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Part of the KP Acoustics Group

52 Avenue Road, London NW8 6HP

Air Quality Monitoring Report

Report 26019.3

Saturday 25 March 2023 to Monday 24 April 2023

Domvs London (Global Holdings) Ltd
22 Wycombe End,
Beaconsfield,
Buckinghamshire,
United Kingdom HP9 1NB

KP monitoring
Part of the KP Acoustics Group

Report 26019.3 Revision History			
First Issue Date: 26/04/2023			
A		D	
B		E	
C		F	
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EXECUTIVE SUMMARY

KP Monitoring Ltd has been commissioned to monitor the air quality levels at the 52 Avenue Road site, 52 Avenue Road, St Johns Wood, London NW8 6HP.

Air quality levels have been measured at 4No. positions around the development site. The measured parameters include PM2.5 particulate, PM10 particulate.

The following dust level exceedances were recorded across the development site during the monitoring period.

Position	Trigger Level Exceedances	Action Level Exceedances	Data Capture Rate
Position 1	0	0	100%
Position 2	0	0	100%
Position 3	0	0	83%
Position 4	0	0	89%

Table 1 Recorded exceedance events at the development site

The results are presented herein.

1.0 INTRODUCTION

KP Monitoring Ltd have been appointed by Domvs London (Global Holdings) Ltd to monitor the ongoing air quality levels from the site at 52 Avenue Road, and to present the results within baseline monthly reports.

This report details the procedures employed and the data obtained during the monitoring period spanning Saturday 25 March 2023 to Monday 24 April 2023.

2.0 SITE DESCRIPTION

The monitoring site is located within the London Borough of Camden's jurisdiction. It is bounded by Elsworthy Road to the north, Elsworthy Road to the west, residential properties to the south, and large residential landscapes to the east.

3.0 SITE WORKING HOURS

It is our understanding that no works are currently taking place at the development site. Once work commence, however, we understand that works shall take place between the following hours. These daytime periods shall hereby be referred to as the 'Working Day'.

Day	Start time	End Time
Monday	08:00	18:00
Tuesday	08:00	18:00
Wednesday	08:00	18:00
Thursday	08:00	18:00
Friday	08:00	18:00
Saturday	08:00	13:00
Sunday	No Work	No Work

Table 2 Site working hours referred to as 'Working Day'

4.0 INSTALLED EQUIPMENT

Air quality monitoring equipment was installed at the 52 Avenue Road site, and has been continuously serviced, calibrated, and maintained, since Wednesday, 25 January 2023. The following equipment is currently installed:

Position	Manufacturer	Model	Serial
Position 1	Earthsense	Zephyr	1149
Position 2	Earthsense	Zephyr	1169
Position 3	Earthsense	Zephyr	948
Position 4	Earthsense	Zephyr	1043

Table 3 Installed sensor details

Each of the installed air quality monitoring sensors is equipped with a data logger and modem, and is protected from the elements with an environmental kit.

5.0 MONITORING POSITIONS

Air quality monitoring sensors have been installed at 4No. positions around the development site. See site plan in Appendix D. The following table describes these positions.

Position	Monitoring Position
Position 1	The monitor is situated adjacent to Elsworthy Road at an approximate height of 2.5 metres.
Position 2	The monitor is situated adjacent to Elsworthy Road on the north western area of site and is at an approximate height of 2.5 metres.
Position 3	The monitor is situated on the south eastern area of site and is at an approximate height of 1 metre.
Position 4	The monitor is situated on the north eastern area of site and is at an approximate height of 1 metre.

Table 4 Description of monitoring positions

The above positions were recommended and approved by Camden Council as demonstrated in the attached email chain.

6.0 METHODOLOGY

Fully automated air quality monitoring has been undertaken at the 52 Avenue Road site, from Saturday 25 March 2023 to Monday 24 April 2023.

The air quality monitors are sensitive to airborne particle concentrations down to a fraction of a microgram per cubic metre and provide detailed air quality measurements in real-time. A dedicated microprocessor analyses individual particles even if there are millions per litre.

7.0 AIR PARTICULATE (DUST)

7.1 Measured Particulates

Fully automated dust monitoring has been undertaken to measure PM2.5, and PM10 particulate at the 52 Avenue Road site.

7.2 Project Trigger & Action Levels

It is our understanding that there are currently no defined air particulate Trigger and Action levels for this project.

Position	Trigger Level (PM10, µg/m^3, 15min)	Action Level (PM10, µg/m^3, 15min)
Position 1	N/A	N/A
Position 2	N/A	N/A
Position 3	N/A	N/A
Position 4	N/A	N/A

Table 5 Defined Trigger and Action levels at the development site

The following contacts are current recipients of the above alerts by email and/or SMS.

Recipient Name	Organisation
max.obrien@domvslondon.com	Domvs London (Global Holdings) Ltd

Table 6 Trigger and Action alert recipients

7.3 Air Particulate Monitoring Results

The measured dust levels are shown in Appendix B and the associated graphs. The following dust level exceedances were recorded across the development site during the monitoring period.

Position	Trigger Level Exceedances	Action Level Exceedances	Data Capture Rate
Position 1	N/A	N/A	100%
Position 2	N/A	N/A	100%
Position 3	N/A	N/A	83%
Position 4	N/A	N/A	89%

Table 7 Recorded exceedance events at the development site

The following contacts are current recipients of the above alerts by email and/or SMS.

Recipient Name	Organisation
max.obrien@domvslondon.com	Domvs London (Global Holdings) Ltd

Table 8 Trigger and Action alert recipients

During the monitoring period of 25 March 2023 to Monday 24 April 2023, there were 0No. days when PM10 particulate matter levels exceeded 50µg/m^3 over a 15-minute period at Position 1.

During the monitoring period of 25 March 2023 to Monday 24 April 2023, there were 15No. days when PM10 particulate matter levels exceeded 50µg/m^3 over a 15-minute period at Position 2. 0No. of these days exceeded an average PM10 particulate matter level of 50µg/m^3 over 24-hours.

During the monitoring period of 25 March 2023 to Monday 24 April 2023, there were 0No. days when PM10 particulate matter levels exceeded 50µg/m^3 over a 15-minute period at Position 3.

During the monitoring period of 25 March 2023 to Monday 24 April 2023, there were 0No. days when PM10 particulate matter levels exceeded 50µg/m^3 over a 15-minute period at Position 4.

Using the data collected from the beginning of the project on 23 January 2023, we have estimated the Annual Mean PM10 particulate matter for each monitoring location. This Annual Mean has been seasonally corrected to allow for the short-term monitoring period, and is presented below.

Background Site	Annual Mean 2022 (Am)	Period Mean 2022 (Pm)	Ratio (Am/Pm)
London Bloomsbury	17.3	14.6	1.2
Euston Road, Camden	20.6	22.0	0.9
Coopers Lane, Camden	16.5	15.6	1.1
		Average (Ra)	1.1

Table 9 Annualised Continuous Monitoring Data for 23 January 2023 to 24 April 2023

The Period Mean PM 10 particulate matter at Position 1 was 11.04µg/m^3. The best estimate of the Annual Mean at Position 1 for 2023 is 12.14µg/m^3. The total data capture rate at this location was 92% for the monitoring period of 23 January 2023 to 24 April 2023.

The Period Mean PM 10 particulate matter at Position 2 was 14.21µg/m^3. The best estimate of the Annual Mean at Position 1 for 2023 is 15.63µg/m^3. The total data capture rate at this location was 97% for the monitoring period of 23 January 2023 to 24 April 2023.

The Period Mean PM 10 particulate matter at Position 3 was 11.67µg/m^3. The best estimate of the Annual Mean at Position 1 for 2023 is 12.84µg/m^3. The total data capture rate at this location was 85% for the monitoring period of 23 January 2023 to 24 April 2023.

The Period Mean PM 10 particulate matter at Position 4 was 11.84µg/m^3. The best estimate of the Annual Mean at Position 1 for 2023 is 13.02µg/m^3. The total data capture rate at this location was 95% for the monitoring period of 23 January 2023 to 24 April 2023.

8.0 DISCUSSION

Environmental air quality monitoring has been undertaken at the 52 Avenue Road site, during the period spanning Saturday 25 March 2023 to Monday 24 April 2023.

The results are presented herein.

Unfortunately, we are unable to present data for Position 3 from Friday 07 April 2023 at approximately 2000 hours to Thursday 13 April 2023 at approximately 1330 hours.

This instance of data loss was caused by a depleted external battery. An engineer attended site on Thursday 13 April 2023 and proceeded to replace the depleted battery with a fully charged one.

Lastly, we are unfortunately unable to present data for Position 4 from Thursday 30 March 2023 at approximately 0230 hours to Monday 03 April 2023 at approximately 0200 hours.

This instance of data loss was caused by a depleted external battery. During this period of power loss, the battery's voltage level was partially replenished via its associated solar panel. An engineer attended site on Thursday 13 April 2023 and proceeded to replace the now partially depleted battery with a fully charged one.

APPENDIX A – AIR QUALITY TERMINOLOGY

PMx Particulate Matter

Used as a measurement of air particles where x is the size of the particle measured in micrometres (or µm). PM10 describes inhalable particles, with diameters that are 10 micrometres and smaller. Sources include crushing or grinding operations and dust stirred up by vehicles on roads. PM2.5 describes fine particles that are 2.5 micrometres or smaller in diameter and can only be seen with an electron microscope and are able to penetrate to the lungs. Typical sources include all types of combustion, including motor vehicles, power plants and agricultural burning. PM1 describes particles that are 1 micrometre or smaller in diameter.

TSP Total Suspended Particles

Used as a measure of the mass concentration of particulate matter in the air. TSP covers the full range of particle sizes and is commonly measured alongside PM10 and PM2.5.

Nephelometer

Sometimes referred to as a turbidimeter, these devices are used to measure the concentration of particulates suspended in a fluid. Suspended particulates are measured by employing a light beam and a light detector set to one side (often 90°) of the source beam. Particle density is then a function of the light reflected into the detector from the particles.

APPENDIX B – MAXIMUM PM2.5/PM10 LEVELS

The following table presents the maximum PM2.5 levels measured during the period Saturday 25 March 2023 to Monday 24 April 2023.

Date	Position 1	Position 2	Position 3	Position 4
25/03/2023	3	7	3	3
26/03/2023	No Work	No Work	No Work	No Work
27/03/2023	4	8	4	3
28/03/2023	6	10	5	6
29/03/2023	7	12	7	6
30/03/2023	5	8	4	-
31/03/2023	4	7	4	-
01/04/2023	6	9	5	-
02/04/2023	No Work	No Work	No Work	No Work
03/04/2023	9	15	8	8
04/04/2023	12	19	11	10
05/04/2023	12	23	12	13
06/04/2023	8	15	8	10
07/04/2023	4	8	3	4
08/04/2023	23	37	-	24
09/04/2023	No Work	No Work	No Work	No Work
10/04/2023	5	8	-	5

Date	Position 1	Position 2	Position 3	Position 4
11/04/2023	4	7	-	3
12/04/2023	4	7	-	3
13/04/2023	4	8	3	3
14/04/2023	3	7	3	3
15/04/2023	10	20	11	10
16/04/2023	No Work	No Work	No Work	No Work
17/04/2023	20	32	19	19
18/04/2023	21	33	20	19
19/04/2023	22	34	21	20
20/04/2023	8	14	8	8
21/04/2023	18	29	17	15
22/04/2023	28	46	26	26
23/04/2023	No Work	No Work	No Work	No Work
24/04/2023	6	10	7	6

Table 10 Measured maximum PM2.5 levels at the development site

The following table presents the 24-hour mean average PM2.5 levels measured during the period Saturday 25 March 2023 to Monday 24 April 2023.

Date	Position 1	Position 2	Position 3	Position 4
25/03/2023	3	6	3	2
26/03/2023	No Work	No Work	No Work	No Work
27/03/2023	3	7	3	3
28/03/2023	4	7	4	3
29/03/2023	6	11	6	6
30/03/2023	4	7	3	4
31/03/2023	3	6	2	-
01/04/2023	4	7	4	3
02/04/2023	No Work	No Work	No Work	No Work
03/04/2023	5	8	5	5
04/04/2023	9	14	8	8
05/04/2023	11	19	10	11
06/04/2023	5	10	5	5
07/04/2023	4	8	3	3
08/04/2023	12	20	-	12
09/04/2023	No Work	No Work	No Work	No Work
10/04/2023	5	9	3	5
11/04/2023	2	6	-	2

Date	Position 1	Position 2	Position 3	Position 4
12/04/2023	2	6	-	2
13/04/2023	3	6	3	2
14/04/2023	3	7	3	3
15/04/2023	9	14	8	8
16/04/2023	No Work	No Work	No Work	No Work
17/04/2023	13	21	12	12
18/04/2023	16	26	15	14
19/04/2023	15	23	14	13
20/04/2023	7	12	7	7
21/04/2023	16	26	15	15
22/04/2023	20	32	19	18
23/04/2023	No Work	No Work	No Work	No Work
24/04/2023	9	15	9	8

Table 1 Measured 24-hour mean average PM2.5 levels at the development site

The following table presents the maximum PM10 levels measured during the period Saturday 25 March 2023 to Monday 24 April 2023.

Date	Position 1	Position 2	Position 3	Position 4
25/03/2023	5	7	6	6
26/03/2023	No Work	No Work	No Work	No Work
27/03/2023	4	9	5	5
28/03/2023	10	11	10	11
29/03/2023	11	13	12	11
30/03/2023	9	9	11	-
31/03/2023	8	8	9	-
01/04/2023	9	10	9	-
02/04/2023	No Work	No Work	No Work	No Work
03/04/2023	11	16	12	12
04/04/2023	16	21	17	16
05/04/2023	17	25	18	19
06/04/2023	12	16	13	13
07/04/2023	4	9	6	6
08/04/2023	37	43	-	40
09/04/2023	No Work	No Work	No Work	No Work
10/04/2023	8	9	-	9
11/04/2023	5	8	-	6

Date	Position 1	Position 2	Position 3	Position 4
12/04/2023	5	8	-	6
13/04/2023	5	9	4	6
14/04/2023	5	7	6	5
15/04/2023	14	22	15	15
16/04/2023	No Work	No Work	No Work	No Work
17/04/2023	31	36	32	30
18/04/2023	33	39	33	32
19/04/2023	35	40	35	32
20/04/2023	11	16	15	14
21/04/2023	26	30	26	24
22/04/2023	47	56	44	44
23/04/2023	No Work	No Work	No Work	No Work
24/04/2023	8	11	9	8

Table 12 Measured maximum PM10 levels at the development site

The following table presents the 24-hour mean average PM10 levels measured during the period Saturday 25 March 2023 to Monday 24 April 2023.

Date	Position 1	Position 2	Position 3	Position 4
25/03/2023	4	6	5	5
26/03/2023	No Work	No Work	No Work	No Work
27/03/2023	4	7	4	4
28/03/2023	5	7	6	6
29/03/2023	11	14	11	11
30/03/2023	7	7	8	9
31/03/2023	5	6	6	-
01/04/2023	7	8	7	6
02/04/2023	No Work	No Work	No Work	No Work
03/04/2023	7	9	8	8
04/04/2023	11	15	12	12
05/04/2023	13	18	13	13
06/04/2023	9	12	9	10
07/04/2023	5	8	5	5
08/04/2023	21	26	-	22
09/04/2023	No Work	No Work	No Work	No Work
10/04/2023	8	11	3	9
11/04/2023	4	6	-	4

Date	Position 1	Position 2	Position 3	Position 4
12/04/2023	4	6	-	5
13/04/2023	4	7	4	4
14/04/2023	4	6	4	4
15/04/2023	10	12	10	11
16/04/2023	No Work	No Work	No Work	No Work
17/04/2023	16	21	17	17
18/04/2023	24	29	25	23
19/04/2023	26	31	27	25
20/04/2023	9	12	9	9
21/04/2023	20	25	21	20
22/04/2023	41	46	39	39
23/04/2023	No Work	No Work	No Work	No Work
24/04/2023	14	18	14	14

Table 93 Measured 24-hour mean average PM10 levels at the development

APPENDIX C – PM10 Air Particulate Level Statistics for Saturday 25 March 2023 to Monday 24 April 2023

The tables below present the PM10 monitoring statistics for working hours and non-working hours during the monitoring period.

Position	Mean Average 15 min PM10 Dust Level ($\mu g/m^3$)	Minimum 15 min PM10 Dust Level ($\mu g/m^3$)	Maximum 15 min PM10 Dust Level ($\mu g/m^3$)	Data Capture Rate
Position 1	11	2	47	100%
Position 2	15	5	56	100%
Position 3	12	2	44	83%
Position 4	12	2	44	89%

Table 14 Working Day PM10 dust level statistics

Position	Mean Average 15 min PM10 Dust Level ($\mu g/m^3$)	Minimum 15 min PM10 Dust Level ($\mu g/m^3$)	Maximum 15 min PM10 Dust Level ($\mu g/m^3$)
Position 1	13	3	45
Position 2	16	5	50
Position 3	13	3	43
Position 4	13	3	47

Table 15 Out of hours PM10 dust level statistics

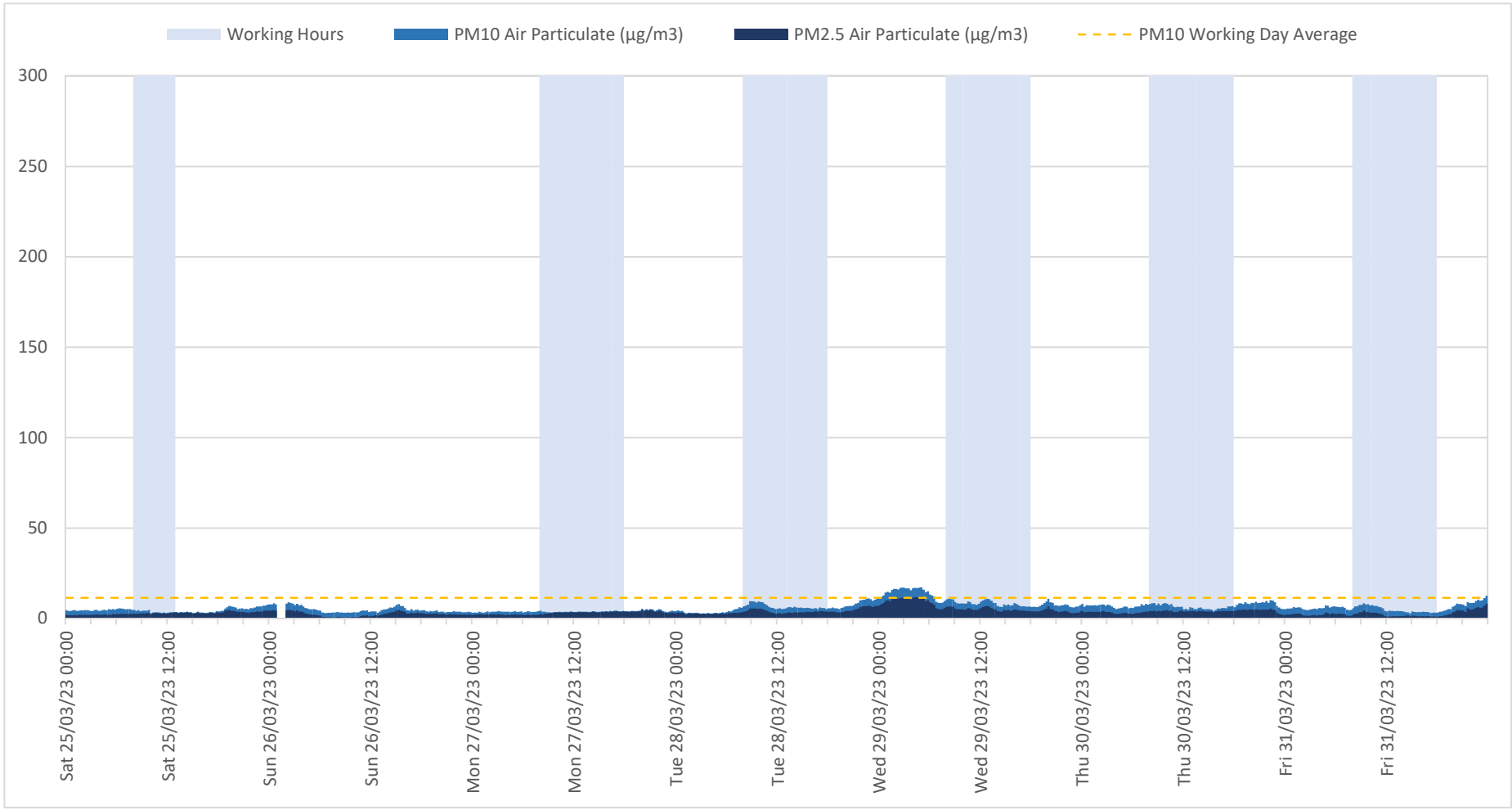
APPENDIX D – Environmental Monitoring Site Plan

Environmental Monitoring Positions	52 Avenue Road	Revision: -	Not to Scale	KP monitoring Part of the KP Acoustics Group

52 Avenue Road

Position 1

Saturday 25/03/2023 to Friday 31/03/2023



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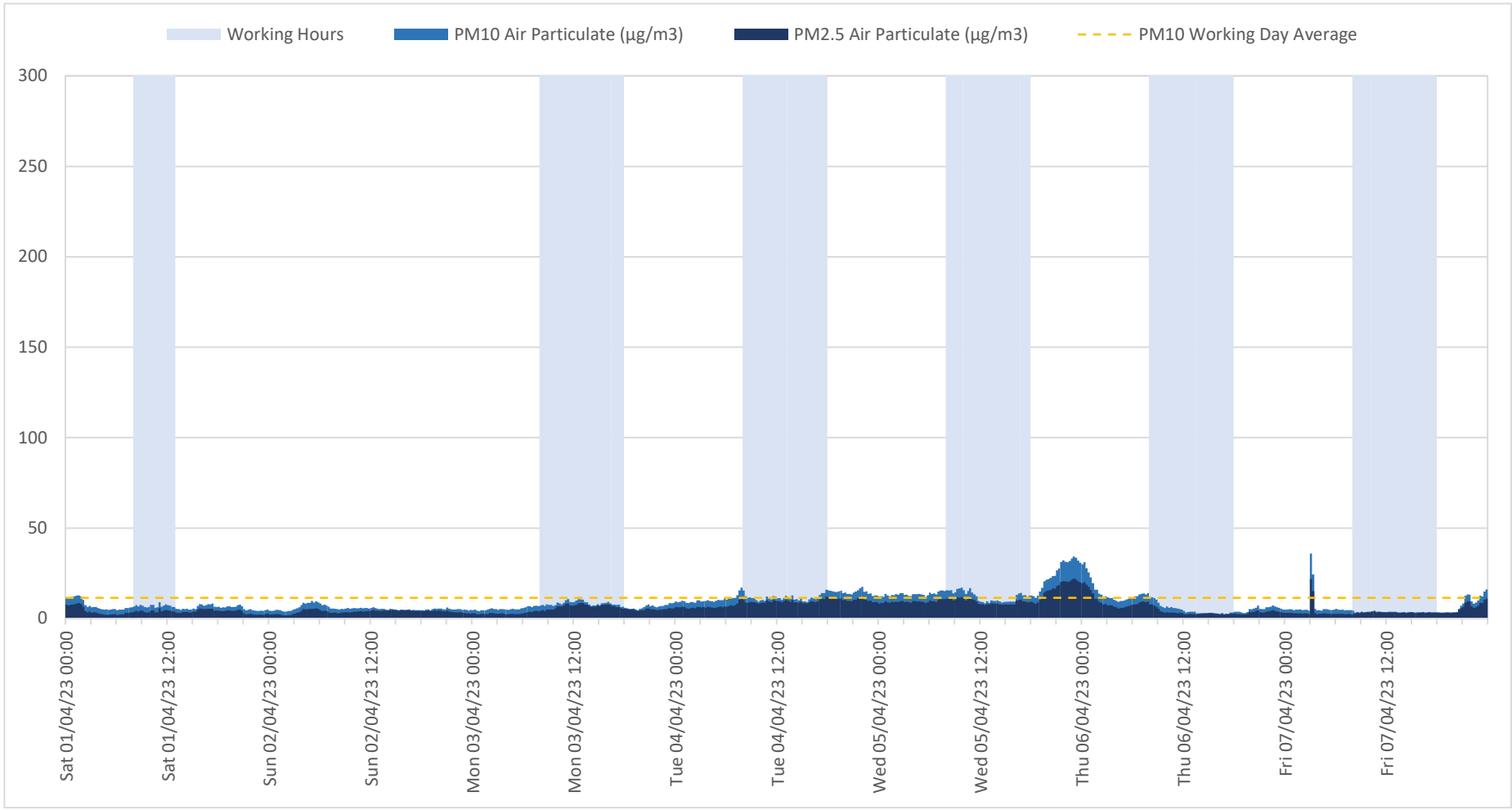
52 Avenue Road

Position 1

Saturday 01/04/2023 to Friday 07/04/2023

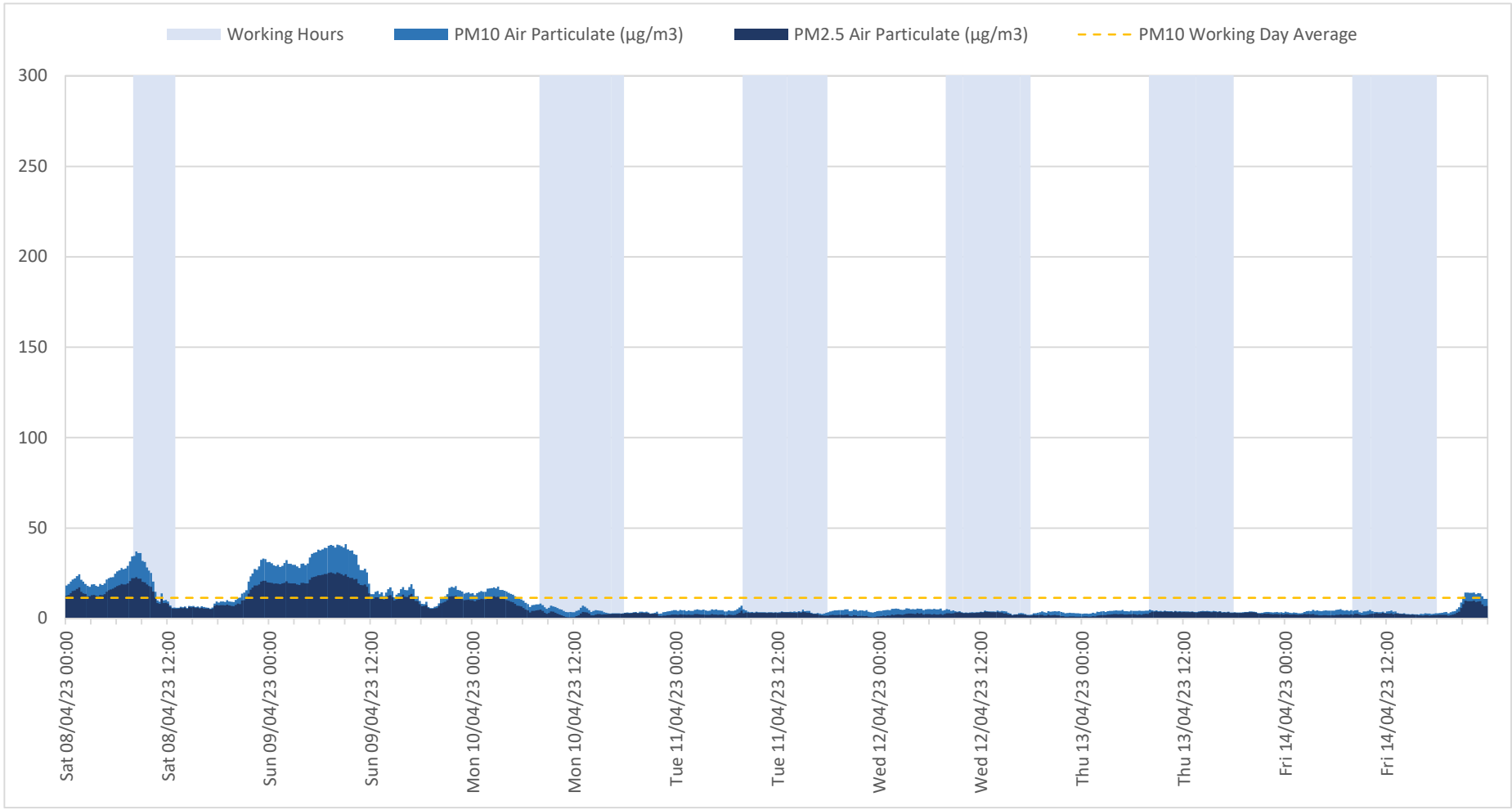


KPM-AP:26019-3.1-2

52 Avenue Road

Position 1

Saturday 08/04/2023 to Friday 14/04/2023

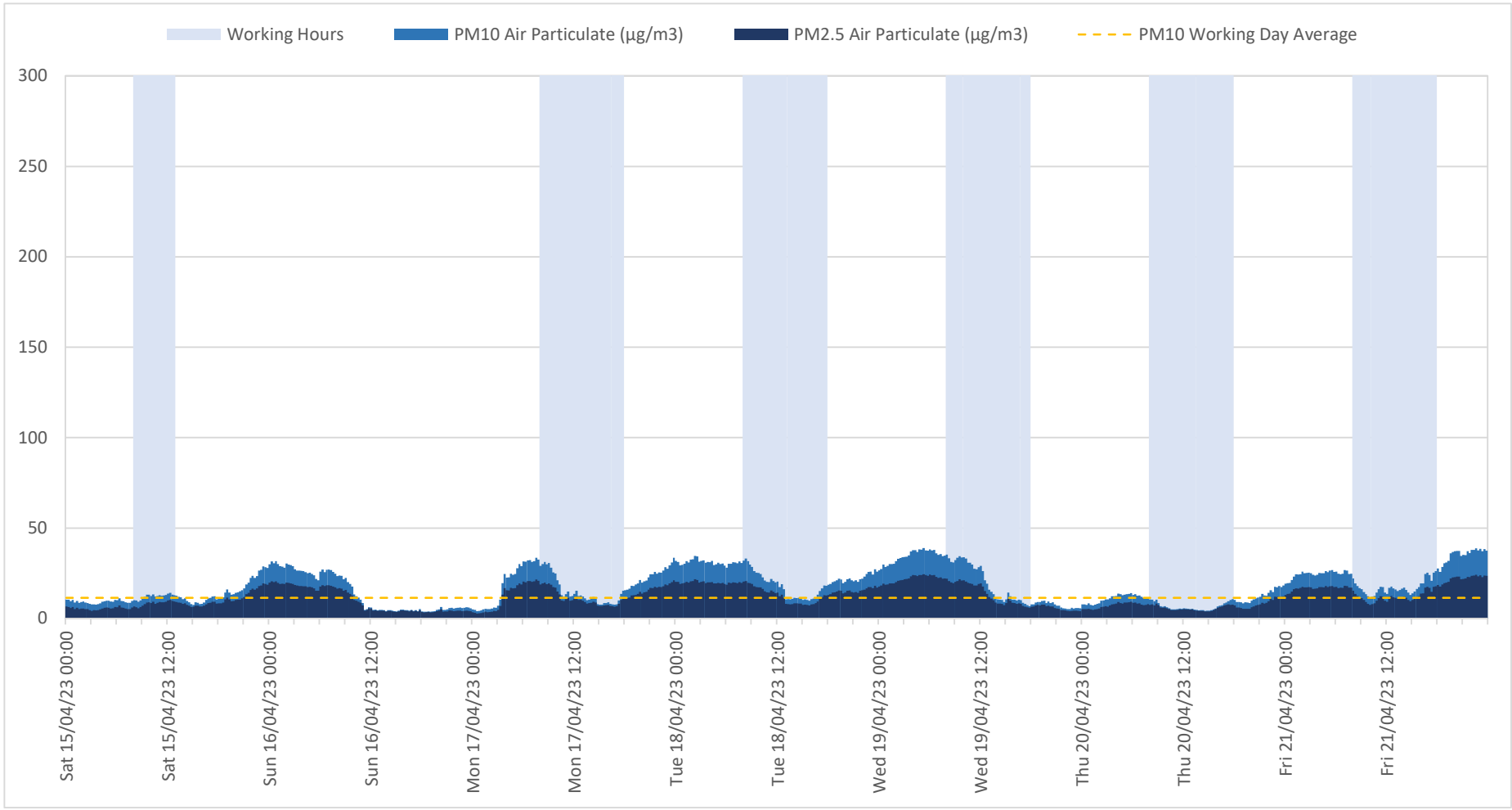


KPM-AP:26019-3.1-3

52 Avenue Road

Position 1

Saturday 15/04/2023 to Friday 21/04/2023



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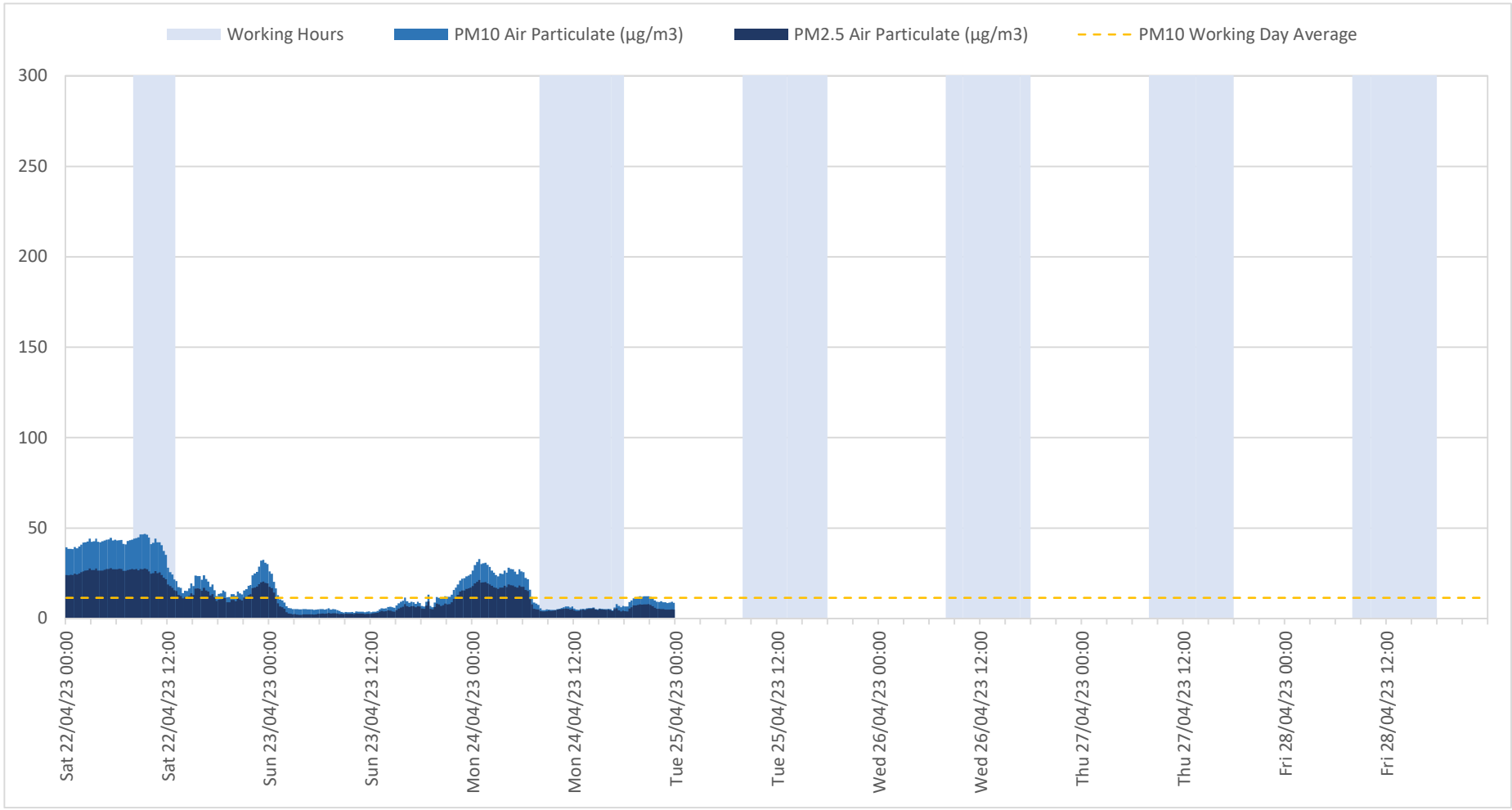
52 Avenue Road

Position 1

Saturday 22/04/2023 to Friday 28/04/2023



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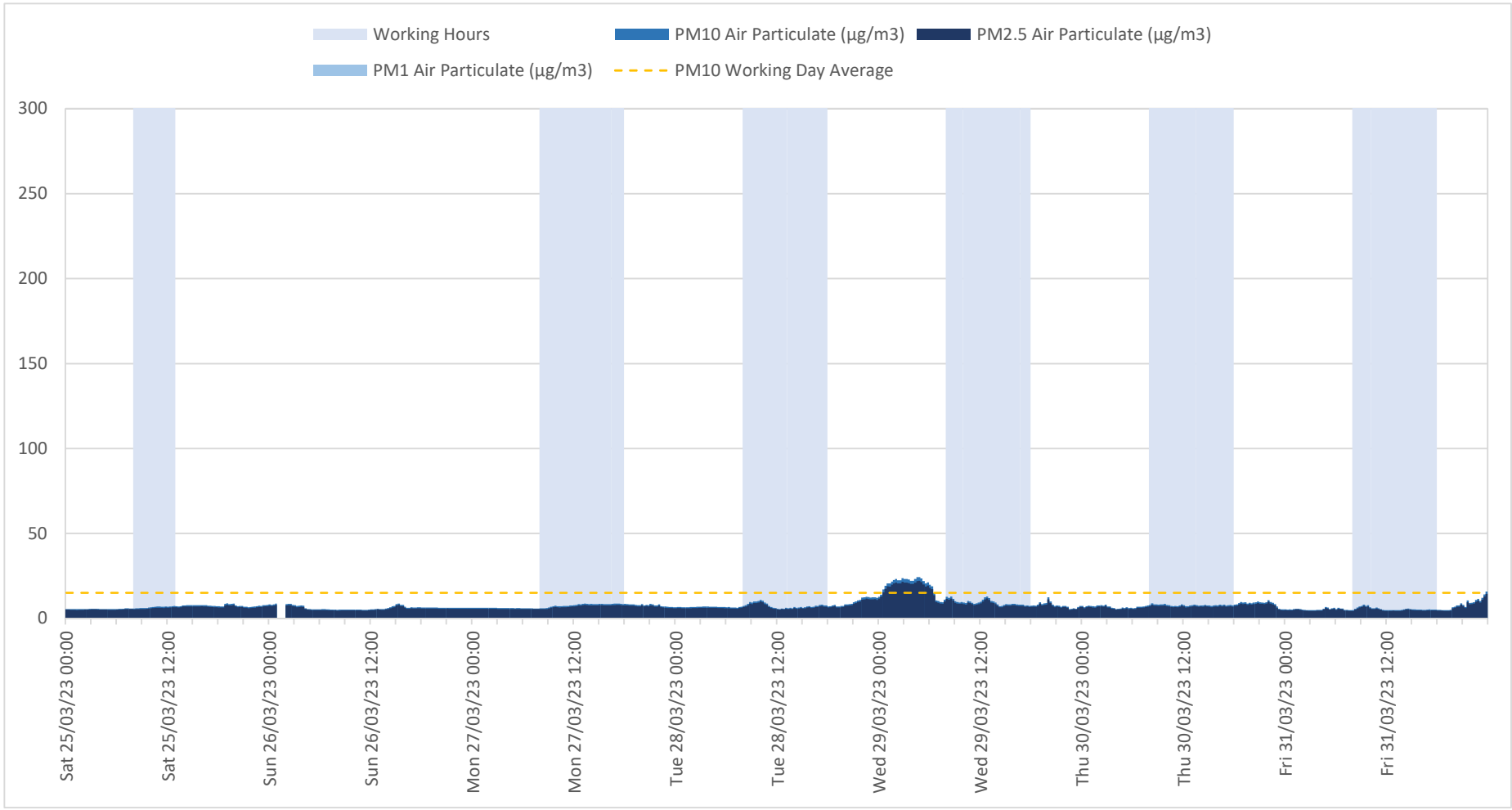
52 Avenue Road

Position 2

Saturday 25/03/2023 to Friday 31/03/2023



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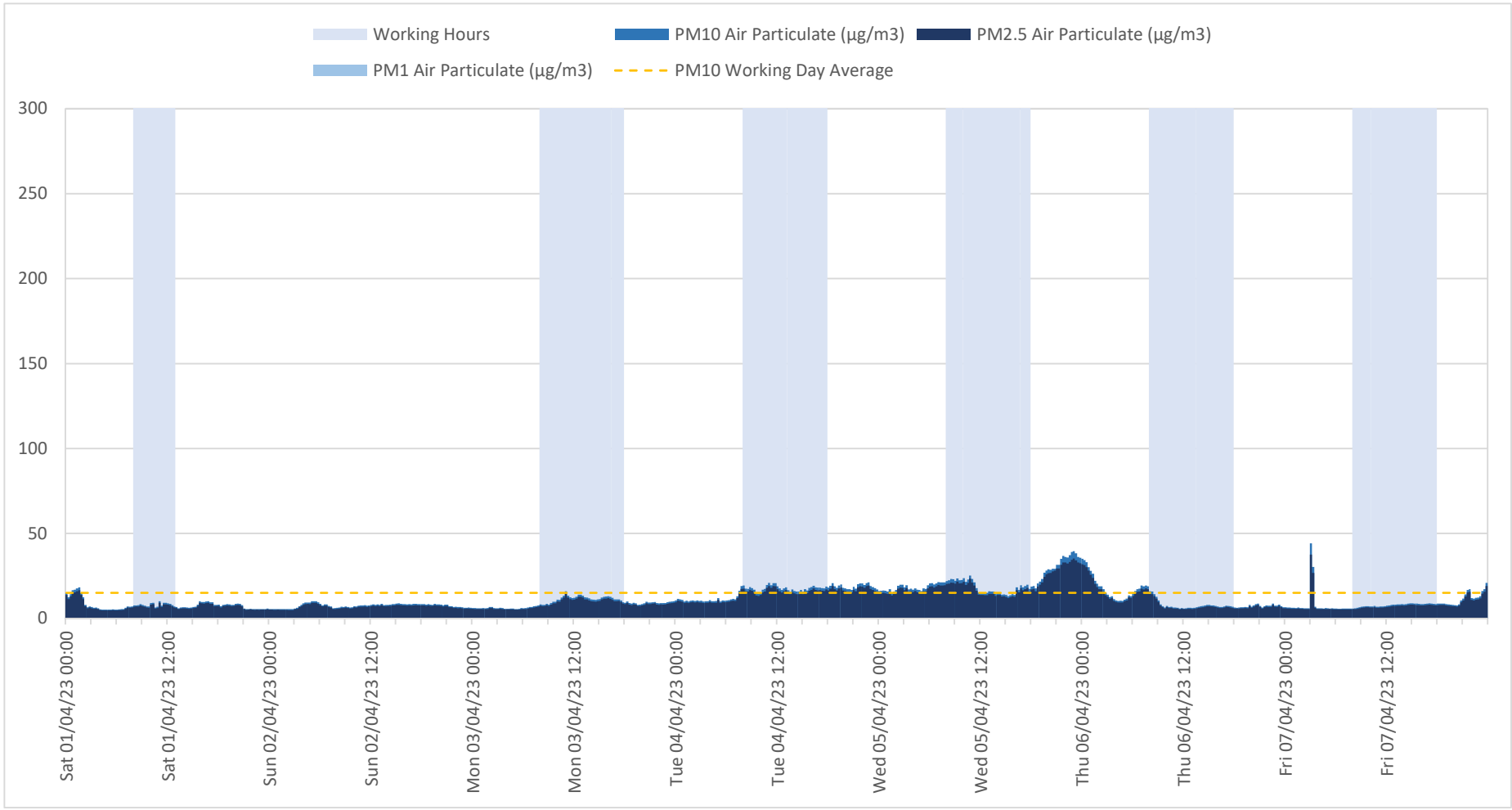
52 Avenue Road

Position 2

Saturday 01/04/2023 to Friday 07/04/2023



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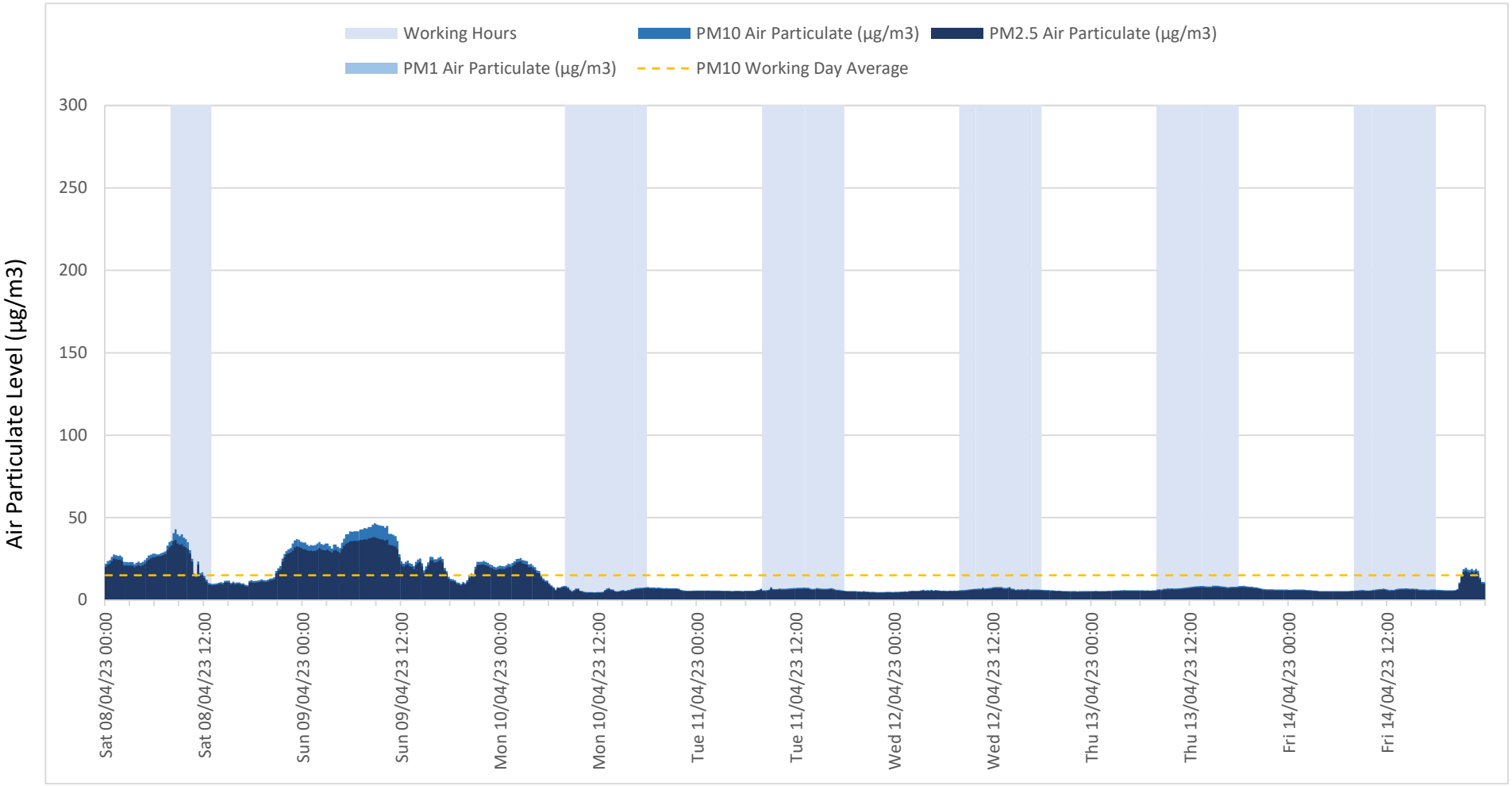
52 Avenue Road

Position 2

Saturday 08/04/2023 to Friday 14/04/2023



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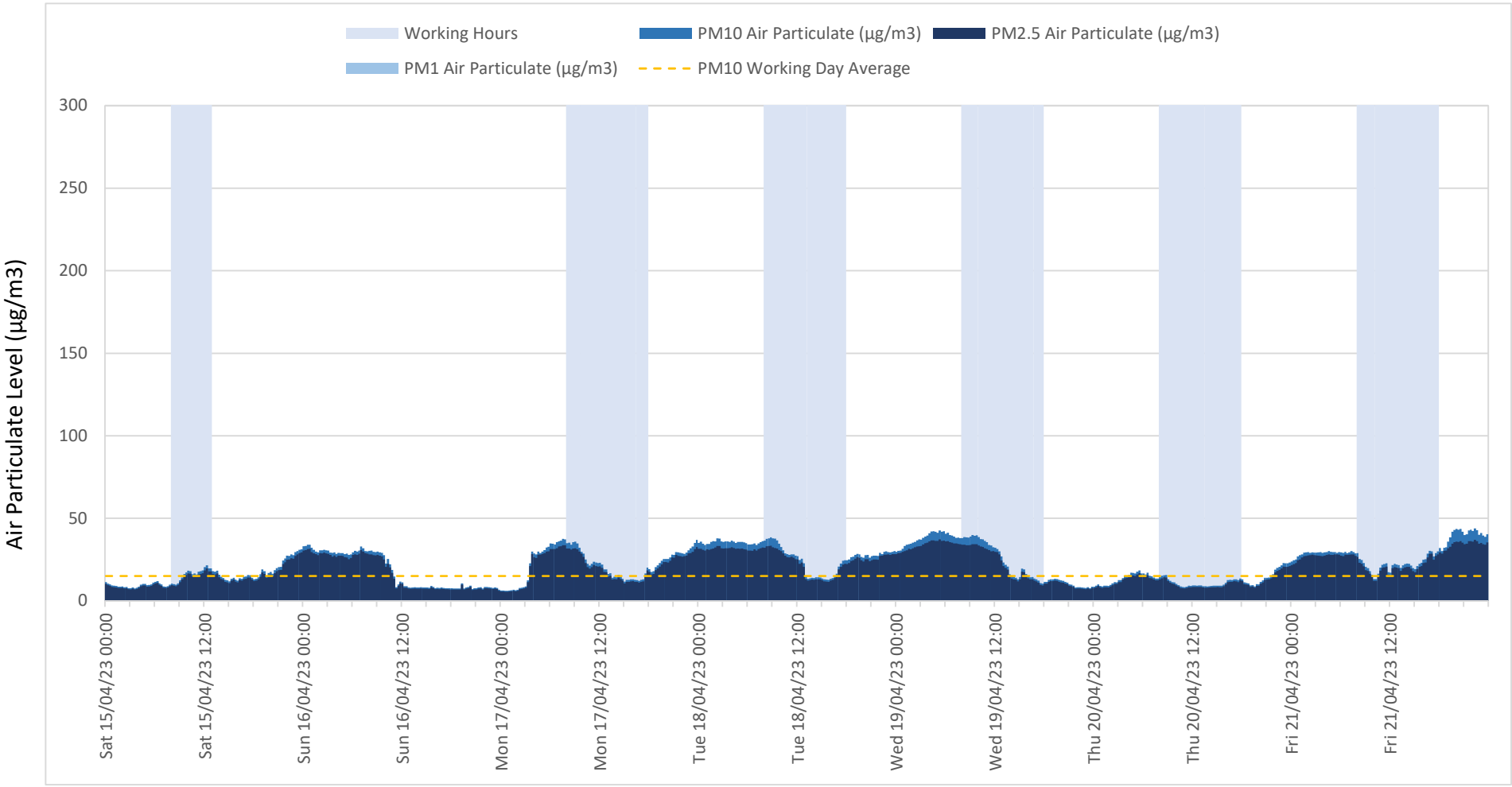
52 Avenue Road

Position 2

Saturday 15/04/2023 to Friday 21/04/2023

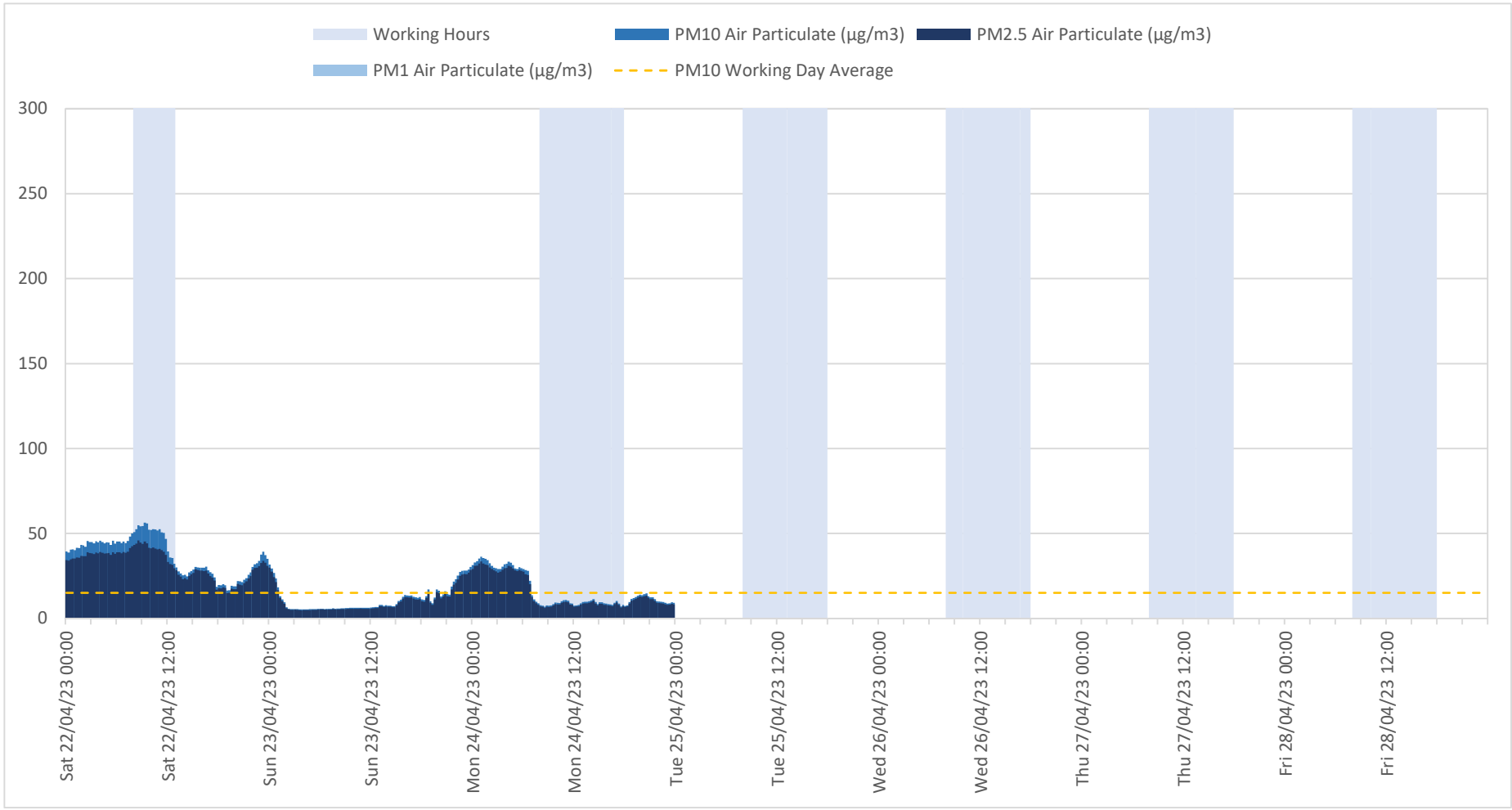


KPM-AP:26019-3.2-4

52 Avenue Road

Position 2

Saturday 22/04/2023 to Friday 28/04/2023



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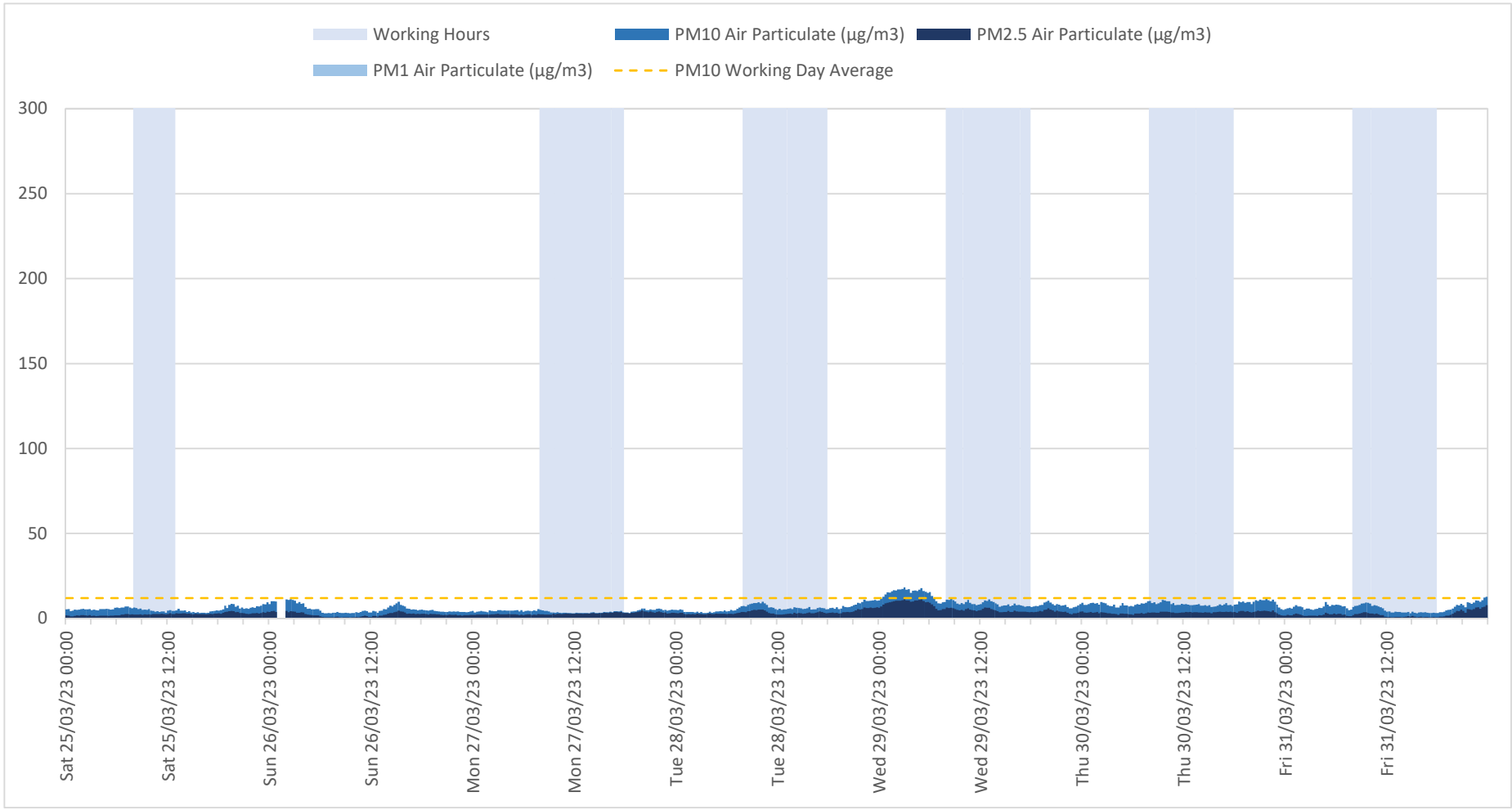
52 Avenue Road

Position 3

Saturday 25/03/2023 to Friday 31/03/2023



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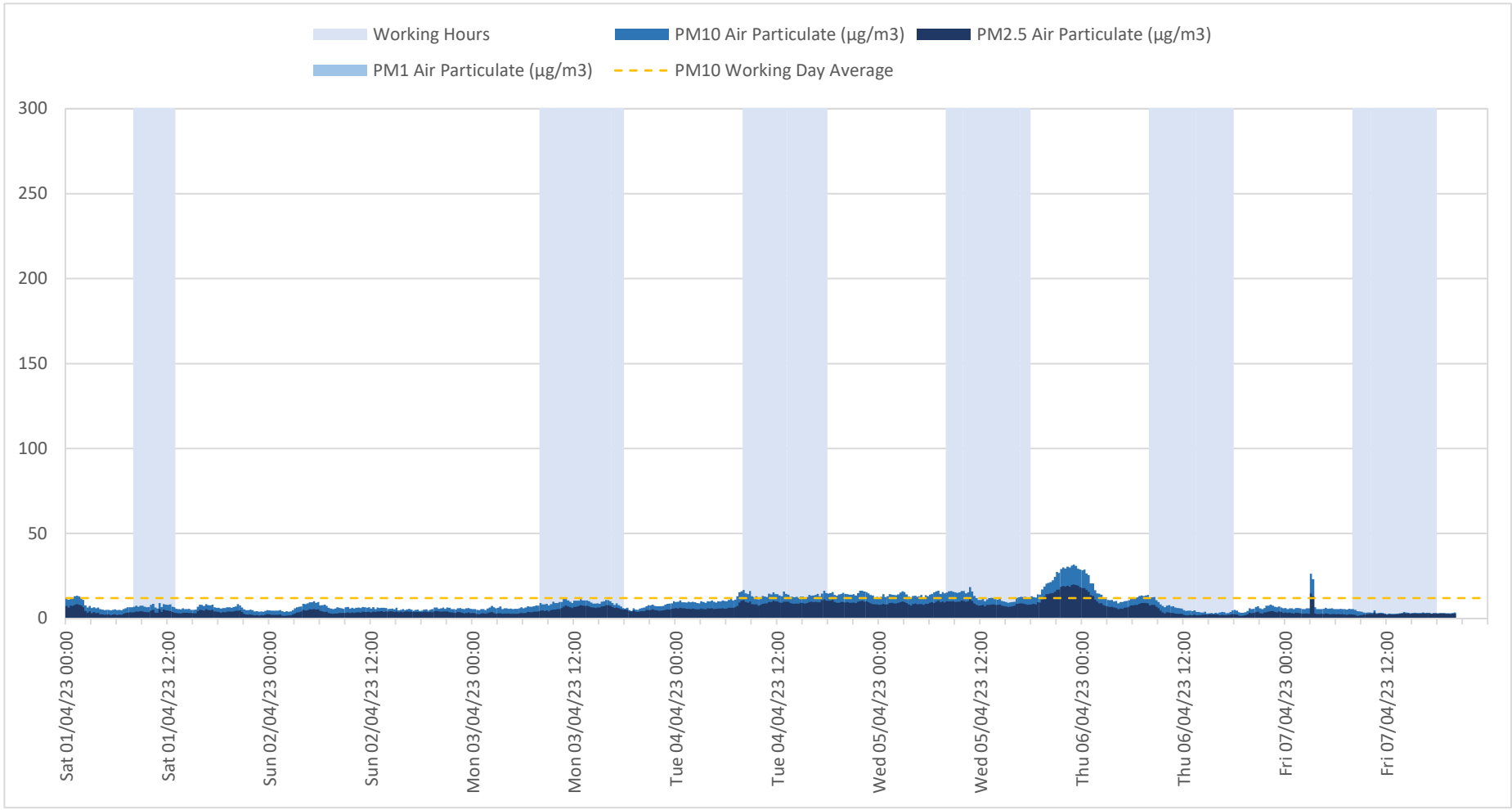
52 Avenue Road

Position 3

Saturday 01/04/2023 to Friday 07/04/2023

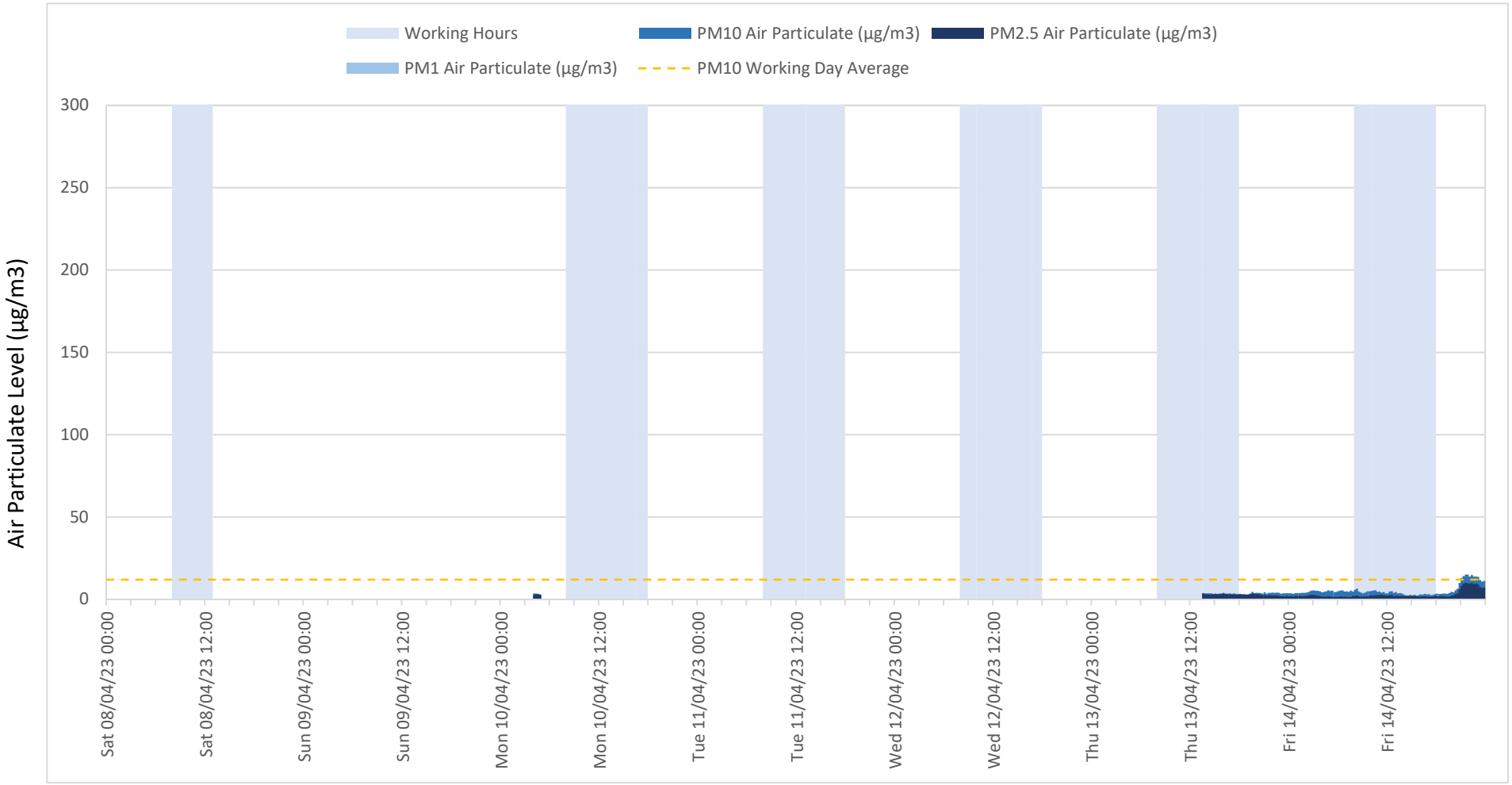


KPM-AP:26019-3.3-2

52 Avenue Road

Position 3

Saturday 08/04/2023 to Friday 14/04/2023

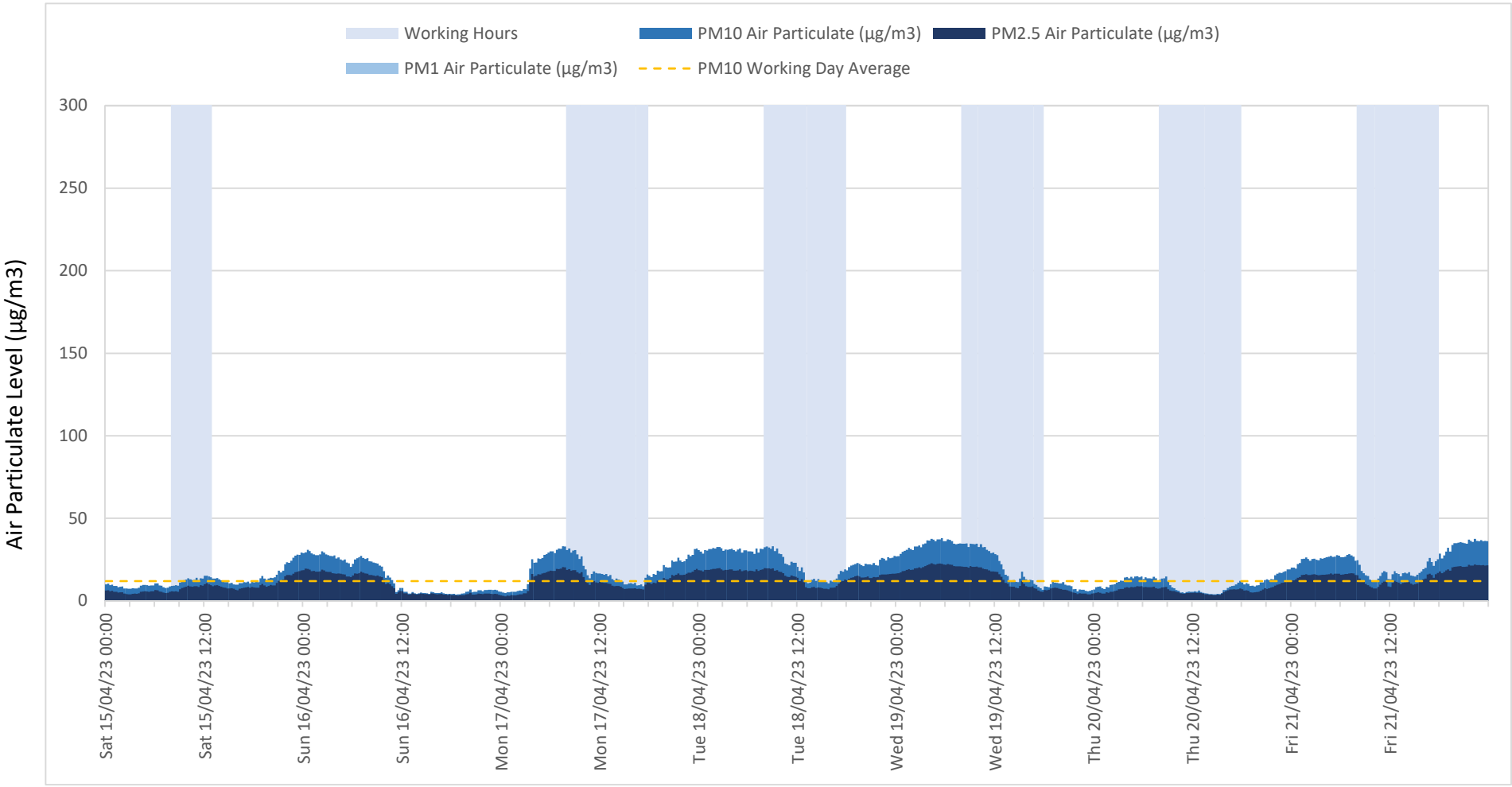


KPM-AP:26019-3.3-3

52 Avenue Road

Position 3

Saturday 15/04/2023 to Friday 21/04/2023



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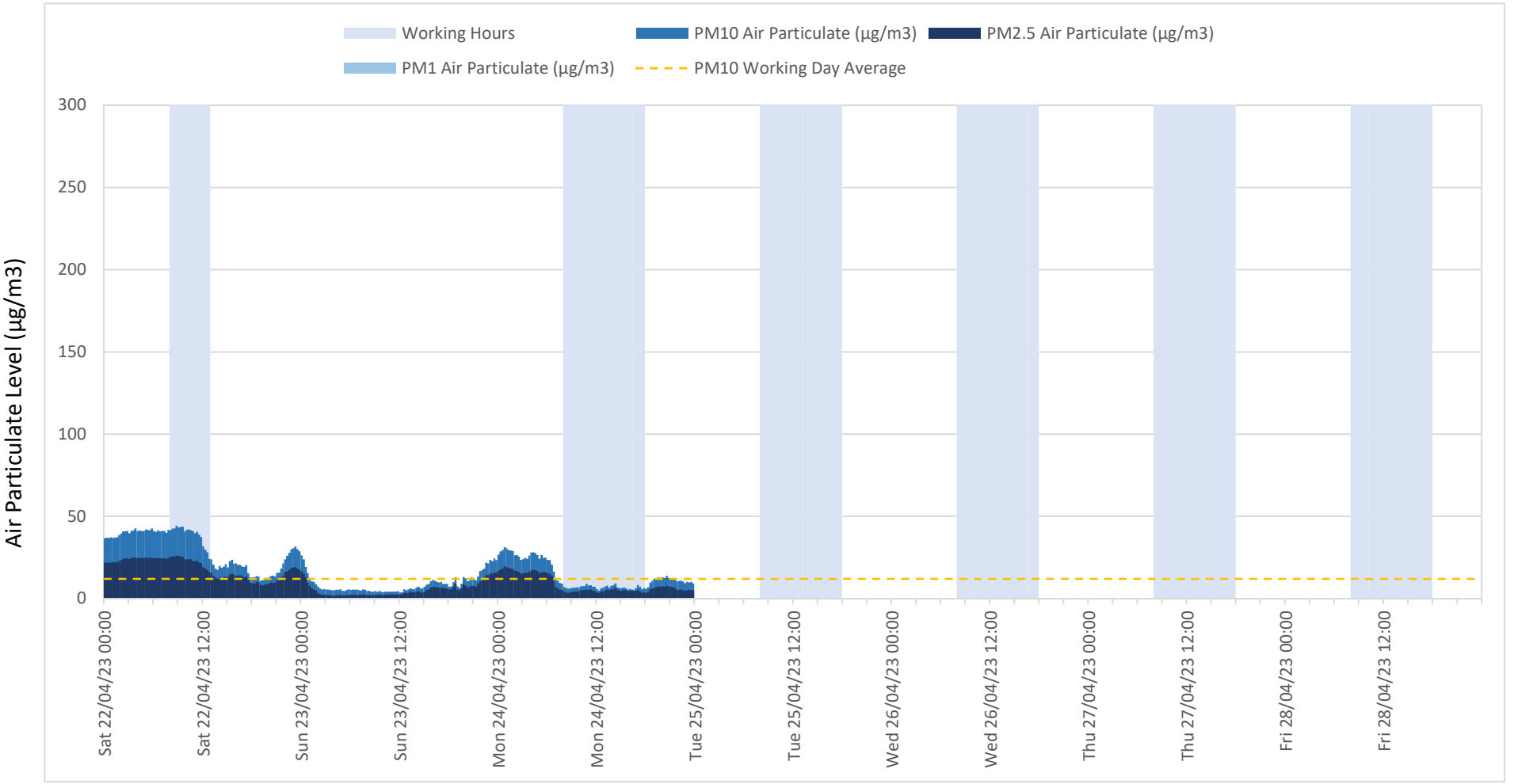
52 Avenue Road

Position 3

Saturday 22/04/2023 to Friday 28/04/2023

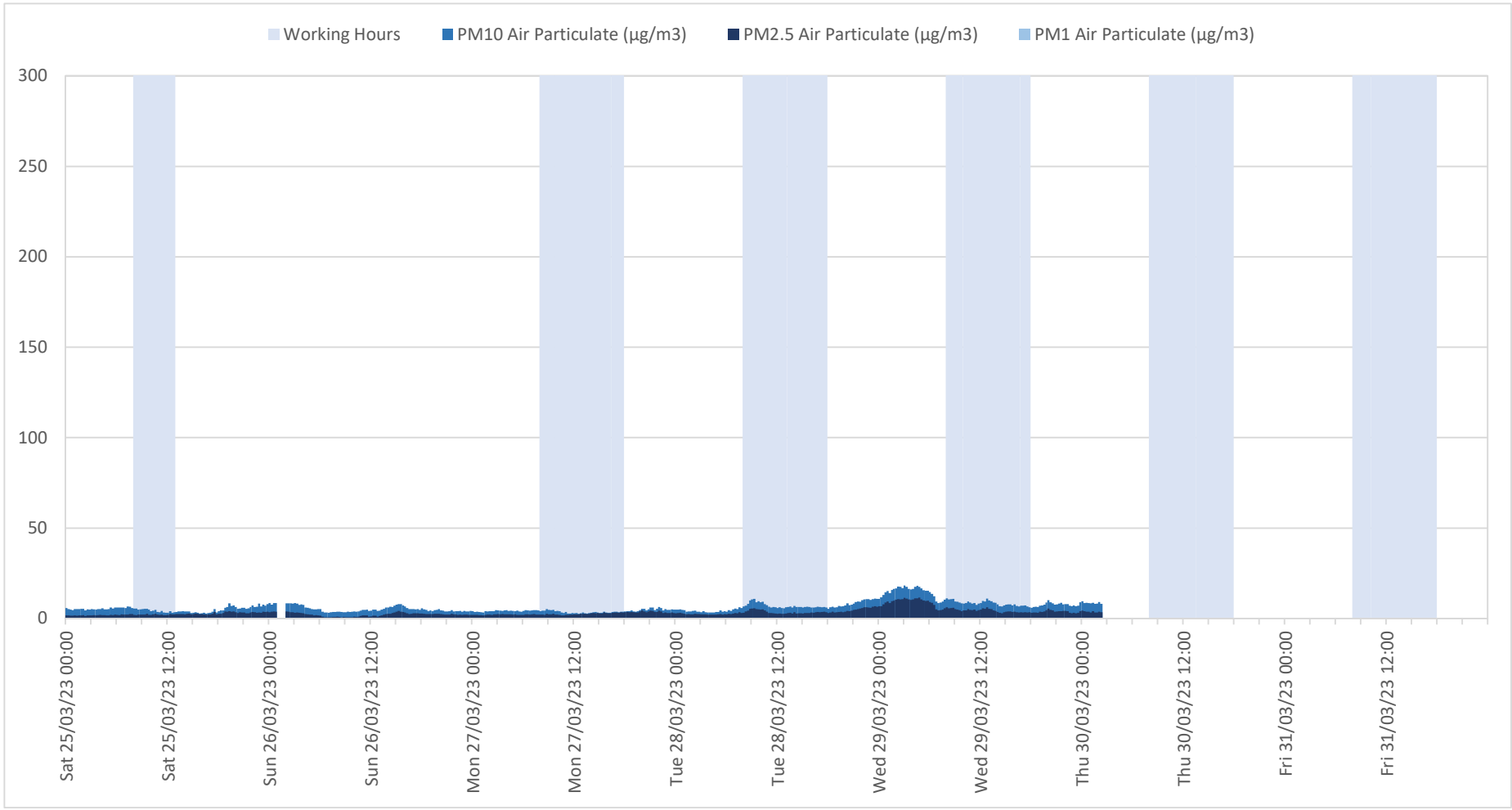


KPM-AP:26019-3.3-5

52 Avenue Road

Position 4

Saturday 25/03/2023 to Friday 31/03/2023

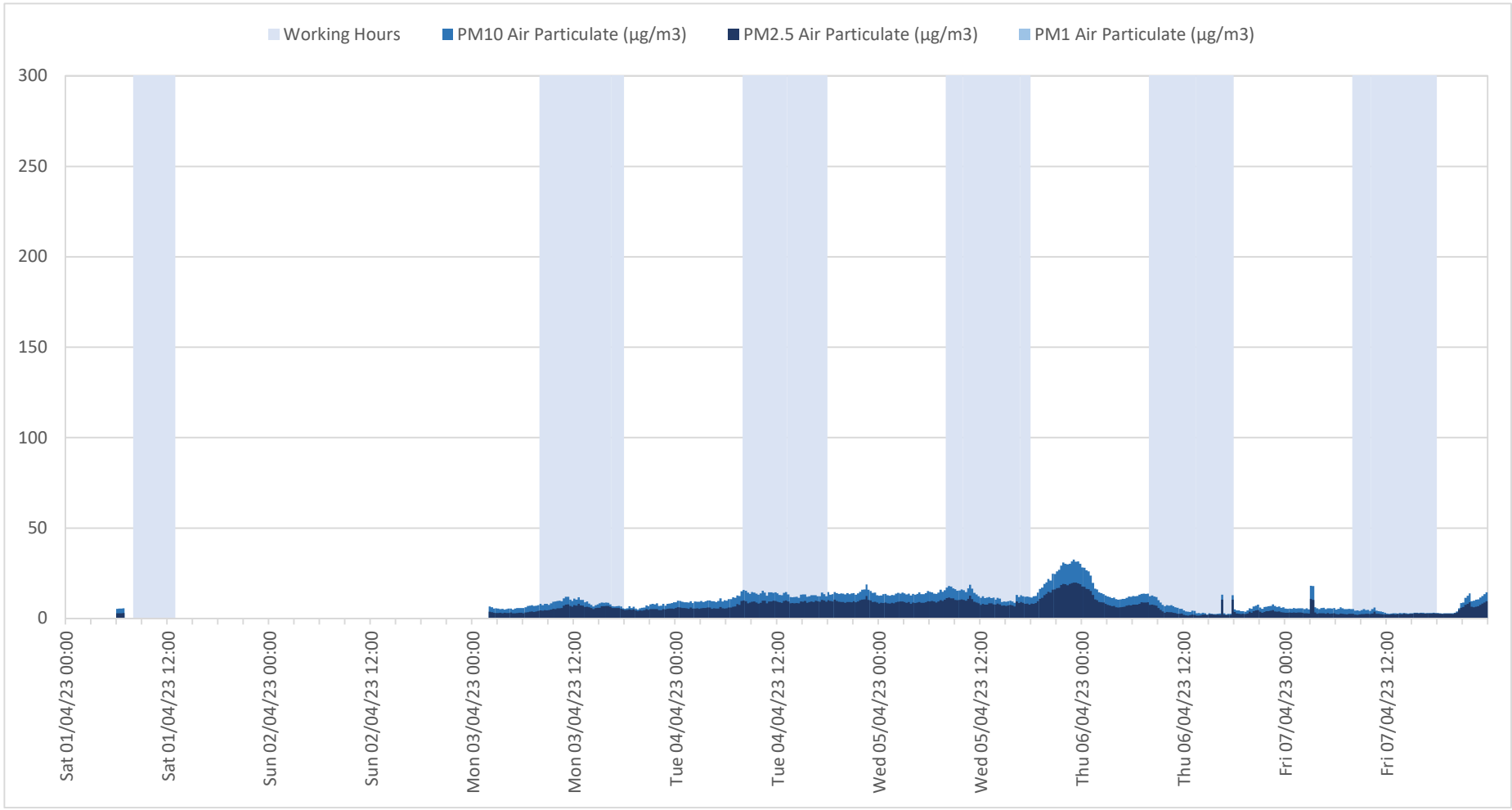


KPM-AP:26019-3.4-1

52 Avenue Road

Position 4

Saturday 01/04/2023 to Friday 07/04/2023

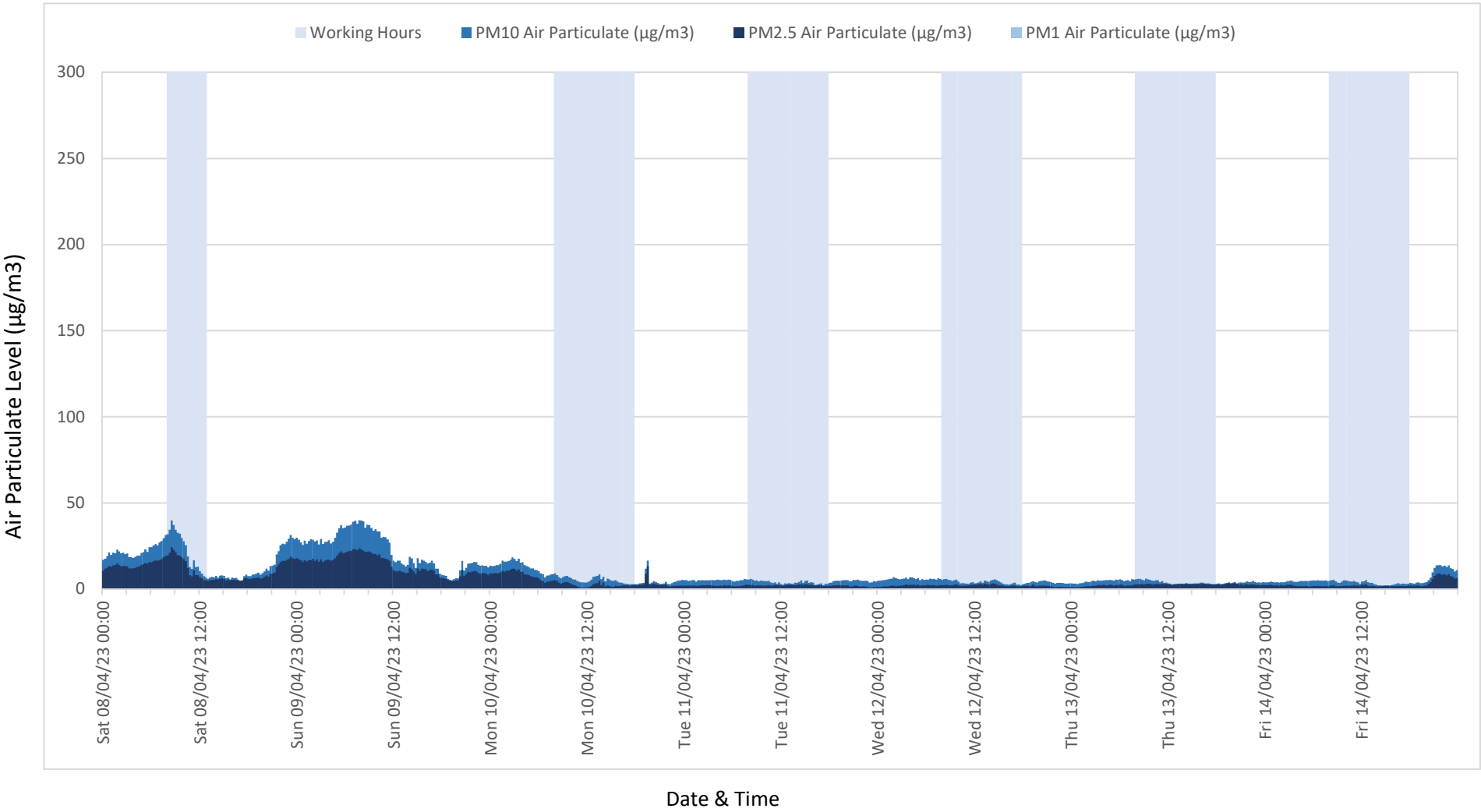


KPM-AP:26019-3.4-2

52 Avenue Road

Position 4

Saturday 08/04/2023 to Friday 14/04/2023

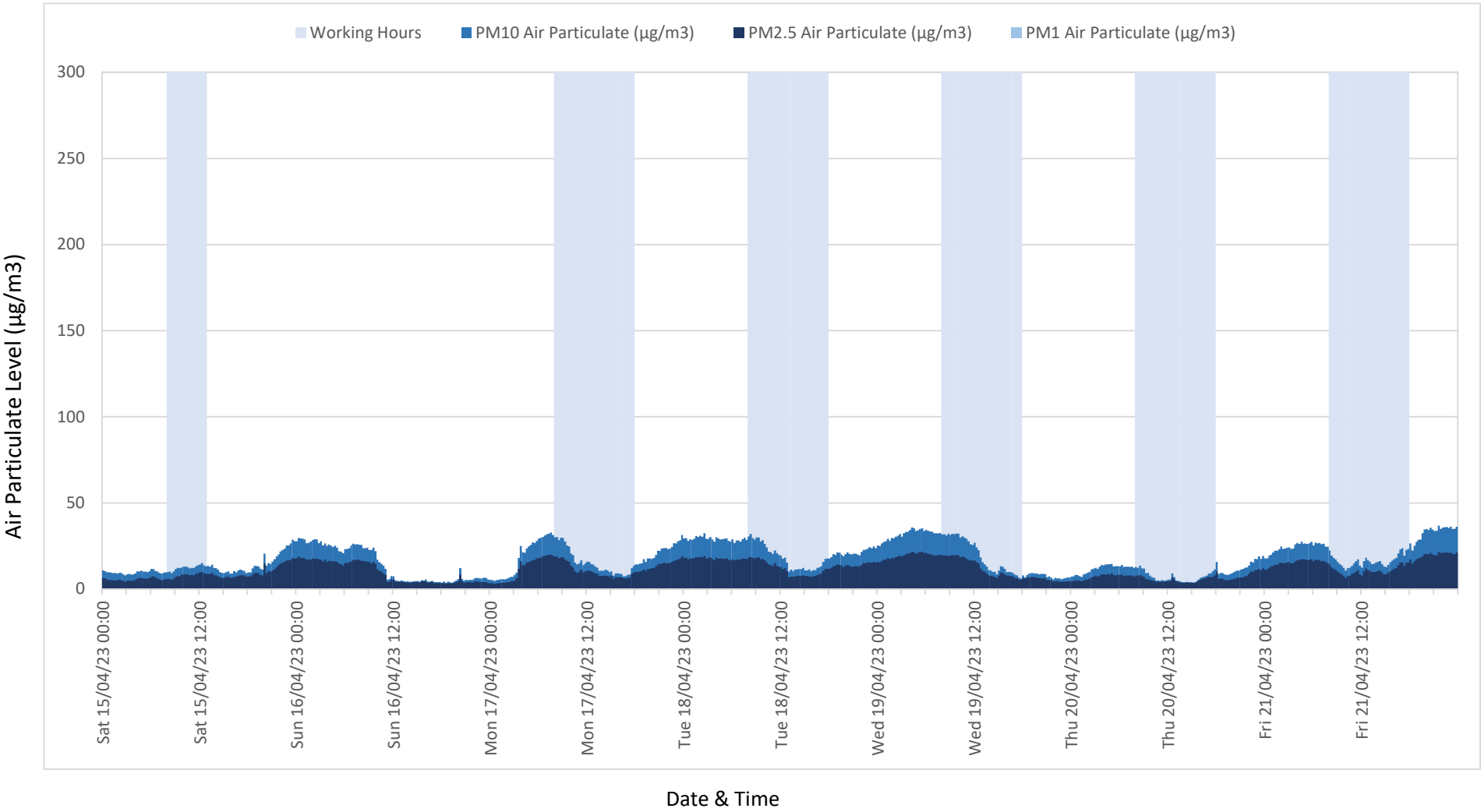


KPM-AP:26019-3.4-3

52 Avenue Road

Position 4

Saturday 15/04/2023 to Friday 21/04/2023

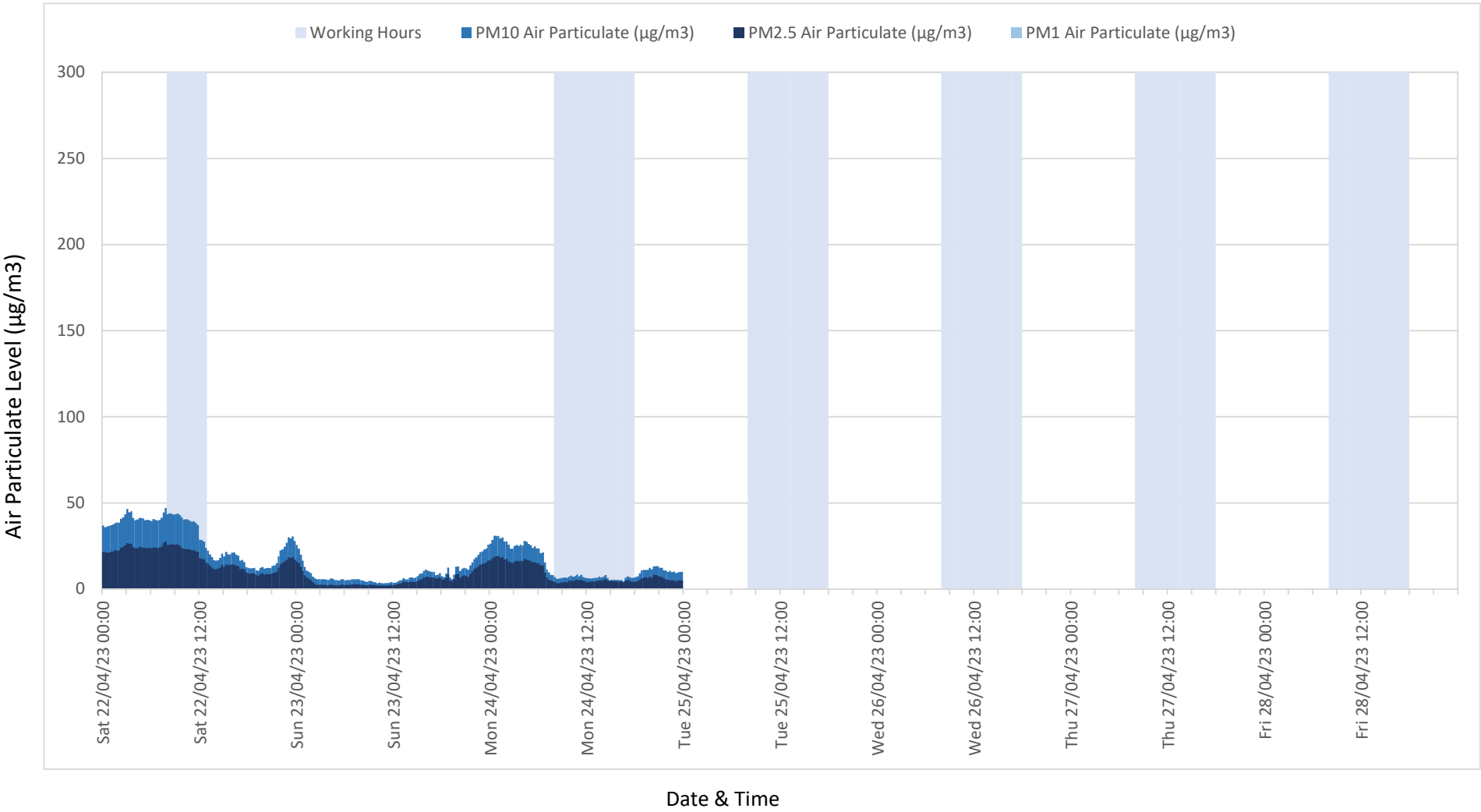


KPM-AP:26019-3.4-4

52 Avenue Road

Position 4

Saturday 22/04/2023 to Friday 28/04/2023



KPM-AP:26019-3.4-5