

## **Noise and Dust Monitoring Report**

**Project Ref.:** 20543

**Period:** 01 February 2023 to 29 February 2024

**Site Address:**

100 Gray's Inn Road, London

**For:**

Erith Contractors Ltd

Erith House,

Queen Street

Erith

DA8 1RP

## Contents

Introduction: .....	3
Monitoring Locations:.....	3
Equipment: .....	4
Thresholds and Alerts: .....	4
Monitoring Results: .....	5
Noise Survey .....	5
Dust Survey .....	9

Date	Document No./Revision version	Comments
01 March 2024	20239.SummaryReport202402	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 February 2023 to 29 February 2024 and it is marked as 20543.SummaryReport202402.

## 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)

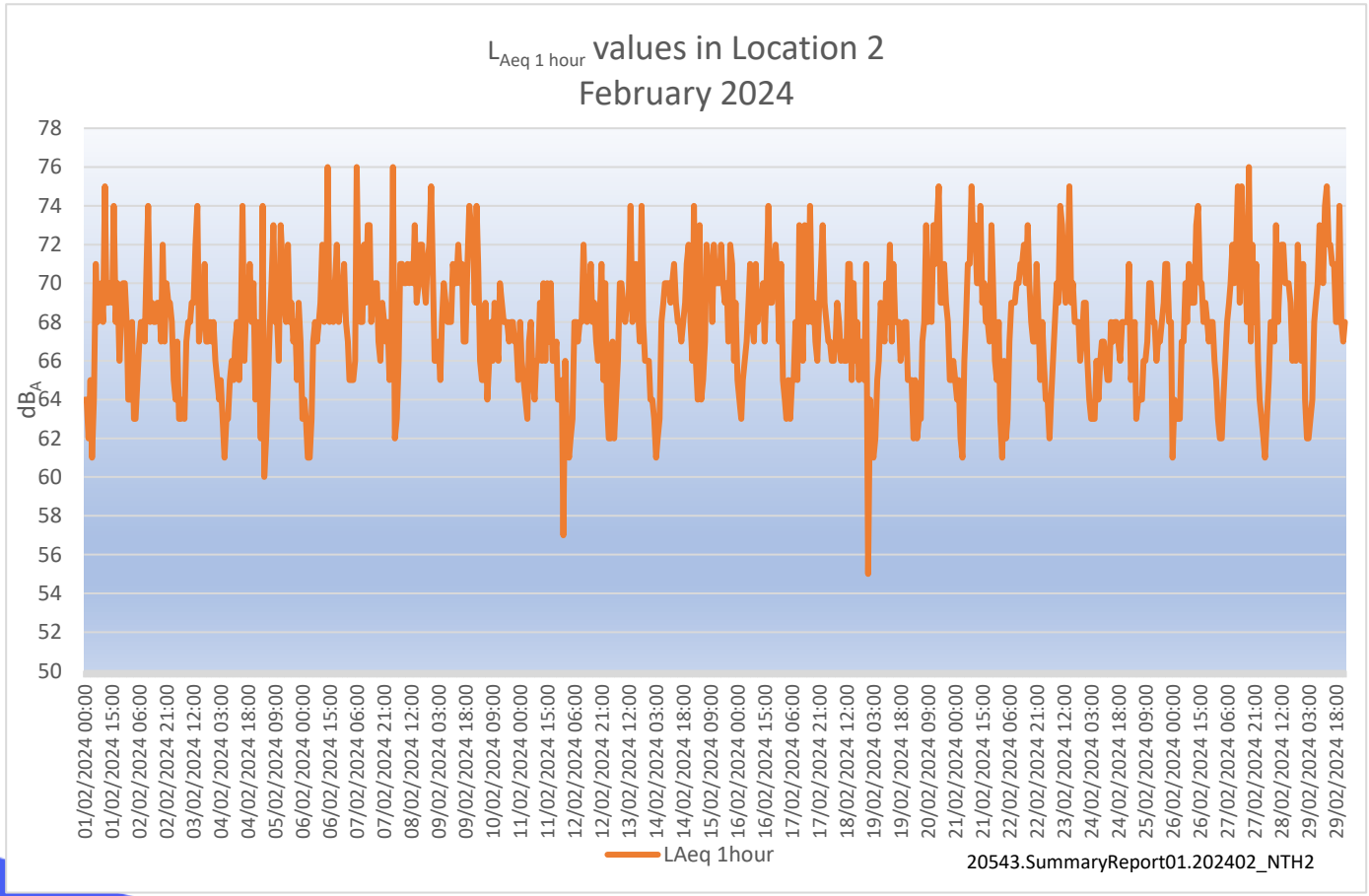
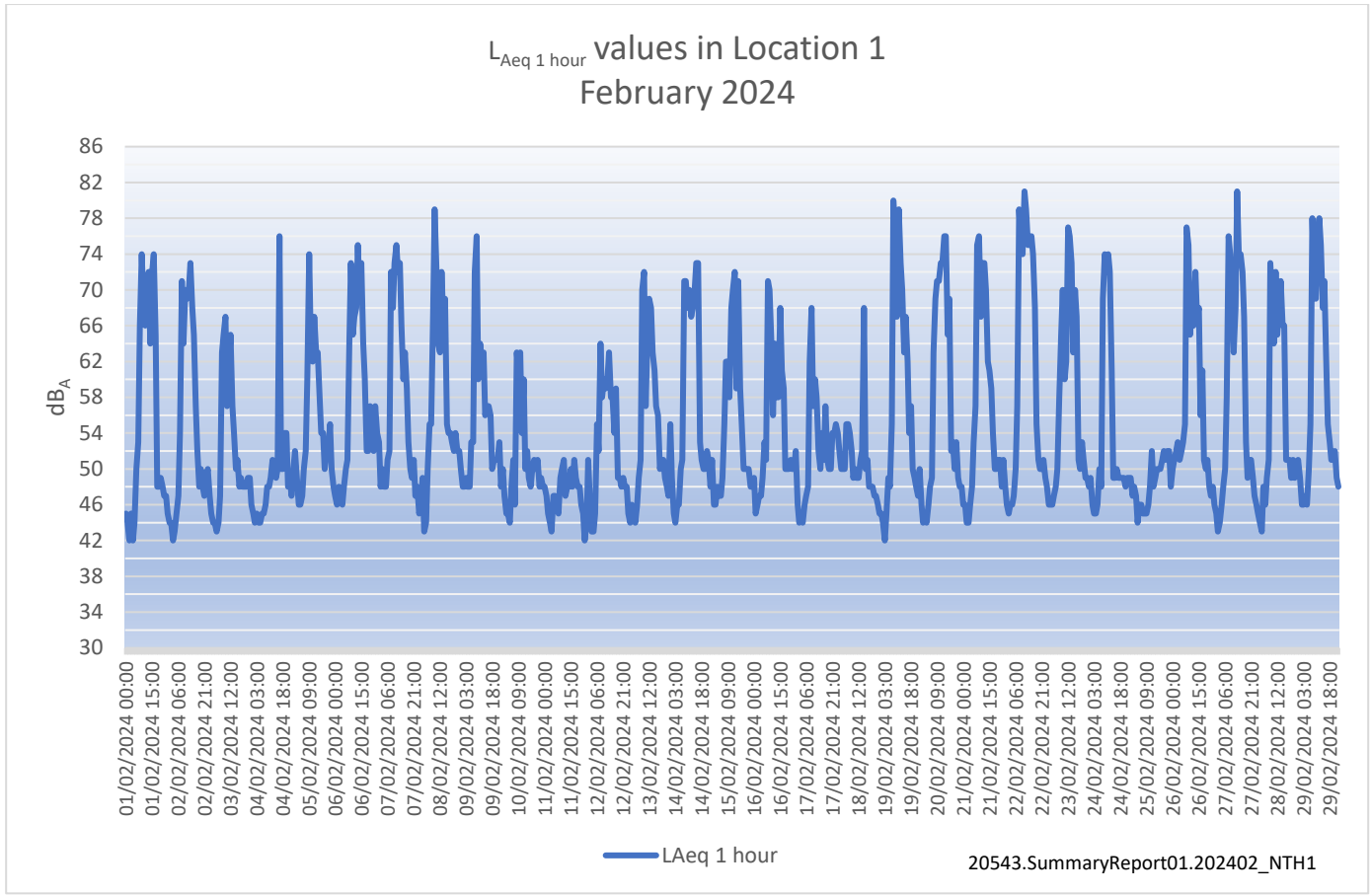
**Dust Trigger Levels (PM10):**

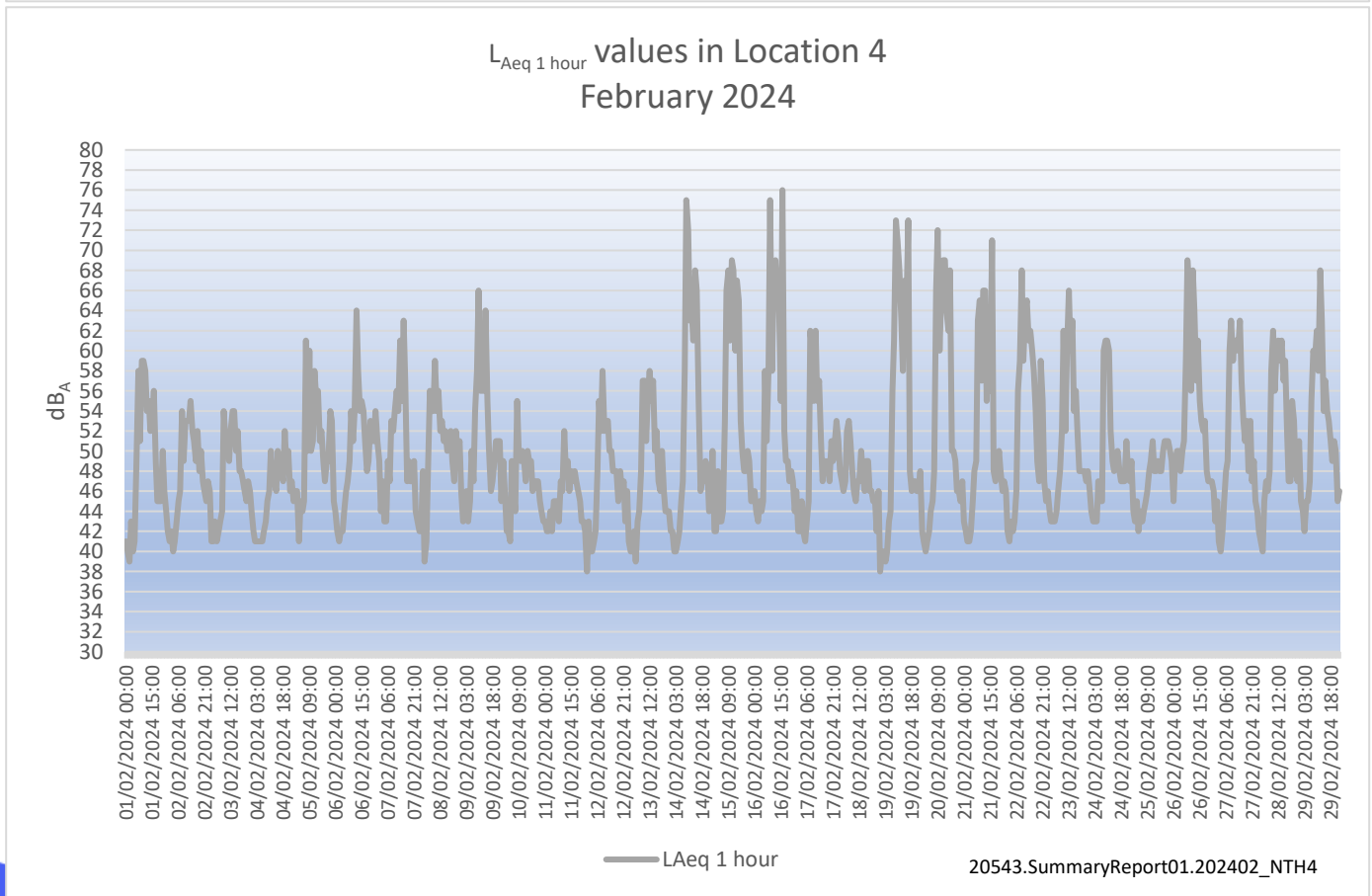
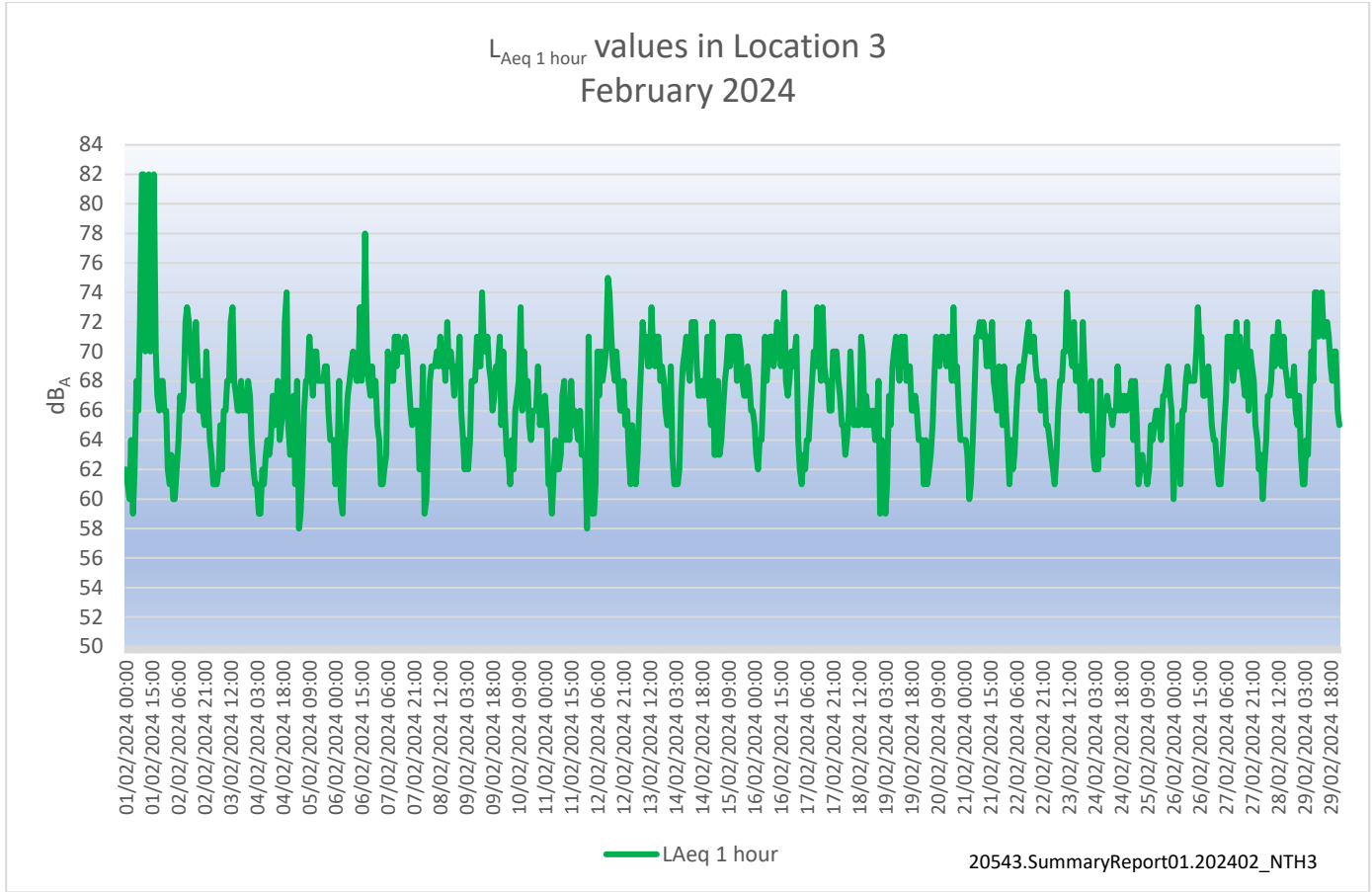
	Receiver of Alert	Trigger level and integration period
RED	Steven.Gillam@erith.com	190 ug/m3 1hour

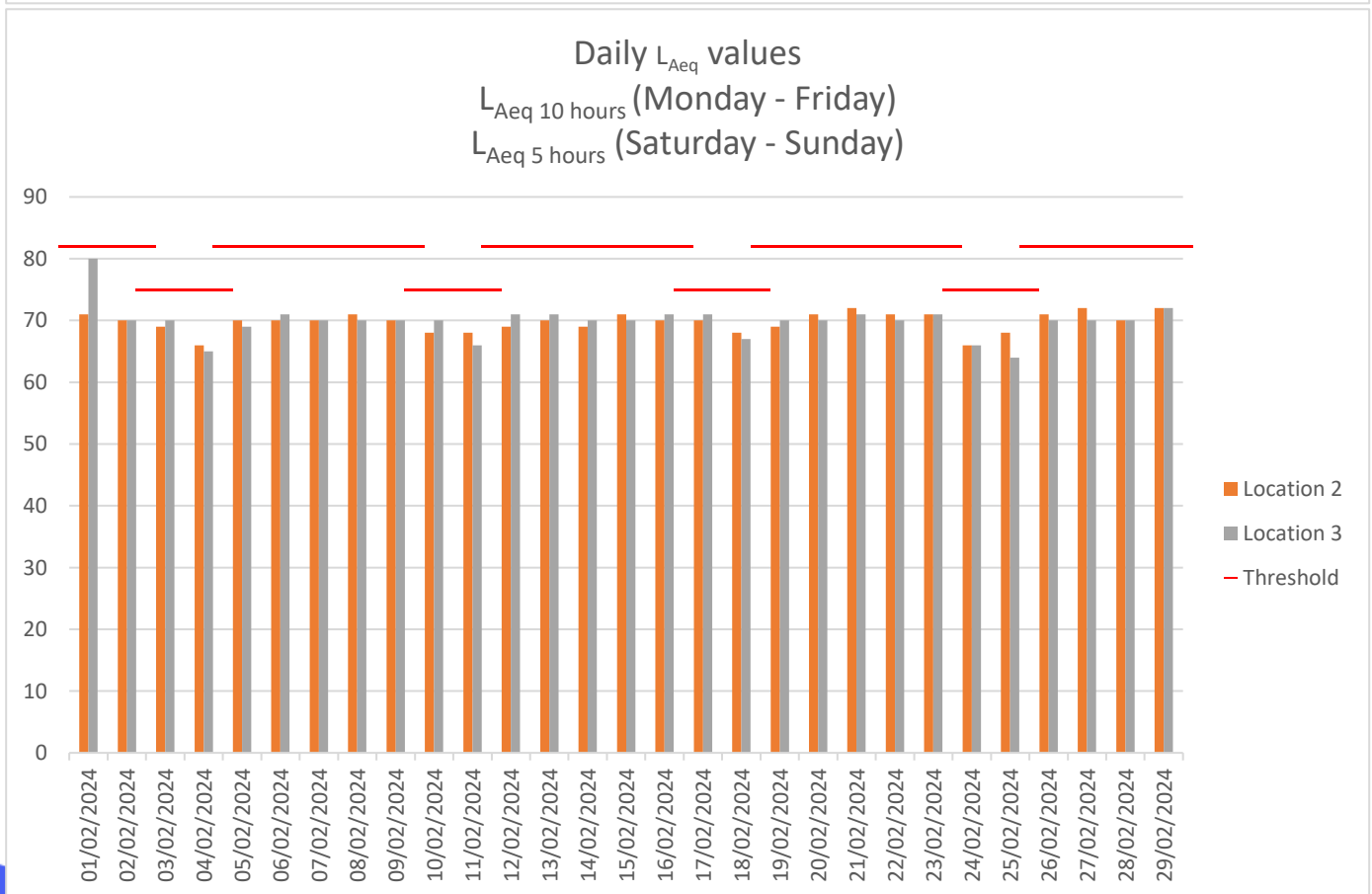
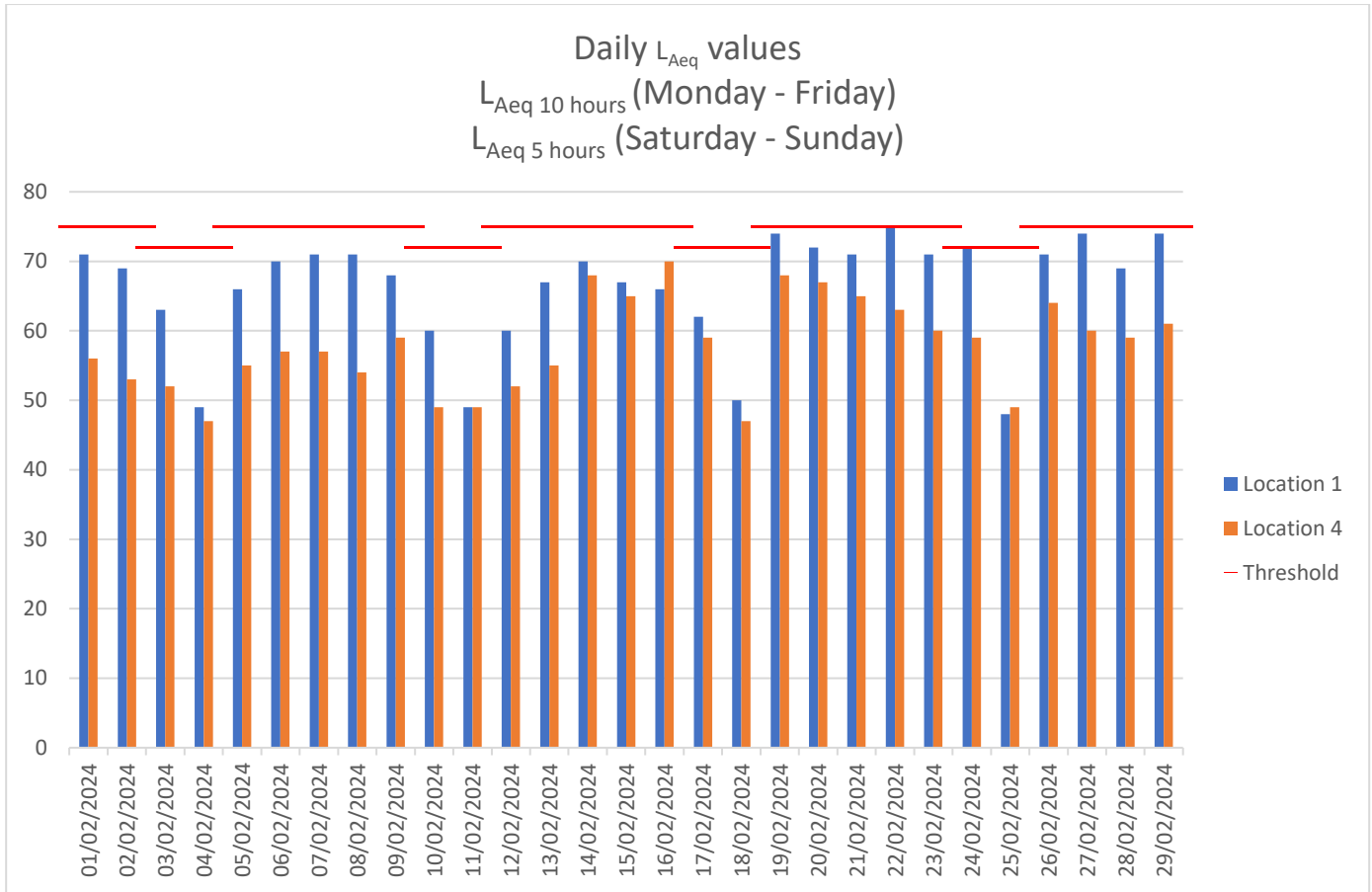
**Monitoring Results:**

Noise Survey

Noise monitoring results for the period between 01 February 2023 and 29 February 2024 have been present in Figures: 20543.SummaryReport202402.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 LAeq 10h 08:00 – 18:00 Monday – Friday and LAeq 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.

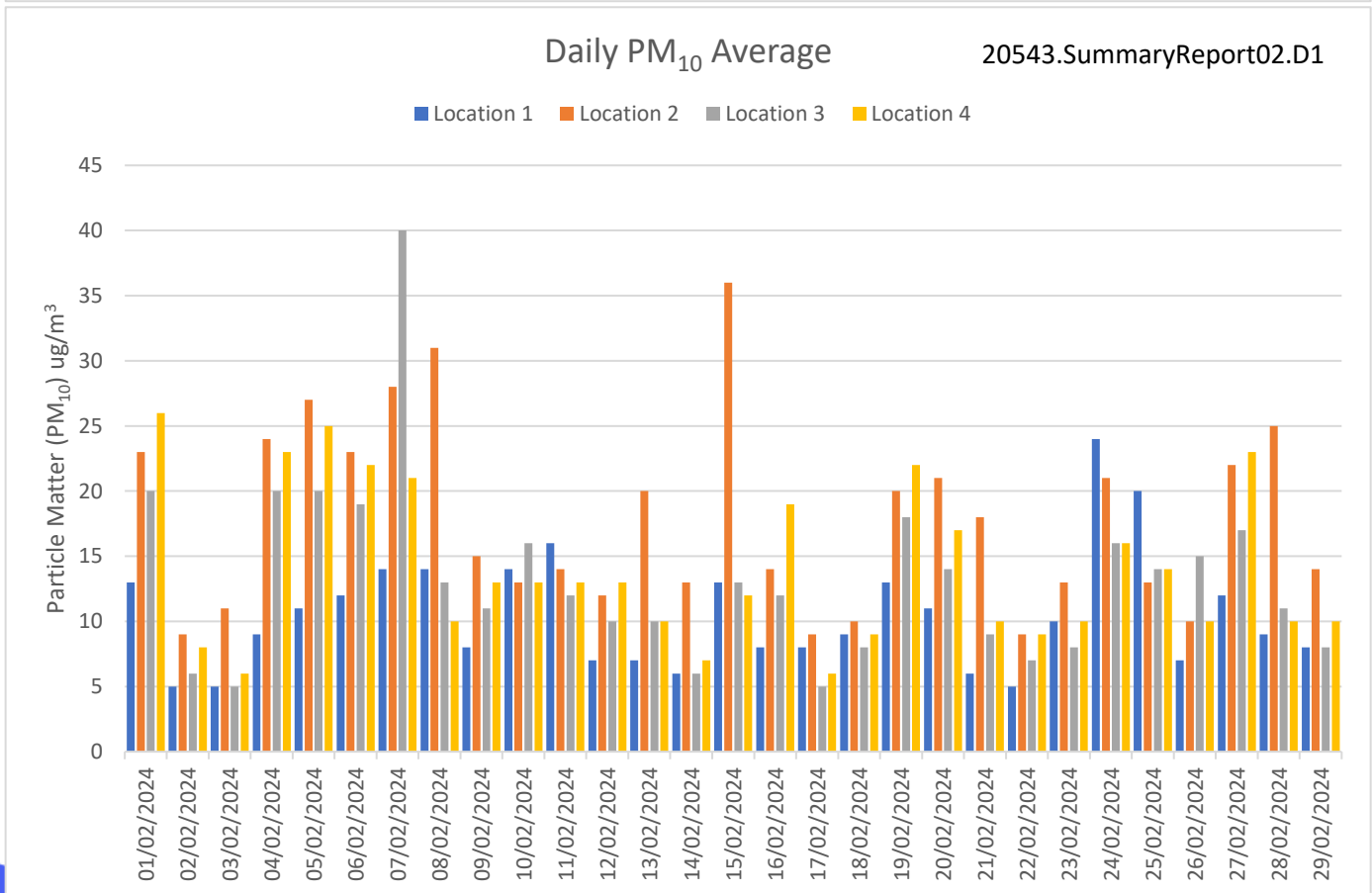
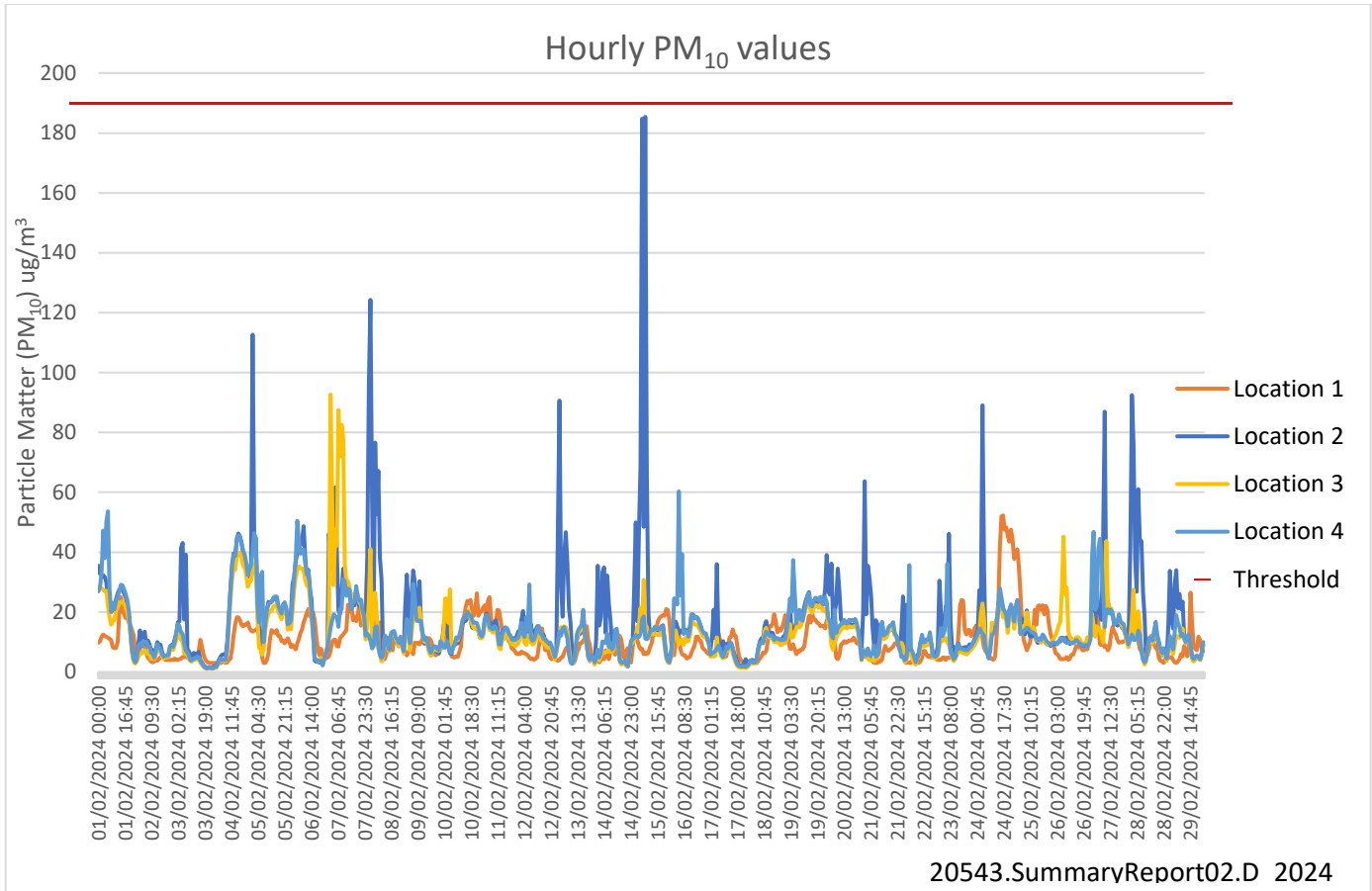
## Dust Survey

Dust monitoring summary results for the period between 01 February 2023 and 29 February 2024 have been presented in Figures:

- 20543.SummaryReport202402.D\_YYYYMM\_hourly with summary 1 hour averages, where MMM represents the year and MM month of the reporting data.
- 20543.SummaryReport202402.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 provided 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
01/02/2024	33	38	33	67	6	3	3	3	13	23	20	26	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
02/02/2024	11	19	9	12	3	4	3	4	5	9	6	8	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
03/02/2024	13	118	14	17	3	1	1	1	5	11	5	6	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
04/02/2024	20	47	40	46	3	1	1	1	9	24	20	23	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
05/02/2024	16	329	42	56	3	8	5	7	11	27	20	25	0	0	0	0	0	1	0	0	100 %	100 %	100 %	100 %
06/02/2024	22	61	36	58	4	2	2	2	12	23	19	22	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
07/02/2024	30	125	216	34	4	7	8	8	14	28	40	21	0	0	0	0	0	0	2	0	100 %	100 %	100 %	100 %
08/02/2024	39	196	70	21	4	6	3	4	14	31	13	10	0	0	0	0	0	3	0	0	100 %	100 %	100 %	100 %
09/02/2024	12	45	25	42	4	5	5	5	8	15	11	13	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
10/02/2024	28	31	45	22	4	6	5	6	14	13	16	13	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
11/02/2024	31	21	19	21	6	10	7	8	16	14	12	13	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
12/02/2024	15	35	21	50	4	4	4	5	7	12	10	13	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
13/02/2024	16	130	24	22	3	3	2	2	7	20	10	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
14/02/2024	16	59	14	18	3	1	1	1	6	13	6	7	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
15/02/2024	22	352	54	30	5	4	3	3	13	36	13	12	0	0	0	0	0	5	0	0	100 %	100 %	100 %	100 %
16/02/2024	14	21	18	88	4	6	3	4	8	14	12	19	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
17/02/2024	16	49	20	12	3	2	1	1	8	9	5	6	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
18/02/2024	20	22	17	14	3	3	1	2	9	10	8	9	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
19/02/2024	21	31	26	46	5	11	9	11	13	20	18	22	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
20/02/2024	21	60	23	28	4	6	5	6	11	21	14	17	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
21/02/2024	11	103	16	19	3	4	3	4	6	18	9	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
22/02/2024	8	44	19	46	3	2	2	3	5	9	7	9	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
23/02/2024	28	111	13	49	4	4	3	3	10	13	8	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
24/02/2024	56	133	30	34	4	4	4	4	24	21	16	16	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
25/02/2024	43	28	24	28	7	8	9	9	20	13	14	14	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
26/02/2024	11	14	122	12	4	8	8	8	7	10	15	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
27/02/2024	26	139	57	92	6	10	8	10	12	22	17	23	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
28/02/2024	20	117	40	18	3	4	2	3	9	25	11	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
29/02/2024	50	43	17	25	3	3	3	3	8	14	8	10	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %

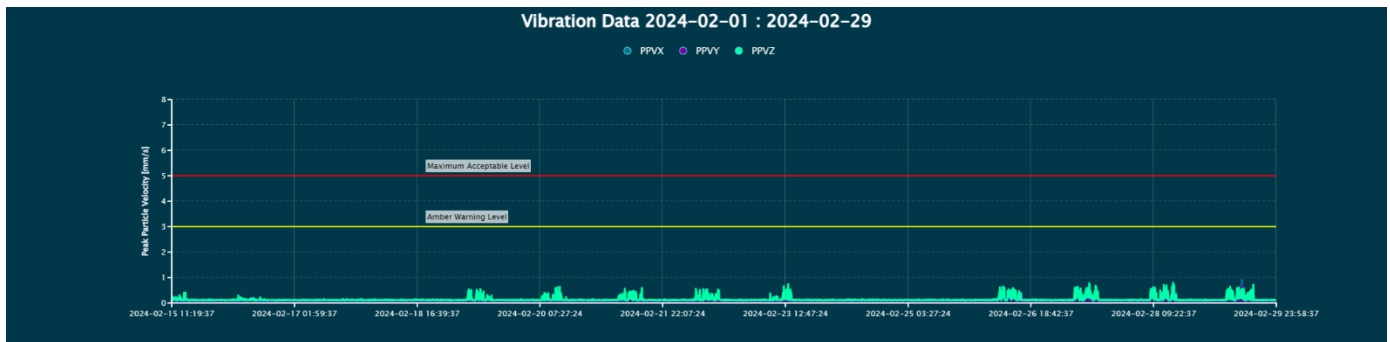
## Vibration Survey

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

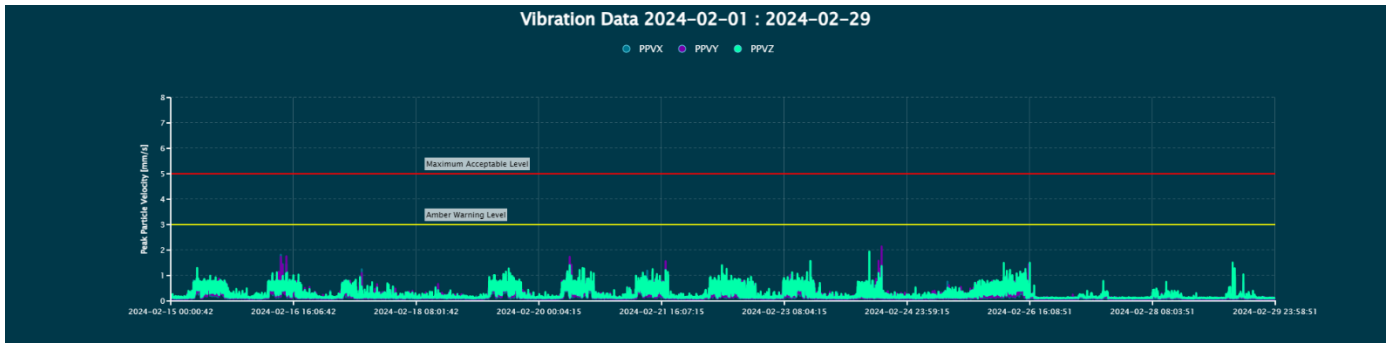


Data collected during the period were presented in the following graphs

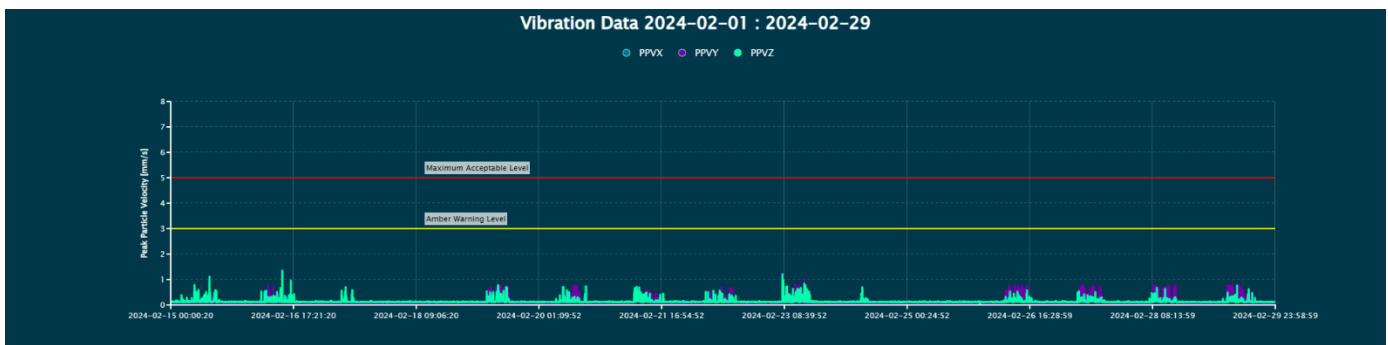
### Location 1



### Location 2



### Location 3



### List of alerts and actions undertaken.

**Noise Red Trigger**

No exceedances recorded.

**Vibration Red Trigger**

No exceedances recorded.

**Dust Action Level**

No exceedances recorded.