

## Air Quality and Dust Monitoring Monthly Report – **October** 2020 **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 October 2020.
- 1.1.2 Figures 1 to 4 in Appendix A presents the current worksites together with the dust monitoring locations for October 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 May 2021. The current worksites at Colne Valley Viaduct (CVV) LTP1, Chalfont St Peter Vent Shaft, Amersham Vent Shaft and Lower Bottom House Farm Lane are presented in Appendix A, Figures 1 to 4. Activities for each worksite within September 2020 included:

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

- Affinity Water Access Site: construction of access road including earthworks, drainage and road & hardstanding; and
- Alternative Access to DWSC: laying of track matt, temporary fencing and signage.

#### Chalfont St Peter Vent Shaft:

- Ground pre-treatment works: rotary and percussive drilling, and grout injections;
- D-wall panel installations: addition of vacuum tanker and centrifuge;
- Stockpile management of 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;
- Installation of site offices;
- Installation storage, reinforcement, crane bases and workshops;
- Car park finishes, utilities and drainage; and
- New traffic management.

Lower Bottom House Farm Lane:

- Earthworks including excavation, stockpiling, and material movement; and
- 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.

1.1.5 Eight (8) 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 other two (2) are located at Lower Bottom House Farm Lane site. Dust Risk Assessments for each worksite returned a medium dust risk rating (for works currently active on site).

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 5 to 12. 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  $\mu\text{g}/\text{m}^3$ , 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 four (4) dust trigger alerts recorded during the monitoring period (October 2020). Exceedances are presented in Appendix B, Table 2. All other results were in line with expected ranges.

1.1.9 Data capture for various monitors was below 90% for the month of October 2020. Missing data was due to the loss of continuous site power to the monitoring location, or due to the loss of solar and leisure battery power, caused by a lack of sunlight. 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. 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.

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

# Appendix A – Monitoring Locations

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



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

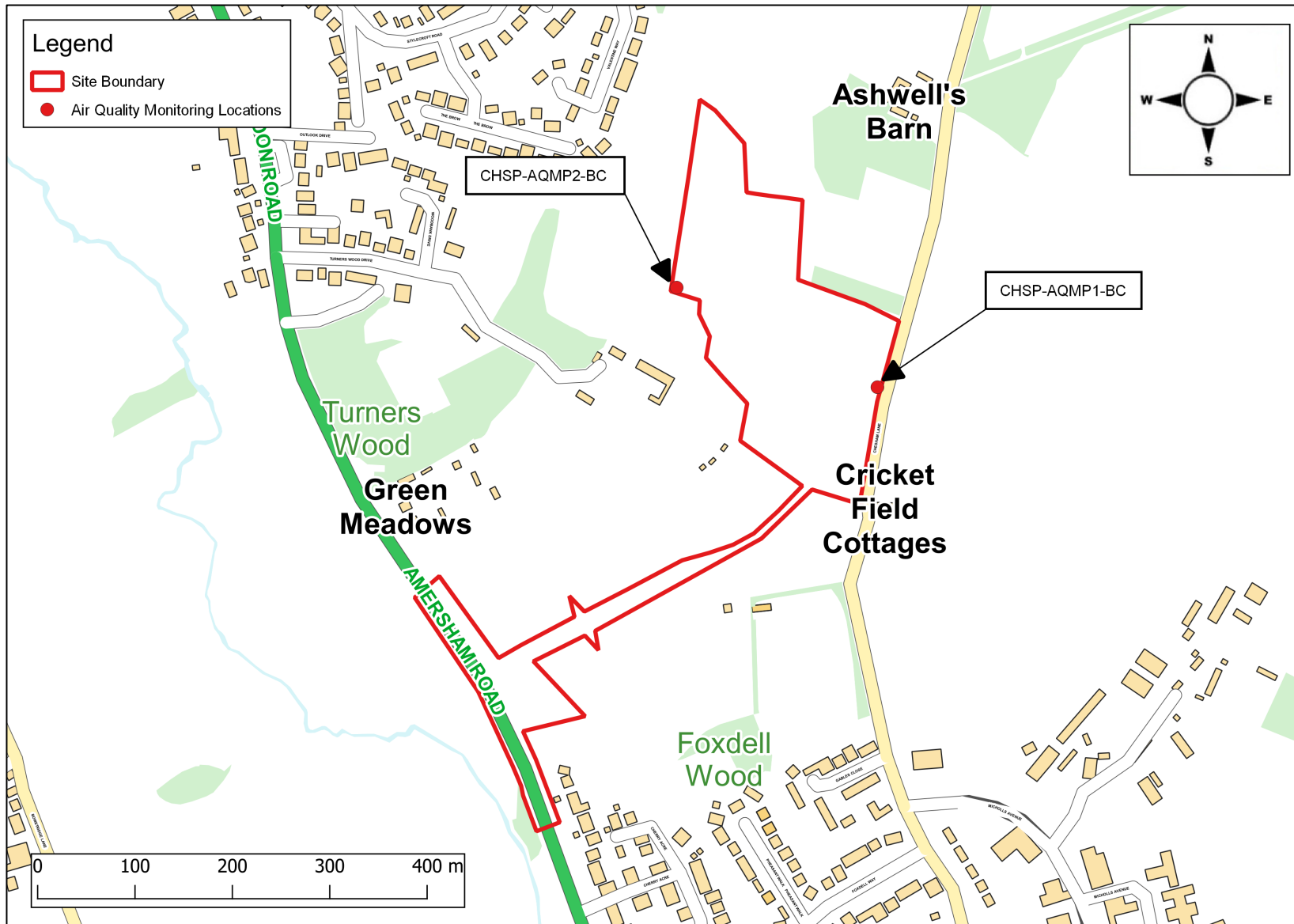


Figure 3: Worksite and Monitoring locations during October 2020 – Amersham Vent Shaft Site

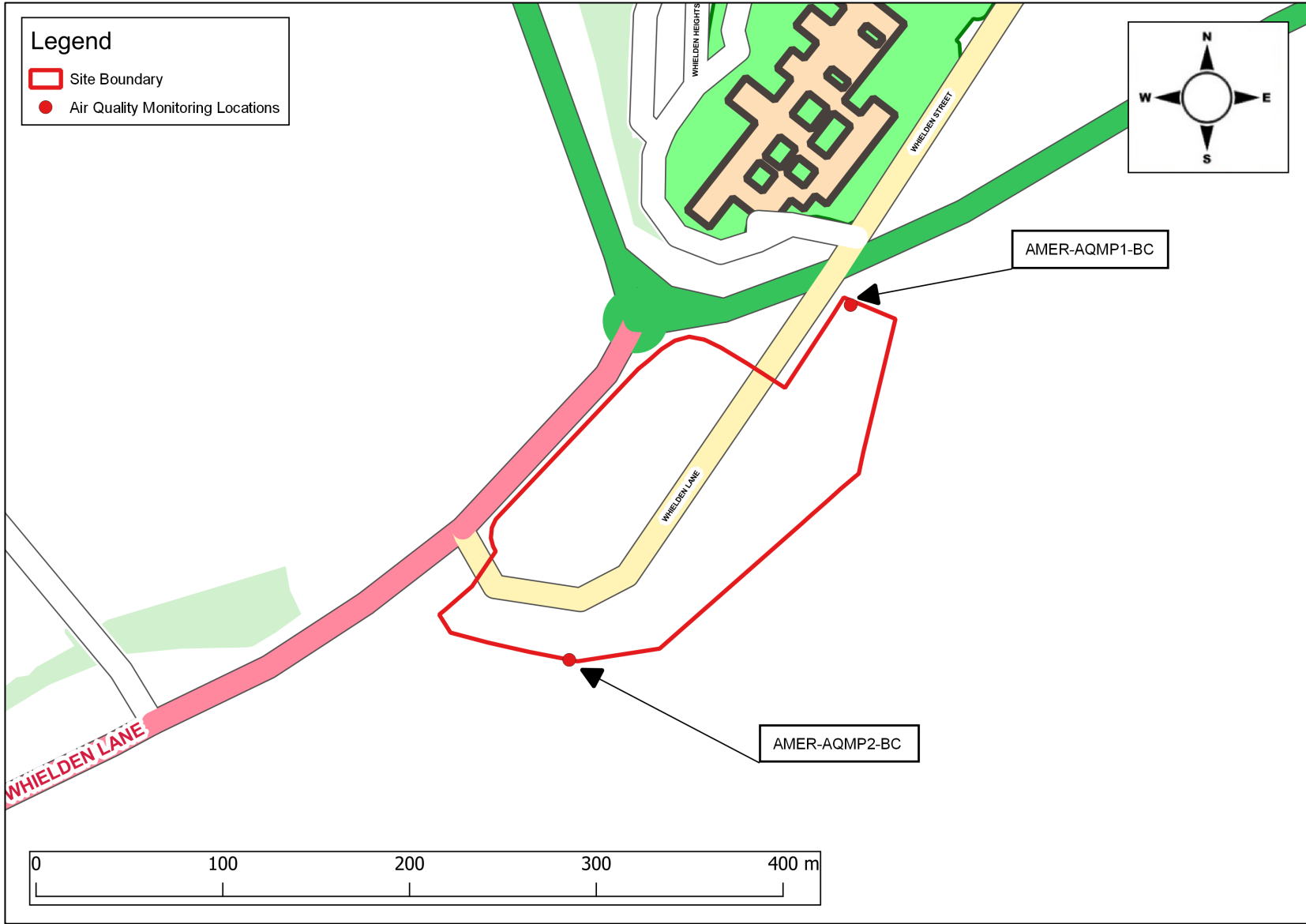


Figure 4: Worksites and Monitoring locations during October 2020 – Lower Bottom House Farm Lane





## Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and October 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	12.4	2.2	274.5	4	80
CHSP-AQMP2-BC	499903, 193181	On the western boundary of the site	M	Yes	Yes	6.1	0.8	52.0	0	60
LTP1-AQMP1-BC	503602, 189832	On the north boundary of LTP1	M	Yes	Yes	9.7	1.5	125.6	0	65
LTP1-AQMP2-BC	503654, 189795	On the south boundary of LTP1	M	Yes	Yes	10.7	1.7	67.5	0	97
AMER-AQMP1-BC	495440, 196733	On the north-eastern boundary of Amersham	M	Yes	Yes	11.0	2.6	111.5	0	24
AMER-AQMP2-BC	495280, 196532	On the south-western boundary of Amersham	M	Yes	Yes	7.5	1.6	21.7	0	36
3252Dust2	498390, 195434	On the boundary with Elm Tree Cottage, Bottom House Farm Lane	M	Yes	No	6.8	0.4	88.8	0	100.0%
3252Dust3	498100, 195145	On the site boundary opposite Lower Bottom House Farm	M	Yes	No	7.6	0.7	110.7	0	100.0%

Table 2: Summary of exceedances during period (October 2020)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
CHSP-AQMP1-BC	02/10/2020 23:00 – 274.5 µg/m <sup>3</sup>  03/10/2020 00:00 – 198.5 µg/m <sup>3</sup>	Exceedances were outside of core site working hours, and therefore trigger alerts not suspected to be associated with site activity.	Site teams have been reminded about the importance of the implementation of good housekeeping measures.
CHSP-AQMP1_BC	27/10/2020 22:00 – 229.5 µg/m <sup>3</sup>  27/10/2020 23:00 – 204.3 µg/m <sup>3</sup>	Exceedance likely caused by the failure of the inlet to operate at the correct inlet temperature due to the disconnection of site power earlier in the day.	Site power since restored and functionality of unit being closely monitored.

Figure 5: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHSP-AQMP1-BC for October 2020

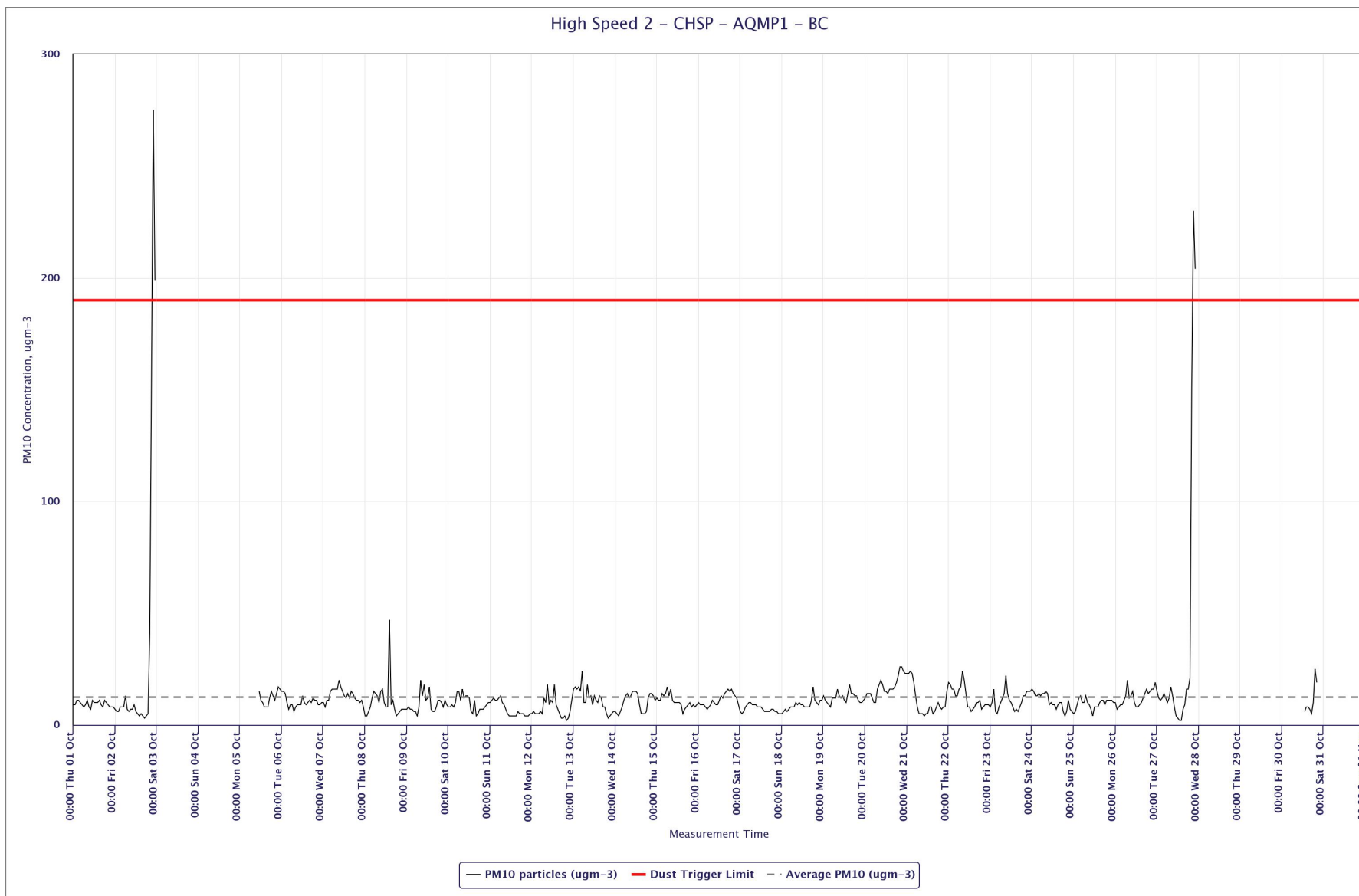


Figure 6: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for CHSP-AQMP2-BC for October 2020

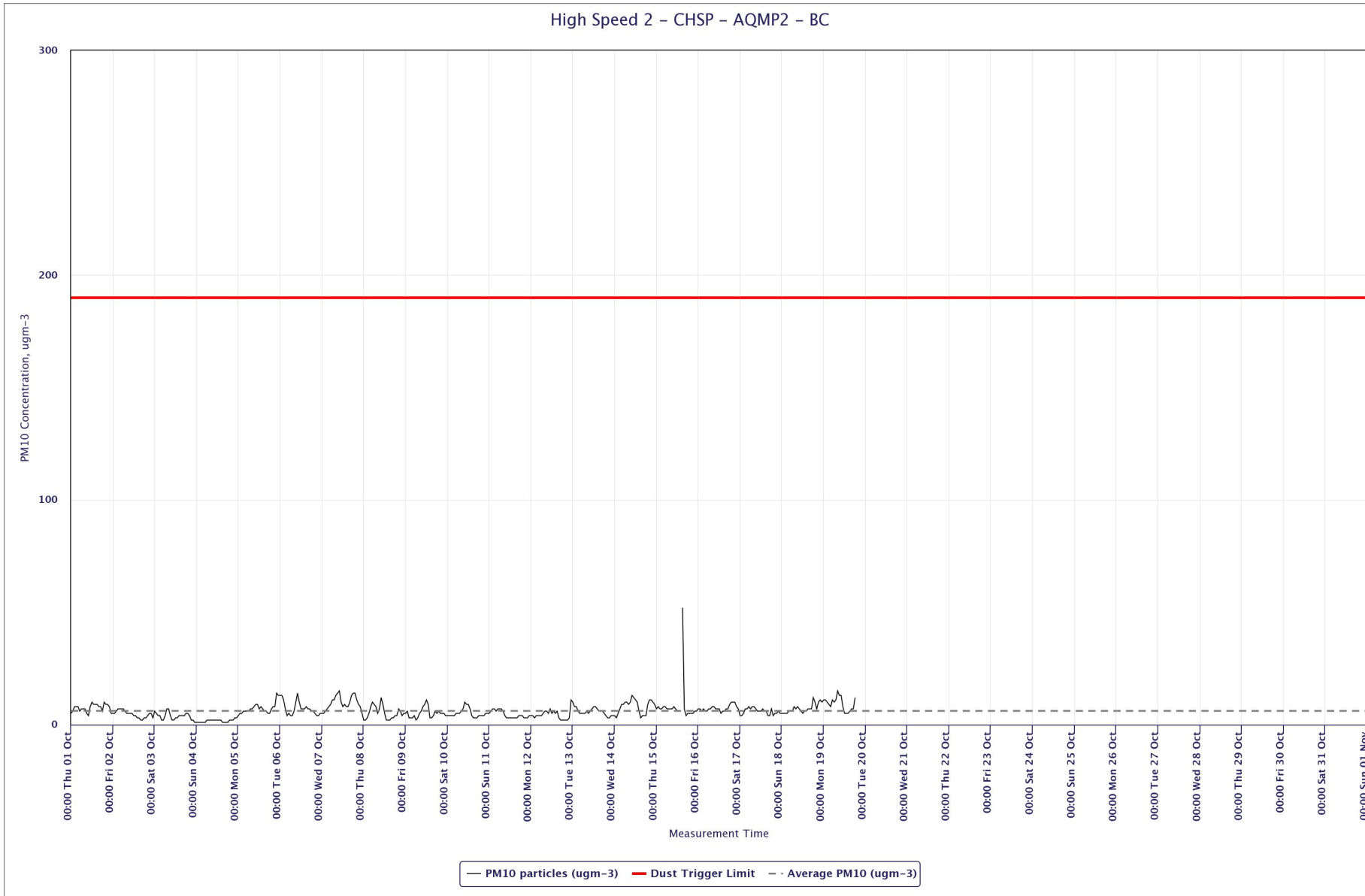


Figure 7: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LTP1-AQMP1-BC for October 2020

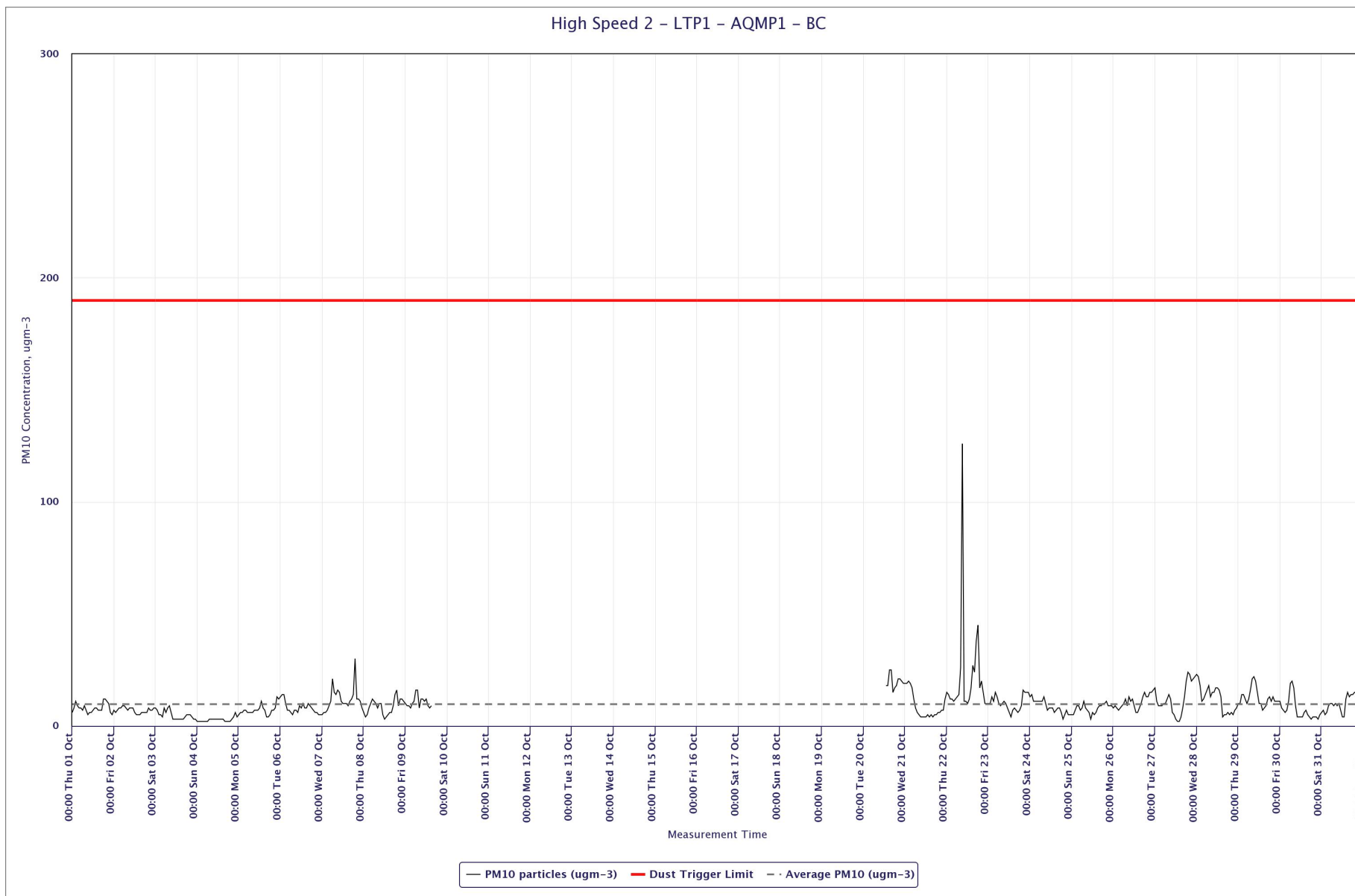


Figure 8: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for LTP1-AQMP2-BC for October 2020

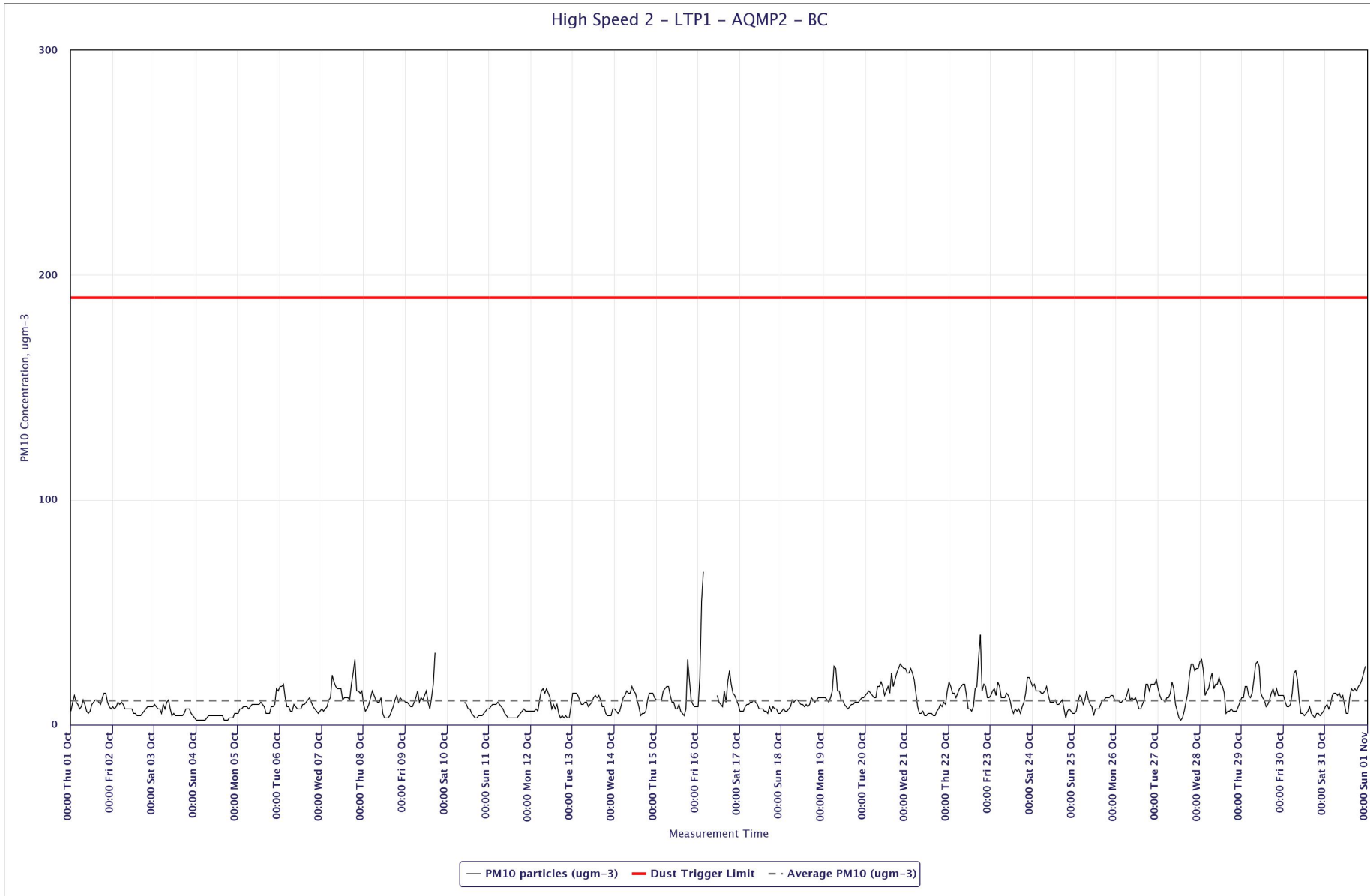


Figure 9: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP1-BC for October 2020

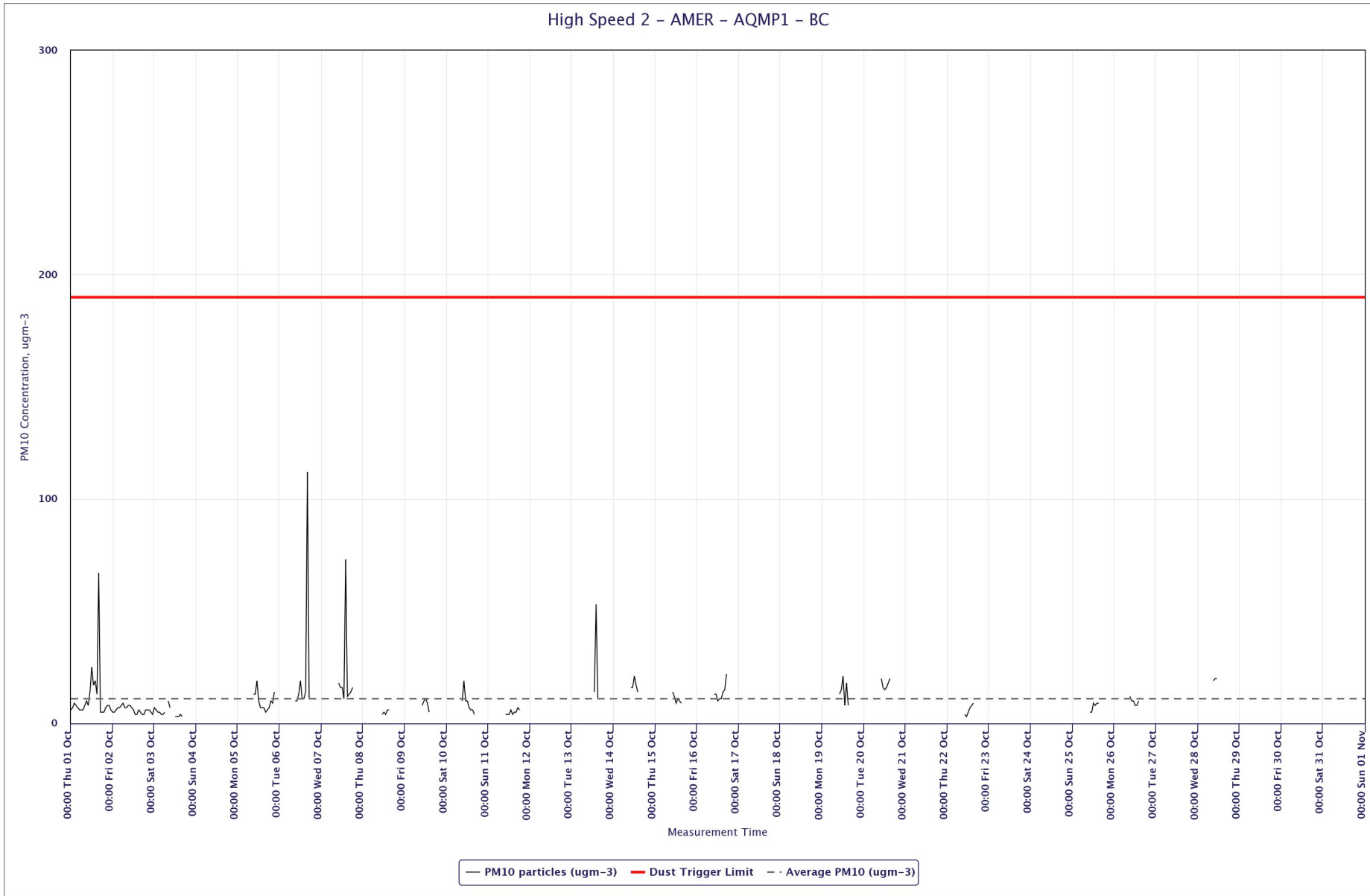


Figure 10: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for AMER-AQMP2-BC for October 2020

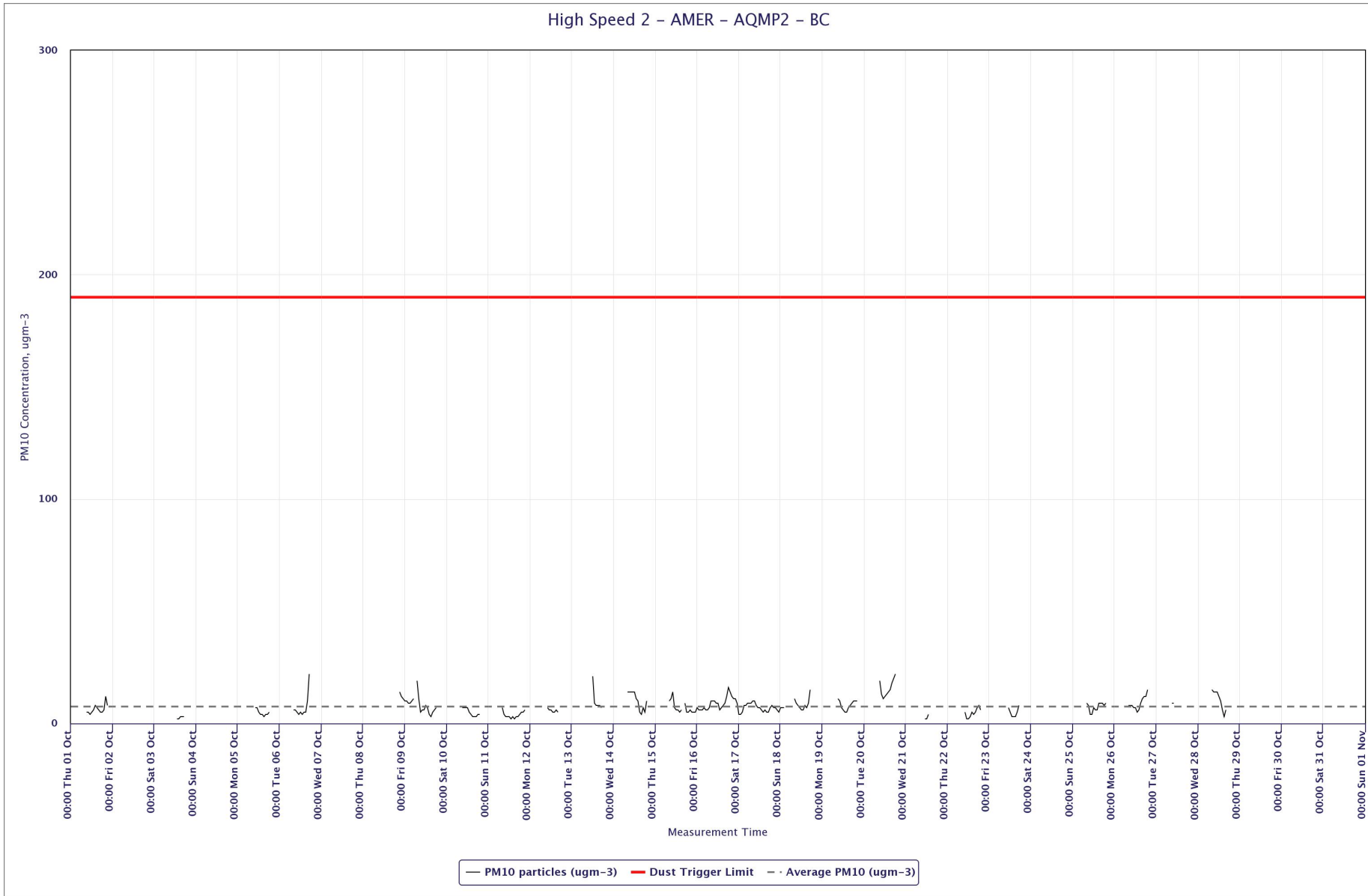




Figure 11: Construction dust 1-hour mean indicative PM10 concentration for dust monitor 3252Dust2 – Elm Tree Cottage

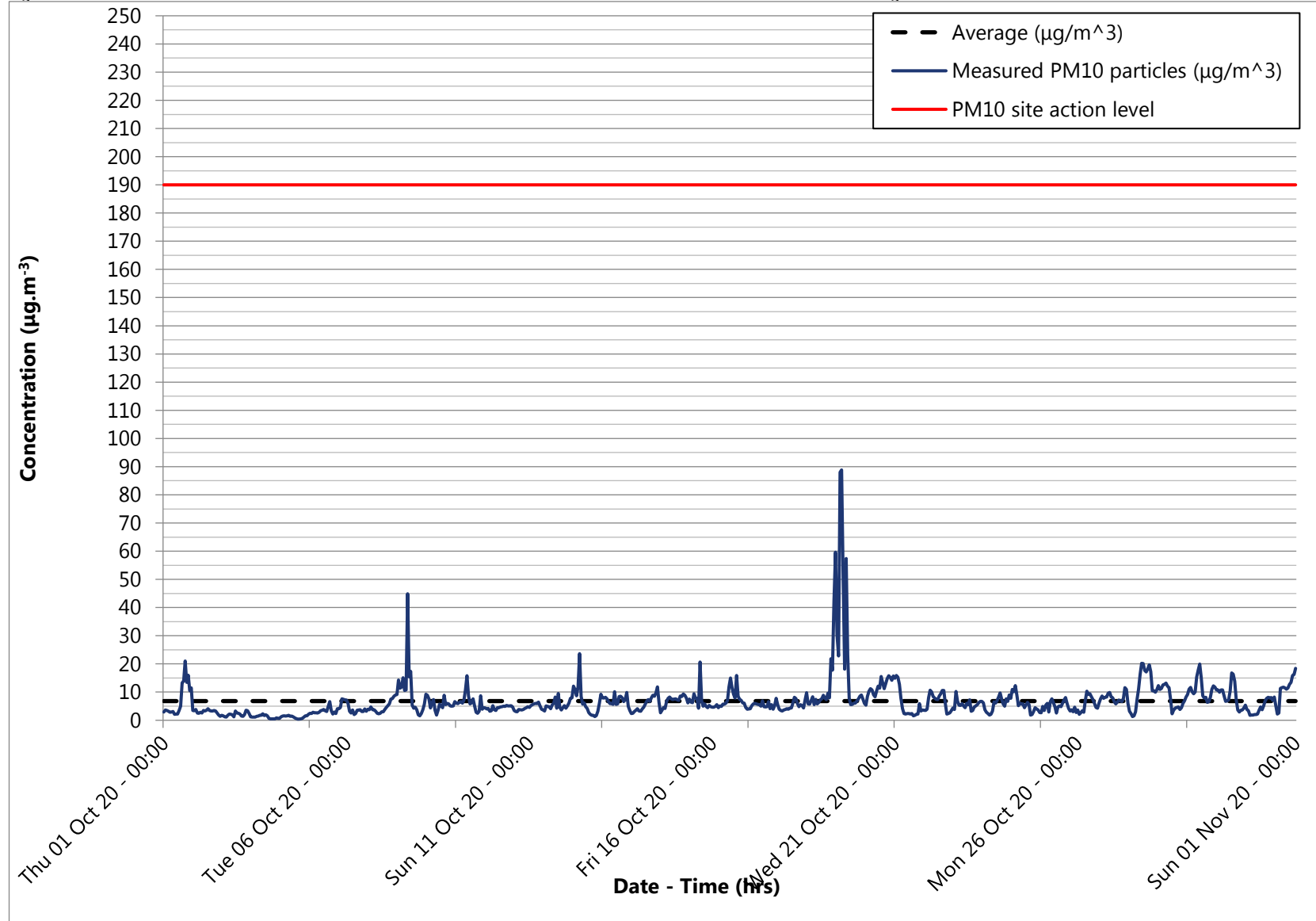


Figure 12: Construction dust 1-hour mean indicative PM10 concentration for dust monitor 3252Dust3 – Lower Bottom House Farm

