

Air Quality and Dust Monitoring
Monthly Report – **September** 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 September 2020.
- 1.1.2 Figures 1 to 4 in Appendix A presents the current worksites together with the dust monitoring locations for September 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, 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:

- Pile cropping; and
- Reinstatement of one pile mat.

Chalfont St Peter Vent Shaft:

- D-wall site activities: installation of panel 1 and 3, including: excavation, concreting (including night works), deliveries of cages and removal of materials from site; and
- Compound activities: installation of services, drainage works, and snagging works (e.g. minor repairs and housekeeping).

Amersham Vent Shaft:

- Installation of service (BT ducts and drainage);
- Formation of site accommodation platform;
- Earthworks and soil stripping / stockpiling; and
- Surfacing works.

Lower Bottom House Farm Lane:

- Earthworks (covering an area roughly 25,000 ²), including: excavation, stockpiling, use of dumper trucks, excavators, dozers etc.;
- 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, etc.; and
- Track out activities (up to 10 – 50 HGV (>3.5 t) trips are anticipated in any one day.

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 µg/m³, 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 five (5) dust trigger alerts, none of which were linked to site activities, recorded during the monitoring period (September 2020). Exceedances are presented in Appendix B, Table 2. All other results were in line with expected ranges.

1.1.9 Data capture for monitor 3252Dust3 was below 90% for the month of September 2020. This was due to monitor 3252Dust3 being a newly installed monitor and associated technical installation difficulties.

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

Appendix A –Monitoring Locations

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



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

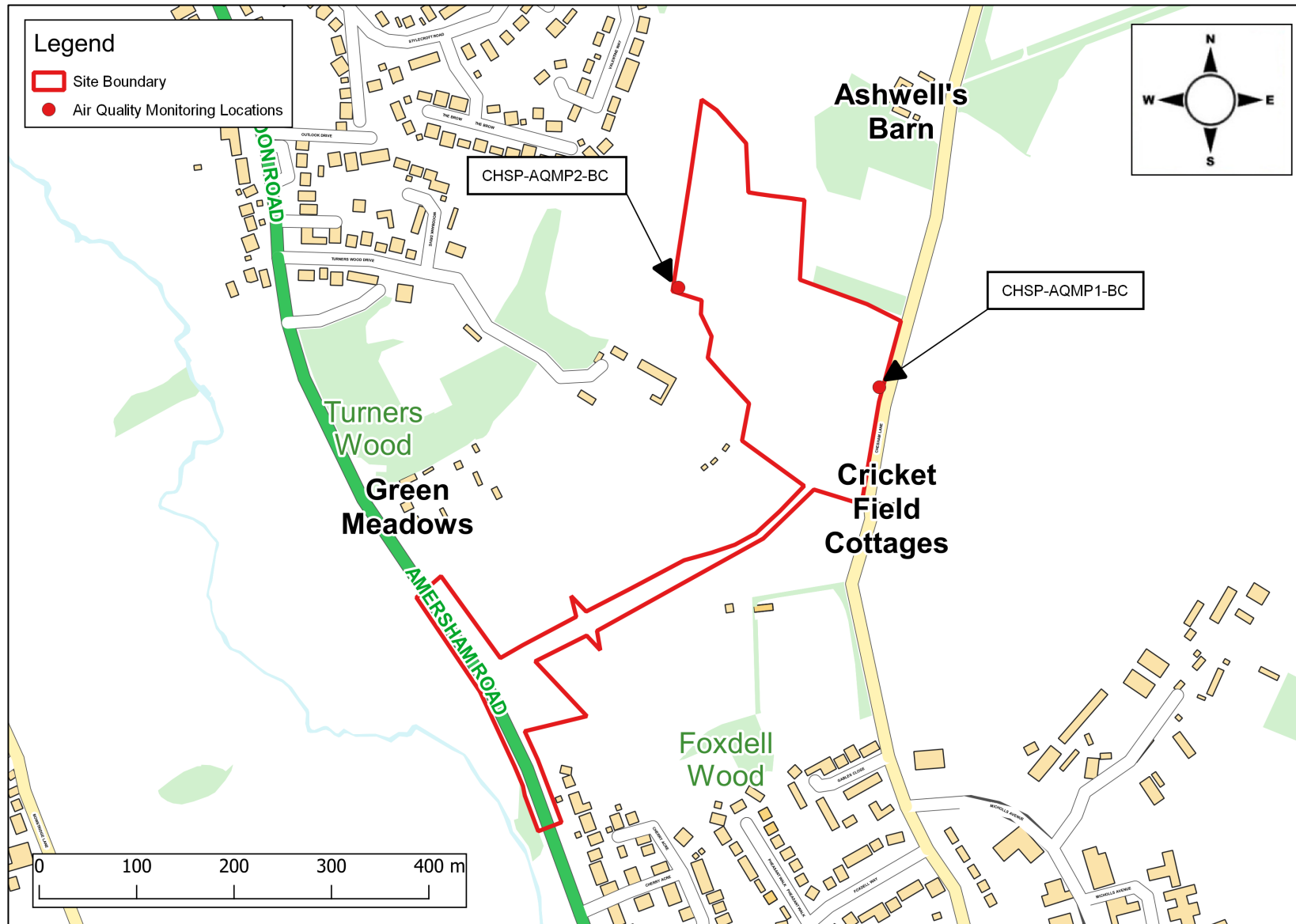


Figure 3: Worksite and Monitoring locations during September 2020 – Amersham Vent Shaft

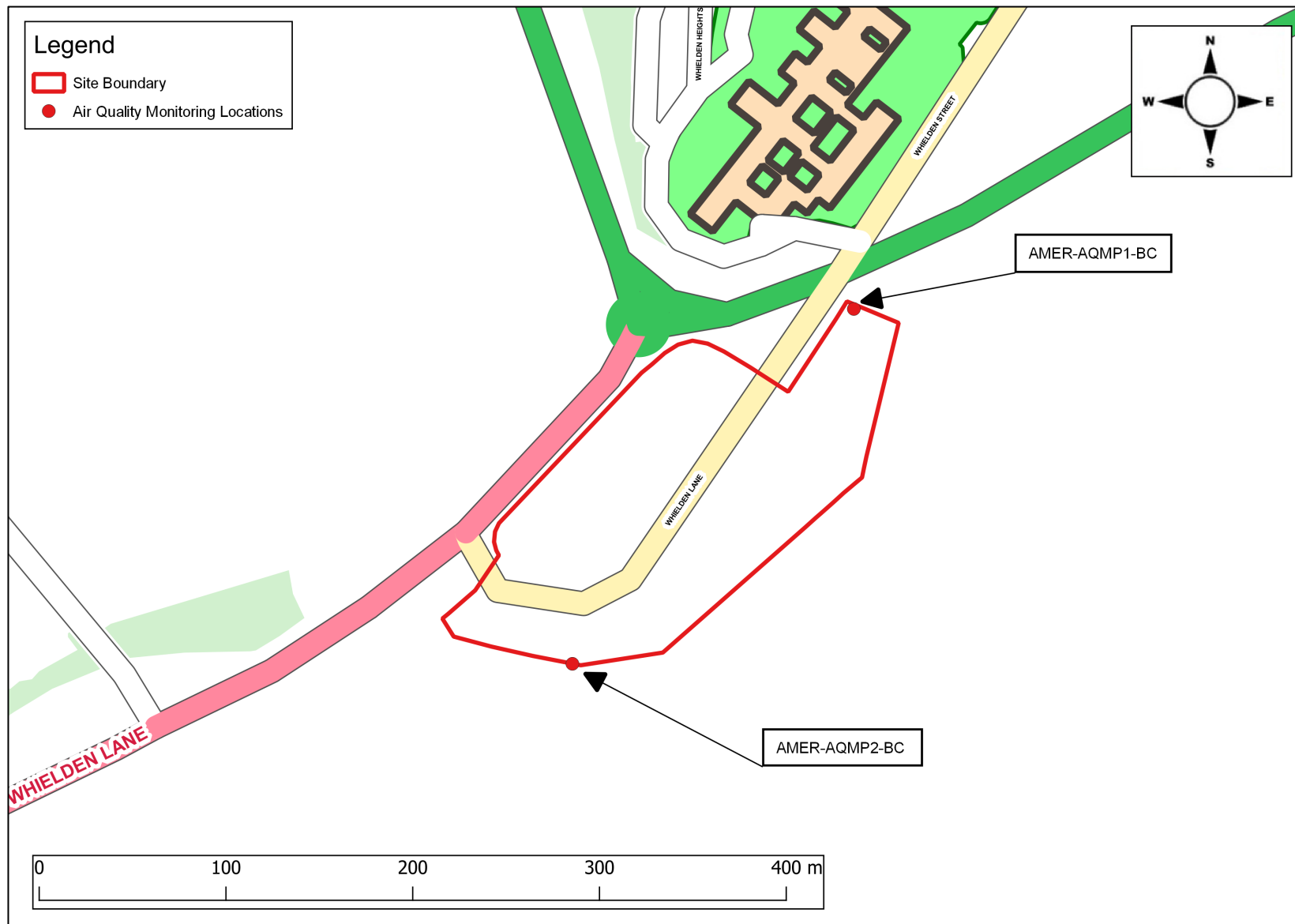


Figure 4: Worksites and Monitoring locations during September 2020 - Lower Bottom House Farm Lane



Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and September 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 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 (%)
CHSP-AQMP1-BC	500114, 193104	On the eastern boundary of the site with Chesham Lane	M	Yes	Yes	21.1	2.6	262.5	3	92
CHSP-AQMP2-BC	499903, 193181	On the western boundary of the site	M	Yes	Yes	12.1	1.5	45.3	0	100
LTP1-AQMP1-BC	503602, 189832	On the north boundary of LTP1	M	Yes	Yes	12.6	2.2	798.1	1	99
LTP1-AQMP2-BC	503654, 189795	On the south boundary of LTP1	M	Yes	Yes	15.3	2.2	216.2	1	100
AMER-AQMP1-BC	495440, 196733	On the north-eastern boundary of Amersham	M	Yes	Yes	11.4	1.9	51.5	0	100
AMER-AQMP2-BC	495280, 196532	On the south-western boundary of Amersham	M	Yes	Yes	11.8	1.5	108.1	0	97
3252Dust2	498390, 195434	On the boundary with Elm Tree Cottage, Bottom House Farm Lane	M	Yes	Yes	6.5	0.4	53.8	0	100
3252Dust3	498100, 195145	Lower Bottom House Farm, Bottom House Farm Lane	M	Yes	Yes	11.4	4.0	36.8	0	17

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

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
CHSP-AQMP1-BC	<u>10/09/2020</u> 14:01 - 15:00: 196.0 µg/m ³	On investigation, it was determined that the cause of the trigger alert was as a result of a waste contractors vehicle speeding on site, in close proximity to the monitor.	The waste contractor has been informed that if they are caught speeding again they will not be allowed back on site.
LTP1-AQMP2_BC	<u>11/09/2020</u> 05:01 - 06:00: 216.2 µg/m ³	No LTP1 site activities were taking place at the time of the trigger, site activities at LTP1 commence from 08:00. On investigation, it was noted that a few vehicles passed through the site at 06:00 to drive to the Affinity water site, which is only accessed via LTP1.	Not due to Align LTP1 site activities. No site activities take place before 08:00.
CHSP-AQMP1-BC	<u>15/09/2020</u> 19:01 - 20:00: 262.5 µg/m ³	This was caused by a vehicle speeding on site.	Algin's Environment Team will be issuing a toolbox talk to both contractors, Tarmac and JOD, covering dust. The site team have also been asked to dampen down the site haul roads.
CHSP-AQMP1-BC	<u>21/09/2020</u> 17:01 - 18:00: 227.0 µg/m ³	Main Align activity stopped at 1700hrs. The CCTV camera image, capture at 1758hrs, shows no activity on site. The haul road was utilised by an excavator (to the left of the attached image) and a delivery truck to leave site / park in standing area, near the time of the trigger alert and could be the possible cause.	The site team will be increasing the damping down of the haul road in case this was the cause.
LTP1-AQMP1-BC	<u>21/09/2020</u> 08:01 - 09:00: 798.1 µg/m ³	No works taking place in the vicinity of the monitor.	The trigger is not believed to be associated with the works. Monitor maintenance regimes continue to be implemented to avoid the occurrence of false triggers.

Figure 5: Continuous dust 1-hour mean indicative PM₁₀ concentration for CHSP-AQMP1-BC for September 2020

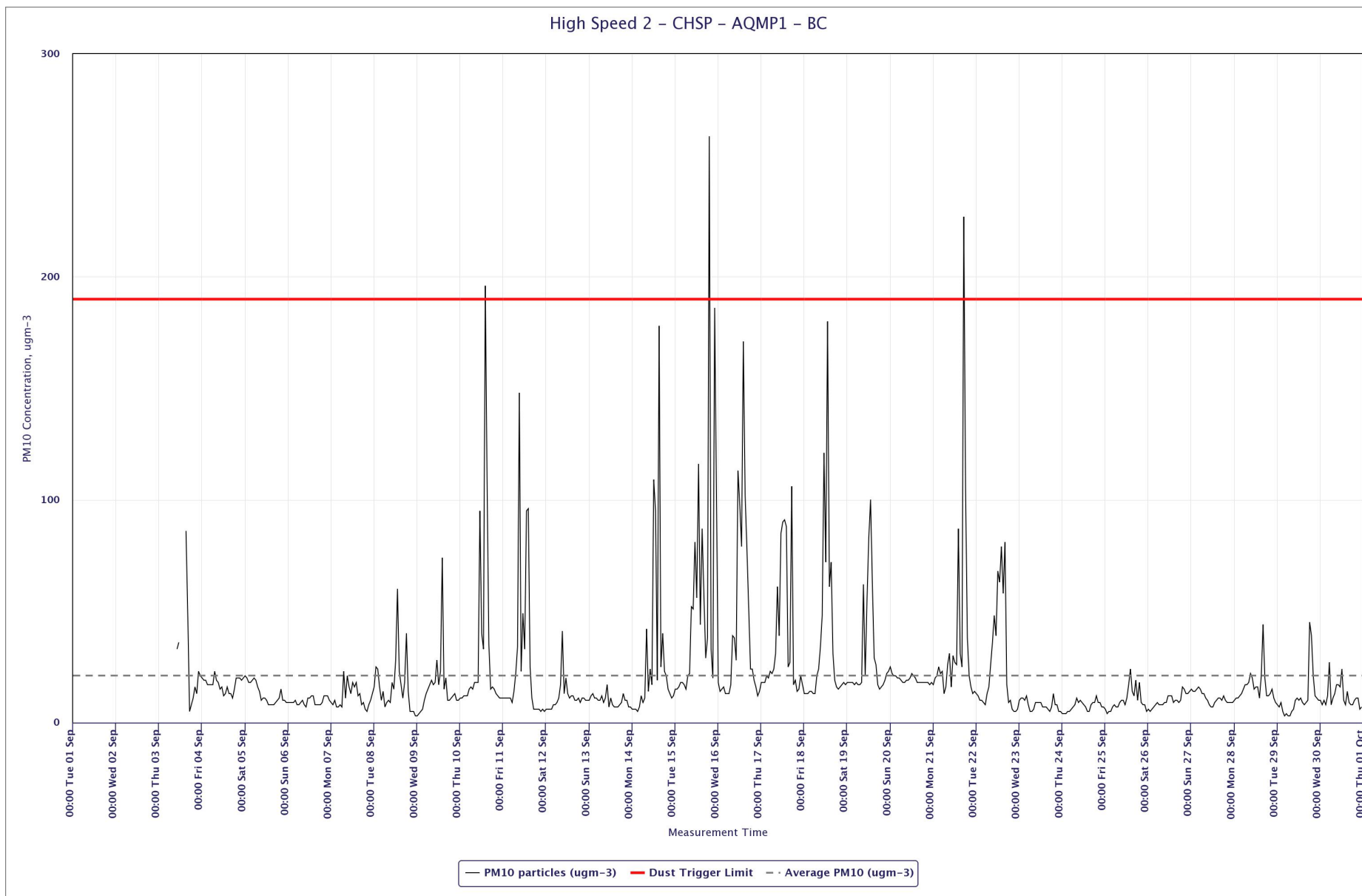


Figure 6: Continuous dust 1-hour mean indicative PM₁₀ concentration for CHSP-AQMP2-BC for September 2020

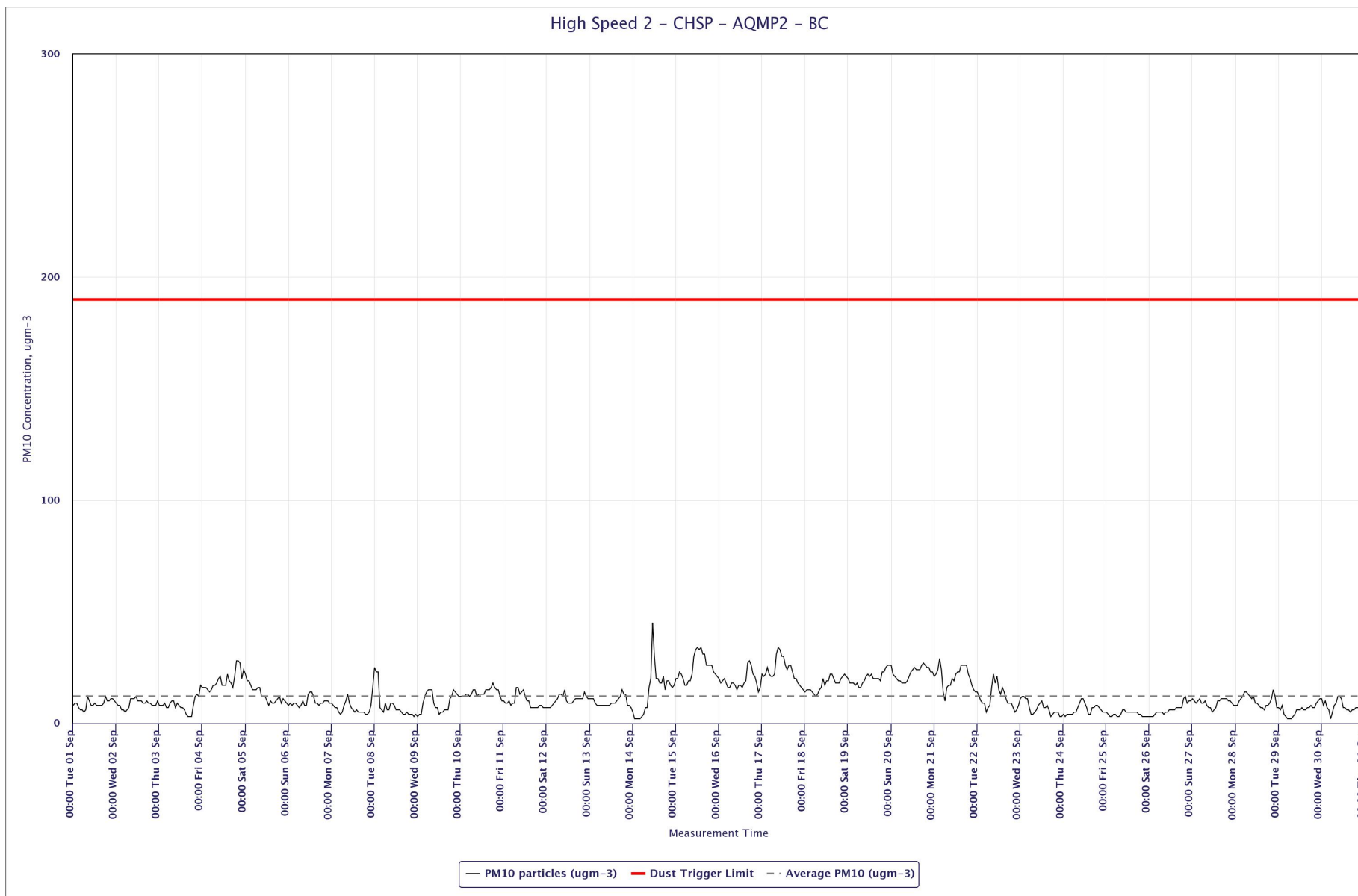


Figure 7: Continuous dust 1-hour mean indicative PM₁₀ concentration for LTP1-AQMP1-BC for September 2020

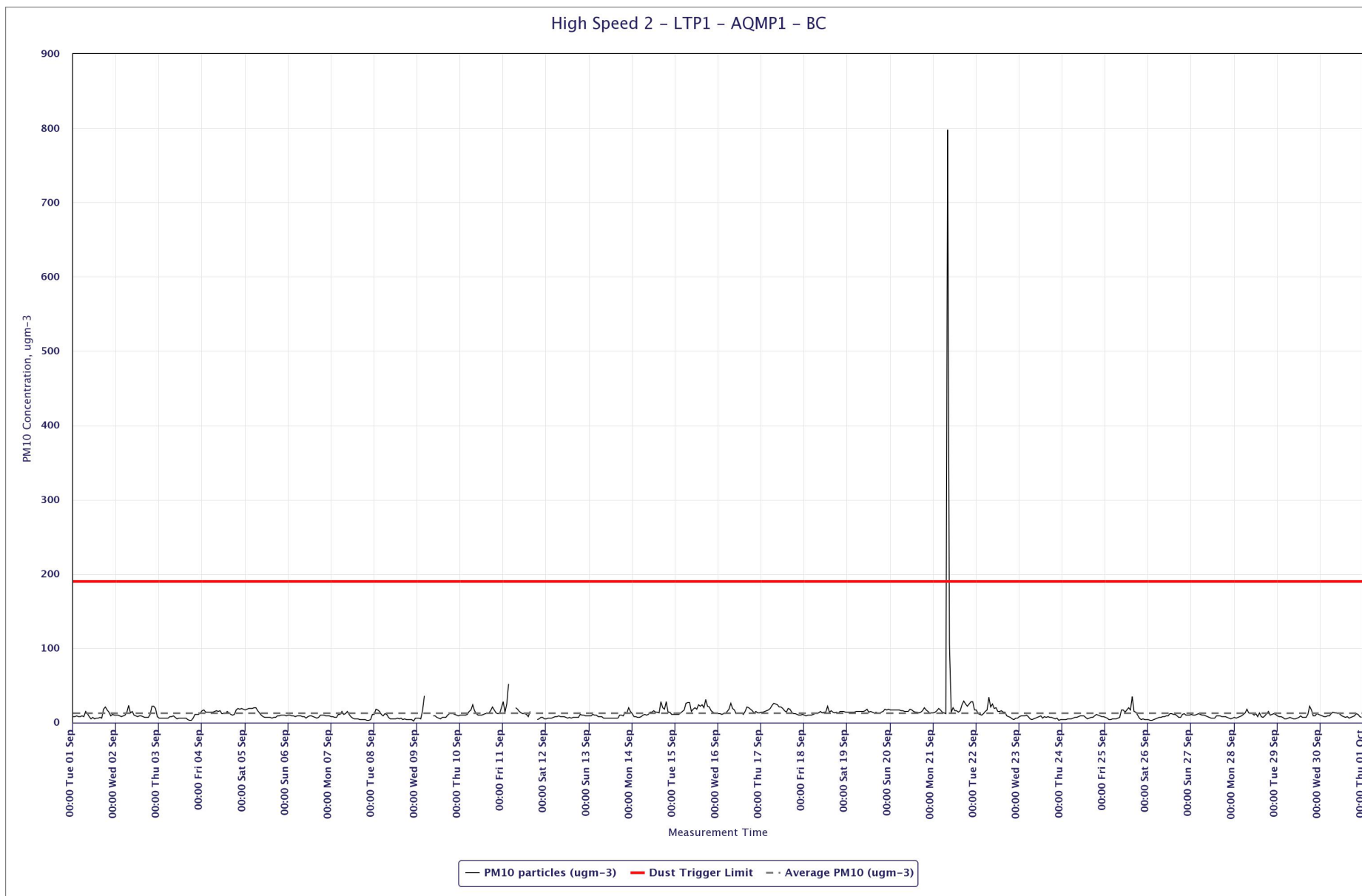


Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentration for LTP1-AQMP2-BC for September 2020

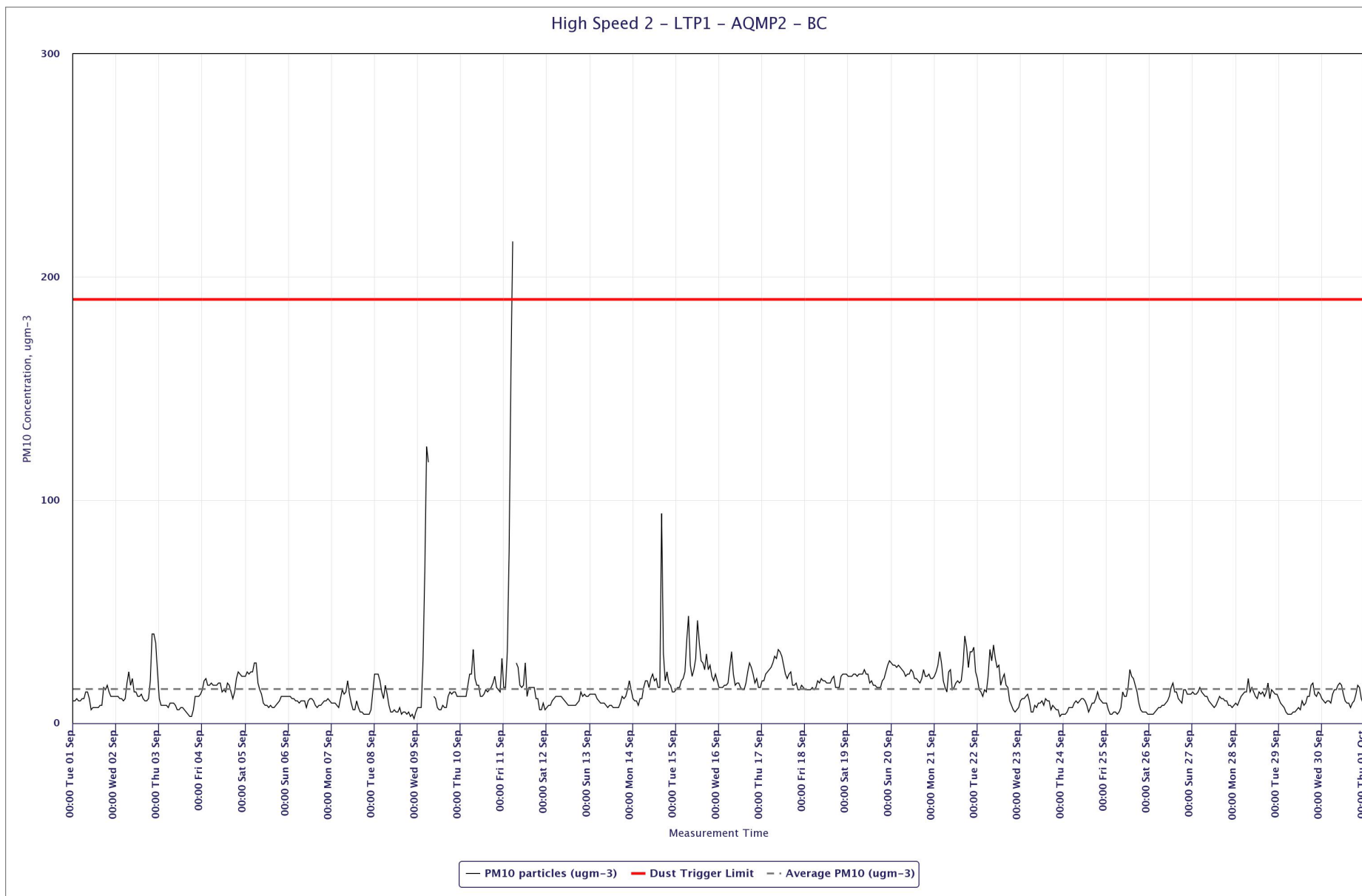


Figure 9: Continuous dust 1-hour mean indicative PM₁₀ concentration for AMER-AQMP1-BC for September 2020

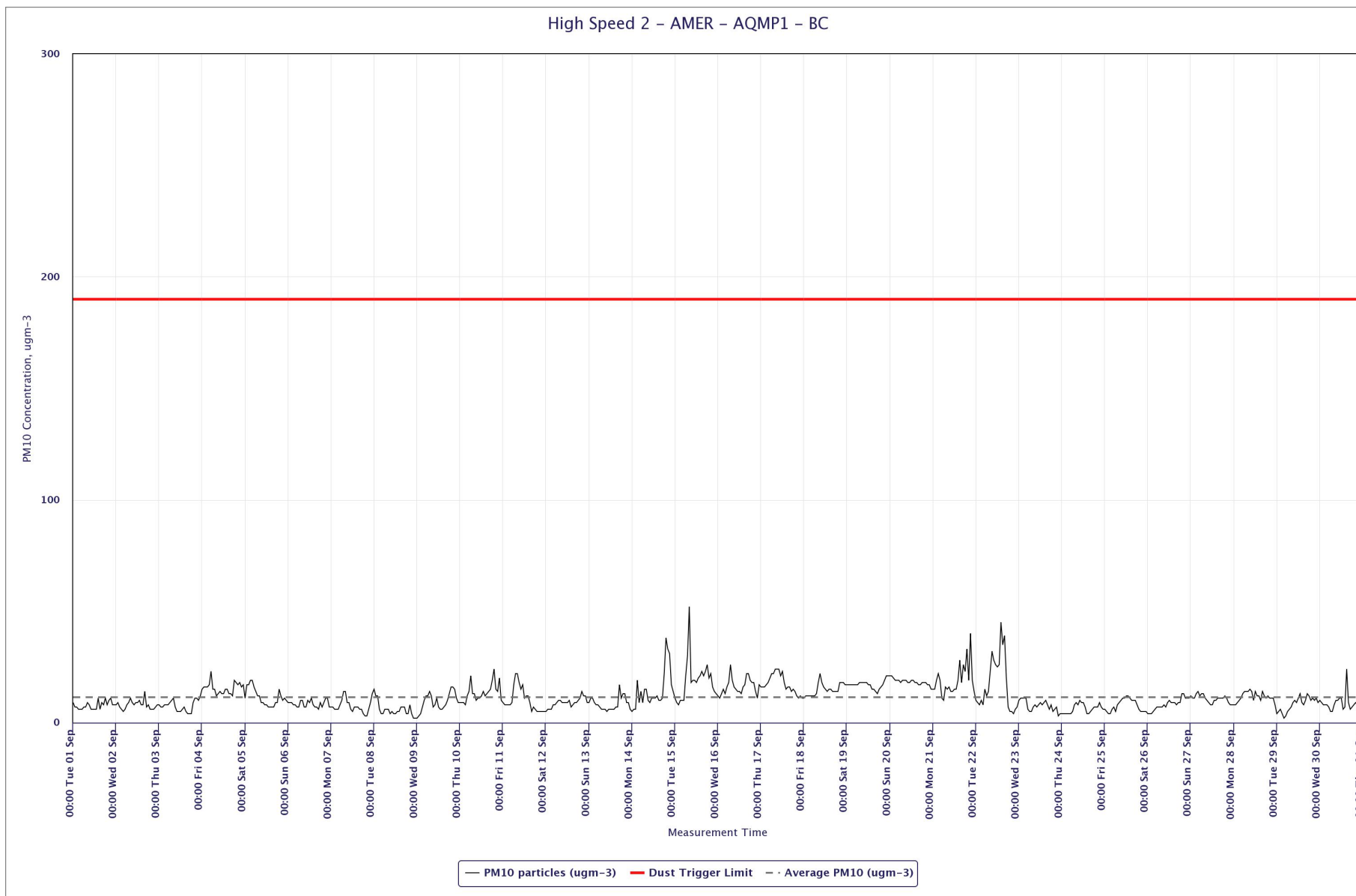


Figure109: Continuous dust 1-hour mean indicative PM₁₀ concentration for AMER-AQMP2-BC for September 2020

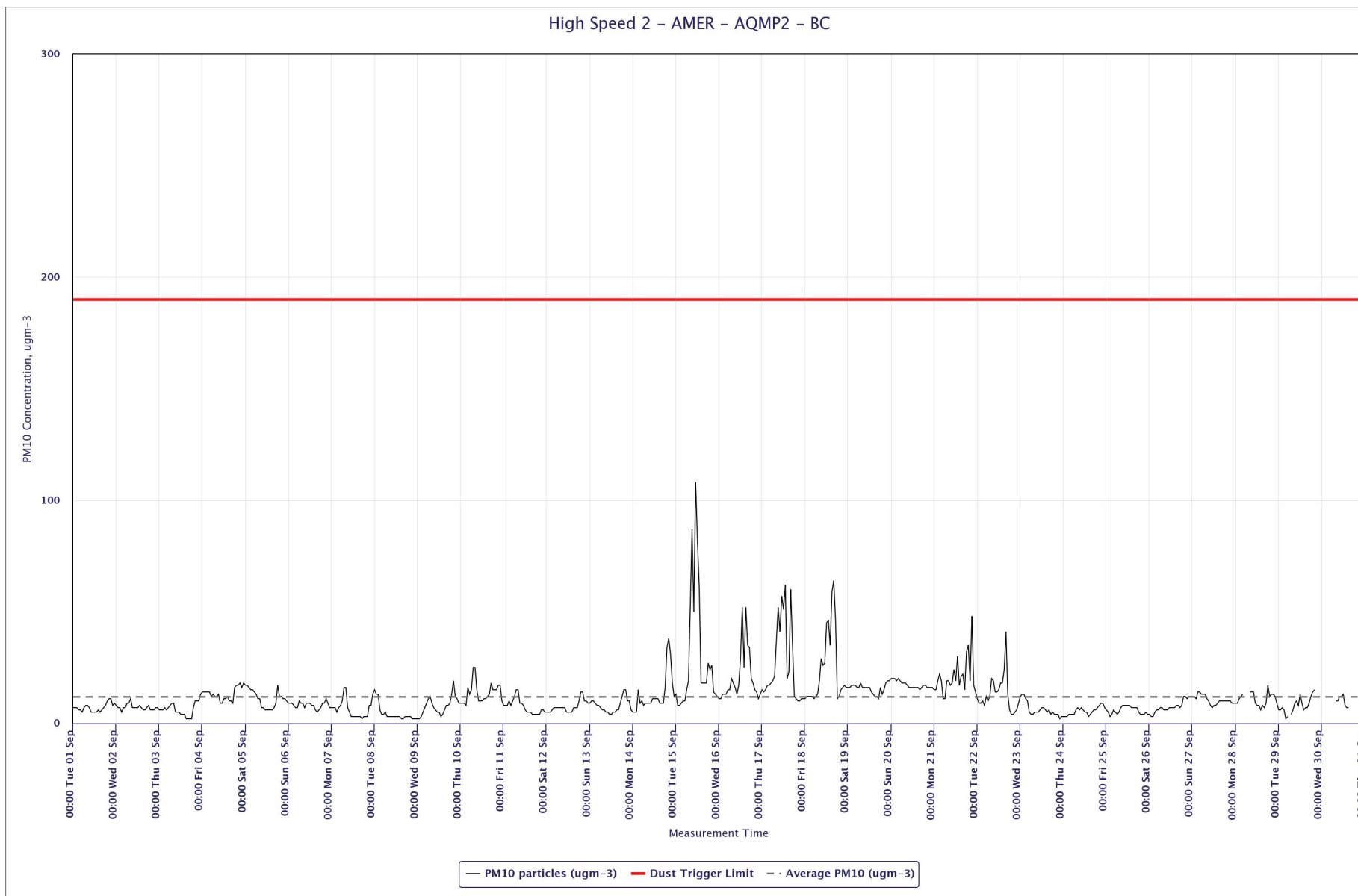


Figure 11: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors

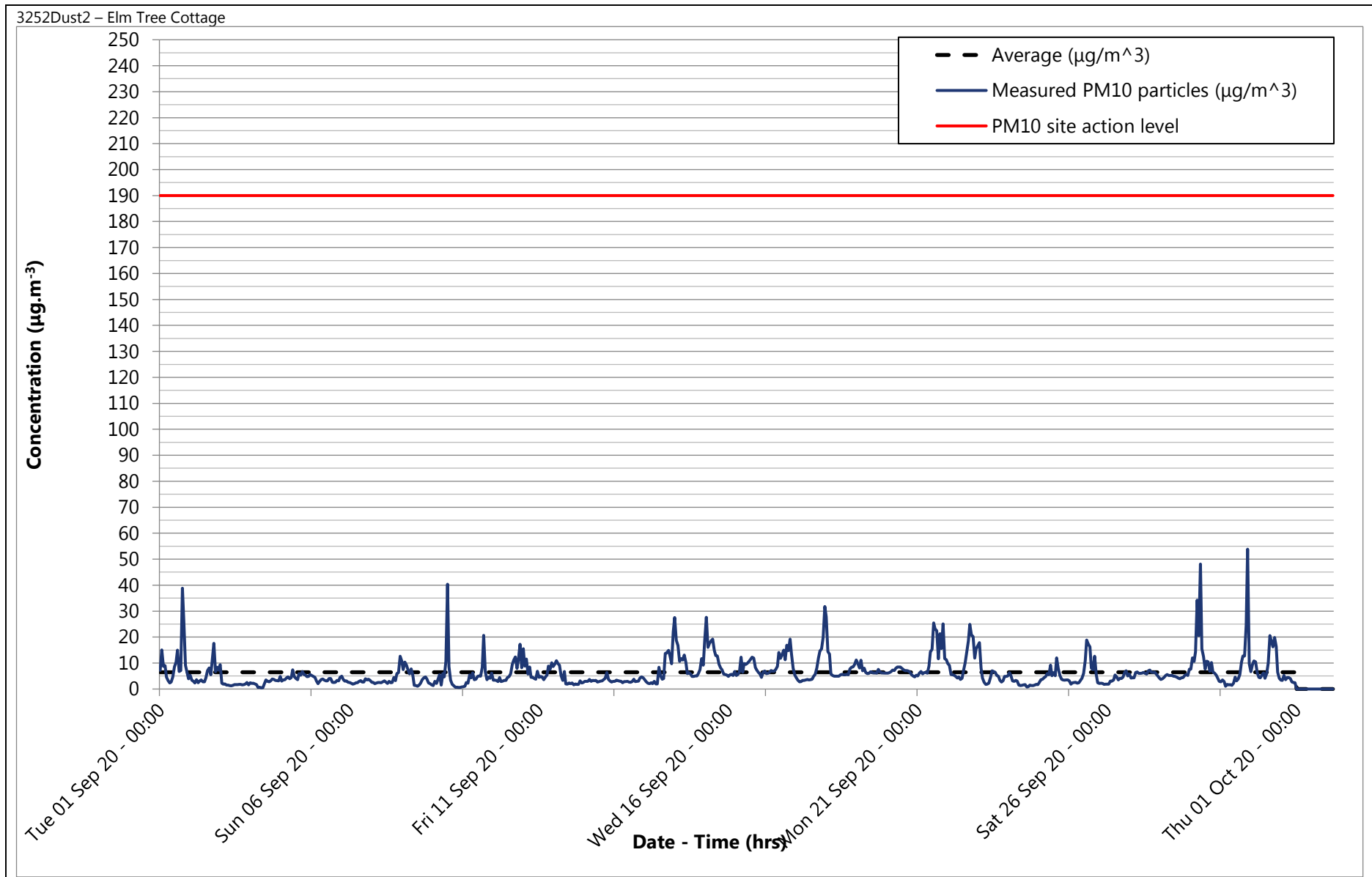


Figure 12: Construction dust 1-hour mean indicative PM10 concentration for dust monitors
3252Dust3 – Lower Bottom House Farm

