

Gate Burton Energy Park

Preliminary Environmental Information Report

Volume 3, Appendix 11-C: Baseline Noise Survey

June 2022

Gate Burton Energy Park Limited

Quality information

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1. Introduction

1.1.1 This section presents the methodology and results of the baseline noise monitoring carried out to inform the construction and operational noise assessments. Noise monitoring locations were determined based on the development site location with respect to nearby noise-sensitive receptors.

1.1.2 A number of other factors were also taken into consideration when identifying these locations, including:

- Safety of the operators;
- Security of monitoring equipment; and
- Site accessibility.

1.2 Noise Monitoring Methodology

1.2.1 Baseline noise monitoring was carried out to establish the existing noise climate in the area. The monitoring procedures followed guidance from British Standard (BS) 7445-1:2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures and BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound. Acoustic field calibrators were applied to each instrument at the start and end of each measurement to check the calibration levels.

1.2.2 Each unattended sound level meter was housed within a weatherproof box with batteries to power the instrument for the full measurement duration. Appropriate outdoor all-weather equipment was used on all microphones. All noise measurements included LAeq, LA90, and LAFmax sound level indicators over 15-minute contiguous periods.

1.3 Meteorological Conditions

1.3.1 Periods of adverse weather conditions (i.e. rain and wind speeds in excess of 5 m/s) during noise monitoring at ML3, ML4 and ML6 were identified in time-history plots at the end of this appendix. Additionally, periods of activity in gardens where noise monitoring was undertaken were identified. These periods were excluded from data analysis.

1.4 Survey Results

1.4.1 The baseline noise monitoring results of unattended measurements are presented in Table 11-1 to Table 11-10. For ML3, ML4 and ML6; noise data is provided showing the full set of results and results with periods of adverse weather conditions and garden activity removed

Results – ML1

Table 11-1 ML1 Noise Monitoring Results

Sound Level Indicator	Weekday		
	Day (07:00 – 19:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
L _{Aeq,1h}	47	44	46
L _{A90,1h}	41	37	29

Results – ML2

Table 11-2 ML2 Noise Monitoring Results

Sound Level Indicator	Weekday		
	Day (07:00 – 19:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
L _{Aeq,1h}	51	52	52
L _{A90,1h}	39	35	31

Results – ML3

Table 11-3 ML3 Noise Monitoring Results

Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	59	55	56	35	26	23
21/04/2022	58	57	57	38	29	33
22/04/2022	58	55	55	43	30	36
23/04/2022	54	48	44	45	38	35
24/04/2022	53	50	43	42	38	25
25/04/2022	56	54	56	31	22	23
26/04/2022	56	-	-	31	-	-
Average	56	53	52	38	31	29

Table 11-4 ML3 Noise Monitoring Results – Adverse Weather Conditions Removed

Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	57	55	56	34	26	23
21/04/2022	58	57	57	34	29	32
22/04/2022	-	-	54	-	-	35
23/04/2022	-	-	45	-	-	35
24/04/2022	-	-	44	-	-	24
25/04/2022	56	54	56	31	22	23
26/04/2022	56	-	-	31	-	-
Average	57	55	56	32	26	26

Results – ML4

Table 11-5 ML4 Noise Monitoring Results

Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	56	41	41	39	34	34
21/04/2022	55	41	42	40	33	33
22/04/2022	65	43	42	46	35	33
23/04/2022	62	52	39	44	36	32
24/04/2022	56	47	38	38	32	30
25/04/2022	44	38	40	35	30	30
26/04/2022	44	-	-	35	-	-
Average	55	44	40	40	33	32

Table 11-6 ML4 Noise Monitoring Results – Adverse Weather Conditions Removed

Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	55	41	41	38	34	34
21/04/2022	48	41	39	38	33	32
22/04/2022	-	-	40	-	-	32
23/04/2022	-	-	40	-	-	31
24/04/2022	-	-	38	-	-	30
25/04/2022	44	38	40	35	30	30
26/04/2022	44	-	-	35	-	-
Average	48	40	40	37	32	32

Results – ML5

Table 11-7 ML5 Noise Monitoring Results

Sound Level Indicator	Weekday		
	Day (07:00 – 19:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
L _{Aeq,1h}	54	48	44
L _{A90,1h}	36	28	24

Results – ML6

Table 11-8 ML6 Noise Monitoring Results

Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	48	41	41	37	27	23
21/04/2022	56	42	43	40	29	30
22/04/2022	53	42	44	44	33	34

23/04/2022	52	45	43	45	37	31
24/04/2022	52	46	42	43	38	24
25/04/2022	51	44	42	36	26	22
26/04/2022	50	-	-	34	-	-
Average	52	43	42	40	31	27

Table 11-9 ML6 Noise Monitoring Results – Adverse Weather Conditions Removed

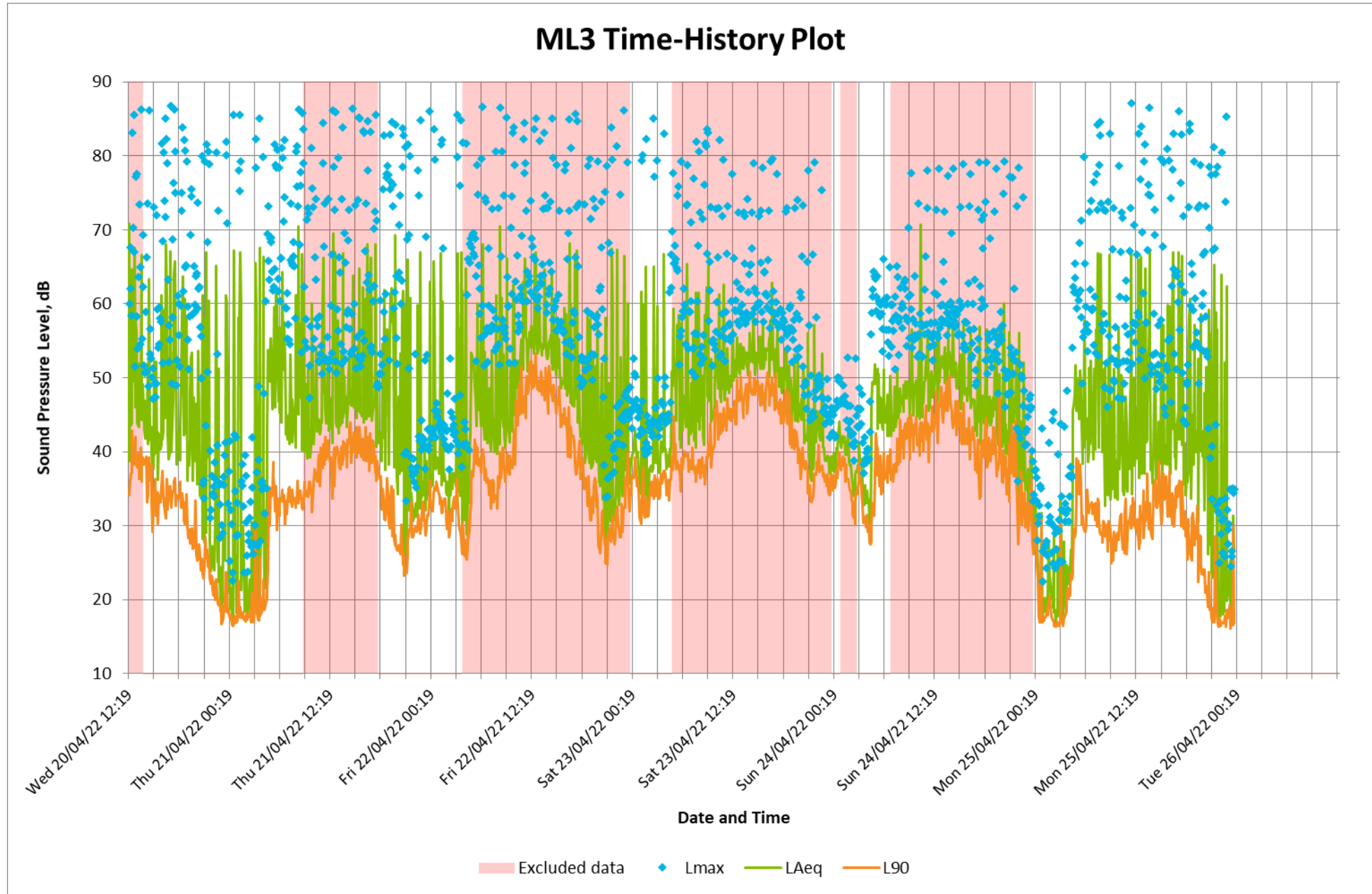
Date	L _{Aeq,T} dB			L _{A90,T} dB		
	07:00-19:00	19:00-23:00	23:00-07:00	07:00-19:00	19:00-23:00	23:00-07:00
20/04/2022	48	41	41	37	27	23
21/04/2022	49	42	33	37	29	27
22/04/2022	-	-	36	-	-	32
23/04/2022	-	-	45	-	-	31
24/04/2022	-	-	42	-	-	23
25/04/2022	51	44	42	36	26	22
26/04/2022	50	-	-	34	-	-
Average	49	42	39	36	27	24

Results – ML7

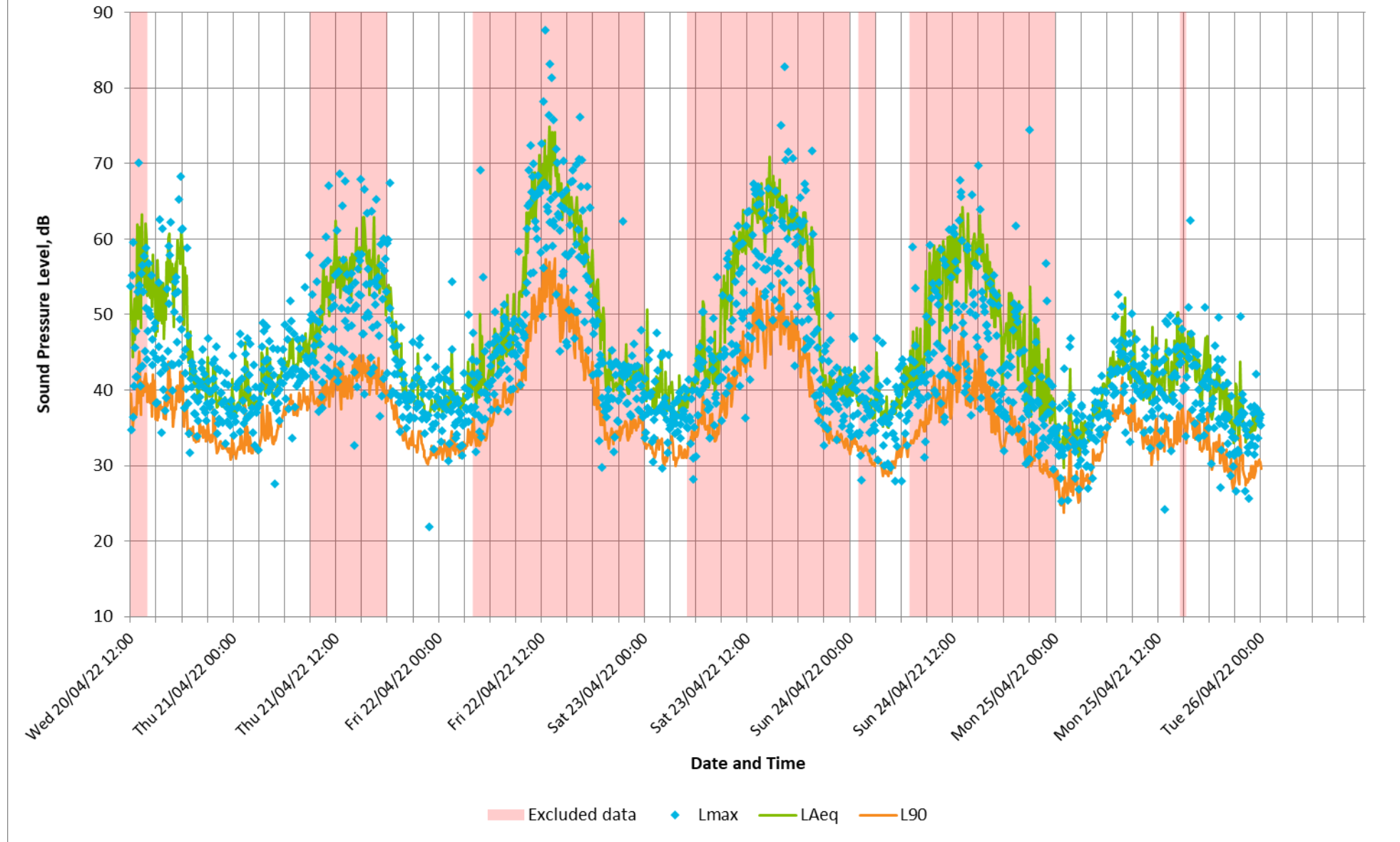
Table 11-10 ML7 Noise Monitoring Results

Sound Level Indicator	Weekday		
	Day (07:00 – 19:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
L _{Aeq,1h}	53	49	44
L _{A90,1h}	39	33	32

ML3 Time-History Plot



ML4 Time-History Plot



ML6 Time-History Plot

