LAFARGE CANADA INC.

AMBIENT AIR QUALITY MONTHLY REPORT

APRIL 2021

MAY 25, 2021

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APRIL 2021

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-05
DATE: MAY 25, 2021

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May 25, 2021

LAFARGE CANADA INC.
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Exshaw, AB T0L 2C0

Attention: Nikolaos Veriotes P. Eng.

Dear Mr. Veriotes,

Subject: Ambient Air Quality Monthly Report – April 2021

The following table summarizes the data completeness and reported exceedances of Alberta Ambient Air Quality Objectives (AAAQOs) or Guidelines (AAAQG) at the Lagoon Station for April 2021.

Lagoon	Data Completeness (%)	1-Hour Average	24-hour Average
		Exceedances of AAAQO or AAAQG	Exceedances of AAAQO
TSP	99.2%	-	0
$PM_{2.5}$	96.7%	0	0
PM_{10}	99.4%	-	-
NO	99.6%	-	-
NO_2	99.6%	0	-
NO_x	99.6%	-	-
SO_2	100%	0	0
Met Parameters	100%	-	-

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The following table summarizes the data completeness and reported exceedances of Alberta Ambient Air Quality Objectives (AAAQOs) or Guidelines (AAAQG) at the Windridge Station for April 2021.

Windridge	Data Completeness (%)	1-Hour Average	24-hour Average	
		Exceedances of AAAQG	Exceedances of $PM_{2.5}$ AAAQO	Exceedances of TSP AAAQO
TSP	96.5%	-	-	4
$PM_{2.5}$	97.4%	0	0	-
PM_{10}	97.1%	-	-	-

The GRIMM monitors are considered Industrial Ambient Monitors and are meant for assessing the performance of Lafarge Exshaw's Fugitive Dust Control Best Management Practices – Program; the GRIMM monitors are not Air Monitoring Directive (AMD) compliant. This Program uses the AAAQOs as Guidelines. The following table summarizes the data completeness and reported exceedances of the Guidelines at the GRIMM Monitors for April 2021.

GRIMM Stations	Data Completeness (%)	1-Hour Average	24-hour Average	
		Exceedances of $PM_{2.5}$ Guidelines	Exceedances of $PM_{2.5}$ Guidelines	Exceedances of TSP Guidelines
West	92.1%	0	0	0
Berm	78.8%	0	0	7
Entrance	98.1%	0	0	15

I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements.

Sincerely,

Tyler Abel, M.Sc.
Team Leader, Environmental Management, Vancouver Office

SIGNATURES

PREPARED BY

May 25, 2021

Dylan Weyell, B.A.
Junior Air Quality Specialist, Environment

Date

APPROVED[1] BY *(must be reviewed for technical accuracy prior to approval)*

May 25, 2021

Tyler Abel, M.Sc.
Team Leader, Environmental Management,
Vancouver Region, Environment

Date

[1] Approval of this document is an administrative function indicating readiness for release and does not impart legal liability on to the Approver for any technical content contained herein. Technical accuracy and fit-for-purpose of this content is obtained through the review process. The Approver shall ensure the applicable review process has occurred prior to signing the document.

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1 INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon, Windridge, and GRIMM monitors in Exshaw, AB. The stations are operated by WSP on behalf of Lafarge Canada Inc. (Lafarge) and are a requirement of Lafarge's Approval 1702-02-04. This report contains data collected between April 1, 2021 and April 30, 2021.

This monthly report was prepared by Dylan Weyell, Junior Air Quality Specialist with WSP, on behalf of Lafarge and was reviewed by Tyler Abel, Team Leader of Environmental Management in the Vancouver Region at WSP.

1.1 EXSHAW CREEK FLOOD MITIGATION

Due to flood mitigation construction at Exshaw creek (Figure 1), the Windridge monitoring station was taken out of operation and removed from the site on April 8, 2019. The flood mitigation work was completed in Summer 2020. The Windridge station was reinstalled on September 1, 2020 and is included in this report.

Figure 1 Photo of Completed Flood Mitigation Work at Exshaw Creek

1.2 FUGITIVE DUST CONTRIBUTIONS FROM LAC DES ARCS

In April 2021, Lafarge environmental staff noted the potential contributions of fugitive dust in the airshed from the exposed lake bed of Lac Des Arcs, immediately southwest of the Lafarge plant site. Low water levels have left more of the lake shore/bed exposed this winter (Figure 2). During high wind events, the sediments from the exposed lake bed can be re-suspended, dispersed in air and become a significant source of fugitive dust impacting the community. This additional source of fugitive dust in the airshed would have an impact on ambient concentration of particulate matter at the monitor and exacerbate any dust originating from the plant site itself. Under high wind speeds (>20 km/hr) and paired with the exposed silt on Lac Des Arcs, fugitive dust from Lac Des Arcs was a potential contributor to ambient particulate matter concentrations and AAAQO exceedances in April 2021.

Figure 2 Photo of the exposed silt on Lac Des Arcs

2 APRIL 2021 REPORT SUMMARY

This summary section provides the pertinent details on data collected and maintenance/calibration activities at each of the monitoring locations. The monitoring results for the stations are described in further detail in their corresponding sections. Maximum hourly concentrations are shown for all particulate matter size fractions, but there are no Alberta Ambient Air Quality Objectives (AAAQO) for 1-hour PM concentrations. The exceedances reported for 1-hour $PM_{2.5}$ are those above the 1-hour $PM_{2.5}$ Alberta Ambient Air Quality Guidelines (AAAQG).

2.1 LAGOON STATION

Table 2-1 Lagoon station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
NO_2 (ppb)	99.6	29.1	0	9.7	-
SO_2 (ppb)	100.0	17.6	0	3.1	0
$PM_{2.5}$ (µg/m^3)	96.7	17.1	0[1]	8.0	0
PM_{10} (µg/m^3)	99.4	163.8	-	61.4	-
TSP (µg/m^3)	99.2	267.0	-	92.8	0
Temperature (°C)	100.0	19.0	-	14.6	-
Wind Speed (km/hr) /Direction (Degrees)	100.0	46.8/W	-	33.7/WSW	-
Precipitation (mm)	100.0	0.75[2]	-	11.75[3]	-

[1] Any exceedances reported for 1-hour $PM_{2.5}$ are over the guideline level (AAAQG) of 80 µg/m^3.
[2] Maximum Daily Total Accumulation of Precipitation (mm)
[3] Monthly Total Accumulation of Precipitation (mm)

Data Quality Notes:

- There were no exceedances of the 24-hour $PM_{2.5}$ AAAQO.
- There were no exceedances of the 1-hour $PM_{2.5}$ AAAQG.
- There were no exceedances of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- At the Lagoon station, meteorological sensors had 100% uptime for the month of April.
- NO_2 recorded 99.6% uptime due to 3 hours of non routine maintenance on April 2nd at 14:00 - 16:00.
- $PM_{2.5}$ recorded 96.7% uptime due to 20 hours of equipment malfunction on April 8th at 16:00 – April 9th at 10:00; and on April 10th at 2:00. Further, there were 4 hours of non routine maintenance on April 20th at 11:00 – 14:00.
- PM_{10} recorded 99.4% uptime due to 4 hours of non routine maintenance on April 20th at 11:00 – 14:00.
- TSP recorded 99.2% uptime due to 2 hours of equipment malfunction occurring on April 3rd at 2:00 and April 10th at 2:00. Further, there were 3 hours of non routine maintenance occurring on April 20th at 11:00 – 14:00.

2.2 WINDRIDGE STATION

Table 2-2 Windridge station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQG	Maximum Concentration	Exceedances of AAAQO
$PM_{2.5}$ (µg/m³)	97.4	33.0	0*	13.5	0
PM_{10} (µg/m³)	97.1	360.0	-	156.0	-
TSP (µg/m³)	96.5	467.0	-	210.4	4

* Any exceedances reported for 1-hour $PM_{2.5}$ are over the guideline level (AAAQG) of 80 µg/m³.

Data Quality Notes:

- There were no exceedances of the 24-hour $PM_{2.5}$ AAAQO.
- There were no exceedances of the 1-hour $PM_{2.5}$ AAAQG.
- There were 4 days exceeding the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- TSP recorded 96.5% uptime due to 21 hours of equipment malfunction occurring on April 19th at 20:00 to April 20th at 14:00; April 21st at 2:00; April 22nd at 2:00. And further, there were 4 hours of non routine maintenance due to pump failure occurring on April 21st at 17:00 – 20:00.
- PM_{10} recorded 97.1% uptime due to 20 hours of equipment malfunction occurring on April 19th at 19:00 to April 20th at 13:00; and April 21st at 11:00. And further, there was one hour of non routine maintenance occurring on April 21st at 17:00.
- $PM_{2.5}$ recorded 97.4% uptime due to 18 hours of equipment malfunction occurring on April 20th at 11:00 – 13:00; April 21st at 2:00; April 21st at 4:00 – 16:00; April 22nd at 2:00. And further, there was one hour of non routine maintenance on April 21st at 17:00.

2.3 WEST GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their Fugitive Dust Control Best Management Practices – Program (FDCBMP-P). The AAAQO are used as Guidelines to evaluate the performance of the FDCBMP-P; however, these Industrial monitors are not Alberta Air Monitoring Directive (AMD) compliant and not required to show compliance with the AAAQO.

Table 2-3 West station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
$PM_{2.5}$ (µg/m^3)	92.1	13.5	0*	11.2	0
PM_{10} (µg/m^3)	92.1	50.2	-	15.6	-
TSP (µg/m^3)	92.1	423.5	-	49.9	0

* Any exceedances reported for 1-hour $PM_{2.5}$ are over the guideline level (AAAQG) of 80 µg/m^3.

Data Quality Notes:

- There were no exceedance of the 24-hour $PM_{2.5}$ Guidelines.
- There were no exceedances of the 1-hour $PM_{2.5}$ Guidelines.
- There were no exceedances of the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 92.1% uptime for the month of April due to 40 hours of equipment malfunction on April 1st at 1:00 – April 2nd at 16:00. Further, 17 hours of collection error from April 19th at 9:00 – April 20th at 1:00.

2.4 BERM GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their FDCBMP-P. The AAAQO are used as Guidelines to evaluate the performance of the FDCBMP-P; however, these Industrial monitors are not Alberta Air Monitoring Directive (AMD) compliant and not required to show compliance with the AAAQO.

Table 2-4 Berm station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
$PM_{2.5}$ (µg/m^3)	78.8	69.3	0*	26.6	0
PM_{10} (µg/m^3)	78.8	463.5	-	167.4	-
TSP (µg/m^3)	78.8	1518.5	-	477.6	7

* Any exceedances reported for 1-hour $PM_{2.5}$ are over the guideline level (AAAQG) of 80 µg/m^3.

Data Quality Notes:

- There were no exceedances of the 24-hour $PM_{2.5}$ Guidelines.
- There were no exceedances of the 1-hour $PM_{2.5}$ Guidelines.
- There were 7 days exceeding the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 78.8% uptime during the month of April due to 28 hours of collection error from April 18th at 22:00 to April 20th at 1:00. Further, 105 hours of power failure occurring between April 24th at 2:00 to April 29th at 6:00.

2.5 ENTRANCE GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their FDCBMP-P. The AAAQO are used as Guidelines to evaluate the performance of the FDCBMP-P; however, these Industrial monitors are not Alberta Air Monitoring Directive (AMD) compliant and not required to show compliance with the AAAQO.

Table 2-5 Entrance station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
$PM_{2.5}$ (µg/m^3)	98.1	77.0	0*	16.1	0
PM_{10} (µg/m^3)	98.1	400.0	-	90.9	-
TSP (µg/m^3)	98.1	922.4	-	289.2	15

* Any exceedances reported for 1-hour $PM_{2.5}$ are over the guideline level (AAAQG) of 80 µg/m^3.

Data Quality Notes:

- There were no exceedances of the 24-hour $PM_{2.5}$ Guidelines.
- There were no exceedances of the 1-hour $PM_{2.5}$ Guidelines.

- There were 15 days exceeding the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 98.1% uptime for the month of April due to 14 hours of collection error occurring between April 19th at 1:00 - 14:00.

3 LAGOON STATION

The Lagoon trailer contains NO_x, SO_2, TSP, PM_{10}, and $PM_{2.5}$ analyzers as well as meteorological sensors, and is shown in Figure 3-1. An ambient air quality station has been at this location since 2002, providing a long-term data record for air quality in the Exshaw area.

This section provides a summary of the monitoring activities for the Lagoon ambient air quality station, including: a table of instrumentation (Table 3-1), a data summary table (Table 3-2), site visit notes, a wind rose (Figure 3-2) and tables and graphs illustrating the monitoring results for April 2021.

All of the monitors comply with Alberta Environment and Parks Air Monitoring Directive (2016).

3.1 OPERATIONAL SUMMARY

A summary of the station operation for the month is provided in Table 3-1.

Table 3-1 Instrumentation List at the Lagoon Station

Parameter Measured	Equipment Description	Notes
$PM_{2.5}$ Concentrations	MetOne BAM-1020 FRM Continuous Particulate Monitor	The $PM_{2.5}$ monitor was calibrated on April 9th. The monitor had 96.7% uptime in April due to twenty hours of equipment malfunction on April 8th at 16:00 – April 9th at 10:00; and on April 10th at 2:00. And further, four hours of non routine maintenance on April 20th at 11:00 – 14:00
PM_{10} Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM_{10} monitor was calibrated on April 9th & 21st. The monitor had 99.4% uptime in April due to four hours of non routine maintenance on April 20th at 11:00 – 14:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on April 9th. The monitor had 99.2% uptime in April due to two hours of equipment malfunction occurring on April 3rd at 2:00 and April 10th at 2:00. And Ffrther, four hours of non routine maintenance occurring on April 20th at 11:00 – 14:00.
Oxides of Nitrogen	TEI 42C	The NO_x monitor was calibrated on April 21st. The monitor had 99.6% uptime in April due to three hours of non routine maintenance on April 2nd at 14:00 - 16:00.
Sulphur Dioxide	Teledyne API 102A	The SO_2 monitor was calibrated on April 21st. The monitor had 100% uptime for the month of April.

Precipitation	MetOne 130 Rain/Snow Gauge	The monitor had 100% uptime for the month of April.
Wind Speed	MetOne Wind Sensor	The monitor had 100% uptime for the month of April.
Wind Direction		
Ambient Temperature	MetOne Ambient Temperature Sensor	The monitor had 100% uptime for the month of April.

Figure 3-1 Inlets on the top of WSP's Lagoon monitor

3.2 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 3-2) illustrates the frequency of wind speed by wind direction for April at the Lagoon monitoring station. The wind rose indicates that the winds predominantly came from the west direction with lighter winds prevailing from the east.

Table 3-2 summarizes the hourly and daily concentrations recorded in April 2021.

Figure 3-3 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-9 shows daily average concentrations recorded during April 2021 for the pollutants listed in Table 3-2. Additionally, Figure 3-4 to Figure 3-8 show the histograms of the hourly concentrations of NO_2, SO_2, $PM_{2.5}$, PM_{10}, and TSP measured at the Lagoon station.

There were no exceedances of the 24-hour TSP (100 µg/m^3) AAAQO. There were no exceedances of the 24-hour $PM_{2.5}$ (29 µg/m^3) AAAQO. Further, there was no exceedances of the 1-hour $PM_{2.5}$ AAAQG (80 µg/m^3).

Historically in April, the average number of 24-hour TSP AAQO exceedances and 24-hour $PM_{2.5}$ AAAQO exceedances are both zero.

Further, the low precipitation and strong wind gusting that occurred in April would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, a section of exposed silt on Lac Des Arcs lake (Section 1.2), dry sections of the Bow River, roads (sanding from previous snowstorms) and open areas.

Table 3-2 Summary of April 2021 data at Lagoon

Parameter	Guideline / Objectives		Station	Exceedances		Monthly		1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable	Day	
NO_2 (ppb)	159	-	Lagoon	0	-	0.0	5.2	29.1	3	7	3.6	353.7	9.7	16	99.6
SO_2 (ppb)	172	48	Lagoon	0	0	0.0	0.3	17.6	17	9	16.8	279.5	3.1	17	100.0
$PM_{2.5}$ (µg/m^3)	80	29	Lagoon	0	0	0.0	3.4	17.1	13	9	15.8	283.4	8.0	6	96.7
PM_{10} (µg/m^3)	-	-	Lagoon	-	-	0.0	20.8	163.8	7	12	39.6	265.9	61.4	7	99.4
TSP (µg/m^3)	-	100	Lagoon	-	0	0.0	30.4	267.0	7	12	39.6	265.9	92.8	7	99.2
Temperature (°C)	-	-	Lagoon	-	-	-8.3	3.9	19.0	17	15	14.0	243.2	14.6	30	100.0
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	1.5	16.5	46.8/W	7	14	46.8	255.9	33.7/WSW	30	100.0
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.0	0.8	12	12	5.8	120.7	11.8		100.0

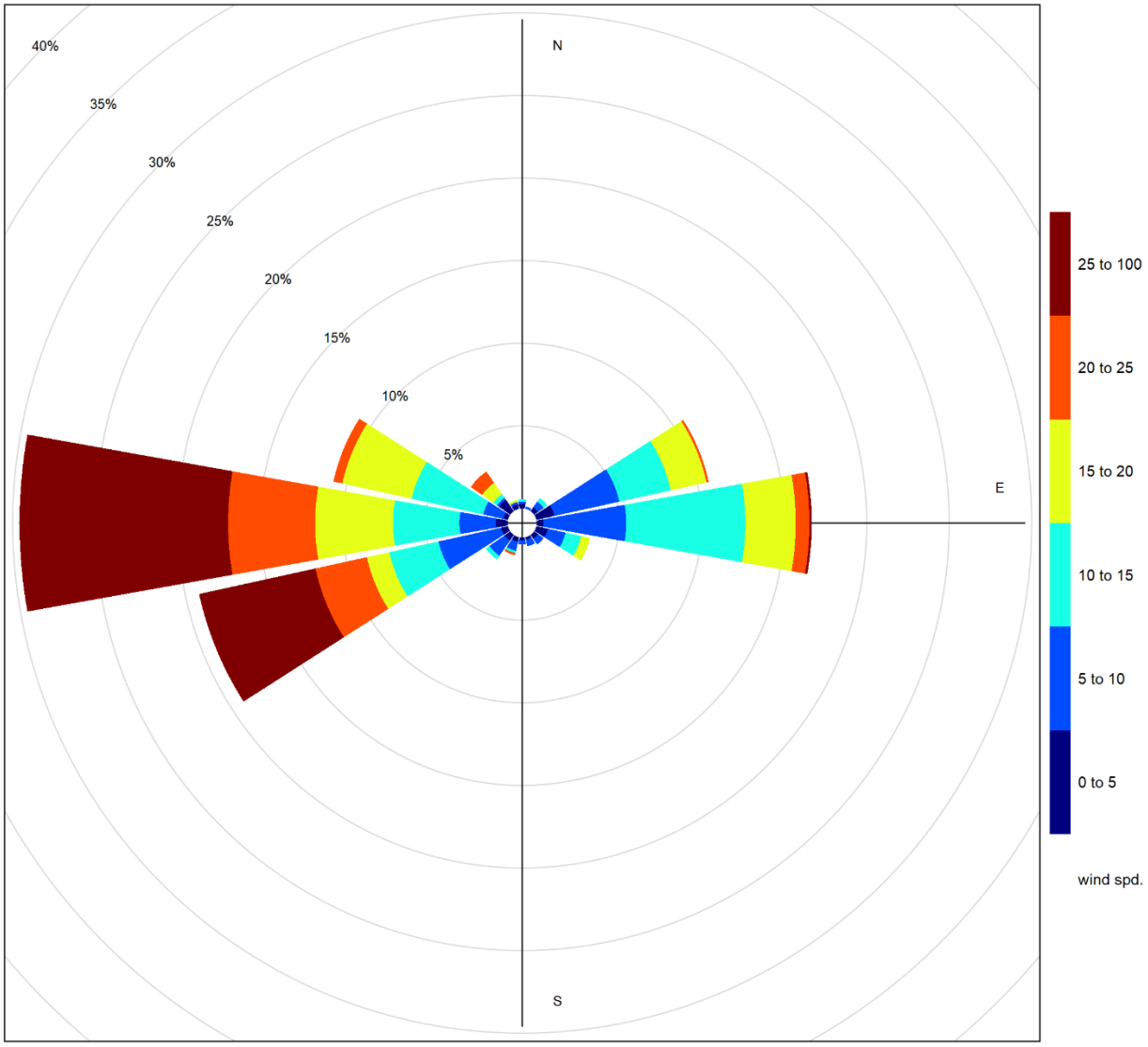


Figure 3-2 April 2021 wind rose for the Lagoon Station

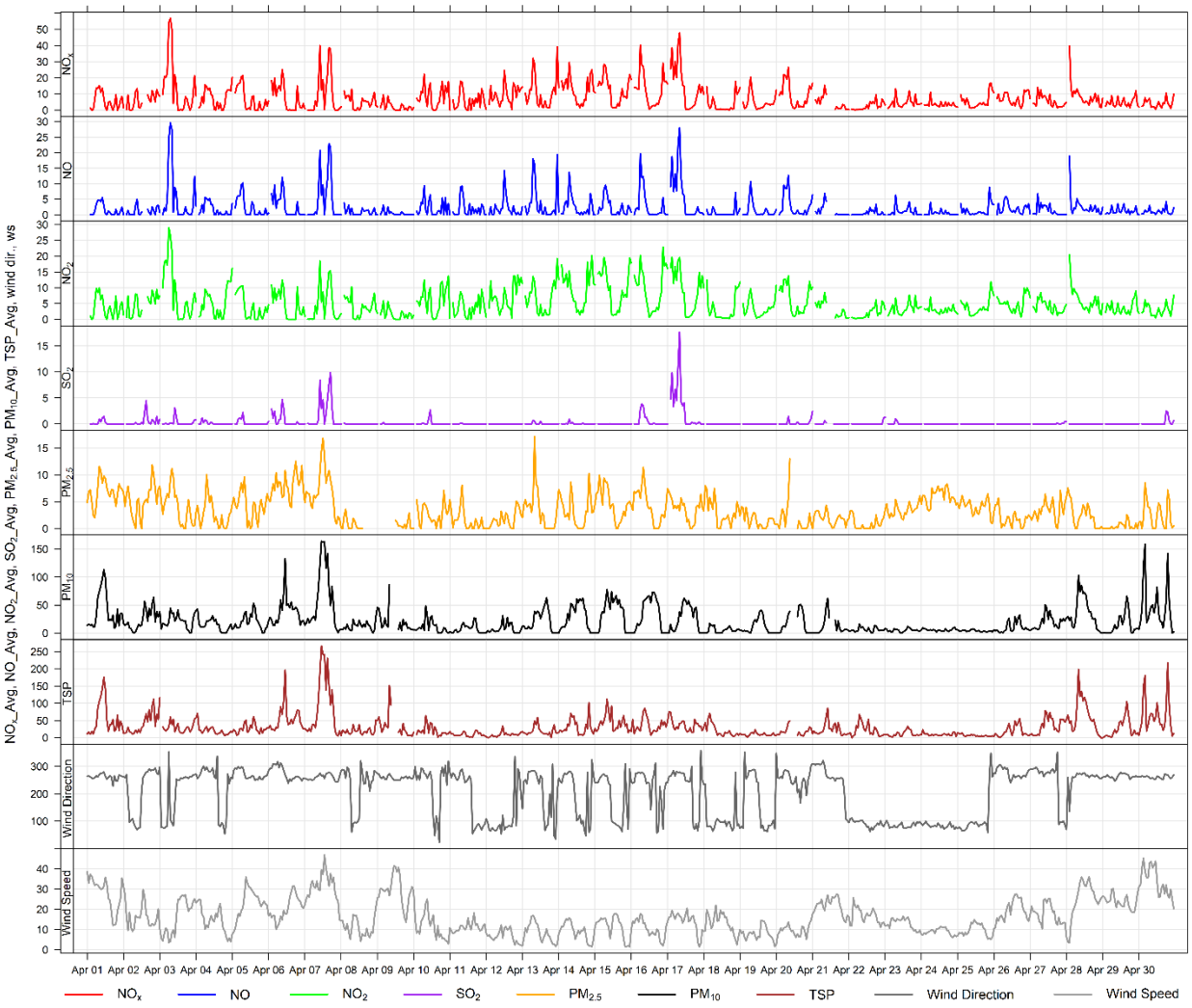


Figure 3-3 **1-hour concentrations of NO_x, SO_2, particulate matter, wind direction and wind speed at the Lagoon station**

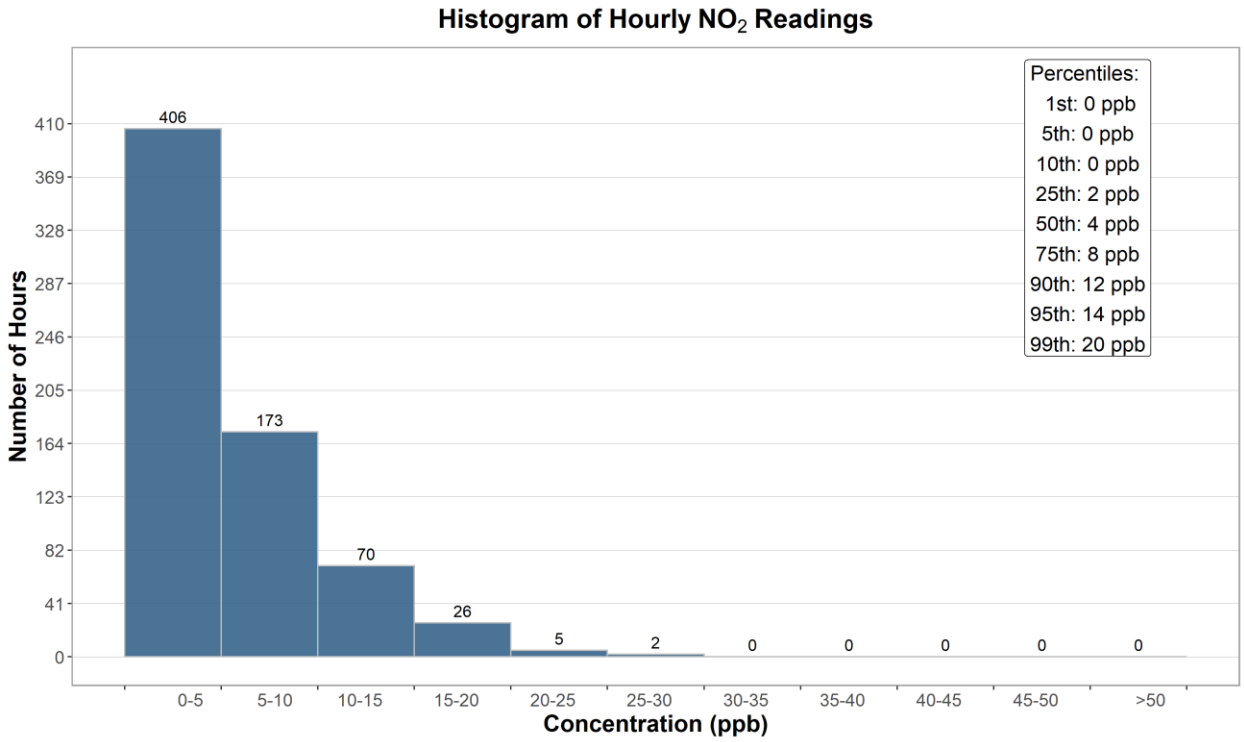


Figure 3-4 **Histogram of hourly NO_2 concentrations at the Lagoon station**

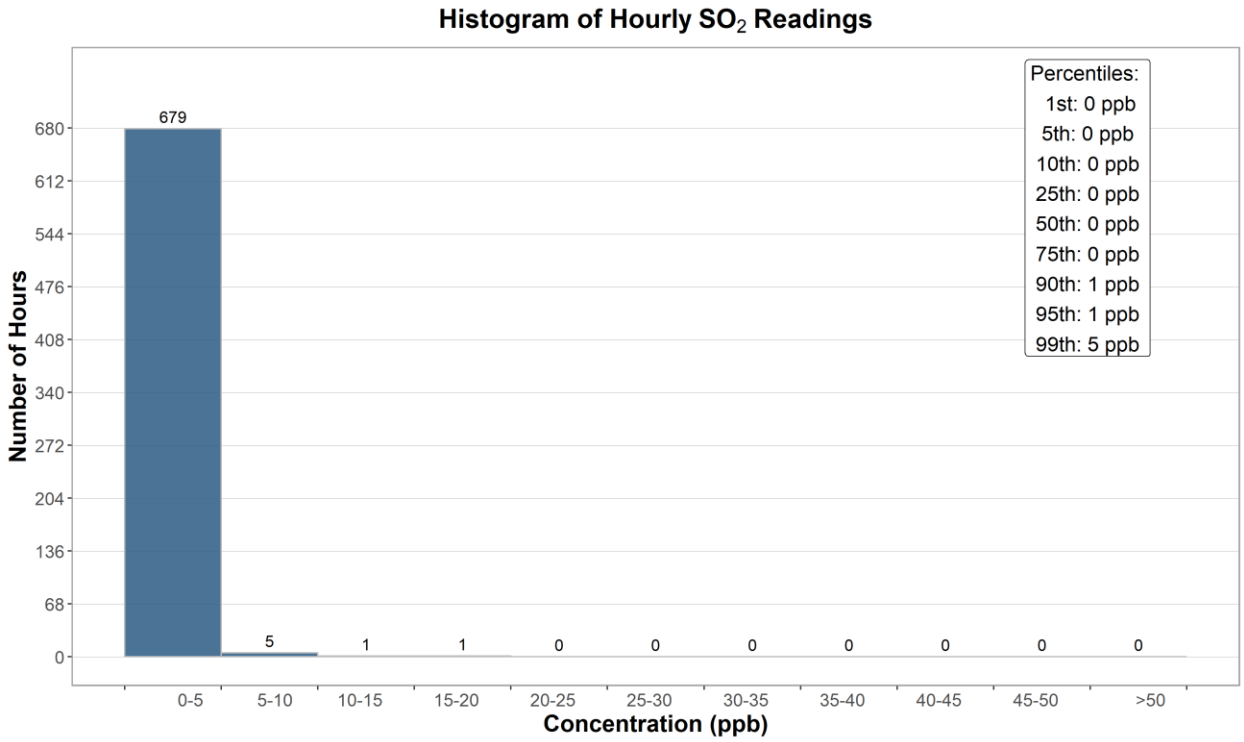


Figure 3-5 **Histogram of hourly SO_2 concentrations at the Lagoon station**

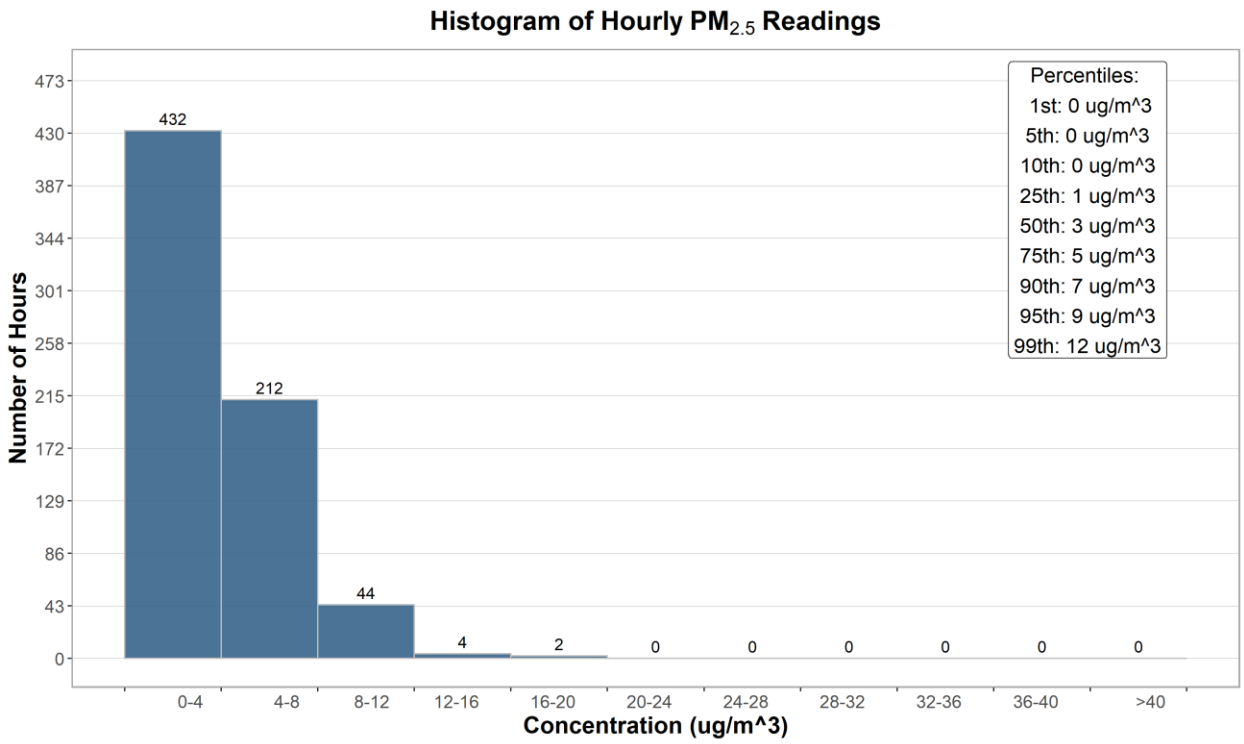


Figure 3-6 **Histogram of hourly $PM_{2.5}$ concentrations at the Lagoon station**

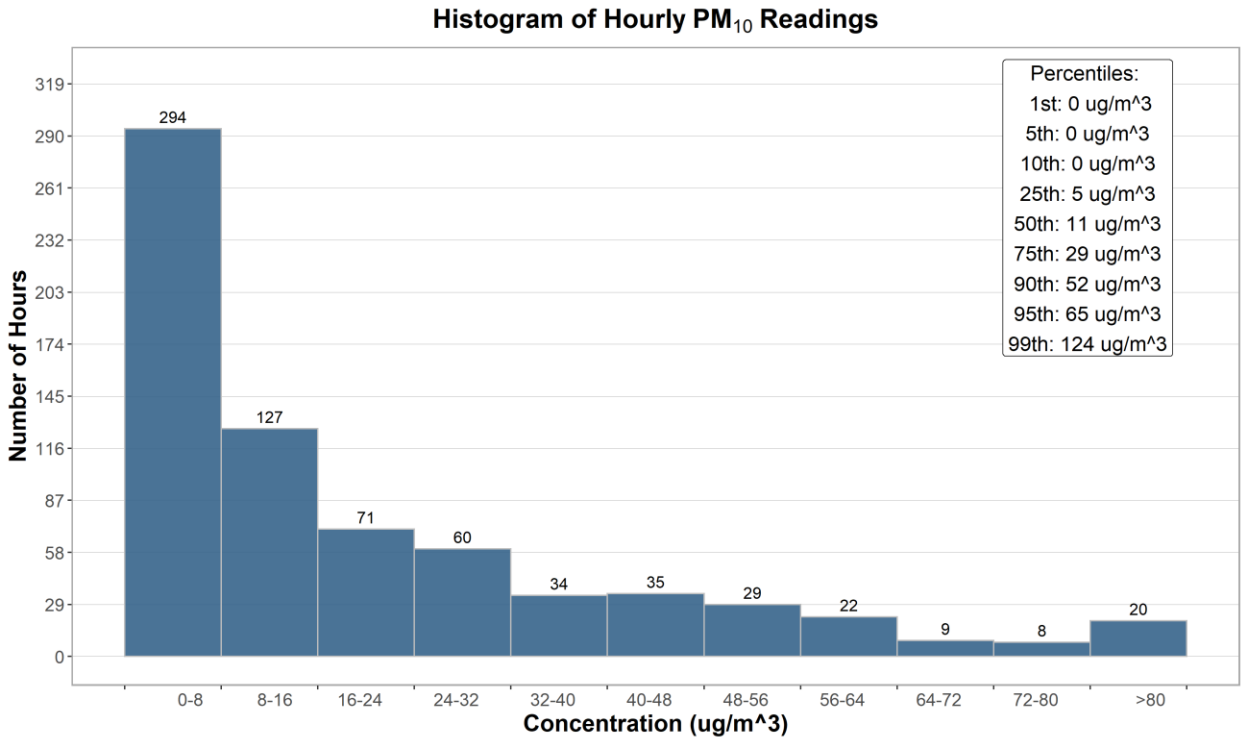


Figure 3-7 **Histogram of hourly PM_{10} concentrations at the Lagoon station**

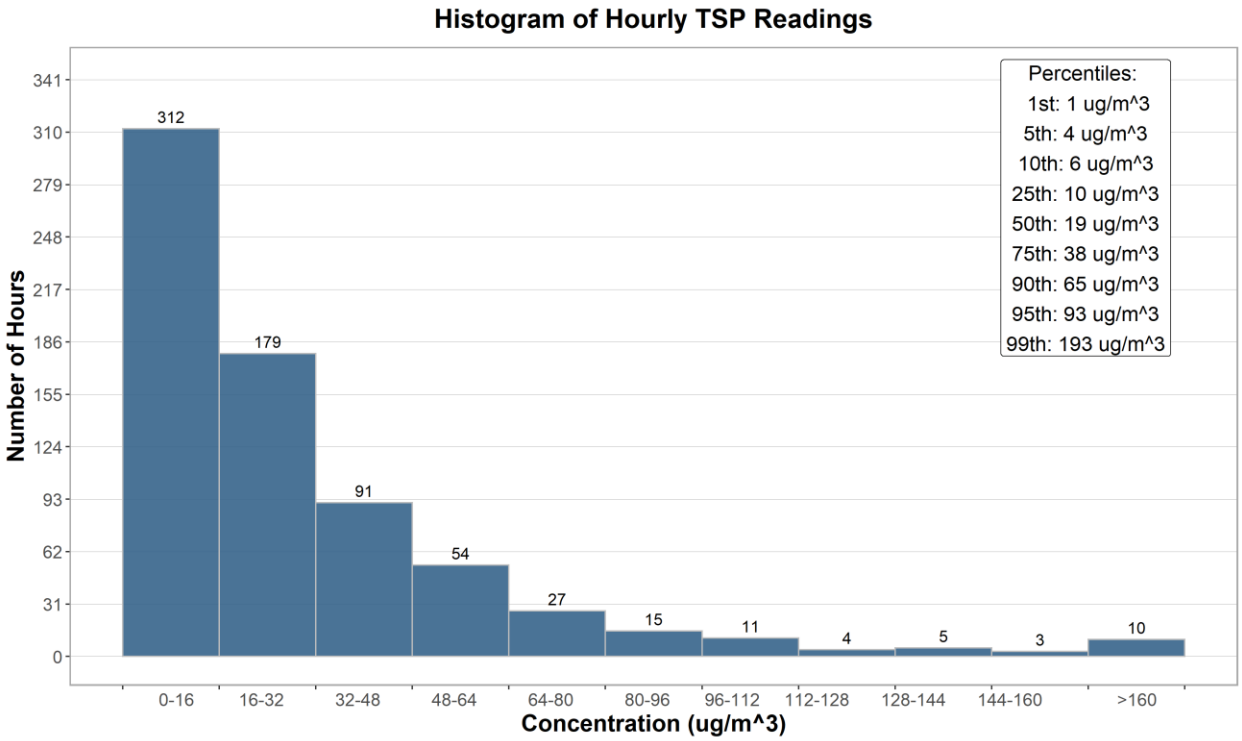


Figure 3-8 Histogram of hourly TSP concentrations at the Lagoon station

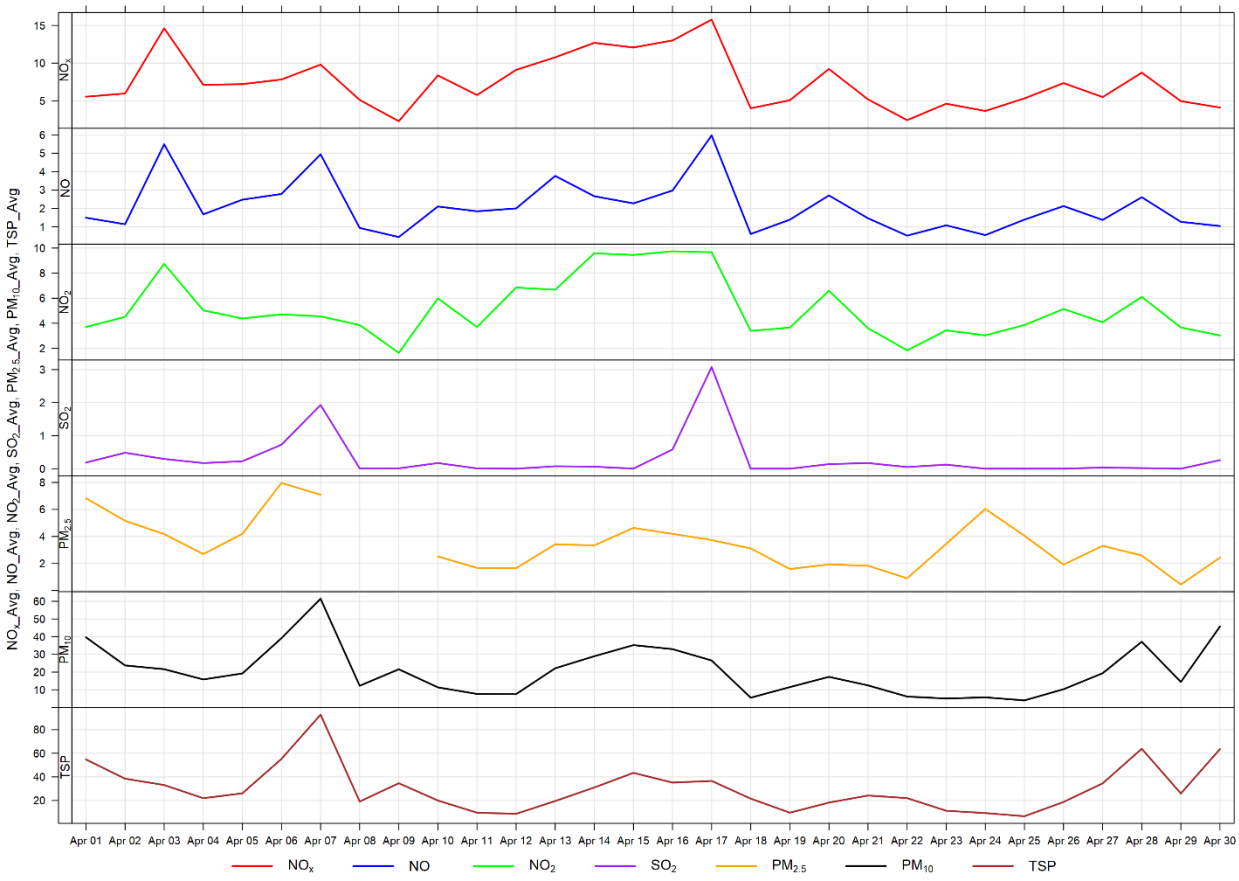


Figure 3-9 24-hour concentrations of NO_x, SO_2, and particulate matter at the Lagoon monitor

Figure 3-10 through Figure 3-12 show the variation in concentrations over various time averaging periods for PM, SO_2 and NO_x. The particulate matter plot in Figure 3-10 shows that PM_{10} and TSP concentrations shows a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other activities. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.

Figure 3-11 shows the variation of SO_2 over various time periods. SO_2 concentrations patterns are dependent on the timing of the highest SO_2 concentrations recorded in the month because in general SO_2 concentrations are very low. Figure 3-12 shows the variation of NO_x, NO and NO_2, with the peak of all three pollutants occurring in the early morning. This may be indicative of a peak in traffic.

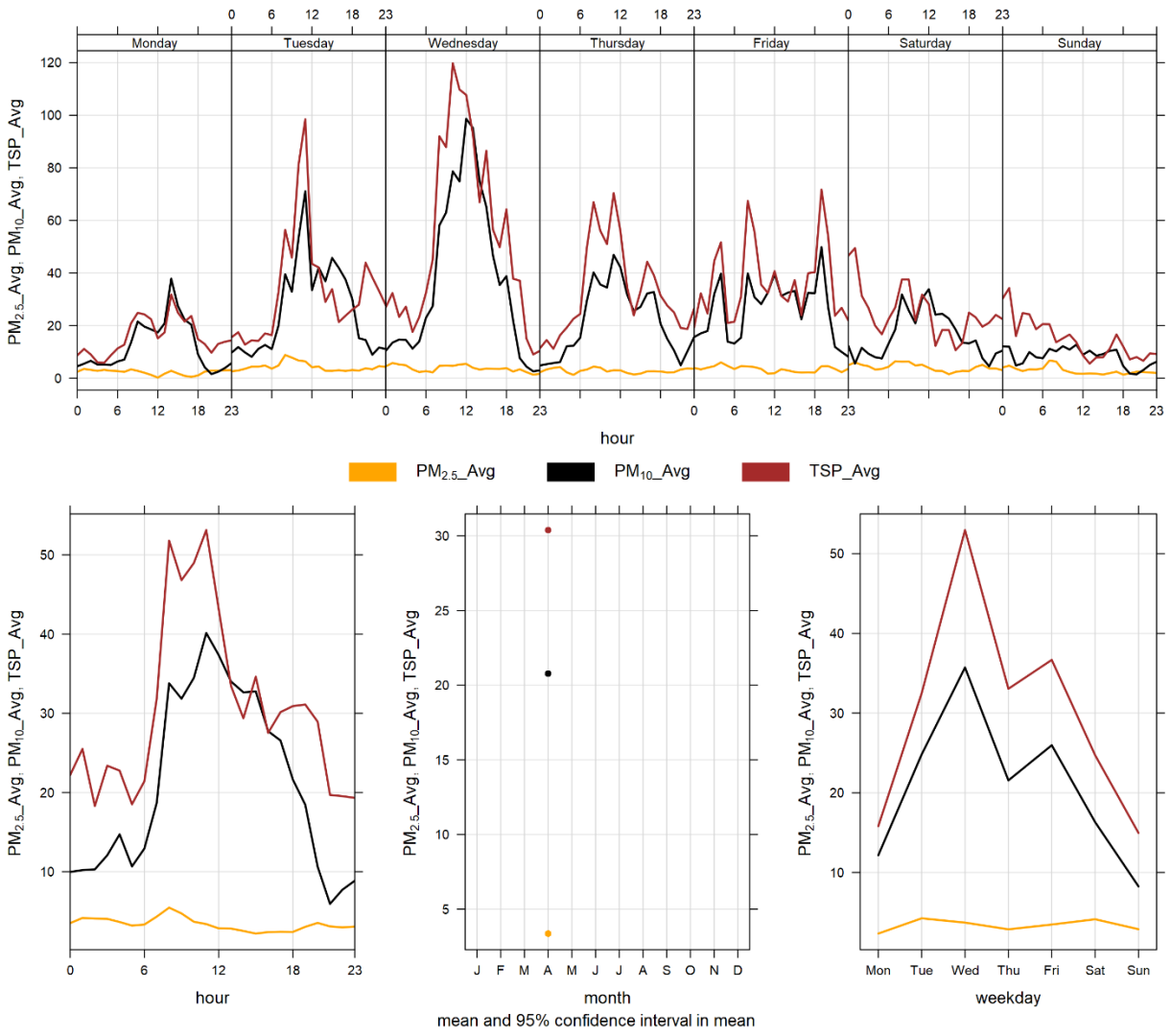


Figure 3-10 Lagoon monitor particulate matter time variation

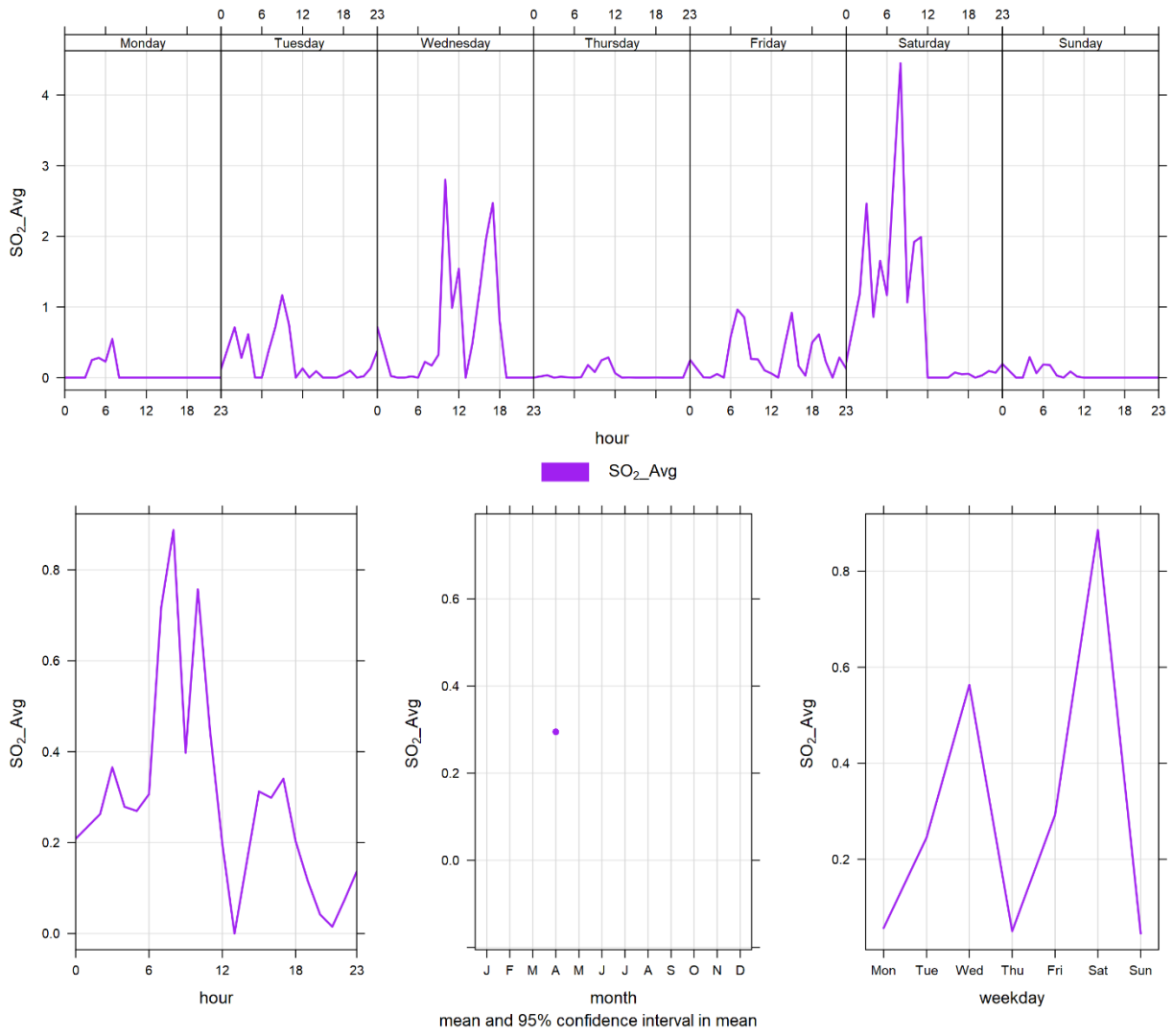


Figure 3-11 Lagoon monitor SO_2 time variation

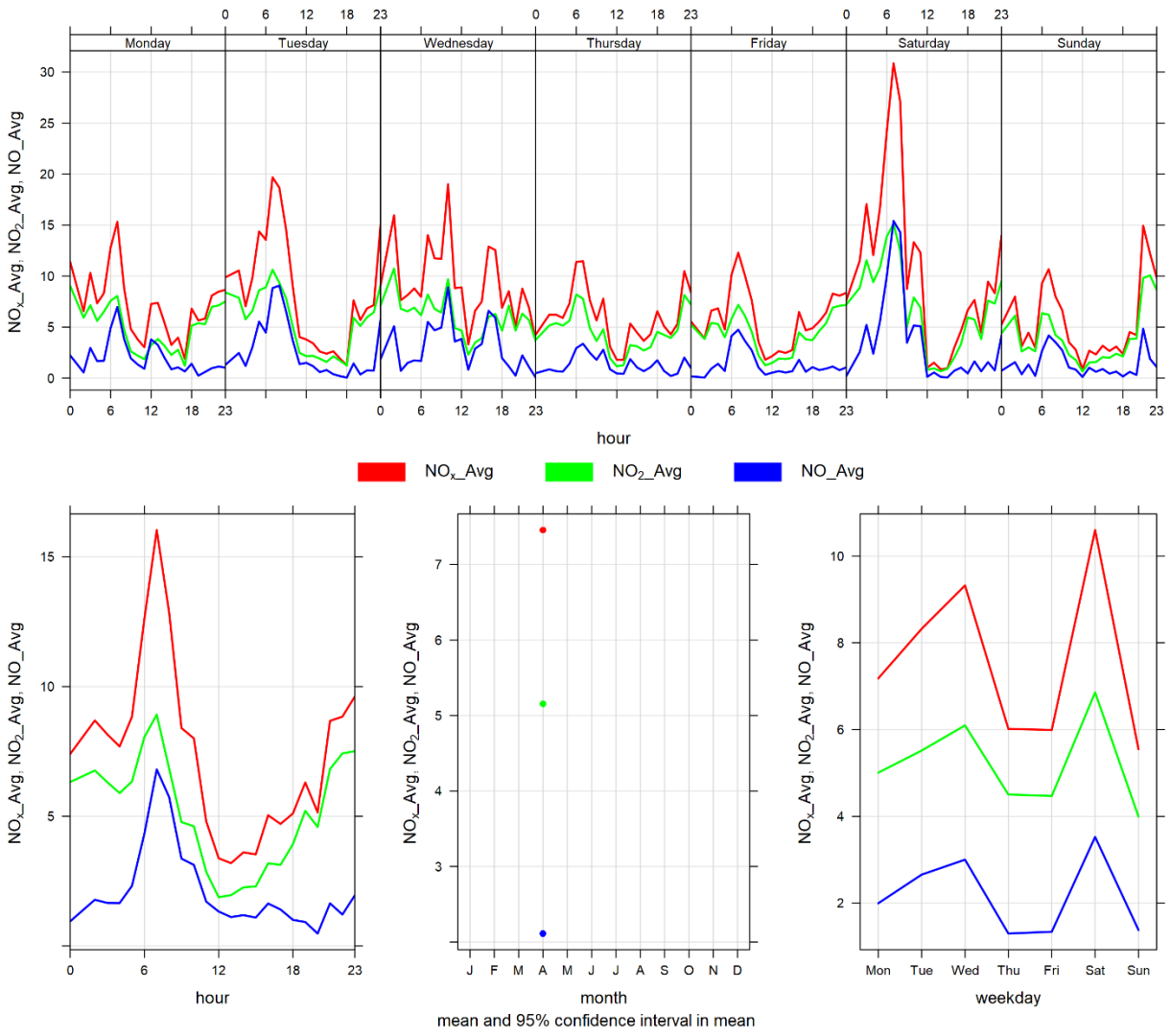


Figure 3-12 Lagoon monitor NO_x time variation

4 WINDRIDGE STATION

The Windridge station contains TSP, PM_{10}, and $PM_{2.5}$ analyzers only. This section provides a summary of the monitoring activities for the Windridge ambient air quality station, including: a table of instrumentation (Table 4-1), a data summary table (Table 4-2), a table of recorded exceedances (Table 4-3), site visit notes, and graphs illustrating the monitoring results for April 2021.

All of the monitors comply with Alberta Environment and Parks Air Monitoring Directive (2016).

4.1 OPERATIONAL SUMMARY

A summary of the station operation for the month is provided in Table 4-1.

Table 4-1 Instrumentation List at the Windridge monitoring location

Parameter Measured	Equipment Description	Notes
$PM_{2.5}$ Concentrations	MetOne BAM-1020 FRM Continuous Particulate Monitor	The $PM_{2.5}$ monitor was calibrated on April 20th. The monitor had 97.4% uptime due to 18 hours of equipment malfunction occurring on April 20th at 11:00 – 13:00; April 21st at 2:00; April 21st at 4:00 – 16:00; April 22nd at 2:00. And further, one hour of non routine maintenance on April 21st at 17:00.
PM_{10} Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM_{10} monitor was calibrated on April 20th. The monitor had 97.1% uptime due to 20 hours of equipment malfunction occurring on April 19th at 19:00 - April 20th at 13:00; and April 21st at 11:00. And further, one hour of non routine maintenance occurring on April 21st at 17:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on April 20th. The monitor had 96.5% uptime due to 21 hours of equipment malfunction occurring on April 19th at 20:00 to April 20th at 14:00; April 21st at 2:00; April 22nd at 2:00. And further, four hours of non routine maintenance due to pump failure occurring on April 21st at 17:00 – 20:00.

4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in April 2021, and Table 4-2 summarizes the recorded exceedances. Figure 4-1 illustrates the time series for hourly PM, Figure 4-2 to Figure 4-4 illustrate the histograms for hourly PM, Figure 4-5 illustrates the time series for daily PM, Figure 4-6 displays the wind rose for the 24-hour TSP exceedance days, and Figure 4-7 illustrates the time series for hourly PM over different time periods.

There were zero exceedances of the 24-hour $PM_{2.5}$ AAAQO, zero exceedances of the 1-hour $PM_{2.5}$ AAAQG, and 4 exceedances of the 24-hour TSP AAAQO. TSP exceedances occurred primarily on days with high westerly wind speeds.

Historically in April, the average number of 24-hour TSP AAAQO exceedances and 24-hour $PM_{2.5}$ AAAQO exceedances is 0 and 0, respectively.

Due to flood mitigation construction at Exshaw creek the Windridge monitoring station was taken out of operation and removed from the site on April 8, 2019. The flood mitigation work was completed in August 2020. The Windridge station was reinstalled for September 1st, 2020. As per the photo presented in section 1.1 the flood mitigation work has left an exposed creek bed area immediately west of the Windridge monitor that may contribute to an increase in TSP levels. Further, the low precipitation and strong wind gusting that occurred in April would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, a section of exposed silt on Lac des Arcs lake (Section 1.2), dry sections of the Bow River, roads (sanding from previous snowstorms) and open areas. All of the TSP exceedances recorded were associated with high wind events in April.

Table 4-2 Summary of April 2021 data at the Windridge Station

Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
$PM_{2.5}$ ($\mu g/m^3$)	80	29	Windridge	0	0	0.0	4.2	33.0	20	16	6.4	216.3	13.5	7	97.4
PM_{10} ($\mu g/m^3$)	-	-	Windridge	-	-	0.0	35.6	360.0	7	14	46.8	255.9	156.0	7	97.1
TSP ($\mu g/m^3$)	-	100	Windridge	-	4	0.0	51.0	467.0	9	9	26.7	273.4	210.4	7	96.5

Table 4-3 Days exceeding the TSP AAAQO or $PM_{2.5}$ AAAQO at the Windridge Station

Date	TSP (ug/m^3)	$PM_{2.5}$ (ug/m^3)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Windridge						
2021-04-01	105.0	-	263.2	28.1	34.9	High wind event
2021-04-07	210.4	-	261.3	31.3	40.0	High wind event
2021-04-09	118.3	-	258.2	29.4	49.2	High wind event
2021-04-30	142.3	-	261.0	33.7	31.1	High wind event
Total # of Exceedances	**4**	**0**				
Maximum # of Exceedances (April)	**0 (2018)**	**0 (2018)**				
Average # of Exceedances (April)	**0**	**0**				
Minimum # of Exceedances (April)	**0 (2018)**	**0 (2018)**				

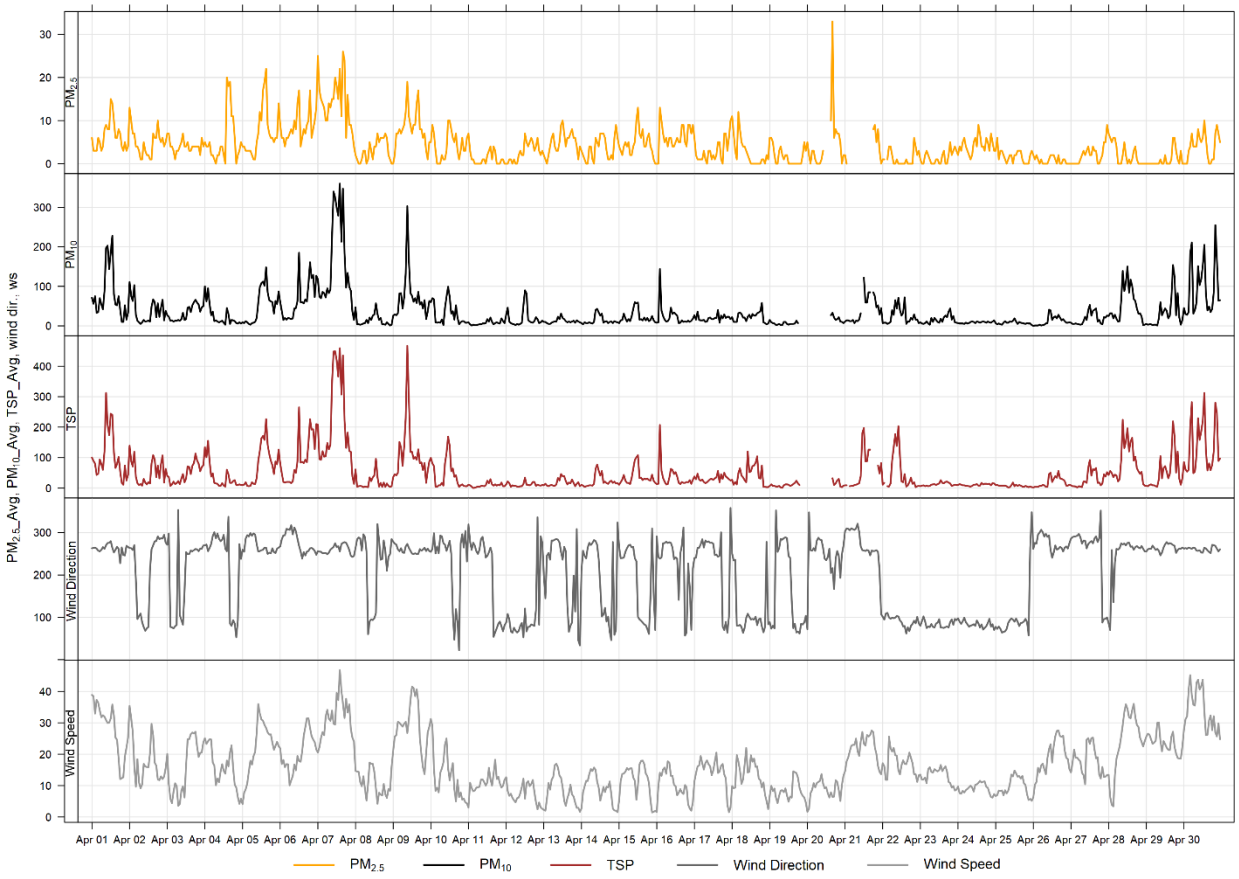


Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

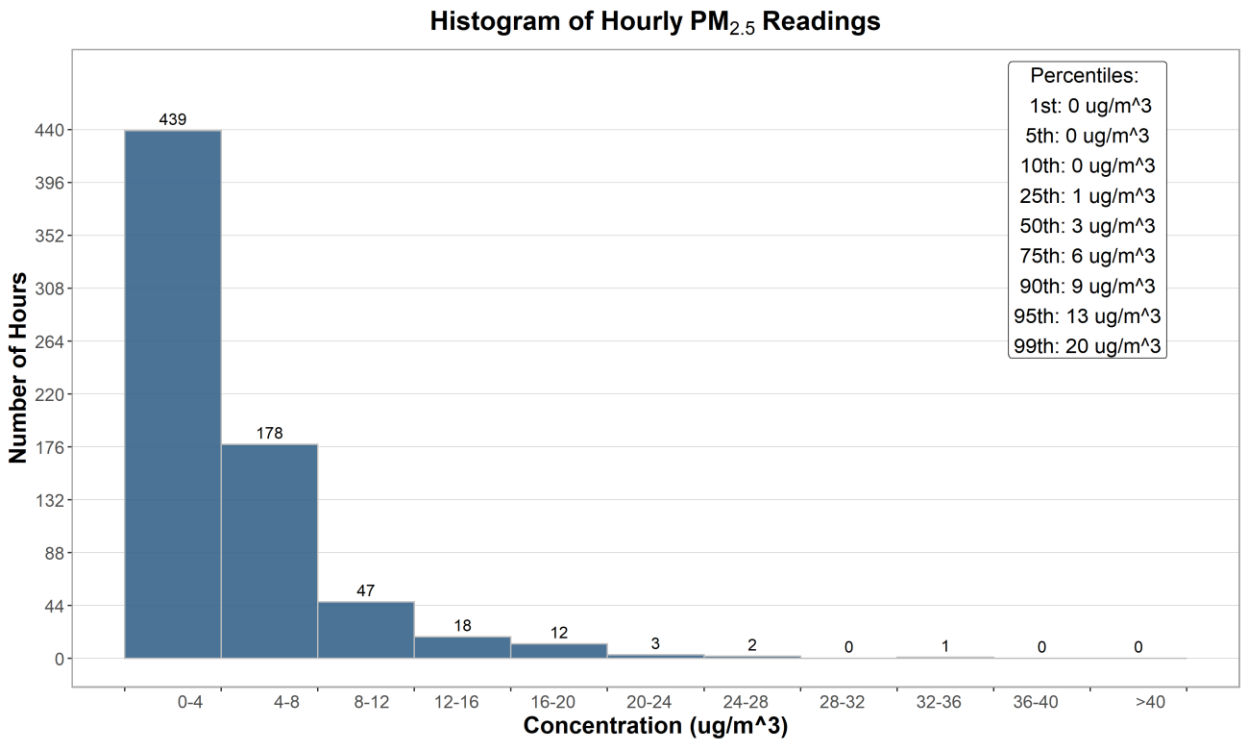


Figure 4-2 **Histogram of hourly $PM_{2.5}$ concentrations at the Windridge station**

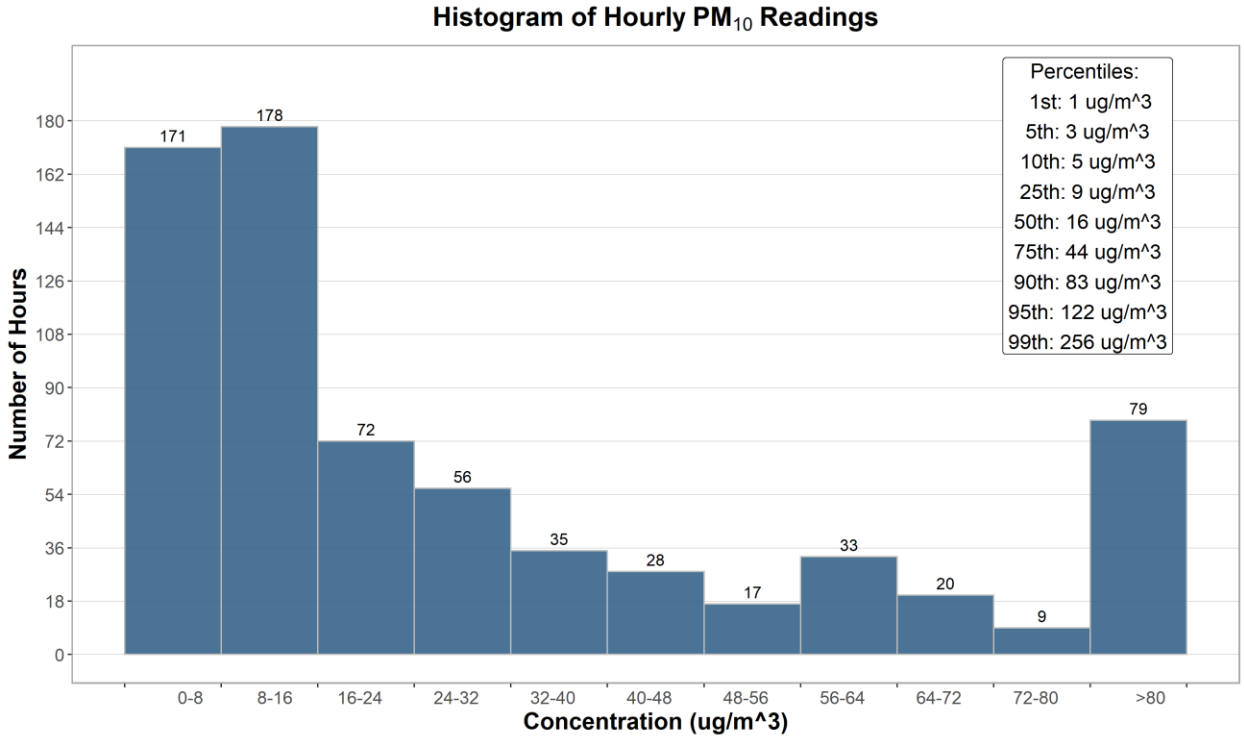


Figure 4-3 **Histogram of hourly PM_{10} concentrations at the Windridge station**

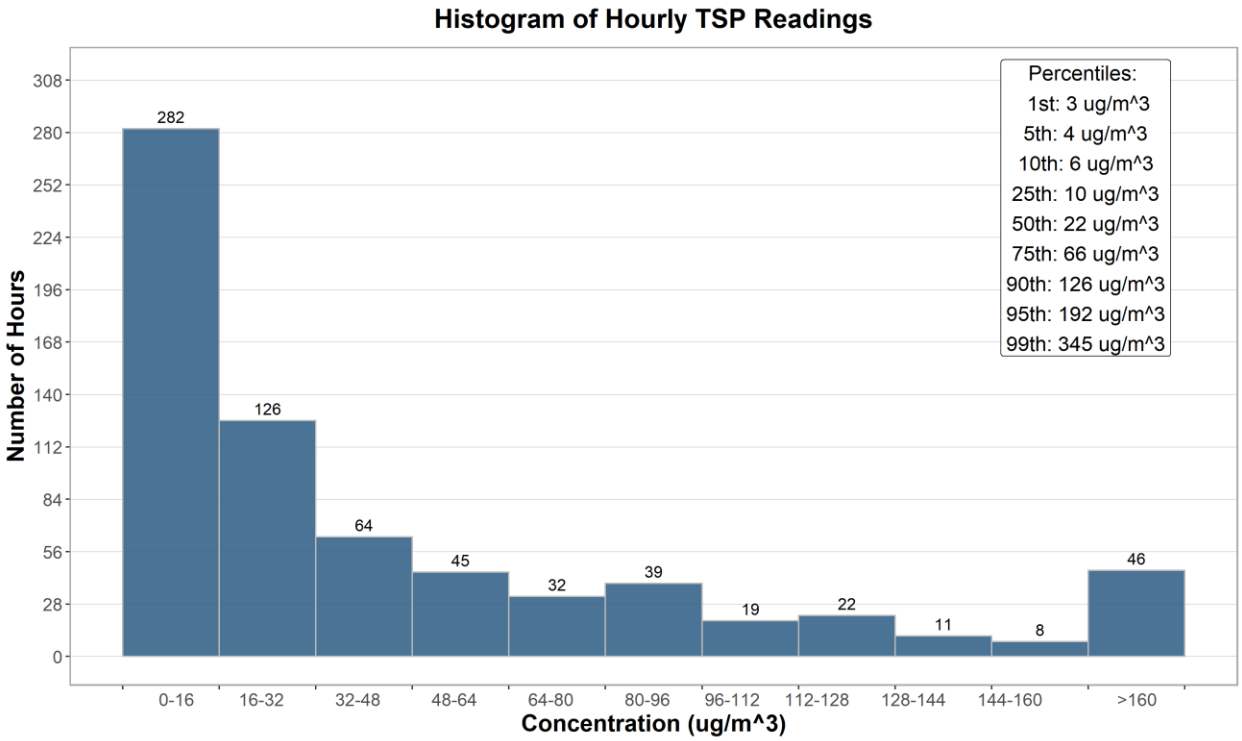


Figure 4-4 Histogram of hourly TSP concentrations at the Windridge station

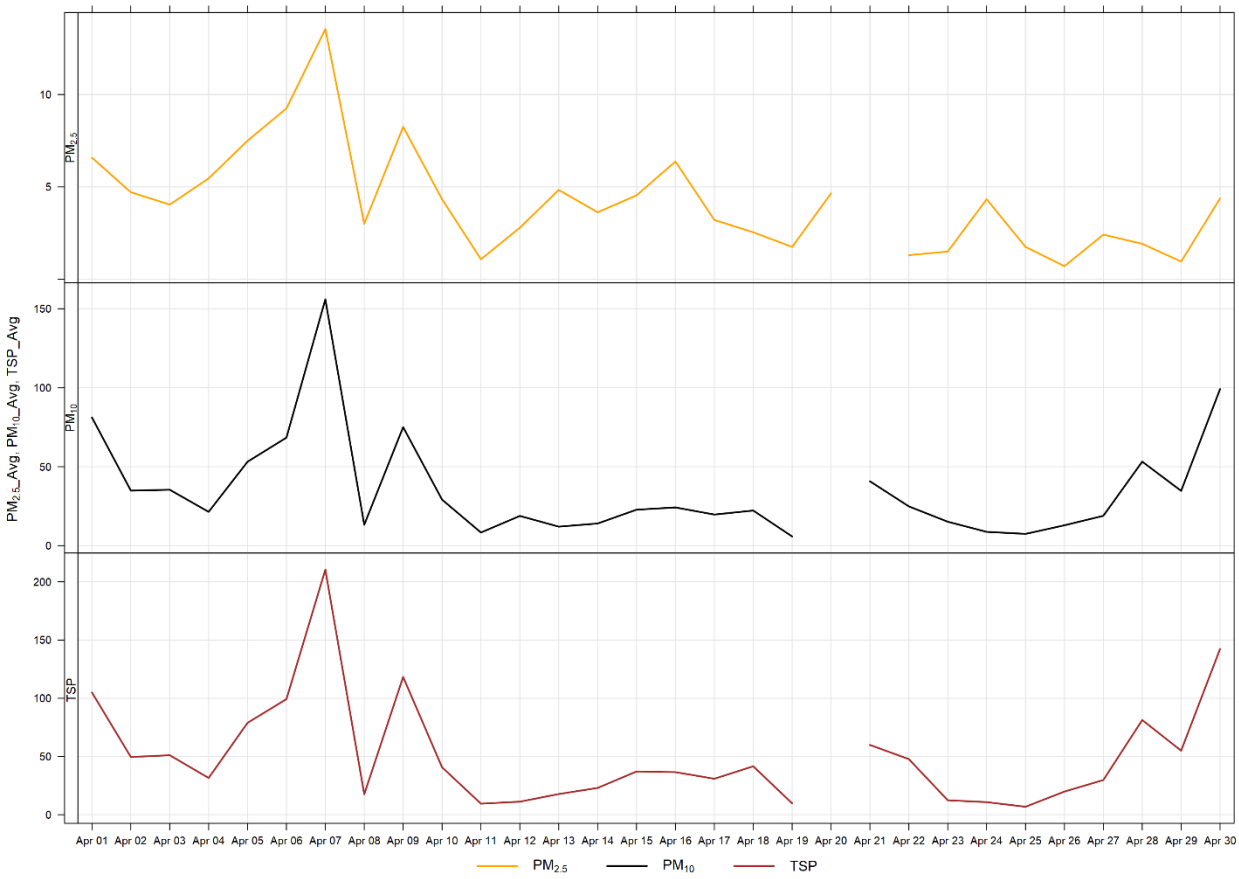


Figure 4-5 24-hour particulate matter concentrations at the Windridge monitor

Figure 4-6 shows the wind rose for the 4 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west, and west-southwest directions, and were predominately over 25 km/hr.

Figure 4-7 illustrates the hourly PM concentrations recorded at the Windridge monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-7 is based on data collected during April 2021 and similar to the Lagoon station shows a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other activities. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.

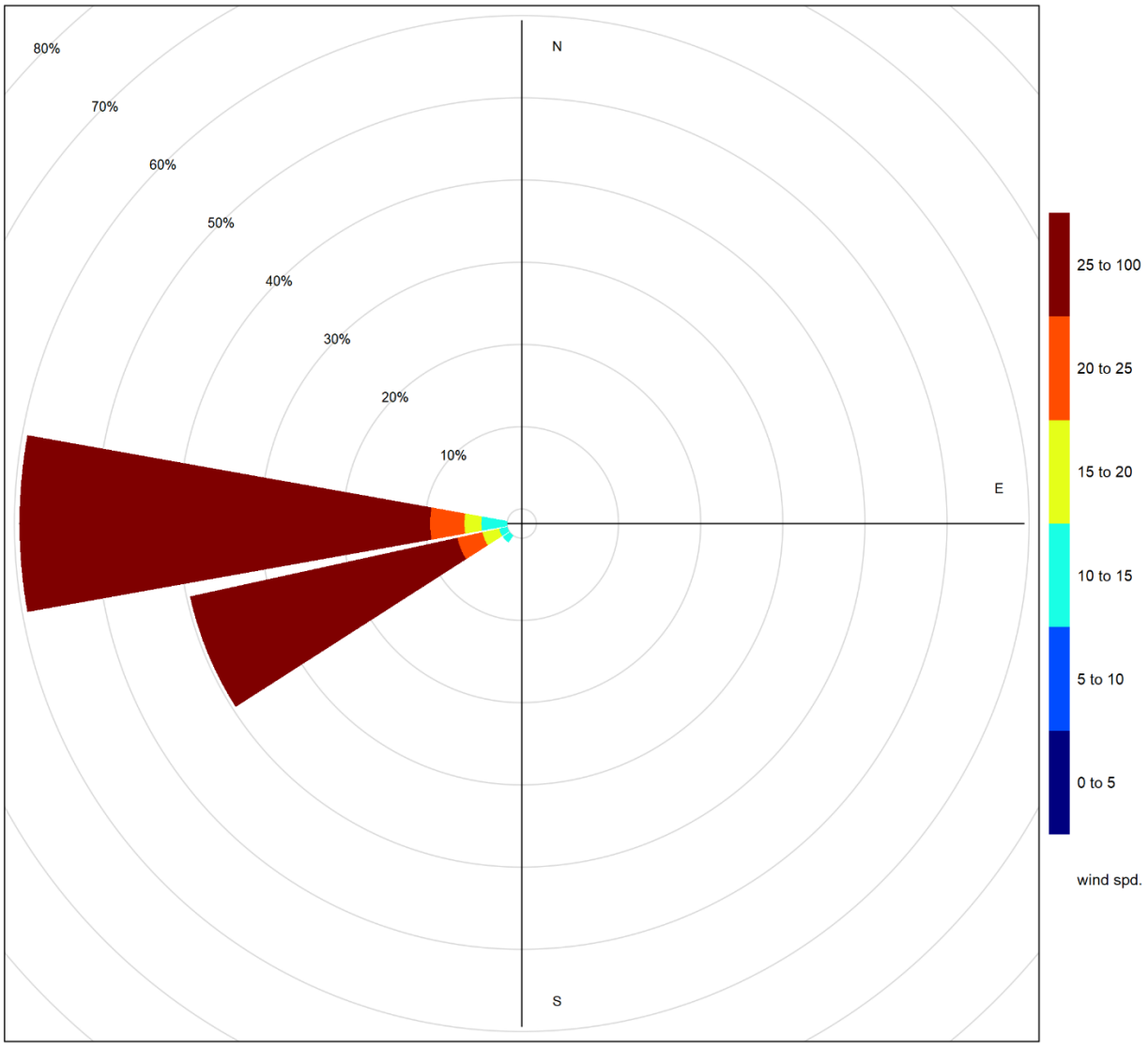


Figure 4-6 Wind rose for TSP exceedance days recorded at the Windridge Station

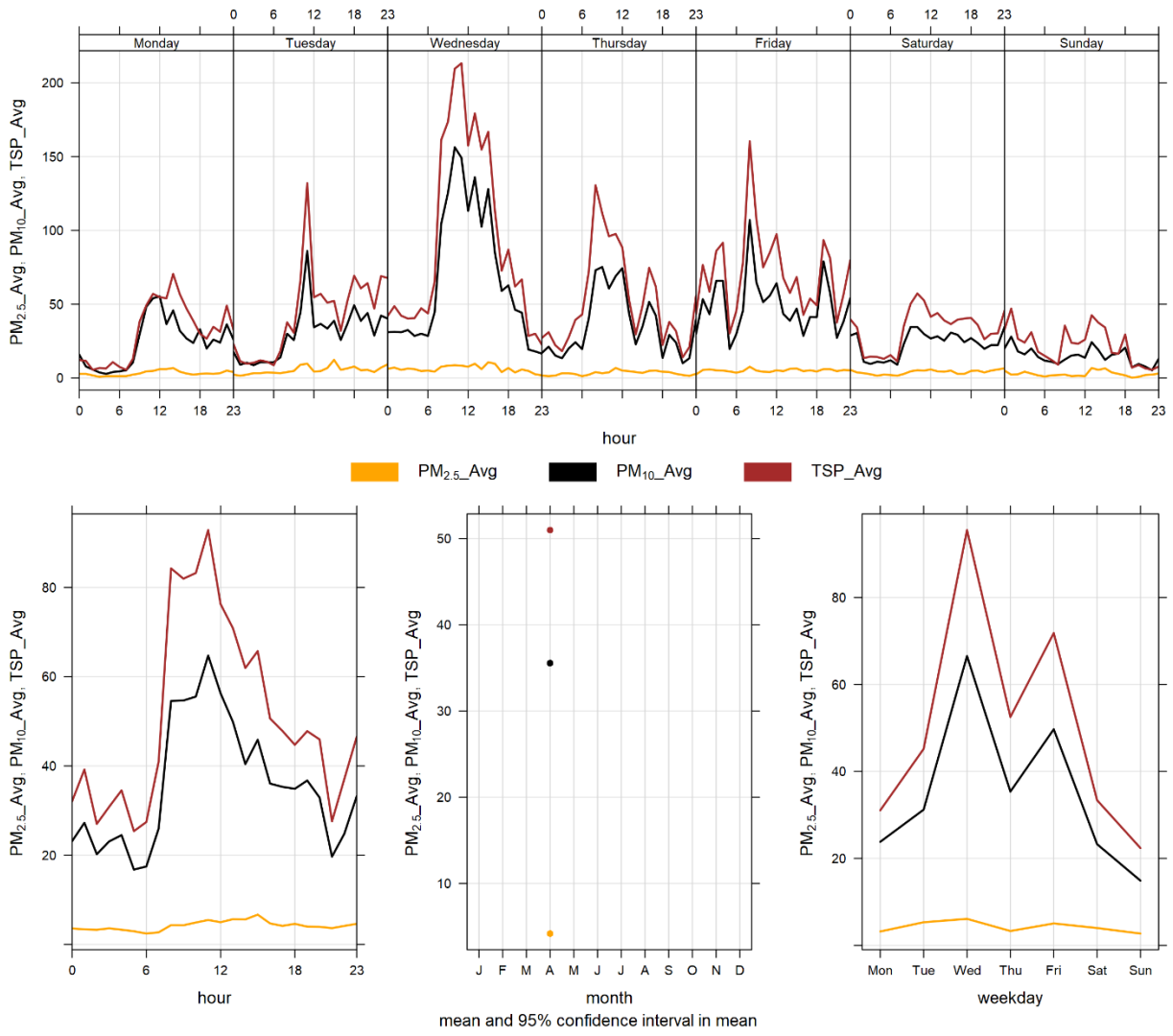


Figure 4-7 Windridge particulate matter time variation

5 WEST INDUSTRIAL GRIMM

5.1 OPERATIONAL SUMMARY

A summary of the station operation for the month is provided in Table 5-1.

Table 5-1 Instrumentation List at the West monitoring location

Parameter Measured	Equipment Description	Notes
$PM_{2.5}$, PM_{10}, TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 92.1% uptime for the month of April due to 40 hours of equipment malfunction on April 1st at 1:00 – April 2nd at 16:00. Further, 17 hours of collection error from April 19th at 9:00 – April 20th at 1:00.

5.2 MONITORING RESULTS AND TRENDS

The West GRIMM was installed in its current location in order to monitor "background" PM concentrations since the predominant wind pattern is from west to east in the valley. Table 5-2 summarizes the maximum 1-hour and 24-hour concentrations recorded over the course of the month. This is an industrial monitor that is not Alberta Air Monitoring Directive (AMD) compliant and is not required to show compliance with the AAAQO.

Figure 5-1 and Figure 5-2 show the hourly and daily $PM_{2.5}$, PM_{10} and TSP concentrations recorded over the month.

There were zero exceedances of the 24-hour TSP Guideline (100 µg/m^3) and zero exceedances of the 24-hour $PM_{2.5}$ (29µg/m^3) Guideline.

Historically in April, the average number of 24-hour TSP guideline exceedances and 24-hour $PM_{2.5}$ guideline exceedances are 0, respectfully. The maximum number of 24-hour TSP guidelines exceedances was 3 days in 2010 for TSP, and 0 days in 2010 - 2020 for $PM_{2.5}$.

Table 5-2 Summary of April 2021 data at the West GRIMM

Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
$PM_{2.5}$ ($\mu g/m^3$)	80	29	West	0	0	0.2	4.5	13.5	24	3	8.3	90.8	11.2	24	92.1
PM_{10} ($\mu g/m^3$)	-	-	West	-	-	0.2	6.5	50.2	20	9	13.7	282.7	15.6	20	92.1
TSP ($\mu g/m^3$)	-	100	West	-	0	0.1	9.0	423.5	22	9	19.5	103.3	49.9	22	92.1

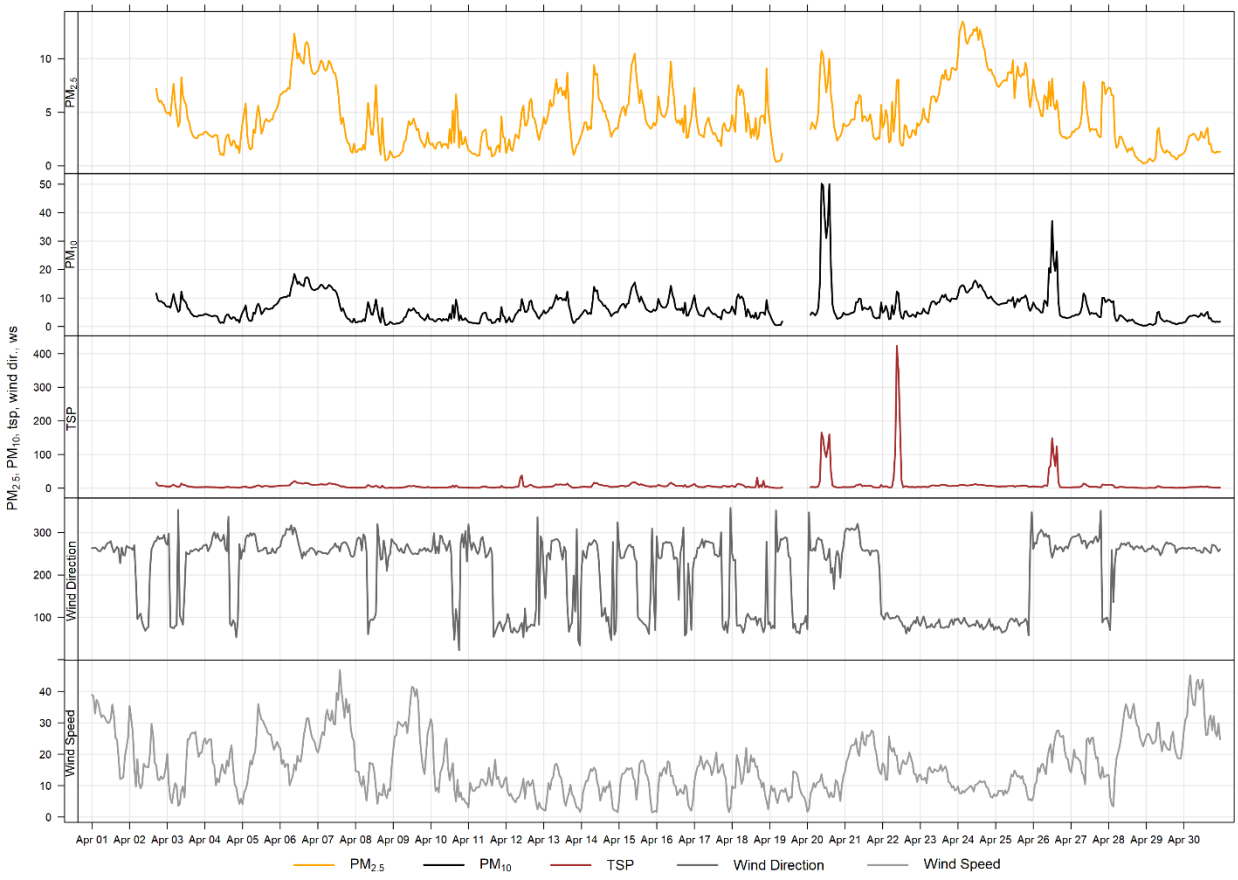


Figure 5-1 1-hour particulate matter concentrations at the West monitor

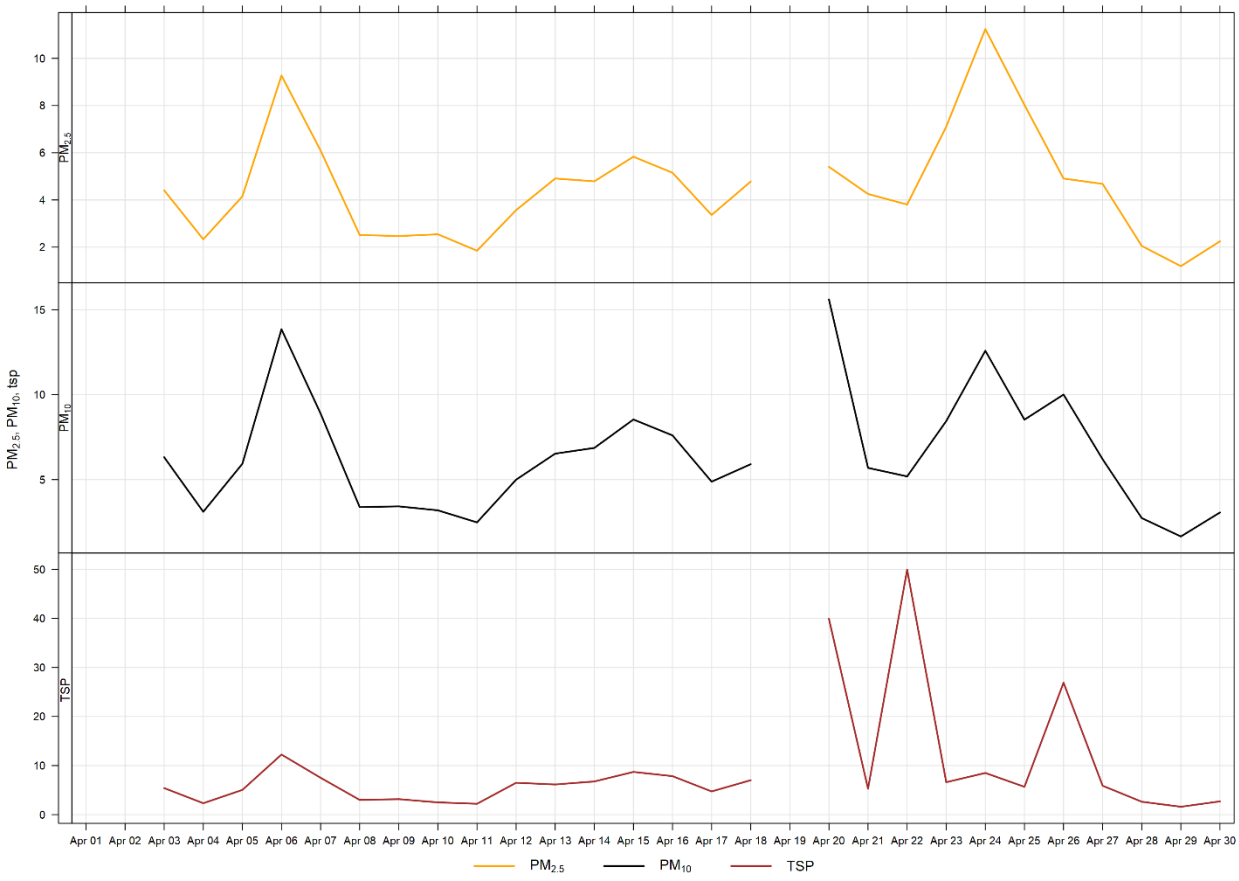


Figure 5-2 24-hour particulate matter concentrations at the West monitor

Figure 5-3 illustrates the hourly PM concentrations recorded at the West monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 5-3 is based on data collected during April 2021. As the monitor is generally 'up-wind' of the facility, the daily variations in PM are more likely a result of higher traffic volume during daylight hours than specific Lafarge operations.

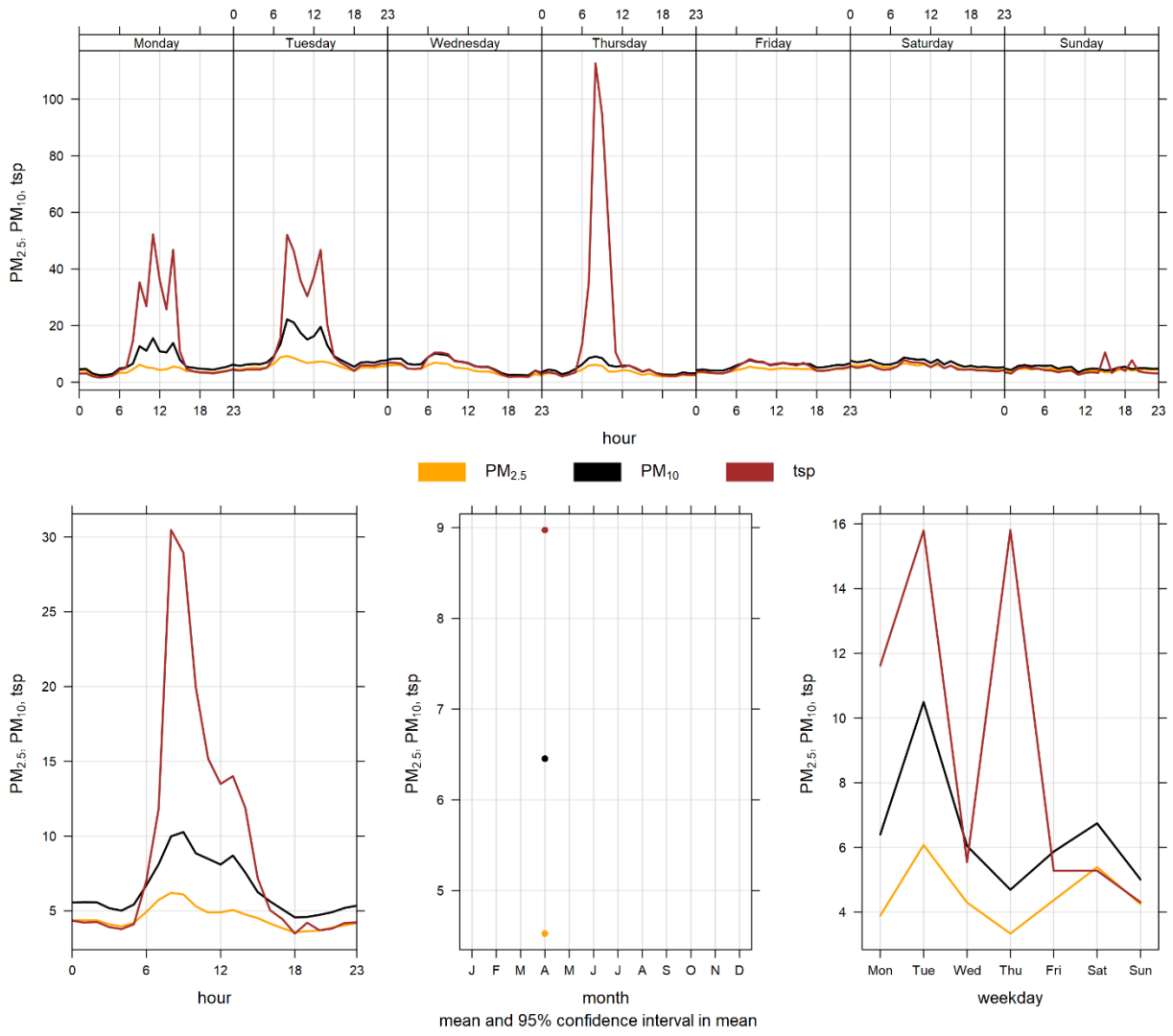


Figure 5-3 West particulate matter time variation

6 BERM INDUSTRIAL GRIMM

6.1 OPERATIONAL SUMMARY

A summary of the station operation for the month is provided in Table 6-1.

Table 6-1 Instrumentation List at the Berm monitoring location

Parameter Measured	Equipment Description	Notes
$PM_{2.5}$, PM_{10}, TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 78.8% uptime during the month of April due to 28 hours of collection error from April 18th at 22:00 to April 20th at 1:00. Further, 105 hours of power failure occurring between April 24th at 2:00 to April 29th at 6:00.

6.2 MONITORING RESULTS AND TRENDS

The Berm monitor was placed at its current location as a result of the dispersion modelling conducted for the facility in 2009. Figure 6-1 and Figure 6-2 show the hourly and daily $PM_{2.5}$, PM_{10} and TSP concentrations recorded over the month. Table 6-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month, and Table 6-3 summarizes the recorded exceedances. This is an industrial monitor that is not Alberta Air Monitoring Directive (AMD) compliant and is not required to show compliance with the AAAQO.

There were 7 and 0 exceedances of the 24-hour TSP (100 µg/m^3) and $PM_{2.5}$ (29 µg/m^3) Guidelines, respectively. There were 0 hours exceeding the 1-hour $PM_{2.5}$ Guideline.

Historically during the month of April, the Berm monitor records an average of 10 and 0 exceedances of the 24-hour TSP and $PM_{2.5}$ guidelines, respectively. The maximum number of TSP exceedances recorded during April occurred in 2010 where there were 22 days that exceeded the guideline. On the other hand, the maximum number of $PM_{2.5}$ exceedances in April was 1 day in 2019.

It should also be noted that the GRIMM monitors become more conservative in the reported PM concentrations as the size fraction increases. The $PM_{2.5}$ size fraction has been shown to match other regulatory approved $PM_{2.5}$ monitors, but the TSP concentrations recorded by the GRIMM tend to be higher than regulatory approved monitors (Levelton, 2015).

The Berm monitor is located along a ridge at the edge of the Lafarge property and is in an area where on-site trucks drive through site, which can create fugitive dust. Quarry blasting also has the potential to impact short term PM immediately following a blast. The low precipitation and strong wind gusting that occurred in April would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, a section of exposed silt on Lac des Arcs lake (Section 1.2), dry sections of the Bow River, roads (sanding from previous snowstorms) and open areas.

Table 6-2 Summary of April 2021 data at the Berm GRIMM

Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
$PM_{2.5}$ ($\mu g/m^3$)	80	29	Berm	0	0	0.2	7.5	69.3	30	8	42.8	257.8	26.6	7	78.8
PM_{10} ($\mu g/m^3$)	-	-	Berm	-	-	0.2	40.7	463.5	9	8	30.3	267.8	167.4	7	78.8
TSP ($\mu g/m^3$)	-	100	Berm	-	7	0.1	114.0	1518.5	7	13	37.3	267.8	477.6	7	78.8

Table 6-3 Days exceeding the Guideline for TSP or $PM_{2.5}$ at the Berm Monitor

Date	TSP (ug/m^3)	$PM_{2.5}$ (ug/m^3)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Berm						
2021-04-01	232.4	-	263.2	28.1	34.9	High wind event
2021-04-06	223.7	-	270.8	20.4	34.0	High wind event
2021-04-07	477.6	-	261.3	31.3	40.0	High wind event
2021-04-09	309.3	-	258.2	29.4	49.2	High wind event
2021-04-21	150.8	-	275.4	21.9	34.8	High wind event
2021-04-29	254.2	-	264.0	23.7	42.8	High wind event
2021-04-30	427.6	-	261.0	33.7	31.1	High wind event
Total # of Exceedances	**7**	**0**				
Maximum # of Exceedances (April)	**22 (2010)**	**1 (2019)**				
Average # of Exceedances (April)	**10**	**0**				
Minimum # of Exceedances (April)	**4 (2018)**	**0 (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020)**				

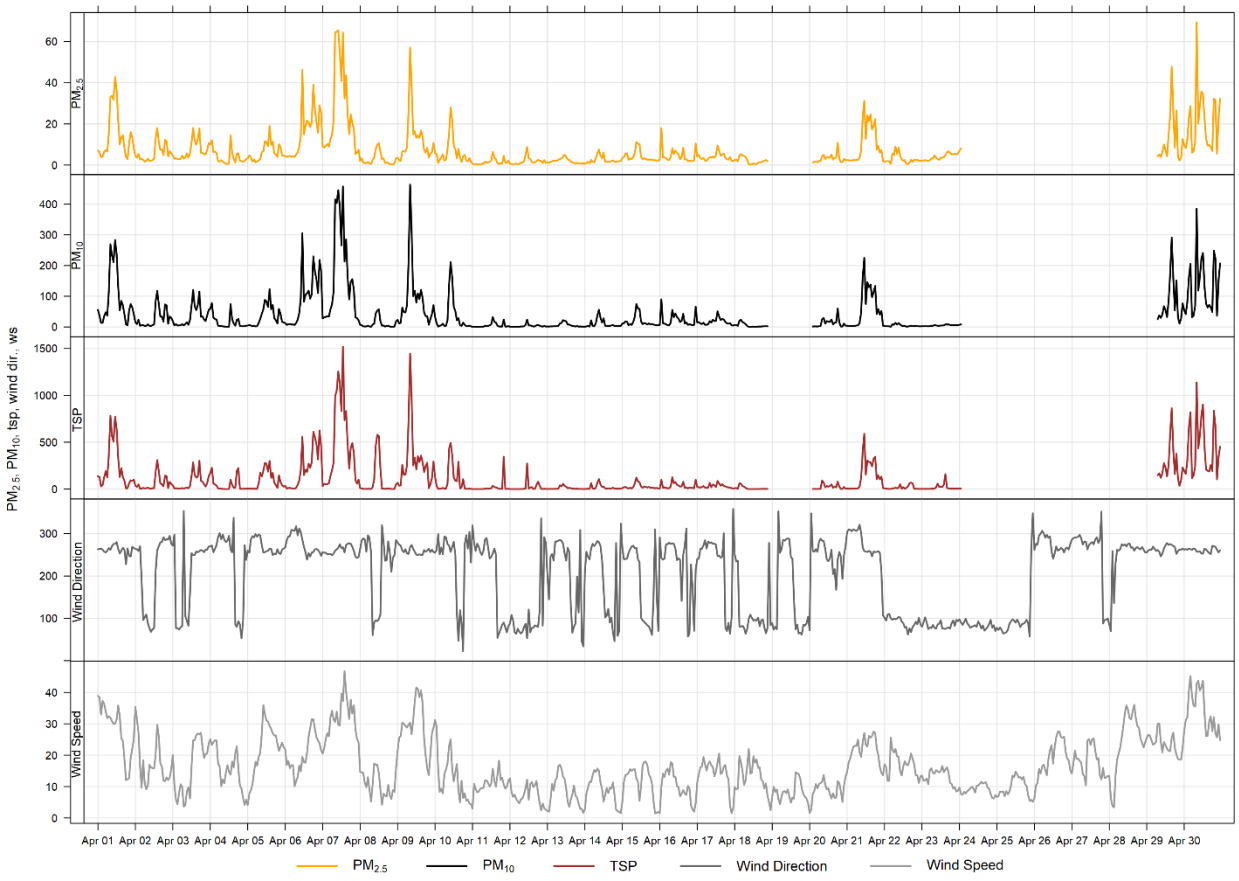


Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

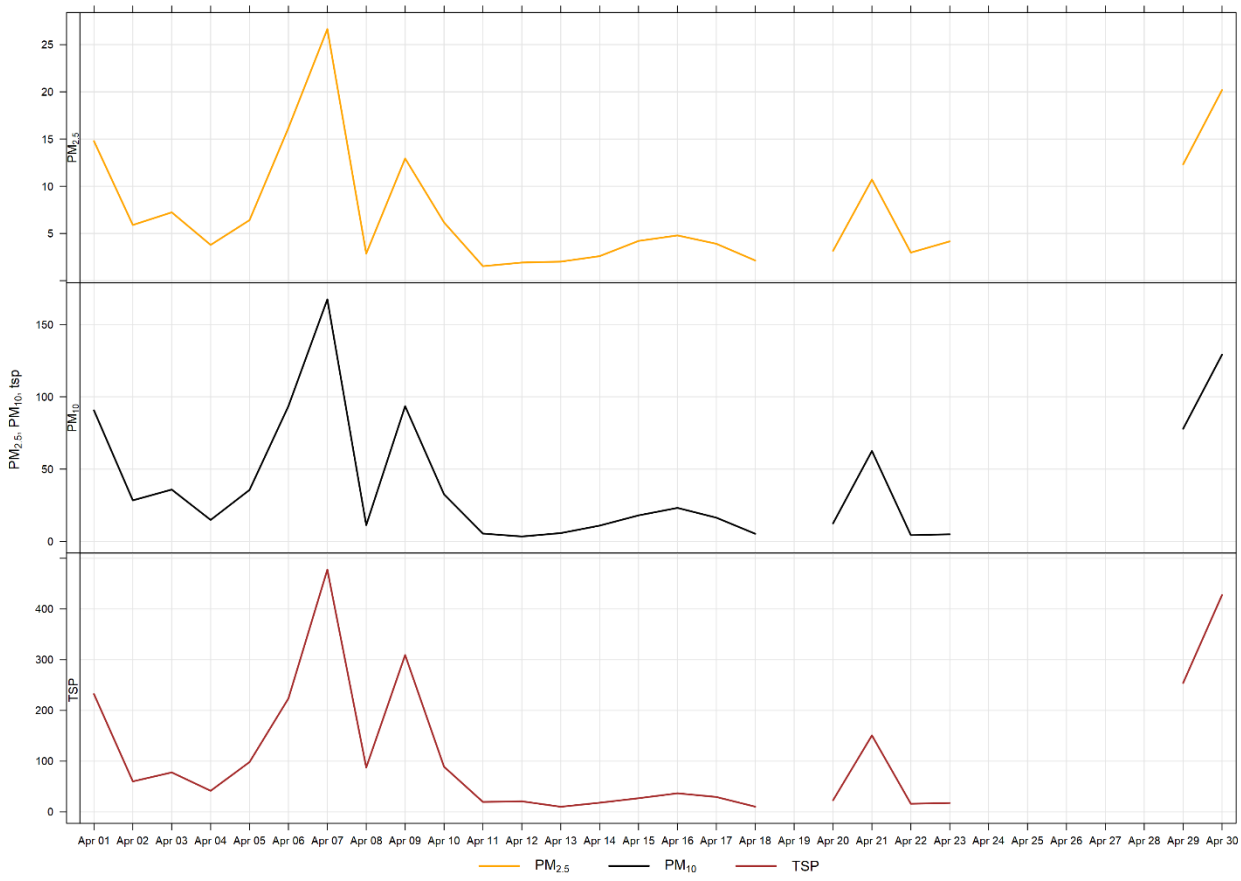


Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 shows the wind rose for the 7 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west, and west-southwest directions, and were predominately over 20 km/hr.

Figure 6-4 shows the variation of PM recorded at the Berm monitor over various time averaging periods. The Berm monitor diurnal pattern, similar to the Windridge and Lagoon stations, is associated with Lafarge operations, but also daytime emissions from other activities and sources in Exshaw.

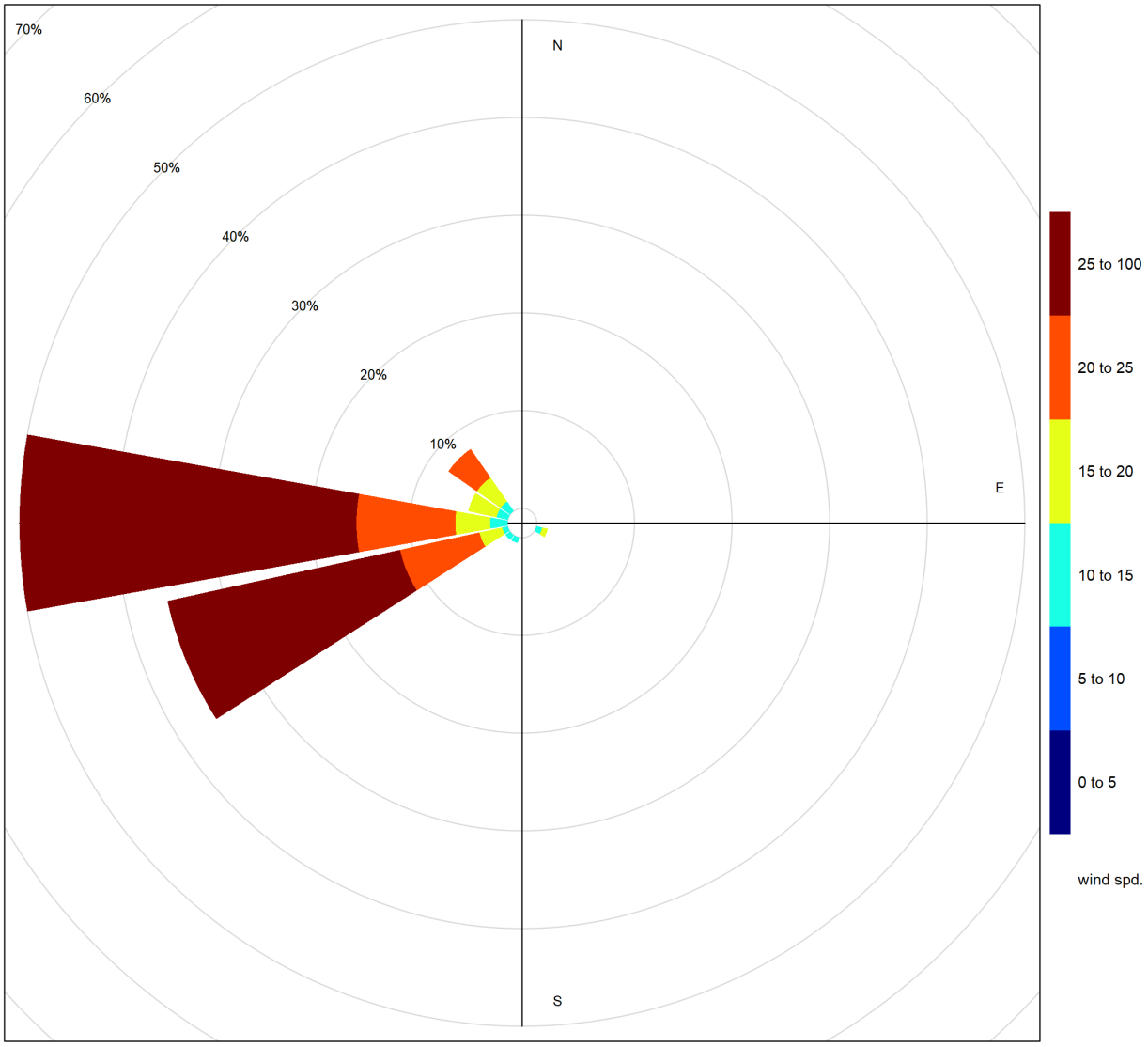


Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

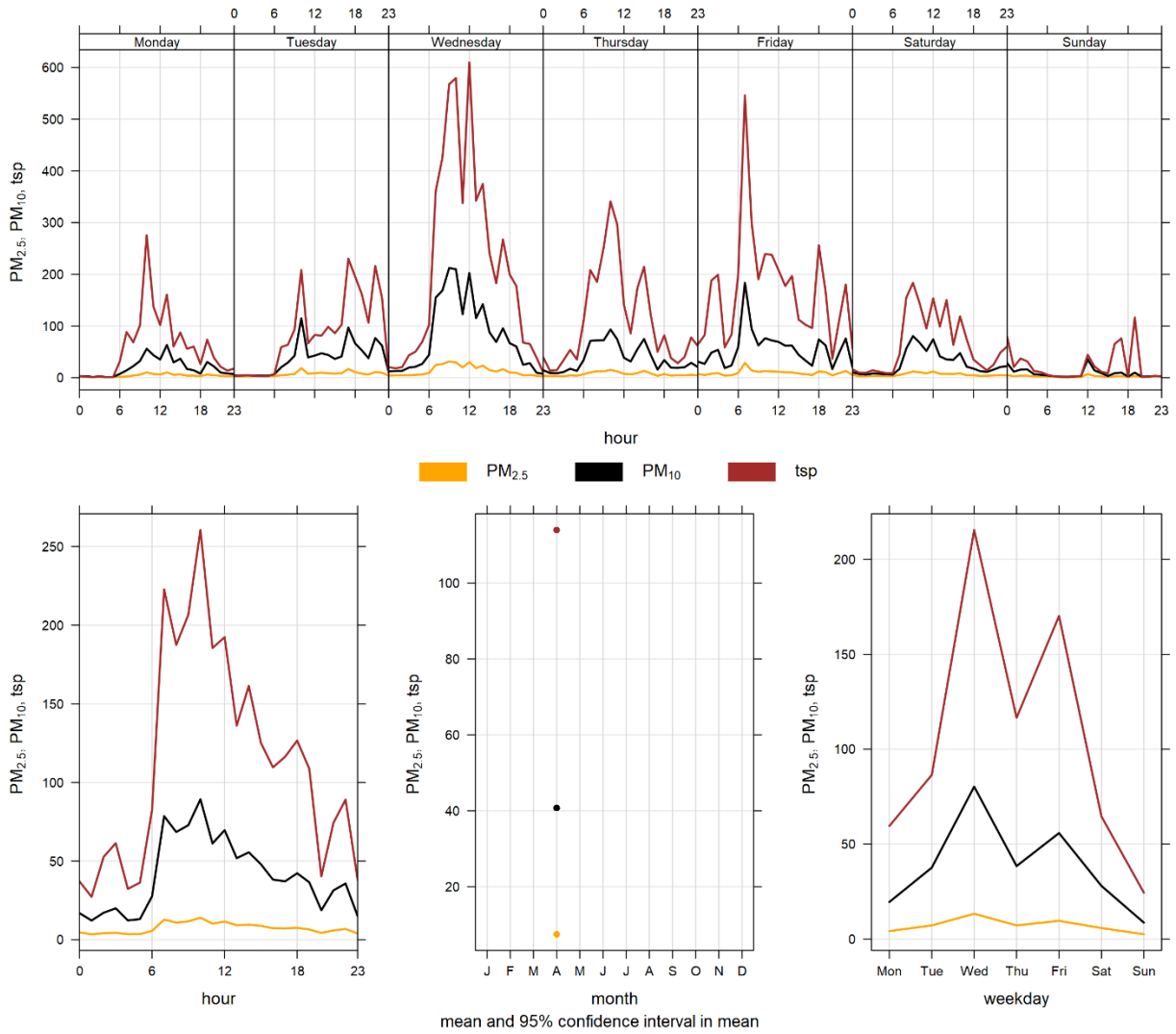


Figure 6-4 Berm particulate matter time variation

7 ENTRANCE INDUSTRIAL GRIMM

7.1 OPERATIONAL SUMMARY

A summary of the station operation for the month is provided in Table 7-1.

Table 7-1 Instrumentation List at the Entrance monitoring location

Parameter Measured	Equipment Description	Notes
$PM_{2.5}$, PM_{10}, TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 98.1% uptime for the month of April due to 14 hours of collection error occurring between April 19th at 1:00 - 14:00.

7.2 MONITORING RESULTS AND TRENDS

The Entrance monitor was placed at its current location as a result of dispersion modelling conducted in 2009. This area was indicated as being the area where the maximum PM concentrations were expected. Figure 7-1 and Figure 7-2 show the hourly and daily $PM_{2.5}$, PM_{10} and TSP concentrations recorded over the month. Table 7-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month. Table 7-3 summarizes the recorded exceedances. This is an industrial monitor that is not Alberta Air Monitoring Directive (AMD) compliant and is not required to show compliance with the AAAQO.

During the month of April, there were 15 and zero exceedances of the 24-hour TSP (100 µg/m^3) and $PM_{2.5}$ (29 µg/m^3) Guidelines, respectively.

Historically, the Entrance monitor records an average of 11 and zero exceedances of the 24-hour TSP and $PM_{2.5}$ guidelines respectively, during the month of April. The maximum number of TSP exceedances recorded during April occurred in 2010, which had 20 days that exceeded the guideline. The minimum number of TSP exceedances recorded during April occurred in 2017, which had 1 day that exceeded the guideline. The Entrance monitor has never recorded a $PM_{2.5}$ exceedance in the month of April.

It should also be noted that the GRIMM monitors become more conservative in the reported PM concentrations as the size fraction increases. The $PM_{2.5}$ size fraction has been shown to match other regulatory approved $PM_{2.5}$ monitors, but the TSP concentrations recorded by the GRIMM tend to be higher than regulatory approved monitors (Levelton, 2015).

The Entrance monitor is impacted by fugitive dust from plant activities, and high wind events. Trucks also pass near to the Entrance monitor as they enter and exit the Lafarge facility for loading and deliveries. Additionally, the monitor is closely located to Highway 1A. Traffic, particularly large trucks, can create dust while crossing over the railway tracks. This can all lead to the monitor recording high TSP concentrations, which are typically associated with fugitive dust sources.

The low precipitation and strong wind gusting that occurred in April would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, a section of exposed silt on Lac des Arcs lake (Section 1.2), dry sections of the Bow River, roads (sanding from previous snowstorms) and open areas. Most of the TSP exceedances recorded were associated with high wind events in April.

Figure 7-3 shows the wind rose for the 15 days that exceeded the TSP Guideline. The wind rose indicates that the winds predominantly came from the west and west-southwest directions, and were predominately over 20 km/hr.

Table 7-2 Summary of April 2021 data at the Entrance GRIMM

Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
$PM_{2.5}$ ($\mu g/m^3$)	80	29	Entrance	0	0	0.2	8.7	77.0	15	6	15.0	269.9	16.1	6	98.1
PM_{10} ($\mu g/m^3$)	-	-	Entrance	-	-	0.5	41.4	400.0	15	6	15.0	269.9	90.9	17	98.1
TSP ($\mu g/m^3$)	-	100	Entrance	-	15	0.6	107.8	922.4	30	12	43.8	252.8	289.2	30	98.1

Table 7-3 Days exceeding the Guideline for TSP or $PM_{2.5}$ at the Entrance Monitor

Date	TSP (ug/m^3)	$PM_{2.5}$ (ug/m^3)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Entrance						
2021-04-05	124.9	-	266.0	22.8	47.4	High wind event
2021-04-06	173.4	-	270.8	20.4	34.0	High wind event
2021-04-07	250.5	-	261.3	31.3	40.0	High wind event
2021-04-08	105.7	-	274.6	11.1	68.0	Winds predominately from the west
2021-04-09	141.1	-	258.2	29.4	49.2	High wind event
2021-04-13	129.7	-	265.9	8.2	62.1	Winds predominately from the west
2021-04-14	146.0	-	262.0	9.0	47.0	Winds predominately from the west
2021-04-15	149.3	-	212.6	11.4	44.3	Winds predominately from the west
2021-04-16	138.8	-	259.8	10.3	39.2	Winds predominately from the west
2021-04-17	176.7	-	269.4	14.1	35.4	Winds predominately from the west
2021-04-20	150.8	-	258.2	9.4	48.7	Winds predominately from the west
2021-04-21	168.2	-	275.4	21.9	34.8	High wind event

2021-04-27	102.2	-	287.3	17.8	37.0	Winds predominately from the west
2021-04-28	185.0	-	265.9	24.7	39.6	High wind event
2021-04-30	289.2	-	261.0	33.7	31.1	High wind event
Total # of Exceedances	**15**	**0**				
Maximum # of Exceedances (April)	**20 (2010)**	**0 (2010 - 2020)**				
Average # of Exceedances (April)	**11**	**0**				
Minimum # of Exceedances (April)	**1 (2017)**	**0 (2010 - 2020)**				

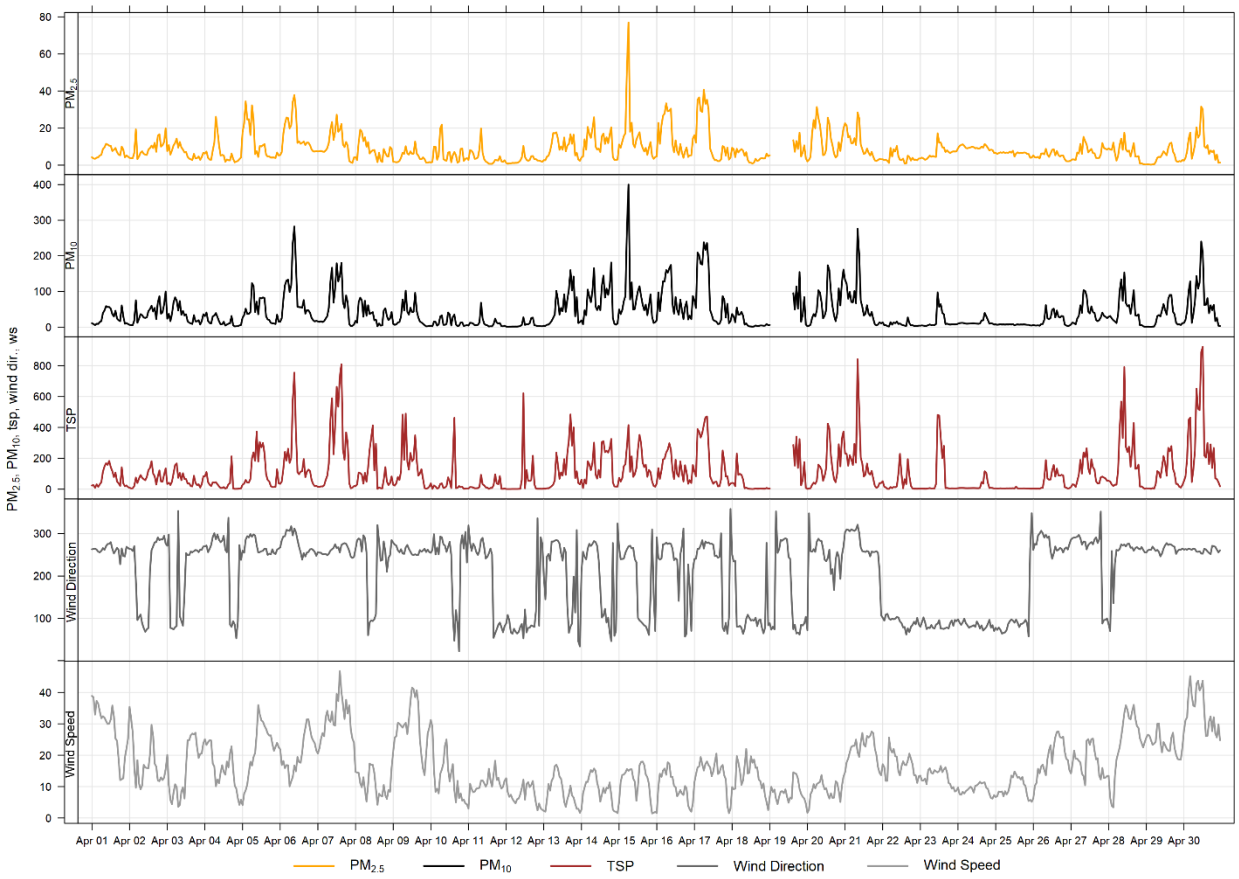


Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor

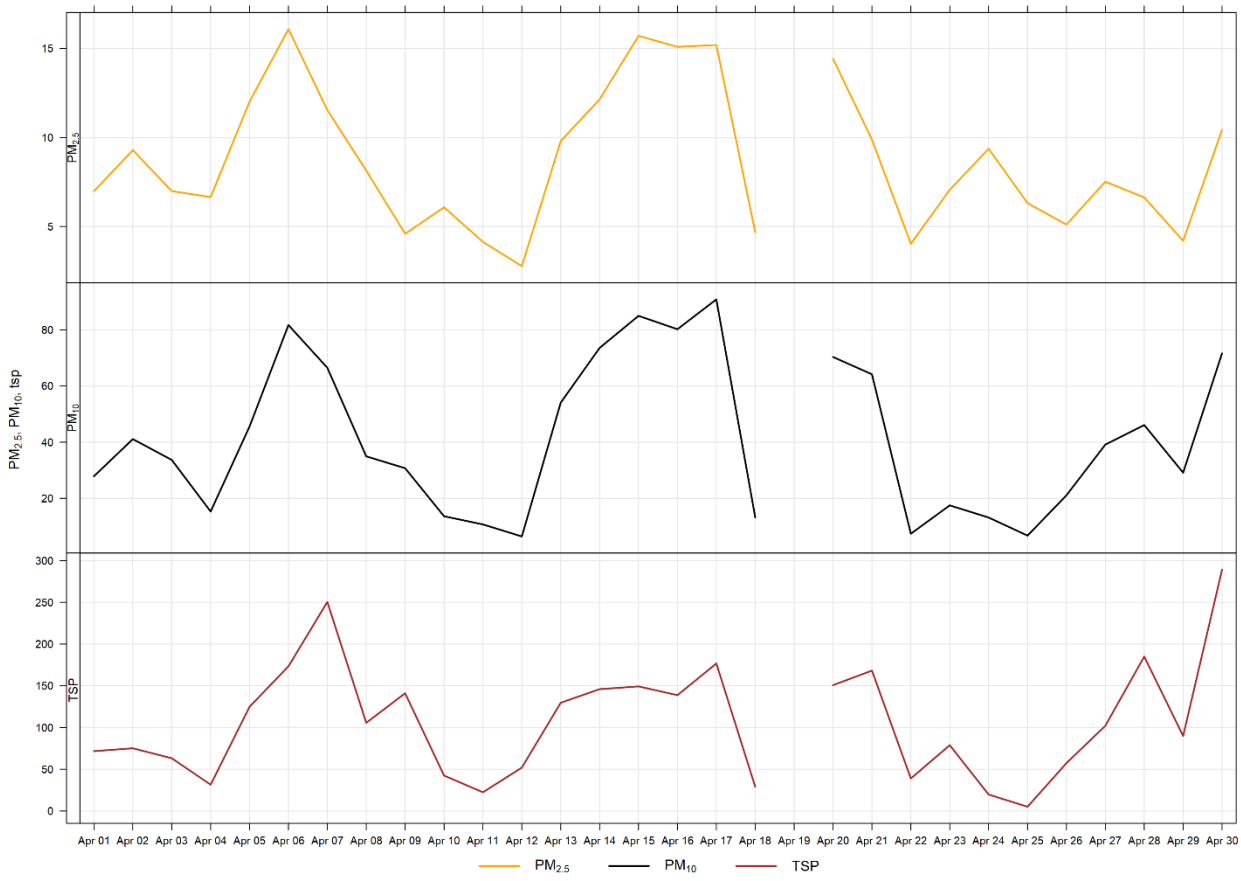


Figure 7-2 24-hour particulate matter concentrations at the Entrance monitor

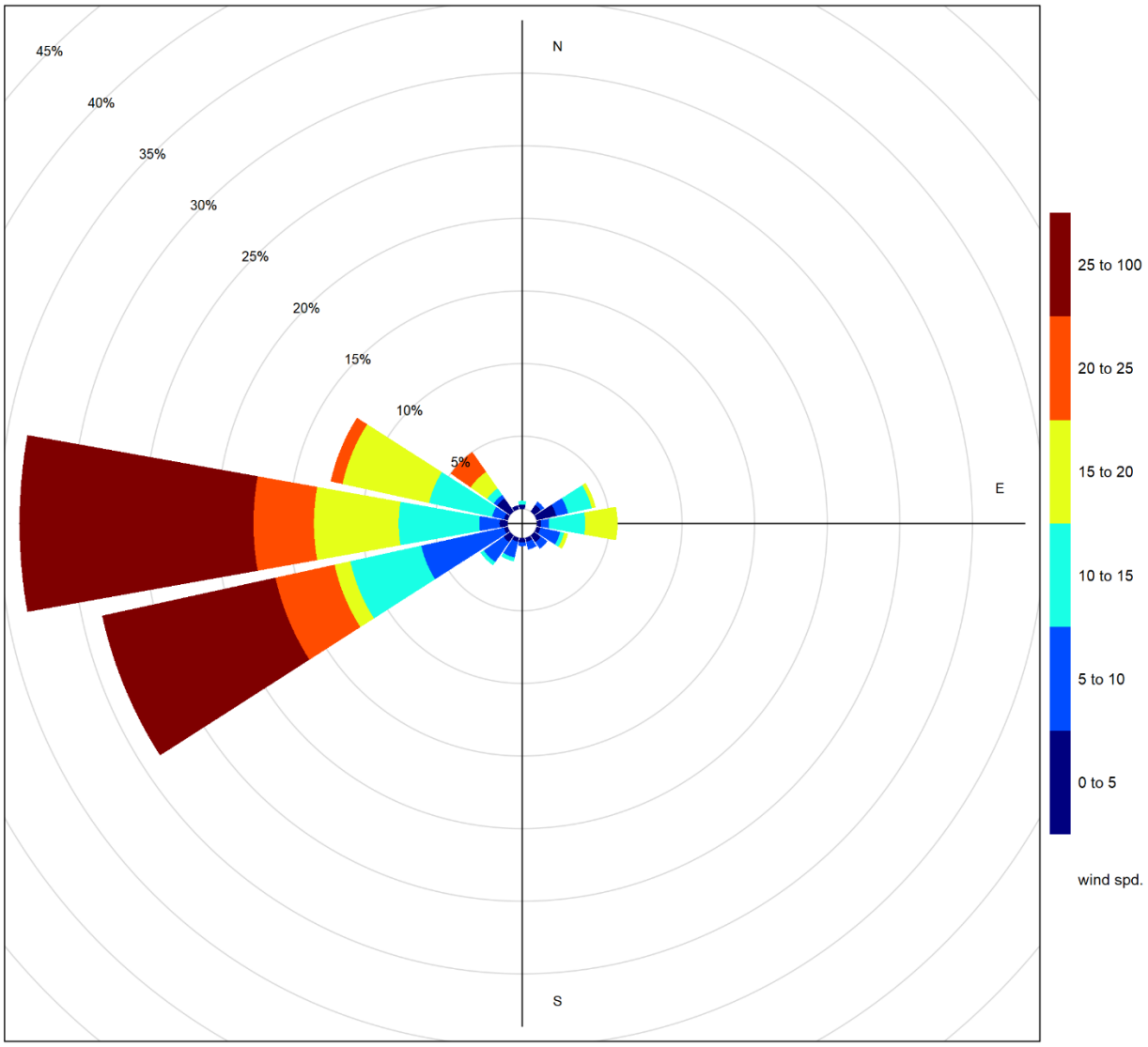


Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

Figure 7-4 illustrates the hourly PM concentrations recorded at the Entrance monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 7-4 is based on data collected during April 2021. The diurnal pattern differs from the Windridge, Lagoon and Berm stations and are likely more influenced by daytime traffic emission (from vehicles serving Lafarge as well as regular highway traffic) given its location near the highway entrance to Lafarge.

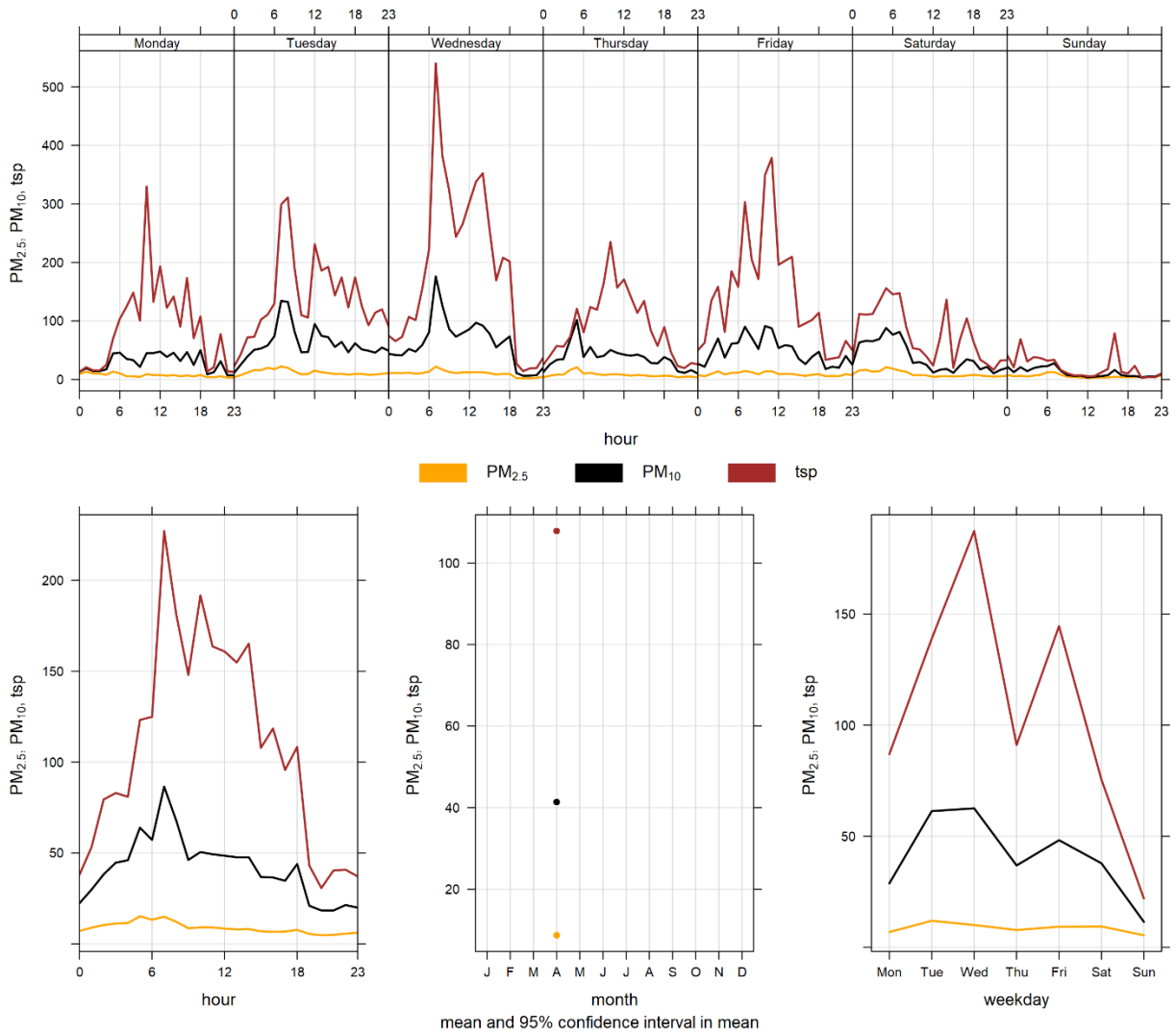


Figure 7-4 Entrance particulate matter time variation

BIBLIOGRAPHY

- Alberta Environment and Parks. (2016, June). Alberta Ambient Air Quality Objectives and Guidelines Summary. Alberta, Canada.
- Alberta Environment and Parks. (2016, April). Air Monitoring Directive. Alberta, Canada.
- Carslaw, D.C. and K. Ropkins, (2012). Openair — an R package for air quality data analysis. Environmental Modelling & Software. Volume 27–28, 52–61.
- Levelton Consultants Ltd. (2015, June 15). Comparison of GRIMM and E-BAM Data. Alberta, Can

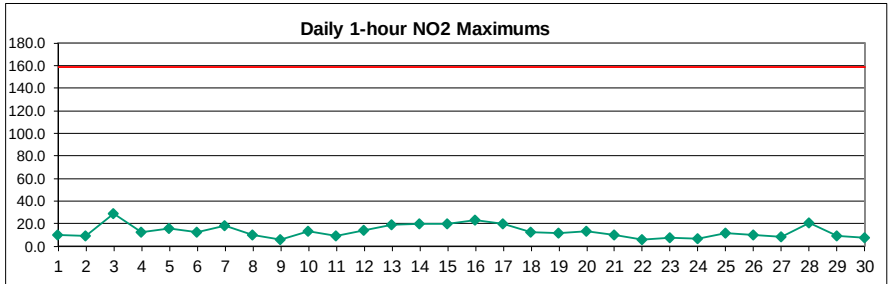
APPENDIX

A DATA & CALIBRATION REPORTS

APPENDIX

Lagoon NO_2 (ppb) – April 2021

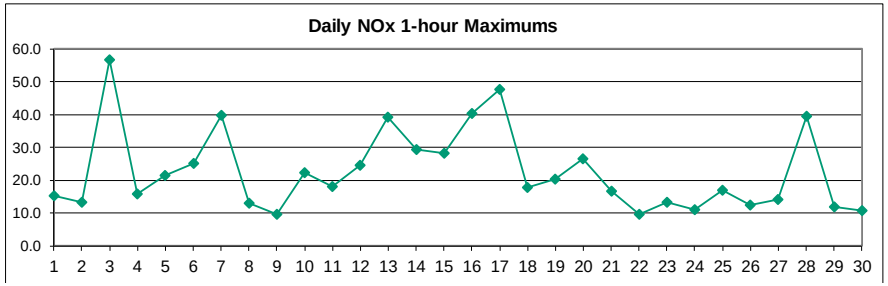
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.5	S	1.1	0.0	0.6	5.1	9.8	8.5	9.9	6.3	7.7	3.7	0.8	0.0	2.9	4.2	1.9	0.0	3.1	7.4	0.0	1.8	4.5	5.5	3.7	9.9
2	1.4	S	0.6	7.4	0.4	0.1	0.6	3.8	8.0	7.8	1.1	0.8	2.8	NRM	NRM	NRM	7.2	5.6	4.9	9.2	7.7	4.9	9.4	6.4	4.5	9.4
3	7.4	S	9.9	18.0	18.7	17.2	29.1	26.5	21.8	2.9	12.5	7.3	0.0	0.0	0.1	0.0	0.6	5.3	5.6	2.2	0.2	1.7	5.8	8.3	8.7	29.1
4	5.5	S	0.8	1.3	4.7	3.1	9.5	8.8	7.4	7.9	6.0	4.9	0.3	0.0	3.1	0.5	2.9	0.0	0.1	3.4	9.4	12.2	12.0	12.0	5.0	12.2
5	16.2	S	7.9	8.8	9.7	10.2	10.5	10.5	4.3	0.1	0.3	0.8	0.2	3.5	5.2	0.0	0.0	0.0	3.7	0.9	0.1	1.7	3.9	2.2	4.4	16.2
6	4.6	S	10.9	5.2	9.9	6.1	8.1	9.6	6.4	12.5	10.1	3.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	10.2	3.8	1.6	1.5	3.9	4.7	12.5
7	1.0	S	0.1	0.0	0.3	0.0	0.1	4.3	1.8	7.7	18.4	5.5	8.7	0.2	5.7	10.4	15.1	15.3	7.0	1.7	0.4	0.0	0.1	1.0	4.6	18.4
8	1.8	S	7.5	6.5	7.1	5.5	5.3	10.3	0.4	0.0	0.0	1.2	0.0	1.0	4.8	3.7	4.2	3.3	2.9	2.3	3.5	6.0	8.3	3.1	3.9	10.3
9	1.9	S	1.4	3.0	5.9	0.3	1.4	5.6	3.6	2.5	0.9	0.2	0.0	0.0	0.0	0.0	2.6	2.0	0.5	1.5	0.3	2.0	1.8	0.3	1.6	5.9
10	1.3	S	5.8	5.5	4.2	7.0	7.0	12.4	5.6	1.9	8.2	10.1	1.0	0.0	0.0	0.4	2.3	3.5	11.4	12.0	4.3	9.2	10.8	13.7	6.0	13.7
11	0.3	S	5.2	0.7	1.4	2.0	5.1	8.7	7.6	5.1	1.2	0.2	0.0	3.6	0.0	3.9	1.8	5.3	3.8	7.9	1.9	9.6	6.6	3.2	3.7	9.6
12	0.7	S	3.6	12.2	5.8	6.9	7.4	6.5	3.6	1.3	3.1	3.5	10.0	7.7	4.4	3.6	3.5	0.5	13.6	13.7	7.8	14.0	10.8	13.2	6.8	14.0
13	11.4	S	7.4	3.9	5.6	8.6	8.4	13.6	11.9	6.5	1.8	1.2	4.6	1.2	1.3	3.1	1.5	1.3	1.7	7.1	10.3	12.3	9.7	19.2	6.7	19.2
14	12.6	S	17.2	11.6	12.2	14.4	10.2	15.3	10.0	7.5	5.7	5.7	2.2	2.8	1.4	2.8	2.1	5.2	5.4	18.1	10.7	15.5	20.2	11.4	9.6	20.2
15	10.9	S	14.4	15.0	13.6	14.5	19.6	17.4	12.3	9.1	10.5	1.5	1.3	1.5	1.5	2.8	2.2	5.5	9.1	7.1	7.9	7.0	13.1	19.5	9.4	19.6
16	17.9	S	13.9	12.0	10.8	11.0	20.3	15.6	14.4	9.5	6.3	3.6	0.6	1.3	2.4	2.6	2.5	3.8	3.0	6.5	8.7	22.9	16.9	17.7	9.7	22.9
17	16.0	S	16.3	19.6	11.4	16.8	12.3	18.7	19.6	12.3	8.6	8.4	0.6	0.7	0.6	1.1	1.4	2.5	3.0	5.9	8.2	14.8	9.9	13.8	9.7	19.6
18	10.0	S	12.5	3.5	1.2	2.4	5.4	3.4	0.7	0.7	0.7	0.8	0.5	0.4	0.4	0.5	0.3	0.3	1.6	0.9	1.4	10.5	9.8	10.4	3.4	12.5
19	11.8	S	5.0	1.3	2.1	3.9	7.5	9.7	6.3	3.3	1.6	0.4	0.7	0.7	1.2	1.4	2.2	2.1	2.4	3.9	3.3	3.9	3.8	5.7	3.7	11.8
20	10.7	S	9.1	10.6	8.6	12.6	12.7	10.8	13.7	6.6	2.6	1.2	0.9	1.6	4.2	1.6	2.3	1.9	2.0	4.2	4.3	7.9	12.0	9.4	6.6	13.7
21	10.2	S	5.2	3.9	5.8	3.5	5.8	5.1	8.5	5.3	C	C	C	C	C	0.4	1.6	0.8	0.9	1.2	3.2	2.7	0.5	0.4	3.6	10.2
22	0.5	S	0.6	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.8	2.0	0.6	2.8	2.7	3.6	3.6	6.2	1.1	2.1	1.7	5.8	5.1	1.8	6.2
23	3.1	S	1.1	2.1	3.3	4.6	1.7	6.7	3.1	1.6	1.4	1.2	2.1	2.8	3.0	4.4	7.7	4.5	3.9	2.1	7.5	3.8	3.4	3.8	3.4	7.7
24	4.0	S	3.3	3.0	3.4	2.4	7.0	2.9	2.9	3.1	2.3	2.0	1.6	3.1	2.0	2.2	3.6	2.1	3.8	2.9	2.6	4.8	2.7	2.1	3.0	7.0
25	1.7	S	5.9	5.0	4.8	3.1	5.4	4.0	1.2	1.0	1.2	1.3	1.8	2.1	2.8	3.4	2.9	4.0	3.0	3.2	2.8	7.0	11.9	9.0	3.9	11.9
26	7.5	S	7.1	6.3	4.9	5.0	4.9	5.5	4.8	5.8	3.9	2.8	2.0	3.4	1.9	4.0	5.4	2.3	0.8	3.0	9.9	8.4	9.9	8.9	5.1	9.9
27	6.9	S	4.0	3.3	2.2	7.2	6.4	8.5	5.3	5.7	5.7	3.9	2.9	5.9	2.1	1.6	4.8	3.6	1.2	2.2	2.1	2.0	2.5	4.0	4.1	8.5
28	4.7	S	20.4	11.7	7.9	9.7	8.6	8.0	6.7	5.2	5.0	3.5	3.1	3.8	3.3	2.1	5.2	3.9	5.2	7.4	4.4	7.0	1.9	1.5	6.1	20.4
29	5.0	S	2.2	4.9	4.1	2.9	5.9	2.2	1.6	2.4	5.1	2.5	1.7	3.3	4.1	2.2	1.7	2.8	1.4	3.3	6.2	7.1	9.0	2.8	3.7	9.0
30	1.9	S	2.1	2.5	6.2	4.0	5.1	4.2	1.3	1.3	1.3	0.5	1.8	3.6	2.0	0.9	2.4	3.2	6.4	3.8	2.6	1.0	3.9	7.6	3.0	7.6
NO.	30	-	30	30	30	30	30	30	30	30	29	29	29	28	28	29	30	30	30	30	30	30	30	30	682	100%
MEAN	6.3	-	6.8	6.3	5.9	6.3	8.0	8.9	6.8	4.8	4.6	2.9	1.9	2.0	2.3	2.3	3.2	3.1	3.9	5.2	4.6	6.8	7.4	7.5		
MAX	17.9	-	20.4	19.6	18.7	17.2	29.1	26.5	21.8	12.5	18.4	10.1	10.0	7.7	5.7	10.4	15.1	15.3	13.6	18.1	10.7	22.9	20.2	19.5		



Number of 1HR Exceedences	0		
Number of Non-Zero Readings	653		
Maximum 1-HR Average	29.1 PPB		
Maximum 24-HR Average	9.7 PPB		
		Opperational Time	717 HRS
Monthly Calibration	5	Opperational Uptime	99.6 %
Standard Deviation	4.7	Monthly Average	5.2 PPB

Lagoon NOx (ppb) – April 2021

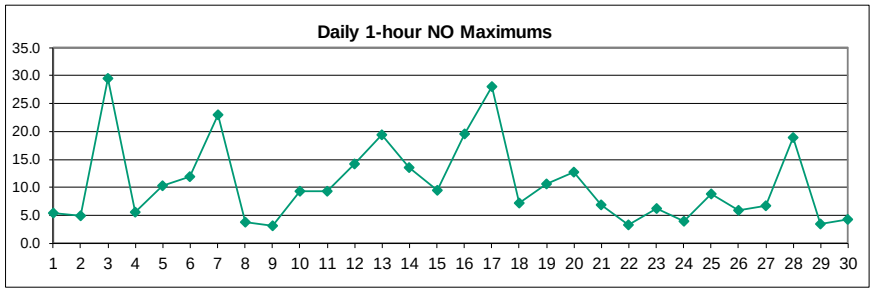
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.5	S	1.3	0.0	0.4	6.7	13.8	13.7	15.2	11.1	13.7	7.2	1.7	0.0	4.7	5.5	2.3	0.0	3.2	9.6	0.0	1.9	6.2	8.5	5.5	15.2
2	1.4	S	0.4	9.3	0.2	0.0	0.4	4.4	11.7	13.3	1.9	1.3	4.2	NRM	NRM	NRM	9.5	6.7	5.0	12.2	9.5	5.2	12.8	10.0	6.0	13.3
3	8.6	S	9.6	20.7	20.4	22.8	54.2	56.8	49.9	4.2	21.8	15.1	0.0	0.0	0.4	0.0	1.4	8.3	6.9	2.9	0.1	2.1	8.8	21.3	14.6	56.8
4	8.9	S	1.5	2.8	8.5	4.3	15.8	14.4	12.6	13.7	9.9	8.6	0.6	0.1	5.2	0.9	4.3	0.0	0.1	3.4	11.1	12.7	12.6	12.0	7.1	15.8
5	20.3	S	10.7	15.0	16.4	16.8	20.7	21.4	7.4	0.4	0.7	1.4	0.5	8.3	8.8	0.0	0.0	0.0	5.4	0.8	0.0	1.9	6.6	2.5	7.2	21.4
6	5.6	S	18.3	9.2	20.0	8.6	13.2	15.0	12.1	25.0	19.6	5.6	0.5	0.0	0.3	0.0	0.2	0.0	0.0	14.9	4.7	1.6	1.3	4.0	7.8	25.0
7	0.9	S	0.0	0.0	0.2	0.0	0.1	5.7	2.6	15.1	39.9	12.3	18.9	0.5	13.5	22.5	38.6	37.7	13.2	2.2	0.2	0.0	0.0	1.1	9.8	39.9
8	2.1	S	11.8	7.3	9.0	9.1	5.5	12.9	0.5	0.0	0.0	1.6	0.0	1.1	7.5	5.4	5.9	5.2	5.0	2.1	3.6	7.5	11.0	3.0	5.1	12.9
9	2.1	S	1.5	4.5	9.5	0.3	1.9	8.7	4.6	4.0	1.8	0.7	0.0	0.0	0.0	0.0	3.9	2.9	0.4	1.3	0.0	2.3	1.9	0.1	2.3	9.5
10	1.5	S	7.4	5.9	5.4	11.4	10.9	22.2	7.3	2.3	12.8	16.9	1.5	0.0	0.0	0.3	3.9	5.2	12.1	17.8	4.0	15.0	11.0	17.6	8.4	22.2
11	0.2	S	6.4	0.5	1.3	1.9	5.8	18.0	17.2	11.0	2.1	0.2	0.1	7.5	0.0	6.8	2.6	7.5	4.6	10.5	1.7	13.3	9.7	3.5	5.8	18.0
12	0.6	S	3.5	15.2	5.7	6.8	11.2	8.7	5.3	2.0	5.4	6.0	24.7	15.6	8.6	5.5	4.9	0.4	16.9	14.8	7.8	15.1	11.3	13.4	9.1	24.7
13	14.4	S	10.5	3.8	7.0	12.8	12.5	32.1	28.6	13.6	3.6	2.2	9.5	1.9	1.7	5.8	1.9	1.5	1.7	7.7	11.8	14.2	9.9	39.1	10.8	39.1
14	14.0	S	18.1	12.4	16.3	19.5	13.1	29.5	18.4	13.3	9.5	8.9	3.3	3.9	1.6	3.9	2.4	6.6	6.3	20.3	11.2	22.9	24.9	11.8	12.7	29.5
15	10.8	S	15.0	17.8	15.5	17.1	28.4	27.5	20.0	13.5	15.5	2.0	1.5	1.7	1.4	4.0	2.4	7.7	13.3	8.1	8.5	7.3	16.5	22.1	12.1	28.4
16	19.0	S	14.1	14.1	13.2	13.0	40.3	28.0	27.1	15.9	9.7	4.6	0.6	1.4	2.7	2.9	2.7	4.2	3.7	7.5	9.6	29.0	17.8	18.0	13.0	40.3
17	16.3	S	25.7	38.6	19.0	30.0	20.1	41.3	47.8	24.4	15.5	14.6	0.6	0.7	0.4	1.0	1.6	2.6	3.2	7.0	11.0	15.9	10.7	14.7	15.8	47.8
18	10.0	S	14.4	3.5	1.1	2.4	8.2	5.1	0.8	0.7	0.5	0.8	0.6	0.4	0.3	0.5	0.4	0.1	1.5	0.7	1.1	17.7	9.8	11.3	4.0	17.7
19	14.0	S	5.0	1.1	1.8	4.1	12.9	20.4	11.8	5.8	2.7	0.4	0.9	0.8	1.5	1.5	2.8	4.2	3.9	3.8	3.2	3.8	3.7	6.4	5.1	20.4
20	12.3	S	9.1	11.4	9.7	22.1	21.2	19.2	26.4	10.8	4.0	1.6	0.9	2.0	5.6	1.9	2.4	2.0	2.0	5.7	4.1	9.4	14.9	13.1	9.2	26.4
21	16.7	S	6.3	4.3	7.8	3.8	8.3	7.6	15.4	9.8	C	C	C	C	C	0.5	2.2	1.0	1.1	1.3	3.5	3.0	0.5	0.3	5.2	16.7
22	0.4	S	0.6	0.4	0.2	0.3	0.3	0.4	0.4	0.4	1.1	1.1	3.4	0.8	5.4	4.0	5.3	4.2	9.6	1.2	2.4	1.8	6.8	5.3	2.4	9.6
23	3.3	S	1.1	2.2	3.6	5.5	1.9	13.2	5.0	2.7	2.2	1.8	3.1	4.0	4.2	6.8	11.9	5.4	4.7	2.3	9.9	3.8	3.6	3.8	4.6	13.2
24	4.0	S	3.3	3.1	3.5	2.5	11.1	3.2	3.3	4.1	3.1	2.6	2.0	5.3	2.5	2.5	5.1	2.5	4.6	2.9	2.8	4.8	2.8	2.2	3.6	11.1
25	1.9	S	9.6	5.6	7.0	3.4	7.5	5.2	1.4	1.3	1.5	1.5	2.2	2.7	3.9	4.5	3.4	4.8	3.2	3.5	3.0	16.0	16.8	12.5	5.3	16.8
26	10.8	S	7.0	10.0	5.5	5.6	6.3	10.8	10.8	11.0	6.4	4.3	2.9	4.9	2.7	6.0	8.2	2.9	1.0	3.2	12.3	11.5	12.3	12.3	7.3	12.3
27	7.1	S	4.4	3.8	2.5	14.0	7.3	12.5	7.5	8.9	8.6	6.7	4.2	9.7	2.8	1.9	5.9	4.1	1.3	2.1	2.1	2.1	2.6	4.0	5.5	14.0
28	4.9	S	39.5	13.9	8.2	11.9	10.5	13.3	10.6	8.5	7.6	5.2	4.5	5.6	4.7	3.1	8.4	5.0	7.0	10.3	5.3	9.1	2.1	1.6	8.7	39.5
29	7.4	S	2.4	5.5	4.4	3.5	9.0	2.9	2.1	3.2	8.7	3.5	2.4	5.2	7.8	3.4	2.2	4.5	1.5	4.4	6.9	8.1	11.9	3.0	5.0	11.9
30	2.0	S	2.4	2.9	7.7	5.0	6.2	7.2	1.8	2.1	2.1	0.6	2.7	5.2	3.0	1.3	4.5	4.1	10.7	4.5	3.0	1.1	4.4	9.9	4.1	10.7
NO.	30	-	30	30	30	30	30	30	30	30	29	29	29	28	28	29	30	30	30	30	30	30	30	30	682	100%
MEAN	7.4	-	8.7	8.2	7.7	8.8	12.6	16.0	12.9	8.4	8.0	4.8	3.4	3.2	3.6	3.5	5.0	4.7	5.1	6.3	5.1	8.7	8.8	9.6		
MAX	20.3	-	39.5	38.6	20.4	30.0	54.2	56.8	49.9	25.0	39.9	16.9	24.7	15.6	13.5	22.5	38.6	37.7	16.9	20.3	12.3	29.0	24.9	39.1		



Number of Non-Zero Readings	650		
Maximum 1-HR Average	56.8 PPB		
Maximum 24-HR Average	15.8 PPB		
		Opperational Time	717 HRS
Monthly Calibration	5	Opperational Uptime	99.6 %
Standard Deviation	7.988	Monthly Average	7.5 PPB

Lagoon NO (ppb) – April 2021

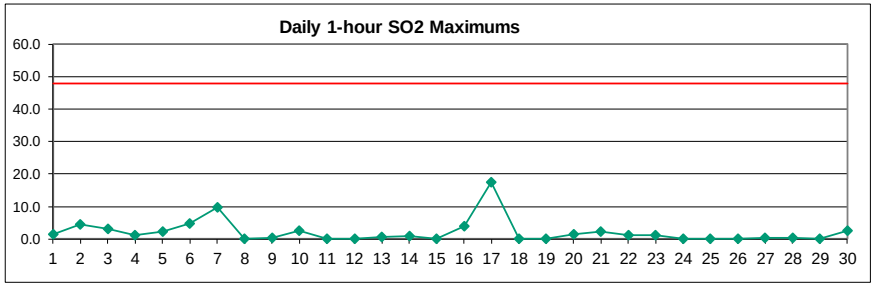
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	S	0.0	0.0	0.0	1.1	3.4	4.6	4.7	4.2	5.5	3.0	0.3	0.0	1.2	0.8	0.0	0.0	0.0	1.7	0.0	0.0	1.2	2.4	1.5	5.5
2	0.0	S	0.0	1.3	0.0	0.0	0.0	0.0	3.2	5.0	0.2	0.0	0.9	NRM	NRM	NRM	1.8	0.6	0.0	2.5	1.4	0.0	2.8	3.0	1.1	5.0
3	0.8	S	0.0	2.2	1.2	5.0	24.6	29.6	27.4	0.8	8.8	7.2	0.0	0.0	0.0	0.0	0.3	2.5	0.7	0.2	0.0	0.0	2.4	12.4	5.5	29.6
4	2.8	S	0.1	0.9	3.2	0.7	5.6	5.1	4.7	5.3	3.3	3.2	0.0	0.0	1.5	0.0	0.8	0.0	0.0	0.0	1.2	0.0	0.1	0.0	1.7	5.6
5	3.6	S	2.2	5.6	6.2	6.1	9.7	10.3	2.5	0.0	0.0	0.2	0.0	4.2	3.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	2.1	0.0	2.5	10.3
6	0.5	S	6.8	3.4	9.5	2.1	4.6	4.9	5.2	12.0	8.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.4	0.0	0.0	0.0	2.8	12.0
7	0.0	S	0.0	0.0	0.0	0.0	0.0	0.9	0.3	6.8	20.8	6.2	9.6	0.0	7.2	11.6	22.9	21.7	5.6	0.0	0.0	0.0	0.0	0.0	4.9	22.9
8	0.0	S	3.8	0.4	1.3	3.2	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.2	1.3	1.4	1.6	0.0	0.0	1.0	2.2	0.0	0.9	3.8
9	0.0	S	0.0	1.0	3.1	0.0	0.0	2.5	0.5	1.0	0.5	0.2	0.0	0.0	0.0	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.1
10	0.0	S	1.1	0.0	0.8	4.0	3.5	9.3	1.4	0.1	4.2	6.5	0.2	0.0	0.0	0.0	1.2	1.3	0.4	5.4	0.0	5.5	0.0	3.6	2.1	9.3
11	0.0	S	0.8	0.0	0.0	0.0	0.3	8.9	9.2	5.5	0.5	0.0	0.0	3.6	0.0	2.6	0.5	1.8	0.4	2.2	0.0	3.3	2.6	0.0	1.8	9.2
12	0.0	S	0.0	2.6	0.0	0.0	3.3	1.8	1.4	0.3	1.9	2.1	14.2	7.4	3.8	1.5	1.1	0.0	2.9	0.8	0.0	0.8	0.1	0.0	2.0	14.2
13	2.6	S	2.7	0.0	1.0	3.8	3.8	18.1	16.2	6.8	1.4	0.7	4.6	0.4	0.2	2.4	0.0	0.0	0.0	0.1	1.0	1.4	0.0	19.3	3.8	19.3
14	0.9	S	0.4	0.3	3.6	4.5	2.4	13.6	7.9	5.3	3.3	2.8	0.6	0.7	0.0	0.8	0.0	1.0	0.4	1.6	0.1	6.8	4.1	0.0	2.7	13.6
15	0.0	S	0.2	2.4	1.5	2.2	8.3	9.5	7.2	3.9	4.6	0.2	0.0	0.0	0.0	1.0	0.0	1.8	3.7	0.6	0.2	0.0	3.0	2.2	2.3	9.5
16	0.8	S	0.0	1.9	2.2	1.7	19.6	12.0	12.3	6.1	3.1	0.9	0.0	0.0	0.2	0.0	0.0	0.1	0.4	0.6	0.6	5.5	0.5	0.0	3.0	19.6
17	0.0	S	9.1	18.7	7.5	13.1	7.7	22.4	28.0	12.0	7.0	6.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.9	2.5	0.8	0.6	0.6	6.0	28.0
18	0.0	S	1.7	0.0	0.0	0.0	2.6	1.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.9	0.6	7.1
19	2.1	S	0.0	0.0	0.0	0.1	5.2	10.6	5.5	2.4	1.0	0.0	0.1	0.0	0.2	0.1	0.5	2.0	1.4	0.0	0.0	0.0	0.0	0.6	1.4	10.6
20	1.7	S	0.1	0.9	1.2	9.5	8.5	8.4	12.7	4.3	1.4	0.5	0.2	0.5	1.5	0.4	0.4	0.3	0.1	1.4	0.0	1.5	2.9	3.7	2.7	12.7
21	6.4	S	1.0	0.4	1.9	0.3	2.4	2.4	6.8	4.4	C	C	C	C	C	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.8
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	1.2	0.2	2.4	1.2	1.6	0.5	3.3	0.0	0.1	0.0	0.9	0.1	0.5	3.3
23	0.0	S	0.0	0.0	0.2	0.8	0.0	6.3	1.7	0.8	0.7	0.5	0.9	1.1	1.1	2.3	4.2	0.9	0.7	0.1	2.4	0.0	0.1	0.0	1.1	6.3
24	0.0	S	0.0	0.0	0.0	0.1	4.0	0.3	0.4	1.0	0.6	0.5	0.3	2.1	0.5	0.3	1.4	0.3	0.8	0.0	0.1	0.0	0.0	0.0	0.5	4.0
25	0.1	S	3.6	0.6	2.1	0.2	2.1	1.1	0.1	0.2	0.3	0.1	0.4	0.5	0.9	1.0	0.5	0.8	0.2	0.2	0.1	8.9	4.9	3.4	1.4	8.9
26	3.2	S	0.0	3.7	0.5	0.5	1.3	5.2	5.9	5.1	2.4	1.4	0.8	1.3	0.7	1.9	2.6	0.6	0.2	0.2	2.4	3.1	2.3	3.5	2.1	5.9
27	0.3	S	0.3	0.5	0.2	6.8	0.9	3.9	2.2	3.1	3.0	2.7	1.2	3.7	0.6	0.3	1.1	0.5	0.1	0.0	0.0	0.1	0.0	0.1	1.4	6.8
28	0.2	S	18.9	2.1	0.4	2.2	1.9	5.1	3.8	3.3	2.6	1.7	1.3	1.7	1.4	1.0	3.2	1.1	1.8	3.0	0.8	2.1	0.2	0.2	2.6	18.9
29	2.4	S	0.3	0.6	0.4	0.6	3.0	0.6	0.5	0.8	3.5	0.9	0.7	1.9	3.5	1.1	0.6	1.7	0.1	1.2	0.7	1.1	2.8	0.2	1.3	3.5
30	0.0	S	0.3	0.4	1.5	1.0	1.0	3.0	0.5	0.8	0.7	0.1	0.8	1.6	0.9	0.3	2.0	0.9	4.3	0.7	0.3	0.1	0.5	2.2	1.0	4.3
NO.	30	-	30	30	30	30	30	30	30	30	29	29	29	28	28	29	30	30	30	30	30	30	30	30	682	100%
MEAN	0.9	-	1.8	1.7	1.7	2.3	4.3	6.8	5.7	3.4	3.1	1.7	1.3	1.1	1.2	1.1	1.6	1.4	1.0	0.9	0.5	1.6	1.2	1.9		
MAX	6.4	-	18.9	18.7	9.5	13.1	24.6	29.6	28.0	12.0	20.8	7.2	14.2	7.4	7.2	11.6	22.9	21.7	5.6	5.4	2.5	8.9	4.9	19.3		



Number of Non-Zero Readings	493		
Maximum 1-HR Average	29.6 PPB		
Maximum 24-HR Average	6.0 PPB		
		Opperational Time	717 HRS
Monthly Calibration	5	Opperational Uptime	99.6 %
Standard Deviation	3.859	Monthly Average	2.1 PPB

Lagoon SO_2 (ppb) – April 2021

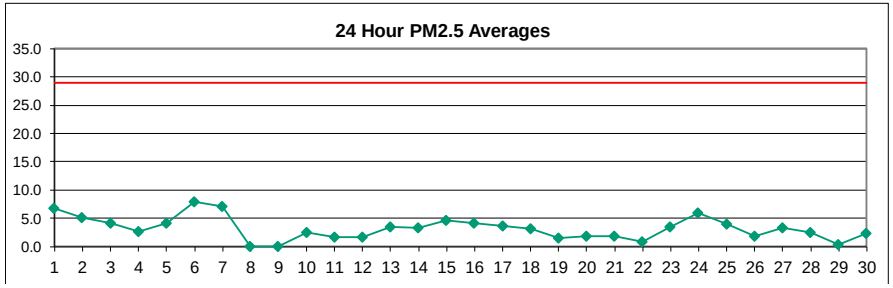
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	S	0.0	0.0	0.1	0.0	0.0	0.0	0.9	0.4	1.2	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	2.4	4.4	0.8	0.1	0.0	0.8	0.5	0.0	1.4	0.0	0.5	4.4
3	0.9	S	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.0	3.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.3	3.1
4	0.8	S	0.0	0.0	1.2	0.2	0.7	0.6	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
5	0.0	S	0.0	0.0	1.0	1.1	0.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2
6	0.5	S	2.8	1.1	2.5	0.0	0.0	0.8	0.9	4.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7	4.7
7	0.0	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	8.4	3.0	4.6	0.0	1.9	4.8	7.7	9.9	3.2	0.0	0.0	0.0	0.0	0.0	1.9	9.9
8	0.0	S	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
9	0.0	S	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
10	0.0	S	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	1.1	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.7
11	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
12	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	S	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
14	0.0	S	0.0	0.0	0.0	0.1	0.0	0.9	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9
15	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	S	0.0	0.0	0.0	0.0	2.9	3.8	3.5	1.3	1.3	0.5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.8
17	0.0	S	4.8	9.8	3.3	6.6	4.5	11.1	17.6	4.3	3.5	4.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.0	0.1	0.4	0.0	0.0	3.1	17.6
18	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	0.1	1.4
21	2.4	S	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.1	1.2
23	1.3	S	0.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3
24	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.5	0.0	0.5
28	0.4	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
29	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.2	0.6	0.0	0.0	0.6	0.3	2.5
NO.	30	-	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30	30	30	686	100%
MEAN	0.2	-	0.3	0.4	0.3	0.3	0.3	0.7	0.9	0.4	0.8	0.4	0.2	0.0	0.2	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.1	0.1		
MAX	2.4	-	4.8	9.8	3.3	6.6	4.5	11.1	17.6	4.7	8.4	4.0	4.6	0.0	2.4	4.8	7.7	9.9	3.2	2.2	0.6	0.4	1.4	1.2		



Number of 1HR Exceedences	0		
Number of Non-Zero Readings	120		
Maximum 1-HR Average	17.6 PPB		
Maximum 24-HR Average	3.1 PPB		
		Opperational Time	720 HRS
Monthly Calibration	4	Opperational Uptime	100.0 %
Standard Deviation	1.263	Monthly Average	0.3 PPB

Lagoon $PM_{2.5}$ ($\mu g/m^3$) – April 2021

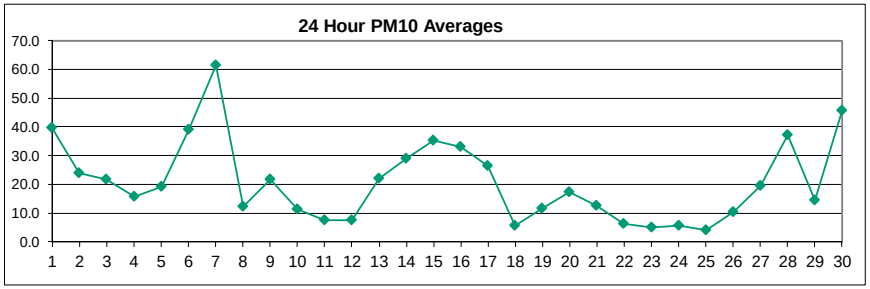
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	4.9	6.9	7.2	5.0	2.5	2.0	4.2	7.8	11.5	10.7	8.4	9.8	9.3	7.6	6.5	5.9	7.2	7.2	5.7	4.1	6.3	8.3	7.6	7.3	6.8	11.5
2	6.8	4.1	6.3	7.9	5.7	3.2	1.8	0.9	0.0	5.1	5.6	1.1	0.0	4.4	5.0	5.4	4.9	7.2	7.2	11.8	10.0	7.5	4.5	7.3	5.2	11.8
3	7.8	5.0	2.7	4.5	5.5	6.5	5.8	9.2	11.1	9.6	5.8	6.1	4.6	1.1	0.3	0.8	0.0	0.0	3.1	5.4	3.2	1.1	0.4	0.6	4.2	11.1
4	3.0	4.3	2.1	0.0	1.3	3.1	4.3	10.0	7.1	4.8	6.1	4.2	1.2	2.2	1.4	0.0	0.2	2.5	0.3	0.0	0.0	0.9	2.6	3.0	2.7	10.0
5	4.5	5.8	4.4	3.7	4.9	7.0	8.5	6.7	9.6	5.4	0.2	1.4	0.0	0.5	4.9	4.6	1.8	0.2	3.8	5.4	4.0	2.7	4.5	6.5	4.2	9.6
6	5.4	5.0	6.6	8.3	7.1	10.4	7.7	8.7	8.6	5.8	6.1	10.8	8.0	7.5	4.3	3.9	8.4	10.6	12.5	9.7	8.0	8.9	11.7	7.2	8.0	12.5
7	4.9	6.9	6.5	6.4	4.4	3.8	6.2	5.7	6.2	6.4	10.7	14.6	16.8	13.5	8.4	9.8	10.8	9.0	7.5	5.3	1.5	0.9	2.2	1.8	7.1	16.8
8	0.1	0.0	2.3	3.6	1.4	0.0	0.0	0.0	1.9	1.5	0.4	0.0	0.0	0.0	0.0	X	X	X	X	X	X	X	X	X	-	-
9	X	X	X	X	X	X	X	X	X	X	C	C	1.5	1.2	0.4	0.4	0.4	0.1	0.7	0.0	1.2	2.9	0.0	0.0	-	-
10	0.0	X	5.3	3.1	0.4	0.0	4.3	4.7	4.3	3.6	2.2	1.8	1.2	1.5	1.5	0.0	1.6	2.4	0.0	2.9	7.0	4.2	2.6	3.2	2.5	7.0
11	5.3	3.1	0.2	1.5	1.5	1.6	2.4	4.7	8.1	3.8	1.0	0.0	0.0	0.3	1.0	0.0	0.0	1.8	1.0	0.0	0.6	2.1	0.0	0.0	1.7	8.1
12	0.0	0.0	0.0	0.5	1.2	1.9	1.6	1.6	0.4	0.6	3.2	1.8	0.9	2.9	2.5	1.1	0.2	0.0	0.0	2.8	5.1	4.7	3.9	2.6	1.7	5.1
13	2.0	4.5	5.4	4.1	4.4	4.6	3.0	4.9	17.1	8.3	7.8	4.2	0.9	2.9	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	4.2	3.4	17.1
14	7.2	6.5	5.1	4.3	2.2	2.3	2.8	1.7	8.6	6.3	2.1	0.8	0.4	0.0	0.0	0.0	0.0	0.6	3.2	3.1	10.2	6.6	3.0	3.1	3.3	10.2
15	4.5	6.6	6.8	10.0	7.1	4.4	9.4	8.7	8.6	7.1	3.7	4.4	4.6	1.6	0.0	0.0	0.8	1.2	2.0	3.2	2.4	4.4	4.8	5.1	4.6	10.0
16	4.3	3.4	6.9	6.6	6.9	7.2	5.6	8.2	11.4	8.5	5.7	4.0	3.7	3.9	2.4	0.0	0.0	0.0	0.0	0.6	2.6	2.5	2.0	4.2	4.2	11.4
17	7.4	6.9	6.1	5.4	3.7	4.3	3.7	4.3	3.3	5.7	4.4	4.7	3.2	1.2	1.7	0.0	0.0	0.4	0.7	4.0	4.3	3.8	6.4	4.0	3.7	7.4
18	3.3	8.0	7.3	3.3	5.8	4.7	3.6	7.5	4.8	0.1	0.0	0.0	1.5	1.9	1.7	1.9	2.5	1.4	0.0	2.0	2.9	1.9	5.0	3.9	3.1	8.0
19	2.4	4.0	3.9	1.3	3.9	2.4	0.0	0.9	2.3	3.0	2.8	1.1	0.0	0.8	0.7	0.0	0.1	0.0	0.5	1.9	1.9	1.9	1.8	0.8	1.6	4.0
20	0.8	0.7	0.0	2.0	3.6	3.0	0.3	3.1	5.6	13.0	NRM	NRM	NRM	NRM	0.0	1.5	0.7	0.0	0.0	0.0	0.0	0.5	2.8	1.0	1.9	13.0
21	0.0	2.3	3.2	3.3	3.3	2.2	1.9	1.6	2.4	4.3	3.2	1.1	0.7	0.1	0.1	0.8	1.6	2.3	2.5	1.8	1.9	1.7	0.2	1.5	1.8	4.3
22	1.9	3.3	3.3	2.8	0.2	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.3	2.5	1.1	0.5	0.5	1.5	2.0	0.9	3.3
23	3.4	4.6	2.9	2.0	2.9	2.2	2.5	5.4	4.3	3.3	2.9	1.9	1.6	2.9	2.7	3.8	5.0	4.0	3.0	3.3	3.7	3.8	4.9	6.1	3.5	6.1
24	4.5	6.2	6.1	5.3	3.7	3.3	3.6	7.6	6.5	6.6	7.0	7.9	6.9	7.3	7.5	5.3	8.0	8.3	7.1	4.8	5.8	5.8	5.4	4.4	6.0	8.3
25	4.7	3.8	4.9	6.1	5.0	4.1	4.4	4.8	5.4	3.9	2.3	2.7	4.0	2.9	2.7	3.8	5.1	4.3	4.1	5.5	6.4	4.5	1.1	1.0	4.1	6.4
26	3.1	4.4	4.5	5.7	2.8	0.1	0.8	0.5	1.2	2.2	2.1	0.7	0.0	2.6	3.2	1.5	1.5	1.8	0.0	0.0	0.6	2.2	1.9	2.5	1.9	5.7
27	2.2	1.6	2.3	3.3	2.5	1.3	3.6	2.6	4.0	4.2	6.4	4.3	3.6	3.0	4.5	5.8	3.1	0.4	0.0	1.9	7.1	4.3	2.6	4.8	3.3	7.1
28	6.0	7.5	6.2	5.7	3.5	1.1	0.0	0.0	1.6	2.3	2.7	4.4	3.9	2.4	4.7	3.9	1.9	2.2	2.1	0.0	0.0	0.0	0.0	0.4	2.6	7.5
29	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.1	0.3	0.2	1.1	1.1	0.8	0.6	0.0	2.6	2.0	0.0	0.3	0.0	0.0	1.0	0.0	0.4	2.6
30	1.2	1.3	0.0	2.0	8.5	6.1	4.0	3.9	2.4	0.0	0.0	0.0	2.8	4.7	4.2	2.1	0.7	0.0	0.0	7.2	5.5	1.1	0.1	0.5	2.4	8.5
NO.	29	28	29	29	29	29	29	29	29	29	28	28	29	29	30	29	29	29	29	29	29	29	29	29	694	97%
MEAN	3.5	4.2	4.1	4.1	3.7	3.2	3.3	4.3	5.5	4.7	3.7	3.4	2.8	2.8	2.5	2.2	2.4	2.4	2.4	3.0	3.5	3.1	3.0	3.1		
MAX	7.8	8.0	7.3	10.0	8.5	10.4	9.4	10.0	17.1	13.0	10.7	14.6	16.8	13.5	8.4	9.8	10.8	10.6	12.5	11.8	10.2	8.9	11.7	7.3		



Number of 24HR Exceedences	0		
Number of Non-Zero Readings	592		
Maximum 1-HR Average	17.1 UG/M3		
Maximum 24-HR Average	8.0 UG/M3		
		Opperational Time	696 HRS
Monthly Calibration	2	Opperational Uptime	96.7 %
Standard Deviation	2.955	Monthly Average	3.4 UG/M3

Lagoon PM_{10} ($\mu g/m^3$) – April 2021

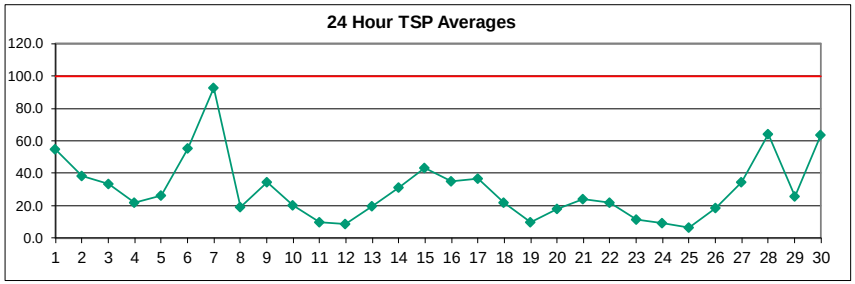
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	13.6	16.1	14.2	15.2	11.3	11.7	30.8	64.1	74.3	84.5	96.9	113.1	98.9	58.9	22.4	24.2	22.7	31.9	8.9	12.4	42.3	13.2	34.6	35.6	39.7	113.1
2	17.4	14.2	15.7	19.3	9.3	7.8	2.4	0.0	2.3	9.1	15.2	12.6	14.2	30.5	56.8	42.7	21.0	43.9	31.5	52.8	63.9	19.9	38.7	29.0	23.8	63.9
3	38.0	7.2	17.5	16.1	14.1	13.1	19.6	44.8	34.6	36.4	21.8	26.5	41.1	26.1	23.0	23.5	21.0	21.5	6.6	4.3	0.0	1.2	25.5	36.0	21.6	44.8
4	40.1	43.2	15.9	11.4	11.4	11.4	11.9	21.6	21.7	23.0	24.7	31.2	20.9	24.5	14.9	16.2	3.8	0.5	0.0	0.0	0.0	5.6	10.4	15.7	15.8	43.2
5	6.8	9.0	16.5	10.0	9.4	10.6	20.9	21.0	35.4	38.6	15.6	17.7	33.5	29.0	53.1	46.2	24.8	20.6	14.5	8.8	0.0	0.0	8.2	11.3	19.2	53.1
6	21.9	28.1	23.1	13.8	13.9	22.7	18.0	29.3	59.0	40.6	70.5	133.0	49.5	51.7	45.2	55.4	41.9	42.8	46.4	42.1	32.8	14.5	21.0	22.5	39.2	133.0
7	14.3	18.0	25.9	18.4	23.2	27.2	29.9	23.1	53.3	79.4	124.0	163.8	162.7	163.5	116.5	141.8	81.5	49.2	83.0	50.1	11.8	6.4	0.9	6.0	61.4	163.8
8	6.7	6.2	9.9	7.2	15.8	8.5	4.6	4.4	24.5	15.4	14.0	12.7	22.6	15.2	10.4	15.9	11.3	21.9	14.7	13.1	5.7	0.1	4.6	29.3	12.3	29.3
9	45.9	43.9	28.1	9.5	12.3	27.0	14.4	10.8	86.6	C	C	C	33.7	C	6.9	18.6	4.3	24.1	14.9	19.4	8.7	9.4	7.3	6.0	21.6	86.6
10	5.8	5.8	5.5	8.2	9.9	7.9	15.8	5.0	48.4	31.8	4.8	27.3	30.7	15.4	13.7	15.1	0.0	0.0	0.0	2.4	9.4	8.1	1.7	0.0	11.4	48.4
11	2.5	1.0	0.0	4.2	6.3	1.4	2.8	5.3	15.1	19.0	11.5	12.7	11.3	8.7	8.8	11.2	27.0	26.4	7.0	1.6	0.0	0.0	0.0	0.0	7.7	27.0
12	0.2	4.4	1.4	3.6	7.2	3.9	2.7	3.3	3.5	6.9	12.2	31.4	5.9	9.9	27.9	12.0	18.5	18.5	2.4	0.0	0.0	0.0	0.0	5.8	7.6	31.4
13	12.2	12.5	8.0	7.6	11.9	8.5	7.6	13.2	38.9	34.8	39.0	35.8	26.2	34.4	44.4	52.7	63.0	45.1	31.3	4.7	0.0	0.0	0.0	0.0	22.2	63.0
14	0.0	6.3	10.2	11.4	11.1	17.2	34.9	23.0	52.6	50.3	43.8	36.8	61.1	54.5	61.2	57.8	62.3	44.3	39.1	9.4	7.9	0.0	0.0	0.0	29.0	62.3
15	0.0	0.0	0.0	3.2	31.6	38.4	36.4	55.7	78.0	59.6	42.8	73.7	54.4	60.0	67.1	51.3	59.9	46.0	46.5	41.3	0.0	0.0	0.0	0.0	35.2	78.0
16	0.0	0.0	0.0	6.1	16.6	13.7	17.2	23.8	56.3	59.0	61.4	65.9	66.0	54.0	72.4	73.3	67.6	57.0	51.3	29.6	0.0	0.0	0.0	0.0	33.0	73.3
17	0.0	0.0	15.6	5.8	2.7	3.8	11.2	19.5	38.0	30.0	54.7	62.0	58.3	51.1	57.5	48.5	45.3	28.1	43.7	46.0	15.7	0.0	0.0	0.0	26.6	62.0
18	0.0	0.0	0.0	2.3	17.3	14.0	13.0	14.5	0.0	0.0	0.0	0.0	0.2	4.7	6.0	6.8	9.0	13.2	8.4	3.3	3.3	3.5	6.1	7.2	5.5	17.3
19	5.3	4.6	3.4	4.6	3.3	3.8	1.1	0.0	9.4	19.9	24.0	20.0	27.1	38.7	41.0	36.6	18.3	9.9	5.5	0.0	0.0	0.0	0.0	0.0	11.5	41.0
20	0.0	0.0	0.0	1.9	10.9	12.7	11.3	20.5	34.2	38.9	NRM	NRM	NRM	NRM	29.7	49.4	51.1	47.1	32.7	5.9	0.0	0.0	0.0	0.0	17.3	51.1
21	0.0	0.0	0.0	0.0	0.0	2.2	5.6	10.8	23.2	48.4	61.9	27.6	C	C	C	23.3	4.3	22.0	7.9	2.6	3.5	6.0	6.7	6.0	12.5	61.9
22	4.0	4.0	4.7	5.1	2.1	3.2	3.6	16.4	9.3	11.2	7.8	4.6	3.8	9.7	4.3	0.0	1.2	13.5	13.1	7.8	4.4	4.7	4.7	5.0	6.2	16.4
23	8.0	7.0	2.8	4.5	1.9	2.4	7.9	6.1	6.6	5.0	0.0	0.0	2.1	4.1	5.8	12.0	9.8	7.8	4.7	5.3	4.7	5.9	3.9	3.5	5.1	12.0
24	5.6	9.3	7.7	7.2	5.3	5.4	5.9	4.8	6.3	5.1	2.2	5.3	5.2	4.0	3.9	3.6	7.7	4.5	2.8	4.7	5.6	8.9	10.4	6.0	5.7	10.4
25	5.9	3.9	3.4	4.7	4.7	5.1	2.7	3.3	4.2	6.7	7.4	7.1	3.4	4.0	4.5	2.6	1.8	3.3	3.2	2.0	2.7	3.4	3.8	2.2	4.0	7.4
26	5.9	4.1	5.2	2.6	0.7	1.9	0.8	4.0	5.7	20.8	26.8	5.2	3.2	5.8	29.3	15.0	27.5	32.4	13.7	7.9	6.3	9.9	7.3	5.9	10.3	32.4
27	4.8	6.8	8.1	9.3	7.9	6.7	7.4	16.9	26.2	17.3	50.4	44.4	24.8	40.3	28.2	25.3	11.7	15.2	10.4	8.2	25.3	21.2	25.7	22.0	19.4	50.4
28	27.3	29.8	22.8	28.5	10.8	9.5	21.4	52.6	103.4	73.8	84.9	71.1	72.1	67.5	47.3	37.9	38.3	26.2	25.1	25.6	7.2	5.2	3.0	0.0	37.1	103.4
29	0.0	0.4	0.0	0.0	0.0	0.0	1.6	6.7	14.9	7.5	10.8	30.5	31.2	15.4	23.7	44.3	66.0	50.6	20.0	0.0	0.4	6.7	7.5	8.5	14.4	66.0
30	6.9	20.2	43.3	120.7	158.4	18.6	24.1	36.6	47.6	50.3	36.1	51.8	82.0	36.7	20.9	19.4	9.3	29.4	59.2	142.2	57.3	24.5	0.0	2.5	45.7	158.4
NO.	30	30	30	30	30	30	30	30	30	29	28	28	28	27	29	30	30	30	30	30	30	30	30	30	709	99%
MEAN	10.0	10.2	10.3	12.1	14.7	10.7	12.9	18.7	33.8	31.8	34.5	40.1	37.4	34.0	32.6	32.8	27.7	26.6	21.6	18.4	10.6	5.9	7.7	8.9		
MAX	45.9	43.9	43.3	120.7	158.4	38.4	36.4	64.1	103.4	84.5	124.0	163.8	162.7	163.5	116.5	141.8	81.5	57.0	83.0	142.2	63.9	24.5	38.7	36.0		



Number of Non-Zero Readings	626		
Maximum 1-HR Average	163.8 UG/M3		
Maximum 24-HR Average	61.4 UG/M3		
		Opperational Time	716 HRS
Monthly Calibration	7	Opperational Uptime	99.4 %
Standard Deviation	24.93	Monthly Average	20.8 UG/M3

Lagoon TSP (µg/m^3) – April 2021

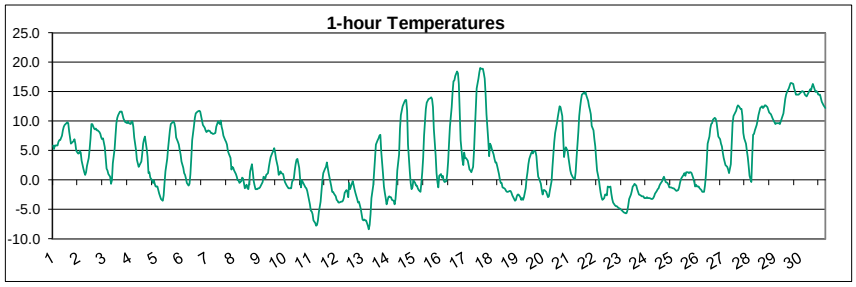
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	11.5	15.9	10.3	17.8	10.6	25.4	33.4	87.0	106.0	120.2	143.0	175.6	141.7	51.0	19.1	37.6	39.7	52.4	19.6	23.4	66.3	21.0	48.1	37.6	54.8	175.6
2	12.7	12.8	16.2	30.0	18.0	15.1	10.1	13.4	21.9	14.5	23.2	14.8	29.4	33.3	52.3	69.4	46.4	81.3	49.4	92.7	112.0	32.6	68.5	53.6	38.5	112.0
3	116.1	X	31.4	23.6	19.8	24.0	30.8	59.8	38.4	53.5	17.3	28.6	41.8	18.0	13.9	12.8	15.8	24.0	30.6	29.9	17.1	23.0	36.8	54.3	33.1	116.1
4	57.7	70.9	22.3	21.8	12.9	18.6	26.8	32.5	17.2	25.3	29.4	31.4	20.5	11.2	10.0	12.7	14.5	21.8	12.3	5.9	9.8	8.8	14.2	18.0	21.9	70.9
5	15.8	23.5	18.9	7.3	10.7	26.5	27.2	20.9	45.6	50.8	15.6	20.4	35.5	28.3	61.3	47.3	23.5	18.5	10.8	28.4	13.2	23.7	23.3	29.2	26.1	61.3
6	28.3	35.1	23.9	24.9	20.1	30.4	27.9	55.5	90.1	68.3	106.2	196.5	63.4	37.6	41.0	53.4	41.0	54.6	64.6	80.4	78.7	44.9	34.3	25.2	55.2	196.5
7	26.3	22.1	18.7	27.4	17.5	37.6	38.4	29.4	61.9	109.5	194.8	267.0	242.3	241.8	139.2	231.0	151.2	95.3	139.7	81.3	20.3	8.3	5.2	20.2	92.8	267.0
8	6.6	22.1	16.6	13.2	23.2	12.5	10.0	14.0	38.0	20.8	18.2	20.5	37.6	12.4	7.5	15.5	18.0	13.8	25.3	28.3	11.1	8.2	14.6	51.2	19.1	51.2
9	49.2	60.0	39.1	15.9	26.3	43.9	32.8	29.0	152.0	95.6	C	C	32.0	C	15.5	23.4	7.7	41.4	22.2	16.6	7.1	5.8	7.1	4.5	34.6	152.0
10	15.4	X	9.4	22.1	17.9	14.6	21.4	12.2	64.0	44.9	13.4	44.4	40.7	8.8	31.9	21.0	1.9	6.9	5.0	14.0	14.1	13.8	10.0	11.7	20.0	64.0
11	17.7	11.3	10.9	5.8	7.0	5.8	7.1	7.3	10.4	18.2	17.3	4.4	4.2	1.7	2.9	2.0	10.6	21.0	20.6	11.5	14.8	5.9	8.0	5.6	9.7	21.0
12	2.8	0.2	0.5	4.6	8.1	3.1	4.2	1.9	5.8	7.7	16.7	34.4	8.9	13.7	8.5	8.3	6.3	12.5	9.9	9.8	8.4	7.3	10.2	15.6	8.7	34.4
13	17.9	13.9	12.4	8.9	13.9	12.8	15.6	20.2	49.1	37.7	58.8	26.0	19.3	15.1	11.3	11.3	12.2	7.6	15.6	0.3	23.4	37.4	15.2	12.8	19.5	58.8
14	15.9	22.0	17.0	19.8	23.4	20.9	39.8	34.4	71.3	60.0	63.4	38.1	44.6	7.3	9.8	8.4	7.3	11.8	39.0	26.4	101.8	32.5	18.9	11.0	31.0	101.8
15	27.3	18.4	23.4	39.6	49.1	37.0	49.6	67.0	111.7	81.8	46.5	92.0	19.5	20.2	28.8	26.7	49.8	30.3	48.4	64.3	33.9	40.0	14.9	21.9	43.4	111.7
16	18.0	52.6	12.0	22.9	30.9	24.6	19.8	46.5	76.9	85.9	67.1	53.8	27.8	7.5	14.5	22.1	19.0	19.1	32.6	25.4	50.3	36.8	46.3	31.5	35.2	85.9
17	46.5	76.1	73.4	51.3	30.1	23.0	31.6	26.2	41.7	42.1	48.6	47.0	24.5	16.9	18.9	28.3	15.2	15.3	53.2	41.6	41.0	32.1	33.8	20.2	36.6	76.1
18	30.3	43.7	19.4	57.8	70.5	46.9	42.6	35.2	21.3	7.5	12.6	10.9	5.6	3.7	15.3	14.0	14.5	20.2	9.6	5.6	3.2	7.4	12.3	7.5	21.6	70.5
19	12.4	8.5	8.6	9.5	4.2	1.9	6.2	12.8	15.1	12.1	23.1	13.7	9.7	7.2	8.5	8.8	13.7	8.3	5.8	6.4	5.9	8.8	13.6	7.1	9.7	23.1
20	7.3	10.0	9.1	18.1	16.7	15.3	14.7	26.3	44.7	48.6	NRM	NRM	NRM	NRM	7.1	16.2	8.3	5.6	4.9	14.4	19.4	19.0	30.5	28.1	18.2	48.6
21	11.8	19.2	13.9	12.6	11.4	14.2	15.8	19.2	36.0	61.6	85.9	26.6	27.1	18.1	36.7	42.2	14.9	44.5	25.1	7.1	7.4	11.1	8.1	10.5	24.2	85.9
22	11.5	14.3	0.0	5.5	9.1	35.4	28.0	67.2	56.0	43.2	25.9	19.0	32.4	53.7	10.2	13.6	8.7	30.3	25.8	15.8	3.1	4.7	5.9	8.6	22.0	67.2
23	9.8	8.5	8.2	4.3	2.9	2.1	8.3	6.4	15.4	14.7	4.3	3.6	13.1	19.8	24.4	32.8	25.1	23.9	8.3	5.7	5.9	8.4	7.2	7.8	11.3	32.8
24	8.3	22.9	11.2	10.1	12.2	5.3	6.0	9.6	6.0	9.8	8.4	7.0	5.7	5.7	8.7	11.2	9.7	7.4	11.0	7.0	6.3	15.5	15.8	3.8	9.4	22.9
25	15.1	11.3	11.5	13.6	6.8	3.2	5.8	7.0	5.7	9.7	7.2	8.2	4.4	5.6	3.5	3.2	5.5	3.6	5.7	5.6	4.4	4.3	3.4	5.6	6.7	15.1
26	3.8	12.4	8.1	2.8	0.4	3.4	7.7	15.5	16.9	28.9	41.6	21.2	6.6	20.4	48.9	35.2	42.7	55.3	32.9	7.4	11.4	12.4	8.3	5.7	18.7	55.3
27	8.7	10.9	5.7	5.7	6.0	9.6	7.3	28.9	41.8	28.8	78.7	72.8	47.8	73.6	56.9	54.6	24.0	27.3	19.2	16.8	54.1	52.0	52.7	45.0	34.5	78.7
28	53.8	66.2	43.6	49.1	18.3	20.4	35.9	96.8	198.8	120.2	134.9	107.4	116.8	103.6	81.9	64.3	52.3	47.7	53.0	36.5	18.8	8.2	4.0	0.0	63.9	198.8
29	0.0	1.9	5.7	5.6	4.3	2.8	1.1	13.4	23.0	14.4	21.2	44.8	48.9	36.0	53.8	71.9	105.1	68.8	37.9	6.1	10.7	21.5	10.2	13.5	25.9	105.1
30	7.2	27.4	47.6	149.8	180.3	19.3	36.5	60.4	70.8	67.8	47.6	57.5	101.3	64.6	39.0	39.0	21.6	33.9	89.1	218.1	94.1	35.3	4.8	12.4	63.6	218.1
NO.	30	28	30	30	30	30	30	30	30	30	28	28	29	28	30	30	30	30	30	30	30	30	30	30	711	99%
MEAN	22.2	25.5	18.3	23.4	22.8	18.5	21.4	31.9	51.8	46.8	49.0	53.1	43.2	33.5	29.4	34.6	27.5	30.1	30.9	31.1	28.9	19.7	19.5	19.3		
MAX	116.1	76.1	73.4	149.8	180.3	46.9	49.6	96.8	198.8	120.2	194.8	267.0	242.3	241.8	139.2	231.0	151.2	95.3	139.7	218.1	112.0	52.0	68.5	54.3		



Number of 24HR Exceedences	0		
Number of Non-Zero Readings	708		
Maximum 1-HR Average	267.0 UG/M3		
Maximum 24-HR Average	92.8 UG/M3		
		Opperational Time	714 HRS
Monthly Calibration	3	Opperational Uptime	99.2 %
Standard Deviation	34.3	Monthly Average	30.4 UG/M3

Lagoon Temperature (°C) – April 2021

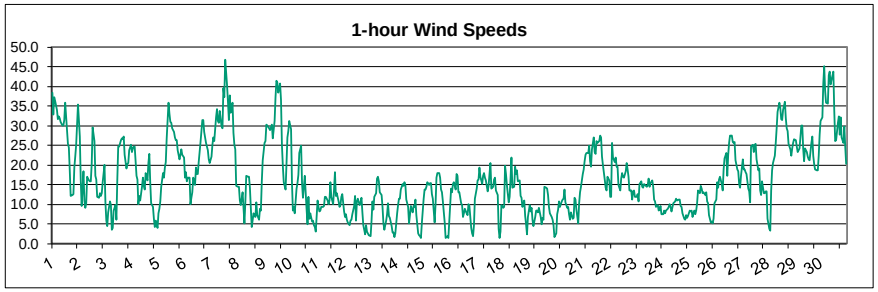
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	5.9	5.2	5.8	5.8	5.9	6.4	6.8	6.8	7.5	8.4	9.0	9.4	9.5	9.8	9.6	8.3	7.2	6.2	6.5	6.6	7.0	6.1	5.0	4.4	7.0	9.8
2	4.5	4.9	4.7	3.3	1.9	1.3	0.9	1.3	2.4	3.7	5.3	7.0	9.5	9.6	8.8	8.7	8.7	8.5	8.5	8.1	7.8	7.2	7.0	7.0	5.8	9.6
3	5.5	3.7	1.9	1.7	1.1	0.5	-0.7	-0.1	2.9	5.3	7.5	9.6	10.6	11.1	11.7	11.6	11.6	11.0	10.3	9.8	9.7	9.6	9.9	9.7	6.9	11.7
4	9.5	9.9	10.0	9.0	7.2	5.1	3.5	2.9	2.3	2.5	3.2	4.5	6.1	7.0	7.4	5.2	3.9	1.2	1.4	0.4	0.0	-0.4	0.0	-0.7	4.2	10.0
5	-1.0	-1.2	-1.8	-2.3	-2.7	-3.3	-3.5	-2.6	-0.4	1.4	3.5	5.4	6.9	8.4	9.5	9.8	10.0	9.6	8.9	7.2	6.5	6.0	5.1	4.4	3.5	10.0
6	3.2	2.1	1.2	0.8	0.3	-0.5	-0.9	-0.6	0.9	3.7	6.7	9.2	10.6	11.3	11.4	11.6	11.8	11.6	10.9	10.0	9.3	8.9	8.5	8.1	6.3	11.8
7	8.3	8.5	8.3	8.0	8.0	7.8	7.8	8.0	9.0	9.5	9.9	9.6	10.1	9.0	8.4	7.6	6.7	6.5	6.0	5.0	4.4	3.7	1.8	2.2	7.3	10.1
8	2.1	1.6	1.0	0.6	0.0	0.0	-0.5	-0.1	0.4	0.2	-0.5	-1.4	-0.8	-1.3	-1.6	-0.3	1.5	2.7	1.3	-0.2	-1.0	-1.5	-1.5	-1.4	0.0	2.7
9	-1.4	-1.2	-0.9	-0.4	0.5	0.4	0.2	0.9	1.1	2.2	3.1	3.8	4.6	5.0	5.5	4.6	3.6	2.2	0.9	1.0	1.5	1.2	1.1	0.3	1.7	5.5
10	-0.3	-0.6	-0.9	-1.4	-1.4	-1.4	-1.4	-0.3	0.3	1.7	2.6	3.5	3.6	2.1	0.3	-1.2	0.0	-0.4	-0.9	-1.2	-1.4	-1.8	-2.6	-4.2	-0.3	3.6
11	-5.1	-5.4	-5.7	-6.8	-7.3	-7.7	-7.6	-6.8	-5.5	-3.7	-1.8	0.0	1.2	2.0	2.3	3.0	2.1	1.1	-0.3	-1.2	-2.0	-2.0	-2.3	-2.7	-2.6	3.0
12	-3.3	-3.5	-3.8	-3.8	-3.7	-3.7	-3.5	-3.0	-2.2	-1.7	-2.0	-2.9	-0.6	-1.5	-0.7	-0.3	-0.7	-1.5	-2.2	-3.2	-3.8	-3.7	-4.3	-4.8	-2.7	-0.3
13	-6.7	-6.9	-6.6	-6.9	-6.9	-7.8	-8.3	-7.6	-5.7	-3.1	-0.9	1.4	3.6	6.0	6.8	7.1	7.6	7.7	4.8	1.0	-1.1	-2.1	-3.0	-4.1	-1.3	7.7
14	-3.0	-2.7	-2.9	-2.9	-3.4	-3.5	-4.1	-3.2	-1.2	1.6	4.3	8.8	11.0	11.7	12.5	13.3	13.6	13.5	11.7	6.0	1.5	-0.5	-1.6	-1.2	3.3	13.6
15	0.0	-0.4	-0.9	-1.0	-1.4	-1.7	-2.0	-0.6	1.3	3.7	7.6	12.0	13.1	13.4	13.7	13.8	14.0	13.8	12.4	8.6	4.2	1.2	-0.3	-1.2	5.1	14.0
16	0.7	1.0	0.4	0.7	-0.1	-0.3	-0.2	1.0	3.1	6.2	9.0	12.4	14.9	16.7	16.9	17.7	18.4	18.2	16.3	11.6	6.7	3.4	2.6	4.6	7.6	18.4
17	3.7	3.7	3.3	2.6	1.8	1.6	1.3	2.3	4.8	8.5	12.0	15.6	17.3	18.2	19.0	18.8	18.9	18.1	17.2	14.6	11.2	6.7	4.1	6.2	9.6	19.0
18	5.8	5.2	4.4	3.7	3.0	2.9	2.4	1.1	0.2	-0.6	-0.5	-1.2	-1.4	-1.5	-1.9	-2.1	-2.0	-1.8	-1.9	-2.1	-2.6	-3.0	-3.5	-3.4	0.0	5.8
19	-2.7	-2.4	-2.5	-2.9	-3.3	-3.0	-3.4	-2.9	-1.4	0.3	1.4	2.7	3.6	4.5	4.9	4.6	4.9	4.9	4.1	2.1	0.6	0.2	-0.7	-1.7	0.5	4.9
20	-2.5	-1.7	-1.7	-2.0	-2.5	-2.9	-2.8	-1.9	-0.2	2.3	4.4	6.5	8.0	9.7	10.7	11.6	12.6	12.3	10.9	7.3	3.9	5.0	5.5	4.9	4.1	12.6
21	3.8	2.7	1.6	1.0	0.5	0.2	0.1	1.3	3.8	8.1	10.8	12.3	13.6	14.5	14.8	14.7	14.9	14.3	13.4	12.6	12.0	11.1	9.2	8.4	8.3	14.9
22	7.0	5.7	3.6	1.6	0.2	-1.1	-2.1	-3.0	-3.4	-3.1	-2.5	-2.5	-2.6	-1.1	-1.2	-1.1	-2.3	-3.2	-3.9	-4.2	-4.4	-4.4	-4.6	-4.7	-1.6	7.0
23	-4.9	-5.1	-5.2	-5.3	-5.4	-5.7	-5.6	-5.2	-4.3	-3.2	-2.4	-1.8	-1.1	-0.9	-0.6	-1.0	-1.6	-2.1	-2.4	-2.6	-2.7	-2.7	-2.8	-3.1	-3.2	-0.6
24	-3.0	-3.0	-3.0	-3.1	-3.1	-3.2	-3.2	-3.0	-2.7	-2.3	-1.9	-1.6	-1.3	-1.0	-0.7	-0.2	0.3	0.5	0.1	-0.4	-0.5	-0.8	-1.2	-1.2	-1.6	0.5
25	-1.3	-1.4	-1.4	-1.6	-1.7	-1.8	-1.6	-1.3	-0.6	0.1	0.5	0.9	1.2	0.8	1.4	1.3	1.2	1.3	1.3	1.1	0.3	-0.3	-1.1	-0.8	-0.1	1.4
26	-1.1	-1.0	-1.4	-1.5	-1.7	-1.9	-2.0	-0.9	0.8	3.2	6.1	7.4	8.7	9.5	9.6	10.3	10.5	10.4	9.8	8.6	7.4	6.9	6.1	5.7	4.6	10.5
27	4.7	3.7	2.6	2.4	2.3	1.8	1.2	2.7	6.2	9.7	10.8	11.1	11.8	12.3	12.7	12.5	12.1	12.0	10.9	7.9	7.0	6.2	5.0	3.9	7.2	12.7
28	2.4	0.8	-0.3	4.1	7.6	7.9	8.4	9.4	10.1	11.0	11.6	12.2	12.5	12.2	12.4	12.7	12.6	12.3	11.9	11.4	11.3	11.1	10.4	10.0	9.4	12.7
29	9.8	9.4	9.6	9.7	9.6	9.5	9.9	10.4	11.3	12.5	13.7	14.5	14.9	15.5	16.1	16.5	16.5	16.3	15.5	15.1	14.5	14.5	14.5	14.7	13.1	16.5
30	14.8	15.0	15.0	15.0	14.5	14.4	14.2	14.5	15.1	15.3	15.3	15.9	16.3	15.4	15.0	15.1	14.9	14.5	14.5	13.8	13.2	12.9	12.6	12.3	14.6	16.3
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	1.8	1.6	1.1	0.9	0.7	0.3	0.1	0.7	1.9	3.5	4.9	6.1	7.2	7.6	7.8	7.8	7.8	7.4	6.6	5.2	4.0	3.3	2.6	2.4		
MAX	14.8	15.0	15.0	15.0	14.5	14.4	14.2	14.5	15.1	15.3	15.3	15.9	17.3	18.2	19.0	18.8	18.9	18.2	17.2	15.1	14.5	14.5	14.5	14.7		



Number of Non-Zero Readings	720		
Maximum 1-HR Average	19.0 C		
Maximum 24-HR Average	14.6 C		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	6.134	Monthly Average	3.9 C

Lagoon Wind Speed (km/hr) – April 2021

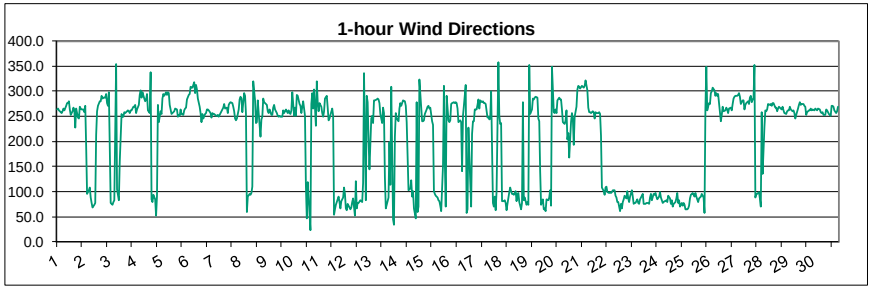
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	38.5	33.0	37.3	36.4	33.9	31.8	32.4	32.0	30.9	29.9	30.1	31.4	35.8	32.4	25.3	24.6	18.7	12.1	12.3	12.7	19.3	22.1	25.3	35.4	28.1	38.5
2	31.5	27.2	16.4	9.6	18.4	11.0	9.2	10.4	16.9	16.1	15.9	15.8	20.3	29.7	26.1	17.3	16.4	11.9	11.7	12.9	12.1	12.9	15.6	20.1	16.9	31.5
3	10.5	5.8	4.4	8.1	10.7	9.9	3.6	4.1	8.5	9.8	6.2	16.4	24.7	24.8	26.4	26.9	26.6	27.2	22.5	19.1	20.4	20.6	23.8	25.1	16.1	27.2
4	23.3	24.1	24.8	24.7	17.4	16.4	10.1	12.2	11.1	14.5	16.8	14.7	13.8	18.0	16.1	20.6	22.8	15.6	10.3	9.3	6.3	4.2	5.8	4.1	14.9	24.8
5	7.7	8.8	10.7	14.6	17.9	16.7	19.4	20.7	26.8	36.0	33.0	31.1	30.7	29.3	28.4	27.0	26.3	26.3	23.7	21.4	22.6	24.0	22.6	21.9	22.8	36.0
6	16.9	18.2	15.9	16.8	16.8	10.1	11.7	13.1	16.7	14.9	19.4	17.8	17.6	20.8	25.9	28.6	31.4	31.4	28.4	25.7	24.7	23.8	21.5	20.5	20.4	31.4
7	22.3	25.2	27.0	26.1	32.1	34.1	31.3	30.6	33.9	29.7	29.5	39.6	37.3	46.8	40.3	36.1	31.5	37.6	33.3	35.9	28.1	25.3	24.0	14.7	31.3	46.8
8	14.5	14.4	11.1	9.8	13.0	9.0	5.2	10.5	17.3	16.9	16.9	14.3	9.1	4.2	7.7	7.1	6.9	10.5	7.2	6.1	8.9	8.3	16.0	21.2	11.1	21.2
9	25.6	26.1	30.3	30.0	29.4	28.8	29.7	30.3	26.7	31.2	37.2	41.5	41.1	38.5	40.7	36.7	25.1	19.8	15.7	13.7	20.2	26.9	28.7	31.2	29.4	41.5
10	29.1	15.3	8.3	9.3	7.9	14.0	15.4	17.4	23.1	25.0	15.5	11.7	14.5	17.2	8.8	5.0	11.8	6.3	7.8	5.6	5.8	4.7	4.4	3.0	11.9	29.1
11	10.9	9.3	8.2	8.4	9.3	9.4	9.6	11.9	12.0	11.1	10.0	11.0	15.7	12.0	10.0	13.8	18.2	12.1	12.8	10.7	9.4	9.9	11.9	12.7	11.3	18.2
12	8.3	6.8	7.4	6.1	5.3	4.7	6.0	6.2	7.5	9.6	12.2	5.8	10.8	11.4	9.8	10.5	11.8	8.0	4.8	2.5	4.6	3.1	2.6	2.3	7.0	12.2
13	2.0	5.9	10.8	8.7	11.9	12.8	16.5	17.0	15.8	13.2	12.5	9.5	5.2	3.5	5.9	7.5	10.3	7.2	6.5	4.6	2.9	2.9	1.7	2.7	8.2	17.0
14	7.9	9.7	11.5	11.5	13.7	15.3	14.6	15.7	15.0	11.2	9.3	5.2	7.4	9.6	8.0	9.6	9.4	11.3	7.3	2.7	2.1	2.0	1.5	5.2	9.0	15.7
15	11.5	13.7	13.8	14.4	15.6	15.0	15.5	15.5	12.6	11.6	5.5	10.2	16.8	17.9	18.0	16.9	13.9	13.0	10.9	5.3	1.5	1.7	2.0	1.6	11.4	18.0
16	9.8	14.1	13.1	15.1	15.7	13.7	17.7	17.3	13.1	13.1	10.2	9.8	6.9	7.7	8.9	7.8	7.3	10.2	9.5	4.0	2.7	2.0	4.7	11.4	10.3	17.7
17	14.0	16.1	16.4	19.4	17.1	15.1	17.2	18.0	16.8	16.2	13.3	14.8	17.7	20.5	14.0	14.5	16.3	16.9	13.6	12.3	3.9	1.5	3.0	9.9	14.1	20.5
18	9.2	9.4	19.7	17.7	14.9	10.6	11.9	16.6	22.0	14.2	14.4	19.7	17.6	18.6	16.0	16.1	12.2	11.7	9.4	11.0	7.0	5.0	2.5	6.7	13.1	22.0
19	9.9	8.3	9.1	6.1	4.4	6.8	8.4	8.5	7.9	9.1	6.9	4.9	6.5	6.2	14.6	14.3	14.0	12.5	9.3	7.7	6.8	6.2	4.6	1.6	8.1	14.6
20	2.6	7.6	8.6	10.8	9.5	10.8	11.2	11.5	13.7	10.6	9.1	9.4	7.6	6.2	7.9	6.4	6.5	11.7	11.2	8.6	5.1	10.2	13.2	14.6	9.4	14.6
21	17.7	18.9	20.9	22.7	23.0	23.0	25.0	20.9	19.5	24.1	27.1	23.4	22.8	26.1	25.6	26.1	27.5	27.0	22.1	20.1	16.2	14.4	13.6	17.1	21.9	27.5
22	16.2	11.8	11.8	25.6	21.9	20.9	22.0	19.7	19.5	14.8	13.6	16.5	18.1	17.0	16.8	18.3	20.5	18.9	17.1	13.6	13.6	11.2	13.3	13.5	16.9	25.6
23	11.9	12.0	12.5	10.8	15.2	15.8	14.4	14.1	15.2	14.9	14.5	14.9	16.6	14.6	15.5	16.1	14.5	11.2	10.8	9.4	9.9	8.4	8.7	9.7	13.0	16.6
24	7.6	7.4	8.3	7.8	8.5	8.9	9.4	10.0	9.4	8.1	10.2	10.4	10.9	11.5	11.0	11.2	11.3	9.6	9.3	7.7	6.3	6.2	7.3	6.7	9.0	11.5
25	7.0	8.4	8.3	8.5	6.9	8.5	7.5	8.4	10.4	13.5	12.9	14.8	13.9	12.8	13.0	12.3	13.1	10.8	10.2	7.2	5.4	5.8	5.2	6.3	9.6	14.8
26	10.3	11.2	15.7	14.2	16.4	17.0	15.2	13.6	18.8	21.6	23.2	17.3	22.6	25.7	27.4	27.6	25.8	25.6	25.9	21.2	18.8	18.5	15.2	14.2	19.3	27.6
27	17.3	21.5	18.8	18.9	18.2	17.7	14.1	13.3	10.4	24.6	25.1	23.3	25.1	25.3	21.5	18.7	19.0	13.5	12.3	15.9	12.8	12.9	13.4	13.4	17.8	25.3
28	6.3	3.9	3.4	13.5	18.6	20.5	22.5	25.7	29.3	33.5	35.9	34.5	31.8	31.5	34.0	36.0	31.8	29.3	28.7	25.3	23.9	22.5	24.2	25.6	24.7	36.0
29	26.5	26.2	24.8	23.3	23.7	24.3	30.0	30.1	24.3	20.9	24.2	23.2	22.1	21.4	21.3	25.6	27.2	22.4	20.2	18.8	18.6	18.6	22.4	27.8	23.7	30.1
30	31.2	32.1	40.6	45.2	38.8	35.8	35.5	42.8	43.7	40.6	41.7	43.8	33.8	26.1	26.2	30.8	32.3	27.7	32.1	26.9	25.7	29.8	24.8	20.4	33.7	45.2
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	15.3	15.1	15.7	16.5	16.9	16.3	16.4	17.3	18.3	18.7	18.4	18.6	19.2	19.6	19.0	19.0	18.7	17.0	15.2	13.3	12.2	12.2	12.8	14.0		
MAX	38.5	33.0	40.6	45.2	38.8	35.8	35.5	42.8	43.7	40.6	41.7	43.8	41.1	46.8	40.7	36.7	32.3	37.6	33.3	35.9	28.1	29.8	28.7	35.4		



Number of Non-Zero Readings	720		
Maximum 1-HR Average	46.8 KM/HR		
Maximum 24-HR Average	33.7 KM/HR		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	9.155	Monthly Average	16.5 KM/HR

Lagoon Wind Direction (°) – April 2021

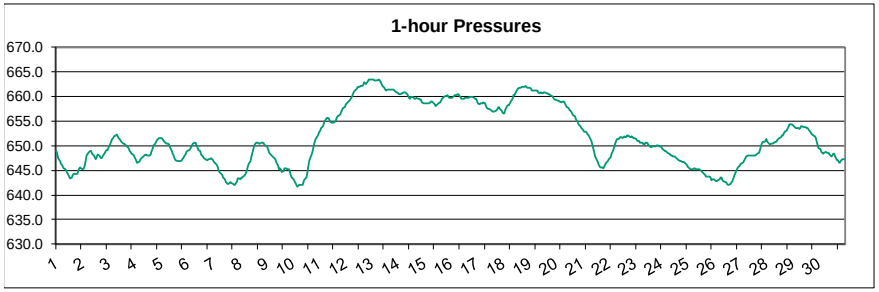
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	264.0	264.8	262.2	257.5	255.9	259.5	265.8	261.8	270.5	275.6	276.1	279.9	264.0	253.4	259.6	266.8	261.6	228.0	265.2	247.5	246.2	269.0	266.3	263.8	263.2	279.9
2	263.3	259.1	270.4	189.7	95.9	102.8	108.9	88.5	77.0	68.3	74.1	77.1	212.6	260.9	270.1	279.5	280.4	291.3	284.9	286.6	286.4	294.9	276.3	271.4	269.5	294.9
3	297.9	77.4	76.2	74.0	78.9	82.0	353.7	105.2	93.8	82.7	159.9	253.8	249.2	249.4	257.9	256.1	258.8	261.4	260.5	256.4	262.4	262.4	269.7	270.0	259.2	353.7
4	272.0	256.4	264.0	273.5	292.2	301.1	286.9	298.2	285.6	279.9	283.5	294.9	261.9	256.2	337.6	85.3	79.9	93.3	85.3	53.0	92.7	273.0	238.1	259.8	286.3	337.6
5	255.2	286.1	294.1	291.2	298.9	292.8	298.3	295.5	272.9	255.5	256.5	258.7	259.5	264.8	264.4	249.8	252.7	251.4	263.0	254.0	252.0	262.2	264.7	267.8	266.0	298.9
6	284.4	293.5	294.1	309.0	307.9	306.6	317.6	296.0	312.4	303.3	285.5	268.9	255.9	238.8	254.1	246.2	255.3	256.7	263.0	263.9	261.6	256.7	247.8	256.2	270.8	317.6
7	255.2	254.8	251.4	251.9	252.3	249.0	252.9	260.0	263.2	266.5	275.0	265.9	267.8	255.9	273.4	276.0	277.7	276.1	268.7	259.2	245.6	242.7	245.0	263.6	261.3	277.7
8	284.1	288.7	286.0	257.5	296.1	290.0	255.5	60.2	90.4	95.1	93.6	97.9	109.6	320.1	281.5	236.1	237.6	281.6	256.7	210.1	243.2	249.4	284.8	278.9	274.6	320.1
9	274.1	271.9	260.5	256.3	263.3	253.4	252.2	267.8	273.4	264.1	257.3	250.6	249.8	251.2	249.7	250.0	261.2	257.3	260.2	264.3	256.6	262.2	256.7	254.8	258.2	274.1
10	261.5	298.7	251.0	267.4	251.3	292.9	291.6	275.2	271.8	256.9	268.8	280.5	250.2	111.1	47.1	119.1	88.7	22.3	274.1	296.4	264.9	304.3	232.0	319.4	273.2	319.4
11	279.0	259.3	276.3	269.5	256.1	249.9	259.6	285.3	290.1	267.8	241.4	245.1	253.7	264.9	251.0	54.0	64.6	74.1	84.7	90.0	78.9	67.1	81.4	87.8	282.7	290.1
12	107.9	95.3	66.8	63.6	75.4	68.4	64.2	67.9	79.6	86.9	52.9	120.7	66.9	77.1	78.0	83.3	81.6	79.9	116.7	336.3	82.7	291.7	277.4	202.1	78.0	336.3
13	144.9	245.8	251.9	236.2	281.4	281.4	283.5	285.1	283.4	276.7	253.9	236.2	266.6	256.2	128.4	66.0	80.2	88.1	198.6	113.9	308.5	45.5	33.8	210.3	265.9	308.5
14	257.3	245.4	239.4	265.0	276.1	271.0	275.8	282.6	280.1	271.2	237.6	171.5	102.0	106.5	122.2	89.8	101.5	65.8	46.2	278.0	58.7	70.1	323.9	266.4	262.0	323.9
15	239.7	240.2	241.1	254.7	263.2	269.9	271.6	265.4	266.5	239.5	232.6	101.1	95.2	91.9	87.8	83.4	81.1	72.2	60.8	152.4	310.0	160.4	70.1	291.2	212.6	310.0
16	242.5	238.9	241.3	274.8	275.5	278.7	275.7	277.5	275.8	264.9	237.6	241.6	238.3	141.3	250.2	270.6	312.4	56.8	64.1	227.2	171.1	70.4	215.2	240.2	259.8	312.4
17	240.9	263.9	264.4	272.7	284.4	264.9	281.5	278.0	279.5	275.9	276.4	273.9	247.1	248.4	243.2	245.4	300.7	78.2	70.1	89.3	63.8	101.0	358.4	250.6	269.4	358.4
18	234.4	235.8	80.4	80.4	82.2	77.3	63.3	75.0	98.8	108.5	101.0	95.2	96.2	94.6	101.4	81.5	95.1	97.6	78.5	64.6	77.2	278.2	83.5	88.5	90.0	278.2
19	73.4	79.9	74.2	352.5	254.8	263.1	285.6	283.4	287.1	289.0	286.9	244.7	240.6	141.0	74.4	84.7	64.3	66.3	61.6	84.7	83.1	87.9	103.4	71.8	58.7	352.5
20	347.9	258.8	257.3	263.5	257.0	280.9	288.0	283.6	282.7	263.7	238.7	235.0	242.3	262.1	204.7	216.3	167.0	239.1	256.6	246.2	193.4	249.1	269.3	303.6	258.2	347.9
21	309.9	309.2	305.8	310.2	308.4	306.6	310.1	321.1	302.0	267.6	258.8	257.9	256.7	259.2	257.5	246.4	257.7	256.6	256.9	258.7	254.6	211.0	107.3	101.5	275.4	321.1
22	94.6	108.8	110.6	99.9	96.7	99.1	97.9	99.3	103.3	101.9	92.6	88.7	78.6	79.5	61.7	76.3	67.4	79.9	84.4	91.9	85.9	101.0	85.9	80.0	90.0	110.6
23	90.9	102.2	90.8	74.8	78.3	76.9	84.2	77.5	76.0	85.4	87.5	95.6	75.7	75.6	75.0	77.0	78.2	76.1	88.9	95.0	82.4	96.3	93.4	97.8	83.6	102.2
24	89.9	84.6	90.8	99.1	88.5	83.6	77.7	80.4	81.6	83.7	79.9	92.5	86.0	75.9	83.2	71.0	75.0	79.0	86.6	96.5	78.1	83.7	70.2	77.7	82.8	99.1
25	72.8	78.1	73.0	64.0	65.5	67.0	72.6	87.0	93.1	97.5	94.6	89.7	97.1	89.7	79.4	86.2	87.4	90.2	96.4	88.8	57.5	264.9	348.3	261.8	83.2	348.3
26	275.9	274.3	295.7	300.3	306.8	300.9	290.7	297.1	290.1	293.6	258.7	240.8	253.0	269.8	260.1	261.9	266.5	264.1	255.6	264.7	267.3	262.7	275.3	286.1	272.9	306.8
27	289.5	290.9	291.5	292.8	297.1	289.4	274.3	281.2	281.1	262.9	273.3	277.2	280.0	274.9	286.3	291.2	277.9	286.7	352.2	87.8	96.0	96.4	99.7	85.7	287.3	352.2
28	69.6	259.1	136.0	229.6	261.7	260.0	263.2	274.7	272.3	274.4	270.1	275.8	276.5	266.8	267.5	259.8	265.8	268.3	264.9	263.0	268.5	262.0	255.9	255.3	265.9	276.5
29	260.7	262.3	261.7	269.4	264.3	259.3	261.6	257.3	246.4	253.1	264.9	272.7	277.8	273.4	275.3	273.7	271.0	268.9	252.3	259.1	262.4	262.0	265.0	262.4	264.0	277.8
30	263.6	262.2	264.9	263.4	262.1	264.8	263.7	257.8	256.9	258.5	253.2	252.8	264.4	262.7	258.0	254.5	251.8	271.4	270.5	268.8	262.0	256.0	260.8	269.2	261.0	271.4
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	223.2	224.9	214.1	225.5	224.3	224.8	234.3	220.9	221.2	215.7	210.8	207.9	205.8	202.4	198.0	181.3	183.4	169.3	184.3	194.9	185.1	199.8	208.7	216.5		
MAX	347.9	309.2	305.8	352.5	308.4	306.6	353.7	321.1	312.4	303.3	286.9	294.9	280.0	320.1	337.6	291.2	312.4	291.3	352.2	336.3	310.0	304.3	358.4	319.4		



Number of Non-Zero Readings	720		
Maximum 1-HR Average	358 degrees		
Maximum 24-HR Average	287 degrees		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	88.27	Monthly Average	207.4 degrees

Lagoon Pressure (mmHg) – April 2021

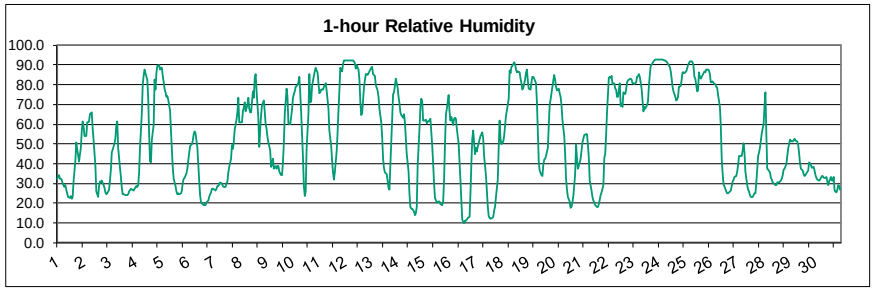
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	648.9	648.3	647.4	646.9	646.4	646.1	645.7	645.5	645.2	644.8	644.4	644.0	643.7	643.4	643.6	644.1	644.4	644.4	644.2	644.3	644.9	645.5	645.6	645.4	645.3	648.9
2	645.2	645.4	645.9	646.8	648.0	648.5	648.8	648.9	648.8	648.3	648.0	647.6	647.3	647.6	648.1	648.0	647.6	647.4	647.6	648.1	648.6	648.9	649.1	649.2	647.8	649.2
3	649.7	650.4	650.9	651.3	651.5	651.9	652.2	652.3	651.9	651.6	651.3	650.9	650.6	650.4	650.4	650.3	650.0	649.7	649.4	649.0	648.7	648.4	648.1	647.9	650.4	652.3
4	647.5	647.2	646.6	646.6	647.0	647.2	647.4	647.6	647.9	648.1	648.2	648.0	648.0	648.0	648.1	648.8	649.2	650.0	650.4	650.8	651.2	651.4	651.5	651.5	648.7	651.5
5	651.5	651.3	651.0	650.8	650.4	650.3	650.4	650.2	649.7	648.8	648.3	648.1	647.5	647.1	647.0	646.9	646.8	646.9	646.9	647.1	647.7	648.0	648.3	648.7	648.7	651.5
6	649.0	649.2	649.3	649.6	650.0	650.5	650.5	650.7	650.1	649.6	649.2	648.9	648.3	648.0	647.8	647.4	647.2	647.1	647.1	647.2	647.3	647.4	647.3	647.0	648.6	650.7
7	646.8	646.5	646.2	645.7	645.1	644.7	644.5	644.1	643.5	643.3	643.1	642.6	642.2	642.2	642.4	642.5	642.5	642.2	642.0	642.0	642.4	642.6	643.3	643.3	643.6	646.8
8	643.3	643.5	643.6	643.8	644.0	644.4	645.1	645.8	646.4	646.9	647.7	648.6	649.2	650.0	650.5	650.6	650.5	650.5	650.5	650.5	650.6	650.6	650.2	650.0	647.8	650.6
9	649.8	649.4	648.7	648.4	648.2	647.8	647.6	647.5	647.3	646.7	646.0	645.3	645.3	645.2	644.7	644.9	645.3	645.3	645.4	645.2	645.1	644.6	644.0	643.5	646.3	649.8
10	643.4	643.1	642.4	642.0	641.7	641.9	642.1	642.1	642.1	642.1	642.7	643.2	643.5	644.4	645.8	646.8	647.5	648.4	649.2	650.1	650.9	651.4	651.9	652.4	645.5	652.4
11	652.8	653.1	653.5	654.0	654.5	655.0	655.3	655.5	655.6	655.3	654.9	654.7	654.7	654.8	654.8	655.1	655.7	656.0	656.2	656.4	656.9	657.2	657.6	657.9	655.3	657.9
12	658.4	658.5	658.7	659.0	659.2	659.6	660.1	660.6	661.1	661.3	661.5	661.9	661.9	662.0	662.1	662.1	662.4	662.8	662.6	662.5	663.1	663.3	663.4	663.4	661.3	663.4
13	663.4	663.4	663.3	663.2	663.3	663.3	663.4	663.2	662.9	662.5	662.1	661.7	661.4	661.2	661.4	661.5	661.5	661.4	661.3	661.3	661.3	661.1	660.9	660.8	662.1	663.4
14	660.7	660.4	660.5	660.5	660.6	660.8	660.8	660.8	660.5	660.1	659.8	659.6	659.8	659.9	659.7	659.6	659.6	659.6	659.5	659.5	659.4	659.3	658.9	658.6	659.9	660.8
15	658.6	658.6	658.6	658.6	658.6	658.9	659.0	659.0	658.8	658.4	658.1	658.2	658.4	658.6	658.8	659.2	659.5	659.7	660.0	660.1	660.1	660.2	659.9	659.8	659.1	660.2
16	659.8	659.8	659.8	660.0	660.2	660.3	660.4	660.5	660.1	659.8	659.5	659.4	659.5	659.6	659.8	659.7	659.8	659.9	660.0	660.0	659.9	659.7	659.6	659.4	659.9	660.5
17	659.1	658.7	658.5	658.6	658.6	658.7	658.8	658.7	658.1	657.7	657.5	657.5	657.3	657.1	657.0	656.9	656.9	657.2	657.3	657.7	657.8	657.5	657.0	656.8	657.8	659.1
18	656.5	656.6	657.3	658.1	658.3	658.3	658.5	658.9	659.6	660.3	660.3	660.7	661.1	661.3	661.7	661.8	661.8	661.9	661.9	661.9	662.1	661.9	661.7	661.7	660.2	662.1
19	661.7	661.5	661.3	661.2	661.2	661.2	661.2	661.2	660.9	660.6	660.8	660.7	660.7	660.8	660.8	660.6	660.6	660.5	660.4	660.2	660.0	659.8	659.5	659.4	660.7	661.7
20	659.3	659.1	659.1	659.0	658.9	658.8	659.0	659.0	658.6	658.2	657.9	657.7	657.3	657.1	656.9	656.5	656.2	656.1	655.5	655.0	654.8	654.3	653.9	653.6	657.2	659.3
21	653.5	653.1	652.9	652.8	652.6	652.3	652.1	651.7	650.9	650.2	649.6	648.7	647.8	647.1	646.7	646.2	645.8	645.6	645.5	645.5	645.7	646.2	646.6	646.8	649.0	653.5
22	647.3	647.4	647.6	648.3	649.2	649.8	650.5	651.0	651.3	651.4	651.7	651.7	651.7	651.6	651.8	651.7	651.8	652.0	652.0	651.9	651.8	651.9	651.7	651.5	650.8	652.0
23	651.6	651.3	651.0	651.0	651.0	650.7	650.6	650.5	650.3	650.2	650.5	650.5	650.2	650.1	649.9	649.7	649.8	649.9	649.8	649.8	650.0	650.1	649.9	649.9	650.3	651.6
24	649.8	649.4	649.1	649.0	648.8	648.7	648.5	648.4	648.3	648.1	647.9	647.9	647.8	647.6	647.5	647.2	647.0	647.0	646.8	646.7	646.7	646.6	646.4	646.1	647.8	649.8
25	645.8	645.6	645.4	645.3	645.2	645.2	645.3	645.4	645.3	645.3	645.3	645.1	645.0	644.7	644.4	644.2	644.0	643.8	643.7	643.7	643.7	643.5	643.0	643.2	644.6	645.8
26	643.1	643.0	642.8	642.9	643.0	643.3	643.5	643.5	643.0	642.7	642.6	642.6	642.2	642.1	642.1	642.3	642.5	642.8	643.3	643.9	644.8	645.2	645.6	645.7	643.3	645.7
27	646.0	646.3	646.5	646.7	647.1	647.4	647.7	648.0	648.1	648.0	648.0	648.0	648.0	647.9	648.0	648.1	648.3	648.6	649.1	649.8	650.4	650.7	650.8	651.0	648.3	651.0
28	651.3	650.8	650.6	650.2	650.4	650.5	650.4	650.6	650.7	650.7	651.2	651.4	651.6	651.7	652.1	652.1	652.5	652.8	653.0	653.3	653.8	654.2	654.2	654.3	651.8	654.3
29	654.1	653.9	653.8	653.6	653.5	653.5	653.5	653.5	653.9	653.9	653.9	653.8	653.8	653.6	653.5	653.0	652.8	652.5	652.3	652.0	651.8	651.6	650.8	650.1	653.0	654.1
30	649.6	649.3	648.8	648.5	648.5	648.5	648.7	648.5	648.5	648.5	648.2	647.8	648.0	648.3	648.4	647.8	647.0	647.1	646.6	646.6	646.9	647.2	647.3	647.2	648.0	649.6
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	651.9	651.8	651.7	651.7	651.8	651.9	652.1	652.1	652.0	651.8	651.7	651.6	651.5	651.4	651.5	651.5	651.6	651.6	651.6	651.7	651.9	652.0	651.9	651.9		
MAX	663.4	663.4	663.3	663.2	663.3	663.3	663.4	663.2	662.9	662.5	662.1	661.9	661.9	662.0	662.1	662.1	662.4	662.8	662.6	662.5	663.1	663.3	663.4	663.4		



Number of Non-Zero Readings	720		
Maximum 1-HR Average	663 MMHg		
Maximum 24-HR Average	662 MMHg		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	6.065	Monthly Average	651.8 MMHg

Lagoon Relative Humidity (%) – April 2021

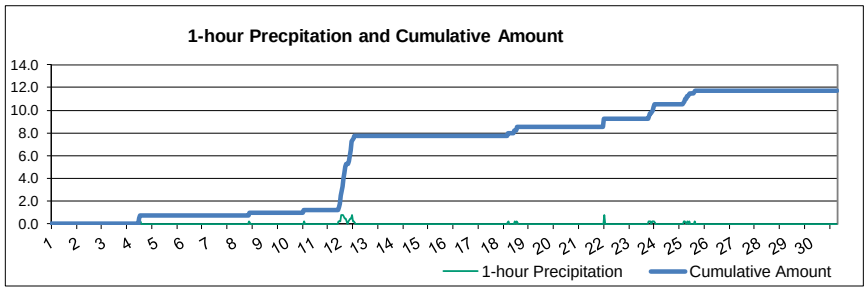
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	32.2	34.2	32.3	32.2	31.8	29.9	28.4	29.0	27.0	24.8	23.2	22.5	23.4	22.5	23.2	31.0	41.4	50.8	47.1	44.5	41.3	48.1	56.2	61.5	34.9	61.5
2	59.2	54.1	54.1	60.7	60.7	61.2	65.2	66.1	57.9	51.9	45.5	38.8	25.9	23.0	28.9	31.1	30.6	31.3	29.1	27.9	25.3	24.5	25.2	26.8	41.9	66.1
3	31.4	36.9	45.9	47.3	50.5	53.3	59.6	61.3	48.1	38.0	33.2	27.7	24.7	24.4	24.0	23.9	23.9	24.6	26.0	27.1	26.7	26.9	26.4	27.4	35.0	61.3
4	28.8	28.3	29.0	35.5	47.9	65.4	80.5	84.5	87.7	86.0	82.4	73.5	55.2	41.3	40.7	52.3	59.4	82.4	77.4	85.8	89.6	90.0	87.7	88.3	65.8	90.0
5	88.7	84.4	77.8	76.3	73.9	74.3	72.6	67.0	56.9	47.2	37.8	32.3	28.6	25.9	24.6	25.1	24.6	24.9	26.4	30.4	32.2	33.0	35.2	37.3	47.4	88.7
6	41.4	45.2	49.1	49.9	51.7	55.0	56.4	55.6	48.1	39.9	31.2	24.3	20.5	19.7	19.3	19.6	19.2	20.2	21.4	23.2	24.7	25.4	27.3	27.2	34.0	56.4
7	26.9	26.5	27.4	28.9	28.9	30.5	30.2	30.2	28.7	28.0	28.1	30.1	30.9	35.4	38.4	42.5	49.3	47.5	50.7	57.2	62.4	65.9	73.5	60.8	40.0	73.5
8	61.1	61.0	66.3	68.4	70.8	66.5	69.7	73.2	68.0	66.1	66.1	76.4	73.3	82.9	85.2	76.8	62.6	48.3	57.4	64.5	69.8	72.0	66.6	59.9	68.0	85.2
9	57.5	53.7	50.6	46.8	38.5	40.0	42.3	37.3	38.6	37.5	38.9	38.9	36.2	34.4	34.2	40.7	50.5	65.0	78.1	73.8	60.7	60.2	60.1	67.4	49.2	78.1
10	73.5	75.3	76.7	79.1	79.7	81.0	84.0	75.9	66.1	43.6	28.7	23.5	25.7	47.4	65.2	85.4	71.0	71.7	79.4	84.4	86.8	88.5	87.4	86.2	69.4	88.5
11	75.7	76.1	77.4	77.5	77.5	78.7	80.7	76.9	72.5	67.7	56.6	48.9	41.6	35.7	31.7	35.4	46.2	55.4	66.9	76.7	88.3	86.9	90.2	92.4	67.2	92.4
12	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.2	91.7	90.9	88.2	90.0	87.4	82.7	71.6	64.7	65.7	78.2	82.3	85.1	85.3	85.0	86.7	87.7	85.9	92.4
13	88.7	89.1	85.4	84.6	80.0	78.6	77.2	73.7	67.9	60.9	53.4	42.6	38.0	35.6	34.6	31.5	27.8	26.9	39.3	62.6	75.1	76.0	79.2	82.9	62.1	89.1
14	78.2	74.0	70.7	65.9	64.8	63.4	65.0	60.8	53.3	44.9	35.9	24.6	18.0	17.0	17.0	15.9	14.1	15.0	18.2	39.4	57.8	68.6	73.0	71.7	47.0	78.2
15	61.8	61.7	62.1	60.3	61.6	61.4	62.7	55.8	48.8	40.1	29.9	22.6	20.6	20.2	20.9	20.8	19.6	19.1	20.8	32.0	50.0	64.5	71.0	74.8	44.3	74.8
16	66.3	61.8	63.8	59.3	62.7	63.4	62.7	57.5	50.3	40.6	31.6	21.4	11.7	9.7	11.0	11.2	11.4	12.6	13.2	25.0	40.3	52.7	56.8	44.9	39.2	66.3
17	48.0	46.3	48.5	50.6	53.8	54.8	56.0	52.5	43.8	34.3	26.5	18.7	13.6	12.4	12.0	12.6	13.2	16.4	18.1	23.3	31.9	47.9	61.7	52.6	35.4	61.7
18	50.1	51.4	54.0	58.9	63.9	67.1	72.9	87.1	85.7	88.9	89.3	91.2	90.2	87.8	86.3	86.6	86.1	82.8	80.7	77.6	78.6	82.7	85.6	87.4	78.0	91.2
19	82.1	77.9	77.5	81.2	83.9	83.9	83.2	80.5	71.1	56.4	41.3	36.4	34.2	33.8	39.2	42.1	42.6	44.0	47.9	59.1	69.5	72.3	75.7	82.2	62.4	83.9
20	84.9	82.5	78.8	77.1	78.1	75.7	74.0	69.6	62.4	54.1	44.7	32.4	27.1	23.2	20.8	17.7	18.1	20.4	23.9	34.8	49.8	42.5	37.7	38.6	48.7	84.9
21	42.5	46.7	51.0	52.8	54.4	54.8	55.1	50.0	43.0	31.3	26.2	23.3	21.2	20.2	19.2	18.3	18.1	19.4	21.6	23.9	25.5	29.2	42.8	44.9	34.8	55.1
22	54.7	65.9	83.6	83.9	83.5	84.6	80.3	80.7	78.0	77.7	73.9	74.0	80.9	69.3	70.3	68.7	76.0	75.4	77.4	81.1	82.2	82.6	82.8	82.6	77.1	84.6
23	80.9	80.9	80.3	81.3	83.8	84.3	85.1	83.9	78.1	71.9	66.3	68.6	68.0	69.8	71.7	79.5	85.1	89.5	90.7	91.6	92.3	92.5	92.6	92.7	81.7	92.7
24	92.6	92.6	92.6	92.6	92.5	92.4	92.2	91.9	91.5	90.6	88.8	86.6	82.9	78.9	76.6	74.0	72.1	72.3	74.0	78.8	79.5	82.4	86.3	86.4	85.0	92.6
25	85.8	86.6	88.0	90.0	91.0	91.6	91.7	91.4	89.5	84.0	83.1	76.7	77.0	86.3	83.7	83.2	85.0	86.0	86.8	86.5	87.7	87.4	87.1	85.4	86.3	91.7
26	81.4	81.1	81.8	80.5	80.1	79.1	78.4	74.5	68.9	58.9	42.7	35.3	29.8	27.5	25.9	25.1	25.0	25.5	26.4	28.7	31.1	31.9	33.4	33.7	49.4	81.8
27	36.3	39.2	43.7	43.8	44.0	46.4	50.3	45.5	36.2	29.1	26.8	26.0	24.3	23.2	23.1	24.1	25.0	24.8	30.4	43.9	45.8	48.1	51.5	55.4	37.0	55.4
28	60.1	69.2	76.3	55.6	37.6	36.8	35.6	33.0	32.1	30.6	30.0	29.3	29.1	30.4	30.5	30.7	31.3	32.3	34.1	36.8	37.6	39.6	44.1	47.5	39.6	76.3
29	50.0	52.0	51.4	51.2	51.6	52.5	51.7	51.1	49.4	45.3	40.1	37.5	36.3	34.8	33.8	34.1	35.0	36.5	40.4	40.4	39.1	38.0	38.2	36.7	42.8	52.5
30	34.4	32.7	31.9	31.5	32.0	32.8	33.8	33.8	32.9	32.9	33.2	30.9	29.3	31.0	33.2	31.5	31.3	33.2	26.5	25.5	27.0	28.9	28.5	26.8	31.1	34.4
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	61.6	62.0	63.4	63.2	63.5	64.4	65.7	64.1	59.1	53.1	47.5	43.5	40.2	39.5	39.9	41.2	42.0	44.4	47.1	52.4	56.5	59.1	61.7	61.7		
MAX	92.6	92.6	92.6	92.6	92.5	92.4	92.4	92.2	91.7	90.9	89.3	91.2	90.2	87.8	86.3	86.6	86.1	89.5	90.7	91.6	92.3	92.5	92.6	92.7		



Number of Non-Zero Readings	720		
Maximum 1-HR Average	92.7 %		
Maximum 24-HR Average	86.3 %		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	23.79	Monthly Average	54.0 %

Lagoon Precipitation (mm) – April 2021

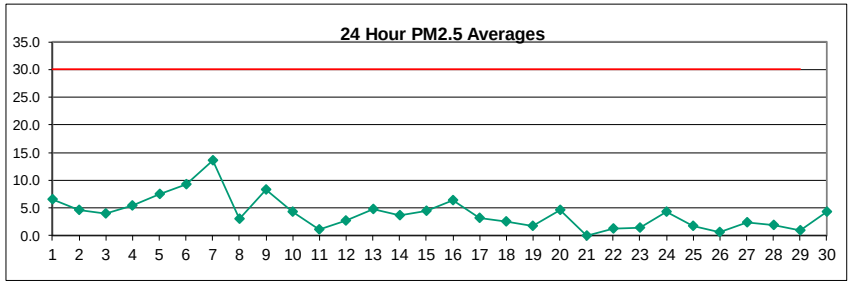
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
12	0.3	0.8	0.8	0.8	0.5	0.5	0.3	0.0	0.3	0.5	0.5	0.8	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.3	0.3	0.0	0.3
24	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
25	0.0	0.0	0.0	0.3	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	100%
MEAN	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
MAX	0.3	0.8	0.8	0.8	0.5	0.5	0.3	0.0	0.5	0.5	0.5	0.8	0.3	0.3	0.0	0.3	0.3	0.0	0.3	0.3	0.3	0.0	0.3	0.3		



Number of Non-Zero Readings	32		
Maximum 1-HR Average	0.8 MM		
Maximum 24-HR Average	0.3 MM		
		Opperational Time	720 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	0.085	Monthly Average	0.02 MM

Windridge $PM_{2.5}$ (µg/m^3) – April 2021

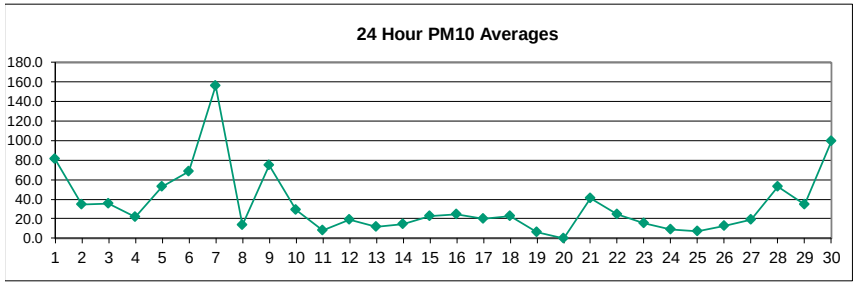
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	3.0	3.0	3.0	6.0	5.0	3.0	4.0	8.0	9.0	8.0	8.0	15.0	14.0	10.0	6.0	6.0	8.0	7.0	4.0	3.0	5.0	3.0	4.0	13.0	6.6	15.0
2	10.0	7.0	7.0	4.0	4.0	3.0	1.0	1.0	5.0	3.0	2.0	2.0	1.0	1.0	7.0	6.0	6.0	10.0	6.0	5.0	6.0	4.0	5.0	7.0	4.7	10.0
3	7.0	4.0	4.0	3.0	1.0	3.0	3.0	4.0	5.0	7.0	4.0	4.0	5.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0	6.0	4.0	5.0	4.0	7.0
4	4.0	4.0	5.0	2.0	2.0	1.0	0.0	2.0	2.0	4.0	4.0	2.0	0.0	20.0	18.0	19.0	11.0	11.0	6.0	0.0	2.0	3.0	5.0	4.0	5.5	20.0
5	4.0	3.0	3.0	3.0	3.0	2.0	1.0	1.0	5.0	7.0	12.0	10.0	17.0	19.0	22.0	9.0	7.0	6.0	6.0	5.0	6.0	6.0	14.0	9.0	7.5	22.0
6	6.0	6.0	4.0	6.0	6.0	7.0	8.0	7.0	10.0	8.0	14.0	17.0	4.0	6.0	8.0	7.0	9.0	10.0	17.0	6.0	8.0	10.0	13.0	25.0	9.3	25.0
7	17.0	15.0	14.0	13.0	10.0	10.0	14.0	13.0	15.0	15.0	20.0	18.0	15.0	22.0	11.0	26.0	24.0	6.0	16.0	9.0	9.0	7.0	4.0	2.0	13.5	26.0
8	1.0	0.0	0.0	1.0	3.0	3.0	0.0	1.0	5.0	3.0	1.0	4.0	4.0	7.0	5.0	6.0	6.0	6.0	7.0	6.0	2.0	1.0	0.0	0.0	3.0	7.0
9	2.0	7.0	7.0	8.0	7.0	8.0	9.0	12.0	19.0	11.0	9.0	7.0	9.0	9.0	14.0	17.0	8.0	8.0	6.0	7.0	3.0	1.0	5.0	5.0	8.3	19.0
10	9.0	7.0	3.0	0.0	0.0	0.0	2.0	1.0	1.0	3.0	10.0	10.0	8.0	6.0	5.0	7.0	3.0	1.0	3.0	6.0	3.0	3.0	6.0	7.0	4.3	10.0
11	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0	3.0	4.0	1.0	4.0	3.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.1	4.0
12	0.0	1.0	1.0	0.0	1.0	0.0	0.0	2.0	3.0	2.0	2.0	7.0	5.0	4.0	5.0	6.0	5.0	3.0	4.0	6.0	3.0	2.0	3.0	2.0	2.8	7.0
13	1.0	0.0	2.0	4.0	6.0	7.0	4.0	3.0	3.0	5.0	9.0	10.0	7.0	4.0	6.0	6.0	7.0	8.0	6.0	6.0	4.0	1.0	4.0	3.0	4.8	10.0
14	2.0	1.0	0.0	0.0	4.0	4.0	1.0	0.0	6.0	5.0	4.0	7.0	7.0	7.0	6.0	3.0	1.0	1.0	2.0	1.0	6.0	9.0	6.0	4.0	3.6	9.0
15	3.0	2.0	4.0	5.0	4.0	5.0	2.0	2.0	4.0	5.0	10.0	13.0	7.0	6.0	8.0	4.0	4.0	6.0	7.0	4.0	3.0	1.0	0.0	0.0	4.5	13.0
16	0.0	13.0	10.0	7.0	5.0	6.0	4.0	6.0	6.0	4.0	4.0	5.0	6.0	5.0	5.0	9.0	9.0	5.0	4.0	9.0	9.0	7.0	9.0	6.0	6.4	13.0
17	2.0	1.0	1.0	1.0	1.0	3.0	1.0	0.0	3.0	3.0	1.0	2.0	1.0	2.0	5.0	5.0	1.0	0.0	7.0	7.0	3.0	6.0	10.0	11.0	3.2	11.0
18	7.0	3.0	1.0	12.0	8.0	5.0	4.0	4.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0	1.0	6.0	2.5	12.0
19	6.0	5.0	2.0	0.0	0.0	3.0	4.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	5.0	3.0	5.0	1.8	6.0
20	2.0	0.0	3.0	3.0	1.0	0.0	0.0	0.0	1.0	3.0	X	X	X	C	10.0	33.0	6.0	8.0	7.0	7.0	5.0	0.0	2.0	2.0	4.7	33.0
21	0.0	X	2.0	X	X	X	X	X	X	X	X	X	X	X	X	X	NRM	8.0	9.0	5.0	8.0	3.0	0.0	1.0		
22	1.0	X	1.0	4.0	4.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	6.0	4.0	2.0	3.0	1.0	1.3	6.0
23	0.0	0.0	2.0	3.0	2.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	2.0	3.0	0.0	0.0	2.0	5.0	2.0	3.0	4.0	3.0	2.0	1.5	5.0
24	4.0	3.0	5.0	6.0	4.0	3.0	2.0	1.0	2.0	5.0	6.0	4.0	9.0	7.0	4.0	4.0	3.0	6.0	5.0	3.0	7.0	5.0	3.0	3.0	4.3	9.0
25	6.0	1.0	3.0	3.0	2.0	1.0	0.0	1.0	2.0	2.0	0.0	2.0	2.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	2.0	3.0	2.0	1.8	6.0
26	1.0	2.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	2.0	2.0	2.0	1.0	0.0	2.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.7	2.0
27	0.0	0.0	0.0	0.0	0.0	1.0	2.0	3.0	2.0	3.0	4.0	2.0	2.0	4.0	3.0	3.0	0.0	0.0	1.0	2.0	5.0	5.0	9.0	7.0	2.4	9.0
28	6.0	5.0	6.0	6.0	4.0	0.0	0.0	0.0	2.0	5.0	2.0	0.0	1.0	0.0	1.0	3.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	6.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.0	1.0	6.0	6.0	3.0	1.0	0.0	3.0	0.0	0.0	1.0	6.0
30	0.0	0.0	3.0	4.0	7.0	4.0	4.0	4.0	8.0	6.0	5.0	6.0	10.0	6.0	2.0	0.0	0.0	1.0	1.0	7.0	9.0	7.0	5.0	6.0	4.4	10.0
NO.	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	700	97.4%
MEAN	3.6	3.4	3.3	3.6	3.3	2.9	2.4	2.7	4.3	4.3	4.9	5.5	5.0	5.6	5.6	6.7	4.7	4.1	4.6	4.0	3.9	3.6	4.1	4.6	7.5	
MAX	17.0	15.0	14.0	13.0	10.0	10.0	14.0	13.0	19.0	15.0	20.0	18.0	17.0	22.0	22.0	33.0	24.0	11.0	17.0	9.0	9.0	10.0	14.0	25.0	17.4	70.0



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	563		
Maximum 1-HR Average	33.0 UG/M3		
Maximum 24-HR Average	13.5 UG/M3		
		Opperational Time	701 HRS
Monthly Calibration	1	Opperational Uptime	97.4 %
Standard Deviation	4.3	Monthly Average	4.2 UG/M3

Windridge PM_{10} (µg/m^3) – April 2021

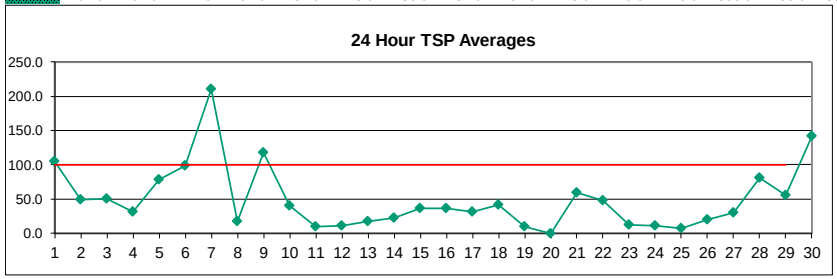
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	56.0	75.0	33.0	35.0	70.0	54.0	42.0	88.0	197.0	203.0	144.0	187.0	228.0	81.0	54.0	52.0	75.0	42.0	10.0	10.0	52.0	16.0	33.0	111.0	81.2	228.0
2	76.0	63.0	103.0	28.0	13.0	9.0	5.0	9.0	15.0	11.0	12.0	13.0	11.0	49.0	67.0	60.0	22.0	57.0	23.0	46.0	66.0	14.0	38.0	27.0	34.9	103.0
3	23.0	13.0	14.0	11.0	13.0	13.0	15.0	13.0	17.0	33.0	15.0	17.0	46.0	48.0	35.0	52.0	60.0	66.0	59.0	54.0	36.0	47.0	50.0	100.0	35.4	100.0
4	62.0	95.0	55.0	27.0	36.0	12.0	14.0	11.0	9.0	11.0	13.0	8.0	3.0	45.0	30.0	5.0	15.0	14.0	12.0	7.0	6.0	9.0	6.0	9.0	21.4	95.0
5	7.0	12.0	9.0	5.0	3.0	7.0	8.0	10.0	20.0	59.0	98.0	108.0	112.0	102.0	148.0	85.0	65.0	62.0	60.0	31.0	63.0	55.0	87.0	60.0	53.2	148.0
6	38.0	15.0	20.0	16.0	20.0	19.0	17.0	19.0	44.0	45.0	63.0	185.0	60.0	60.0	57.0	67.0	62.0	106.0	161.0	121.0	129.0	73.0	127.0	118.0	68.4	185.0
7	74.0	70.0	86.0	83.0	72.0	95.0	83.0	92.0	224.0	340.0	325.0	299.0	279.0	360.0	213.0	347.0	184.0	97.0	134.0	99.0	89.0	36.0	15.0	47.0	156.0	360.0
8	4.0	4.0	3.0	4.0	6.0	7.0	15.0	7.0	21.0	15.0	26.0	29.0	57.0	30.0	15.0	20.0	4.0	4.0	3.0	9.0	5.0	1.0	3.0	26.0	13.3	57.0
9	29.0	27.0	32.0	82.0	83.0	44.0	72.0	133.0	303.0	164.0	83.0	76.0	61.0	70.0	58.0	86.0	54.0	60.0	44.0	65.0	17.0	36.0	63.0	60.0	75.1	303.0
10	70.0	67.0	9.0	8.0	9.0	8.0	16.0	2.0	45.0	74.0	99.0	74.0	31.0	37.0	16.0	52.0	21.0	4.0	9.0	12.0	12.0	8.0	8.0	9.0	29.2	99.0
11	4.0	1.0	3.0	2.0	2.0	3.0	4.0	4.0	6.0	6.0	7.0	17.0	11.0	21.0	10.0	4.0	7.0	9.0	7.0	6.0	19.0	12.0	7.0	28.0	8.3	28.0
12	46.0	11.0	7.0	5.0	4.0	2.0	5.0	3.0	5.0	8.0	51.0	90.0	82.0	15.0	11.0	9.0	8.0	12.0	22.0	17.0	7.0	9.0	13.0	10.0	18.8	90.0
13	10.0	7.0	5.0	5.0	8.0	10.0	11.0	11.0	23.0	17.0	31.0	20.0	17.0	12.0	9.0	11.0	9.0	11.0	13.0	8.0	14.0	11.0	9.0	7.0	12.0	31.0
14	4.0	9.0	7.0	7.0	9.0	7.0	6.0	10.0	40.0	43.0	34.0	26.0	31.0	8.0	11.0	12.0	7.0	10.0	11.0	7.0	12.0	10.0	9.0	7.0	14.0	43.0
15	14.0	15.0	31.0	19.0	11.0	17.0	12.0	24.0	43.0	60.0	57.0	59.0	16.0	17.0	14.0	21.0	14.0	20.0	12.0	15.0	25.0	14.0	9.0	8.0	22.8	60.0
16	9.0	144.0	39.0	25.0	16.0	11.0	12.0	18.0	46.0	30.0	34.0	30.0	26.0	7.0	8.0	14.0	10.0	11.0	10.0	13.0	10.0	13.0	18.0	27.0	24.2	144.0
17	16.0	36.0	15.0	14.0	14.0	15.0	10.0	11.0	20.0	21.0	17.0	17.0	20.0	20.0	40.0	8.0	26.0	19.0	29.0	20.0	23.0	23.0	17.0	22.0	19.7	40.0
18	10.0	10.0	10.0	32.0	34.0	30.0	21.0	21.0	12.0	23.0	28.0	19.0	30.0	26.0	26.0	32.0	34.0	37.0	58.0	9.0	7.0	4.0	6.0	15.0	22.3	58.0
19	9.0	7.0	6.0	2.0	3.0	5.0	2.0	2.0	10.0	10.0	5.0	3.0	5.0	5.0	5.0	6.0	13.0	7.0	X	X	X	X	X	X	5.8	13.0
20	X	X	X	X	X	X	X	X	X	X	X	X	X	C	27.0	33.0	21.0	15.0	17.0	22.0	11.0	10.0	7.0	11.0		
21	14.0	14.0	12.0	12.0	15.0	7.0	13.0	12.0	16.0	32.0	X	122.0	59.0	59.0	85.0	85.0	NRM	85.0	75.0	47.0	52.0	29.0	45.0	7.0	40.8	122.0
22	8.0	8.0	5.0	7.0	10.0	40.0	28.0	65.0	44.0	71.0	40.0	26.0	33.0	72.0	5.0	11.0	11.0	20.0	16.0	29.0	16.0	16.0	7.0	9.0	24.9	72.0
23	6.0	5.0	7.0	11.0	6.0	3.0	20.0	10.0	20.0	15.0	10.0	8.0	18.0	10.0	22.0	26.0	22.0	36.0	44.0	16.0	25.0	9.0	8.0	7.0	15.2	44.0
24	6.0	6.0	6.0	5.0	8.0	6.0	7.0	10.0	11.0	10.0	7.0	11.0	10.0	8.0	10.0	11.0	10.0	8.0	11.0	9.0	8.0	11.0	14.0	7.0	8.8	14.0
25	4.0	6.0	4.0	3.0	8.0	12.0	8.0	8.0	11.0	10.0	13.0	19.0	11.0	5.0	10.0	8.0	7.0	6.0	5.0	7.0	6.0	6.0	2.0	0.0	7.5	19.0
26	1.0	1.0	1.0	3.0	1.0	2.0	3.0	6.0	7.0	41.0	39.0	15.0	22.0	24.0	19.0	28.0	21.0	14.0	17.0	12.0	8.0	8.0	9.0	8.0	12.9	41.0
27	5.0	5.0	6.0	5.0	4.0	3.0	4.0	12.0	23.0	15.0	40.0	53.0	26.0	38.0	41.0	44.0	11.0	15.0	6.0	4.0	22.0	21.0	26.0	25.0	18.9	53.0
28	32.0	32.0	19.0	28.0	18.0	11.0	12.0	64.0	139.0	88.0	110.0	150.0	84.0	117.0	101.0	68.0	63.0	44.0	31.0	32.0	24.0	2.0	3.0	5.0	53.2	150.0
29	3.0	4.0	4.0	2.0	3.0	3.0	1.0	19.0	60.0	27.0	36.0	44.0	38.0	19.0	26.0	70.0	154.0	125.0	27.0	83.0	22.0	3.0	15.0	45.0	34.7	154.0
30	30.0	28.0	35.0	183.0	211.0	31.0	40.0	59.0	151.0	103.0	118.0	152.0	205.0	81.0	39.0	49.0	35.0	43.0	85.0	255.0	168.0	64.0	65.0	149.0	99.1	255.0
NO.	29	29	29	29	29	29	29	29	29	29	28	29	29	29	30	30	29	30	29	29	29	29	29	29	698	97.1%
MEAN	23.1	27.2	20.2	23.1	24.5	16.8	17.4	26.0	54.6	54.7	55.5	64.7	56.3	49.9	40.4	45.9	36.0	35.3	34.9	36.7	32.9	19.7	24.8	33.2	42.0	
MAX	76.0	144.0	103.0	183.0	211.0	95.0	83.0	133.0	303.0	340.0	325.0	299.0	279.0	360.0	213.0	347.0	184.0	125.0	161.0	255.0	168.0	73.0	127.0	149.0	91.1	433.3



Number of Non-Zero Readings	697		
Maximum 1-HR Average	360.0 UG/M3		
Maximum 24-HR Average	156.0 UG/M3		
		Opperational Time	699 HRS
Monthly Calibration	1	Opperational Uptime	97.1 %
Standard Deviation	48.59	Monthly Average	35.6 UG/M3

Windridge TSP (µg/m^3) – April 2021

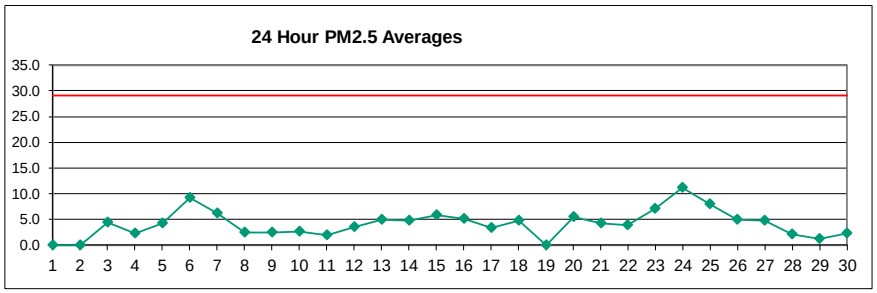
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	89.0	80.0	43.0	47.0	94.0	79.0	60.0	120.0	312.0	208.0	174.0	244.0	240.0	118.0	66.0	79.0	102.0	55.0	17.0	11.0	74.0	25.0	43.0	139.0	105.0	312.0
2	89.0	71.0	119.0	37.0	16.0	10.0	13.0	8.0	30.0	18.0	12.0	19.0	15.0	81.0	108.0	94.0	36.0	74.0	32.0	79.0	107.0	18.0	63.0	40.0	49.5	119.0
3	36.0	7.0	12.0	21.0	13.0	16.0	23.0	13.0	31.0	46.0	19.0	31.0	71.0	69.0	46.0	73.0	82.0	113.0	91.0	80.0	55.0	69.0	75.0	134.0	51.1	134.0
4	101.0	155.0	86.0	38.0	48.0	17.0	15.0	14.0	7.0	7.0	16.0	8.0	5.0	60.0	45.0	17.0	17.0	23.0	26.0	10.0	10.0	12.0	10.0	10.0	31.5	155.0
5	11.0	19.0	7.0	6.0	7.0	19.0	14.0	13.0	33.0	89.0	122.0	163.0	171.0	158.0	226.0	142.0	112.0	90.0	75.0	46.0	87.0	78.0	126.0	80.0	78.9	226.0
6	49.0	20.0	18.0	20.0	20.0	20.0	16.0	22.0	59.0	50.0	88.0	265.0	84.0	86.0	82.0	93.0	85.0	148.0	226.0	192.0	193.0	128.0	210.0	208.0	99.3	265.0
7	95.0	93.0	121.0	103.0	105.0	148.0	127.0	142.0	343.0	448.0	449.0	419.0	366.0	459.0	307.0	435.0	222.0	132.0	182.0	122.0	119.0	38.0	14.0	61.0	210.4	459.0
8	5.0	6.0	7.0	6.0	3.0	5.0	4.0	3.0	35.0	23.0	35.0	42.0	96.0	36.0	5.0	17.0	4.0	18.0	4.0	15.0	7.0	4.0	6.0	36.0	17.6	96.0
9	45.0	42.0	50.0	151.0	133.0	73.0	136.0	231.0	467.0	291.0	118.0	119.0	96.0	102.0	93.0	127.0	81.0	84.0	59.0	82.0	17.0	56.0	87.0	99.0	118.3	467.0
10	81.0	72.0	5.0	4.0	9.0	9.0	17.0	8.0	80.0	115.0	169.0	139.0	55.0	64.0	37.0	42.0	17.0	4.0	9.0	12.0	7.0	6.0	6.0	11.0	40.8	169.0
11	9.0	5.0	0.0	1.0	3.0	5.0	4.0	7.0	7.0	6.0	9.0	24.0	16.0	29.0	12.0	8.0	12.0	8.0	11.0	9.0	18.0	6.0	6.0	12.0	9.5	29.0
12	22.0	16.0	4.0	9.0	7.0	7.0	5.0	4.0	6.0	6.0	13.0	34.0	11.0	10.0	9.0	12.0	20.0	20.0	7.0	11.0	9.0	8.0	10.0	9.0	11.2	34.0
13	14.0	8.0	6.0	9.0	10.0	8.0	7.0	12.0	33.0	25.0	46.0	39.0	39.0	23.0	12.0	18.0	16.0	28.0	17.0	6.0	14.0	19.0	6.0	11.0	17.8	46.0
14	8.0	4.0	6.0	7.0	9.0	9.0	8.0	14.0	63.0	77.0	57.0	41.0	56.0	17.0	21.0	16.0	14.0	21.0	24.0	17.0	21.0	15.0	16.0	11.0	23.0	77.0
15	19.0	28.0	43.0	24.0	17.0	17.0	13.0	33.0	63.0	92.0	101.0	108.0	33.0	34.0	26.0	31.0	29.0	31.0	26.0	25.0	44.0	24.0	17.0	13.0	37.1	108.0
16	14.0	207.0	57.0	33.0	21.0	12.0	13.0	34.0	63.0	59.0	46.0	52.0	38.0	17.0	13.0	20.0	17.0	17.0	20.0	19.0	26.0	14.0	27.0	38.0	36.5	207.0
17	29.0	47.0	28.0	24.0	28.0	20.0	16.0	19.0	24.0	29.0	30.0	27.0	32.0	35.0	56.0	19.0	45.0	30.0	50.0	38.0	34.0	29.0	25.0	27.0	30.9	56.0
18	11.0	20.0	12.0	49.0	65.0	41.0	35.0	26.0	19.0	120.0	52.0	55.0	72.0	74.0	83.0	104.0	34.0	31.0	74.0	4.0	4.0	3.0	3.0	7.0	41.6	120.0
19	12.0	7.0	7.0	5.0	5.0	7.0	2.0	1.0	9.0	12.0	12.0	11.0	7.0	9.0	13.0	17.0	24.0	15.0	10.0	X	X	X	X	X	9.7	24.0
20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	32.0	10.0	15.0	25.0	30.0	5.0	3.0	8.0	9.0		
21	9.0	X	6.0	7.0	7.0	10.0	11.0	13.0	16.0	39.0	180.0	197.0	88.0	88.0	126.0	126.0	NRM	NRM	NRM	NRM	74.0	48.0	82.0	11.0	59.9	197.0
22	17.0	X	6.0	5.0	15.0	90.0	133.0	177.0	138.0	203.0	105.0	22.0	19.0	46.0	5.0	9.0	19.0	34.0	14.0	19.0	3.0	6.0	7.0	6.0	47.7	203.0
23	8.0	9.0	6.0	8.0	6.0	7.0	11.0	12.0	13.0	10.0	13.0	15.0	26.0	17.0	16.0	20.0	21.0	18.0	15.0	7.0	9.0	11.0	10.0	10.0	12.4	26.0
24	13.0	11.0	9.0	9.0	7.0	7.0	6.0	5.0	7.0	11.0	11.0	13.0	8.0	8.0	17.0	12.0	14.0	14.0	13.0	14.0	9.0	16.0	15.0	10.0	10.8	2.0
25	10.0	8.0	8.0	8.0	8.0	8.0	6.0	2.0	3.0	9.0	18.0	6.0	11.0	7.0	10.0	8.0	5.0	4.0	7.0	5.0	3.0	5.0	3.0	2.0	6.8	18.0
26	4.0	4.0	4.0	7.0	7.0	10.0	9.0	4.0	4.0	46.0	50.0	20.0	30.0	39.0	34.0	56.0	32.0	30.0	28.0	23.0	8.0	8.0	11.0	9.0	19.9	56.0
27	6.0	6.0	5.0	2.0	6.0	5.0	3.0	21.0	21.0	17.0	66.0	92.0	41.0	62.0	59.0	66.0	17.0	18.0	9.0	15.0	45.0	38.0	52.0	43.0	29.8	92.0
28	56.0	49.0	36.0	44.0	41.0	22.0	29.0	92.0	224.0	131.0	152.0	196.0	120.0	153.0	165.0	90.0	103.0	65.0	55.0	47.0	53.0	13.0	8.0	7.0	81.3	224.0
29	6.0	10.0	12.0	9.0	9.0	6.0	5.0	29.0	105.0	32.0	65.0	72.0	54.0	32.0	46.0	108.0	219.0	171.0	51.0	120.0	31.0	11.0	32.0	85.0	55.0	219.0
30	61.0	54.0	60.0	201.0	282.0	49.0	54.0	109.0	229.0	158.0	186.0	220.0	312.0	122.0	58.0	81.0	59.0	76.0	120.0	280.0	246.0	89.0	97.0	212.0	142.3	312.0
NO.	29	27	29	29	29	29	29	29	29	29	29	29	29	29	29	30	29	29	29	28	29	29	29	29	694	96.5%
MEAN	32.0	39.2	27.0	30.8	34.5	25.4	27.4	41.0	84.3	82.0	83.2	92.9	76.3	70.9	61.9	65.7	50.6	47.8	44.7	47.8	45.9	27.6	37.1	46.6		
MAX	101.0	207.0	121.0	201.0	282.0	148.0	136.0	231.0	467.0	448.0	449.0	419.0	366.0	459.0	307.0	435.0	222.0	171.0	226.0	280.0	246.0	128.0	210.0	212.0		



Number of 24HR Exceedences	4	Proposed Guideline	
Number of Non-Zero Readings	693		
Maximum 1-HR Average	467.0 UG/M3		
Maximum 24-HR Average	210.4 UG/M3		
IZS Calibration Time		Opperational Time	695 HRS
Down Time	0	Opperational Uptime	96.5 %
Standard Deviation	69.1	Monthly Average	51.0 UG/M3

West $PM_{2.5}$ (µg/m^3) – April 2021

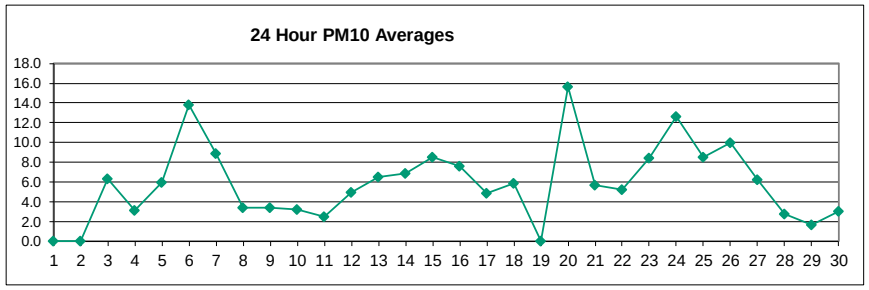
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7.2	6.3	6.0	6.1	5.8	5.6	5.0	4.9	-	-
3	5.0	4.7	6.2	7.7	5.9	4.8	3.7	4.1	8.3	6.5	6.0	5.7	4.4	4.1	3.3	2.9	2.7	2.6	2.6	2.9	2.9	2.9	3.0	3.2	4.4	8.3
4	3.2	3.0	2.8	2.8	2.7	2.8	2.9	2.8	1.6	1.0	1.1	1.0	2.4	2.9	2.9	2.1	1.9	2.4	2.3	1.7	1.9	1.2	2.8	4.0	2.3	4.0
5	4.9	5.8	2.8	1.8	1.5	1.6	3.4	3.1	4.7	5.6	4.6	3.0	3.4	4.1	4.4	4.2	4.1	4.3	4.3	4.9	5.1	5.4	5.9	6.6	4.2	6.6
6	6.7	6.9	7.0	7.0	7.3	7.2	9.2	10.4	12.3	11.2	10.0	10.5	10.0	9.7	9.5	11.4	11.6	11.3	9.7	8.9	8.6	8.5	8.8	8.9	9.3	12.3
7	9.3	9.8	9.7	9.0	8.9	9.2	9.8	9.6	9.2	8.7	8.7	8.0	6.8	5.1	3.9	4.5	3.5	2.6	2.2	2.0	1.4	1.2	2.1	1.3	6.1	9.8
8	1.3	1.5	1.6	1.5	2.0	1.5	3.5	5.9	4.5	3.0	2.9	4.8	7.6	4.3	2.3	1.0	4.5	1.9	0.5	0.5	0.7	1.4	1.1	0.8	2.5	7.6
9	0.8	0.9	0.9	1.0	1.2	1.4	2.3	2.4	3.4	4.2	3.8	4.0	4.4	3.9	3.3	3.5	2.6	2.3	2.1	1.7	2.2	3.1	2.1	2.0	2.5	4.4
10	2.1	1.7	1.6	2.1	2.2	2.2	1.7	2.1	2.0	2.0	1.6	3.4	2.1	5.2	2.2	6.7	5.0	1.7	3.3	2.0	2.1	2.7	1.9	1.4	2.5	6.7
11	1.4	1.2	1.1	1.1	1.0	0.9	1.0	2.5	3.2	3.3	3.4	2.0	1.6	1.7	0.9	1.0	1.1	1.8	1.9	1.3	4.6	2.7	2.6	1.2	1.9	4.6
12	1.8	2.5	1.5	1.4	2.1	2.9	2.8	2.6	3.7	5.1	5.6	3.8	3.8	4.4	6.0	6.3	4.6	4.4	3.8	3.0	2.4	3.2	3.6	4.5	3.6	6.3
13	3.9	4.3	5.0	6.1	5.6	5.7	7.0	8.1	6.8	7.2	7.3	6.6	7.0	6.3	8.7	5.1	3.5	1.8	1.0	1.3	1.9	2.1	2.5	2.9	4.9	8.7
14	3.4	4.1	4.1	3.4	3.7	3.4	5.7	9.4	8.5	8.6	6.3	6.0	5.8	5.1	5.1	4.5	4.2	3.4	2.7	3.1	3.3	3.5	3.5	4.3	4.8	9.4
15	4.9	5.4	5.5	4.7	5.6	5.7	7.7	9.4	9.9	10.5	8.4	7.2	5.9	7.1	6.0	5.3	4.3	3.9	3.7	3.5	3.6	4.0	3.8	4.2	5.8	10.5
16	6.5	5.4	4.8	4.6	4.6	4.9	5.6	7.4	9.7	7.5	6.4	4.4	4.0	4.3	3.8	4.4	3.1	5.6	2.6	2.7	3.7	4.4	5.9	7.3	5.2	9.7
17	4.9	3.7	3.0	2.9	2.8	2.6	3.8	4.2	4.5	3.8	3.3	2.9	3.1	2.7	2.3	2.4	1.8	3.7	4.0	3.5	3.3	3.3	3.6	4.8	3.4	4.9
18	3.9	3.2	6.9	7.5	6.6	7.1	6.9	5.6	3.2	4.9	4.0	2.6	3.5	2.8	4.5	2.5	2.9	4.5	4.7	4.7	4.0	9.1	5.3	4.2	4.8	9.1
19	2.8	1.7	0.7	0.4	0.4	0.5	0.5	1.1	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	3.4	4.0	3.8	3.4	4.0	4.9	8.9	10.7	10.3	8.7	6.9	7.8	10.0	6.6	5.5	3.7	3.0	2.4	2.6	2.8	3.1	4.0	3.7	5.4	10.7
21	3.7	3.8	4.0	4.3	4.3	4.3	6.0	5.8	6.6	6.5	4.2	4.6	4.6	4.2	4.3	4.8	4.1	2.7	2.5	2.4	2.7	2.5	5.7	3.5	4.3	6.6
22	4.0	5.2	4.6	2.2	2.3	6.0	3.2	4.9	8.0	8.1	2.3	1.9	1.9	3.8	3.7	2.9	2.6	2.7	3.3	3.3	2.9	4.0	3.7	4.0	3.8	8.1
23	4.3	5.4	4.5	4.3	4.0	5.3	6.4	6.5	6.5	5.9	6.3	6.8	7.8	8.5	8.1	9.0	8.1	8.0	8.2	9.1	9.1	8.9	9.0	10.4	7.1	10.4
24	12.5	13.0	13.5	13.1	11.7	11.4	11.9	12.2	12.2	12.8	12.6	13.0	11.8	12.7	12.1	11.2	10.8	9.7	9.1	8.9	9.0	8.6	8.4	7.9	11.2	13.5
25	7.5	7.4	7.6	7.8	7.9	8.0	7.9	8.7	8.8	8.6	9.9	6.3	8.0	9.3	8.5	8.3	8.6	8.5	9.6	8.9	6.6	5.5	6.5	8.1	8.0	9.9
26	7.2	6.3	6.0	5.3	4.7	4.6	6.6	6.4	5.3	7.8	5.6	8.2	5.8	5.3	6.1	5.0	3.0	2.8	2.7	2.7	2.5	2.6	2.7	2.8	4.9	8.2
27	3.2	3.2	3.4	3.5	3.5	3.9	4.9	7.8	7.3	5.4	4.3	3.2	3.5	3.4	3.4	3.5	3.0	2.7	2.7	7.8	7.8	6.7	7.1	7.3	4.7	7.8
28	7.3	6.6	6.5	2.6	1.7	1.8	2.7	2.7	2.4	2.0	1.7	1.3	1.6	1.5	1.7	1.3	0.9	0.8	0.5	0.5	0.4	0.2	0.3	0.3	2.1	7.3
29	0.4	0.7	0.6	0.4	0.5	0.8	3.3	3.5	2.1	1.6	1.3	1.2	1.5	1.3	1.3	0.9	0.9	0.8	0.6	0.7	1.0	1.0	1.1	1.2	1.2	3.5
30	1.4	2.1	2.6	2.9	2.9	3.0	2.9	2.6	2.4	2.6	3.2	2.7	2.6	3.2	3.5	2.0	2.1	1.3	1.3	1.2	1.3	1.3	1.3	1.6	2.2	3.5
NO.	27	28	28	28	28	28	28	28	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	663	92%
MEAN	4.4	4.4	4.4	4.1	4.0	4.2	4.9	5.7	6.2	6.1	5.3	4.9	4.9	5.1	4.8	4.5	4.2	3.8	3.6	3.6	3.7	3.9	4.0	4.2		
MAX	12.5	13.0	13.5	13.1	11.7	11.4	11.9	12.2	12.3	12.8	12.6	13.0	11.8	12.7	12.1	11.4	11.6	11.3	9.7	9.1	9.1	9.1	9.0	10.4		



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	663		
Maximum 1-HR Average	13.5 UG/M3		
Maximum 24-HR Average	11.2 UG/M3		
IZS Calibration Time		Opperational Time	663 HRS
Down Time	0	Opperational Uptime	92.1 %
Standard Deviation	2.842	Monthly Average	4.5 UG/M3

West PM_{10} ($\mu g/m^3$) – April 2021

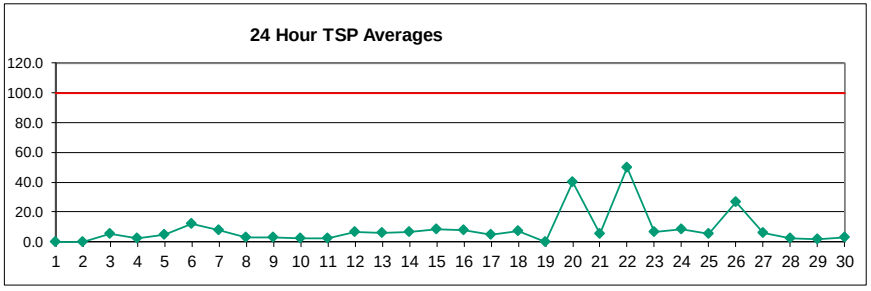
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	11.6	9.3	8.8	9.0	8.4	8.2	7.2	7.0	-	-
3	7.1	6.6	9.0	11.4	8.7	6.9	5.2	5.8	12.2	9.5	9.0	8.3	6.4	5.9	4.8	4.1	3.6	3.6	3.4	3.8	3.9	3.9	4.1	4.4	6.3	12.2
4	4.4	4.1	3.8	3.7	3.5	3.8	3.7	3.5	1.9	1.3	1.5	1.3	3.4	4.1	4.2	3.1	2.6	3.3	3.1	2.1	2.4	1.4	3.5	5.0	3.1	5.0
5	6.0	7.4	3.6	2.2	1.9	2.1	4.9	4.5	6.9	8.0	6.8	4.3	4.9	6.0	6.4	6.1	6.0	6.3	6.3	7.2	7.6	8.0	8.8	9.9	5.9	9.9
6	10.0	10.3	10.4	10.4	10.9	10.7	13.7	15.5	18.5	16.8	15.0	15.7	14.8	14.5	14.2	16.9	17.3	16.9	14.6	13.3	12.9	12.8	13.1	13.3	13.8	18.5
7	14.0	14.7	14.5	13.5	13.3	13.6	14.6	14.3	13.6	12.8	12.7	11.7	10.0	7.3	5.5	6.3	4.8	3.5	2.7	2.6	1.7	1.5	2.8	1.5	8.9	14.7
8	1.5	1.8	1.9	1.7	2.5	1.9	5.0	8.5	6.6	4.3	4.1	6.4	9.5	6.0	3.0	1.4	6.6	2.6	0.6	0.6	0.8	1.7	1.3	0.9	3.4	9.5
9	0.9	1.0	1.1	1.2	1.6	1.8	3.1	3.3	5.0	6.2	5.5	5.8	6.5	5.6	4.8	4.9	3.7	3.2	2.7	2.2	2.9	4.3	2.7	2.5	3.4	6.5
10	2.6	2.0	1.8	2.4	2.7	2.6	2.0	2.6	2.3	2.6	2.0	4.4	2.7	7.5	3.1	9.4	6.7	2.1	3.9	2.3	2.4	2.9	2.1	1.6	3.2	9.4
11	1.5	1.3	1.2	1.2	1.1	1.0	1.1	3.3	4.5	4.8	4.9	2.8	2.2	2.4	1.2	1.3	1.5	2.5	2.7	1.7	6.8	3.7	3.4	1.4	2.5	6.8
12	2.2	3.2	1.7	1.6	2.8	4.2	4.8	5.8	5.6	9.6	7.5	5.2	5.1	6.1	8.8	9.1	6.4	5.5	4.7	3.4	2.7	3.8	4.4	5.6	5.0	9.6
13	4.6	5.0	5.6	6.7	6.4	7.6	9.1	11.1	9.4	10.0	10.1	9.3	9.7	9.1	12.3	7.4	5.2	2.5	1.2	1.7	2.6	2.7	3.5	4.2	6.5	12.3
14	4.9	5.8	5.6	4.4	4.8	4.4	8.2	13.9	12.5	12.7	9.4	8.9	8.4	7.3	7.4	6.4	6.0	4.8	3.6	4.3	4.7	5.1	5.0	6.3	6.9	13.9
15	7.2	7.8	8.0	6.5	7.9	8.2	11.1	13.6	14.5	15.5	12.5	10.7	8.6	10.5	9.0	7.8	6.3	5.7	5.5	5.1	5.3	6.0	5.5	6.1	8.5	15.5
16	9.7	8.1	7.0	6.7	6.6	7.0	8.2	11.1	14.3	11.2	9.5	6.5	5.8	6.2	5.7	6.5	4.6	8.4	3.8	3.9	5.5	6.6	8.9	10.9	7.6	14.3
17	7.2	5.4	4.2	3.9	3.8	3.5	5.4	6.2	6.7	5.6	4.9	4.3	4.5	3.9	3.3	3.3	2.5	5.4	6.0	5.2	4.8	4.8	5.3	7.1	4.9	7.2
18	5.6	4.3	10.0	11.3	9.9	10.6	9.8	7.5	3.5	6.1	4.9	3.2	3.9	3.0	4.9	2.6	3.1	4.9	4.9	4.9	4.1	9.3	5.5	4.3	5.9	11.3
19	2.9	1.8	0.8	0.4	0.5	0.5	0.6	1.8	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	4.1	5.0	4.5	3.9	4.7	6.6	15.6	50.2	49.5	38.7	31.1	35.9	50.0	21.1	7.8	5.1	4.0	2.7	2.9	3.0	3.6	4.8	4.3	15.6	50.2
21	4.1	4.3	4.4	4.8	4.8	5.3	8.5	8.4	9.9	9.6	5.8	6.6	6.5	6.1	6.1	7.0	5.7	3.5	3.1	2.8	3.2	2.9	8.4	4.8	5.7	9.9
22	5.5	7.2	5.7	2.5	2.7	7.5	4.2	6.8	12.3	11.7	5.3	3.1	2.7	5.2	5.4	4.2	3.5	3.6	4.2	3.9	3.3	5.0	4.6	4.4	5.2	12.3
23	4.7	6.3	5.2	4.7	4.5	6.7	8.4	8.9	8.7	7.7	8.4	8.5	9.9	11.0	10.2	11.2	9.5	9.3	8.7	9.9	9.8	9.7	9.6	11.1	8.4	11.2
24	13.6	14.2	14.5	14.0	12.2	11.9	12.6	13.3	13.5	15.5	16.1	15.3	13.7	14.7	14.1	12.8	12.1	10.8	9.9	10.0	10.6	9.5	8.9	8.3	12.6	16.1
25	7.8	7.6	7.8	8.1	8.1	8.2	8.3	9.3	9.2	8.9	10.3	6.7	8.3	9.7	8.7	9.7	10.2	10.2	10.9	9.7	6.7	5.5	6.6	8.4	8.5	10.9
26	7.3	6.4	6.2	5.6	4.9	5.0	9.1	8.7	7.2	20.5	19.0	37.1	22.7	19.5	26.3	8.6	3.9	3.5	3.2	3.2	2.9	3.0	3.1	3.3	10.0	37.1
27	3.8	3.7	4.1	4.1	4.2	4.9	7.0	11.6	10.8	7.9	6.1	4.3	4.8	4.6	4.5	4.7	3.8	3.4	3.3	10.0	10.1	8.6	9.0	9.5	6.2	11.6
28	9.1	8.5	8.9	3.2	1.9	2.3	3.9	3.8	3.4	2.8	2.3	1.8	2.3	2.1	2.5	1.9	1.2	1.1	0.7	0.6	0.5	0.2	0.3	0.3	2.7	9.1
29	0.6	0.9	0.8	0.5	0.7	1.1	4.8	5.2	3.0	2.4	1.9	1.8	2.1	1.8	1.8	1.3	1.2	1.1	0.7	0.9	1.2	1.2	1.3	1.4	1.7	5.2
30	1.7	2.6	3.3	3.8	3.7	3.9	4.0	3.7	3.4	3.7	4.7	3.9	3.7	4.6	5.1	2.8	2.9	1.8	1.8	1.6	1.7	1.6	1.7	2.1	3.1	5.1
NO.	27	28	28	28	28	28	28	28	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	663	92%
MEAN	5.6	5.6	5.6	5.2	5.0	5.4	6.7	8.1	10.0	10.3	8.8	8.5	8.1	8.7	7.6	6.3	5.6	5.1	4.6	4.6	4.7	4.9	5.2	5.3		
MAX	14.0	14.7	14.5	14.0	13.3	13.6	14.6	15.6	50.2	49.5	38.7	37.1	35.9	50.0	26.3	16.9	17.3	16.9	14.6	13.3	12.9	12.8	13.1	13.3		



Number of Non-Zero Readings	663		
Maximum 1-HR Average	50.2 UG/M3		
Maximum 24-HR Average	15.6 UG/M3		
IZS Calibration Time		OpperatioEl Time	663 HRS
Down Time	0	OpperatioEl Uptime	92.1 %
Standard Deviation	5.5	Monthly Average	6.5 UG/M3

West TSP (µg/m^3) – April 2021

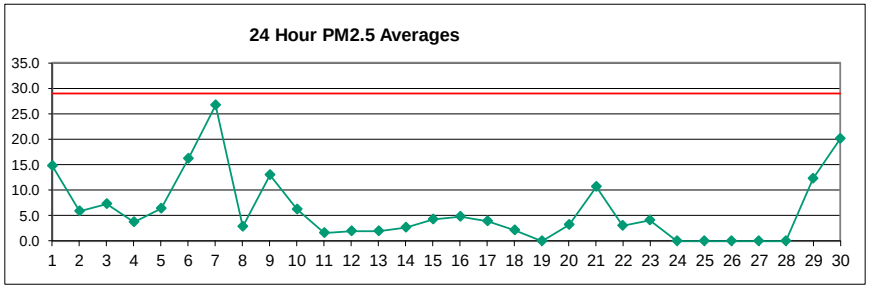
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	16.4	8.2	7.2	7.0	6.3	6.1	5.2	5.0	-	-
3	5.1	4.7	7.9	10.2	6.8	5.2	3.8	5.0	13.7	10.0	9.2	7.6	5.1	5.2	4.2	3.4	2.8	2.7	2.5	2.7	2.8	2.8	3.0	3.2	5.4	13.7
4	3.3	3.2	3.0	2.8	2.5	2.7	2.5	2.3	1.2	0.9	1.1	0.9	2.9	3.5	3.3	2.6	2.2	2.5	2.5	1.5	1.6	1.0	2.5	3.3	2.3	3.5
5	3.9	4.9	2.5	1.5	1.3	1.6	4.8	4.5	7.1	8.3	7.3	4.3	5.0	6.1	6.4	5.9	5.0	4.7	4.7	5.4	5.6	5.9	6.7	7.6	5.0	8.3
6	7.5	7.7	7.7	7.6	8.1	7.9	13.8	16.7	21.0	18.7	15.5	15.7	14.2	13.3	13.4	15.6	14.4	14.3	11.1	10.1	9.7	9.8	9.9	10.1	12.2	21.0
7	10.6	11.3	11.0	10.4	10.5	10.9	14.4	13.6	12.8	11.7	11.2	10.3	8.8	6.4	4.7	5.6	3.9	2.6	1.9	1.8	1.2	1.1	2.5	1.0	7.5	14.4
8	1.0	1.2	1.2	1.1	2.0	1.5	4.5	9.3	7.1	4.4	4.0	5.1	7.0	4.8	2.5	1.1	7.3	2.7	0.4	0.4	0.6	1.1	0.9	0.6	3.0	9.3
9	0.7	0.7	0.8	0.9	1.3	1.5	3.0	3.1	5.1	6.5	5.5	5.7	6.7	5.6	4.6	4.7	3.3	2.7	2.1	1.6	2.1	3.8	2.1	1.8	3.2	6.7
10	1.8	1.3	1.1	1.6	1.9	1.8	1.3	2.3	1.6	2.1	1.5	4.2	2.2	8.0	2.8	8.0	4.8	1.5	2.6	1.5	1.6	1.9	1.4	1.0	2.5	8.0
11	1.0	0.9	0.8	0.8	0.7	0.7	0.7	2.9	4.5	4.8	5.1	2.6	2.1	2.3	1.1	1.2	1.3	2.5	2.6	1.4	6.7	3.0	2.5	0.9	2.2	6.7
12	1.5	2.4	1.2	1.1	2.4	3.7	3.8	5.4	30.1	37.8	6.2	4.1	4.7	5.8	9.4	9.6	6.0	4.1	3.2	2.3	1.8	2.6	3.0	3.8	6.5	37.8
13	3.0	3.3	3.6	4.3	4.3	5.7	8.8	11.4	9.6	10.9	10.9	9.7	10.4	9.8	13.7	7.9	5.3	2.2	0.8	1.3	2.0	2.0	2.9	3.6	6.1	13.7
14	4.3	4.6	4.1	3.2	3.6	3.2	8.5	16.2	14.3	14.7	10.7	9.9	8.9	7.5	7.5	6.4	5.8	4.5	2.7	3.5	4.1	4.3	4.2	5.6	6.8	16.2
15	6.7	6.5	6.4	4.9	6.3	6.6	11.4	15.4	16.8	17.9	14.3	11.7	9.4	11.7	9.9	8.5	6.7	5.8	5.4	4.8	5.0	5.8	5.2	5.8	8.7	17.9
16	10.2	7.8	6.2	5.6	5.3	5.5	7.3	12.3	16.2	12.6	10.7	7.0	6.0	6.5	6.0	7.0	4.7	9.3	3.5	3.6	5.5	7.1	9.9	12.3	7.8	16.2
17	7.0	4.9	3.3	3.1	2.9	2.6	4.9	6.0	7.1	5.8	5.1	4.3	4.4	3.7	3.0	3.1	2.1	5.9	6.4	5.5	4.9	4.8	5.3	7.2	4.7	7.2
18	4.6	3.3	10.6	12.9	10.9	10.5	8.4	5.3	2.3	4.2	3.4	2.5	2.5	1.9	3.1	31.2	2.1	8.8	3.2	21.8	2.6	6.0	3.5	2.8	7.0	31.2
19	1.9	1.1	0.5	0.3	0.3	0.3	0.4	2.4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	2.8	3.6	3.0	2.6	3.1	5.3	21.0	165.4	147.2	111.4	92.4	120.0	159.8	50.1	7.7	4.6	3.3	1.8	1.9	2.0	2.5	3.4	2.9	39.9	165.4
21	2.7	2.8	2.9	3.2	3.3	3.9	8.5	8.4	11.2	10.5	5.4	6.7	6.5	6.3	6.3	7.4	5.7	3.0	2.3	1.9	2.3	2.0	9.3	4.4	5.3	11.2
22	4.7	5.8	3.9	1.7	1.8	4.8	32.1	110.3	423.5	352.2	191.0	23.3	2.7	5.1	5.9	4.2	3.0	3.2	3.3	2.9	2.4	3.9	3.4	3.0	49.9	423.5
23	3.1	4.3	3.7	3.2	3.1	5.4	7.5	8.0	8.2	6.8	7.8	7.2	9.0	10.4	9.5	9.7	7.0	6.5	5.7	6.4	6.4	6.4	6.3	7.2	6.6	10.4
24	8.8	9.2	9.4	9.1	7.9	7.7	8.2	8.8	9.1	10.6	12.1	10.6	9.4	10.3	9.9	8.9	8.4	7.3	6.6	6.8	7.3	6.3	5.8	5.4	8.5	12.1
25	5.1	4.9	5.1	5.2	5.2	5.3	5.3	6.0	6.0	5.8	6.8	4.4	5.5	6.3	5.6	7.2	7.3	7.4	7.5	6.3	4.3	3.6	4.2	5.5	5.7	7.5
26	4.7	4.2	4.1	3.7	3.2	3.5	8.3	7.8	6.4	59.7	67.0	148.3	98.7	65.3	124.5	17.5	3.1	2.6	2.3	2.3	2.0	2.1	2.1	2.2	26.9	148.3
27	2.5	2.6	2.9	2.7	2.9	3.7	6.6	13.4	12.3	8.3	6.0	3.6	4.3	3.9	4.0	4.1	3.0	2.5	2.4	10.6	10.3	9.1	9.8	9.7	5.9	13.4
28	10.2	8.9	8.3	2.4	1.3	1.7	3.7	3.8	3.4	2.7	2.2	1.6	2.2	2.0	2.5	1.8	1.1	0.9	0.6	0.5	0.4	0.1	0.2	0.2	2.6	10.2
29	0.4	0.7	0.7	0.4	0.6	1.0	5.3	5.7	3.3	2.5	2.0	1.8	2.1	1.9	1.8	1.2	1.2	0.9	0.5	0.7	0.9	0.8	0.9	0.9	1.6	5.7
30	1.1	2.0	2.6	3.0	2.8	3.0	3.5	3.5	3.1	3.7	4.9	3.9	3.2	4.5	5.1	2.4	2.8	1.7	1.7	1.3	1.3	1.1	1.2	1.4	2.7	5.1
NO.	27	28	28	28	28	28	28	28	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	663	92%
MEAN	4.3	4.2	4.3	3.9	3.8	4.1	7.0	11.8	30.5	28.9	19.9	15.2	13.5	14.0	11.9	7.2	5.0	4.4	3.5	4.2	3.7	3.8	4.2	4.2		
MAX	10.6	11.3	11.0	12.9	10.9	10.9	32.1	110.3	423.5	352.2	191.0	148.3	120.0	159.8	124.5	31.2	16.4	14.3	11.1	21.8	10.3	9.8	9.9	12.3		



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	663		
Maximum 1-HR Average	423.5 UG/M3		
Maximum 24-HR Average	49.9 UG/M3		
IZS Calibration Time		Opperational Time	663 HRS
Down Time	0	Opperational Uptime	92.1 %
Standard Deviation	27.53	Monthly Average	9.0 UG/M3

Berm $PM_{2.5}$ (µg/m^3) – April 2021

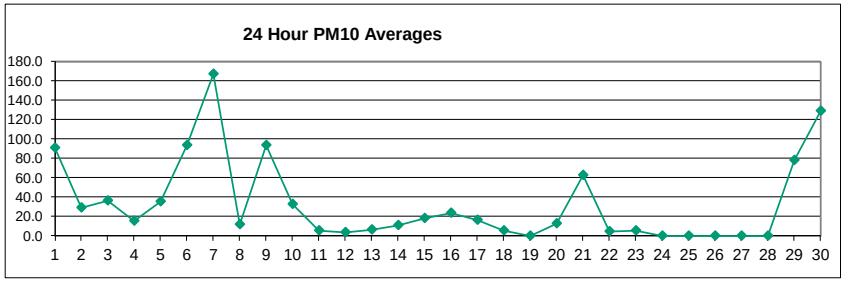
DAY \ HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	6.4	3.8	4.1	6.5	7.2	6.7	15.4	33.0	33.7	31.8	42.8	36.3	21.5	10.1	13.4	14.5	7.9	4.0	2.9	10.8	16.0	13.5	8.0	4.6	14.8	42.8
2	3.6	5.4	2.8	3.1	2.5	1.7	2.1	3.1	2.1	2.1	2.4	3.1	13.2	18.0	11.2	7.4	7.5	4.9	12.3	11.5	4.3	6.7	5.9	4.7	5.9	18.0
3	3.1	3.3	2.9	2.9	3.1	4.6	3.2	3.9	5.6	3.6	5.8	10.9	18.1	12.0	9.9	12.8	17.8	6.0	5.8	5.4	5.1	7.3	10.7	9.9	7.2	18.1
4	12.0	6.4	6.6	5.8	1.9	1.7	2.4	1.6	1.2	0.6	0.6	0.6	14.3	5.9	3.0	1.3	5.4	5.7	2.0	1.9	1.7	2.0	2.9	3.4	3.8	14.3
5	4.7	3.7	1.7	2.7	1.4	1.7	2.3	3.0	6.2	6.8	11.6	11.1	9.2	19.0	9.8	11.4	5.8	5.3	4.0	10.1	8.8	4.6	4.5	4.5	6.4	19.0
6	3.9	4.3	4.5	4.0	4.2	4.1	5.1	6.2	9.0	14.2	46.3	15.0	19.0	21.5	21.0	18.4	20.8	39.2	27.4	21.2	15.7	29.1	25.3	8.9	16.2	46.3
7	8.6	9.4	10.2	9.0	12.6	14.6	21.8	64.5	64.8	65.6	54.4	40.9	64.4	32.3	43.6	24.5	15.0	24.6	20.5	17.5	5.4	6.0	7.5	2.0	26.6	65.6
8	3.3	1.1	1.0	1.0	1.5	0.8	0.6	2.5	3.6	7.8	9.9	10.6	6.6	2.9	3.2	1.0	1.5	0.9	0.5	0.4	0.4	0.9	3.3	3.6	2.9	10.6
9	2.3	2.1	6.6	6.7	6.5	8.6	25.5	57.1	38.3	15.0	16.4	13.2	14.3	13.3	16.8	13.8	7.4	6.1	8.3	3.7	5.5	6.3	10.7	5.9	12.9	57.1
10	5.3	1.1	2.6	3.8	5.2	2.2	2.7	7.8	15.6	28.0	21.7	9.1	7.8	3.3	7.8	3.7	1.5	4.3	4.9	2.1	1.9	3.4	1.6	0.6	6.2	28.0
11	0.5	0.5	0.4	0.3	0.3	0.7	0.6	1.7	1.3	1.3	1.7	2.1	6.4	3.6	2.9	0.9	0.6	0.8	0.7	4.4	1.3	1.1	2.1	0.8	1.5	6.4
12	0.5	0.5	0.6	0.7	0.6	0.5	1.2	1.3	1.8	4.9	8.8	3.3	3.1	1.4	1.2	1.3	1.8	2.6	2.1	2.0	1.0	2.4	1.1	1.4	1.9	8.8
13	1.3	1.7	1.8	2.2	2.1	2.2	2.5	2.9	3.2	4.2	5.0	4.0	2.7	2.4	1.6	1.2	1.1	0.8	1.1	0.9	0.9	0.8	0.8	0.7	2.0	5.0
14	1.0	1.6	1.0	2.5	1.6	1.3	3.2	5.7	7.5	4.7	3.3	6.0	1.6	1.5	1.7	1.6	1.9	2.3	1.6	1.7	1.8	1.9	1.9	3.6	2.6	7.5
15	3.8	5.7	5.7	2.6	3.3	2.9	3.8	5.8	11.3	10.3	10.3	3.9	2.8	3.3	3.0	2.6	2.7	2.6	2.7	2.4	2.3	2.2	2.2	2.6	4.2	11.3
16	18.0	3.9	3.7	3.3	2.6	2.4	3.8	8.1	5.4	7.0	6.0	5.2	2.9	3.8	8.4	2.7	2.8	2.0	2.1	2.0	1.9	2.4	10.4	4.1	4.8	18.0
17	5.0	3.3	3.0	3.5	2.2	2.1	3.1	3.9	3.7	4.1	3.6	4.9	9.5	7.1	4.5	5.2	5.6	3.5	2.8	2.7	3.9	2.0	1.9	2.5	3.9	9.5
18	2.6	1.8	4.6	5.3	4.6	4.5	3.8	2.6	0.3	0.2	0.4	0.8	0.6	0.5	1.1	1.4	1.4	1.8	2.1	2.4	2.0	K	K	K	2.1	5.3
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	1.3	1.6	1.6	1.4	1.9	1.9	4.2	4.9	3.0	3.9	3.6	3.6	5.2	2.7	3.5	3.6	10.8	3.1	1.4	1.5	3.0	2.4	2.4	3.2	10.8
21	2.3	2.3	2.2	2.4	2.4	2.6	2.5	3.6	7.1	23.3	31.2	12.7	24.1	21.4	24.6	17.4	18.9	22.4	7.5	9.2	6.1	7.3	1.8	1.8	10.7	31.2
22	1.8	1.9	1.8	0.6	5.5	4.8	9.0	5.4	8.5	4.7	2.7	2.2	2.4	0.6	0.6	1.1	2.5	1.5	2.6	2.5	2.6	2.1	2.0	2.2	3.0	9.0
23	2.2	2.4	2.2	2.1	2.3	3.1	3.3	4.7	3.5	2.9	2.6	3.5	3.6	3.8	4.9	6.3	6.7	5.9	5.2	5.3	5.6	5.3	5.5	7.0	4.2	7.0
24	8.0	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
25	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
26	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
27	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
28	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
29	P	P	P	P	P	P	4.4	5.2	3.9	6.3	10.0	7.3	4.3	14.7	24.0	47.8	26.4	8.5	26.6	3.9	2.2	3.8	12.6	9.8	12.3	47.8
30	8.3	12.4	23.2	28.7	6.0	6.7	11.2	69.3	20.1	28.8	35.7	34.6	23.0	13.0	9.5	9.7	8.9	6.9	32.3	31.5	5.5	22.6	32.2	4.5	20.2	69.3
NO.	23	23	23	23	23	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	567	79%
MEAN	4.7	3.5	4.1	4.4	3.5	3.6	5.6	12.8	10.9	11.7	14.0	10.2	11.6	9.2	9.6	8.8	7.3	7.2	7.6	6.5	4.3	5.9	6.8	4.0		
MAX	18.0	12.4	23.2	28.7	12.6	14.6	25.5	69.3	64.8	65.6	54.4	40.9	64.4	32.3	43.6	47.8	26.4	39.2	32.3	31.5	16.0	29.1	32.2	9.9		



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	567		
Maximum 1-HR Average	69.3 UG/M3		
Maximum 24-HR Average	26.6 UG/M3		
		Operational Time	567 HRS
Monthly Calibration	0	Operational Uptime	78.8 %
Standard Deviation	10.1	Monthly Average	7.5 UG/M3

Berm PM_{10} ($\mu g/m^3$) – April 2021

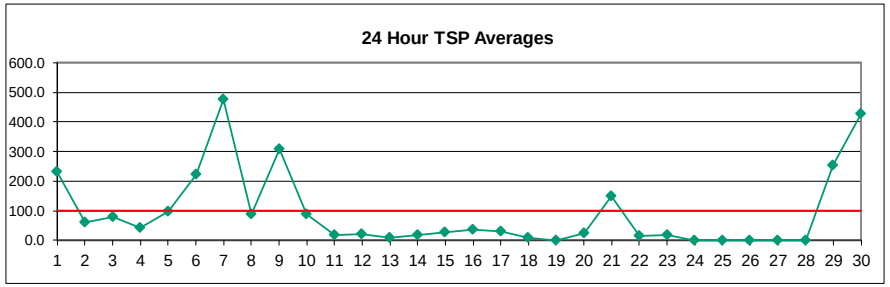
DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	37.0	13.0	13.5	35.4	47.5	37.1	115.9	269.1	233.5	210.9	283.3	237.0	129.5	54.1	84.6	70.3	40.5	8.8	5.3	54.1	74.3	63.6	41.2	15.3	90.6	283.3
2	9.7	23.4	3.9	5.4	5.4	3.4	3.8	8.1	3.8	3.5	5.7	8.2	83.9	117.2	74.9	33.7	33.5	17.2	73.1	70.4	10.6	33.8	29.8	18.7	28.4	117.2
3	5.0	9.0	4.4	5.0	5.4	8.9	4.9	10.0	15.0	7.1	23.2	68.8	120.5	67.7	55.1	71.2	115.2	33.3	33.8	24.4	19.2	37.4	55.8	59.5	35.8	120.5
4	77.9	30.8	25.8	24.1	4.1	3.1	3.2	1.9	1.4	0.7	0.7	0.7	73.8	24.7	11.3	4.1	23.0	25.8	2.7	2.6	2.3	2.7	4.1	4.4	14.8	77.9
5	5.9	4.7	2.2	3.9	1.9	2.4	13.0	26.4	42.3	57.9	88.0	82.6	65.1	123.1	57.7	71.2	28.2	21.9	11.4	58.6	42.3	16.6	14.7	12.6	35.6	123.1
6	6.6	8.9	9.6	7.8	7.9	6.6	12.8	23.9	45.4	94.2	305.3	82.2	104.1	109.8	118.1	92.0	106.2	229.6	181.6	156.0	110.2	218.2	180.9	27.7	93.6	305.3
7	31.5	32.6	35.1	34.0	57.5	73.7	115.3	415.0	403.7	445.2	389.5	265.7	457.4	212.9	284.8	162.7	89.6	146.9	155.4	119.7	31.6	28.5	21.5	7.4	167.4	457.4
8	5.4	2.0	1.6	1.8	3.7	1.6	0.7	7.4	10.8	44.0	53.4	57.1	18.2	4.1	4.6	1.4	3.0	3.9	1.4	0.6	0.6	1.4	18.3	22.9	11.3	57.1
9	12.0	13.3	62.8	47.9	47.5	69.9	205.9	463.5	312.2	100.3	118.2	79.5	109.2	90.8	120.9	95.2	46.7	35.5	34.5	7.2	26.0	41.7	70.9	33.3	93.5	463.5
10	12.0	1.3	3.6	5.5	10.5	3.3	3.9	21.9	139.2	210.8	160.4	65.8	51.5	21.5	28.3	5.4	3.5	13.9	7.0	2.6	2.4	4.3	1.8	0.7	32.5	210.8
11	0.5	0.6	0.4	0.3	0.3	0.8	0.6	3.8	3.1	3.3	5.2	8.5	31.7	16.9	14.3	4.1	1.5	1.3	1.4	24.0	1.6	1.3	2.8	0.8	5.4	31.7
12	0.5	0.6	0.6	0.7	0.6	0.5	1.5	1.6	2.1	6.7	23.9	4.6	5.1	3.3	1.5	2.0	5.5	6.6	4.1	2.2	1.2	3.2	1.3	1.6	3.4	23.9
13	1.4	1.9	1.9	2.4	2.3	2.5	3.8	11.2	12.9	22.0	20.1	18.4	7.9	7.5	5.3	3.2	2.8	1.4	3.0	1.2	1.4	1.1	1.0	0.9	5.7	22.0
14	1.7	3.2	1.4	21.2	2.7	2.2	11.6	37.2	56.0	29.9	14.7	27.8	3.8	3.0	3.8	3.2	4.8	6.1	3.1	3.1	3.2	3.5	3.5	11.0	10.9	56.0
15	12.5	18.2	16.9	5.3	9.6	6.6	16.0	33.8	74.4	59.6	58.8	17.7	9.2	12.9	11.2	8.3	11.3	8.6	9.7	7.6	6.5	5.3	5.3	6.6	18.0	74.4
16	89.9	12.4	10.6	8.6	5.8	5.0	13.7	55.3	31.8	43.9	32.2	26.9	15.8	20.1	42.7	11.6	14.3	7.0	8.2	7.5	5.2	7.0	65.7	14.4	23.2	89.9
17	15.9	11.1	9.7	13.8	7.0	6.9	9.3	18.8	14.3	23.4	18.9	19.9	50.8	34.5	22.2	26.6	23.9	16.3	11.9	10.6	11.9	5.1	4.4	6.5	16.4	50.8
18	6.6	3.4	20.4	23.4	15.5	13.1	8.8	3.2	0.4	0.2	0.6	0.8	0.6	0.5	1.1	1.4	1.5	2.0	2.3	2.6	2.1	K	K	K	5.3	23.4
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	1.4	1.8	1.8	1.4	2.3	2.9	25.3	29.2	10.9	19.1	17.2	16.2	24.2	8.4	13.7	14.4	59.7	14.4	1.6	1.5	10.7	4.2	3.9	12.5	59.7
21	3.0	3.1	2.9	3.2	3.4	4.6	5.0	12.5	46.6	161.1	225.1	74.8	145.7	129.7	137.7	97.2	112.7	133.6	41.7	57.8	40.4	52.0	3.9	3.3	62.5	225.1
22	2.4	2.4	2.0	0.8	8.2	7.1	13.4	8.0	12.6	8.0	3.9	3.4	3.5	1.0	1.5	2.9	4.0	2.4	3.4	3.1	2.9	2.2	2.1	2.3	4.3	13.4
23	2.3	2.6	2.4	2.2	2.7	3.7	3.8	5.9	4.8	4.0	3.5	4.7	4.6	5.0	8.4	7.8	8.0	6.6	5.4	5.5	5.7	5.4	5.6	7.1	4.9	8.4
24	8.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
25	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
26	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
27	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
28	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
29	P	P	P	P	P	P	25.3	37.4	29.7	40.3	67.1	55.6	32.2	84.2	172.8	291.3	159.9	53.8	151.0	31.4	10.8	27.7	76.6	55.1	77.9	291.3
30	41.5	81.5	161.7	205.3	31.7	36.2	68.4	384.7	118.6	160.1	222.0	240.9	132.2	75.8	63.2	71.9	63.6	49.0	248.6	222.2	36.5	149.4	206.9	27.6	129.1	384.7
NO.	23	23	23	23	23	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	567	79%
MEAN	16.9	12.2	17.2	20.0	12.3	13.1	27.6	78.6	68.5	72.8	89.3	61.2	69.7	51.9	55.6	48.0	38.2	37.1	42.3	36.5	18.8	31.4	35.8	14.9		
MAX	89.9	81.5	161.7	205.3	57.5	73.7	205.9	463.5	403.7	445.2	389.5	265.7	457.4	212.9	284.8	291.3	159.9	229.6	248.6	222.2	110.2	218.2	206.9	59.5		



Number of Non-Zero Readings	567		
Maximum 1-HR Average	463.5 UG/M3		
Maximum 24-HR Average	167.4 UG/M3		
		Operational Time	567 HRS
Monthly Calibration	0	Operational Uptime	78.8 %
Standard Deviation	70.49	Monthly Average	40.7 UG/M3

Berm TSP (µg/m^3) – April 2021

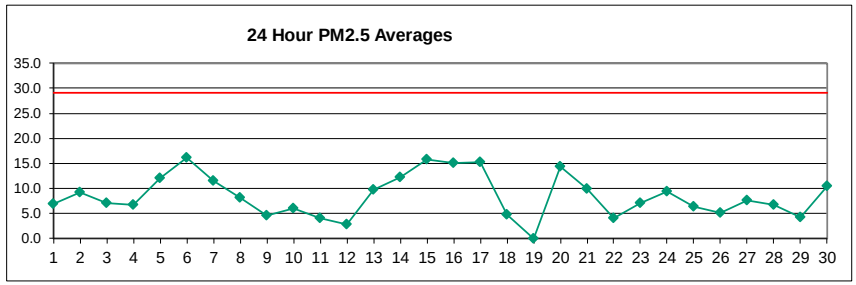
DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	127.5	27.6	42.9	125.6	190.3	124.6	368.0	783.4	567.1	505.6	772.7	639.3	333.1	128.4	223.6	126.5	89.4	8.5	10.2	63.8	93.8	88.0	100.3	36.5	232.4	783.4
2	22.8	49.5	2.8	5.6	12.9	6.7	9.9	14.7	6.3	3.2	9.1	9.8	185.2	309.1	193.5	59.6	51.3	28.7	143.4	137.3	11.8	75.7	54.3	39.5	60.1	309.1
3	6.4	10.0	4.2	5.5	6.4	10.2	6.3	11.3	14.9	8.5	32.5	140.3	284.4	152.2	122.5	131.7	301.8	88.9	78.8	52.0	27.5	62.0	137.7	171.6	77.8	301.8
4	228.0	58.4	49.6	37.7	7.0	6.2	2.8	1.3	1.1	0.5	0.5	0.6	98.6	43.7	15.6	13.3	192.8	224.1	2.2	2.2	1.8	2.3	3.9	3.6	41.6	228.0
5	4.5	3.4	1.7	3.9	1.8	2.2	61.7	175.3	135.3	196.4	278.1	270.4	186.0	300.5	119.9	172.0	68.5	41.5	13.1	145.7	76.2	39.4	26.3	34.0	98.2	300.5
6	5.4	11.4	11.8	8.6	6.7	5.0	13.6	45.4	93.3	204.9	558.2	148.6	206.5	182.2	271.3	229.0	285.1	610.8	555.7	482.6	316.6	625.1	458.8	31.3	223.7	625.1
7	56.6	48.8	54.1	63.1	140.1	201.0	285.4	991.8	1051.0	1255.1	1125.0	831.7	1518.5	734.3	832.5	474.8	218.2	441.7	489.5	383.0	95.1	59.4	100.6	11.6	477.6	1518.5
8	5.7	1.4	1.2	1.4	2.6	2.0	0.5	18.9	103.7	459.8	579.5	564.4	218.0	3.9	4.0	1.3	3.7	7.6	3.4	0.8	0.5	1.2	49.4	67.3	87.6	579.5
9	35.8	39.8	257.9	155.2	153.2	251.4	716.1	1446.3	975.4	252.5	333.7	210.7	351.2	289.7	357.2	286.4	181.1	245.9	280.8	10.1	51.2	115.6	292.8	132.8	309.3	1446.3
10	33.4	0.9	3.5	5.3	12.1	3.0	3.6	57.2	430.2	493.1	359.4	122.4	88.8	84.0	291.4	6.6	21.1	105.2	6.5	1.9	1.8	3.4	1.2	0.4	89.0	493.1
11	0.4	0.5	0.3	0.2	0.2	0.7	0.4	3.2	4.8	5.1	5.8	8.5	34.0	21.1	18.3	11.1	1.5	2.1	1.5	345.1	1.1	0.9	2.5	0.6	19.6	345.1
12	0.3	0.4	0.4	0.5	0.4	0.3	1.0	1.1	1.5	6.6	272.7	4.6	17.4	20.5	1.0	2.5	43.4	78.9	39.7	1.4	0.8	2.8	0.9	1.2	20.8	272.7
13	0.9	1.3	1.3	1.6	1.5	1.8	4.4	39.4	28.2	56.1	33.5	25.6	9.2	12.3	9.2	3.7	3.7	1.1	3.7	0.8	1.3	0.9	0.7	0.6	10.1	56.1
14	1.8	2.6	1.0	62.4	5.7	2.2	12.9	66.3	106.4	48.2	23.2	26.3	8.1	2.8	7.6	4.6	6.7	14.8	4.7	2.9	4.1	3.4	4.6	9.8	18.1	106.4
15	19.3	22.7	12.4	6.5	13.5	6.3	21.6	61.3	122.3	82.5	72.8	26.1	14.9	25.2	22.7	17.6	23.2	13.9	15.9	11.4	9.7	11.5	7.6	5.8	26.9	122.3
16	99.2	15.9	18.1	13.0	8.6	9.9	26.6	125.5	62.7	74.7	46.1	37.7	25.8	30.0	77.6	13.2	16.8	7.6	16.1	12.9	11.9	9.8	98.5	22.1	36.7	125.5
17	18.8	17.9	20.7	31.7	15.8	13.5	16.6	66.1	19.4	48.4	39.4	22.6	86.4	60.3	36.2	51.7	33.0	28.2	20.1	19.1	13.2	10.5	6.5	9.0	29.4	86.4
18	10.6	3.3	61.2	56.9	31.7	25.6	13.6	2.3	0.3	0.1	0.4	0.5	0.4	0.3	0.7	0.9	0.9	1.5	1.5	1.7	1.4	K	K	K	10.3	61.2
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
20	K	1.0	1.3	1.2	0.9	1.6	2.6	92.2	69.4	18.7	32.8	25.4	32.5	49.2	14.3	25.7	18.4	78.6	27.8	1.1	1.0	22.2	4.9	4.3	22.9	92.2
21	2.5	2.8	5.8	4.2	5.3	5.3	7.3	25.1	120.0	399.8	590.6	155.2	303.4	289.9	284.4	242.5	323.4	344.9	104.7	145.4	104.2	132.5	11.0	7.9	150.8	590.6
22	4.1	1.7	1.3	0.6	8.4	7.7	14.4	8.9	13.8	51.0	3.5	19.8	3.7	14.4	27.1	64.3	67.6	60.7	2.6	2.2	2.1	1.5	1.4	1.6	16.0	67.6
23	1.5	1.7	1.6	1.4	1.8	3.0	2.8	4.9	17.7	58.1	23.9	26.2	21.1	47.7	159.5	14.0	6.5	4.7	3.5	3.6	3.7	3.5	3.6	4.6	17.5	159.5
24	5.3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
25	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
26	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
27	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
28	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	-
29	P	P	P	P	P	P	148.2	167.6	120.3	167.8	276.2	232.2	134.5	256.2	588.1	863.2	417.5	159.4	376.5	111.9	34.4	96.6	229.7	194.6	254.2	863.2
30	162.3	304.7	658.4	820.4	116.9	145.9	241.3	1138.3	434.7	562.9	783.2	903.9	456.3	210.2	195.5	187.9	256.0	193.4	836.7	670.5	103.9	342.3	451.9	84.1	427.6	1138.3
NO.	23	23	23	23	23	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	567	79%
MEAN	37.1	27.3	52.8	61.4	32.3	36.3	82.6	222.8	187.5	206.7	260.5	185.5	192.4	136.2	161.4	125.2	109.6	116.4	126.6	108.7	40.4	74.4	89.1	38.0		
MAX	228.0	304.7	658.4	820.4	190.3	251.4	716.1	1446.3	1051.0	1255.1	1125.0	903.9	1518.5	734.3	832.5	863.2	417.5	610.8	836.7	670.5	316.6	625.1	458.8	194.6		



Number of 24HR Exceedences	7 Proposed Guideline		
Number of Non-Zero Readings	567		
Maximum 1-HR Average	1518.5 UG/M3		
Maximum 24-HR Average	477.6 UG/M3		
IZS Calibration Time		Operational Time	567 HRS
Monthly Calibration	0	Operational Uptime	78.8 %
Standard Deviation	210.7	Monthly Average	114.0 UG/M3

Entrance $PM_{2.5}$ (µg/m^3) – April 2021

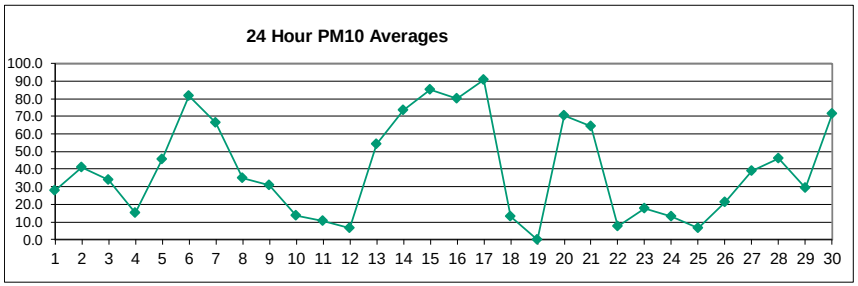
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	3.6	3.4	4.0	4.2	5.2	5.6	8.7	9.6	11.5	11.1	10.5	10.4	7.6	8.3	9.3	7.0	5.8	5.3	10.0	8.3	4.2	5.2	4.6	3.9	7.0	11.5
2	3.8	3.8	6.7	19.3	3.3	4.7	6.7	7.5	6.1	5.7	5.5	8.4	9.2	10.5	9.2	12.0	7.2	15.9	16.6	10.0	10.7	12.5	19.9	7.6	9.3	19.9
3	10.8	5.7	7.9	10.6	12.0	14.3	9.5	12.5	9.6	8.4	6.9	7.1	4.5	3.5	3.2	2.7	6.1	3.7	3.8	4.7	2.9	4.4	6.7	6.3	7.0	14.3
4	7.3	4.0	3.0	2.9	7.9	12.2	26.1	18.8	10.9	5.2	5.5	5.3	1.8	3.0	2.7	2.6	6.2	3.4	1.5	2.0	2.3	3.2	4.1	17.8	6.7	26.1
5	22.6	34.4	24.7	24.8	16.3	32.3	24.3	5.9	7.5	4.4	10.3	10.1	10.8	11.3	5.6	4.6	4.7	4.1	4.1	4.1	3.9	6.8	5.2	5.5	12.0	34.4
6	7.1	17.0	22.3	25.7	25.4	19.9	21.5	34.1	37.8	29.9	12.0	12.9	11.6	12.1	12.7	10.9	12.2	12.1	10.8	8.5	7.4	7.4	7.6	7.4	16.1	37.8
7	7.5	7.7	7.3	7.2	7.9	9.2	12.1	19.3	23.3	13.6	17.9	27.2	18.0	19.1	22.2	11.2	9.7	12.5	10.5	2.2	1.6	1.2	4.1	4.3	11.5	27.2
8	2.7	12.3	19.1	18.0	13.0	15.0	10.0	12.4	6.3	7.4	8.1	8.2	5.0	1.6	6.7	2.5	1.7	8.7	6.5	4.9	4.6	9.8	8.8	1.9	8.1	19.1
9	1.7	1.6	1.7	2.3	4.0	6.7	6.1	10.2	6.3	5.7	7.4	6.2	6.2	12.8	6.3	5.2	3.4	3.2	4.2	3.3	1.4	1.3	1.7	1.5	4.6	12.8
10	1.7	9.9	9.9	2.9	5.2	19.9	21.9	3.3	2.6	2.4	6.8	7.0	1.6	5.3	7.1	5.3	1.3	1.9	8.7	9.0	2.3	3.3	3.8	2.8	6.1	21.9
11	8.1	7.7	6.4	3.4	3.6	4.2	8.7	19.8	6.6	3.3	1.9	1.5	0.7	0.7	0.7	1.4	2.8	2.7	2.5	4.8	2.1	1.7	2.6	1.2	4.1	19.8
12	0.8	1.0	1.0	1.2	1.2	1.2	1.3	1.6	2.5	4.2	10.4	4.4	2.9	2.3	2.8	4.8	5.0	3.2	3.2	2.5	2.5	2.2	1.8	2.7	2.8	10.4
13	2.7	4.6	5.1	7.6	11.6	17.3	17.2	17.7	14.3	8.3	10.1	8.3	14.9	7.5	10.5	11.5	16.7	11.6	16.4	5.2	6.7	3.0	2.4	4.1	9.8	17.7
14	4.7	13.9	8.4	20.6	16.7	14.7	19.6	25.8	10.0	8.4	9.0	7.1	15.6	17.0	11.5	15.0	11.9	16.6	20.4	4.4	2.9	2.8	3.0	11.1	12.1	25.8
15	9.4	12.6	15.7	17.2	53.1	77.0	18.0	22.9	11.4	9.6	13.8	15.8	17.7	11.7	9.3	7.4	9.3	5.5	9.4	12.4	5.1	3.4	4.4	4.8	15.7	77.0
16	22.8	11.5	21.5	26.7	27.9	33.3	29.1	29.4	30.5	11.3	6.9	13.4	7.6	5.5	11.4	7.0	4.0	7.3	9.5	4.4	5.3	5.3	14.4	16.2	15.1	33.3
17	12.1	35.3	36.5	29.3	28.8	40.7	33.1	35.3	30.1	9.0	6.6	4.0	2.7	2.8	2.1	2.2	3.2	10.3	9.7	5.2	9.4	3.0	4.1	9.4	15.2	40.7
18	8.7	4.4	8.8	6.9	7.9	8.7	7.8	5.0	7.0	2.8	1.4	1.3	0.9	1.4	3.4	2.3	2.6	3.6	3.9	3.6	3.7	6.2	4.8	5.3	4.7	8.8
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	13.4	7.3	13.0	8.8	17.5	4.7	6.8	10.6	3.8	2.0	-	-
20	2.8	4.5	17.1	24.3	19.9	31.4	25.6	21.7	14.4	5.4	5.8	8.4	25.6	22.3	14.2	10.7	6.2	4.1	5.1	12.4	7.7	14.0	19.9	22.6	14.4	31.4
21	21.4	15.0	15.8	11.8	11.8	14.5	10.9	28.5	25.3	11.2	8.6	6.0	6.5	8.9	6.7	5.3	7.1	4.5	2.6	2.3	2.8	3.4	3.2	3.1	9.9	28.5
22	2.7	2.9	2.3	1.2	9.3	4.7	8.6	7.4	10.3	4.7	2.9	2.7	3.5	0.9	1.0	5.1	4.4	2.5	4.0	2.8	3.0	2.7	3.6	3.6	4.0	10.3
23	4.0	3.6	2.9	3.2	4.1	5.2	4.5	4.9	4.6	4.5	17.2	12.1	12.2	9.6	9.5	7.1	8.0	7.1	6.5	7.1	7.4	7.3	7.4	9.1	7.1	17.2
24	10.4	10.9	11.2	10.4	9.2	9.1	9.4	9.6	9.9	9.7	9.1	9.3	8.9	9.1	10.0	9.4	11.4	10.6	9.4	8.0	8.3	8.2	6.6	6.6	9.4	11.4
25	6.1	6.5	6.9	6.7	7.0	6.6	6.8	6.6	7.3	6.7	7.7	4.6	6.3	6.9	6.4	6.7	6.5	6.8	6.8	6.1	6.0	4.0	4.1	5.3	6.3	7.7
26	4.2	4.1	4.5	3.6	6.2	6.4	5.9	8.8	5.7	4.5	6.3	8.3	8.6	5.3	7.6	5.4	4.7	5.3	5.2	3.2	2.1	2.1	2.1	2.6	5.1	8.8
27	3.2	3.0	2.8	6.8	6.3	11.5	6.1	15.3	13.0	11.1	6.9	7.9	8.7	6.5	6.4	3.9	3.8	3.9	5.8	11.9	9.3	8.8	8.4	9.0	7.5	15.3
28	8.5	8.2	12.1	6.4	2.5	4.8	10.8	14.3	8.3	17.5	8.6	7.3	7.9	4.7	8.2	11.9	4.7	4.6	4.9	0.9	1.0	0.6	0.3	0.3	6.6	17.5
29	0.4	0.3	0.2	0.4	0.4	1.7	4.0	4.5	4.3	5.7	7.4	6.4	5.4	9.3	11.7	12.1	7.3	5.7	2.3	1.8	2.2	2.0	2.7	2.5	4.2	12.1
30	3.9	7.5	14.4	17.6	3.5	6.7	10.9	20.4	14.8	16.4	31.6	30.0	10.1	9.2	10.8	6.0	7.9	7.1	7.9	2.9	5.7	1.3	1.4	2.6	10.4	31.6
NO.	29	29	29	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	30	30	30	706	98%
MEAN	7.1	8.9	10.4	11.1	11.4	15.2	13.3	14.9	12.1	8.5	9.1	9.0	8.4	7.9	8.1	6.9	6.6	6.7	7.7	5.5	4.7	4.9	5.6	6.1		
MAX	22.8	35.3	36.5	29.3	53.1	77.0	33.1	35.3	37.8	29.9	31.6	30.0	25.6	22.3	22.2	15.0	16.7	16.6	20.4	12.4	10.7	14.0	19.9	22.6		



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	706		
Maximum 1-HR Average	77.0 UG/M3		
Maximum 24-HR Average	16.1 UG/M3		
		Opperational Time	706 HRS
Monthly Calibration	0	Opperational Uptime	98.1 %
Standard Deviation	7.518	Monthly Average	8.7 UG/M3

Entrance PM_{10} ($\mu g/m^3$) – April 2021

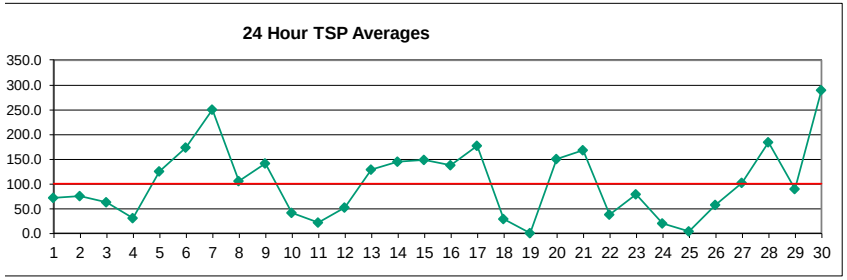
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	8.4	5.5	9.2	8.9	14.3	16.8	39.4	46.7	58.7	56.3	56.2	51.6	36.1	29.8	45.9	23.9	19.1	16.7	60.8	29.8	9.4	11.1	8.5	6.1	27.9	60.8
2	5.6	5.5	18.7	75.3	11.9	23.3	36.4	33.3	26.7	25.9	27.2	45.0	50.5	59.8	43.5	53.8	22.4	69.7	86.3	37.6	41.2	63.6	99.9	23.7	41.1	99.9
3	37.1	16.6	36.4	68.9	83.5	74.8	46.7	72.9	34.3	45.6	32.7	35.6	16.1	12.4	10.3	8.8	33.3	16.1	16.2	19.2	7.3	16.8	36.0	30.9	33.7	83.5
4	40.8	17.5	11.5	10.2	30.0	32.4	39.1	28.1	16.2	7.6	8.2	14.7	4.2	7.0	9.4	11.0	31.1	4.9	1.9	2.4	2.7	4.5	5.8	26.3	15.3	40.8
5	33.6	51.6	37.0	37.2	42.2	123.3	115.1	42.2	71.1	35.9	82.0	80.7	83.2	81.2	30.0	21.5	19.9	11.8	10.7	10.0	8.7	34.9	15.4	15.0	45.6	123.3
6	25.2	77.5	117.4	130.5	133.0	98.4	117.4	234.3	282.3	180.1	57.2	55.9	55.8	54.4	75.8	37.6	47.6	46.6	40.1	25.6	19.2	15.9	17.6	15.9	81.7	282.3
7	14.6	16.0	14.1	16.8	23.8	30.9	54.5	127.8	166.5	68.8	108.9	179.0	128.4	144.5	180.5	70.8	53.1	88.6	69.3	8.6	2.7	3.5	7.1	17.3	66.5	180.5
8	11.9	70.2	82.4	75.5	29.1	73.6	31.8	61.1	36.6	39.2	42.0	19.0	21.1	2.2	9.9	4.1	4.7	46.4	52.7	30.7	19.4	24.5	42.2	8.9	35.0	82.4
9	6.2	7.9	12.8	14.3	29.5	77.6	46.8	102.1	43.1	35.1	54.0	41.7	43.1	96.2	45.4	27.2	15.7	13.1	9.2	5.5	2.0	2.4	3.4	3.5	30.7	102.1
10	2.1	15.2	14.6	4.0	7.4	29.7	32.7	6.2	6.3	8.8	40.8	35.2	4.4	27.9	35.0	7.6	2.4	4.0	12.8	13.4	3.0	4.3	5.3	4.1	13.6	40.8
11	12.1	11.6	9.5	5.1	5.3	6.2	13.0	68.3	24.1	9.5	6.0	4.8	1.7	2.3	2.1	8.1	23.7	12.7	9.9	11.2	2.8	2.2	3.5	1.5	10.7	68.3
12	0.8	1.1	1.1	1.4	1.4	1.4	1.4	1.9	3.1	6.2	27.3	6.0	7.9	7.6	10.7	25.3	26.5	4.9	4.2	2.8	2.9	2.7	2.2	3.6	6.4	27.3
13	3.4	6.5	7.0	11.3	17.4	26.0	35.3	101.8	76.2	35.2	53.5	44.7	91.8	42.9	76.6	105.9	160.0	102.8	141.8	30.3	83.9	11.3	14.1	18.8	54.1	160.0
14	7.9	46.9	33.5	105.1	85.6	69.9	101.3	165.6	58.1	47.9	59.5	47.5	115.6	144.3	82.8	108.0	90.3	114.7	181.2	25.7	9.1	6.8	9.9	49.3	73.6	181.2
15	36.2	47.9	72.7	87.0	279.7	400.0	77.6	125.3	49.0	50.6	78.7	101.3	114.5	87.2	63.2	47.3	62.9	33.5	60.2	91.5	29.1	11.6	13.7	19.2	85.0	400.0
16	97.1	44.6	90.8	128.4	128.5	160.1	153.0	165.3	174.2	65.3	37.5	84.2	48.3	34.8	77.4	48.4	22.4	56.2	71.3	21.4	32.0	22.3	87.1	74.9	80.2	174.2
17	53.5	209.3	201.1	177.7	175.7	237.8	216.8	235.8	180.3	47.7	35.1	19.6	17.3	15.3	8.5	9.3	20.2	87.0	76.9	26.6	65.2	10.8	16.6	36.6	90.9	237.8
18	29.5	13.5	55.0	34.4	35.6	42.5	31.8	7.1	10.4	4.1	2.0	1.6	1.1	1.8	4.4	2.8	3.1	4.4	4.4	3.7	3.9	8.5	5.5	5.9	13.2	55.0
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	95.0	49.6	113.8	51.4	154.4	15.1	33.9	84.0	7.2	2.3	-	-
20	3.6	6.5	25.5	36.5	29.8	47.0	103.1	97.0	70.0	24.6	32.0	48.6	173.6	158.8	96.8	58.5	32.3	16.5	37.6	108.9	60.9	126.8	161.1	132.4	70.4	173.6
21	121.9	79.7	98.7	70.4	69.4	101.1	66.9	276.4	203.6	74.6	56.5	32.7	37.4	61.2	37.6	31.3	42.4	22.9	7.5	4.8	7.2	13.0	10.6	13.1	64.2	276.4
22	5.3	5.4	2.6	1.6	13.8	6.9	12.8	11.0	15.3	8.8	10.0	6.7	5.1	4.0	3.1	26.9	11.3	4.6	5.2	3.2	3.4	3.0	4.1	3.9	7.4	26.9
23	4.6	3.9	3.1	3.5	5.4	7.1	5.5	6.0	5.5	8.7	97.3	57.0	64.3	39.9	35.7	8.4	9.5	7.7	6.8	7.7	7.6	7.6	7.7	9.4	17.5	97.3
24	11.1	11.7	11.7	10.8	9.6	9.4	9.7	10.0	10.4	10.5	9.9	9.6	9.2	10.0	18.5	19.0	39.6	30.6	20.2	9.5	10.8	9.7	7.1	7.4	13.2	39.6
25	6.4	7.0	7.9	7.1	7.4	6.8	7.5	7.2	7.8	7.2	8.3	5.0	6.7	7.3	6.7	7.1	6.9	7.4	6.9	6.3	6.3	4.5	4.3	5.7	6.7	8.3
26	4.4	4.3	4.8	3.8	8.1	8.7	20.6	61.6	24.7	22.1	25.8	48.4	51.7	26.9	46.3	29.3	26.7	31.1	30.6	7.4	4.2	3.0	4.0	7.3	21.1	61.6
27	12.6	10.9	7.7	24.1	31.3	61.1	40.0	103.4	101.7	87.1	43.3	38.4	57.9	42.1	39.7	19.8	16.6	19.7	27.3	40.5	31.8	28.9	25.1	28.8	39.1	103.4
28	31.2	24.3	19.3	15.6	11.3	33.9	100.1	134.1	73.6	153.3	67.5	58.3	61.7	37.2	66.5	103.2	33.1	31.7	35.8	4.9	5.9	2.3	0.9	0.9	46.1	153.3
29	1.1	0.9	0.5	1.2	1.7	10.4	30.6	33.6	30.0	46.8	64.8	47.7	35.2	79.7	90.4	90.0	43.3	36.0	12.2	7.3	7.7	5.8	11.1	11.6	29.1	90.4
30	20.1	46.5	102.3	128.2	11.7	36.2	71.3	143.0	108.0	125.3	240.0	208.7	62.1	62.7	81.1	38.9	61.1	47.5	62.4	16.9	26.1	3.7	3.1	12.8	71.6	240.0
NO.	29	29	29	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	30	30	30	706	98%
MEAN	22.4	29.9	38.2	44.6	46.0	63.9	57.2	86.5	67.8	46.2	50.5	49.3	48.5	47.6	47.6	36.8	36.5	34.7	43.9	20.9	18.3	18.3	21.3	19.9		
MAX	121.9	209.3	201.1	177.7	279.7	400.0	216.8	276.4	282.3	180.1	240.0	208.7	173.6	158.8	180.5	108.0	160.0	114.7	181.2	108.9	83.9	126.8	161.1	132.4		



Number of Non-Zero Readings	706		
Maximum 1-HR Average	400.0 UG/M3		
Maximum 24-HR Average	90.9 UG/M3		
		Opperational Time	706 HRS
Monthly Calibration	0	Opperational Uptime	98.1 %
Standard Deviation	48.64	Monthly Average	41.4 UG/M3

Entrance TSP (µg/m³) – April 2021

Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	25.6	8.8	31.1	15.2	31.2	45.2	112.8	147.1	167.6	157.6	182.7	142.4	116.1	78.6	106.8	49.1	37.8	21.2	141.7	38.0	18.7	23.8	13.4	8.6	71.7	182.7
2	4.8	5.8	20.8	74.9	40.0	68.8	91.6	73.7	64.6	57.8	79.6	123.1	137.6	180.4	101.4	82.7	29.7	83.6	120.8	50.4	48.4	94.6	134.4	33.5	75.1	180.4
3	41.5	27.1	48.4	102.2	156.0	166.4	73.4	105.1	58.2	103.0	66.0	65.4	36.3	37.3	19.7	17.7	86.6	40.4	25.4	31.4	10.5	32.3	83.0	83.5	63.2	166.4
4	111.0	45.8	28.6	20.2	44.0	42.0	44.9	31.5	17.9	7.5	7.8	13.3	3.8	9.1	31.3	39.6	212.4	4.5	1.3	1.7	1.8	3.7	4.9	28.3	31.5	212.4
5	36.1	59.1	42.8	42.7	66.0	200.0	238.3	183.6	372.6	179.7	304.8	271.5	298.8	230.8	95.6	60.0	50.1	20.0	13.1	13.6	15.4	129.4	38.3	34.1	124.9	372.6
6	49.9	132.3	240.9	185.7	261.8	170.3	201.5	575.1	754.8	375.5	110.3	96.7	113.1	116.7	194.8	77.5	112.6	126.6	116.9	58.9	32.7	19.6	20.9	15.7	173.4	754.8
7	14.0	18.1	17.2	25.0	59.4	87.3	166.4	450.5	589.1	226.2	411.0	662.9	534.7	730.2	809.0	257.9	190.0	367.4	302.0	39.1	5.6	9.8	19.4	19.4	250.5	809.0
8	29.8	107.1	103.8	95.2	36.0	105.3	47.8	138.3	257.1	333.3	413.0	121.4	294.6	1.9	10.7	6.3	4.6	61.8	142.6	49.4	26.9	39.0	81.8	28.2	105.7	413.0
9	23.3	38.7	78.9	60.3	115.9	482.6	190.5	488.8	179.7	126.4	234.4	181.0	194.0	348.5	188.5	87.1	101.6	128.7	67.7	7.3	2.9	6.0	15.5	37.3	141.1	488.8
10	1.9	23.8	16.5	3.9	7.9	33.9	36.9	7.4	10.7	19.5	75.9	51.0	6.9	183.8	461.7	6.7	8.9	19.6	13.1	14.7	2.3	3.3	4.8	4.1	42.5	461.7
11	13.7	13.1	10.6	5.5	5.8	6.8	14.4	92.5	31.1	24.4	11.4	10.0	1.6	7.6	7.6	24.9	95.8	36.9	32.1	84.7	2.0	1.6	3.1	1.0	22.4	95.8
12	0.6	0.7	0.7	1.0	1.0	1.0	0.9	1.4	2.4	60.6	621.0	5.6	123.8	55.1	52.6	58.3	216.3	31.9	3.4	1.9	2.0	2.0	1.7	3.0	52.0	621.0
13	2.6	6.0	5.6	11.6	19.5	29.9	57.5	236.4	156.1	67.3	108.2	89.0	194.1	93.5	231.9	319.0	483.5	282.8	399.8	71.6	115.1	39.7	31.2	61.4	129.7	483.5
14	7.7	62.4	35.2	180.3	160.8	123.6	169.9	301.0	94.7	68.5	125.0	75.2	305.2	311.0	239.4	248.4	237.2	264.3	325.1	44.5	17.9	16.6	16.7	73.1	146.0	325.1
15	49.1	71.4	148.6	161.2	280.6	414.8	112.4	211.9	79.9	96.1	136.4	258.4	351.6	297.6	172.8	142.3	157.7	80.2	124.1	110.1	50.7	21.5	15.8	37.5	149.3	414.8
16	135.8	67.3	121.1	191.7	198.1	237.5	256.2	297.1	256.2	126.9	66.2	190.6	97.0	80.5	179.3	111.3	50.0	154.4	109.9	34.7	58.4	39.7	156.0	114.9	138.8	297.1
17	84.2	388.8	370.7	334.6	364.2	417.0	464.8	470.6	282.4	82.9	57.0	34.6	45.9	48.4	17.9	19.2	64.3	250.1	178.9	82.0	83.3	23.2	35.9	40.6	176.7	470.6
18	38.9	19.3	230.6	92.6	98.7	92.4	63.3	5.6	9.5	4.0	1.9	1.3	0.7	1.5	4.2	2.1	2.6	3.8	3.2	2.5	2.6	7.5	3.9	3.9	29.0	230.6
19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	286.0	152.5	339.8	137.7	324.2	25.3	57.7	175.1	8.0	1.5	-	-
20	3.2	5.9	27.9	41.7	34.0	54.0	158.5	146.9	125.1	54.4	84.8	138.6	424.3	391.6	216.5	127.8	63.8	45.1	103.6	290.7	147.8	327.7	373.2	232.0	150.8	424.3
21	228.3	151.9	219.2	193.8	156.1	293.4	171.8	841.4	510.0	205.7	164.6	81.9	94.9	165.7	104.5	94.3	117.8	66.9	20.9	8.8	15.0	39.5	39.7	51.3	168.2	841.4
22	16.1	10.8	1.7	1.2	13.6	6.7	14.3	12.0	17.5	99.8	228.4	94.0	5.6	63.9	33.1	194.1	84.9	21.5	4.4	2.3	2.4	2.1	2.8	2.7	39.0	228.4
23	3.1	2.7	2.1	2.5	4.9	6.8	4.4	4.9	4.4	33.8	481.1	476.6	333.0	201.0	280.1	6.9	7.7	5.4	4.6	5.3	5.0	4.9	5.0	6.2	78.9	481.1
24	7.3	7.7	7.7	7.0	6.2	6.1	6.4	6.5	6.8	7.0	6.6	6.2	6.0	7.9	45.8	35.4	115.3	106.5	41.8	7.4	9.0	7.1	4.6	5.1	19.7	115.3
25	4.2	4.6	5.4	4.7	4.9	4.4	5.4	5.0	5.4	5.2	6.0	4.2	16.1	5.1	4.5	4.9	4.7	5.1	4.5	4.1	4.1	3.2	2.8	3.8	5.1	16.1
26	2.9	2.8	3.2	2.6	7.8	8.9	71.5	187.8	69.6	61.4	62.9	120.7	156.7	81.7	132.4	89.6	86.9	92.7	89.4	12.9	9.6	3.7	6.3	13.2	57.4	187.8
27	31.1	28.6	13.7	52.3	93.8	189.2	101.4	237.2	208.0	264.6	136.0	98.8	193.2	141.9	126.7	50.3	37.3	37.8	76.8	80.9	75.0	69.3	53.8	54.2	102.2	264.6
28	49.0	29.5	20.3	28.3	29.3	117.3	381.0	567.6	331.4	791.0	273.9	241.2	274.6	145.7	256.3	428.4	132.2	133.6	158.4	16.4	17.8	9.6	2.1	5.5	185.0	791.0
29	4.4	5.0	1.4	6.5	3.2	31.9	116.3	109.3	73.8	138.5	214.6	168.4	86.5	267.4	245.4	278.7	132.4	102.1	34.3	32.9	15.8	10.6	26.0	52.2	89.9	278.7
30	82.4	199.0	449.3	462.5	46.3	128.7	248.0	650.7	521.2	512.5	887.1	922.4	217.5	204.8	298.4	161.8	289.7	137.0	266.6	69.7	64.9	44.3	18.4	56.8	289.2	922.4
NO.	29	29	29	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	30	30	30	706	98%
MEAN	38.0	53.2	79.4	83.0	80.9	123.2	124.9	227.1	181.3	148.0	191.7	163.7	160.8	154.8	165.2	107.8	118.5	95.7	108.4	43.1	30.7	40.3	40.8	37.1		
MAX	228.3	388.8	449.3	462.5	364.2	482.6	464.8	841.4	754.8	791.0	887.1	922.4	534.7	730.2	809.0	428.4	483.5	367.4	399.8	290.7	147.8	327.7	373.2	232.0		



Number of 24HR Exceedences	15 Proposed Guideline		
Number of Non-Zero Readings	706		
Maximum 1-HR Average	922.4 UG/M3		
Maximum 24-HR Average	289.2 UG/M3		
		Opperational Time	706 HRS
Monthly Calibration	0	Opperational Uptime	98.1 %
Standard Deviation	140.5	Monthly Average	107.8 UG/M3