Light Valley Solar

Environmental Statement Volume 3

Appendix 11.1: Environmental Sound Survey

Document Reference: EN0110012/APP/LVS/06.03.11.01

February 2026

Planning Inspectorate Reference: EN0110012
APFP Regulation 5(2)(a)

Light Valley Solar

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and Procedure) Regulations 2009

Light Valley Solar

DCO Submission

Appendix 11.1: Environmental Sound Survey

Regulation Reference	APFP Regulation 5(2)(a)
Planning Inspectorate Case Reference	EN0110012
Application Document Reference	EN0110012/APP/LVS/06.03.11.01
Author	Light Valley Solar Limited

Version	Date	Status of Version
1.0	February 2026	DCO Submission

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1 Introduction

1.1.1 A baseline environmental sound survey has been undertaken to determine the existing sound climate and character around the Solar Development Sites for the Proposed Development. This Appendix reports the survey locations, methodology and results.

1.1.2 The survey was carried out by Arup and lead surveyors were members of the Institute of Acoustics and have extensive experience in environmental sound surveys. Attended measurements were taken on Wednesday 5 – Friday 7 February, Thursday 13 and Friday 14 February 2025. Unattended logger measurements were taken continuously between 5 February and 14 February 2025.

1.1.3 The survey locations and closest sensitive receptors are presented in Figure 11.2: Environmental Sound Survey and Assessment Locations (ES Volume 2) [**EN0110012/APP/LVS/06.02.11.02**].

1.1.4 This report includes the weather data information gathered as part of the environmental sound survey.

1.2 Site description

1.2.1 The general sound environment was rural, including sounds such as birdsong, farming activities, shooting, road traffic noise from local roads as well as the A63 and A19. Other sources were aircraft from the Sherburn Aero Club and rail traffic from a mix of East Coast Mainline passenger trains at the southeast site and freight at the southwest site, particularly at the Milford Junction Signal box.

1.3 Instrumentation

1.3.1 The instrumentation used to carry out the survey is listed in Table 1-1. The sound level meters, microphones and sound pressure level calibrators are Class 1 instruments, conforming to BS EN 61672-1:2013. The calibration of the sound level meter, pre-amplifier and microphone chains were checked before and after use and showed no significant drift.

1.3.2 All Arup instrumentation is calibrated regularly with full traceable calibration to national and international standards undertaken by an accredited calibration laboratory.

Table 1-1 Instrumentation list

Equipment	Description	Serial Number	Item Type
NL-52 Kit A (Location L5)	Rion NL-52	00120480	Sound level meter
	Rion NH-25	10479	Preamplifier
	Rion UC-59	03152	Microphone
	Rion NC-74	35015346	Calibrator

Equipment	Description	Serial Number	Item Type
NL-52 Kit D (Location L18)	Rion NL-52	00231671	Sound level meter
	Rion NH-25	21615	Preamplifier
	Rion UC-59	04716	Microphone
	Rion NC-74	34336008	Calibrator
NL-52 Kit E (Location L9)	Rion NL-52	00264533	Sound level meter
	Rion NH-25	64658	Preamplifier
	Rion UC-59	09681	Microphone
	Rion NC-74	34467730	Calibrator
NL-52 Kit F (Location L1)	Rion NL-52	00520913	Sound level meter
	Rion NH-25	11760	Preamplifier
	Rion UC-59	21301	Microphone
	Rion NC-74	34824364	Calibrator
NL-52 Kit H (Location L13)	Rion NL-52	00721057	Sound level meter
	Rion NH-25	22163	Preamplifier
	Rion UC-59	22045	Microphone
	Rion NC-74	34824366	Calibrator
Nor 140 Kit C (Location L10 and L23)	Nor 140	1403429	Sound level meter
	Nor 1209	12625	Preamplifier
	Nor 1225	98521	Microphone
	Rion NC-74	35173564	Calibrator
Nor 140 Kit D (Location L19, L20 and L22)	Nor 140	1405203	Sound level meter
	Nor 1209	15390	Preamplifier
	Nor 1225	151246	Microphone
	Nor 1251	33555	Calibrator
Nor 140 Kit E (Location L2, L3, L4, L6, L7, L8, L10, L12, L14, L15, L16 and L23)	Nor 140	1405202	Sound level meter
	Nor 1209	15264	Preamplifier
	Nor 1225	151245	Microphone
	Rion NC-74	33554	Calibrator
Weather station (Location L1)	Lufft WS600	42622	Weather measuring equipment
Weather station (Location L9)	Lufft WS600	6884	Weather measuring equipment

1.4 Measurement methodology

1.4.1 At each location, the L_{Aeq}, L_{A90}, L_{A10} and L_{Amax} metric parameters were measured and recorded. All broadband measurements were A-weighted and used a fast time constant (0.125 s).

1.4.2 At each measurement location, the sound level meter (SLM) was mounted on a tripod with the microphone set between 1.2 m to 1.5 m above local ground level. All measurements were taken under acoustically free-field conditions, unless otherwise stated. The appropriate windshield for the SLM was fitted to the microphone throughout to minimise wind-induced noise.

1.4.3 Multiple consecutive periods of 15-minute measurements were made at all locations. In each case, the time period was appropriate to provide a good representation of the typical sound environment at the measurement location. Weather loggers were installed at Location 1 and Location 9.

1.4.4 Details of the location of environmental sound survey are presented in Figure 11.2: Environmental Sound Survey and Assessment Locations (ES Volume 2) [**EN0110012/APP/LVS/06.02.11.02**].

2 Measurement Results

2.1 Attended measurements

Location L2 (Solar Development Site 1)

2.1.1 Location near residential properties on Wheldrake Lane. The dominant noise source was road traffic on Wheldrake Lane. Occasional birdsong, shooting and aircraft noise. Measurement duration was from Friday 7 February 2025 10:36 to Friday 7 February 2025 13:25. Weather conditions were dry with wind < 5 m/s easterly.

Plate 1 Location L2

Table 2-1 Measured sound pressure levels at Location L2

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L2	7 February 2025	10:36	10:51	37.1	49.2	45.3	59.6
		11:48	12:03	36.5	48.9	45.0	59.3
		13:10	13:25	40.2	49.4	46.0	61.5

Location L3 (Solar Development Site 1)

2.1.2 Location near residential properties on the corner of Mill Hill and Wheldrake Lane. The dominant noise source was road traffic on Mill Hill and Wheldrake Lane. Occasional birdsong, shooting and aircraft noise. Measurement duration was from Friday 7 February 2025 09:44 to Friday 7 February 2025 12:41. Weather conditions were dry with wind < 5 m/s easterly.

Plate 2 Location L3

Table 2-2 Measured sound pressure levels at Location L3

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L3	7 February 2025	09:44	09:59	42.9	57.8	53.7	64.8
		10:59	11:14	40.8	57.2	53.3	71.0
		12:26	12:41	43.5	58.1	53.9	66.6

Location L4 (Solar Development Site 1)

2.1.3 Location at residential properties on Mill Hill. The dominant noise source was local farm activities. Occasional birdsong, shooting, vehicle pass-bys on Mill Hill Road and aircraft noise. Measurement duration was from Friday 7 February 2025 10:08 to Friday 7 February 2025 13:02. Weather conditions were dry with wind < 5 m/s easterly.

Plate 3 Location L4

Table 2-3 Measured sound pressure levels at Location L4

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L4	7 February 2025	10:08	10:23	39.6	52.8	49.2	70.9
		11:22	11:37	43.5	53.9	50.9	68.5
		12:47	13:02	36.7	50.7	47.1	70.4

Location L6 (Solar Development Site 4)

2.1.4 Location representative of residential properties on Roe Lane. Noise sources were local road traffic on Roe Lane and Hillam Common Lane, aircraft, occasional birdsong and shooting. Measurement duration was from Thursday 6 February 2025 11:24 to Thursday 6 February 2025 14:31. Weather conditions were dry with wind <5 m/s north easterly.

Plate 4 Location L6

Table 2-4 Measured sound pressure levels at Location L6

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L6	6 February 2025	11:24	11:39	35.5	38.5	37.3	52.7
		12:39	12:54	31.7	36.8	35.9	54.5
		14:16	14:31	34.5	44.0	47.2	67.2

Location L7 (Solar Development Site 3)

2.1.5 Location representative of residential properties on Hillam Common Lane. The dominant noise source was local road traffic noise on Hillam Common Lane and aircraft noise. Also occasional birdsong and shooting. Measurement duration was from Thursday 6 February 2025 10:24 to Thursday 6 February 2025 13:46. Weather conditions were dry with wind <5 m/s north easterly.

Plate 5 Location L7

Table 2-5 Measured sound pressure levels at Location L7

Location	Date	Measurement Time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L7	6 February 2025	10:24	10:39	40.2	51.5	49.0	66.0
		11:50	12:05	38.9	52.4	49.3	68.3
		13:31	13:46	39.1	52.4	49.5	70.5

Location L8 (Solar Development Site 4)

2.1.6 Location at residential properties on Tinker's Lane. The dominant noise sources were local farm activities, distant road traffic on Roe Lane and Hillam Common Lane and aircraft noise. Also occasional birdsong, aircraft and shooting. Measurement duration was from Thursday 6 February 2025 10:51 to Thursday 6 February 2025 14:06. Weather conditions were dry with wind <5 m/s north easterly.

Plate 6 Location L8

Table 2-6 Measured sound pressure levels at Location L8

Location	Date	Measurement Time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L8	6 February 2025	10:51	11:06	38.6	49.5	46.9	63.9
		12:11	12:26	36.6	50.1	47.4	64.1
		13:51	14:06	39.8	52.4	48.6	64.3

Location L10 (Solar Development Site 2)

2.1.7 Location representative of residential properties on A63. The dominant noise source was the A63. Also occasional birdsong, aircraft and shooting. Measurement duration was from Wednesday 5 February 2025 17:19 to Wednesday 5 February 2025 17:34 and Thursday 13 February 2025 15:15 to Thursday 13 February 2025 16.41. Road closures in the area and rush hour traffic are likely to have caused a significant drop in sound level between 5 February 2025 measurements and 13 February 2025 measurements. Weather conditions were dry with wind < 5m/s north easterly.

Plate 7 Location L10

Table 2-7 Measured sound pressure levels at Location L10

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L10	5 February 2025	17:19	17:34	61.0	69.6	66.8	74.3
	13 February 2025	15:15	15:30	48.8	58.6	55.8	66.4
	13 February 2025	16:26	16:41	49.9	56.7	54.3	62.4

Location L12 (Solar Development Site 2)

2.1.8 Location at residential properties on Common Lane. The dominant noise sources were local farm and construction activities and distant road traffic on A63. Also occasional birdsong and aircraft noise. Measurement duration was from Wednesday 5 February 2025 14:47 to Wednesday 5 February 2025 16:46 and Thursday 13 February 2025 15:36 to Thursday 13 February 2025. Weather conditions were dry with wind <5 m/s north easterly.

Plate 8 Location L12

Table 2-8 Measured sound pressure levels at Location L12

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L12	5 February 2025	14:47	15:02	43.2	50.2	47.5	59.0
		16:31	16:46	48.4	54.0	52.1	69.8
	13 February 2025	15:36	15:51	44.4	53.0	55.4	74.3

Location L14 (Solar Development Site 6)

2.1.9 Location close to residential properties on Ingthorne Lane. The dominant noise source was local farm activities; local road traffic on Ingthorne Lane and Turpin Lane; idling freight at the Milford Junction Signal box and aircraft noise. Also occasional birdsong and shooting. Measurement duration was from Wednesday 5 February 2025 10:51 to Wednesday 5 February 2025 14:06. Weather conditions were dry with wind <5 m/s north easterly.

Plate 9 Location L14

Table 2-9 Measured sound pressure levels at Location L14

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L14	5 February 2025	10:51	11:06Y	42.3	52.7	51.2	70.1
		12:11	12:26	44.0	50.0	48.3	70.3
		13:51	14:06	44.5	58.5	55.4	71.7

Location L15 (Solar Development Site 6)

2.1.10 Location at residential properties on Ingthorpe Lane and Westbourne Terrace. The dominant noise source was local resident activities, road traffic noise from Ingthorpe Lane, idling freight at the Milford Junction Signal box and aircraft noise. Occasional birdsong, farm activities and shooting. Measurement duration was from Wednesday 5 February 2025 10:24 to Wednesday 5 February 2025 13:46. Weather conditions were dry with wind <5 m/s north easterly.

Plate 10 Location L15

Table 2-10 Measured sound pressure levels at Location L15

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L15	5 February 2025	10:24	10:39	45.4	55.0	52.3	69.2
		11:50	12:05	41.3	50.0	48.9	67.2
		13:31	13:46	43.7	57.9	54.4	70.9

Location L16 (Solar Development Site 7)

2.1.11 Location near residential properties on Common Lane. The dominant noise sources were local farm activities, road traffic on Common Lane and aircraft. Also occasional birdsong and shooting. Measurement duration was from Wednesday 5 February 2025 11:24 to Wednesday 5 February 2025 14:31. Weather conditions were dry with wind <5 m/s north easterly.

Plate 11 Location L16

Table 2-11 Measured sound pressure levels at Location L16

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L16	5 February 2025	11:24	11:39	49.0	58.2	54.9	75.0
		12:39	12:54	48.1	56.8	53.9	71.8
		14:16	14:31	50.3	58.6	55.9	81.3

Location L23 (Solar Development Site 8)

2.1.12 Location near residential properties on Philip Lane. The dominant noise source was distant road traffic from the A63 and occasional train pass-bys. Also occasional birdsong, aircraft and shooting. Measurement duration was from Wednesday 5 February 2025 15:13 to Wednesday 5 February 2025 17:06 and Thursday 13 February 2025 15:58 to Thursday 13 February 2025 16:13. The third measurement did not include a train passby. Weather conditions were dry with wind <5 m/s north easterly.

Plate 12 Location 23

Table 2-12 Measured sound pressure levels at Location L23

Location	Date	Measurement time		Sound pressure level, dB(A)			
		Start	Finish	L_{90}	L_{10}	L_{eq}	$L_{max,F}$
L23	5 February 2025	15:13	15:28	44.0	50.0	48.3	70.3
		16:51	17:06	44.5	58.5	55.4	71.7
	13 February 2025	15:58	16:13	32.9	41.1	37.7	57.0

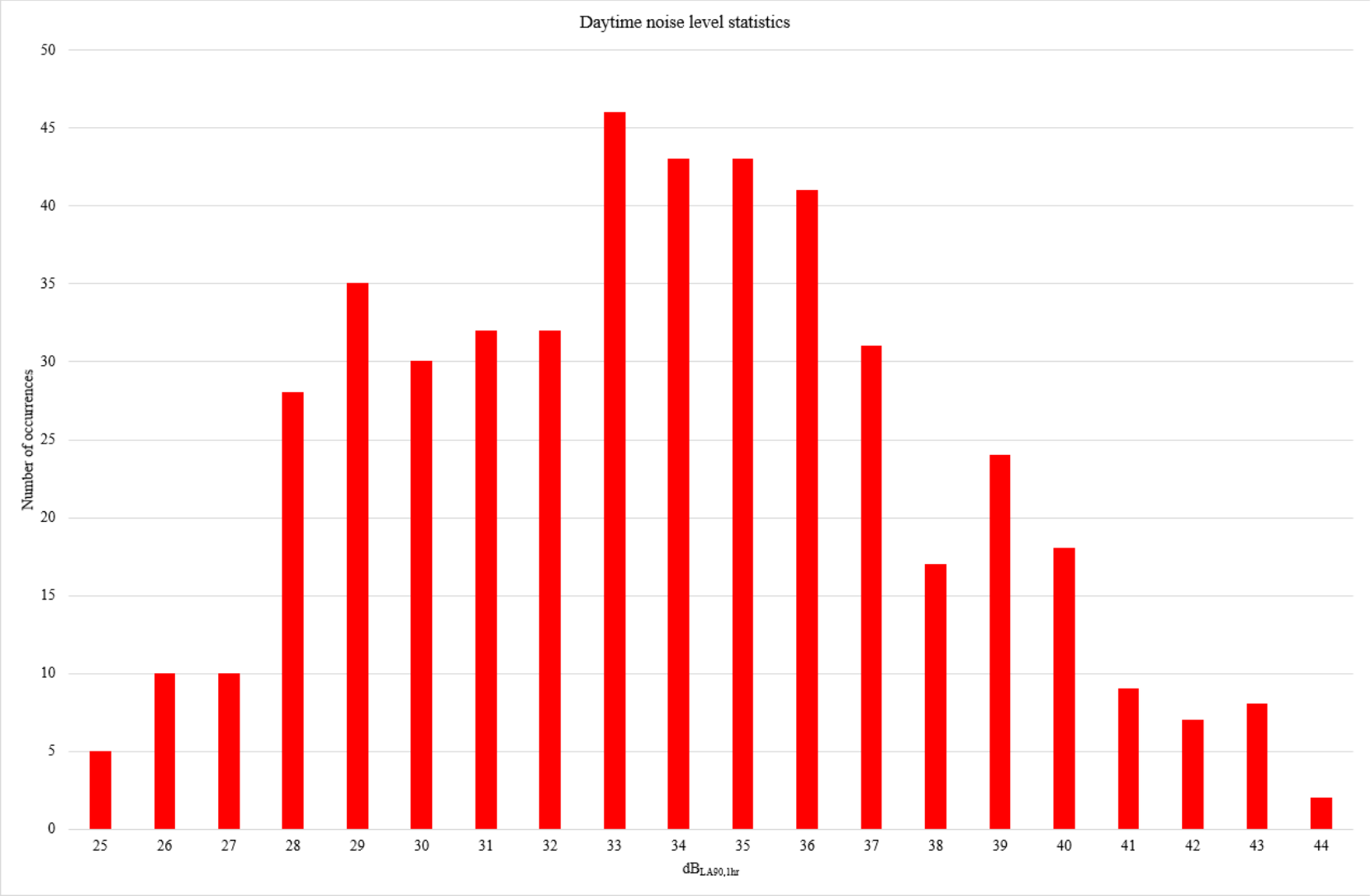
2.2 Unattended measurements

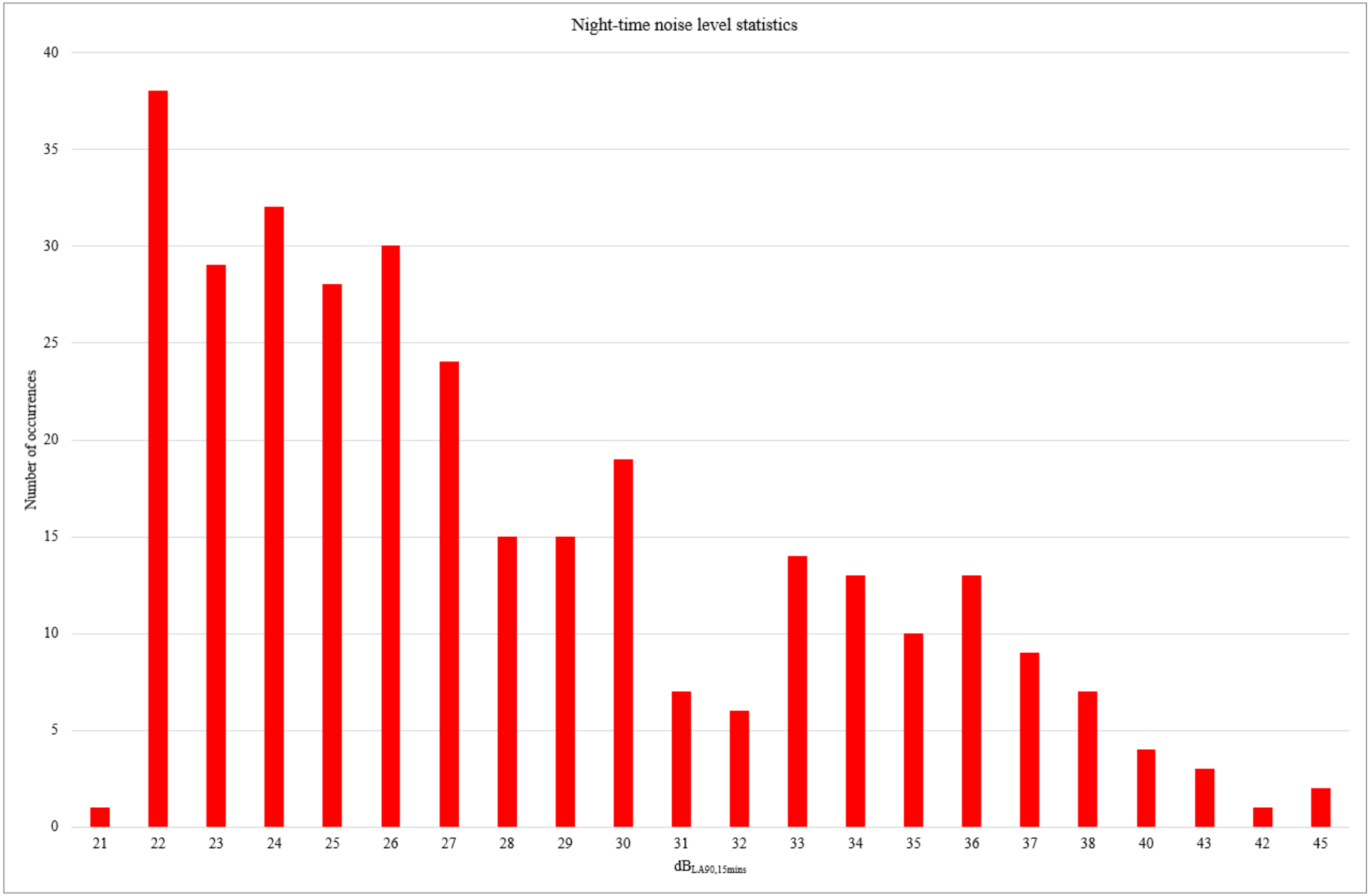
Location 1 – Kit F (Solar Development Site 1)

2.2.1 Location near residential properties near Mount Pleasant Farm. The dominant sound was birdsong. There was also noise from farm activities, road traffic, shooting and aircraft. Measurement duration was from Monday 3 February 2025 12:26 to Thursday 13 February 2025 10:11. Weather conditions during set up and removal of the logger were dry with wind <5 m/s.

Plate 13 Unattended survey Location 1

Plate 14 Unattended Location 1 sound level statistics




Night-time noise level statistics
Number of occurrences
0
5
10
15
20
25
30
35
40
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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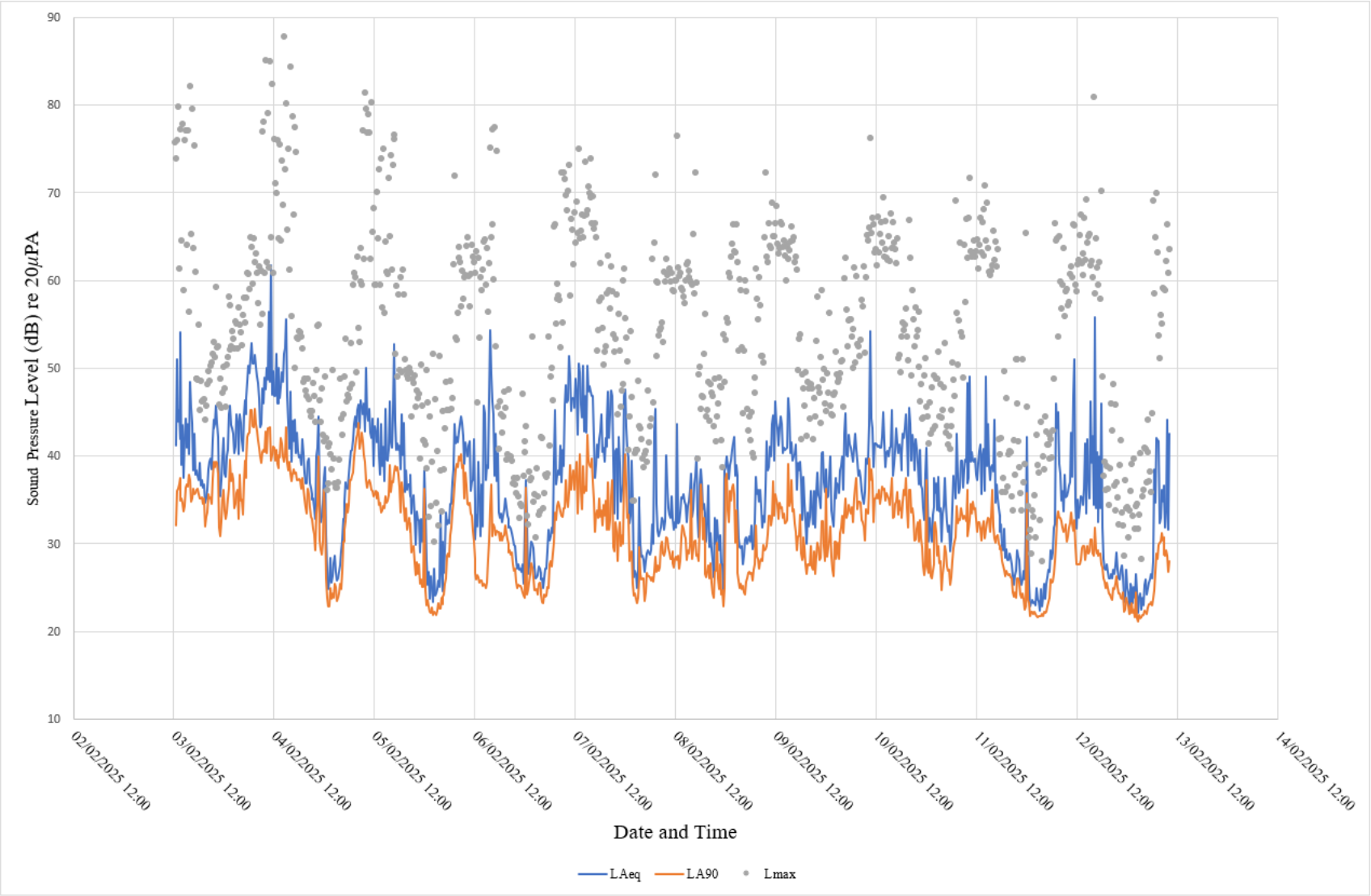
36
37
38
40
43
42
45
dB LA90,15mins

Plate 15 Measured sound pressure level at Location 1

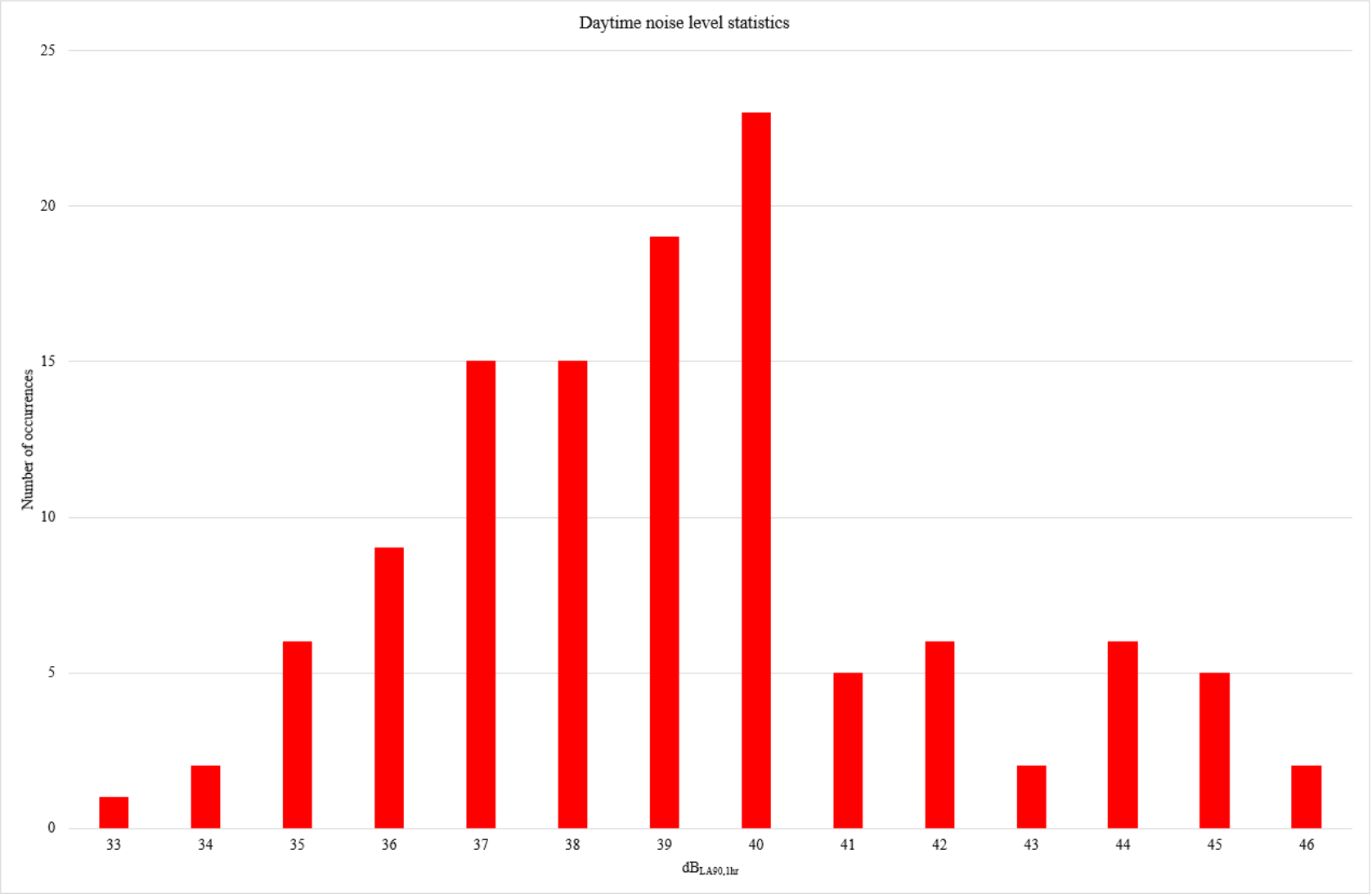


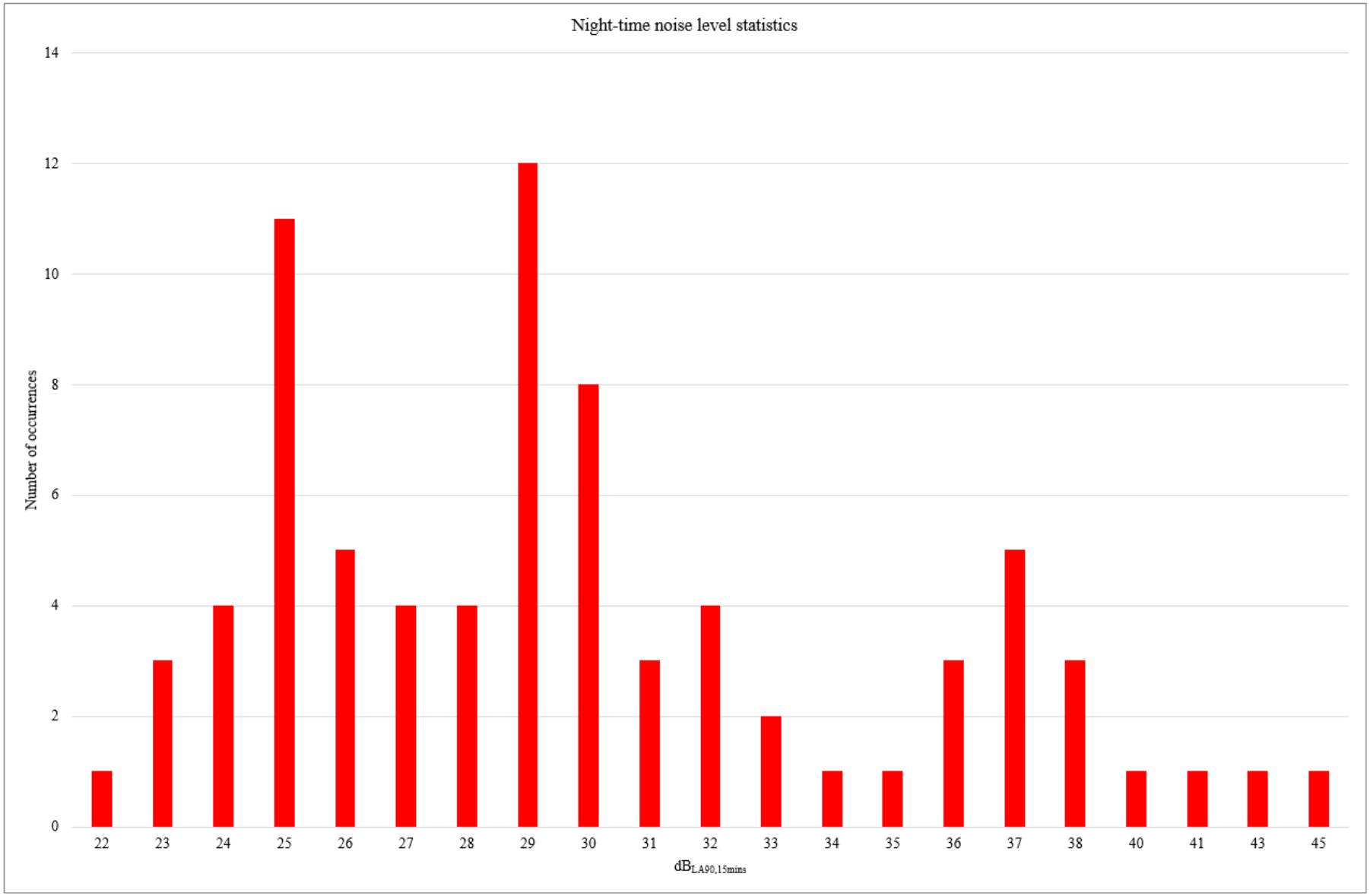
Location 5 – Kit A (Solar Development Site 4)

2.2.2 Location at residential properties on Pighill Nook Road. The dominant noise sources were local resident activities and distant road traffic on Roe Lane and Hillam Common Lane. In addition, occasional birdsong, aircraft and shooting noise sources. Measurement duration was from Tuesday 4 February 2025 14:10 to Friday 7 February 2025 02:25 when the battery ended before pickup. Weather conditions were dry with wind <5 m/s during set up and removal of the logger.

Plate 16 Unattended survey Location 5

Plate 17 Unattended survey Location 5 sound level statistics




Night-time noise level statistics
Number of occurrences
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2
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6
8
10
12
14
22
23
24
25
26
27
28
29
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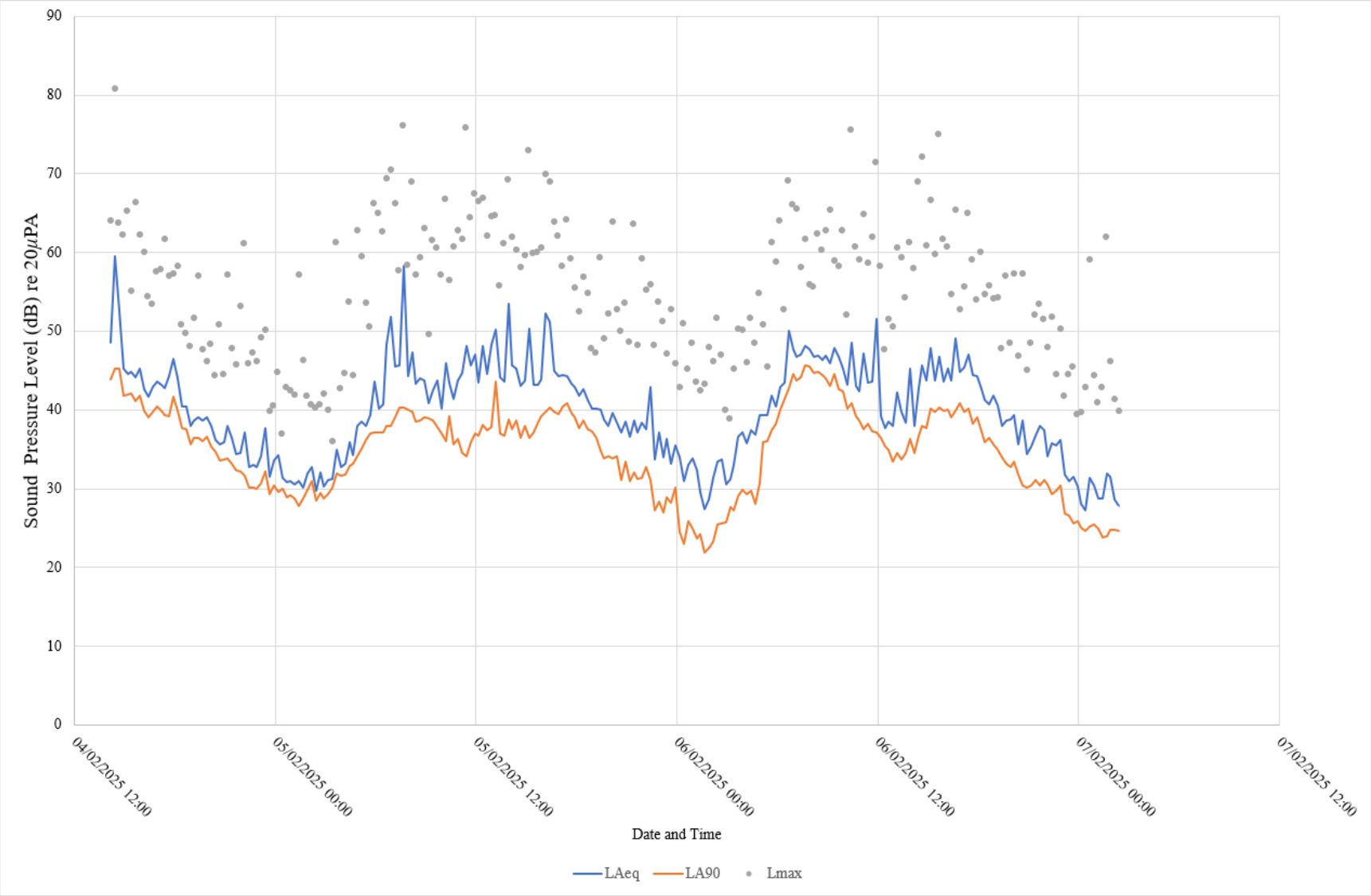
45
dB LA90,15mins

Plate 18 Measured sound pressure level at Location 5

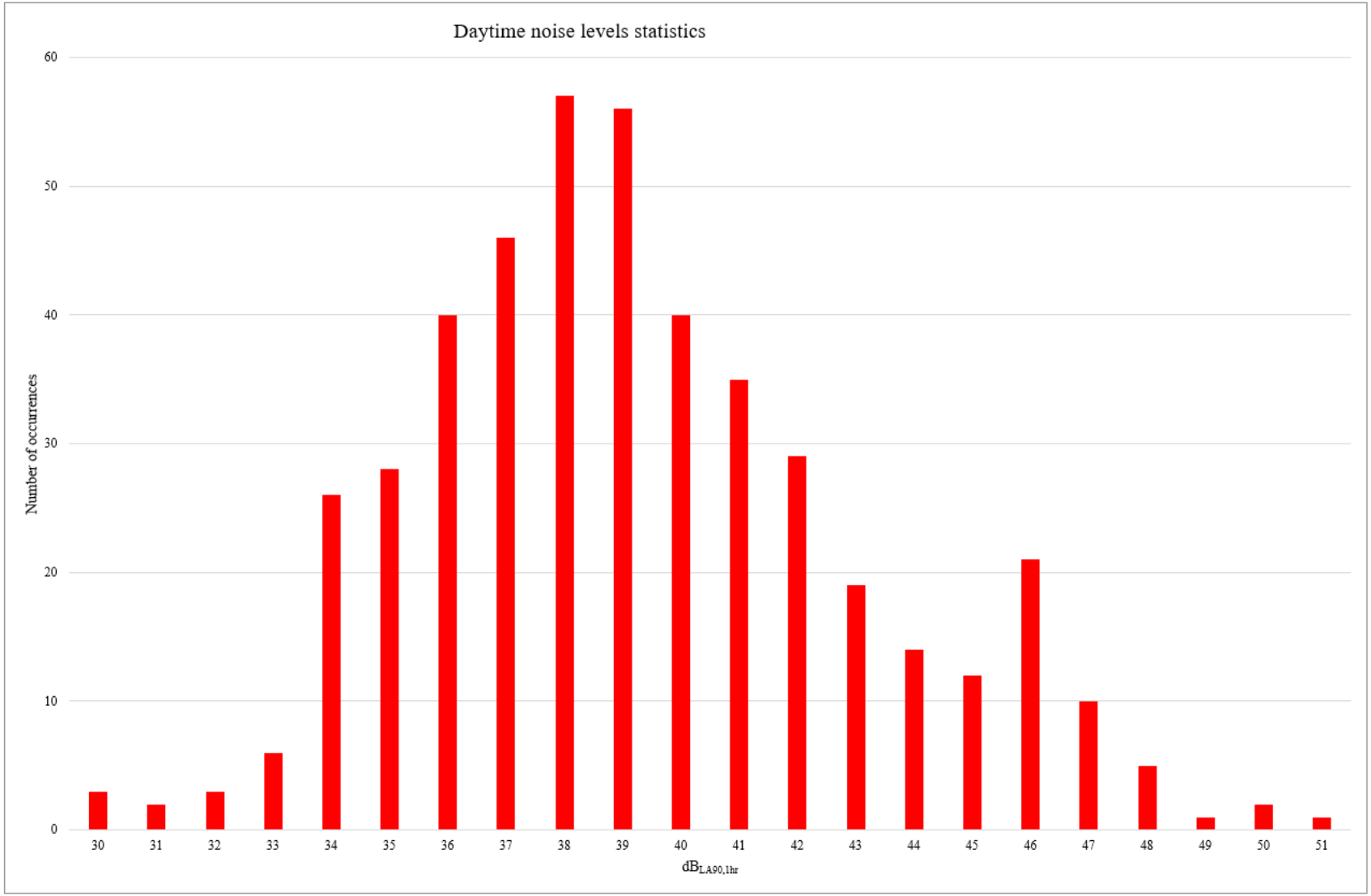


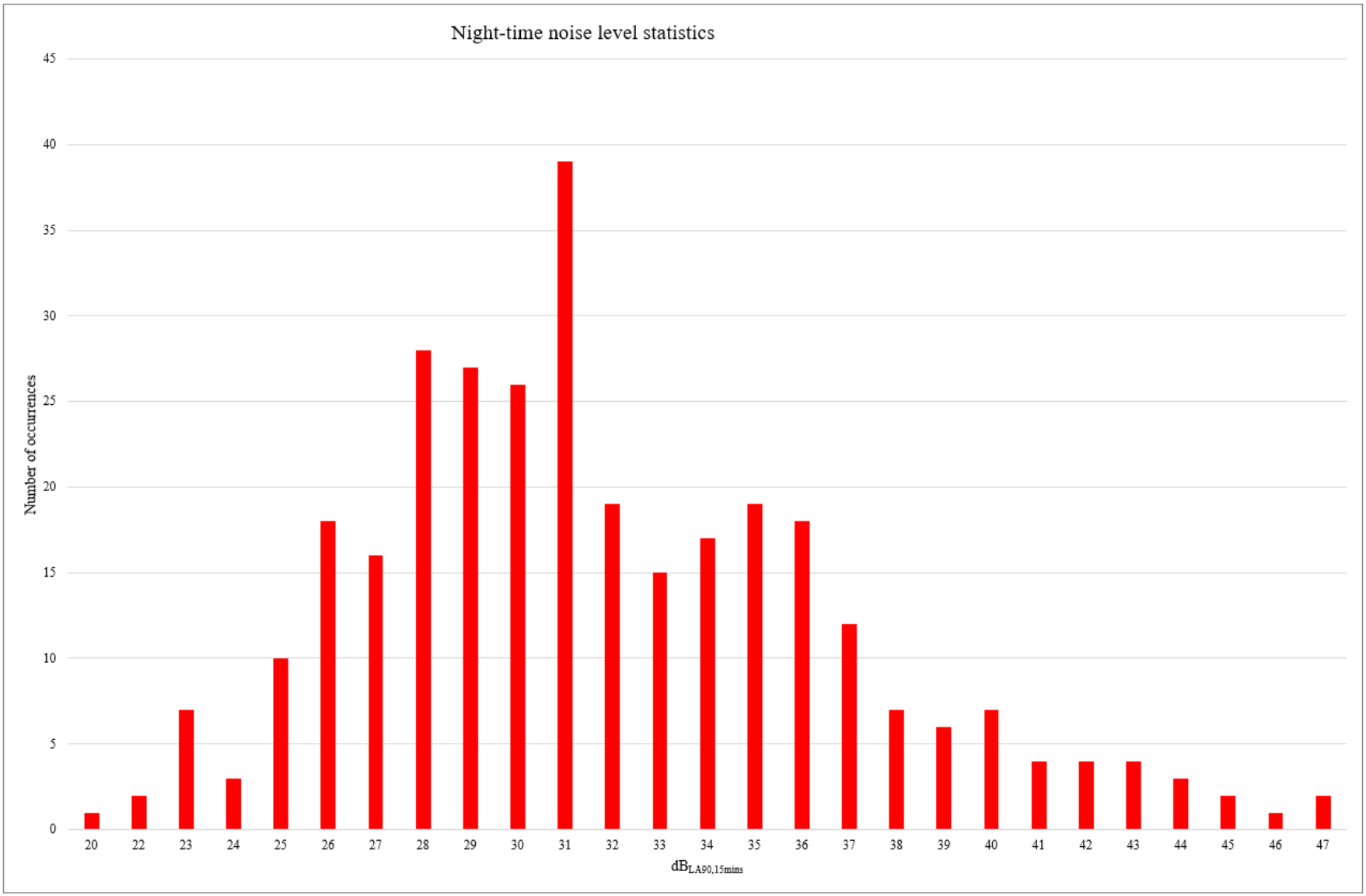
Location 9 – Kit E (Solar Development Site 2)

2.2.3 Location representative of residential properties on Fryston Common Lane. The dominant noise sources during set up and removal of the logger were local farm activities, distant road traffic on the A63 and aircraft. In addition, occasional birdsong and shooting noise sources. Measurement duration was from Monday 3 February 2025 16:40 to Thursday 13 February 2025 14:25. Weather conditions were dry with wind <5 m/s.

Plate 19 Unattended survey Location 9

Plate 20 Unattended survey Location 9 sound level statistics




Night-time noise level statistics
Number of occurrences
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5
10
15
20
25
30
35
40
45
20
22
23
24
25
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27
28
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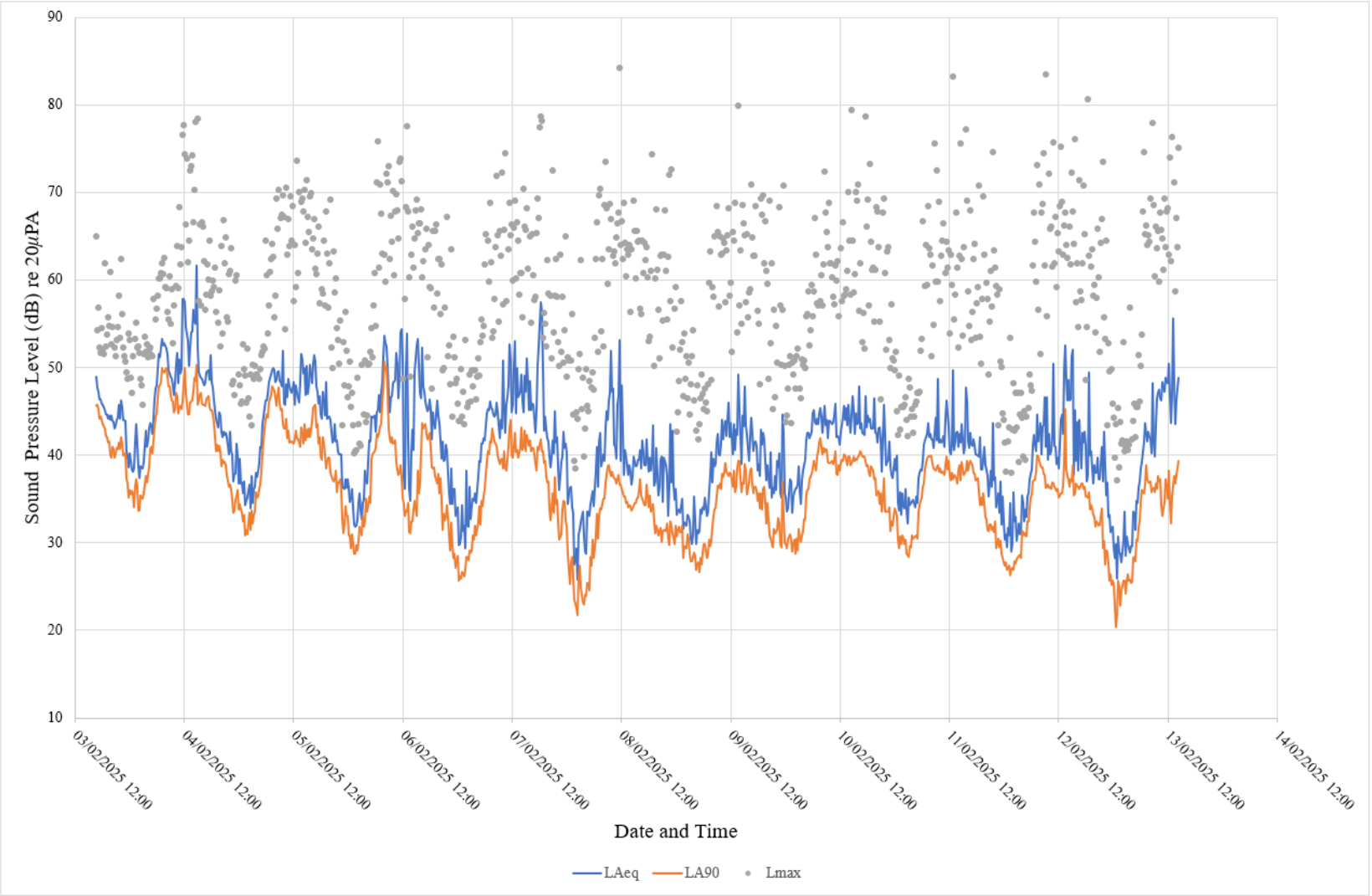
41
42
43
44
45
46
47
dB LA90,15mins

Plate 21 Measured sound pressure level at Location 9

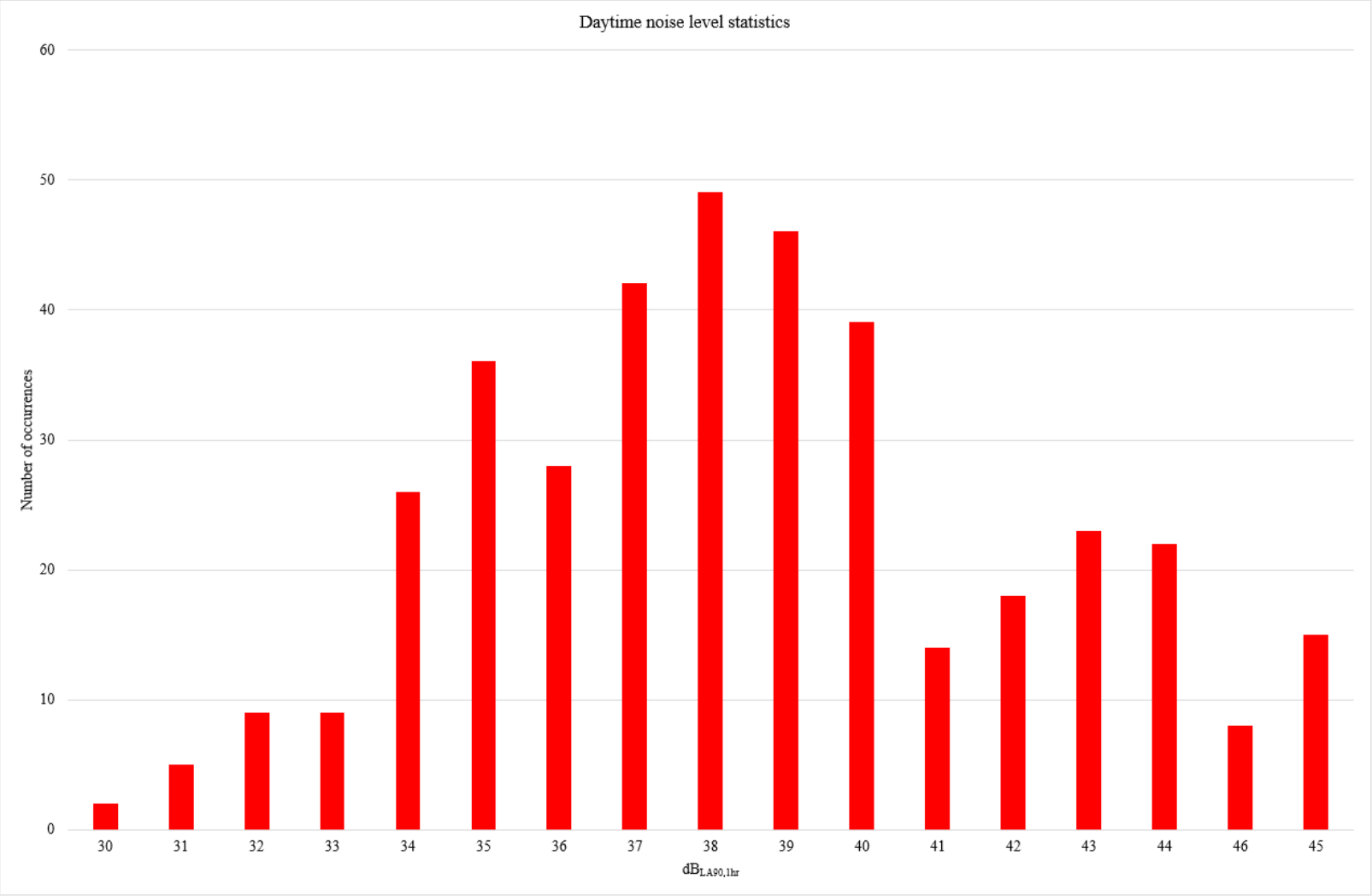


Location 13 – Kit H (Solar Development Site 6)

2.2.4 Location at residential properties on Common Lane. The dominant noise sources during set up and removal of the logger were local farm activities, road traffic on Common Lane and aircraft. In addition, occasional birdsong and shooting noise sources. Measurement duration was from Monday 3 February 2025 17:16 to Wednesday 12 February 2025 00:16 where the battery ended before pickup. Weather conditions were dry with wind <5 m/s.

Plate 22 Unattended survey Location 13

Plate 23 Unattended survey Location 13 sound level statistics



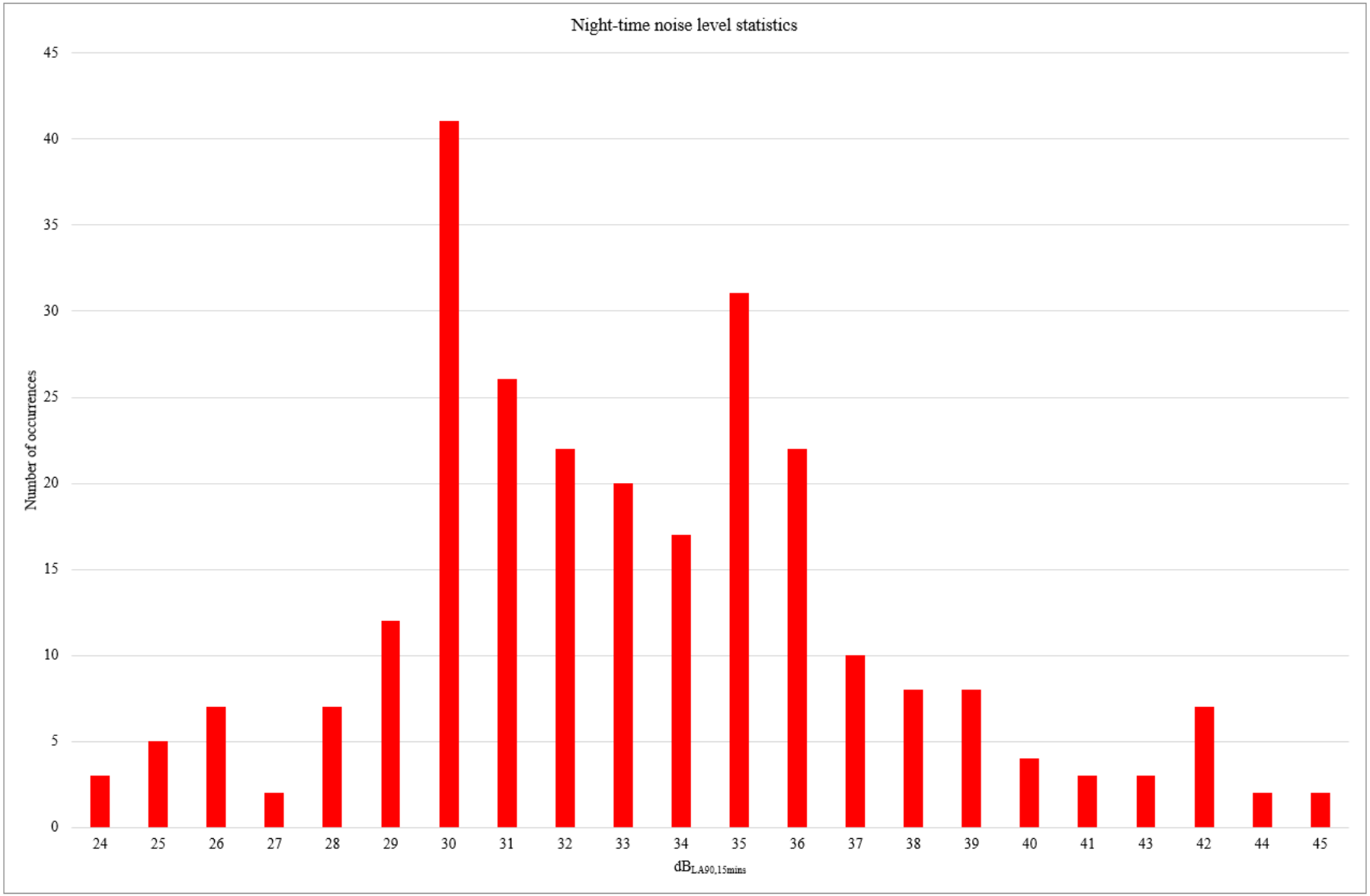
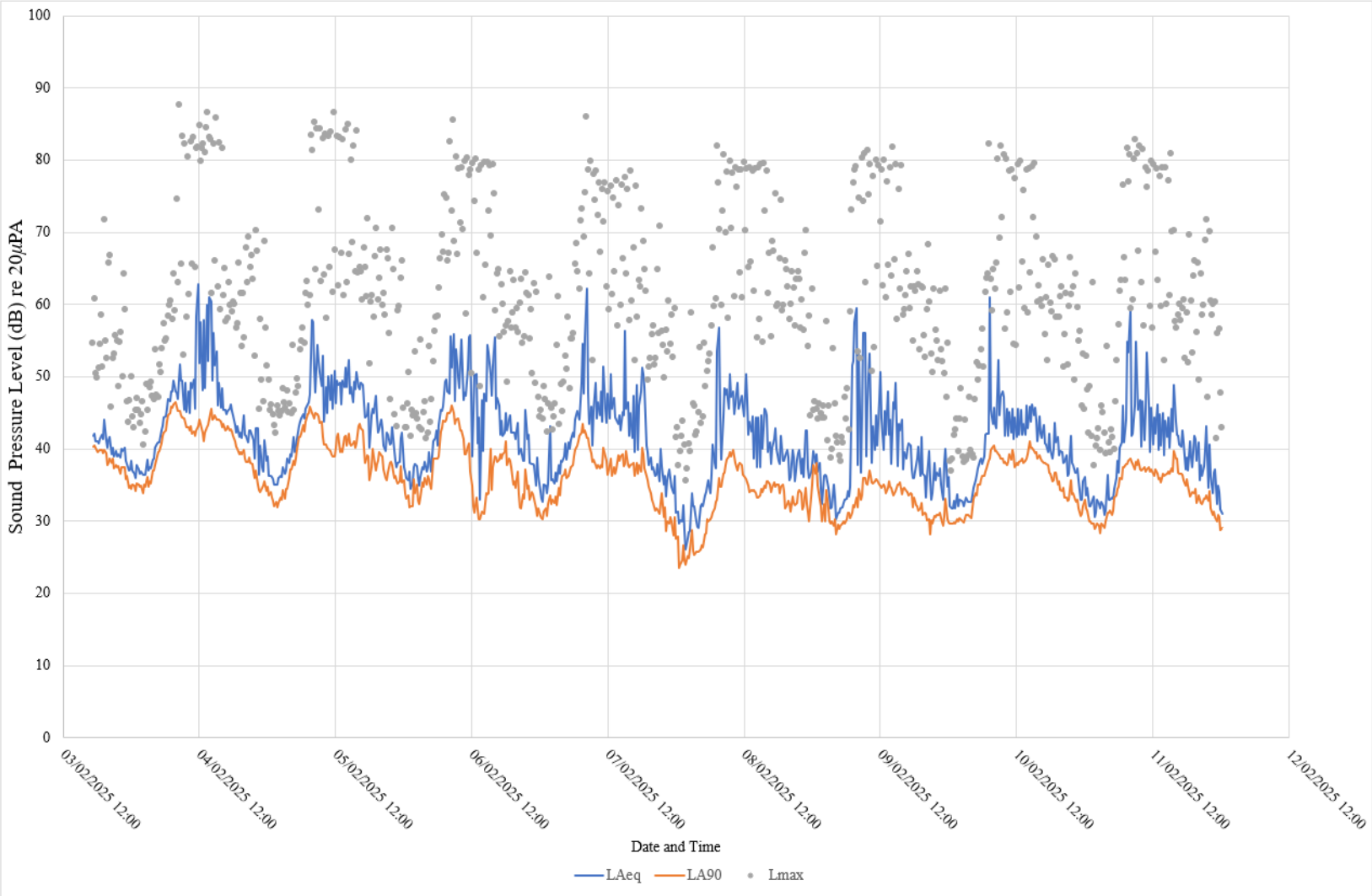

Night-time noise level statistics
Number of occurrences
0
5
10
15
20
25
30
35
40
45
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
43
42
44
45
dB LA90,15mins

Plate 24 Measured Sound Pressure Level at Location 13

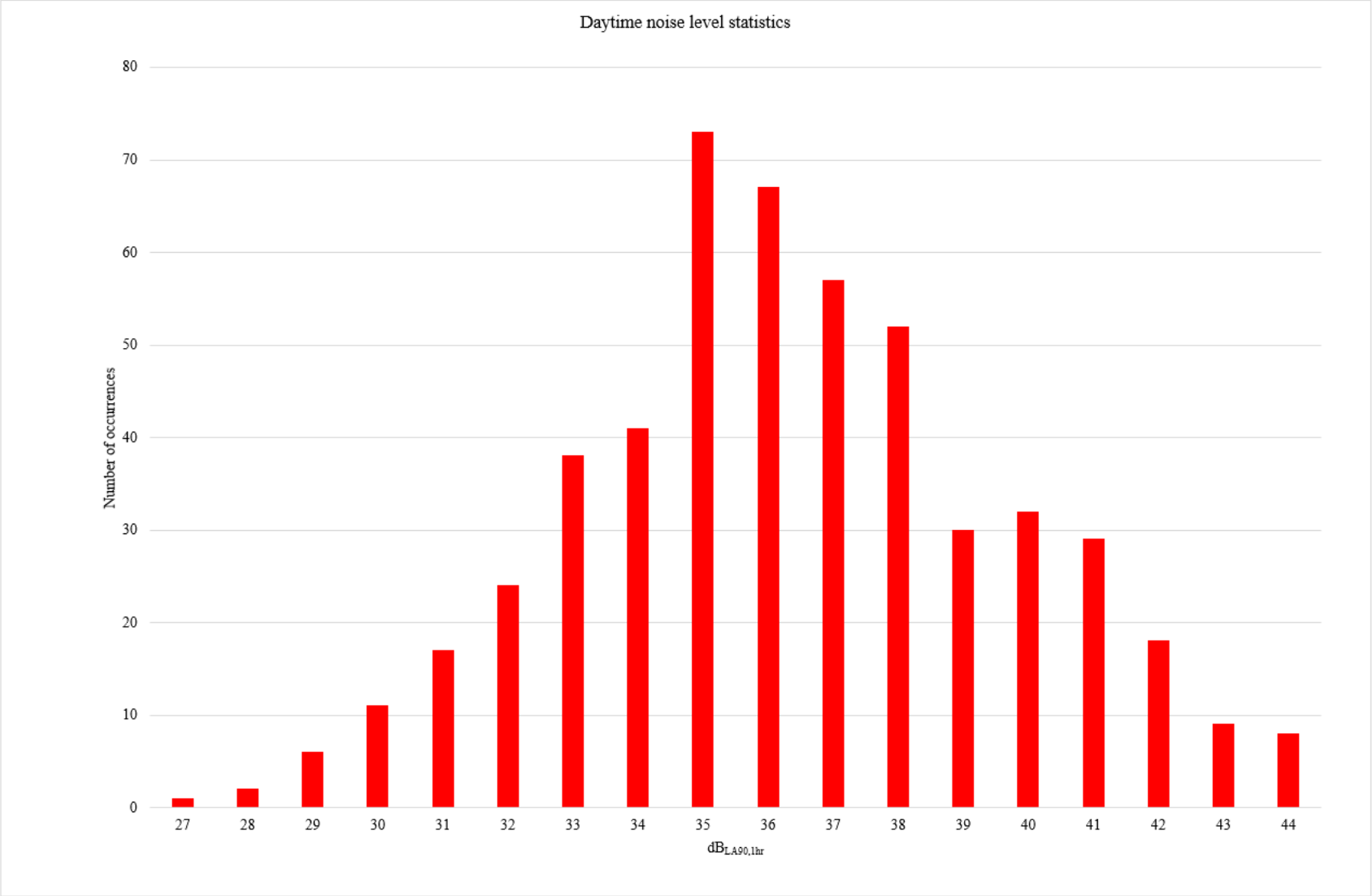


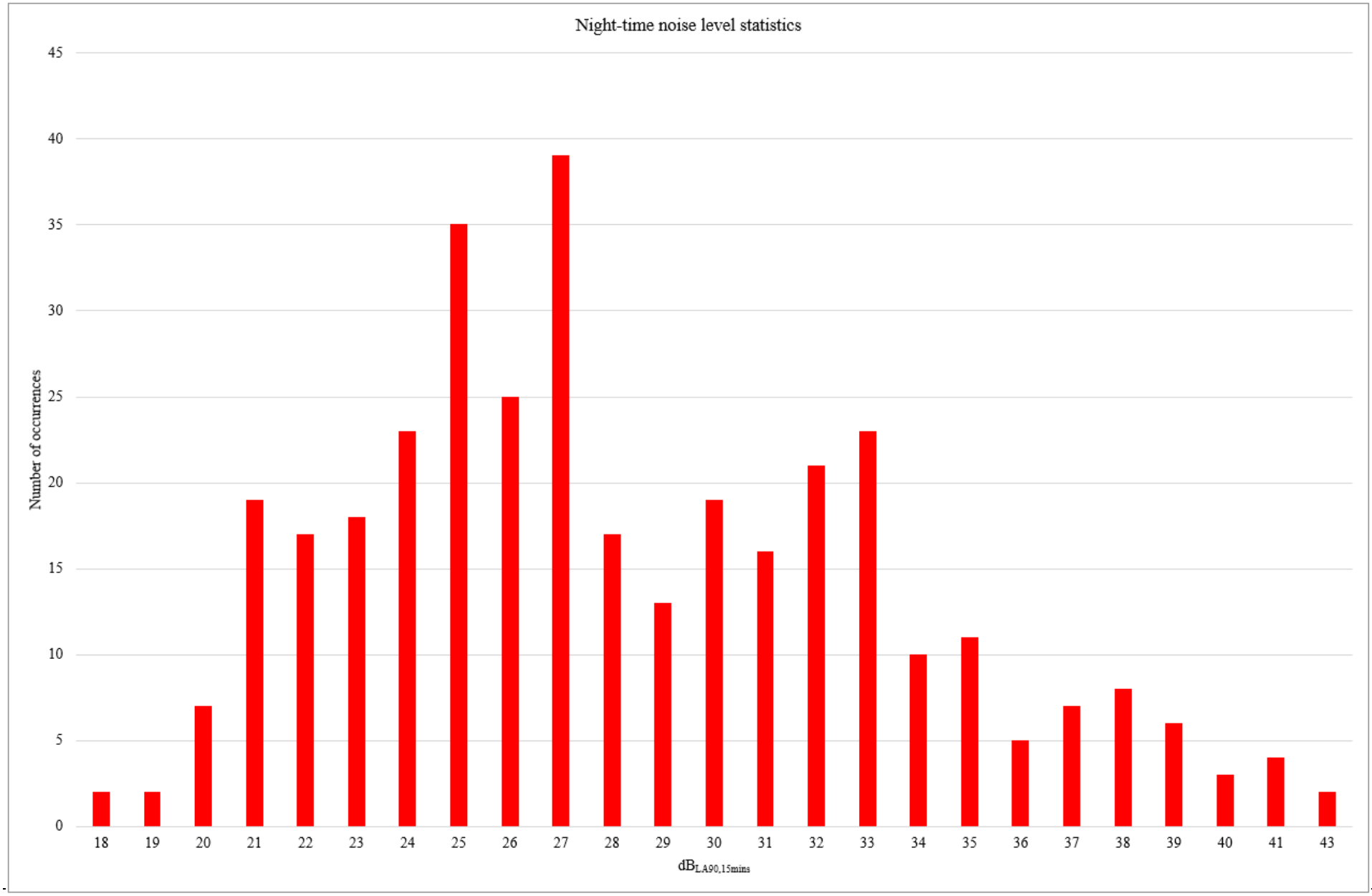
Location 18 – Kit D (Solar Development Site 8)

Location representative of residential properties on Philip Lane. The dominant noise sources during set up and removal of the logger were local farm activities, distant road traffic on Roe Lane and Hillam Common Lane. In addition, occasional birdsong, aircraft and shooting noise sources. Measurement duration was from Monday 3 February 2025 14:09 to Friday 14 February 2025 10:39. Weather conditions were dry with wind <5 m/s.

Plate 25 Unattended survey Location 18

Plate 26 Unattended survey at Location 18 sound level statistics




Night-time noise level statistics
Number of occurrences
0
5
10
15
20
25
30
35
40
45
18
19
20
21
22
23
24
25
26
27
28
29
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32
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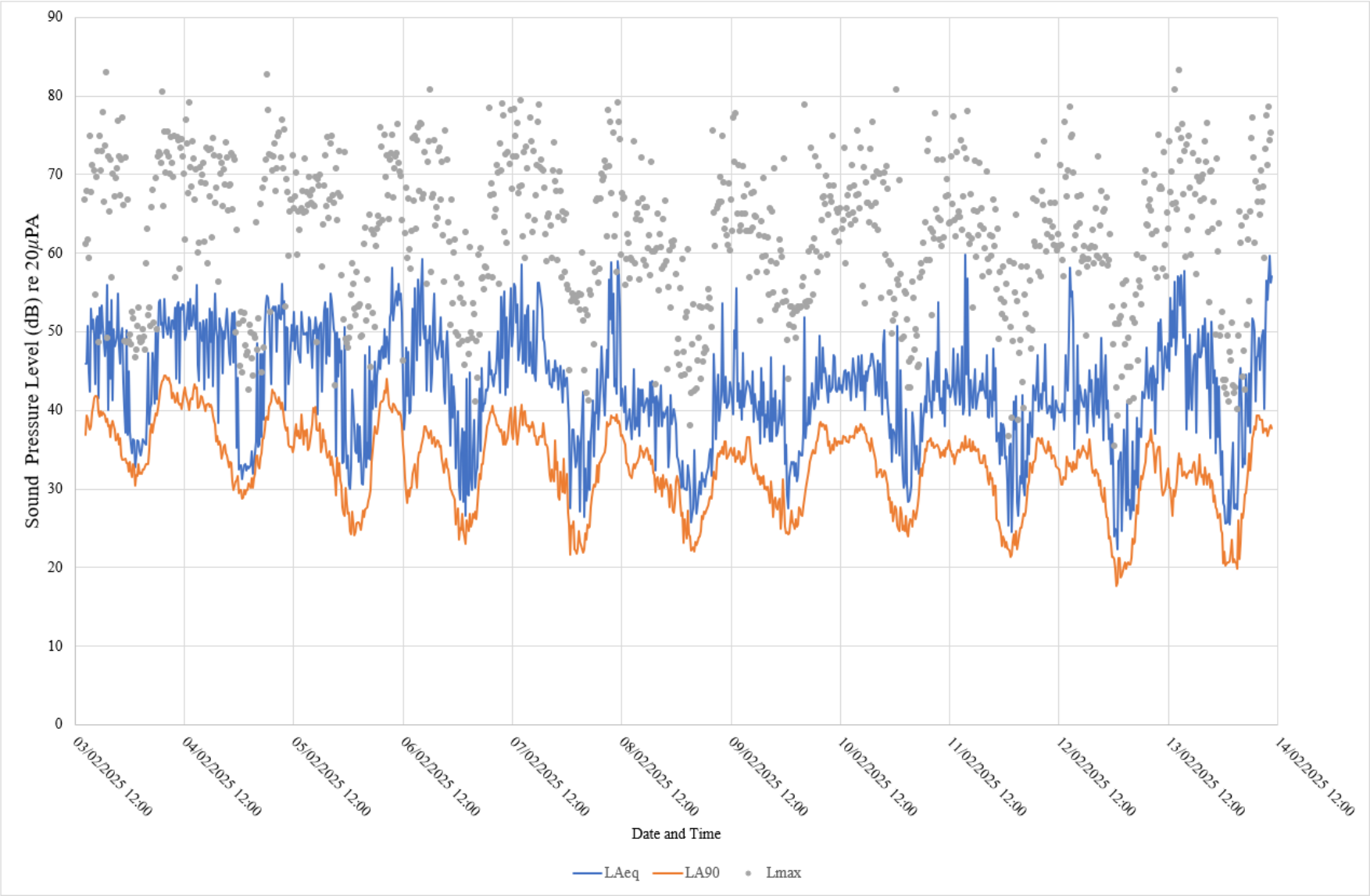
34
35
36
37
38
39
40
41
43
dB LA90,15mins

Plate 27 Measured sound pressure level at Location 18



Measured weather data

Plate 28 Average wind direction – Location 1

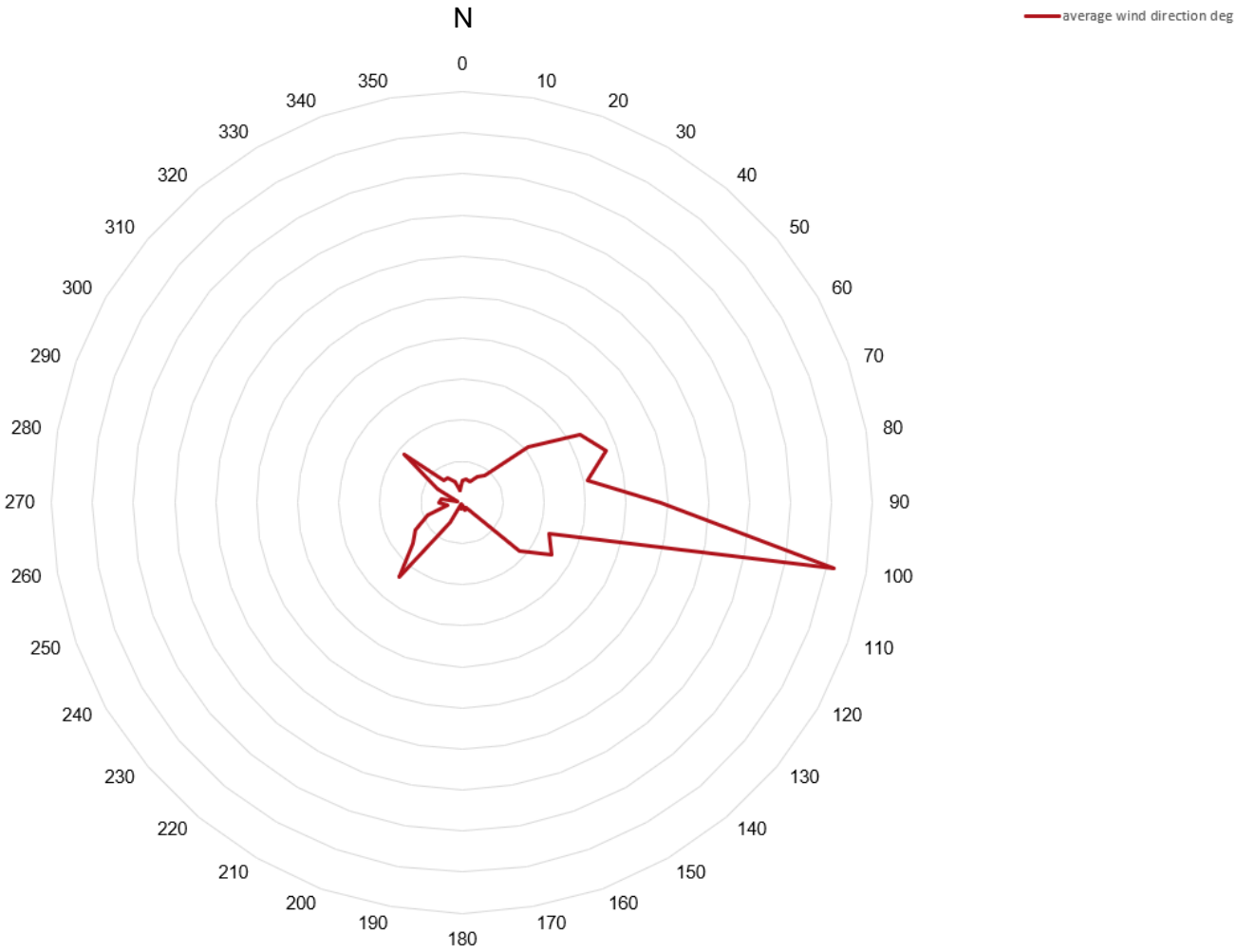


Plate 29 Average wind speed – Location 1

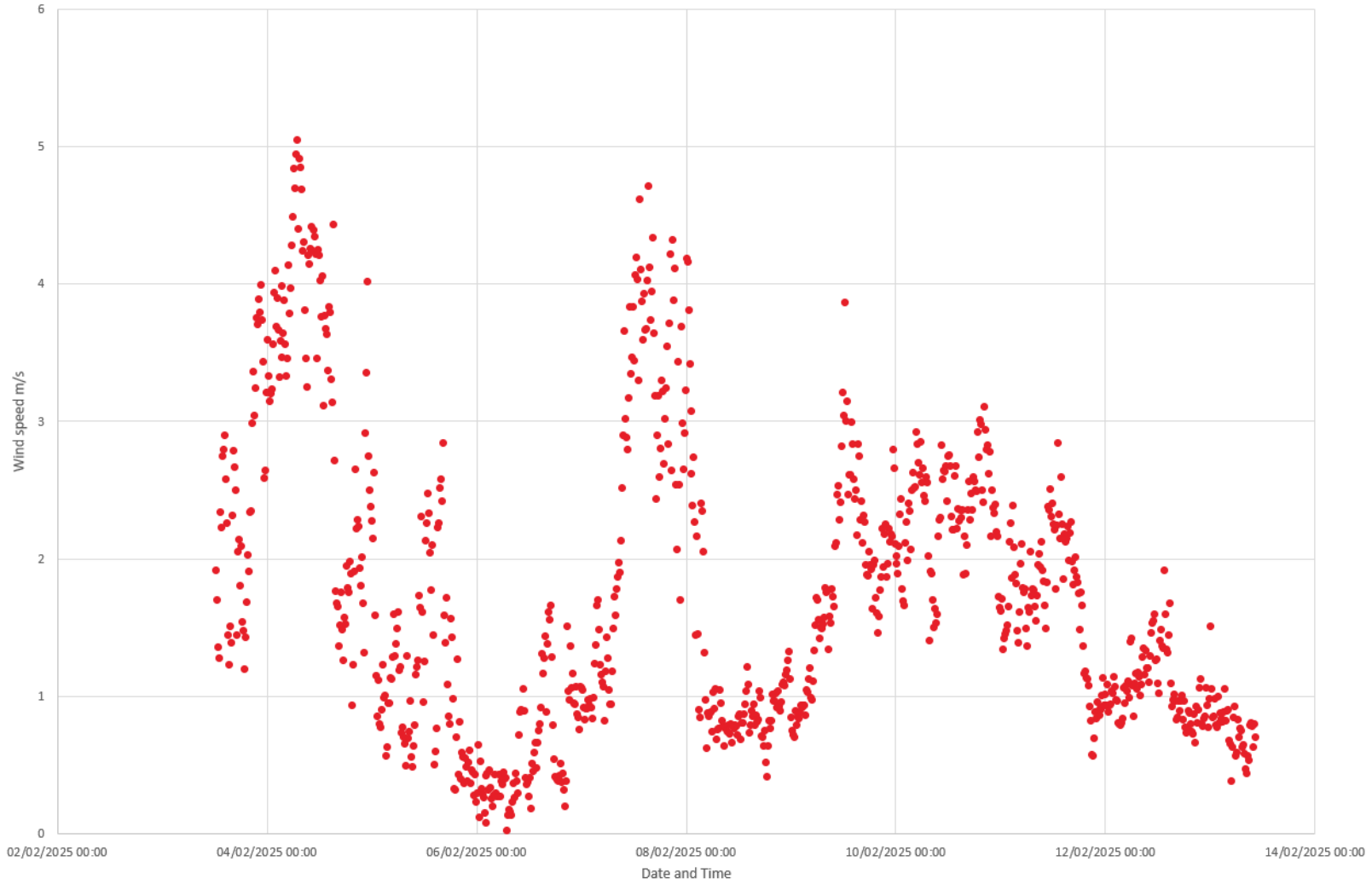


Plate 30 Average wind direction – Location 9

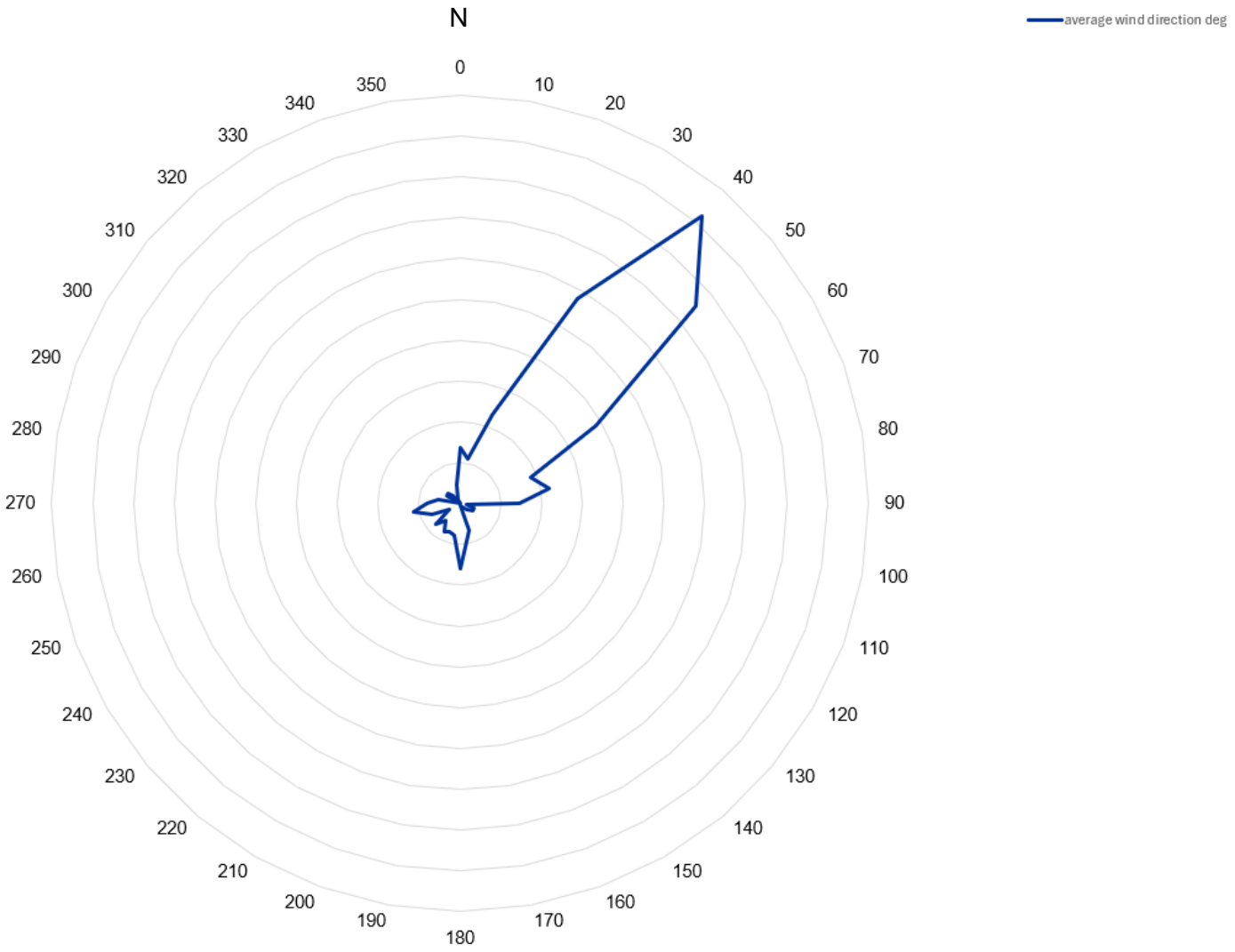
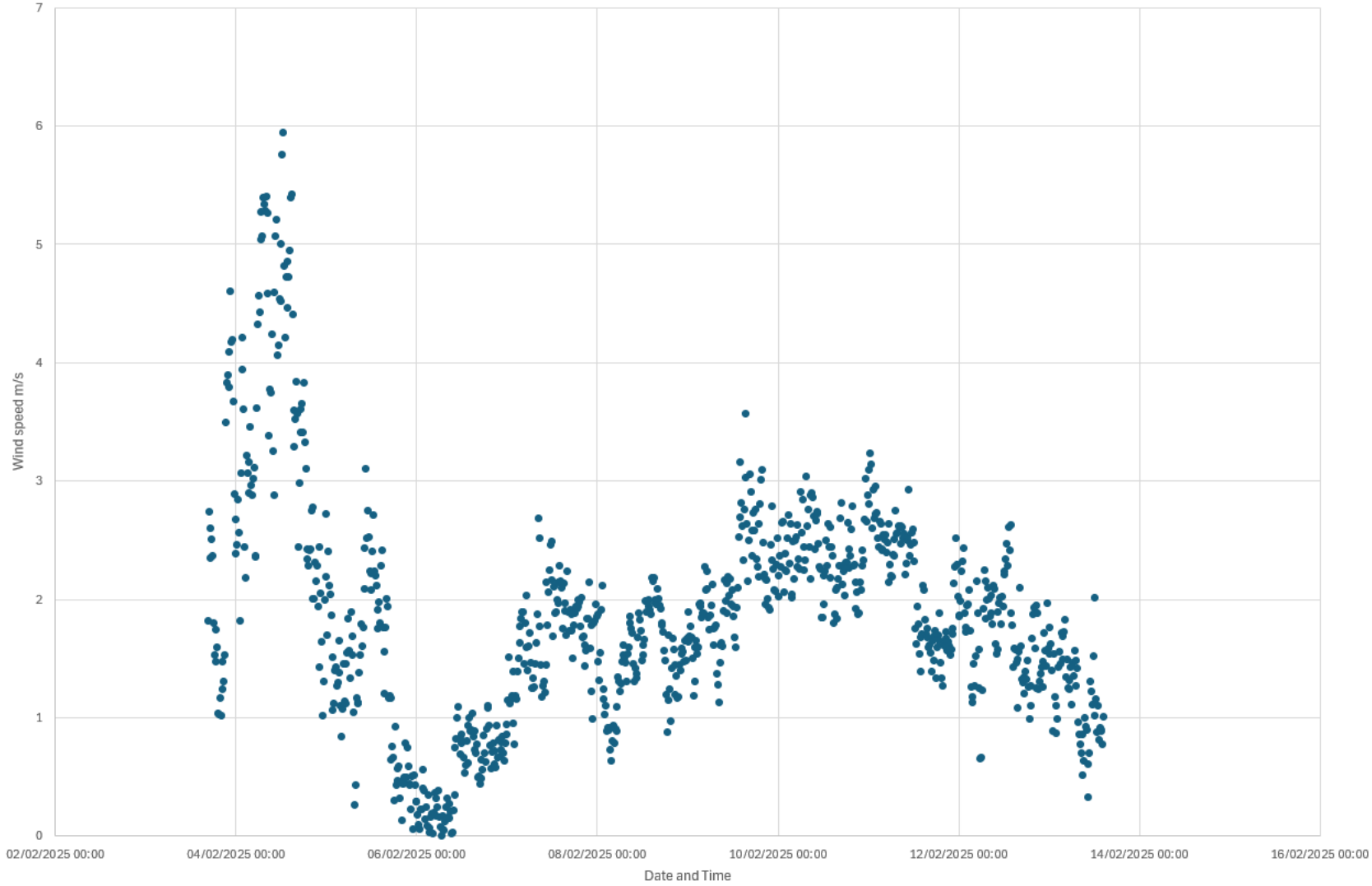


Plate 31 Average wind speed – Location 9



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