Baseline Sound Survey Report

Hemerdon Mine

Drakelands Restoration Ltd

Hemerdon Mine
Drakelands
Plympton
Plymouth
Devon
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SLR Project No.: 403.066596.00001.001

Client Reference No: UK.134050

11 August 2026

Revision: 3.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	1 June 2026	Ben Sarton	Jon Munns	Ben Sarton
2.0	30 June 2026	Ben Sarton	Emma Taylor-Aspinall	Ben Sarton
3.0	11 August 2026	Ben Sarton	Emma Taylor-Aspinall	Ben Sarton

Basis of Report

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Acronyms and Abbreviations

dB (Decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2x10^{-5}$ Pa).
dBA	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
L_{Aeq}	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
L_{10} and L_{90}	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
$L_{Amax(F)}$	$L_{Amax(F)}$ is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.

1.0 Introduction

SLR Consulting Ltd (SLR) has been appointed by Drakelands Restoration Ltd (DRL, the Client) to update and amend a noise assessment of their proposed processing plant at Hemerdon Mine, Devon (the Site), to support the permit variation application (pre-application reference EPR/AP3203ML/P001).

As part of this assessment, baseline sound surveys have been carried out at the surrounding noise-sensitive receptors to determine the existing sound environment. The details of the baseline sound surveys are contained herein.

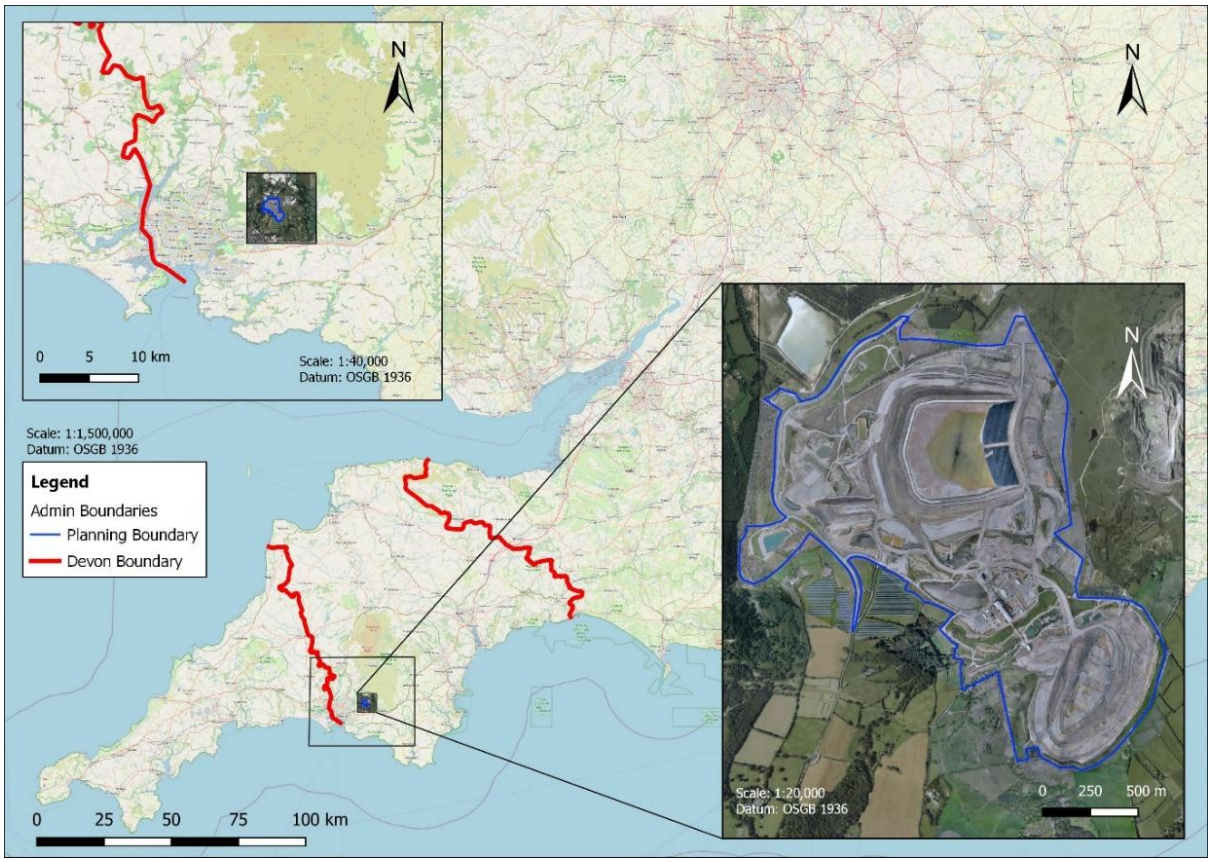
This report details methodology and results of the baseline monitoring period between Wednesday 18th March and Thursday 02nd April 2026.

Whilst reasonable effort has been made to ensure that this report is easy to understand, it is necessarily technical in nature. To assist the reader, a glossary of terminology is included in **Appendix A.**

2.0 Site Description

The Hemerdon Deposit is situated six miles northeast of the city of Plymouth in Devon, England as shown in Figure A. It is readily accessible via sealed roads and between August 2015 and October 2018 was acting as an operational mine site under previous ownership.

Figure A: Location of Hemerdon Mine



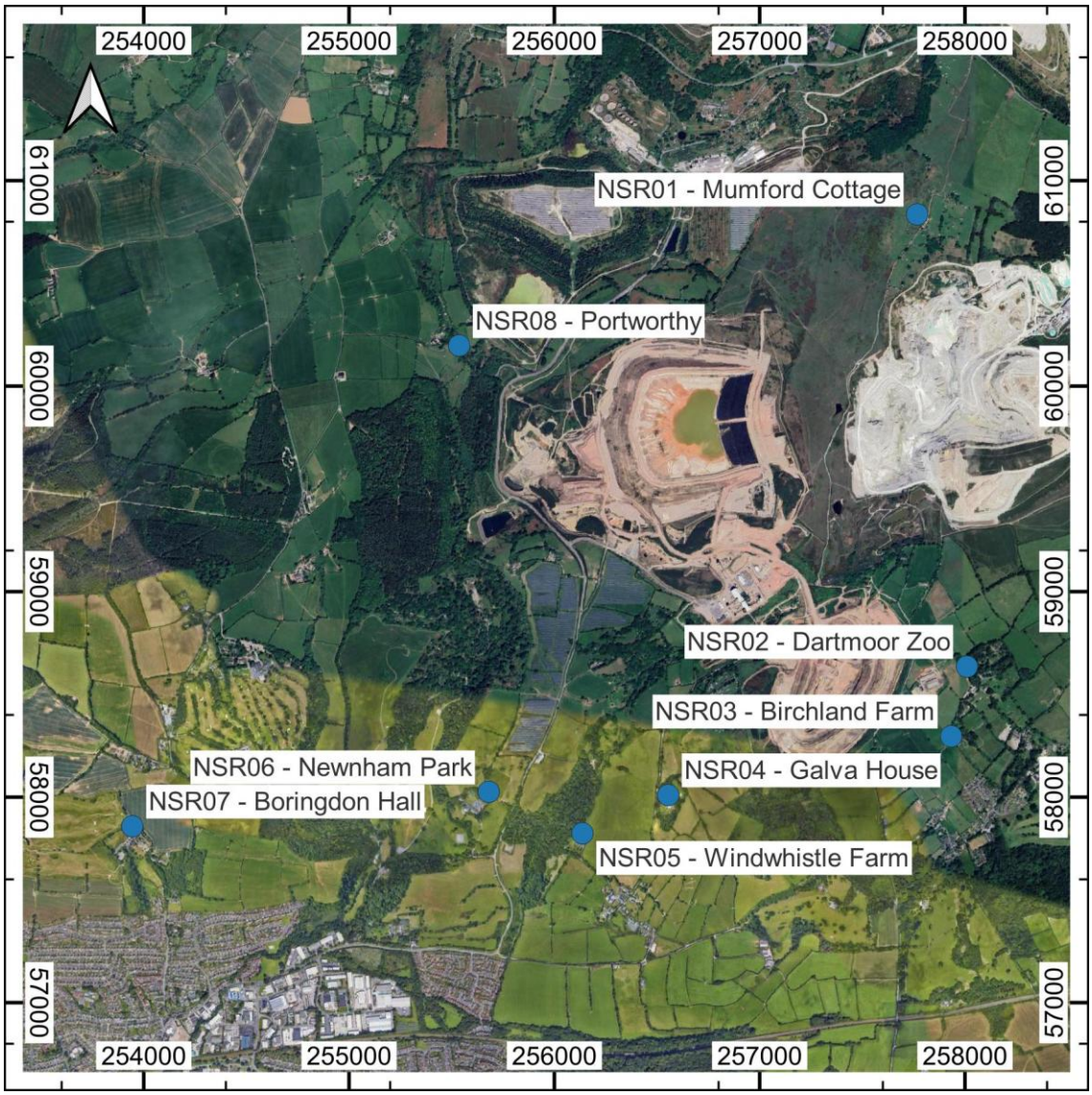
2.1 Noise Sensitive Receptors

The nearest noise-sensitive receptors (NSRs) to the Site have been identified as those in Table A and shown in Figure B.

Table A: Noise-Sensitive Receptors

Receptor	Description	Coordinates (BNG)	
		X	Y
NSR01	Mumford Cottage to the north-east of the Site.	257806	60743
NSR02	Dartmoor Zoo to the south-east of the Site.	258009	58636
NSR03	Birchland Farm to the south-east of the Site.	257925	58309
NSR04	Galva House to the south-west of the Site.	256559	57971
NSR05	Windwhistle Farm to the south-west of the Site.	256136	57825
NSR06	Newnham Park to the south-west of the Site.	255681	58027
NSR07	Boringdon Hall to the west of the Site.	253944	57859
NSR08	Portworthy to the north-west of the Site.	255536	60198

Figure B: Noise-Sensitive Receptors



3.0 Standards and Guidance

The noise impact assessment that will be carried out will be undertaken in accordance with British Standard 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* and the Environment Agency's (EA) guidance document *Noise and vibration management: environmental permits* (NVM) including the Method Implementation Document (MID) for BS 4142.

3.1 British Standard 4142:2014 +A1:2019

The British Standard BS 4142:2014 +A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* (BS 4142) notably describes methods for rating and assessing sound of an industrial or commercial nature. It has been referenced where required in policy and guidance documents to assess the potential impact of sound of an industrial and/or commercial nature, at existing and proposed noise-sensitive receptor locations within the context of the existing sound environment.

Certain acoustic features can increase the significance of impact from a comparison of the specific sound level to the background sound level where these features are likely to affect perception and response. Where such features are present at the assessment location, a character correction (or penalty) to the specific sound level is made to obtain the rating level. This can be approached from subjective, objective and reference methods.

- Tonality: A correction of 0 dB to +6 dB for sound ranging from not tonal to prominently tonal.
- Impulsivity: A correction of up to +9 dB can be applied for sound that is impulsive.
- Intermittency: A penalty of +3 dB can be applied if on/off conditions are readily distinctive within the reference time interval over the period of the greatest amount of on-time.
- Other characteristics: A penalty of +3 dB can be applied in the absence of all other defined characteristics, where the specific sound contains a distinctive feature in the residual acoustic environment.

The rating sound level is equal to the specific sound level if there are no acoustic features present or expected to be present.

The significance of sound depends upon both the margin by which the rating level exceeds the background sound level and the context in which the sound occurs. An initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level.

- Typically, the greater the difference, the greater the magnitude of the impact;
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background level, this is an indication that the specific sound source will have a low impact, depending on the context.

BS 4142 has stipulated that context is important when assessing the impact of sound of a commercial and/or industrial nature. Amongst a range of advocated considerations, this can

include mitigation, residual sound levels, location and absolute sound levels in the consideration of context.

The scope of BS 4142 recognises that human response to sound can be subjective as affected by many factors, both acoustic and non-acoustic. The significance of its impact can depend on various factors such as the exceedance to the background level, its absolute level, time of day and change in environment, as well as local attitudes to the source of sound and character of the neighbourhood.

Additionally, BS 4142 states that it is *"unlikely to be the appropriate methodology on its own to assess low frequency noise*".

3.2 Noise and Vibration Management: Environmental Permits

The Environment Agency (EA) released the guidance document *Noise and vibration management: environmental permits* (NVM) in July 2021, replacing the previous guidance presented in *Horizontal Guidance for Noise (H3) parts 1 and 2*. The NVM details when a noise assessment is required, the competency required to undertake an assessment and how to carry out a noise impact assessment. The NVM references BS 4142:2014+A1:2019 as the appropriate assessment methodology.

The NVM outlines how context should be taken into account in the assessment and notes that *"Whilst context allows you to interpret impact thresholds (to a degree), there are practical limits to the extent of the interpretation. It is unlikely you could adjust the assessment outcome beyond the next band (for example, modifying a BS 4142 outcome of more than 10 dB to be less than an 'adverse impact')."*

Determining the outcome of the assessment the following should be considered:

- weekdays rather than weekends;
- what the sound 'means' – meaningful sound is one that conveys an unpleasant meaning beyond its mere acoustic content, for example noise from an abattoir;
- time of day;
- the absolute sound level;
- where the sound occurs;
- new industry or new residences;
- intrinsic links between the source and receptor, for example the source is the resident's place of work;
- local attitudes;
- the residual acoustic environment;
- the land use at the receptor (for example, gardens rather than yards);
- the exceedance (traditional BS 4142); and
- whatever else might be particular to that individual situation.

Based on the results of the BS 4142:2014+A1:2019 assessment the NVM has three distinct requirements as detailed in Table B.

Table B: NVM Assessment Outcomes

NVM Result	BS4142 Descriptor	Next Stage
Unacceptable level of audible or detectable noise	The closest corresponding BS 4142 descriptor is 'significant adverse impact'	You must take further action or you may have to reduce or stop operations. The environment agencies will not issue a permit if you are likely to be operating at this level.
Audible or detectable noise	The closest corresponding BS 4142 descriptor is 'adverse impact'	Your duty is to use appropriate measures to prevent or, where that is not practicable, minimise noise. You are not in breach if you are using appropriate measures. But you will need to rigorously demonstrate that you are using appropriate measures.
No noise, or barely audible or detectable noise	The closest corresponding BS 4142 descriptor is 'low impact or no impact'	Low impact does not mean there is no pollution. However, if you have correctly assessed it as low impact under BS 4142, the environment agencies may decide that taking action to minimise noise is a low priority.

3.3 Method Implementation Document for BS 4142

The environment agency published a Method Implementation Document (MID) in March 2023 (updated in December 2023) for BS 4142.

MIDs explain how to use the standards and guidance for regulatory monitoring when applying for a permit or complying with permit conditions.

The Environment Agency, Natural Resources Wales and Northern Ireland Environment Agency have produced this guidance to help holders and potential holders of permits.

The MID must be followed if you are:

- Applying to the environment agencies for a new environmental permit or applying to vary an existing permit.
- Sending sound monitoring and assessments to the environment agencies – you must also follow the requirements of BS 4142 and the NVM.

Guidance contained in the MID document will be followed for the noise impact assessment.

4.0 Baseline Sound Survey

To establish the prevailing sound climate at the nearest NSRs to the Site, environmental sound surveys were undertaken between Wednesday 18th March and Thursday 02nd April 2026.

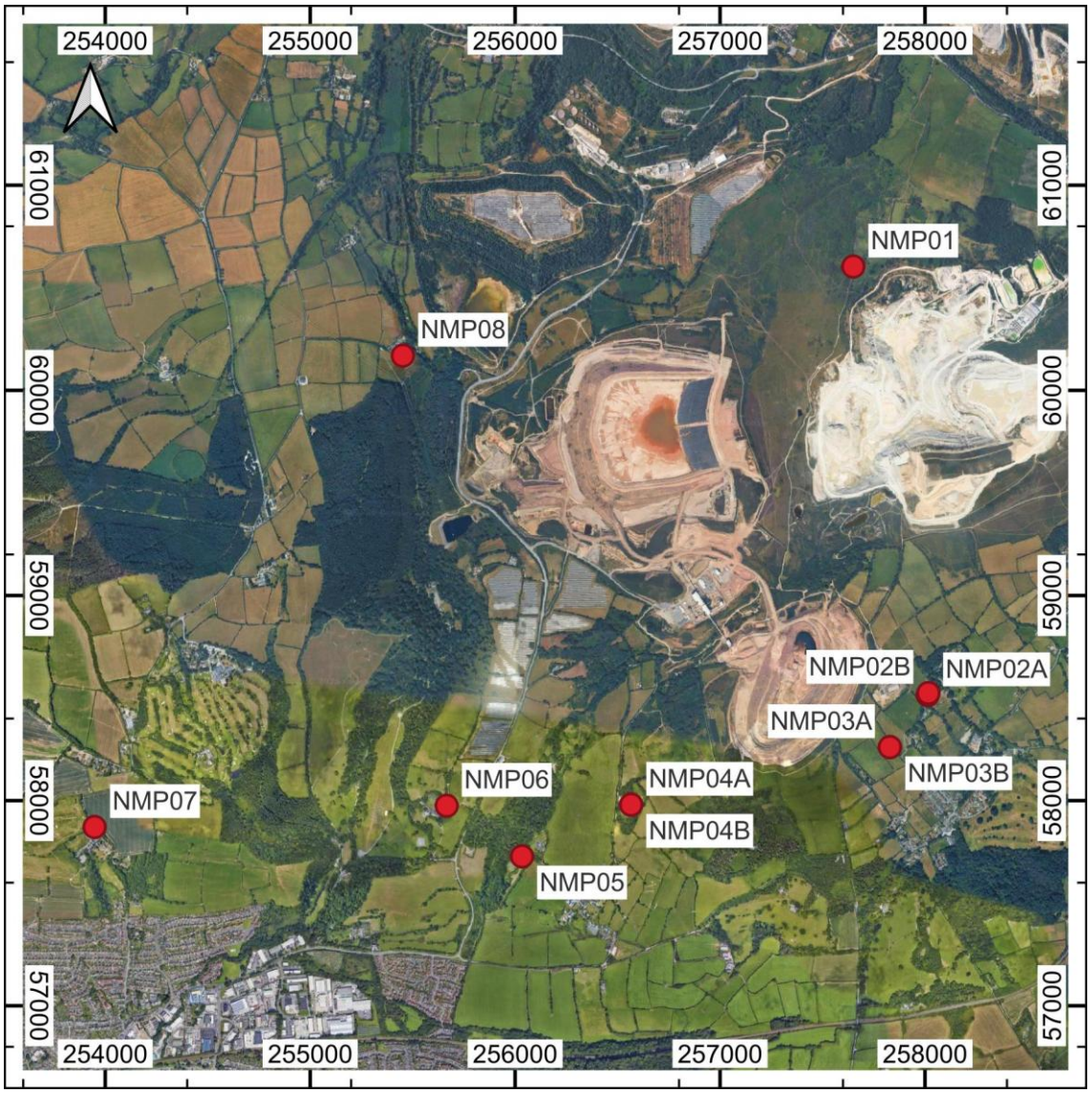
The locations of the environmental baseline sound survey locations are presented in Table C and shown in Figure C. Photographs of the survey locations can be seen in **Appendix B.**

It should be noted that access could not be gained to the land associated with NSR01, NSR03 and NSR05; therefore, monitoring was undertaken on adjacent land at locations considered representative of these receptors.

Table C: Baseline Sound Survey Locations

Location	Description	OS Coordinates		Approximate Distance to Processing Plant
		X	Y	
NMP01	Representative of Mumford Cottage	257649	60604	1.8 km
NMP02A	Representative of Dartmoor Zoo	258012	58515	1.2 km
NMP02B		258016	58525	1.2 km
NMP03A	Representative of Birchland Farm	257828	58262	1.15 km
NMP03B		257828	58262	1.15 km
NMP04A	Representative of Galva House	256567	57981	1.05 km
NMP04B		256526	57987	1.05 km
NMP05	Representative of Windwhistle Farm	256033	57729	1.5 km
NMP06	Representative of Newnham Park	255666	57976	1.6 km
NMP07	Representative of Boringdon Hall	253948	57872	3.15 km
NMP08	Representative of Portworthy	255452	60170	1.9 km

Figure C: Baseline Sound Survey Locations



4.1 Equipment and Measurements

Sound pressure level measurements were carried out using the following equipment listed in Table D, confirming to Class 1 acoustic accuracy for sound level meters and matched calibrators.

Table D: Baseline Sound Monitoring Equipment

Location	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
NMP01	Sound Level Meter	SVANTEK	SV307A	119148	17/03/2026	1517725
	½" Pre-Polarised Microphone	SVAN	ST30	178392		1517725
	Calibrator	SVAN	SV33B	151866	18/04/2024	N/A
NMP02A	Sound Level Meter	Cirrus	CR:171B	G079816	03/05/2024	213697
	Pre-Amplifier	Cirrus	MV:200F	13588F		213697
	½" Pre-Polarised Microphone	Cirrus	MK:224	213074D		213697
	Outdoor kit	Cirrus	MK172	0906	03/05/2024	213747
	Calibrator	Cirrus	CR:515	106193	02/12/2025	254578
NMP02B	Sound Level Meter	Acoem	Fusion	16431	01/07/2026	TCRT26/2500
	½" Pre-Polarised Microphone	GRAS	40CD	632476		TCRT26/2500
	Outdoor kit	Acoem	DMK01	2506075		TCRT26/2501
	Calibrator	RION	NC-74	34167510		TCRT26/2499
NMP03A	Sound Level Meter	Cirrus	CR:171B	G301839	30/01/2026	TCRT26/2049
	Pre-Amplifier	Cirrus	MV:200F	10630F		TCRT26/2049
	½" Pre-Polarised Microphone	Cirrus	MK:224	217396D		TCRT26/2049
	Outdoor kit	Cirrus	MK170	0937	30/01/2026	TCRT26/2050
	Calibrator	Cirrus	CR:515	93674	11/07/2025	TCRT25/1538
NMP03B	Sound Level Meter	Acoem	Fusion	16433	05/05/2025	DTE-L-25-PVE-92524
	½" Pre-Polarised Microphone	GRAS	40CD	640032		DTE-L-25-PVE-92524
	Outdoor kit	Acoem	DMK01	2506074		DTE-L-25-PVE-92524
	Calibrator	RION	NC-74	34167510	01/07/2026	TCRT26/2499

Location	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
NMP04A	Sound Level Meter	Cirrus	CR:171B	G304870	23/04/2024	213251
	Pre-Amplifier	Cirrus	MV:200F	13628F		213251
	½" Pre-Polarised Microphone	Cirrus	MK:224	217206A		213251
	Outdoor kit	Cirrus	MK:170	213251	24/04/2024	213252
	Calibrator	Cirrus	CR:515	83349	22/01/2026	TCRT26/2028
NMP04B	Sound Level Meter	Cirrus	CR:171B	G301839	30/01/2026	TCRT26/2049
	Pre-Amplifier	Cirrus	MV:200F	10630F		TCRT26/2049
	½" Pre-Polarised Microphone	Cirrus	MK:224	217396D		TCRT26/2049
	Outdoor kit	Cirrus	MK170	0937	30/01/2026	TCRT26/2050
	Calibrator	Cirrus	CR:515	93674	11/07/2025	TCRT25/1538
NMP05	Sound Level Meter	Cirrus	CR:171B	G079816	03/05/2024	213697
	Pre-Amplifier	Cirrus	MV:200F	13588F		213697
	½" Pre-Polarised Microphone	Cirrus	MK:224	213074D		213697
	Outdoor kit	Cirrus	MK172	0906	03/05/2024	213747
	Calibrator	Cirrus	CR:515	106193	02/12/2025	254578
NMP06	Sound Level Meter	SVANTEK	SV307A	104986	17/03/2026	1571496
	½" Pre-Polarised Microphone	SVAN	ST30	143358		1571496
	Calibrator	SVAN	SV33B	151866	18/04/2024	N/A
NMP07	Sound Level Meter	SVANTEK	SV307A	119148	17/03/2026	1517725
	½" Pre-Polarised Microphone	SVAN	ST30	178392		1517725
	Calibrator	SVAN	SV33B	151866	18/04/2024	N/A

Location	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
NMP08	Sound Level Meter	Acoem	Fusion	16432	05/05/2025	DTE-L-25-PVE-92523
	½” Pre-Polarised Microphone	GRAS	40CD	627399		DTE-L-25-PVE-92523
	Outdoor kit	Acoem	DMK01	2506077		DTE-L-25-PVE-92523
	Calibrator	RION	NC-74	34167510	01/07/2026	TCRT26/2499

The L_{Aeq}, L_{A90}, L_{A10} and $L_{Amax,F}$ levels were measured over 15-minute periods (with the exception of night-time measurements at NMP02B), however the time history was captured to allow resampling of these values. Measurements started and ended at the times shown in Table E.

The sound level meters were calibrated before the measurements using the handheld acoustic calibrator and the calibration was checked upon completion of the survey. Calibration offsets from before and after the measurements and the resulting drift are shown in Table E below. The calibration chain of equipment has been maintained to traceably to national standards, no greater than one year for sound calibrators and two years for sound level meters and the relevant calibration certificates are shown in **Appendix C.**

Table E: Baseline Sound Survey Field Calibrations

Location	Time Period		Calibration Offset		
	Start	End	Before	After	Drift
NMP01	27/03/2026 13:45	02/04/2026 09:45	0.0	0.0	0.0
NMP02A	27/03/2026 11:30	27/03/2026 19:30	-0.2	-0.1	0.1
NMP02B	02/04/2026 01:38	02/04/2026 01:55	-0.0	0.0	0.0
NMP03A	18/03/2026 14:00	20/03/2026 10:45	0.4	0.2	-0.2
NMP03B	20/03/2026 10:45	27/03/2026 12:15	0.5	0.7	0.2
NMP04A	18/03/2026 15:45	20/03/2026 23:15	-0.1	-0.1	0.0
NMP04B	22/03/2026 19:45	27/03/2026 10:00	0.4	0.2	-0.2
NMP05	18/03/2026 16:30	27/03/2026 09:45	-0.2	-0.3	-0.1
NMP06	20/03/2026 08:39	26/03/2026 16:30	-0.2	-0.2	0.0
NMP07	20/03/2026 14:39	27/03/2026 08:45	0.1	0.0	-0.1
NMP08	20/03/2026 10:00	27/03/2026 14:00	0.0	0.1	0.1

4.2 Meteorological Conditions

4.2.1 Receptor Locations

Meteorological conditions were monitored at the locations and over the periods shown in Table F below. Measurements were made with Larson Daivs Vantage Vue stations, taking samples over 15-minute periods. Graphs of the weather data are shown in **Appendix D.**

Table F: Weather Survey Periods

Location	Time Period	
	Start	End
NMP01	27/03/2026 13:30	02/04/2026 09:45
NMP02A	27/03/2026 11:30	02/04/2026 11:45
NMP03	20/03/2026 11:00	27/03/2026 10:00
NMP04A	18/03/2026 15:45	20/03/2026 10:30

At NMP01, weather conditions were suitable for noise monitoring, with temperatures from 1.3 to 18.1°C, wind speeds up to 3.6 m/s from a predominantly NNE direction, and four distinct periods of rainfall of up to 0.5 mm over a 15-minute period, which is considered to have a negligible effect on the baseline sound environment.

At NMP02A, weather conditions were suitable for noise monitoring, with temperatures from 1.8 to 17.2°C, wind speeds predominantly up to 4.9 m/s, with occasional short periods of wind up to 5.8 m/s, from a predominantly SW to S direction, and four distinct periods of rainfall of up to 0.5 mm over a 15-minute period.

The short periods of time where wind speeds were above 5.0 m/s were between the 28th and 29th the of March and the 30th and 31st March and had the potential to impact the measured sound levels at NMP02A and NMP02B, however due to the sound level meter failing at NMP02A (see Section 4.3) the measured baseline levels at NMP02A during the periods where high wind speeds were experienced have not been utilised within the assessment.

At NMP03, weather conditions were suitable for noise monitoring, with temperatures from 1.7 to 18.1°C, wind speeds up to 2.2 m/s from a predominantly SE to S direction, and sporadic short periods of rainfall of up to 0.6 mm over a 15-minute period from midday on Tuesday 24th March onwards, which are considered to have a negligible effect on the baseline sound environment.

At NMP04A, weather conditions were suitable for noise monitoring, with temperatures from 3.2 to 17.2°C, wind speeds up to 3.1 m/s from a predominantly SSE direction, and no periods of rainfall.

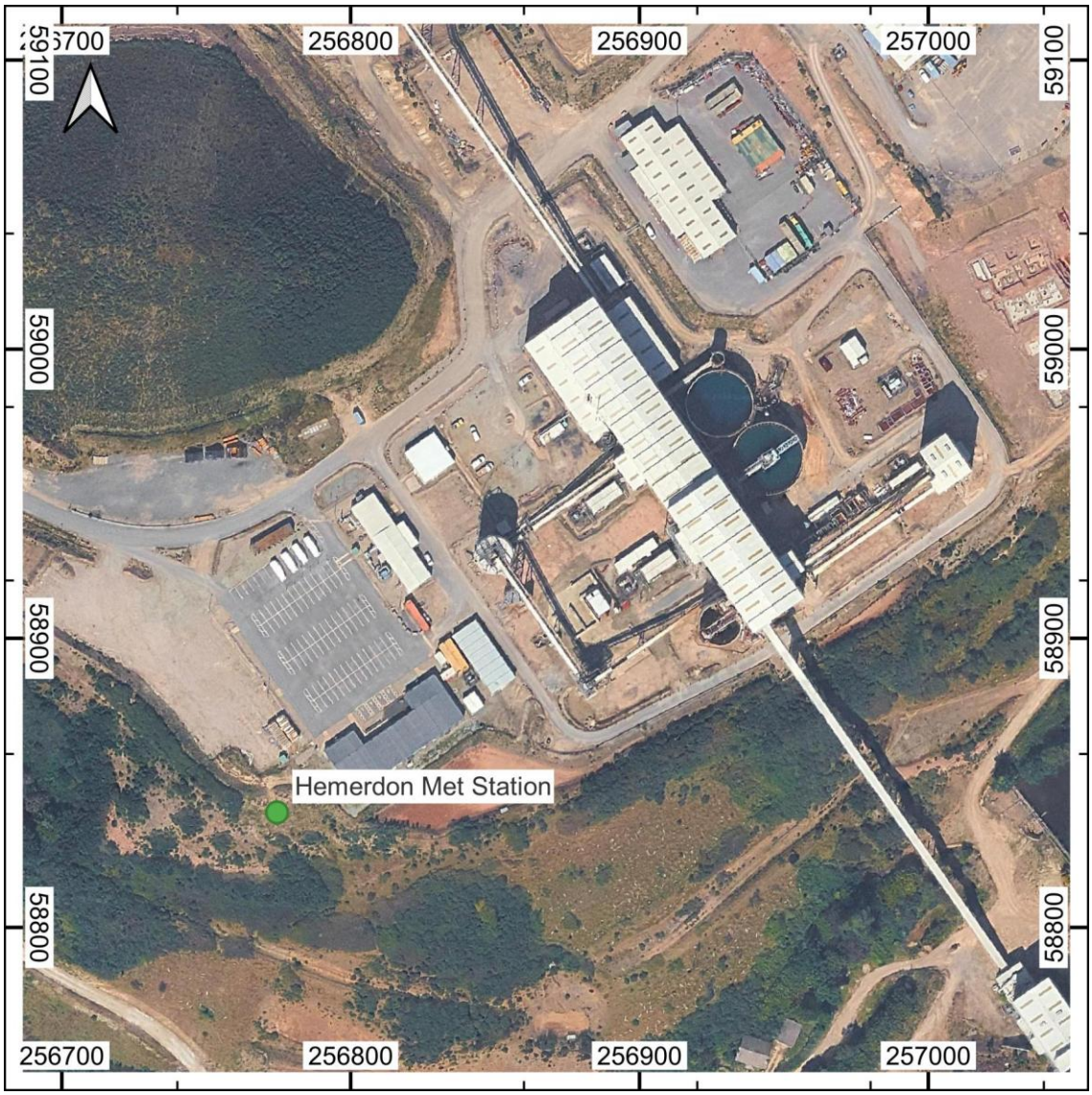
4.2.2 Mine Location

In addition to the measurement of meteorological conditions at the receptor locations shown in Table F the prevailing weather conditions were also recorded were recorded on the Site for the entirety of the survey period.

The location of the met station on the Site at a location that is considered to be more exposed to the elements than the receptor locations, i.e., it is located at a geographically higher than all but one (Mumford Cottage) of the receptor locations and therefore it is considered that would be more susceptible to high wind speeds.

The location of the met station is shown on Figure D and the height of the station is 172.6 m above sea level.

Figure D: Location of Hemerdon Mine Met Station



From analysis of the data, there were a number of periods where the wind speeds were in excess of 5 m/s and short intermittent spells of rain which were considered unsuitable for undertaking environmental sound measurements.

These periods are shown in Table G.

Table G: Hemerdon Met Station - Periods of Inclement Weather

Date	Time
18/03/26	15.00 - 16.45, 17.00 - 20.15, 20.30 - 20.45, 21.00 - 00.15
19/03/26	00.30 - 01.00, 03.30 - 04.30, 08.45 - 16.45, 20.00 - 21.15
20/03/26	01.45 - 02.00, 11.15 - 11.30
22/03/26	16.00 - 16.15, 17.30 - 18.00, 18.45 - 19.00, 20.15 - 20.30
23/03/26	01.30 - 02.00, 02.30 - 02.45
24/03/26	07.15 - 07.30, 08.15 - 10.15, 10.30 - 10.45, 11.00 - 12.00, 12.15 - 20.15 20.45 - 21.00, 22.00 - 22.15, 23.30 - 00.15

Date	Time
25/03/26	00.45 - 01.15, 02.45 - 05.00, 05.15 - 06.15, 06.30 - 07.00, 07.30 - 08.00 08.15 - 08.30, 09.00 - 12.45, 13.00 - 16.15, 16.45 - 17.15, 17.30 - 17.45
26/03/26	12.00 - 12.15, 16.15 - 16.30
27/03/26	08.00 - 08.15, 08.30 - 08.45, 10.45 - 11.00, 11.15 – 14.15, 15.00 – 15.15 15.45 - 17.00 ,19.15 - 19.30
28/03/26	08.45 - 18.30
29/03/26	11.30 - 20.00, 20.30 - 20.45, 23.15 - 23.30
30/03/26	11.45 - 12.45, 13.00 - 18.45, 19.00 - 19.15
31/03/26	15.30 - 15.45, 17.00 - 17.15, 19.45 - 21.00

For completeness the periods above have been removed from the measured baseline data at each NSR and the resultant levels analysed to determine the typical values for use in the assessment.

This is considered a very robust approach as, with reference to Section 4.2.2, the Met Station at the mine is far more exposed to the prevailing weather conditions including high winds.

4.3 Survey Duration at Each NSR

As previously stated, the survey was undertaken between the 18th of March and the 2nd of April; however, baseline sound levels were not measured for the entirety of this period at each NSR.

In view the above Table H details the duration of the baseline survey at each NSR.

Table H: Survey Duration at Each NSR

Location	Survey Start		Survey End		Total Duration		
	Date	Time	Date	Time	Days	Hours	Mins
NMP01	27/03	13:45	02/04	09:45	6	20	0
NMP02A[1]	27/03	11:30	27/03	19:30	0	8	0
NMP02B	02/04	01:38	02/04	01:55	0	0	17
NMP03A	18/03	14:00	20/03	10:45	1	20	45
NMP03B	20/03	10:45	27/03	12:15	7	1	30
NMP04A	18/03	15:45	20/03	23:15	2	7	30
NMP04B	22/03	19:45	27/03	10:00	4	14	15
NMP05	18/03	16:30	27/03	09:45	8	6	45
NMP06	20/03	15:00[2]	26/03	16:30	6	1	30
NMP07	20/03	15:00[2]	27/03	08:45	6	17	45
NMP08	20/03	10:00	27/03	14:00	7	4	0
Note 1: Shortened periods due to meter failure. Note 2: Equipment started online remotely							

4.3.1 Further Discussion regarding Survey Durations

With regards to the survey duration, it was proposed that baseline sound levels would be measured at each NSR for a continuous period including both weekday and weekend periods whilst suitable weather conditions prevailed and if adverse weather conditions were experienced then this period would be extended.

With reference to 4.2 though there were periods of inclement weather identified by the met station in the mine, (which have been removed from the data set) it is considered that there was sufficient baseline data measured which was not influenced by the weather.

With reference to Table C it can be seen that NMP03A and NMP03B are both representative of Birchland Farm and NMP04A and NMP04B were both representative of Galva House. The reason why there were two separate survey periods at these NSRs were due to meter/battery failure and/or equipment availability.

Taking the above into consideration the following has been noted at each monitoring location.

4.3.1.1 NMP01

Nearly one-full weeks of data including a weekend period – considered a representative survey period.

4.3.1.2 NMP02A/02B

Shortened daytime period of only 8-hours and short fully attended night-time period of 17-minutes - not considered a representative survey period.

As stated in Table H the reason for this was due to meter failure at this location; however, the following should be noted:

- NMP02A was located close to NMP03A and NMP03B and therefore it is considered that the measured baseline levels at these NMPs would be representative of the baseline sound levels at NMP02A.
- The combined period at NMP03A and NMP03B was considered a representative survey period (see Section 4.3.1.3).
- To represent a worst-case scenario measured daytime and night-time background sound levels at NMP02A/02B and NMP03A/03B would be compared at the lower of the values would be utilised within the assessment.
- NMP02A/02B is representative of Dartmoor Zoo which is a commercial receptor and therefore considered less sensitive to noise; however, it is acknowledged that there is one permanent resident at the Zoo.

4.3.1.3 NMP03A/03B

Combined period in excess of one-full week including a weekend period – considered a representative survey period.

4.3.1.4 NMP04A/04B

Combined period of nearly one-full week; though due to meter failure, no data from Friday the 20th March at 23:15 to Sunday the 22nd of March at 19:45 i.e. the majority of the weekend period.

However, data was measured over a full Sunday night-time period which is considered one of the quietest periods of the week.

With regards to the weekend daytime period to represent a worst-case scenario the levels measured at NMP03A/03B will be utilised within the assessment.



In view of the above, this is considered a representative survey period.

4.3.1.5 NMP05

Survey period in excess of one-full week including a weekend period – considered a representative survey period.

4.3.1.6 NMP06

Nearly one-full weeks of data including a weekend period – considered a representative survey period.

4.3.1.7 NMP07

Nearly one-full weeks of data including a weekend period – considered a representative survey period.

4.3.1.8 NMP08

Survey period in excess of one-full week including a weekend period – considered a representative survey period.

4.3.2 Operational Periods and Baseline Levels

As stated in Section 2.3 of the NIA the operations at the mine are divided into the following periods;

- 07:00 to 19:00 – All crushing and processing activities operational, including the MFE with the exception of the loading shovel on the ROM pad. Haul trucks from the pit to the ROM and directly tipping in Primary Crusher.
- 19:00 to 22:00 - All crushing and processing activities operational including the MFE and the loading shovel on the ROM pad including the movement of dump trucks from the extraction area.
- 22:00 to 07:00 – All processing activities operational, including the MFE but no primary and secondary crushing activities or mobile plant movements.

In view of this the baseline survey results reflect the operational times described above for both weekday and weekend periods.

5.0 Results

5.1 Summary of Results

A summary of the single figure free-field sound indices for all measurements is shown in Table I, and are presented along with histograms of the background sound levels in **Appendix D** and presented in full in Annex A.

With regards to the weekend period this is defined as from 22:00 on a Friday until 22:00 on a Sunday, the exception being at NMP04A/04B during the weekend night-time period which was from 22:00 on Sunday to 07:00 on Monday.

Table I: Summary of Measured Residual and Background Sound Levels, dB

Measurement Details				Residual Sound Level, dB $L_{Aeq,T}$		Background Sound Level, dB $L_{A90,T}$	
Date Range	**Location**	**Period**	**Time HH:MM**	**Range**	**Typical***	**Range**	**Typical***
Fri 27/03/2026 - Thu 02/04/2026	NMP01	Weekday - Day	07:00 - 19:00	34 - 57	40	31 - 44	34
		Weekday - Evening	19:00 - 22:00	32 - 48	36	31 - 38	32
		Weekday - Night	22:00 - 07:00	31 - 57	35	29 - 42	32
		Weekend - Day	07:00 - 19:00	35 - 52	39	32 - 41	36
		Weekend - Evening	19:00 - 22:00	33 - 42	39	31 - 38	33
		Weekend - Night	22:00 - 07:00	32 - 60	34	30 - 43	32
Fri 27/03/2026	NMP02A	Day	11:30 - 19:30	38 - 58	44	31 - 42	35
Thu 02/04/2026	NMP02B	Night	01:38 - 01:55	29 - 45	31	27 - 32	28
Wed 18/03/2026 - Fri 27/03/2026	NMP03A/03B	Weekday - Day	07:00 - 19:00	34 - 57	40	28 - 42	33
		Weekday - Evening	19:00 - 22:00	28 - 56	31	25 - 46	27
		Weekday - Night	22:00 - 07:00	25 - 60	31	23 - 47	27
		Weekend - Day	07:00 - 19:00	33 - 50	39	26 - 37	29
		Weekend - Evening	19:00 - 22:00	24 - 46	29	22 - 34	25

Measurement Details				Residual Sound Level, dB $L_{Aeq,T}$		Background Sound Level, dB $L_{A90,T}$	
		Weekend - Night	22:00 - 07:00	23 - 49	29	20 - 37	25
Wed 18/03/2026 - Fri 27/03/2026	NMP04A/04B	Weekday - Day	07:00 - 19:00	29 - 54	37	25 - 49	27
		Weekday - Evening	19:00 - 22:00	24 - 51	40	22 - 49	25
		Weekday - Night	22:00 - 07:00	24 - 53	34	22 - 49	25
		Weekend - Day	07:00 - 19:00	-	-	-	-
		Weekend - Evening	19:00 - 22:00	25 - 48	26	20 - 24	23
		Weekend - Night	22:00 - 07:00	24 - 50	30	21 - 36	24
Wed 18/03/2026 - Fri 27/03/2026	NMP05	Weekday - Day	07:00 - 19:00	38 - 64	43	35 - 45	37
		Weekday - Evening	19:00 - 22:00	36 - 47	38	34 - 41	35
		Weekday - Night	22:00 - 07:00	34 - 56	37	34 - 46	35
		Weekend - Day	07:00 - 19:00	39 - 58	43	35 - 41	36
		Weekend - Evening	19:00 - 22:00	34 - 46	36	34 - 37	35
		Weekend - Night	22:00 - 07:00	34 - 53	36	34 - 42	35
Fri 20/03/2026 - Thu 26/03/2026	NMP06	Weekday - Day	07:00 - 19:00	39 - 61	46	31 - 42	35
		Weekday - Evening	19:00 - 22:00	32 - 59	35	27 - 40	29
		Weekday - Night	22:00 - 07:00	26 - 58	30	25 - 48	27
		Weekend - Day	07:00 - 19:00	39 - 58	46	30 - 39	34
		Weekend - Evening	19:00 - 22:00	28 - 52	34	23 - 31	27
		Weekend - Night	22:00 - 07:00	25 - 58	31	23 - 50	28
Fri 20/03/2026 - Thu 26/03/2026	NMP07	Weekday - Day	07:00 - 19:00	36 - 59	41	33 - 51	35
		Weekday - Evening	19:00 - 22:00	33 - 55	35	31 - 47	33
		Weekday - Night	22:00 - 07:00	28 - 63	32	26 - 51	30
		Weekend - Day	07:00 - 19:00	34 - 61	41	31 - 39	34

Measurement Details				Residual Sound Level, dB $L_{Aeq,T}$		Background Sound Level, dB $L_{A90,T}$	
		Weekend - Evening	19:00 - 22:00	32 - 50	36	29 - 40	31
		Weekend - Night	22:00 - 07:00	30 - 50	33	27 - 39	31
Fri 20/03/2026 - Thu 26/03/2026	NMP08	Weekday - Day	07:00 - 19:00	38 - 57	43	31 - 49	35
		Weekday - Evening	19:00 - 22:00	30 - 49	37	29 - 42	32
		Weekday - Night	22:00 - 07:00	30 - 60	36	30 - 52	33
		Weekend - Day	07:00 - 19:00	38 - 53	43	33 - 42	36
		Weekend - Evening	19:00 - 22:00	38 - 49	41	36 - 40	38
		Weekend - Night	22:00 - 07:00	38 - 51	41	36 - 44	40
*Values determined from histograms.							

5.2 Baseline Sound Environment

Table J sets out the perceived sound environment at each monitoring location, using observations during the setup and demounting of the surveys as well as night-time attended observations which were made during a weekend period.

Table J: Summary of Baseline Sound Environment

Location	Period	Perceived Sound Environment
NMP01 Mumford Cottage	Day	Sound climate at this location was dominated by plant noise from the Sibelco site to the southeast. The Sibelco site is quite significantly within a valley to the south.
	Evening	No observations undertaken.
	Night	Dominant noise source was the Sibelco site to the southeast, consisting of a low frequency rumble, a distant but clear engine sound, occasional alarm sounds, aggregate movement noises, and infrequent white noise reversing alarms. This was clearly distinctive compared to the residual sound environment. There were additional contributions from nearby sheep bleating.
NMP02 Dartmoor Zoo	Day	No notable noise sources during setup. However, the meter was positioned adjacent to the road that the staff use to enter and exit the car park (staff only, not customers) as well as bin lorries.

Location	Period	Perceived Sound Environment
	Evening	No observations undertaken due to the Dartmoor Zoo being closed.
	Night	Dominant noise source was distant industrial noise from the north/ northeast, believed to be the Sibelco site, consisting of a constant industrial sound with occasional barely audible white noise reversing alarms. Additionally, birdsong and ducks quacking.
NMP03 Birchland Farm	Day	At this location, birdsong was the dominant source, with occasional contributions from distant children playing faintly.
	Evening	In the evening, the breeze through vegetation was the only source of noise.
	Night	Wind through the vegetation was the only sound source. Occasional animal sounds (cows and dogs) were also audible.
NMP04 Galva House	Day	Dominant noise source was birdsong and the breeze rustling the tree leaves. Occasionally a vehicle drove along one of the roads nearby which could be heard faintly. Very few sound sources in the area.
	Evening	During the evening, it was noted that distant road traffic was very faintly audible believed to be from the A38.
	Night	Dominant noise source was that from the wind breezing, which itself was very low. It is hard to say whether distant/faint road traffic noise can be heard as it sounds very quiet generally. Occasional owl hoots, but there were no other animal sounds.
NMP05 Windwhistle Farm	Day	Dominant noise source at this location was from birdsong and wind rustling the tree leaves. During setup, there was also the sound of someone cutting grass in a nearby field.
	Evening	During the evening, running water was audible from a stream located adjacent to the road, as well as the breeze through the vegetation.
	Night	The sound environment dominated by running water from the stream, as well as wind through surrounding vegetation.,
NMP06 Newnham Park	Day	The dominant noise source at this location was birdsong, with occasional cars on the B3417 dominant when passing. During setup, the breeze through vegetation was not present, but was considered to be a potential significant source.
	Evening	During the evening, the sound environment was dominated by occasional passing road traffic on the B3417 and owls hooting with distant road traffic noise, barely audible.
	Night	During the night-time, distant road traffic noise was very faintly audible, along with gentle rustle of the breeze through the trees.

Location	Period	Perceived Sound Environment
NMP07 Boringdon Hall	Day	Dominant sound source influencing the sound climate was tree leaves rusting in the breeze and birdsong.
	Evening	During the evening, the sound environment was broadly the same, but as sound levels were lower, distant road traffic could be heard.
	Night	During the night-time, the breeze making trees creak was the main sound source, with levels very low. No plant noise or road traffic noise. Individual cars in the distance audible.
NMP08 Portworthy	Day	During the daytime, the dominant source of noise was mineral processing activity emanating from the Imerys site to the North which was a constant low frequency drone, along with road traffic noise from the local road network when vehicles pass and birdsong.
	Evening	During the evening, the mineral processing noise from the Imerys site remained, along with the breeze through vegetation from the valley to the south.
	Night	At night-time, the sound environment remained similar to the evening period.

5.2.1 Further Discussion on Baseline Sound Environment

As previously stated in Section 4.0 access could not be gained to the land associated with NSR01, NSR03 and NSR05; therefore, monitoring was undertaken on adjacent land at locations considered representative of these receptors.

With regards to NSR05 (Windwhistle Farm) the monitoring position was located on land to the south of the receptor which was the only permissible option for the monitoring at this receptor.

As described in Table J at this location the baseline sound environment was heavily influenced by running water from the nearby stream. As access could not be gained to the property itself, it was not possible to determine how much of an influence this sound source had at the property.

In view of the above and to present a robust baseline scenario for the assessment, the baseline sound levels measured at NSR04 (Galva House), which is located approximately 475 m to the north-east of Windwhistle Farm, have been utilised at NSR05.

5.3 Representative Baseline Sound Levels

With reference to Sections 5.1 and 5.2, the baseline sound levels ($L_{A90,T}$) which have been utilised within the assessment are shown in Table K.

Table K: Representative Baseline Sound Levels, dB

Location	Period	Background Sound Level, dB $L_{A90,Tr}$
NSR01 – Mumford Cottage	Weekday - Day	34
	Weekday - Evening	32
	Weekday - Night	32
	Weekend - Day	36
	Weekend - Evening	33
	Weekend - Night	32
NSR02[1] - Dartmoor Zoo	Weekday - Day	33
	Weekday - Evening	27
	Weekday - Night	27
	Weekend - Day	29
	Weekend - Evening	25
	Weekend - Night	25
NSR03 – Birchland Farm	Weekday - Day	33
	Weekday - Evening	27
	Weekday - Night	27
	Weekend - Day	29
	Weekend - Evening	25
	Weekend - Night	25
NSR04 – Galva House	Weekday - Day	27
	Weekday - Evening	25
	Weekday - Night	25

Location	Period	Background Sound Level, dB $L_{A90,Tr}$
	Weekend – Day[2]	29
	Weekend - Evening	23
	Weekend - Night	24
NSR05 – Windwhistle Farm[3]	Weekday - Day	27
	Weekday - Evening	25
	Weekday - Night	25
	Weekend - Day	29
	Weekend - Evening	23
	Weekend - Night	24
NSR06 – Newnham Park	Weekday - Day	35
	Weekday - Evening	29
	Weekday - Night	27
	Weekend - Day	34
	Weekend - Evening	27
	Weekend - Night	28
NSR07 – Boringdon Hall	Weekday - Day	35
	Weekday - Evening	33
	Weekday - Night	30
	Weekend - Day	34
	Weekend - Evening	31
	Weekend - Night	31
NSR08 - Portworthy	Weekday - Day	35
	Weekday - Evening	32
	Weekday - Night	33
	Weekend - Day	36
	Weekend - Evening	38
	Weekend - Night	40

[1] Representative levels at NSR03
[2] Representative weekend daytime baseline sound level at NSR03
[3] Representative levels at NSR04

6.0 Baseline Sound Survey - Uncertainties

As advised in BS 4142:2014+A1:2019, areas of uncertainty associated with measurements of sound include:

- the complexity and level of variability of the residual acoustic environment;
- the location(s) selected for taking the measurements;
- the distance between sources of sound and the measurement location and intervening ground conditions;
- the number of measurements taken;
- the measurement time intervals;
- the range of times when the measurements have been taken;
- the range of suitable weather conditions during which measurements have been taken;
- the measurement method and variability between different practitioners in the way the method is applied;
- the level of rounding of each measurement recorded; and
- the instrumentation used.

With reference to the above, the measurement uncertainty was minimised during the baseline sound survey as follows:

- baseline sound measurements were taken at positions representative of the noise-sensitive receptors to the proposed processing plant;
- the measurement positions were located away from reflecting surfaces and as far as reasonably practicable leafy vegetation;
- the long-term measurements included daytime, evening and night-time periods for typical midweek and weekend periods;
- the prevailing weather conditions were recorded for the entirety of the baseline survey utilising a number of weather stations located at different locations around the Site and the weather station located on the Site itself.
- Daytime and night-time subjective observations were made by the qualified acoustician[1]
- all baseline survey results have been rounded to the nearest decibel; and
- the instrumentation was suitable according to BS EN 61672-1.

[1] The acoustician has over 12 years of relevant experience and holds the I.o.A Diploma in Acoustics and Noise Control.

Appendix A Glossary of Terminology

Baseline Sound Survey Report

Hemerdon Mine

Drakelands Restoration Ltd

SLR Project No.: 403.066596.00001.001

11 August 2026

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table A-1: Sound Levels Commonly Found in the Environment

Sound Level	Location
0 dBA	Threshold of hearing
20 to 30 dBA	Quiet bedroom at night
30 to 40 dBA	Living room during the day
40 to 50 dBA	Typical office
50 to 60 dBA	Inside a car
60 to 70 dBA	Typical high street
70 to 90 dBA	Inside factory
100 to 110 dBA	Burglar alarm at 1 m away
110 to 130 dBA	Jet aircraft on take off
140 dBA	Threshold of Pain

Appendix B Photographs of Measurement Locations

Baseline Sound Survey Report

Hemerdon Mine

Drakelands Restoration Ltd

SLR Project No.: 403.066596.00001.001

11 August 2026

B.1 NMP01



B.2 NMP02



B.3 NMP03A/03B



B.4 NMP04A/04B



B.5 NMP05



B.6 NMP06



B.7 NMP07



B.8 NMP08



Appendix C Equipment Calibration Certificates

Baseline Sound Survey Report

Hemerdon Mine

Drakelands Restoration Ltd

SLR Project No.: 403.066596.00001.001

11 August 2026

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **03 May 2024** CERTIFICATE NUMBER **213697**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
R.Thomas
Electronically signed:

Sound Level Meter : IEC 61672-3:2013

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171B	
Serial number:	G079816	
Class:	1	
Firmware version:	3.3.3386	

Test summary

Date of calibration: 03 May 2024

The calibration was performed respecting the requirements of ISO/IEC 17025:2017.
Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION

Environmental conditions

The following conditions were recorded at the time of the test:

Before	Pressure:	99.90 kPa	Temperature:	20.9 °C	Humidity:	51.8 %
After	Pressure:	99.78 kPa	Temperature:	20.7 °C	Humidity:	51.7 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Signal Generator	SIGLENT	SDG1032X	SDG1XDDQ6R6309
Attenuator	Cirrus Research	ZE:952	93892
Environmental Monitor	Comet	T7510	16966334

Additional instrument information

Instruction manual:

Reference level range: Single range

Pattern approval: No

Source of pattern approval: -

Preamplifier

Model: MV:200F

Serial number: 13588F

Microphone

Model: MK:224

Serial number: 213074D

Test results summary

Test	Result
Toneburst response	Complies
Electrical noise-floor	Complies
Linearity	Complies
Electrical Frequency weightings	Complies
Frequency and time weightings at 1 kHz	Complies
C-weighted peak	Complies
Overload indication	Complies
High level stability	Complies
Long-term stability	Complies
Acoustic Frequency weightings	Complies

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research**

DATE OF ISSUE **07 May 2024** CERTIFICATE NUMBER **213747**

Cirrus Research
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
R.Thomas
Electronically signed:

Outdoor Kit Calibration Information

Instrument information

Manufacturer:	Cirrus Research plc
Model:	CK:675
Preamp Model	MK:172
Microphone Serial Number	0906
Primary Calibration Certificate Number	213697

Summary

Date of calibration: 03 May 2024

The calibration was performed respecting the requirements of ISO/IEC 17025:2017.
This information is in addition to the primary calibration certificate for the sound level meter. The calibration certificate number is shown above and should be used in conjunction with this additional information.

The sound level meter detailed above has been calibrated to the published test and calibration data as detailed in the instrument handbook, using the techniques recommended in the standards to which the instrument has been designed.

All calibration procedures were carried out by substituting the microphone capsule with a suitable electrical signal, apart from the final acoustic calibration.

The microphone capsule was calibrated using an electrostatic calibration system to produce the frequency response and a reference acoustic source for the final sensitivity testing.

In addition to the calibration of the complete sound level meter in its standard configuration, (instrument, MV:200 series preamplifier and microphone capsule), the sound level meter and microphone capsule were tested with the MK:172 preamplifier in place of the MV:200 series.

The sound level meter, G079816 , has been tested with Outdoor Microphone/Preamplifier Type MK:172 Serial Number 0906 and conforms to the requirements of the standards stated in the instrument user manual.

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **02 December 2025** CERTIFICATE NUMBER **254578**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
A.Windrass
Electronically signed:

Sound Calibrator : IEC 60942:2017

Instrument information

Manufacturer: Cirrus Research plc

Model: CR:515

Serial number: 106193

Class: 1

Notes:

Test summary

Date of calibration: 02 December 2025

The sound calibrator detailed above has been calibrated to the published data as described in the operating manual and in the half-inch configuration. The procedures and techniques used are as described in IEC60942_2017 Annex B – Periodic Tests and three determinations of the sound pressure level, frequency and total distortion were made.

The sound pressure level was measured using a WS2F condenser microphone type MK:224 manufactured by Cirrus Research plc.

The results have been corrected to the reference pressure of 101.33 kPa using the manufacturer's data.

As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2017, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2017.

The manufacturer’s product information indicates that this model of sound calibrator has been formally pattern approved to IEC60942_2017 Annex A to Class 1. This has been confirmed by PhysikalischTechnische Bundesanstalt (PTB) and Laboratoire National d'Essais (LNE).

Notes:

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION

Certificate Number: **254578**

Environmental conditions

The following conditions were recorded at the time of the test:

Pressure: 99.23 kPa
Temperature: 23.1 °C
Humidity: 34.8 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Distortion Meter	Keithley	2015	1053426
Environmental Monitor	Comet	T7510	21962628

Initial Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Acceptance limit	Uncertainty
Level (dB)	94.00	93.68	93.67	93.69	**93.68**	-0.32	±0.25	0.11 dB
Distortion (%)	< 3.00	0.71	0.72	0.24	**0.56**	0.56	+2.50	0.13 %
Frequency (Hz)	1000.0	1000.0	1000.2	1000.3	**1000.2**	0.2	±7.0	0.1 Hz

Adjusted Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Acceptance limit	Uncertainty
Level (dB)	94.00	94.01	94.02	94.02	**94.02**	0.02	±0.25	0.11 dB
Distortion (%)	< 3.00	0.54	0.38	0.33	**0.42**	0.42	+2.50	0.13 %
Frequency (Hz)	1000.0	1000.3	1000.2	1000.3	**1000.3**	0.3	±7.0	0.1 Hz

End of results

CERTIFICATE OF CALIBRATION

Date of Issue: 30 January 2026 **Certificate Number: TCRT26/2049**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory



K. Mistry

Customer	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
Order No.	016774-403
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Cirrus	Sound Level Meter	CR:171B	G301839
Cirrus	Firmware		V5.8.3251
Cirrus	Pre Amplifier	MV:200	10630F
Cirrus	Microphone	MK:224	217396D
Cirrus	Calibrator	CR:515	93674
	Calibrator adaptor type if applicable		N/A

Performance Class 1

Test Procedure TP 10. SLM 61672-3:2013

Procedures from IEC 61672-3:2013 were used to perform the periodic tests.

Pattern Approved to IEC 61672-1:2002 No

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013

Date Received 10 November 2025 ANV Job No. TRAC25/11491

Date Calibrated 30 January 2026

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Previous Certificate

Dated	*Certificate No.*	*Laboratory*
26 October 2023	201509	Cirrus Research

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number
TCRT26/2049

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	Optimus User Manual + Technical Data Part B		
SLM instruction manual ref / issue	12/17/2.4 EN + 06/09/OptimusTechnical/02		
Date provided or internet download date	17 February 2022	Source	Cirrus Web Site

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Specified		
Customer or Lab Calibrator	Customers Calibrator		
Calibrator adaptor type if applicable	N/A		
Calibrator cal. date	11 July 2025		
Calibrator cert. number	TCRT25/1538		
Calibrator cal cert issued by Lab	ANV Measurement Systems		
Calibrator SPL @ STP	94.01	dB	Calibration reference sound pressure level
Calibrator frequency	1000.30	Hz	Calibration check frequency
Reference level range	Single Range	dB	

Accessories used or corrected for during calibration - None

Environmental conditions during tests	Start	End	
Temperature	23.82	23.53	± 0.30 °C
Humidity	36.1	39.8	± 3.00 %RH
Ambient Pressure	97.76	97.69	± 0.03 kPa

Indication at the Calibration Check Frequency			
Initial indicated level	93.3 dB	Adjusted indicated level	93.7 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±			1000.30 dB

Self Generated Noise

Microphone installed - Less Than 20.4 dB A Weighting

Microphone replaced with electrical input device - UR = Under Range indicated

Weighting	A			C			Z		
	14.5	dB	UR	16.3	dB	UR	28.2	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by ISO.

Additional Comments

…… END ……

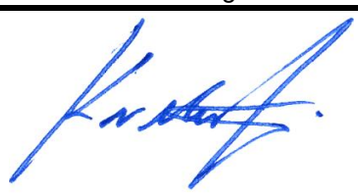
Calibrated by: B. Bogdan

CERTIFICATE OF CALIBRATION

Date of Issue: 30 January 2026 **Certificate Number: TCRT26/2050**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory



K. Mistry

Customer	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
Order No.	016774-403
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Cirrus	Sound Level Meter	CR:171B	G301839
Cirrus	Firmware		V5.8.3251
Cirrus	Outdoor Kit	MK:170	0937
Cirrus	Microphone	MK:224	217396D
Cirrus	Calibrator	CR:515	93674
	Calibrator adaptor type if applicable		N/A

Performance Class 1

Test Procedure TP 10. SLM 61672-3:2013

Procedures from IEC 61672-3:2013 were used to perform the periodic tests.

Pattern Approved to IEC 61672-1:2002 No

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013

Date Received 10 November 2025 ANV Job No. TRAC25/11491

Date Calibrated 30 January 2026

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Previous Certificate

Dated	*Certificate No.*	*Laboratory*
26 October 2023	201509	Cirrus Research

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number
TCRT26/2050

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	Optimus User Manual + Technical Data Part B		
SLM instruction manual ref / issue	12/17/2.4 EN + 06/09/OptimusTechnical/02		
Date provided or internet download date	17 February 2022	Source	Cirrus Web Site

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Specified		
Customer or Lab Calibrator	Customers Calibrator		
Calibrator adaptor type if applicable	N/A		
Calibrator cal. date	11 July 2025		
Calibrator cert. number	TCRT25/1538		
Calibrator cal cert issued by Lab	ANV Measurement Systems		
Calibrator SPL @ STP	94.01	dB	Calibration reference sound pressure level
Calibrator frequency	1000.30	Hz	Calibration check frequency
Reference level range	Single Range	dB	

Accessories used or corrected for during calibration - Extension Cable & Outdoor Kit
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	23.43	23.64	± 0.30 °C
Humidity	41.8	42.3	± 3.00 %RH
Ambient Pressure	97.69	97.65	± 0.03 kPa

Indication at the Calibration Check Frequency

Initial indicated level	93.6 dB	Adjusted indicated level	93.7 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±			1000.30 dB

Self Generated Noise

Microphone installed - Less Than 22.6 dB A Weighting

Microphone replaced with electrical input device - UR = Under Range indicated

Weighting	A			C			Z		
	14.0	dB	UR	15.9	dB	UR	28.3	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by ISO.

Additional Comments

…… END ……

Calibrated by: B. Bogdan

CERTIFICATE OF CALIBRATION

Date of Issue: 11 July 2025 **Certificate Number: TCRT25/1538**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

CUSTOMER	SLR Consulting Limited Standard Court Park Row Nottingham NG1 6GN
ORDER No	016631-403
Job No	TRAC25/06260
DATE OF RECEIPT	09 June 2025
PROCEDURE	Procedure TP 1 Calibration of Sound Calibrators
IDENTIFICATION	Sound Calibrator Cirrus type CR:515 serial number 93674 with half-inch housing
CALIBRATED ON	11 July 2025

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

MEASUREMENTS

The sound pressure level generated by the Sound Calibrator in its half-inch configuration was measured using a B&K type 4134 microphone with the protective grid in position. The microphone sensitivity was traceable to National Standards.

RESULTS

The mean level of the calibrator output was

94.01 ± 0.10 dB rel 20 µPa

The fundamental frequency of the sound output was 1000.30 Hz ± 0.12 Hz,
and its total distortion was (0.08 ± 0.05) %.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by ISO.

During the measurements the laboratory environmental conditions were:

Temperature: 23.04 to 23.89 ºC
Atmospheric pressure: 100.992 to 101.107 kPa
Relative humidity: 47.0 to 60.0 %

The tests carried out were as specified in Annex B of BS EN 60942:2003, but with five determinations of sound pressure level, and limited to the above level(s) & freq(s). As public evidence was available from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the reqirements for pattern evaluation decribed in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

NOTE
Prior to calibration, the unit was repaired.

Calibrator adjusted No R 2

END

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research**

DATE OF ISSUE **26 April 2024** CERTIFICATE NUMBER **213251**

Cirrus Research
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
R.Thomas
Electronically signed:

Sound Level Meter : IEC 61672-3:2013

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171B	
Serial number:	G304870	
Class:	1	
Firmware version:	5.8.3251	

Test summary

Date of calibration: 23 April 2024

The calibration was performed respecting the requirements of ISO/IEC 17025:2017.
Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION

Environmental conditions

The following conditions were recorded at the time of the test:

Before	Pressure:	101.67 kPa	Temperature:	22.3 °C	Humidity:	42.4 %
After	Pressure:	101.65 kPa	Temperature:	22.4 °C	Humidity:	43.4 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Signal Generator	SIGLENT	SDG1032X	SDG1XDDQ6R6309
Attenuator	Cirrus Research	ZE:952	93892
Environmental Monitor	Comet	T7510	16966334

Additional instrument information

Instruction manual:

Reference level range: Single range

Pattern approval: No

Source of pattern approval: -

Preamplifier

Model: MV:200F

Serial number: 13628F

Microphone

Model: MK:224

Serial number: 217206A

Test results summary

Test	Result
Toneburst response	Complies
Electrical noise-floor	Complies
Linearity	Complies
Electrical Frequency weightings	Complies
Frequency and time weightings at 1 kHz	Complies
C-weighted peak	Complies
Overload indication	Complies
High level stability	Complies
Long-term stability	Complies
Acoustic Frequency weightings	Complies

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research**

DATE OF ISSUE **26 April 2024** CERTIFICATE NUMBER **213252**

Cirrus Research
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
R.Thomas
Electronically signed:

Outdoor Kit Calibration Information

Instrument information

Manufacturer:	Cirrus Research plc
Model:	CK:680
Preamp Model	MK:170
Microphone Serial Number	0870
Primary Calibration Certificate Number	213251

Summary

Date of calibration: 24 April 2024

The calibration was performed respecting the requirements of ISO/IEC 17025:2017.
This information is in addition to the primary calibration certificate for the sound level meter. The calibration certificate number is shown above and should be used in conjunction with this additional information.

The sound level meter detailed above has been calibrated to the published test and calibration data as detailed in the instrument handbook, using the techniques recommended in the standards to which the instrument has been designed.

All calibration procedures were carried out by substituting the microphone capsule with a suitable electrical signal, apart from the final acoustic calibration.

The microphone capsule was calibrated using an electrostatic calibration system to produce the frequency response and a reference acoustic source for the final sensitivity testing.

In addition to the calibration of the complete sound level meter in its standard configuration, (instrument, MV:200 series preamplifier and microphone capsule), the sound level meter and microphone capsule were tested with the MK:170 preamplifier in place of the MV:200 series.

The sound level meter, G304870 , has been tested with Outdoor Microphone/Preamplifier Type MK:170 Serial Number 0870 and conforms to the requirements of the standards stated in the instrument user manual.

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION

Date of Issue: 22 January 2026 **Certificate Number: TCRT26/2028**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

CUSTOMER	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham Nottinghamshire NG1 6GN
ORDER No	016774-403 Job No TRAC26/01576
DATE OF RECEIPT	14 January 2026
PROCEDURE	Procedure TP 1 Calibration of Sound Calibrators
IDENTIFICATION	Sound Calibrator Cirrus type CR:515 serial number 83349 with half-inch housing
CALIBRATED ON	22 January 2026
PREVIOUS CALIBRATION	Calibrated on 08 January 2025, Certificate No. 229806 issued by Cirrus Research

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

MEASUREMENTS

The sound pressure level generated by the Sound Calibrator in its half-inch configuration was measured using a B&K type 4134 microphone with the protective grid in position. The microphone sensitivity was traceable to National Standards.

RESULTS

The mean level of the calibrator output was

93.95 ± 0.10 dB rel 20 µPa

The fundamental frequency of the sound output was 1000.35 Hz ± 0.12 Hz,
and its total distortion was (0.12 ± 0.05) %.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by ISO.

During the measurements the laboratory environmental conditions were:

Temperature: 23.25 to 23.87 ºC
Atmospheric pressure: 97.761 to 97.821 kPa
Relative humidity: 37.0 to 44.0 %

The tests carried out were as specified in Annex B of BS EN 60942:2003, but with five determinations of sound pressure level, and limited to the above level(s) & freq(s). As public evidence was available from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the reqirements for pattern evaluation decribed in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

Calibrator adjusted NO R 1

END

IN-SITU CALIBRATION CERTIFICATE

Issued by AcSoft Calibration

Date of issue: 18/05/2026 **Certificate No:1517725**

OBJECT OF CALIBRATION	Manufacturer:	SVANTEK
	Model:	SV307A
	Serial No.:	119148
	Description:	Sound Level Meter
SENSOR	Manufacturer:	SVANTEK
	Model:	ST30A
	Serial No:	178392
	Description:	Microphone

ENVIRONMENTAL CONDITIONS	Temperature:	20.4	ºC
	Humidity:	62.9	%rh
	Pressure:	98.6	Kpa

DATE OF CALIBRATION 17/03/2026

APPROVED BY T.Bowen

AcSoft Calibration | 11 Abbey Court
Fraser Road | Priory Business Park
Bedfordshire | MK44 3WH
+44 (0) 1234 639550
www.acsoft.co.uk

SVANTEK

IN-SITU CALIBRATION CERTIFICATE

Issued by AcSoft Calibration

CALIBRATION RESULTS Calibration results are as follows:

Nominal Input: 114dB, 1000Hz

C. Factor [dB]
-0.01

NOTES

1. *The information appearing on this certificate has been compiled specifically for this instrument. This calibration certificate is produced with traceable and advanced equipment which permit comprehensive quality assurance verification of all data supplied herein.*
2. *The measurements in this document are traceable to GUM (Central Office of Measures), Poland*
3. *This calibration certificate shall not be reproduced except in full, without written permission from Svantek UK Ltd.*

REFERENCE EQUIPMENT

Description	Manufacturer	Model	Serial Number
Acoustical Calibrator	Svantek	SV 36	175089
Thermo-Barometer	LAB-EL	LB-706B	912

SVANTEK

ISO9001 certified

Sound Level Calibrator

Type: **SV33B** Serial No: **151866**

Calibration Chart

Sound pressure level: **114.06 dB** (THD: **0.69 %**)

Frequency: **1000 Hz**

Short term level stability: 0.05 dB
Frequency stability: 0.01 %

Measurement conditions

Temperature:	**19 ºC**
Relative humidity:	**32 %**
Ambient pressure:	**991 hPa**

Reference conditions

Temperature:	23.0 ºC
Relative humidity:	50 %
Ambient pressure:	1013.2 hPa

CONFORMITY & TEST DECLARATION

The stated level is valid at reference conditions.
Measured according to IEC 60942:2003.
The stated level is relative to 20 μPa .

The level is traceable to GUM (Central Office of Measures, Poland) with a calculated uncertainty less then ± 0.15 dB (2*sd).

Calibration specialist **:** .....

Date : 2024-04-18

IN-SITU CALIBRATION CERTIFICATE

Issued by AcSoft Calibration

Date of issue: 15/04/2026 **Certificate No:1571496** **Page:** 1/2

OBJECT OF CALIBRATION	Manufacturer:	SVANTEK
	Model:	SV307A
	Serial No.:	104986
	Description:	Sound Level Meter
SENSOR	Manufacturer:	SVAN
	Model:	ST30
	Serial No:	143358
	Description:	Microphone

ENVIRONMENTAL CONDITIONS	Temperature:	20.4	°C
	Humidity:	62.9	%rh
	Pressure:	98.6	Kpa

DATE OF CALIBRATION 17/03/2026

APPROVED BY T.Bowen

AcSoft Calibration | 11 Abbey Court
Fraser Road | Priory Business Park
Bedfordshire | MK44 3WH
+44 (0) 1234 639550
www.acsoft.co.uk

CALIBRATION RESULTS Calibration results are as follows:

Nominal Input: 114dB, 1000Hz

C. Factor [dB]
-0.04

NOTES

1. *The information appearing on this certificate has been compiled specifically for this instrument. This calibration certificate is produced with traceable and advanced equipment which permit comprehensive quality assurance verification of all data supplied herein.*
2. *The measurements in this document are traceable to GUM (Central Office of Measures), Poland*
3. *This calibration certificate shall not be reproduced except in full, without written permission from Svantek UK Ltd.*

REFERENCE EQUIPMENT

Description	Manufacturer	Model	Serial Number
Acoustical Calibrator	Svantek	SV 36	175089
Thermo-Barometer	LAB-EL	LB-706B	912

CERTIFICATE OF CALIBRATION

Date of Issue: 01 July 2026 **Certificate Number: TCRT26/2500**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

CUSTOMER	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
ORDER No	PO MF-84145
Job No	TRAC26/07840
DATE OF RECEIPT	01 July 2026
PROCEDURE	Calibration Engineer's Handbook section 25
IDENTIFICATION	Sound level meter 01dB type FUSION serial No 16431 connected via its internal preamplifier to a half-inch microphone type GRAS 40CD serial No 632476 fitted with a 'Small' windshield. Associated calibrator Rion type NC-74 serial No 34167510 with a one-inch housing and adapter type NC-74-002 for half-inch microphone.
CALIBRATED ON	01 July 2026

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The sound level meter was set up using the type NC-74 sound calibrator supplied; it was set to frequency weighting A, and initially read 93.4 dB. It was then adjusted to read 93.7 dB (corresponding to 93.6 dB at standard atmospheric pressure). This reading was derived from Calibration Certificate no. TCRT26/2499 supplied by this laboratory and manufacturers' information on the free-field response of the sound level meter when fitted with the windshield. The calibration check frequency was 1kHz.

Procedures based on IEC 61672-3:2006 (BS EN 61672-3:2006) were used to perform the periodic tests.

RESULTS

The sound level meter submitted for testing has successfully completed the class 1 periodic tests carried out, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2 : 2003 (BS EN 61672-2 : 2003), to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1 : 2002 (BS EN 61672-1 : 2003), the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1 : 2002 (BS EN 61672-1 2003).

The self-generated noise recorded with the microphone replaced by the electrical input device was:

9.3 dB (A) 10.2 dB (C) 13.7 dB (Z)

The environmental conditions recorded at the start and end of testing were:

Start: 23 to 24 ºC, 37 to 47 %RH and 10.1 to 10.2 kPa
End: 23 to 24 ºC, 37 to 47 %RH and 101.3 to 101.4 kPa

Technical information including adjustment data specified in the manufacturers' User Manual DOC1131 - Feb 2017 J with further clarification from 01dB has been used to carry out this verification. These data include manufacturer-specified uncertainties for case reflections and windshield, but NOT for the microphone response.

Publicly-available evidence has been found that this configuration of the 01dB FUSION sound level meter design has successfully undergone pattern evaluation in accordance with IEC 61672-2:2002 (BS EN 61672-2:2003) by Physikalisch-Technische Bundesanstalt (PTB), an independent testing organisation responsible for pattern approvals.

All measurement data are held at ANV Measurement Systems for a period of at least six years.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with the *Guide to the Expression of Uncertainty in Measurement* published by the International Organisation for Standards (ISO).

NOTES

1 The high pass filter was set to 10 Hz, the mic correction to 0° and the nosecone usage to "No".

2 No suitable microphone frequency response information was supplied with the instrument. It was therefore measured by this laboratory using the electrostatic actuator method.

3 The instrument was running application firmware version 3.01, metrology firmware version 3.00 and modem firmware version 25.21.673 (EU) on hardware version LST000A

4 These periodic tests are valid ONLY for the instrument configuration shown on page 1 of this certificate and for 0° incidence of sound on the microphone.

5 When set up to read correctly in response to the sound calibrator, the sound level meter stored a calibration correction of 0.39 dB and a microphone sensitivity of 48.14 mV/Pa

6 Typical case reflection factors specified by the manufacturer have been used for this verification.

END

CERTIFICATE OF CALIBRATION

Date of Issue: 01 July 2026 **Certificate Number: TCRT26/2501**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

CUSTOMER	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
ORDER No	PO MF-84145
Job No	TRAC26/07840
DATE OF RECEIPT	01 July 2026
PROCEDURE	Calibration Engineer's Handbook section 25
IDENTIFICATION	Sound level meter 01dB type FUSION serial No 16431 connected via an extension lead type RAL135-5M and preamplifier type PRE 22 serial No 2506075 to a half-inch microphone type GRAS 40CD serial No 632476 fitted with a 'DMK01' weatherproof outdoor windshield including nosecone type RA 0208. Associated calibrator Rion type NC-74 serial No 34167510 with a one-inch housing and adapter type NC-74-002 for half-inch microphone.
CALIBRATED ON	01 July 2026

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The sound level meter was set up using the type NC-74 sound calibrator supplied; it was set to frequency weighting A, and initially read 93.7 dB. It was then adjusted to read 93.8 dB (corresponding to 93.8 dB at standard atmospheric pressure). This reading was derived from Calibration Certificate no. TCRT26/2499 supplied by this laboratory and manufacturers' information on the free-field response of the sound level meter when fitted with the windshield. The calibration check frequency was 1kHz.

Procedures based on IEC 61672-3:2006 (BS EN 61672-3:2006) were used to perform the periodic tests.

RESULTS

The sound level meter submitted for testing has successfully completed the class 1 periodic tests carried out, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2 : 2003 (BS EN 61672-2 : 2003), to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1 : 2002 (BS EN 61672-1 : 2003), the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1 : 2002 (BS EN 61672-1 2003).

The self-generated noise recorded with the microphone replaced by the electrical input device was:

11.9 dB (A) 12.2 dB (C) 17.5 dB (Z)

The environmental conditions recorded at the start and end of testing were:

Start: 23 to 24 ºC, 37 to 47 %RH and 101.3 to 101.4 kPa
End: 23 to 24 ºC, 35 to 45 %RH and 101.3 to 101.4 kPa

Technical information including adjustment data specified in the manufacturers' User Manual DOC1131 - Feb 2017 J with further clarification from 01dB has been used to carry out this verification. These data include manufacturer-specified uncertainties for case reflections and windshield, but NOT for the microphone response.

Publicly-available evidence has been found that this configuration of the 01dB FUSION sound level meter design has successfully undergone pattern evaluation in accordance with IEC 61672-2:2002 (BS EN 61672-2:2003) by Physikalisch-Technische Bundesanstalt (PTB), an independent testing organisation responsible for pattern approvals.

All measurement data are held at ANV Measurement Systems for a period of at least six years.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with the *Guide to the Expression of Uncertainty in Measurement* published by the International Organisation for Standards (ISO).

NOTES

1 The high pass filter was set to 10 Hz, the mic correction to 90° and the nosecone usage to "Yes".

2 No suitable microphone frequency response information was supplied with the instrument. It was therefore measured by this laboratory using the electrostatic actuator method.

3 The instrument was running application firmware version 3.01, metrology firmware version 3.00 and modem firmware version 25.21.673 (EU) on hardware version LST000A

4 These periodic tests are valid ONLY for the instrument configuration shown on page 1 of this certificate and for 90° incidence of sound on the microphone.

5 When set up to read correctly in response to the sound calibrator, the sound level meter stored a calibration correction of 0.48 dB and a microphone sensitivity of 47.64 mV/Pa

6 Typical case reflection factors (for the DMK01 unit) specified by the manufacturer have been used for this verification.

END

CERTIFICATE OF CALIBRATION

Date of Issue: 01 July 2026 **Certificate Number: TCRT26/2499**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
Order No.	PO MF-84145
Test Procedure	Procedure TP 1 Calibration of Sound Calibrators
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-74	34167510

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No.	TRAC26/07840	
Date Received	01 July 2026	
Date Calibrated	01 July 2026	
Previous Certificate	*Dated*	02 June 2025
	Certificate No.	TCRT25/1431
	Laboratory	ANV Measurement Systems

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number
TCRT26/2499

Measurements

The sound pressure level generated by the calibrator in its WS2 configuration was measured five times by the Insert Voltage Method using a microphone as detailed below. The mean of the results obtained is shown below. It is corrected to the standard atmospheric pressure of 101.3 kPa (1013 mBar) using original manufacturers information.

Test Microphone	*Manufacturer*	*Type*
	Brüel & Kjær	4134

Results

The level of the calibrator output under the conditions outlined above was

93.98 ± 0.10 dB rel 20 µPa

Functional Tests and Observations

The frequency of the sound produced was	1002.12	±	0.12 Hz
The total distortion was	1.28	±	0.10 % Distortion

During the measurements environmental conditions were

Temperature	22	to	23	°C
Relative Humidity	37	to	44	%
Barometric Pressure	101.3	to	101.4	kPa

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by the International Organisation for Standards (ISO).

The uncertainties refer to the measured values only with no account being taken of the ability of the instrument to maintain its calibration.

A small correction factor may need to be applied to the sound pressure level quoted above if the device is used to calibrate a sound level meter which is fitted with a free-field response microphone. See manufacturers handbook for details.

…… END ……

Note:

Calibrator adjusted prior to calibration?	NO	
Initial Level	N/A	dB
Initial Frequency	N/A	Hz

Additional Comments

None

Calibrated by: AC

CERTIFICAT DE CONFORMITE CONSTRUCTEUR
MANUFACTURER'S CERTIFICATE OF CONFORMITY

DTE-L-25-PVE-92523

DELIVRE PAR :
DELIVERED BY :

ACOEM France SAS

Supply Chain
85 route de Marcilly
69380 LISSIEU
France

INSTRUMENT VERIFIE
INSTRUMENT CHECKED

Désignation :
Designation :

Sonomètre Intégrateur-Moyenneur
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer :

ACOEM EM

Type :
Type :

FUSION

N° de serie :
Serial number :

16432

N° d'identification :
Identification number

Date d'émission :
Date of issue :

05/05/2025

Ce constat comprend 4 pages
This certificate includes 4 pages

LE RESPONSABLE PRODUCTION
MANUFACTURING MANAGER

DTE-L-25-PVE-92523

Jérôme PIA

LA REPRODUCTION DE CE CONSTAT N'EST AUTORISEE QUE SOUS LA FORME DE FAC-SIMILE PHOTOGRAPHIQUE INTEGRAL

THIS CERTIFICATE REPORT MAY NOT BE REPRODUCED OTHER THAN IN FULL BY PHOTOGRAPHIC PROCESS

CE DOCUMENT NE PEUT PAS ETRE UTILISE EN LIEU ET PLACE D'UN CERTIFICAT D'ETALONNAGE.

THIS DOCUMENT CAN'T BE USED AS CALIBRATION CERTIFICATE.

DTE-L-25-PVE-92523

IDENTIFICATION :
IDENTIFICATION:

	Sonomètre *Sound level meter*	Préamplificateur *Preamplifier*	Microphone *Microphone*
Constructeur : *Manufacturer*	ACOEM EM		GRAS
Type : *Type*	FUSION	Interne - Internal	40CD
Numéro de série : *Serial number*	16432		627399

PROGRAMME DE VERIFICATION :
VERIFICATION PROGRAM:

Ce sonomètre a été vérifié sur les caractéristiques suivantes:

- Réponse en fréquence du sonomètre
- Linéarité
- Pondérations fréquentielles A-C-Z
- Bruit de fond

This sound level meter has been verified on its following characteristics:

- *Frequency response of the sound level meter*
- *Linearity*
- *A-C-Z Weighting*
- *Background noise*

METHODE DE VERIFICATION :
VERIFICATION METHOD:

Les caractéristiques sont vérifiées avec un atténuateur et un générateur étalonnés. Des corrections constructeurs sont appliquées pour prendre en compte les effets des accessoires et du boîtier.

The other characteristics are verified with attenuator and generator calibrated. Some manufacturer's corrections have been applied to account the acoustical effect from the case of the sound level meter and its accessories.

CONDITIONS DE VERIFICATION :
VERIFICATION CONDITIONS:

Date de l'étalonnage : .5 - 5 - 2025.
Date of Calibration (french format)

Nom de l'opérateur : **Mateo Salomon**
Operator Name

Pression atmosphérique : **98,46 kPa**
Static pressure

Température : **21,3 °C**
Temperature

Taux d'humidité relative : **44,5 %HR**
Relative humidity

acoem

MOYENS DE MESURE UTILISES POUR LA VERIFICATION :

INSTRUMENTS USED FOR VERIFICATION:

Désignation Designation	Constructeur Manufacturer	Type Type	N° de série Serial number	N° d'identification Identification number
Générateur BF / Waveform generator	Helwet-Packard	33120A	US36010354	APM 5855
Calibreur acoustique / Calibrator	01dB-Metravib	CAL31	94751	APM 6236
Boite à décades / Decade box	01dB-Metravib	OUT1694	1605204	APM 5543

Tous les moyens de mesure utilisés sont raccordés aux étalons de référence de la société *ACOEM*. Les étalons de référence de la société *ACOEM* sont raccordés aux étalons nationaux par un étalonnage COFRAC. La liste de ces étalons est disponible sur simple demande auprès du responsable métrologique du laboratoire.

All the measuring instruments are calibrated using the ACOEM reference standards. ACOEM reference standards are calibrated with COFRAC certificate of calibration. The reference standard list is available on simple request to the head of the Metrology Lab.

Linéarité
Linearity

Description *Description*	Résultat *Result*
Linéarité *Linearity*	Conforme *Compliant*

Linéatité (voie principale) Linearity (Primary channel)	Valeur nominale (dB) *Nominal value(dB)*	Valeur affichée (dB) *Displayed value (dB)*	Incertitudes (dB) *Uncertainty (dB)*
Leq 35 dBZ / 8000 Hz	35,0	35,03	0,35
Leq 40 dBZ / 8000 Hz	40,0	40,05	0,35
Leq 50 dBZ / 8000 Hz	50,0	50,02	0,35
Leq 60 dBZ / 8000 Hz	60,0	60,01	0,35
Leq 70 dBZ / 8000 Hz	70,0	70,04	0,35
Leq 80 dBZ / 8000 Hz	80,0	80	0,35
Leq 90 dBZ / 8000 Hz	90,0	90	0,35
Leq 100 dBZ / 8000 Hz	100,0	100	0,35
Leq 110 dBZ / 8000 Hz	110,0	109,82	0,35
Leq 120 dBZ / 8000 Hz	120,0	119,67	0,35
Leq 130 dBZ / 8000 Hz	130,0	129,63	0,35
Leq 134 dBZ / 8000 Hz	134,0	133,66	0,35
Leq 134 dBA / 8000 Hz	134,0	133,64	0,35
Leq 130 dBA / 8000 Hz	130,0	129,62	0,35
Leq 120 dBA / 8000 Hz	120,0	119,7	0,35
Leq 110 dBA / 8000 Hz	110,0	109,8	0,35
Leq 100 dBA / 8000 Hz	100,0	99,96	0,35
Leq 90 dBA / 8000 Hz	90,0	90	0,35
Leq 80 dBA / 8000 Hz	80,0	79,98	0,35
Leq 70 dBA / 8000 Hz	70,0	69,99	0,35
Leq 60 dBA / 8000 Hz	60,0	60,01	0,35
Leq 50 dBA / 8000 Hz	50,0	50	0,35
Leq 40 dBA / 8000 Hz	40,0	40	0,35
Leq 30 dBA / 8000 Hz	30,0	30,11	0,35
Leq 26 dBA / 8000 Hz	26,0	26,3	0,35

Linéatité (avec DMK01) Linearity (with DMK01)	Valeur nominale (dB) Nominal value(dB)	Valeur affichée (dB) Displayed value (dB)	Incertitudes (dB) Uncertainty (dB)
Leq 35 dBZ / 8000 Hz	35,0	35,11	0,35
Leq 40 dBZ / 8000 Hz	40,0	40,07	0,35
Leq 50 dBZ / 8000 Hz	50,0	50,04	0,35
Leq 60 dBZ / 8000 Hz	60,0	60,03	0,35
Leq 70 dBZ / 8000 Hz	70,0	70,01	0,35
Leq 80 dBZ / 8000 Hz	80,0	80,03	0,35
Leq 90 dBZ / 8000 Hz	90,0	90	0,35
Leq 100 dBZ / 8000 Hz	100,0	99,99	0,35
Leq 110 dBZ / 8000 Hz	110,0	109,85	0,35
Leq 120 dBZ / 8000 Hz	120,0	119,7	0,35
Leq 130 dBZ / 8000 Hz	130,0	129,66	0,35
Leq 134 dBZ / 8000 Hz	134,0	133,66	0,35
Leq 134 dBA / 8000 Hz	134,0	133,67	0,35
Leq 130 dBA / 8000 Hz	130,0	129,7	0,35
Leq 120 dBA / 8000 Hz	120,0	119,7	0,35
Leq 110 dBA / 8000 Hz	110,0	109,82	0,35
Leq 100 dBA / 8000 Hz	100,0	100,01	0,35
Leq 90 dBA / 8000 Hz	90,0	90	0,35
Leq 80 dBA / 8000 Hz	80,0	80,01	0,35
Leq 70 dBA / 8000 Hz	70,0	70,02	0,35
Leq 60 dBA / 8000 Hz	60,0	60,02	0,35
Leq 50 dBA / 8000 Hz	50,0	50,02	0,35
Leq 40 dBA / 8000 Hz	40,0	39,97	0,35
Leq 30 dBA / 8000 Hz	30,0	30,2	0,35
Leq 26 dBA / 8000 Hz	26,0	26,32	0,35

Pondérations fréquentielles A-C-Z
A-C-Z Weightings

Description *Description*	Résultat *Result*
Pondération fréquentielle *Frequency weighting*	Conforme *Compliant*

Pondération fréquentielle (voie interne) *Frequency weighting (primary channel)*				
0° Ecran anti-vent court *0° Short windscreen*	*Z* *(dB)*	*A* *(dB)*	*C* *(dB)*	Incertitude *uncertainty* (dB)
125 Hz	-0,3	-0,4	-0,3	0,55
1000 Hz	0,0	0,0	0,0	0,55
8000 Hz	-0,8	-1,3	-1,3	0,74

Pondération fréquentielle (voie externe) Frequency weighting (secondary channel)				
0° Ecran anti-vent court *0° Short windscreen*	*Z* *(dB)*	*A* *(dB)*	*C* *(dB)*	Incertitude uncertainty (dB)
125 Hz	-0,1	*-0,2*	-0,1	0,55
1000 Hz	0,0	*0,0*	0,0	0,55
8000 Hz	-0,7	*-1,2*	-1,2	0,74

Bruit de fond
Background noise

Description *Description*	Résultat *Result*
Bruit de fond *Noise level*	Conforme *Compliant*

acoem

CERTIFICATE OF CALIBRATION

Date of Issue: 01 July 2026 **Certificate Number: TCRT26/2499**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
Order No.	PO MF-84145
Test Procedure	Procedure TP 1 Calibration of Sound Calibrators
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-74	34167510

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No.	TRAC26/07840	
Date Received	01 July 2026	
Date Calibrated	01 July 2026	
Previous Certificate	*Dated*	02 June 2025
	Certificate No.	TCRT25/1431
	Laboratory	ANV Measurement Systems

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number
TCRT26/2499

Measurements

The sound pressure level generated by the calibrator in its WS2 configuration was measured five times by the Insert Voltage Method using a microphone as detailed below. The mean of the results obtained is shown below. It is corrected to the standard atmospheric pressure of 101.3 kPa (1013 mBar) using original manufacturers information.

Test Microphone	*Manufacturer*	*Type*
	Brüel & Kjær	4134

Results

The level of the calibrator output under the conditions outlined above was

93.98 ± 0.10 dB rel 20 µPa

Functional Tests and Observations

The frequency of the sound produced was	1002.12	±	0.12 Hz
The total distortion was	1.28	±	0.10 % Distortion

During the measurements environmental conditions were

Temperature	22	to	23	°C
Relative Humidity	37	to	44	%
Barometric Pressure	101.3	to	101.4	kPa

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by the International Organisation for Standards (ISO).

The uncertainties refer to the measured values only with no account being taken of the ability of the instrument to maintain its calibration.

A small correction factor may need to be applied to the sound pressure level quoted above if the device is used to calibrate a sound level meter which is fitted with a free-field response microphone. See manufacturers handbook for details.

…… END ……

Note:

Calibrator adjusted prior to calibration?	NO	
Initial Level	N/A	dB
Initial Frequency	N/A	Hz

Additional Comments

None

Calibrated by: AC

CERTIFICAT DE CONFORMITE CONSTRUCTEUR
MANUFACTURER'S CERTIFICATE OF CONFORMITY

DTE-L-25-PVE-92524

DELIVRE PAR :
DELIVERED BY :

ACOEM France SAS

Supply Chain
85 route de Marcilly
69380 LISSIEU
France

INSTRUMENT VERIFIE
INSTRUMENT CHECKED

Désignation :
Designation :

Sonomètre Intégrateur-Moyenneur
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer :

ACOEM EM

Type :
Type :

FUSION

N° de serie :
Serial number :

16433

N° d'identification :
Identification number

Date d'émission :
Date of issue :

05/05/2025

Ce constat comprend 4 pages
This certificate includes *pages*

LE RESPONSABLE PRODUCTION
MANUFACTURING MANAGER

DTE-L-25-PVE-92524

Jérôme PIA

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CE DOCUMENT NE PEUT PAS ETRE UTILISE EN LIEU ET PLACE D'UN CERTIFICAT D'ETALONNAGE.

THIS DOCUMENT CAN'T BE USED AS CALIBRATION CERTIFICATE.

IDENTIFICATION :
IDENTIFICATION:

	Sonomètre *Sound level meter*	Préamplificateur *Preamplifier*	Microphone *Microphone*
Constructeur : *Manufacturer*	ACOEM EM		GRAS
Type : *Type*	FUSION	Interne - Internal	40CD
Numéro de série : *Serial number*	16433		640032

PROGRAMME DE VERIFICATION :
VERIFICATION PROGRAM:

Ce sonomètre a été vérifié sur les caractéristiques suivantes:

- Réponse en fréquence du sonomètre
- Linéarité
- Pondérations fréquentielles A-C-Z
- Bruit de fond

This sound level meter has been verified on its following characteristics:

- *Frequency response of the sound level meter*
- *Linearity*
- *A-C-Z Weighting*
- *Background noise*

METHODE DE VERIFICATION :
VERIFICATION METHOD:

Les caractéristiques sont vérifiées avec un atténuateur et un générateur étalonnés. Des corrections constructeurs sont appliquées pour prendre en compte les effets des accessoires et du boîtier.

The other characteristics are verified with attenuator and generator calibrated. Some manufacturer's corrections have been applied to account the acoustical effect from the case of the sound level meter and its accessories.

CONDITIONS DE VERIFICATION :
VERIFICATION CONDITIONS:

Date de l'étalonnage : .5 - 5 - 2025.
Date of Calibration (french format)

Nom de l'opérateur : **Mateo Salomon**
Operator Name

Pression atmosphérique : **98,46 kPa**
Static pressure

Température : **21,3 °C**
Temperature

Taux d'humidité relative : **44,5 %HR**
Relative humidity

MOYENS DE MESURE UTILISES POUR LA VERIFICATION :

INSTRUMENTS USED FOR VERIFICATION:

Désignation Designation	Constructeur Manufacturer	Type Type	N° de série Serial number	N° d'identification Identification number
Générateur de fonction / Waveform generator	Helwet-Packard	HP 33120 A	US36028745	APM 1163
Boite à décades / Decade box	01dB-Metravib	OUT1694	1605202	APM 5541
Calibreur acoustique / Calibrator	01dB-Metravib	CAL31	94751	APM 6236

Tous les moyens de mesure utilisés sont raccordés aux étalons de référence de la société *ACOEM*. Les étalons de référence de la société *ACOEM* sont raccordés aux étalons nationaux par un étalonnage COFRAC. La liste de ces étalons est disponible sur simple demande auprès du responsable métrologique du laboratoire.

All the measuring instruments are calibrated using the ACOEM reference standards. ACOEM reference standards are calibrated with COFRAC certificate of calibration. The reference standard list is available on simple request to the head of the Metrology Lab.

Linéarité
Linearity

Description *Description*	Résultat *Result*
Linéarité *Linearity*	Conforme *Compliant*

Linéatité (voie principale) Linearity (Primary channel)	Valeur nominale (dB) *Nominal value(dB)*	Valeur affichée (dB) *Displayed value (dB)*	Incertitudes (dB) *Uncertainty (dB)*
Leq 35 dBZ / 8000 Hz	35,0	34,97	0,35
Leq 40 dBZ / 8000 Hz	40,0	40,02	0,35
Leq 50 dBZ / 8000 Hz	50,0	50,01	0,35
Leq 60 dBZ / 8000 Hz	60,0	60,02	0,35
Leq 70 dBZ / 8000 Hz	70,0	70	0,35
Leq 80 dBZ / 8000 Hz	80,0	80,03	0,35
Leq 90 dBZ / 8000 Hz	90,0	90	0,35
Leq 100 dBZ / 8000 Hz	100,0	100,02	0,35
Leq 110 dBZ / 8000 Hz	110,0	109,92	0,35
Leq 120 dBZ / 8000 Hz	120,0	119,79	0,35
Leq 130 dBZ / 8000 Hz	130,0	129,75	0,35
Leq 134 dBZ / 8000 Hz	134,0	133,8	0,35
Leq 134 dBA / 8000 Hz	134,0	133,73	0,35
Leq 130 dBA / 8000 Hz	130,0	129,72	0,35
Leq 120 dBA / 8000 Hz	120,0	119,74	0,35
Leq 110 dBA / 8000 Hz	110,0	109,85	0,35
Leq 100 dBA / 8000 Hz	100,0	99,98	0,35
Leq 90 dBA / 8000 Hz	90,0	90	0,35
Leq 80 dBA / 8000 Hz	80,0	79,98	0,35
Leq 70 dBA / 8000 Hz	70,0	69,96	0,35
Leq 60 dBA / 8000 Hz	60,0	60,01	0,35
Leq 50 dBA / 8000 Hz	50,0	49,95	0,35
Leq 40 dBA / 8000 Hz	40,0	39,97	0,35
Leq 30 dBA / 8000 Hz	30,0	30,01	0,35
Leq 26 dBA / 8000 Hz	26,0	26,09	0,35

Linéatité (avec DMK01) Linearity (with DMK01)	Valeur nominale (dB) *Nominal value(dB)*	Valeur affichée (dB) *Displayed value (dB)*	Incertitudes (dB) *Uncertainty (dB)*
Leq 35 dBZ / 8000 Hz	35,0	35,07	0,35
Leq 40 dBZ / 8000 Hz	40,0	40,05	0,35
Leq 50 dBZ / 8000 Hz	50,0	50,02	0,35
Leq 60 dBZ / 8000 Hz	60,0	60,01	0,35
Leq 70 dBZ / 8000 Hz	70,0	69,99	0,35
Leq 80 dBZ / 8000 Hz	80,0	80,03	0,35
Leq 90 dBZ / 8000 Hz	90,0	90	0,35
Leq 100 dBZ / 8000 Hz	100,0	100,01	0,35
Leq 110 dBZ / 8000 Hz	110,0	109,94	0,35
Leq 120 dBZ / 8000 Hz	120,0	119,8	0,35
Leq 130 dBZ / 8000 Hz	130,0	129,75	0,35
Leq 134 dBZ / 8000 Hz	134,0	133,76	0,35
Leq 134 dBA / 8000 Hz	134,0	133,78	0,35
Leq 130 dBA / 8000 Hz	130,0	129,77	0,35
Leq 120 dBA / 8000 Hz	120,0	119,8	0,35
Leq 110 dBA / 8000 Hz	110,0	109,91	0,35
Leq 100 dBA / 8000 Hz	100,0	100,04	0,35
Leq 90 dBA / 8000 Hz	90,0	90	0,35
Leq 80 dBA / 8000 Hz	80,0	80,02	0,35
Leq 70 dBA / 8000 Hz	70,0	70,02	0,35
Leq 60 dBA / 8000 Hz	60,0	60,02	0,35
Leq 50 dBA / 8000 Hz	50,0	50	0,35
Leq 40 dBA / 8000 Hz	40,0	39,93	0,35
Leq 30 dBA / 8000 Hz	30,0	30,09	0,35
Leq 26 dBA / 8000 Hz	26,0	26,19	0,35

Pondérations fréquentielles A-C-Z
A-C-Z Weightings

Description *Description*	Résultat *Result*
Pondération fréquentielle *Frequency weighting*	Conforme *Compliant*

Pondération fréquentielle (voie interne) *Frequency weighting (primary channel)*				
0° Ecran anti-vent court *0° Short windscreen*	*Z* *(dB)*	*A* *(dB)*	*C* *(dB)*	Incertitude *uncertainty* (dB)
125 Hz	-0,3	-0,4	-0,3	0,55
1000 Hz	0,0	0,0	0,0	0,55
8000 Hz	-0,8	-1,3	-1,3	0,74

Pondération fréquentielle (voie externe) Frequency weighting (secondary channel)				
0° Ecran anti-vent court *0° Short windscreen*	*Z* *(dB)*	*A* *(dB)*	*C* *(dB)*	Incertitude uncertainty (dB)
125 Hz	-0,1	*-0,2*	-0,1	0,55
1000 Hz	0,0	*0,0*	0,0	0,55
8000 Hz	-0,7	*-1,2*	-1,2	0,74

Bruit de fond
Background noise

Description *Description*	Résultat *Result*
Bruit de fond *Noise level*	Conforme *Compliant*

acoem

CERTIFICATE OF CALIBRATION

Date of Issue: 01 July 2026 **Certificate Number: TCRT26/2499**

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	SLR Consulting Limited Cubo, Standard Court Park Row Nottingham NG1 6GN
Order No.	PO MF-84145
Test Procedure	Procedure TP 1 Calibration of Sound Calibrators
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-74	34167510

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No.	TRAC26/07840	
Date Received	01 July 2026	
Date Calibrated	01 July 2026	
Previous Certificate	*Dated*	02 June 2025
	Certificate No.	TCRT25/1431
	Laboratory	ANV Measurement Systems

This certificate provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

Certificate Number
TCRT26/2499

Measurements

The sound pressure level generated by the calibrator in its WS2 configuration was measured five times by the Insert Voltage Method using a microphone as detailed below. The mean of the results obtained is shown below. It is corrected to the standard atmospheric pressure of 101.3 kPa (1013 mBar) using original manufacturers information.

Test Microphone	*Manufacturer*	*Type*
	Brüel & Kjær	4134

Results

The level of the calibrator output under the conditions outlined above was

93.98 ± 0.10 dB rel 20 µPa

Functional Tests and Observations

The frequency of the sound produced was	1002.12	±	0.12 Hz
The total distortion was	1.28	±	0.10 % Distortion

During the measurements environmental conditions were

Temperature	22	to	23	°C
Relative Humidity	37	to	44	%
Barometric Pressure	101.3	to	101.4	kPa

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with the Guide to the Expression of Uncertainty in Measurement published by the International Organisation for Standards (ISO).

The uncertainties refer to the measured values only with no account being taken of the ability of the instrument to maintain its calibration.

A small correction factor may need to be applied to the sound pressure level quoted above if the device is used to calibrate a sound level meter which is fitted with a free-field response microphone. See manufacturers handbook for details.

…… END ……

Note:

Calibrator adjusted prior to calibration?	NO	
Initial Level	N/A	dB
Initial Frequency	N/A	Hz

Additional Comments

None

Calibrated by: AC

Appendix D Survey Data Graphs

Baseline Sound Survey Report

Hemerdon Mine

Drakelands Restoration Ltd

SLR Project No.: 403.066596.00001.001

11 August 2026

D.1 NMP01 – Mumford Cottage

Figure D-1: Measured Sound Levels – NMP01, dB

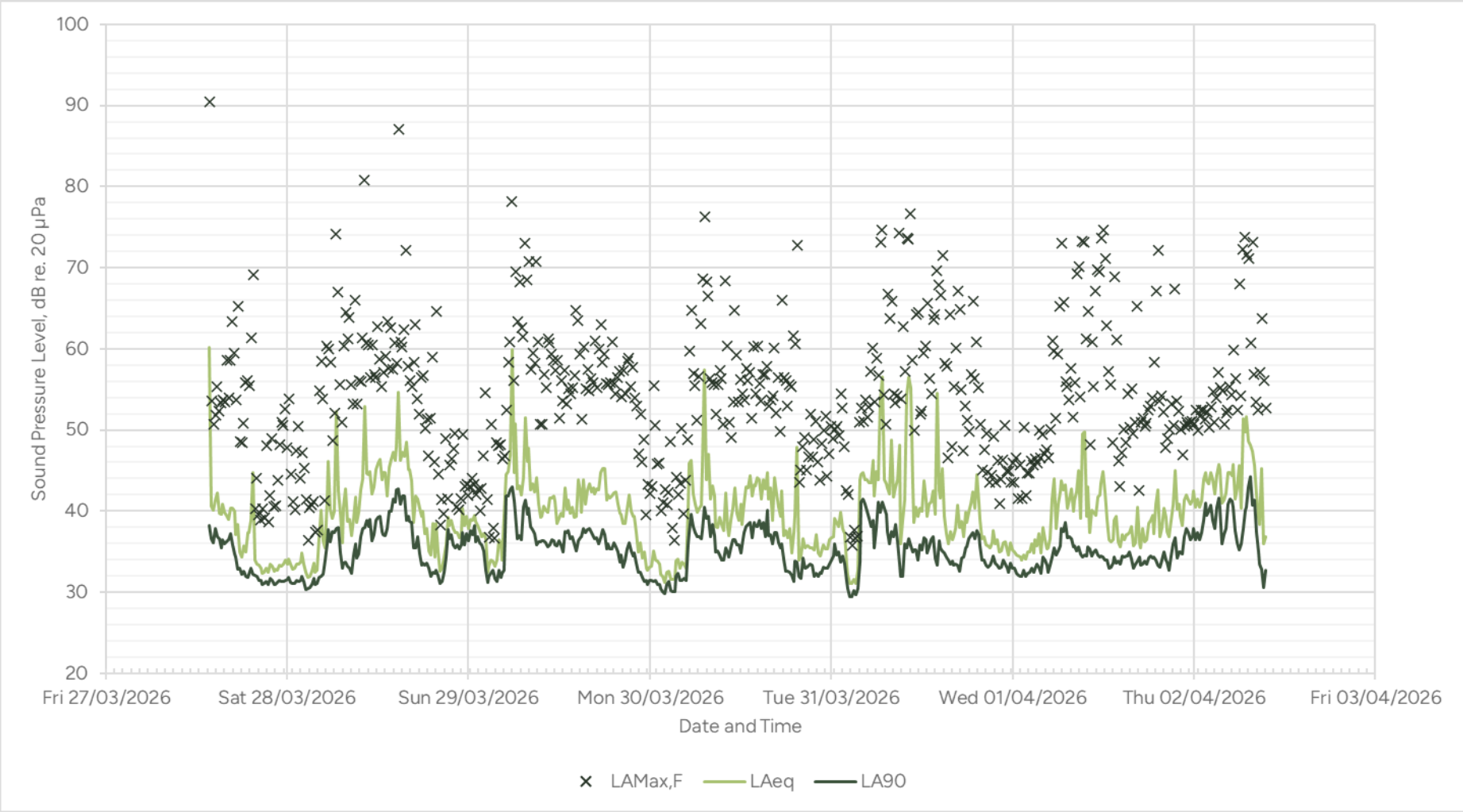


Figure D-2: Histogram of Weekday Ambient Sound Levels – NMP01, dB

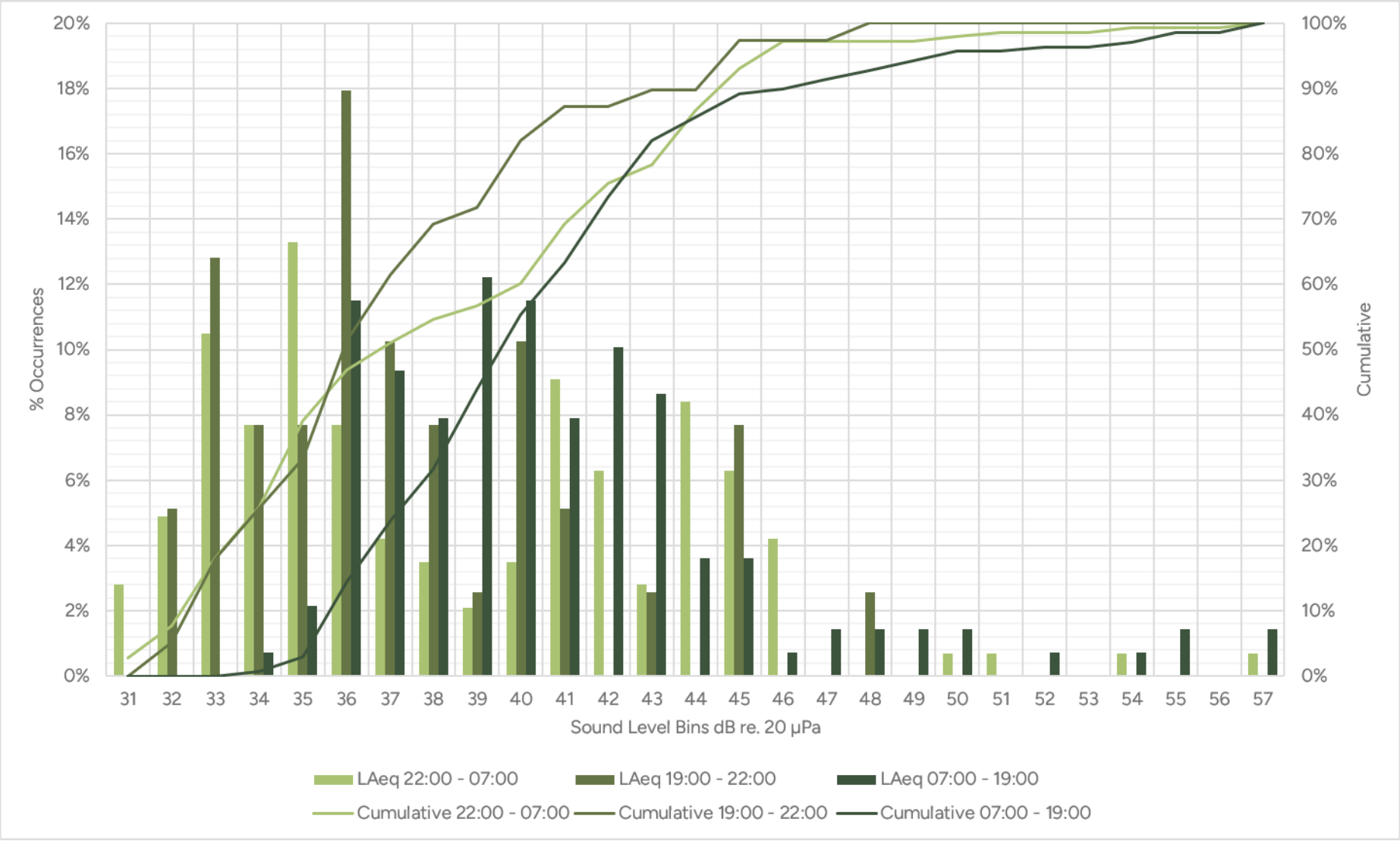


Figure D-3: Histogram of Weekday Background Sound Levels – NMP01, dB

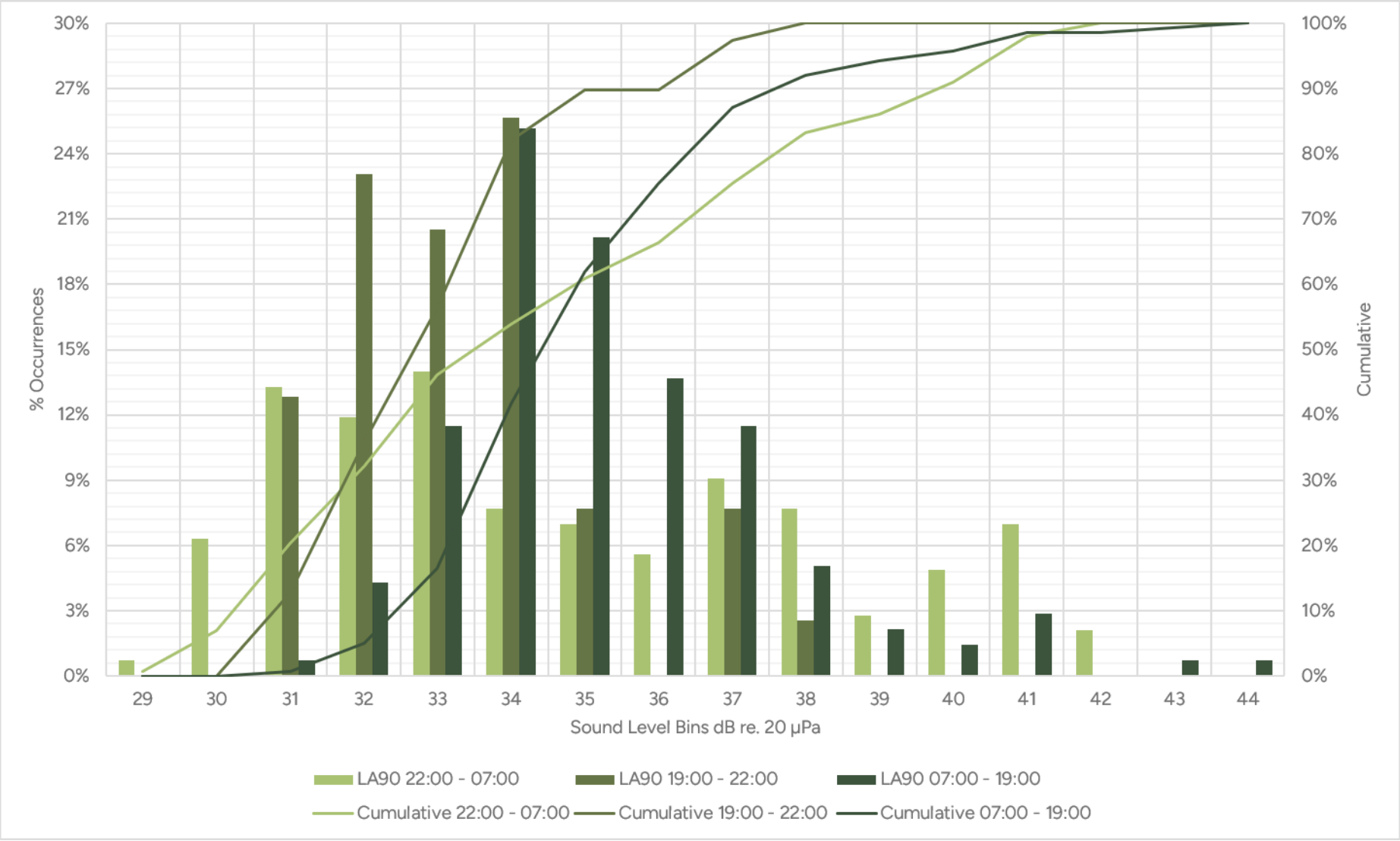


Figure D-4: Histogram of Weekend Ambient Sound Levels – NMP01, dB

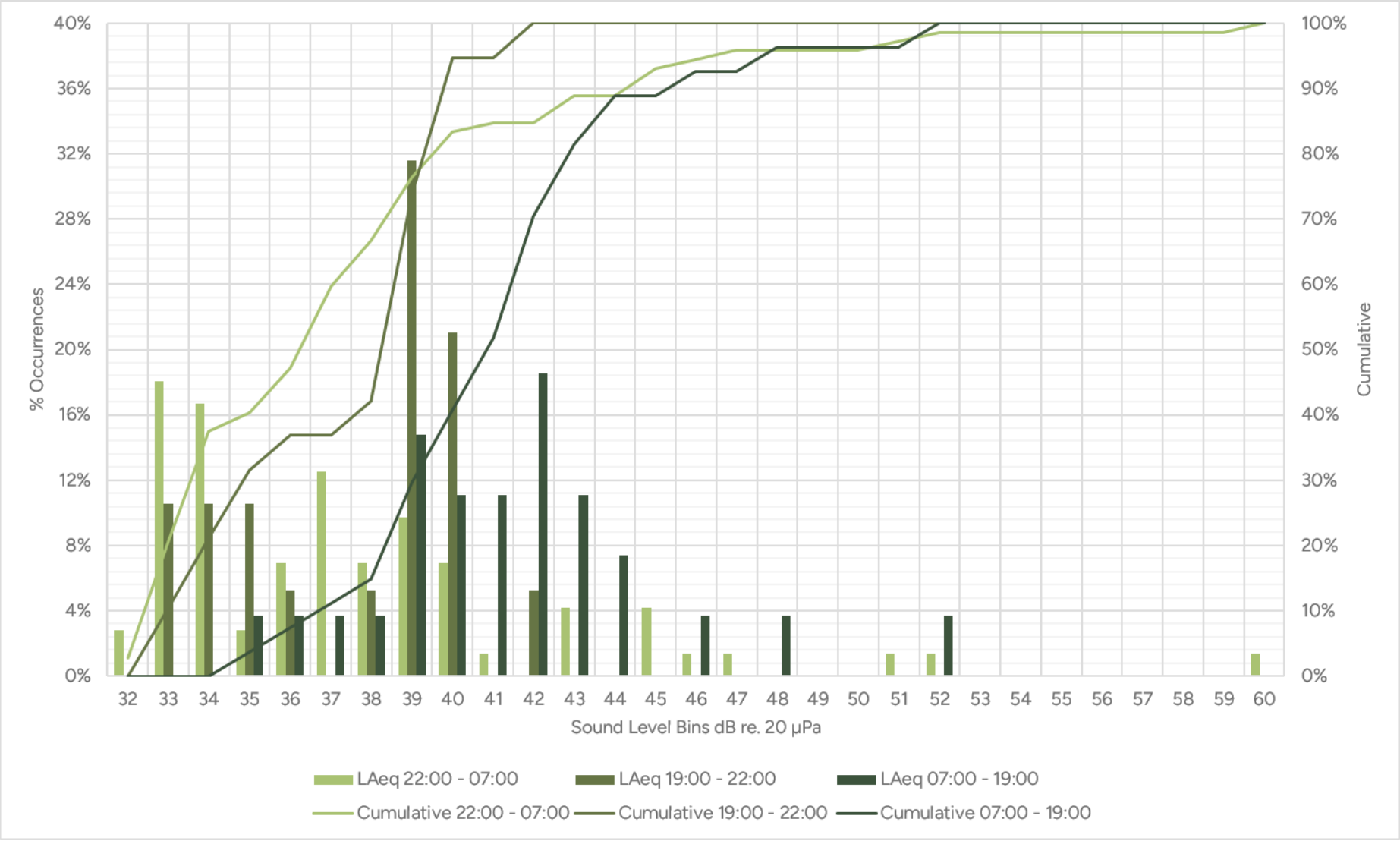


Figure D-5: Histogram of Weekend Background Sound Levels – NMP01, dB

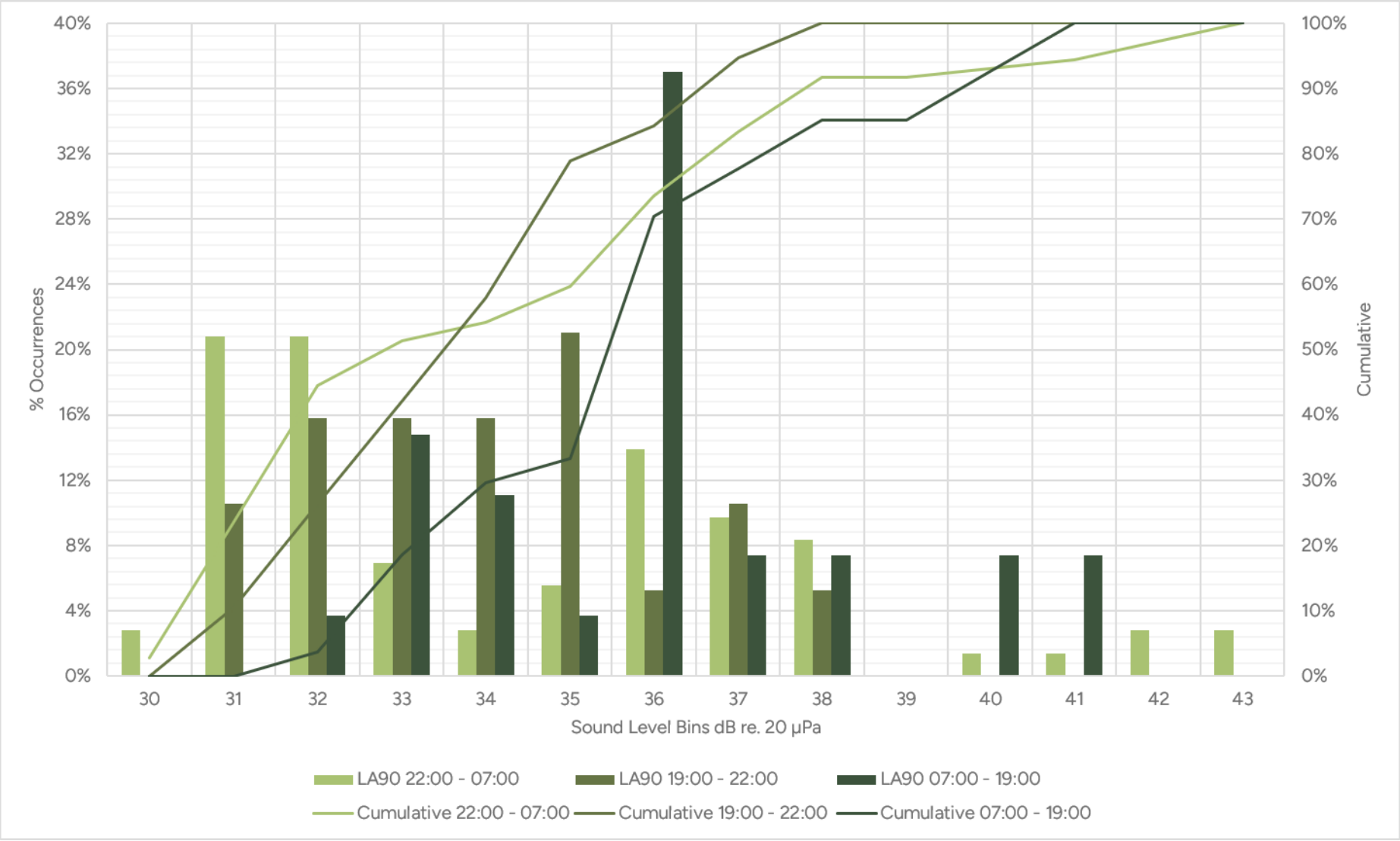


Figure D-6: Measured Temperature and Rainfall – NMP01

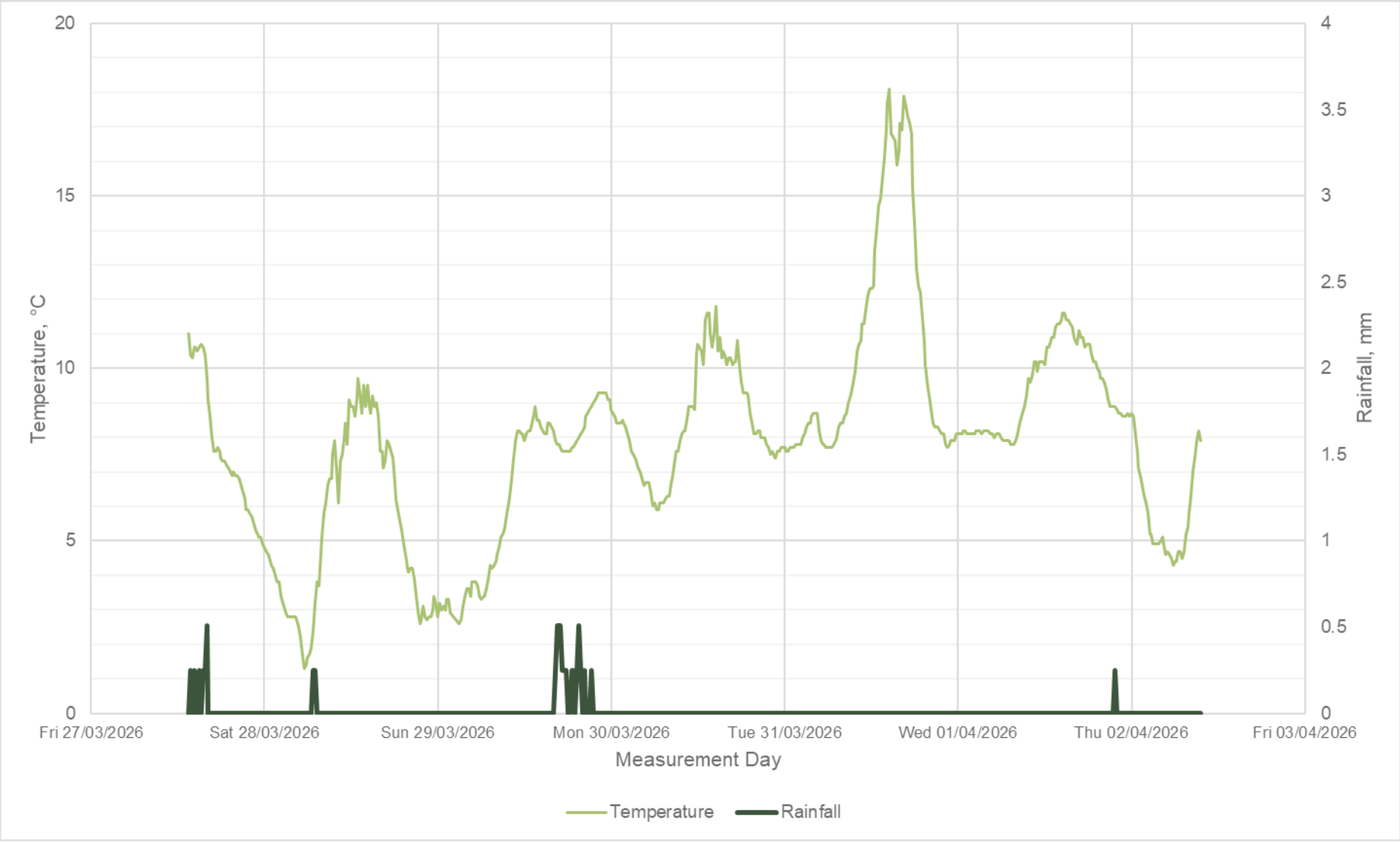
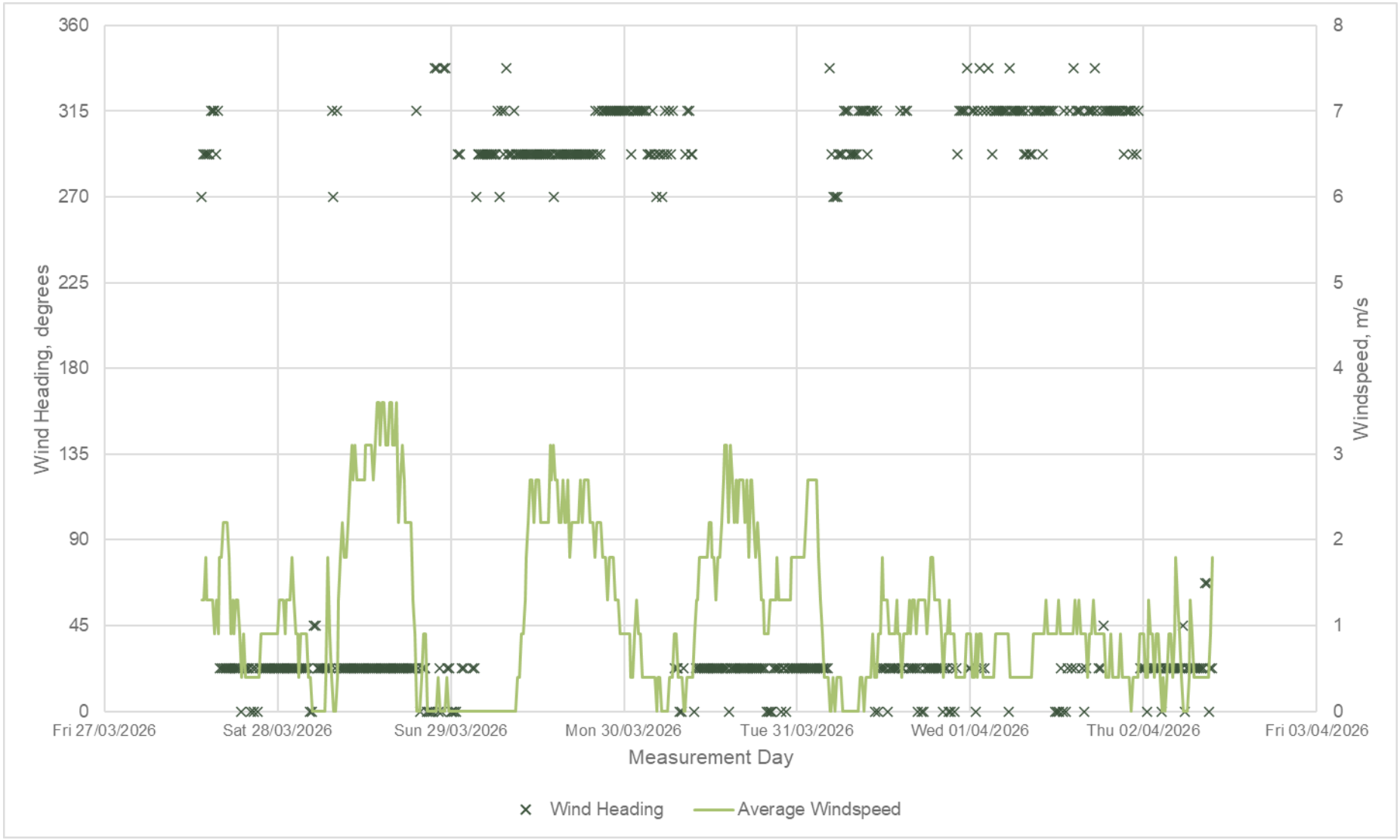


Figure D-7: Measured Wind – NMP01



D.2 NMP02 – Dartmoor Zoo

Figure D-8: Measured Daytime Sound Levels – NMP02A, dB

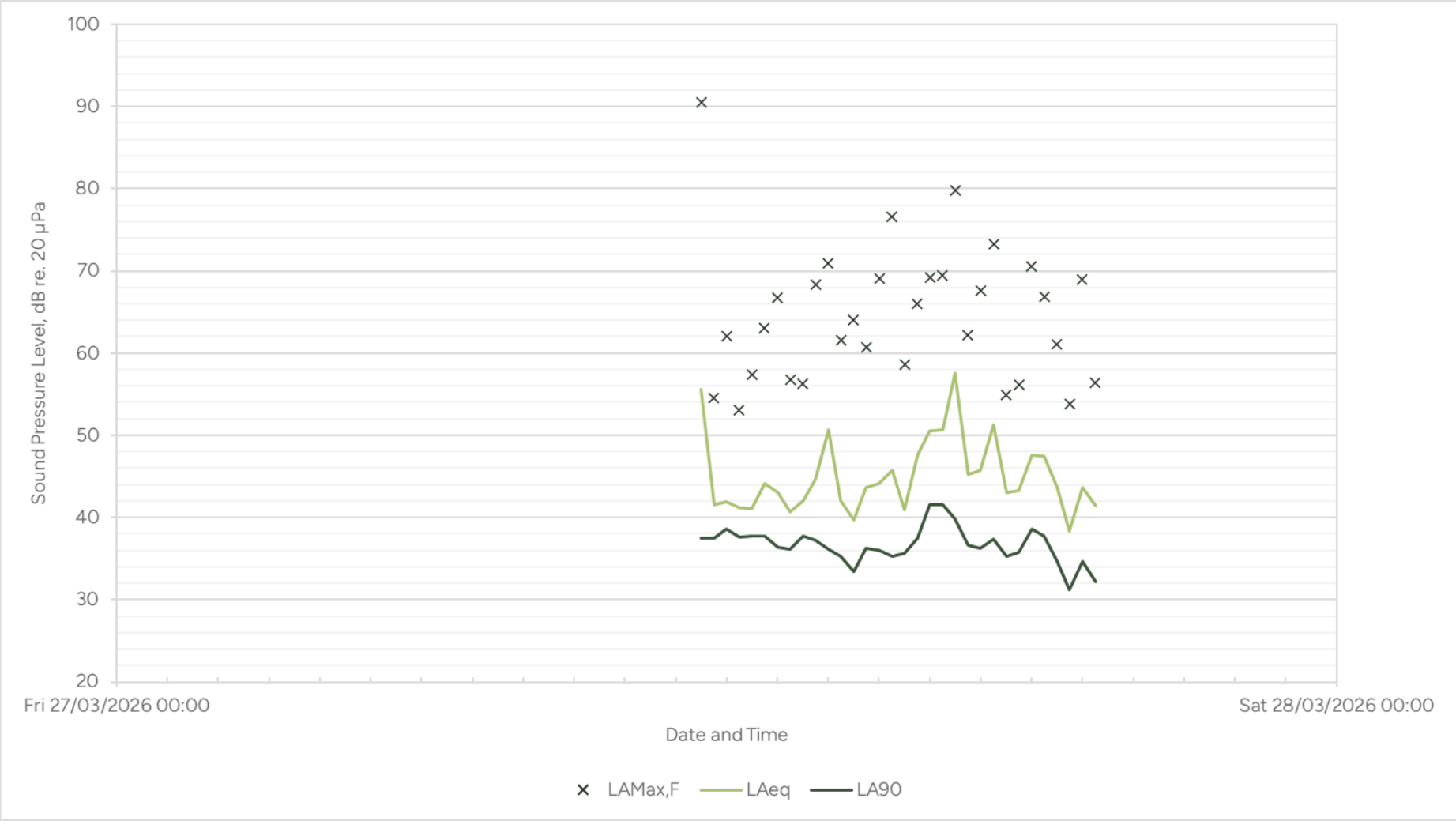


Figure D-9: Measured Night-Time Sound Levels – NMP02B, dB

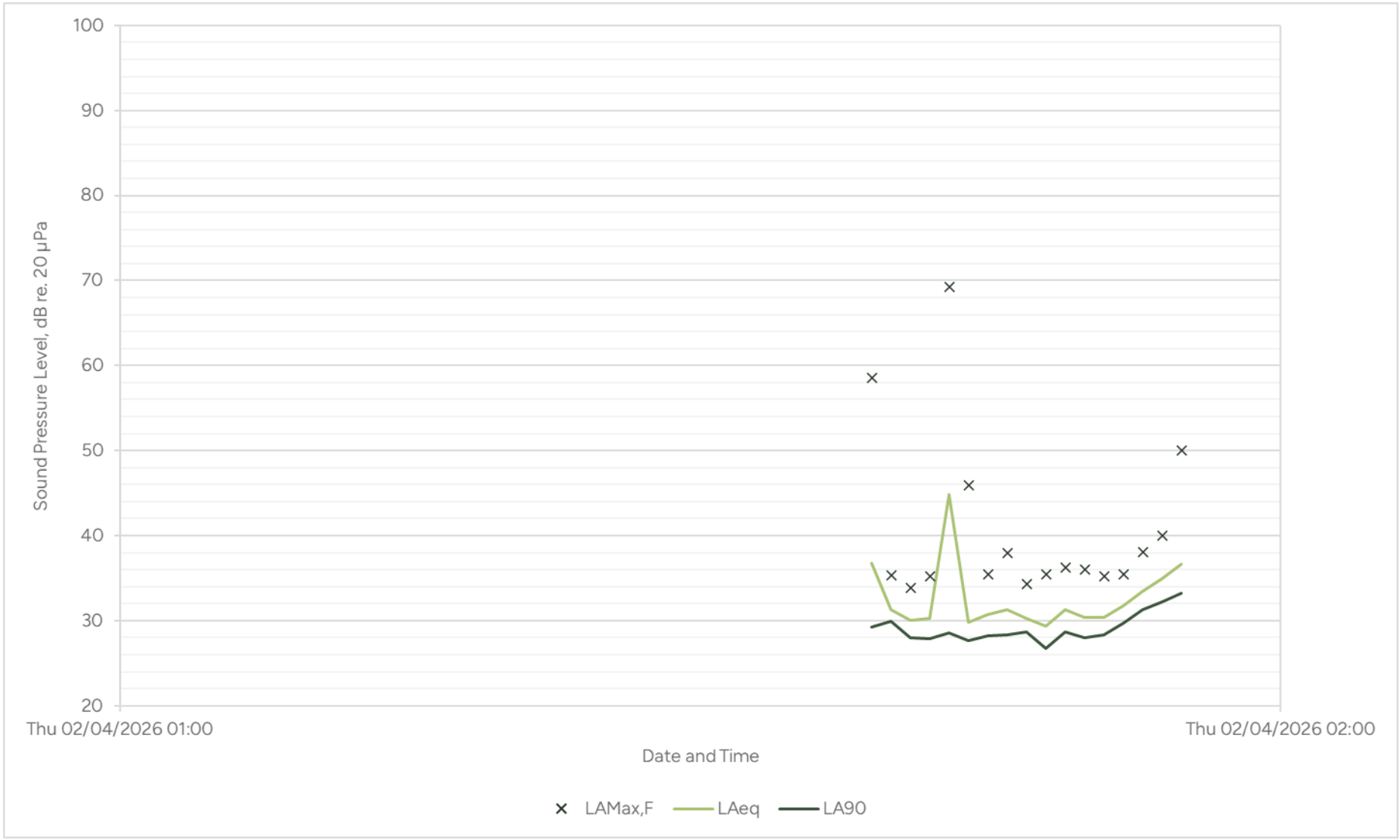


Figure D-10: Histogram of Weekday Ambient Sound Levels – NMP02A and NMP02B, dB

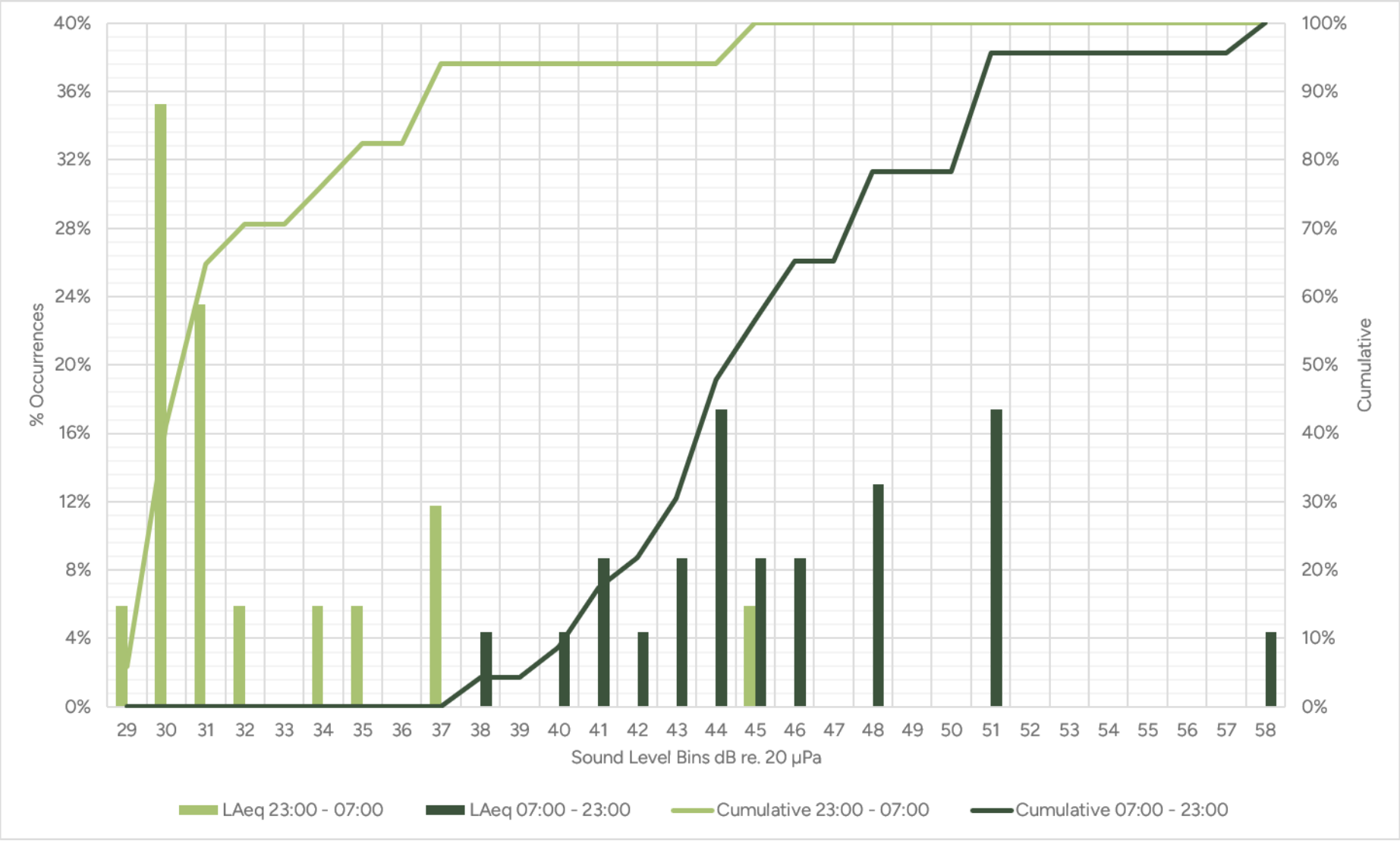


Figure D-11: Histogram of Weekday Background Sound Levels – NMP02A and NMP02B, dB

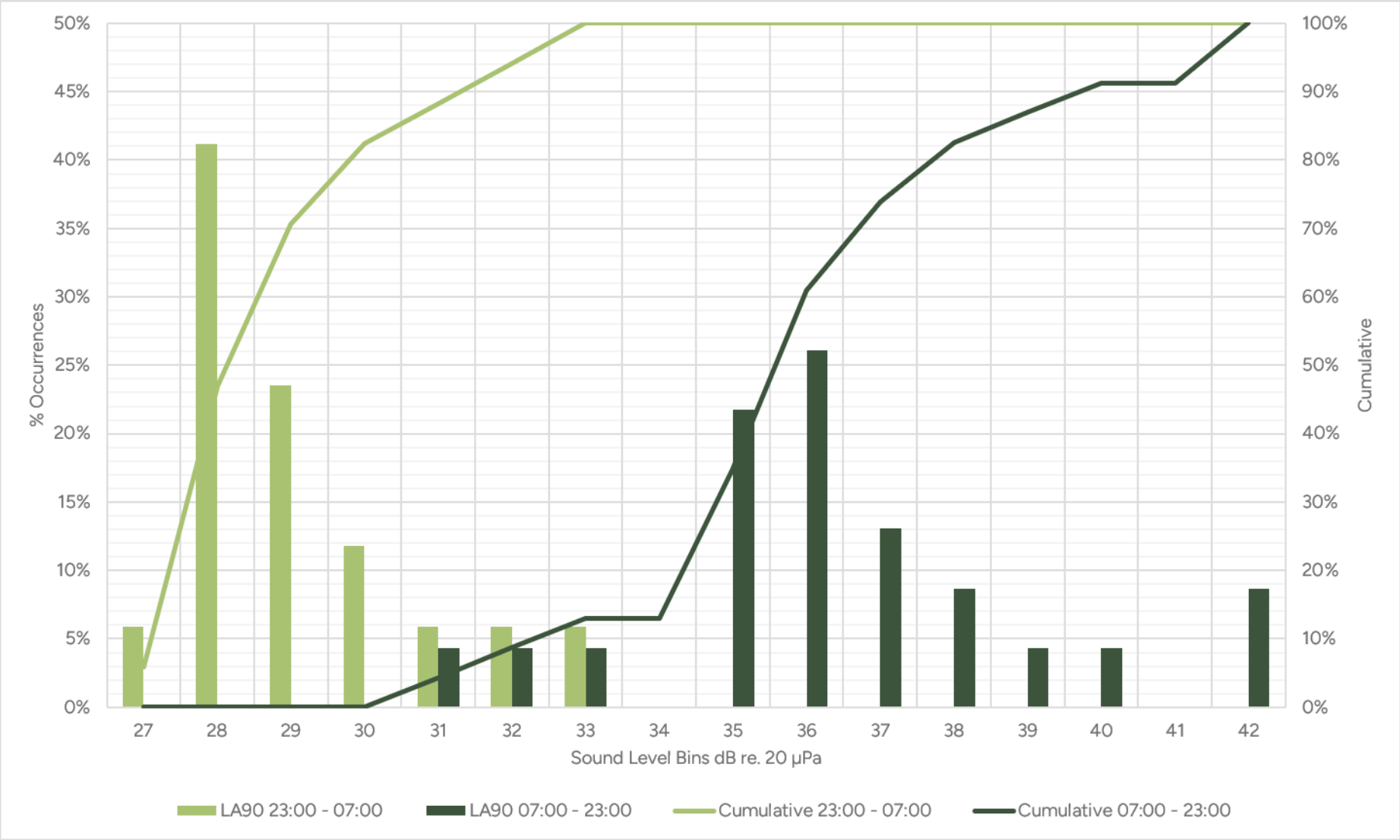


Figure D-12: Measured Temperature and Rainfall – NMP02A

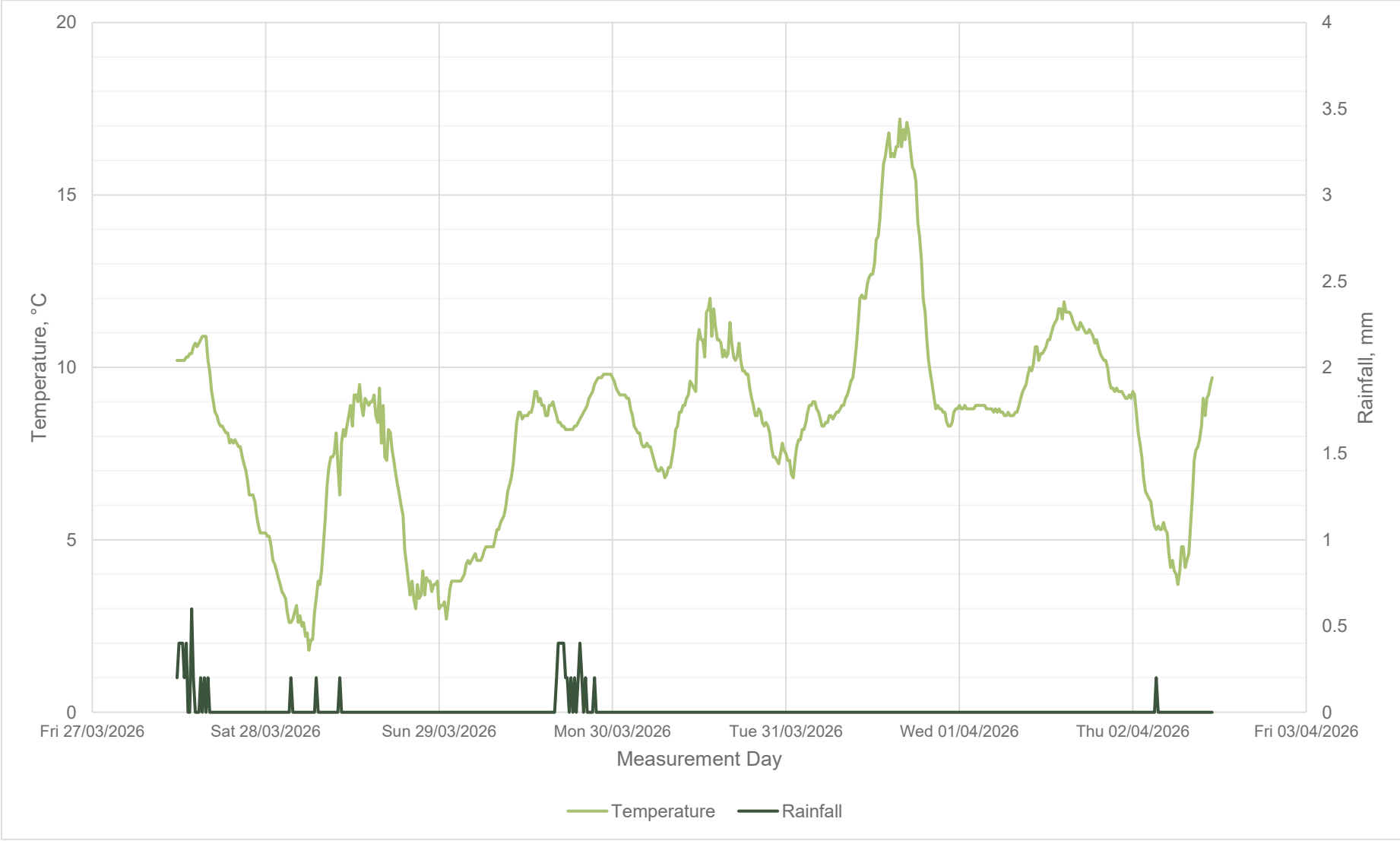
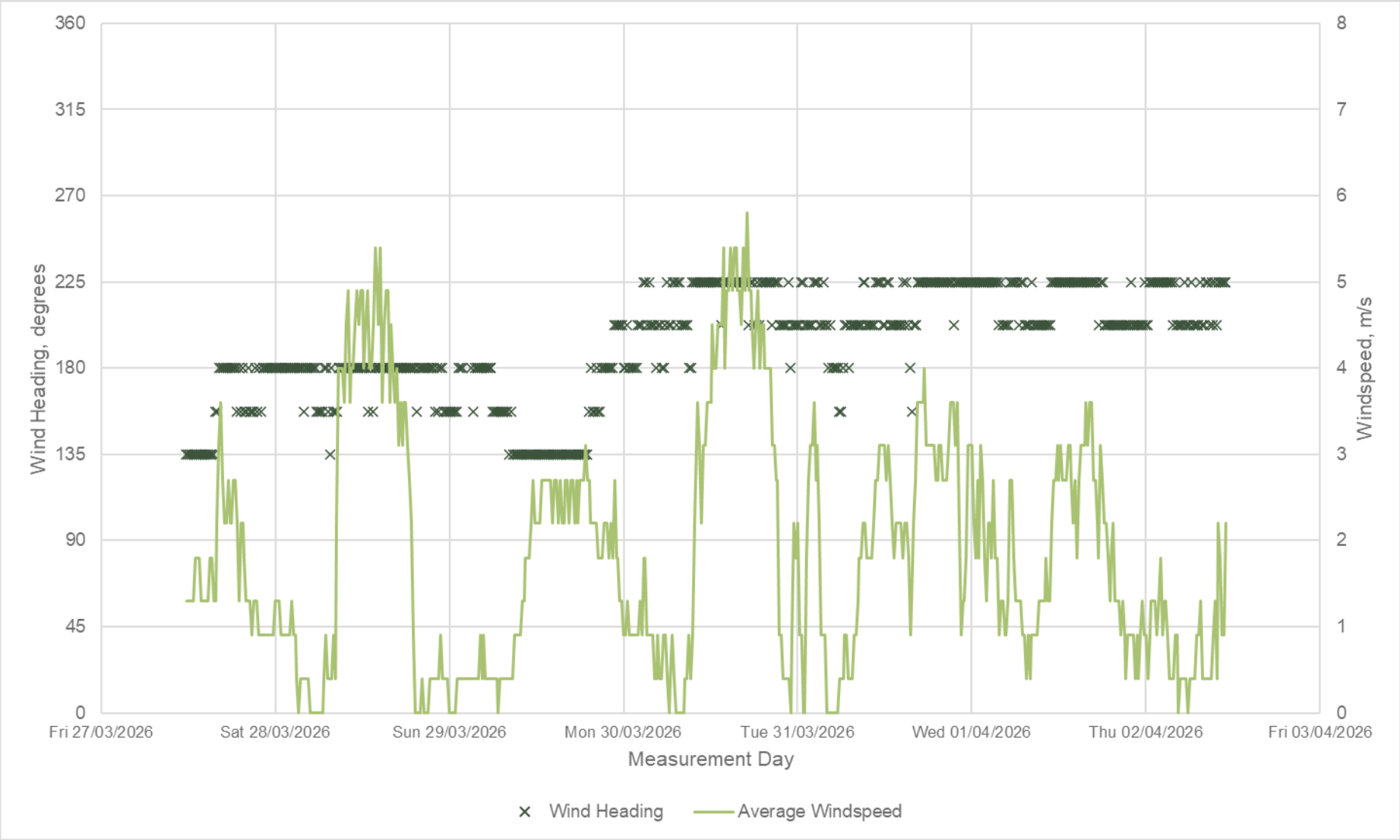


Figure D-13: Measured Wind – NMP02A



D.3 NMP03 – Birchland Farm

Figure D-14: Measured Sound Levels – NMP03, dB

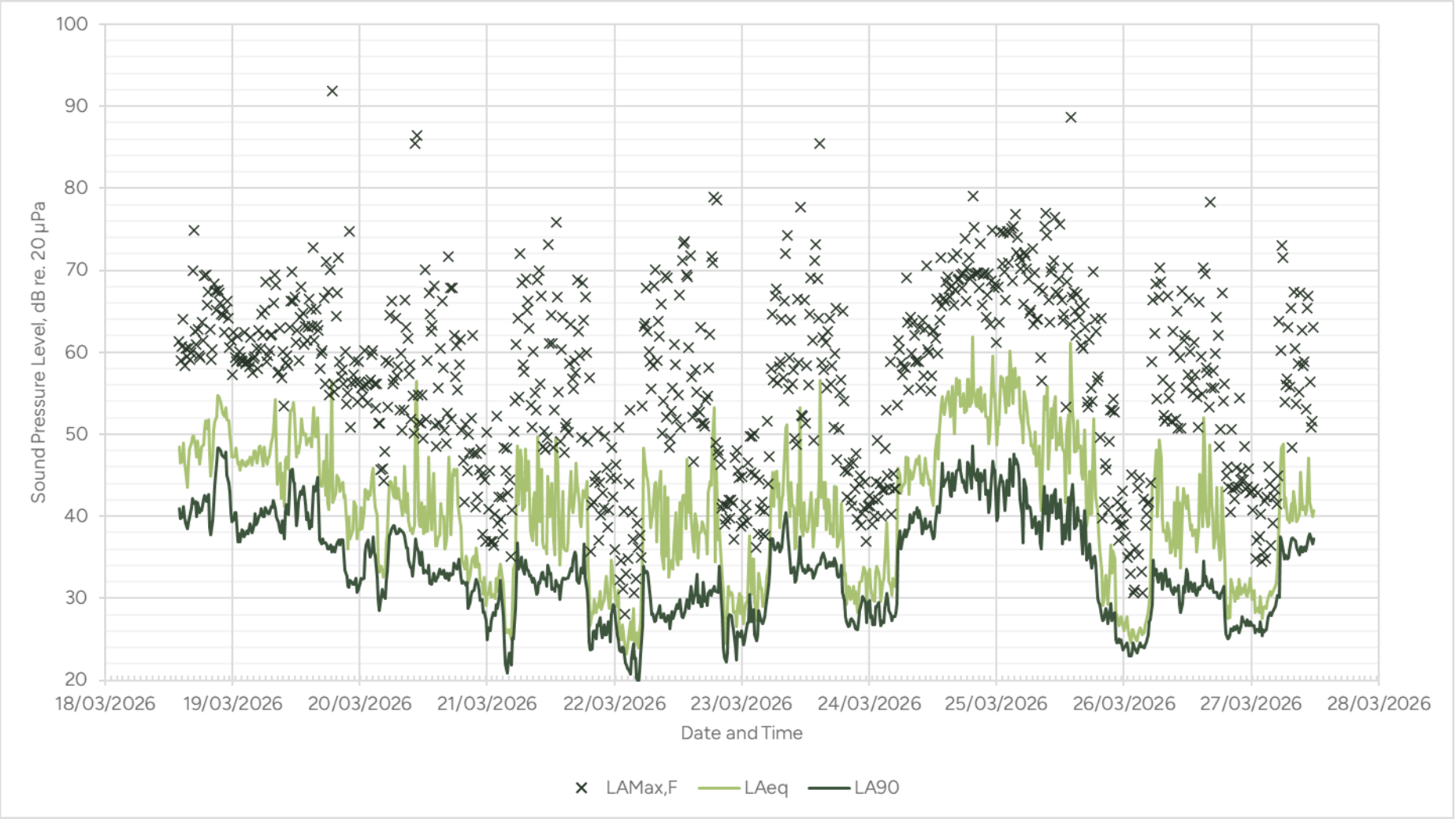


Figure D-15: Histogram of Weekday Ambient Sound Levels – NMP03, dB

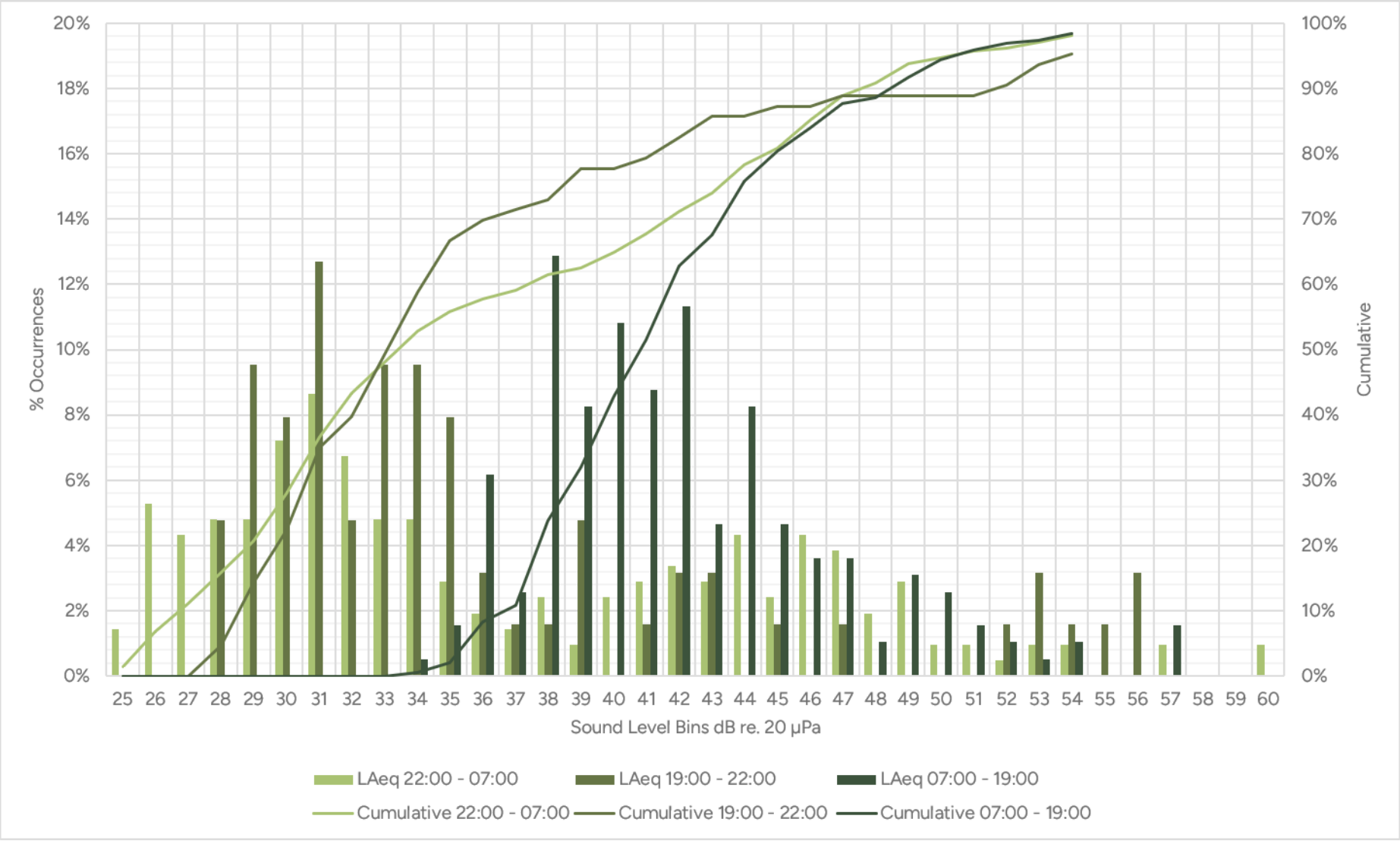


Figure D-16: Histogram of Weekday Background Sound Levels – NMP03, dB

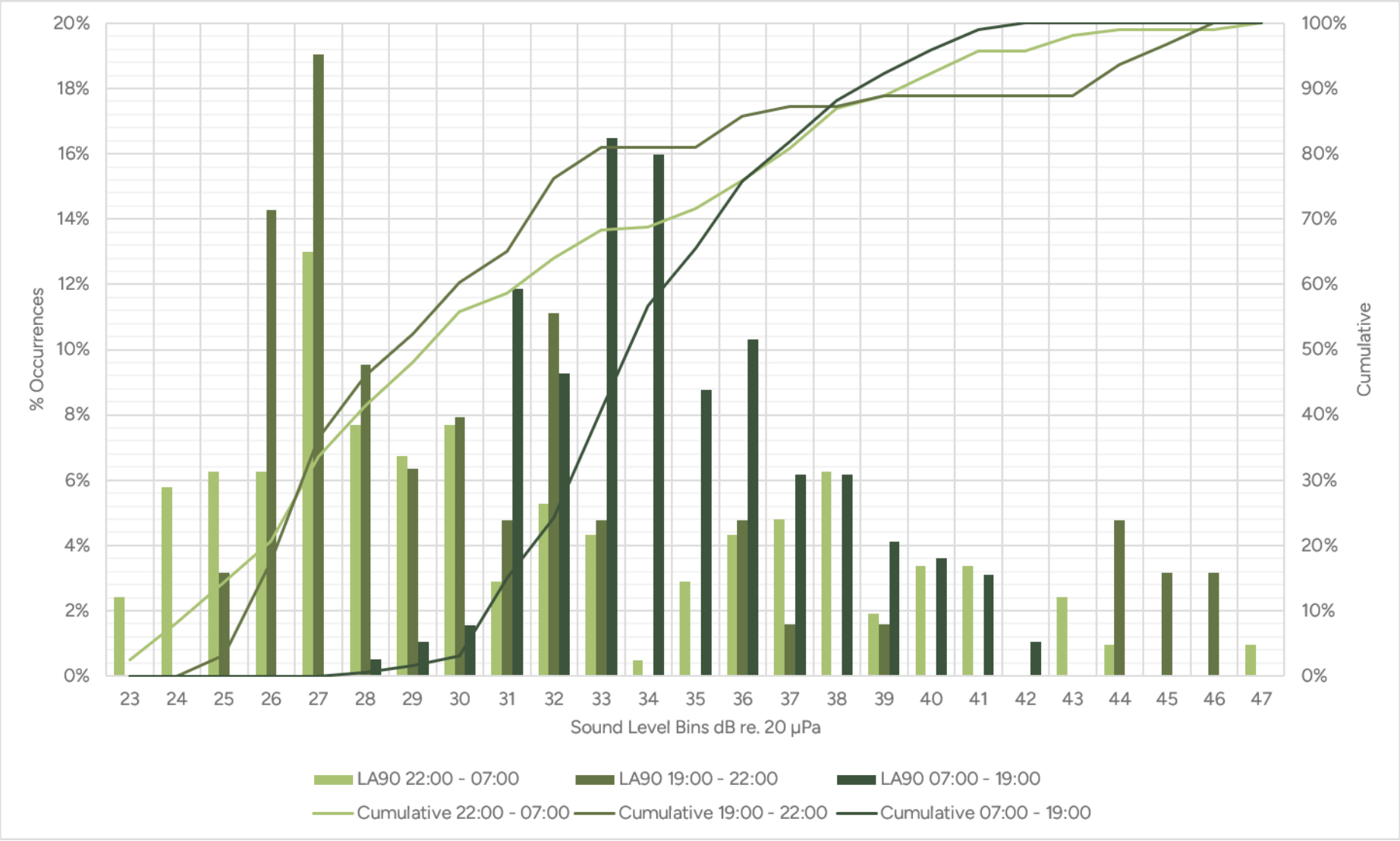


Figure D-17: Histogram of Weekend Ambient Sound Levels – NMP03, dB

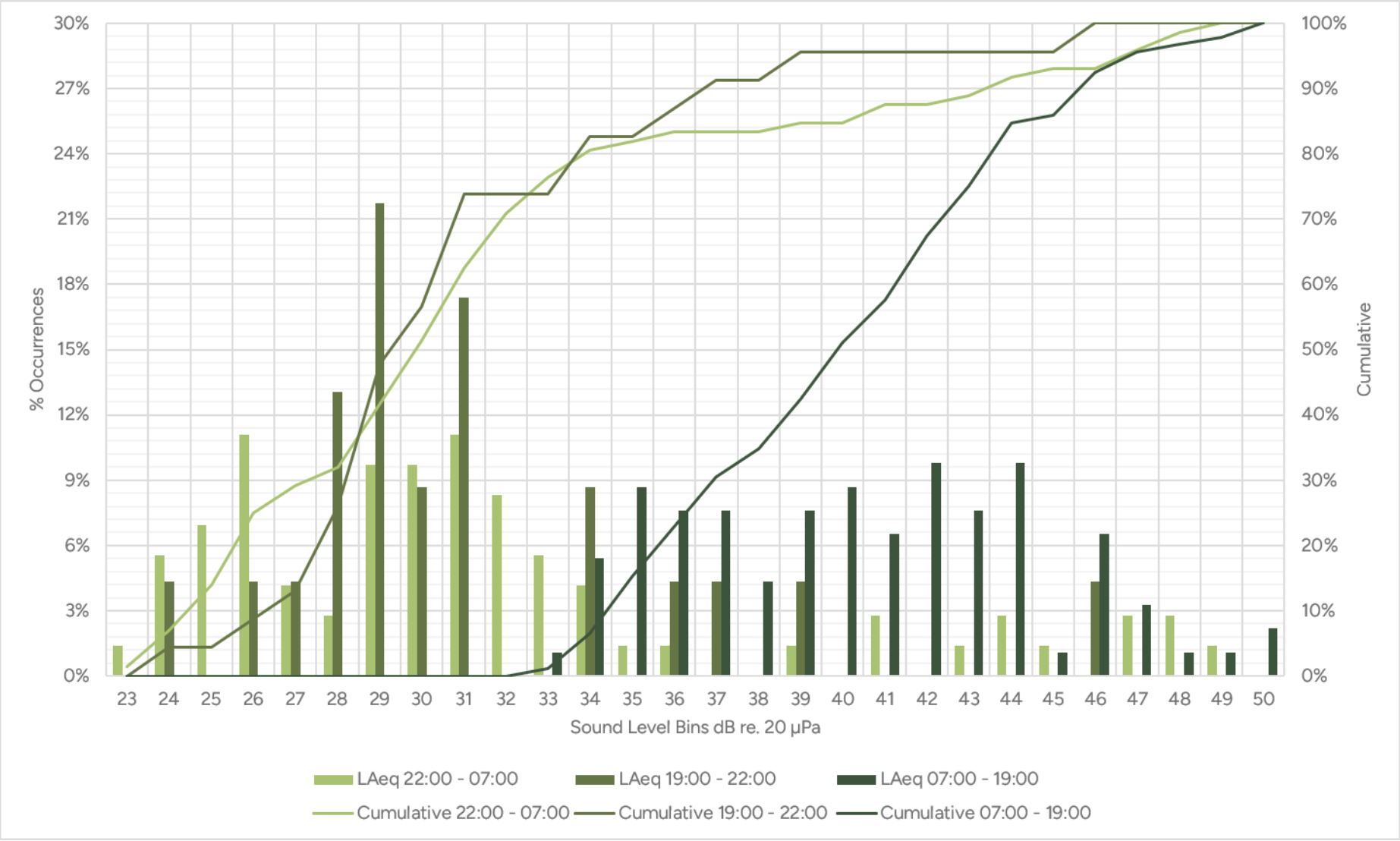


Figure D-18: Histogram of Weekend Background Sound Levels – NMP03, dB

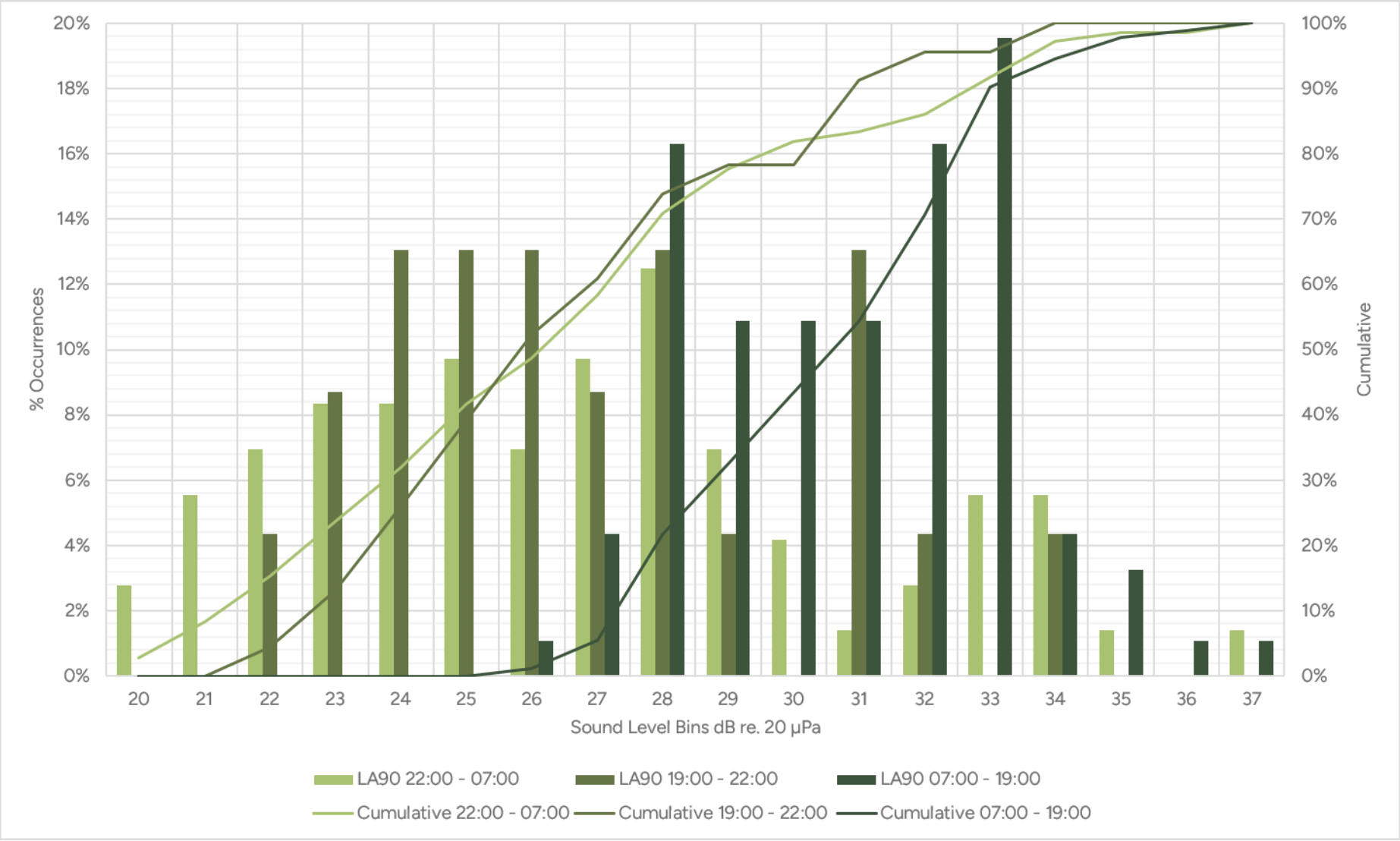


Figure D-19: Measured Temperature and Rainfall – NMP03

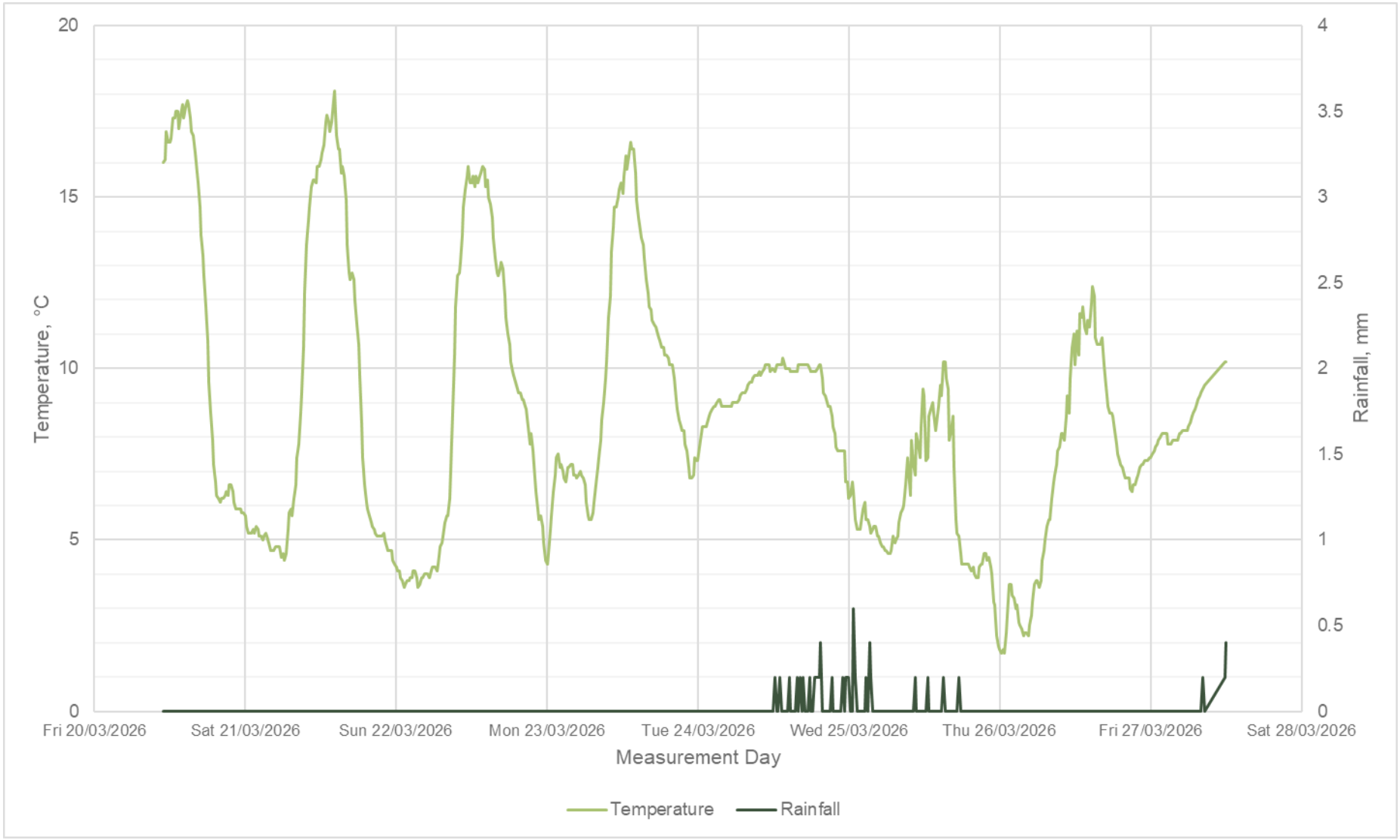
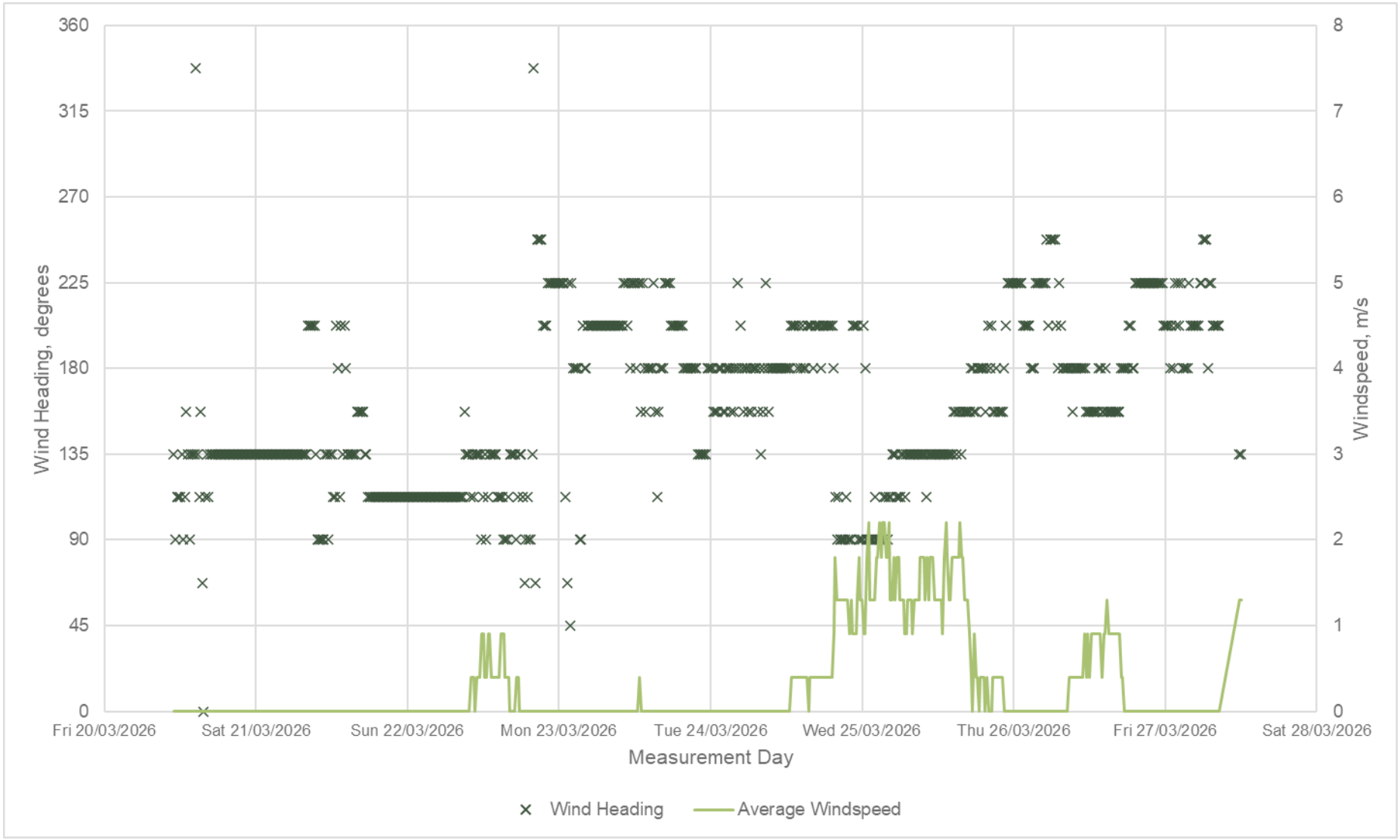


Figure D-20: Measured Wind – NMP03



D.4 NMP04 – Galva House

Figure D-21: Measured Sound Levels – NMP04, dB

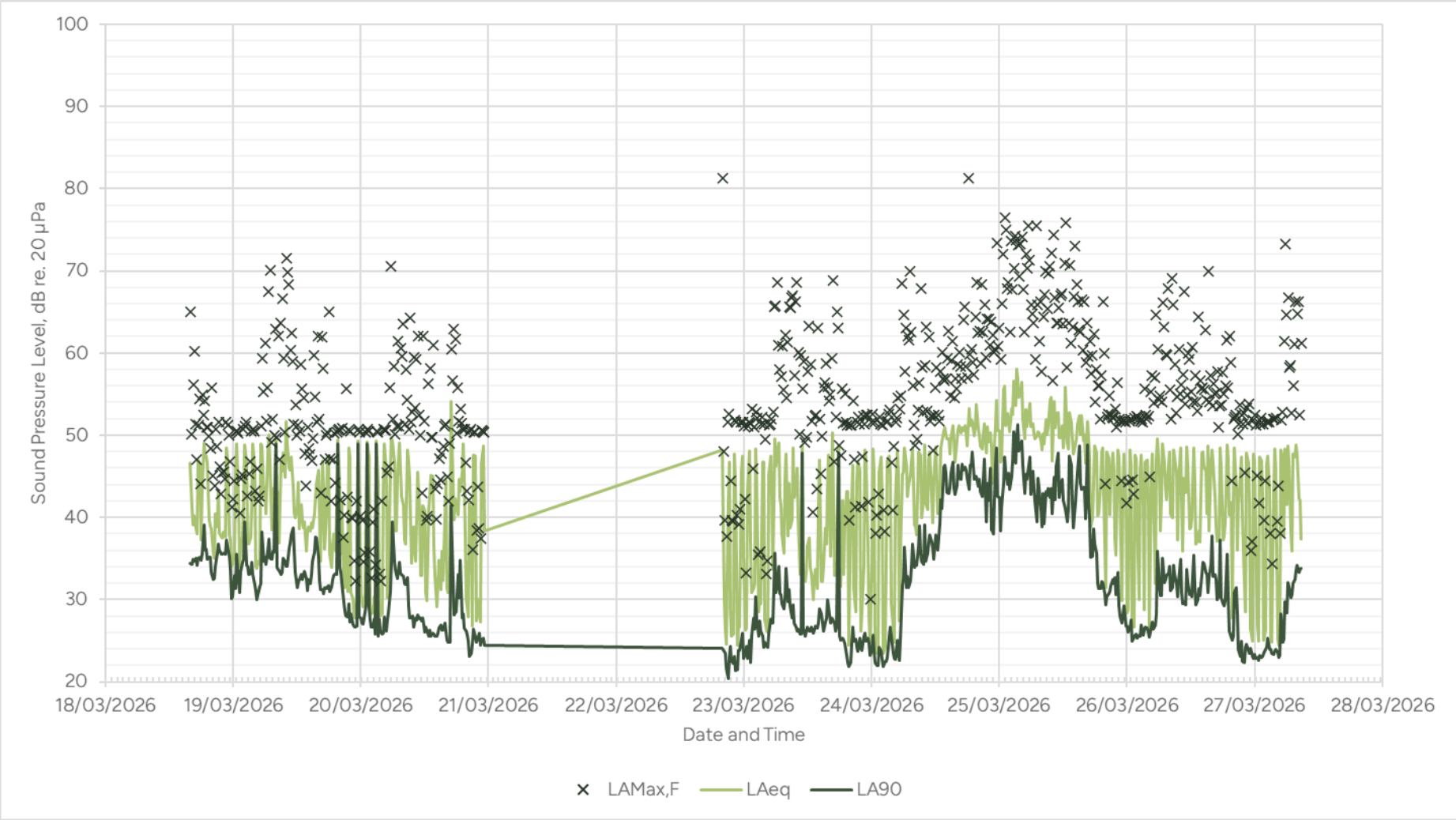


Figure D-22: Histogram of Weekday Ambient Sound Levels – NMP04, dB

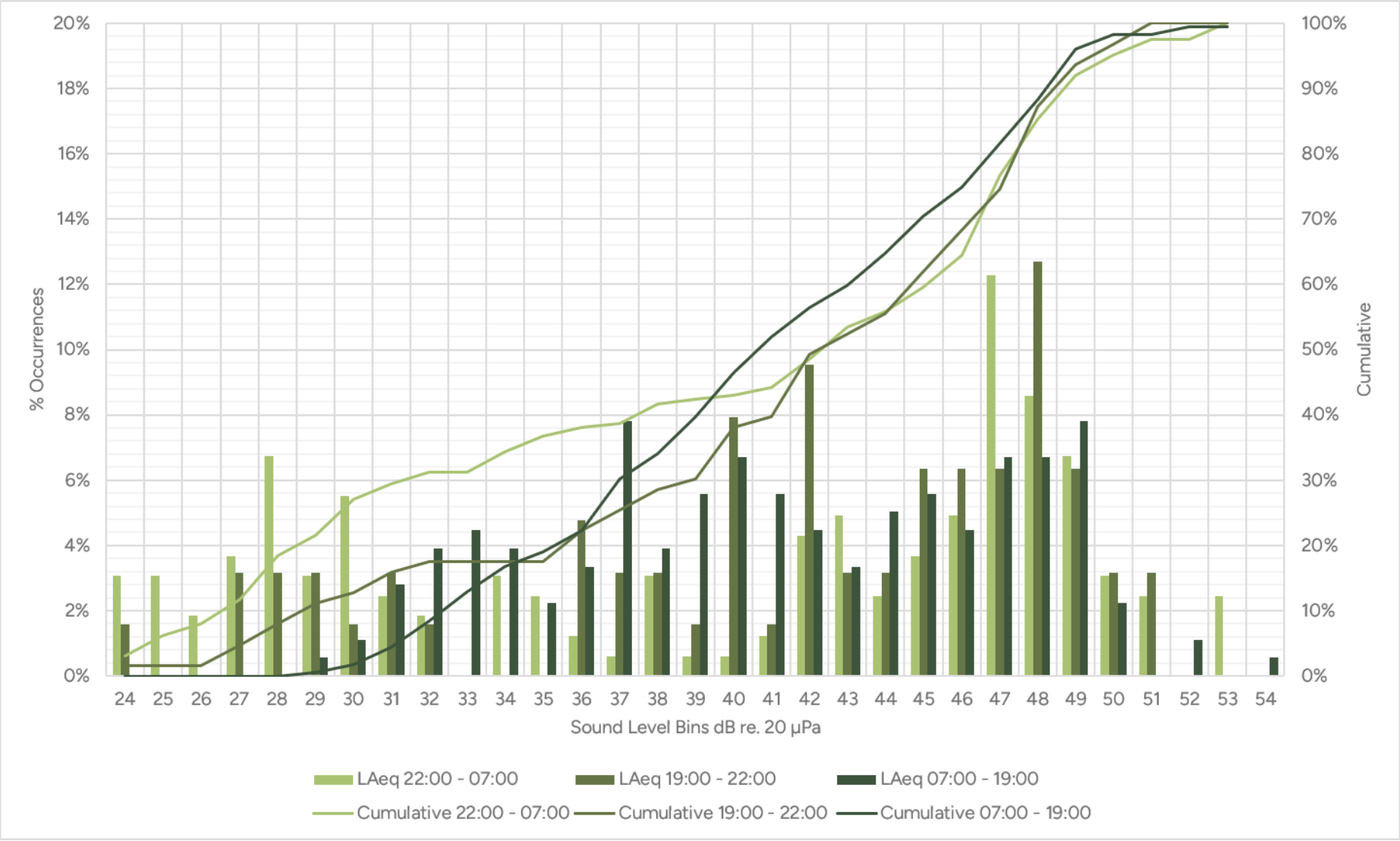


Figure D-23: Histogram of Weekday Background Sound Levels – NMP04, dB

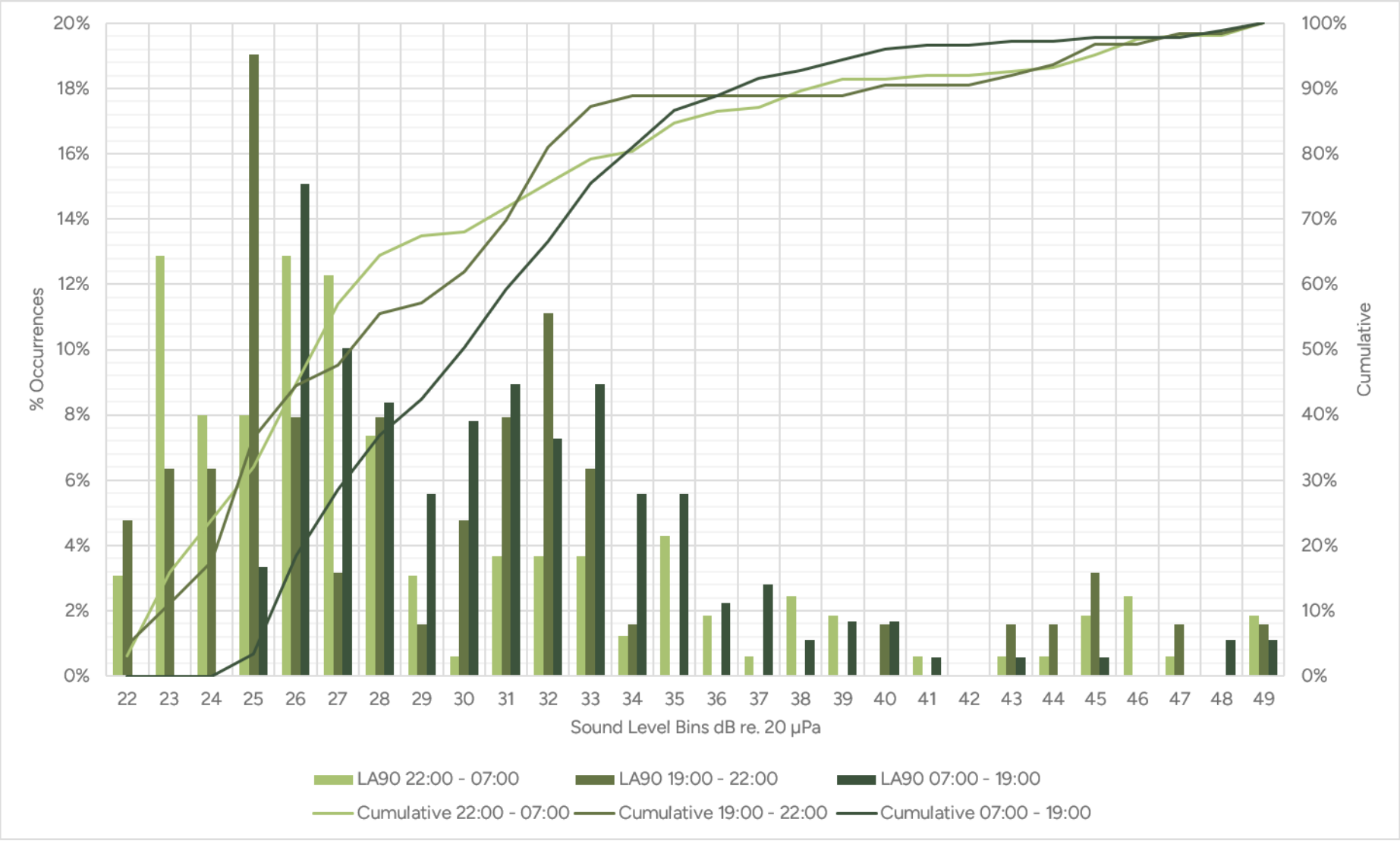


Figure D-24: Histogram of Weekend Ambient Sound Levels – NMP04, dB

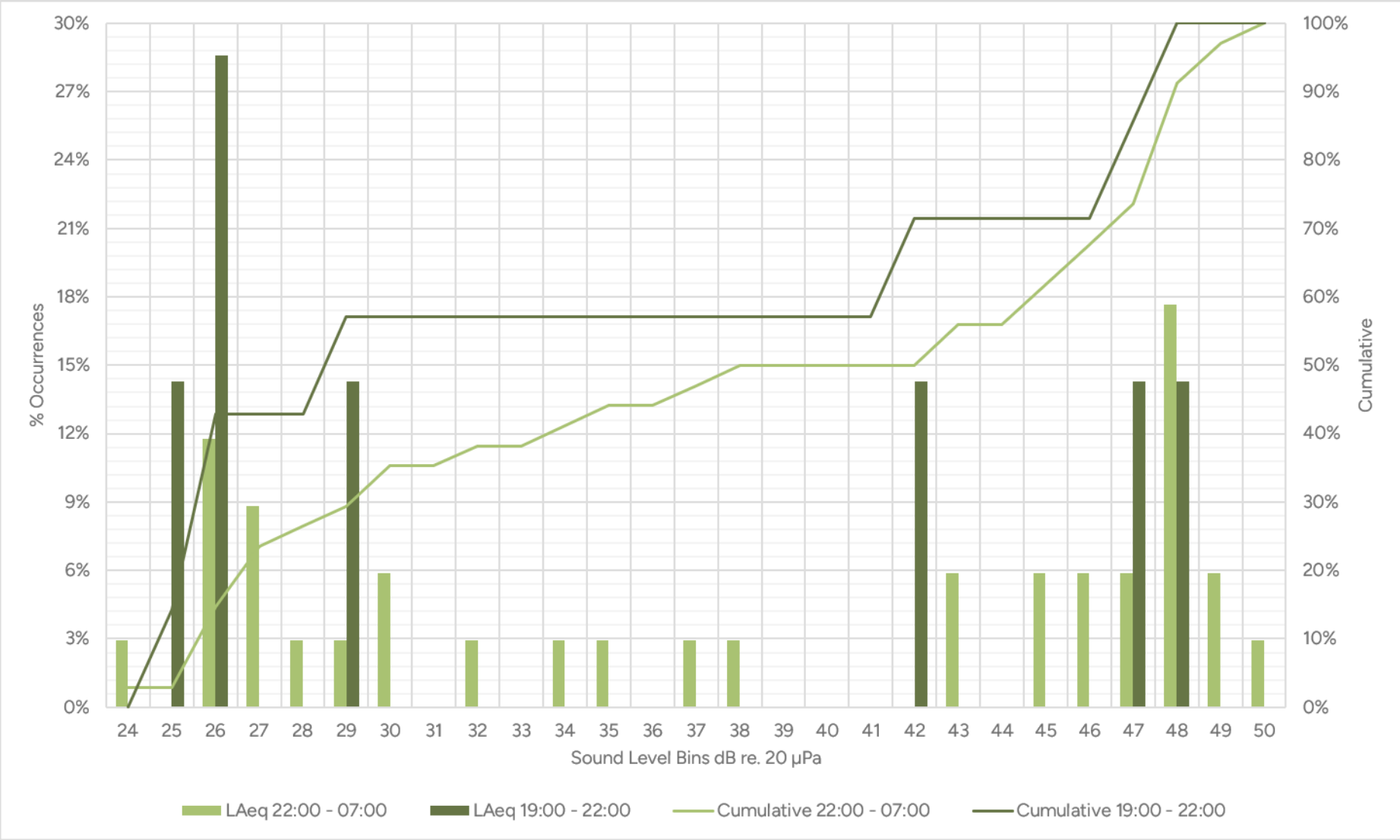


Figure D-25: Histogram of Weekend Background Sound Levels – NMP04, dB

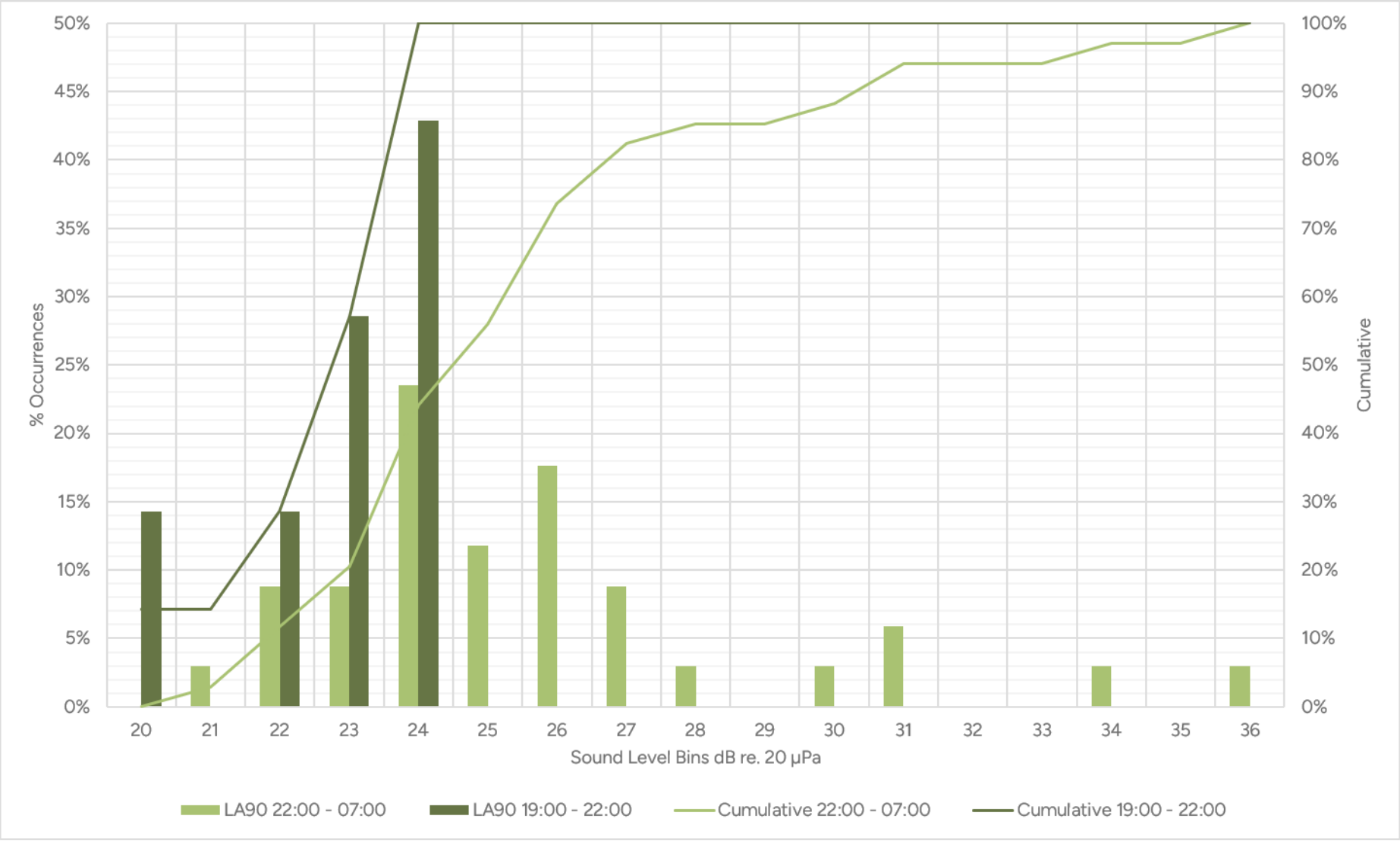


Figure D-26: Measured Temperature and Rainfall – NMP04

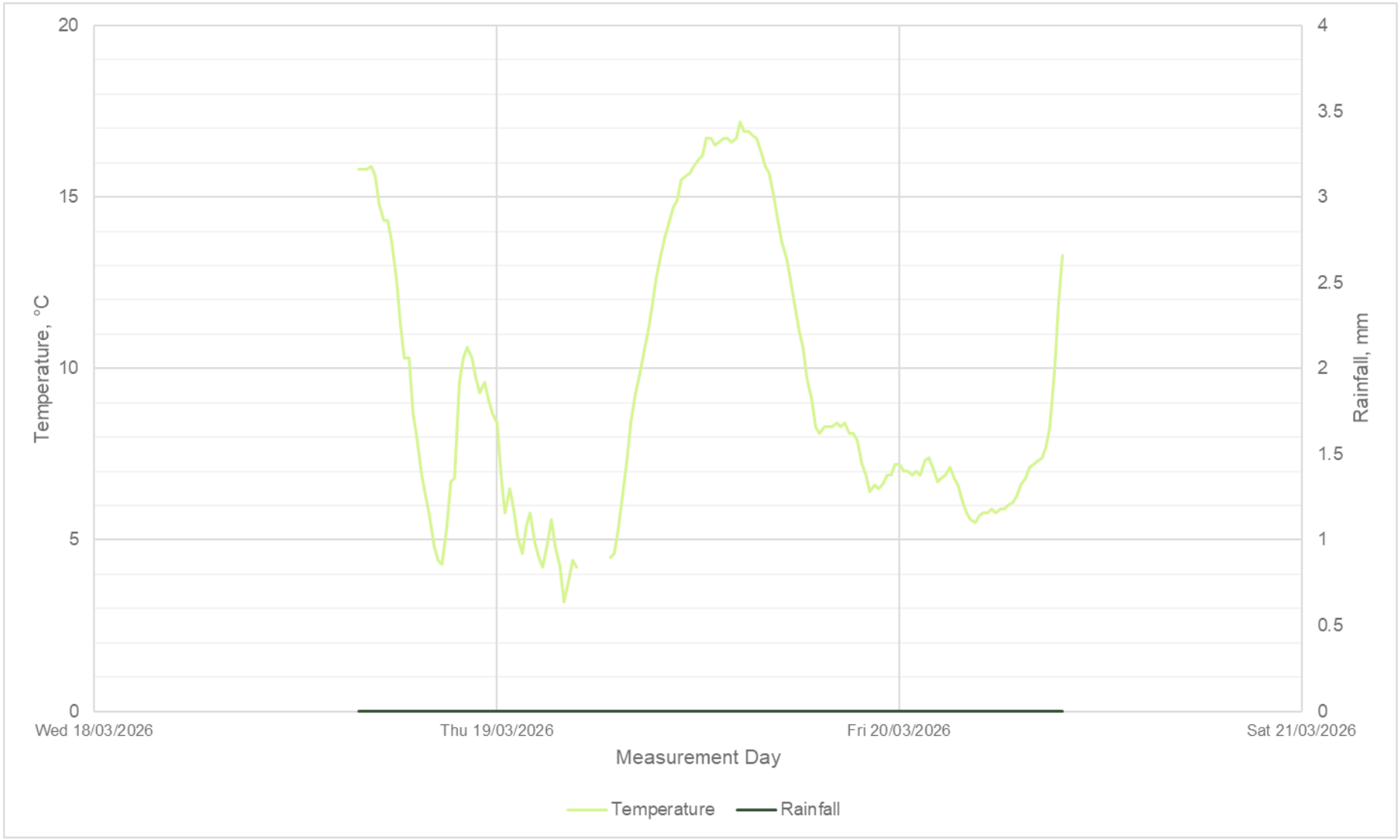
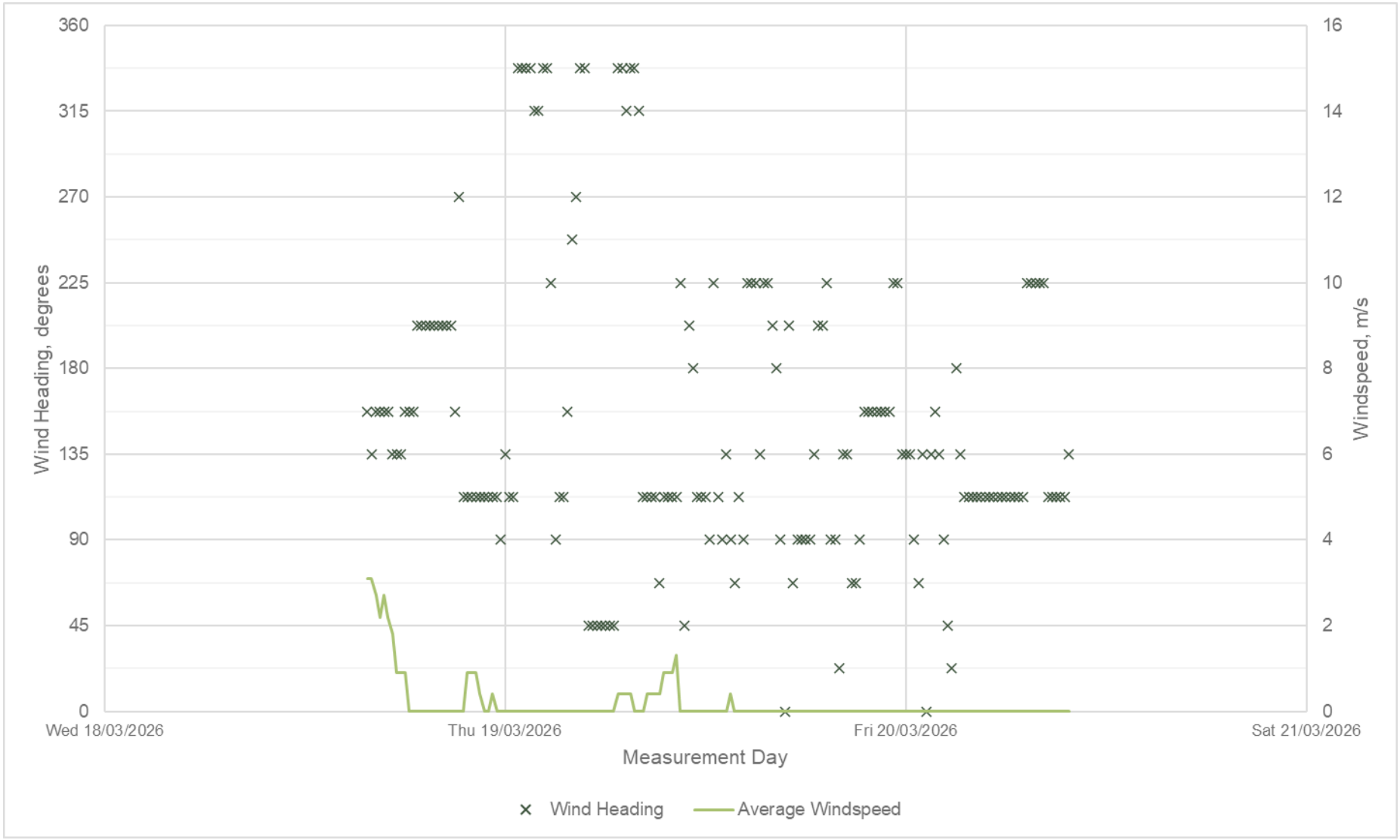


Figure D-27: Measured Wind – NMP04



D.5 NMP05 – Windwhistle Farm

Figure D-28: Measured Sound Levels – NMP05, dB

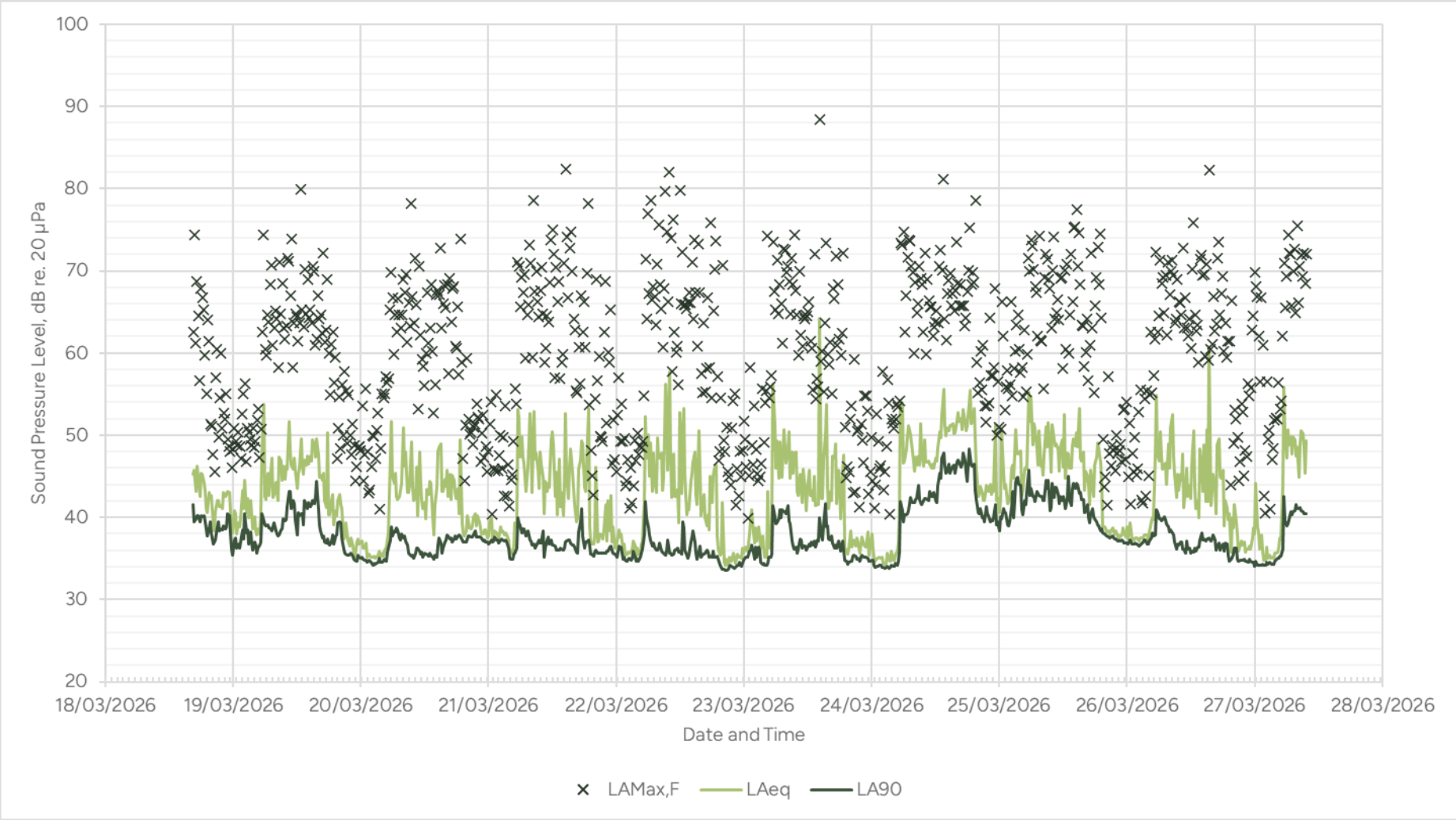


Figure D-29: Histogram of Weekday Ambient Sound Levels – NMP05, dB

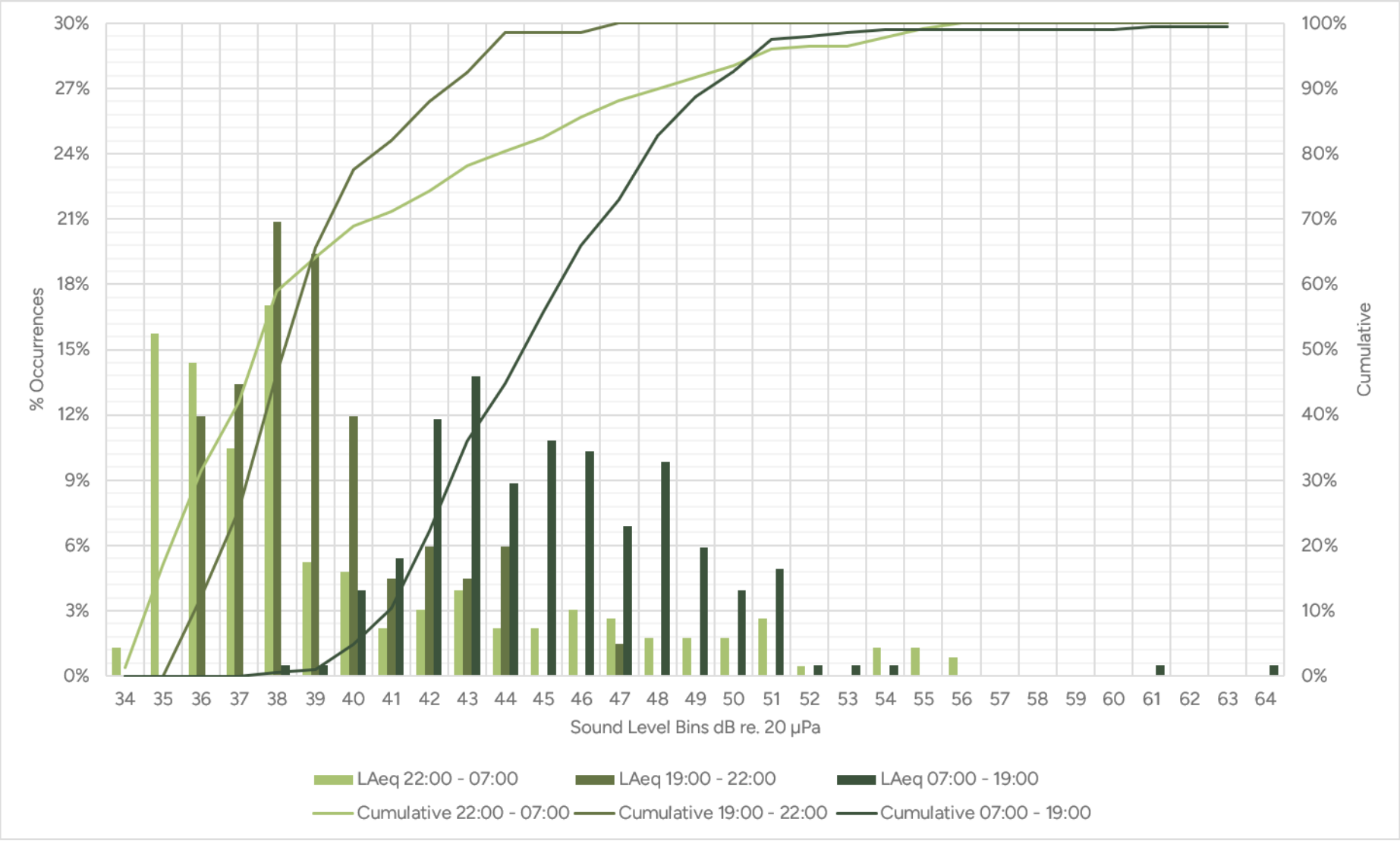


Figure D-30: Histogram of Weekday Background Sound Levels – NMP05, dB

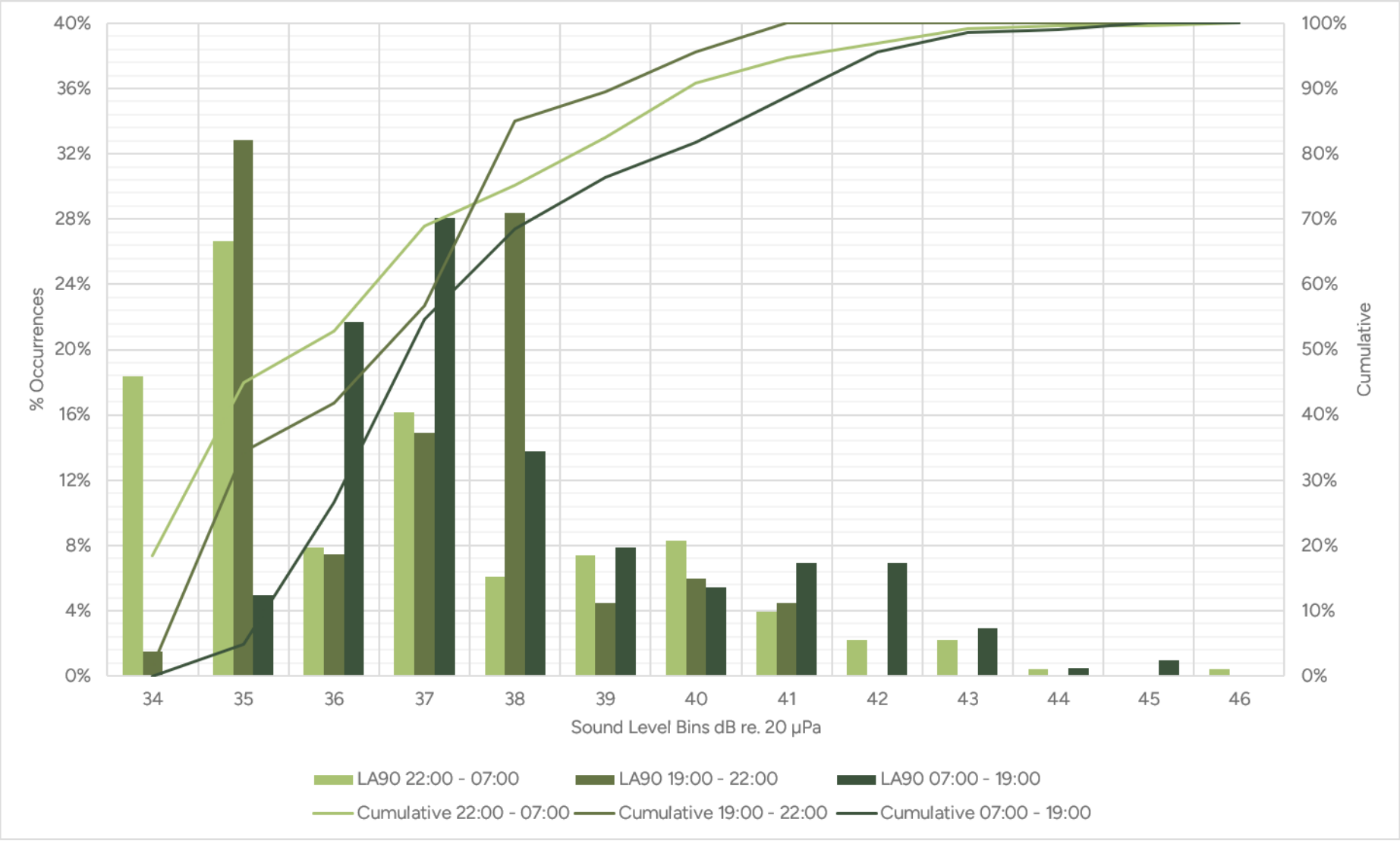


Figure D-31: Histogram of Weekend Ambient Sound Levels – NMP05, dB

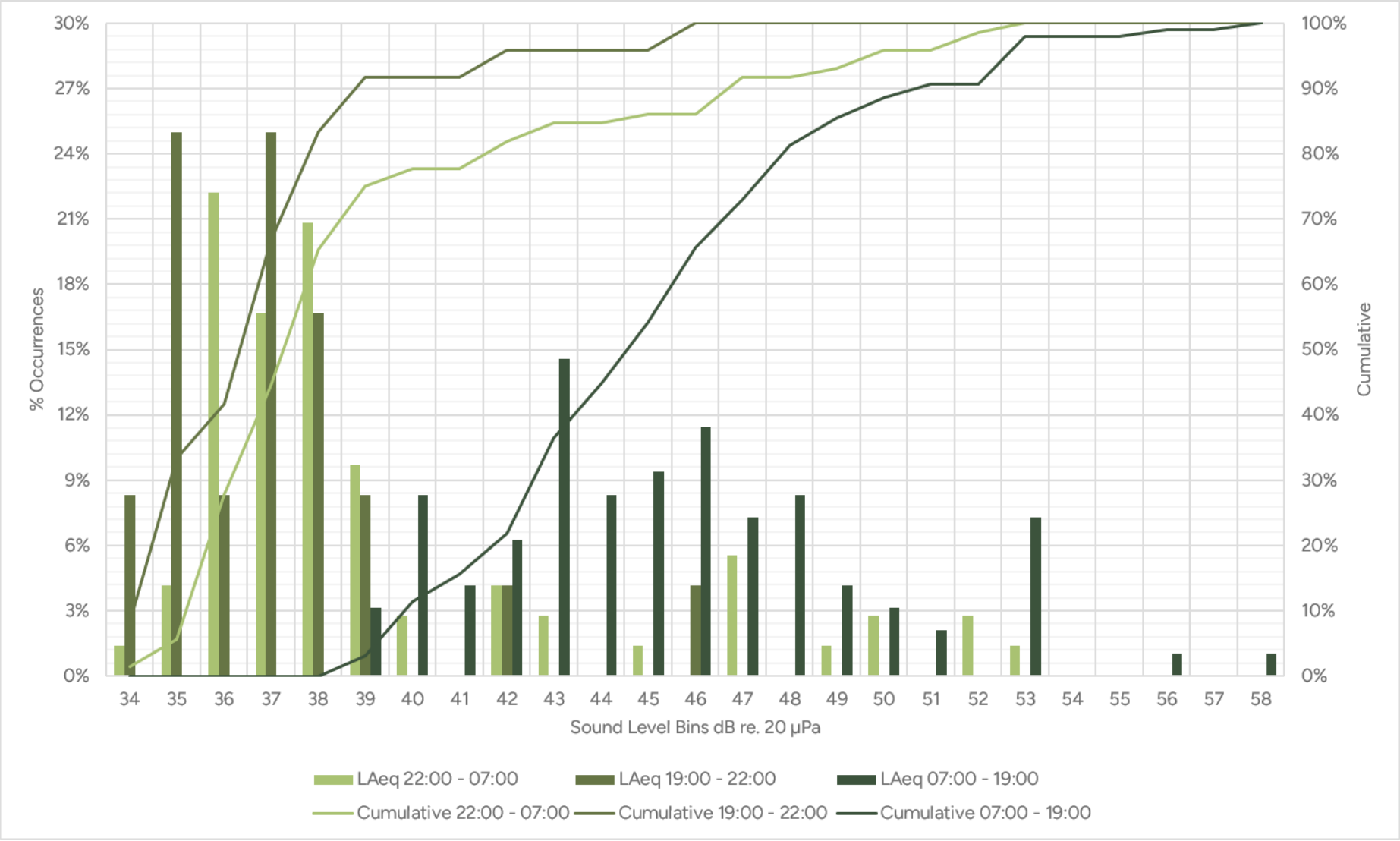
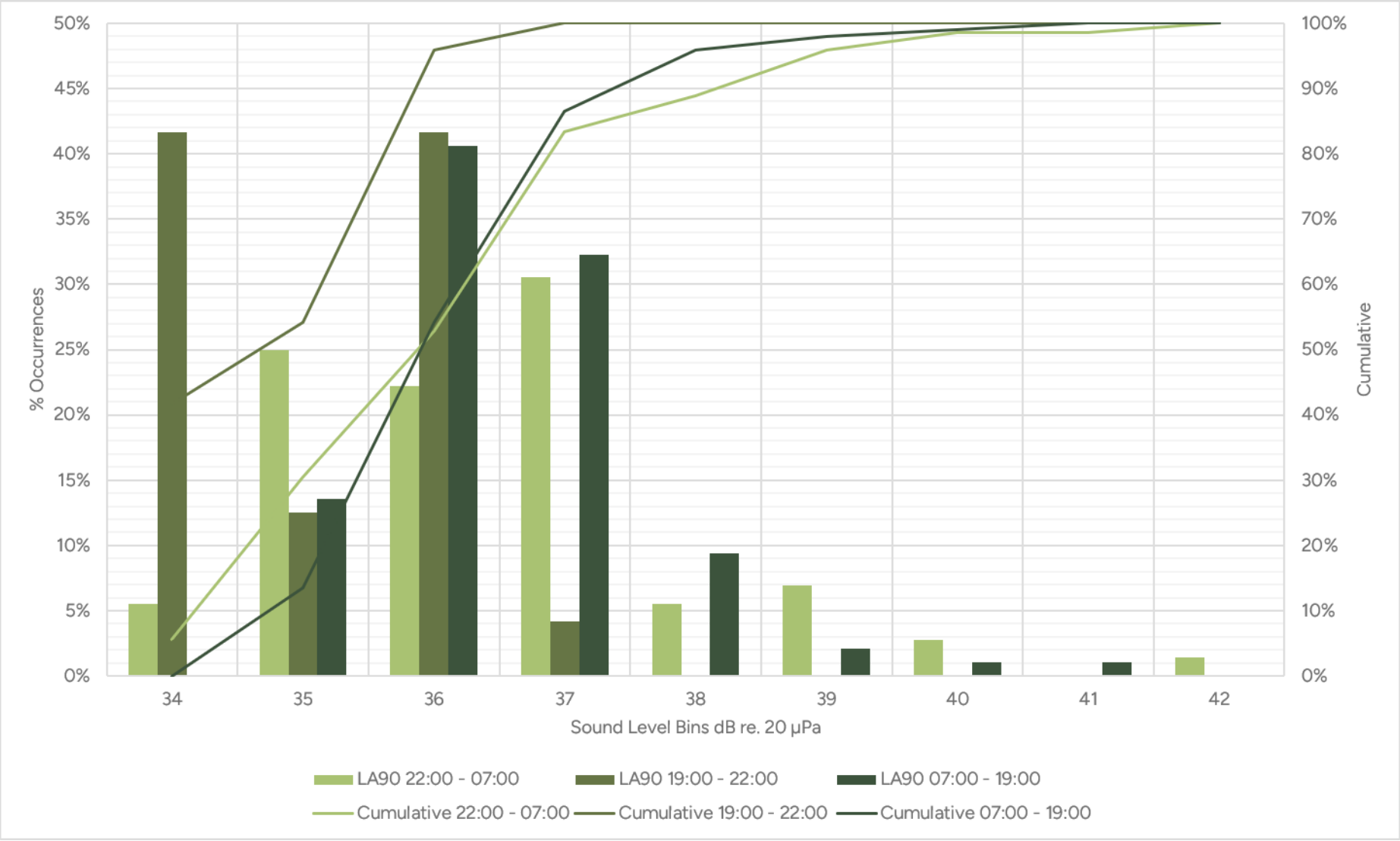


Figure D-32: Histogram of Weekend Background Sound Levels – NMP05, dB



D.6 NMP06 – Newnham Park

Figure D-33: Measured Sound Levels – NMP06, dB

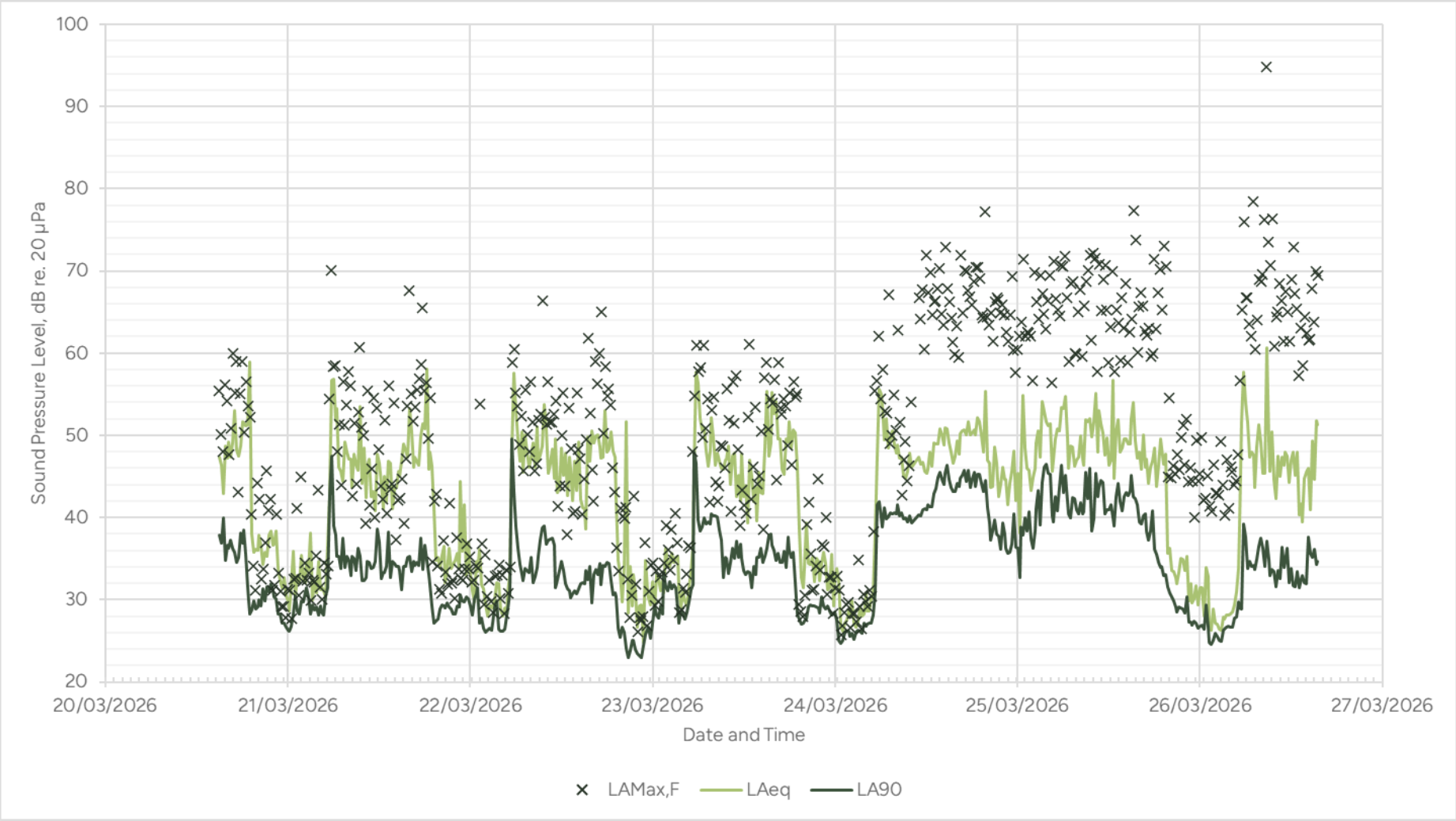


Figure D-34: Histogram of Weekday Ambient Sound Levels – NMP06, dB

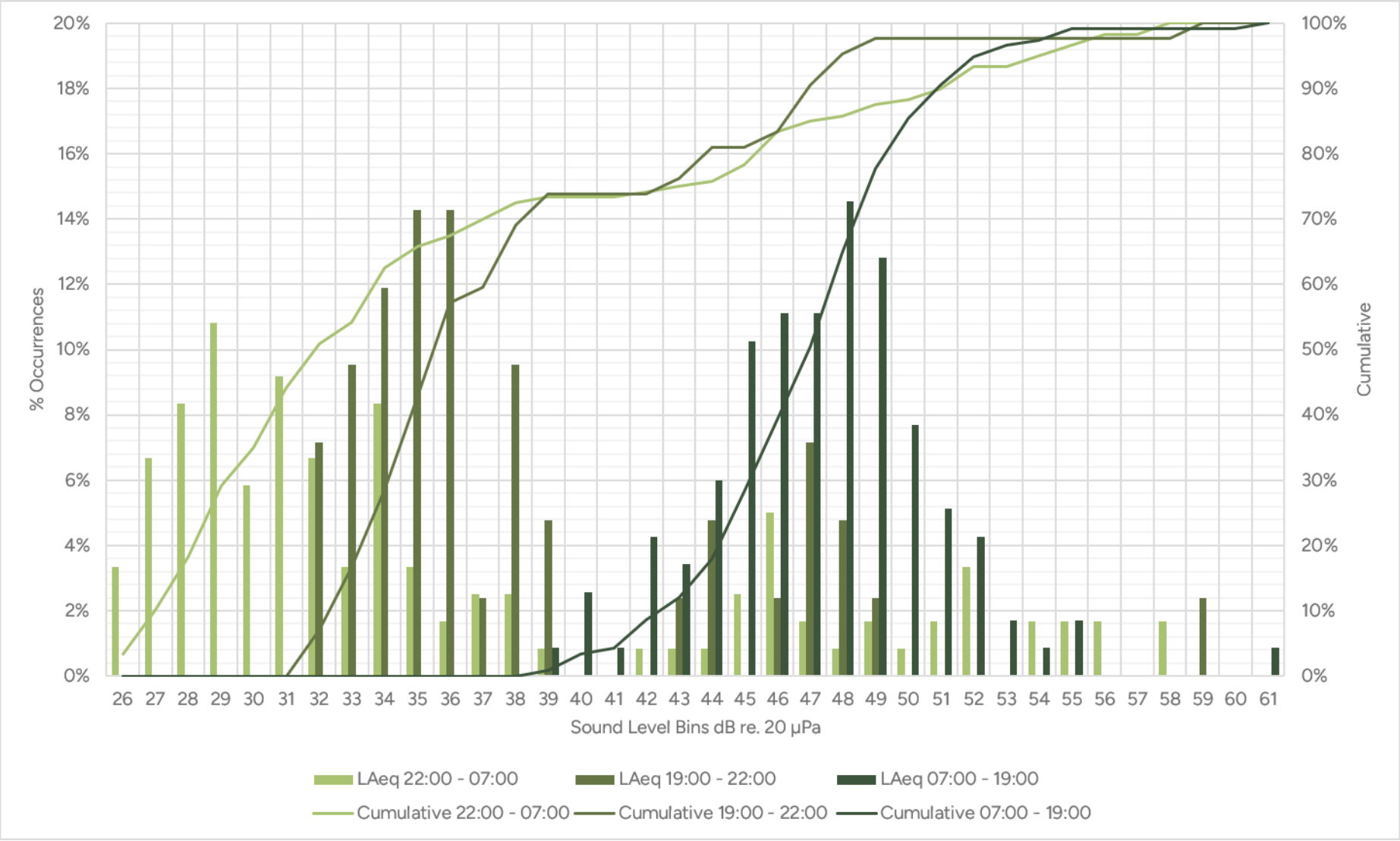


Figure D-35: Histogram of Weekday Background Sound Levels – NMP06, dB

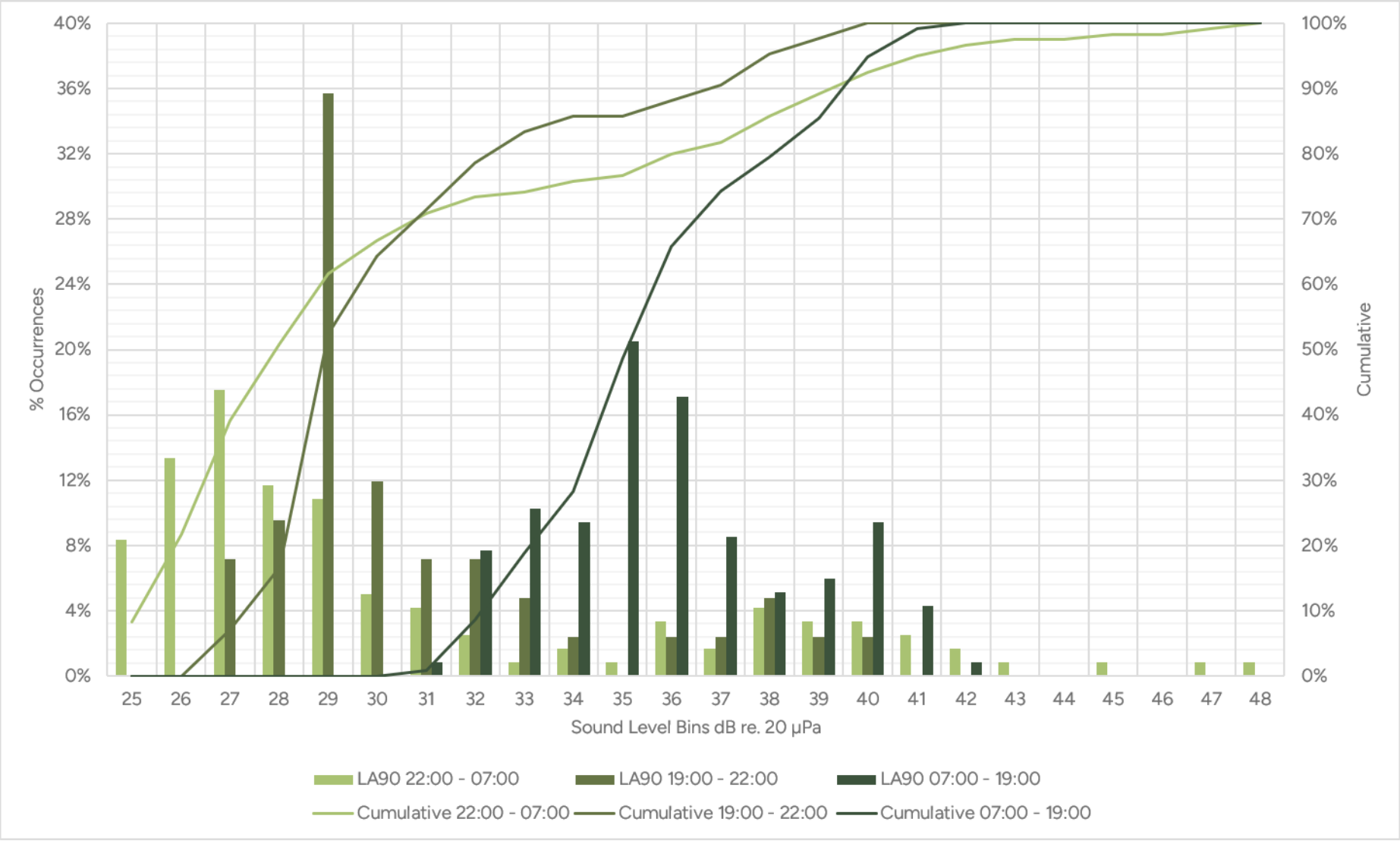


Figure D-36: Histogram of Weekend Ambient Sound Levels – NMP06, dB

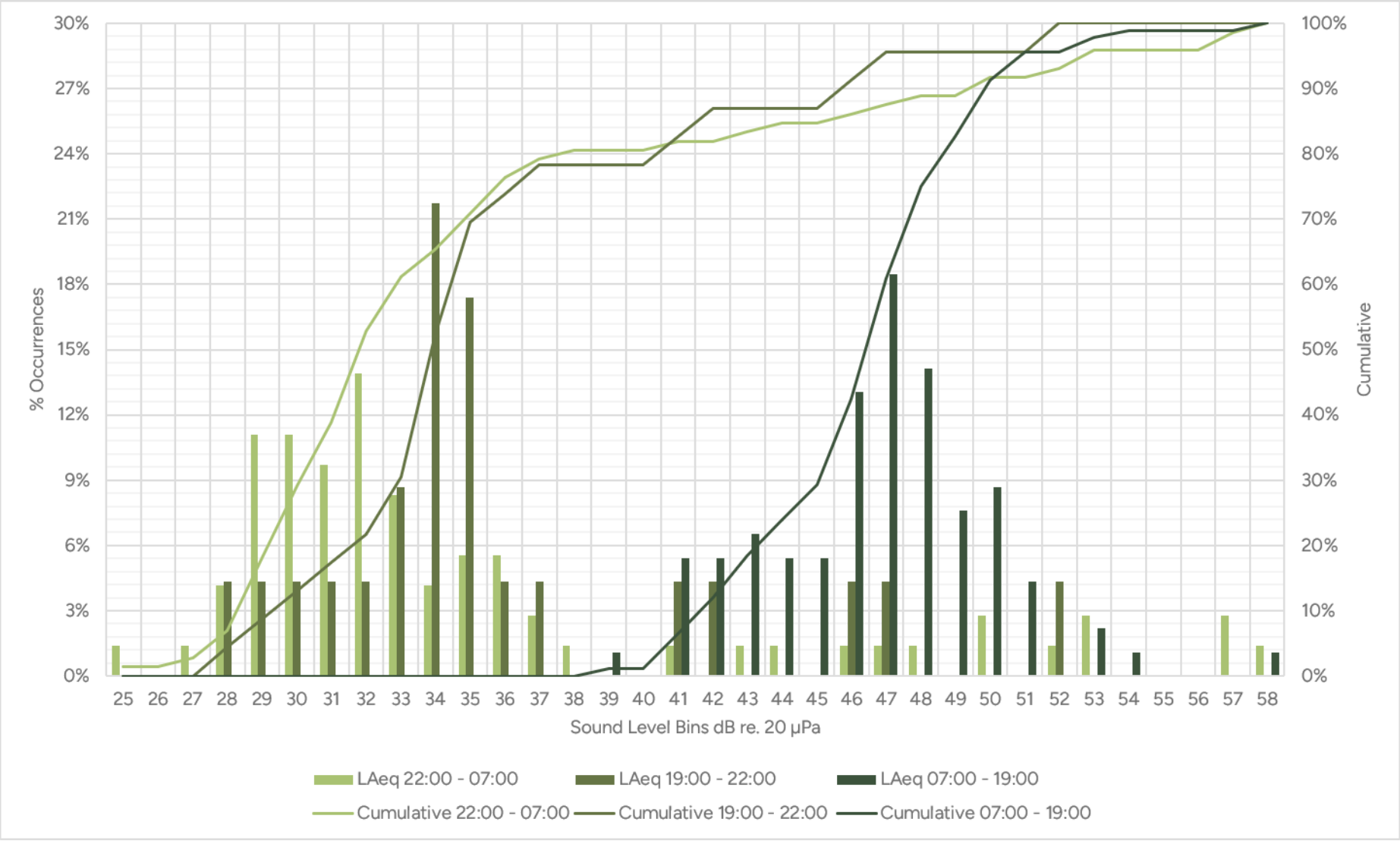
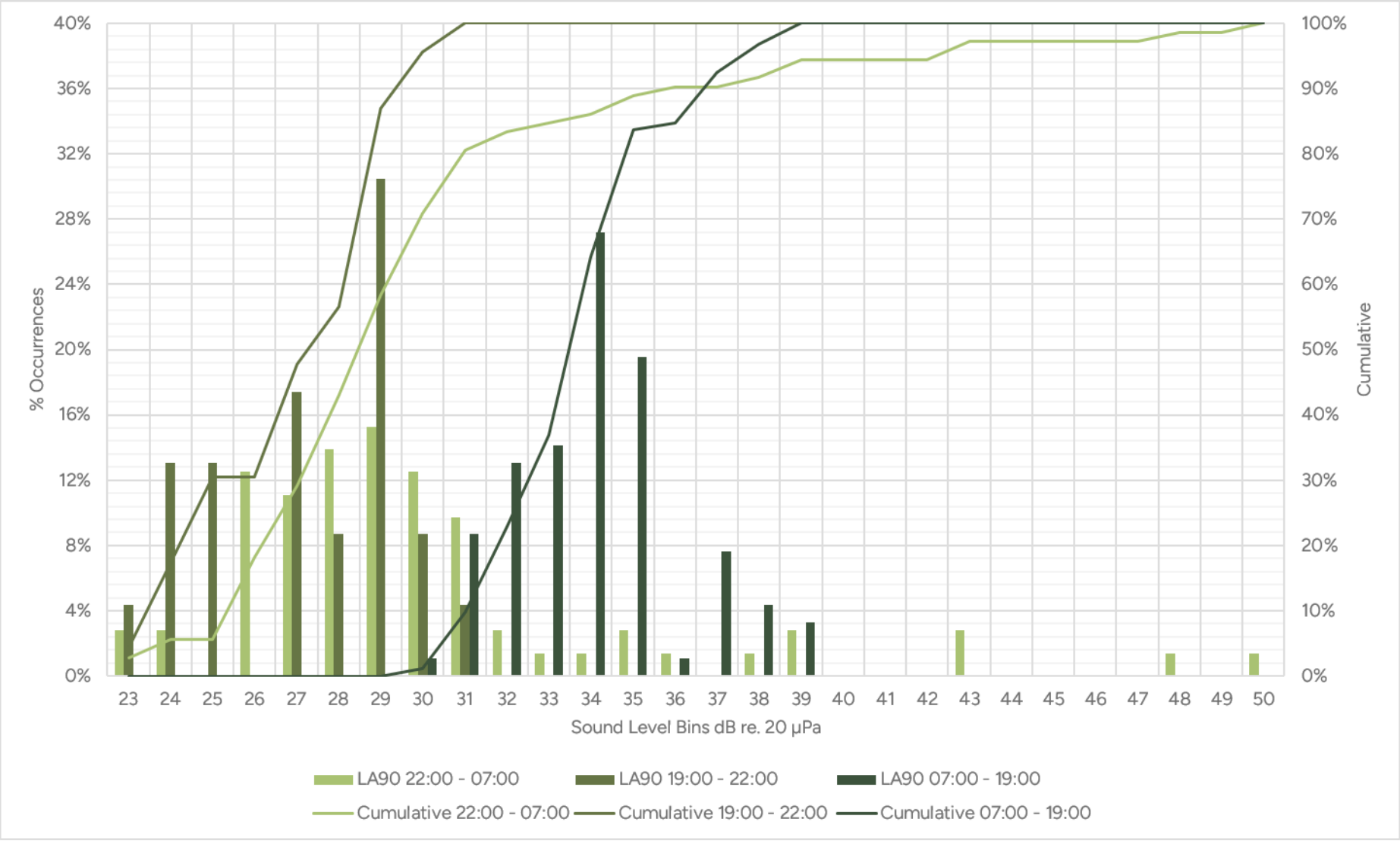


Figure D-37: Histogram of Weekend Background Sound Levels – NMP06, dB



D.7 NMP07 – Boringdon Hall

Figure D-38: Measured Sound Levels – NMP07, dB

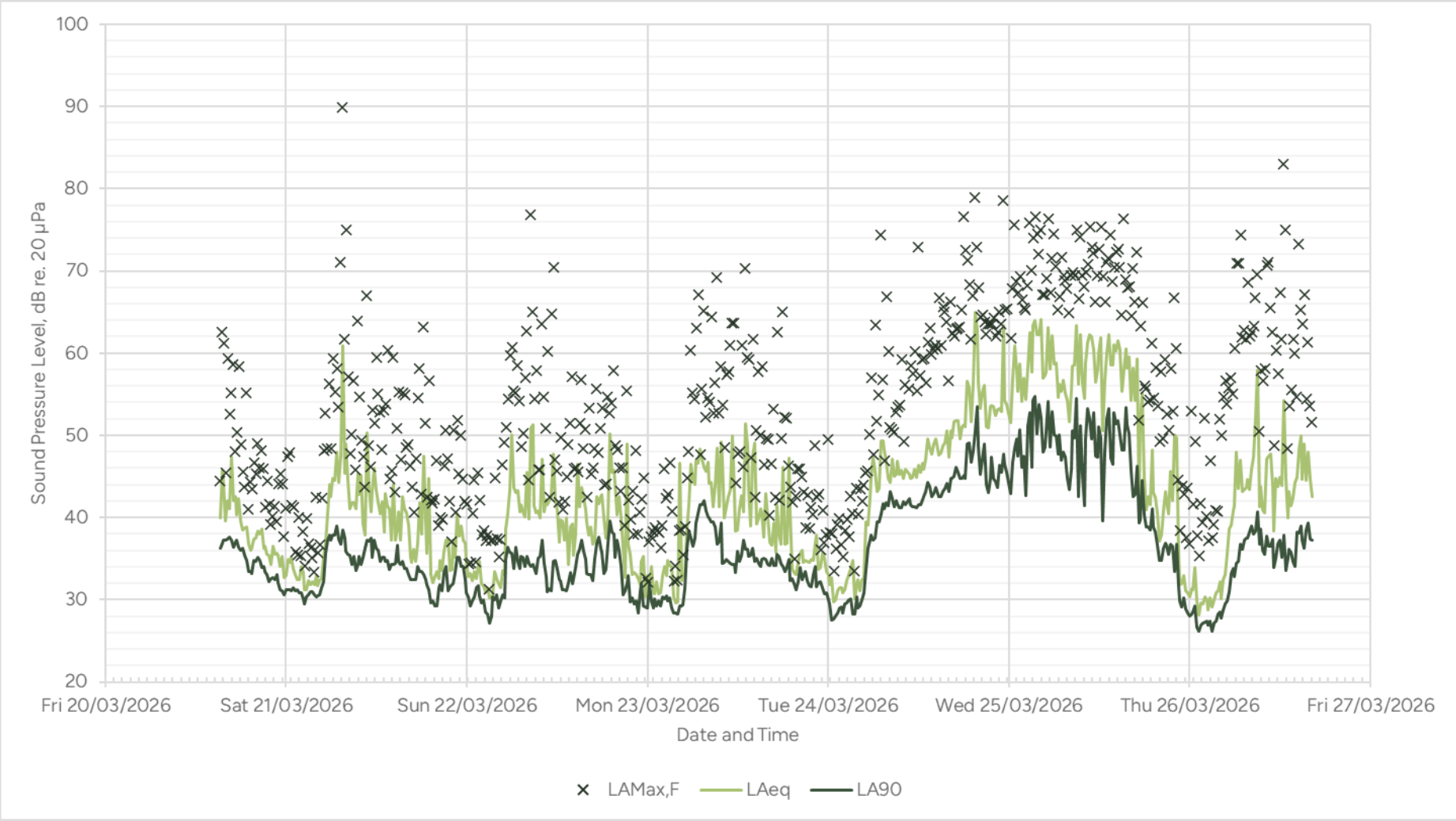


Figure D-39: Histogram of Weekday Ambient Sound Levels – NMP07, dB

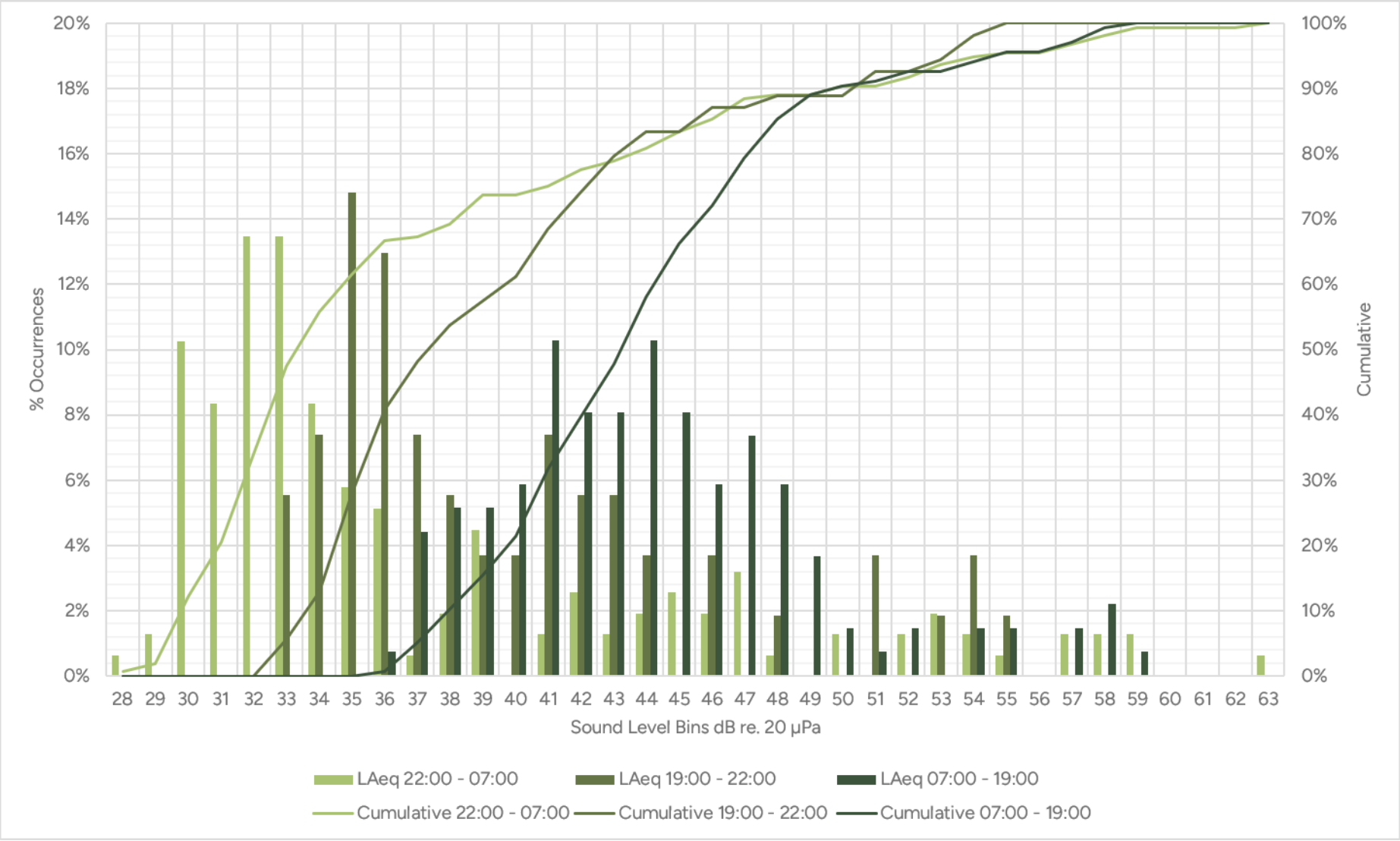


Figure D-40: Histogram of Weekday Background Sound Levels – NMP07, dB

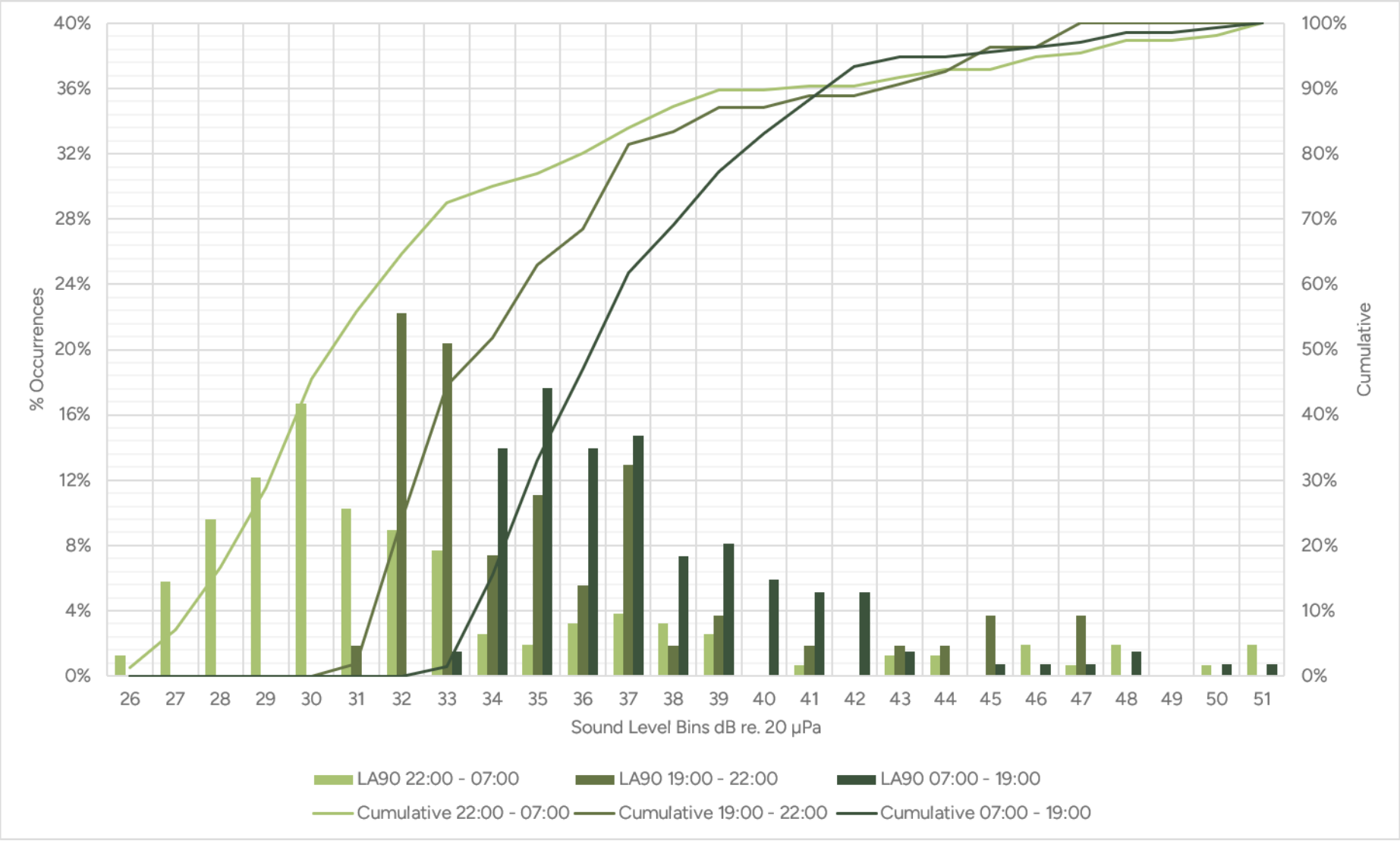


Figure D-41: Histogram of Weekend Ambient Sound Levels – NMP07, dB

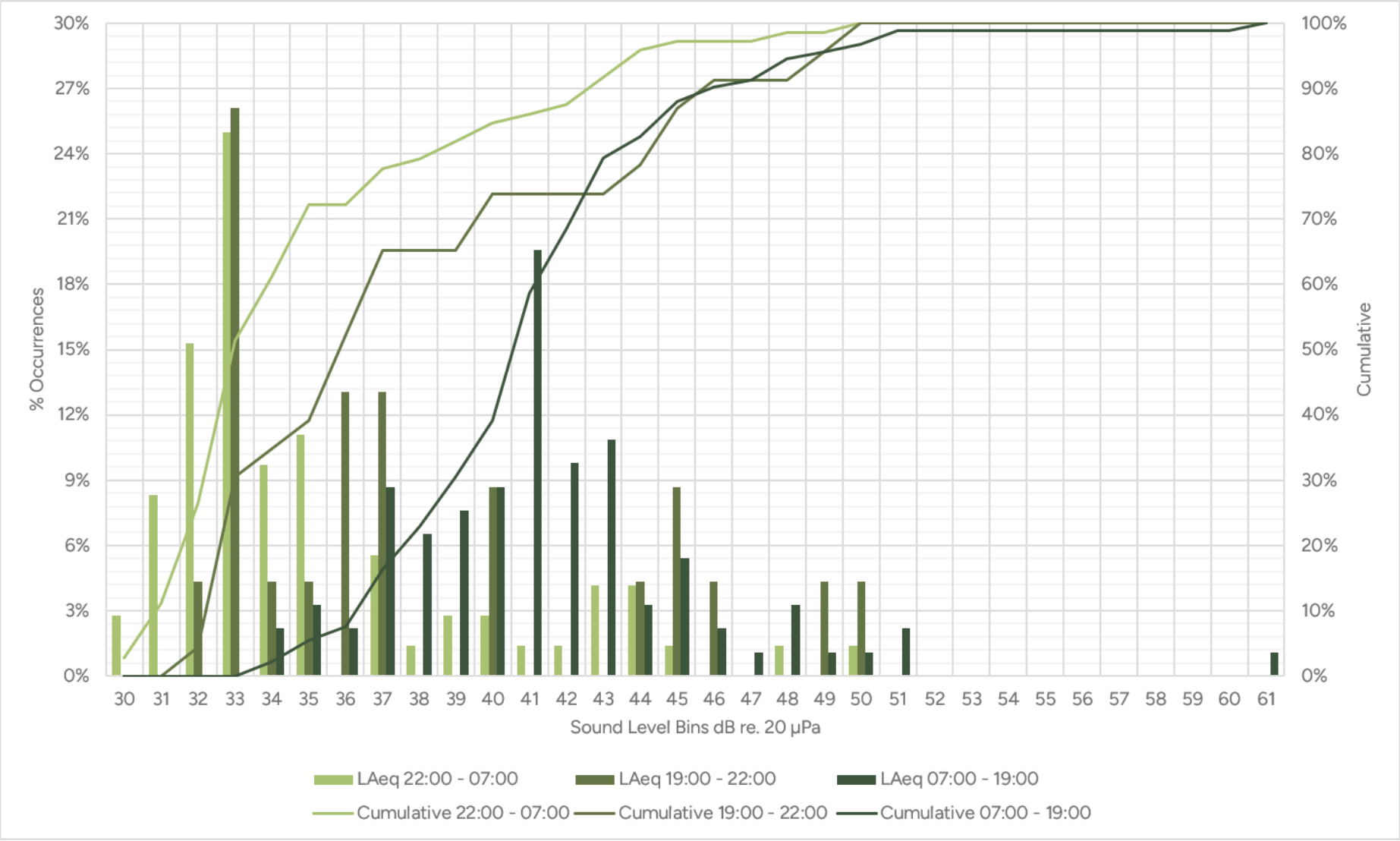
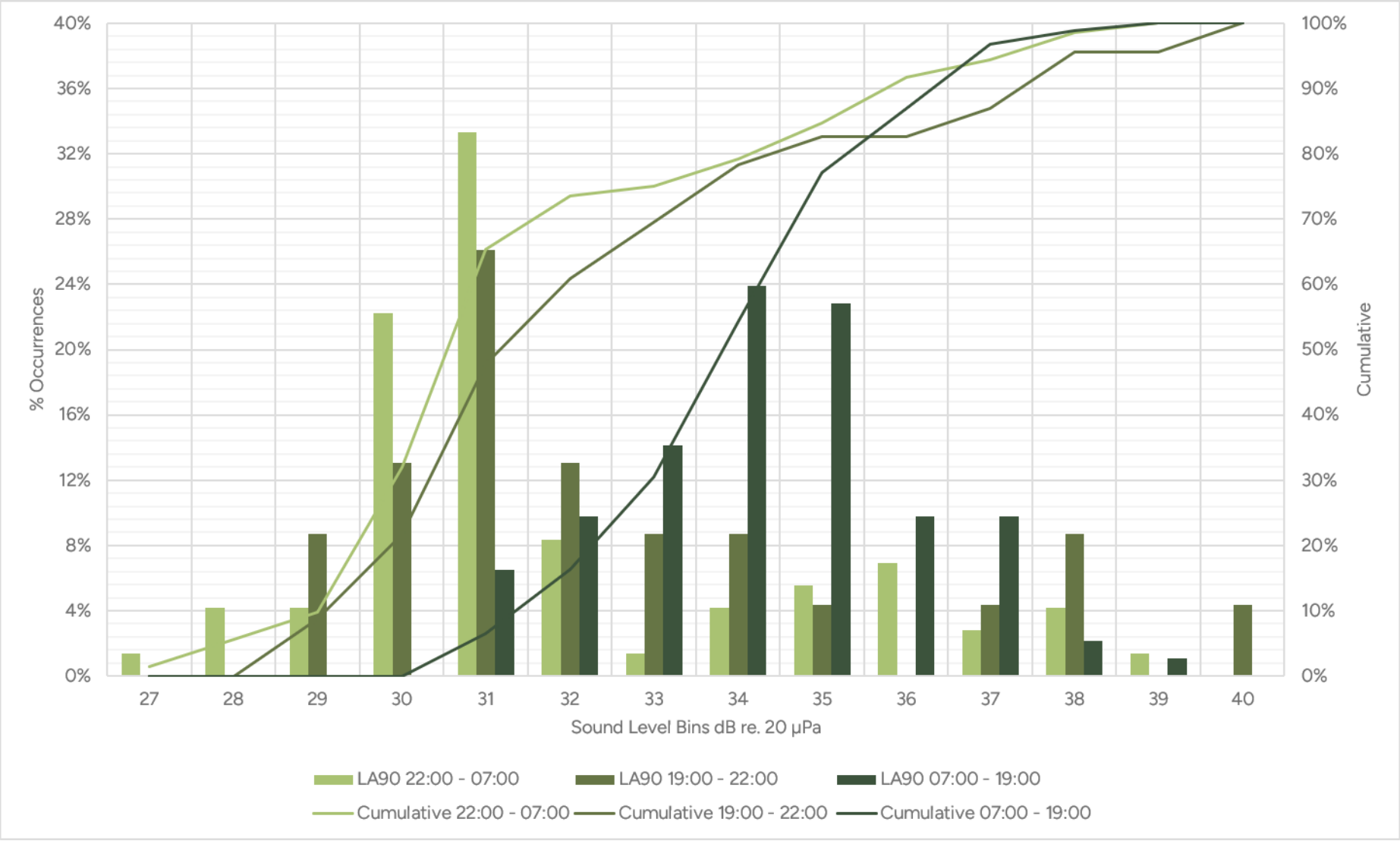


Figure D-42: Histogram of Weekend Background Sound Levels – NMP07, dB



D.8 NMP08 – Portworthy

Figure D-43: Measured Sound Levels – NMP08, dB

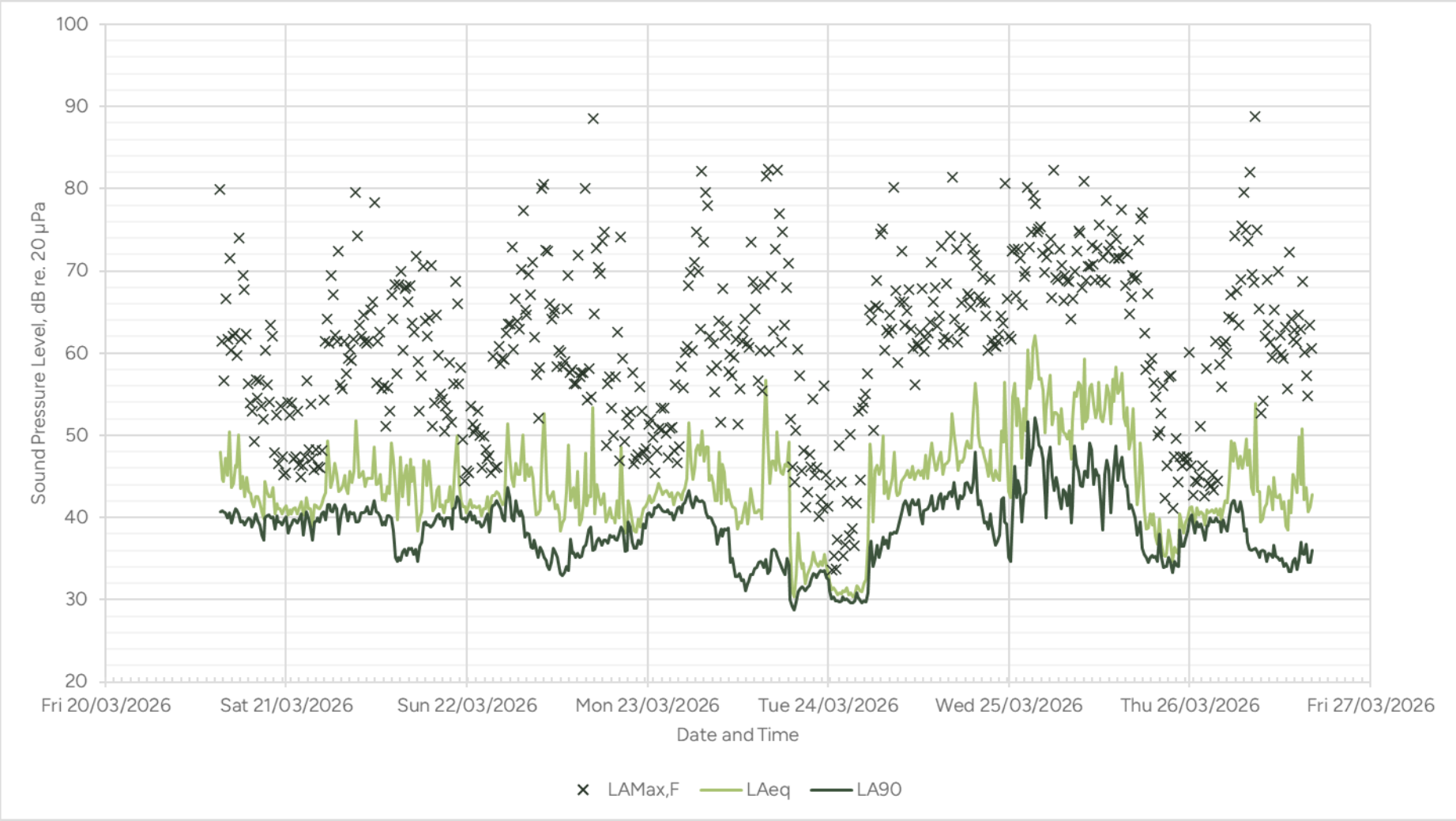


Figure D-44: Histogram of Weekday Ambient Sound Levels – NMP08, dB

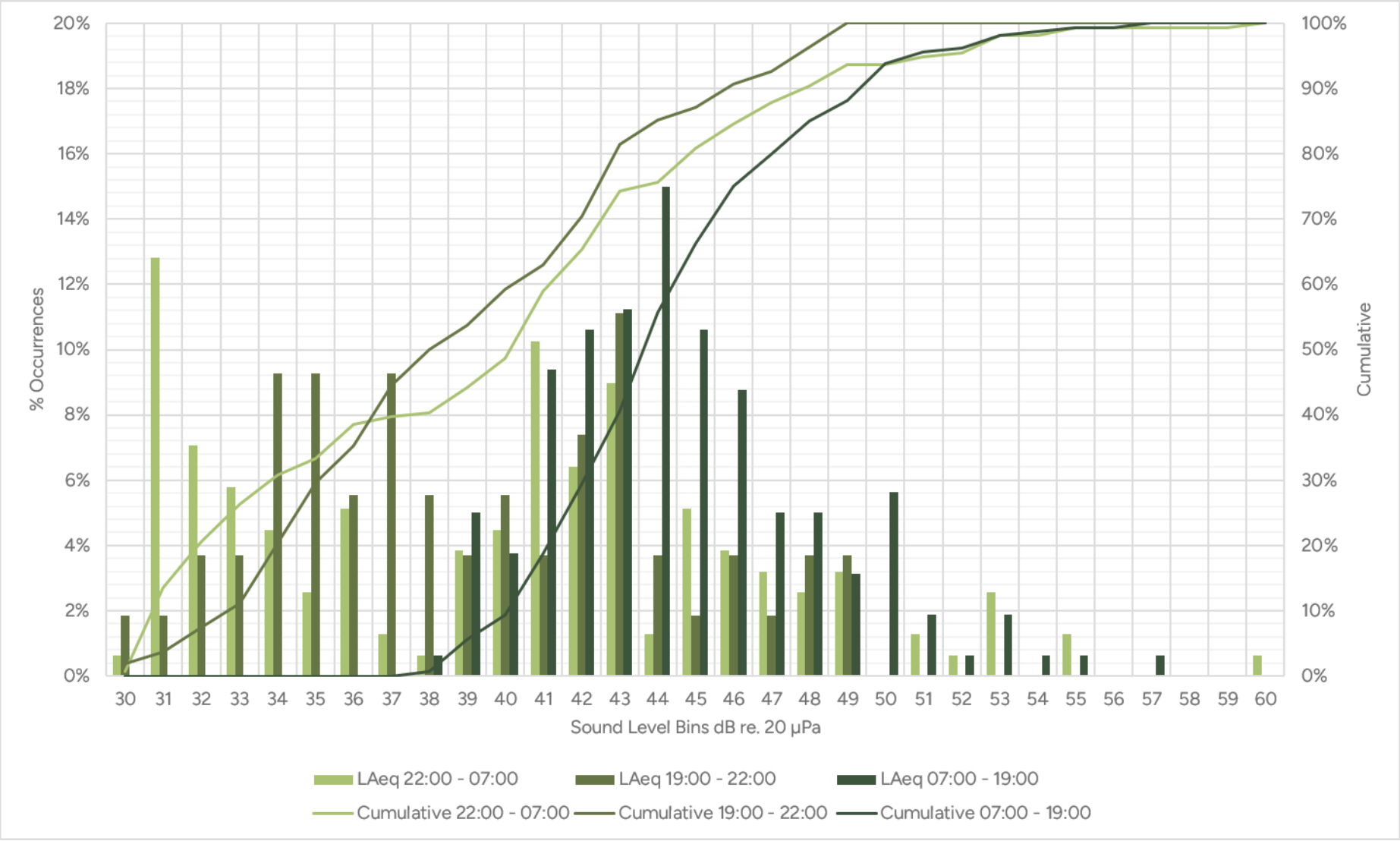


Figure D-45: Histogram of Weekday Background Sound Levels – NMP08, dB

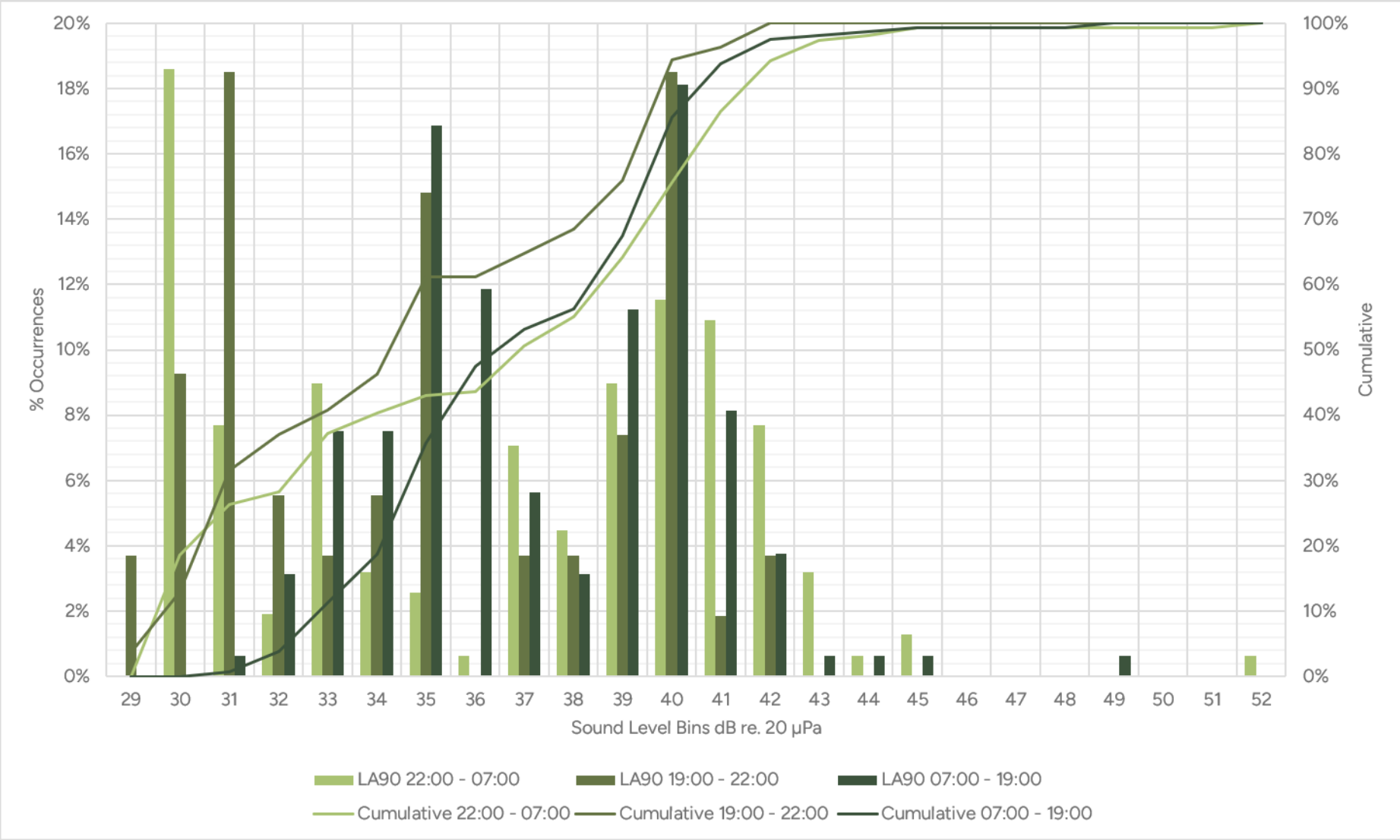


Figure D-46: Histogram of Weekend Ambient Sound Levels – NMP08, dB

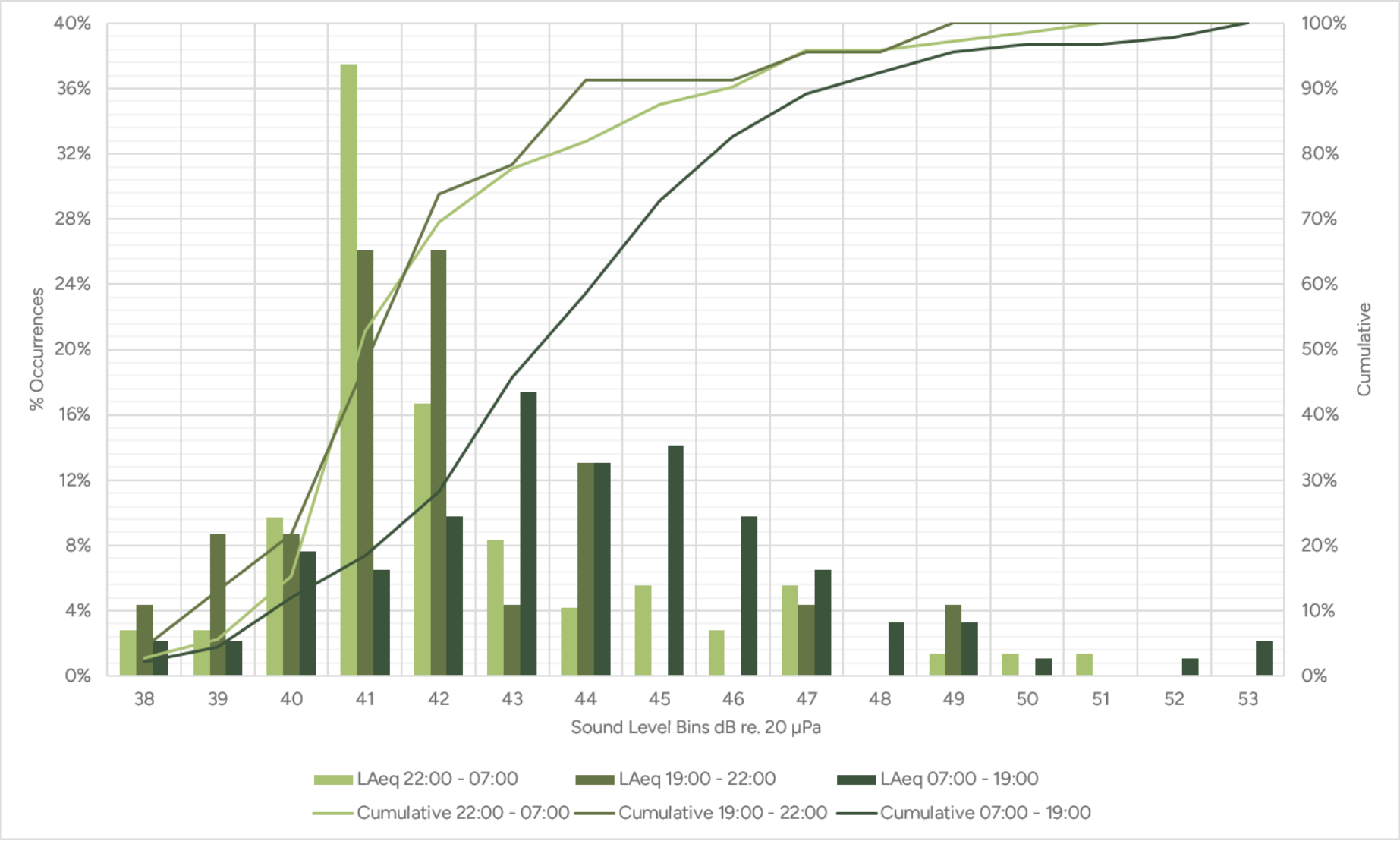
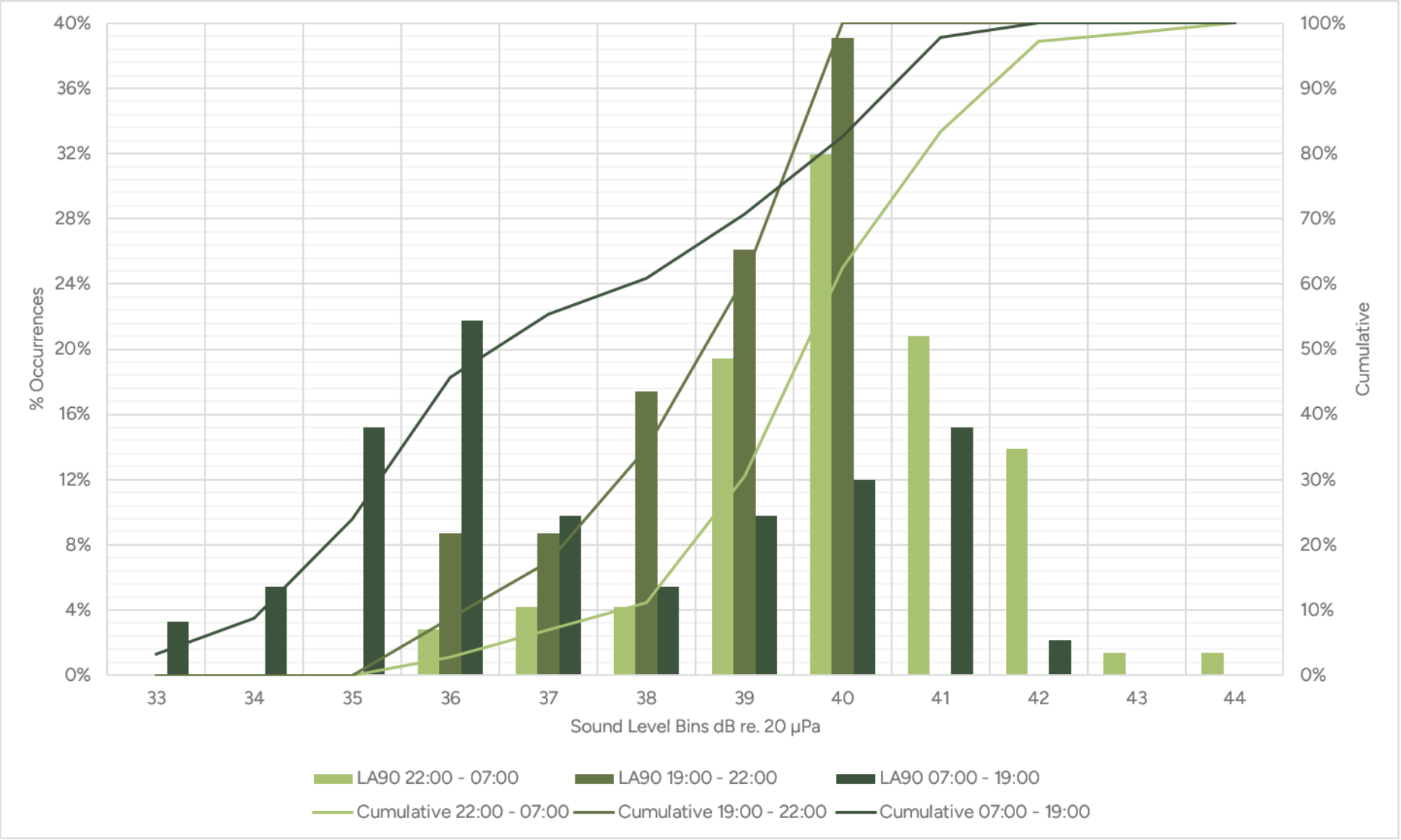


Figure D-47: Histogram of Weekend Background Sound Levels – NMP08, dB



D.9 Weather Data from Hemerdon Met Station

Figure D-48: Measured Temperature and Rainfall

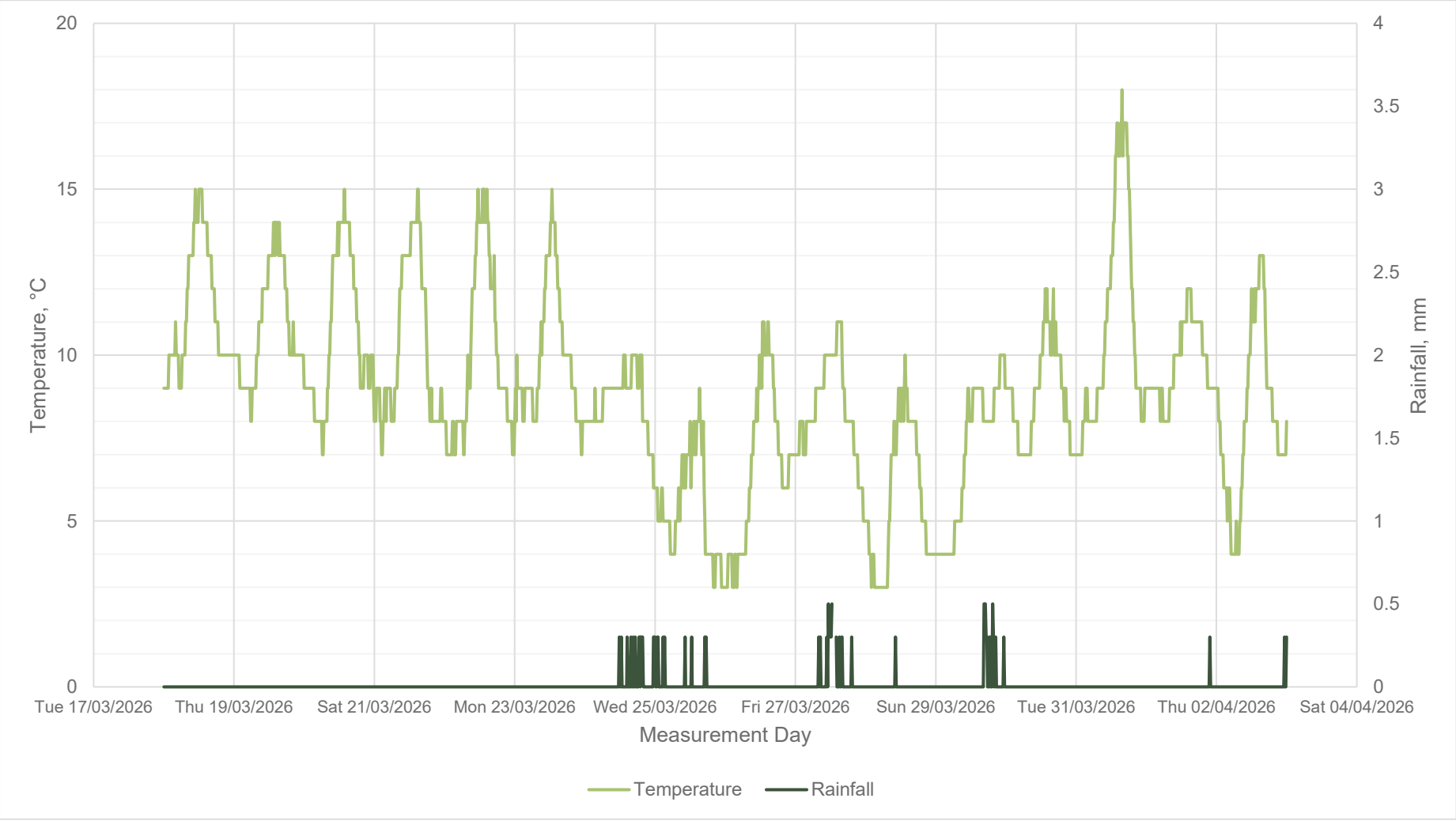
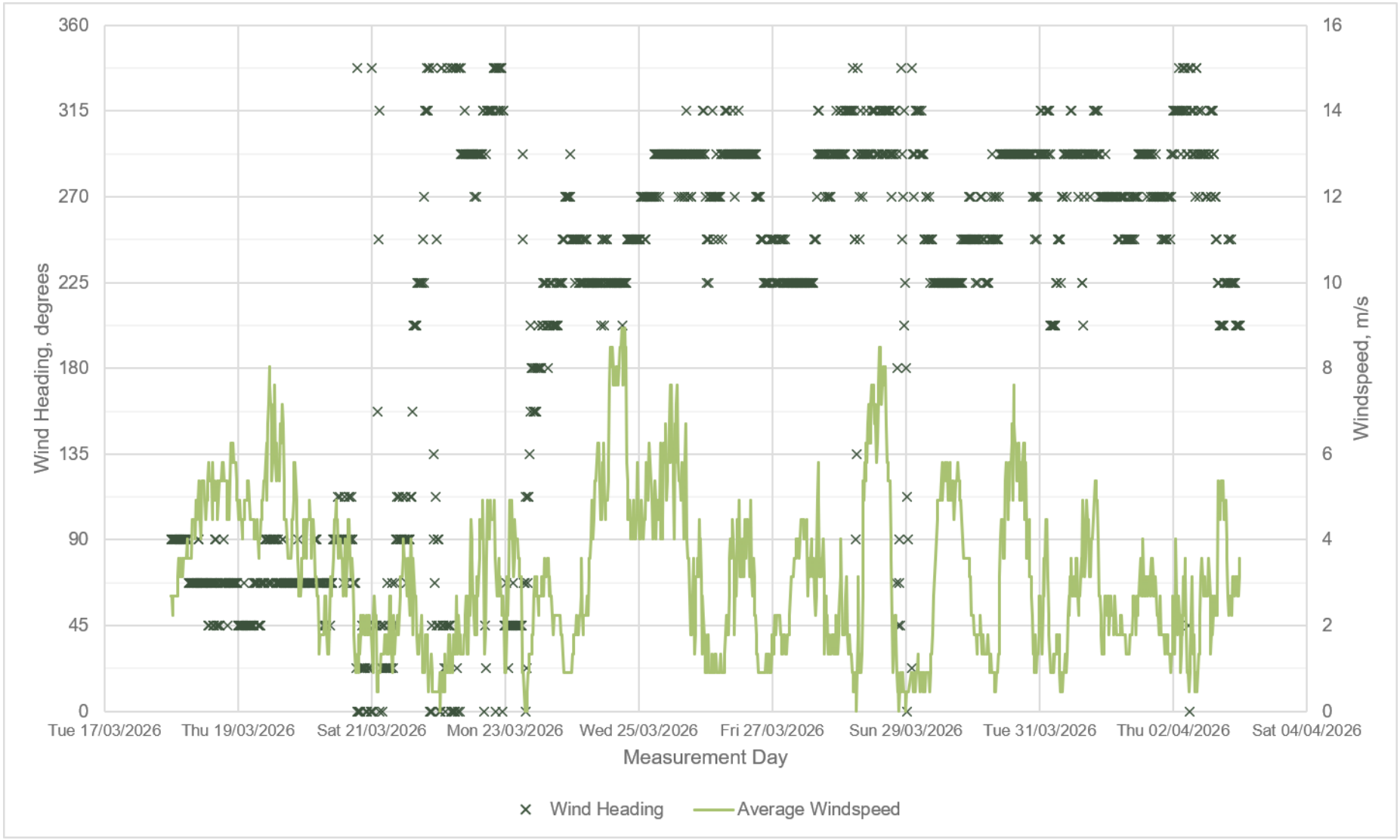
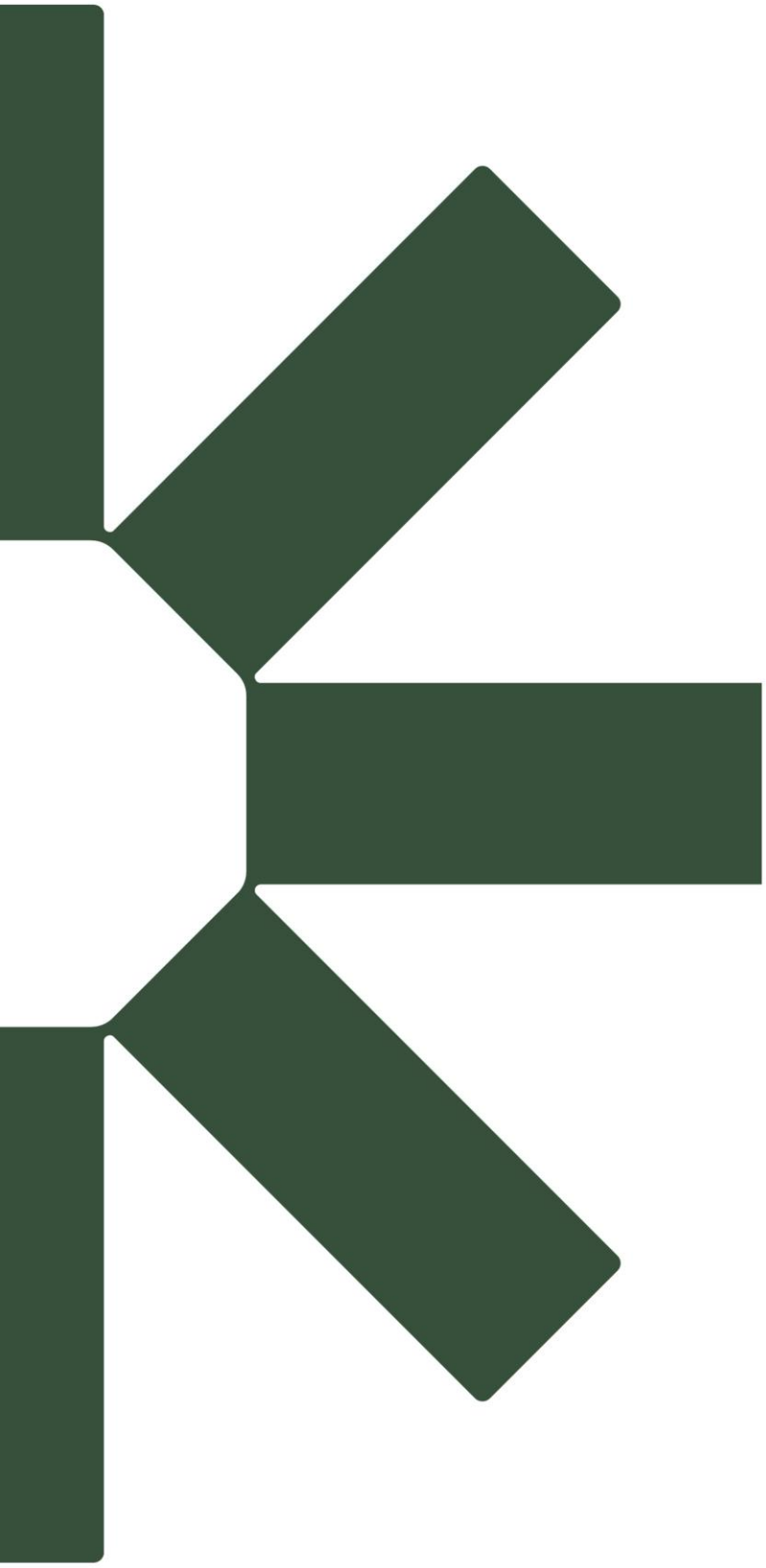


Figure D-49 Measured Wind





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