

## Air Quality and Dust Monitoring Monthly Report – January 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.

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

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# 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 January 2021.
- 1.1.2 Figures 1 to 5 in Appendix A presents the current worksites together with the dust monitoring locations for January 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, Lower Bottom House Farm Lane and DC2J Haul Road and Compound site are presented in Appendix A, Figures 1 to 5. Activities for each worksite during January 2021 included:

## Colne Valley Viaduct (CVV) LTP1

- Utilities: Sections B1, B5, B6, B7, B9 and B10;
- Affinity Water Access Site: construction of access road including earthworks, drainage and road & hard-standing;
- Affinity Water Access Site: Gas crossing and concrete crusher;
- Affinity Water Access Site - Strengthen of DWSC Way: Drainage;
- North Embankment Compound: Road, hardstanding, civil works, fishing works and fencing;
- DWSC Compound Road, hardstanding, civil works, fishing works and fencing;
- Haul road 29,150 - 29,400: Civil works;
- Haul road 28,220 - 29,200: Earthworks and drainage; and,
- INNS – River Colne to GUC: Removal works.

## Chalfont St Peter Vent Shaft

- Grout injection (pre-treatment grouting);
- Earthworks activities;
- Construction of shaft compound;
- Construction of temporary access road;
- Construction of vent shaft;
- Associated activities (civils);
- landscaping and reinstatement;
- D-wall works: D-wall excavation, rebar and concreting; and,

- Operation of all auxiliary plant.

#### Amersham Vent Shaft

- Site installations;
- Construct bell mouth, gate & wheel wash at site entrance;
- Construct new footpath;
- Erect hoarding;
- construct internal site roads & car park;
- Install storage, reinforcement, crane bases & workshops;
- Install edge protection posts & fence above retaining wall; and,
- Excavate to shaft piling platform level (stage 1).

#### 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 with up to 10 – 50 HGV (>3.5 t) trips anticipated in any one day.

#### 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.

1.1.5 Ten (10) 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) are located at the Chalfont St Peter worksite, two (2) are located at the Amersham worksite, two (2) are located at Lower Bottom House Farm Lane site and two (2) are located at the DC2J Haul Road and Compound worksite. Dust Risk Assessments for each worksite returned a medium dust risk rating.

1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with a line chart of monthly data from each dust monitor presented in Figures 6 to 15. 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>, measured as a 1-hour mean, 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 were no (0) dust trigger alerts recorded during the monitoring period (January 2021).
- 1.1.9 Data capture for several dust monitors was below 90% for the month of January 2021. Missing data was due to technical issues and/or loss of power due to insufficient sunlight/wind for monitors using renewable power. Technical issues have been resolved and an alternative power source explored to resolve the intermittent solar power losses. Monitors CVV-AQMP1, CVV-AQMP2, CHStP-AQMP1, CHStP-AQMP2, AMER-AQMP1 and AMER-AQMP2 were installed between 04/01/2021 and 15/01/2021, therefore data are not available prior to these dates.
- 1.1.10 There were no (0) complaints, relating to dust or air quality, received during this reporting period (January 2021).

# Appendix A – Worksite and Dust Monitoring Locations

Figure 1: Buckinghamshire Council Worksite and Monitoring locations during January 2021 – Colne Valley Viaduct LTP1



Figure 2: Buckinghamshire Council Worksite and Monitoring locations during January 2021 – Chalfont St Peter Vent Shaft Site

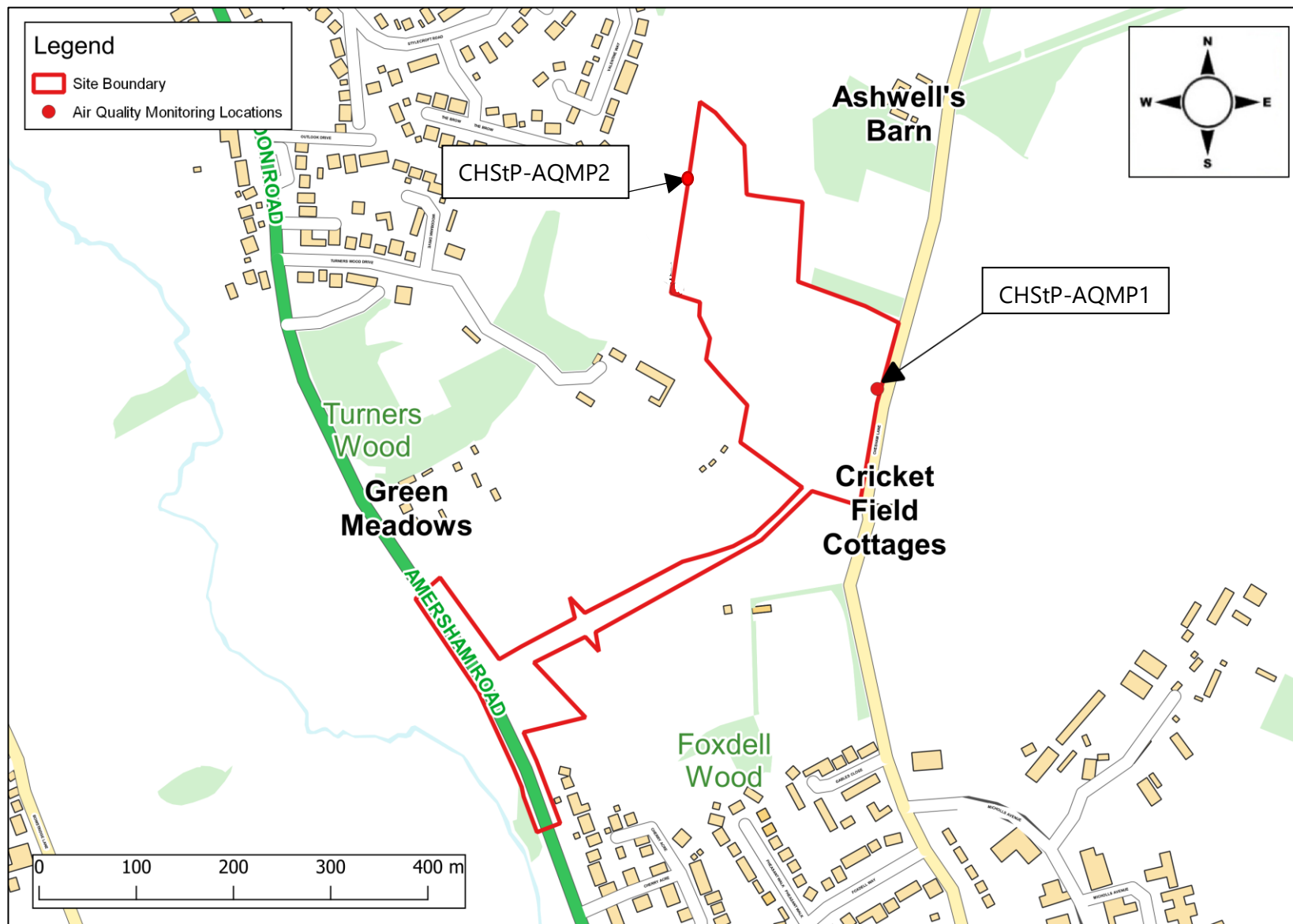


Figure 3: Buckinghamshire Council Worksite and Monitoring locations during January 2021 – Amersham Vent Shaft Site

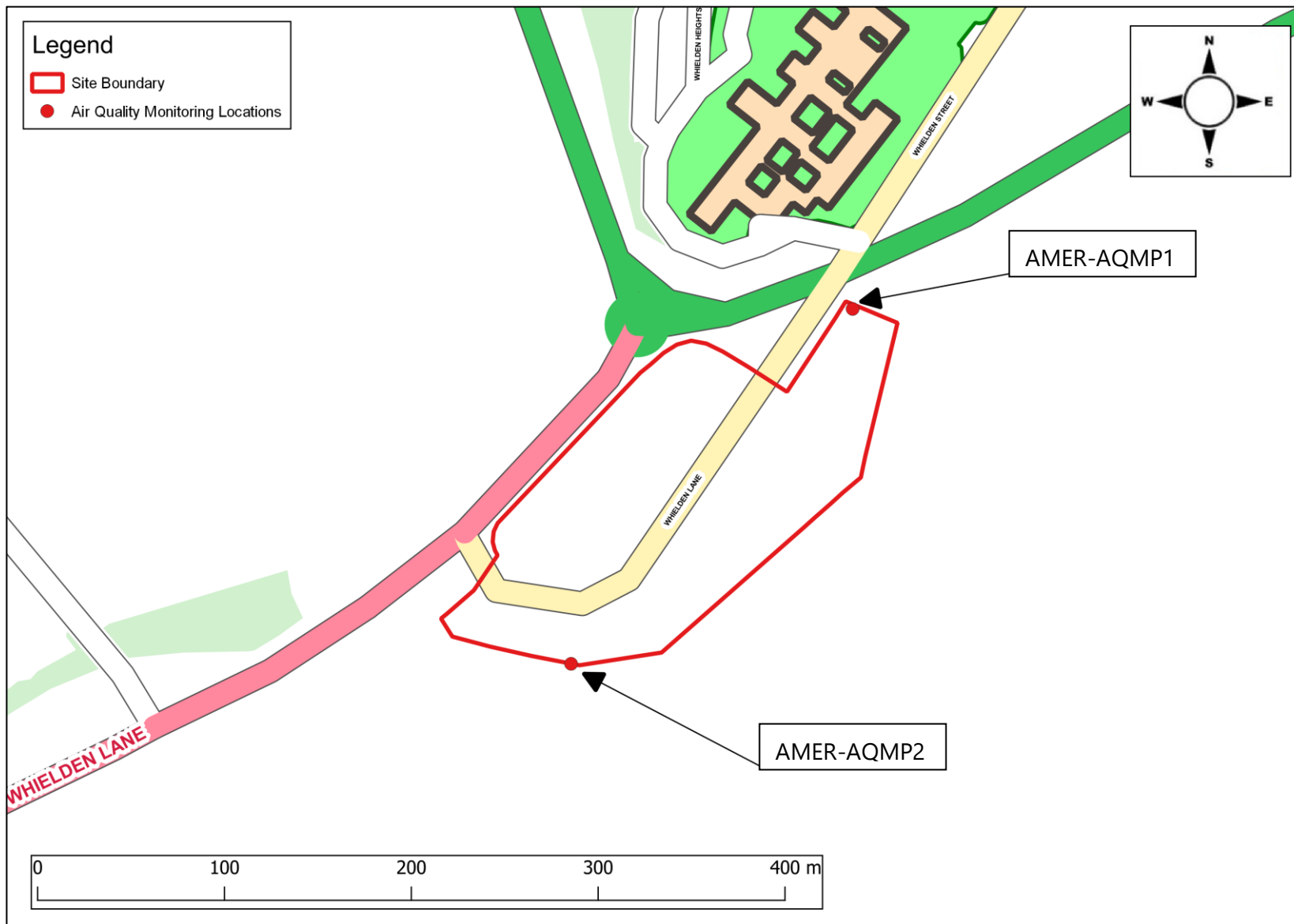
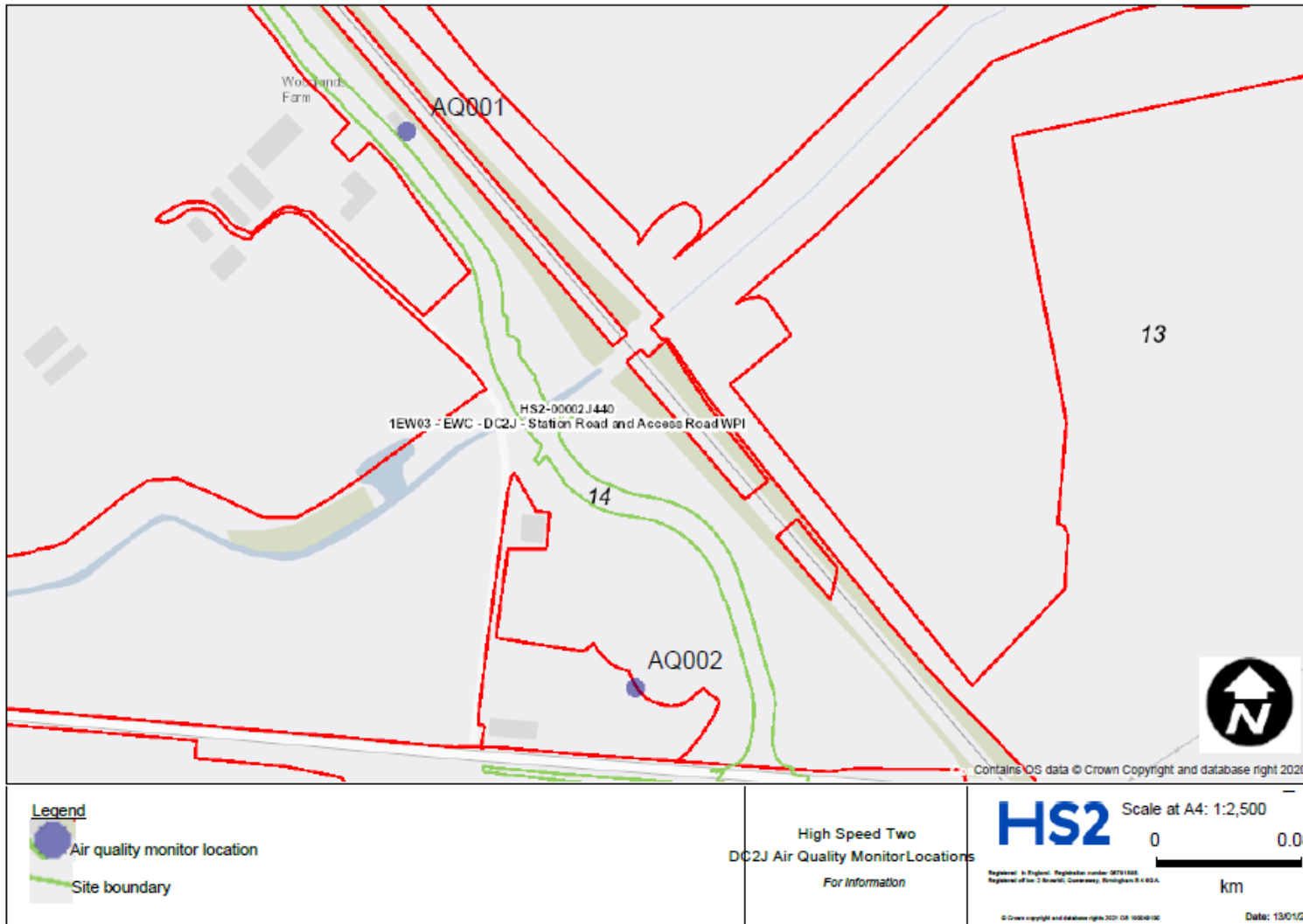




Figure 4: Worksite and Monitoring locations during January 2021 – Lower Bottom House Farm Lane



Figure 5: Worksite and Monitoring locations during January 2021 – DC2J Haul Road and Compound site



## Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and January 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	503602, 189832	On the north boundary of LTP1	M	Yes	Yes	9.3	1	63.3	0	78
CVV-AQMP2	499893, 193341	On the south boundary of LTP1	M	Yes	Yes	9.0	0.3	62.4	0	84
CHStP-AQMP1	500114, 193104	On the eastern boundary of the site with Chesham Lane	M	Yes	Yes	10.4	1	72.2	0	74
CHStP-AQMP2	499893, 193341	On the western boundary of the site	M	Yes	Yes	8.8	0.2	97.0	0	61
AMER-AQMP1	495440, 196733	On the north-eastern boundary of Amersham	M	Yes	Yes	6.0	1	23.0	0	42
AMER-AQMP2	495280, 196532	On the south-western boundary of Amersham	M	Yes	Yes	8.2	0.5	53.9	0	77
3252Dust2	498390, 195434	On the boundary with Elm Tree Cottage, Bottom House Farm Lane	M	Yes	No	5.9	0.4	32.7	0	100
3252Dust3	498100, 195145	On the site boundary opposite Lower Bottom House Farm	M	Yes	No	6.2	0.4	39.2	0	99

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 (%)
AQ001	471524, 221329	Woodlands Farm	M	Yes	No	9.12	1	67.0	0	99
AQ002	471654, 221030	Woodlands Cottage	M	Yes	No	8.09	1	49.0	0	99

Figure 6: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CVV-AQMP1 for January 2021

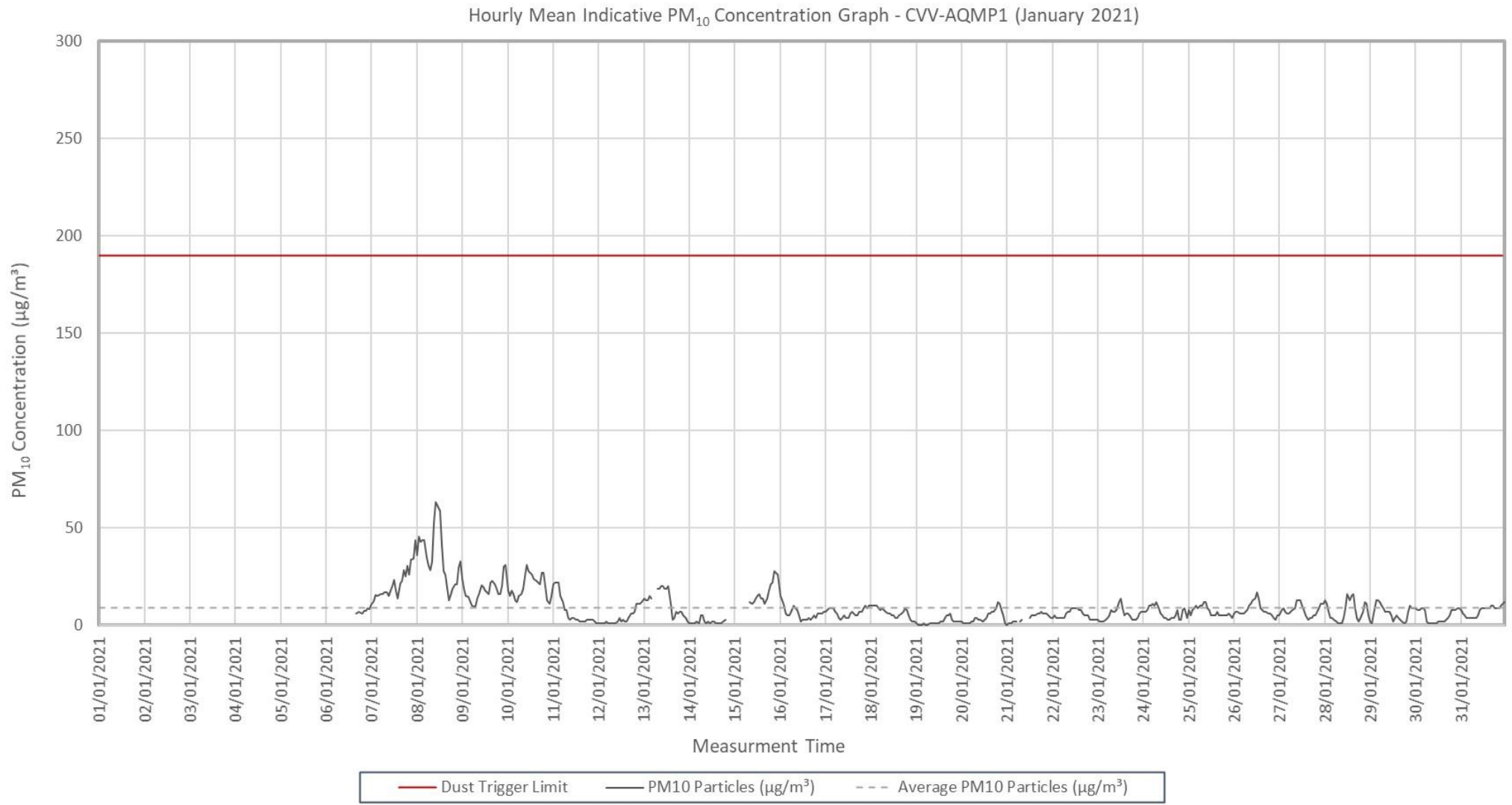


Figure 7: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CVV-AQMP2 for January 2021

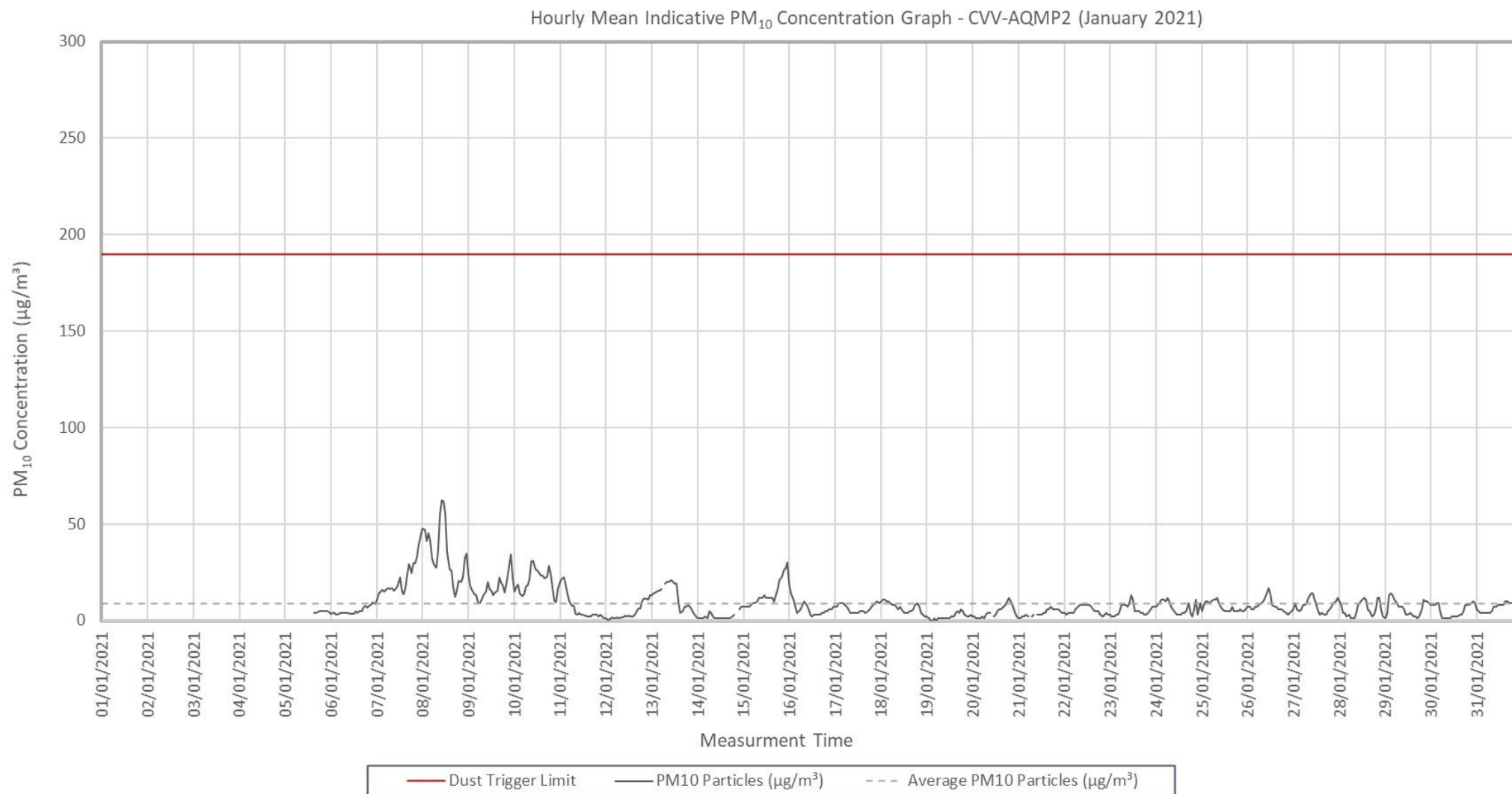


Figure 8: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP1 for January 2021

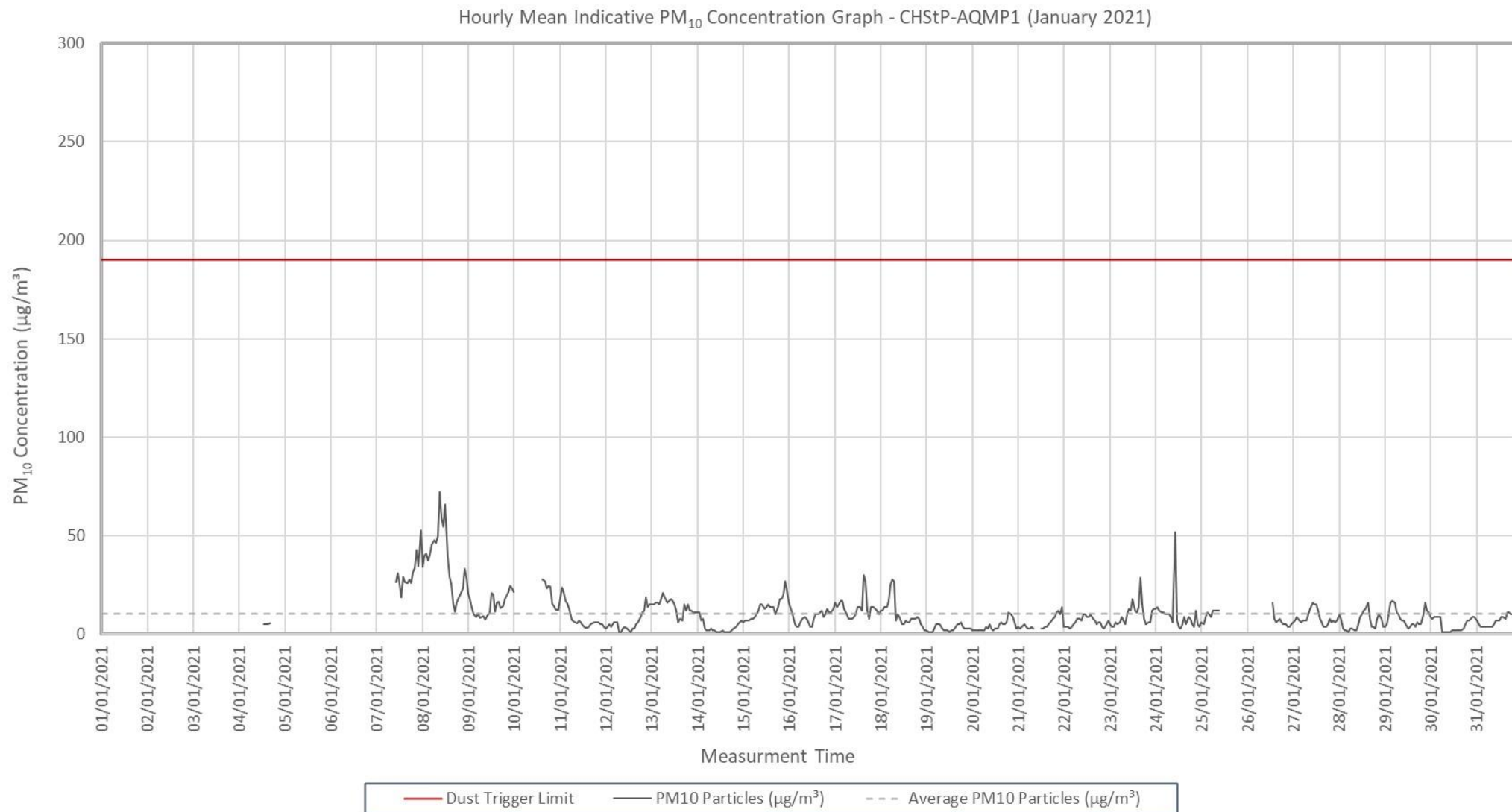


Figure 9: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHStP-AQMP2 for January 2021

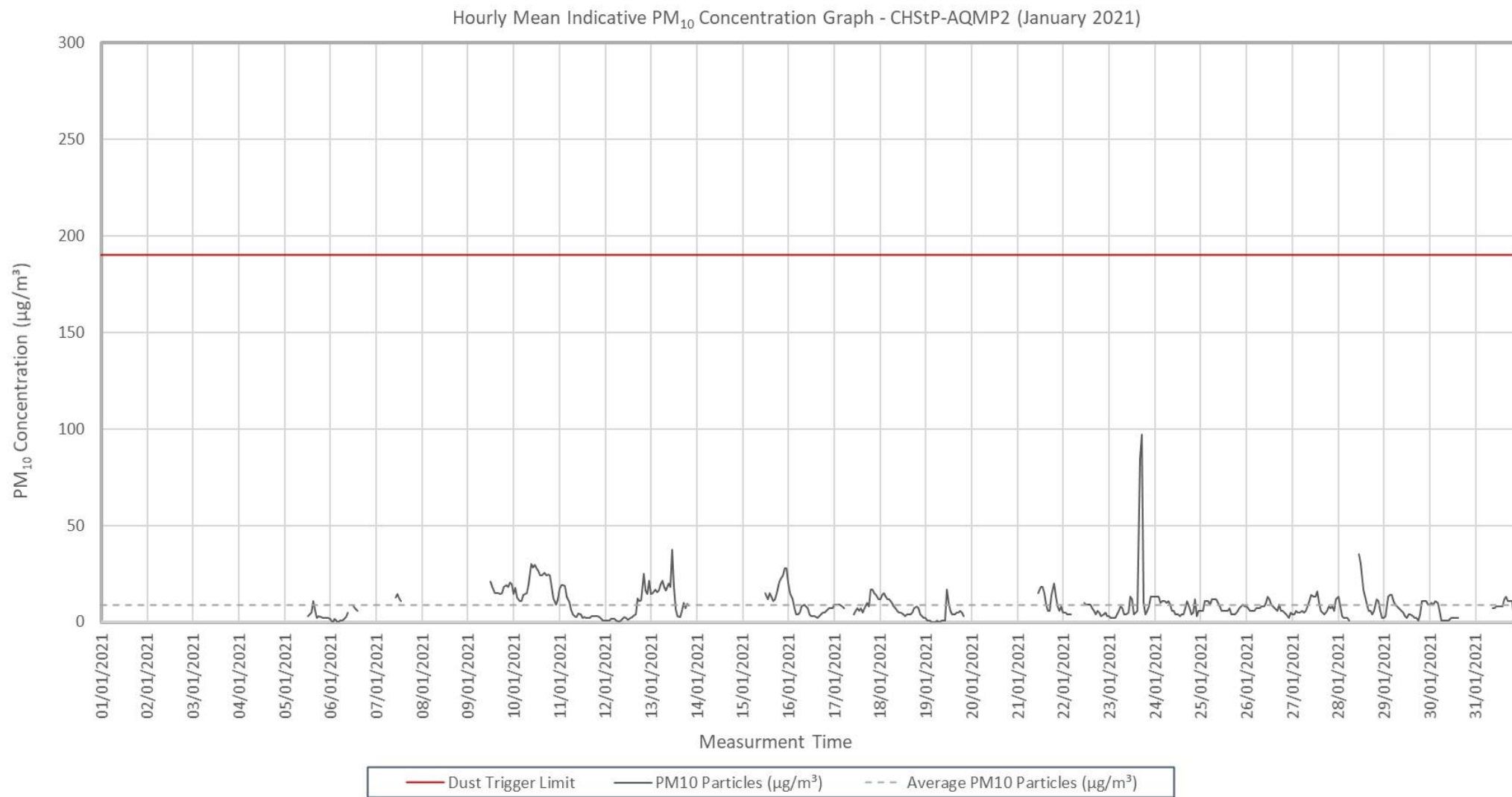




Figure 10: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP1 for January 2021

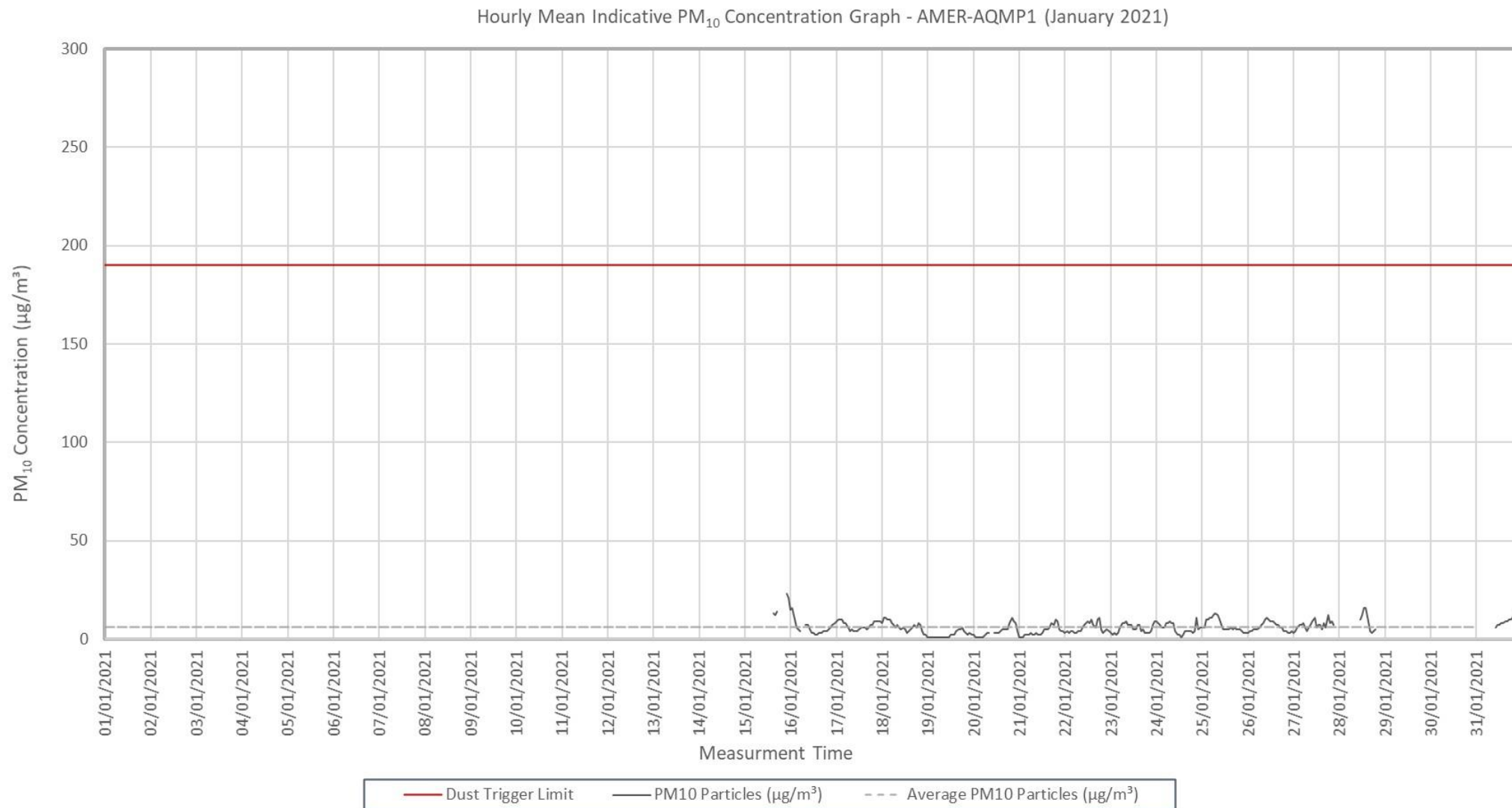


Figure 11: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP2 for January 2021

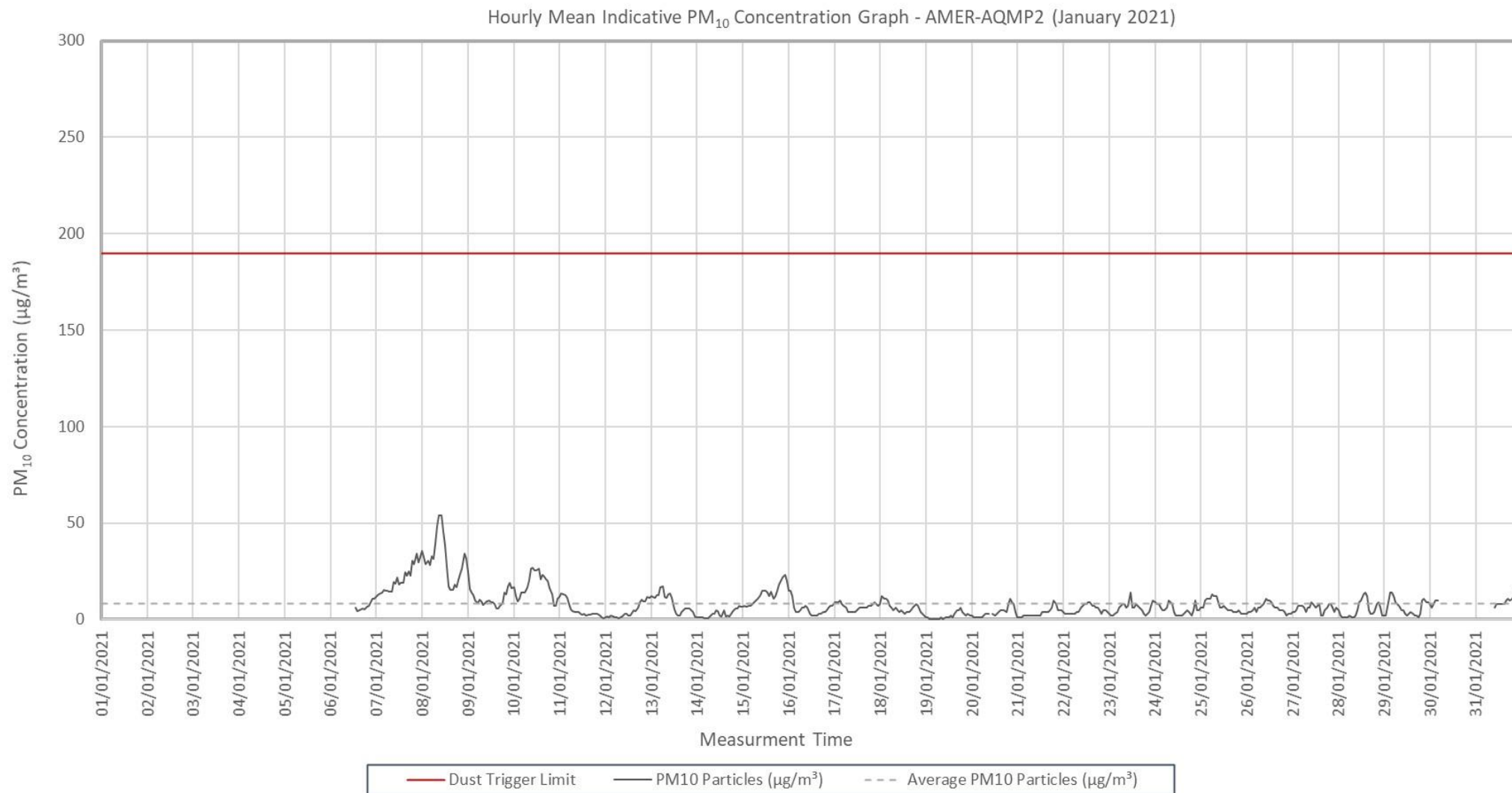


Figure 12: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for 3252Dust2 (Elm Tree Cottage) for January 2021

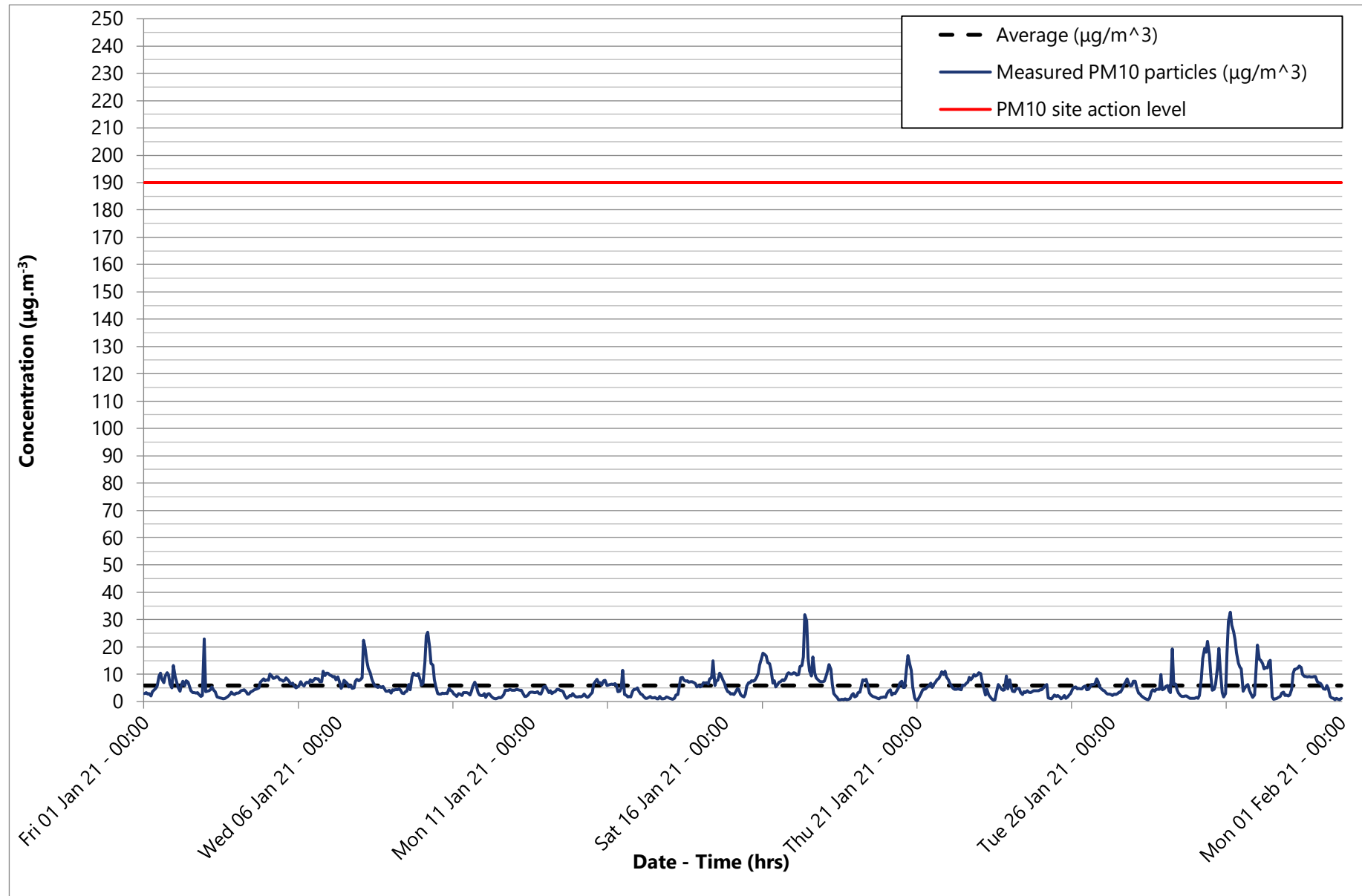


Figure 13: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for 3252Dust3 (Lower Bottom House Farm) for January 2021

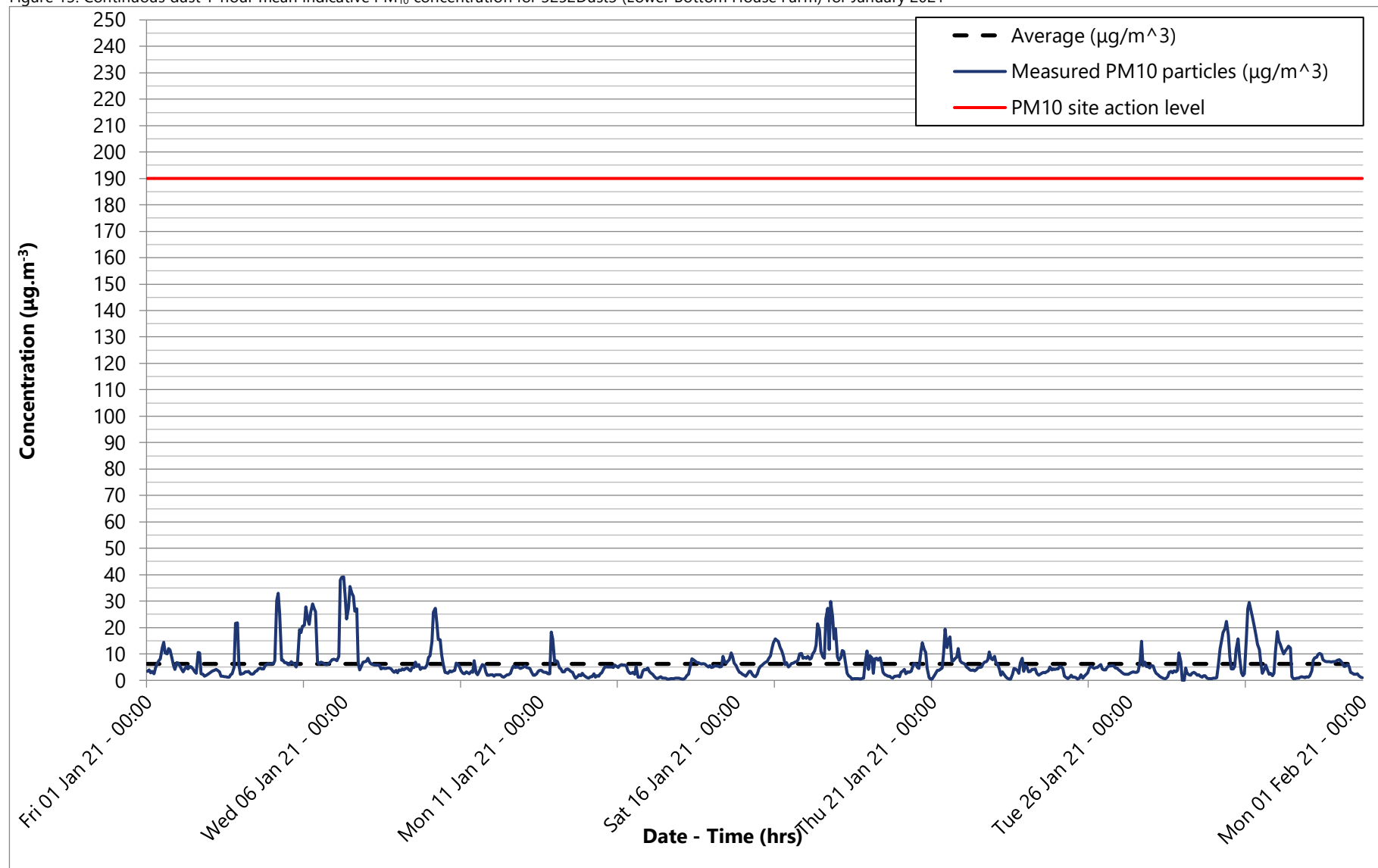


Figure 14: Continuous dust 1-hour mean indicative PM10 concentration for AQ001 for January 2021

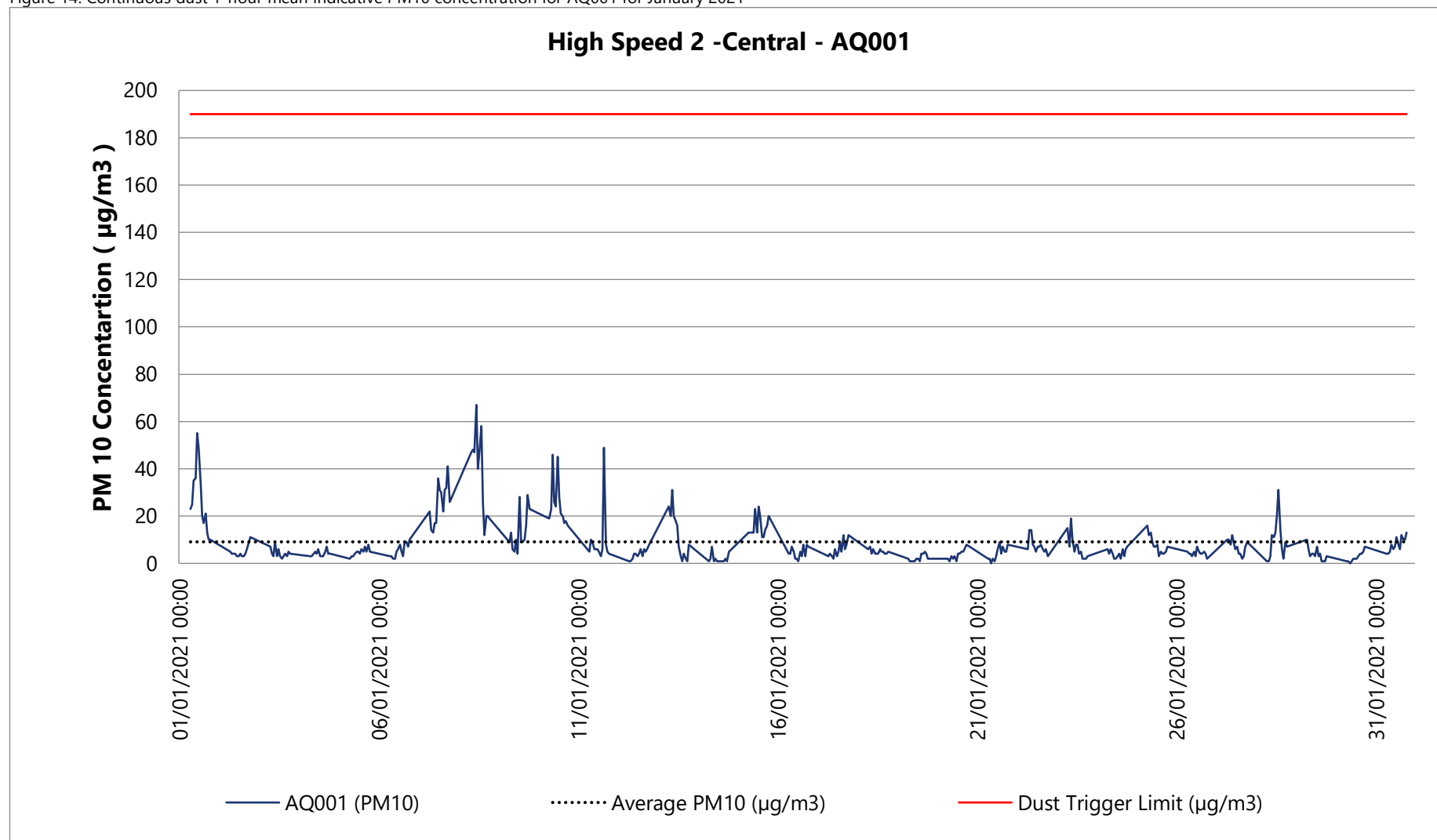


Figure 15: Continuous dust 1-hour mean indicative PM10 concentration for AQ002 for January 2021

