

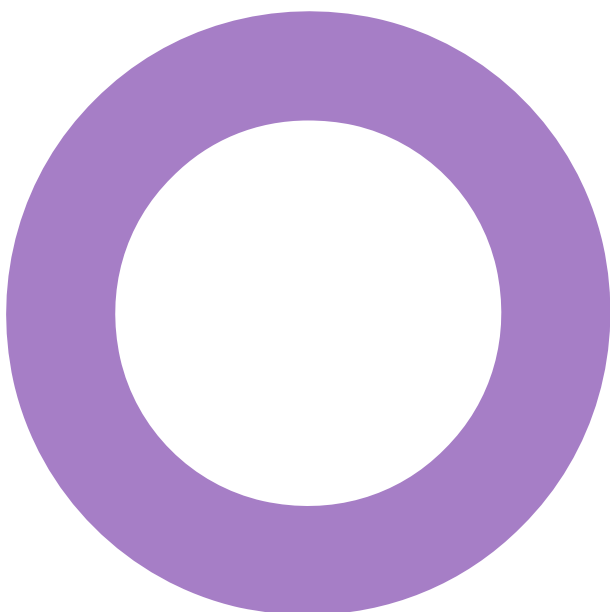
**Stephenson Way.
London.**
GPF Lewis Solutions Ltd.

AIR QUALITY

MONTHLY DUST MONITORING REPORT

01/01/2024 - 31/01/2024

REVISION 00 - 13 FEBRUARY 2024



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	13/02/2024	First Issue	AJ	RH	AD

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Project number: 34/22120

Document reference: 3422120-HLE-RP-AQ-Monthly Dust Monitoring Report-January 2024-Rev00.docx

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1. Introduction.

1.1 London Borough of Camden Requirements.

The London Borough of Camden (LBoC) requirements for real-time dust monitoring are consistent with LBoC and Greater London Authority (GLA) policy and industry best practice guidance. These requirements are triggered when an Air Quality Assessment (AQA) for a proposed development finds that there is a medium or high risk of dust impacts (without considering mitigation measures) during demolition or construction.

Real-time dust monitoring can be used to enable effective on-site management of the air quality impacts of demolition and construction activities through comprehensive preventative dust mitigation and, in the case of triggering a dust alert from the monitoring equipment, through the application of additional reactive dust mitigation measures.

The purpose of real-time dust monitoring is to ensure that the air quality impacts of demolition and construction activities are minimised as far as possible for the protection of amenity and health, both for local residents, the general public, and operatives on-site.

1.2 Development Information.

Hoare Lea have been commissioned by GPF Lewis Solutions Limited to provide construction dust monitoring for the land fronting Stephenson Way, NW1 2HD (the 'Site').

Plans comprise the erection of a 7-storey building plus basement for student accommodation on the upper floors, including shared amenity space at ground and sixth floor level and terrace at the sixth floor level fronting Stephenson Way (Sui Generis) (the 'Development').

Planning permission (ref: 2018/2316/P) was granted in October 2020 subject to a number of planning conditions. Condition 11 outlines the requirement for dust monitoring through the duration of works at the Site:

"No development shall take place until full details of the air quality monitors have been submitted to and approved by the local planning authority in writing. Such details shall include the location, number and specification of the monitors, including evidence of the fact that they have been installed in line with guidance outlined in the GLA's Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance and have been in place for 3 months prior to the proposed implementation date. The monitors shall be retained and maintained on site for the duration of the development in accordance with the details thus approved.

Reason: To safeguard the amenities of the adjoining premises and the area generally in accordance with the requirements of policies G1, A1, D1 and CC4 of the London Borough of Camden Local Plan 2017."

The working hours for the demolition and construction activities, as detailed in the planning permission, are as follows:

- 08:00 – 18:00 on Monday to Friday;
- 08:00 – 13:00 on Saturdays; and
- No working on Sundays or Public Holidays.

As per the planning condition, particulate matter (PM₁₀) monitoring is being undertaken in order to protect nearby sensitive receptors from the effects of dust exposure as a consequence of on-going works.

This report presents the monthly monitoring results of the dust monitoring from the 1st of January 2024 to the 31st of January 2024. This period represents baseline air quality monitoring data as construction has not yet started on-site. See Appendix 1 for the locations of the monitors on Site.

2. Site Updates.

Two monitors have been in place for the full duration of the month with no changes. These monitors will be in place until the end of January to gather monitoring data to inform baseline air quality conditions.

Both monitors were provided with external batteries to provide supplementary power on the 19th of December 2023.

There have been no works taking place on-site during this monitoring period.

3. Monitoring Summary.

- There have been no exceedances of the 15 minute alert level, 15 minute action level, 1-hour action level or the 24-hour limit value at the.
- There have been no dust generating works on-site during this monitoring period.
- The 15 minute average data capture was 81.5% at monitoring location 1. The 15 minute average data capture was 100% until the battery depleted on the 25th of January 2024.
- The 15 minute average data capture was 37.8% at monitoring location 2. The 15 minute average data capture was limited for PM₁₀ until the 4th of January 2024 due to an error in the manufacturer's online dashboard resulting in PM₁₀ monitoring not being able to be exported in full. As such, a portion of the data has been unretrievable. However, this error caused the battery to be rapidly depleted resulting in it running out on the 15th of January 2024. Due to limitations with Site access, the battery not able to be replaced until the 7th of February 2024 resulting in limited data capture in the interim period.

Further information on the monitored data is provided in Section 5.

4. Methodology.

4.1 Monitoring Equipment.

Two EarthSense Zephyrs have been deployed to record PM₁₀ and PM_{2.5} concentrations. The equipment is supplied with power from connected solar panels to provide active sampling throughout the monitoring period.

The EarthSense Zephyr is an MCERTS Certified Indicative Ambient Particulate Monitor and is used for the purposes of construction dust monitoring across the UK. The equipment has been deemed acceptable for use by LBoC on the 1st of August 2023. The monitor is capable of recording particulate matter within 5 µg/m³ of accuracy on 10 second intervals. The monitor will send data to an online dashboard which provides real-time data and has the capability to send alerts when set action levels are exceeded.

Both monitors were serviced and calibrated ahead of installation on-site.

4.2 Monitoring Locations.

The monitoring locations are presented in the Construction Management Plan (CMP) submitted to LBoC and agreed with the Environmental Health Officer.

Two monitoring locations have been determined to provide a transect across the Site. Based on publicly available data at Heathrow Airport, the prevailing wind direction is south-westerly. As such, the monitors have been positioned within the north east and south west corners of the Site in the prevailing wind direction, to determine whether any dust is leaving the Site during construction works.

The locations and photographs of the installed monitors are displayed in Appendix 1.

4.2.1 Monitor 1

Monitor 1 is located towards the north-east corner of the Site, on a lamppost on the adjacent footpath and has been recording data at this location since 31st July 2023.

This location is deemed safe and does not obstruct pedestrian and vehicle traffic. The monitor on the lamppost has been located at 1.9 m height, this is the highest point at which the monitor can be affixed safely without interfering with signage associated affixed to the lamppost, ensuring a free flow of air around the inlet. In line with manufacturer's guidance, the solar panel has been positioned above the monitor to prevent interference with the air flow around the inlet (positioned at the bottom of the monitor). The lamppost location allows for a consistent monitoring location throughout the Development baseline and construction phases, as it is unlikely to require relocation during works commencing on-site.

An external battery was installed on the monitor on the 19th of December 2023. This battery was depleted on the 25th of January. Due to limitations with Site access, this was not able to be replaced until the 7th of February 2024 resulting in limited data capture in the interim period.

4.2.2 Monitor 2

Monitor 2 is located on the fence towards the south west corner of the Site at a height of 3.2 m to be above the current fencing and away from the adjacent building to allow free flow of air around the inlet. It has been in monitoring from 9th of August.

An external battery was installed on the monitor on the 19th of December 2023. The 15 minute average data capture was limited for PM₁₀ until the 4th of January 2024 due to an error in the manufacturer's online dashboard resulting in PM₁₀ monitoring not being able to be exported in full. As such, a portion of the data has been unretrievable. However, this error caused the battery to be rapidly depleted resulting in it running out on the 15th of January 2024. Due to issues with access to the Site, the battery not able to be replaced until the 7th of February 2024 resulting in limited data capture in the interim period.

4.3 Action Levels.

In line with the requirements of the planning condition, action levels have been set for monitored PM₁₀ concentrations on-site, above which steps must be taken to reduce and minimise the risk of dust-related impacts.

Notification of exceedances of these levels will be automatically received by email to inform the on-site team. The 15 minute and 1-hour mean action levels are set out in Table 1 and is based on the Site Action Level provided within the most recent IAQM guidance, in addition to recommendations from LBoC.

Table 1: Action Level for PM₁₀.

Action Level	Concentration
Alert Level (as a 15 minute average)	150 µg/m ³
Action Level (as a 15 minute average)	250 µg/m ³
Action Level (as a 1-hour average)	190 µg/m ³

In addition to these levels, the 24-hour average limit value 50 µg/m³ must also be considered, as set out by the Air Quality Standards legislation.

5. Dust Monitoring Results.

A summary of 15 minute average, 1-hour average and 24-hour average PM₁₀ levels are presented for monitoring locations 1 and 2. Graphs of the dust monitoring results are presented in Appendix 2.

5.1 Data Capture.

Table 2 illustrates the 15 minute average data capture for both of the monitors on-site. This shows the proportion of samples that the monitors were able to capture throughout each monitoring period. Both monitors are expected to be capturing data 24 hours a day throughout the monitoring period. Each monitoring period represents a week (Monday to Sunday) throughout the month, with the exception of the first and last monitoring periods which may be longer or shorter.

Table 2: Summary of 15-Minute Average Data Capture at Each Monitor.

Monitoring Period	Monitor 1 Data Capture (15 mins)	Monitor 2 Data Capture (15 mins)
01/01/2024 - 07/01/2024	100.0%	55.1%
08/01/2024 - 14/01/2024	100.0%	100.0%
15/01/2024 - 21/01/2024	100.0%	0.0%
22/01/2024 - 28/01/2024	57.4%	0.3%
29/01/2024 - 31/01/2024	0.0%	0.5%
Overall	81.5%	37.8%

5.2 Monitoring Location 1.

Table 3, Table 4, and Table 5 present a summary of the 15 minute, 1-hour and 24-hour average PM₁₀ levels at monitoring location 1.

Table 3: Summary of 15-Minute Dust Monitoring Results at Monitoring Location 1.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 150 µg/m ³ Alert Level (15 minute)	Number of Exceedances of 250 µg/m ³ Action Level (15 minute)
01/01/2024 - 07/01/2024	29.2	3.0	7.4	0	0
08/01/2024 - 14/01/2024	34.4	3.7	12.5	0	0
15/01/2024 - 21/01/2024	63.3	3.4	12.7	0	0
22/01/2024 - 28/01/2024	43.1	3.5	8.1	0	0
29/01/2024 - 31/01/2024	-	-	-	-	-
Overall	63.3	3.0	10.5	0	0

Table 4: Summary of 1-Hour Dust Monitoring Results at Monitoring Location 1.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 190 µg/m ³ Action Level (1-hour)
01/01/2024 - 07/01/2024	17.6	3.1	7.4	0
08/01/2024 - 14/01/2024	32.0	4.1	12.5	0
15/01/2024 - 21/01/2024	29.6	5.2	12.8	0
22/01/2024 - 28/01/2024	18.6	3.7	8.1	0
29/01/2024 - 31/01/2024	-	-	-	-
Overall	32.0	3.1	10.5	0

Table 5: Summary of 24-Hour Dust Monitoring Results at Monitoring Location 1.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 50 µg/m ³ (24-hour)
01/01/2024 - 07/01/2024	11.6	5.0	7.2	0
08/01/2024 - 14/01/2024	25.9	6.3	11.0	0
15/01/2024 - 21/01/2024	17.1	8.7	13.9	0
22/01/2024 - 28/01/2024	10.9	6.0	8.5	0
29/01/2024 - 31/01/2024	-	-	-	-
Overall	25.9	5.0	10.3	0

5.3 Monitoring Location 2.

Table 6, Table 7, and Table 8 present a summary of the 15 minute, 1-hour and 24-hour average PM₁₀ levels at monitoring location 2.

Table 6: Summary of 15-Minute Average Dust Monitoring Results at Monitoring Location 2.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 150 µg/m ³ Alert Level (15 minute)	Number of Exceedances of 250 µg/m ³ Action Level (15 minute)
01/01/2024 - 07/01/2024	19.9	3.0	7.9	0	0
08/01/2024 - 14/01/2024	35.0	3.2	12.1	0	0
15/01/2024 - 21/01/2024	6.9	6.9	6.9	0	0
22/01/2024 - 28/01/2024	8.1	8.1	8.1	0	0
29/01/2024 - 31/01/2024	24.3	8.7	14.4	0	0
Overall	35.0	3.0	10.5	0	0

Table 7: Summary of 1-Hour Average Dust Monitoring Results at Monitoring Location 2.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 190 µg/m ³ (1-hour)
01/01/2024 - 07/01/2024	17.2	3.0	6.9	0
08/01/2024 - 14/01/2024	32.6	3.5	12.1	0
15/01/2024 - 21/01/2024	10.0	6.9	8.4	0
22/01/2024 - 28/01/2024	8.1	8.1	8.1	0
29/01/2024 - 31/01/2024	24.3	9.8	17.1	0
Overall	32.6	3.0	9.6	0

Table 8: Summary of 24-Hour Average Dust Monitoring Results at Monitoring Location 2.

Monitoring Period	Maximum PM ₁₀ Concentration (µg/m ³)	Minimum PM ₁₀ Concentration (µg/m ³)	Average PM ₁₀ Concentration (µg/m ³)	Number of Exceedances of 50 µg/m ³ (24-hour)
01/01/2024 - 07/01/2024	11.3	4.4	6.8	0
08/01/2024 - 14/01/2024	27.0	5.4	10.4	0
15/01/2024 - 21/01/2024	18.0	18.0	18.0	0
22/01/2024 - 28/01/2024	8.1	6.9	7.5	0
29/01/2024 - 31/01/2024	24.3	24.3	24.3	0
Overall	27.0	4.4	9.9	0

6. Dust Monitoring Conclusions.

6.1 Monitoring Location 1.

The results in Table 4 indicate that there has been no exceedance of the 15 minute alert level, 15 minute action level, or 1-hour action level during this monitoring period. The highest 15 minute average concentration was $63.3 \mu\text{g}/\text{m}^3$ recorded on the 15th of January 2024 at 15:30. The highest 1-hour average concentration recorded was $29.6 \mu\text{g}/\text{m}^3$ recorded on the 18th of January 2024 at 12:00. The highest 24-hour average concentration was $25.9 \mu\text{g}/\text{m}^3$ recorded on the 14th of January 2024. These concentrations can be attributed to natural variability of the background concentrations as there were no works being undertaken on during this period.

6.2 Monitoring Location 2.

The results in Table 7 indicate that there has been no exceedance of the 15 minute alert level, 15 minute action level, or 1-hour action level during this monitoring period. The highest 15 minute average concentration was $35.0 \mu\text{g}/\text{m}^3$ recorded on the 13th of January 2024 at 07:45. The highest 1-hour average concentration recorded was $32.6 \mu\text{g}/\text{m}^3$ recorded on the 13th of January 2024 at 08:00. The highest 24-hour average concentration was $27.0 \mu\text{g}/\text{m}^3$ recorded on the 14th of January 2024. These concentrations can be attributed to natural variability of the background concentrations as there were no works being undertaken on during this period.

Appendix 1 – Photographs of Installed Monitors.

Monitor Locations.

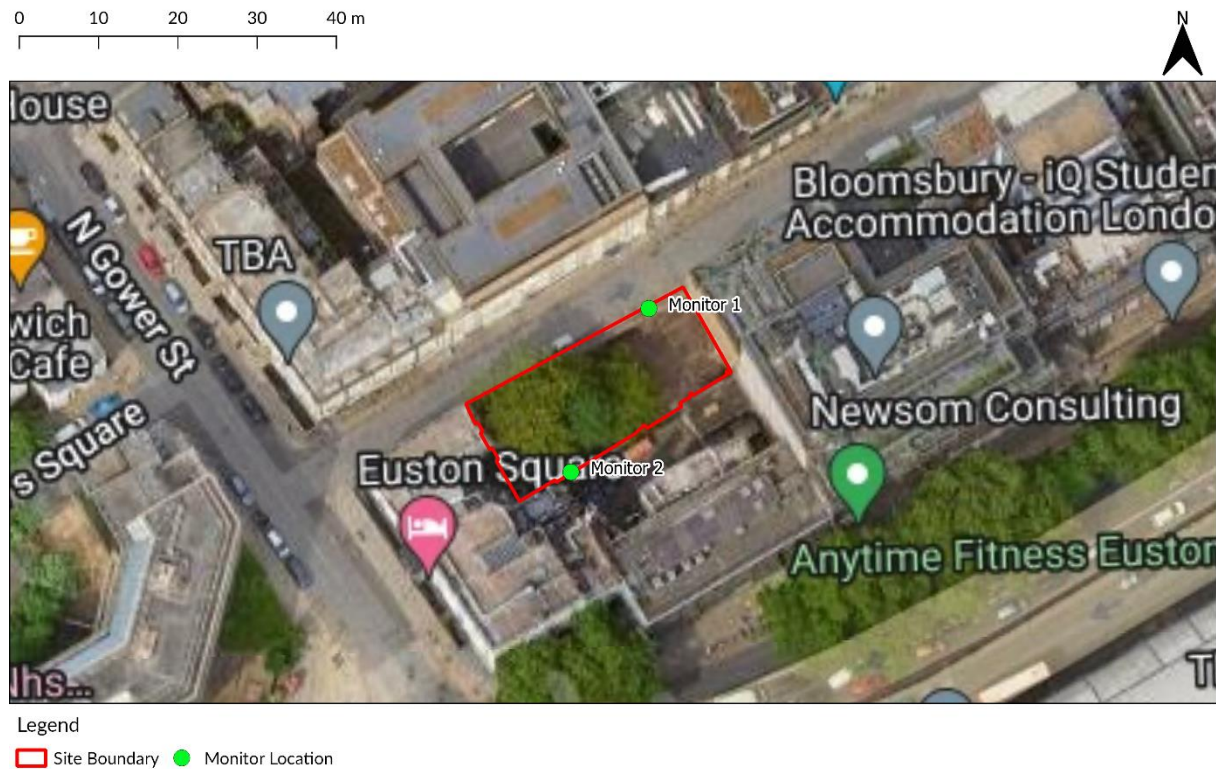
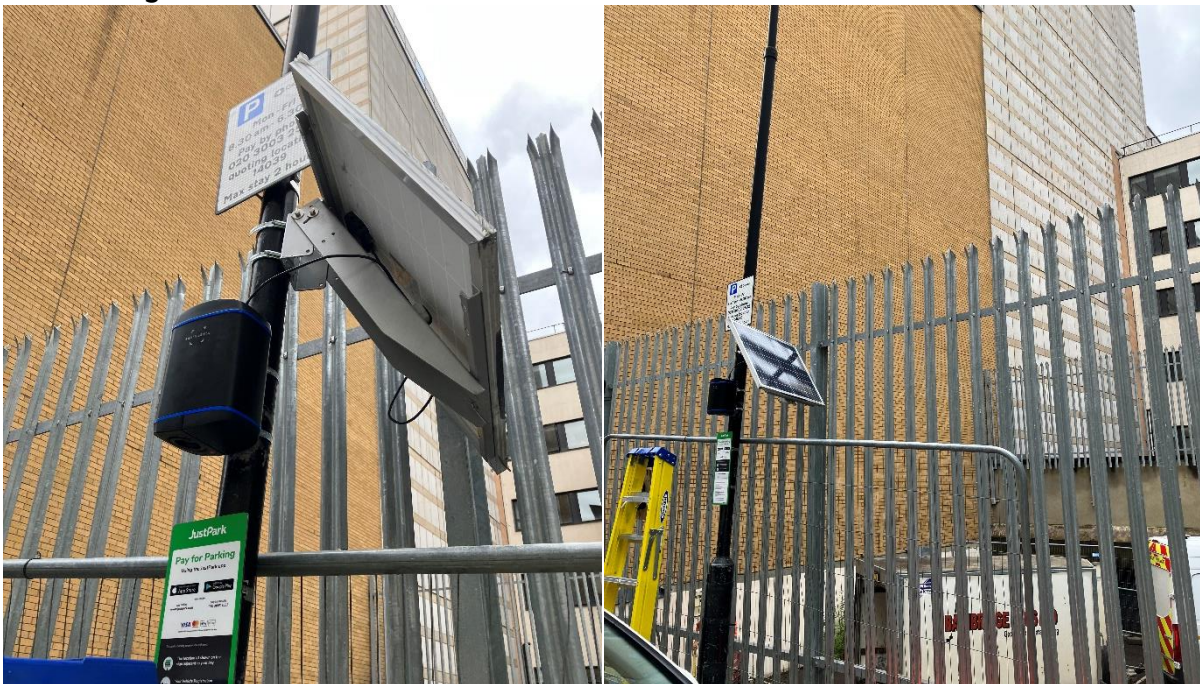
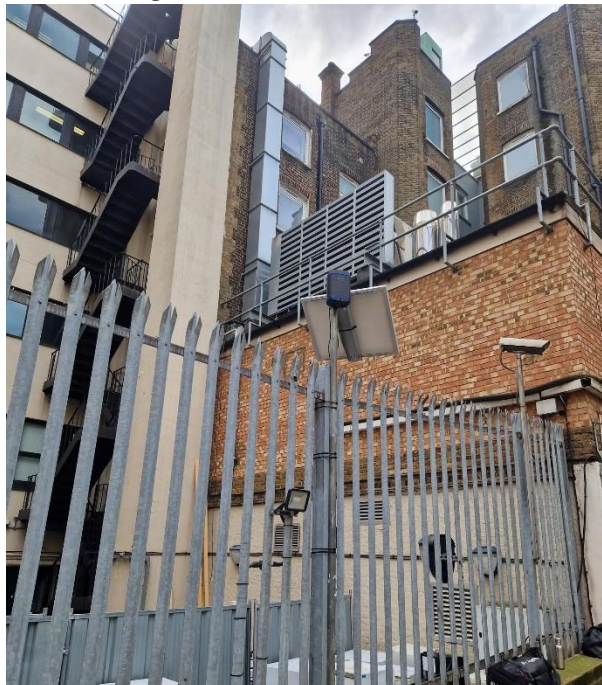


Figure 1: Locations of the EarthSense Zephyrs on the Site. Contains Google Maps Data (2023) [Retrieved 26/10/2023].

Monitoring Location 1



Monitoring Location 2



Appendix 2 – Dust Monitoring Graphs.

Monitoring Location 1.

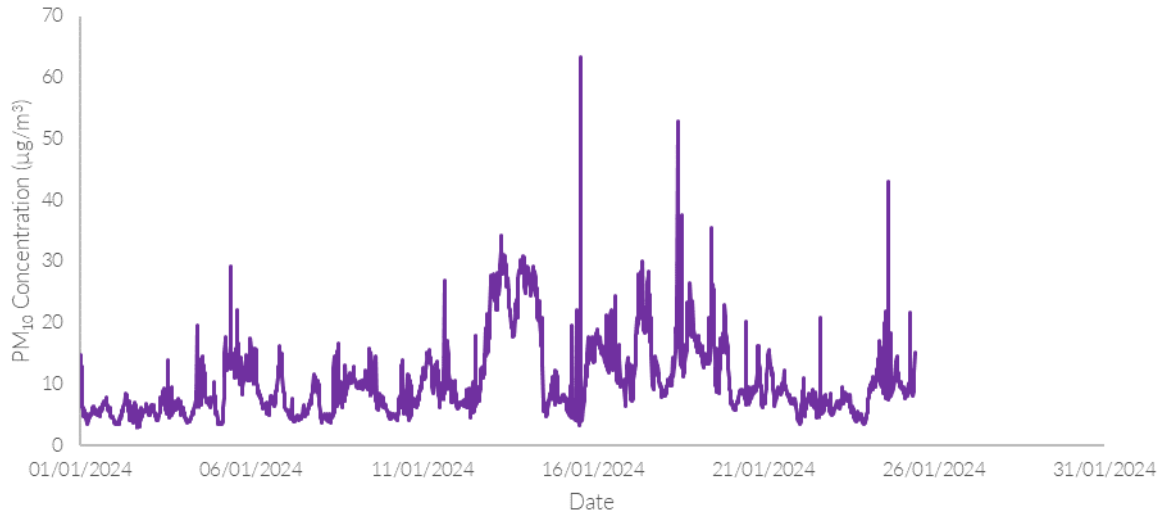


Figure 2: 15 Minute Average PM₁₀ Concentrations at Monitoring Location 1.

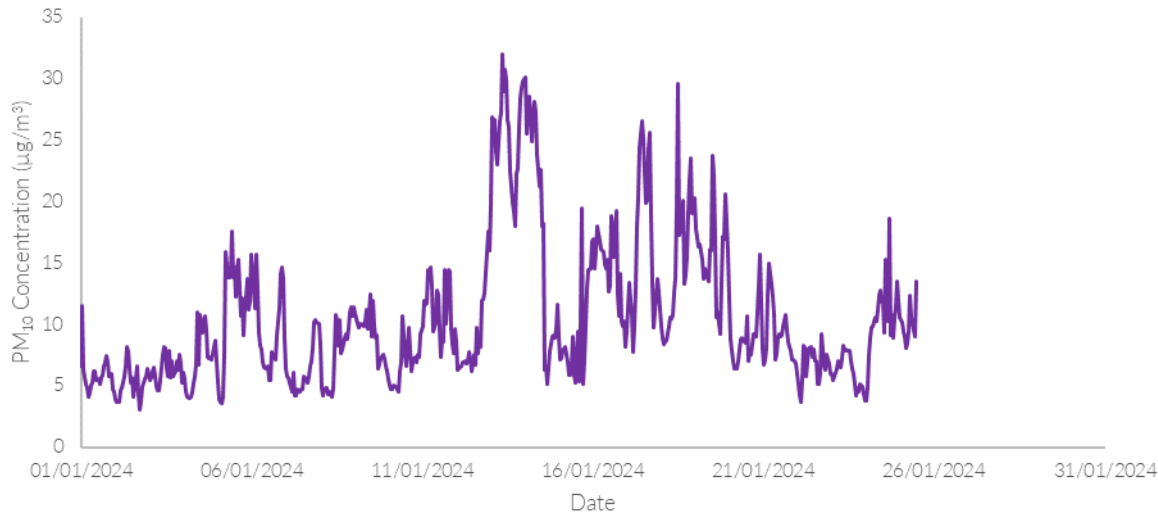


Figure 3: 1-Hour Average PM₁₀ Concentrations at Monitoring Location 1.

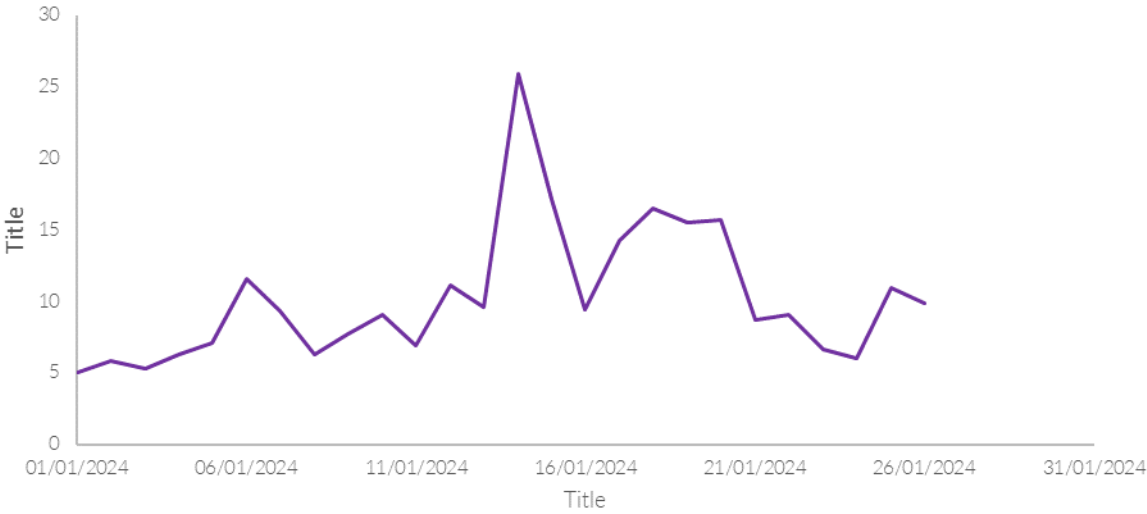


Figure 4: 24 Hour Average PM₁₀ Concentrations at Monitoring Location 1.

Monitoring Location 2.

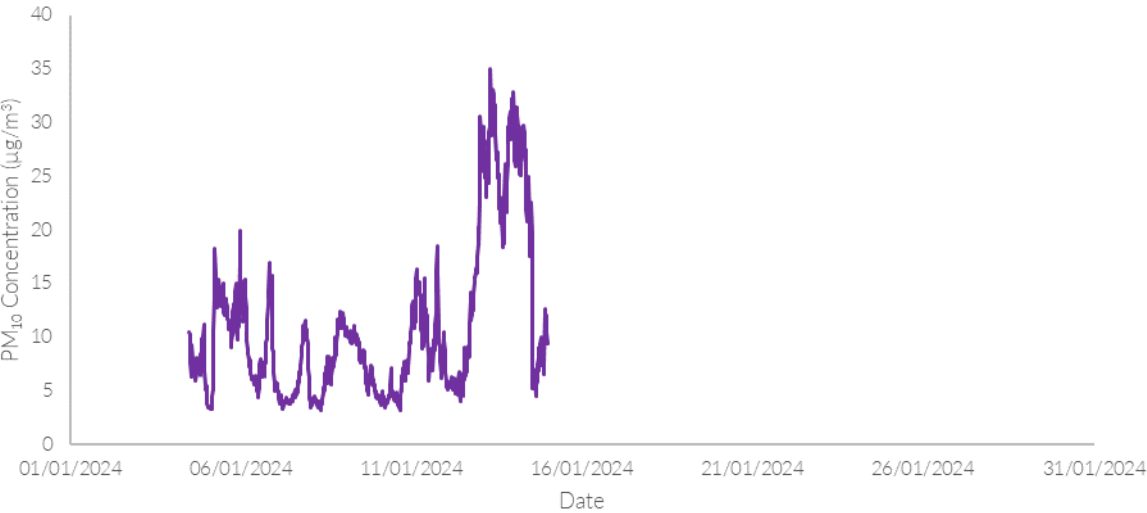


Figure 5: 15 Minute Average PM₁₀ Concentrations at Monitoring Location 2.

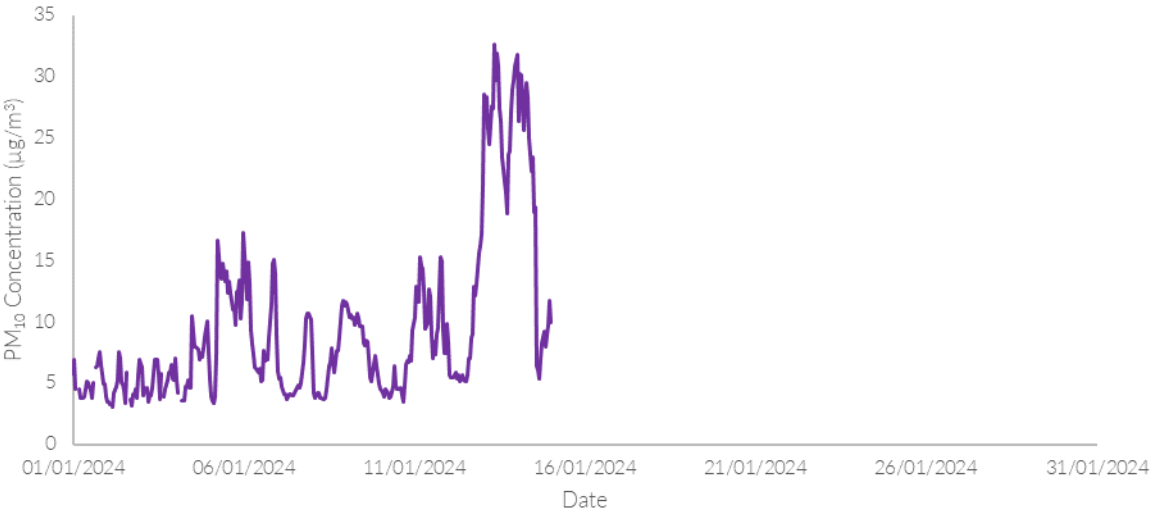


Figure 6: 1-hour Average PM₁₀ Concentrations at Monitoring Location 2.

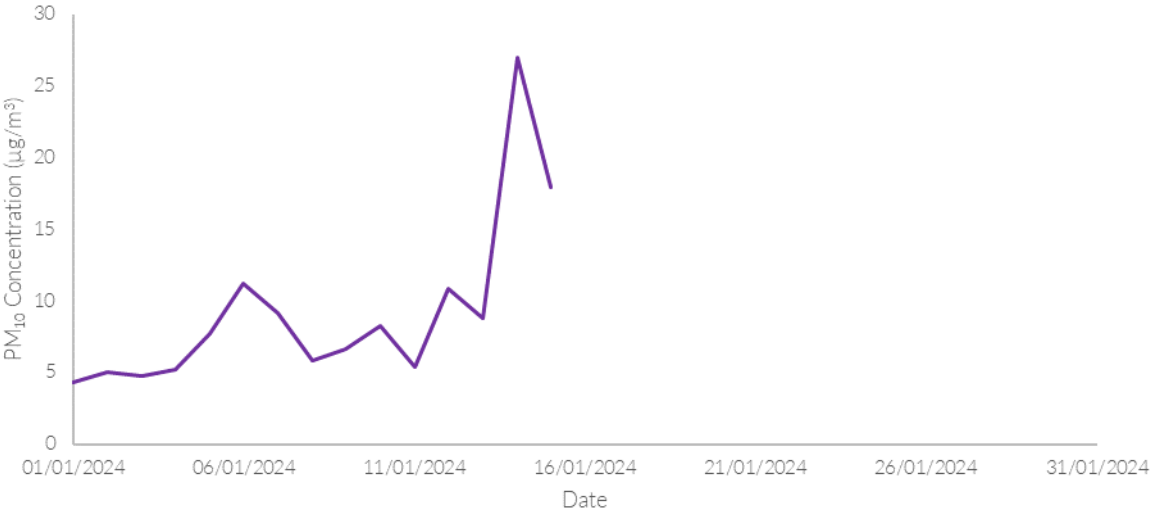


Figure 7: 24-hour Average PM₁₀ Concentrations at Monitoring Location 2.



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