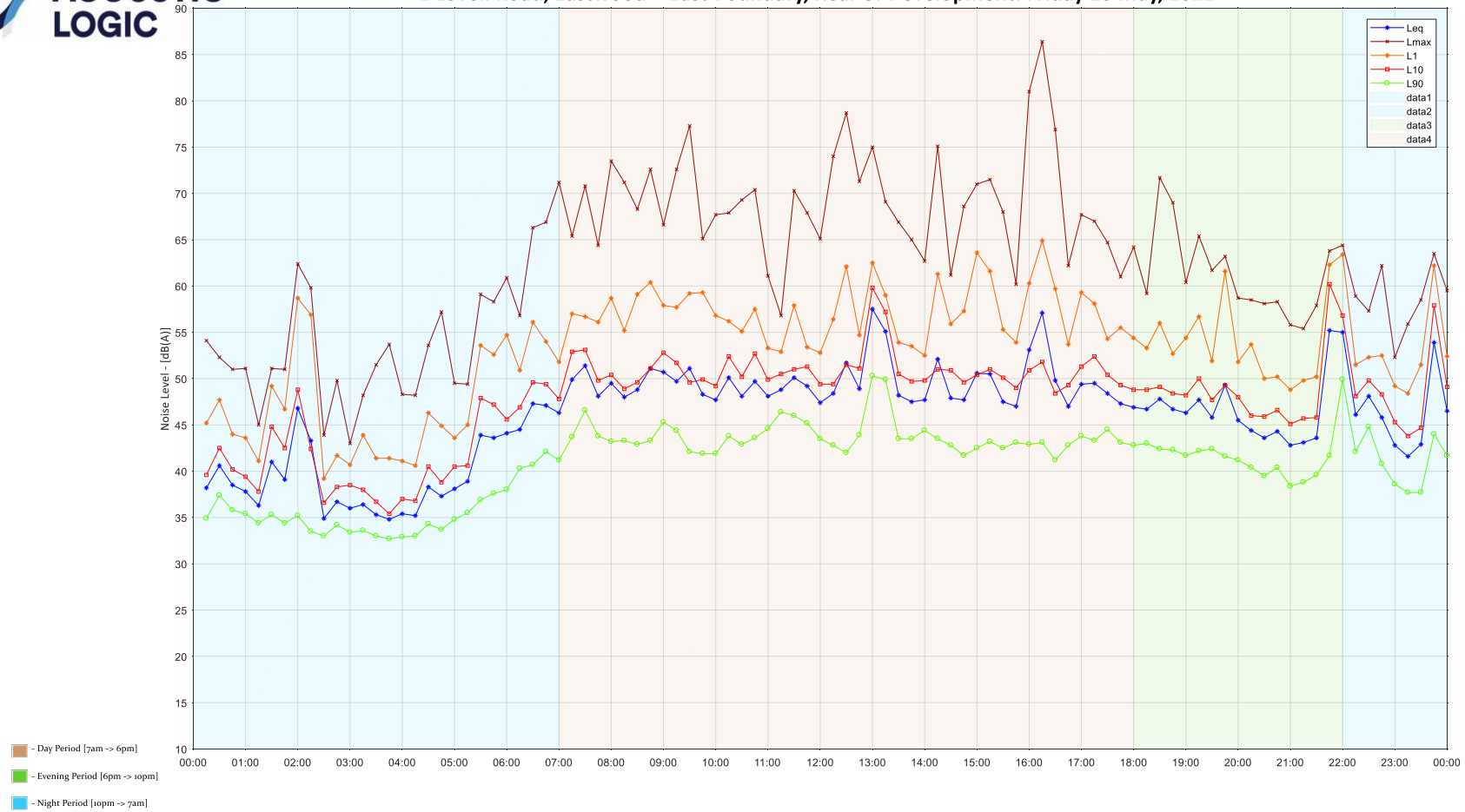


## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Thursday 19 May, 2022

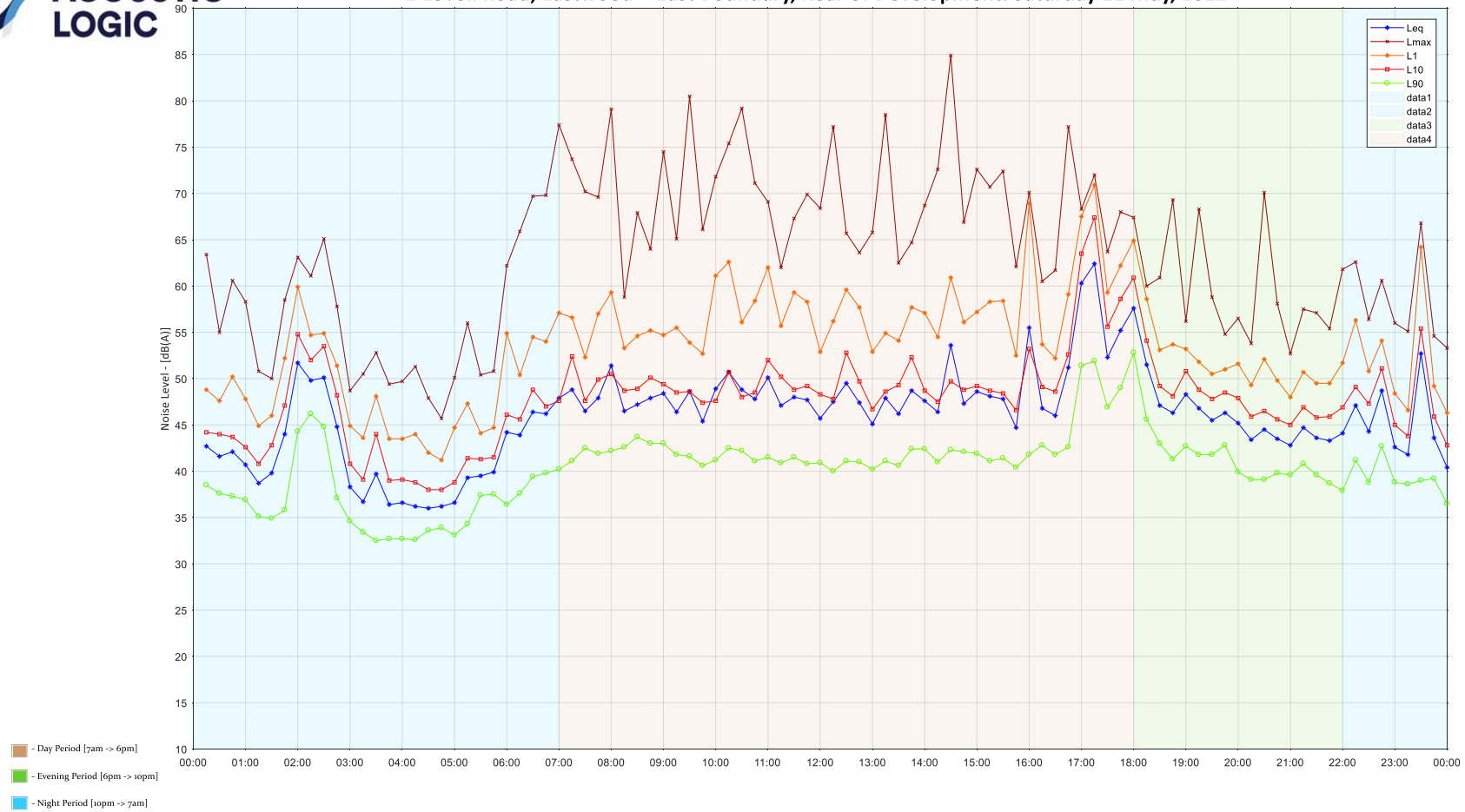




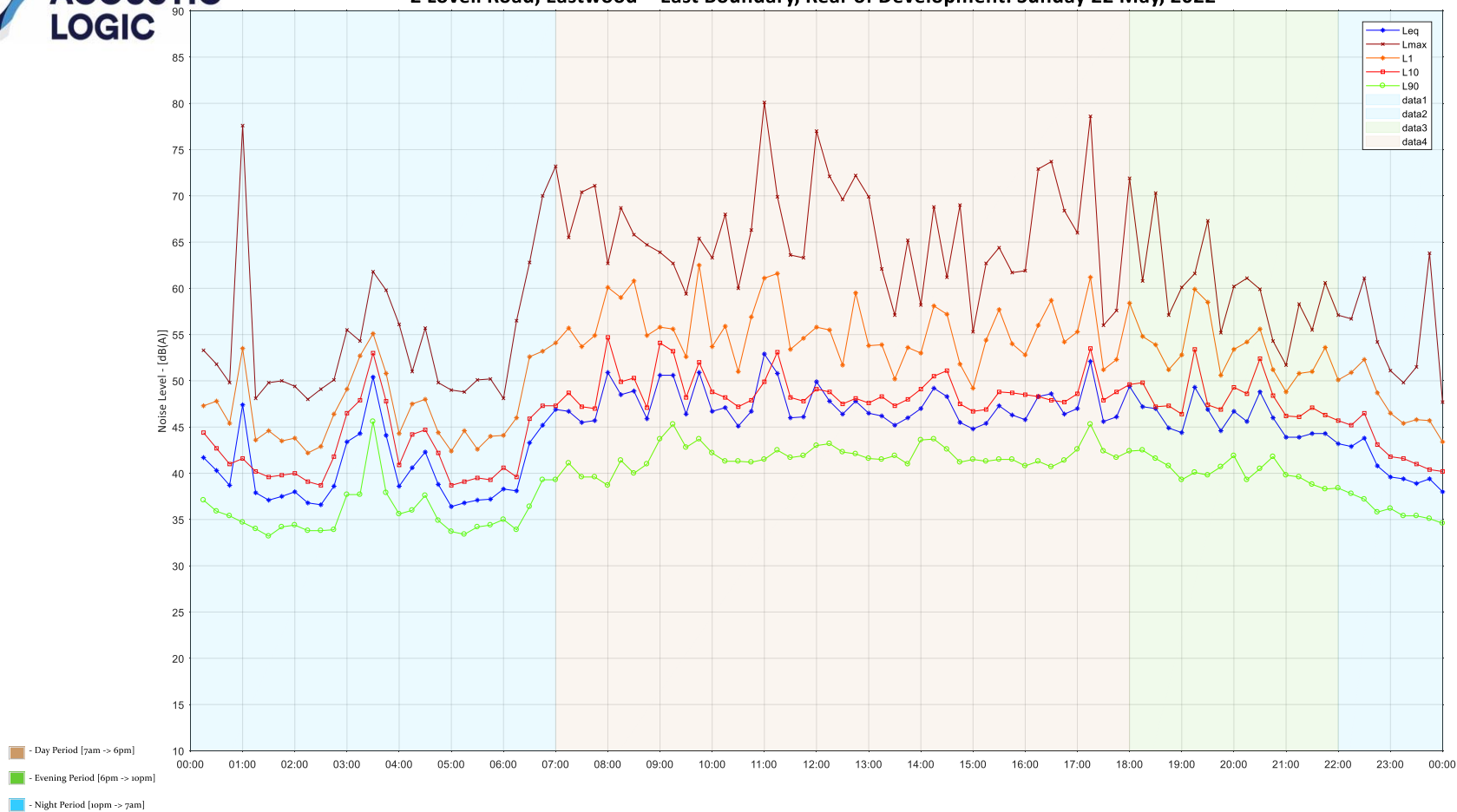
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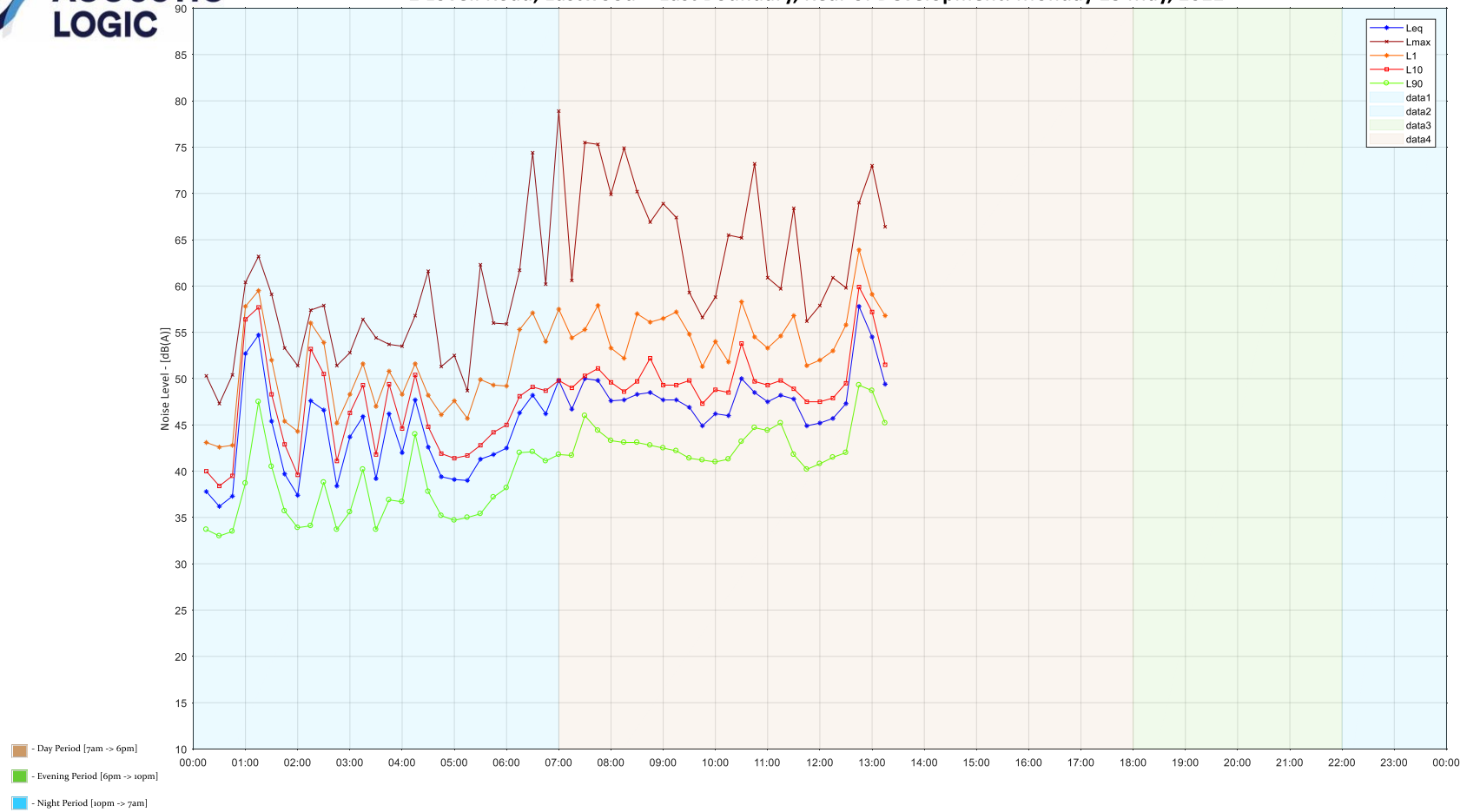
## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Saturday 21 May, 2022



# 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Sunday 22 May, 2022



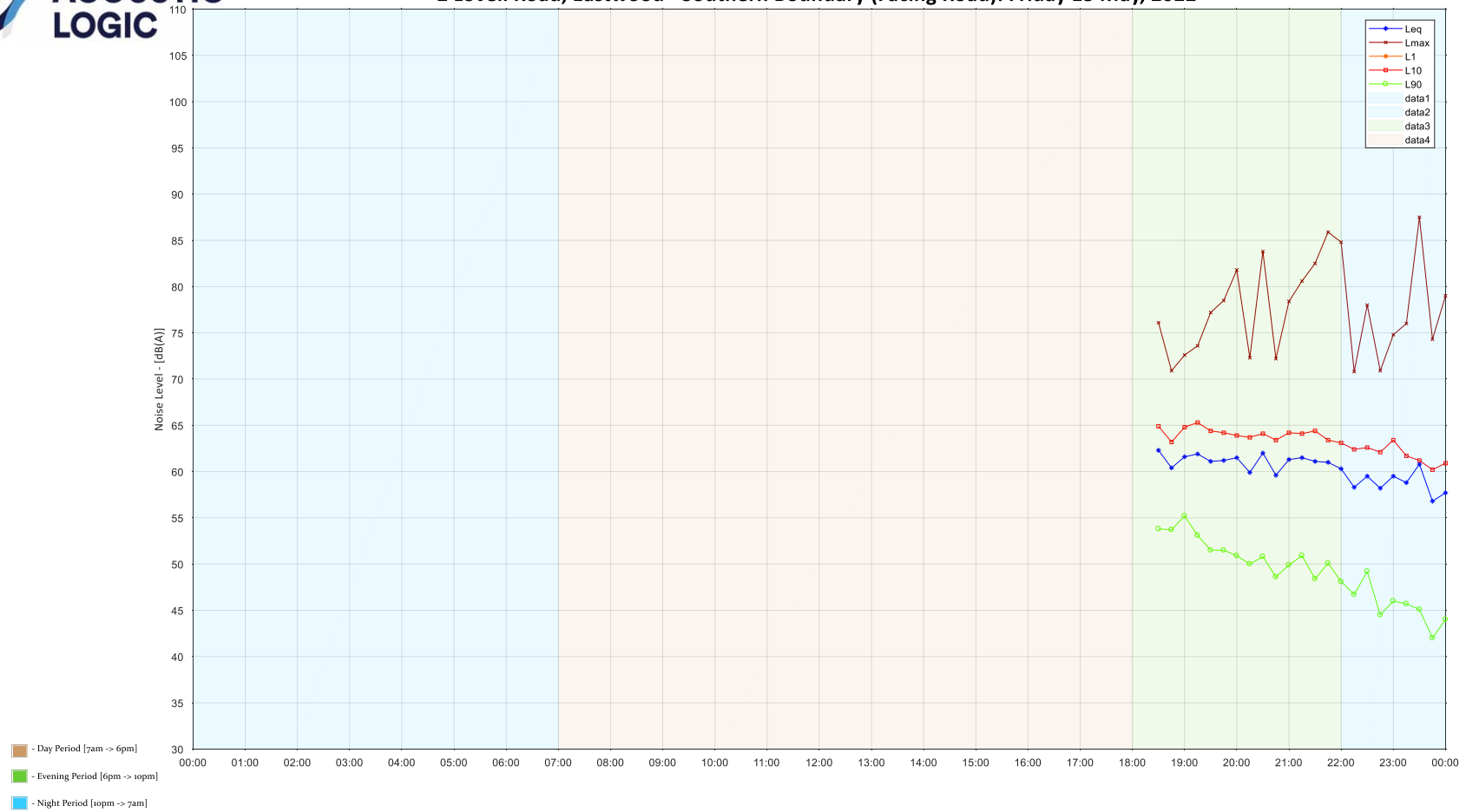
## 2 Lovell Road, Eastwood - East Boundary, Rear of Development: Monday 23 May, 2022



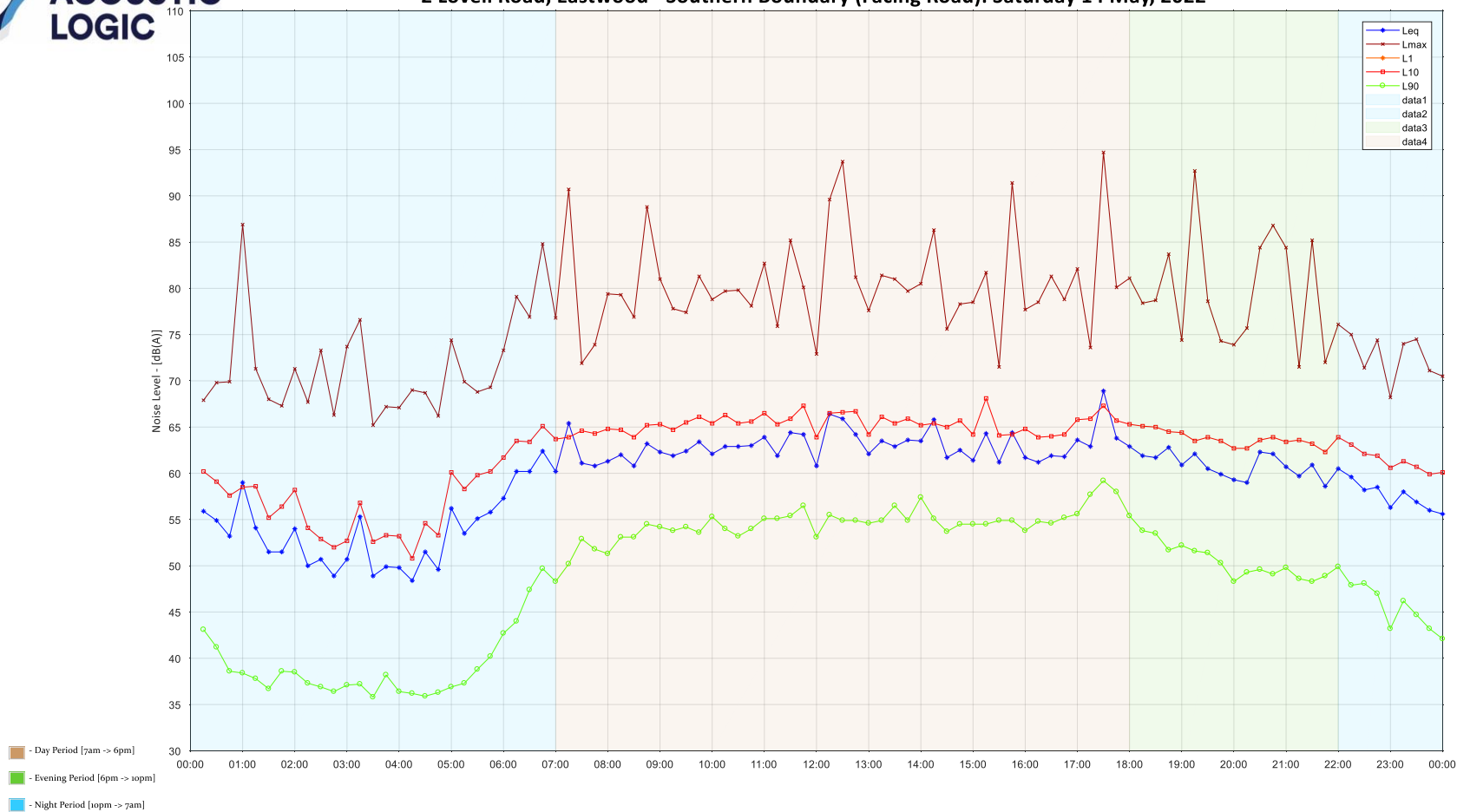
## **APPENDIX B – UNATTENDED NOISE MONITORING RESULTS (M2 –FRONT MONITOR)**



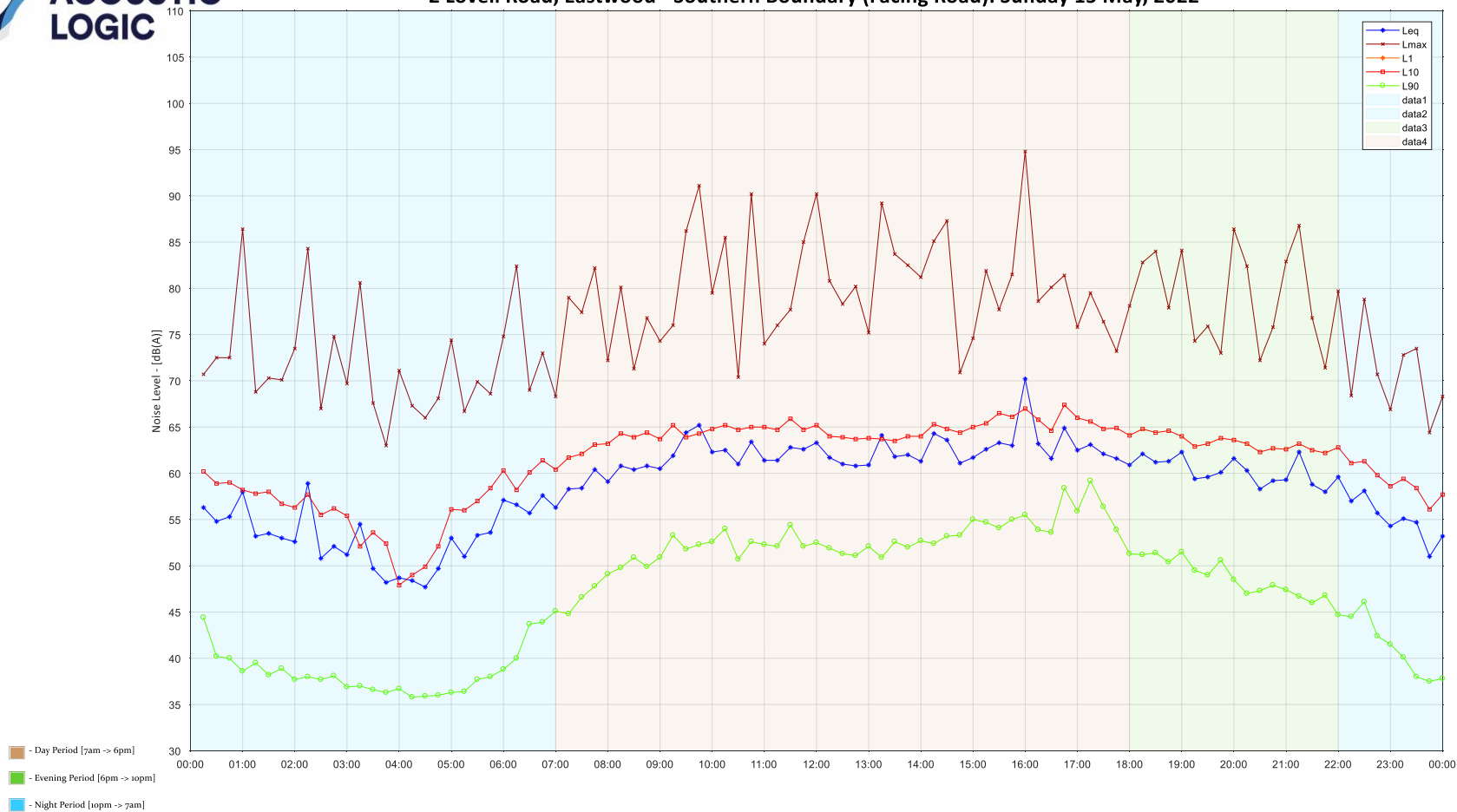
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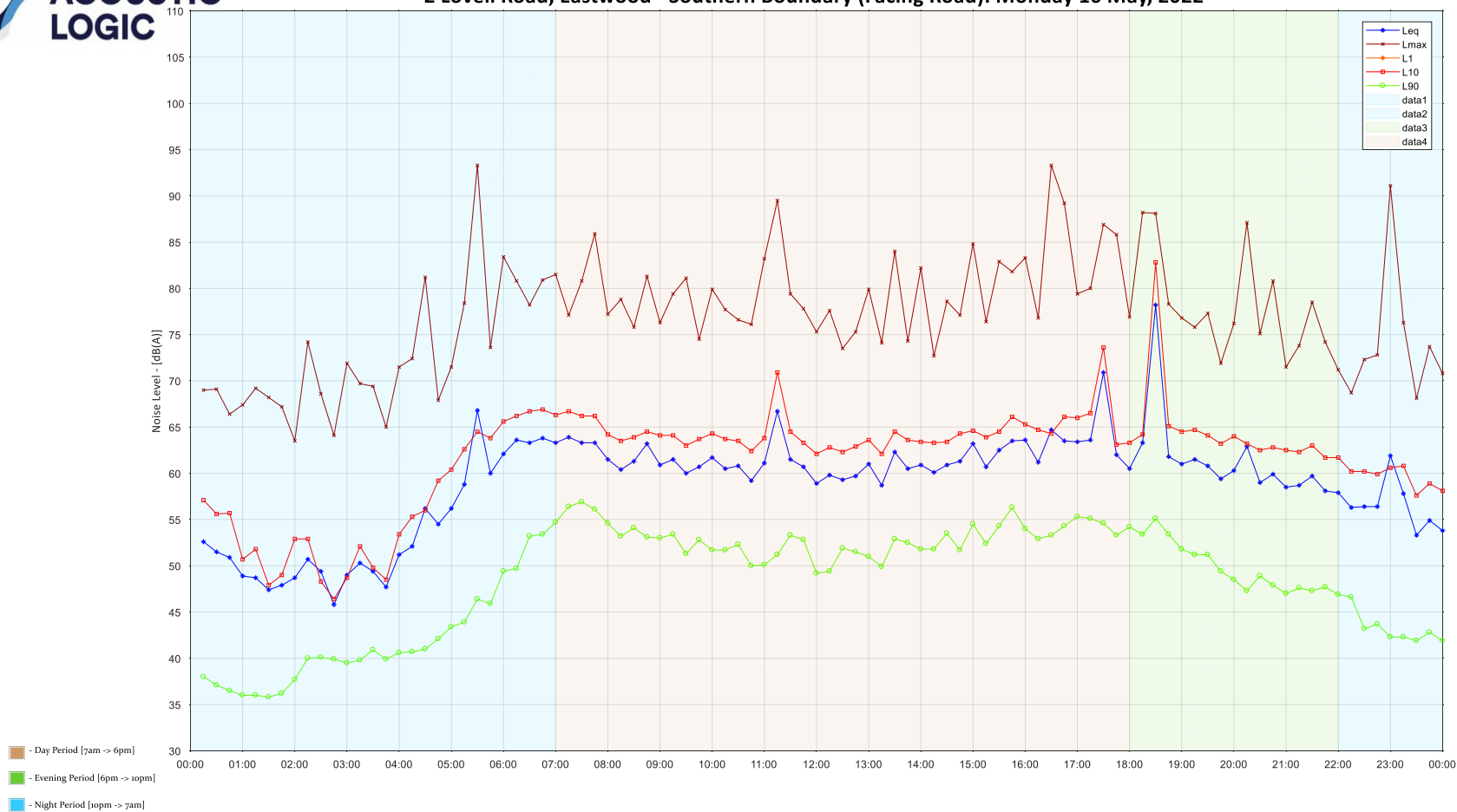
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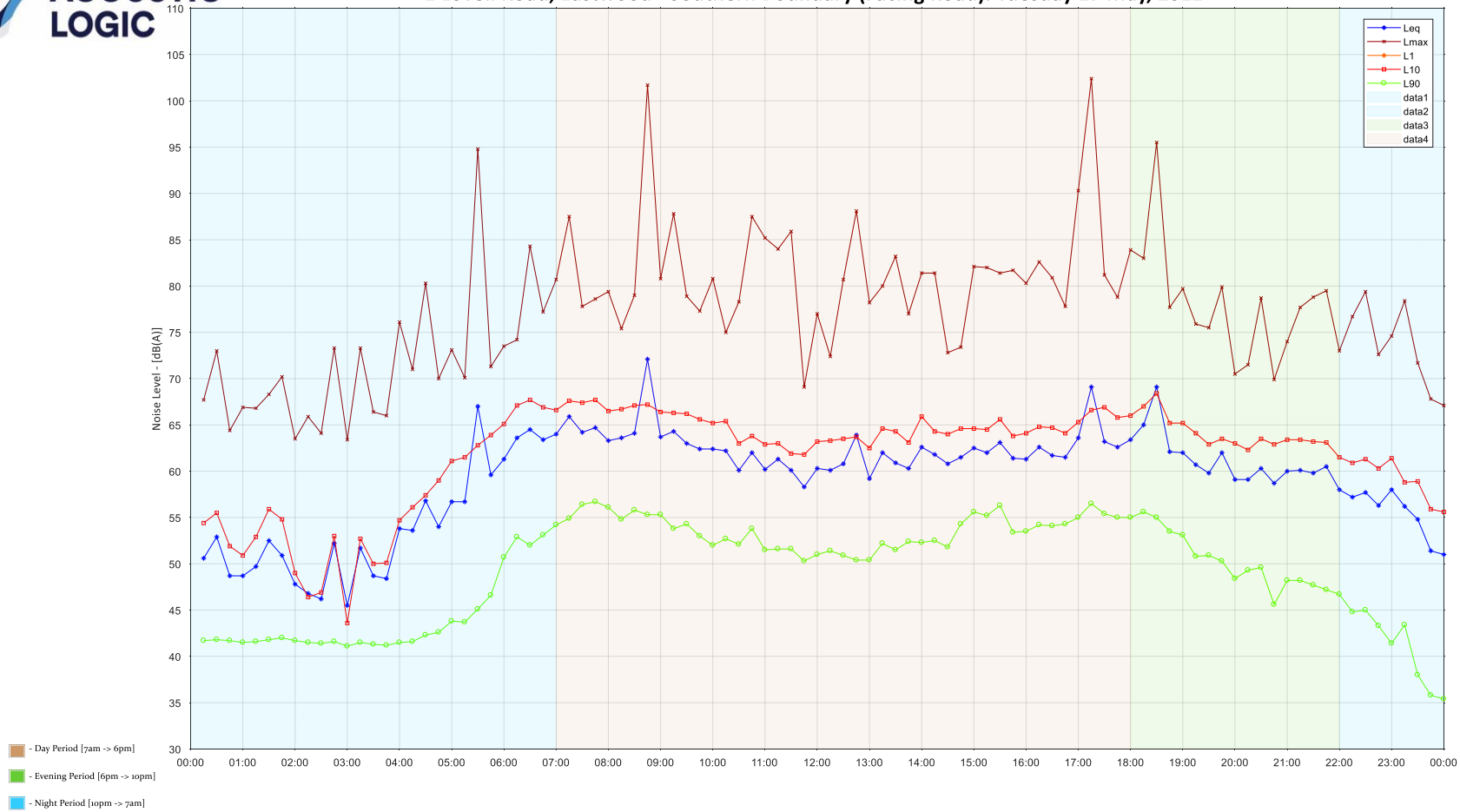
## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Sunday 15 May, 2022



## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Monday 16 May, 2022

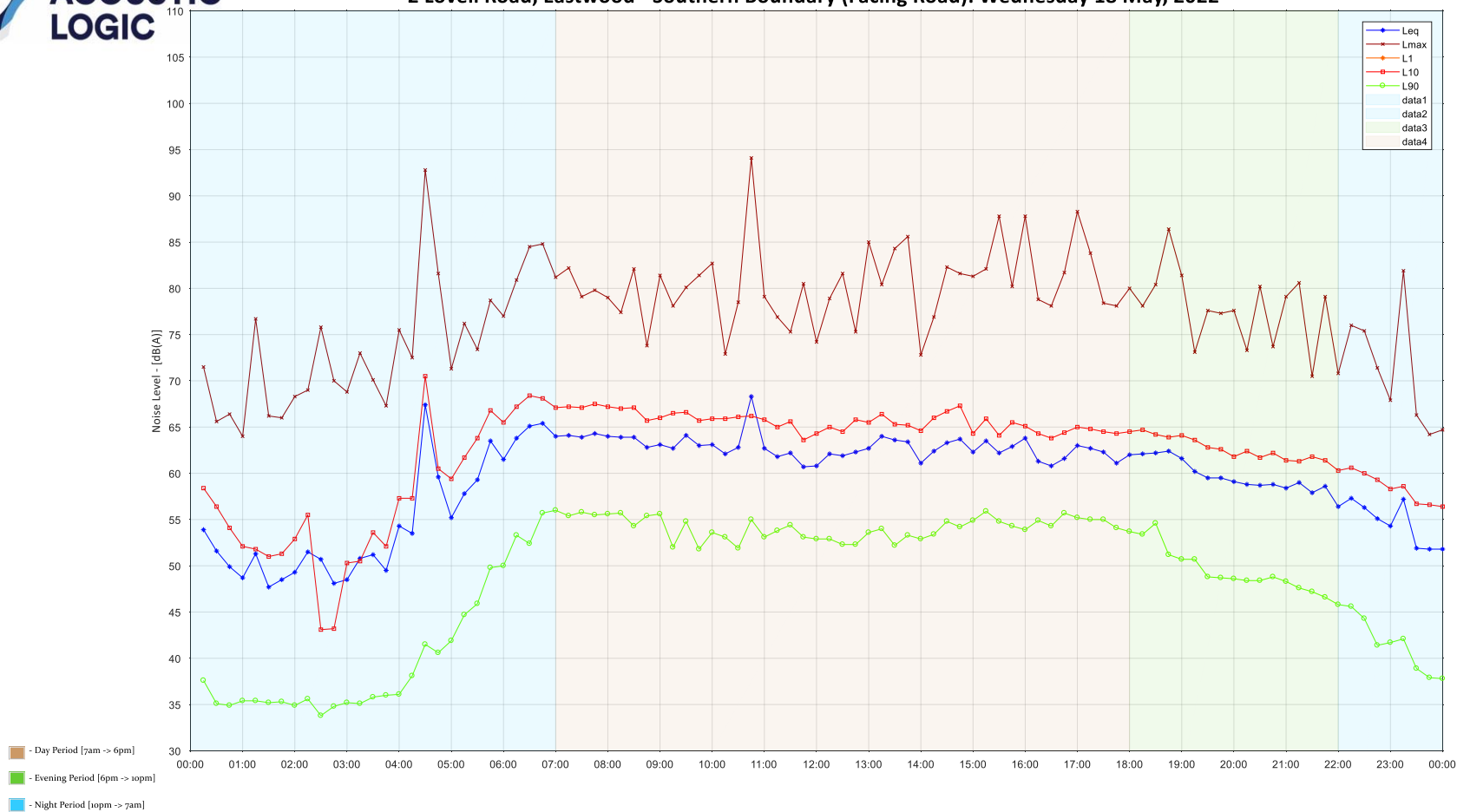


## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Tuesday 17 May, 2022

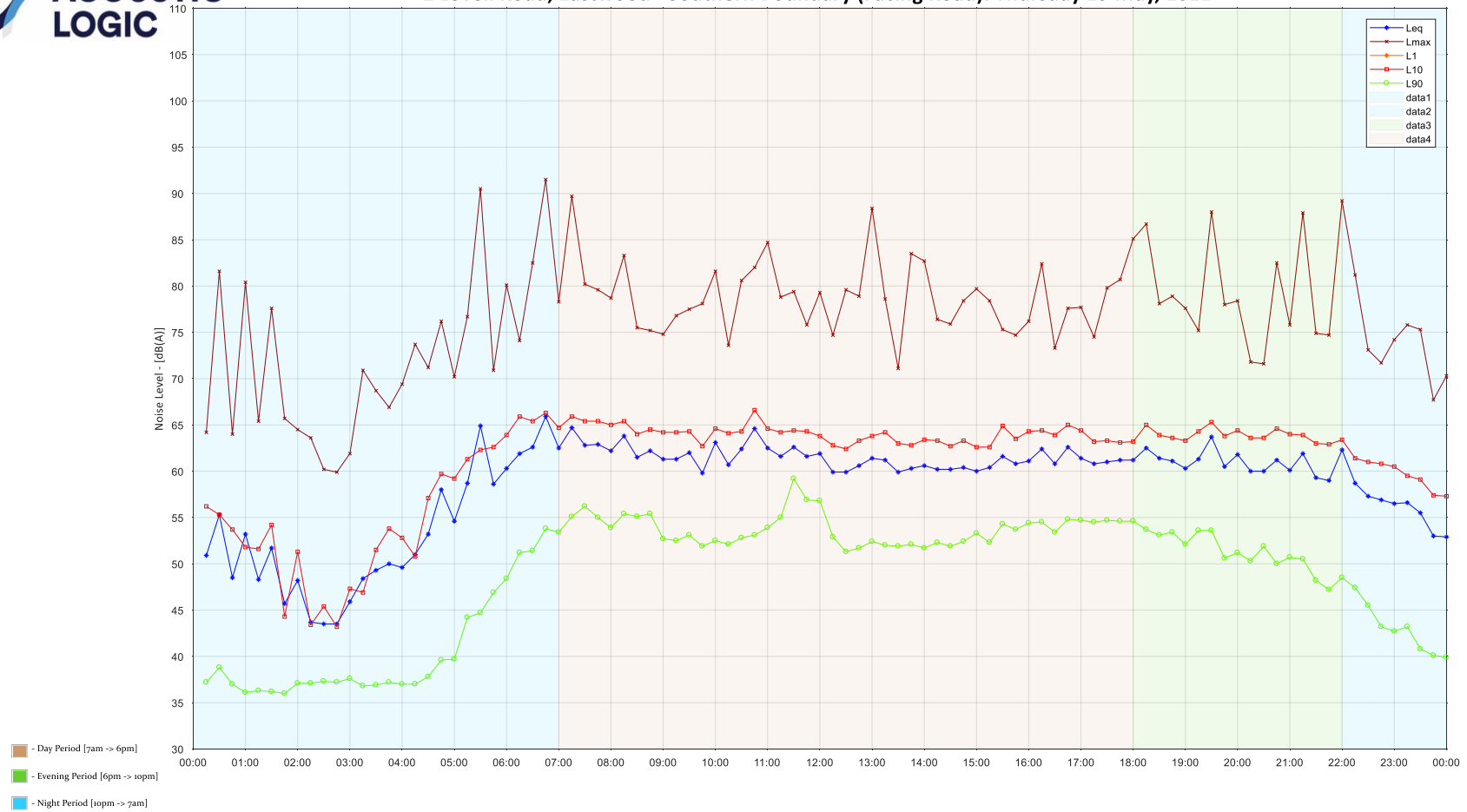




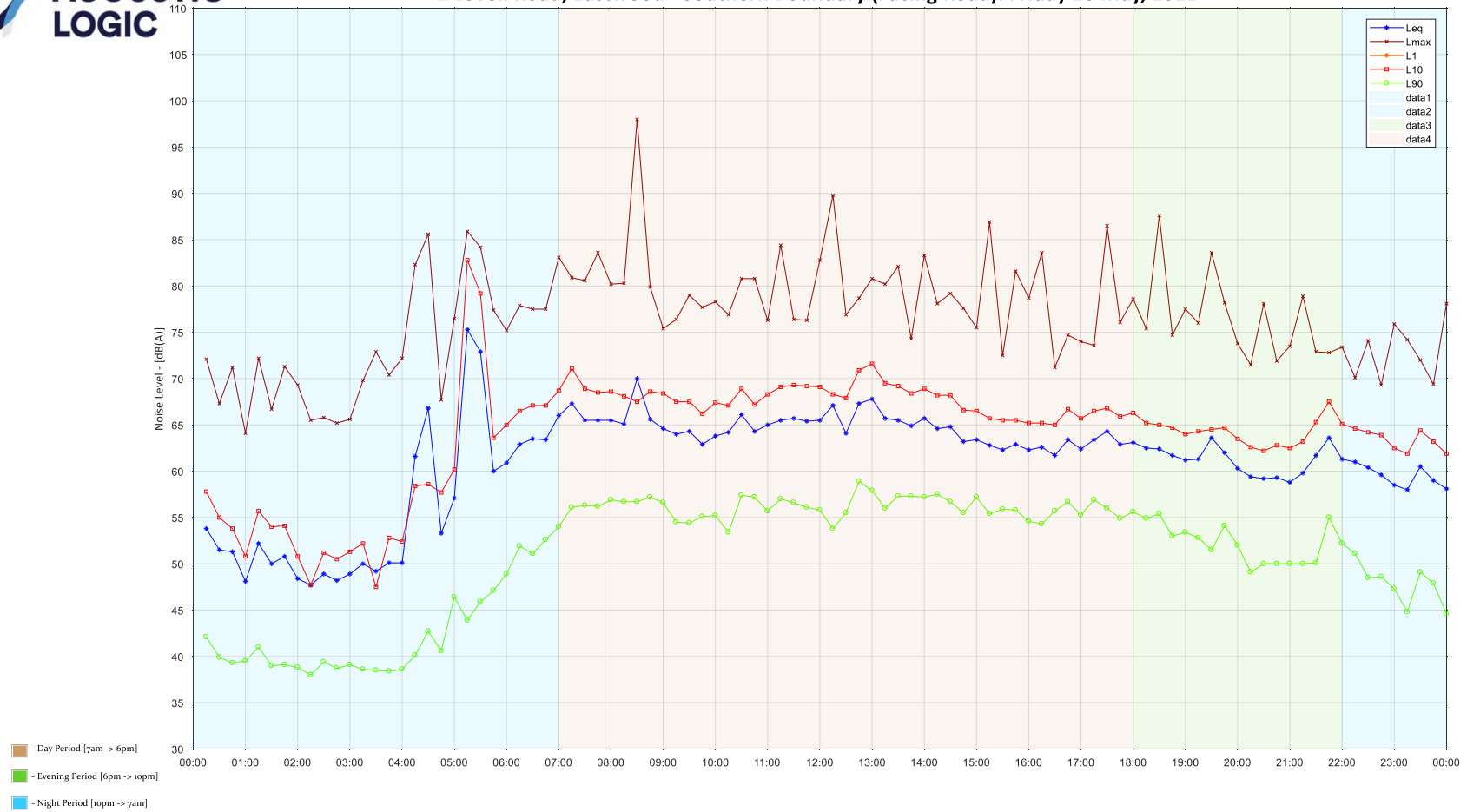
# 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Wednesday 18 May, 2022



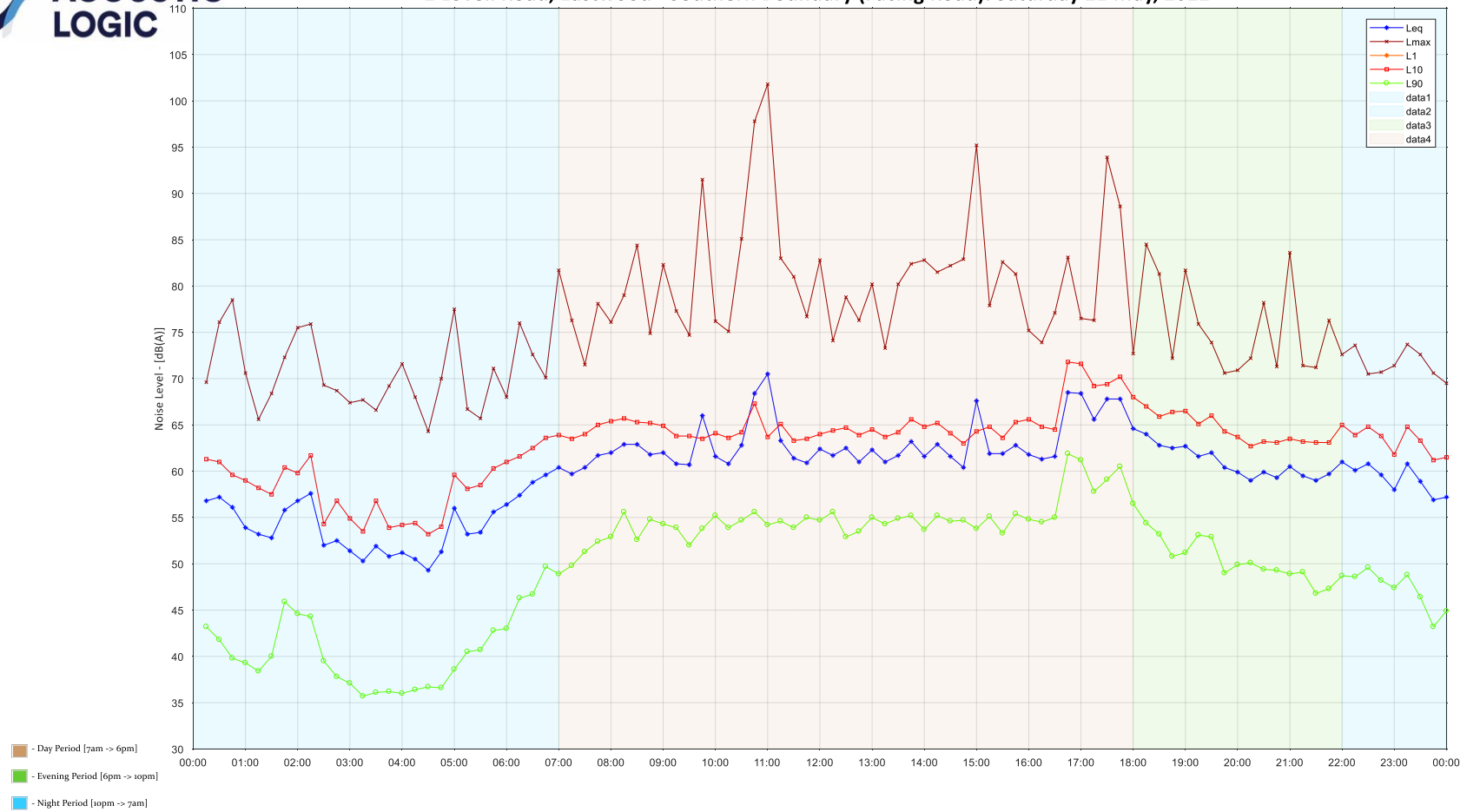
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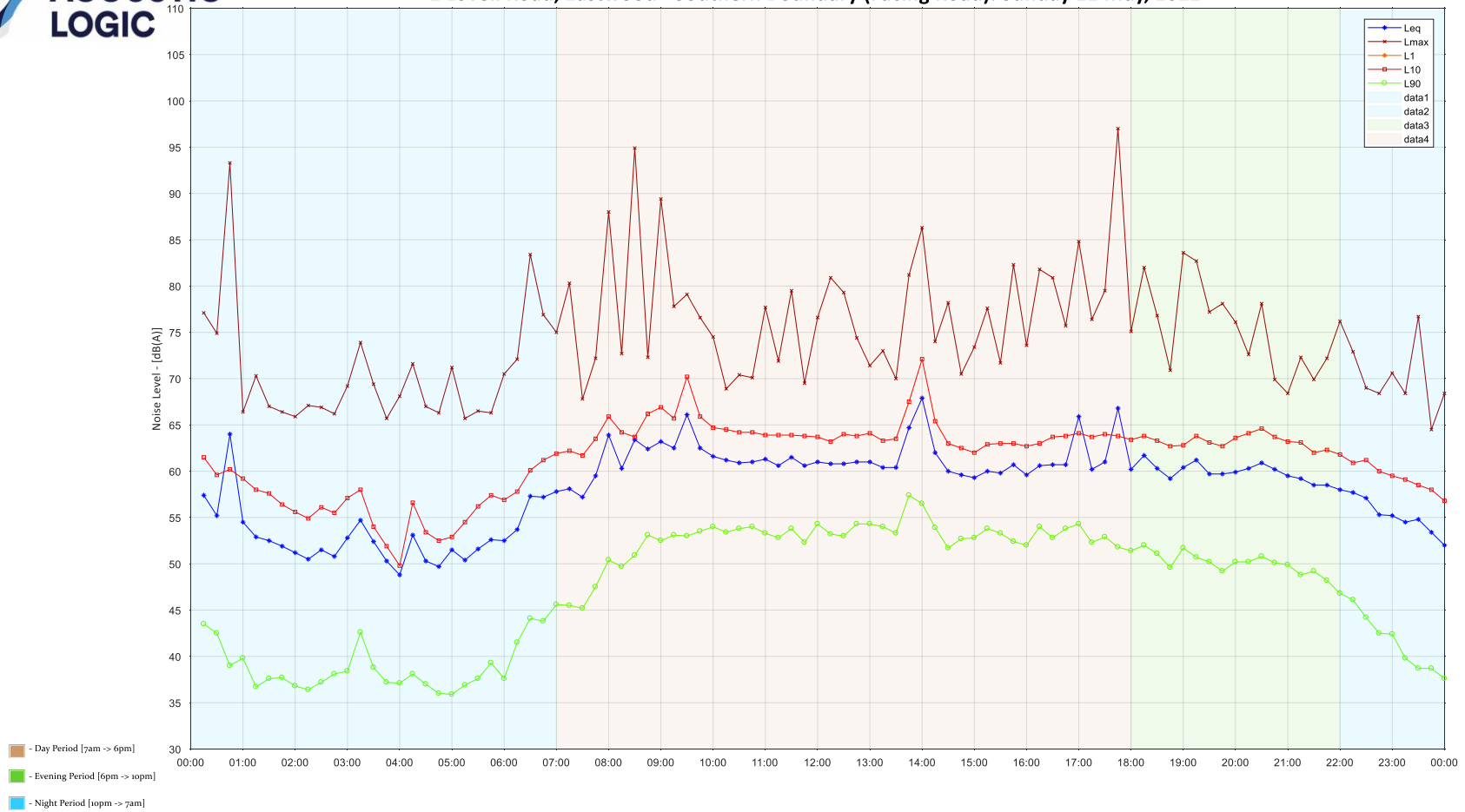
## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Friday 20 May, 2022



## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Saturday 21 May, 2022



## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Sunday 22 May, 2022



## 2 Lovell Road, Eastwood - Southern Boundary (Facing Road): Monday 23 May, 2022

