

## Air Quality and Dust Monitoring Monthly Report – **May** 2021

**Buckinghamshire** Council



## Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

High Speed Two (HS2) Limited,  
Two Snowhill  
Snow Hill Queensway  
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: [HS2enquiries@hs2.org.uk](mailto:HS2enquiries@hs2.org.uk)

Website: [www.gov.uk/hs2](http://www.gov.uk/hs2)

A report prepared by EWCs and MWCCs on behalf of HS2 Ltd.

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.

© High Speed Two (HS2) Limited, 2021, except where otherwise stated.

Copyright in the typographical arrangement rests with High Speed Two (HS2) Limited.

This information is licensed under the Open Government Licence v2.0. To view this licence, visit [www.nationalarchives.gov.uk/doc/open-government-licence/version/2](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2) **OGI** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk). Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.



Printed in Great Britain on paper containing at least 75% recycled fibre.

# Monthly Summary

- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of dust monitoring undertaken in the Buckinghamshire Council (BC) area during May 2021.
- 1.1.2 Figures 1 to 7 in Appendix A presents the current worksites together with the dust monitoring locations for May 2021.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from [www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2](http://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2), which highlights: the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.
- 1.1.4 The current phase of works commenced within BC during January 2020 and is expected to be completed by the end of September 2021. The current worksites at Colne Valley Viaduct (CVV) LTP1, Chalfont St Peter Vent Shaft, Amersham Vent Shaft, Chalfont St Giles Vent Shaft, Little Missenden Vent Shaft, Lower Bottom House Farm Lane, DC2J Haul Road and Compound site and Calvert are presented in Appendix A, Figures 1 to 7. Activities for each worksite during May 2021 included:

#### Colne Valley Viaduct (CVV) LTP1:

- Utilities: Sections: B9;
- Jetty piling: piling plant form, support plant and compound;
- Cofferdam Sheet Piling: piling plant and support plant;
- Permanent main piling works: boring pile, de-sanding pile bore at pile position, installing reinforcement cage and concreting pile, bored pile break-down to prepare pile surface, grout curtain around viaduct pile groups maintenance plant;
- Haul road 29,150 - 29,400: finishing works and fencing;
- Haul road 28,220 - 29,200: earthworks, and drainage;
- North Embankment Compound: compound operation;
- Ground investigation works: GI works and overwater GI works;
- Affinity Water Access Road: pavement construction;
- DWSC Access road: pavement construction;
- DWSC Compound: compound operation and de-sanding compound;
- River Colne Realignment; and
- Thames water diversion.

#### Chalfont St Peter Vent Shaft:

- Stockpile management: at ventilation shaft site and management of temporary stockpile;
- Shaft Dewatering;
- Shaft excavation: excavation (first 25 m and after 25m depth);
- All auxiliary plant 01-06;

- Post Treatment Injection works: dewatering;
- Emergency Site Surface Stabilisation Works; and
- Post Treatment Injection Works.

Amersham Vent Shaft:

- General site Activity: general plant;
- Grouting Pre-Treatment: drilling and grouting;
- Grouting Post-Treatment: drilling and grouting;
- Site establishment works;
- Site installations;
- Earthworks: stockpile management;
- All storage, reinforcement, crane bases & workshops;
- Installation of vehicle restraint system;
- D-wall Works: civil works, delivery and assembly; and
- Excavate to shaft piling platform level (stage 1).

Chalfont St Giles Vent Shaft:

- General site activity: general plant;
- Earthworks: stockpile management;
- Post treatment: drilling and grouting;
- D-wall works: excavation, de-sanding, mud treatment and concreting; and
- Water Treatment;

Little Missenden Vent Shaft:

- General Site Activity: general plant;
- Site Establishment: office establishment, piling platform, site roads formation level & other site facilities;
- Earthworks: stockpile management;
- Pre and Post treatment: drilling and grouting; and
- Water Treatment.

Lower Bottom House Farm Lane:

- Earthworks including excavation, stockpiling, and material movement;
- Construction works, including new road haul road, topsoil strip, cut/fill placing and compaction, utility diversions, installations of ducting and drainage, lay CBGM, installation of 1 no. temporary bridge, road signage and landscaping; and
- Track out activities.

DC2J Haul Road and Compound site:

- Construction of a 4.6km long access road between Quainton and Greatmoor Sidings; and
- The construction of a satellite compound at the southern end of the access road.



#### Calvert Worksites:

- FCC offloading platform (1): including the preparation for concrete slabs using hand tools and small excavator, pouring of concrete slabs, the preparation for stockpiling, the stockpiling and the aggregate laying and compaction for ADT platform;
- School Hill compound (2): including the erection of a concrete batching plant and the civil works to install underground utilities;
- Shepherds Furze trial compaction (3);
- Shepherds Furze offloading platform (4): including the delivery of aggregate by train to the Shepherds Furze offloading platform (3No. train deliveries on weekdays and 2No. train deliveries on Saturdays) and the offloading, stockpiling and haulage of aggregate; and
- East West Rail Overbridge (5): including pile formation.

1.1.5 Seventeen (17) dust monitors are installed around the worksites, where demolition, earthworks, construction and trackout activities are underway. Two (2) are located at the CVV LTP1 compound, two (2) at the Chalfont St Peter worksite, two (2) at the Amersham worksite, two (2) at the Chalfont St Giles worksite, two (2) at the Little Missenden worksite, two (2) at Lower Bottom House Farm Lane site, two (2) at the DC2J Haul Road and Compound worksite and three (3) at Calvert Worksites. Dust Risk Assessments at the Calvert worksites returned low or negligible risk rating, whereas each of the other worksites returned a medium dust risk rating.

1.1.6 Dust monitoring locations and results for May 2021 are presented in Appendix B, Table 2, together with a line chart of monthly data from each dust monitor presented in Figures 8 to 21. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.

1.1.7 The trigger level for PM<sub>10</sub> concentrations of 190 µg/m<sup>3</sup>, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – (October 2018)*' has been applied.

1.1.8 There was one (1) dust trigger alert recorded during the monitoring period (May 2021). Details of the trigger alert is presented in Appendix B, Table 3. All other results were in line with expected ranges.

1.1.9 Data capture for various monitors was below 90% for the month of May 2021. Monitors CAL-AQMP2 and CAL-AQMP3 were installed on the 7<sup>th</sup> of May. Missing data was due to ongoing power interruptions and intermittent technical issues and/or loss of power due to insufficient sunlight/wind for monitors using solar/wind power. All concerned issues have been or are in the process of being resolved.

1.1.10 Table 1 provides a summary of the complaint information related to dust or air quality received during this reporting period (May 2021), together with the findings of any related investigations.

Table 1: Summary of complaints received during May 2021

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-21-41898-C	Colne Valley Viaduct (CVV) LTP1	A complaint was received on 06/05/2021 around an increase in air pollution believed to be caused as a result of the HS2 works.	A response has been provided highlighting the mitigation measures that are being used and encouraged stakeholder to report it when they believe these are not working. Furthermore, advised that monitors are in place to monitor the dust and pollution levels, and ensure effective mitigation is in place.

# Appendix A – Worksite and Dust Monitoring Locations

Figure 1 to Figure 7: Current monitoring locations and worksites within Buckinghamshire Council during May 2021






**Legend**  
 ● Dust Monitor □ District Borough Unitary Boundaries  
 ■ Worksite

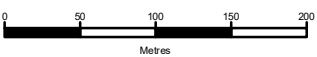
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number  
 Map Name  
**Worksite and Monitoring Locations at Colne Valley Viaduct, BC (Sheet 1)**  
 Buckinghamshire Council


 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

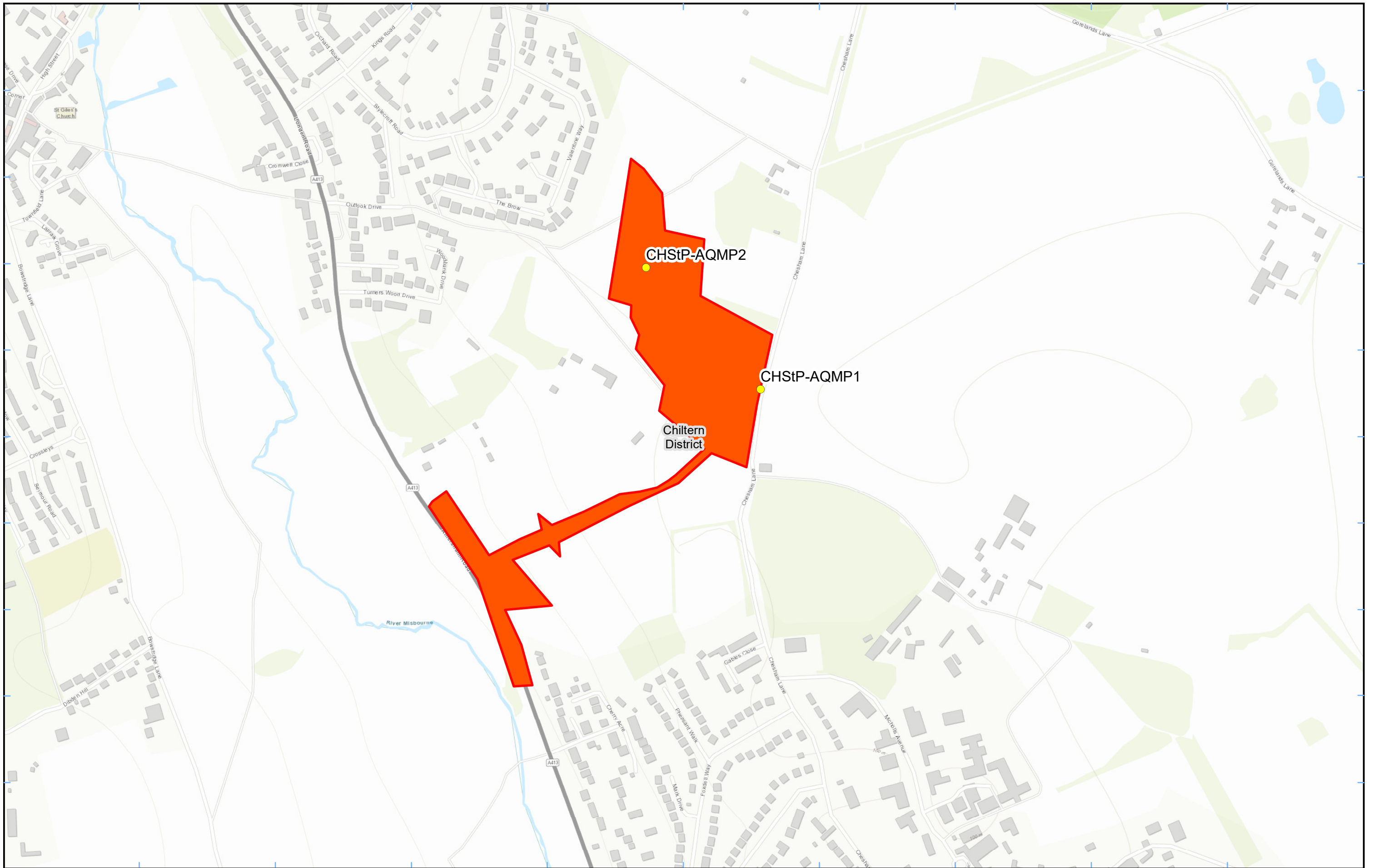
Registered in England. Registration number 06791686.  
 Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

© Crown copyright and database rights 2021.  
 Ordnance Survey Licence Number 100049190.

Scale at A3: 1:5,000  

 Metres

Doc Number: \_\_\_\_\_ Date: 06/05/21





**Legend**

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number

Map Name

**Worksite and Monitoring Locations at Chalfont St Peter, BC (Sheet 2)**

**Buckinghamshire Council**

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued

Scale at A3: 1:5,000

Registered in England. Registration number 06791686. Registered office: 2 Snowhill, Queensway.

© Crown copyright and database rights 2021. Ordnance Survey Licence Number 100049190.

Doc Number: Date: 06/05/21




**Legend**

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number
Map Name
<b>Worksite and Monitoring Locations at Amersham, BC (Sheet 3)</b>
<b>Buckinghamshire Council</b>

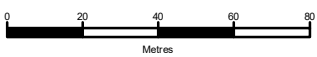


Registered in England. Registration number 06791686.  
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.


© Crown copyright and database rights 2021.  
Ordnance Survey Licence Number 100049190.

**Doc Number:**

Scale at A3: 1:2,000



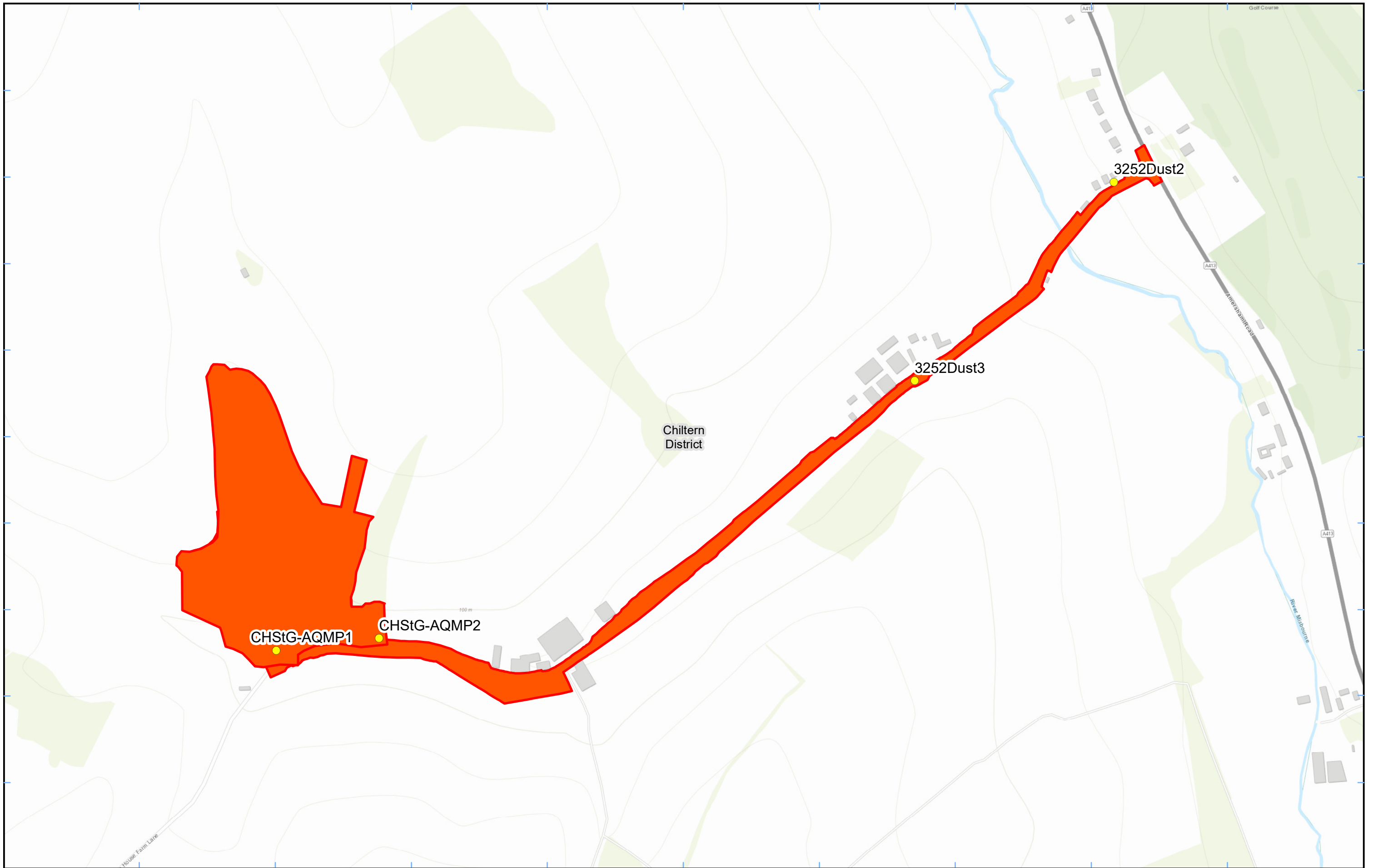
Metres



**Date: 06/05/21**

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.





**Legend**  
 ● Dust Monitor □ District Borough Unitary Boundaries  
 ■ Worksite

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number

Map Name  
**Worksites and Monitoring Locations  
 at Chalfont St Giles and Lower Bottom  
 House Farm Lane, BC (Sheet 4)**  
 Buckinghamshire Council

hs2

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued

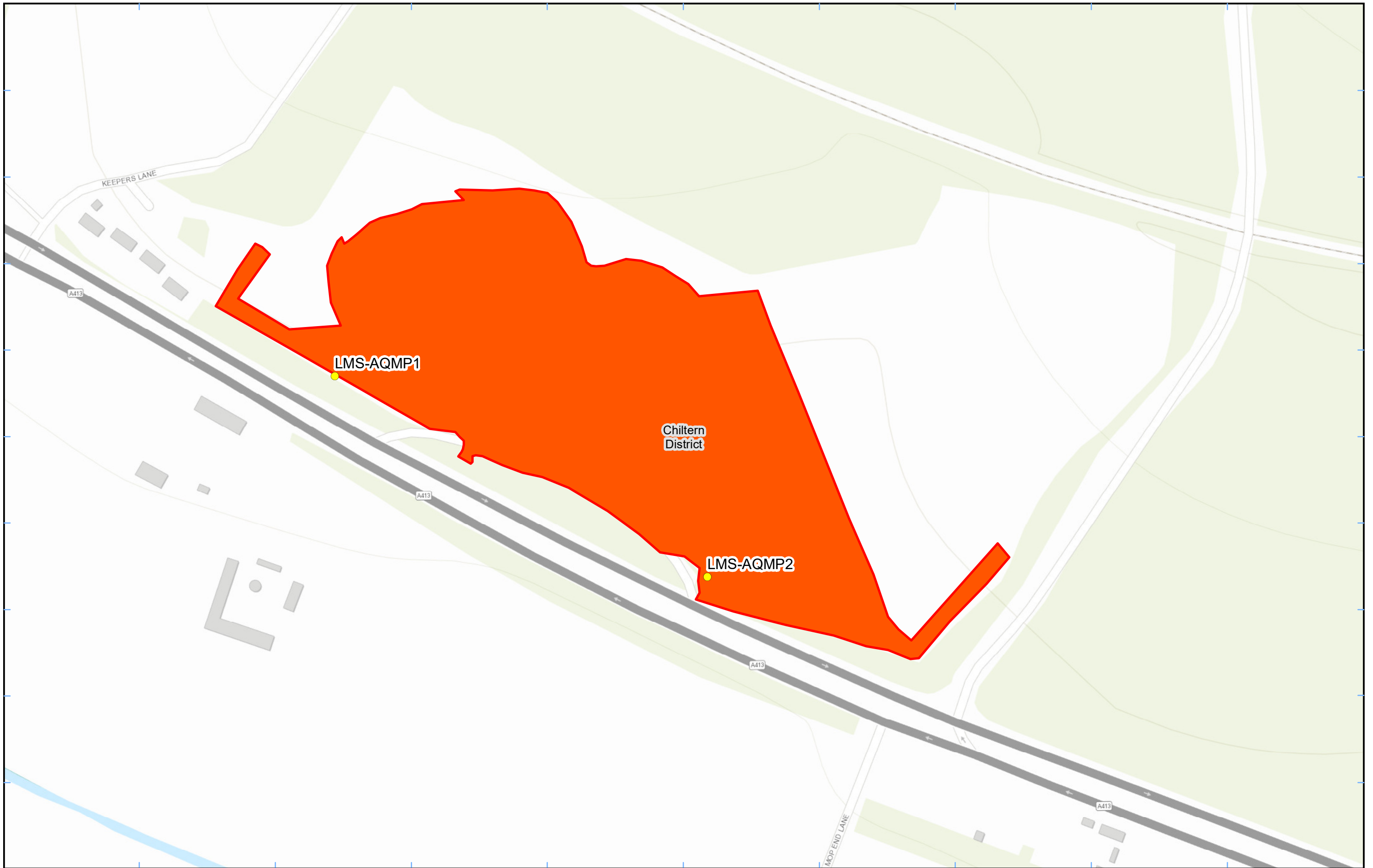
Registered in England. Registration number 06791686.  
 Registered office: 2 Snowhill, Queensway,  
 Birmingham B4 6GA.

© Crown copyright and database rights 2021.  
 Ordnance Survey Licence Number 100049190.

Scale at A3: 1:5,000

0 50 100 150 200  
 Metres

Doc Number: **Date: 06/05/21**




**Legend**


- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number  Map Name <b>Worksite and Monitoring Locations at Little Missenden, BC (Sheet 5)</b>  <b>Buckinghamshire Council</b>	Registered in England. Registration number 06791686. Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.  © Crown copyright and database rights 2021. Ordnance Survey Licence Number 100049190.  <b>Doc Number:</b>
--	---

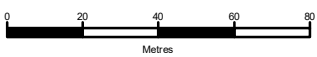


Registered in England. Registration number 06791686.  
Registered office: 2 Snowhill, Queensway,  
Birmingham B4 6GA.



HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

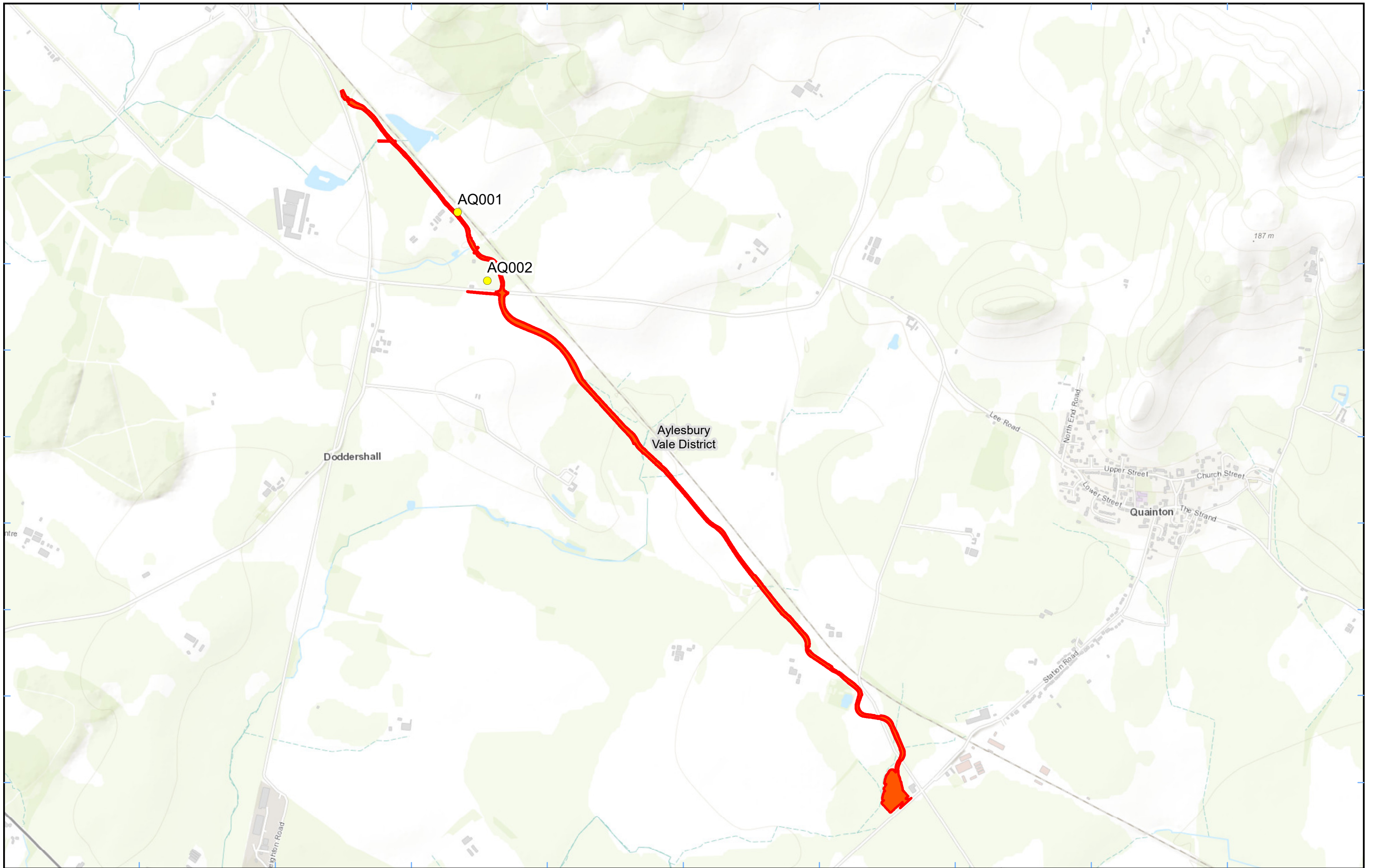
Scale at A3: 1:2,000



Metres

**Date: 06/05/21**





**Legend**  
 Dust Monitor  
 Worksite  
 District Borough Unitary Boundaries

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number  
 Map Name  
**Worksite and Monitoring Locations at DC2J, BC (Sheet 6)**  
**Buckinghamshire Council**

**hs2**  
 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

Registered in England. Registration number 06791686.  
 Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

© Crown copyright and database rights 2021.  
 Ordnance Survey Licence Number 100049190.

Scale at A3: 1:15,000

Doc Number: **Date: 07/05/21**

Figure 7: Buckinghamshire Council Worksite and Monitoring locations during May 2021



## Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and May 2021 Results

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	M	Yes	Yes	6.1	1.0	29.0	0	92
CVV-AQMP2	503662, 189775	On the south boundary of LTP1	M	Yes	Yes	6.0	1.0	32.0	0	93
CHStP-AQMP1	500118, 193105	On the eastern boundary of the site with Chesham Lane	M	Yes	Yes	6.0	1.0	90.0	0	99
CHStP-AQMP2	499951, 193282	On the western boundary of the site	M	Yes	Yes	5.8	1.0	35.0	0	99
AMER-AQMP1	495418, 196738	On the north-eastern boundary of Amersham	M	Yes	Yes	5.6	1.0	33.0	0	100
AMER-AQMP2	495324, 196556	On the south-western boundary of Amersham	M	Yes	Yes	5.6	1.0	18.0	0	53*
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	M	Yes	Yes	5.6	1.0	36.0	0	100
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	M	Yes	Yes	6.0	1.0	33.0	0	82*
LMS-AQMP1	493190, 198848	On the south-west of the site	M	Yes	Yes	7.5	1.0	31.0	0	36*
LMS-AQMP2	493407, 198731	On the south-east of the site	M	Yes	Yes	4.9	1.0	26.0	0	98



Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
3252Dust2	498390, 195434	On the boundary with Elm Tree Cottage, Bottom House Farm Lane	M	Yes	No	-	-	-	-	0*
3252Dust3	498100, 195145	On the site boundary opposite Lower Bottom House Farm	M	Yes	No	5.5	0.5	26.4	0	100
AQ001	471524, 221329	Woodlands Farm	M	Yes	No	5.9	1	50	0	100
AQ002	471654, 221030	Woodlands Cottage	M	Yes	No	6.1	1	200	1	100
CAL-AQMP1	469040, 224261	Adjacent Red Kite View, Calvert	N/A	Yes	Yes	11.5	1.4	118.1	0	100
CAL-AQMP2	469003, 224740	School Hill Compound	N/A	Yes	Yes	11.4	1.8	58.8	0	78.8*
CAL-AQMP3	468478, 225351	Shepherds Furze Farm	N/A	Yes	Yes	10.1	1.6	81.8	0	35.6*

\* Data capture for various monitors was below 90% for the month of May 2021. Monitors CAL-AQMP2 and CAL-AQMP3 were installed on the 7<sup>th</sup> of May. Missing data was due to ongoing power interruptions.

Table 3: Summary of trigger alerts recorded during the monitoring period (March 2021)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ002	30/05/2021 12:01 – 13:00: 200 µg/m <sup>3</sup>	<p>As the site was closed for the bank holiday weekend, the reason for the trigger alert is unclear, however as there were no works being undertaken it is not believed to be linked to the site.</p> <p>There is a potential that dust generated from the neighbouring road from passing vehicles or activities in proximity to the site that caused the trigger alert.</p>	<p>Good housekeeping practices continue to be implemented across the site in line with the Code of Construction Practice.</p>

Figure 8: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CVV-AQMP1 for May 2021

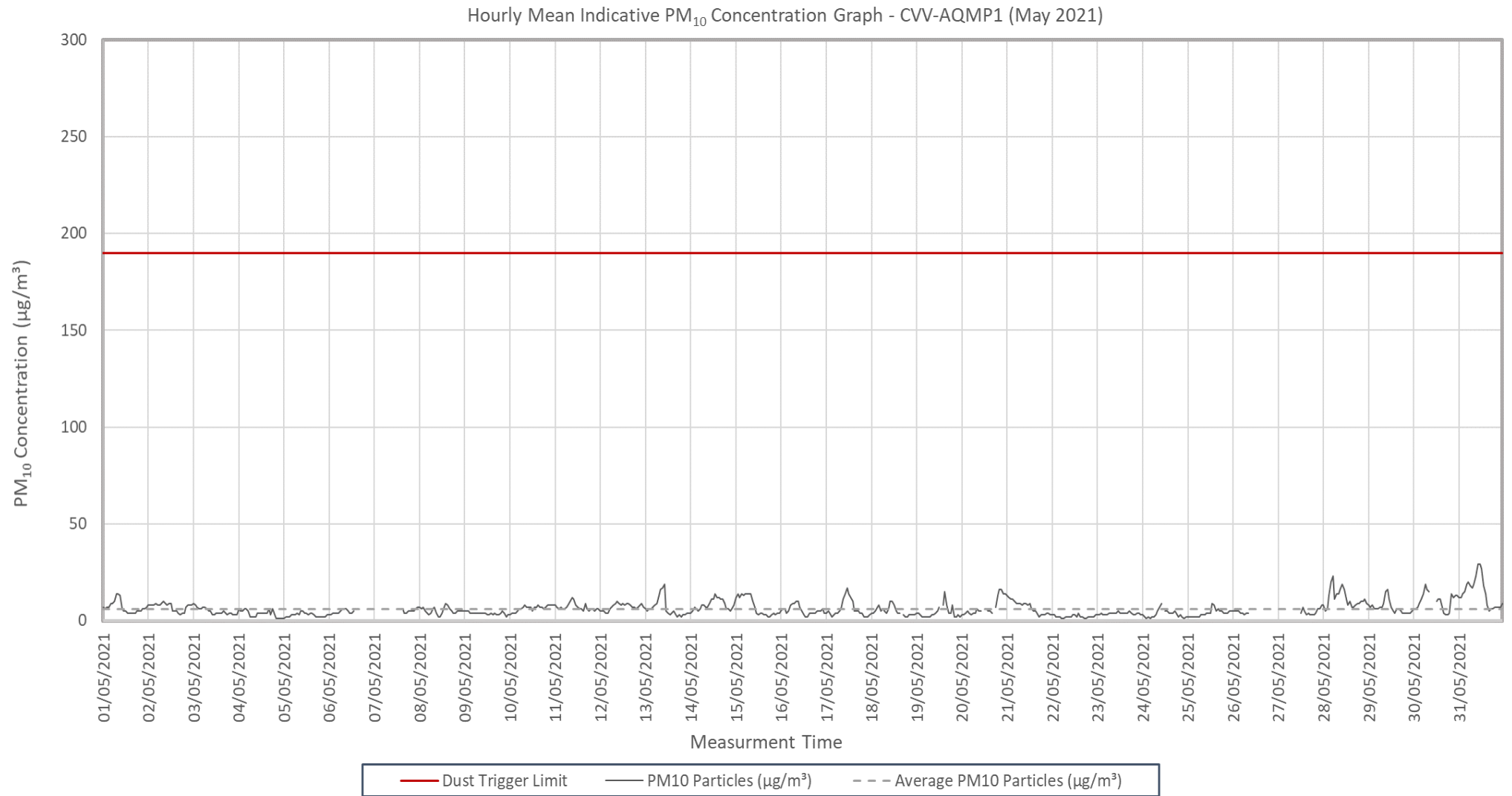


Figure 9: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CVV-AQMP2 for May 2021

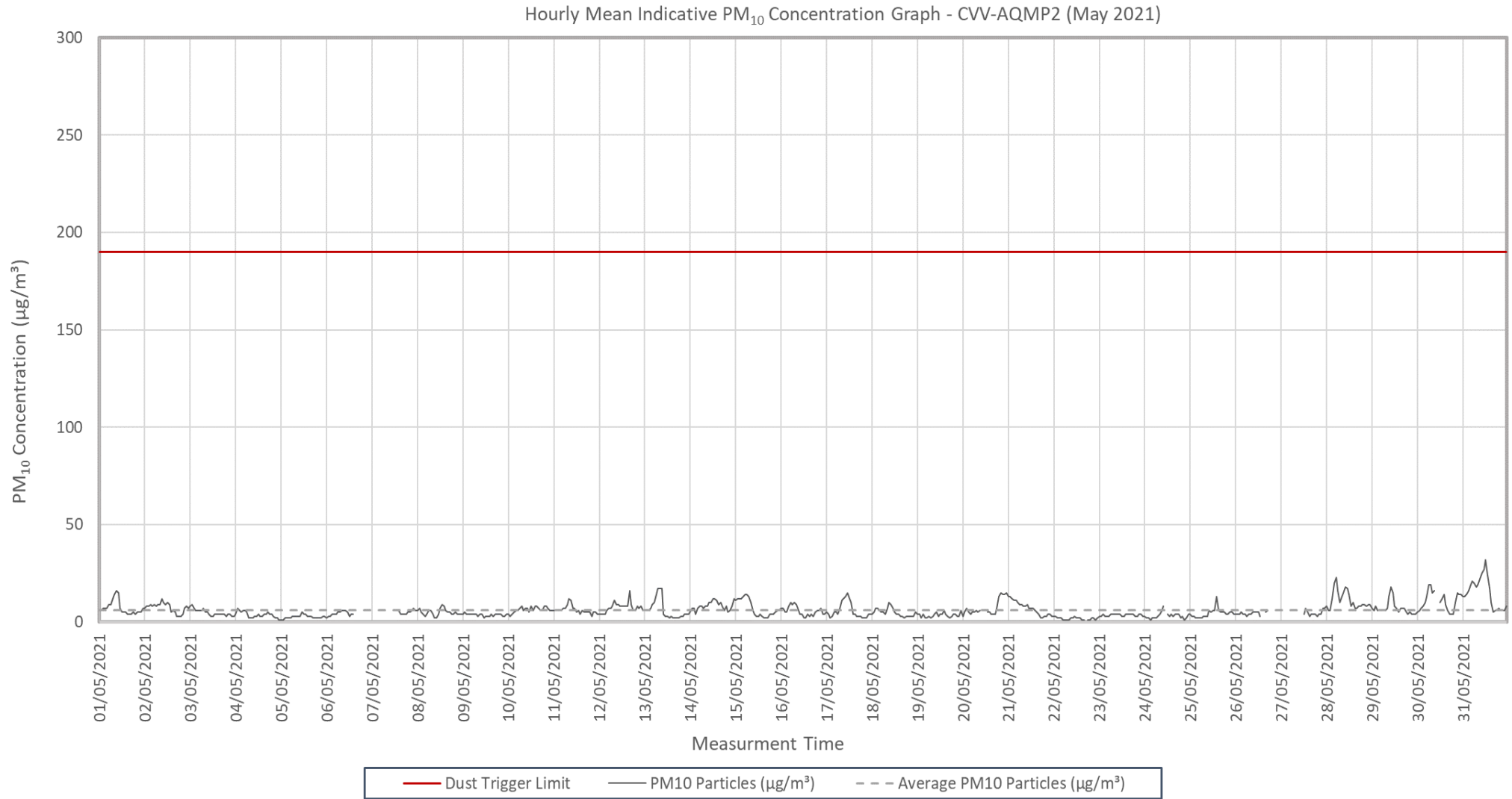


Figure 10: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP1 for May 2021

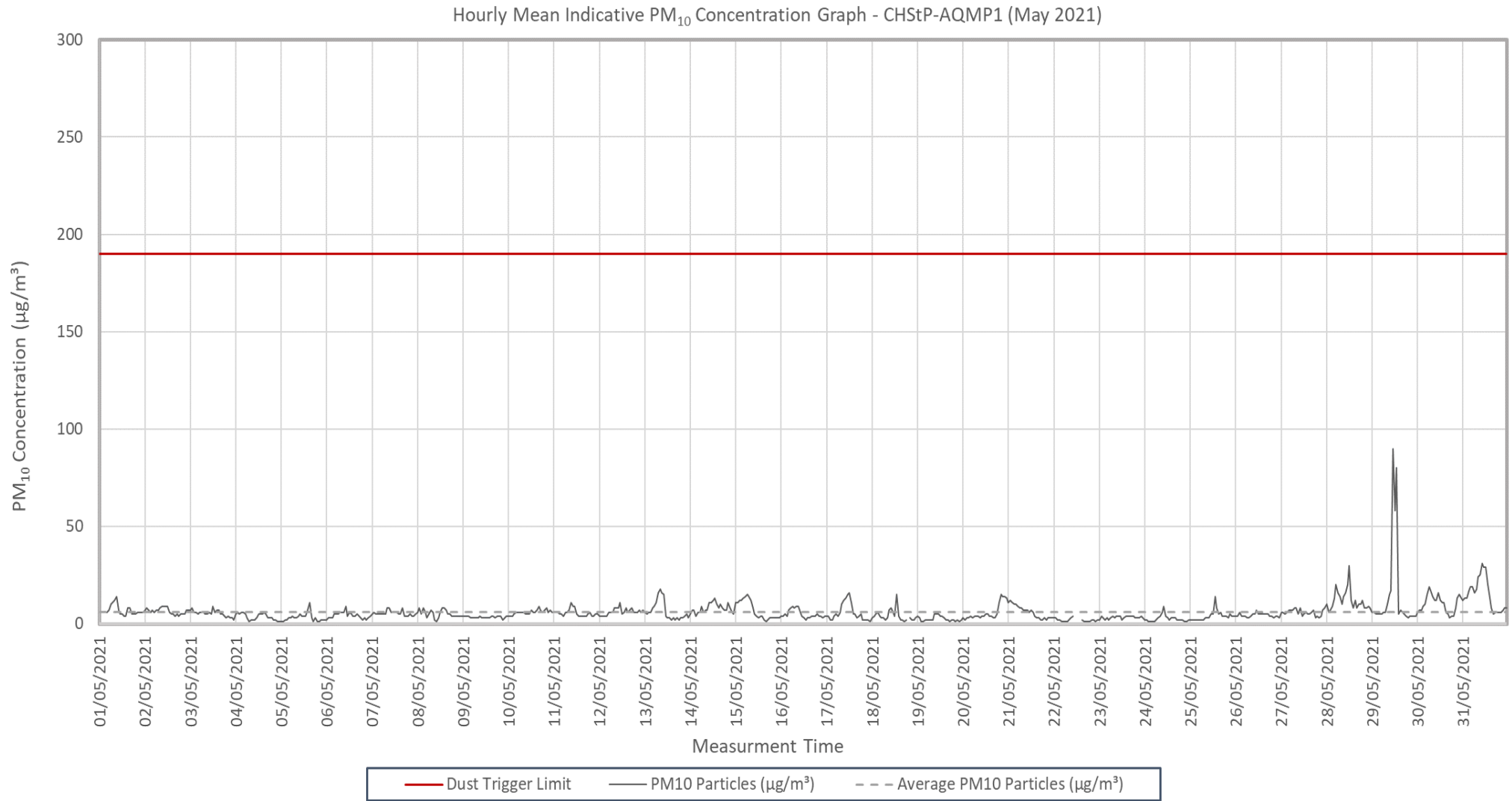




Figure 11: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP2 for May 2021

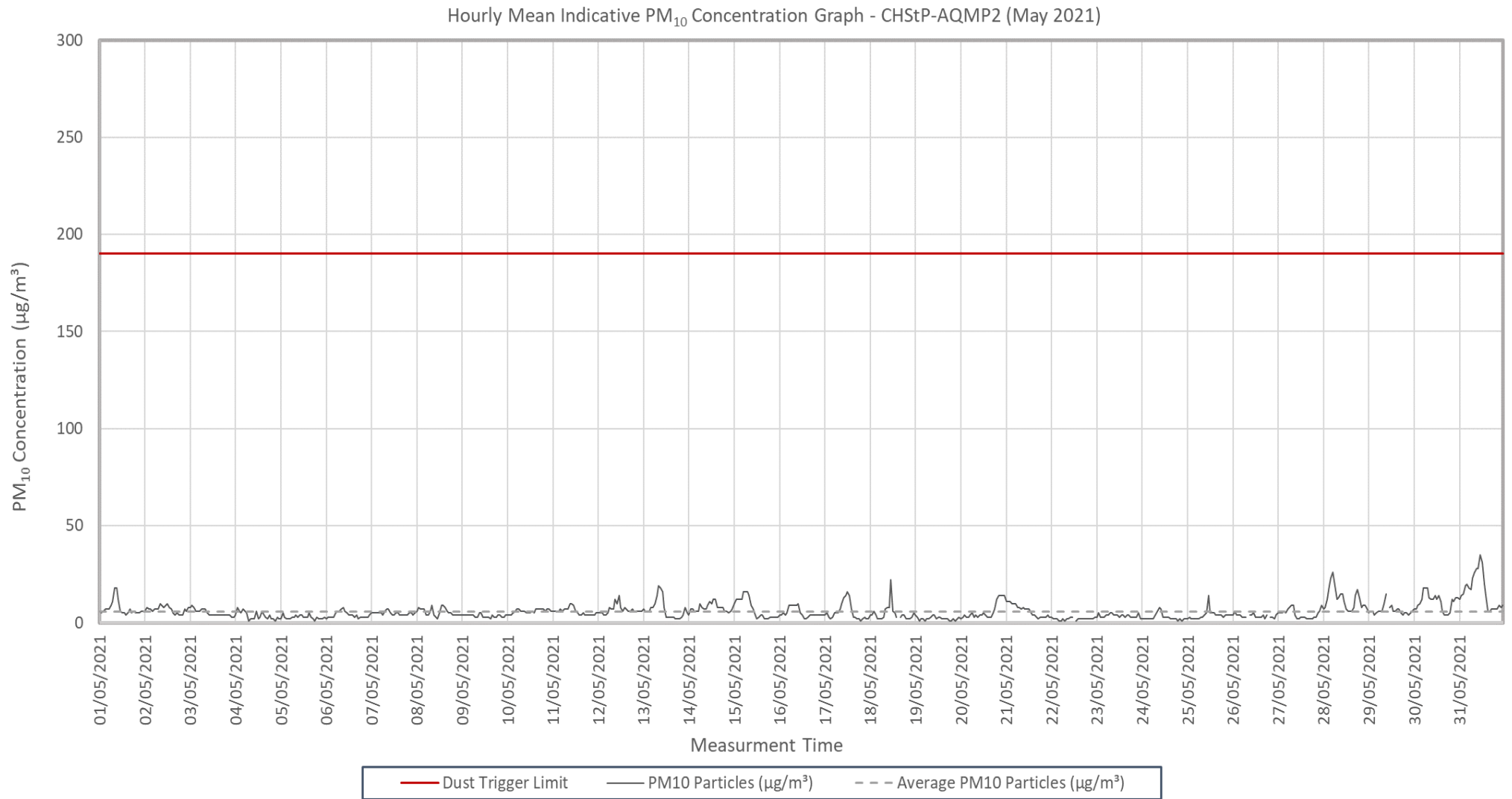


Figure 12: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP1 for May 2021

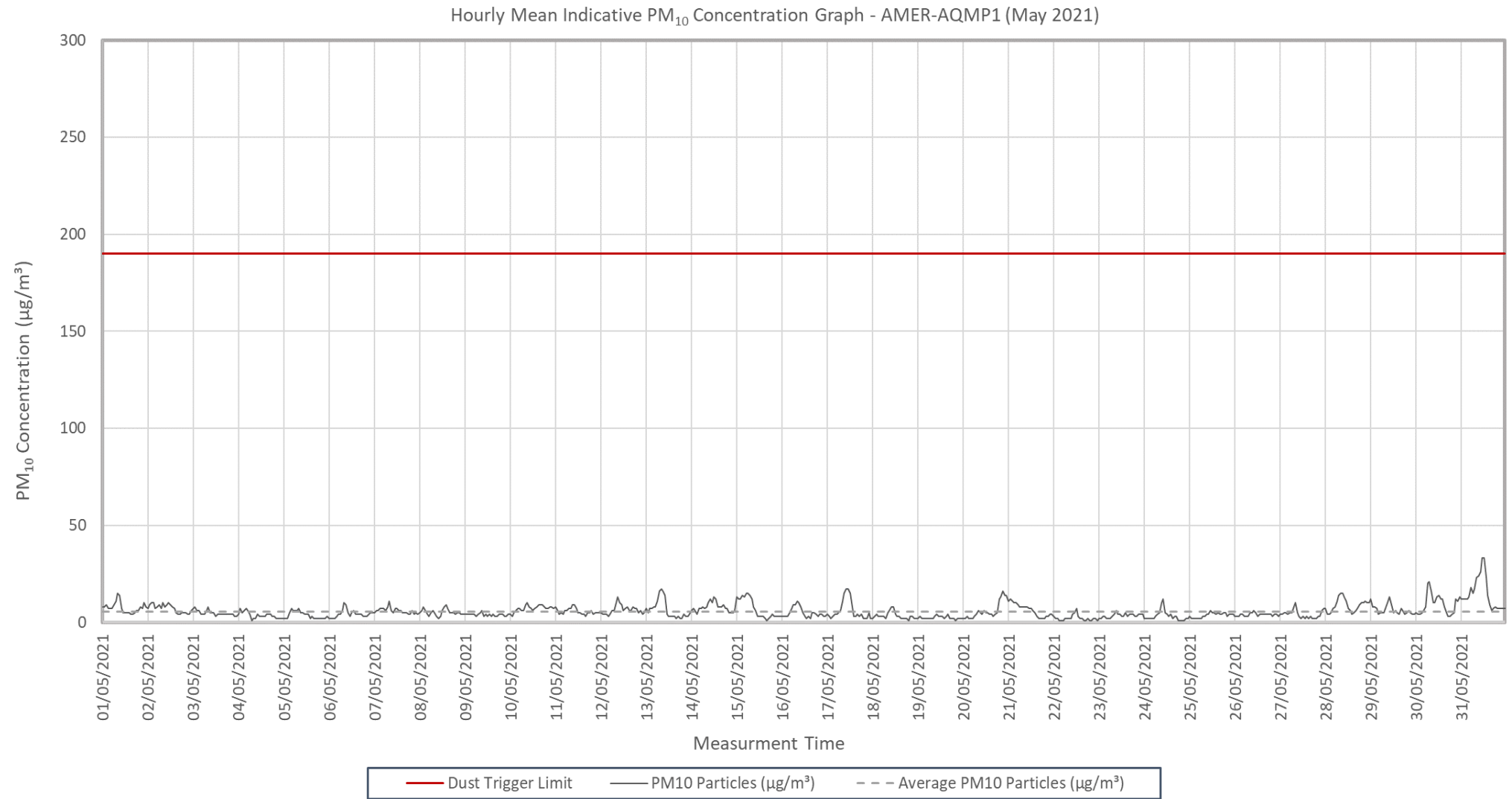


Figure 13: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP2 for May 2021

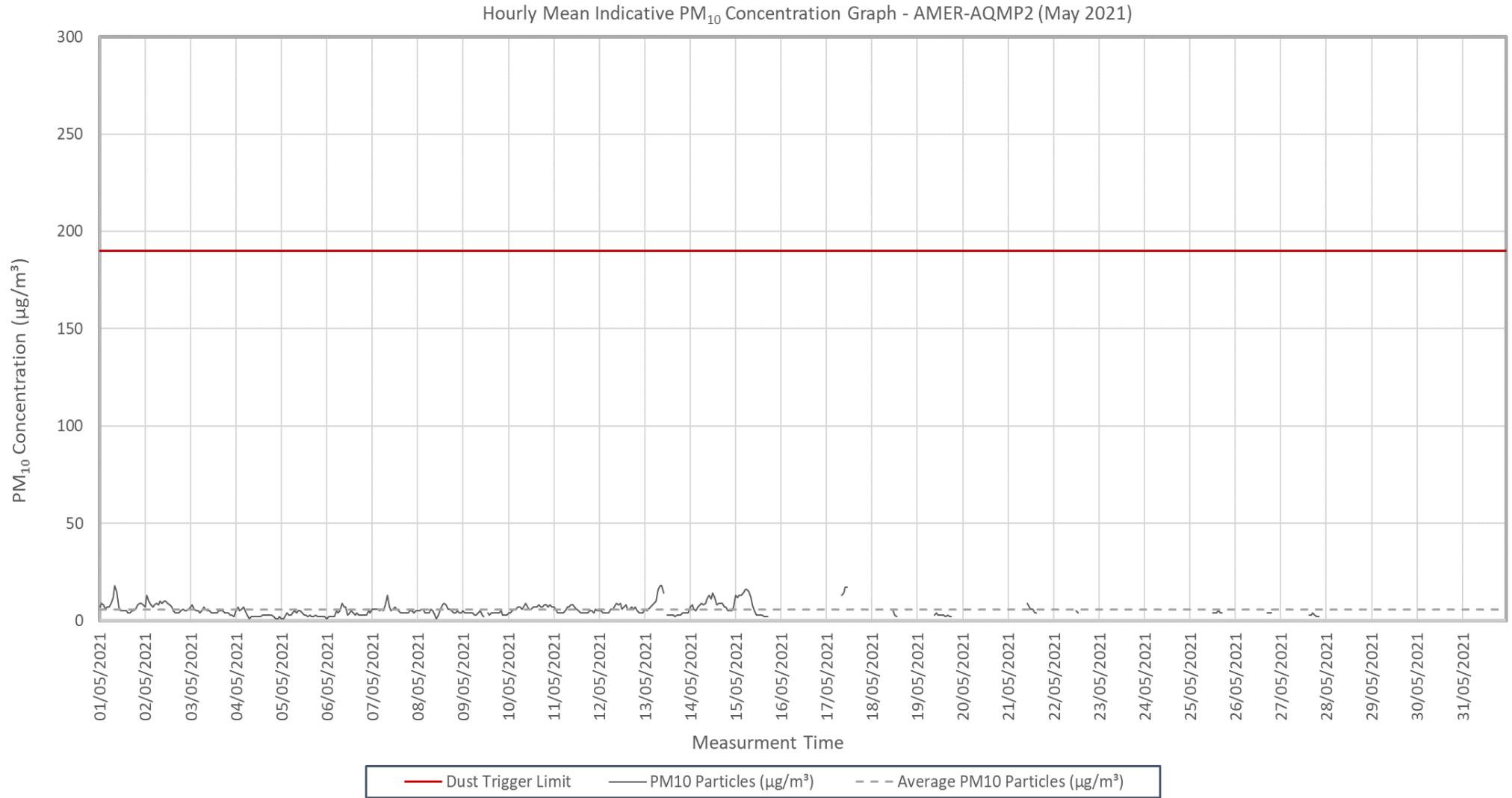


Figure 14: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP1 for May 2021

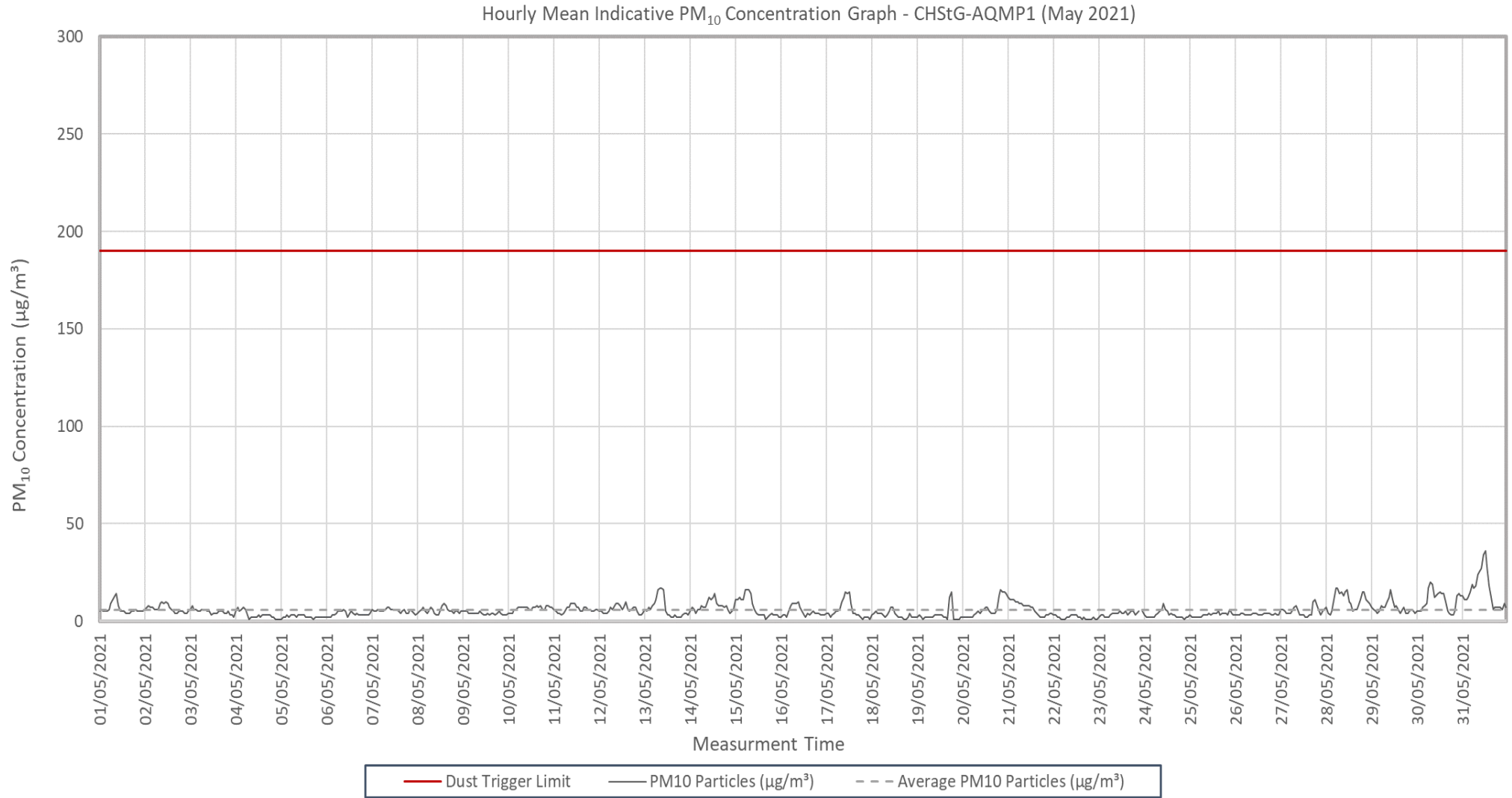


Figure 15: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP2 for May 2021

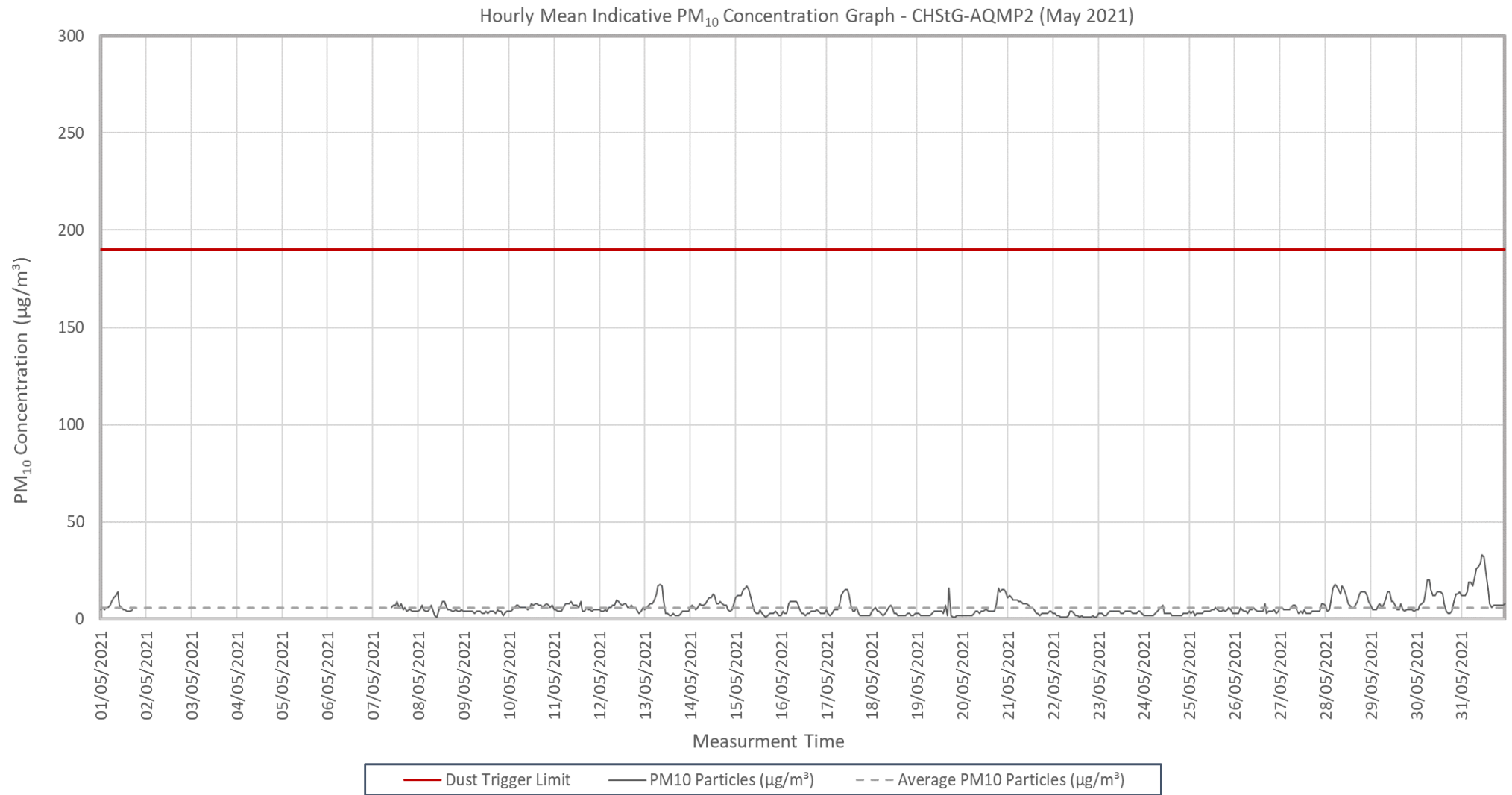


Figure 16: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LMS-AQMP1 for May 2021

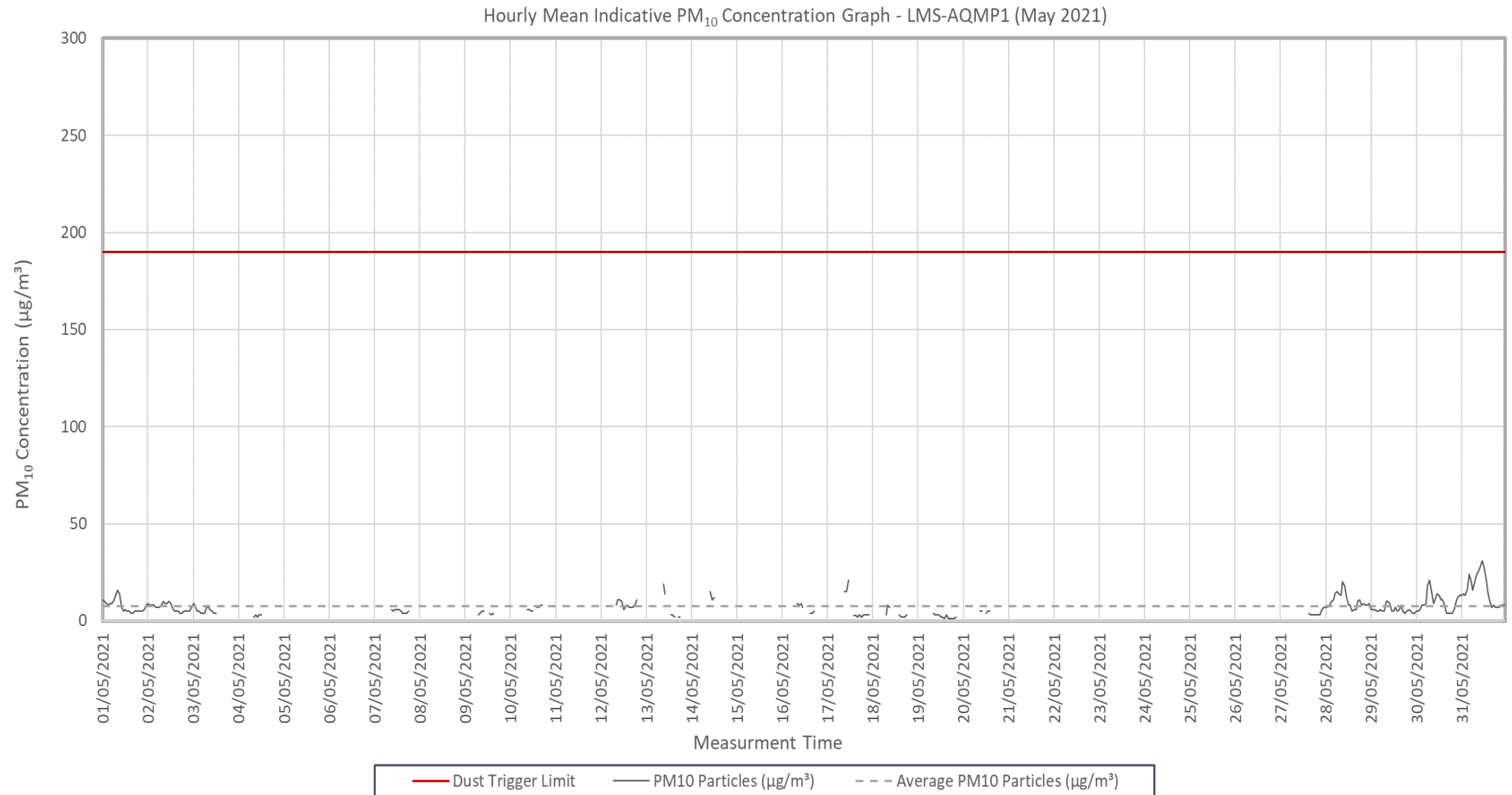


Figure 17: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LMS-AQMP2 for May 2021

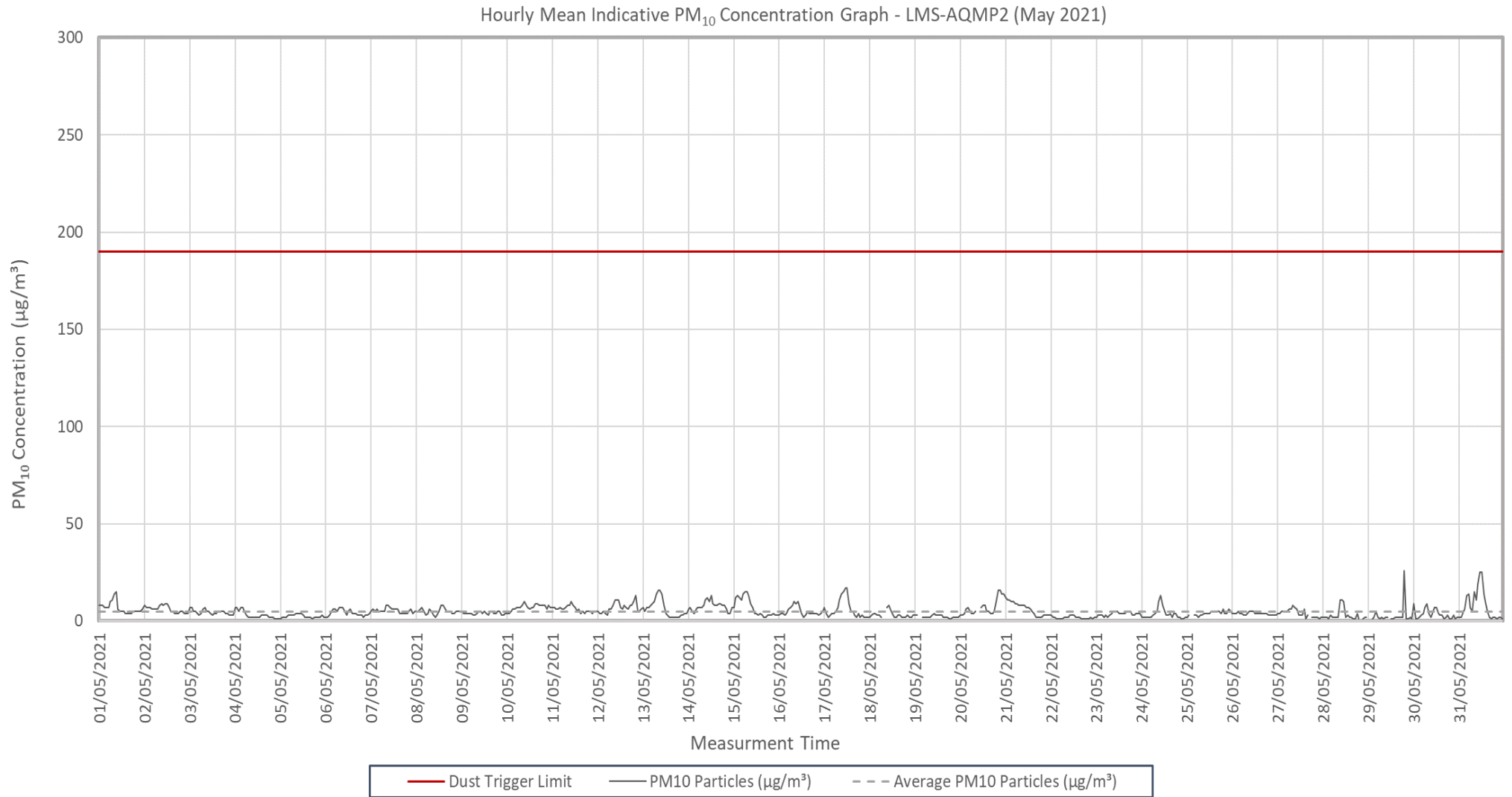


Figure 18: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for 3252Dust3 – Lower Bottom House Farm

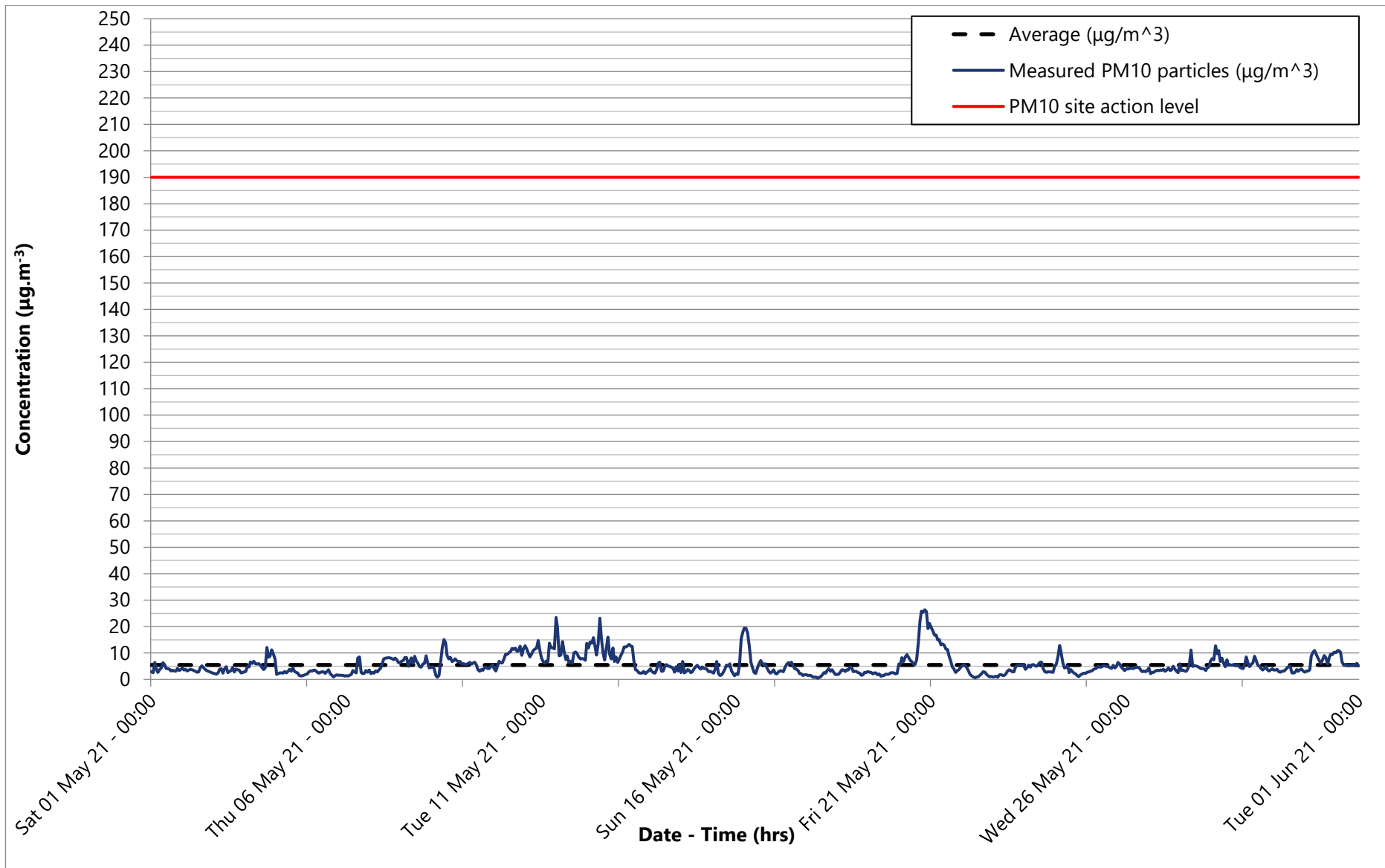




Figure 19: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitor AQ001 - DC2J Haul Road and Compound site

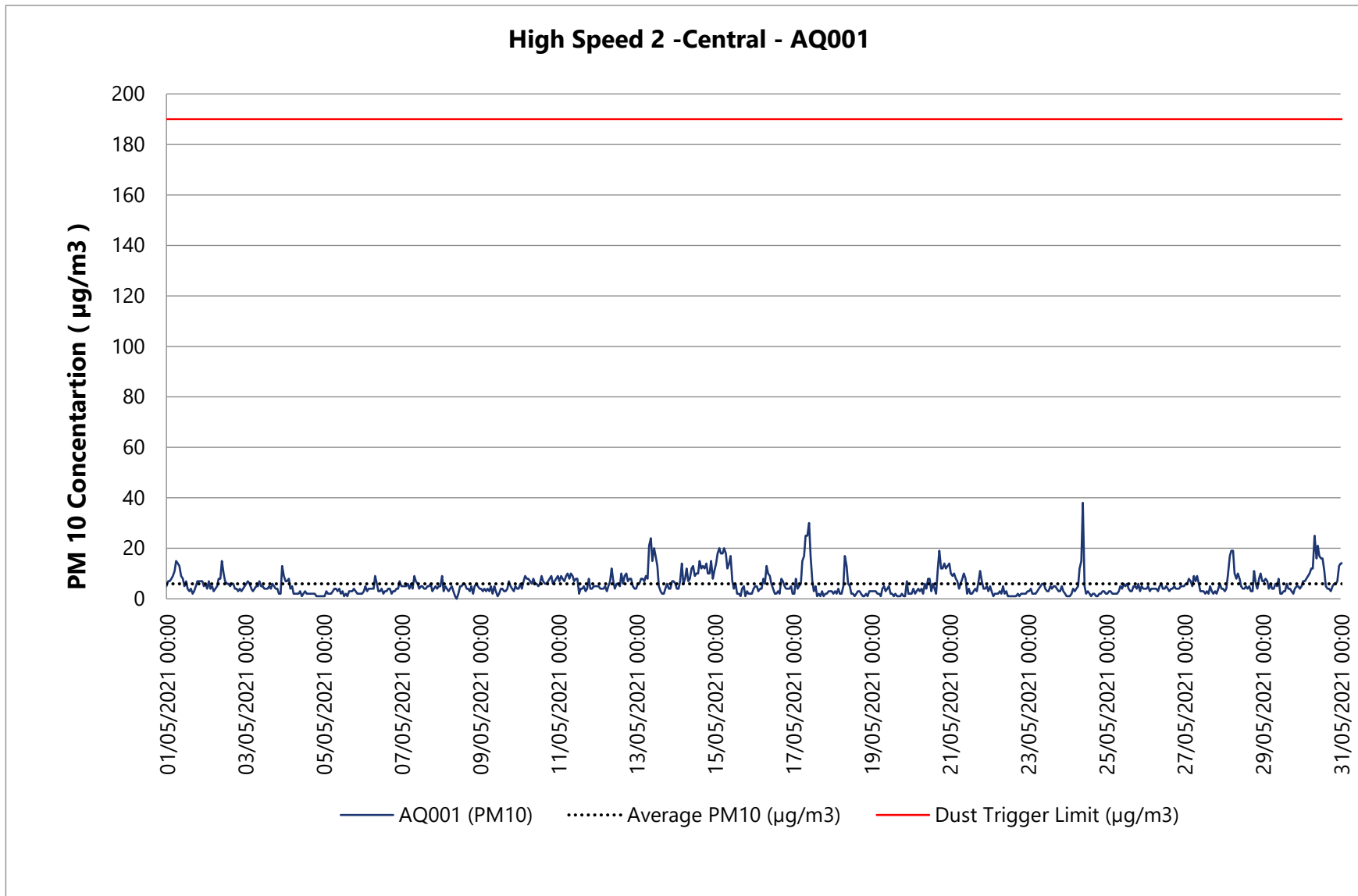


Figure 20: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitor AQ002 - DC2J Haul Road and Compound site

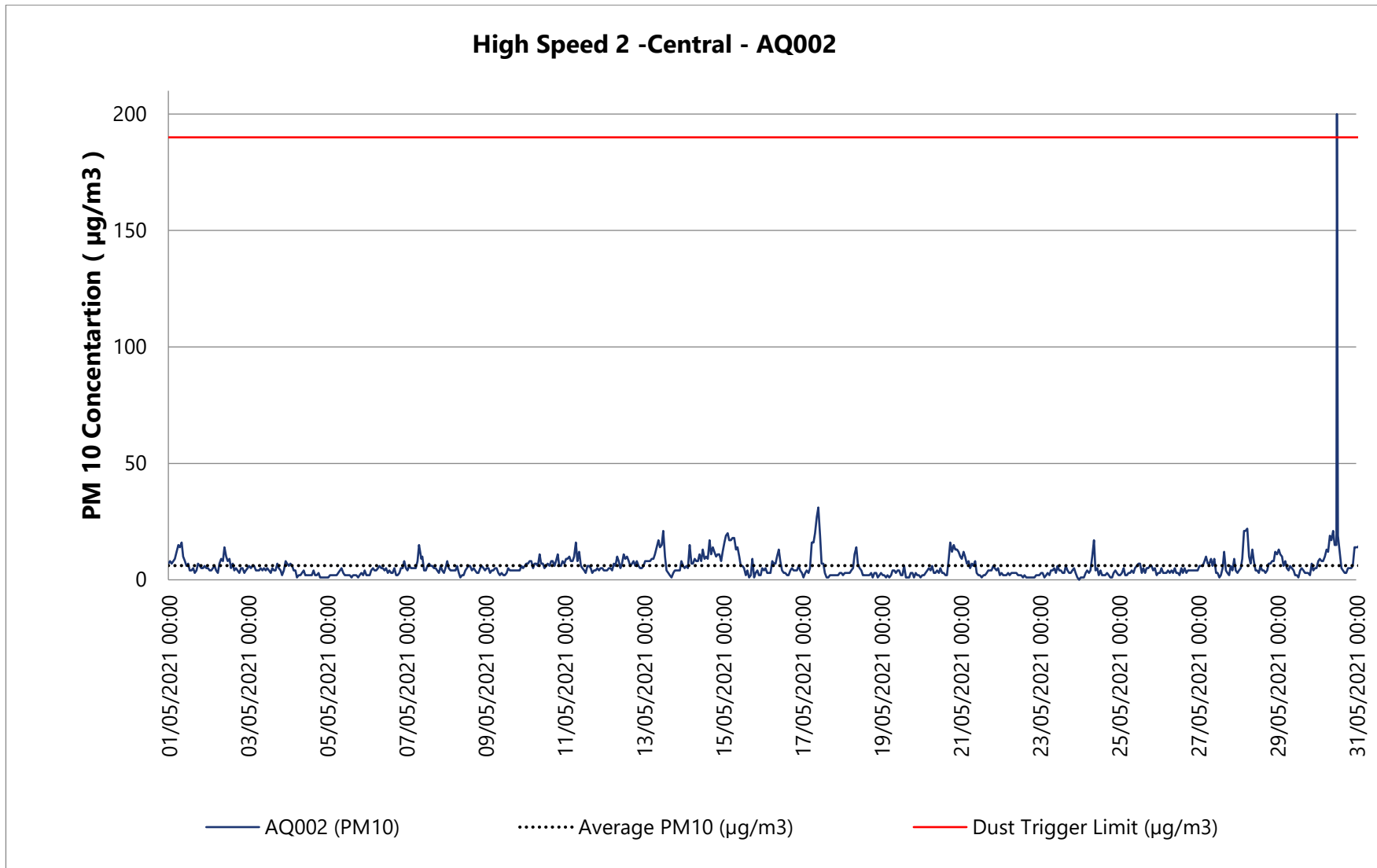


Figure 21: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitor CAL-AQMP1 for May 2021

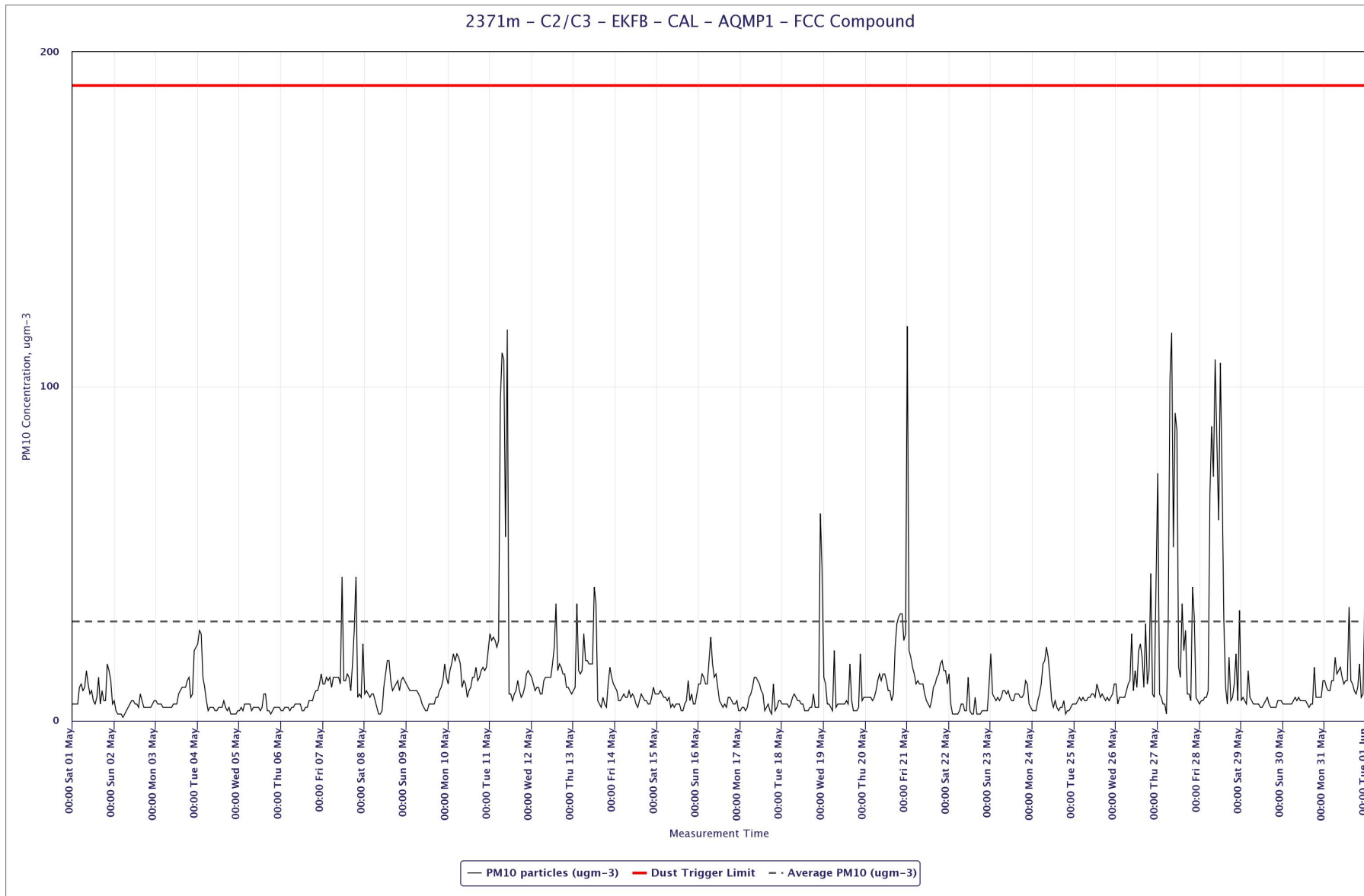


Figure 22: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitor CAL-AQMP2 for May 2021

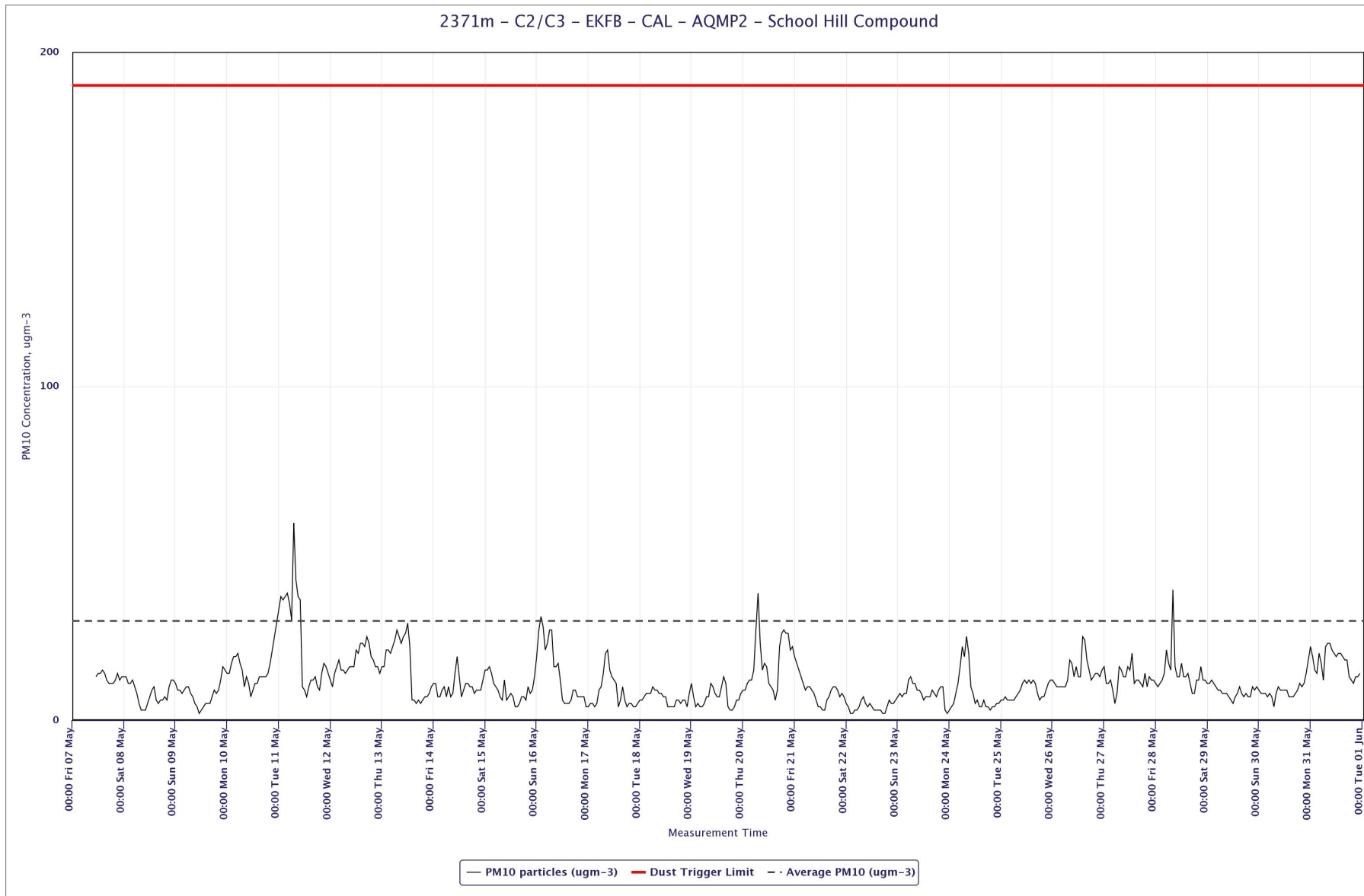


Figure 23: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitor CAL-AQMP3 for May 2021

