

Air Quality and Dust Monitoring Monthly Report – February 2021 **Buckinghamshire** Council



Department for Transport

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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 February 2021.
- 1.1.2 Figures 1 to 5 in Appendix A presents the current worksites together with the dust monitoring locations for February 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, 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 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 February 2021 included:

Colne Valley Viaduct (CVV) LTP1:

- Utilities: Sections B7 and B10;
- Affinity Water Access Site: construction of access road including earthworks, drainage, road equipment & signage, and road & hard-standing;
- Affinity Water Access Site: concrete crusher;
- Affinity Water Access Site - Strengthen of DWSC Way: construction, road equipment & signage;
- North Embankment Compound: compound works, finishing works and fencing;
- DWSC Compound: compound operation;
- Haul road 29,150 - 29,400: finishing works;
- Haul road 28,220 - 29,200: civil works, earthworks, and drainage; and
- INNS – River Colne to GUC: removal works.

Chalfont St Peter Vent Shaft:

- Stockpile management at ventilation shaft site and management of temporary stockpile;
- D-wall works: D-wall excavation, rebar and concreting; and
- Operation of all auxiliary plant.

Amersham Vent Shaft:

- Site installations;
- Erect hoarding;
- Construct bell mouth, gate & wheel wash at site entrance;
- Construct new footpath;
- Construct internal site roads & car park;
- Car park finishes, utilities & drainage;
- Install gates & access road to site/offices;
- Install storage, reinforcement, crane bases & workshops;
- Install edge protection posts and 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 for February 2021 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 PM₁₀ concentrations of 190 µg/m³, 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 four (4) dust trigger alerts recorded during the monitoring period (February 2021). Trigger alerts are presented in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.9 Data capture for several dust monitors was below 90% for the month of February 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 or are in the process of being resolved and an alternative power source is being explored to resolve the intermittent solar power losses.
- 1.1.10 There were no (0) complaints, relating to dust or air quality, received during this reporting period (February 2021).

Appendix A – Worksite and Dust Monitoring Locations

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



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

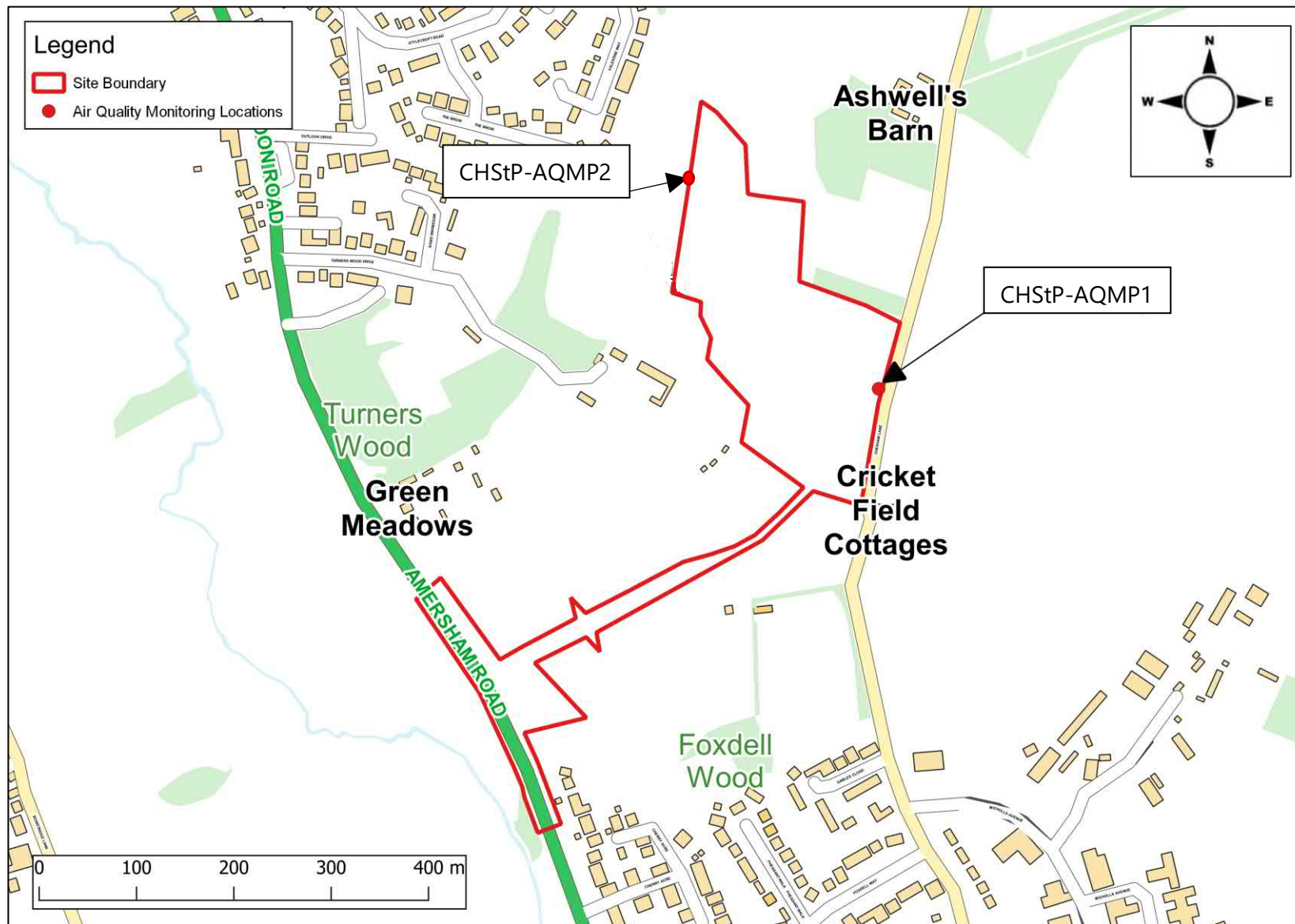


Figure 3: Buckinghamshire Council Worksite and Monitoring locations during February 2021 – Amersham Vent Shaft Site

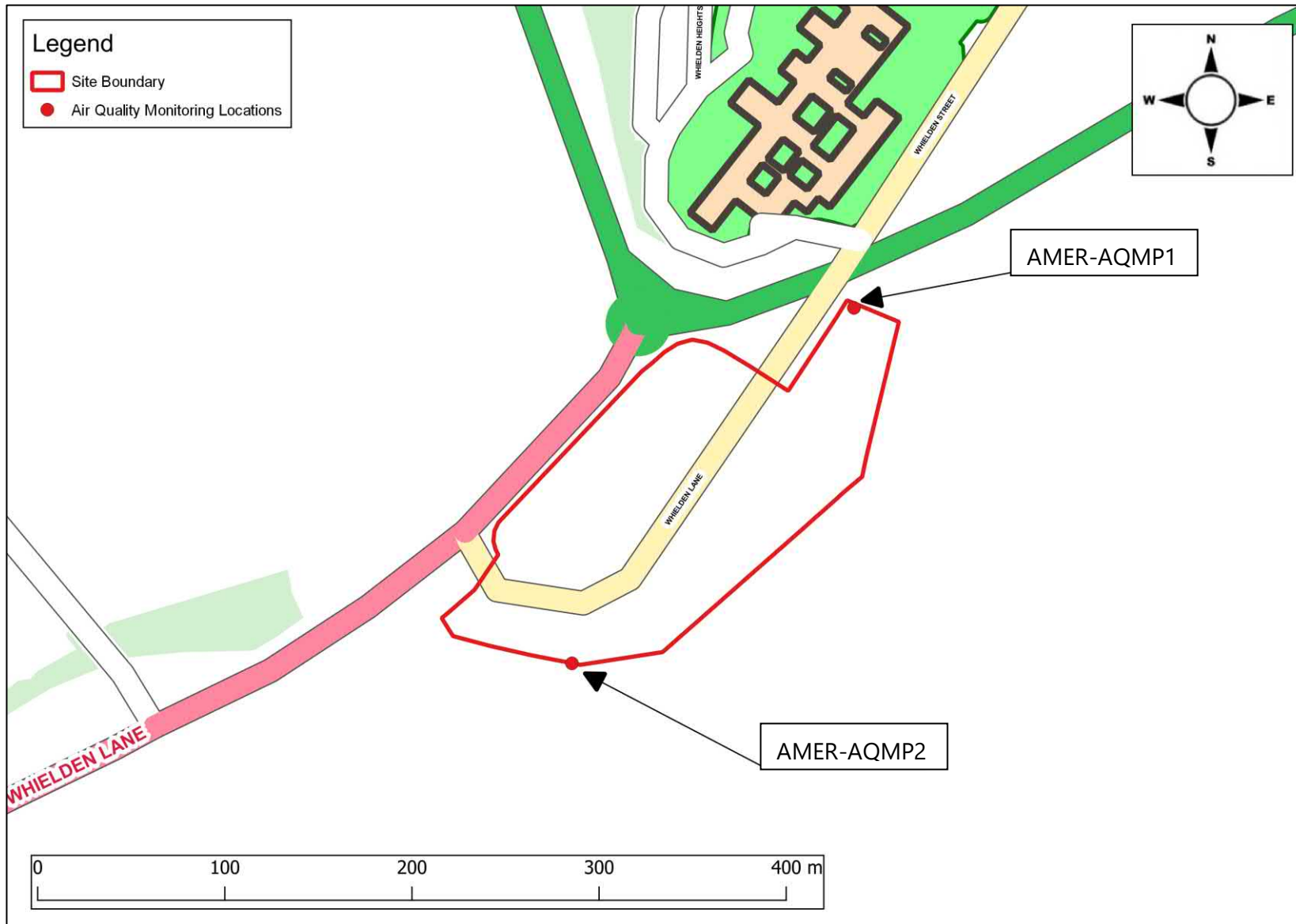
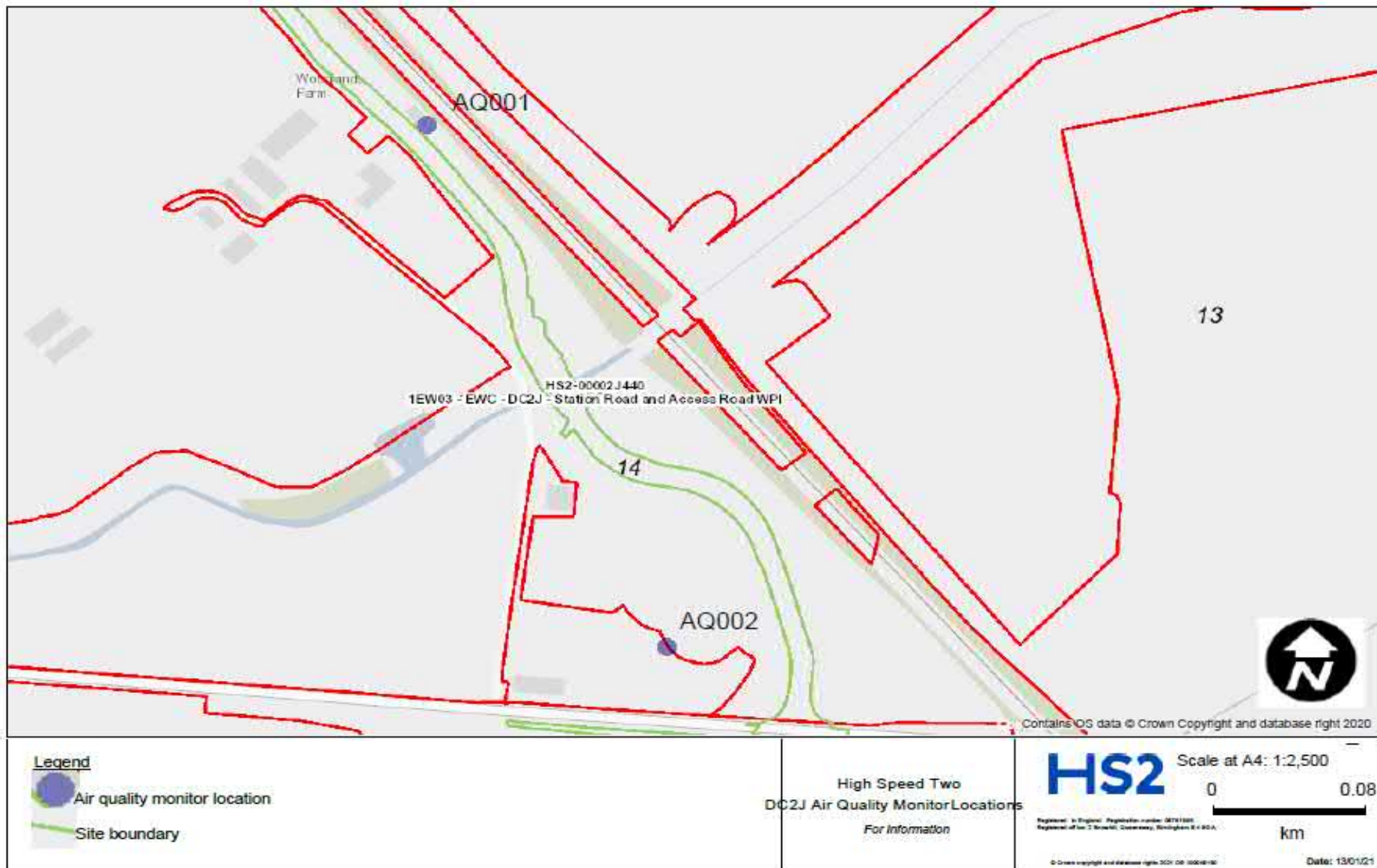


Figure 4: Worksite and Monitoring Locations during February 2021 – Lower Bottom House Farm Lane



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 February 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 ₁₀ concentration (µg/m ³) | Minimum 1-hour PM ₁₀ concentration (µg/m ³) | Maximum 1-hour PM ₁₀ concentration (µg/m ³) | Number of 1-hour periods exceeding trigger level of 190 µg/m ³ | Data capture (%) |
|--------------------|-------------------|---|---------------------------|--------------------------------------|---|---|--|--|---|------------------|
| CVV-AQMP1 | 503602, 189832 | On the north boundary of LTP1 | M | Yes | Yes | 9.9 | 1.0 | 37.0 | 0 | 98 |
| CVV-AQMP2 | 503654, 189795 | On the south boundary of LTP1 | M | Yes | Yes | 10.4 | 1.0 | 39.0 | 0 | 63 |
| CHStP-AQMP1 | 500114, 193104 | On the eastern boundary of the site with Chesham Lane | M | Yes | Yes | 9.5 | 2.0 | 44.0 | 0 | 99.9 |
| CHStP-AQMP2 | 499893, 193341 | On the western boundary of the site | M | Yes | Yes | 9.6 | 1.0 | 53.0 | 0 | 83 |
| AMER-AQMP1 | 495440, 196733 | On the north-eastern boundary of Amersham | M | Yes | Yes | 9.1 | 1.0 | 33.0 | 0 | 73 |
| AMER-AQMP2 | 495280, 196532 | On the south-western boundary of Amersham | M | Yes | Yes | 8.8 | 1.0 | 31.0 | 0 | 86 |
| 3252Dust2 | 498390, 195434 | On the boundary with Elm Tree Cottage, Bottom House Farm Lane | M | Yes | No | 13.6 | 0.7 | 301.3 | 1 | 100 |
| 3252Dust3 | 498100, 195145 | On the site boundary opposite Lower Bottom House Farm | M | Yes | No | 9.4 | 0.7 | 63.4 | 0 | 100 |

| | | | | | | | | | | |
|-------|-------------------|-------------------|---|-----|----|------|---|------|---|-----|
| AQ001 | 471524, 221329 | Woodlands Farm | M | Yes | No | 10.8 | 1 | 500* | 2 | 100 |
| AQ002 | 471654, 221030 | Woodlands Cottage | M | Yes | No | 9.3 | 1 | 300* | 1 | 100 |

* As noted in Table 2, these concentrations are considered to be due to a monitor fault (monitor maintenance schedule in place).

Table 2: Summary of trigger alerts recorded during the monitoring period (February 2021)

| Monitoring Site ID | Period of trigger alert & Concentration recorded | Investigation | Outcomes / Resolution / Remedial measures implemented |
|--------------------|---|---|---|
| 3252Dust2 | 06/02/2021 16:01 – 17:00: 301.3 µg/m ³ | On investigation, it was identified that there were no HS2 works at this time and it was believed the trigger alert may have been caused by renovation works at the property adjacent to the monitor. | N/A |
| AQ001 | 12/02/2021 08:01 – 09:00: 500 µg/m ³ | At the time of the triggers, no works were being carried out in this area. On investigation, the source of triggers could not be ascertained. There were no other obvious works taking place in the area. These triggers are considered to be a system fault, and discussions are underway with the service provider. | Discussions with the service provider have been undertaken, and regular monitor maintenance will continue to be in place. |
| | 28/02/2021 08:01 – 09:00: 400 µg/m ³ | | |
| AQ002 | 17/02/2021 12:01 – 13:00: 300 µg/m ³ | | |

Figure 6: Continuous dust 1-hour mean indicative PM₁₀ concentration for CVV-AQMP1 for February 2021

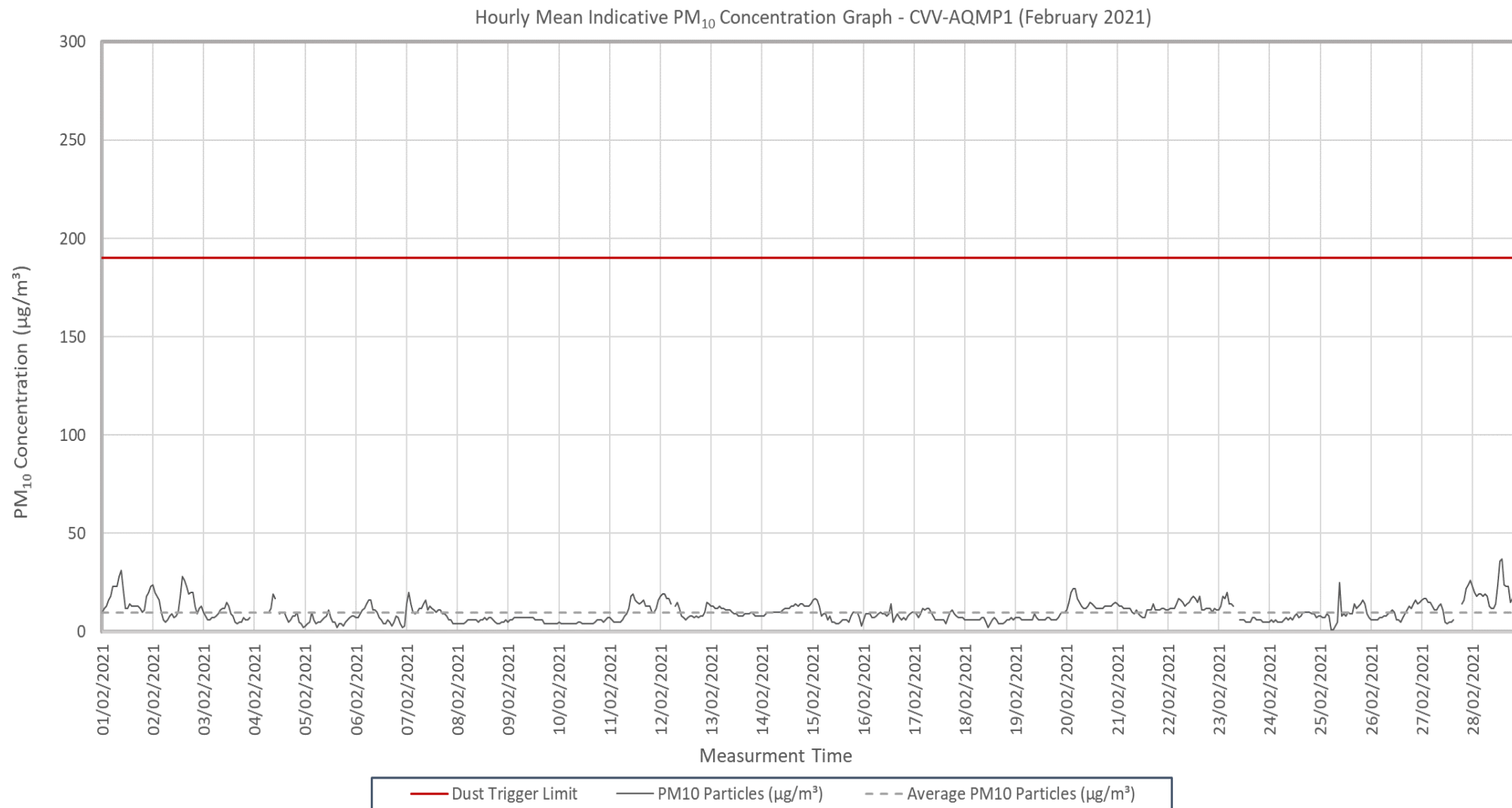


Figure 7: Continuous dust 1-hour mean indicative PM₁₀ concentration for CVV-AQMP2 for February 2021

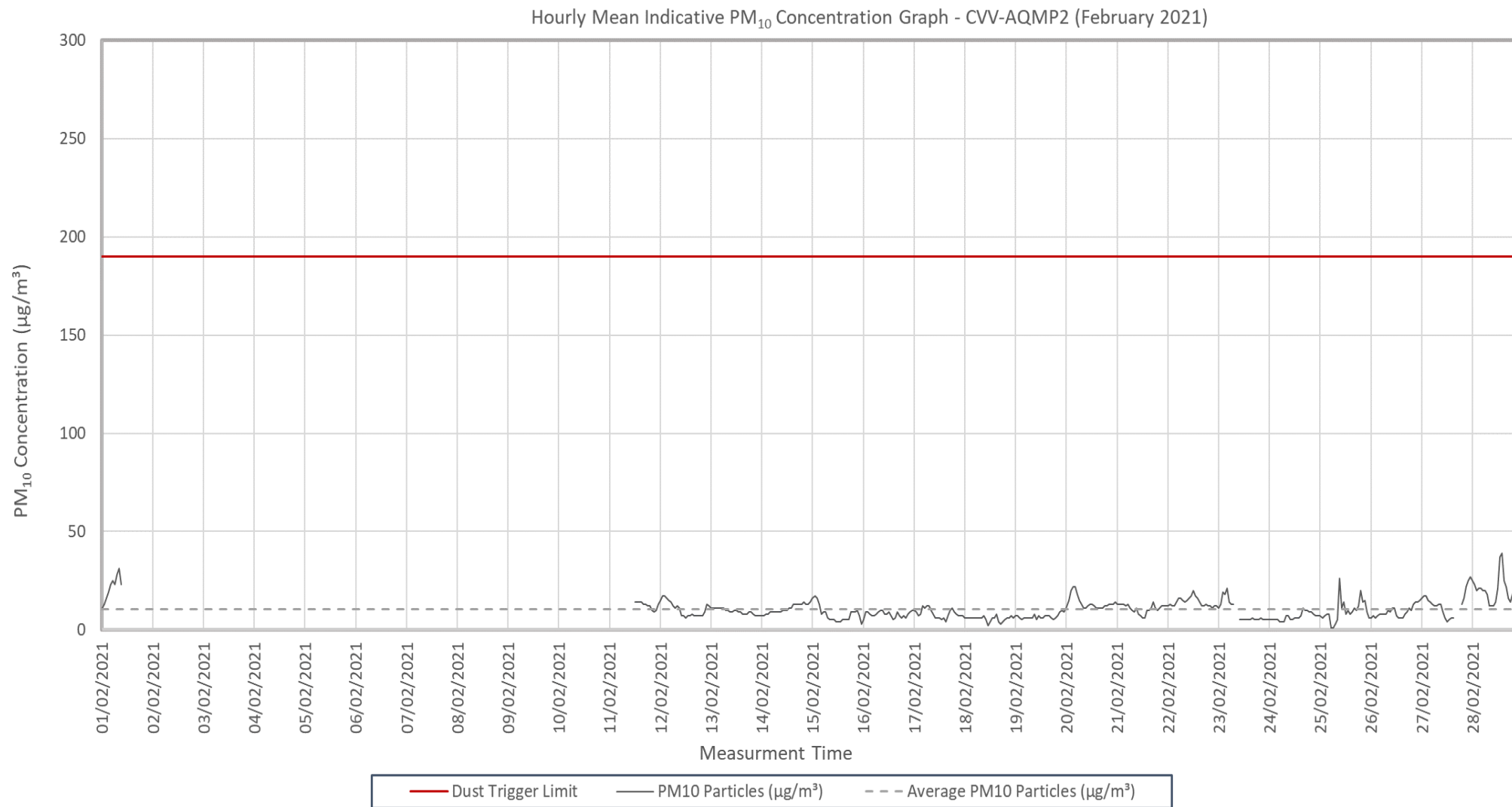


Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentration for CHStP-AQMP1 for February 2021

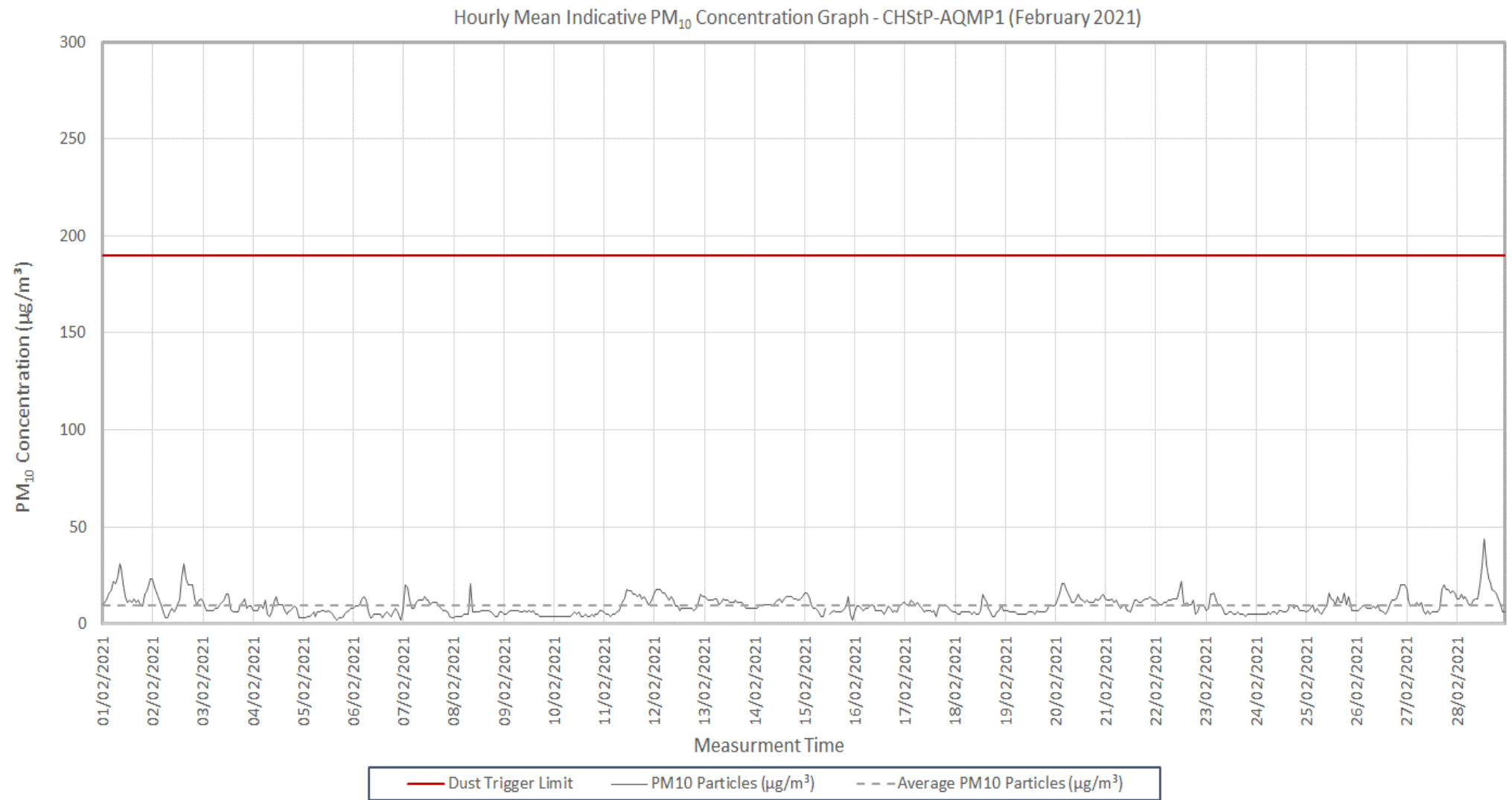


Figure 9: Continuous dust 1-hour mean indicative PM₁₀ concentration for CHStP-AQMP2 for February 2021

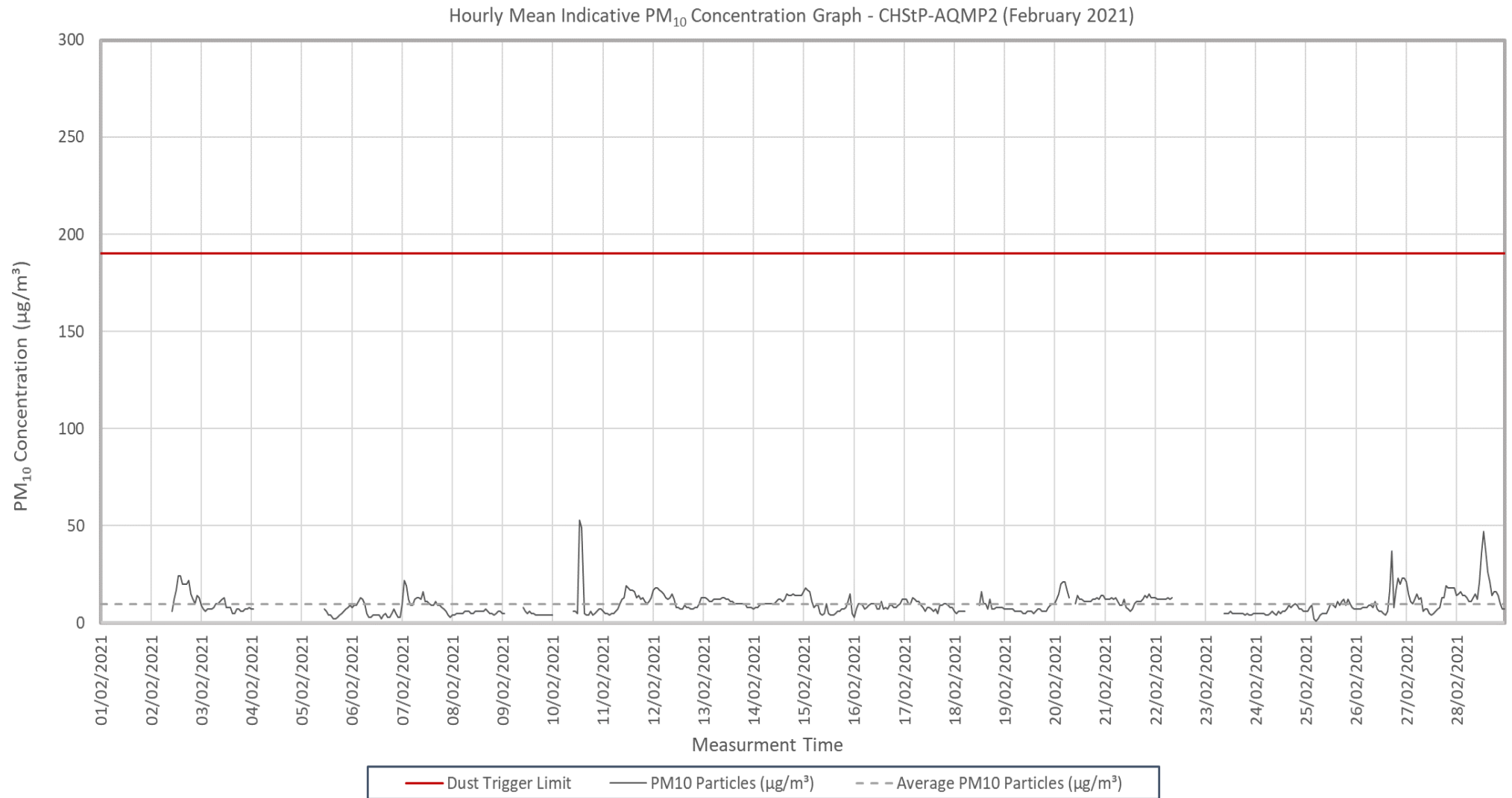


Figure 10: Continuous dust 1-hour mean indicative PM₁₀ concentration for AMER-AQMP1 for February 2021

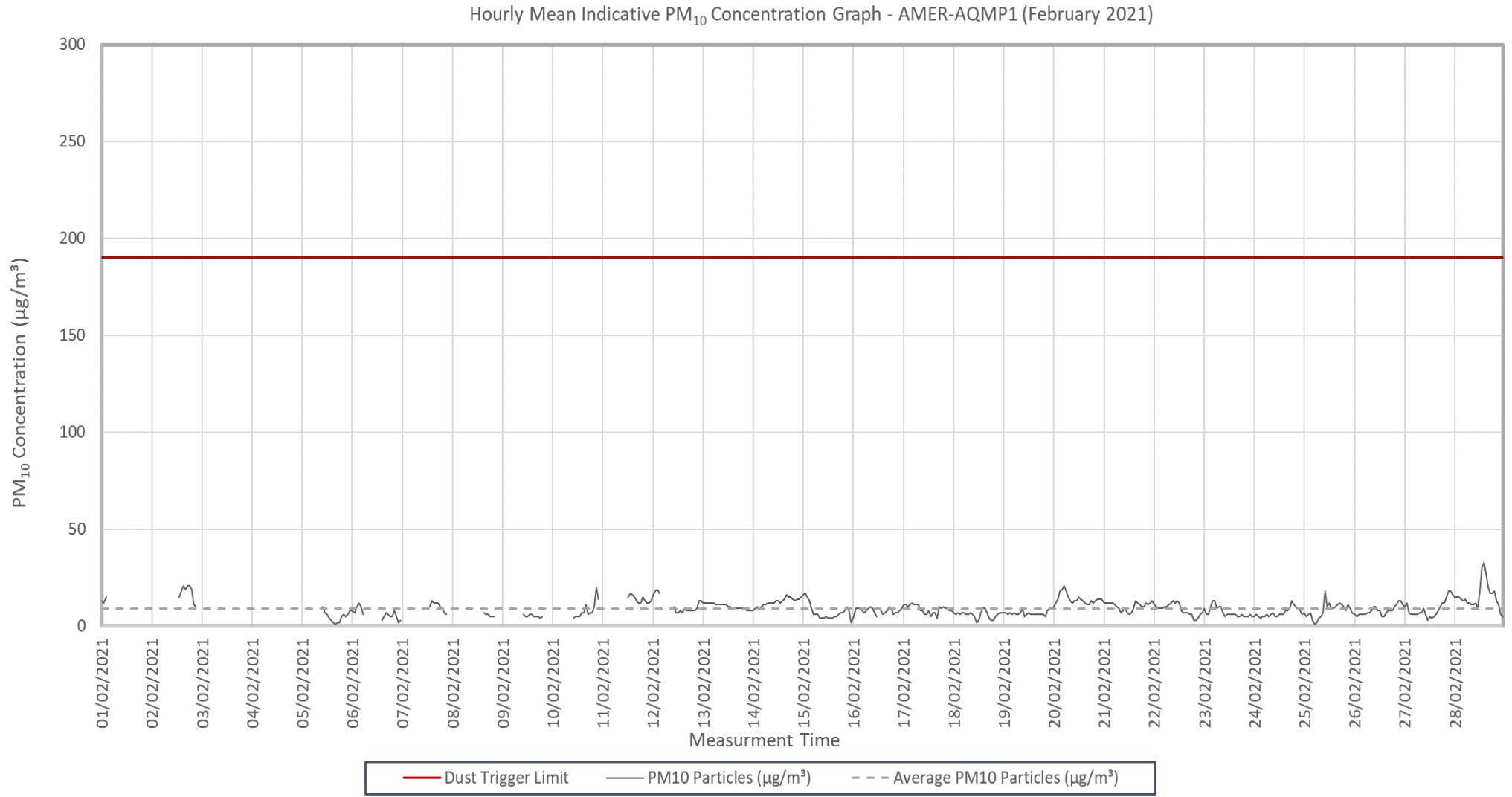


Figure 11: Continuous dust 1-hour mean indicative PM₁₀ concentration for AMER-AQMP2 for February 2021

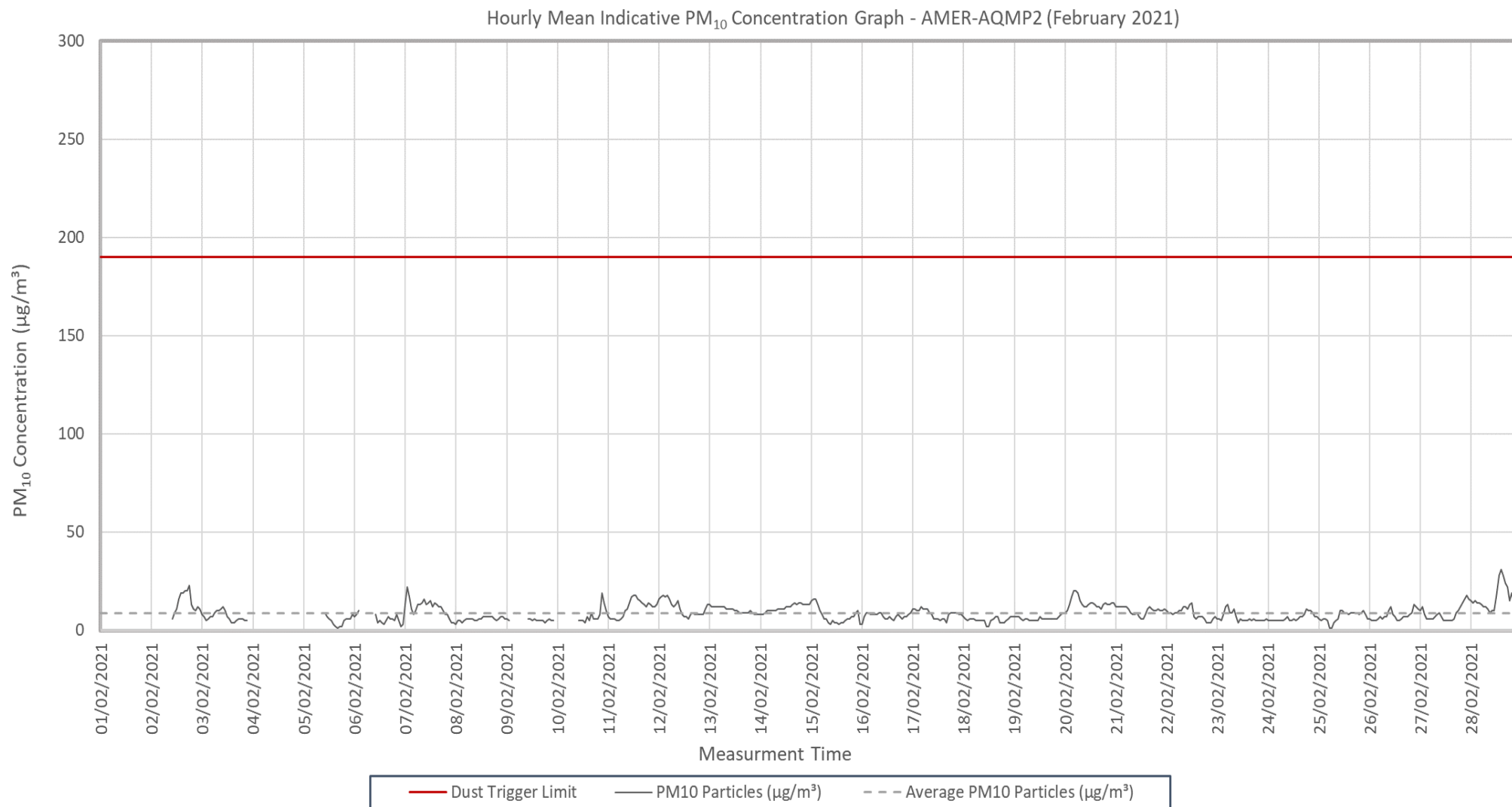


Figure 12: Continuous dust 1-hour mean indicative PM₁₀ concentration for 3252Dust2 (Elm Tree Cottage) for February 2021

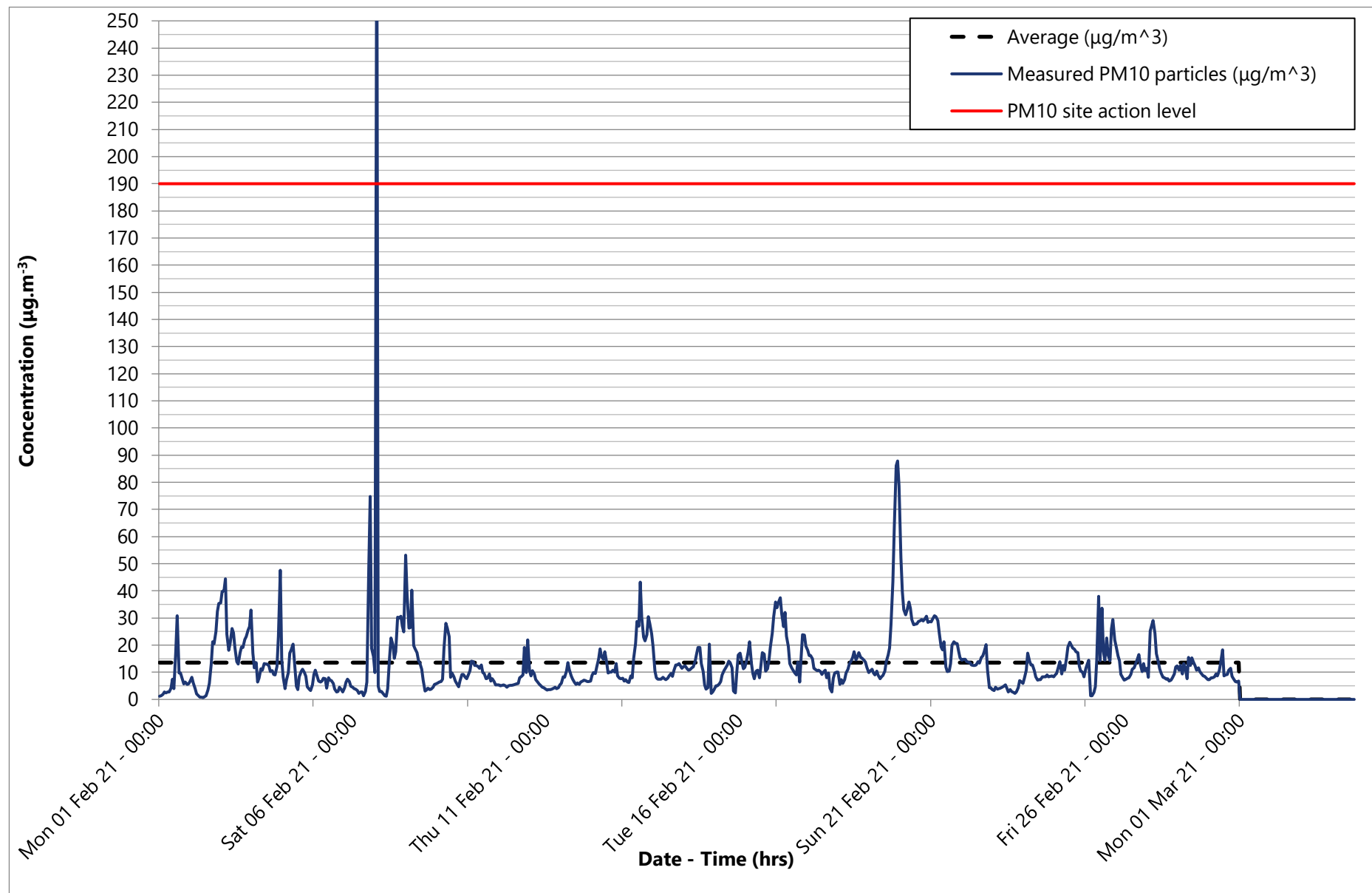


Figure 13: Continuous dust 1-hour mean indicative PM₁₀ concentration for 3252Dust3 (Lower Bottom House Farm) for February 2021

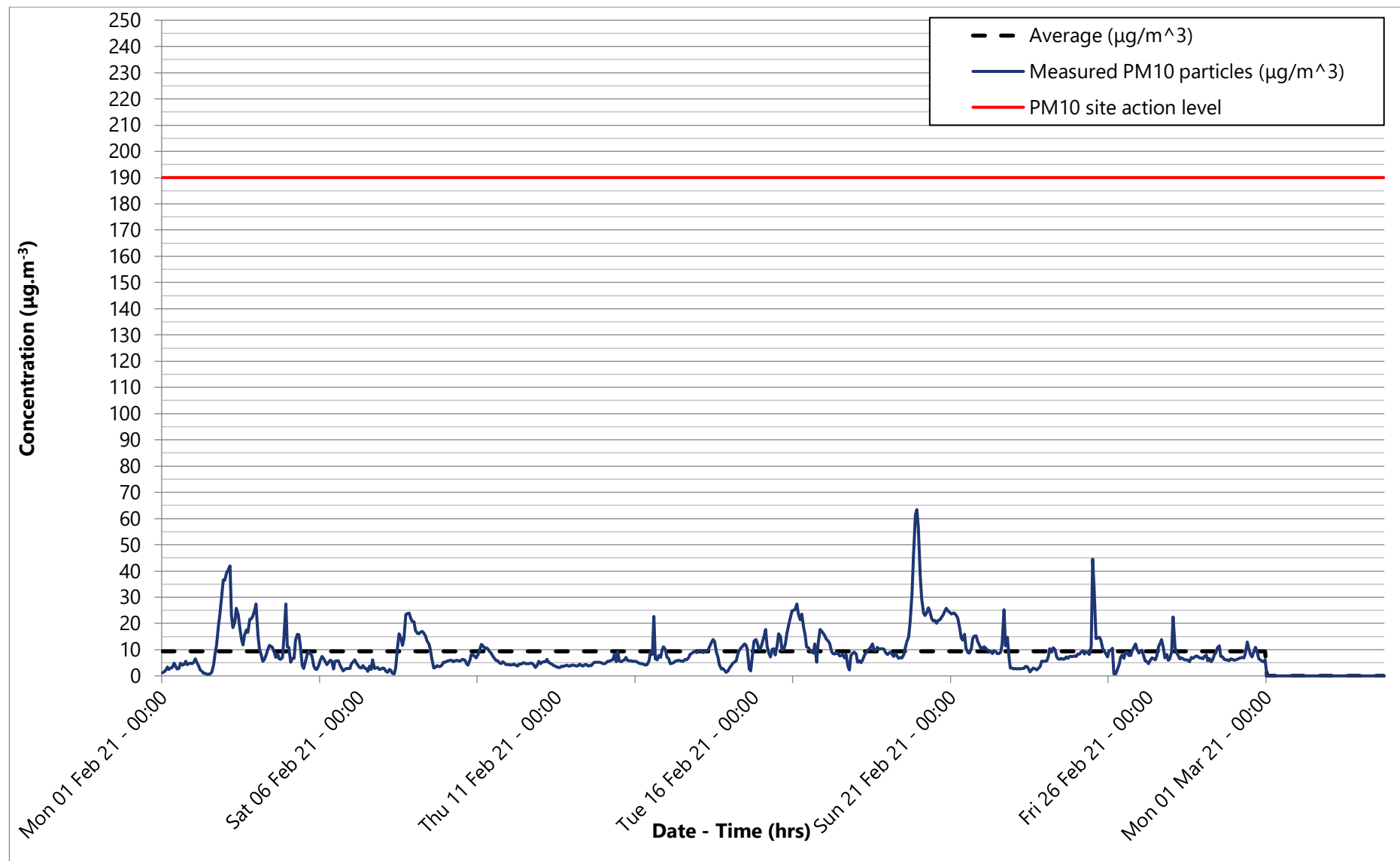


Figure 14: Continuous dust 1-hour mean indicative PM10 concentration for AQ001 for February 2021

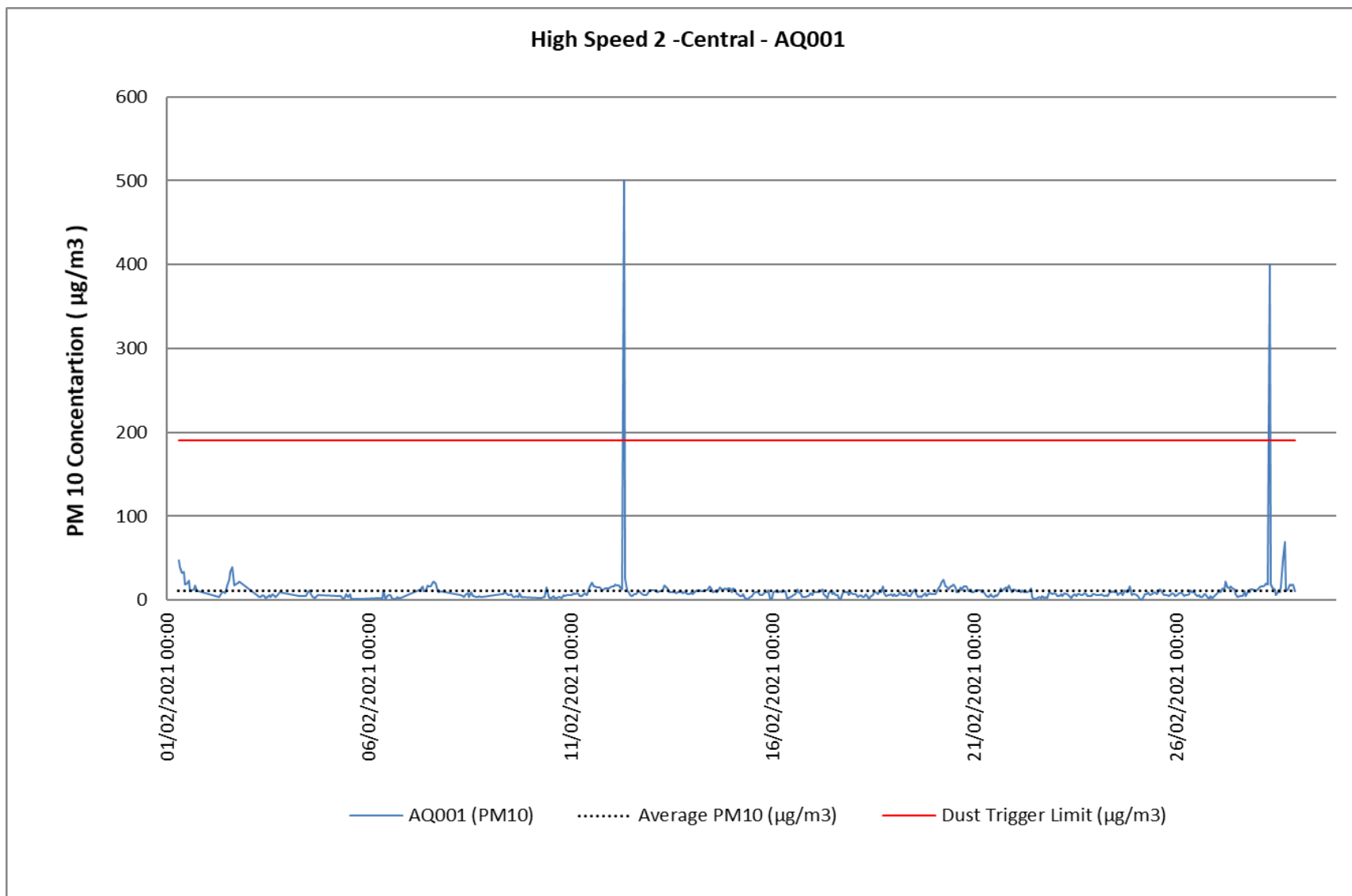


Figure 15: Continuous dust 1-hour mean indicative PM10 concentration for AQ002 for February 2021

