

Baseline Dust Monitoring Report

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PROJECT:

**12-42 SOUTHAMPTON ROW
& 1-4 RED LION SQUARE
LONDON
WC1B 4AF**

CLIENT:

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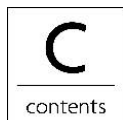
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1. Introduction

1.1. London Borough of Camden Requirements

London Borough of Camden's (LBC) requirements for real-time dust monitoring are consistent with Camden and 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.

Ultimately, 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

Hilson Moran has been commissioned Globalgem Hotels Ltd to undertake dust monitoring during the construction of the Proposed Development at 12-42 Southampton Row and 1-4 Red Lion Square, London, WC1B 4AF hereafter referred to as the 'Site'. The Site location is shown in **Appendix A**.

Planning permission for the site was granted by LBC in October 2020 (planning reference 2020/2470/P) subject to a number of planning conditions. Of relevance to this report is planning condition 36 of the approved development referring to air quality. This condition requires air quality monitoring to be undertaken for a minimum of three months prior to commencement of the construction period as well as throughout the duration of the development.

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

- Monday to Friday: 8am – 6pm;
- Saturday: 8am – 1pm; and,
- Sunday and Public Holidays: no work permitted.

As per the planning conditions, air quality monitoring is being undertaken in order to protect nearby sensitive receptors from the effects of dust (PM₁₀) exposure as a consequence of the ongoing construction works.

This report presents the findings of the three-month baseline monitoring period results of the air quality monitoring carried out between 13th August 2021 and 13th November 2021 and highlights any exceedance of the trigger/action levels.

A glossary of terms is presented in **Appendix B**.

2. Methodology

2.1. Monitoring Equipment

For dust (PM₁₀) monitoring at the site, the Aeroqual Dust Sentry monitors have been utilised at four locations. These monitors are MCERTS certified as required by LBC. All monitors were last serviced and calibrated on 4th August 2021 ahead of installation on-site.

2.2. Monitoring Locations

The monitoring locations are presented in the Dust Management Plan (DMP) submitted to LBC which has been agreed with the Environmental Health Officer (EHO).

Location photographs and a map showing the monitoring locations is presented in **Appendix A** and further details are provided below:

- Monitoring Location 1:
 - The DS 20052021-1619 PM₁₀ monitor is located on the western corner of the site at the junction between Theobalds Road and Southampton Row affixed to metal railings in an alcove at street level.
- Monitoring Location 2:
 - The DS 20052021-1615 PM₁₀ monitor is located on the northern corner of the site at the junction between Theobalds Road and Drake Street installed on a tripod at roof level.
- Monitoring Location 3:
 - The DS 20052021-1614 PM₁₀ monitor is located on the eastern corner of the site where Fisher Street meets Drake Street installed on a tripod at street level.
- Monitoring Location 4:
 - The DS 20052021-1613 PM₁₀ monitor is located on the southern corner of the site where Fisher Street meets Southampton Row affixed to railings on the first-floor balcony.

2.3. Trigger and Action Levels

In accordance with the requirements of the planning condition and as detailed in the DMP, early warning 'alert' and 'action' levels have been set and are presented in Table 1 below. The incident response procedure, should a trigger or action level be exceeded, is presented in the DMP.

Table 1 *Trigger and Action Levels of PM₁₀*

Trigger / Action Level	Trigger / Action Dust Level (µg/m ³)
Alert Level (as a 15-minute average)	150µg/m ³
Action Level (as a 15-minute average)	250µg/m ³

3. Dust Monitoring Results

3.1. 15-Minute Averaging Period

A summary of 15-minute average PM₁₀ levels are presented in Table 2, 3, 4 and 5 below.

Table 2 *Dust Monitoring Results – Measurement Location 1*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Data Capture
13/08/21	74.67	1.11	9.67	0	0	100
13/09/21	58.03	0.66	9.19	0	0	100
13/10/21	41.21	0.50	7.44	0	0	100

Table 3 *Dust Monitoring Results – Measurement Location 2*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Data Capture
13/08/21	83.14	0	9.61	0	0	95%
13/09/21	61.3	0.04	9.24	0	0	97%
13/10/21	43.25	0.74	7.62	0	0	100

Table 4 *Dust Monitoring Results – Measurement Location 3*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Data Capture
13/08/21	78.41	1.18	9.36	0	0	100
13/09/21	59.16	0.55	8.85	0	0	100
13/10/21	40.95	0.88	7.32	0	0	100

Table 5 *Dust Monitoring Results – Measurement Location 4*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Number of Exceedances ≥ 150 µg/m ³ Trigger Level	Data Capture
13/08/21	75.85	1.08	9.51	0	0	100
13/09/21	58.45	0.81	8.94	0	0	100
13/10/21	54.11	0.49	7.37	0	0	100

3.2. 24 Hour Averaging Period

A summary of 24-hour average PM₁₀ levels are presented in Table 6, 7, 8 and 9 below.

Table 6 *Dust Monitoring Results – Measurement Location 1*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 50 µg/m ³	Data Capture (%)
13/08/21	39.11	3.67	9.71	0	100
13/09/21	32.28	2.84	9.13	0	100
13/10/21	14.61	3.9	7.44	0	100

Table 7 *Dust Monitoring Results – Measurement Location 2*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 50 µg/m ³	Data Capture (%)
13/08/21	41.89	0.97	9.08	0	100
13/09/21	31.76	1.76	8.85	0	100
13/10/21	15.34	3.52	7.63	0	100

Table 8 *Dust Monitoring Results – Measurement Location 3*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 50 µg/m ³	Data Capture (%)
13/08/21	39.99	2.45	9.38	0	100
13/09/21	30.87	2.9	8.80	0	100
13/10/21	14.53	3.5	7.33	0	100

Table 9 *Dust Monitoring Results – Measurement Location 4*

Month Commencing	Max (µg/m ³)	Min (µg/m ³)	Average (µg/m ³)	Number of Exceedances ≥ 50 µg/m ³	Data Capture (%)
13/08/21	39.40	2.88	9.52	0	100
13/09/21	31.52	2.77	8.89	0	100
13/10/21	14.27	3.53	7.37	0	100

4. Dust Monitoring Conclusions

4.1. 15-Minute Averaging Period

The results presented in Tables 2, 3, 4 and 5 indicate that during the monitoring period there were no exceedances of the 15-minute alert level ($150 \mu\text{g}/\text{m}^3$) or the action level ($250 \mu\text{g}/\text{m}^3$) at Monitoring Locations 1, 2, 3 and 4.

The highest concentration recorded at Monitoring Location 1 was $74.67 \mu\text{g}/\text{m}^3$ occurring at 03:30 on 8th September 2021.

At Monitoring Location 2 the highest recorded concentration was $83.14 \mu\text{g}/\text{m}^3$ occurring at 04:30 on 8th September 2021. The gaps in the measured data at this location were due to a temporary issue with zero-calibration of the device which led to erroneous data which had to be removed from the dataset.

At Monitoring Location 3 the highest recorded concentration was $78.41 \mu\text{g}/\text{m}^3$ occurring at 04:30 on 8th September 2021.

At Monitoring Location 4 the highest recorded concentration was $75.85 \mu\text{g}/\text{m}^3$ occurring at 04:30 on 8th September 2021.

Figures 6, 7, 8 and 9 in Appendix C illustrate the recorded 15-minute PM_{10} concentration at Monitoring Locations 1, 2, 3 and 4 during the baseline period.

4.2. 24-Hour Averaging Period

The results presented in Tables 6, 7, 8 and 9 indicate that during the monitoring period there was no exceedance of the 24-hour limit value for PM_{10} ($50 \mu\text{g}/\text{m}^3$) at Monitoring Locations 1, 2, 3 or 4.

The highest concentration recorded at Monitoring Location 1 over a 24-hour period was $39.11 \mu\text{g}/\text{m}^3$ on 8th September 2021.

At Monitoring Location 2 the highest recorded concentration was $41.89 \mu\text{g}/\text{m}^3$ on 8th September 2021.

At Monitoring Location 3 the highest recorded concentration was $39.99 \mu\text{g}/\text{m}^3$ on 8th September 2021.

At Monitoring Location 4 the highest recorded concentration was $39.40 \mu\text{g}/\text{m}^3$ on 8th September 2021.

Figures 10, 11, 12 and 13 in Appendix C illustrate the recorded 24-hour PM_{10} concentration at Monitoring Locations 1, 2, 3 and 4 during the baseline period.

5. Monitoring Summary for the Baseline Period

- There were no exceedances of the 15-minute alert or action trigger levels at Monitor Location 1, 2, 3 and 4 during the baseline period;
- There were no exceedances of the 24-hour limit at Monitor Locations 1, 2, 3 or 4 during the baseline period; and,
- The overall capture was 100% at Monitoring Location 1, 3 and 4, and 97% at Monitoring Location 2.

Appendix A Site Plan and Location of Monitoring Locations

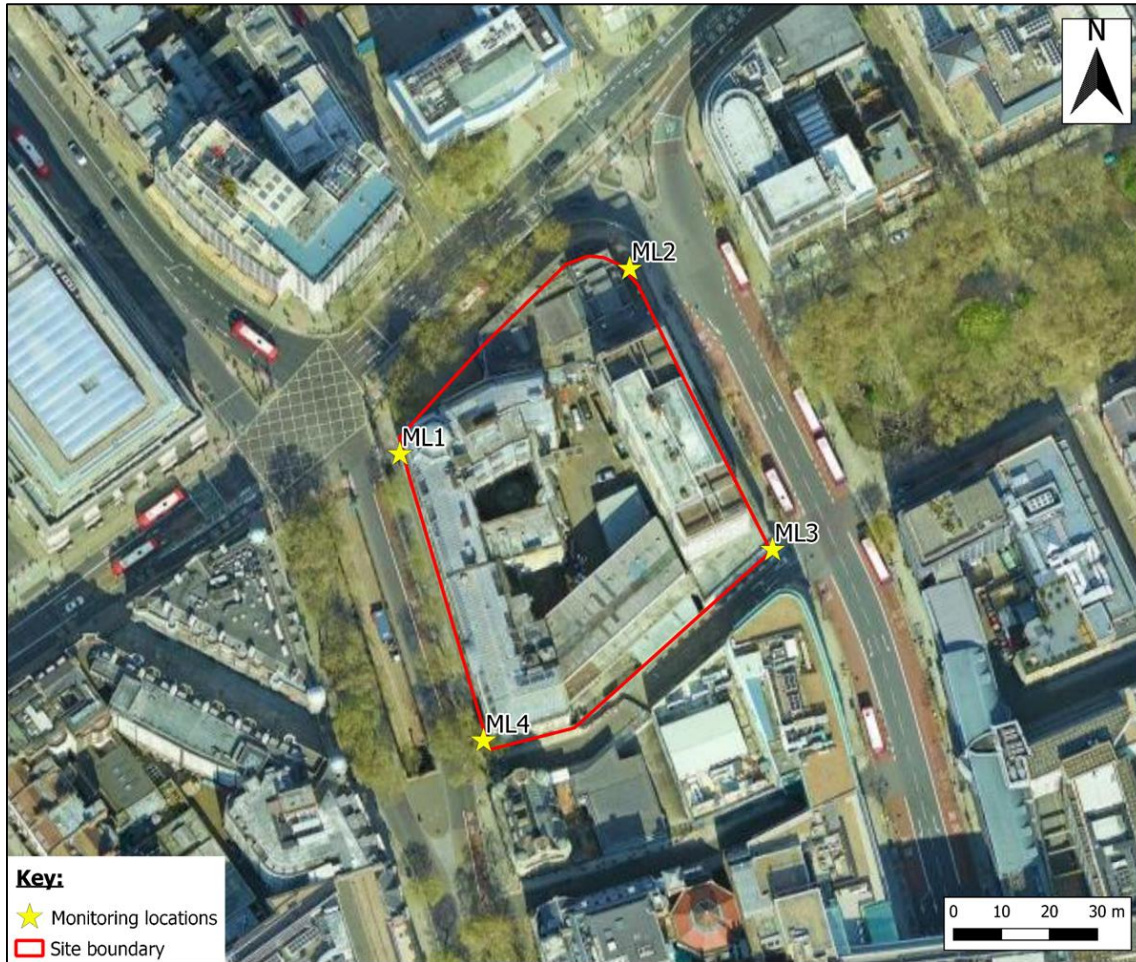


Figure 1 Site Plan and Monitoring Locations



Figure 2 **Monitoring Location 1**



Figure 3 **Monitoring Location 2**



Figure 4 **Monitoring Location 3**



Figure 5 **Monitoring Location 4**

Appendix B Glossary

Terminology	Description
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10 micrometres
Exceedance	A period of time where the concentration of a pollutant is greater than, or equal to, the appropriate quality standard
µg/m ³	1 µg/m ³ means that one cubic meter of air contains one microgram (millionth of a gram) of pollutant

Appendix C Dust Monitoring Results

15-Minute Averaging Period:

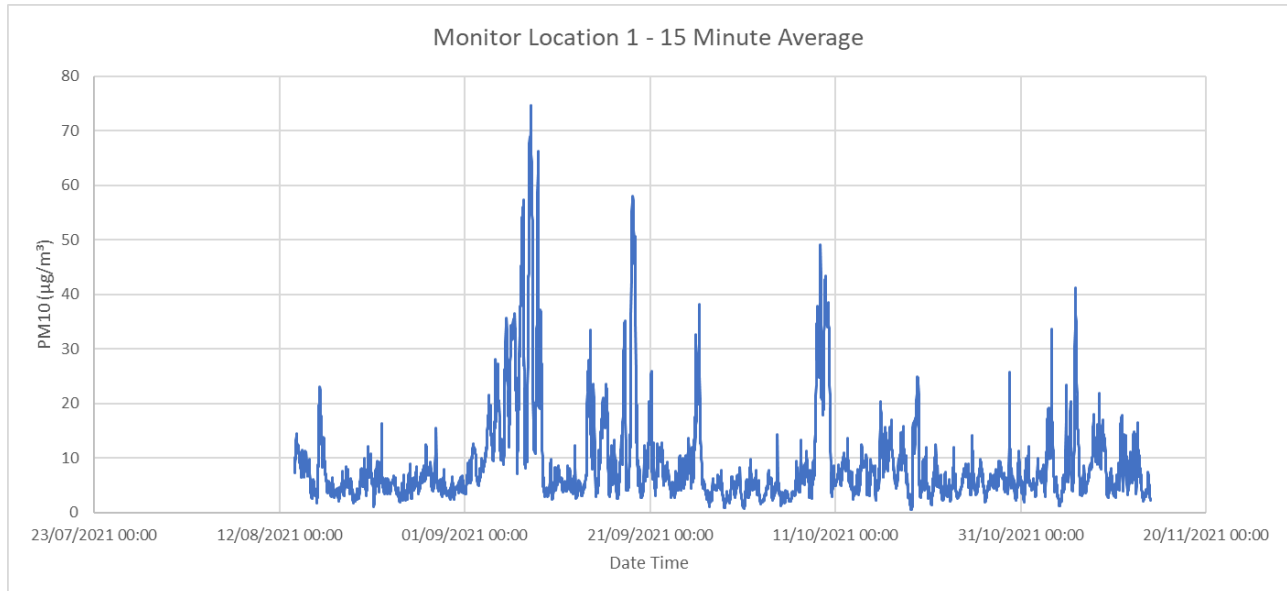


Figure 6 *Monitoring Location 1 – PM₁₀ 15 Minute Average*

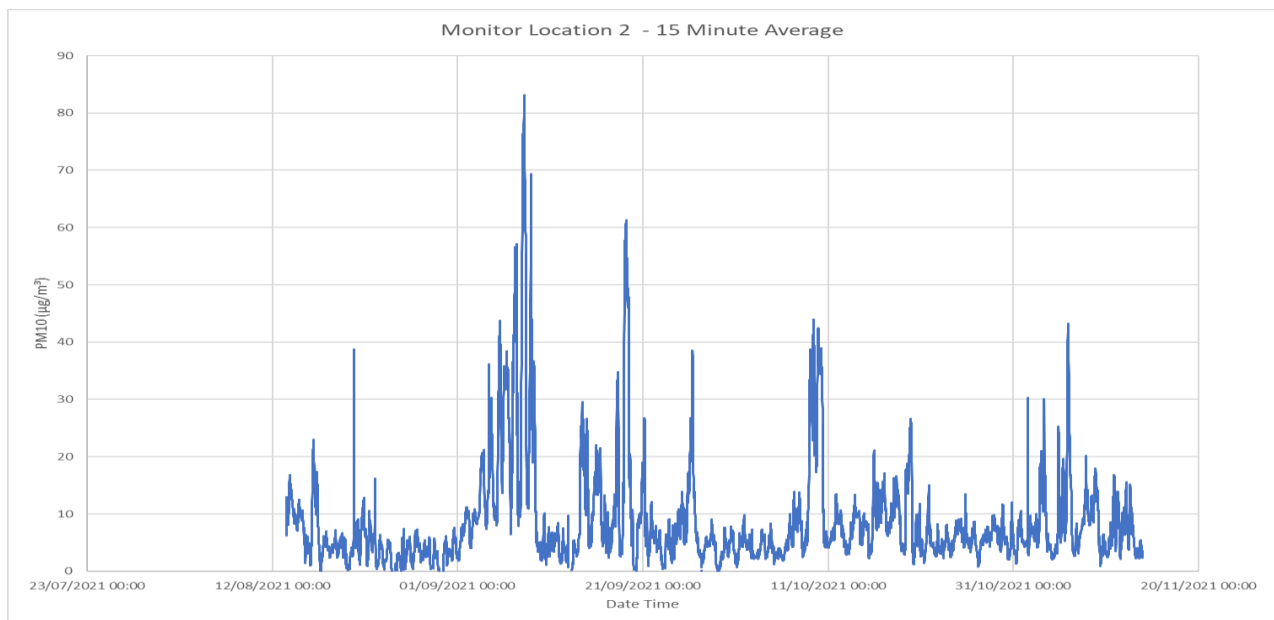


Figure 7 *Monitoring Location 2 – PM₁₀ 15 Minute Average*

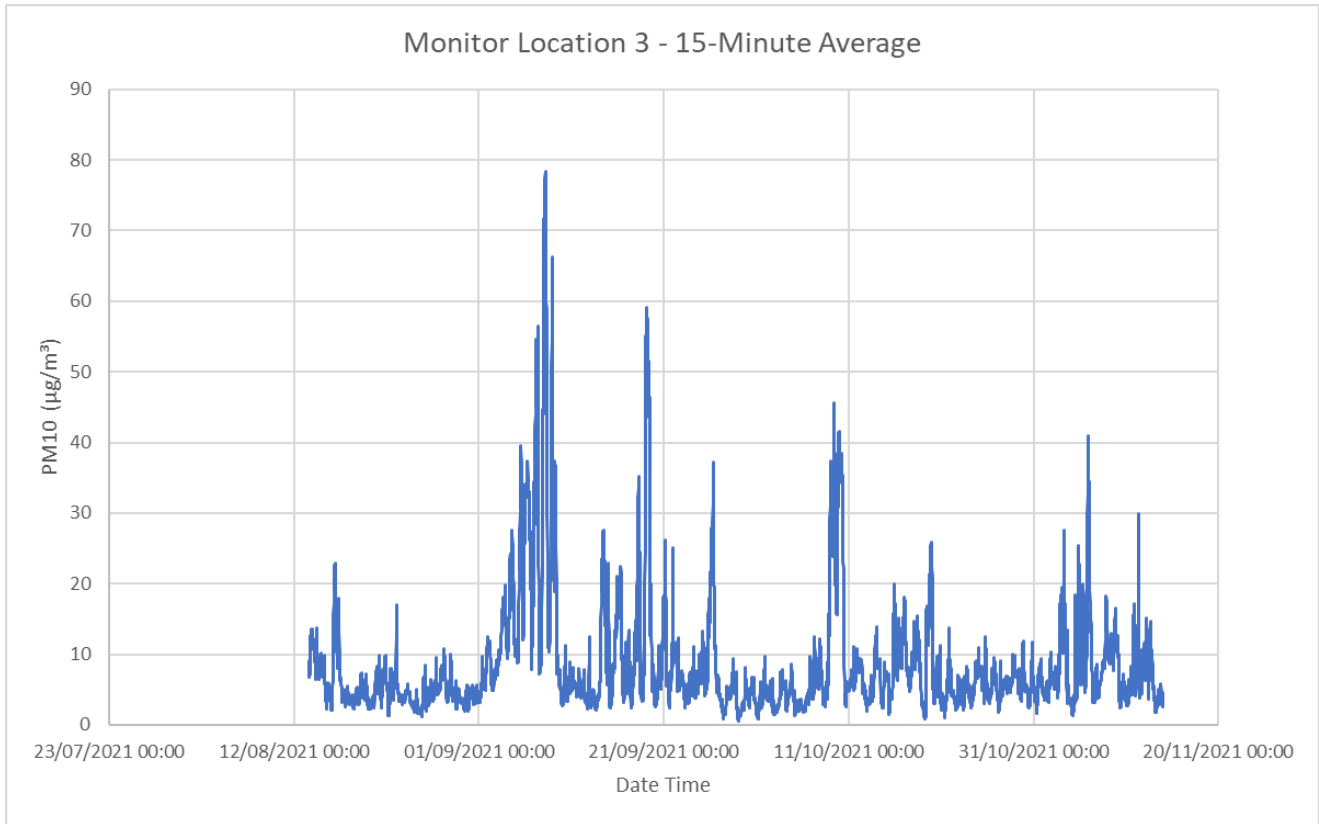


Figure 8 *Monitoring Location 3 – PM₁₀ 15 Minute Average*

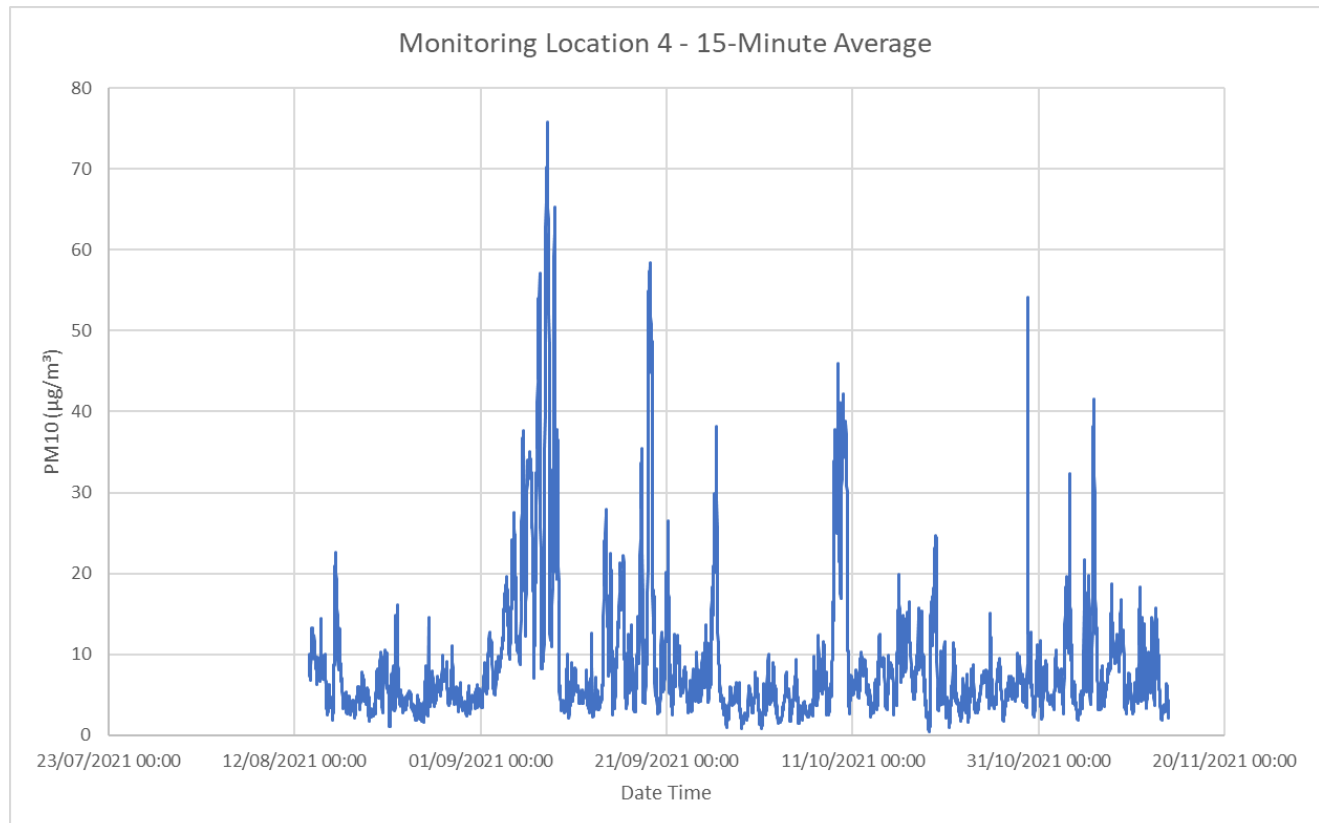


Figure 9 *Monitoring Location 4 – PM₁₀ 15 Minute Average*

24-Hour Averaging Period:

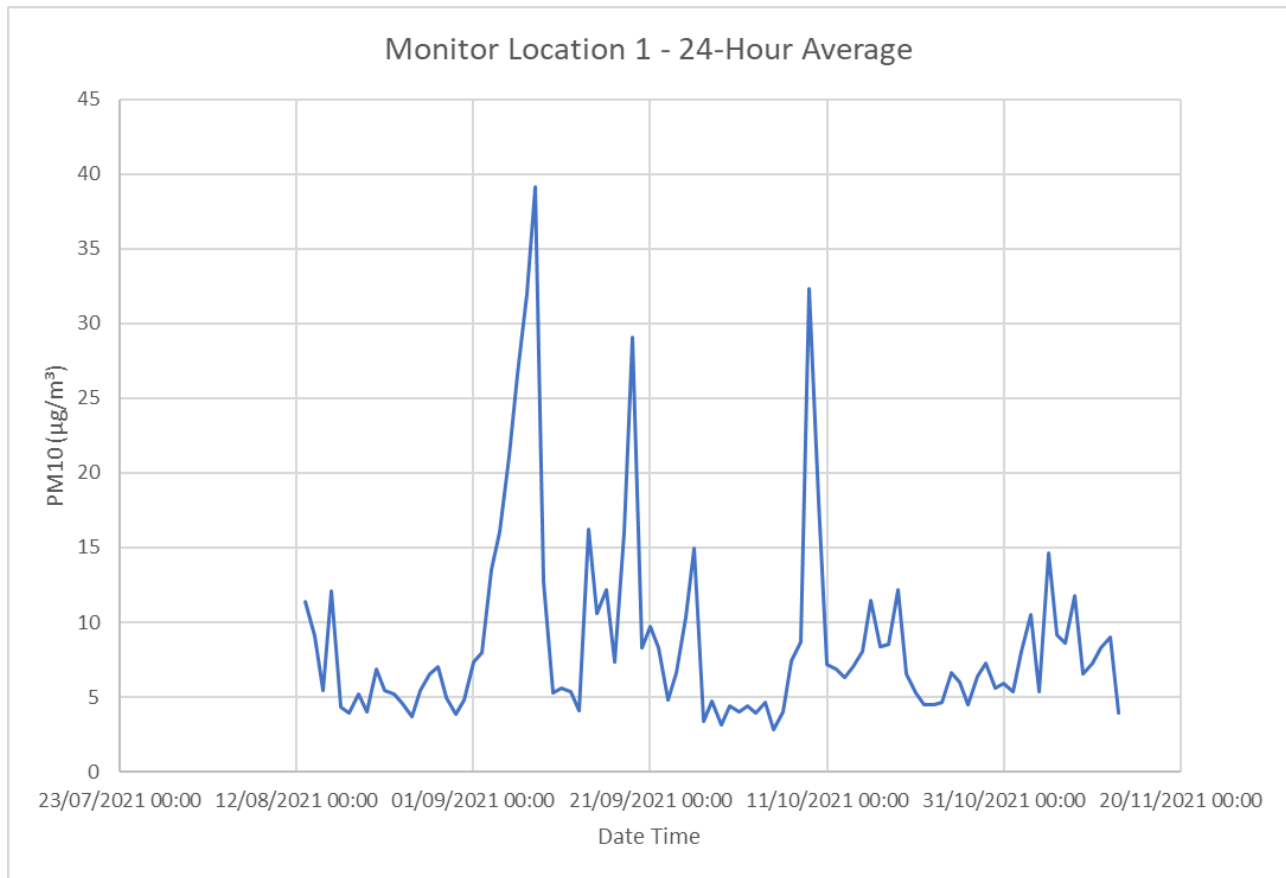


Figure 10 *Monitoring Location 1 – PM₁₀ 24 Hour Average*

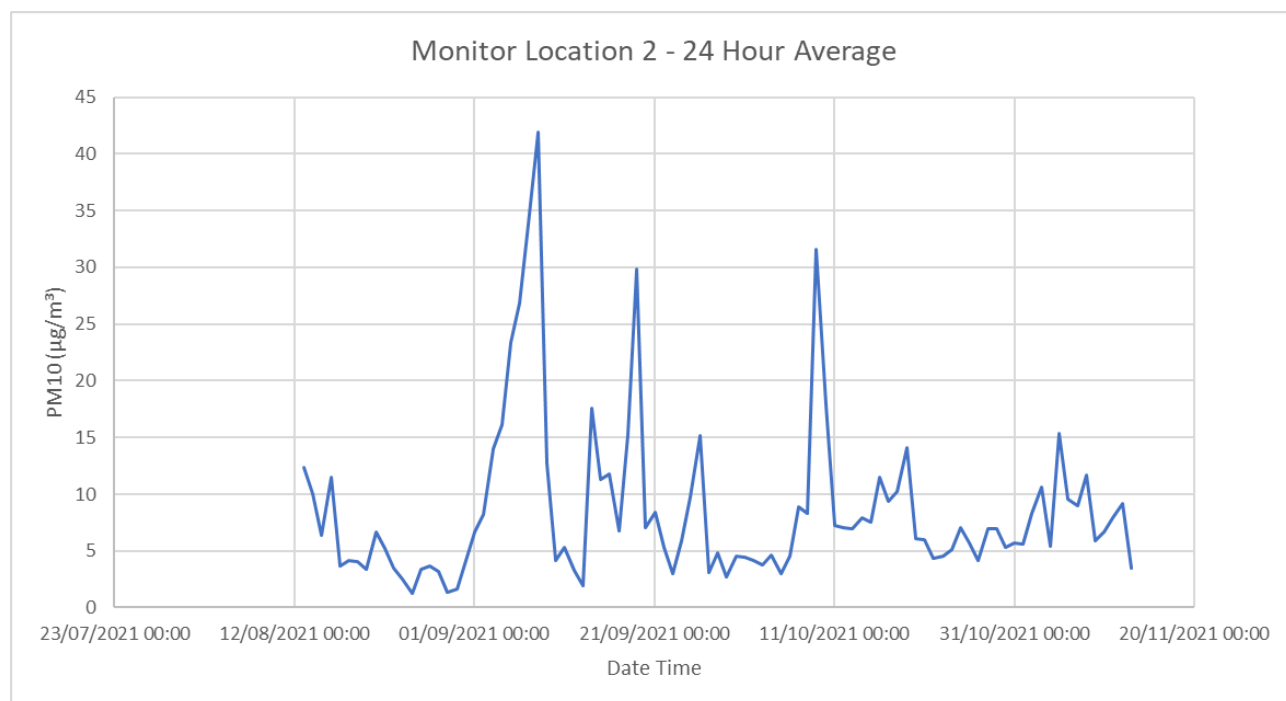


Figure 11 *Monitoring Location 2 - PM₁₀ 24 Hour Average*

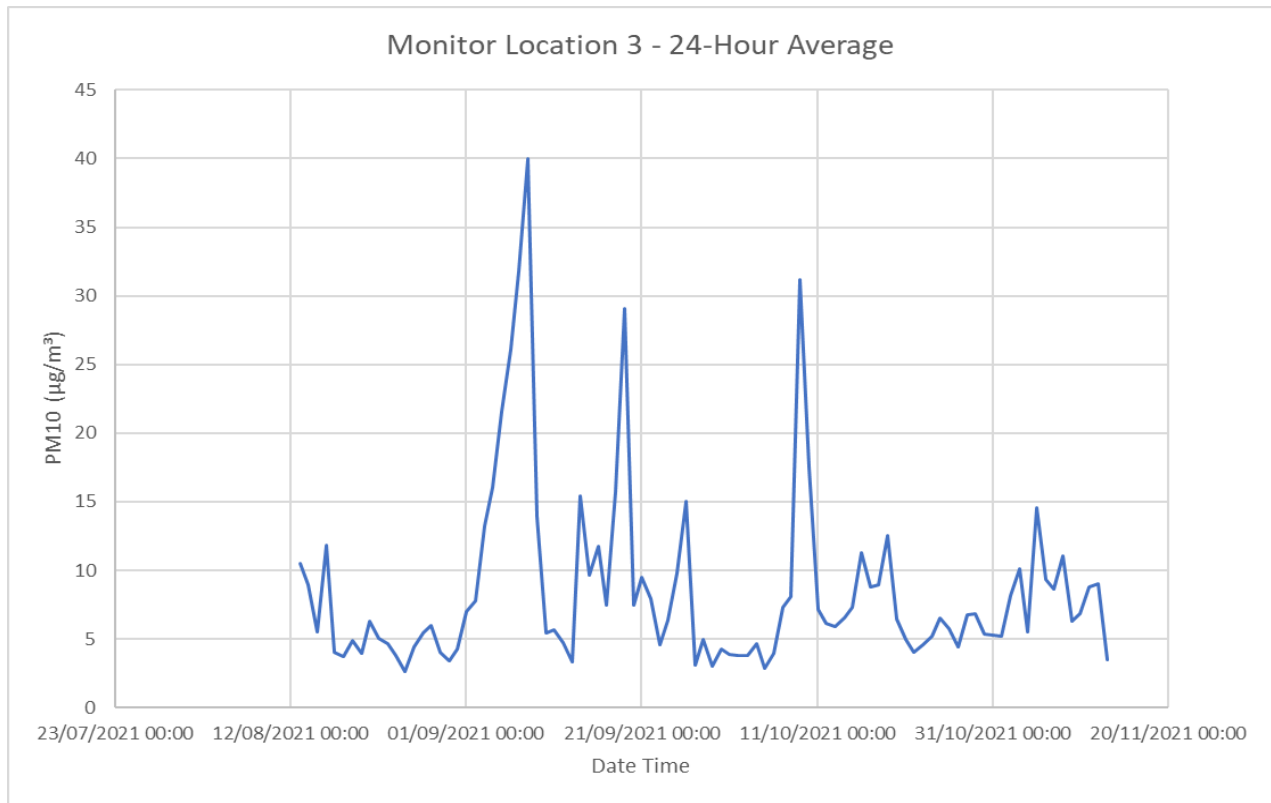


Figure 12 *Monitoring Location 3 - PM₁₀ 24 Hour Average*

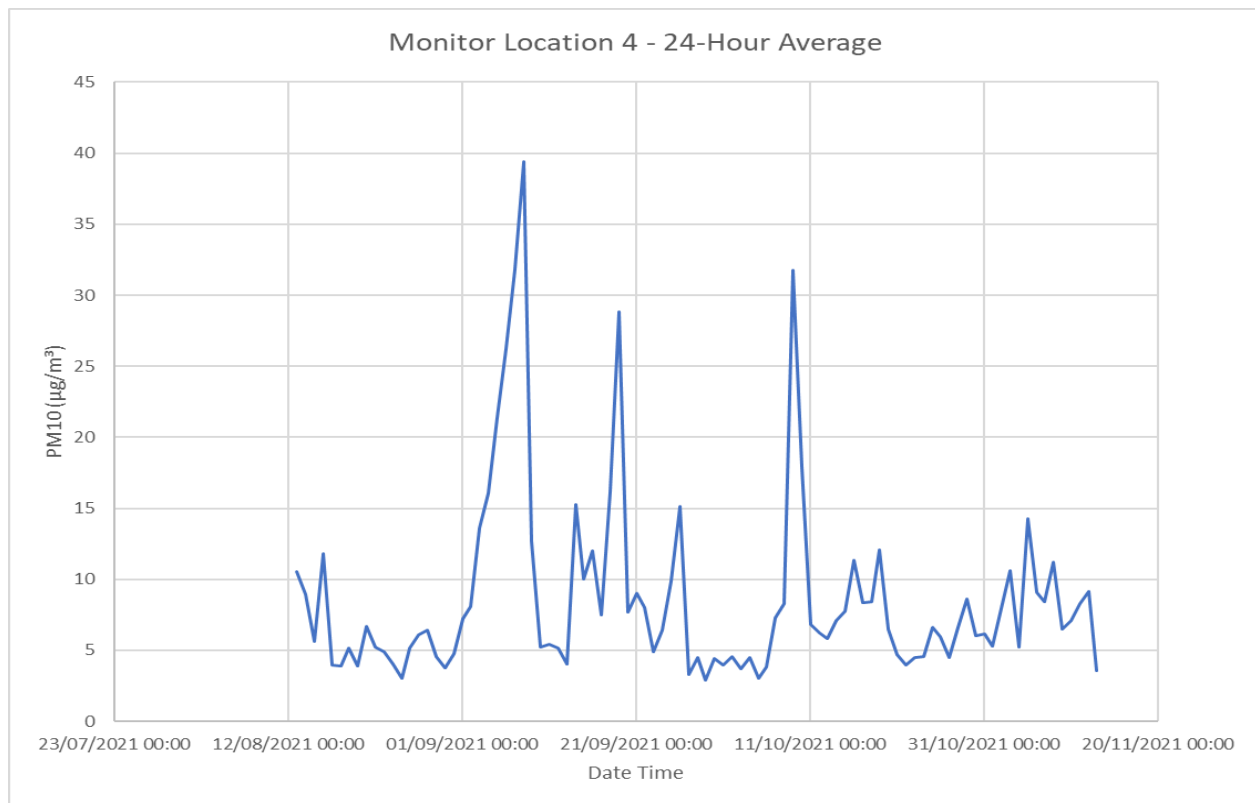


Figure 13 *Monitoring Location 4 - PM₁₀ 24 Hour Average*