Northern Bus Garage
Noise, Vibration, and Dust Monitoring Report (March 2026)

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 March 2026.

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, Mic3, and Mic5 recorded over one-third of their exceedances out of working hours. Mic1 had its loudest exceedance outside 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.

Vibration exceedances for the month of March 2026 are listed below.

- VM2 – Exceedance with a reading of 0.20 in/sec on March 5 at 13:38.
- VM2 – Exceedance with a reading of 0.49 in/sec on March 5 at 13:39.
- VM2 – Exceedance with a reading of 0.22 in/sec on March 5 at 13:39.
- VM2 – Exceedance with a reading of 0.26 in/sec on March 5 at 13:40.
- VM2 – Exceedance with a reading of 0.21 in/sec on March 5 at 13:41.
- VM2 – Exceedance with a reading of 0.44 in/sec on March 5 at 13:46.
- VM2 – Exceedance with a reading of 0.22 in/sec on March 6 at 07:18.
- VM2 – Exceedance with a reading of 0.30 in/sec on March 6 at 07:52.
- VM2 – Exceedance with a reading of 0.28 in/sec on March 13 at 11:01.

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

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

Air quality exceedances for the month of March 2026 are listed below.

- DM1 – Matched the PM10 limit with a reading of 50 µg/m^3 on March 11 at 09:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 314 and the PM10 limit with a reading of 556 µg/m^3 on March 17 at 13:55.
- DM1 – Exceedance of the PM2.5 limit with a reading of 255 and the PM10 limit with a reading of 451 µg/m^3 on March 17 at 14:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 62 and the PM10 limit with a reading of 107 µg/m^3 on March 18 at 08:10.
- DM1 – Exceedance of the PM2.5 limit with a reading of 114 and the PM10 limit with a reading of 203 µg/m^3 on March 18 at 11:25.
- DM1 – Exceedance of the PM10 limit with a reading of 53 µg/m^3 on March 18 at 13:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 169 and the PM10 limit with a reading of 301 µg/m^3 on March 19 at 07:55.
- DM1 – Exceedance of the PM2.5 limit with a reading of 103 and the PM10 limit with a reading of 174 µg/m^3 on March 20 at 08:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 255 and the PM10 limit with a reading of 448 µg/m^3 on March 20 at 10:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 66 and the PM10 limit with a reading of 102 µg/m^3 on March 20 at 12:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 89 and the PM10 limit with a reading of 153 µg/m^3 on March 23 at 08:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 95 and the PM10 limit with a reading of 170 µg/m^3 on March 23 at 10:40.
- DM1 – Exceedance of the PM2.5 limit with a reading of 42 and the PM10 limit with a reading of 76 µg/m^3 on March 23 at 13:40.
- DM1 – Exceedance of the PM2.5 limit with readings from 42-80 and the PM10 limit with readings from 51-131 µg/m^3 on March 26 from 08:10 to 11:25.
- DM1 – Exceedance of the PM2.5 limit with a peak reading of 295 and the PM10 limit with readings from 220-530 µg/m^3 on March 27 from 07:25 to 08:25.
- DM1 – Exceedance of the PM2.5 limit with a reading of 49 and the PM10 limit with a reading of 76 µg/m^3 on March 30 at 08:56.
- DM1 – Exceedance of the PM2.5 limit with a peak reading of 62 and the PM10 limit with a peak reading of 91 µg/m^3 on March 31 from 09:11 to 10:26.
- DM2 – Exceedance of the PM2.5 limit with a reading of 55 and the PM10 limit with a reading of 80 µg/m^3 on March 5 at 08:54.
- DM2 – Exceedance of the PM2.5 limit with a reading of 136 and the PM10 limit with a reading of 219 µg/m^3 on March 5 at 09:54.
- DM2 – Exceedance of the PM2.5 limit with a reading of 184 and the PM10 limit with a reading of 309

µg/m^3 on March 6 at 07:09.

- DM2 – Exceedance of the PM2.5 limit with a reading of 44 and the PM10 limit with a reading of 68 µg/m^3 on March 9 at 08:54.
- DM2 – Exceedance of the PM2.5 limit with a reading of 44 and the PM10 limit with a reading of 66 µg/m^3 on March 9 at 12:39.
- DM3 – Exceedance of the PM2.5 limit with a reading of 47 and the PM10 limit with a reading of 54 µg/m^3 on March 4 at 15:18.
- DM3 – Exceedance of the PM2.5 limit with a reading of 42 and the PM10 limit with a reading of 53 µg/m^3 on March 10 at 13:33.
- DM3 – Exceedance of the PM2.5 limit with a reading of 63 and the PM10 limit with a reading of 93 µg/m^3 on March 21 at 08:48.
- DM3 – Exceedance of the PM10 limit with a reading of 53 µg/m^3 on March 25 at 08:49.
- DM3 – Exceedance of the PM2.5 limit with a reading of 106 and the PM10 limit with a reading of 62 µg/m^3 on March 26 at 16:49.

Figure 1: Vibration and Noise Monitor Location Plan

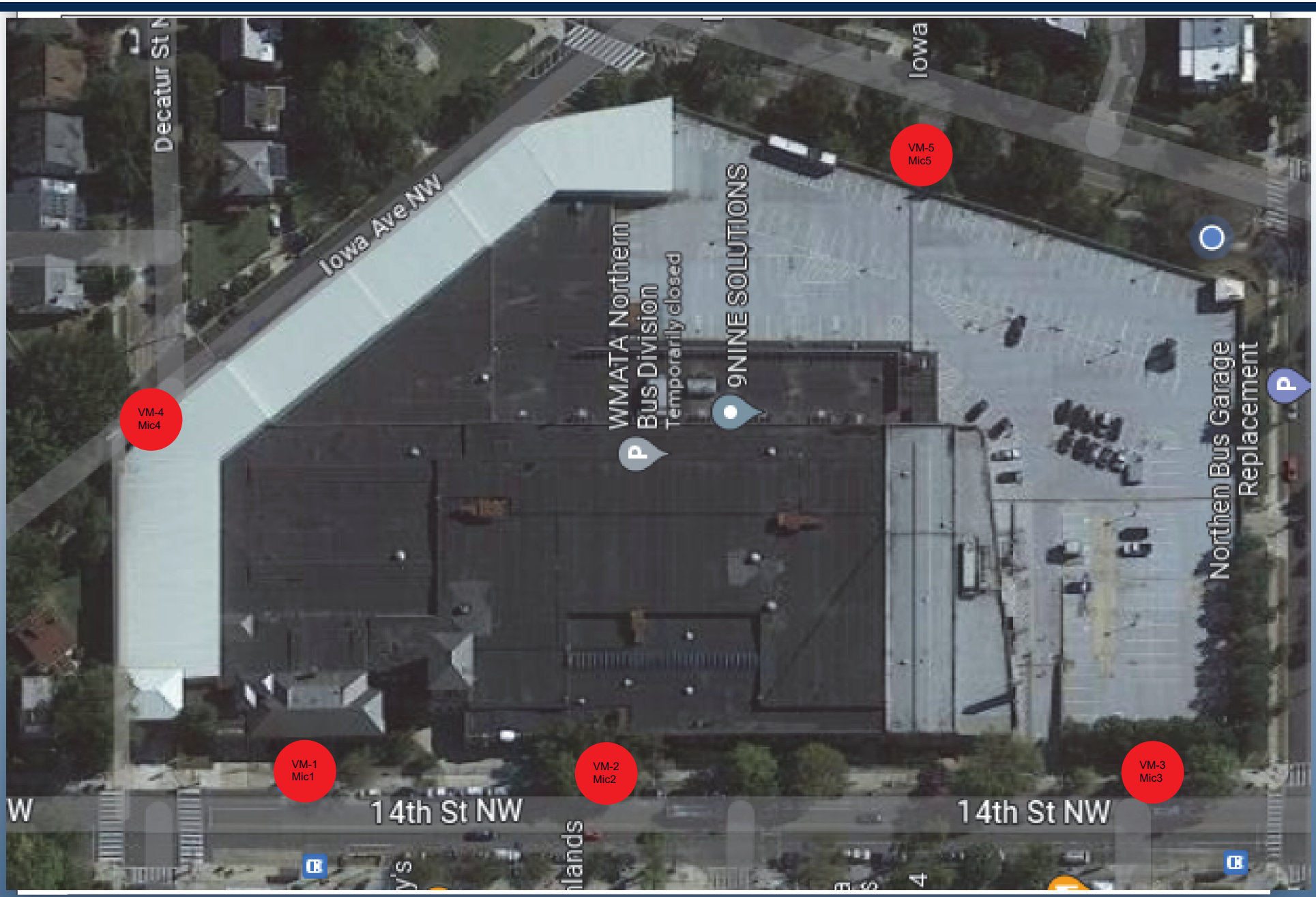


Figure 2: Dust Monitor Location Plan

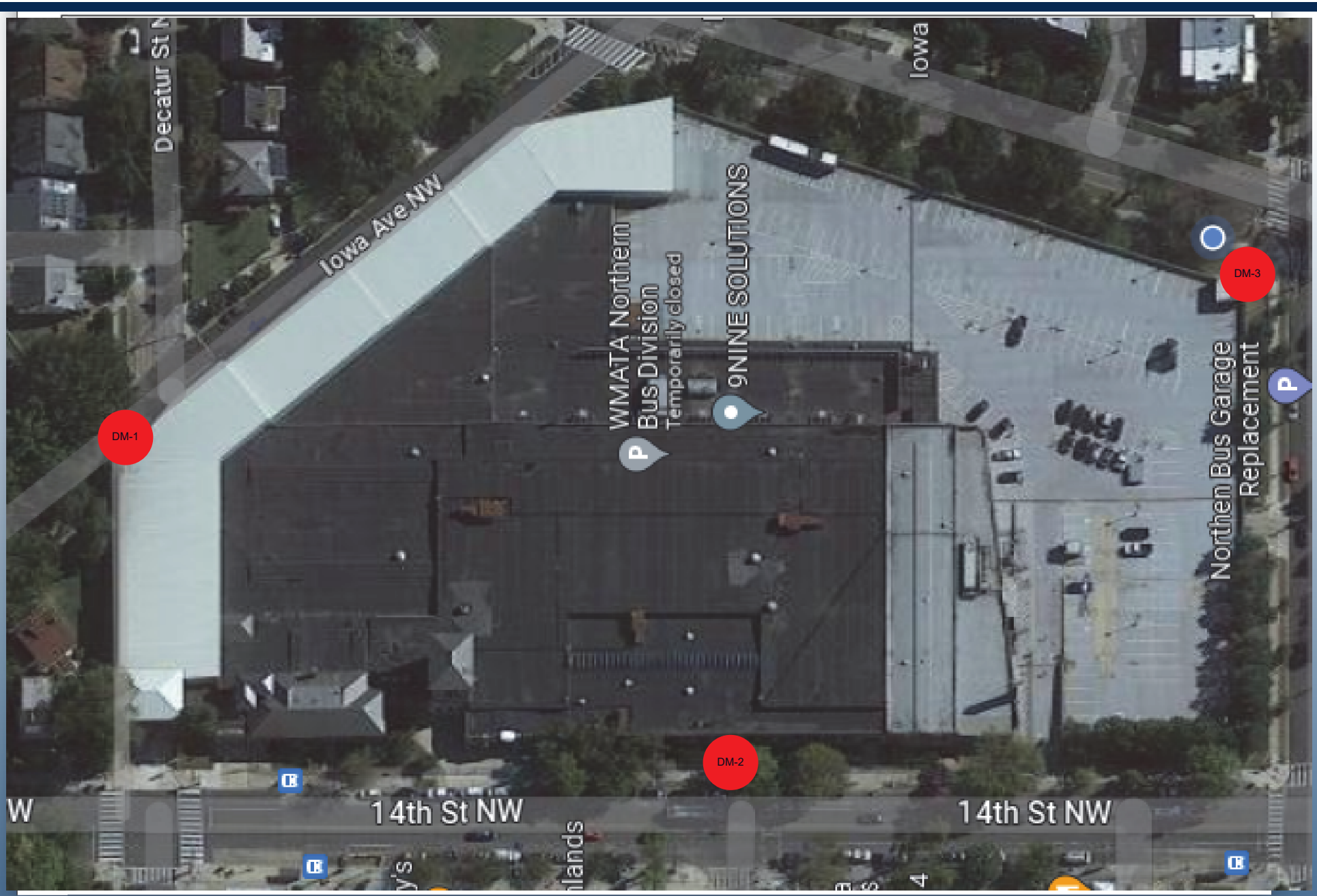


Table 1: Noise Summaries

VM1-MIC		
	Exceedance	Percentage
Work hours	914	65.61%
After hours	272	19.53%
Weekends	207	14.86%
Total	1393	100%

VM1-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	110.5	110.7	111.8
Lmin (dBA)	87.9	66.9	58.2
L10 (dBA)	93	81	77
L90 (dBA)	93	69	71
Leq (dBA)	92.8	79	81.4

VM2-MIC		
	Exceedance	Percentage
Work hours	784	72.46%
After hours	185	17.10%
Weekends	113	10.44%
Total	1082	100%

VM2-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	118.8	109.7	108.1
Lmin (dBA)	82.7	61.5	54.3
L10 (dBA)	111	76	71
L90 (dBA)	84	65	57
Leq (dBA)	104.6	78.4	83.2

VM3-MIC		
	Exceedance	Percentage
Work hours	853	64.72%
After hours	294	22.31%
Weekends	171	12.97%
Total	1318	100%

VM3-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	115.7	108.6	110.5
Lmin (dBA)	85.2	78.1	72.4
L10 (dBA)	97	87	86
L90 (dBA)	87	80	75
Leq (dBA)	92.5	83.4	83.4

VM4-MIC		
	Exceedance	Percentage
Work hours	181	79.74%
After hours	24	10.57%
Weekends	22	9.69%
Total	227	100%

VM4-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	105.3	90.9	93
Lmin (dBA)	63.2	42.4	41.7
L10 (dBA)	96	53	58
L90 (dBA)	66	46	46
Leq (dBA)	88.9	63.7	61

VM5-MIC		
	Exceedance	Percentage
Work hours	147	55.06%
After hours	54	20.22%
Weekends	66	24.72%
Total	267	100%

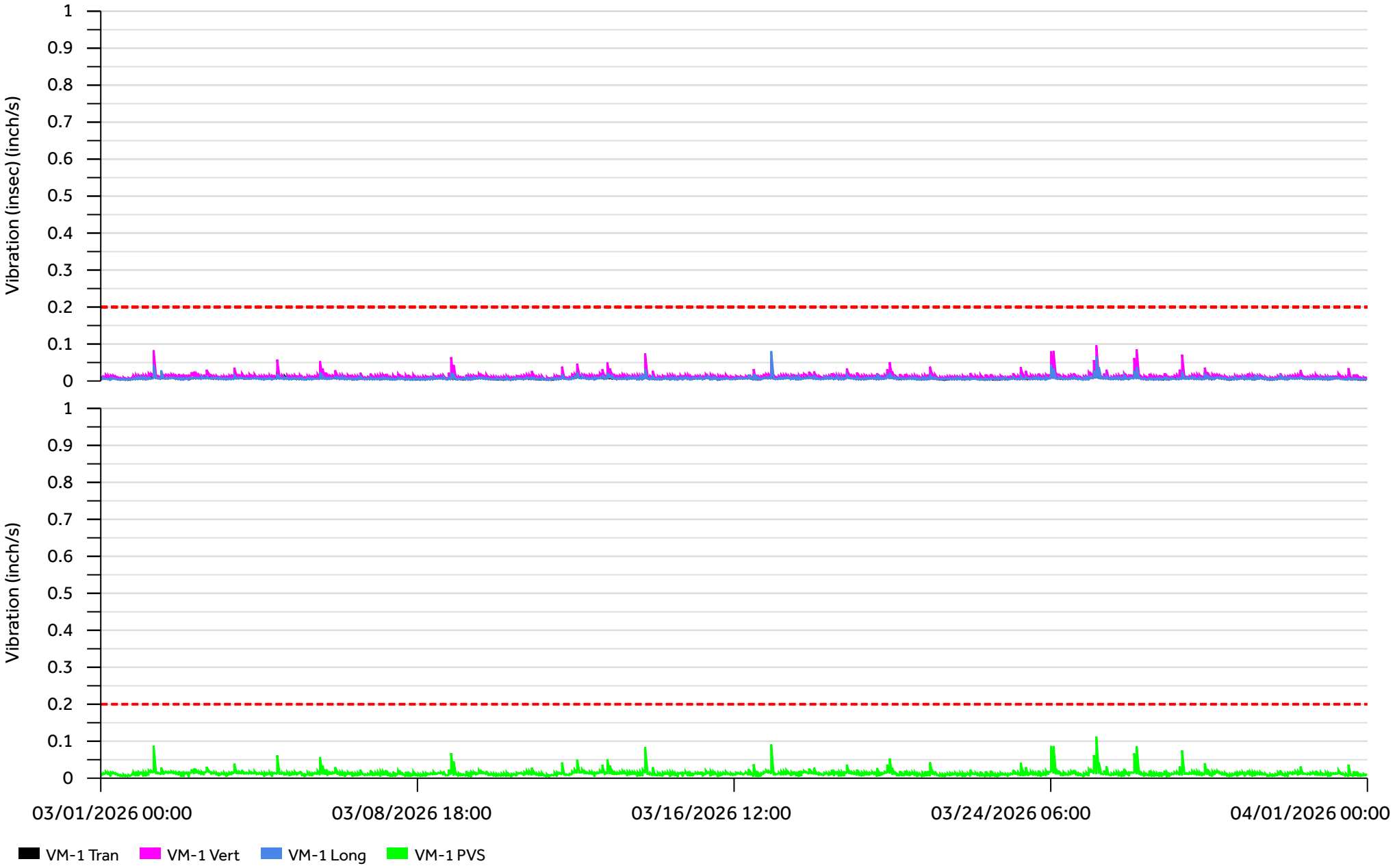
VM5-MIC			
	Work hours	After hours	Weekends
Lmax (dBA)	115.7	113.4	111
Lmin (dBA)	55.9	64.2	46.4
L10 (dBA)	85	71	67
L90 (dBA)	64	66	53
Leq (dBA)	83.7	82	79

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.

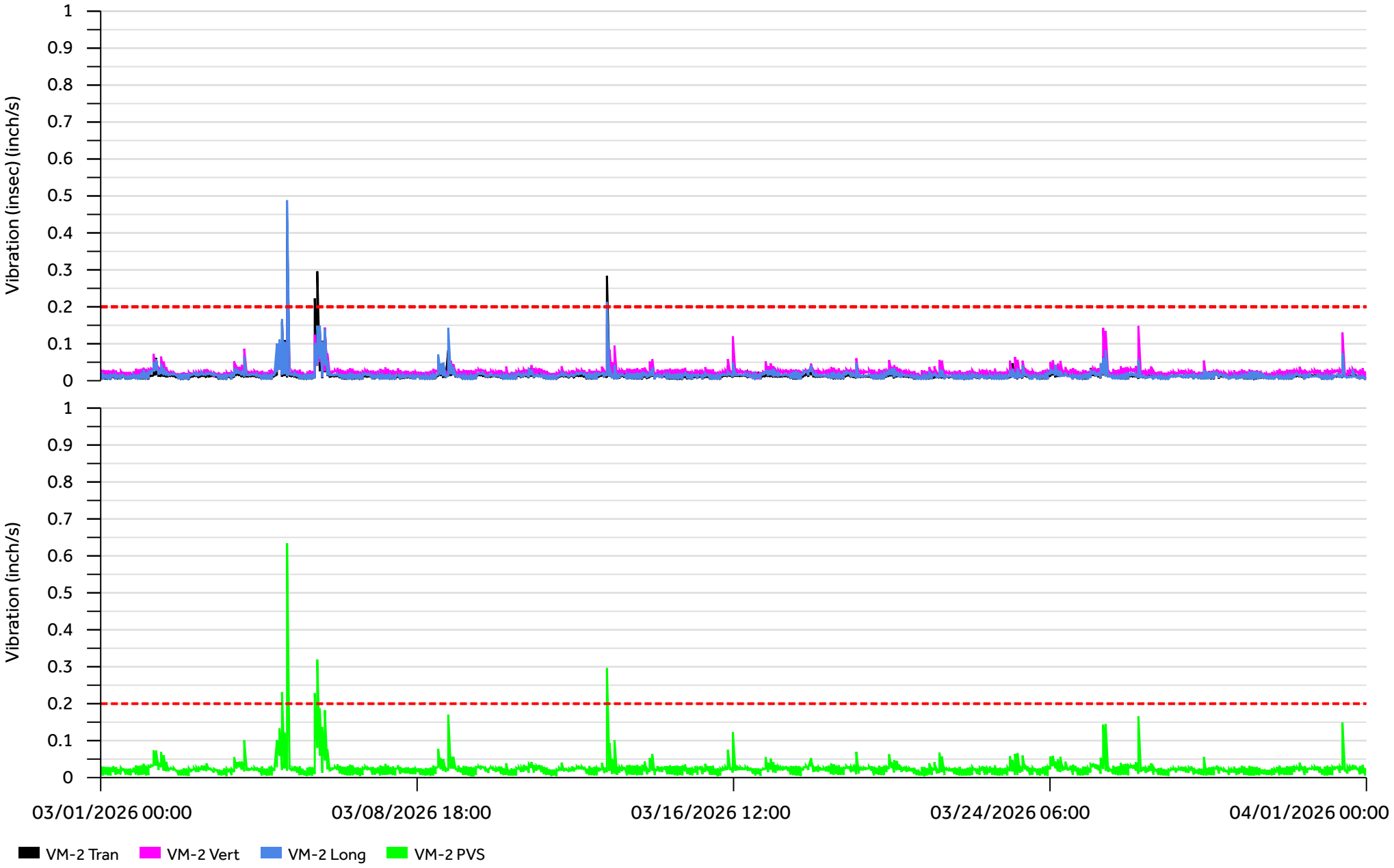
Graph 1

VM-1- Vibration Monitor



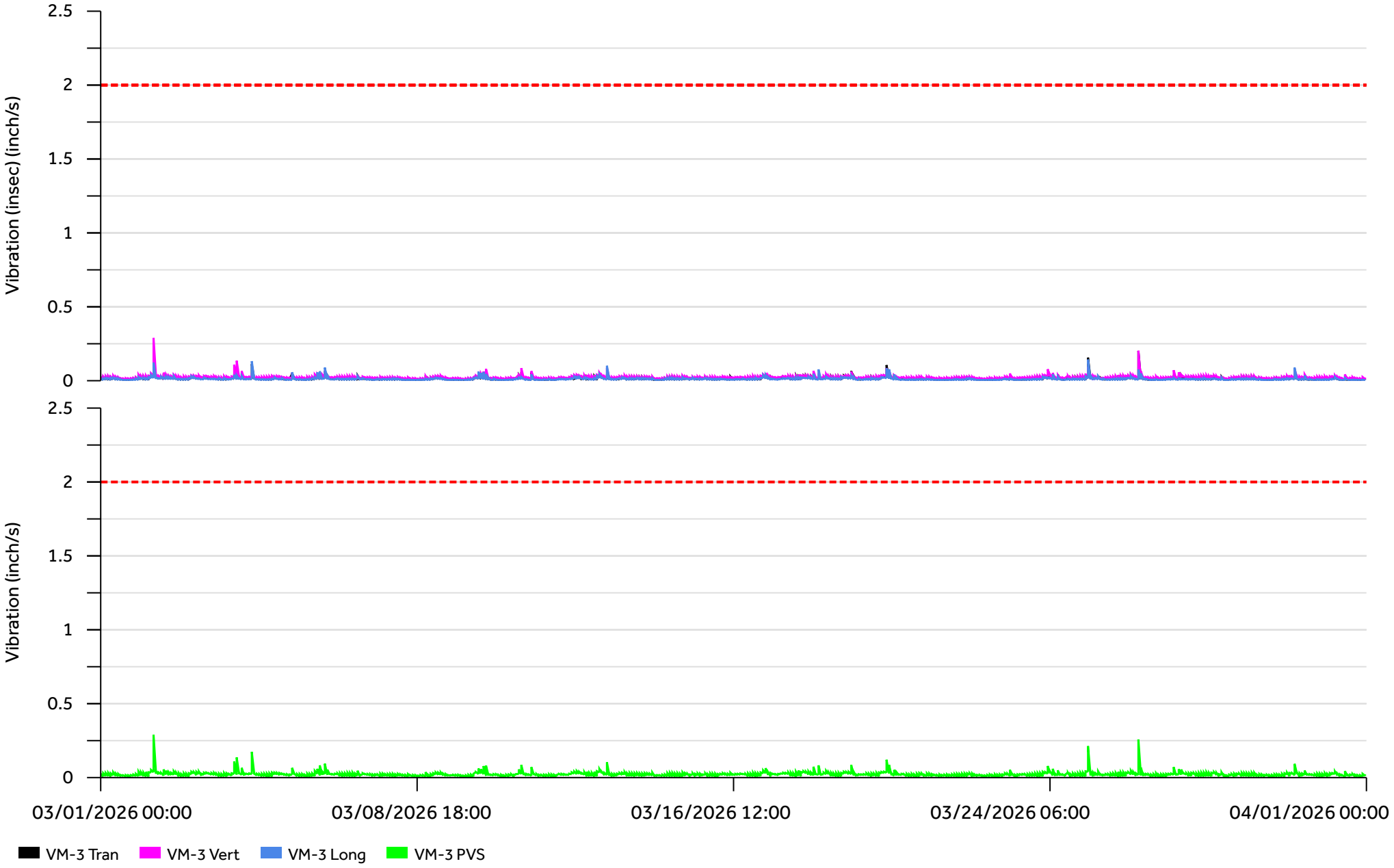
Graph 2

VM-2- Vibration Monitor



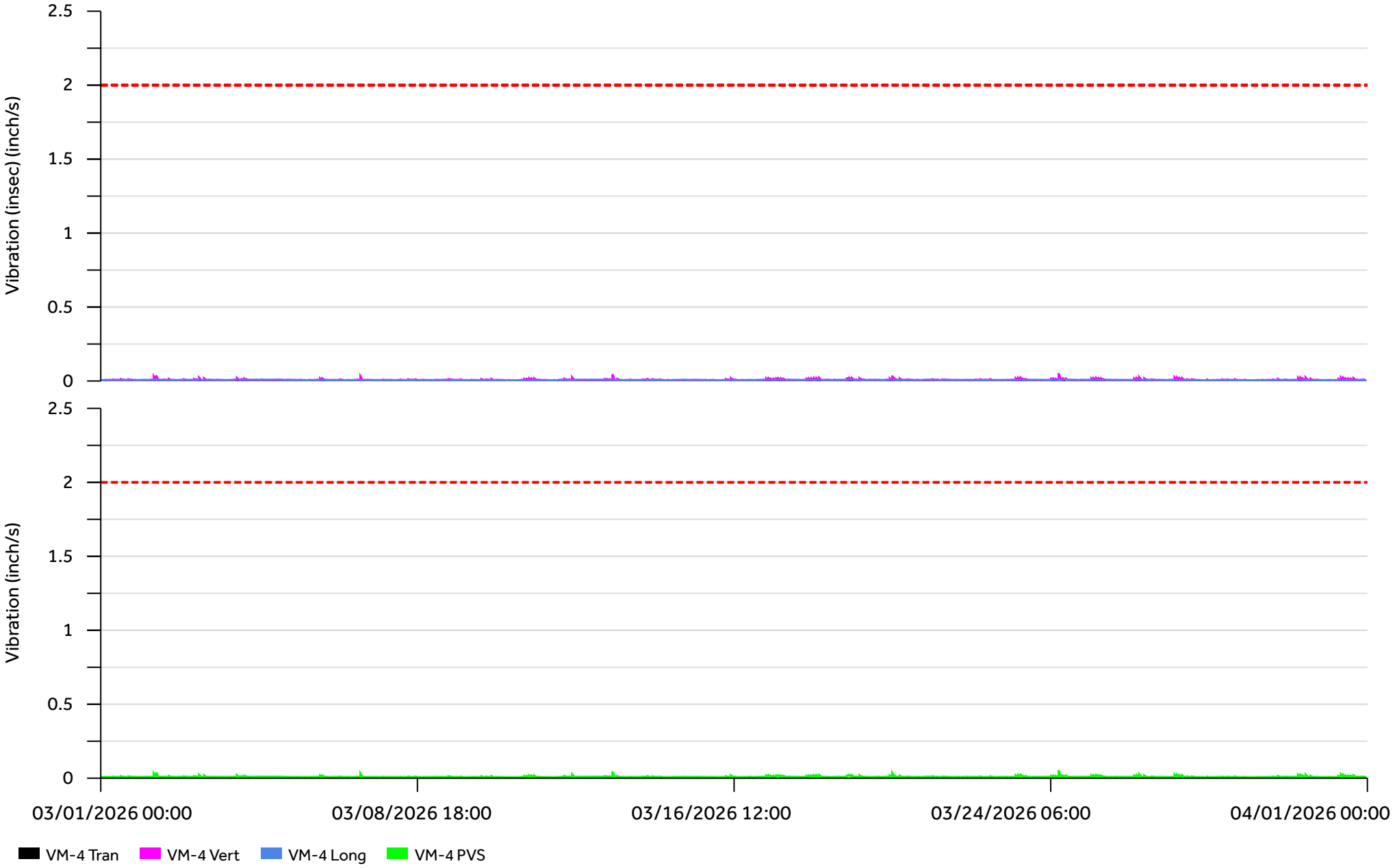
Graph 3

VM-3- Vibration Monitor



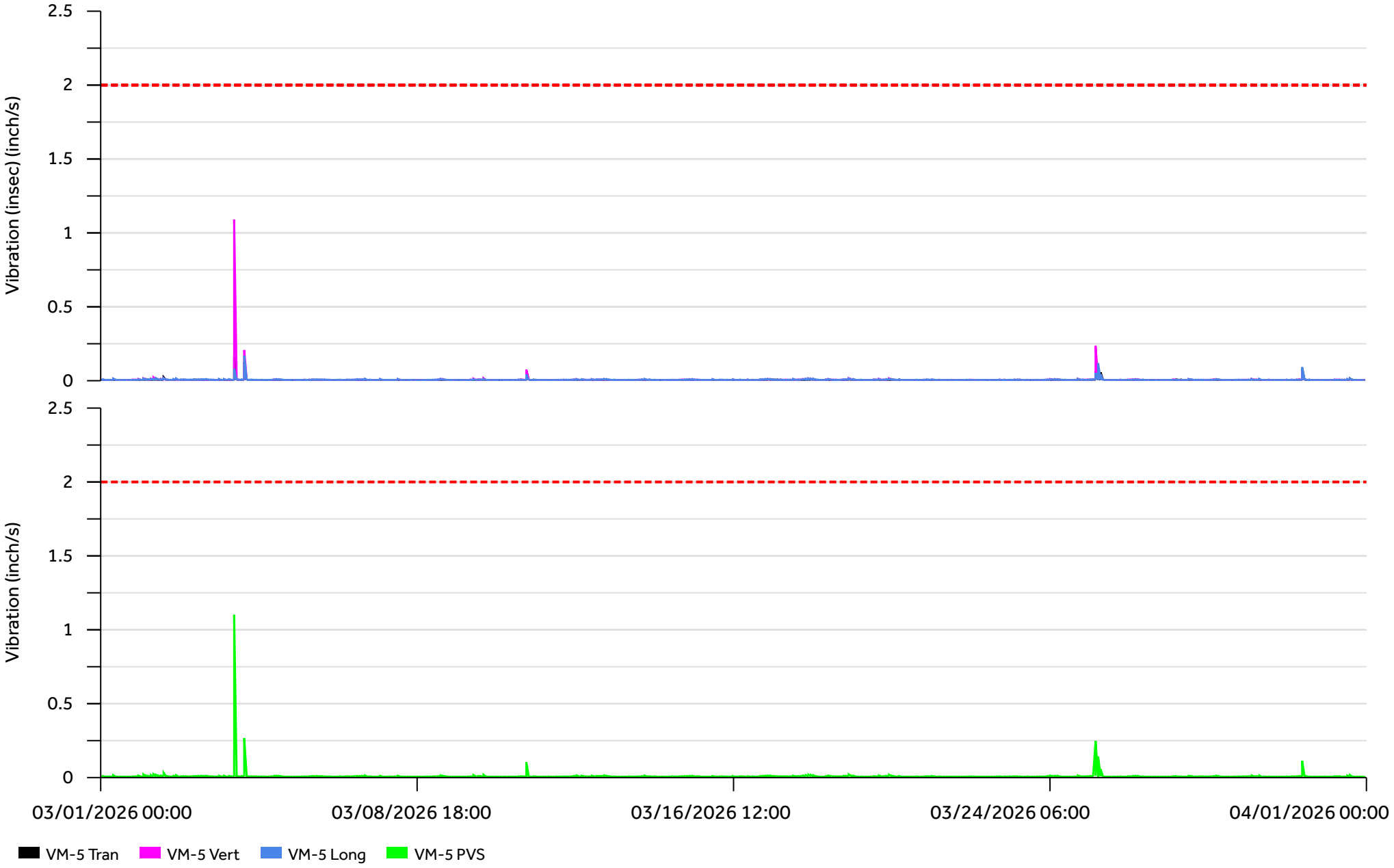
Graph 4

VM-4- Vibration Monitor



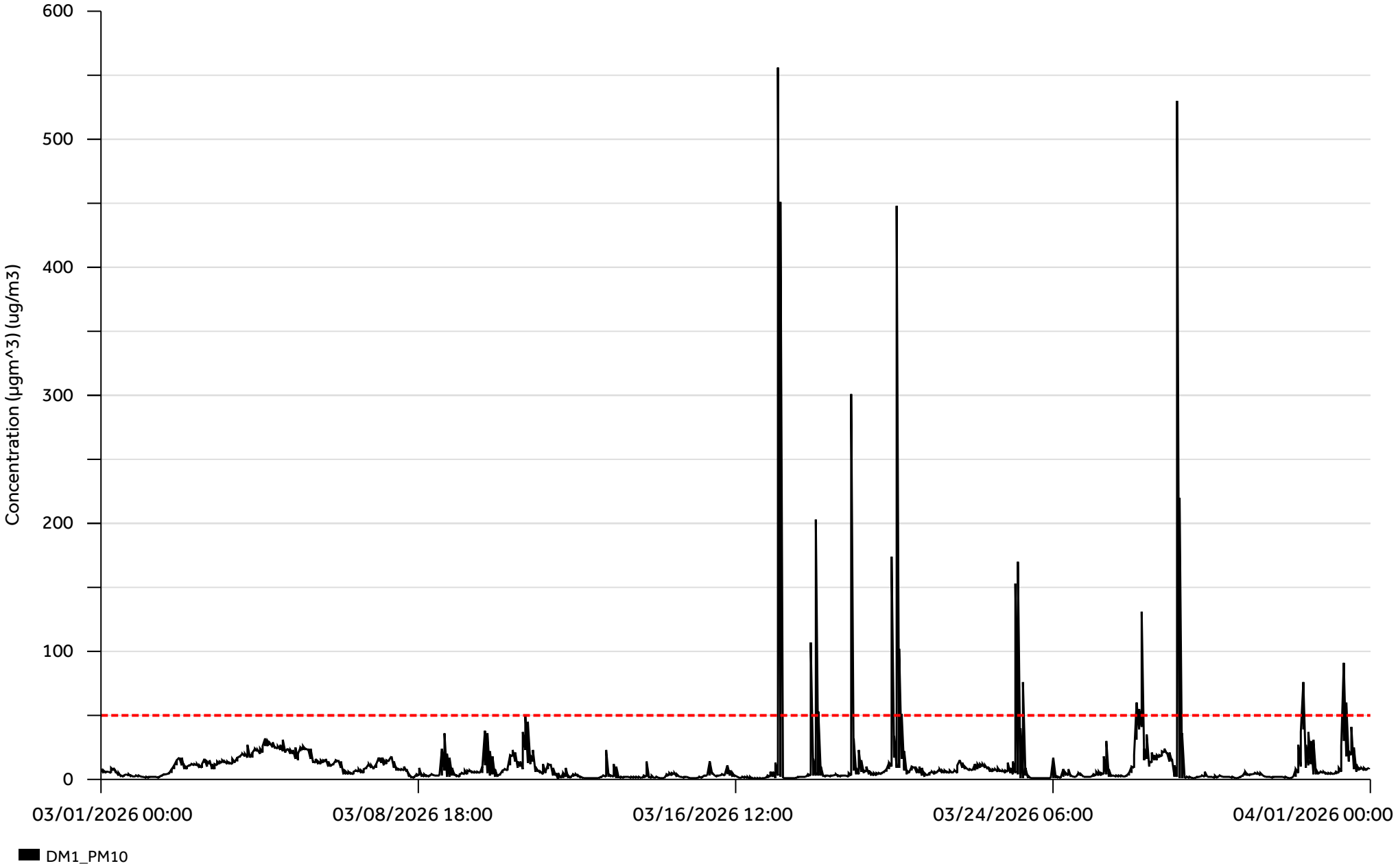
Graph 5

VM-5- Vibration Monitor



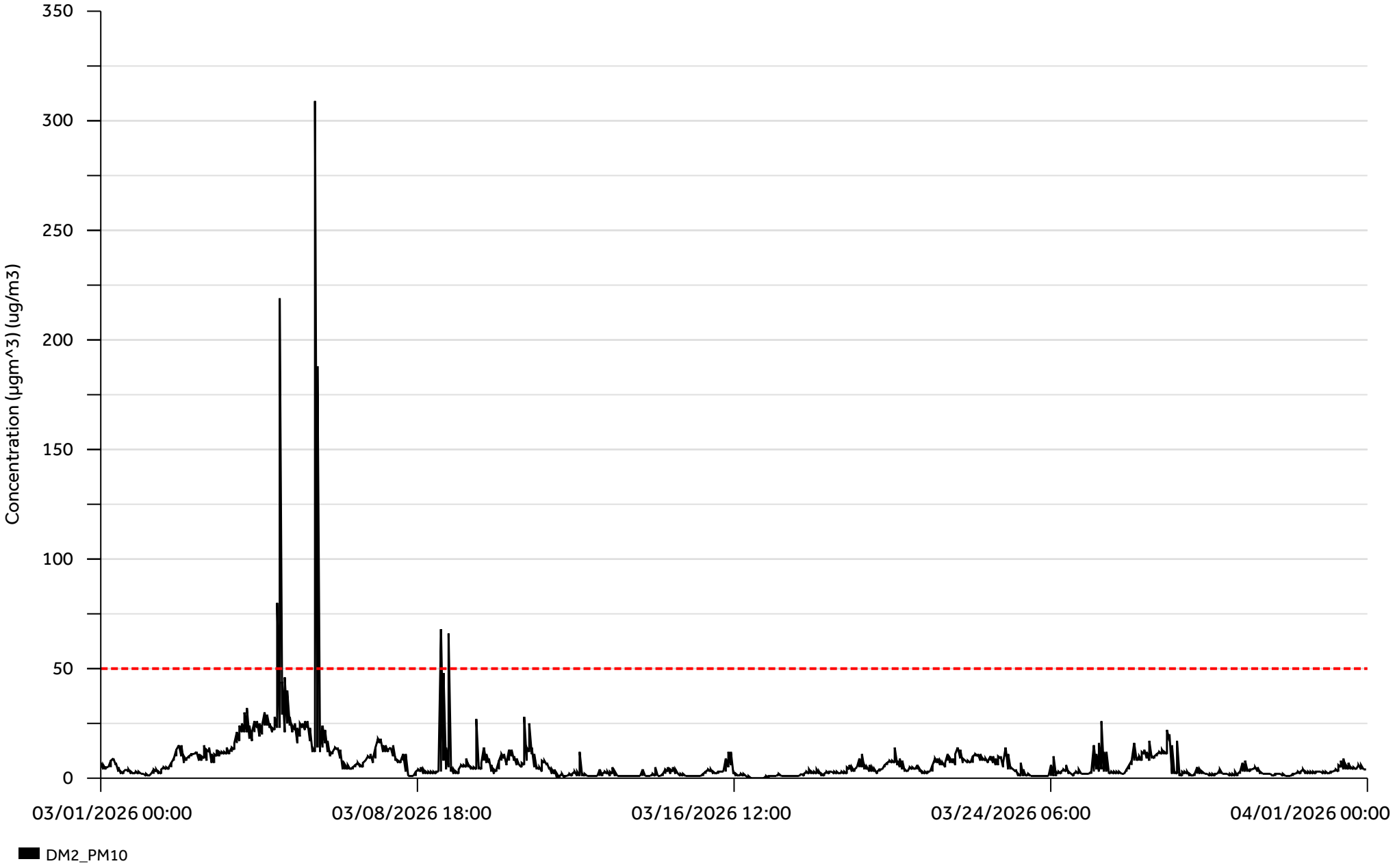
Graph 6

DM1 - PM10



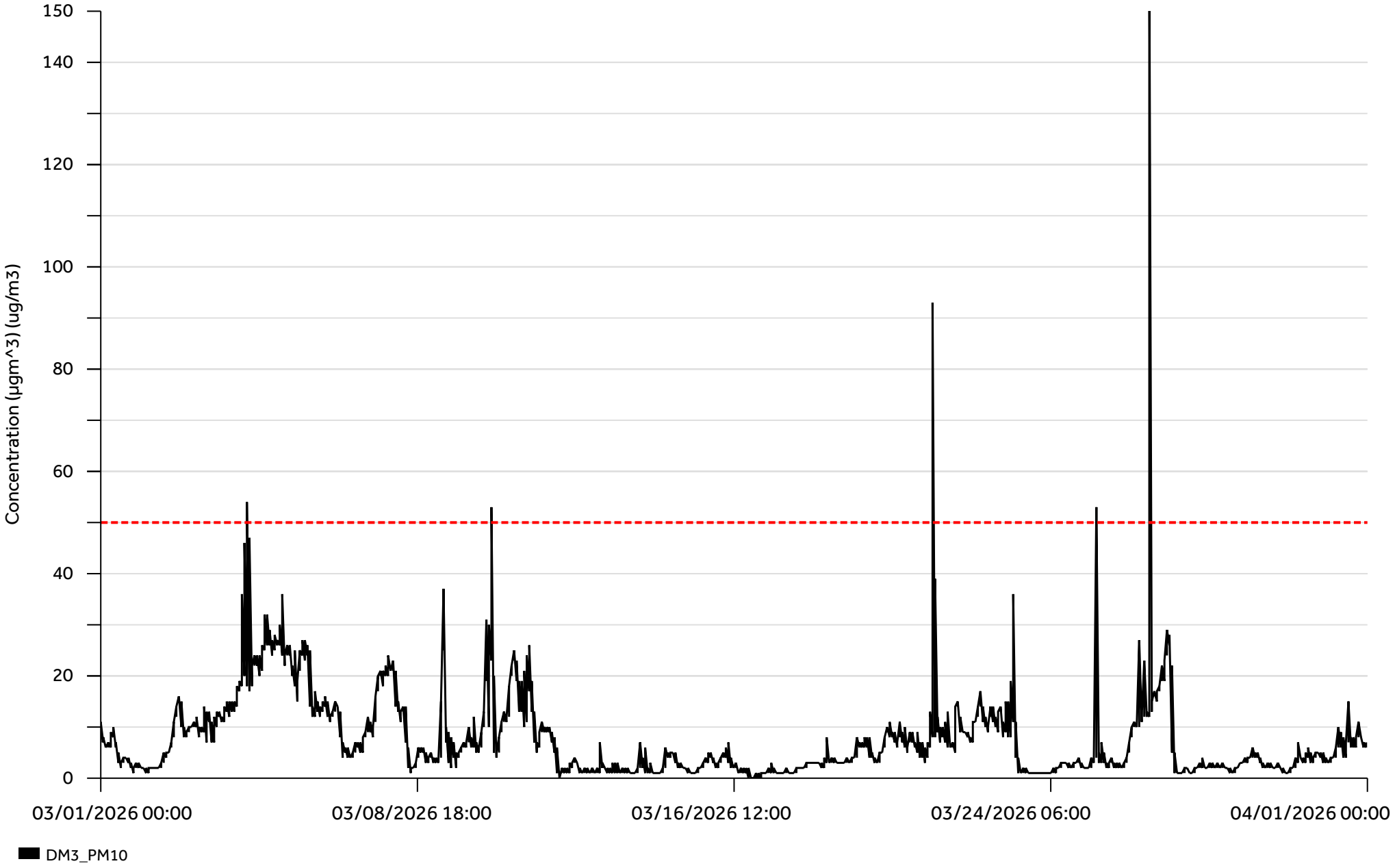
Graph 7

DM2-PM10



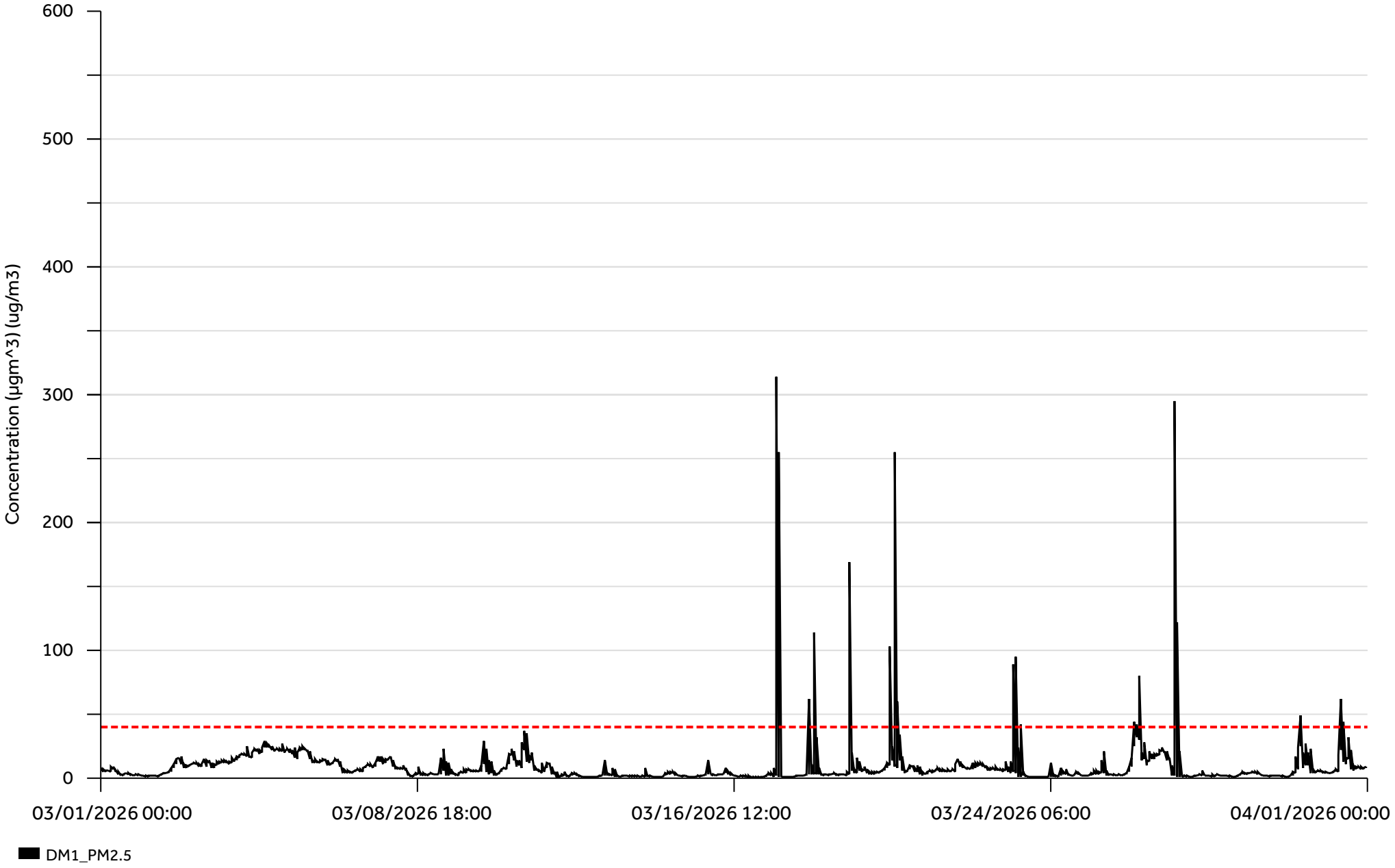
Graph 8

DM3-PM10



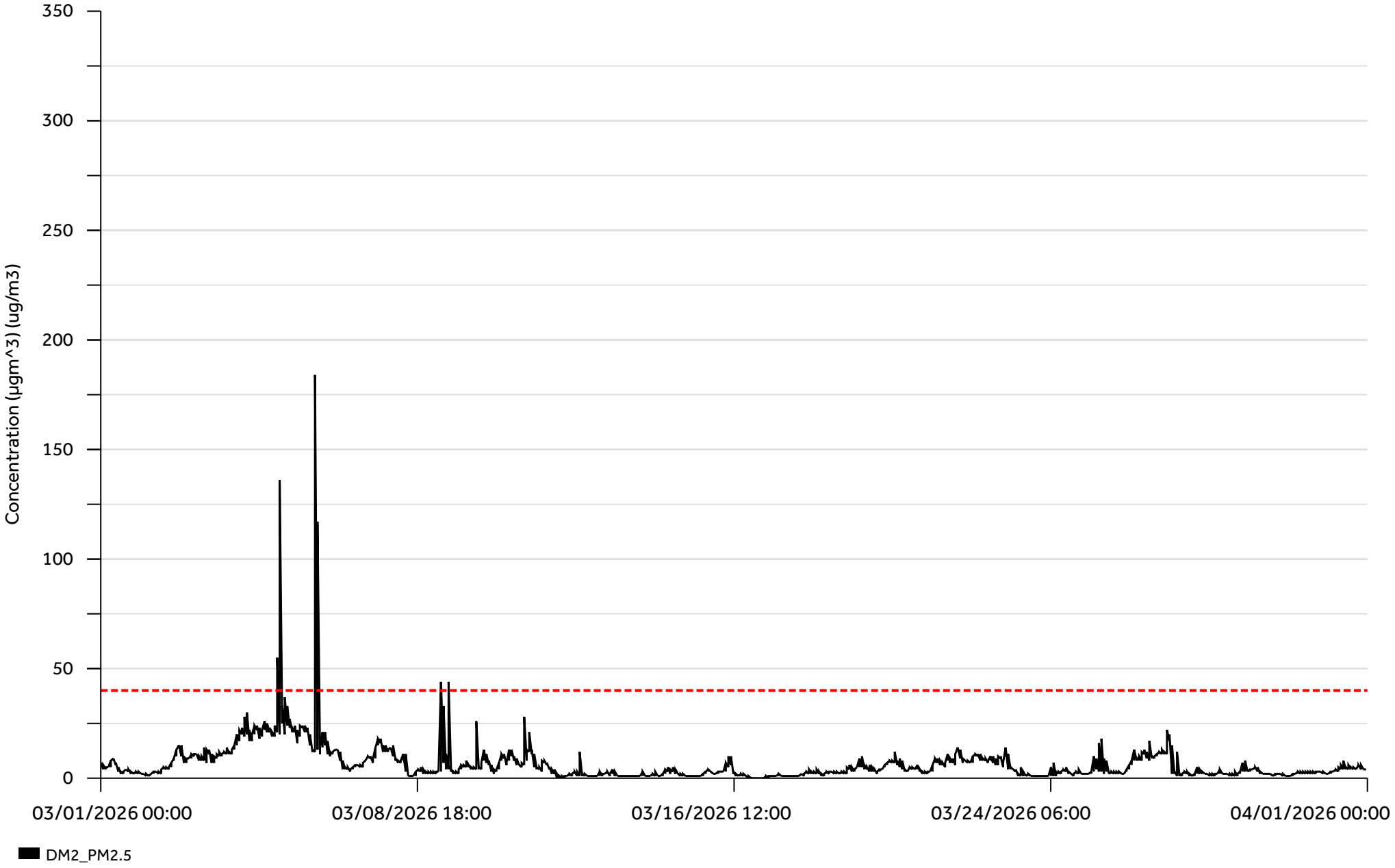
Graph 9

DM1-PM2.5



Graph 10

DM2-PM2.5



Graph 11

DM3-PM2.5