

## Air Quality and Dust Monitoring Monthly Report – **December** 2020 **Buckinghamshire** Council



## Department for Transport

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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 December 2020.
- 1.1.2 Figures 1 to 5 in Appendix A presents the current worksites together with the dust monitoring locations for December 2020.
- 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 that 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 within December 2020 included:

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

- Utilities: sections B5, B6, B7 and B11;
- Affinity Water Access Site: construction of access road including earthworks, drainage and road & hardstanding;
- North Embankment Compound: earthworks and drainage, road, hardstanding and civil works;
- Haul road 29,150 – 29,400: earthworks, drainage and civil works; and
- Haul road 28,220 – 29,200: preparation works, earthworks and drainage.

#### Chalfont St Peter Vent Shaft:

- D-Wall Works: diaphragm wall excavation, rebar and concreting;
- All auxiliary plant; and
- Grout injection trials: mobilisation and setup, and drilling and grout injection.

#### Amersham Vent Shaft:

- Site installations;
- Construct internal site roads and car park;
- Install storage, reinforcement, crane bases and workshops;
- Car park finishes, utilities and drainage;
- Install edge protection posts and fence above retaining wall; and

- Excavate to shaft piling platform level.

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 and two (2) are located at Lower Bottom House Farm Lane site. Two (2) additional dust monitors were installed at the DC2J Haul Road and Compound worksite on 23<sup>rd</sup> November 2020, therefore this report presents the monitoring results from this date. 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 14. 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 were dust trigger alerts recorded during the monitoring period (December 2020), however on investigation it was determined that there was a monitor fault linked to the heated inlet, which has now been rectified.
- 1.1.9 Data capture for various monitors was below 90% for the month of December 2020. Missing data was due to the loss of continuous site power to the monitoring location. Site power was restored, and monitoring resumed at the respective locations, with an alternative power source being explored to resolve the intermittent solar power supply issues. In addition, and due to lack of mains power on site, both monitors at the DC2J Haul Road and Compound site

captured data only between 07:00 and 19:00 daily since their installation (on 23/11/20). This issue is being resolved to achieve the required continuous monitoring (24 hours a day).

1.1.10 CSP-AQMP2 was removed from its location without authorisation. A new unit is due to be installed following review of the security at the monitoring location.

1.1.11 There were no (0) complaints received, relating to dust or air quality, during the reporting period (December 2020).

# Appendix A – Monitoring Locations

Figure 1: Worksite and Monitoring locations during December 2020 – CVV LTP1

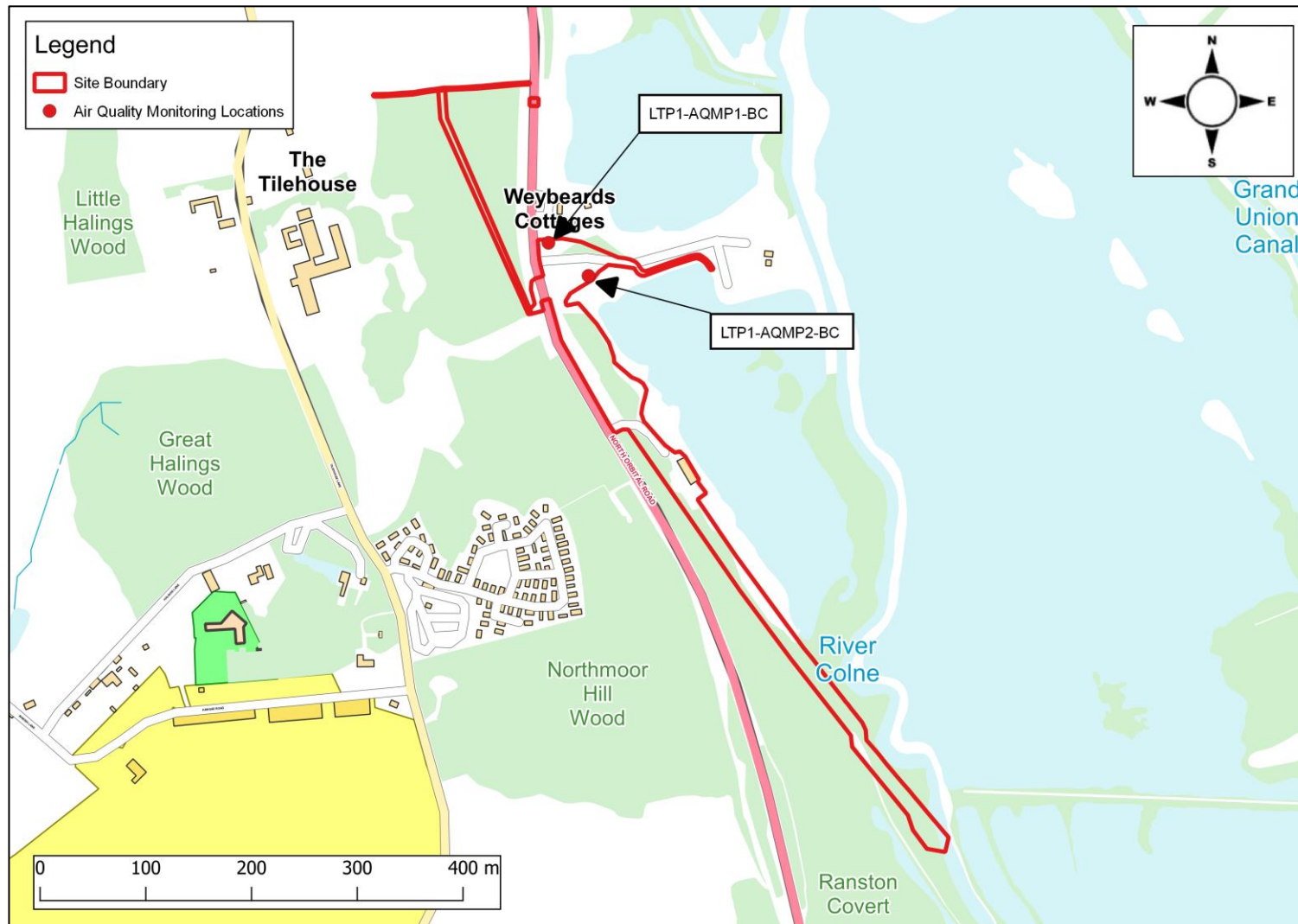


Figure 2: Worksite and Monitoring locations during December 2020 – Chalfont St Peter Vent Shaft Site

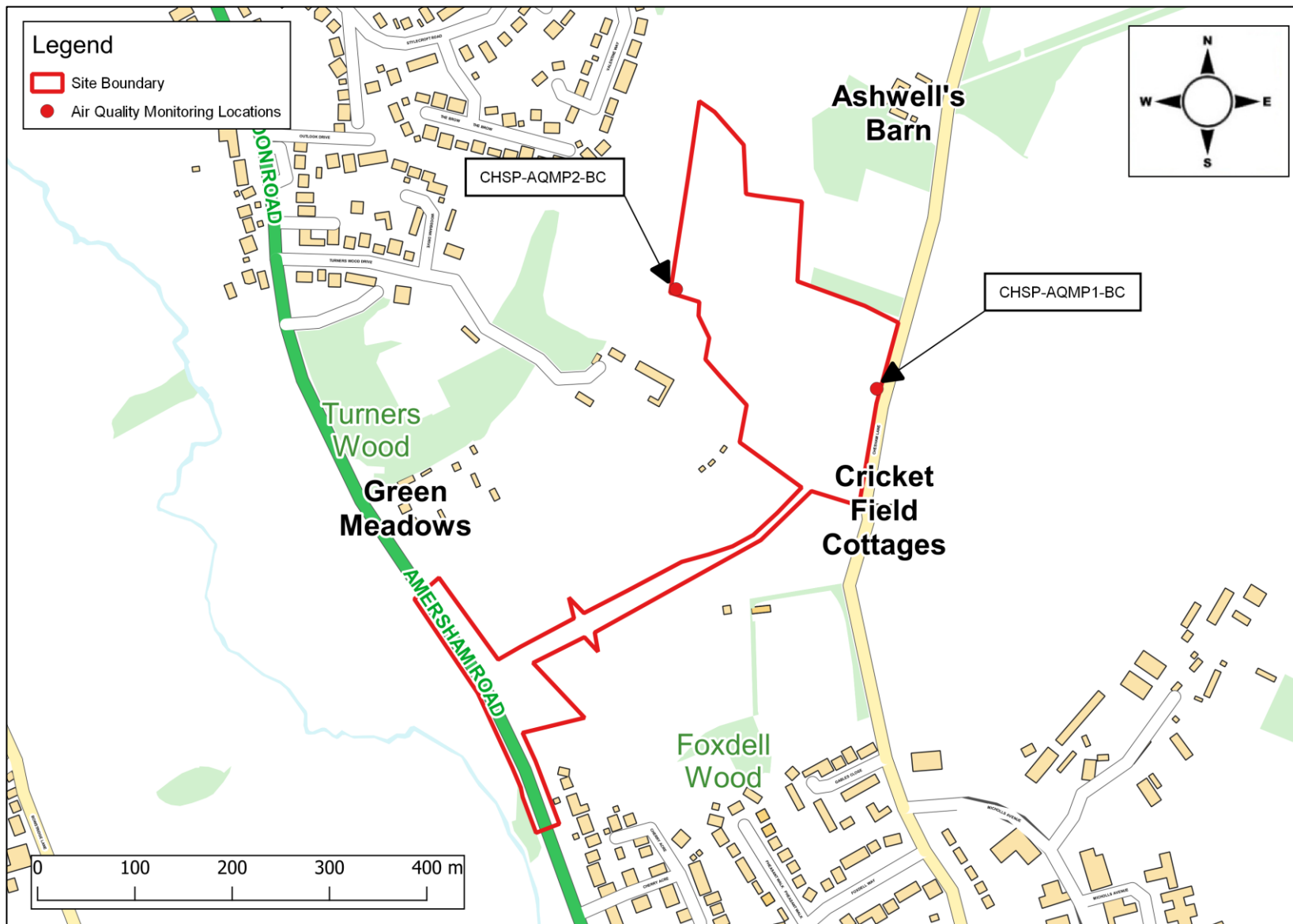


Figure 3: Worksite and Monitoring locations during December 2020 – Amersham Vent Shaft Site

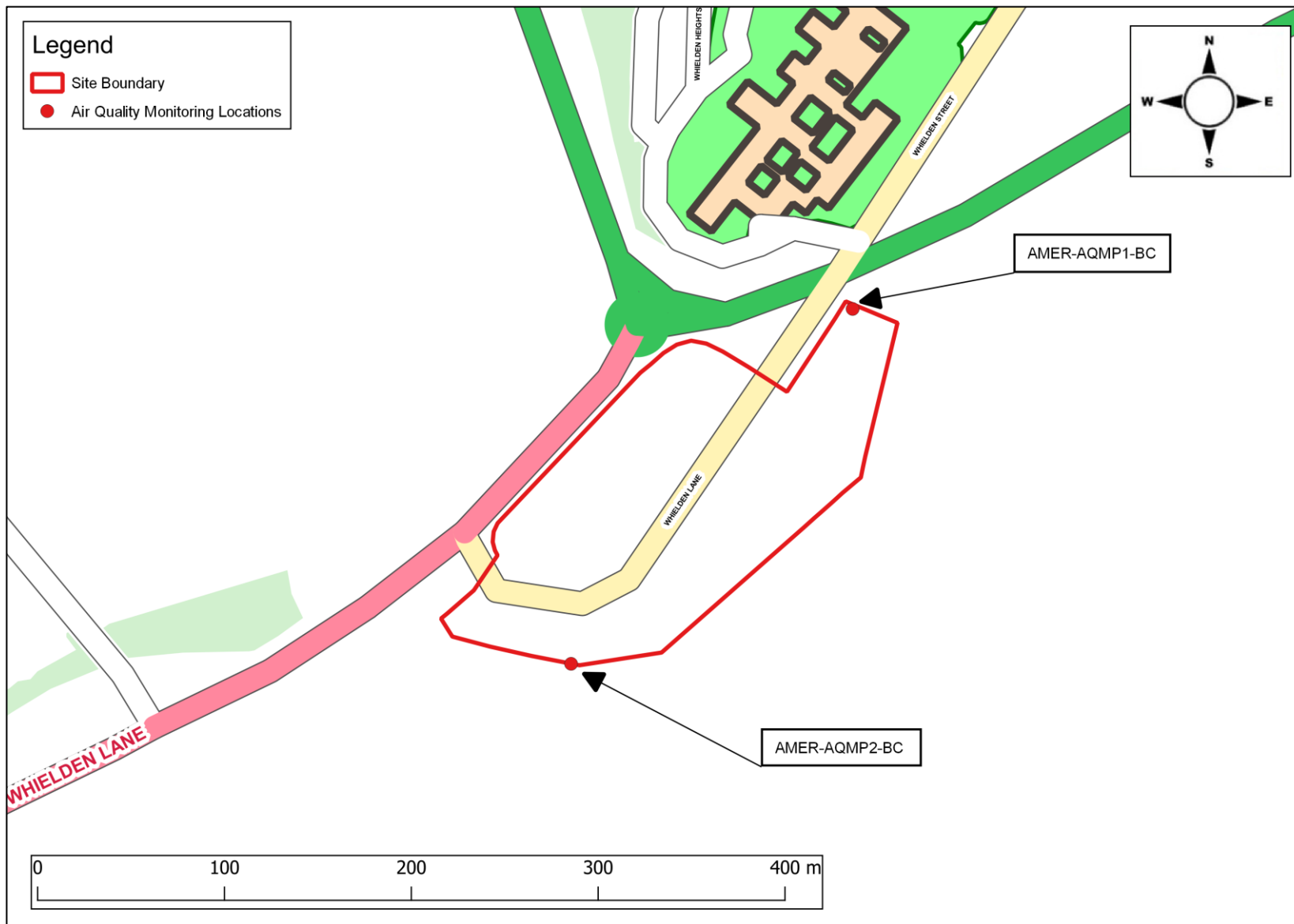
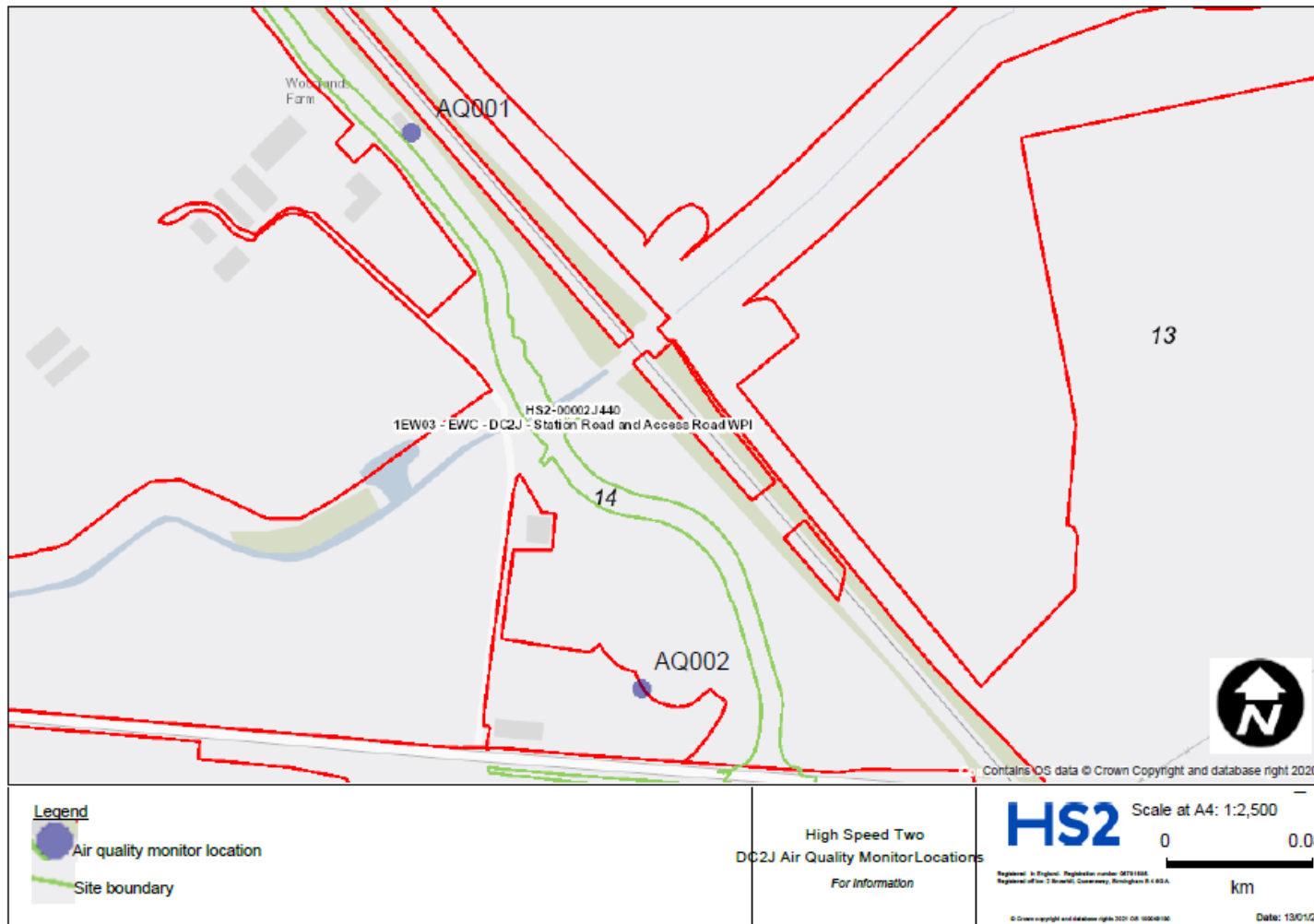




Figure 4: Worksite and Monitoring locations during December 2020 – Lower Bottom House Farm Lane



Figure 5: Worksite and Monitoring locations during December 2020 – DC2J Haul Road and Compound site



## Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and December 2020 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 (%)
CHSP-AQMP1-BC	500114, 193104	On the eastern boundary of the site with Chesham Lane	M	Yes	Yes	10.2	1.6	134.2	0	99
CHSP-AQMP2-BC	499903, 193181	On the western boundary of the site	M	Yes	Yes	-	-	-	-	0
LTP1-AQMP1-BC	503602, 189832	On the north boundary of LTP1	M	Yes	Yes	7.6	0.9	29.5	0	100
LTP1-AQMP2-BC	503654, 189795	On the south boundary of LTP1	M	Yes	Yes	9.5	1.2	34.0	0	100
AMER-AQMP1-BC	495440, 196733	On the north-eastern boundary of Amersham	M	Yes	Yes	7.9	1.1	25.2	0	51
AMER-AQMP2-BC	495280, 196532	On the south-western boundary of Amersham	M	Yes	Yes	4.4	0.5	14.1	0	52
3252Dust2	498390, 195434	On the boundary with Elm Tree Cottage, Bottom House Farm Lane	M	Yes	No	7.8	0.7	33.8	0	100
3252Dust3	498100, 195145	On the site boundary opposite Lower Bottom House Farm	M	Yes	No	7.2	0.6	57.8	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 (%)
AQ001	471524, 221329	Woodlands Farm	M	Yes	No	10.5	1	87.0	0	95
AQ002	471654, 221030	Woodlands Cottage	M	Yes	No	10.63	1	72.0	0	52

Figure 6: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHSP-AQMP1-BC for December 2020

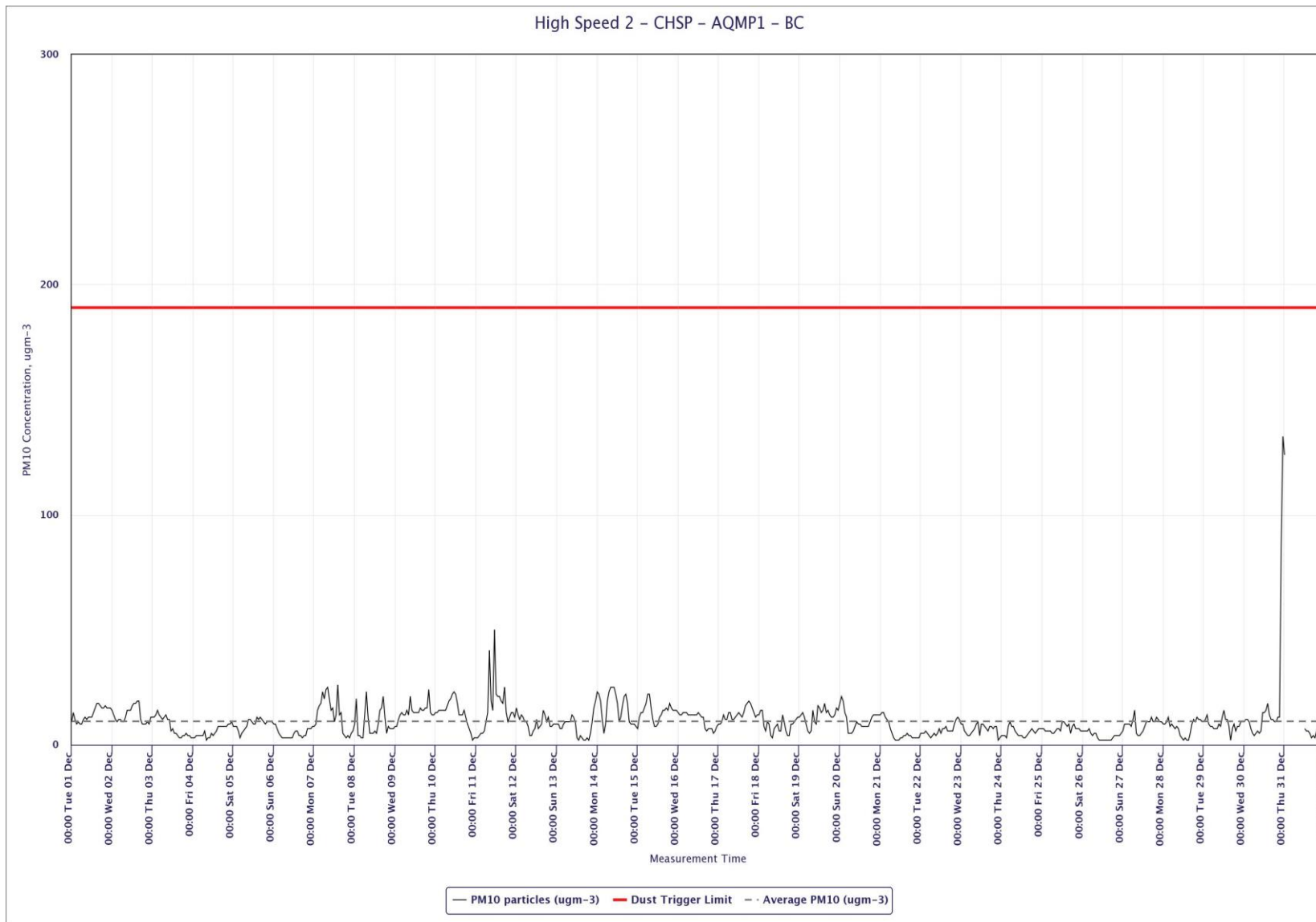


Figure 7: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LTP1-AQMP1-BC for December 2020

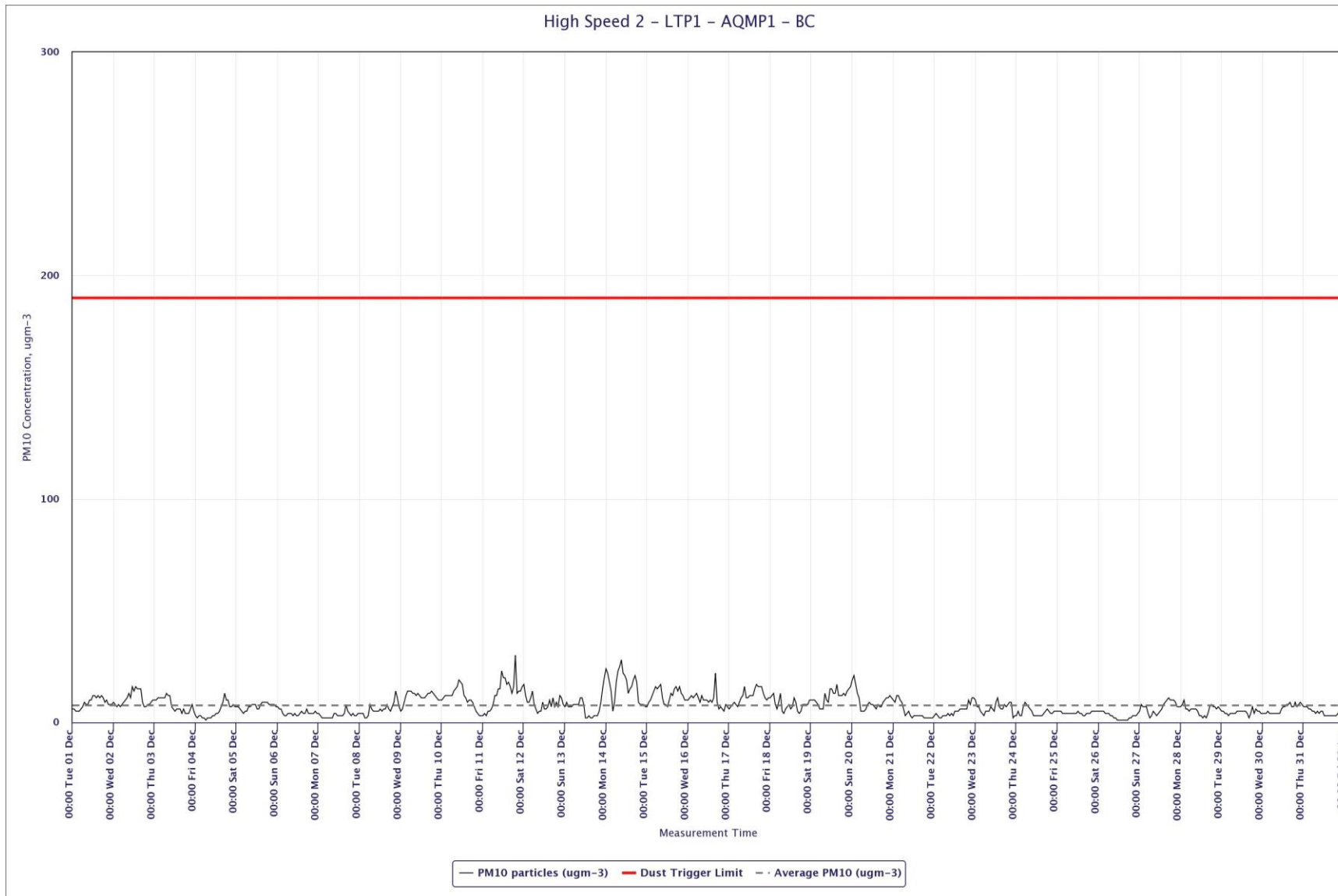


Figure 8: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LTP1-AQMP2-BC for December 2020

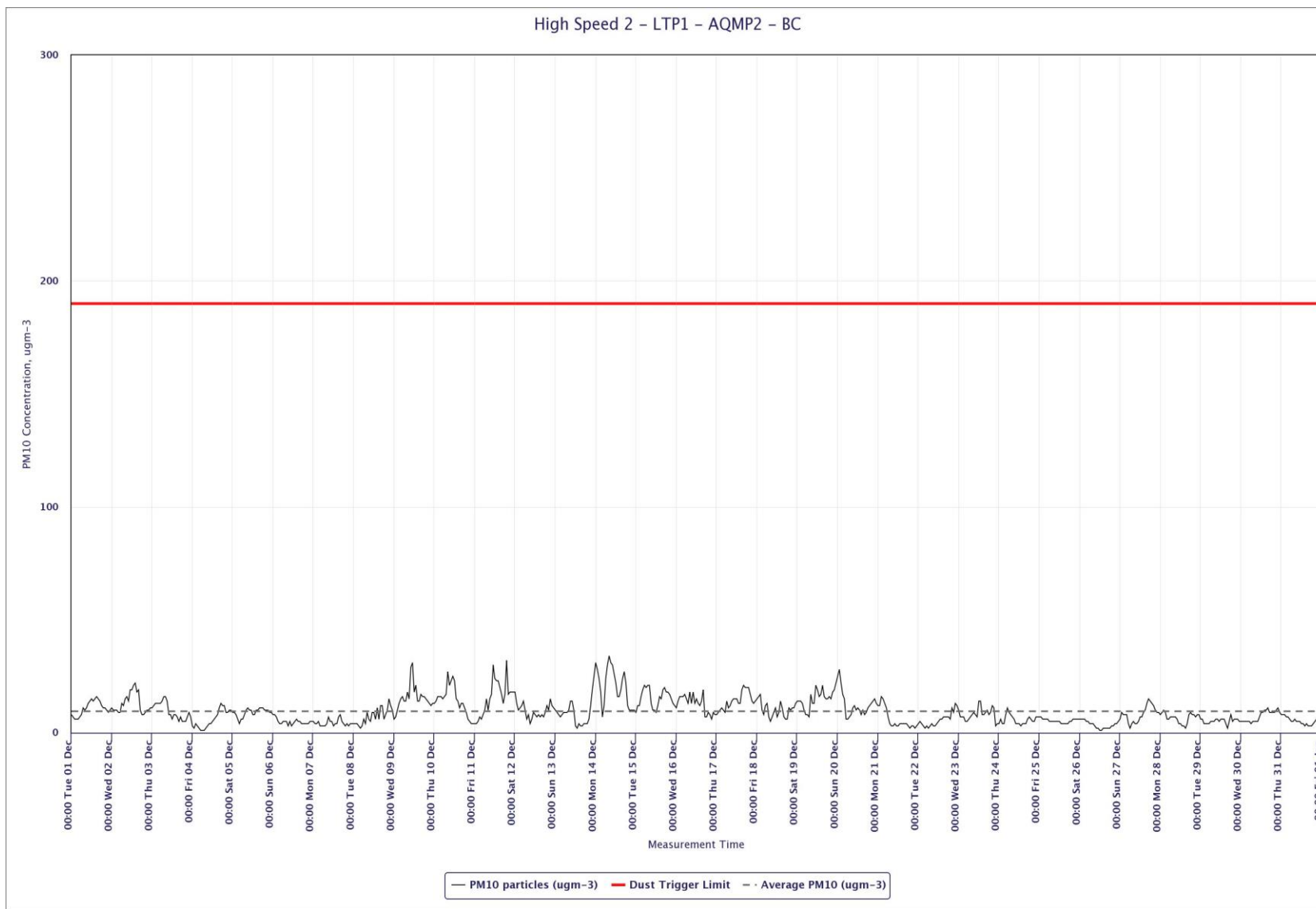


Figure 9: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP1-BC for December 2020

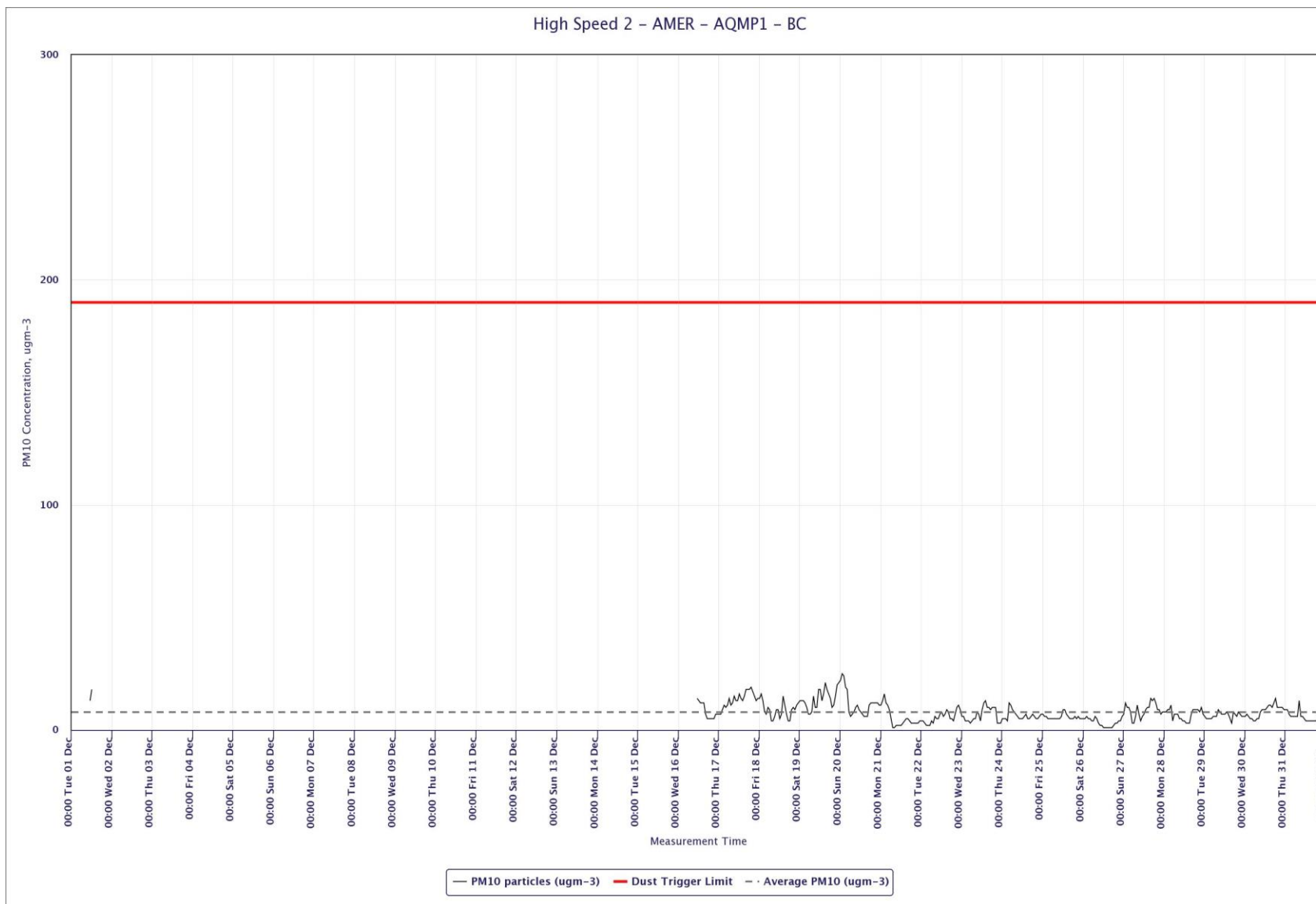




Figure 10: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP2-BC for December 2020

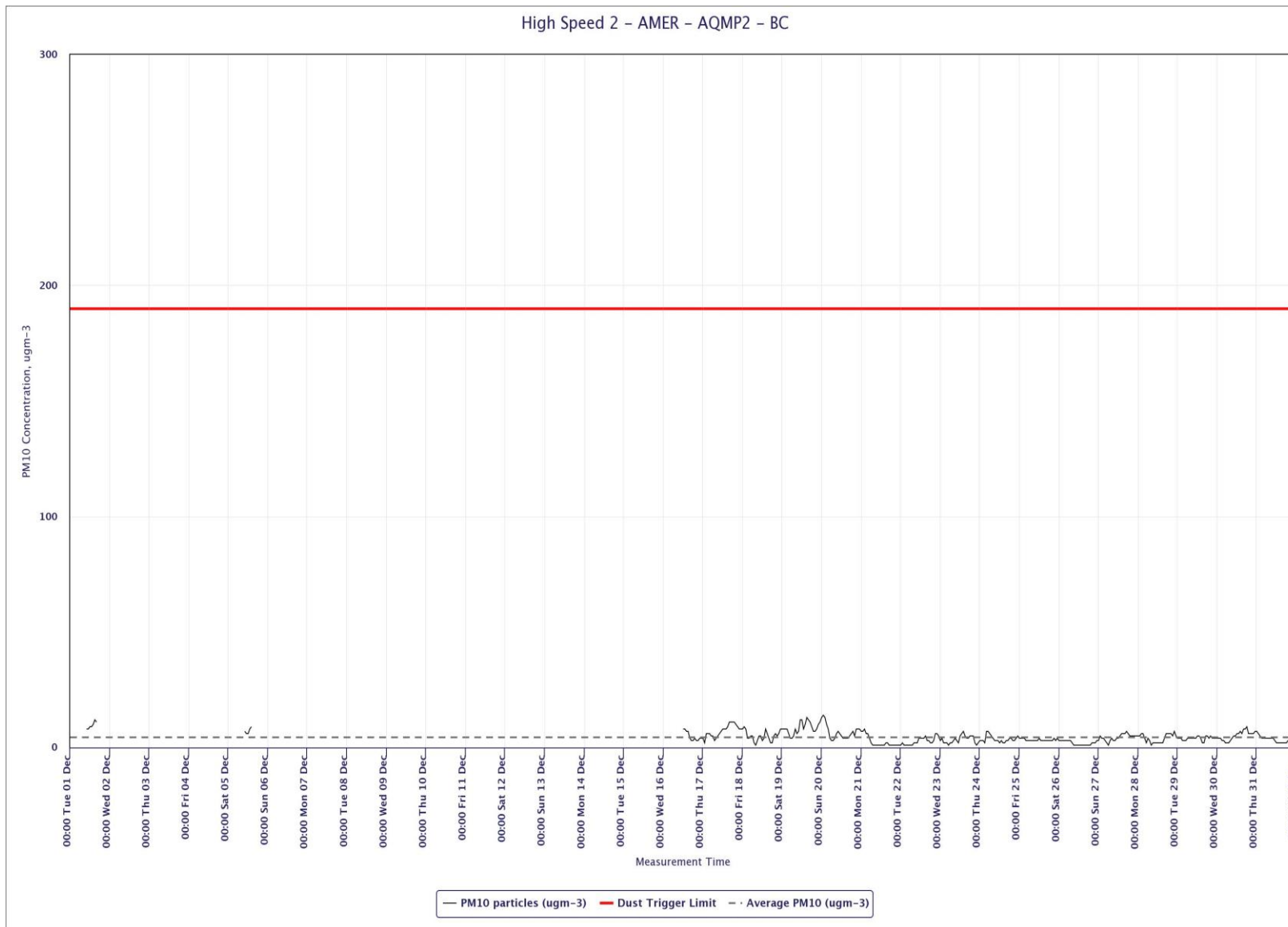


Figure 11: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for 3252Dust2 – Elm Tree Cottage for December 2020

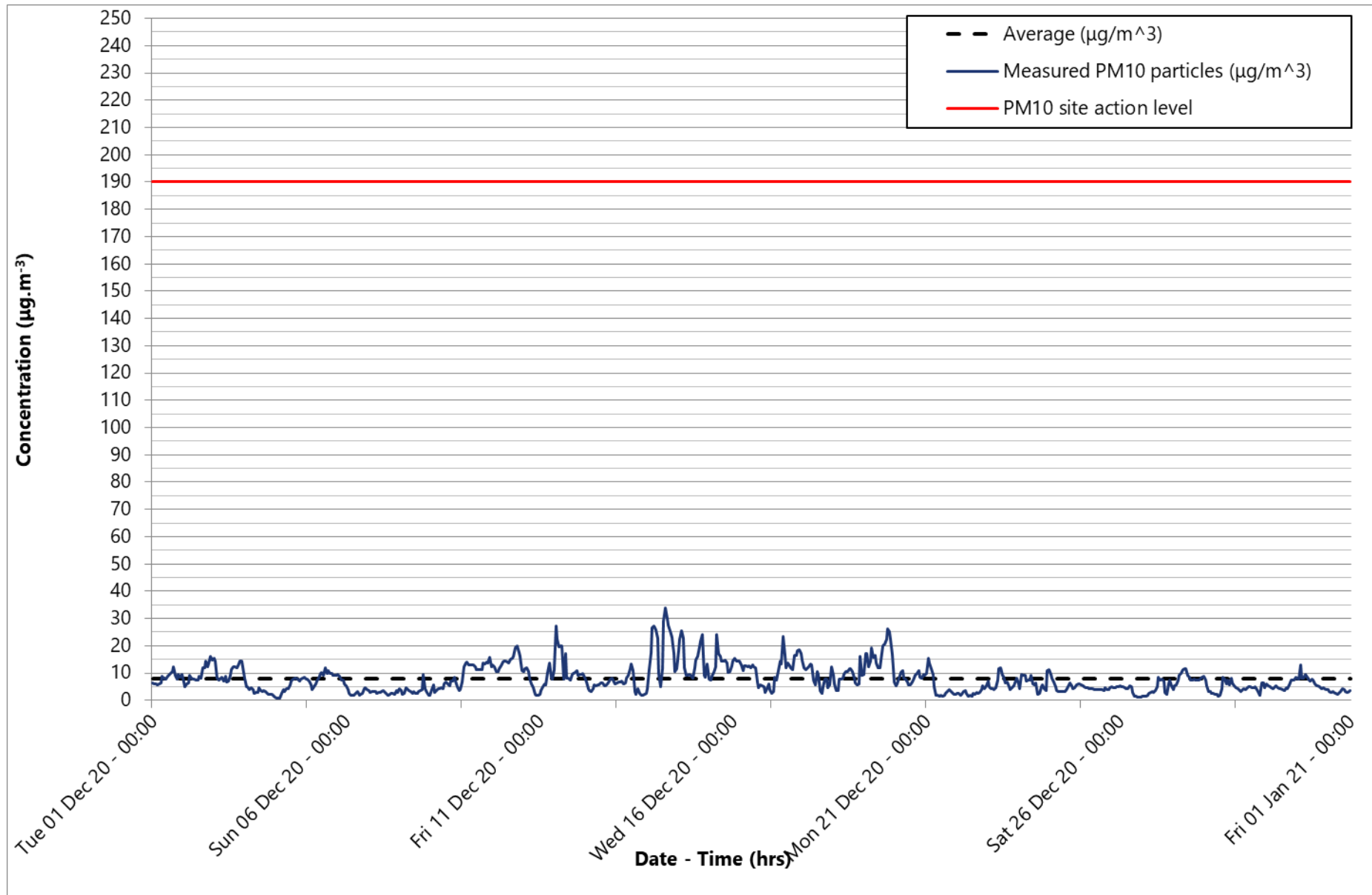


Figure 12: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for 3252Dust3 – Lower Bottom House Farm for December 2020

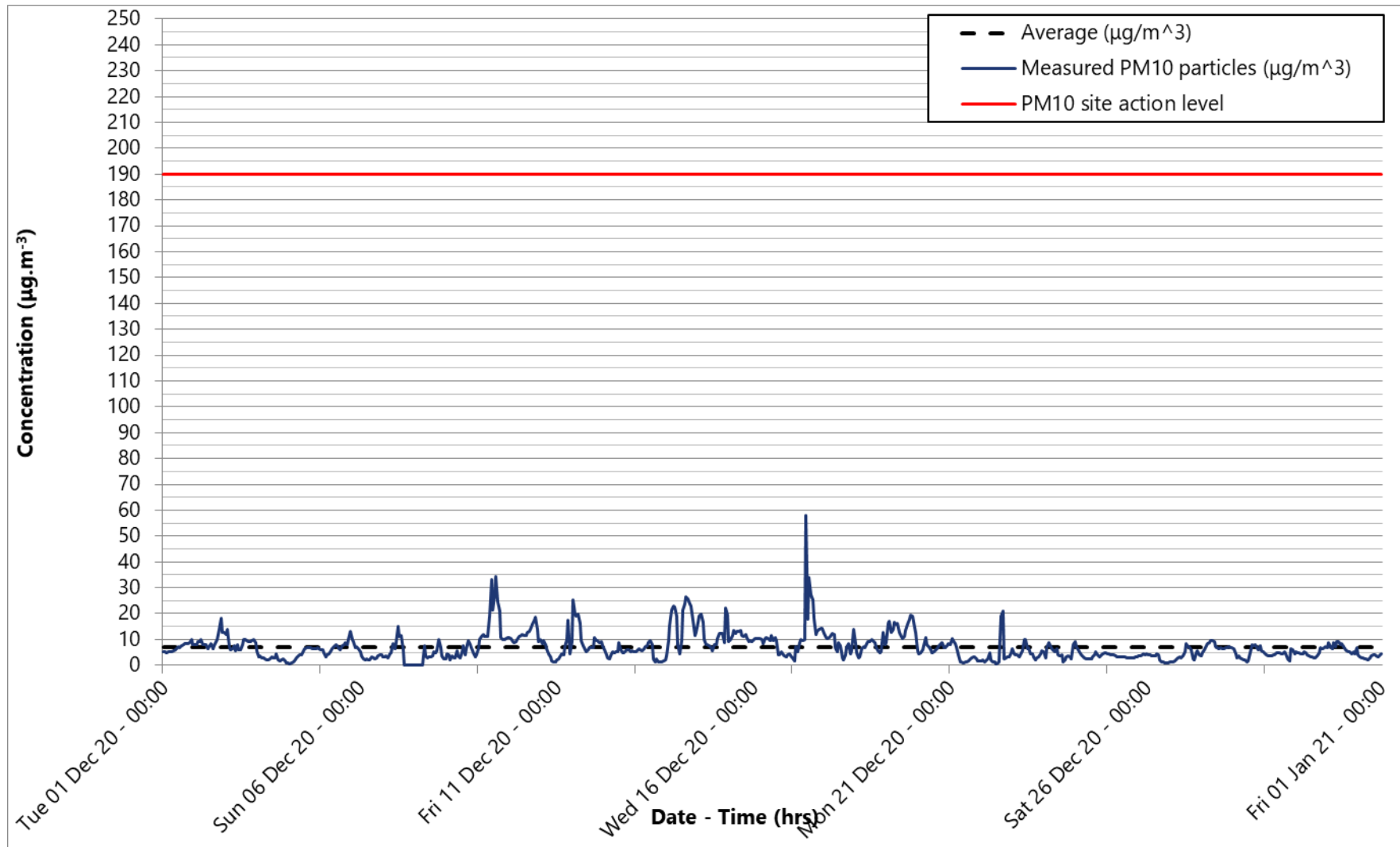


Figure 13: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AQ001 from 25/11/2020 and December 2020 - DC2J Haul Road and Compound site

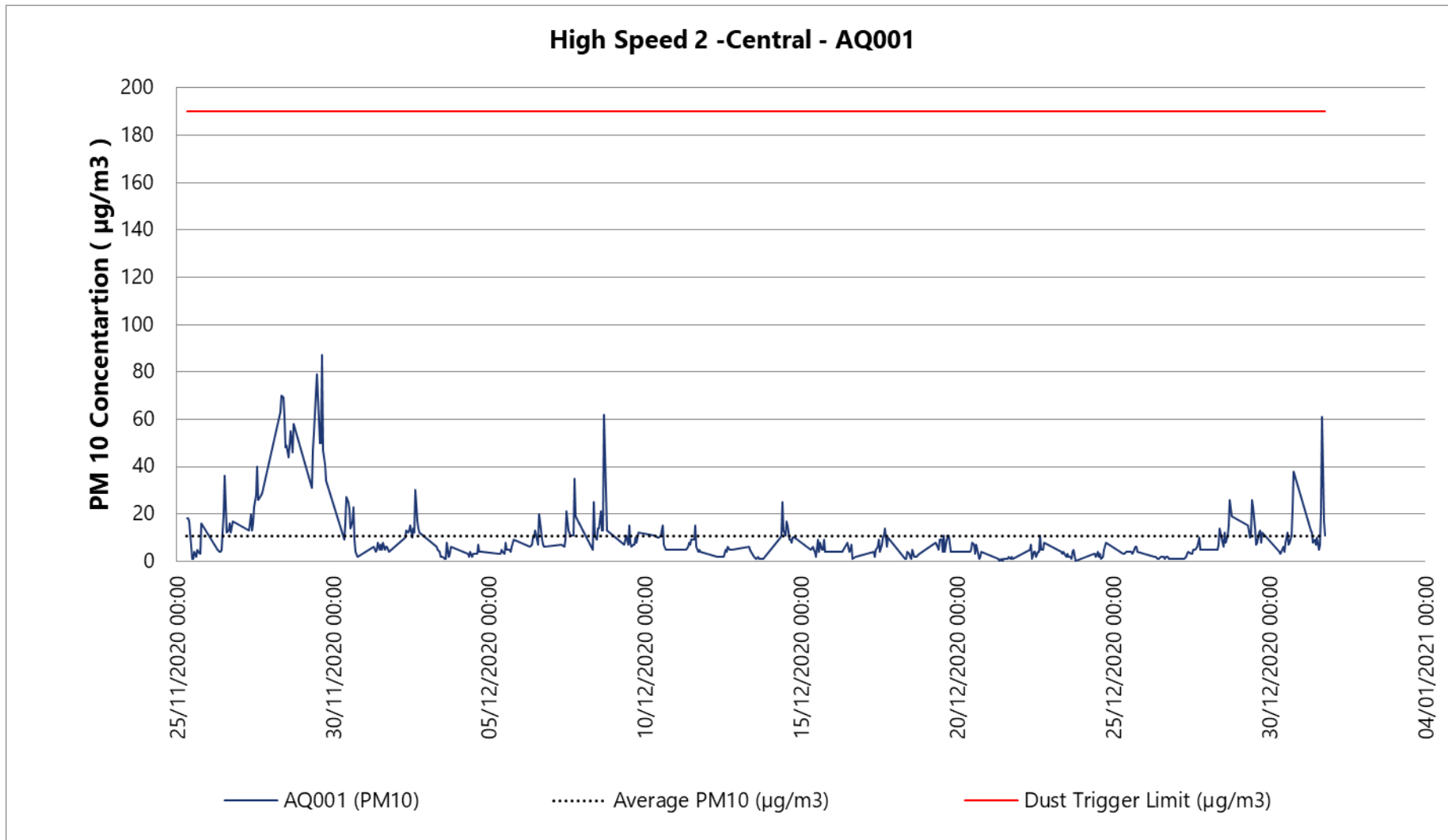


Figure 14: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AQ002 from 25/11/2020 and December 2020 - DC2J Haul Road and Compound site

