HS2

December 2020

Air Quality and Dust Monitoring Monthly Report – December 2020

Three Rivers District Council

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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 Three Rivers District Council (TRDC) area during December 2020.

1.1.2 Figure 1 in Appendix A indicates the current worksite 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, 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 at the South Portal site commenced within TRDC in July 2017 and is currently ongoing. The South Portal as presented in Appendix A, Figure 1 includes the following ongoing a:

- General Plant: wheel washers, generators and site wide support plant;
- Earthworks and Drainage: soil strip, excavate, filling, subgrade and ground stabilisation;
- Road and Hardstanding: surfacing, grading and excavation;
- Civils: platforms, accommodation and slabs, and removal of materials stored in SP10 (car park extension);
- Tilehouse Lane Overbridge: abutment and wing walls;
- Stockpiling: INNS stockpile management;
- Batching Plant 1, 2 and 3: installation of batching plant units, Batching Plant 1 – deliveries and operation and collection of concrete for D-wall activity at vent shaft sites;
- Shire Lane Culvert: preparing ground and backfilling; and
- Pynesfield Ground Stabilisation: band drains ground preparation works.

1.1.5 Three (3) dust monitors are installed around the worksite, where earthworks, construction and trackout activities are underway. This site 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 2, 3 and 4. 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 mitigations.

1.1.7 The trigger level for PM_{10} concentrations of 190 µg/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.

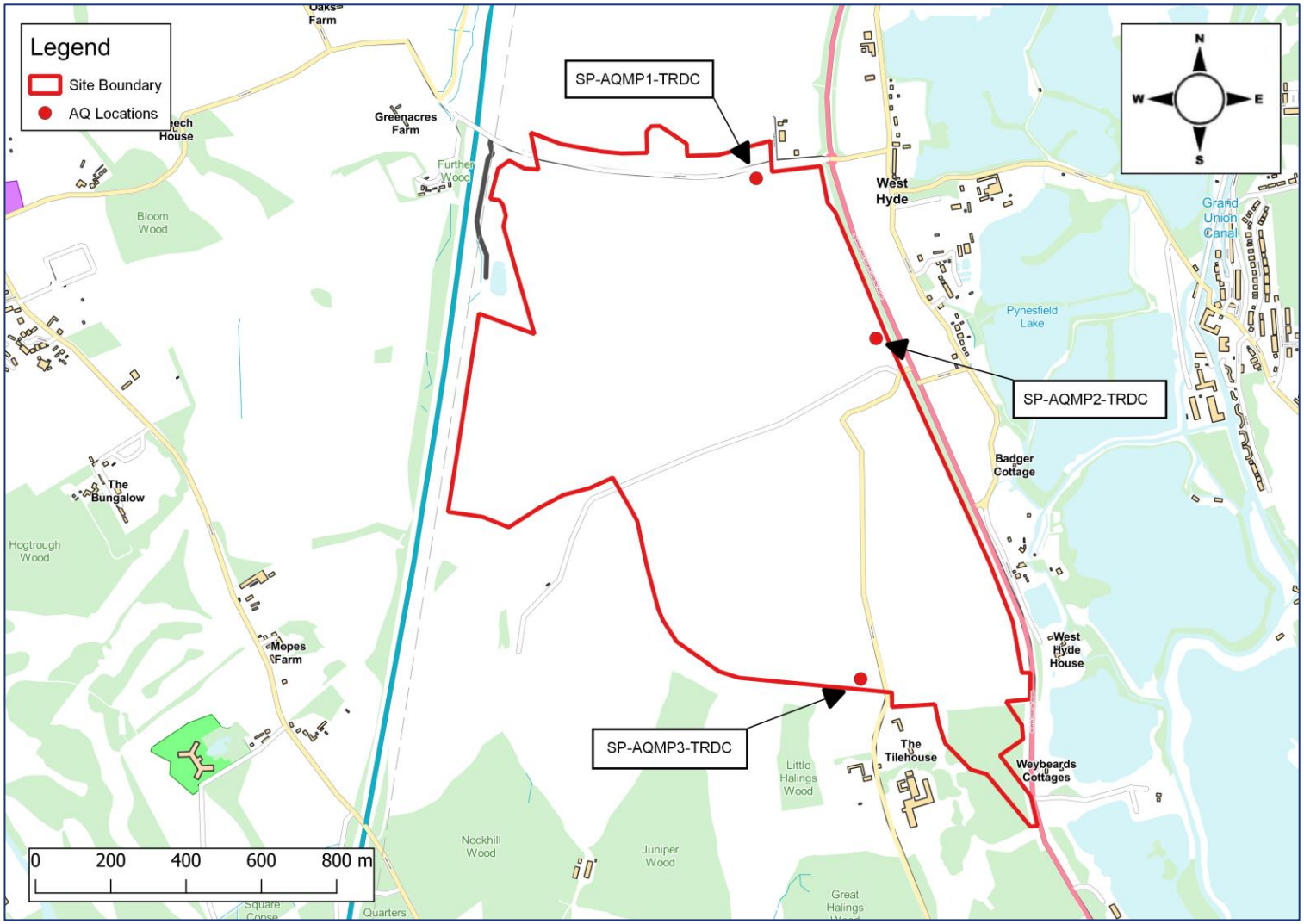
1.1.8 There were dust trigger alerts recorded during this monitoring period (December 2020), however on investigation these are not believed to be linked to HS2 activities. Details of trigger alert investigations and remediations are presented in Appendix B, Table 2.

1.1.9 Data capture was below 90% for both SP-AQMP2-TRDC and SP-AQMP3 during the month of December 2020. This was due to the loss of solar and battery power caused by a lack of sunlight. An alternative power source is being explored to resolve the intermittent solar power issue.

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

Appendix A –Monitoring Locations

Figure 1: Worksites and Monitoring locations during December 2020



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_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
SP-AQMP1-TRDC	502885, 191488	On the northern boundary of the site at Chalfont Lane	M	Yes	Yes	8.4	0.9	53.9	0	100
SP-AQMP2-TRDC	503209, 190991	On the eastern boundary of the site at Denham Way	M	Yes	Yes	21.9	1.2	2,257.8	3	62
SP-AQMP3-TRDC	503154, 190062	On the southern boundary of the site at Tilehouse Lane	M	Yes	Yes	56.3	2.2	5,045.8	7	42

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

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
SP-AQMP3_TRDC	06/12/2020 20:01 - 21:00: 5,045.8 µg/m³	The alert was triggered outside of Align's core working hours and there were no works in the area.	The functionality of the heated inlet will be monitored closely and manually inspected during the next site visit. Monitor maintenance has been carried out to rectify heated inlet functioning.
	08/12/2020 15:01 - 16:00: 664.9 µg/m³ 16:01 - 17:00: 664.9 µg/m³ 17:01 - 18:00: 2,248.9 µg/m³ 18;01 - 19:00: 391.6 µg/m³	There were no works in the area and works at Pynesfield Quarry are limited to the most northern side and works at north embankment are at least 300m downslope of the monitor and are not dusty works.	
SP-AQMP2_TRDC	08/12/2020 16:01 - 17:00: 597.7 µg/m³ 17:01 - 18:00: 2,257.8 µg/m³ 18:01 - 19:00: 309.9 µg/m³	There were no major works in the vicinity of AQMP2. The haul roads next to the monitor are used for HGV movements though there is currently no dust kicking up due to wet ground conditions. The closest works occur at least 150m away from the monitor. Dust was not observed in the area during the following morning from construction traffic or activities.	
SP-AQMP3_TRDC	15/12/2020 07:01 - 08:00: 215.9 µg/m³	The alert was triggered outside of Align's core working hours and there were no works in the area.	N/A.
	28/12/2020 02:01 - 03:00 – 2,133.4 µg/m³	The alert was triggered outside of Align's core working hours and there were no works in the area.	N/A.

Figure 2: Continuous dust 1-hour mean indicative PM_{10} concentration for SP-AQMP1-TRDC for December 2020

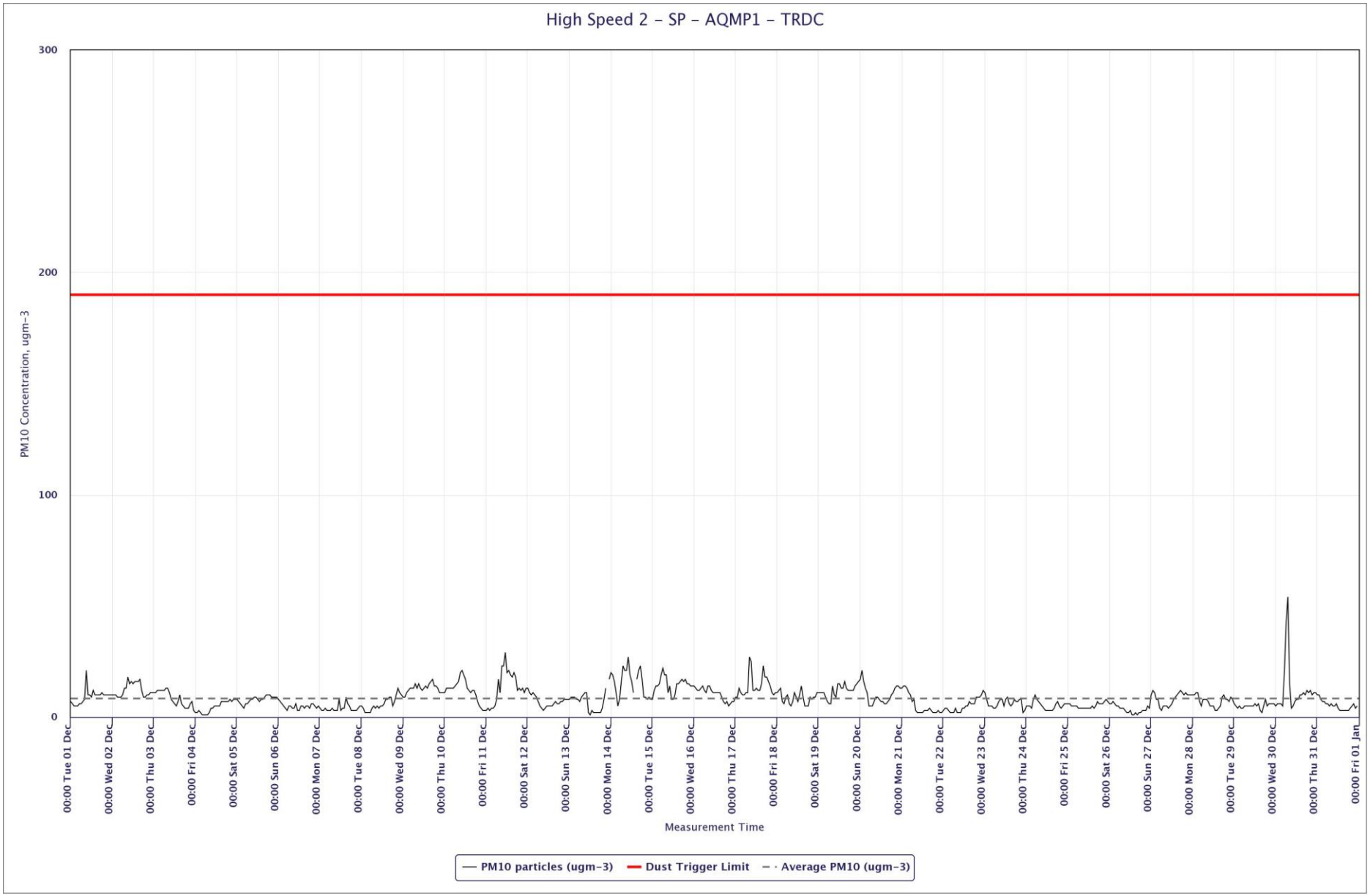


Figure 3: Continuous dust 1-hour mean indicative PM_{10} concentration for SP-AQMP2-TRDC for December 2020

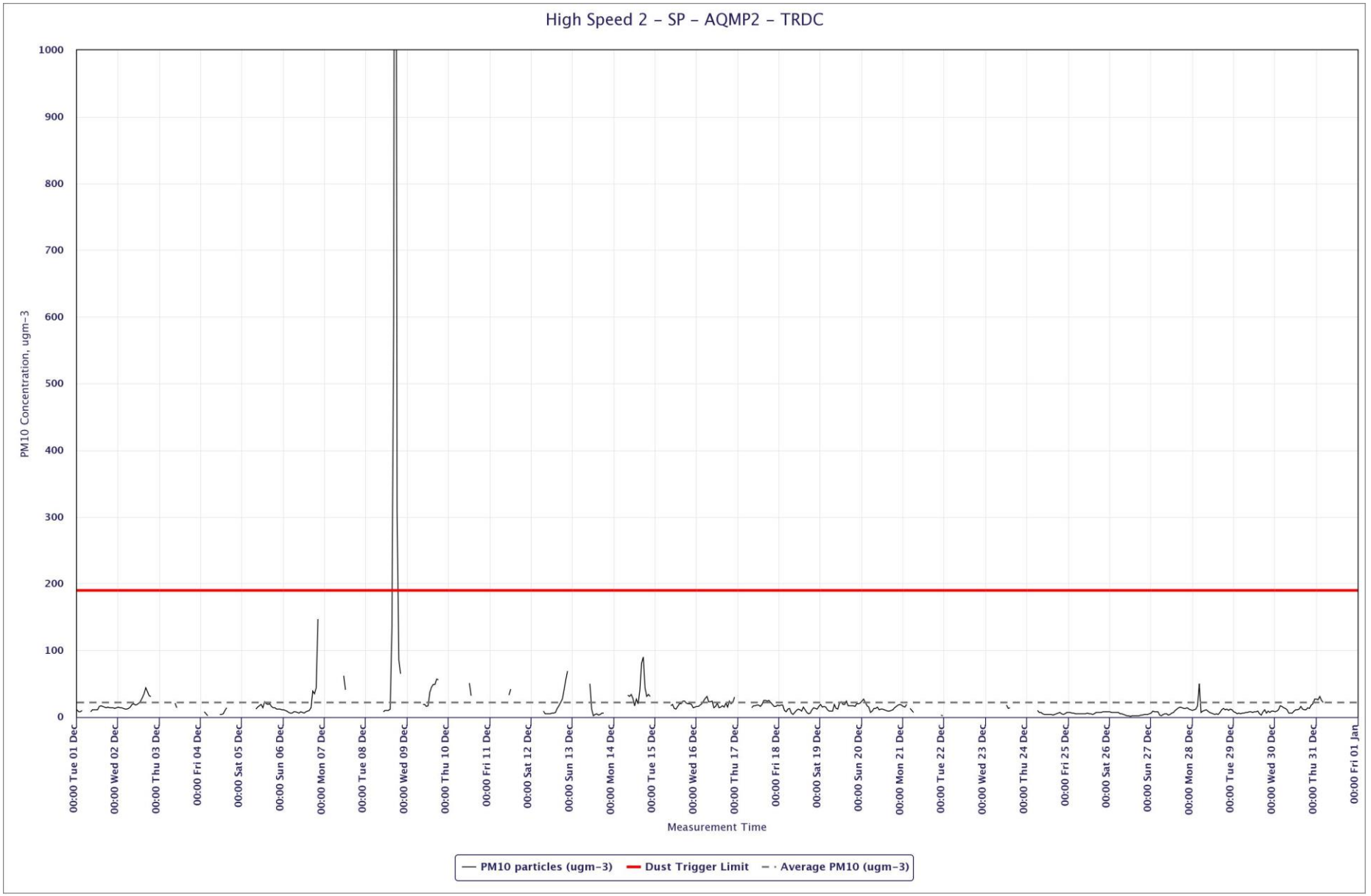


Figure 4: Continuous dust 1-hour mean indicative PM_{10} concentration for SP-AQMP3-TRDC for December 2020