

## **Noise and Dust Monitoring Report**

**Project Ref.:** 20543

**Period:** 01 June 2024 to 30 June 2024

**Site Address:**

100 Gray's Inn Road, London

**For:**

Erith Contractors Ltd

Erith House,

Queen Street

Erith

DA8 1RP

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Date	Document No./Revision version	Comments
03 July 2024	20239.SummaryReport202406	Noise/vibration/dust data – report generated

## Introduction:

Environmental Sensors Ltd. has been appointed by Erith Contractors Ltd. to undertake noise/dust monitoring at the 100 Gray's Inn Road, London.

This monitoring report presents data for the period from 01 June 2024 to 30 June 2024 and it is marked as 20543.SummaryReport202406.

## Monitoring Locations:

Noise and dust monitors have been installed on site as per site-plan attached below.



Figure 1 Indicative Site Plan (ref. Google Maps)

The locations have been marked as:

- L1: Site Courtyard
- L2: Clerkenwell Rd
- L3: Gray's Inn Rd
- L4: East side

The vibration monitors have been installed in the location as per site plan below:



Figure 2 Indicative Site Plan with vibration monitoring locations (ref. Google Maps)

### Equipment:

The following equipment has been used during the survey:

- 4No. Convergence Instruments Class 1 noise data loggers
- 4No. PM10 monitors
- 3No Convergence Instruments VSEW vibration data loggers

### Thresholds and Alerts:

Noise and dust alerts trigger levels have been agreed and presented below.

#### Noise Trigger Levels:

##### Location 1 and 4

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	78dB LAeq 1 hour	75dB LAeq 10 hours (Monday – Friday)
		75dB LAeq 1 hour	72dB LAeq 5 hours (Saturday)

##### Location 2 & Location 3

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	83dB LAeq 1 hour	82dB LAeq 10 hours (Monday – Friday)
		78dB LAeq 1 hour	75dB LAeq 5 hours (Saturday)

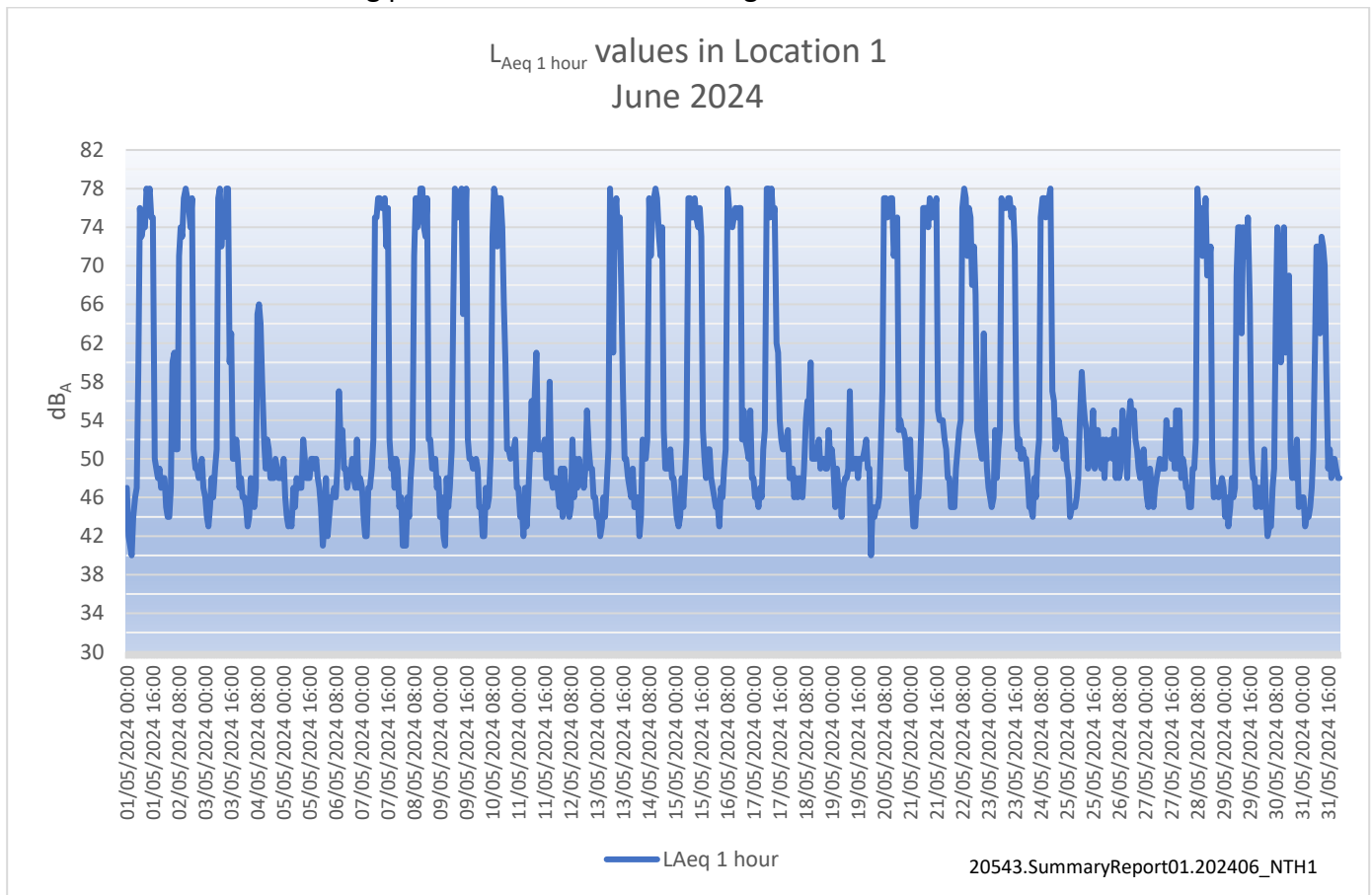
**Dust Trigger Levels (PM10):**

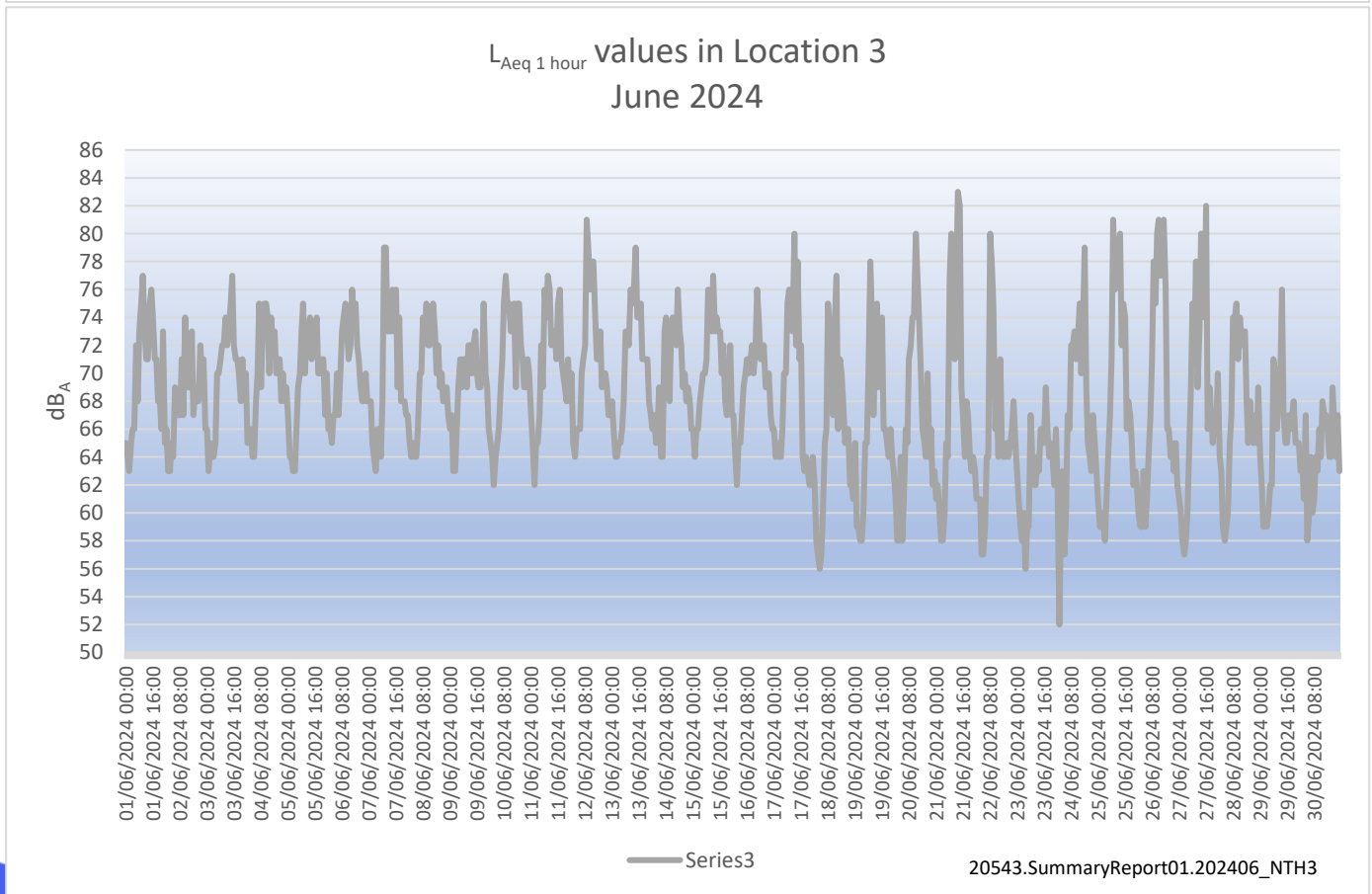
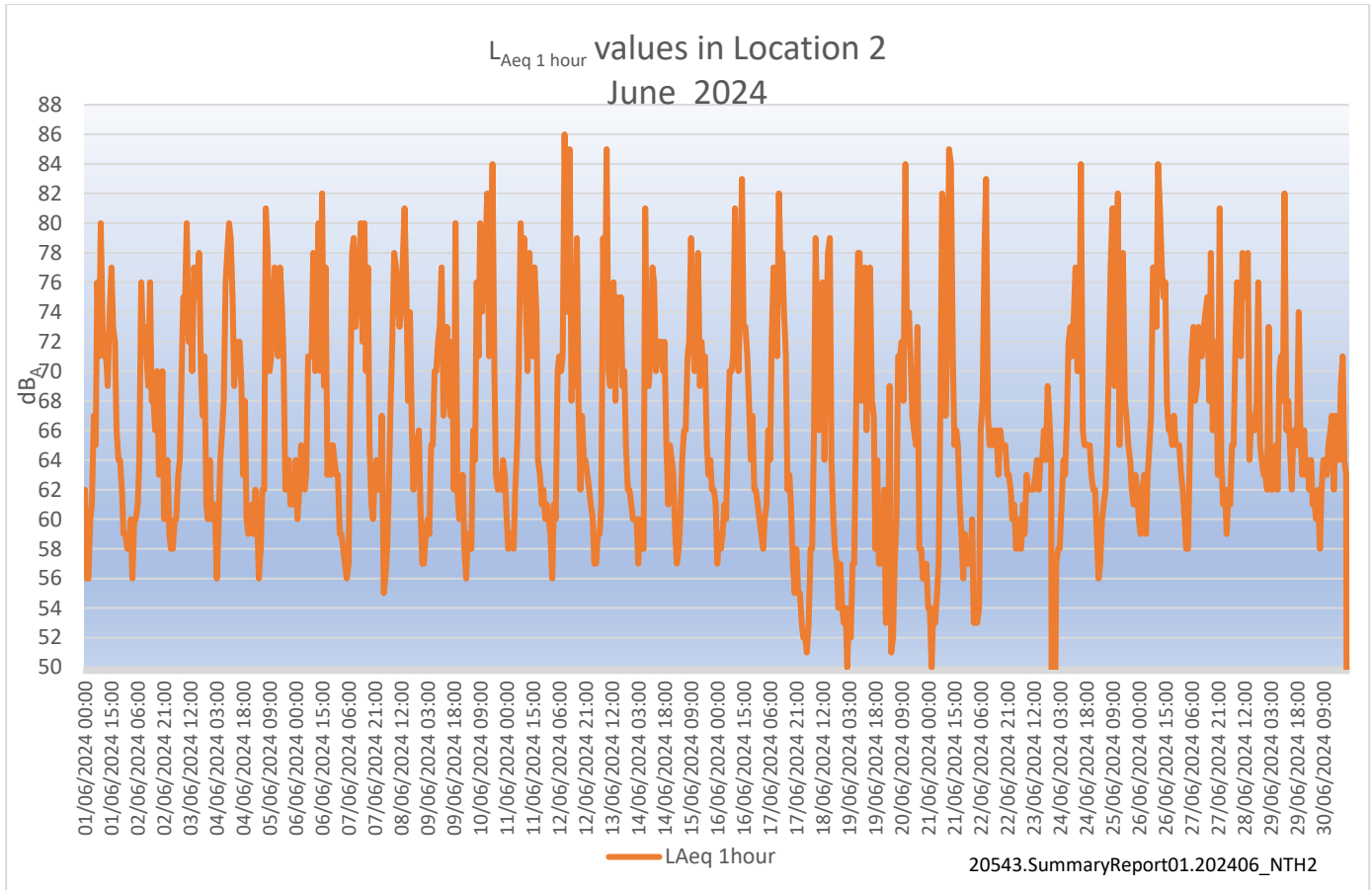
	Receiver of Alert	Trigger level and integration period
RED	Steven.Gillam@erith.com	190 ug/m3 1hour

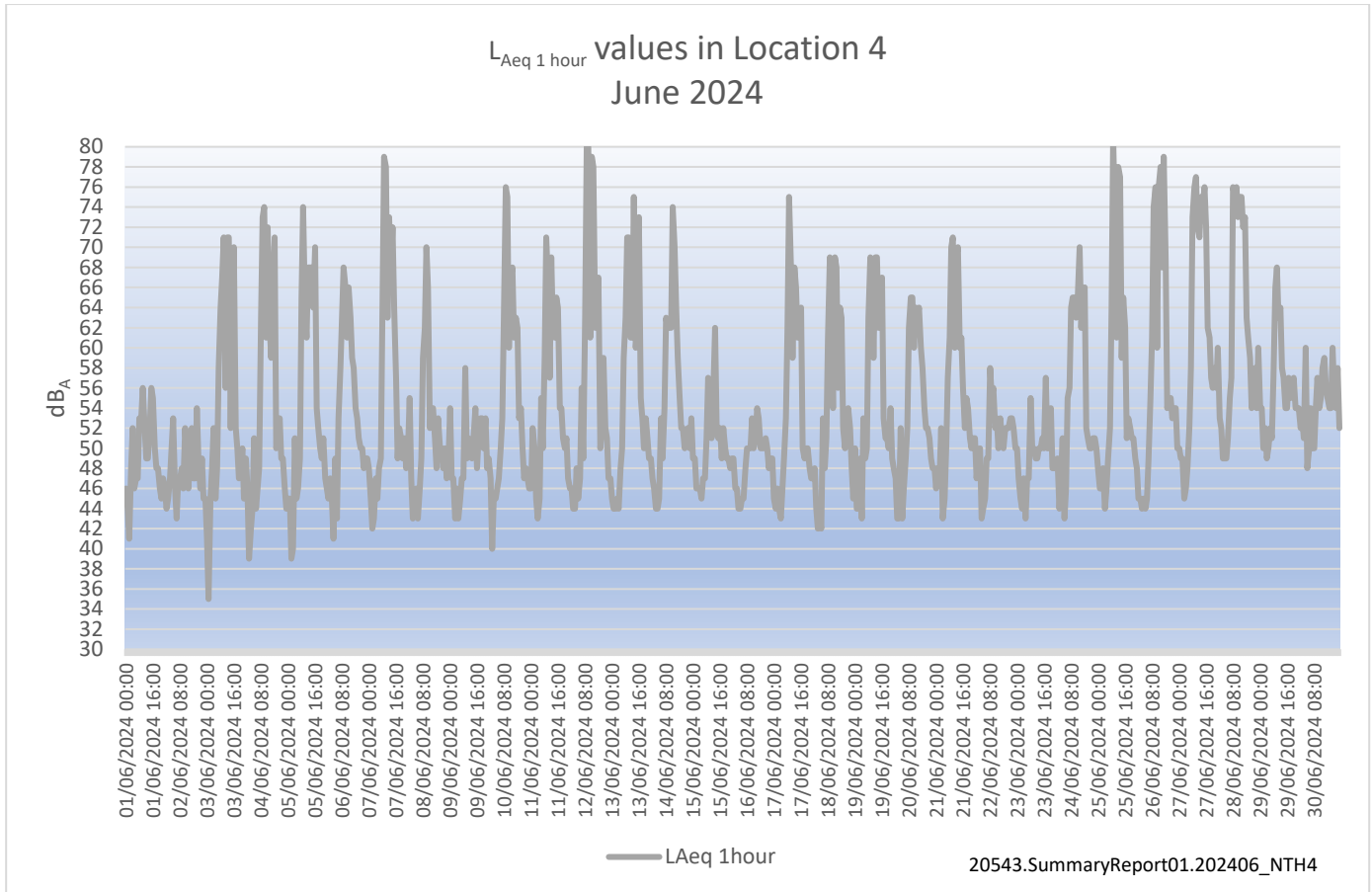
Monitoring Results:

Noise Survey

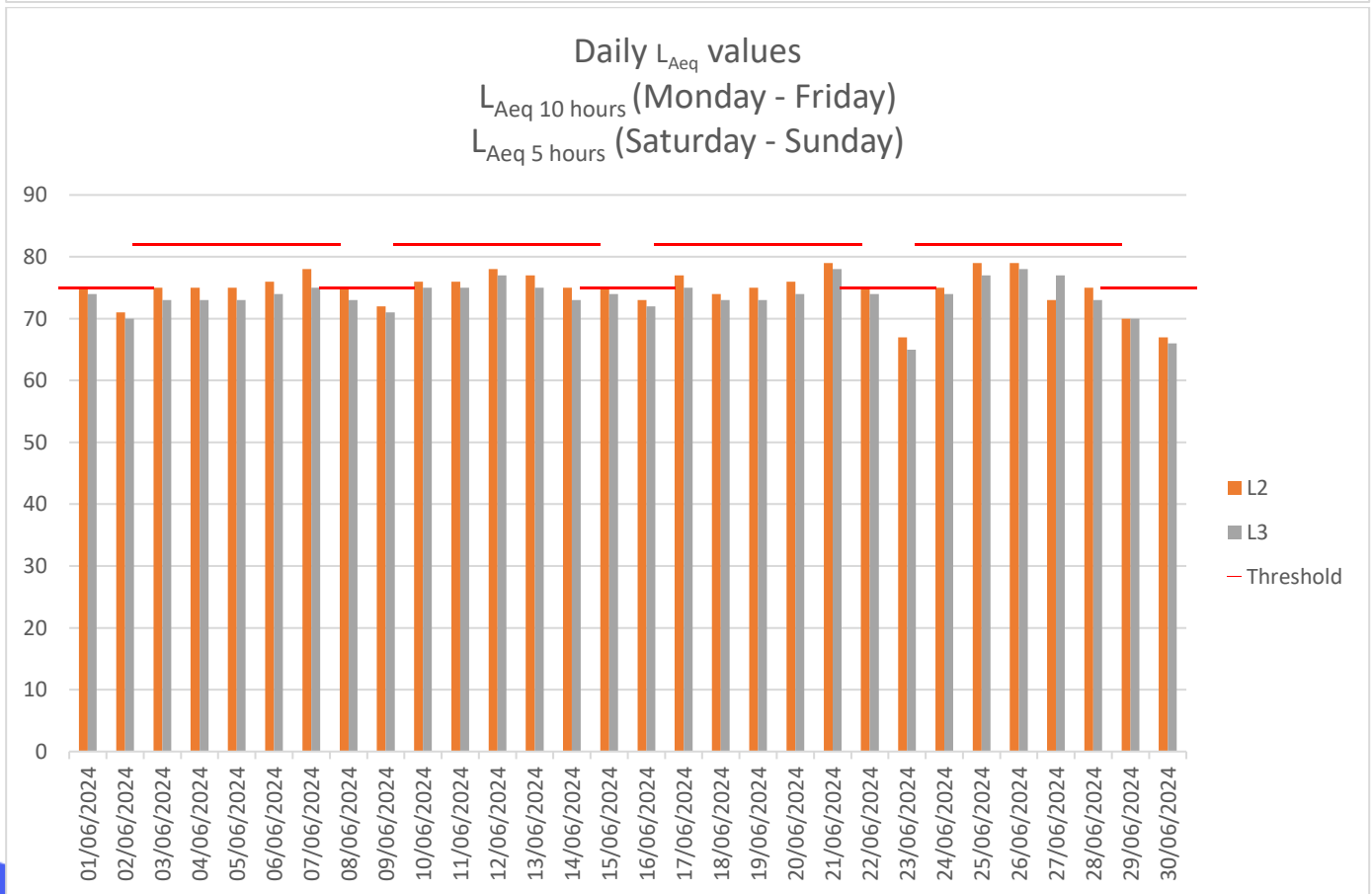
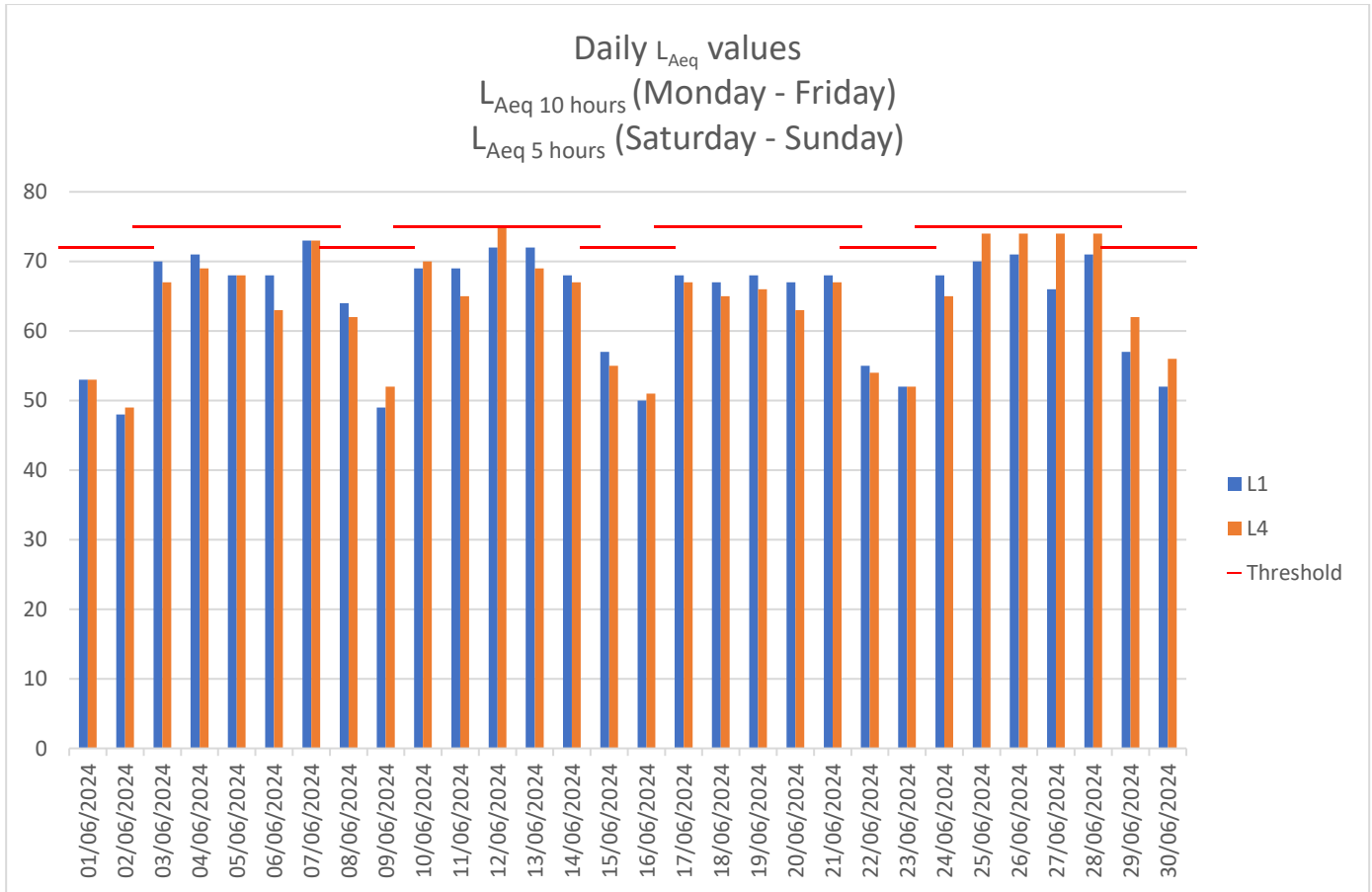
Noise monitoring results for the period between 01 June 2024 and 30 June 2024 have been present in Figures: 20543.SummaryReport202406.YYYYMM\_NTHx where YYYYMM represents year and month of the monitoring period while 'x' – monitoring location.







Monitoring results have been also compared against agreed criteria of maximum daily allowed level of  $L_{Aeq}$  10h 08:00 – 18:00 Monday – Friday and  $L_{Aeq}$  5h 09:00 – 14:00 on Saturday. These values have been presented in graphical version below.





It is expected that some attenuation of the construction noise will be provided due to the distance to closest sensitive receptors. The actual value will differ depending on location of noise source and the receiver. As the monitoring stations are located at the site boundary the difference between the level recorded at the monitoring station and the level at the façade of the receiver will also depend on the distance between the source and the monitoring station.

The noise levels from the point source reduce by 6dB by doubling the distance as per equation:

$$Lp_{R2} = Lp_{R1} - 20 \cdot \text{Log}_{10} \left( \frac{R2}{R1} \right)$$

The distance between monitoring station in Location 1 and closest sensitive receiver's façade is at least 10m while the distance between the source and the monitoring station is approx. 10m.

The distance in Location 2 and Location 3 is approx. 20 m. from the monitoring station and the receiver.

Table 1 presents the calculated attenuation of sound due to the distance between microphone (monitoring location) and receiver with consideration of the distance separating the sound source and the monitoring location.

Distance source to microphone	Distance in meters between monitoring location and receiver													
	5	6	7	8	9	10	12	14	16	18	20	25	30	35
	Attenuation of sound due to distance													
5m	6	6.8	7.6	8.3	8.9	9.5	10.6	11.6	12.5	13.3	14	15.6	16.9	18.1
10m	3.5	4.1	4.6	5.1	5.6	6	6.8	7.6	8.3	8.9	9.5	10.9	12	13.1
15m	2.5	2.9	3.3	3.7	4.1	4.4	5.1	5.7	6.3	6.8	7.4	8.5	9.5	10.5
20m	1.9	2.3	2.6	2.9	3.2	3.5	4.1	4.6	5.1	5.6	6	7	8	8.8
25m	1.6	1.9	2.1	2.4	2.7	2.9	3.4	3.9	4.3	4.7	5.1	6	6.8	7.6
30m	1.3	1.6	1.8	2.1	2.3	2.5	2.9	3.3	3.7	4.1	4.4	5.3	6	6.7
35m	1.2	1.4	1.6	1.8	2	2.2	2.6	2.9	3.3	3.6	3.9	4.7	5.4	6

Table 1 The relation of sound reduction to distance of the source and receiver towards monitoring position

The highlighted columns represent the specific site worst case scenario where receivers are around 10m and 20m away from the site.

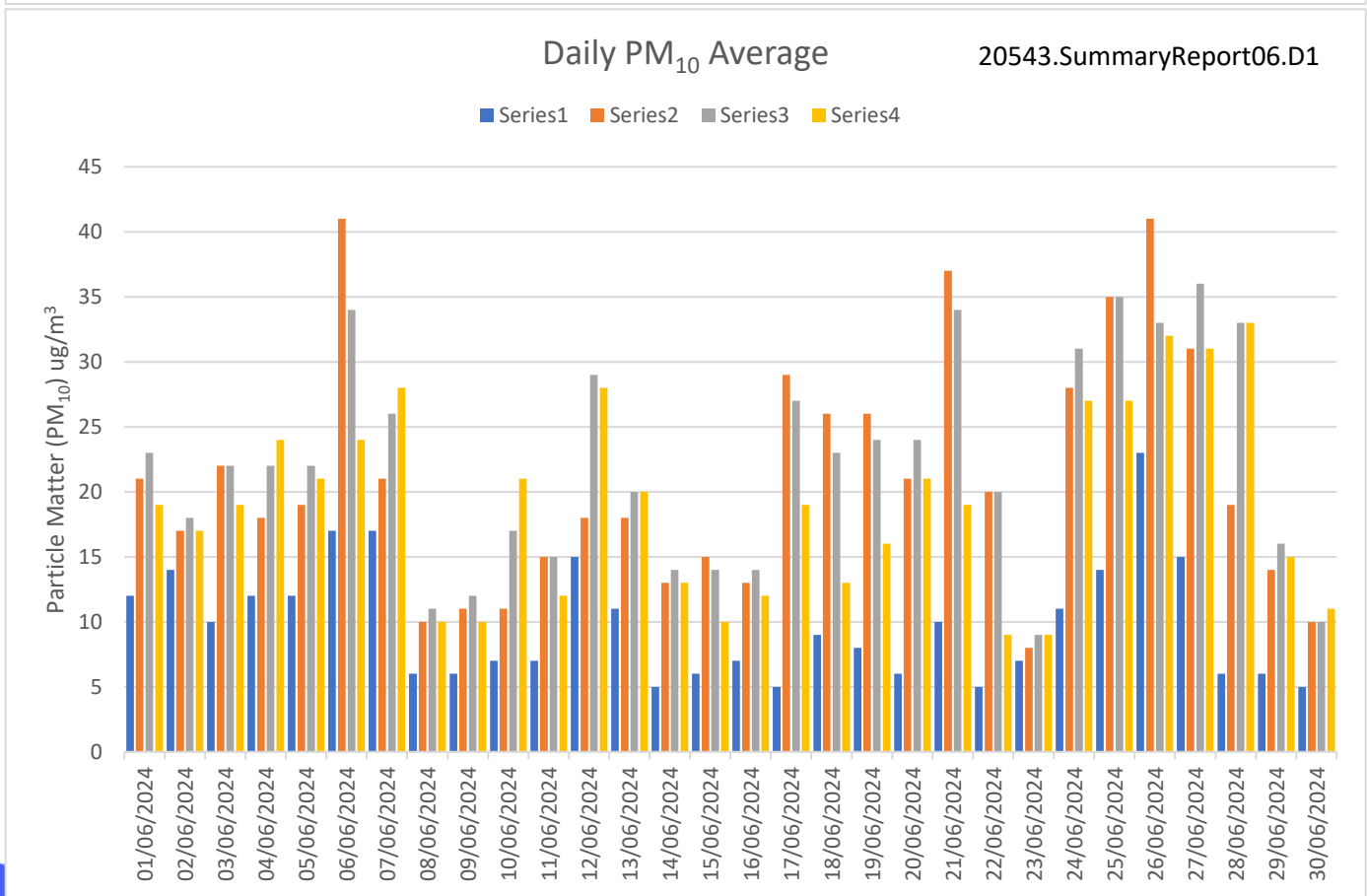
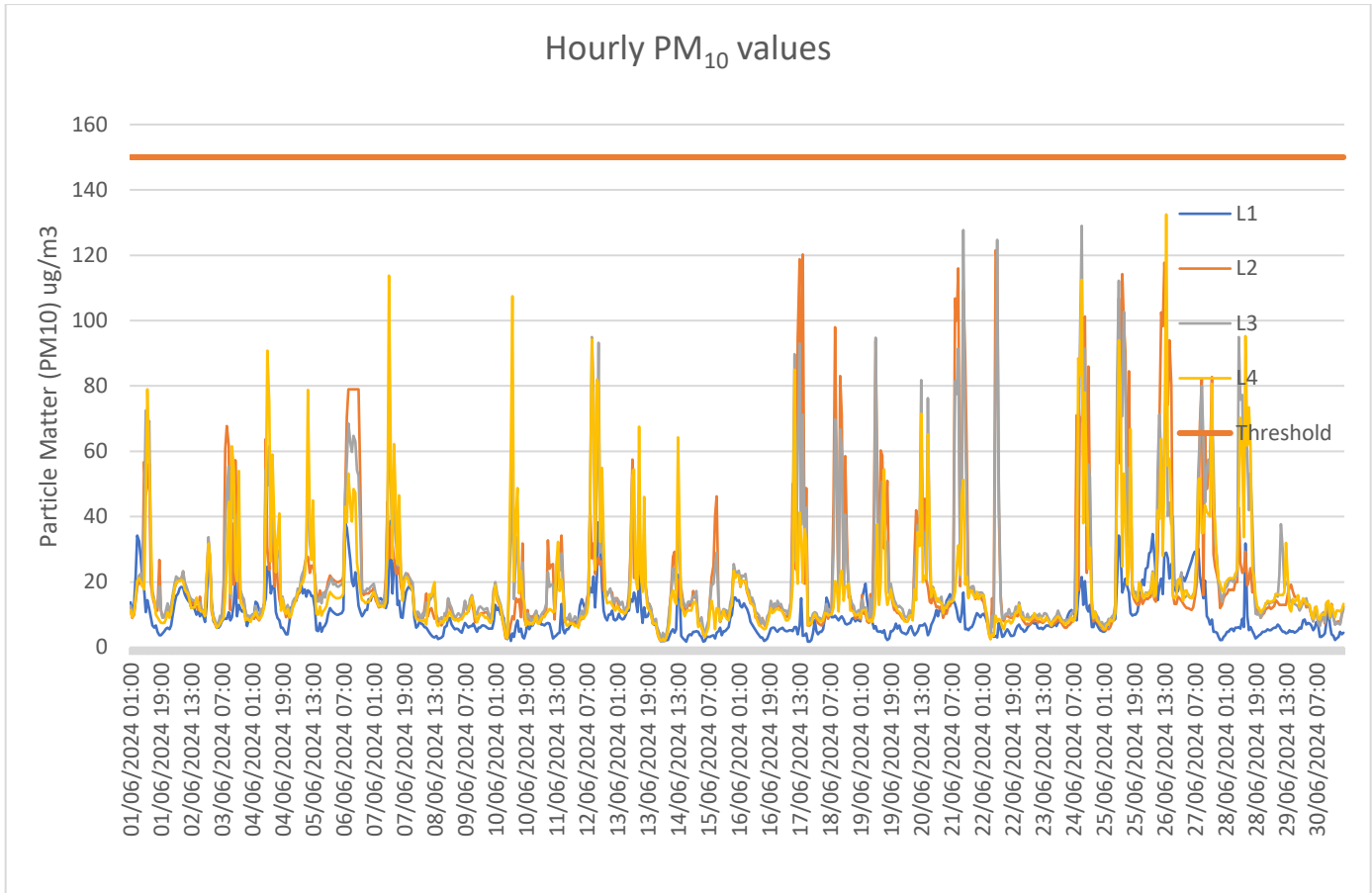
## Dust Survey

Dust monitoring summary results for the period between 01 June 2024 and 30 June 2024 have been presented in Figures:

- 20543.SummaryReport202406.D\_YYYYMM\_hourly with summary 1 hour averages, where MMM represents the year and MM month of the reporting data.
- 20543.SummaryReport202406.D1\_Daily with summary 1 hour averages.

PM10 values were compared against the action threshold level of 190 ug/m<sup>3</sup> 1hour average.

Additional criterion of 150 ug/m<sup>3</sup> 15-minut average was set as a preventive pre-action trigger. No specific action is required to be undertaken on 15 min exceedances. This level has also been used for easier comparison with other data sources.



A summary of PM10 values has been present in the table below.

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Data Capture							
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4				
01/06/2024	36	98	134	128	3	8	8	7	12	21	23	19	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
02/06/2024	41	38	41	36	6	9	9	9	14	17	18	17	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
03/06/2024	44	114	102	87	6	6	5	6	10	22	22	19	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
04/06/2024	41	141	124	146	3	7	8	8	12	18	22	24	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
05/06/2024	22	40	68	115	3	11	11	8	12	19	22	21	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
06/06/2024	96	106	106	101	9	14	13	13	17	41	34	24	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
07/06/2024	53	102	103	145	9	12	11	12	17	21	26	28	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
08/06/2024	15	41	27	35	2	6	6	6	6	10	11	10	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
09/06/2024	11	26	23	20	4	6	7	7	6	11	12	10	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
10/06/2024	13	73	102	145	1	2	2	2	7	11	17	21	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
11/06/2024	20	94	54	64	2	6	6	6	7	15	15	12	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
12/06/2024	62	74	147	148	6	6	6	6	15	18	29	28	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
13/06/2024	28	86	80	98	6	5	7	5	11	18	20	20	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
14/06/2024	51	57	66	101	1	2	1	2	5	13	14	13	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
15/06/2024	17	81	44	25	1	3	2	3	6	15	14	10	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
16/06/2024	15	24	26	23	2	6	5	5	7	13	14	12	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
17/06/2024	19	148	135	119	1	6	6	6	5	29	27	19	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
18/06/2024	16	141	138	38	4	6	7	8	9	26	23	13	0	0	0	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Data Capture				
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	
19/06/2024	21	140	127	113	1	7	6	7	8	26	24	16	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
20/06/2024	16	97	132	106	3	7	7	7	6	21	24	21	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
21/06/2024	26	143	140	82	4	8	8	9	10	37	34	19	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
22/06/2024	20	149	150	19	2	2	1	2	5	20	20	9	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
23/06/2024	9	13	13	14	4	6	5	6	7	8	9	9	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
24/06/2024	34	141	147	137	5	5	5	6	11	28	31	27	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
25/06/2024	67	143	144	144	4	5	4	5	14	35	35	26	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
26/06/2024	45	147	145	150	11	12	13	13	23	41	33	32	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
27/06/2024	41	119	114	111	2	11	12	14	15	31	36	31	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
28/06/2024	59	66	144	141	2	8	9	10	6	19	33	33	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
29/06/2024	11	27	82	64	4	11	11	9	6	14	16	15	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%
30/06/2024	16	21	19	19	2	6	6	7	5	10	10	11	0	0	0	0	0	0	0	0	0	100%	100%	100%	100%

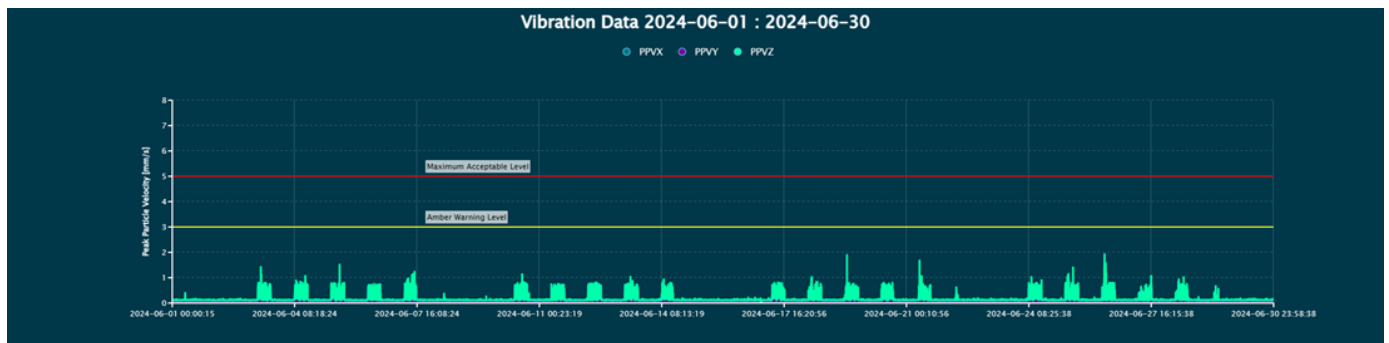
## Vibration Survey

Vibration monitors have been installed in 3 locations as per site plan below.

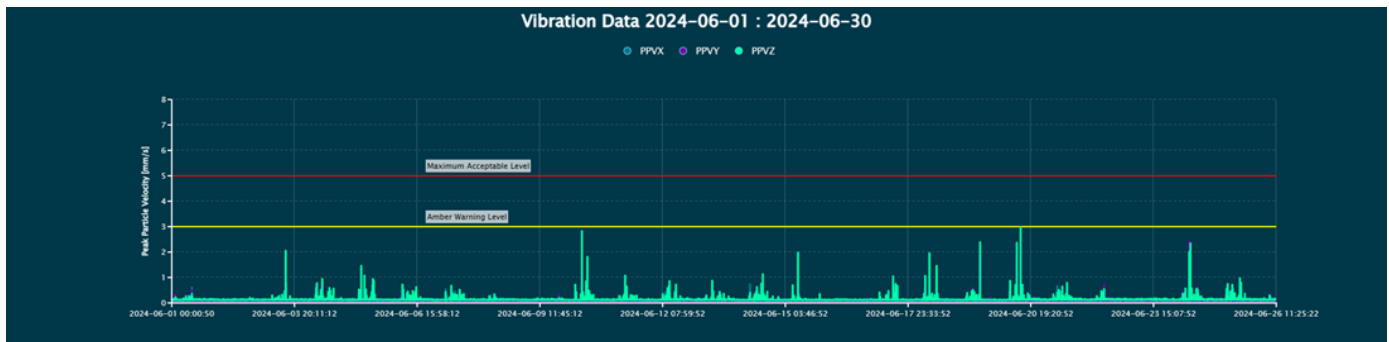


Data collected during the period were presented in the following graphs:

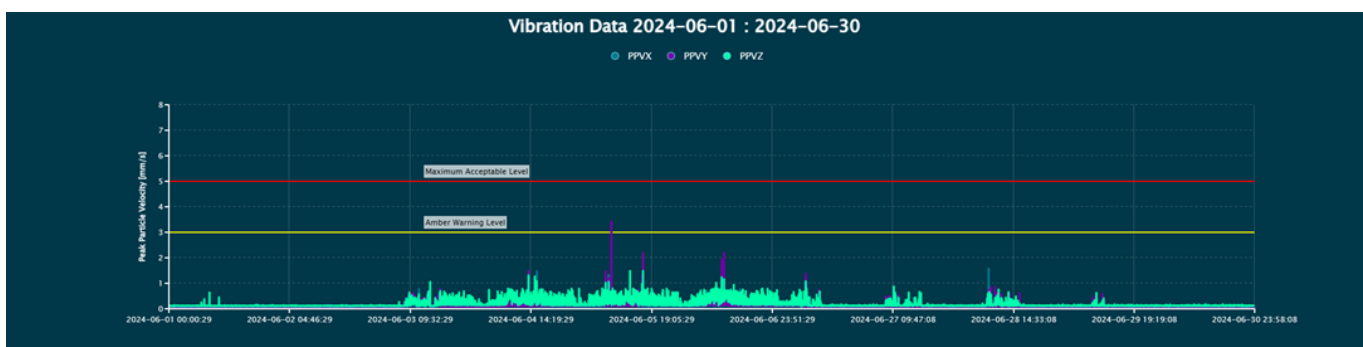
### Location 1



### Location 2



### Location 3



### List of alerts and actions undertaken.

**Noise Red Trigger**

No exceedances recorded of daily LAeq.

**Vibration Red Trigger**

No exceedances recorded.

**Dust Action Level**

No exceedances recorded.

