

Northern Bus Garage

Noise, Vibration, and Dust Monitoring Report (August 2025)

Noise, Vibration, and Dust levels were monitored as part of the reconstruction of Northern Bus Garage, 4615 14th Street, NW, Washington, DC, for the month of August 2025.

The following memorandum identifies the monitoring points and instruments, presents the data, and provides a brief analysis of the results per monthly monitoring report attached by Geo Instruments for Clark Construction. The report is organized by medium: noise, vibration, and dust. Figures and graphs are attached. The red dashed line on each of the graphs represents the monitoring thresholds, which are summarized below for each instrument.

Noise Monitoring

Five noise monitors are positioned around the perimeter of the project site. (See Figure 1) Under DC regulations, the regulatory standard is 80 dBA, measured 25 ft from the property line (20 DCMR 2802.1). Because the noise monitoring devices are placed on the property line (rather than a 25 ft offset), the monitoring threshold for site activities is adjusted to 85 dBA (assuming the noise level will dissipate). Noise levels and vibration levels were measured automatically with Micromate and Geophone Instrument.

Numerous noise level exceedances at all hours of the day and all days of the week. Mic1, Mic2, Mic3, and Mic5 recorded over 40% of their exceedances out of working hours, with Mic1 and Mic5 having over 50% of their exceedances out of working hours.

Please see Table 1 (The “Work Hours” category includes all weekend shifts and evening shifts that were worked during the month).

Vibration Monitoring

Five vibration monitors are positioned around the perimeter of the project site. (See Figure 1) Vibration thresholds are based the WMATA Design Criteria. Monitors VM-1 and VM-2 are set at a lower vibration threshold due to their proximity to the historic façade, which is more sensitive to any movement. Noise levels and vibration levels were measured automatically with Micromate and Geophone Instrument.

Table 2

Instrument Type	Monitoring Threshold
Vibration Monitor (VM-1)	0.2 in/sec
Vibration Monitor (VM-2)	0.2 in/sec
Vibration Monitor (VM-3)	2.0 in/sec
Vibration Monitor (VM-4)	2.0 in/sec
Vibration Monitor (VM-5)	2.0 in/sec

Graphs showing monitoring results are presented in Graphs 1 to 5.

One vibration exceedance occurred at VM2 on August 26 at 16:54. The source of the minor event is unknown but appears as a couple of bumps likely within 10 feet of the sensor. The Waveform report may be found in Attachment B.

- VM2 – Exceedance with a reading of 0.57 in/sec on August 26 at 16:54.

Dust Monitoring Threshold Values and Exceedances:

Three dust monitors are positioned at the project site. (See Figure 2) EPA regulatory thresholds are based on a 24-hour monitoring period; the project has adopted thresholds to monitor site levels and provide an indication of when EPA standards might be exceeded. (See Table 3) Dust measurements were monitored using Aeroqual Dust Sentry Pro.

Table 3

Dust Monitoring Measurement	Monitoring Threshold
Particulates (PM2.5)	40 µg/m ³
Particulates (PM10)	50 µg/m ³

No operating issue with the monitoring instruments was identified.

Graphs showing monitoring results are presented in Graphs 6 to 11.

Three air quality exceedances occurred during the month of August 2025. Details of these air quality exceedances can be found below. It is important to note that there was no work on site during the August 6th exceedance.

- DM3 – Exceedance of the PM2.5 limit with a reading of 43 µg/m³ on August 5 at 09:18.
- DM3 – Exceedance of the PM10 limit with a reading of 55 µg/m³ on August 5 at 09:18.
- DM3 – Exceedance of the PM2.5 limit on August 6 from 21:18 to midnight. The peak reading was 41 µg/m³.

Figure 1: Vibration and Noise Monitor Location Plan

16/06/2023, 13:4

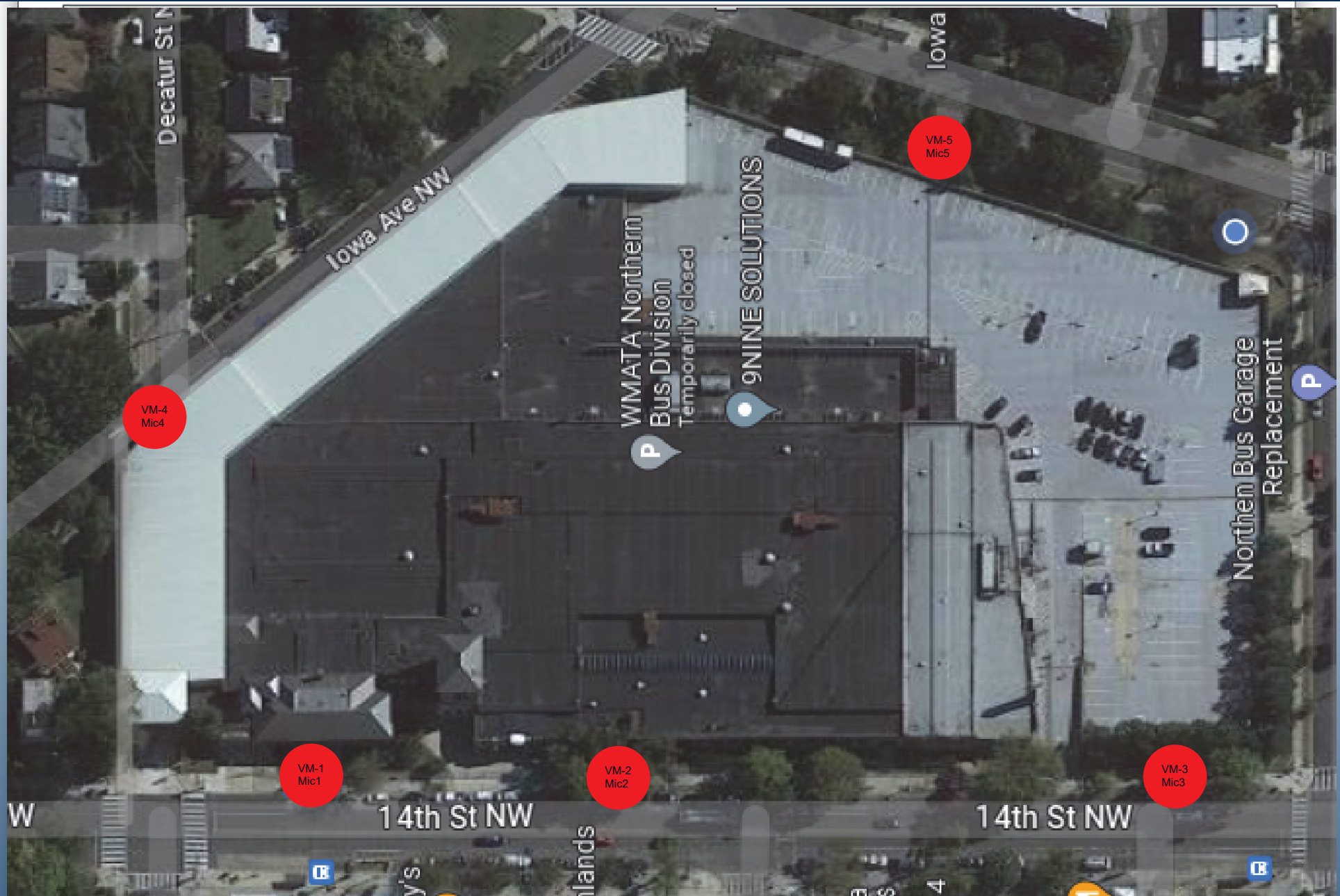


Figure 2: Dust Monitor Location Plan

16/06/2023, 13:4

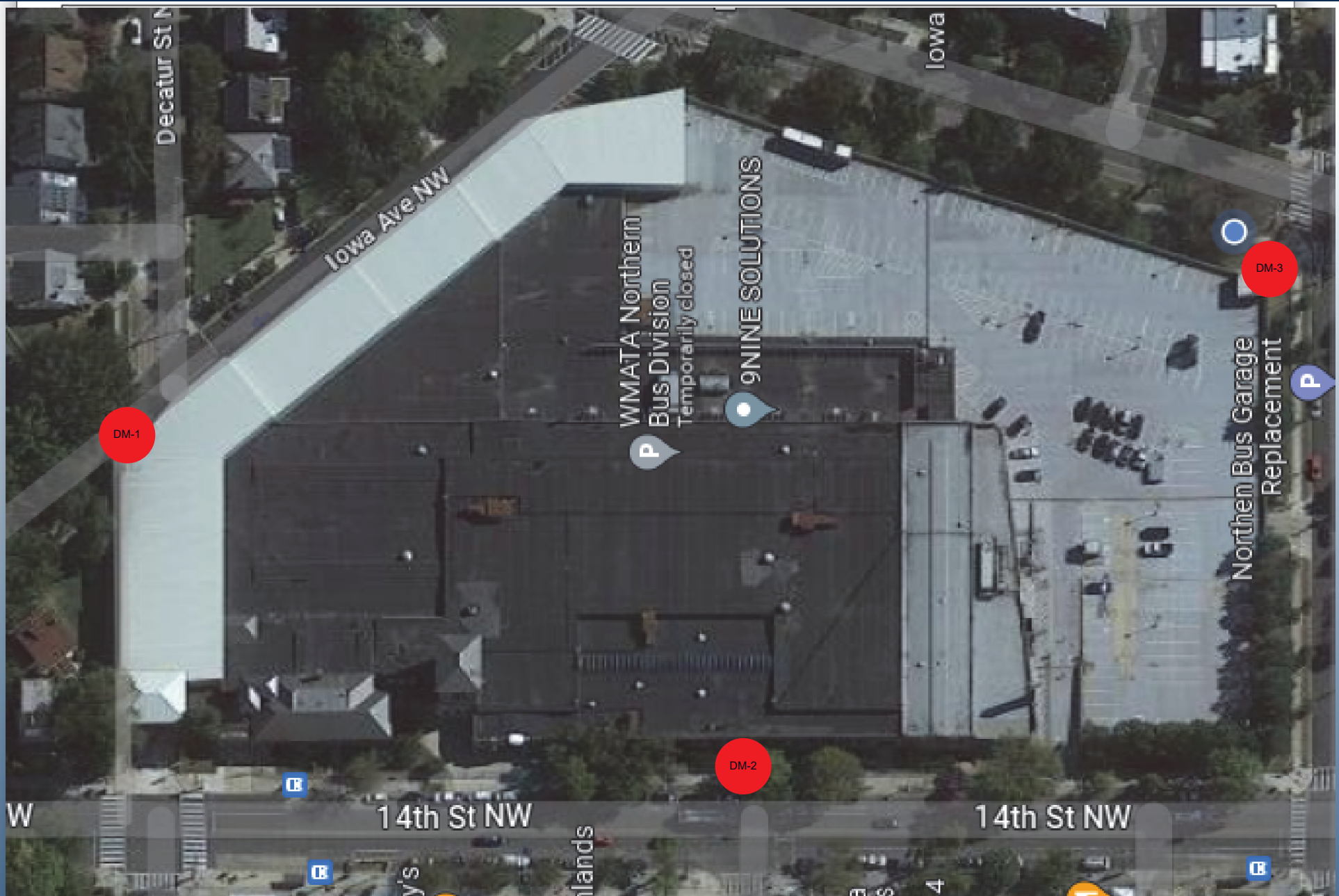


Table 1: Noise Summaries

VM1-MIC		
	Exceedance	Percentage
Work hours	513	48.40%
After hours	298	28.11%
Weekends	249	23.49%
Total	1060	100%

VM1-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	112.7	110.3	108.4
Lmin (dBA)	77.3	55.2	54.1
L10 (dBA)	85	72	69
L90 (dBA)	79	61	58
Leq (dBA)	81	81.1	78.5

VM2-MIC		
	Exceedance	Percentage
Work hours	376	57.40%
After hours	151	23.05%
Weekends	128	19.54%
Total	655	100%

VM2-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	110.3	106.7	105.6
Lmin (dBA)	75.5	61.5	55.8
L10 (dBA)	95	74	73
L90 (dBA)	80	63	58
Leq (dBA)	86.4	78.5	77

VM3-MIC		
	Exceedance	Percentage
Work hours	692	57.62%
After hours	289	24.06%
Weekends	220	18.32%
Total	1201	100%

VM3-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	108.4	111.7	108.7
Lmin (dBA)	78.1	61.2	55.6
L10 (dBA)	94	77	78
L90 (dBA)	79	66	61
Leq (dBA)	90.1	78.7	80.8

VM4-MIC		
	Exceedance	Percentage
Work hours	585	92.13%
After hours	25	3.94%
Weekends	25	3.94%
Total	635	100%

VM4-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	112.4	94.5	100.9
Lmin (dBA)	77.1	51.4	55.3
L10 (dBA)	105	79	75
L90 (dBA)	79	61	63
Leq (dBA)	99.9	74.4	70.6

VM5-MIC		
	Exceedance	Percentage
Work hours	109	46.58%
After hours	56	23.93%
Weekends	69	29.49%
Total	234	100%

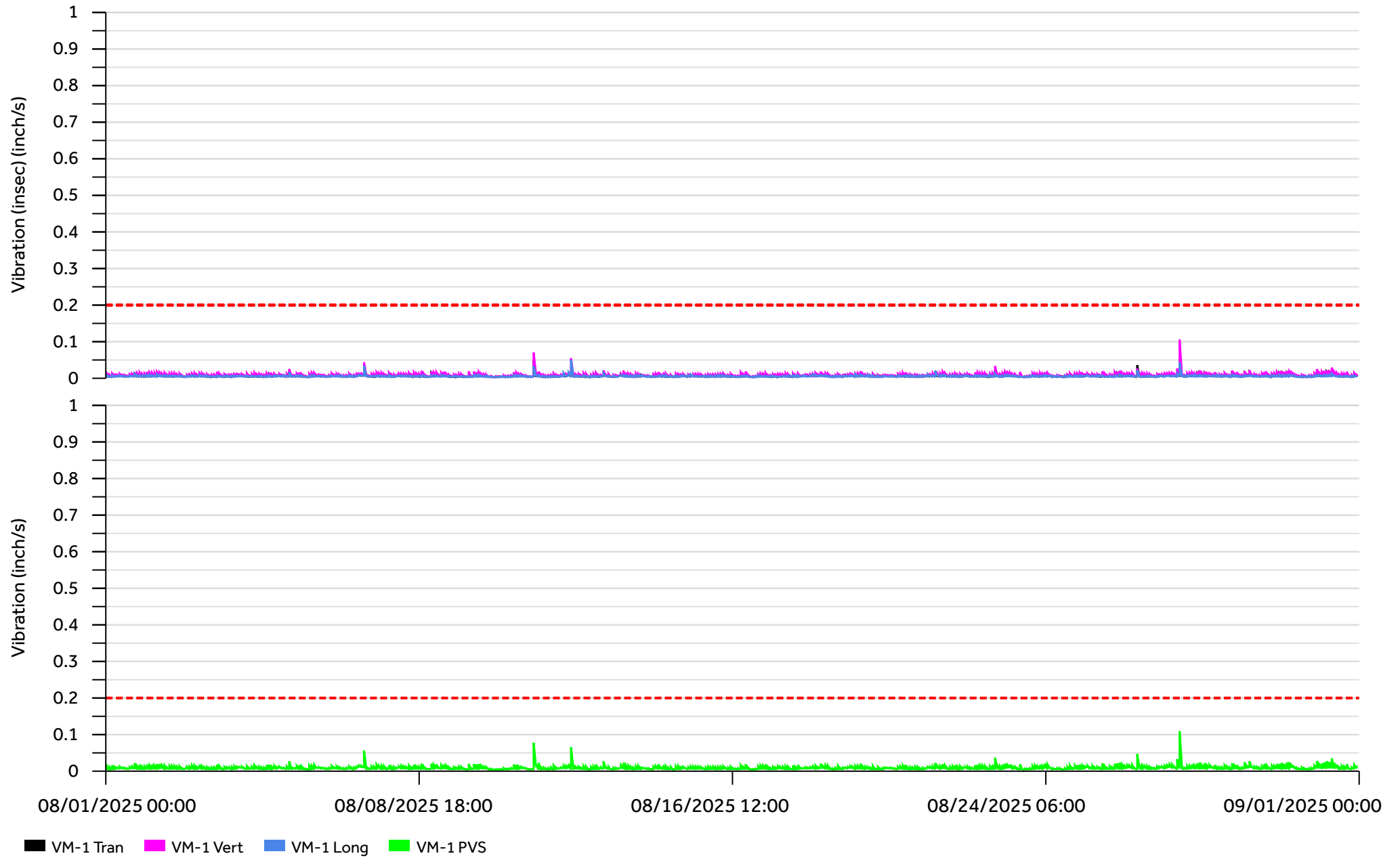
VM5-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	107.8	108.3	108
Lmin (dBA)	55.5	49.4	53.5
L10 (dBA)	75	68	70
L90 (dBA)	58	55	55
Leq (dBA)	76.7	77.4	78.4

Summary tables contain values for working hours, after hours, and weekend time periods:

- Lmax: Highest Maximum Noise Level recorded for the month, in dBA.
- Lmin: Highest Minimum Noise Level recorded for the month, in dBA.
- L10: Highest noise level that was exceeded 10% of the time of all recording periods this month, in dBA.
- L90: Highest noise level that was exceeded 90% of the time of all recording periods this month, in dBA.
- Leq: Highest Equivalent Continuous Sound Level, or 'average' of all recording periods this month, in dBA.

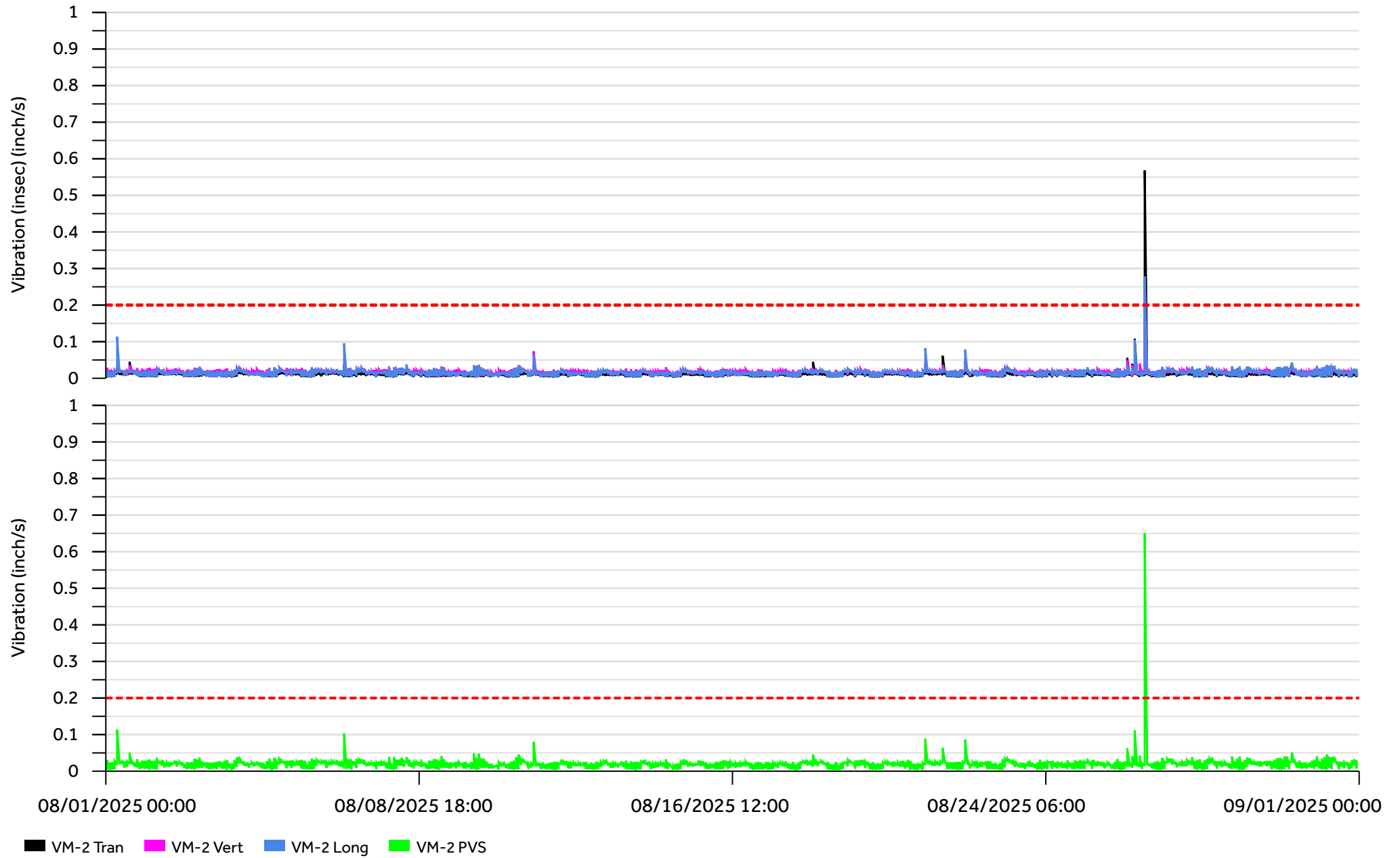
Graph 1

VM-1- Vibration Monitor



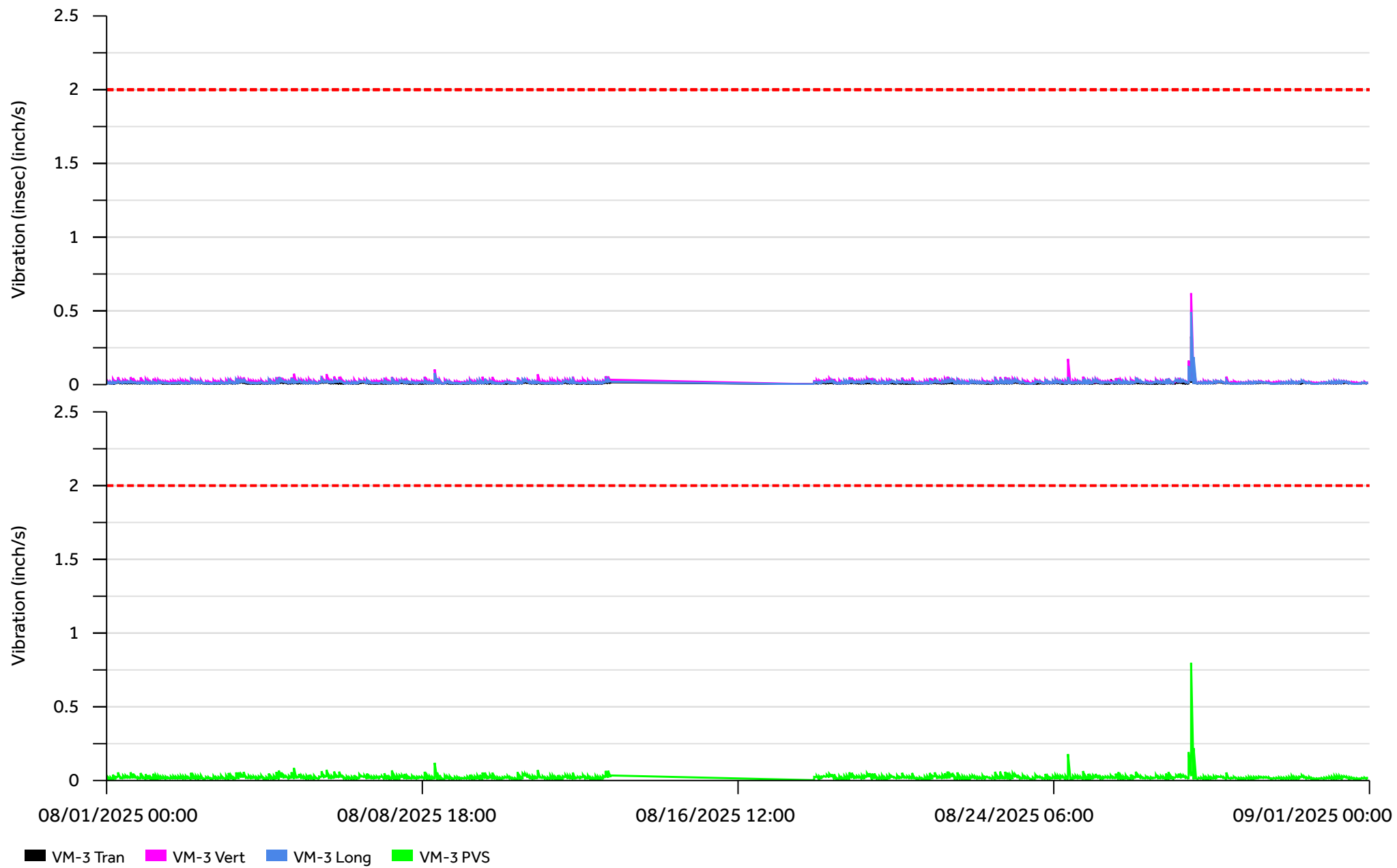
Graph 2

VM-2- Vibration Monitor



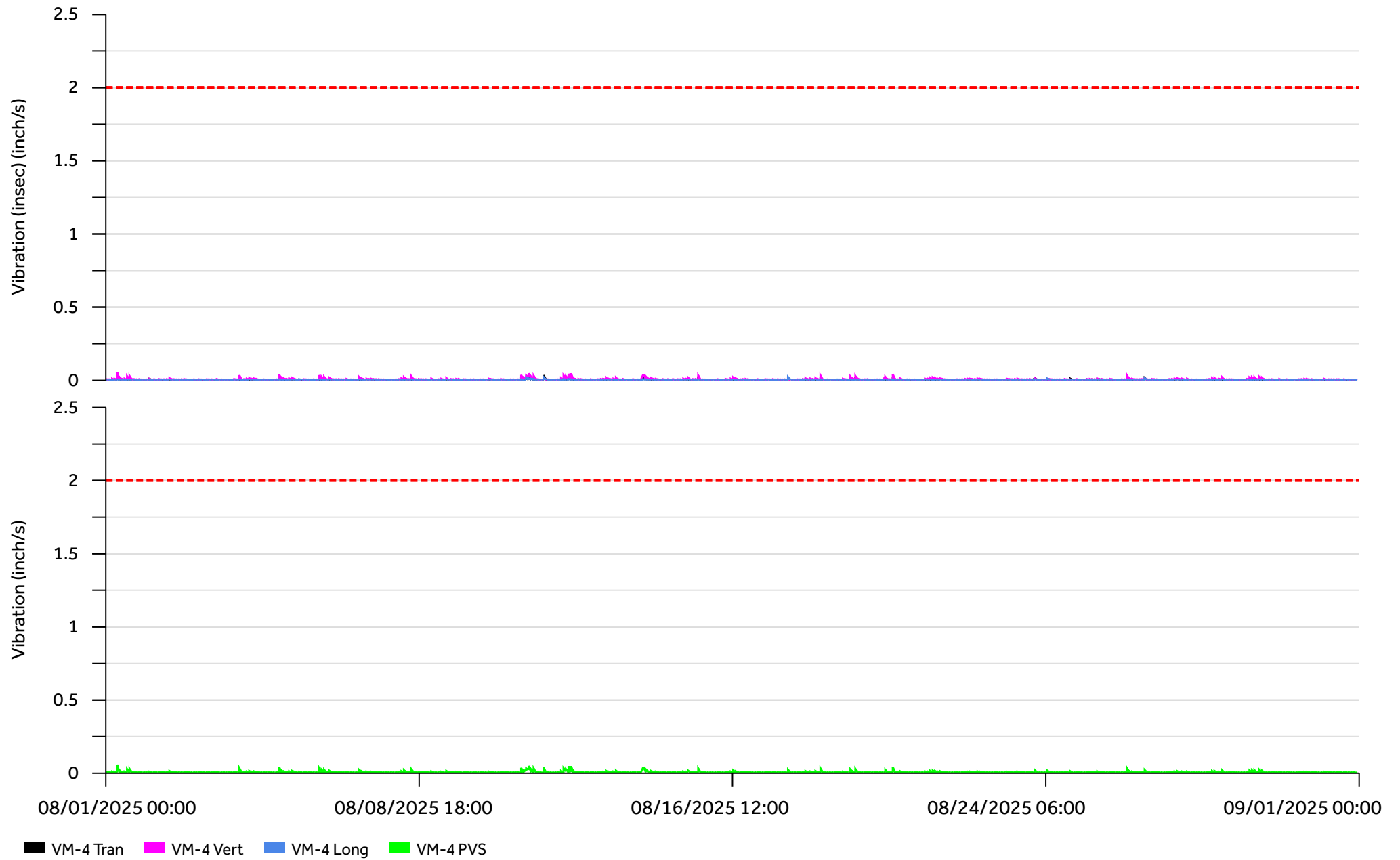
Graph 3

VM-3- Vibration Monitor



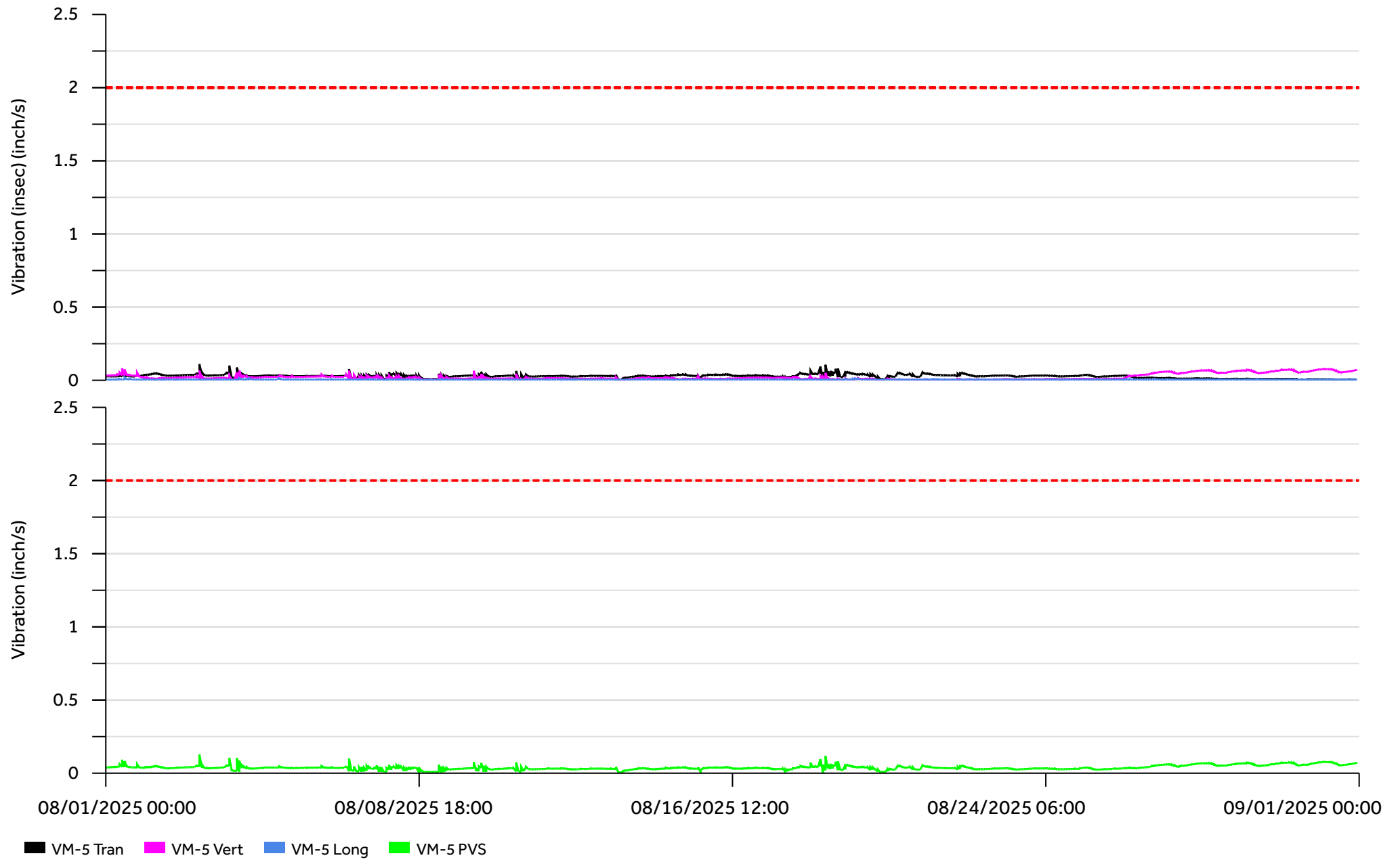
Graph 4

VM-4- Vibration Monitor



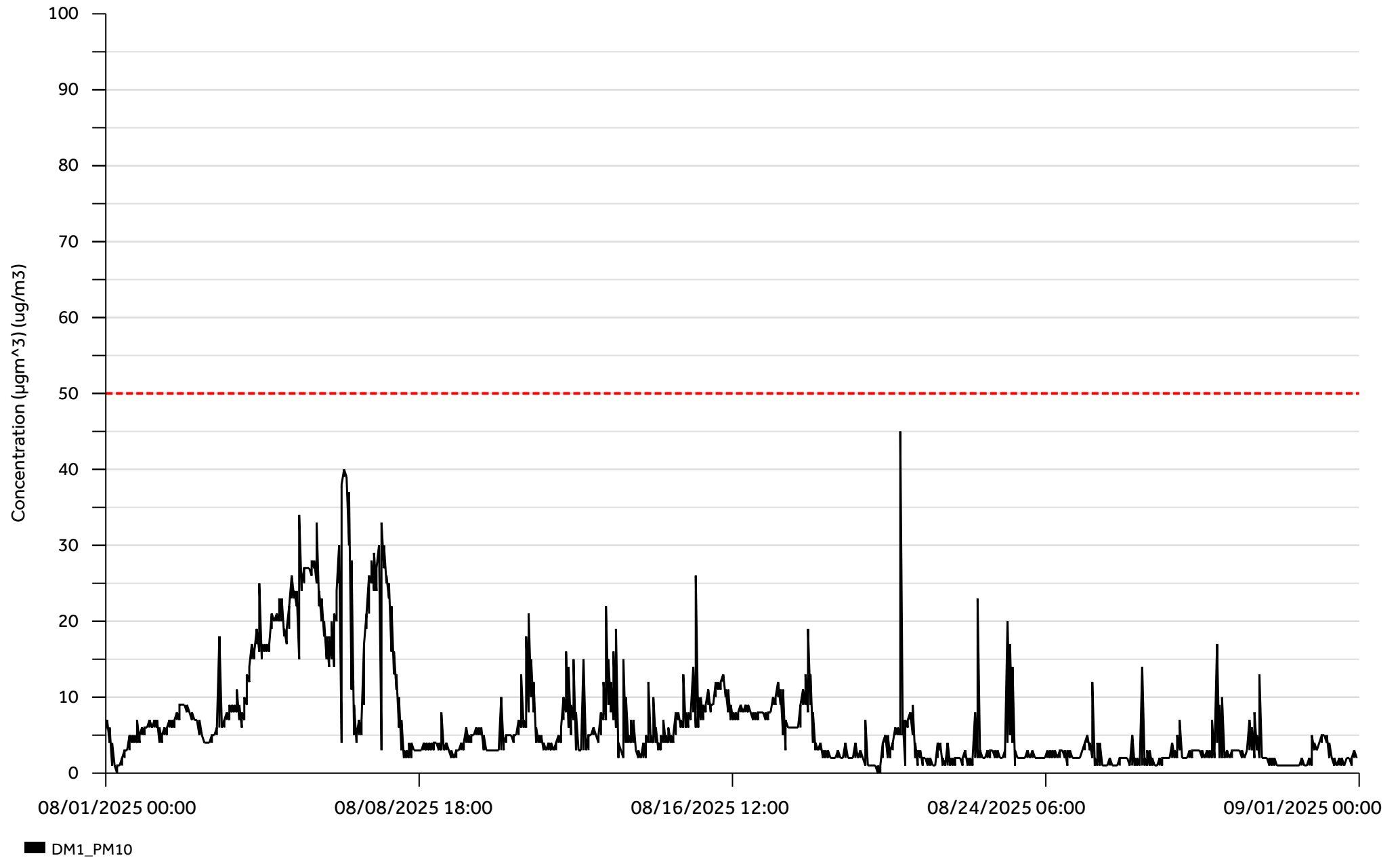
Graph 5

VM-5- Vibration Monitor



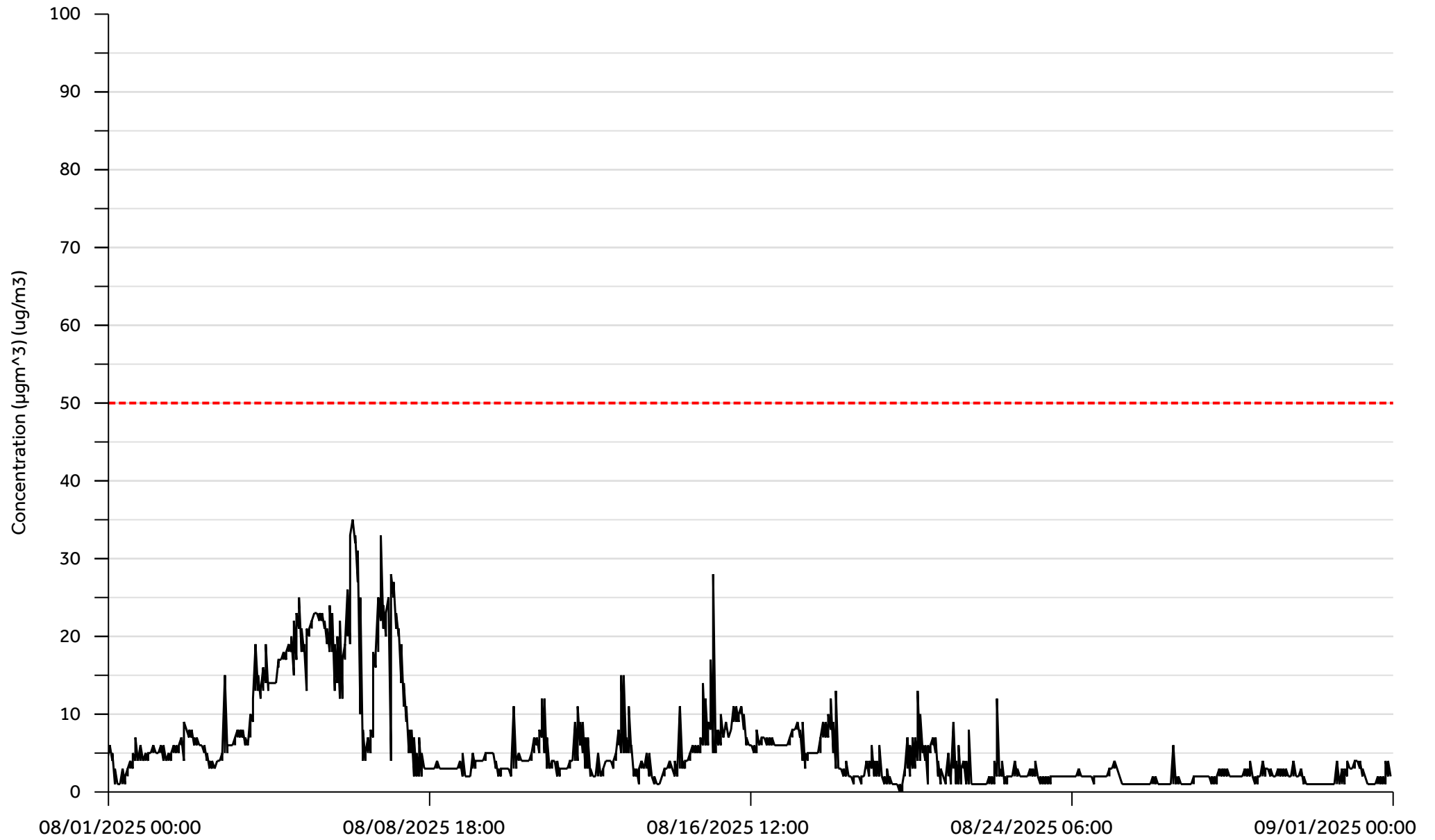
Graph 6

DM1 - PM10



Graph 7

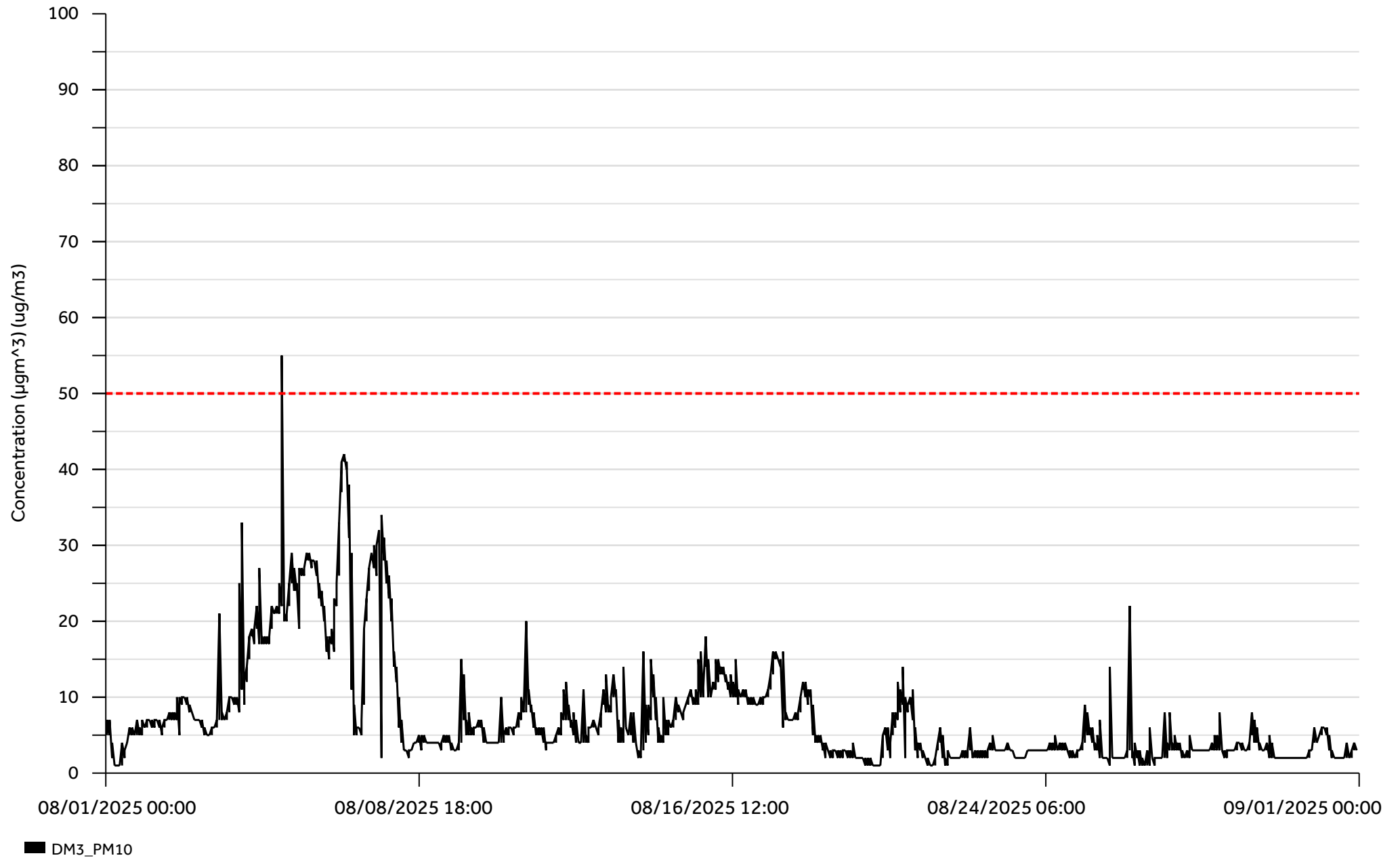
DM2-PM10



DM2_PM10

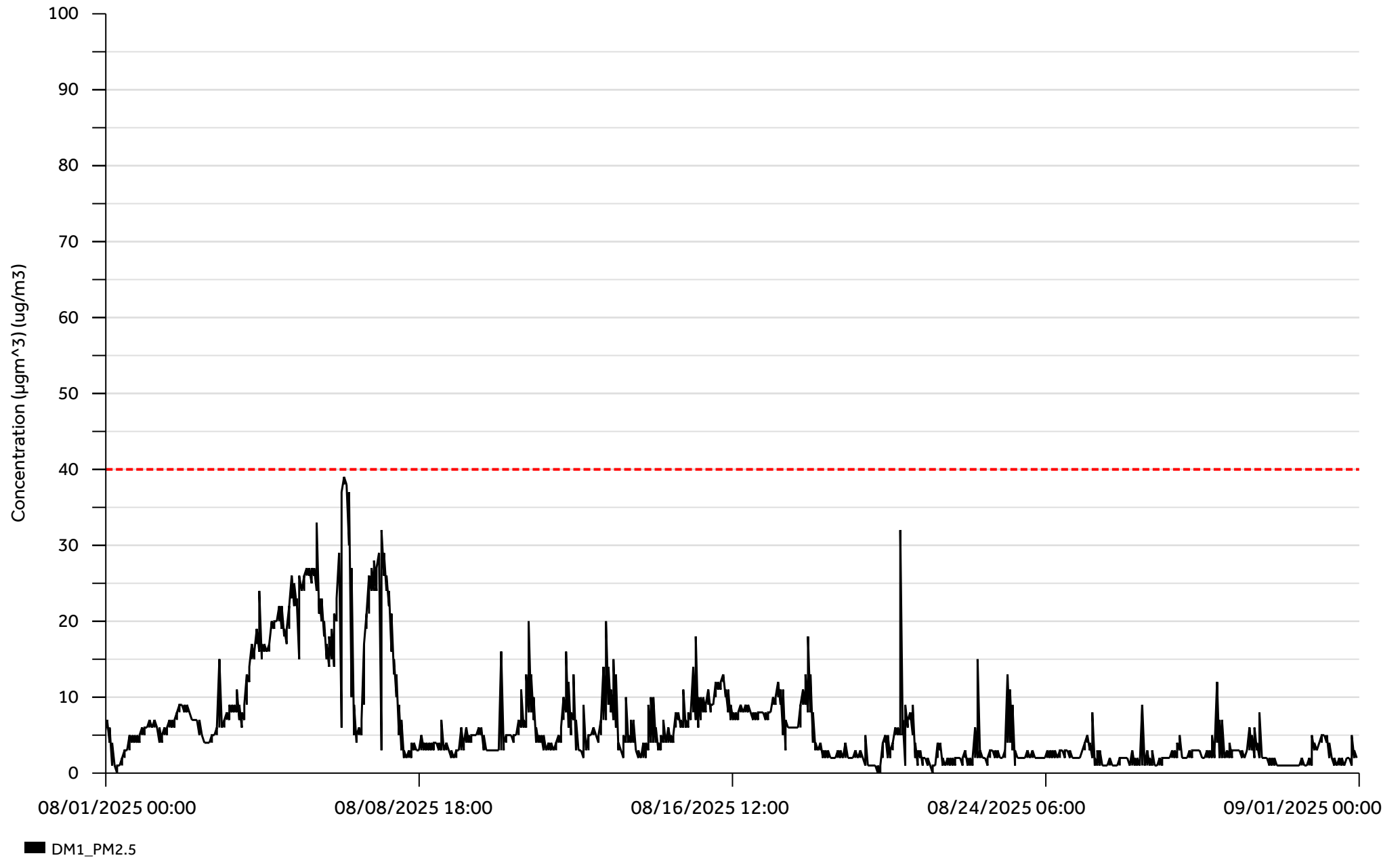
Graph 8

DM3-PM10



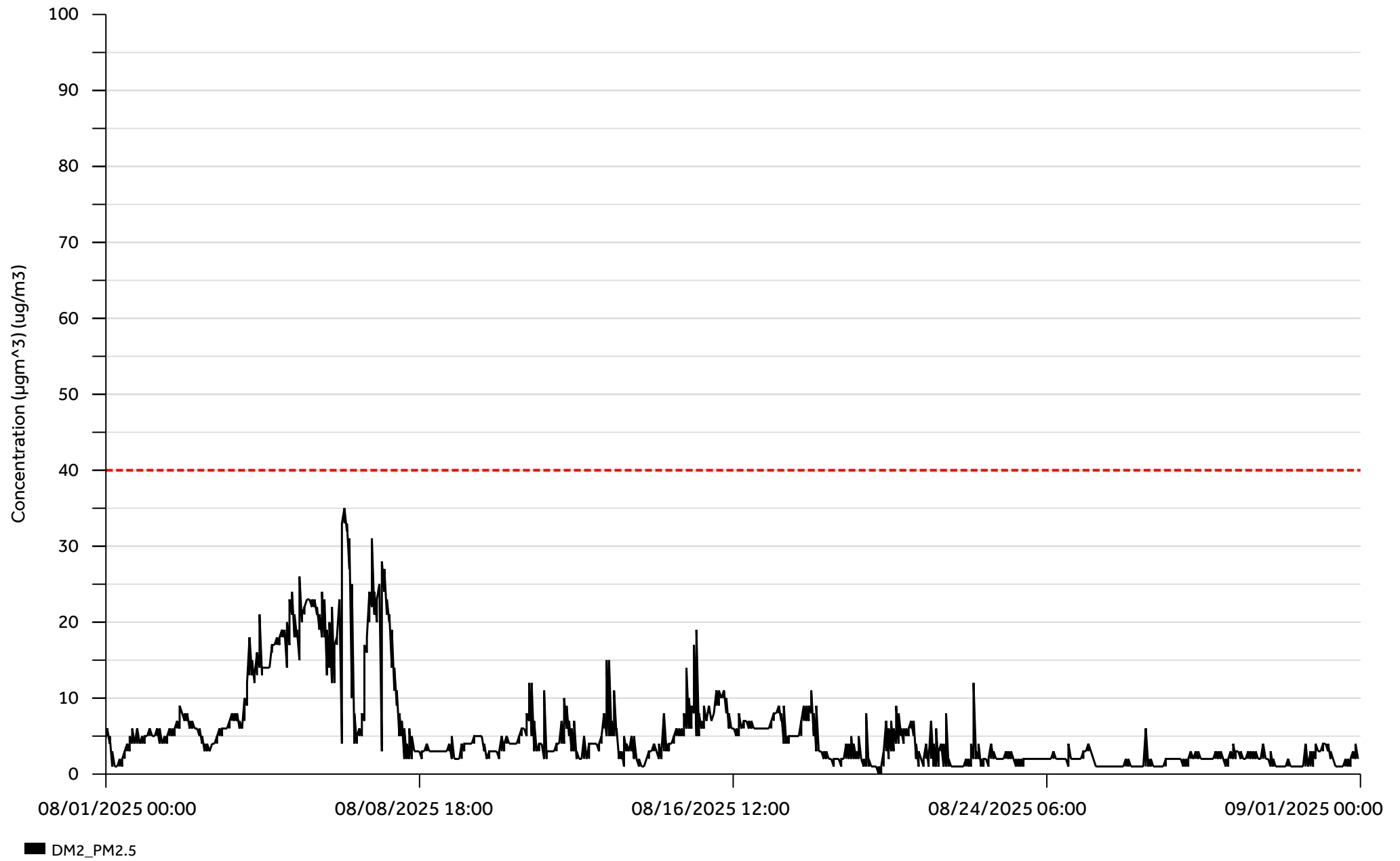
Graph 9

DM1-PM2.5



Graph 10

DM2-PM2.5



Graph 11

DM3-PM2.5

