LAFARGE CANADA INC.

AMBIENT AIR QUALITY MONTHLY REPORT

JANUARY 2022

FEBRUARY 22, 2022

AMBIENT AIR QUALITY MONTHLY REPORT

JANUARY 2022

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-05
DATE: FEBRUARY 22, 2022

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February 22, 2022

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 – January 2022

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 January 2022.

Lagoon	**Data Completeness (%)**	**1-Hour Average**	**24-hour Average**
		Exceedances of AAAQO or AAAQG	Exceedances of AAAQO
TSP	99.9%	-	0
$PM_{2.5}$	99.9%	0	0
PM_{10}	99.6%	-	-
NO	100%	-	-
NO_2	100%	0	-
NO_x	100%	-	-
SO_2	100%	0	0
Met Parameters	100.0%	-	-

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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 January 2022.

Windridge	**Data Completeness (%)**	**1-Hour Average**	**24-hour Average**	
		Exceedances of AAAQG	Exceedances of $PM_{2.5}$ AAAQO	Exceedances of TSP AAAQO
TSP	100%	-	-	11
$PM_{2.5}$	99.9%	1	0	-
PM_{10}	99.9%	-	-	-

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 January 2022.

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	100%	0	0	0
Berm	100%	3	1	21
Entrance	100%	1	1	14

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.
Senior Air Quality Specialist,
Vancouver Region

SIGNATURES

PREPARED BY

February 22, 2022

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February 22, 2022

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Date

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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 January 1, 2022 and January 31, 2022.

This monthly report was prepared by Dylan Weyell, Junior Air Quality Specialist with WSP, on behalf of Lafarge and was reviewed by Tyler Abel, Senior Air Quality Specialist 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 the past, Lafarge environmental staff have 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. In some months of the year, low water levels have left more of the lake shore/bed exposed. 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.

In January 2022, Lafarge environmental staff noted that water levels were low enough that the lake bed was exposed (Figure 2), therefore being a potential source of fugitive dust this month.

Figure 2 Photo of Lac Des Arcs (October 2021)

2 JANUARY 2022 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)	100.0	34.1	0	21.9	-
SO_2 (ppb)	100.0	8.3	0	3.6	0
$PM_{2.5}$ (µg/m^3)	99.9	49.9	0[1]	19.3	0
PM_{10} (µg/m^3)	99.6	456.7	-	63.7	-
TSP (µg/m^3)	99.9	782.8	-	95.2	0
Temperature (°C)	100.0	9.4	-	6.1	-
Wind Speed (km/hr) /Direction (Degrees)	100.0	60.5/W	-	40.0/WSW	-
Precipitation (mm)	100.0	0.3[2]	-	0.5[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 zero days exceeding the 24-hour $PM_{2.5}$ AAAQO.
- There were zero exceedances the 1-hour $PM_{2.5}$ AAAQG.
- There were zero days exceeding the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- At the Lagoon station, the meteorological sensors, NO_2, and SO_2 analyzers recorded 100.0% uptime for the month of January.
- TSP and $PM_{2.5}$ recorded 99.9% uptime due to one hour of power failure that occurred on January 13th at 2:00.
- PM_{10} recorded 99.6% uptime due to one hour of power failure that occurred on January 13th at 2:00. And further, two hours of equipment malfunction on January 31st at 17:00 & 21:00.
- The precipitation analyzer at the Lagoon Station recorded 0.5 mm for the month of January 2022. Based precipitation data from other regional meteorological station in the Bow Valley airshed the Lagoon monthly precipitation accumulation appears low. The precipitation instrumentation is currently under investigation by the WSP field technician.

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/m^3)	99.9	89.0	1*	15.4	0
PM_{10} (µg/m^3)	99.9	485.0	-	162.5	-
TSP (µg/m^3)	100.0	581.0	-	208.0	11

* 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 zero days exceeding the 24-hour $PM_{2.5}$ AAAQO.
- There was 1 hour exceeding the 1-hour $PM_{2.5}$ AAAQG.
- There were 11 days exceeding the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- The TSP monitor recorded 100% uptime during the month of January.
- $PM_{2.5}$ & PM_{10} recorded 99.9% uptime for the month of January due to one hour of equipment malfunction on January 12th at 13:00.

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)	100.0	51.3	0*	16.5	0
PM_{10} (µg/m^3)	100.0	70.0	-	21.5	-
TSP (µg/m^3)	100.0	63.2	-	19.2	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 zero exceedances of the 24-hour $PM_{2.5}$ Guidelines.
- There were zero exceedances of the 1-hour $PM_{2.5}$ Guidelines.
- There were zero exceedance of the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 100% uptime for the month of January.

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)	100.0	111.1	3*	33.1	1
PM_{10} (µg/m^3)	100.0	840.6	-	238.3	-
TSP (µg/m^3)	100.0	3293.0	-	876.4	21

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

Data Quality Notes:

- There was 1 exceedance of the 24-hour $PM_{2.5}$ Guidelines.
- There were 3 exceedances of the 1-hour $PM_{2.5}$ Guidelines.

- There were 21 exceedances of the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 100% uptime during the month of January.

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)	100.0	137.5	1*	38.6	1
PM_{10} (µg/m^3)	100.0	582.0	-	281.0	-
TSP (µg/m^3)	100.0	3720.2	-	1559.5	14

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

Data Quality Notes:

- There was 1 exceedance of the 24-hour $PM_{2.5}$ Guidelines.
- There was 1 exceedance of the 1-hour $PM_{2.5}$ Guidelines.
- There were 14 exceedances of the 24-hour TSP Guidelines.

Calibration/Maintenance Notes:

- The analyzer had 100% uptime for the month of January.

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 3-9) and tables and graphs illustrating the monitoring results for January 2022.

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 January 12th. The monitor had 99.9% uptime due to one hour of power failure that occurred on January 13th at 2:00.
PM_{10} Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM_{10} monitor was calibrated on January 12th. The monitor had 99.6% uptime due to one hour of power failure that occurred on January 13th at 2:00. And further, two hours of equipment malfunction on January 31st at 17:00 & 21:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on January 12th. The monitor had 99.9% uptime due to one hour of power failure that occurred on January 13th at 2:00.
Oxides of Nitrogen	TEI 42C	The NO_x monitor was calibrated on January 11th. The monitor had 100% uptime for the month of January.
Sulphur Dioxide	Teledyne API 102A	The SO_2 monitor was calibrated on January 11th. The monitor had 100% uptime for the month of January.
Precipitation	MetOne 130 Rain/Snow Gauge	The monitor had 100% uptime for the month of January.
Wind Speed	MetOne Wind Sensor	

Wind Direction		The monitor had 100% uptime for the month of January.
Ambient Temperature	MetOne Ambient Temperature Sensor	The monitor had 100% uptime for the month of January.

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

3.2 MONITORING RESULTS AND TRENDS

Table 3-2 summarizes the hourly and daily concentrations recorded in January 2022. Figure 3-2 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-8 shows daily average concentrations recorded during January 2022 for the pollutants listed in Table 3-2. Additionally, Figure 3-3 to Figure 3-7 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 zero days exceeding the 24-hour TSP (100 µg/m^3) AAAQO. There were zero exceedances of the 24-hour $PM_{2.5}$ (29 µg/m^3) AAAQO. Further, there were zero exceedances of the 1-hour $PM_{2.5}$ AAAQG (80 µg/m^3).

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

At the Lagoon station strong wind gusting that typically occurs in the area contributes to increased particulate levels that may arise from multiple sources including the Lafarge Plant, Exshaw Creek, dry sections of the Bow River, highway and rail traffic moving past the station and fugitive emissions from open areas.

Table 3-2 Summary of January 2022 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	-	1.0	8.3	34.1	24	9	5.2	272.2	21.9	5	100.0
SO_2 (ppb)	172	48	Lagoon	0	0	0.0	0.9	8.3	12	12	40.6	264.9	3.6	6	100.0
$PM_{2.5}$ (µg/m^3)	80	29	Lagoon	0	0	0.0	4.7	49.9	7	24	13.7	77.8	19.3	8	99.9
PM_{10} (µg/m^3)	-	-	Lagoon	-	-	0.0	23.1	456.7	9	10	38.8	263.6	63.7	28	99.6
TSP (µg/m^3)	-	100	Lagoon	-	0	0.0	35.1	782.8	25	23	34.1	261.0	95.2	28	99.9
Temperature (°C)	-	-	Lagoon	-	-	-29.8	-4.2	9.4	23	14	36.7	262.9	6.1	13	100.0
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	2.0	24.2	60.5/W	1	17	60.5	236.6	40.0/WSW	1	100.0
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.0	0.3	31	14	14.0	75.4	0.5	-	100.0

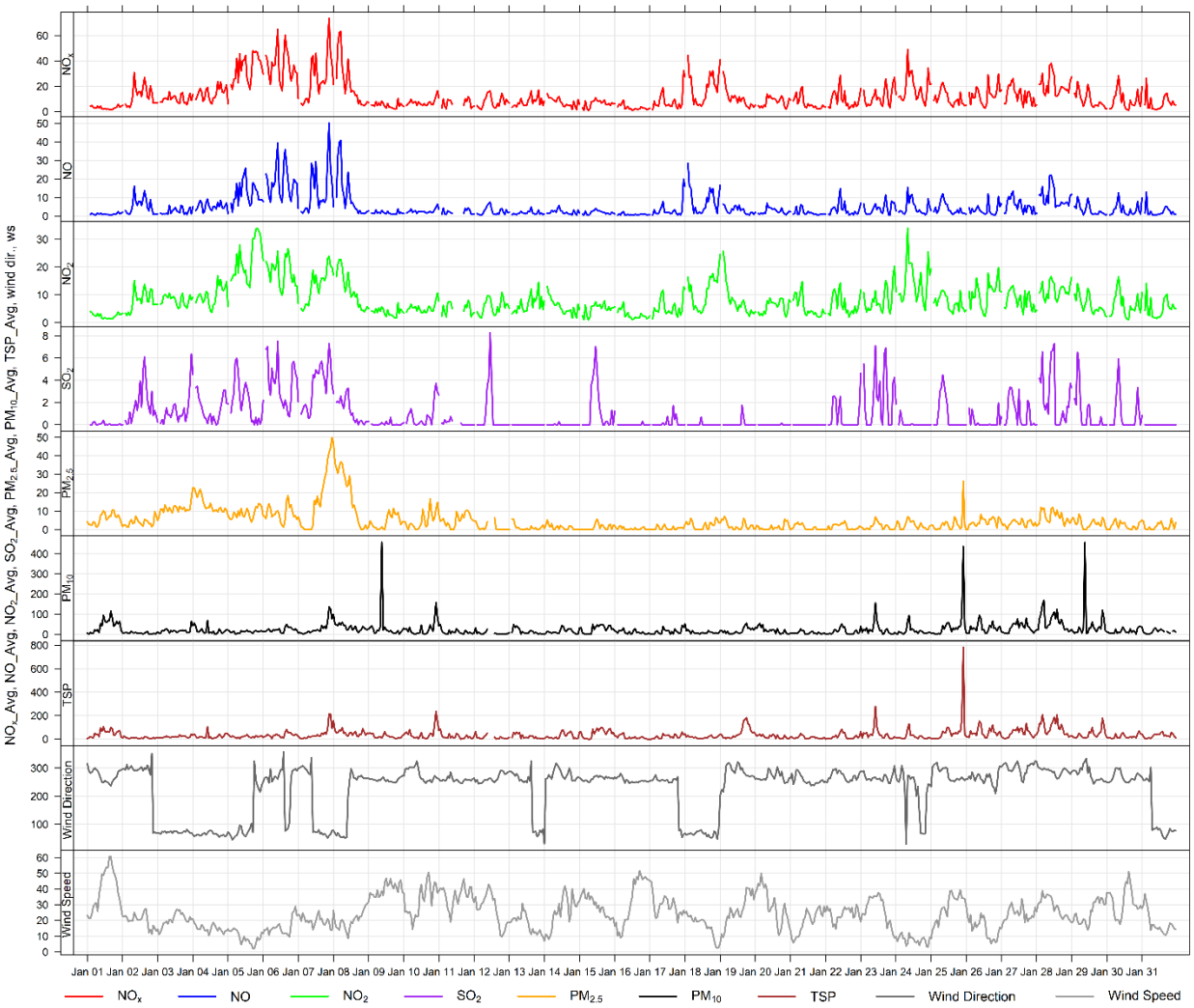

Figure 3-2 1-hour concentrations of NO_x, SO_2, particulate matter, wind direction and wind speed at the Lagoon station

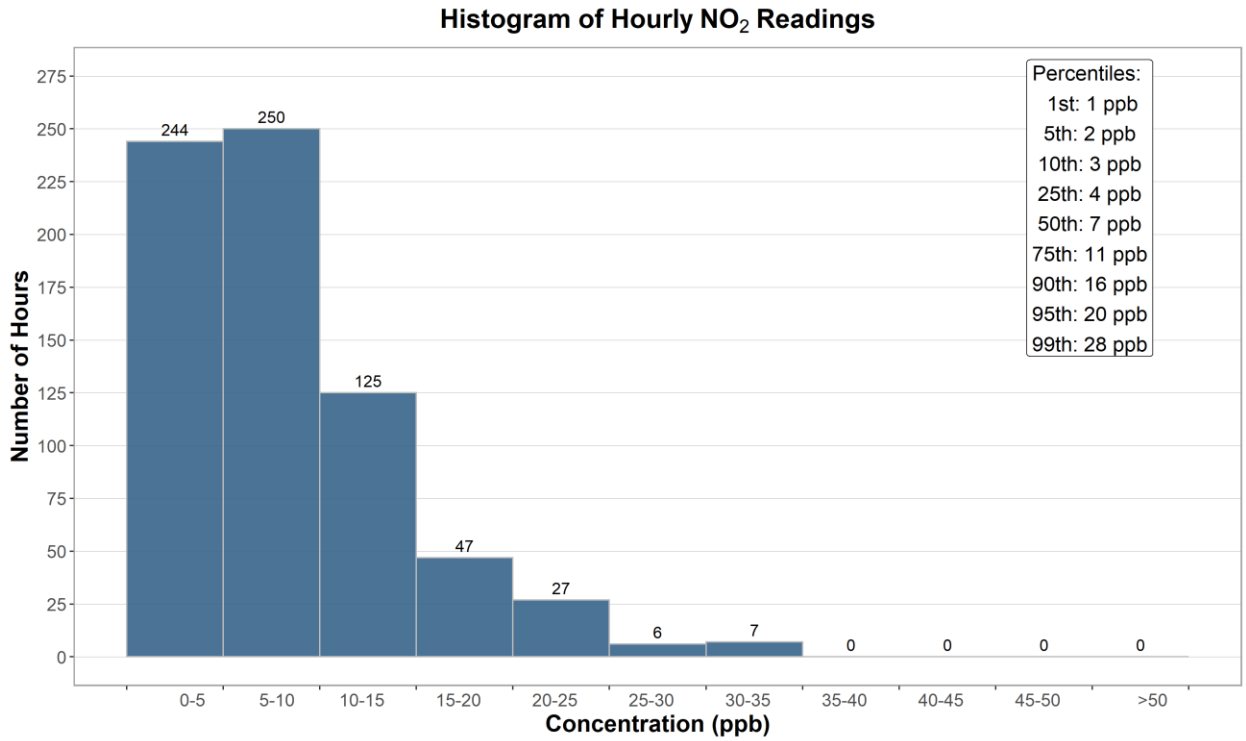

Figure 3-3 **Histogram of hourly NO_2 concentrations at the Lagoon station**

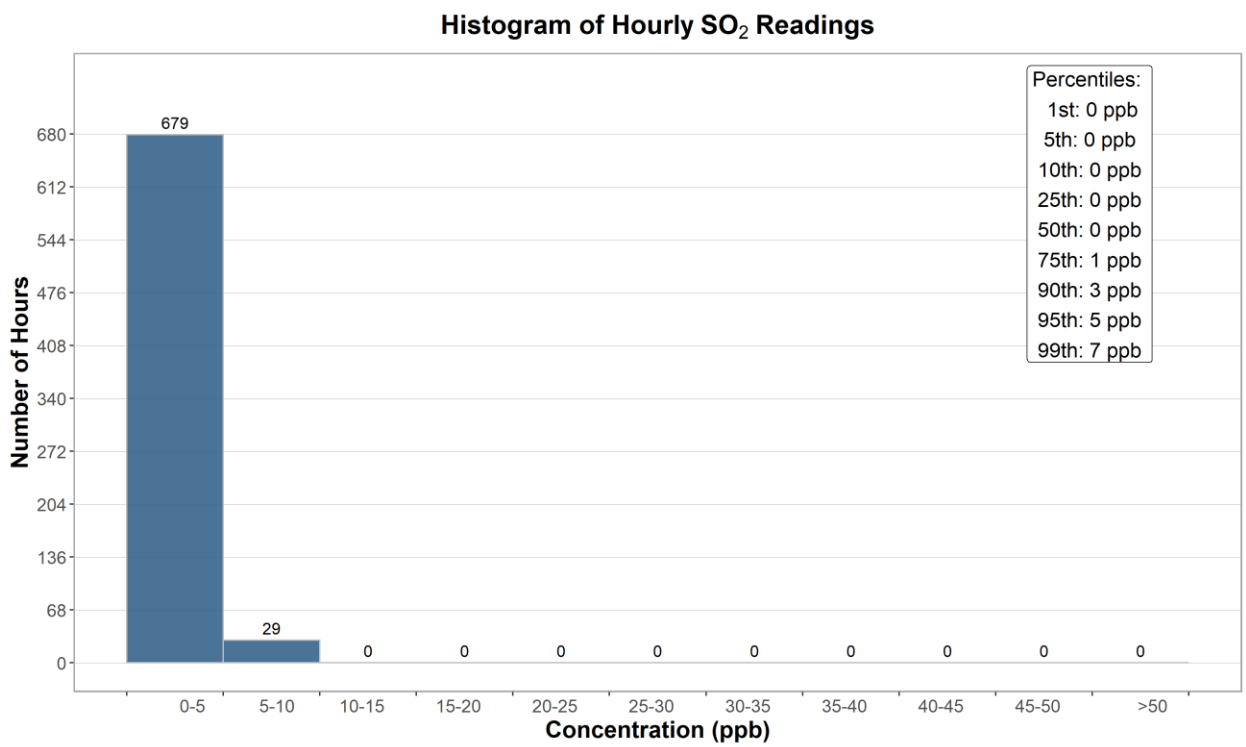

Figure 3-4 **Histogram of hourly SO_2 concentrations at the Lagoon station**

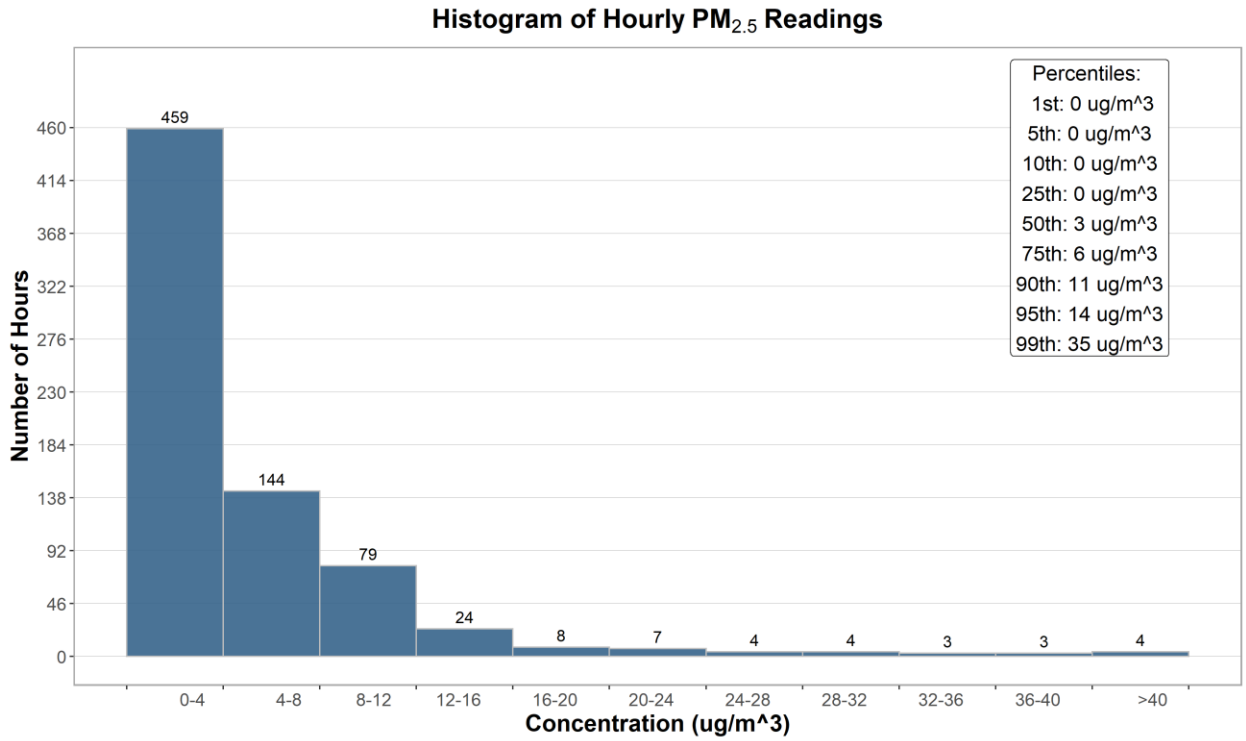

Figure 3-5 Histogram of hourly $PM_{2.5}$ concentrations at the Lagoon station

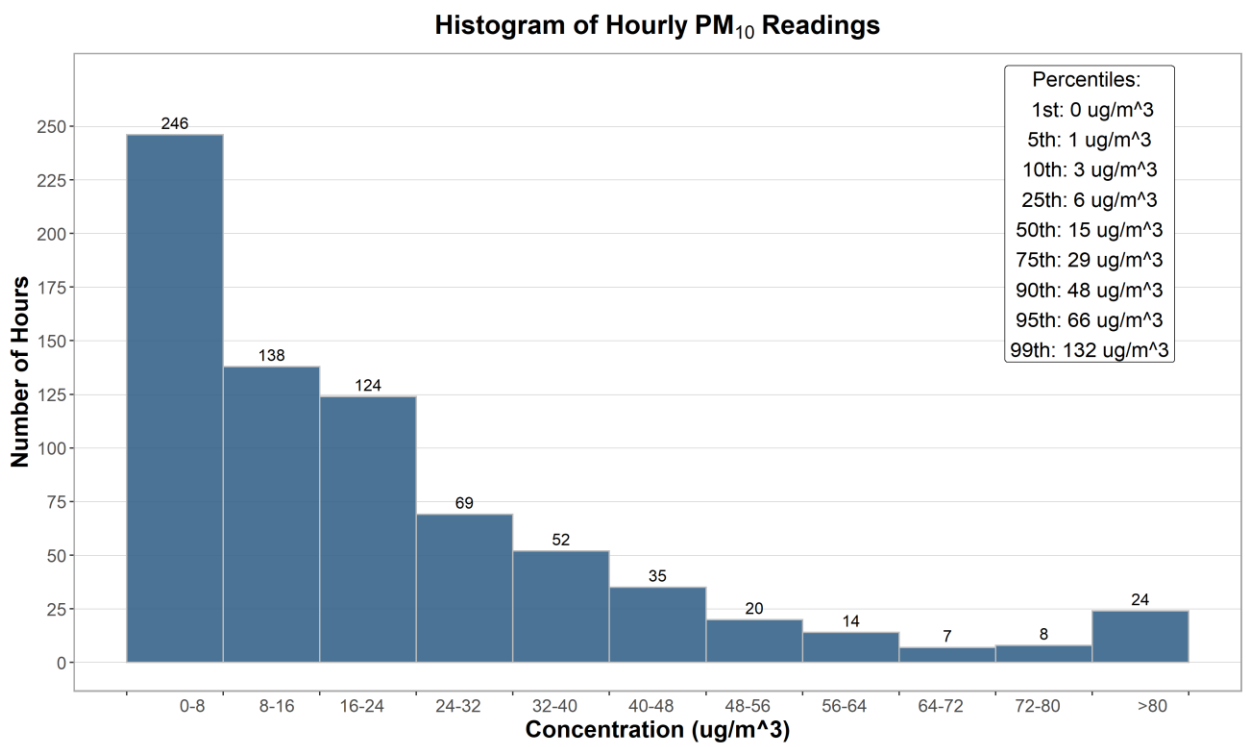

Figure 3-6 Histogram of hourly PM_{10} concentrations at the Lagoon station

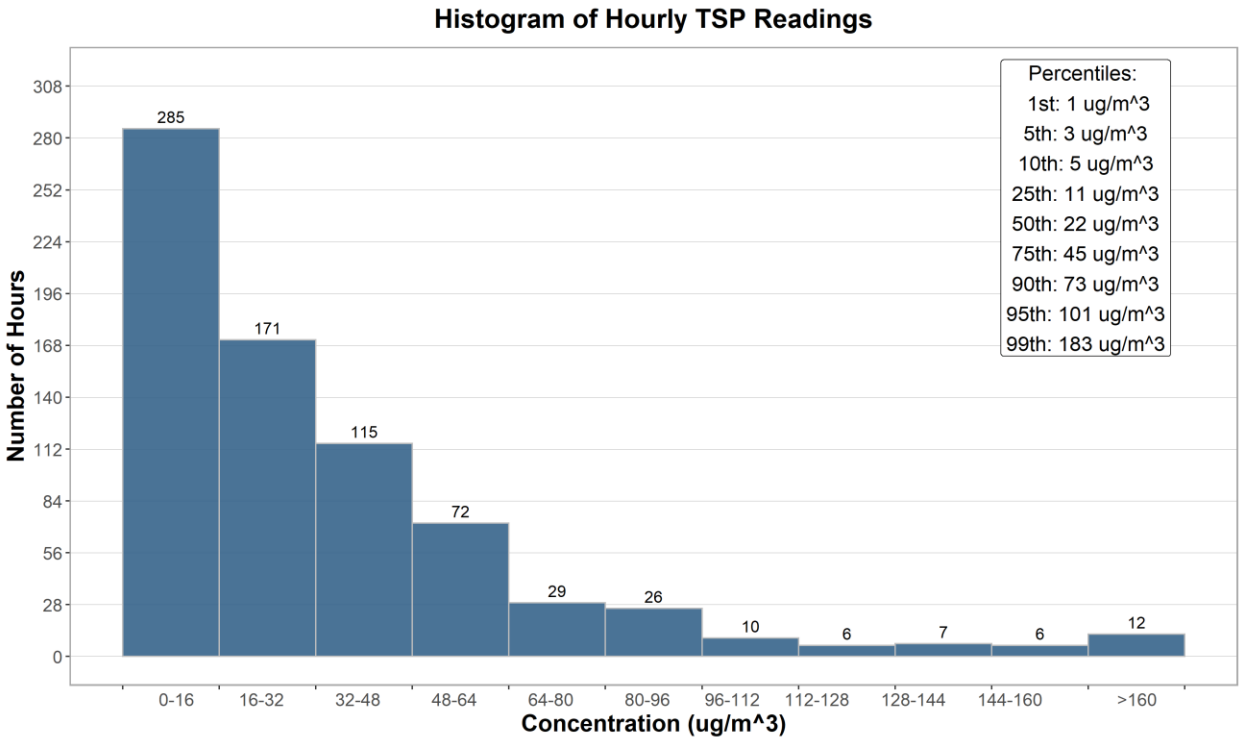

Figure 3-7 Histogram of hourly TSP concentrations at the Lagoon station

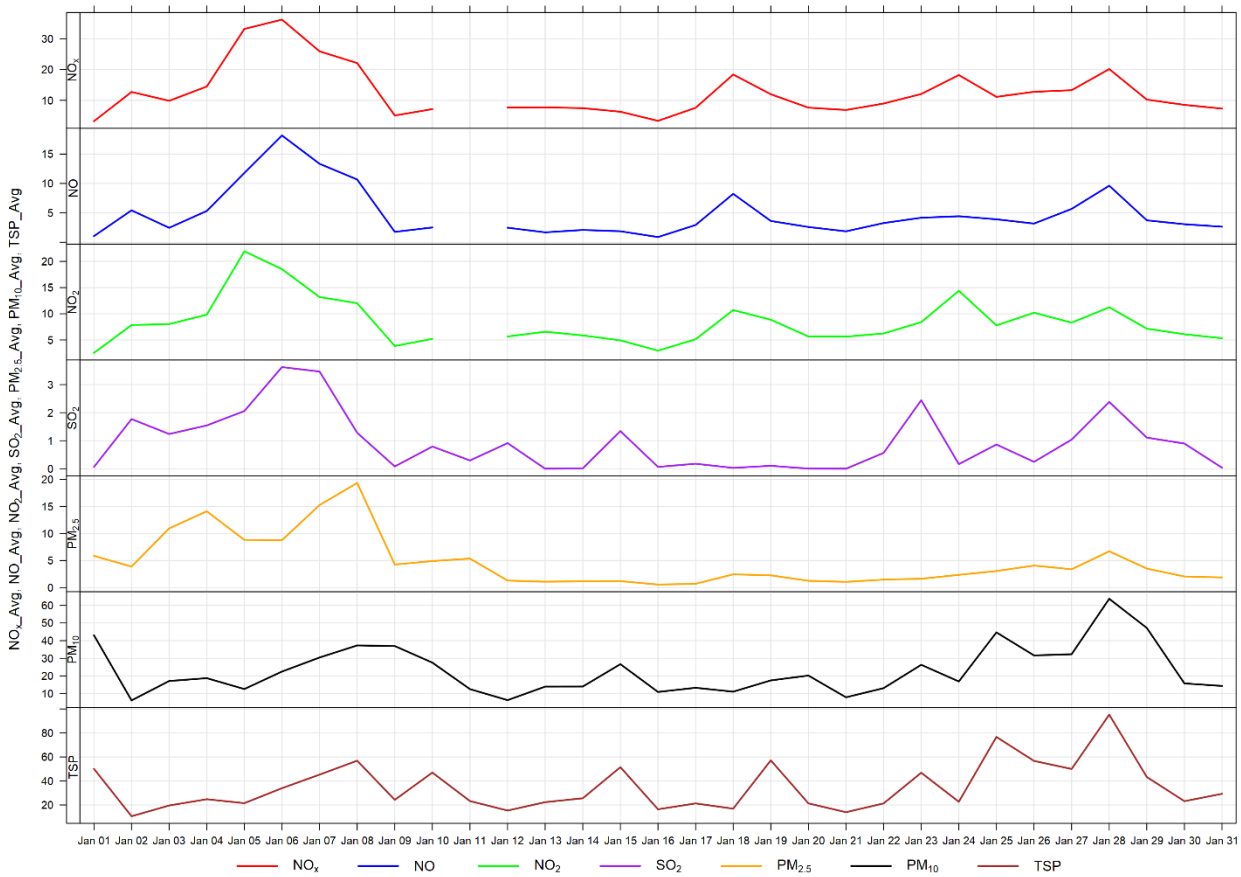

Figure 3-8 24-hour concentrations of NO_x, SO_2, and particulate matter at the Lagoon monitor

The following wind rose (Figure 3-9) shows the wind rose for the month of January. The wind rose shows that the winds predominately came from the west and east-northeast directions, and were predominately over 20 km/hr.

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 typically shows that PM_{10} and TSP concentrations have a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other airshed activities. The diurnal patterns also typically follow the diurnal pattern of higher wind speeds during the daytime hours. This month, there were some very high winds into the evening and overnight hours, which skewed the typical diurnal pattern of PM concentrations.

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.

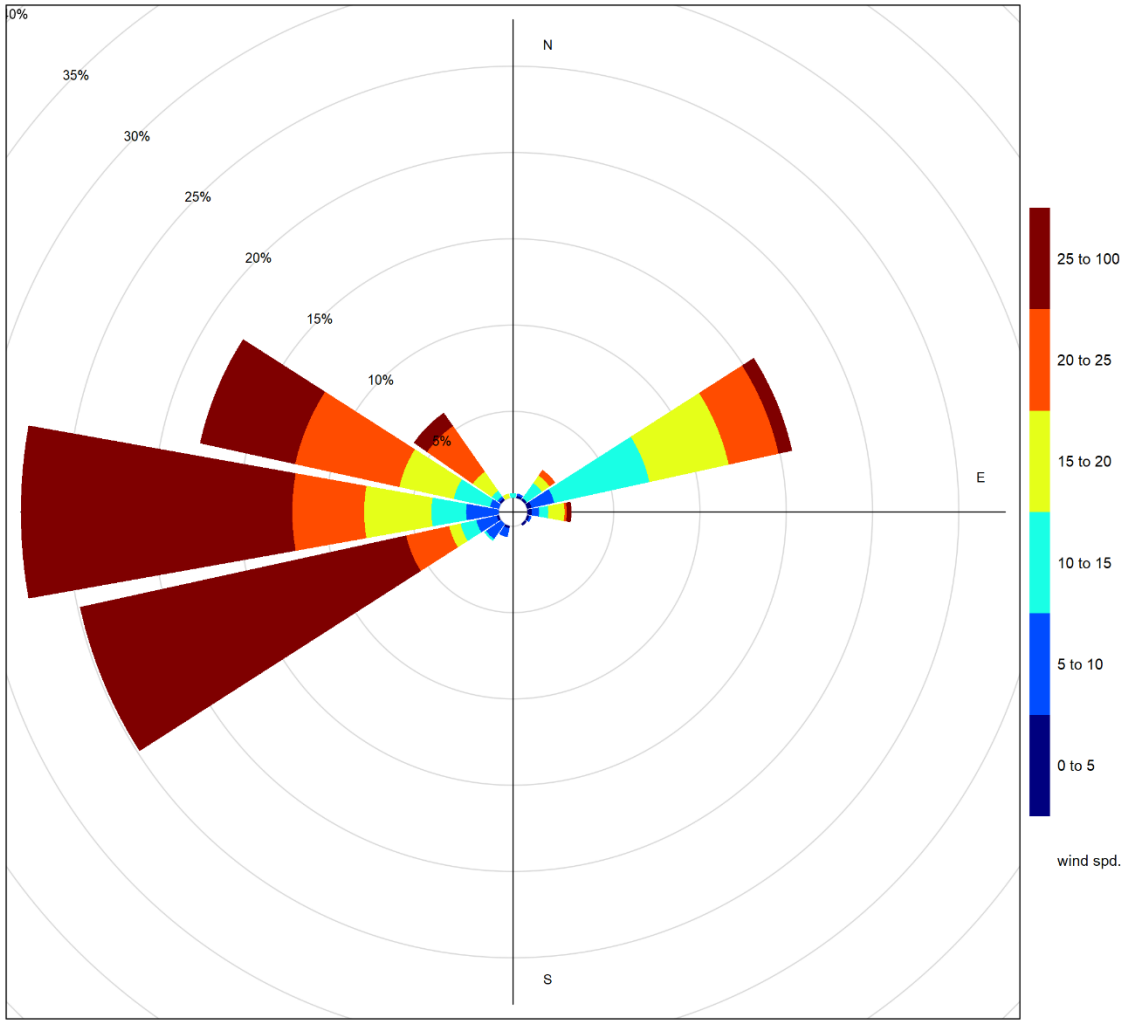

Figure 3-9 Wind rose for January recorded at the Lagoon Station

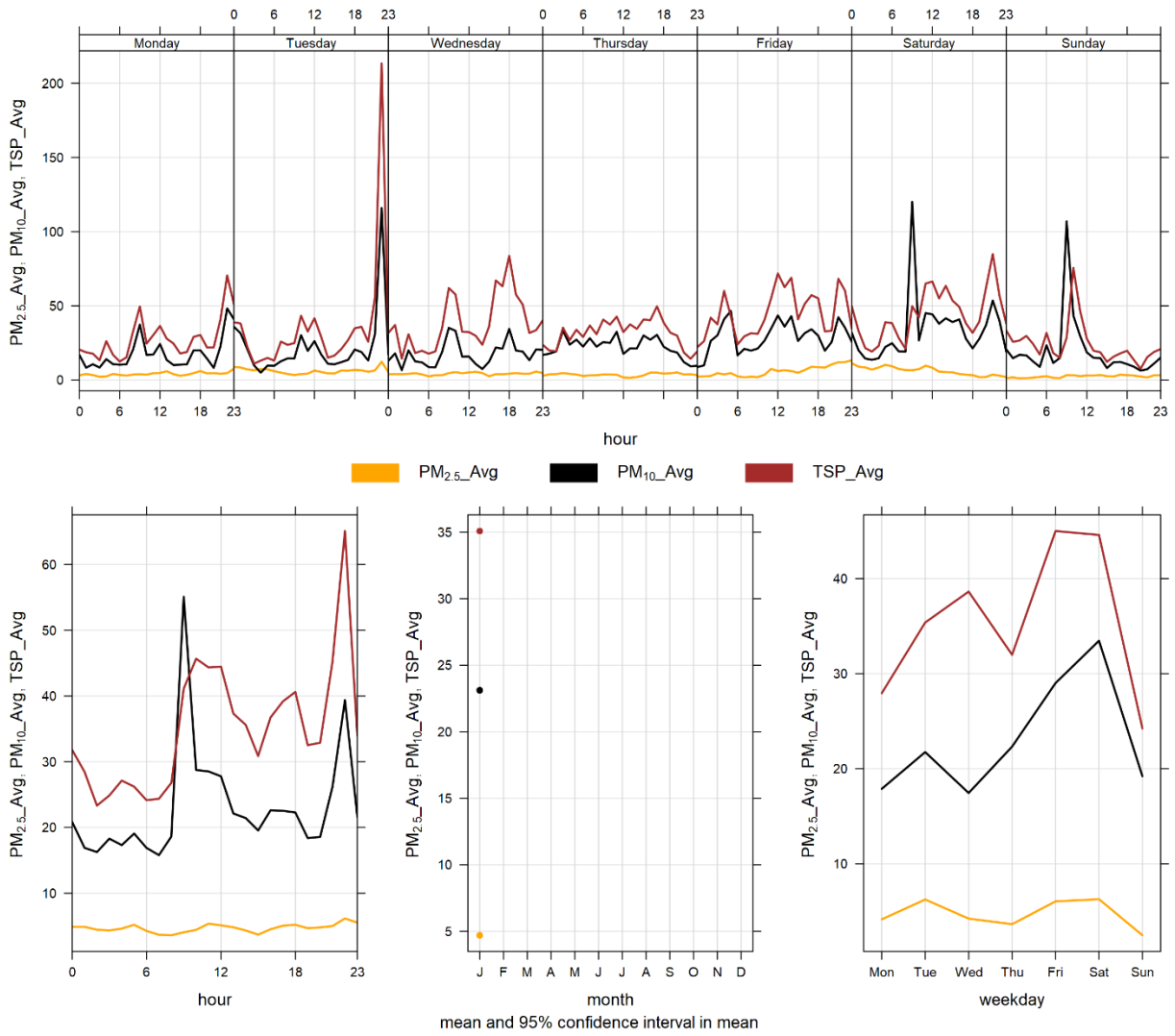

Figure 3-10 Lagoon monitor particulate matter time variation

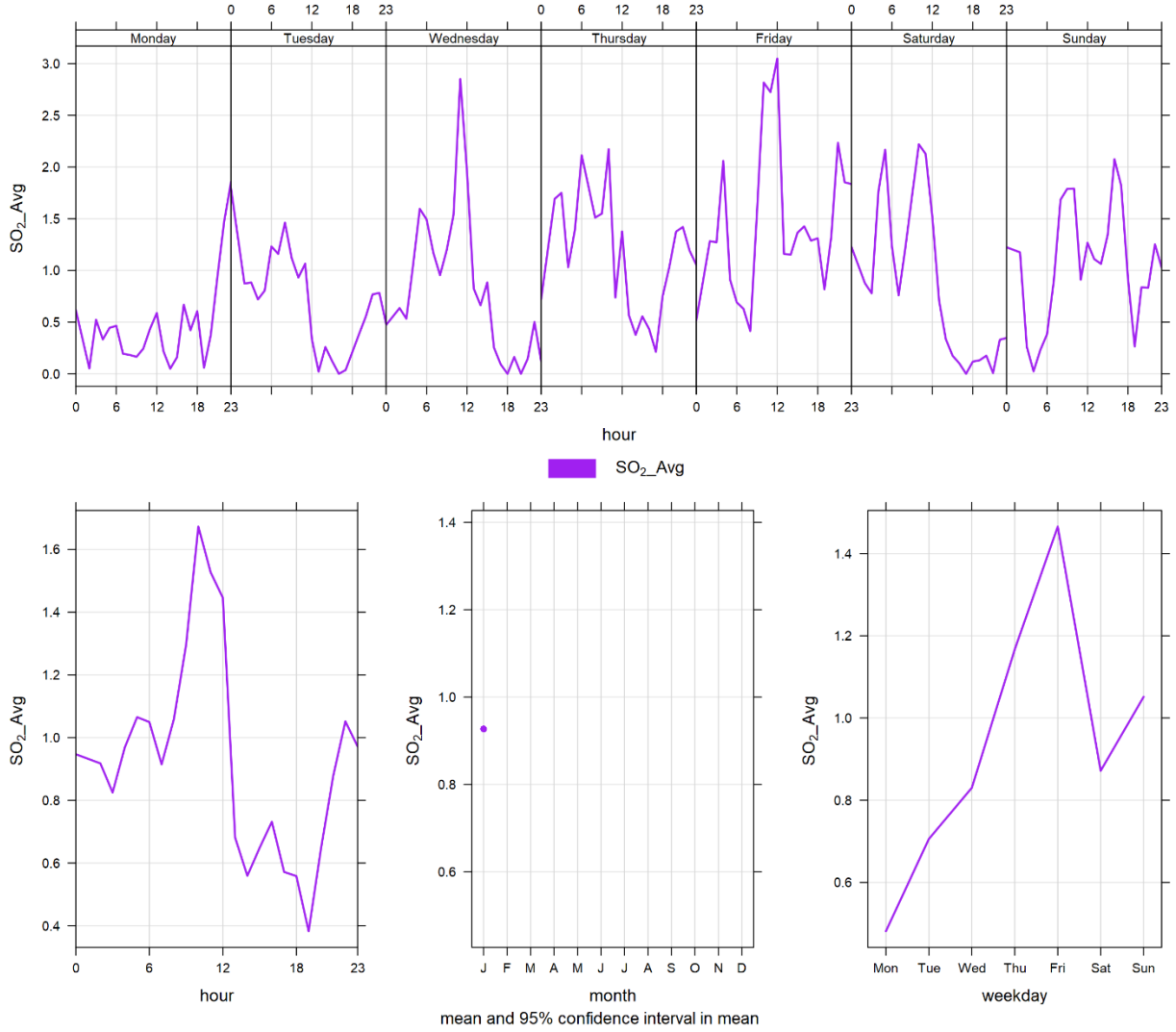

Figure 3-11 Lagoon monitor SO_2 time variation

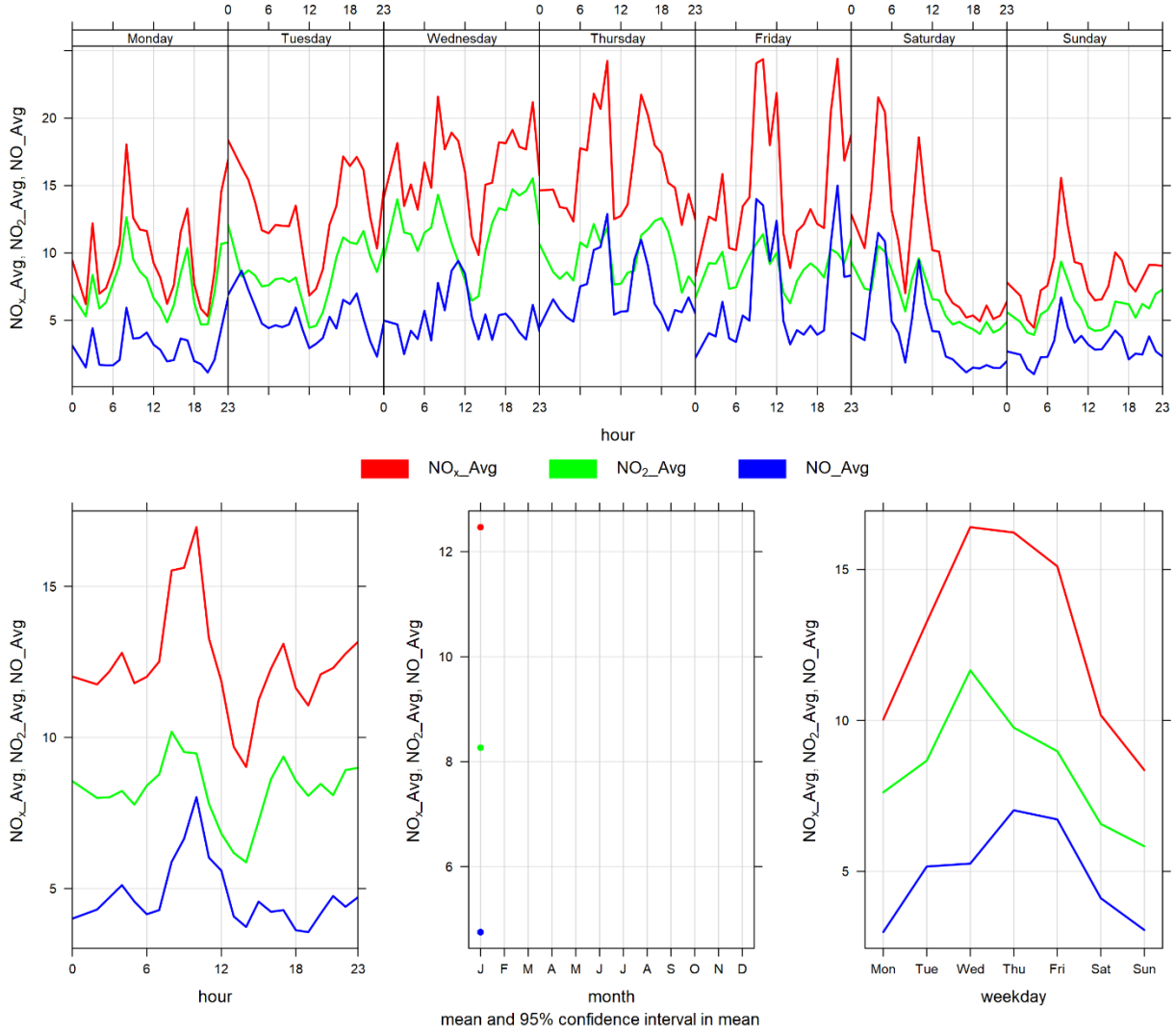

Figure 3-12 Lagoon monitor NO_x time variation

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 January 2022.

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 January 10th. The monitor recorded 99.9% uptime for the month of January due to one hour of equipment malfunction on January 12th at 13:00.
PM_{10} Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM_{10} monitor was calibrated on January 10th. The monitor recorded 99.9% uptime for the month of January due to one hour of equipment malfunction on January 12th at 13:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on January 10th. The monitor recorded 100% uptime for the month of January.

4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in January 2022, and Table 4-3 summarizes the recorded exceedances. Figure 4-1 illustrates the time series for hourly PM, Figure 4-2 to Figure 4-4 illustrates 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, 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, one exceedance of the 1-hour $PM_{2.5}$ AAAQG, and 11 exceedances of the 24-hour TSP AAAQO. The TSP exceedances occurred predominantly on days with high speed westerly winds.

Historically in January, the average number of 24-hour TSP AAAQO exceedances and 24-hour $PM_{2.5}$ AAAQO exceedances is 9 and 0, respectively. Prior to this year, the maximum number of 24-hour TSP AAAQO exceedances recorded in January was 10 days in 2019 and 2021.

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 strong wind gusting that occurred in January would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, dry sections of the Bow River, and open areas.

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Table 4-2 Summary of January 2022 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	1	0	0.0	5.5	89.0	11	23	41.4	254.9	15.4	18	99.9
PM_{10} ($\mu g/m^3$)	-	-	Windridge	-	-	0.0	69.8	485.0	10	21	38.4	258.9	162.5	10	99.9
TSP ($\mu g/m^3$)	-	100	Windridge	-	11	0.0	89.4	581.0	25	21	39.4	260.9	208.0	9	100.0

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						
2022-01-01	173.8	-	266.1	40.0	51.0	High wind event
2022-01-09	208.0	-	257.8	39.6	48.1	High wind event
2022-01-10	164.9	-	271.9	32.8	49.0	High wind event
2022-01-11	135.4	-	257.2	35.6	44.7	High wind event
2022-01-15	118.4	-	262.1	29.6	38.2	High wind event
2022-01-16	124.0	-	253.2	31.8	44.2	High wind event
2022-01-19	114.0	-	285.1	25.7	67.0	High wind event
2022-01-23	102.6	-	265.1	26.7	31.3	High wind event
2022-01-25	185.9	-	273.2	28.0	50.3	High wind event
2022-01-28	127.2	-	290.1	28.7	40.8	High wind event
2022-01-29	112.8	-	273.2	24.6	42.7	High wind event
Total # of Exceedances	11	0				
Maximum # of Exceedances (January)	10 (2019, 2021)	0 (2018, 2019, 2021)				
Average # of Exceedances (January)	9	0				
Minimum # of Exceedances (January)	7 (2018)	0 (2018, 2019, 2021)				

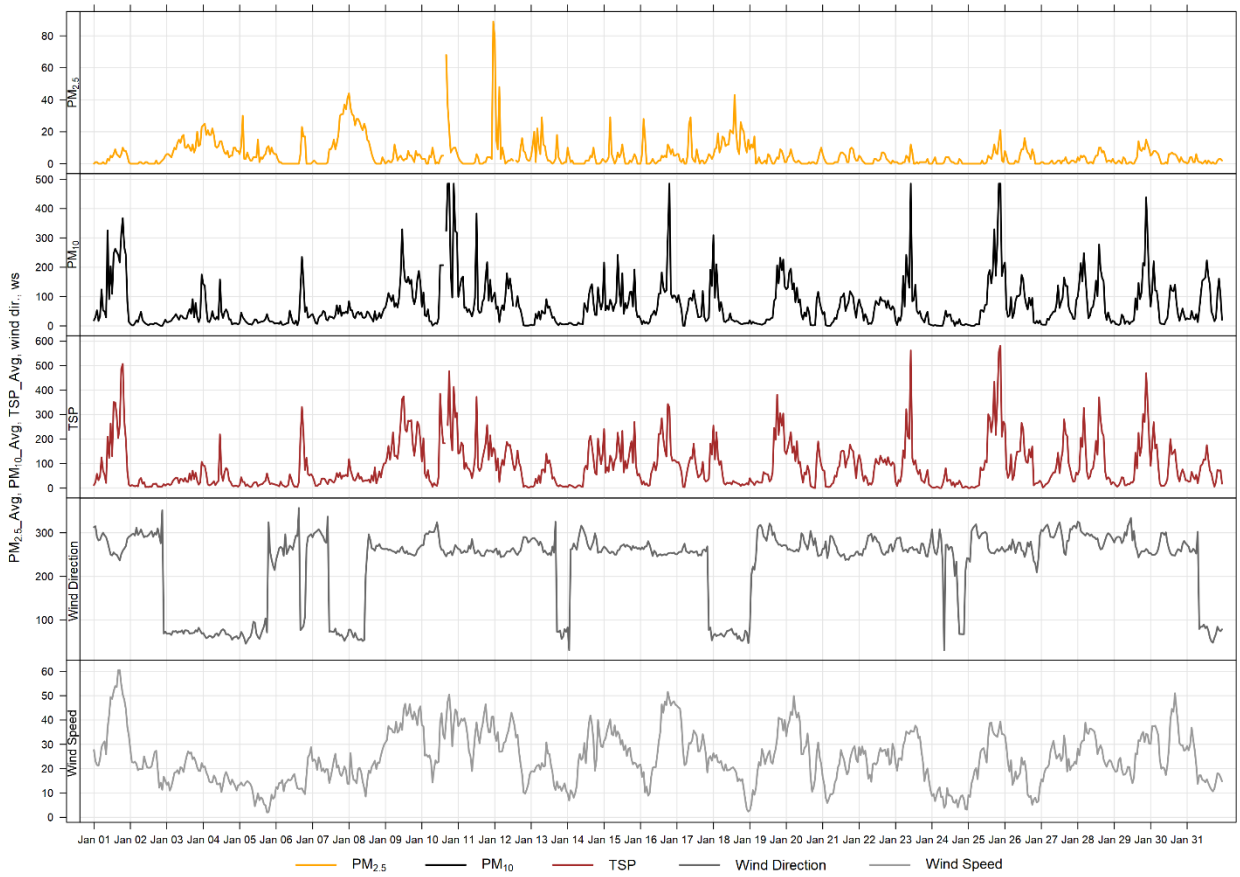

Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

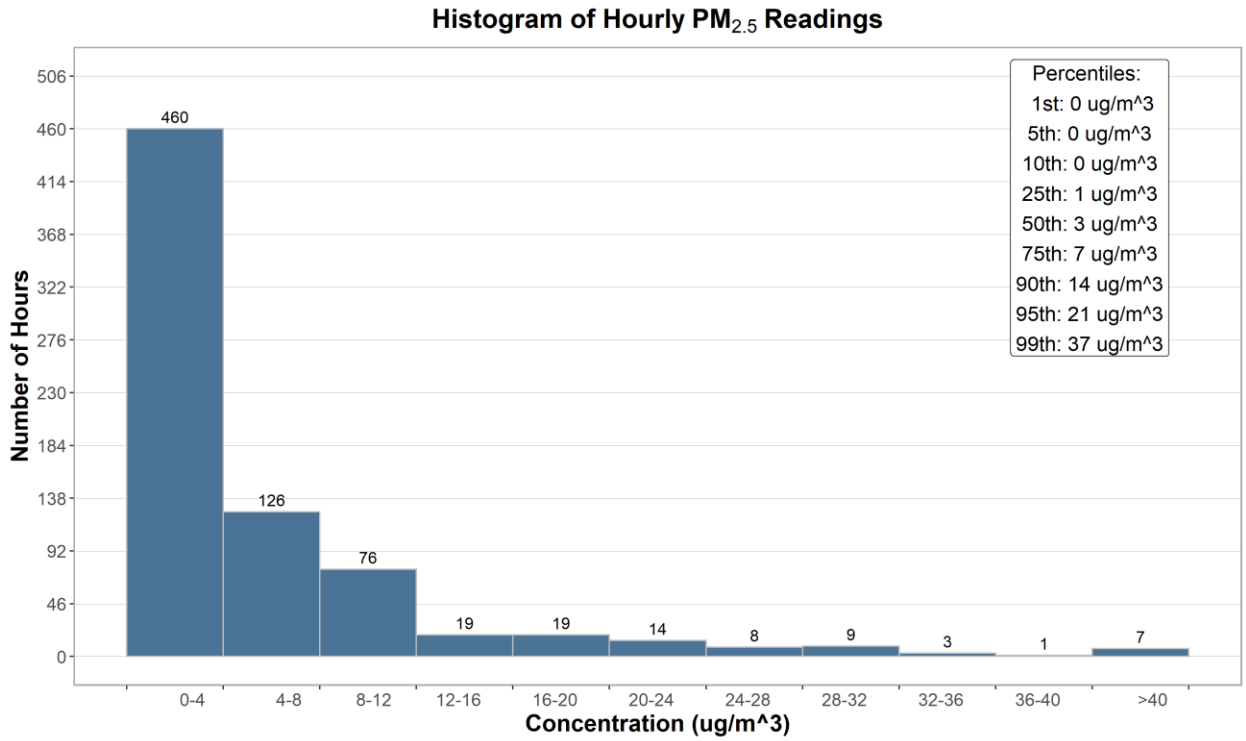

Figure 4-2 Histogram of hourly $PM_{2.5}$ concentrations at the Windridge station

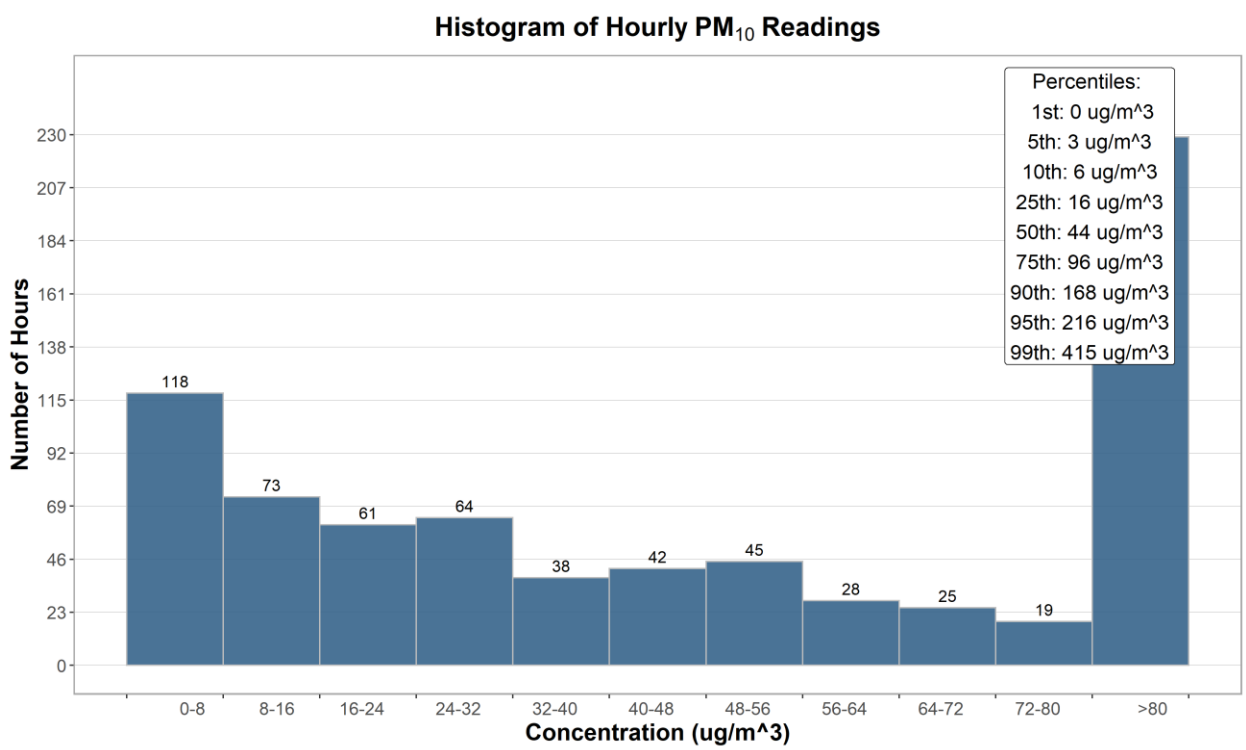

Figure 4-3 Histogram of hourly PM_{10} concentrations at the Windridge station

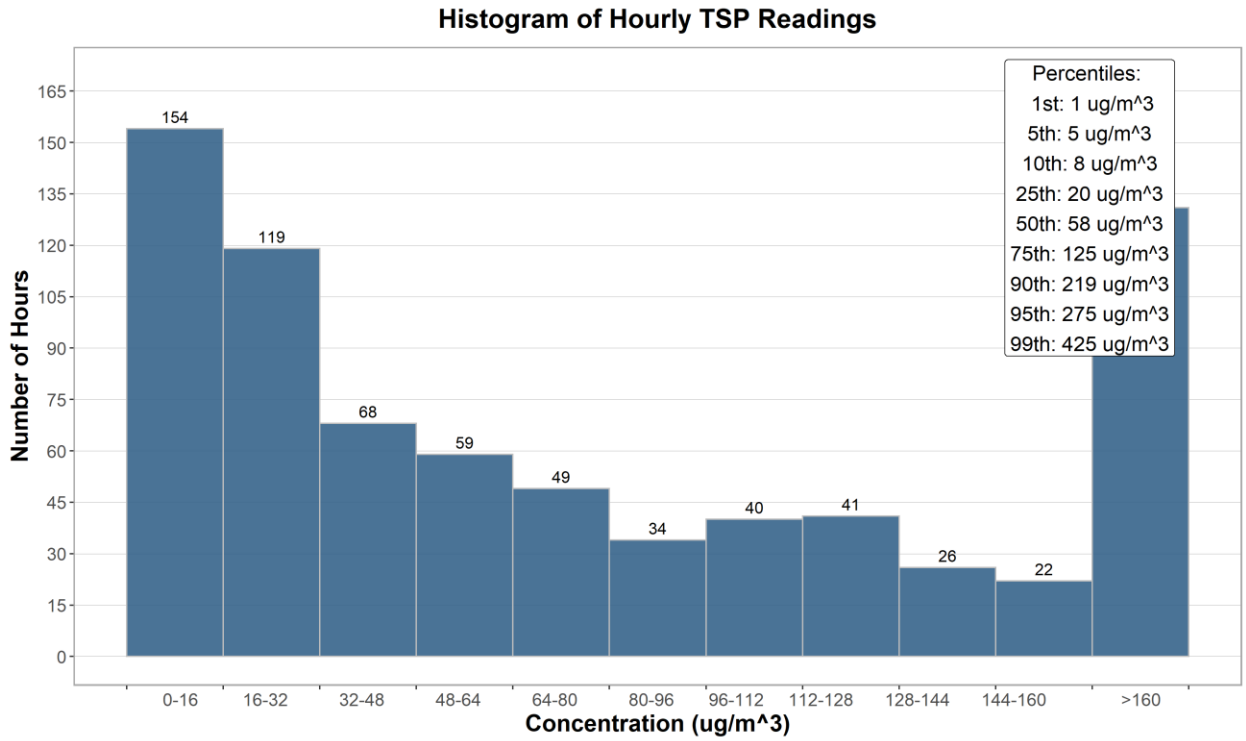

Figure 4-4 Histogram of hourly TSP concentrations at the Windridge station

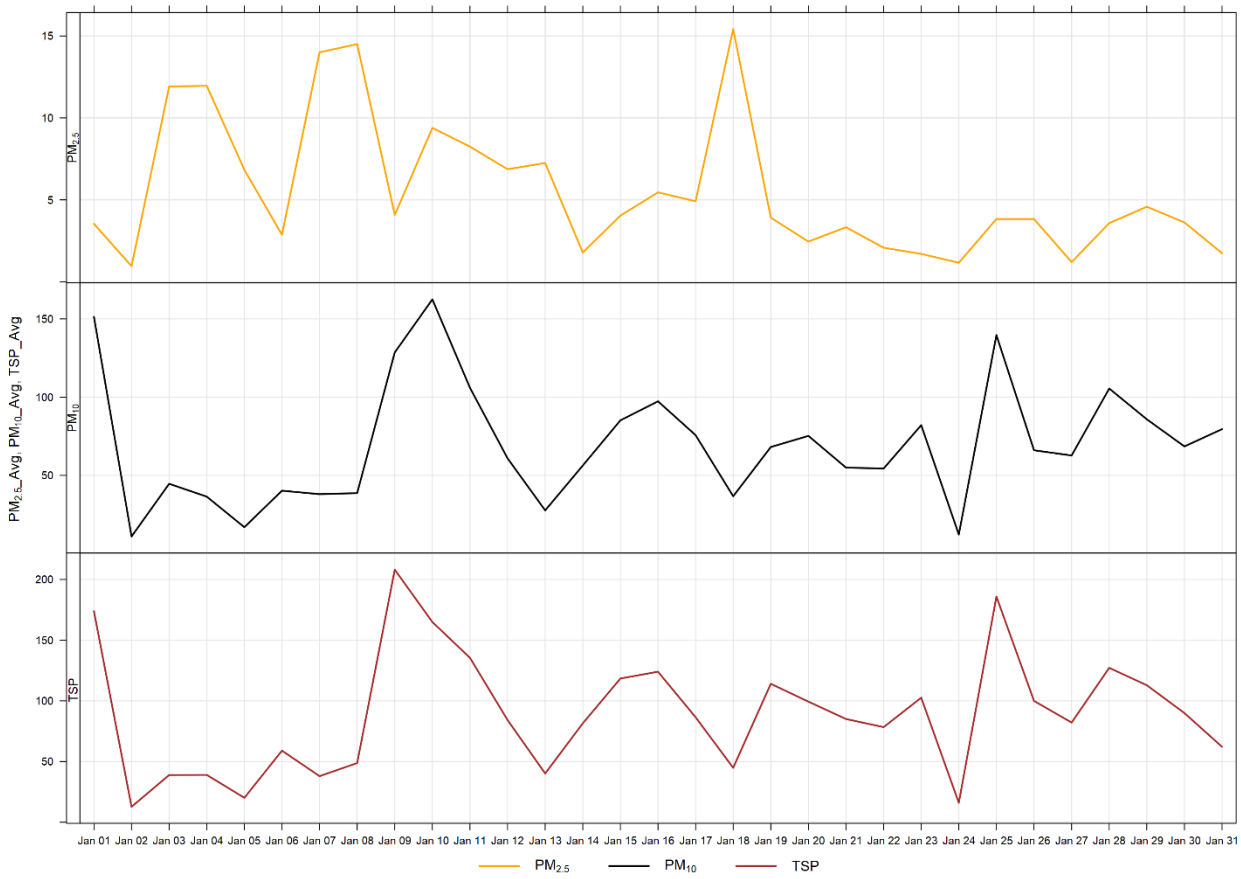

Figure 4-5 24-hour particulate matter concentrations at the Windridge monitor

Figure 4-6 shows the wind rose for the 11 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west-southwest and west directions, and were predominately over 25 km/hr. This month the TSP exceedances were largely driven by windblown fugitive dust.

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 January 2022. Similar to the Lagoon station, typically PM 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. However, this month, there were some very high winds into the evening and overnight hours, which skewed the typical diurnal pattern of PM concentrations.

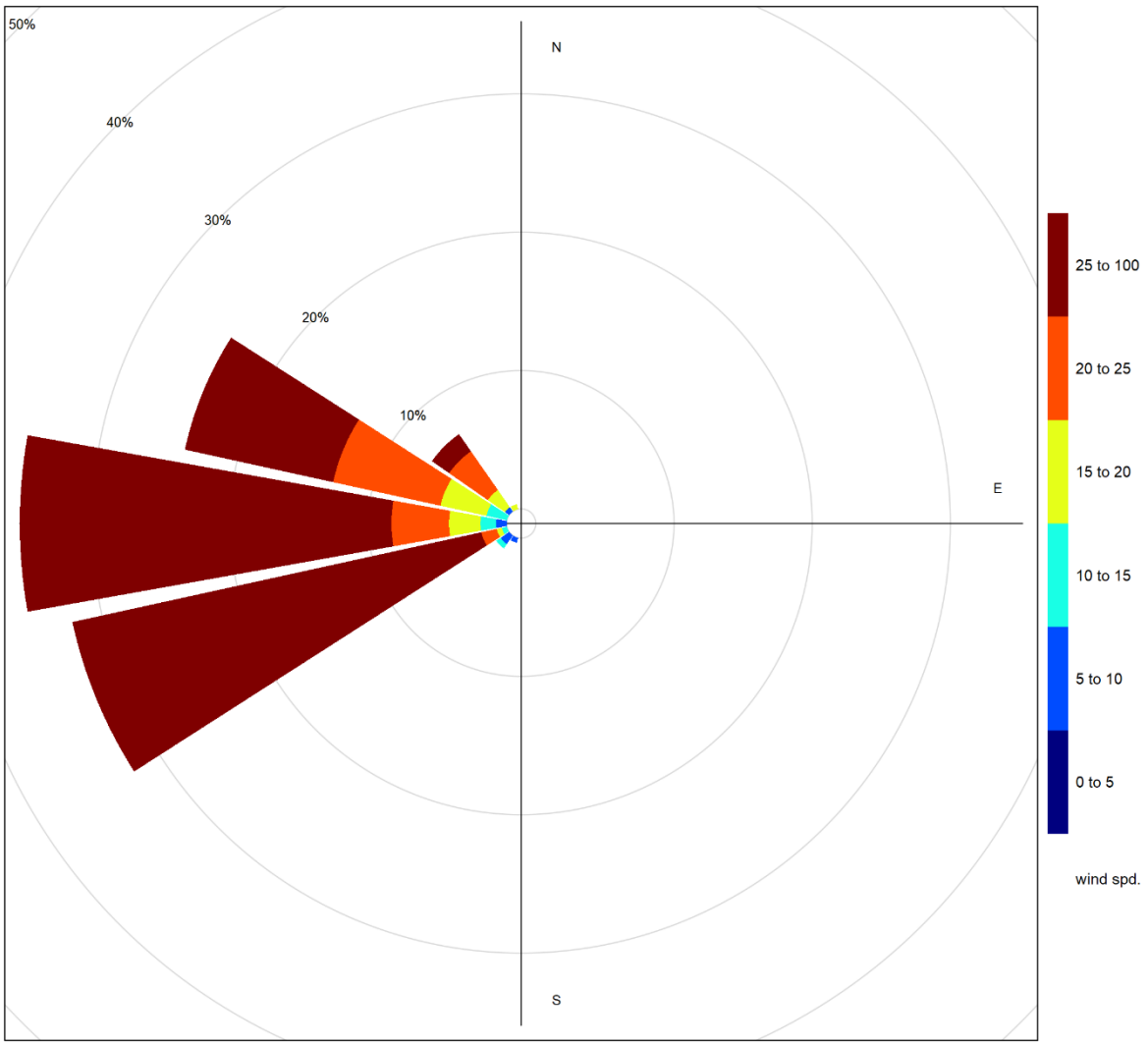

Figure 4-6 Wind rose for TSP exceedance days recorded at the Windridge Station

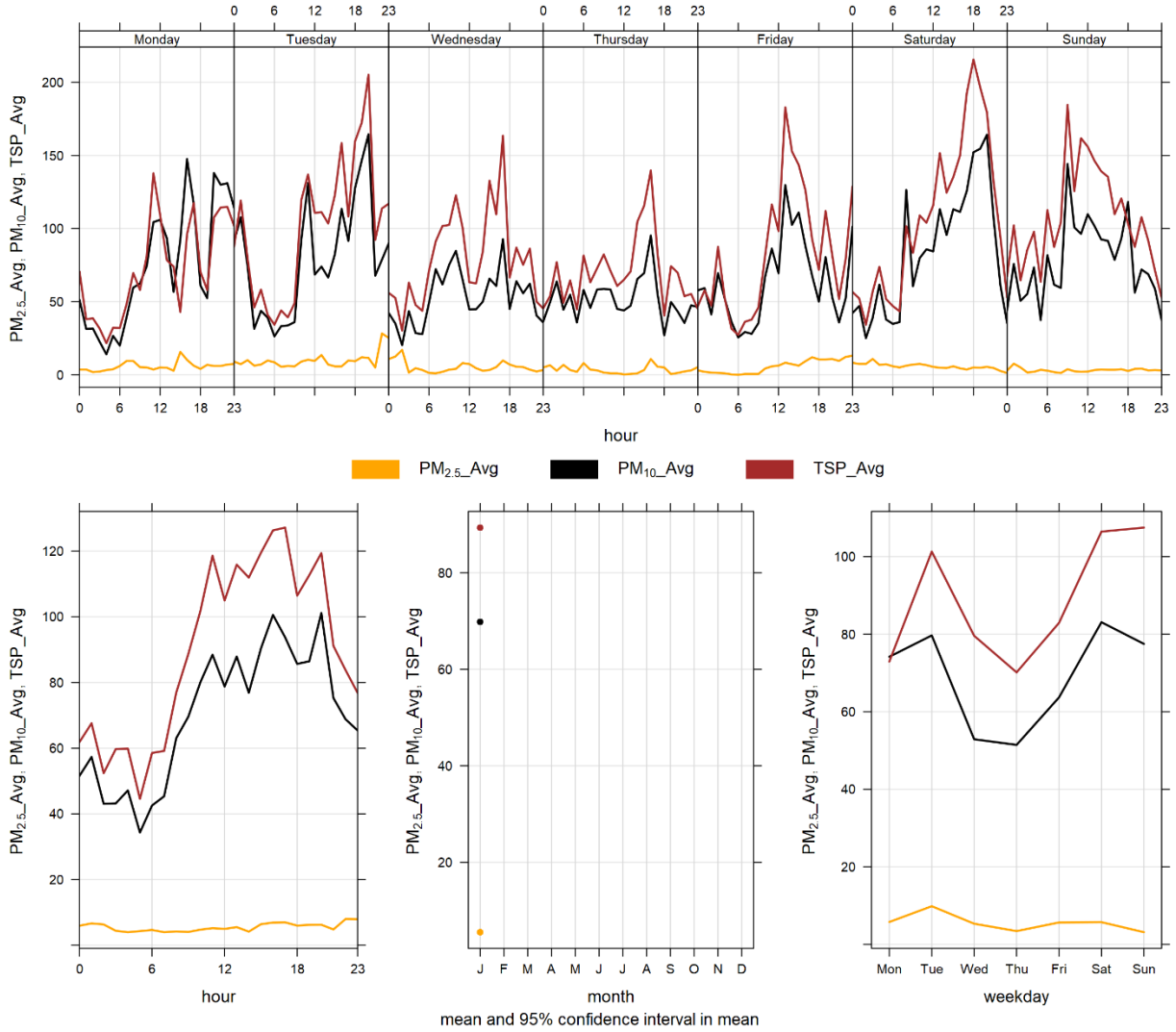

Figure 4-7 Windridge particulate matter time variation

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 100% uptime for the month of January.

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 exceedance of the 24-hour TSP Guideline (100 µg/m^3) and zero exceedances of the 24-hour $PM_{2.5}$ (29µg/m^3) Guideline. Further, there were zero hours exceeding the 1-hour $PM_{2.5}$ Guideline.

Historically during the month of January, the West monitor records an average of 2 and zero exceedances of the 24-hour TSP and $PM_{2.5}$ guidelines, respectively. The maximum number of TSP exceedances recorded during January occurred in 2013 where there were 7 days that exceeded the guideline.

Table 5-2 Summary of January 2022 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	0.1	3.1	51.3	7	24	13.7	77.8	16.5	7	100.0
PM_{10} ($\mu g/m^3$)	-	-	West	-	-	0.1	4.1	70.0	7	24	13.7	77.8	21.5	7	100.0
TSP ($\mu g/m^3$)	-	100	West	-	0	0.0	3.8	63.2	7	24	13.7	77.8	19.2	7	100.0

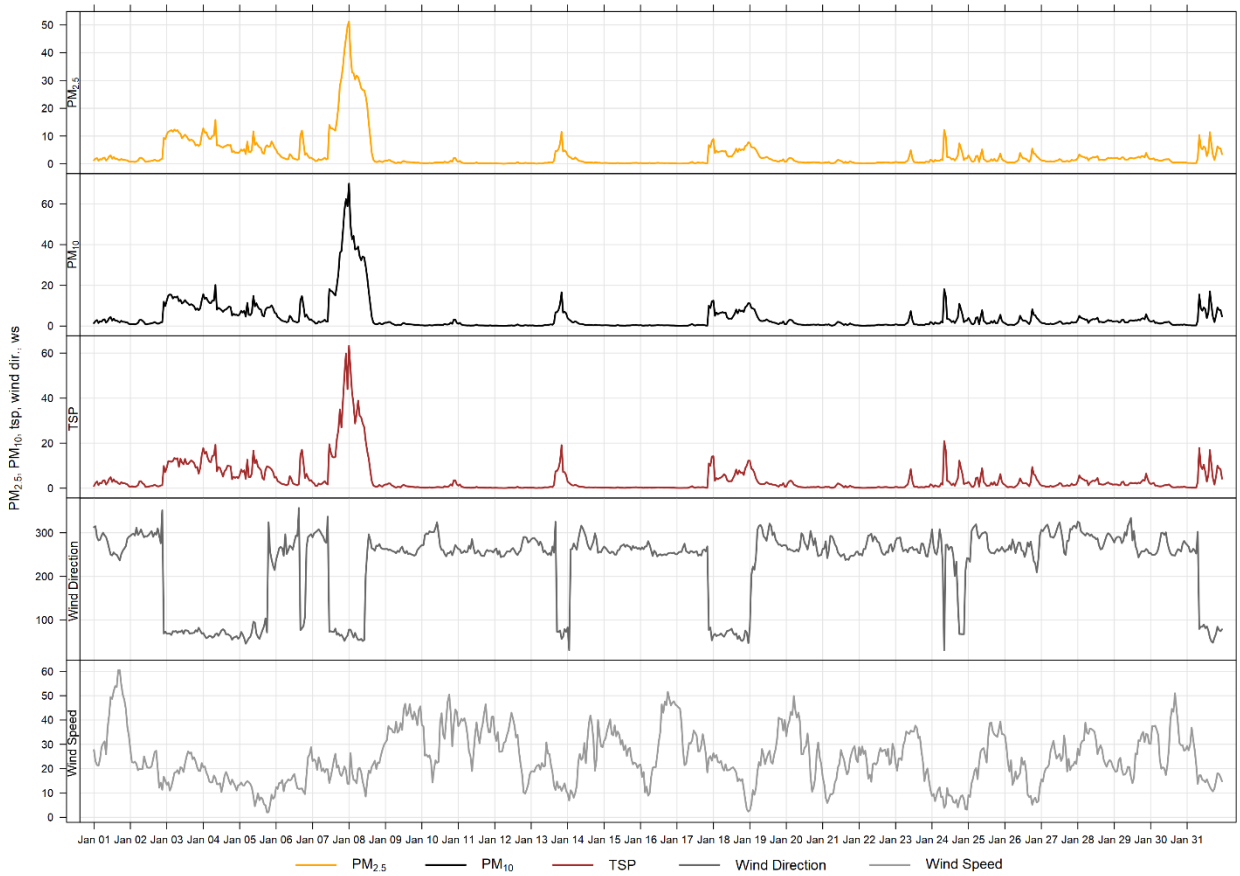

Figure 5-1 1-hour particulate matter concentrations at the West monitor

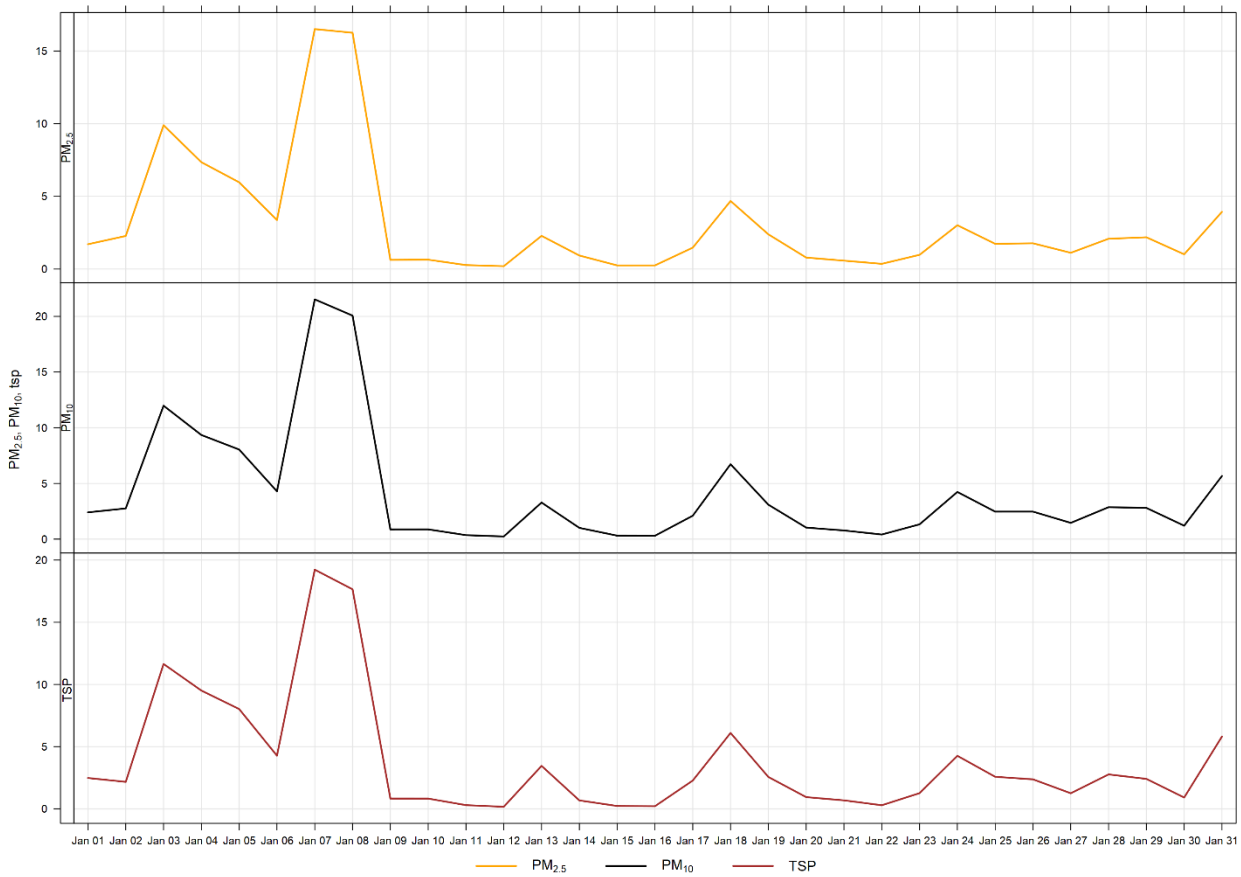

Figure 5-2 24-hour particulate matter concentrations at the West monitor

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 January 2022. 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.

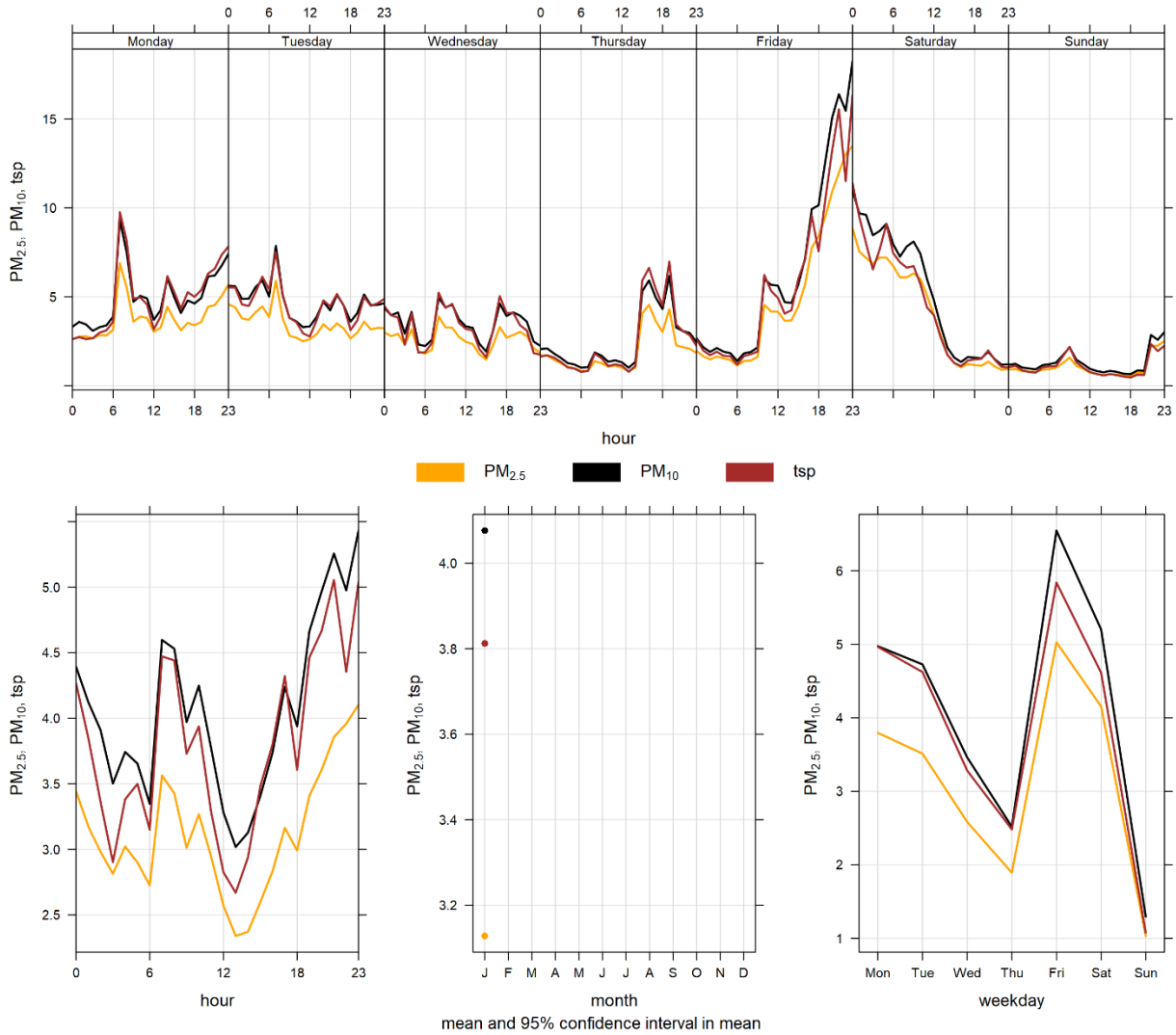

Figure 5-3 West monitor particulate matter time variation

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 100% uptime during the month of January.

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

Historically during the month of January, the Berm monitor records an average of 19 and 1 exceedances of the 24-hour TSP and $PM_{2.5}$ guidelines, respectively. The maximum number of TSP exceedances recorded during January occurred in 2013 where there were 26 days that exceeded the guideline. On the other hand, the maximum number of $PM_{2.5}$ exceedances in January was 3 days in 2015, 2019, and 2021.

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 strong wind gusting that occurred in January would have also contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, dry sections of the Bow River, and open areas.

Table 6-2 Summary of January 2022 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	3	1	0.3	11.8	111.1	25	20	36.1	257.8	33.1	25	100.0
PM_{10} ($\mu g/m^3$)	-	-	Berm	-	-	0.3	73.8	840.6	25	20	36.1	257.8	238.3	25	100.0
TSP ($\mu g/m^3$)	-	100	Berm	-	21	0.2	265.8	3293.0	1	18	54.5	250.9	876.4	1	100.0

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						
2022-01-01	876.4	-	266.1	40.0	51.0	High wind event
2022-01-08	156.9	-	293.8	20.0	63.2	High wind event
2022-01-09	640.9	-	257.8	39.6	48.1	High wind event
2022-01-10	609.4	-	271.9	32.8	49.0	High wind event
2022-01-11	545.0	-	257.2	35.6	44.7	High wind event
2022-01-12	216.2	-	259.4	27.2	55.8	High wind event
2022-01-14	333.6	-	276.3	24.9	66.8	High wind event
2022-01-15	403.0	-	262.1	29.6	38.2	High wind event
2022-01-16	309.9	-	253.2	31.8	44.2	High wind event
2022-01-17	123.6	-	258.5	29.8	52.2	High wind event
2022-01-19	589.6	-	285.1	25.7	67.0	High wind event
2022-01-20	513.7	-	265.7	30.3	58.8	High wind event
2022-01-21	154.9	-	253.2	18.9	46.5	Winds predominately from the west
2022-01-22	129.8	-	268.0	24.3	44.5	High wind event
2022-01-23	256.8	-	265.1	26.7	31.3	High wind event

2022-01-25	717.4	33.1	273.2	28.0	50.3	High wind event
2022-01-26	242.3	-	264.4	15.3	40.0	Winds predominately from the west
2022-01-27	210.3	-	299.0	23.9	48.6	High wind event
2022-01-28	347.9	-	290.1	28.7	40.8	High wind event
2022-01-29	406.3	-	273.2	24.6	42.7	High wind event
2022-01-30	213.9	-	263.0	32.1	47.3	High wind event
Total # of Exceedances	21	1				
Maximum # of Exceedances (January)	26 (2013)	3 (2015, 2019, 2021)				
Average # of Exceedances (January)	19	1				
Minimum # of Exceedances (January)	13 (2016)	0 (2011, 2014, 2016, 2017, 2018)				

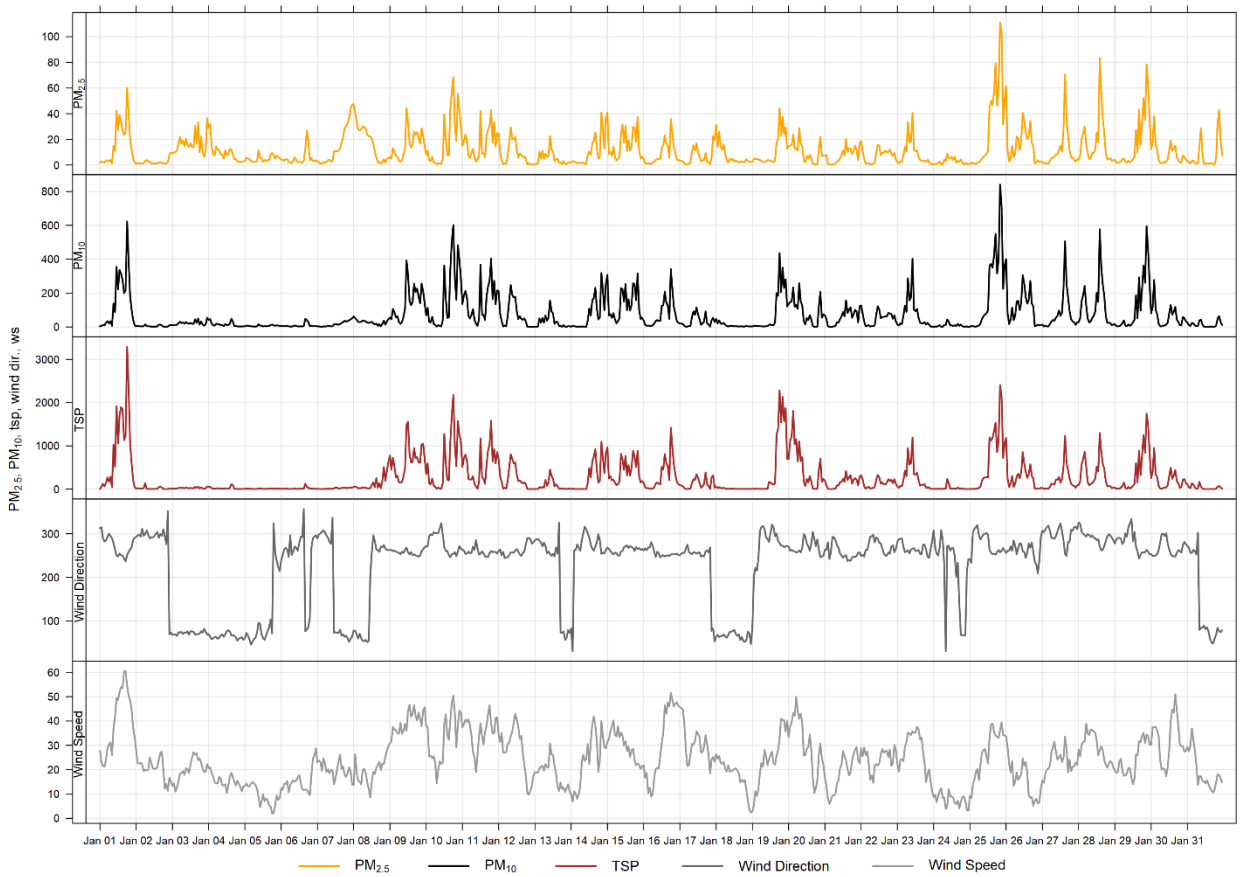

Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

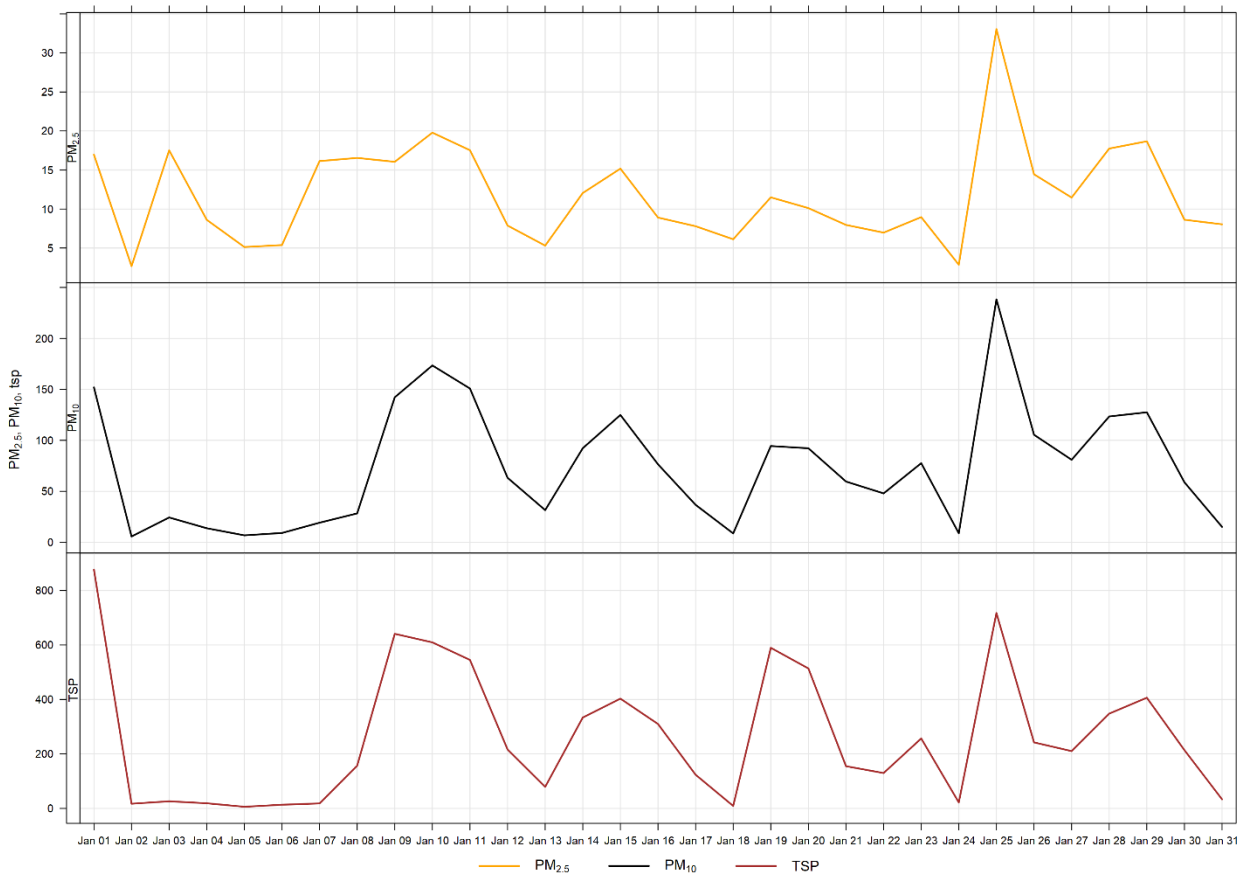

Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 shows the wind rose for the 21 days of TSP exceedances. Figure 6-4 shows the wind rose for the 1 day of $PM_{2.5}$ exceedances. The wind roses show that the winds predominantly came from the westerly directions, and were predominately over 20 km/hr. This month the TSP exceedances were largely driven by windblown fugitive dust.

Figure 6-5 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.

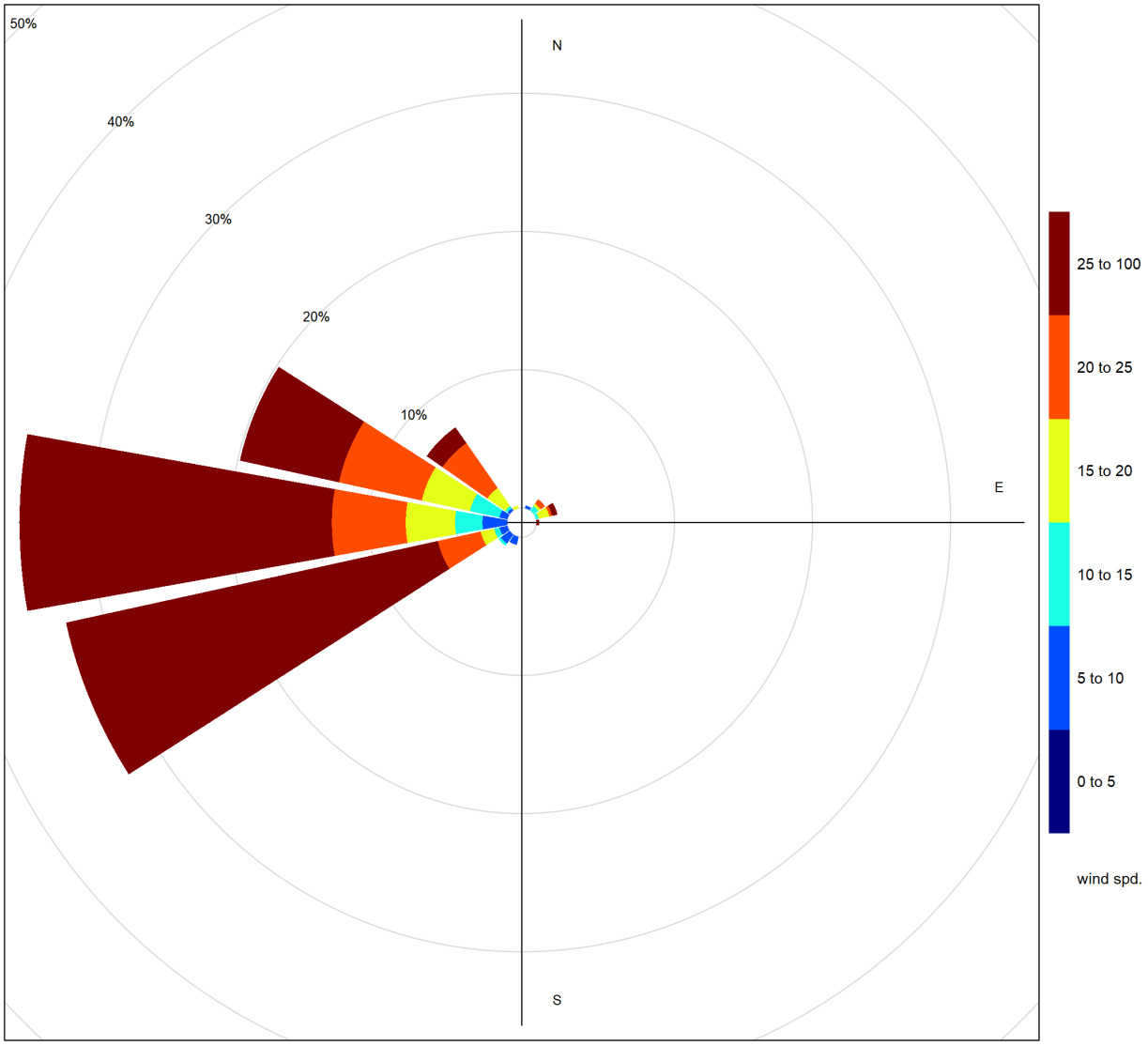

Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

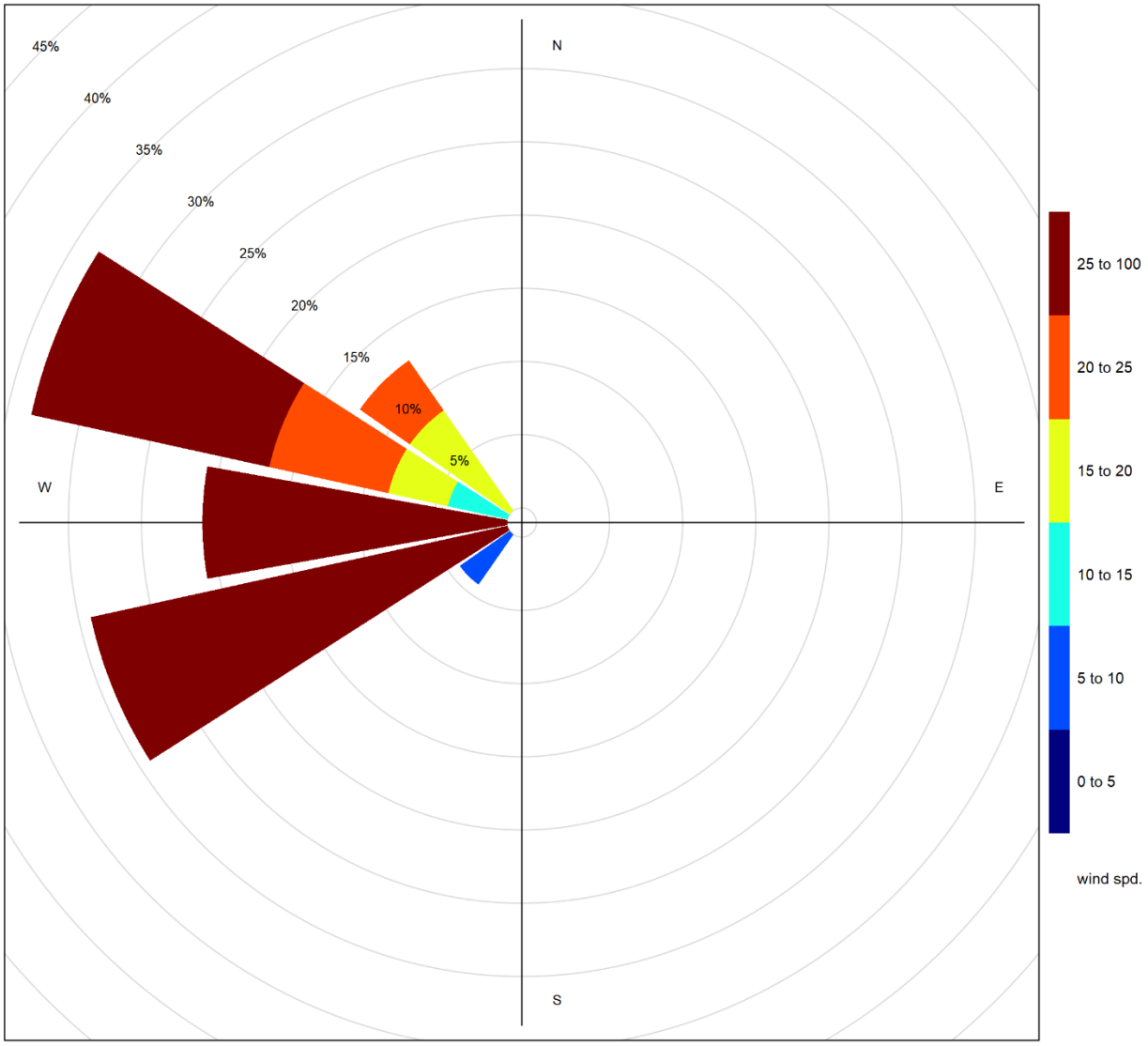

Figure 6-4 Wind rose for $PM_{2.5}$ exceedance day recorded at the Berm GRIMM

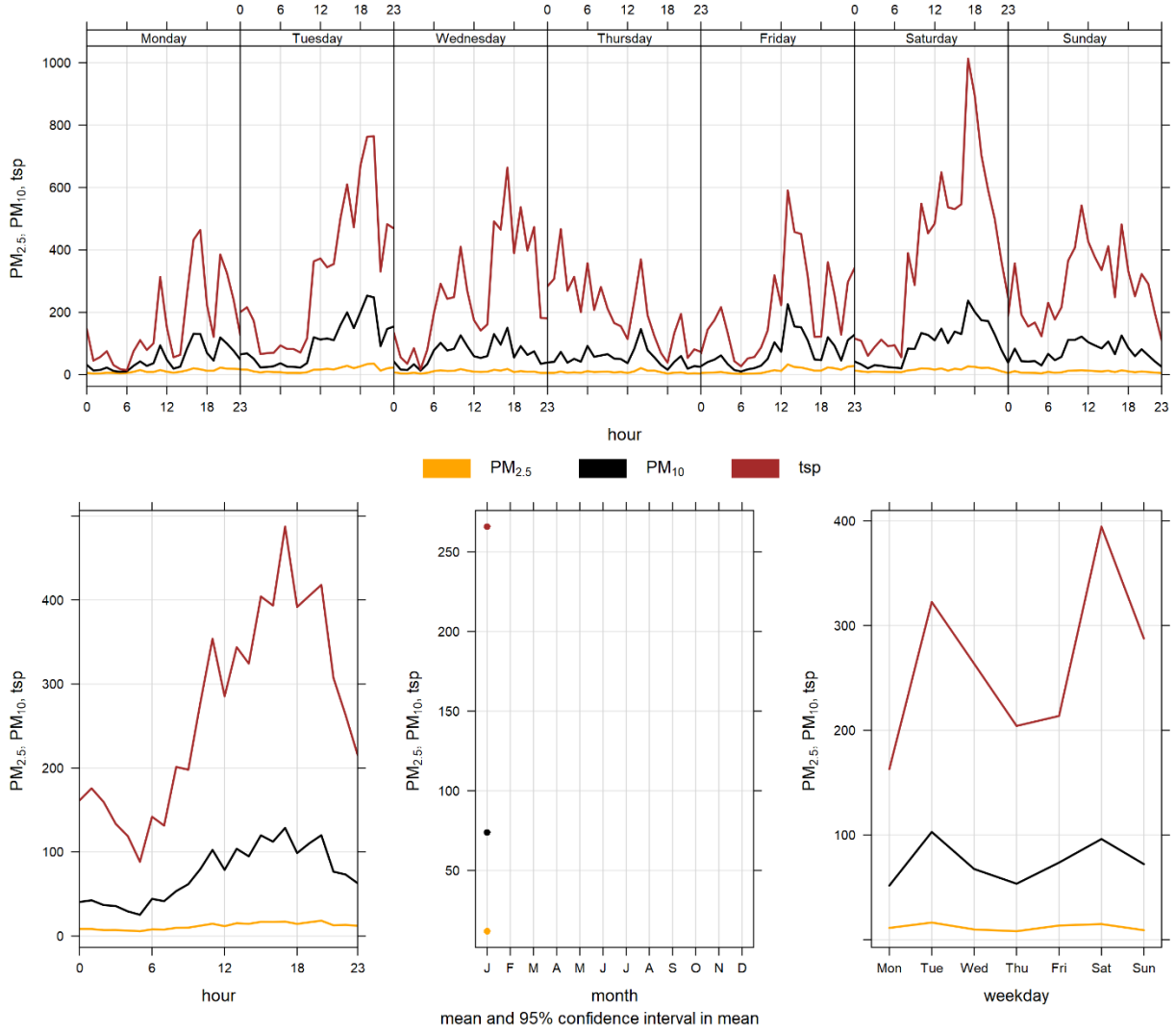

Figure 6-5 Berm particulate matter time variation

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 100% uptime for the month of January.

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 January, there were 14 and 1 exceedances of the 24-hour TSP (100 µg/m^3) and $PM_{2.5}$ (29 µg/m^3) Guidelines, respectively. There was one hour exceeding the 1-hour $PM_{2.5}$ Guideline.

Historically, the Entrance monitor records an average of 19 and 1 exceedances of the 24-hour TSP and $PM_{2.5}$ guidelines respectively, during the month of January. The maximum number of TSP exceedances recorded during January occurred in 2014, which had 29 days that exceeded the guideline. The minimum number of TSP exceedances recorded during January occurred in 2011 & 2018, which had eleven days that exceeded the guideline. The maximum number of $PM_{2.5}$ exceedances recorded during January occurred in 2013, which had 5 days that exceeded the guideline.

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.

Figure 7-3 shows the wind rose for the 14 days that exceeded the TSP Guideline. The wind rose show that the winds predominantly came from the westerly directions, and were predominately over 20 km/hr.

Figure 7-4 shows the wind rose for the 1 day that exceeded the 24-hour $PM_{2.5}$ Guideline. The wind rose show that the winds predominantly came from the westerly directions, and were predominately over 20 km/hr.

Table 7-2 Summary of January 2022 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	
$PM_{2.5}$ (µg/m^3)	80	29	Entrance	1	1	0.1	10.1	137.5	25	22	34.2	267.3	38.6	28	100.0
PM_{10} (µg/m^3)	-	-	Entrance	-	-	0.5	52.5	582.0	28	2	30.2	304.3	281.0	28	100.0
TSP (µg/m^3)	-	100	Entrance	-	14	0.9	237.5	3720.2	1	13	51.9	254.8	1559.5	1	100.0

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						
2022-01-01	1559.5	-	266.1	40.0	51.0	High wind event
2022-01-03	114.0	-	72.5	20.3	75.8	High wind event
2022-01-08	249.3	-	293.8	20.0	63.2	High wind event
2022-01-09	409.0	-	257.8	39.6	48.1	High wind event
2022-01-10	274.7	-	271.9	32.8	49.0	High wind event
2022-01-19	564.5	-	285.1	25.7	67.0	High wind event
2022-01-20	499.3	-	265.7	30.3	58.8	High wind event
2022-01-23	134.8	-	265.1	26.7	31.3	High wind event
2022-01-25	459.6	-	273.2	28.0	50.3	High wind event
2022-01-26	223.7	-	264.4	15.3	40.0	Winds predominately from the west
2022-01-27	626.7	-	299.0	23.9	48.6	High wind event
2022-01-28	1012.1	38.6	290.1	28.7	40.8	High wind event
2022-01-29	289.1	-	273.2	24.6	42.7	High wind event
2022-01-30	106.5	-	263.0	32.1	47.3	High wind event
Total # of Exceedances	14	1				

Maximum # of Exceedances (January)	29 (2014)	5 (2013)				
Average # of Exceedances (January)	19	1				
Minimum # of Exceedances (January)	11 (2011, 2018)	0 (2011, 2012, 2015, 2016, 2017, 2018, 2019, 2020, 2021)				

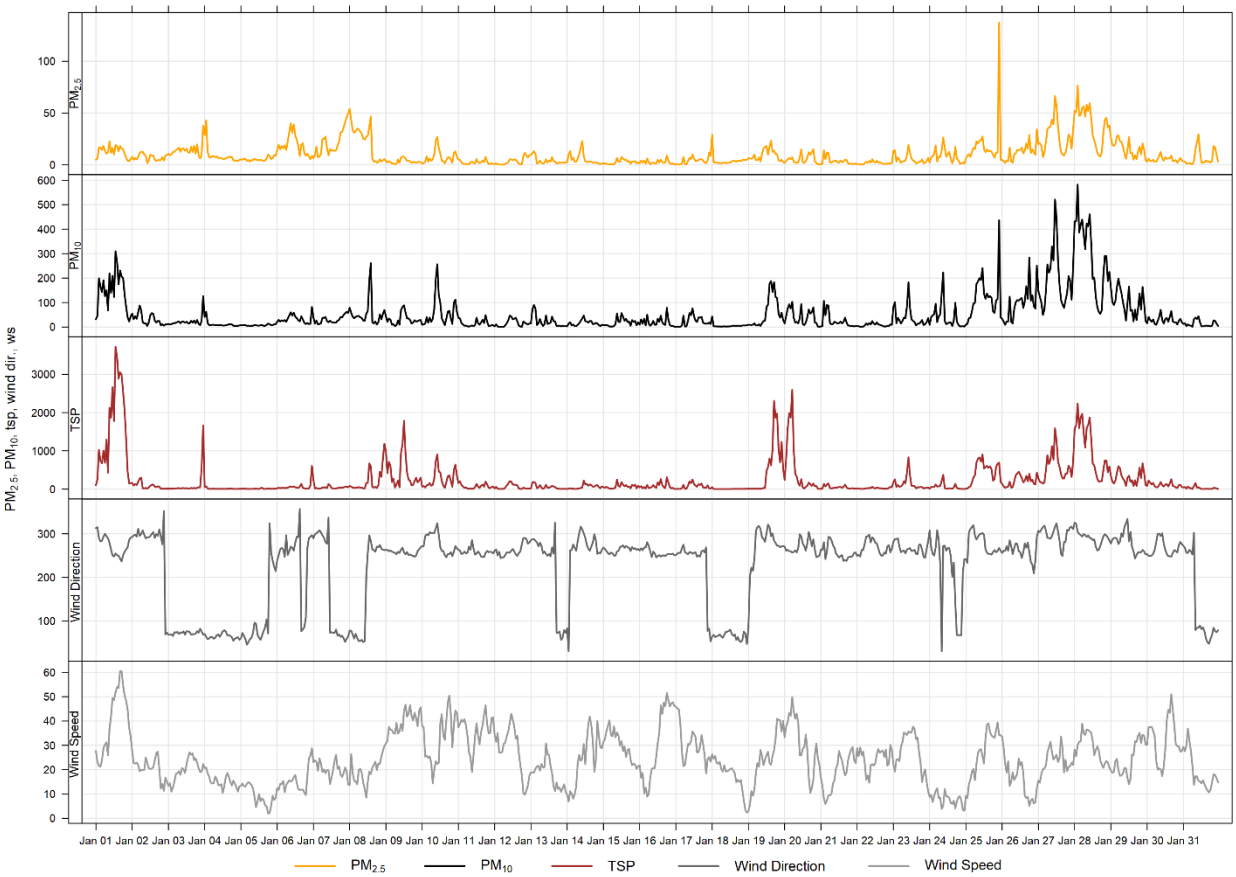

Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor

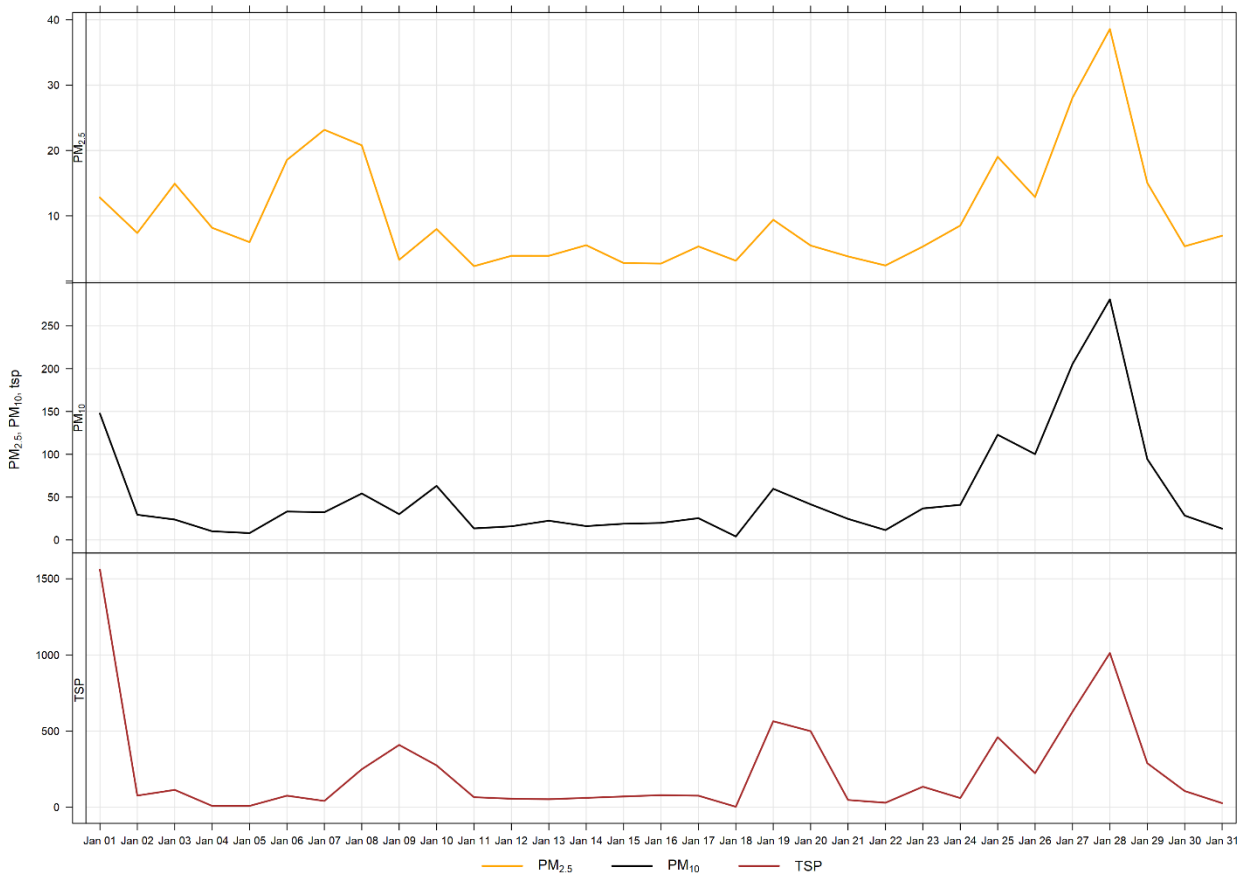

Figure 7-2 24-hour particulate matter concentrations at the Entrance monitor

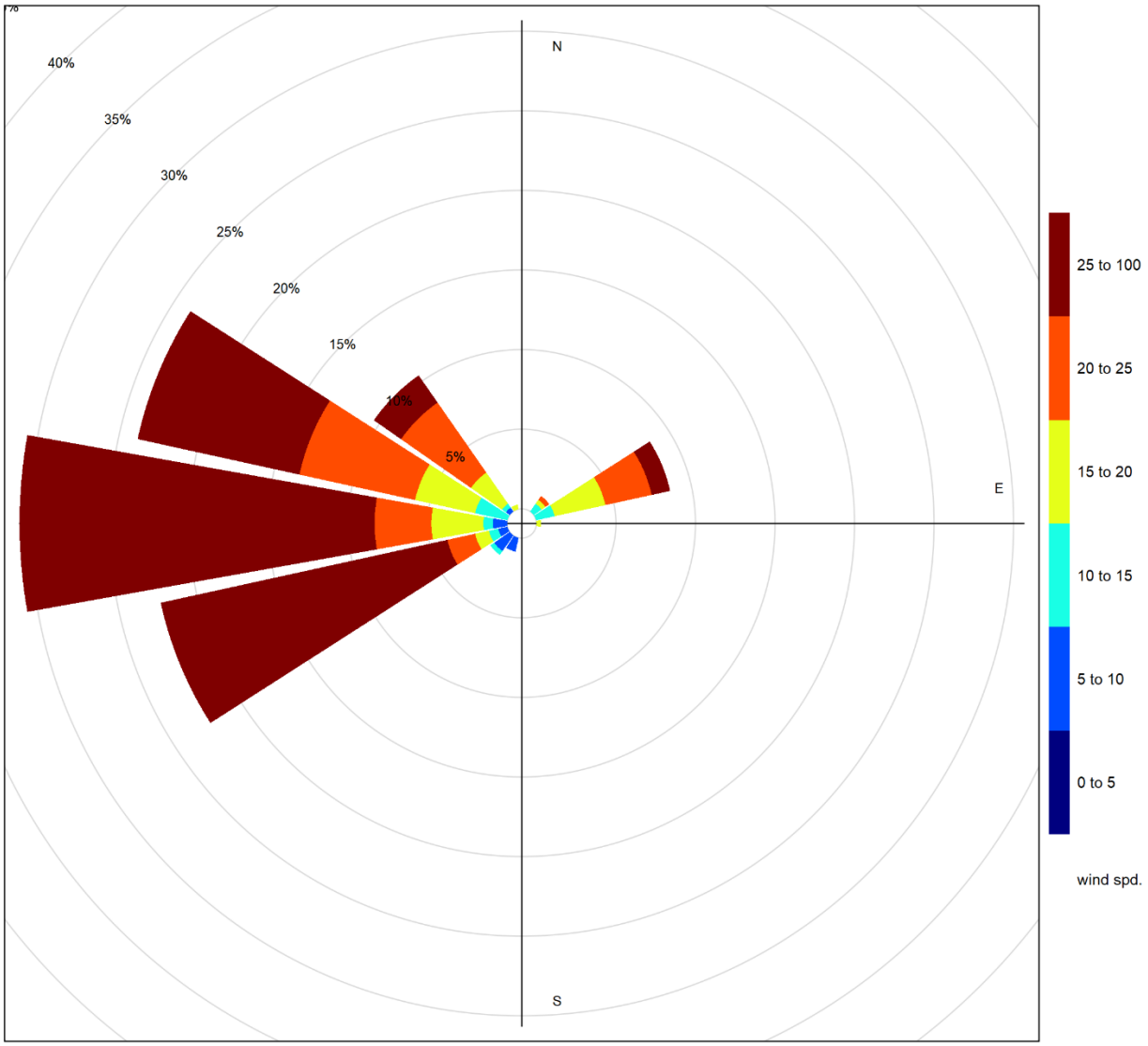

Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

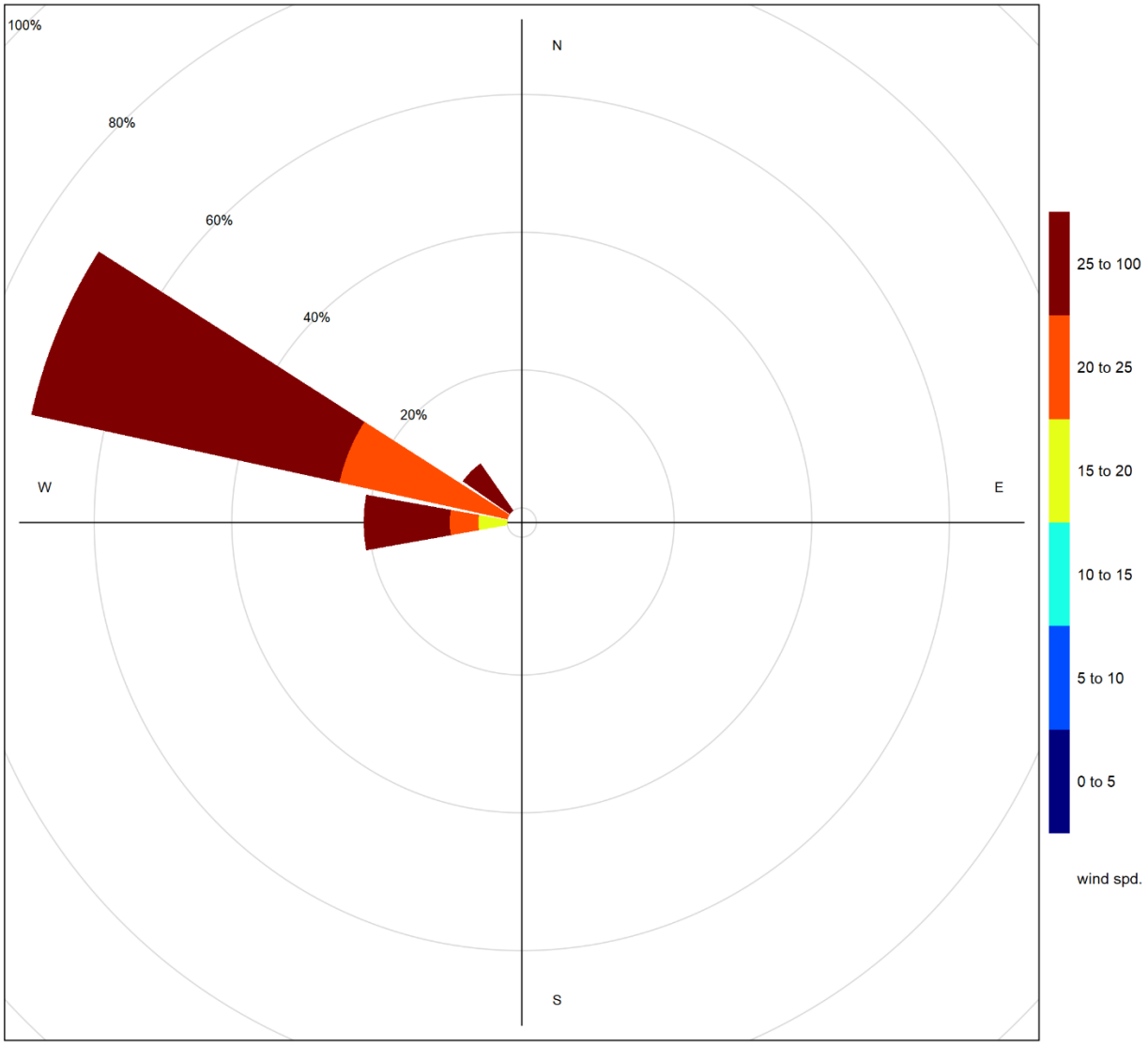

Figure 7-4 Wind rose for $PM_{2.5}$ exceedance day recorded at the Entrance GRIMM

Figure 7-5 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 7-5 is based on data collected during January 2022. 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.

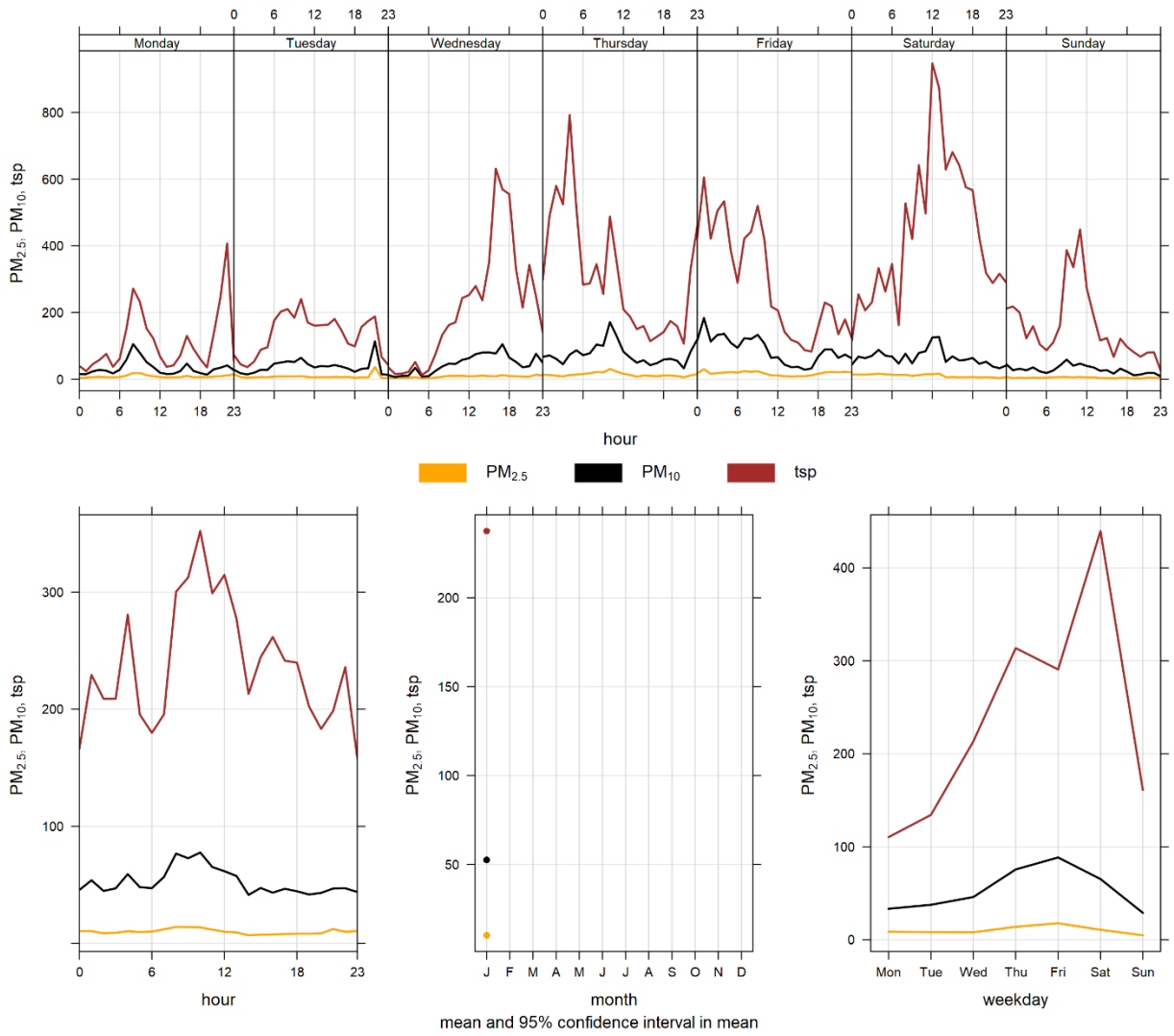

Figure 7-5 Entrance particulate matter time variation

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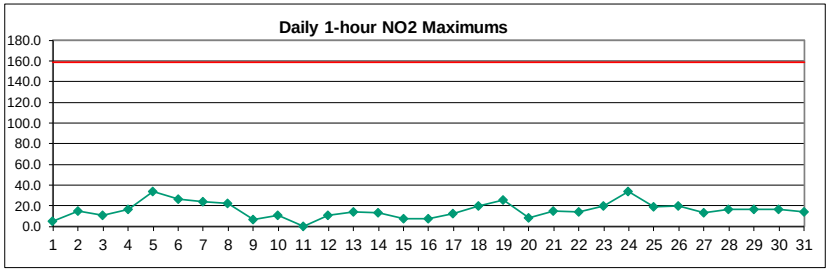
APPENDIX

A DATA & CALIBRATION REPORTS

APPENDIX

Lagoon NO_2 (ppb) – January 2022

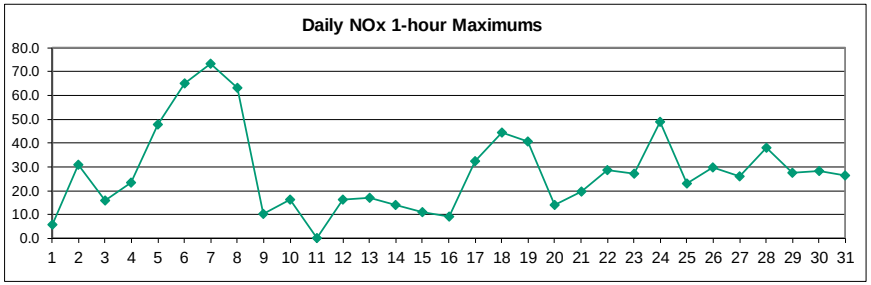
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	5.2	S	4.0	3.7	2.8	2.5	2.3	3.2	2.3	3.1	1.5	1.5	1.8	1.5	1.5	1.6	1.4	1.4	2.0	2.3	2.8	3.8	2.9	3.0	2.5	5.2
2	3.4	S	3.4	2.6	3.7	2.7	3.8	7.3	15.2	11.1	8.0	8.6	8.6	6.8	11.1	13.8	11.4	7.6	7.6	12.1	12.0	6.4	6.7	6.7	7.8	15.2
3	6.5	S	6.7	7.0	9.6	10.1	9.5	9.0	10.6	8.7	9.0	9.4	8.4	6.3	5.1	5.5	9.2	10.6	6.5	5.9	5.2	7.5	10.1	8.3	8.0	10.6
4	9.2	S	7.2	8.7	9.9	10.4	9.0	7.2	8.2	11.1	10.7	6.5	4.3	3.7	6.4	6.8	10.4	16.8	13.4	15.5	11.9	11.6	12.7	14.7	9.8	16.8
5	5.8	S	15.1	16.2	17.4	17.1	24.7	17.9	28.0	22.1	20.1	18.2	18.9	13.9	13.4	12.7	22.5	30.3	30.2	33.6	34.0	33.0	31.9	27.2	21.9	34.0
6	22.4	S	22.0	20.6	18.1	14.5	21.2	20.5	18.9	20.6	25.7	13.6	11.1	9.9	13.4	24.7	23.6	26.6	23.3	16.9	14.5	17.2	13.3	13.1	18.5	26.6
7	7.0	S	5.0	4.1	4.9	6.6	6.7	6.1	9.5	14.1	18.9	14.1	17.1	13.0	10.4	14.4	16.1	16.0	15.2	16.8	23.0	23.8	20.4	19.9	13.2	23.8
8	17.2	S	16.7	21.0	22.7	22.8	20.0	15.1	11.0	13.3	18.2	13.1	9.2	9.9	11.1	9.4	10.3	5.5	6.6	4.5	4.6	3.9	4.6	5.7	12.0	22.8
9	5.0	S	4.2	4.0	3.6	5.0	3.6	5.3	4.2	5.7	5.0	2.9	2.2	4.6	2.8	2.8	2.6	2.1	1.6	1.8	7.2	3.4	4.8	4.0	3.8	7.2
10	3.5	S	3.9	4.9	5.2	6.7	5.3	5.4	5.8	4.2	6.0	4.7	3.7	3.6	4.5	3.6	4.1	5.9	5.6	4.2	4.0	6.0	8.4	10.7	5.2	10.7
11	7.7	S	2.4	6.2	3.8	2.1	7.3	7.5	7.5	5.1	C	C	C	C	C	C	C	4.1	6.4	5.5	8.0	6.8	2.1	3.1	-	-
12	3.6	S	4.0	2.9	2.0	1.7	3.8	6.9	7.1	9.5	9.7	9.2	6.2	3.4	2.5	2.9	5.6	3.9	6.8	10.8	9.1	5.2	6.8	6.5	5.7	10.8
13	5.2	S	3.2	3.8	4.4	3.4	6.0	5.1	8.5	5.3	3.9	4.2	4.2	7.4	9.2	12.1	5.4	8.7	7.8	9.9	14.5	5.0	9.4	4.8	6.6	14.5
14	7.8	S	13.1	10.2	9.8	8.1	7.4	6.3	6.3	7.2	7.0	5.3	4.5	3.1	3.1	4.2	4.1	4.3	4.6	1.6	5.5	3.0	1.7	6.7	5.9	13.1
15	4.7	S	2.5	1.1	6.4	2.5	1.0	1.8	5.8	5.9	6.2	7.5	6.0	6.0	6.6	5.1	6.3	7.9	4.8	4.4	5.7	4.4	5.3	5.3	4.9	7.9
16	5.7	S	3.7	5.2	4.8	5.7	7.5	2.2	2.6	3.6	1.9	1.9	1.1	1.3	1.9	1.8	1.7	1.8	3.3	2.5	2.4	2.2	1.4	1.8	3.0	7.5
17	2.5	S	1.4	5.3	4.0	4.2	3.7	8.4	10.9	11.7	5.1	3.3	3.6	4.3	3.5	3.3	6.1	7.0	3.1	2.0	5.2	2.7	4.2	12.9	5.1	12.9
18	12.2	S	16.3	11.3	13.6	9.2	4.8	6.1	5.1	3.9	4.2	3.3	4.1	5.9	6.6	12.3	12.2	16.6	16.3	17.7	15.0	15.1	14.4	19.8	10.7	19.8
19	24.5	S	25.7	22.2	15.1	12.8	8.3	6.7	9.1	8.0	7.6	5.7	4.1	6.2	5.5	7.3	8.1	5.9	3.7	3.4	2.2	4.5	3.7	3.2	8.9	25.7
20	3.9	S	3.8	2.7	3.2	2.5	4.0	3.2	7.8	6.8	8.9	7.3	7.2	7.0	6.8	5.6	6.5	8.6	8.8	8.4	3.2	2.0	3.7	8.3	5.7	8.9
21	7.5	S	8.2	10.8	10.7	6.0	8.4	12.2	14.7	5.8	3.1	2.5	4.2	3.5	4.2	4.0	3.0	3.7	2.4	2.0	2.1	2.2	4.8	3.4	5.6	14.7
22	3.4	S	3.2	2.5	6.6	10.9	12.2	10.4	5.1	12.0	14.3	6.1	4.7	8.9	3.6	4.5	2.0	3.4	4.2	3.2	5.9	3.6	4.8	7.9	6.2	14.3
23	11.8	S	10.8	6.2	3.9	5.3	4.4	4.8	8.3	7.5	11.5	6.3	6.8	6.6	4.3	3.4	10.2	15.1	13.7	5.4	3.1	7.0	16.5	20.3	8.4	20.3
24	11.2	S	10.1	10.5	7.5	8.1	11.1	20.9	34.1	21.3	21.4	21.3	15.7	13.0	7.6	9.5	13.7	18.0	10.4	6.3	4.3	12.4	25.5	17.1	14.4	34.1
25	19.4	S	7.1	8.8	6.0	8.3	9.3	11.4	11.6	11.2	9.7	9.3	5.0	4.2	3.8	3.1	6.4	7.1	7.0	4.0	11.6	5.6	5.2	3.9	7.8	19.4
26	4.4	S	11.2	4.8	11.1	9.0	9.1	16.1	13.0	10.2	5.6	4.4	2.6	2.3	5.7	17.8	12.6	13.2	11.9	11.1	11.6	15.6	19.8	11.4	10.2	19.8
27	11.1	S	5.4	5.1	8.6	11.4	12.0	12.9	13.4	10.3	8.9	5.6	8.4	9.8	5.3	2.9	11.6	5.6	10.4	11.2	6.5	4.0	6.7	3.9	8.3	13.4
28	4.4	S	10.7	11.7	14.8	8.7	7.3	10.4	8.7	15.6	16.6	14.8	14.2	8.6	7.3	9.1	11.8	12.9	13.1	12.3	10.5	10.9	10.1	14.0	11.2	16.6
29	16.4	S	10.3	7.9	14.1	11.8	8.1	6.1	4.1	6.1	7.8	12.4	11.2	6.2	3.7	2.9	4.5	4.7	4.1	5.5	5.4	4.7	4.2	2.5	7.2	16.4
30	2.1	S	2.3	2.4	3.7	8.5	9.6	13.9	16.5	12.0	6.1	9.4	3.7	1.7	1.3	1.2	5.9	4.9	4.7	4.3	6.4	10.4	5.5	3.6	6.1	16.5
31	10.8	S	4.4	14.1	2.9	2.6	9.0	2.1	1.9	1.7	1.6	2.0	1.9	2.6	3.7	8.9	9.4	10.3	6.0	5.1	4.8	6.7	5.2	5.0	5.3	14.1
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	31	31	31	31	31	31	31	706	100.0%
MEAN	8.6	-	8.0	8.0	8.2	7.8	8.4	8.8	10.2	9.5	9.5	7.8	6.8	6.2	5.9	7.2	8.6	9.4	8.6	8.1	8.5	8.1	8.9	9.0		
MAX	24.5	-	25.7	22.2	22.7	22.8	24.7	20.9	34.1	22.1	25.7	21.3	18.9	13.9	13.4	24.7	23.6	30.3	30.2	33.6	34.0	33.0	31.9	27.2		



Number of 1HR Exceedences	0		
Number of Non-Zero Readings	706		
Maximum 1-HR Average	34.1 PPB		
Maximum 24-HR Average	21.9 PPB		
		Opperational Time	744 HRS
Monthly Calibration	7	Opperational Uptime	100.0 %
Standard Deviation	5.8	Monthly Average	8.3 PPB

Lagoon NOx (ppb) – January 2022

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	5.8	S	4.4	4.8	3.4	2.9	2.8	4.5	3.0	4.3	2.1	2.0	2.4	2.0	2.1	1.9	1.5	1.7	2.6	2.9	3.7	5.8	3.7	4.1	3.2	5.8
2	5.0	S	6.0	3.6	4.5	3.3	6.2	12.9	30.7	18.7	13.2	15.7	15.9	11.9	19.8	26.8	20.5	11.4	9.9	20.2	15.4	6.8	7.1	7.2	12.7	30.7
3	7.0	S	7.7	7.5	10.2	10.7	10.3	9.4	15.8	9.5	11.0	12.3	12.3	8.5	6.7	6.6	14.2	15.0	6.8	7.2	5.3	9.7	14.3	8.8	9.9	15.8
4	13.5	S	9.5	12.1	15.6	18.1	15.5	8.1	10.0	17.7	19.1	11.3	7.3	6.0	11.0	11.1	13.6	23.5	17.7	23.3	15.7	14.9	17.5	21.2	14.5	23.5
5	6.5	S	21.2	17.7	25.5	26.1	41.9	22.7	45.5	32.1	39.7	40.6	44.3	26.1	21.8	17.5	28.7	47.9	46.6	47.4	46.8	41.2	40.2	35.6	33.2	47.9
6	29.7	S	44.3	39.6	28.0	21.5	38.8	36.0	36.8	49.7	64.9	26.0	20.0	16.5	41.1	60.2	50.4	45.6	33.8	24.2	28.1	36.6	31.3	30.2	36.2	64.9
7	10.5	S	6.6	5.0	7.0	10.1	10.2	7.1	14.4	41.8	44.0	28.2	45.9	24.4	14.0	22.0	23.1	24.2	21.9	25.3	54.4	73.4	45.5	37.1	25.9	73.4
8	21.5	S	26.2	53.2	62.1	63.2	34.4	26.0	14.3	23.4	41.2	25.6	15.3	16.4	15.9	12.7	13.2	6.3	9.0	5.3	5.4	4.7	5.8	7.7	22.1	63.2
9	7.2	S	5.3	5.0	4.5	7.9	4.7	6.9	5.1	8.3	6.6	4.0	2.9	6.5	3.6	3.4	3.2	2.4	2.0	2.1	10.4	4.2	6.2	4.8	5.1	10.4
10	4.2	S	4.9	6.5	7.4	9.8	6.8	7.4	8.0	5.0	7.8	6.6	5.4	5.2	6.2	4.7	5.2	7.3	7.6	5.4	5.5	8.8	12.5	16.4	7.2	16.4
11	10.8	S	2.9	10.0	4.3	2.4	9.5	9.1	8.8	5.9	C	C	C	C	C	C	C	5.1	10.1	8.1	11.9	9.7	2.5	3.8	-	-
12	4.4	S	4.8	3.3	2.2	1.7	4.6	9.3	10.6	14.7	15.7	16.2	9.3	4.2	3.0	3.2	6.5	4.4	9.9	14.3	10.7	5.5	9.7	7.9	7.7	16.2
13	6.8	S	3.5	4.7	4.9	3.7	6.8	6.2	10.5	6.7	4.9	5.0	5.1	9.4	11.1	16.4	6.4	9.3	8.1	10.7	17.1	5.4	10.5	4.9	7.7	17.1
14	8.3	S	14.1	11.1	10.9	10.5	9.3	8.6	7.7	10.7	12.0	7.7	6.7	4.1	3.9	5.8	5.1	4.8	5.1	1.8	8.2	4.1	1.7	9.4	7.5	14.1
15	5.9	S	3.0	1.1	8.6	2.7	1.0	2.2	7.7	8.1	8.6	11.0	8.7	8.2	8.7	6.8	7.8	9.3	5.5	5.5	6.5	4.9	6.9	6.5	6.3	11.0
16	6.4	S	3.7	6.0	4.8	7.1	9.2	2.1	2.7	4.0	2.0	2.2	1.2	1.4	2.3	2.0	1.9	2.1	3.9	2.9	2.8	2.6	1.5	2.1	3.3	9.2
17	2.7	S	1.5	8.2	4.9	4.9	4.5	11.1	15.4	18.9	6.6	4.6	5.0	5.9	4.3	4.3	8.2	9.9	4.1	2.1	6.0	2.9	6.1	32.3	7.6	32.3
18	27.5	S	44.2	26.7	28.2	15.6	5.8	10.2	6.2	5.0	5.8	4.2	5.7	9.2	10.5	21.7	19.3	31.5	28.3	32.0	21.7	19.2	15.2	29.2	18.4	44.2
19	40.7	S	31.5	27.5	18.0	14.3	9.2	7.8	12.4	10.9	12.7	10.6	6.8	11.6	8.0	10.4	11.2	6.9	4.1	3.9	2.3	6.1	5.2	3.6	12.0	40.7
20	5.3	S	4.7	3.2	4.5	3.0	5.2	4.0	14.0	10.8	12.7	10.7	10.0	10.2	9.3	7.1	7.7	10.2	12.5	9.9	3.7	2.0	4.6	10.3	7.6	14.0
21	9.1	S	8.5	11.6	15.3	6.2	8.8	17.6	19.7	7.1	3.5	3.2	6.1	4.6	5.4	4.8	3.3	4.3	2.5	2.1	2.3	2.7	5.2	4.0	6.9	19.7
22	3.8	S	3.6	2.7	9.8	14.5	16.5	13.2	5.9	20.1	28.6	9.0	7.6	16.4	4.7	6.6	2.1	3.7	5.2	3.4	7.9	4.4	5.6	11.1	9.0	28.6
23	18.1	S	16.8	7.8	4.3	6.1	4.9	5.8	11.0	11.9	17.7	9.3	10.9	10.5	5.6	4.3	15.6	25.7	17.8	5.4	3.2	14.5	23.2	27.0	12.1	27.0
24	13.5	S	11.6	12.5	9.3	8.8	11.6	23.0	49.0	27.6	31.7	32.3	21.5	17.9	9.5	10.9	16.4	19.7	11.4	7.4	4.5	13.2	34.3	21.6	18.2	49.0
25	21.8	S	8.8	12.9	7.0	10.5	15.0	20.8	23.1	19.3	15.7	14.8	7.6	6.7	4.8	3.5	7.5	8.5	9.7	5.1	15.3	6.7	6.1	4.7	11.1	23.1
26	4.9	S	15.1	5.5	14.6	10.7	11.1	19.6	17.9	13.1	7.6	5.8	3.4	2.9	6.6	29.1	14.5	13.7	12.0	11.0	11.7	17.9	29.7	15.9	12.8	29.7
27	16.9	S	6.3	6.1	15.8	21.1	20.3	24.3	26.0	15.5	14.4	8.4	15.9	18.2	8.7	3.3	16.4	6.8	15.3	16.0	10.5	4.2	11.2	4.4	13.3	26.0
28	5.2	S	21.5	21.9	30.1	14.7	12.5	20.5	14.7	36.6	38.0	32.8	28.7	12.6	12.2	13.8	17.0	19.7	19.2	18.2	17.0	17.5	14.9	24.4	20.2	38.0
29	27.4	S	14.6	11.2	23.8	19.0	11.0	8.5	4.2	7.6	12.4	21.4	17.0	7.5	4.1	3.4	5.2	5.0	4.4	7.5	7.1	5.8	4.8	2.6	10.2	27.4
30	2.3	S	2.3	2.6	4.2	11.7	12.9	20.6	28.3	17.0	7.2	14.7	5.0	2.1	1.4	1.3	8.9	5.6	5.2	5.1	8.8	17.5	7.6	4.1	8.5	28.3
31	19.9	S	5.4	26.2	3.1	2.8	10.9	2.3	2.1	1.9	1.7	2.3	2.2	3.3	4.5	11.5	13.7	14.6	8.7	7.2	5.2	8.4	5.5	5.2	7.3	26.2
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	31	31	31	31	31	31	31	706	100.0%
MEAN	12.0	-	11.8	12.2	12.8	11.8	12.0	12.5	15.5	15.6	17.0	13.3	11.9	9.7	9.0	11.2	12.3	13.1	11.6	11.1	12.1	12.3	12.8	13.2		
MAX	40.7	-	44.3	53.2	62.1	63.2	41.9	36.0	49.0	49.7	64.9	40.6	45.9	26.1	41.1	60.2	50.4	47.9	46.6	47.4	54.4	73.4	45.5	37.1		

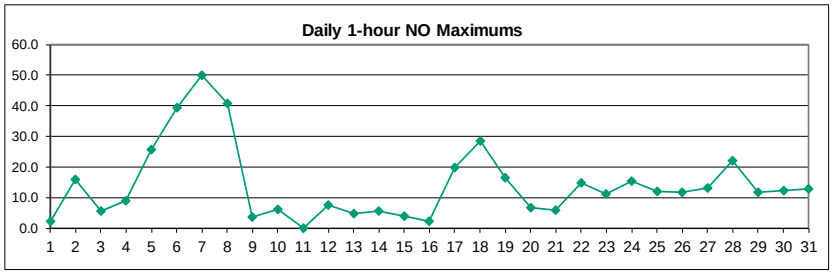


Number of Non-Zero Readings	706
Maximum 1-HR Average	73.4 PPB
Maximum 24-HR Average	36.2 PPB

		Opperational Time	744 HRS
Monthly Calibration	7	Opperational Uptime	100.0 %
Standard Deviation	11.11	Monthly Average	12.5 PPB

Lagoon NO (ppb) – January 2022

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	1.1	S	0.8	1.4	0.9	0.7	0.7	1.6	0.9	1.5	0.8	0.8	0.9	0.8	0.8	0.7	0.5	0.7	1.0	1.1	1.2	2.4	1.2	1.4	1.0	2.4
2	2.0	S	3.0	1.5	1.1	1.0	2.8	6.2	16.0	8.1	5.7	7.7	7.9	5.7	9.3	13.6	9.8	4.4	2.9	8.7	4.0	0.9	1.0	1.1	5.4	16.0
3	1.1	S	1.5	1.1	1.2	1.2	1.3	1.1	5.8	1.5	2.6	3.7	4.5	2.9	2.2	1.7	5.6	5.1	0.9	1.9	0.7	2.8	4.8	1.2	2.5	5.8
4	5.0	S	2.9	4.1	6.4	8.4	7.1	1.6	2.6	7.2	9.1	5.5	3.7	2.9	5.2	5.0	3.9	7.3	5.0	8.4	4.5	4.1	5.5	7.1	5.3	9.1
5	1.2	S	6.7	2.1	8.7	9.6	17.6	5.4	17.9	10.5	20.1	22.9	25.8	12.9	9.0	5.5	6.7	18.0	16.8	14.2	13.1	8.6	8.8	8.9	11.8	25.8
6	7.8	S	22.7	19.3	10.3	7.4	18.1	15.8	18.2	29.5	39.4	12.8	9.5	7.2	28.3	35.8	27.2	19.4	11.0	7.8	14.2	19.9	18.5	17.6	18.2	39.4
7	4.1	S	2.2	1.5	2.7	4.1	4.1	1.7	5.6	28.3	25.5	14.8	29.3	12.1	4.3	8.3	7.6	8.8	7.3	9.1	31.7	50.0	25.6	17.8	13.3	50.0
8	4.9	S	10.1	32.6	39.8	40.8	14.9	11.5	4.0	10.8	23.5	13.1	6.8	7.2	5.4	4.0	3.5	1.3	3.0	1.3	1.3	1.3	1.7	2.5	10.7	40.8
9	2.7	S	1.6	1.5	1.3	3.3	1.5	2.1	1.4	3.0	2.0	1.4	1.2	2.5	1.5	1.2	1.2	0.9	0.9	1.0	3.8	1.4	1.9	1.4	1.8	3.8
10	1.3	S	1.6	2.1	2.7	3.8	2.0	2.5	2.7	1.3	2.4	2.4	2.3	2.2	2.3	1.7	1.7	2.0	2.5	1.8	1.9	3.3	4.7	6.3	2.5	6.3
11	3.7	S	1.0	4.3	1.0	0.8	2.7	2.3	1.9	1.3	C	C	C	C	C	C	C	1.5	4.1	3.1	4.4	3.5	0.9	1.0	-	-
12	1.1	S	1.3	0.9	0.7	0.5	1.2	2.9	3.9	5.7	6.6	7.5	3.6	1.2	0.9	0.8	1.3	1.0	3.6	4.0	2.1	0.8	3.4	1.8	2.5	7.5
13	2.0	S	0.7	1.3	1.0	0.7	1.3	1.5	2.6	1.8	1.4	1.2	1.4	2.6	2.5	4.9	1.6	1.2	0.8	1.4	3.1	1.0	1.7	0.7	1.7	4.9
14	1.1	S	1.5	1.5	1.7	3.0	2.4	2.8	2.0	4.1	5.6	3.0	2.6	1.4	1.3	2.0	1.4	0.9	1.0	0.6	3.2	1.6	0.5	3.1	2.1	5.6
15	1.6	S	0.9	0.6	2.6	0.7	0.5	0.8	2.4	2.7	2.9	4.0	3.3	2.6	2.7	2.2	2.1	1.8	1.2	1.5	1.2	0.9	2.1	1.6	1.9	4.0
16	1.2	S	0.4	1.2	0.6	1.9	2.3	0.5	0.6	0.9	0.6	0.8	0.6	0.6	0.9	0.7	0.7	0.8	1.0	0.9	0.9	0.9	0.6	0.8	0.9	2.3
17	0.7	S	0.6	3.4	1.4	1.2	1.3	3.3	5.1	7.8	2.0	1.8	1.8	2.1	1.2	1.4	2.6	3.3	1.5	0.6	1.3	0.6	2.4	19.9	2.9	19.9
18	16.0	S	28.5	16.0	15.1	7.0	1.5	4.6	1.5	1.6	2.2	1.4	2.1	3.9	4.5	9.9	7.6	15.3	12.5	14.8	7.2	4.6	1.3	9.9	8.2	28.5
19	16.6	S	6.3	5.8	3.6	2.1	1.5	1.7	3.7	3.3	5.5	5.4	3.1	5.9	2.9	3.6	3.7	1.4	0.8	0.9	0.6	2.0	2.0	0.8	3.6	16.6
20	1.9	S	1.3	0.9	1.7	1.1	1.7	1.3	6.8	4.5	4.6	4.1	3.5	4.0	3.2	2.2	2.0	2.3	4.4	2.1	1.1	0.7	1.5	2.6	2.6	6.8
21	2.3	S	1.1	1.4	5.2	0.8	1.0	6.1	5.6	1.9	0.9	1.2	2.5	1.6	1.8	1.5	1.0	1.2	0.7	0.7	0.8	1.0	1.1	1.2	1.9	6.1
22	1.0	S	0.9	0.7	3.7	4.2	4.9	3.3	1.4	8.7	14.8	3.5	3.5	8.1	1.6	2.6	0.6	0.9	1.5	0.7	2.4	1.2	1.2	3.7	3.3	14.8
23	6.8	S	6.5	2.0	0.8	1.2	0.9	1.4	3.1	4.9	6.6	3.5	4.6	4.4	1.9	1.5	6.0	11.3	4.7	0.7	0.6	8.0	7.1	7.2	4.2	11.3
24	2.8	S	2.1	2.7	2.5	1.3	1.1	2.8	15.4	6.9	10.9	11.7	6.4	5.6	2.6	2.1	3.3	2.1	1.5	1.6	0.7	1.3	9.1	5.0	4.4	15.4
25	3.0	S	2.3	4.7	1.6	2.8	6.4	10.1	12.0	8.6	6.6	6.1	3.0	2.9	1.4	0.8	1.7	2.0	3.2	1.7	4.4	1.7	1.5	1.4	3.9	12.0
26	1.0	S	4.5	1.2	4.0	2.3	2.5	4.1	5.5	3.4	2.5	1.9	1.3	1.0	1.5	11.9	2.5	1.2	0.8	0.7	0.7	2.9	10.4	5.1	3.2	11.9
27	6.4	S	1.5	1.6	7.9	10.4	9.0	12.1	13.3	5.9	6.2	3.5	8.2	9.0	4.0	1.0	5.6	1.9	5.6	5.5	4.7	0.9	5.1	1.1	5.7	13.3
28	1.4	S	11.4	10.8	15.8	6.7	6.1	10.9	6.7	21.7	22.1	18.7	15.2	4.7	5.5	5.3	5.8	7.5	6.7	6.6	7.2	7.3	5.6	11.2	9.6	22.1
29	11.7	S	5.1	4.0	10.4	7.9	3.5	3.0	0.7	2.1	5.2	9.7	6.6	2.1	1.1	1.1	1.3	1.0	0.9	2.6	2.3	1.6	1.2	0.7	3.7	11.7
30	0.8	S	0.7	0.8	1.2	3.9	4.0	7.4	12.4	5.6	1.7	5.9	1.8	0.9	0.7	0.7	3.6	1.3	1.0	1.5	3.0	7.8	2.8	1.1	3.1	12.4
31	9.8	S	1.7	12.8	0.8	0.8	2.6	0.7	0.7	0.7	0.7	0.9	0.9	1.3	1.4	3.3	5.1	5.1	3.5	2.9	1.0	2.4	0.9	0.9	2.6	12.8
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	31	31	31	31	31	31	31	706	100.0%
MEAN	4.0	-	4.3	4.7	5.1	4.6	4.1	4.3	5.9	6.6	8.0	6.0	5.6	4.1	3.7	4.6	4.2	4.3	3.6	3.6	4.2	4.8	4.4	4.7		
MAX	16.6	-	28.5	32.6	39.8	40.8	18.1	15.8	18.2	29.5	39.4	22.9	29.3	12.9	28.3	35.8	27.2	19.4	16.8	14.8	31.7	50.0	25.6	19.9		

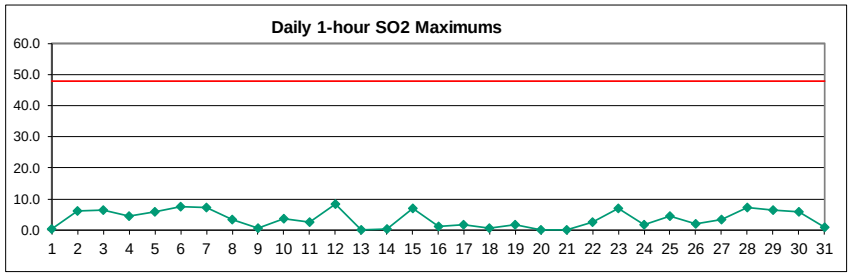


Number of Non-Zero Readings	706
Maximum 1-HR Average	50.0 PPB
Maximum 24-HR Average	18.2 PPB

		Opperational Time	744 HRS
Monthly Calibration	7	Opperational Uptime	100.0 %
Standard Deviation	6.076	Monthly Average	4.8 PPB

Lagoon SO_2 (ppb) – January 2022

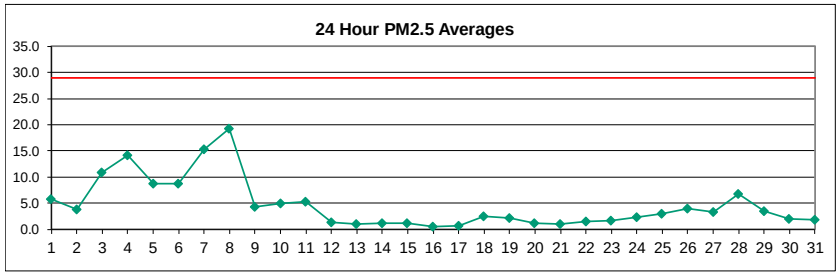
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	S	0.0	0.0	0.2	0.3	0.0	0.0	0.1	0.1	0.2	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.4
2	0.0	S	0.4	0.0	0.1	1.1	0.1	0.8	1.5	2.2	1.3	2.1	3.9	1.6	4.8	6.1	4.1	2.2	1.5	1.0	3.0	0.8	1.3	0.8	1.8	6.1
3	0.2	S	0.1	0.5	0.0	0.8	1.5	0.9	0.9	0.7	1.2	1.8	1.9	1.0	0.2	0.8	0.8	0.9	1.5	0.3	0.8	1.8	3.7	6.4	1.2	6.4
4	4.5	S	3.3	3.5	2.4	2.0	1.6	1.0	0.6	0.6	0.1	0.7	1.0	0.1	0.8	0.3	0.0	0.1	0.8	1.5	2.2	3.1	3.1	1.9	1.5	4.5
5	1.9	S	1.1	2.1	2.8	5.7	6.0	4.7	2.6	1.3	2.1	3.2	3.8	3.3	2.7	1.8	0.3	0.4	0.0	0.6	0.0	0.6	0.1	0.5	2.1	6.0
6	2.2	S	6.8	7.0	3.4	2.7	5.1	3.9	3.7	4.5	7.5	3.0	2.3	2.0	1.5	2.2	1.7	0.9	0.7	2.2	5.5	5.7	4.7	4.2	3.6	7.5
7	2.1	S	1.0	1.3	1.7	1.8	1.4	0.6	0.7	1.9	4.5	4.2	4.9	4.6	4.6	5.5	5.7	4.6	4.0	2.8	5.1	7.3	5.9	3.6	3.5	7.3
8	2.8	S	2.0	2.1	2.0	2.6	1.8	1.5	2.5	3.1	3.3	1.4	0.9	1.0	0.4	0.2	0.5	0.0	0.3	0.4	0.2	0.0	0.3	0.3	1.3	3.3
9	0.3	S	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.3	0.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6
10	0.2	S	0.1	0.9	1.1	1.4	0.8	0.1	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.0	0.9	0.8	0.6	0.0	1.0	2.9	3.7	2.9	0.8	3.7
11	2.7	S	0.2	0.1	0.4	0.2	0.3	0.3	0.7	0.4	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.7
12	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.5	4.1	8.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	8.3
13	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
14	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	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	0.3
15	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	3.6	4.1	5.1	7.0	4.9	2.5	1.3	0.6	0.0	0.0	0.3	0.3	0.0	0.0	1.3	0.0	1.3	7.0
16	1.2	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	0.3	0.0	0.0	0.0	0.0	0.1	1.2
17	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.7	0.0	0.0	0.0	1.7	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.2	1.7
18	0.0	S	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	0.7
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	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.7
20	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
21	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
22	0.0	S	0.0	0.0	0.1	2.5	2.6	2.3	0.0	1.4	2.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6	2.6
23	4.6	S	5.5	1.3	0.0	0.0	0.0	0.0	1.0	3.5	7.1	2.5	2.1	3.9	0.4	0.0	6.3	6.9	3.1	0.0	0.0	0.0	3.8	4.2	2.4	7.1
24	1.8	S	0.0	1.3	0.5	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	0.0	0.0	0.0	0.0	0.0	0.2	1.8
25	0.0	S	0.0	0.0	0.0	1.0	3.0	3.3	4.5	3.6	2.7	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.5
26	0.0	S	1.5	0.0	1.4	0.7	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	1.9	0.0	0.2	1.9
27	0.7	S	0.0	0.0	0.7	2.9	3.4	3.3	2.4	1.7	1.2	0.0	3.2	0.3	0.0	0.0	0.0	0.0	2.2	1.9	0.0	0.0	0.1	0.0	1.0	3.4
28	0.0	S	4.2	3.8	6.5	1.8	1.4	1.9	1.0	4.4	6.6	6.7	7.3	0.0	0.0	0.0	0.0	0.6	1.2	0.5	0.2	1.6	1.5	3.7	2.4	7.3
29	3.3	S	2.4	1.8	6.5	5.5	1.8	0.0	0.0	0.0	0.0	1.7	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1.1	6.5
30	0.0	S	0.0	0.0	0.0	0.0	1.8	3.7	5.9	3.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	1.2	0.0	0.9	5.9
31	0.8	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	0.8
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31	31	31	708	100.0%
MEAN	0.9	-	0.9	0.8	1.0	1.1	1.0	0.9	1.1	1.3	1.7	1.5	1.4	0.7	0.6	0.6	0.7	0.6	0.6	0.4	0.6	0.9	1.1	1.0		
MAX	4.6	-	6.8	7.0	6.5	5.7	6.0	4.7	5.9	4.5	7.5	8.3	7.3	4.6	4.8	6.1	6.3	6.9	4.0	2.8	5.5	7.3	5.9	6.4		



Number of 1HR Exceedences	0		
Number of Non-Zero Readings	328		
Maximum 1-HR Average	8.3 PPB		
Maximum 24-HR Average	3.6 PPB		
		Opperational Time	744 HRS
Monthly Calibration	5	Opperational Uptime	100.0 %
Standard Deviation	1.62	Monthly Average	0.9 PPB

Lagoon $PM_{2.5}$ (µg/m^3) – January 2021

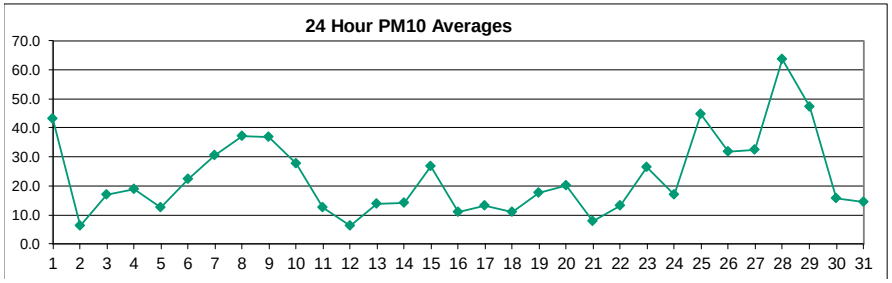
Day \ HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	4.2	2.6	2.6	2.3	4.0	3.9	1.5	1.6	3.6	7.7	8.5	10.1	9.2	5.2	5.9	7.3	7.1	10.5	10.7	7.4	6.6	7.9	6.4	3.9	5.9	10.7
2	1.6	2.5	2.5	1.5	1.3	4.1	5.3	3.3	3.6	7.2	5.7	4.0	3.6	2.5	1.8	5.5	5.1	4.7	3.3	3.2	1.5	2.3	9.7	7.5	3.9	9.7
3	4.9	7.2	11.2	11.1	9.3	13.3	11.5	9.8	11.9	10.4	8.9	12.6	13.0	11.8	9.6	12.6	11.5	10.9	12.2	9.8	10.8	10.5	10.9	17.0	10.9	17.0
4	22.7	22.6	20.0	17.5	20.0	21.8	19.2	15.4	12.9	11.3	11.9	11.7	14.3	11.8	9.8	10.2	10.8	9.6	11.6	11.8	9.8	9.6	11.5	10.7	14.1	22.7
5	7.5	6.1	5.5	6.0	9.4	8.2	6.4	10.0	7.5	11.4	7.9	6.7	8.9	11.5	9.6	6.1	4.1	5.7	9.3	12.3	11.7	14.1	13.7	12.3	8.8	14.1
6	7.4	7.1	5.8	11.4	14.0	11.7	7.0	8.0	8.1	9.8	10.0	8.1	3.6	2.2	1.4	5.6	15.7	18.4	12.1	13.5	9.6	7.0	7.5	5.6	8.8	18.4
7	6.8	4.6	1.5	1.1	0.2	0.0	0.0	0.0	0.0	0.2	2.4	15.7	13.7	18.2	14.0	12.3	19.7	23.3	27.9	30.7	38.0	41.9	44.3	49.9	15.3	49.9
8	47.0	36.2	33.3	30.5	34.4	36.7	35.7	30.8	27.7	23.4	24.1	29.1	22.1	12.0	13.3	10.7	7.8	3.9	1.7	0.0	0.0	0.9	2.5	0.5	19.3	47.0
9	1.4	4.7	3.3	1.8	1.2	1.0	0.0	0.0	0.6	1.5	0.4	0.0	3.9	8.2	10.7	7.2	6.5	11.4	8.7	8.1	9.2	6.0	2.7	4.1	4.3	11.4
10	4.4	4.2	1.7	0.0	2.6	3.3	2.5	1.4	0.1	0.0	0.5	1.6	3.4	10.9	6.6	1.5	1.9	8.5	16.5	9.1	4.8	6.1	11.1	14.8	4.9	16.5
11	8.1	4.4	5.2	6.0	3.6	2.0	3.6	2.4	0.0	0.1	0.0	1.8	9.7	7.8	4.4	5.3	8.2	6.4	9.8	10.5	10.1	8.6	5.9	5.1	5.4	10.5
12	4.8	4.6	2.8	0.7	0.0	0.4	0.7	0.0	1.0	4.2	C	C	C	C	6.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	6.4
13	0.0	P	5.8	5.6	2.2	0.8	1.1	0.7	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.8	0.8	0.5	0.9	0.0	0.0	0.5	1.2	2.5	1.1	5.8
14	0.5	2.4	5.3	2.5	1.3	3.1	0.2	0.0	1.2	2.1	0.2	2.2	1.5	0.7	0.0	0.0	0.2	1.9	1.8	1.1	0.0	0.0	0.0	0.0	1.2	5.3
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.4	4.1	5.7	3.5	0.6	2.6	2.2	1.1	0.0	0.0	2.3	2.8	0.2	2.2	1.2	5.7
16	2.2	0.8	0.2	1.6	2.1	0.5	1.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0	0.0	0.5	1.2	1.4	0.0	0.0	0.0	0.6	2.2
17	0.0	0.0	0.0	0.0	0.2	2.9	1.7	0.0	0.0	1.6	2.9	1.0	0.0	0.0	0.0	0.2	1.8	0.0	0.0	1.1	0.8	1.2	1.1	0.6	0.7	2.9
18	2.7	4.3	2.6	3.1	6.1	4.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	3.9	0.7	0.0	3.7	3.6	2.2	2.2	6.5	5.7	3.6	2.5	6.5
19	3.4	5.4	5.2	7.1	5.6	2.8	0.8	1.2	1.4	0.0	0.0	1.5	0.8	0.1	0.0	1.1	6.1	4.5	1.1	0.1	0.9	2.3	2.5	0.4	2.3	7.1
20	0.2	2.2	1.8	0.1	0.8	0.2	0.0	0.0	0.0	0.0	0.6	2.5	0.1	0.8	0.8	0.9	2.1	0.3	0.0	0.0	5.7	4.4	4.9	1.7	1.3	5.7
21	0.0	0.5	0.9	3.0	3.0	4.0	2.6	2.6	3.6	2.1	0.4	0.0	0.0	0.0	0.0	0.0	1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.1	4.0
22	0.0	0.0	2.1	0.0	0.2	2.6	2.6	2.9	2.6	2.3	2.7	3.6	3.1	4.7	3.1	0.0	0.0	0.0	0.4	0.0	0.0	0.4	0.5	1.9	1.5	4.7
23	1.5	1.0	0.0	0.0	0.8	0.4	0.0	1.9	1.9	3.2	6.8	5.4	4.0	2.6	3.0	0.1	0.5	2.3	2.4	1.4	0.0	0.0	0.0	0.0	1.6	6.8
24	1.8	4.7	3.5	0.0	0.0	0.0	1.7	3.9	6.9	6.4	4.1	4.4	4.6	2.4	1.4	0.2	1.6	3.6	1.8	0.8	0.9	0.1	0.0	1.9	2.4	6.9
25	2.3	2.5	1.0	0.0	0.0	0.4	0.2	2.3	3.6	2.4	4.4	3.9	1.7	0.0	0.0	1.8	6.8	5.6	2.6	1.9	0.4	1.3	26.3	2.1	3.1	26.3
26	0.0	0.0	2.6	3.0	3.7	3.9	2.2	1.9	3.3	3.3	8.2	5.8	5.8	5.3	2.9	2.8	5.8	5.5	6.9	6.4	4.5	0.8	6.9	6.1	4.1	8.2
27	3.9	2.3	2.9	1.8	0.0	2.3	3.0	4.1	5.1	5.4	4.4	4.0	2.6	3.1	6.1	4.2	1.5	1.0	4.4	4.8	5.4	3.2	2.0	3.9	3.4	6.1
28	1.9	2.6	3.5	11.9	10.9	11.7	7.1	5.1	4.3	3.8	11.2	12.1	9.3	7.5	10.5	7.5	6.0	9.2	5.2	1.7	4.2	6.1	4.3	3.4	6.7	12.1
29	5.5	6.4	4.6	2.6	3.6	8.3	6.6	2.0	0.0	0.0	0.0	1.5	1.6	3.0	4.5	5.7	3.7	2.7	4.0	2.6	1.8	6.5	5.3	1.7	3.5	8.3
30	0.0	0.0	0.0	1.9	2.7	4.8	6.0	2.5	0.7	4.9	3.3	3.4	3.9	1.9	0.8	0.5	0.0	0.0	1.9	1.4	0.0	0.7	3.8	4.4	2.1	6.0
31	5.1	4.5	0.6	0.0	0.0	1.4	0.0	0.0	0.0	1.2	2.0	3.6	3.1	4.6	2.4	0.0	1.1	0.4	0.0	1.8	6.0	3.5	0.3	3.7	1.9	6.0
NO.	31	30	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	31	31	739	99.9%
MEAN	4.9	4.9	4.5	4.3	4.6	5.2	4.3	3.7	3.6	4.1	4.4	5.4	5.1	4.8	4.3	3.7	4.5	5.1	5.2	4.7	4.8	5.0	6.2	5.5		
MAX	47.0	36.2	33.3	30.5	34.4	36.7	35.7	30.8	27.7	23.4	24.1	29.1	22.1	18.2	14.0	12.6	19.7	23.3	27.9	30.7	38.0	41.9	44.3	49.9		



Number of 24HR Exceedences	0		
Number of Non-Zero Readings	601		
Maximum 1-HR Average	49.9 UG/M3		
Maximum 24-HR Average	19.3 UG/M3		
		Opperational Time	743 HRS
Monthly Calibration	4	Opperational Uptime	99.9 %
Standard Deviation	6.523	Monthly Average	4.7 UG/M3

Lagoon PM_{10} ($\mu g/m^3$) – January 2022

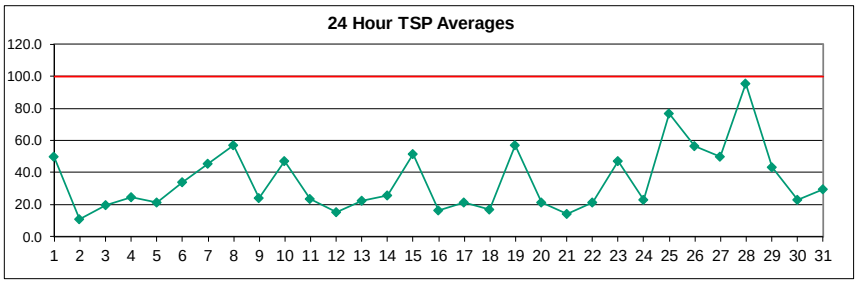
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	5.2	1.7	9.2	5.9	5.1	22.0	16.7	23.2	8.3	53.9	42.0	94.4	65.9	59.3	66.4	69.3	115.3	82.1	41.0	47.2	63.5	52.2	63.7	20.1	43.1	115.3
2	7.4	7.5	8.1	8.5	4.1	5.3	15.7	8.0	7.5	8.8	6.5	5.1	4.1	5.1	1.5	5.5	10.3	13.6	1.2	0.1	2.7	3.8	3.7	3.2	6.1	15.7
3	11.8	6.0	6.2	18.2	16.6	23.8	26.7	20.8	7.4	17.9	12.6	19.4	15.8	9.6	12.5	18.2	17.7	20.7	16.5	20.2	8.0	8.2	12.7	63.7	17.1	63.7
4	44.1	54.7	39.6	12.8	11.7	16.9	28.1	13.1	6.6	9.3	68.5	6.3	10.5	6.6	15.3	0.7	2.5	7.2	26.0	15.4	3.7	10.5	17.3	22.2	18.7	68.5
5	20.7	15.7	8.2	10.5	16.0	1.4	3.5	7.1	4.1	17.3	14.0	12.3	15.3	20.5	13.0	15.1	9.2	5.2	14.5	19.2	13.4	12.4	16.2	16.7	12.6	20.7
6	13.5	13.0	16.0	24.1	25.7	14.0	12.1	23.4	19.8	22.3	20.9	28.5	8.0	6.6	7.2	37.3	49.3	35.8	35.2	34.1	26.0	20.6	26.1	20.1	22.5	49.3
7	6.7	8.6	5.8	2.7	3.4	5.6	9.8	15.1	7.8	12.5	17.7	18.9	18.6	23.3	17.9	15.2	43.2	30.7	39.0	28.9	62.1	135.5	124.9	76.7	30.4	135.5
8	98.3	50.9	47.1	43.5	57.5	47.5	59.4	44.9	45.3	22.2	22.5	37.0	42.6	20.7	29.2	40.6	18.2	8.0	18.5	23.2	38.1	31.4	25.5	23.2	37.3	98.3
9	27.3	32.4	41.8	31.5	4.8	8.2	20.8	17.7	37.7	456.7	20.5	35.7	22.6	18.0	13.8	18.4	10.6	6.0	4.2	8.0	17.8	0.5	11.9	19.6	36.9	456.7
10	30.1	24.6	27.3	12.2	33.8	11.2	6.5	2.6	0.8	4.7	4.6	9.1	45.5	4.0	2.7	2.7	5.6	22.5	46.3	28.7	15.5	76.4	158.2	85.3	27.5	158.2
11	41.8	48.1	17.0	8.5	5.1	0.4	0.0	20.5	3.4	16.4	8.7	8.0	28.0	19.1	8.5	5.2	3.2	2.4	19.9	13.5	3.8	11.1	5.2	2.7	12.5	48.1
12	6.3	32.0	3.8	11.1	5.1	1.1	0.0	6.9	10.9	25.1	C	C	C	C	4.6	4.0	1.2	0.0	2.7	1.4	2.6	0.0	3.4	3.4	6.3	32.0
13	8.1	P	9.2	48.4	33.0	41.5	34.5	27.5	2.0	12.5	7.8	6.7	6.8	4.1	16.3	17.4	15.0	5.6	10.4	5.1	1.5	4.5	1.9	1.2	14.0	48.4
14	0.1	4.6	14.7	11.7	9.8	5.6	9.6	11.3	8.6	5.3	5.0	23.1	43.7	38.0	17.4	14.8	25.7	27.2	27.7	16.5	9.3	4.4	0.0	1.7	14.0	43.7
15	30.7	33.5	7.2	3.8	0.1	0.0	1.9	0.4	1.0	50.0	24.3	35.8	46.3	40.2	46.2	49.3	47.4	36.7	17.8	28.6	43.4	44.7	24.5	26.6	26.7	50.0
16	18.0	13.7	5.5	18.8	16.5	21.1	31.7	7.8	4.4	2.1	14.1	2.0	3.8	22.0	27.8	7.9	9.3	7.8	3.9	12.4	5.1	0.0	1.0	5.5	10.9	31.7
17	3.1	0.5	0.0	0.6	12.5	16.9	6.5	3.2	3.5	38.9	23.3	17.5	17.4	17.1	0.0	12.8	2.7	25.8	15.9	10.2	5.2	6.3	44.0	35.0	13.3	44.0
18	51.3	17.2	22.1	17.4	3.4	17.0	8.6	6.0	5.3	5.1	1.7	6.8	8.5	5.4	7.6	6.1	18.5	11.7	11.9	7.4	6.8	7.9	5.3	6.7	11.1	51.3
19	17.6	18.3	8.7	17.4	4.0	14.9	3.3	3.3	3.3	3.6	8.4	13.8	7.7	6.7	6.9	11.4	33.2	45.6	54.6	29.2	31.3	23.5	29.9	22.4	17.5	54.6
20	33.6	30.6	45.3	54.2	33.4	47.9	13.5	24.5	15.3	13.4	22.1	19.2	23.5	19.8	3.5	28.8	12.3	0.8	4.0	5.7	22.8	7.8	2.5	0.9	20.2	54.2
21	6.0	5.4	7.2	5.4	5.5	6.4	14.2	25.8	17.7	19.1	0.6	0.7	1.7	5.8	12.1	15.5	4.8	5.4	1.8	9.9	6.4	2.0	3.6	6.4	7.9	25.8
22	2.0	2.0	2.9	4.5	1.7	7.6	22.2	21.0	12.4	17.5	38.2	51.1	35.4	37.3	5.8	1.8	0.0	0.0	0.0	2.6	13.9	20.7	5.4	8.0	13.1	51.1
23	38.8	10.9	24.6	19.1	32.1	5.1	24.0	18.6	14.5	59.5	155.3	69.4	41.3	19.1	20.4	1.4	4.0	23.3	27.0	9.8	4.4	0.0	0.5	8.5	26.3	155.3
24	4.2	0.0	13.9	9.3	7.6	0.9	7.1	16.4	67.5	93.2	21.3	26.8	22.3	11.8	16.3	4.1	16.3	17.3	13.2	7.2	4.1	6.8	8.1	9.3	16.9	93.2
25	6.8	5.9	4.5	1.0	0.0	4.4	1.8	11.1	43.0	27.3	42.2	57.6	58.1	37.7	12.6	30.6	24.2	33.2	24.5	39.1	38.6	94.0	436.0	38.1	44.7	436.0
26	7.3	5.9	6.2	41.0	25.3	30.3	28.2	17.1	57.2	94.7	77.2	21.2	24.5	5.3	5.3	19.1	44.2	33.8	66.1	29.8	29.6	17.7	32.9	39.0	31.6	94.7
27	12.6	9.9	6.7	6.6	3.4	5.5	30.1	37.4	52.9	54.4	49.1	75.8	32.4	55.0	58.3	36.7	32.1	79.5	40.3	34.1	23.9	15.6	6.7	16.5	32.3	79.5
28	22.0	20.9	77.7	100.8	145.6	168.6	33.0	31.9	45.4	48.0	82.7	96.5	110.2	76.9	124.7	59.8	52.8	73.8	51.1	24.1	24.5	27.4	12.5	18.6	63.7	168.6
29	23.8	12.5	6.3	10.6	9.0	34.6	24.0	7.1	28.9	456.5	6.6	7.4	31.0	32.2	60.7	34.5	23.5	12.5	29.6	37.5	26.6	118.9	80.3	18.0	47.2	456.5
30	12.0	9.3	5.4	5.4	5.2	4.7	25.1	5.6	10.5	7.5	20.7	36.5	21.6	10.8	10.5	7.3	26.0	10.5	17.4	14.6	1.9	32.2	38.6	39.1	15.8	39.1
31	35.0	10.5	5.9	1.9	0.0	0.8	4.8	10.2	24.1	31.9	23.0	13.2	20.6	25.4	19.3	14.1	X	13.8	8.6	6.0	X	15.8	18.5	11.7	14.3	35.0
NO.	31	30	31	31	31	31	31	31	31	31	30	30	30	30	31	31	30	31	31	31	30	31	31	31	737	99.6%
MEAN	20.8	16.9	16.3	18.3	17.3	19.1	16.9	15.8	18.6	55.1	28.7	28.5	27.8	22.1	21.4	19.5	22.6	22.5	22.3	18.4	18.6	26.2	39.4	21.6		
MAX	98.3	54.7	77.7	100.8	145.6	168.6	59.4	44.9	67.5	456.7	155.3	96.5	110.2	76.9	124.7	69.3	115.3	82.1	66.1	47.2	63.5	135.5	436.0	85.3		



Number of Non-Zero Readings	723		
Maximum 1-HR Average	456.7 UG/M3		
Maximum 24-HR Average	63.7 UG/M3		
		Opperational Time	741 HRS
Monthly Calibration	4	Opperational Uptime	99.6 %
Standard Deviation	35.67	Monthly Average	23.1 UG/M3

Lagoon TSP (µg/m^3) – January 2022

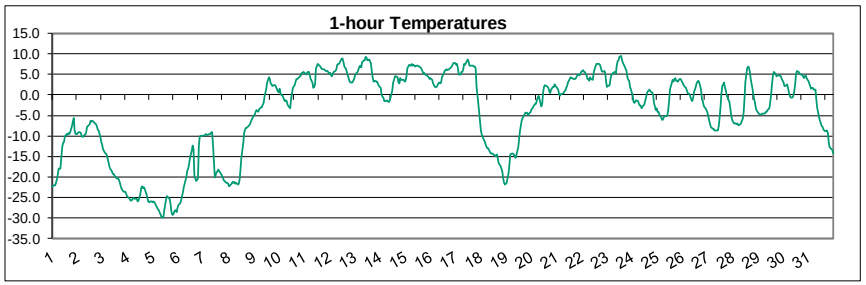
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	4.8	11.8	20.6	14.9	9.5	50.5	37.9	41.5	21.5	95.1	67.6	104.3	64.8	58.8	65.9	58.1	99.3	88.2	34.8	36.2	58.7	65.8	72.9	19.0	50.1	104.3
2	10.9	26.1	15.1	10.9	5.7	4.9	14.0	13.7	8.8	13.7	8.3	4.4	6.0	9.6	6.5	18.1	16.7	14.9	6.9	3.1	4.9	13.5	6.1	11.3	10.6	26.1
3	11.2	10.0	12.3	11.5	15.5	17.3	24.8	19.3	15.3	14.4	19.4	17.1	22.2	19.5	19.3	36.6	22.5	25.2	26.4	24.4	13.8	10.3	18.3	42.5	19.5	42.5
4	34.0	42.8	24.2	10.1	14.5	22.2	20.5	13.8	9.8	14.5	104.7	10.5	18.6	3.2	7.1	10.2	14.4	20.9	42.3	28.3	12.6	21.0	44.8	49.6	24.8	104.7
5	42.4	30.0	18.6	24.9	21.5	12.3	7.3	15.9	2.7	19.8	22.3	22.7	28.5	38.0	21.9	15.3	13.1	19.1	13.3	30.1	21.0	22.3	22.8	29.8	21.5	42.4
6	14.4	21.2	25.9	38.5	31.5	22.5	4.6	30.5	30.0	41.3	34.6	31.0	14.2	16.2	10.0	58.4	80.6	55.7	58.0	50.6	38.4	29.9	40.1	36.8	34.0	80.6
7	24.1	8.3	5.6	3.5	11.0	7.2	9.4	23.2	15.8	22.4	24.0	27.5	23.3	38.0	23.6	24.0	50.7	41.3	56.9	43.1	83.1	216.1	211.1	92.8	45.3	216.1
8	154.4	74.8	51.6	56.6	74.5	71.1	96.9	50.1	54.1	30.5	26.6	51.8	58.1	34.2	48.4	65.6	27.4	20.9	42.8	41.9	88.4	59.4	33.1	51.3	56.9	154.4
9	50.1	52.2	43.6	49.3	15.3	12.4	10.4	18.3	18.9	9.7	31.3	62.2	35.7	27.6	23.2	15.8	21.8	13.6	7.0	4.7	9.8	8.6	11.0	29.6	24.2	62.2
10	37.0	51.9	59.6	38.9	80.1	30.1	21.8	12.7	14.2	16.0	4.1	24.6	55.5	11.2	9.4	4.3	4.2	25.0	46.0	46.8	23.7	121.0	235.9	153.5	47.0	235.9
11	73.1	85.3	29.7	15.4	15.2	12.3	9.5	45.0	10.8	24.1	8.8	14.8	46.9	40.4	18.3	0.0	4.3	5.2	19.2	33.7	13.1	20.1	7.0	5.3	23.2	85.3
12	23.6	63.2	10.2	14.7	2.9	1.7	4.1	24.2	33.2	50.8	C	C	C	C	16.5	0.7	2.9	1.9	20.7	8.5	8.4	5.7	5.8	7.2	15.3	63.2
13	14.0	P	13.8	54.6	41.4	58.5	47.8	55.0	4.9	35.8	8.9	15.4	15.0	9.1	29.1	27.5	26.6	7.8	18.7	5.3	8.4	6.9	3.1	5.6	22.3	58.5
14	5.0	16.4	23.0	11.2	9.9	9.6	5.9	9.1	17.3	3.2	9.3	46.2	74.9	73.6	30.4	27.8	50.2	54.9	66.6	42.1	4.7	9.6	4.9	8.0	25.6	74.9
15	59.8	59.8	17.6	7.0	4.3	2.8	0.1	0.0	3.9	83.4	44.3	66.9	94.1	70.8	89.4	100.5	89.9	63.6	38.9	62.4	83.6	88.8	46.5	56.6	51.5	100.5
16	29.1	25.5	11.3	35.0	39.2	45.2	54.0	7.0	4.4	5.2	17.5	6.0	9.9	11.8	19.6	5.9	8.4	7.7	17.0	19.0	9.6	4.7	0.7	0.1	16.4	54.0
17	0.0	0.4	3.0	5.2	20.0	25.4	6.9	3.1	7.5	47.5	30.6	29.8	31.0	36.0	14.3	17.6	9.8	43.9	33.2	12.5	10.7	25.9	59.7	36.7	21.3	59.7
18	44.2	17.8	31.1	16.8	17.0	19.1	11.7	17.4	8.3	4.4	5.7	4.4	5.9	8.7	11.1	9.1	20.0	27.0	33.7	15.3	12.7	13.0	19.0	32.4	16.9	44.2
19	39.0	37.5	14.0	13.5	5.0	15.2	11.0	7.1	9.5	24.6	17.6	30.8	33.9	41.8	46.4	84.9	157.6	167.1	181.1	132.3	119.0	69.8	54.4	58.9	57.2	181.1
20	44.8	27.2	32.6	41.9	24.7	40.3	20.5	12.3	8.4	8.7	33.4	22.2	42.6	33.2	4.9	34.9	14.6	1.8	4.7	6.4	32.3	13.4	2.9	2.6	21.3	44.8
21	19.4	16.3	8.3	6.1	12.5	10.8	25.1	46.7	33.2	29.2	5.5	1.7	4.5	7.7	17.0	19.7	21.5	8.6	9.8	7.1	2.9	1.7	5.0	14.5	14.0	46.7
22	0.4	4.3	3.1	6.9	4.0	20.1	20.4	33.4	12.3	31.0	61.2	84.0	53.0	55.9	15.9	1.7	2.9	1.9	6.9	5.3	21.6	30.8	11.7	22.3	21.3	84.0
23	63.3	11.1	52.3	46.5	55.6	13.9	35.1	39.5	30.2	102.8	278.7	106.4	56.9	34.8	33.3	9.8	10.3	40.7	45.7	20.0	4.4	5.8	7.8	19.1	46.8	278.7
24	11.2	9.9	9.9	9.4	6.9	2.9	2.7	24.9	91.4	129.7	31.4	36.0	32.4	16.7	14.6	2.8	22.6	27.5	20.2	8.3	4.2	2.2	12.7	13.5	22.7	129.7
25	4.5	6.9	4.2	1.8	5.7	6.0	10.9	27.5	66.1	56.6	54.3	101.3	95.3	63.9	23.7	47.0	45.1	54.8	44.4	66.3	64.9	168.8	782.8	36.7	76.6	782.8
26	22.1	17.7	14.7	70.4	43.5	50.0	48.6	30.2	95.0	152.8	133.1	44.1	34.6	9.8	10.3	43.5	94.8	64.6	119.6	59.5	55.2	29.2	51.4	65.3	56.7	152.8
27	21.6	11.0	5.7	6.0	10.1	14.4	43.3	49.1	80.3	77.2	72.7	102.5	57.6	91.7	93.9	42.5	39.3	133.4	73.1	65.1	40.7	24.2	11.3	32.4	50.0	133.4
28	40.1	63.8	131.1	129.5	206.9	144.2	55.8	38.8	60.1	69.7	123.1	145.2	184.6	130.9	204.9	92.1	83.0	123.9	87.2	39.1	42.0	45.6	19.8	24.1	95.2	206.9
29	29.8	15.4	15.1	10.6	22.7	50.6	36.3	16.6	13.7	8.7	11.5	18.1	61.9	55.5	97.8	42.2	27.1	16.5	35.7	51.4	60.2	179.4	119.9	41.4	43.3	179.4
30	14.0	13.9	11.0	7.0	5.8	9.4	45.2	12.7	12.5	11.7	42.5	54.2	31.0	15.2	11.3	11.9	21.8	13.2	22.3	21.5	9.2	44.6	69.2	44.4	23.1	69.2
31	43.2	21.3	4.2	2.0	8.6	9.6	6.3	16.7	36.4	40.1	37.3	44.3	41.2	56.2	65.7	28.3	35.4	23.9	26.2	17.9	57.6	44.8	25.8	9.8	29.3	65.7
NO.	31	30	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	31	31	739	99.9%
MEAN	31.8	28.5	23.3	24.9	27.1	26.2	24.2	24.4	26.8	41.1	45.7	44.3	44.5	37.3	35.6	30.9	36.7	39.2	40.6	32.5	32.9	45.3	65.1	34.0		
MAX	154.4	85.3	131.1	129.5	206.9	144.2	96.9	55.0	95.0	152.8	278.7	145.2	184.6	130.9	204.9	100.5	157.6	167.1	181.1	132.3	119.0	216.1	782.8	153.5		



Number of 24HR Exceedences	0		
Number of Non-Zero Readings	736		
Maximum 1-HR Average	782.8 UG/M3		
Maximum 24-HR Average	95.2 UG/M3		
		Opperational Time	743 HRS
Monthly Calibration	4	Opperational Uptime	99.9 %
Standard Deviation	45.0	Monthly Average	35.1 UG/M3

Lagoon Temperature (°C) – January 2022

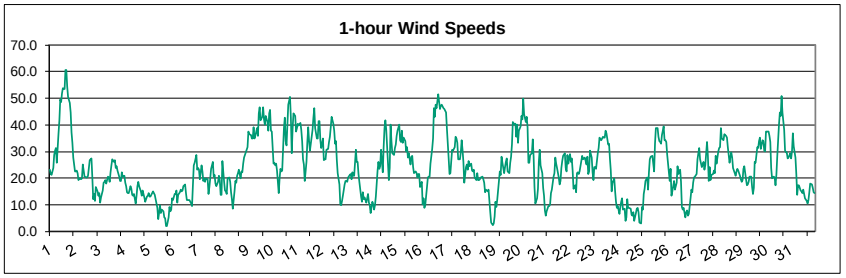
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	-22.4	-22.2	-22.0	-21.4	-20.5	-19.6	-18.0	-17.9	-15.1	-12.7	-11.8	-11.4	-10.1	-9.6	-9.7	-9.4	-9.5	-9.2	-7.7	-6.5	-5.7	-8.7	-9.5	-9.5	-13.3	-5.7
2	-9.0	-9.1	-9.0	-9.3	-10.2	-10.1	-9.7	-9.8	-9.1	-7.7	-7.4	-7.1	-6.3	-6.4	-6.2	-6.5	-7.0	-7.1	-7.6	-8.5	-8.7	-10.2	-11.5	-12.2	-8.6	-6.2
3	-13.2	-13.7	-14.0	-14.5	-15.4	-16.2	-17.4	-18.1	-18.7	-19.2	-19.4	-19.7	-19.9	-20.3	-20.4	-20.9	-21.5	-22.3	-23.0	-23.5	-23.6	-23.6	-24.1	-24.6	-19.5	-13.2
4	-25.0	-25.2	-25.8	-25.8	-25.4	-25.2	-25.3	-25.3	-25.4	-25.9	-25.7	-24.3	-22.8	-22.2	-22.7	-22.5	-23.0	-24.1	-25.1	-26.0	-26.2	-26.0	-26.0	-26.2	-24.9	-22.2
5	-25.9	-26.3	-26.6	-27.1	-27.9	-28.2	-28.9	-29.2	-29.7	-29.8	-28.2	-26.8	-25.5	-24.7	-24.8	-25.2	-26.3	-28.3	-29.3	-29.1	-28.1	-28.0	-28.5	-27.5	-27.5	-24.7
6	-26.8	-26.3	-25.8	-24.7	-23.7	-22.4	-21.7	-19.8	-18.3	-17.9	-16.8	-15.3	-13.7	-12.3	-13.3	-20.0	-20.4	-20.9	-20.4	-12.4	-10.2	-9.9	-9.9	-10.0	-18.0	-9.9
7	-10.0	-9.8	-9.6	-9.6	-9.7	-9.6	-9.5	-9.1	-9.2	-12.4	-20.2	-19.6	-18.9	-18.5	-18.2	-18.5	-19.3	-19.6	-20.1	-20.7	-21.0	-21.3	-21.4	-21.6	-15.7	-9.1
8	-22.3	-22.0	-21.7	-21.3	-21.3	-21.1	-21.6	-21.5	-21.8	-21.6	-20.5	-18.0	-15.1	-11.8	-9.4	-8.5	-8.0	-8.0	-7.9	-7.4	-6.9	-6.3	-5.8	-5.3	-14.8	-5.3
9	-4.8	-4.2	-3.8	-3.9	-4.1	-3.6	-3.1	-3.1	-2.4	-1.9	-0.4	1.5	3.1	3.6	4.4	3.9	2.9	2.2	2.3	2.3	2.3	2.0	0.8	0.7	-0.1	4.4
10	1.5	0.5	-0.1	0.0	-1.2	-1.4	-1.4	-1.5	-2.3	-3.0	-3.3	-0.9	0.5	1.8	2.3	3.3	3.9	3.9	4.0	4.3	4.8	5.4	5.5	5.6	1.3	5.6
11	5.5	4.9	5.3	5.6	5.7	4.8	3.9	3.0	1.7	1.9	2.5	6.4	7.5	7.4	7.1	7.0	6.5	6.3	6.2	6.0	5.8	5.9	5.8	5.3	5.3	7.5
12	5.5	4.7	4.5	5.2	5.6	5.8	6.3	7.4	7.6	7.6	8.3	8.9	8.9	7.9	6.9	6.2	5.5	4.8	3.9	3.3	3.0	3.1	3.4	4.0	5.8	8.9
13	4.8	5.1	5.7	6.2	6.9	7.2	6.7	7.9	8.5	8.5	9.2	9.1	8.4	8.5	8.3	7.5	5.5	4.1	3.3	3.4	3.3	3.1	2.5	2.2	6.1	9.2
14	1.8	0.0	-0.4	-0.6	-1.5	-1.4	-1.4	-1.5	-1.7	-1.5	-0.6	1.1	2.9	3.6	4.5	4.5	4.3	3.1	2.8	4.1	3.7	3.7	3.7	3.3	1.5	4.5
15	3.5	4.5	6.4	7.4	7.2	7.2	7.5	7.1	7.3	7.0	7.1	7.1	7.1	6.9	6.7	6.3	5.8	5.2	5.3	5.0	4.8	4.4	4.3	4.0	6.0	7.5
16	4.1	3.6	2.8	2.3	1.8	1.8	2.0	2.8	3.0	2.8	3.1	4.3	5.3	5.9	5.9	6.2	6.0	6.2	6.5	6.6	6.8	7.4	7.7	7.7	4.7	7.7
17	7.3	7.5	6.5	5.1	4.9	5.6	5.6	6.4	7.5	7.4	8.3	8.7	8.2	7.2	7.1	7.2	7.0	6.9	7.0	6.4	1.9	-2.2	-4.3	-6.7	5.3	8.7
18	-8.8	-9.8	-10.9	-11.3	-11.9	-12.5	-12.9	-13.0	-13.8	-14.3	-14.3	-14.4	-14.6	-14.8	-14.7	-14.6	-15.6	-16.7	-17.4	-17.9	-18.7	-20.4	-21.4	-21.8	-14.9	-8.8
19	-21.4	-20.1	-19.3	-17.1	-14.5	-14.3	-14.3	-14.6	-14.9	-15.3	-14.5	-12.8	-10.7	-8.8	-7.3	-6.1	-5.1	-4.7	-4.2	-4.4	-4.4	-4.9	-4.3	-4.1	-10.9	-4.1
20	-3.5	-3.3	-2.8	-2.3	-2.2	-1.3	-0.7	-0.2	-1.2	-2.7	-2.2	0.5	1.9	2.3	2.2	2.0	1.6	0.9	0.5	1.3	2.0	2.0	2.6	2.2	0.0	2.6
21	2.0	1.4	0.1	-0.2	0.3	0.2	0.3	0.8	1.0	1.6	2.2	3.1	4.0	4.4	4.1	4.1	4.0	3.9	4.1	4.5	4.9	5.0	4.8	5.6	2.8	5.6
22	5.8	5.9	5.6	5.6	4.7	4.0	3.9	3.4	4.4	4.0	3.8	5.5	6.2	6.9	7.5	7.5	7.5	7.4	6.7	5.9	5.6	5.8	5.4	3.3	5.5	7.5
23	1.9	2.2	2.5	3.8	5.0	4.9	5.5	5.6	5.2	7.1	8.3	8.5	9.2	9.4	8.5	7.8	7.4	6.9	5.8	4.2	3.7	3.4	2.0	1.4	5.4	9.4
24	-0.2	-1.6	-1.9	-1.5	-1.4	-1.4	-2.2	-2.6	-2.5	-3.3	-2.9	-2.5	-1.6	-0.6	0.3	0.8	1.3	0.8	0.7	0.7	0.1	-2.0	-3.6	-3.3	-1.3	1.3
25	-4.0	-4.1	-4.8	-5.5	-6.2	-6.0	-5.5	-5.2	-5.2	-4.9	-3.6	-1.6	1.2	2.2	3.6	3.2	3.9	4.0	3.5	3.2	3.7	3.9	4.0	3.4	-0.7	4.0
26	3.1	2.2	1.9	1.6	1.0	0.4	0.1	-0.4	-1.1	-1.5	-0.9	0.7	1.9	2.9	3.3	3.4	3.0	1.2	-1.0	-1.5	-2.7	-3.1	-3.2	-4.1	0.3	3.4
27	-5.0	-6.1	-7.0	-7.8	-8.3	-8.3	-8.6	-8.6	-8.7	-8.6	-7.6	-5.3	-2.9	0.3	2.2	3.0	1.7	1.1	-0.1	-0.6	-1.8	-3.4	-4.9	-6.0	-4.2	3.0
28	-6.5	-7.0	-7.0	-7.1	-7.0	-7.4	-7.5	-6.9	-6.2	-5.8	-4.3	-0.8	3.2	6.5	6.9	6.7	5.6	4.0	1.5	0.1	-1.2	-2.2	-3.4	-4.0	-2.1	6.9
29	-4.6	-4.8	-4.8	-4.7	-4.6	-4.5	-4.5	-4.1	-4.1	-3.8	-3.3	-1.8	0.3	2.5	4.7	5.5	5.1	4.6	4.6	4.6	4.8	4.4	3.8	3.4	-0.1	5.5
30	3.1	2.3	2.1	2.5	1.7	0.6	-0.3	-0.7	-0.8	-0.3	0.8	2.3	4.9	5.9	5.7	5.3	5.0	4.9	5.0	4.1	4.6	4.7	4.1	3.8	3.0	5.9
31	3.4	2.3	1.5	1.8	1.8	1.3	1.3	-1.3	-3.3	-4.3	-5.4	-6.3	-7.5	-7.9	-8.4	-8.7	-8.8	-8.8	-9.3	-11.6	-12.7	-13.1	-13.4	-14.3	-5.5	3.4
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	-5.2	-5.4	-5.6	-5.4	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.1	-3.9	-2.7	-2.0	-1.7	-1.9	-2.3	-2.8	-3.2	-3.2	-3.4	-3.9	-4.3	-4.7		
MAX	7.3	7.5	6.5	7.4	7.2	7.2	7.5	7.9	8.5	8.5	9.2	9.1	9.2	9.4	8.5	7.8	7.5	7.4	7.0	6.6	6.8	7.4	7.7	7.7		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	9.4 C		
Maximum 24-HR Average	6.1 C		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	10.32	Monthly Average	-4.2 C

Lagoon Wind Speed (km/hr) – January 2022

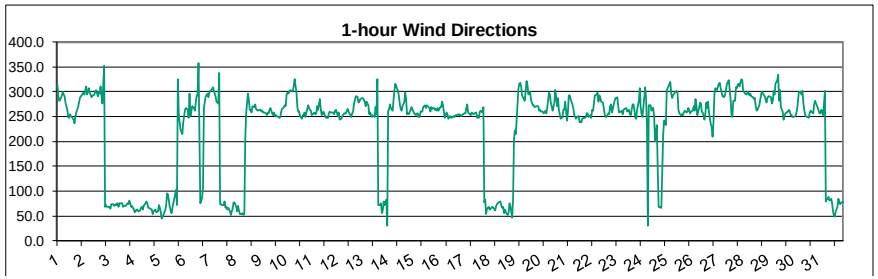
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	23.1	21.5	21.3	23.9	28.8	30.3	31.2	25.9	36.8	41.9	49.4	48.7	51.9	53.9	53.6	60.5	60.5	54.5	50.5	48.3	44.7	37.3	33.4	27.9	40.0	60.5
2	22.7	22.5	22.9	21.9	19.4	20.0	19.8	19.9	25.0	22.7	20.6	20.3	20.4	21.0	24.0	26.9	27.3	20.1	12.2	14.2	11.3	16.7	15.1	13.3	20.0	27.3
3	14.4	11.0	12.6	15.3	18.3	18.6	19.4	17.9	20.6	20.2	18.6	22.2	25.0	27.1	26.2	26.7	23.9	24.6	22.9	20.5	19.1	19.0	22.3	20.6	20.3	27.1
4	20.9	18.5	17.1	14.8	14.3	14.5	17.2	16.1	13.7	13.6	14.0	10.5	13.4	17.0	18.6	17.1	15.0	13.5	15.5	14.2	12.8	11.0	13.2	13.4	15.0	20.9
5	14.3	13.2	13.1	14.3	14.9	14.4	13.7	12.3	8.8	4.6	6.9	9.9	7.0	8.2	7.5	5.4	4.9	2.0	2.2	5.2	9.3	7.6	8.3	12.4	9.2	14.9
6	11.7	14.1	14.2	15.3	10.7	13.8	14.6	15.6	15.2	15.5	17.0	17.8	14.5	12.0	11.7	11.8	11.9	10.6	9.6	17.4	24.7	25.8	28.8	23.1	15.7	28.8
7	23.8	23.2	19.5	24.7	22.5	19.0	20.1	18.5	19.9	19.7	14.1	16.7	19.9	23.5	26.1	20.5	21.3	17.9	17.0	18.6	20.9	19.3	13.9	13.7	19.8	26.1
8	26.4	18.7	15.4	15.1	14.0	19.9	20.4	18.6	14.7	12.1	8.5	14.9	19.1	18.2	20.8	21.9	23.3	19.9	22.5	22.3	25.4	27.8	29.7	30.8	20.0	30.8
9	31.8	37.6	36.4	36.3	35.0	34.8	39.3	34.8	35.8	38.8	35.9	44.2	46.7	41.8	43.0	46.5	42.1	40.3	43.4	41.2	37.9	44.2	45.6	37.9	39.6	46.7
10	37.4	25.4	25.8	24.8	25.5	23.0	14.3	19.9	23.4	22.4	22.8	38.9	42.8	34.1	32.3	40.1	47.6	50.4	42.7	29.2	38.4	44.3	43.4	37.5	32.8	50.4
11	38.7	40.5	39.7	40.7	38.2	33.9	27.2	25.1	19.0	26.1	33.7	39.0	33.9	30.4	35.4	38.2	42.8	46.4	38.9	35.0	35.1	41.3	41.4	34.2	35.6	46.4
12	31.4	35.0	26.9	26.9	27.3	30.6	31.1	33.7	35.6	39.2	43.0	40.6	37.7	32.8	33.9	26.8	21.9	17.8	10.3	9.7	11.4	13.5	17.5	18.9	27.2	43.0
13	19.0	18.8	20.4	21.3	21.6	19.6	22.3	21.0	21.1	30.8	26.2	26.0	21.5	18.6	13.1	11.2	14.7	12.1	12.6	10.9	12.4	13.9	10.9	9.8	17.9	30.8
14	6.9	11.1	10.1	8.1	10.0	13.1	22.8	26.1	23.6	24.5	30.5	22.2	31.5	38.7	41.8	38.2	31.9	19.2	23.9	40.0	33.8	29.2	28.8	31.4	24.9	41.8
15	32.5	35.7	38.0	40.2	34.3	33.7	37.8	33.3	35.3	34.0	29.9	31.7	27.7	29.5	25.2	28.1	28.6	24.1	21.8	22.5	22.0	20.3	21.4	21.7	29.6	40.2
16	16.6	18.6	10.2	12.6	8.9	10.0	16.6	20.3	20.7	20.6	25.5	31.1	35.0	46.4	43.0	47.6	46.1	51.6	48.7	46.0	47.2	47.7	46.3	45.9	31.8	51.6
17	45.2	44.7	38.5	27.4	21.4	22.0	26.4	30.5	30.3	31.7	35.6	34.8	33.4	27.1	27.2	29.6	34.2	30.6	26.1	18.5	24.2	25.1	23.3	26.4	29.8	45.2
18	24.6	25.6	22.7	22.4	23.2	20.4	19.2	21.8	19.3	19.4	19.7	20.3	20.5	19.7	18.4	14.8	15.8	15.0	15.7	11.6	7.2	3.3	2.4	2.9	16.9	25.6
19	5.5	11.2	9.3	12.0	18.9	22.7	21.3	28.1	25.7	21.9	24.1	26.0	27.3	22.7	22.1	25.7	28.1	32.6	41.0	40.4	40.3	35.7	40.1	33.4	25.7	41.0
20	37.7	39.5	43.3	42.1	49.8	43.9	40.9	43.0	39.3	25.9	25.9	28.6	29.3	34.4	28.1	16.7	10.5	12.3	15.9	26.1	30.8	24.7	22.0	16.5	30.3	49.8
21	13.5	8.0	5.9	7.5	9.4	9.4	10.1	14.3	15.7	20.5	22.0	27.7	25.4	23.8	20.3	17.6	18.9	23.9	26.4	28.2	29.3	24.0	22.7	28.8	18.9	29.3
22	25.5	29.1	26.0	27.4	22.9	15.9	17.5	14.6	21.8	22.3	21.7	22.6	26.3	28.4	27.0	27.5	27.8	25.2	28.2	21.7	22.4	30.2	27.9	22.4	24.3	30.2
23	19.2	24.1	24.3	23.5	29.5	31.3	35.3	34.7	34.3	35.7	35.2	35.2	37.7	36.7	32.6	33.1	27.3	22.8	14.9	18.5	20.1	15.1	11.1	8.8	26.7	37.7
24	9.6	6.7	9.1	11.3	12.4	8.3	8.6	3.9	5.2	12.1	9.0	9.0	8.4	6.3	6.0	7.2	4.1	6.8	8.6	9.0	7.3	3.4	3.2	9.1	7.7	12.4
25	8.4	13.9	16.0	19.1	20.2	15.7	22.3	27.0	28.0	28.4	25.5	22.5	32.9	38.7	38.9	35.4	34.0	33.5	33.1	36.1	39.4	34.2	34.1	33.5	28.0	39.4
26	29.1	22.4	18.9	23.4	13.3	15.0	18.9	15.7	17.0	18.2	24.6	21.7	23.1	18.7	9.3	8.4	8.8	5.2	7.2	8.1	6.1	6.6	12.5	15.6	15.3	29.1
27	14.7	18.4	20.1	20.5	21.7	27.1	29.3	31.4	27.2	24.2	25.1	26.1	23.2	24.7	33.6	28.6	18.9	24.0	19.4	21.1	21.4	22.9	22.0	28.3	23.9	33.6
28	25.5	30.2	31.4	31.6	38.9	34.9	34.3	36.5	36.3	35.8	35.2	31.7	25.9	28.1	29.6	27.9	23.8	22.0	20.8	22.6	23.5	22.9	20.9	19.7	28.7	38.9
29	18.7	19.2	23.5	24.4	19.7	17.5	17.6	18.5	20.8	20.5	16.6	14.0	16.4	26.2	25.8	31.7	31.4	33.9	35.1	30.9	34.4	34.0	30.2	30.2	24.6	35.1
30	37.5	37.4	37.6	36.0	33.8	23.8	20.0	20.5	20.1	17.4	21.3	28.2	40.1	44.6	43.4	51.0	44.5	38.2	30.4	29.7	29.6	27.4	27.7	29.3	32.1	51.0
31	27.6	30.0	36.9	31.9	27.6	21.6	13.8	17.2	17.3	15.4	15.1	14.4	15.6	14.0	12.5	11.4	10.7	11.9	14.8	18.1	17.8	16.5	14.8	14.3	18.4	36.9
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	23.0	23.4	22.8	23.1	22.8	21.9	22.7	23.1	23.5	23.7	24.3	25.7	26.9	27.3	26.8	26.9	25.9	24.6	23.6	23.7	24.5	24.0	23.7	22.9		
MAX	45.2	44.7	43.3	42.1	49.8	43.9	40.9	43.0	39.3	41.9	49.4	48.7	51.9	53.9	53.6	60.5	60.5	54.5	50.5	48.3	47.2	47.7	46.3	45.9		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	60.5 KM/HR		
Maximum 24-HR Average	40.0 KM/HR		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	10.85	Monthly Average	24.2 KM/HR

Lagoon Wind Direction (°) – January 2022

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	315.0	290.1	282.5	284.1	293.3	300.3	294.1	290.0	278.9	264.0	250.0	248.1	254.8	250.9	249.6	243.3	236.6	250.9	258.9	263.9	269.3	286.3	291.0	292.9	266.1	315.0
2	296.3	297.8	293.7	311.4	295.1	299.8	307.6	297.7	289.8	292.4	291.9	294.7	299.6	303.8	290.6	299.5	295.7	310.1	293.2	276.0	351.7	69.1	72.9	68.2	303.2	351.7
3	68.5	68.7	65.5	73.9	73.3	74.5	69.9	73.6	72.6	76.0	68.3	76.3	75.9	74.8	68.9	69.6	69.6	70.6	76.3	73.0	81.9	75.3	68.9	69.9	72.5	81.9
4	63.5	57.9	59.9	63.5	62.7	59.2	61.2	67.1	68.9	63.5	69.3	76.1	78.4	75.9	66.9	67.4	65.4	62.5	54.5	59.3	60.9	62.6	56.8	60.1	64.2	78.4
5	72.2	66.3	57.6	45.4	51.9	57.9	61.3	72.6	95.9	93.4	68.6	61.0	56.5	66.4	76.5	85.0	103.4	71.2	324.3	257.4	238.7	224.3	214.5	238.4	69.2	324.3
6	250.8	264.3	267.8	264.4	247.2	296.5	251.5	259.9	270.5	267.5	261.4	279.6	293.2	292.4	357.0	76.3	80.6	85.7	107.3	266.7	290.1	293.5	296.7	289.8	280.8	357.0
7	298.7	301.2	304.4	308.0	303.3	296.3	291.0	280.8	277.1	337.1	73.0	73.9	72.8	72.5	80.0	66.1	69.2	63.5	66.0	60.1	51.8	59.2	64.1	77.8	18.1	337.1
8	77.6	68.9	59.6	70.2	60.6	54.0	54.1	56.4	51.5	54.1	203.2	256.1	296.4	283.6	264.4	262.9	258.6	270.5	269.2	274.3	265.9	263.2	262.6	262.8	293.8	296.4
9	263.0	260.1	261.6	259.1	257.5	256.1	253.2	258.7	256.1	263.6	268.2	257.3	252.9	258.3	250.9	252.7	250.5	249.3	247.4	250.0	260.1	264.7	268.6	271.9	257.8	271.9
10	271.7	294.6	298.8	296.7	303.5	301.8	301.3	302.1	312.0	324.4	298.0	269.4	260.7	260.4	251.1	246.0	253.6	253.6	257.8	248.6	258.9	271.9	266.9	262.9	271.9	324.4
11	261.8	253.6	254.8	259.0	255.3	256.5	270.3	263.7	285.5	266.3	252.3	254.5	259.4	255.2	248.0	246.9	246.8	256.0	260.6	257.9	258.8	258.0	254.9	261.0	257.2	285.5
12	263.9	250.3	258.5	244.1	246.2	245.9	251.3	257.1	257.1	256.5	261.7	264.9	259.4	252.5	249.0	255.9	259.4	275.8	290.1	290.3	288.3	277.6	280.3	284.9	259.4	290.3
13	287.7	288.0	283.9	280.3	271.4	279.6	272.4	255.5	259.1	253.7	249.6	253.6	248.4	268.4	254.6	325.2	72.8	72.5	75.6	56.4	61.5	78.8	72.6	82.8	274.6	325.2
14	30.4	262.0	262.9	275.4	268.1	261.2	283.9	301.6	316.4	310.0	301.1	291.0	275.1	265.6	261.2	270.6	280.0	298.9	285.1	254.0	256.6	255.5	263.2	268.3	276.3	316.4
15	265.0	260.7	255.6	252.9	256.7	255.7	250.1	250.1	259.6	260.8	269.3	271.2	273.3	267.7	272.2	269.2	267.7	260.4	269.8	264.8	267.0	263.1	265.2	261.7	262.1	273.3
16	266.6	262.4	268.4	268.8	280.7	272.4	259.6	246.8	258.9	255.0	245.8	249.0	250.9	248.0	249.8	250.6	248.8	252.4	253.7	254.1	253.1	254.5	250.9	250.6	253.2	280.7
17	254.6	256.4	256.2	266.6	274.8	258.0	255.6	253.2	258.0	257.3	254.4	256.2	257.5	247.5	250.2	247.9	259.7	261.9	257.6	268.6	77.0	82.4	53.2	64.3	258.5	274.8
18	67.8	63.0	65.0	65.7	68.8	64.6	61.5	67.7	74.5	75.4	77.0	79.7	70.0	65.8	68.8	56.2	63.1	53.8	51.6	56.2	75.4	70.9	46.9	82.3	66.7	82.3
19	202.6	222.3	215.3	243.0	306.9	315.7	318.0	311.4	292.2	288.5	281.6	301.4	321.0	315.2	294.4	300.6	284.2	278.6	272.5	272.8	269.1	271.4	271.6	270.7	285.1	321.0
20	261.1	263.0	260.3	260.0	256.9	258.3	261.8	257.3	267.2	298.9	294.3	277.5	271.4	261.5	277.9	304.2	288.1	271.6	287.0	263.7	246.2	248.2	249.3	263.3	265.7	304.2
21	263.9	280.5	242.0	259.0	292.8	292.2	285.4	273.9	267.9	254.9	250.1	245.6	249.1	251.0	237.8	239.5	238.0	245.5	247.7	246.8	249.2	256.1	256.9	249.1	253.2	292.8
22	252.0	247.8	262.8	262.7	277.2	293.4	294.4	297.9	280.3	291.9	288.1	279.5	278.2	266.3	255.0	250.1	250.0	257.0	254.4	270.7	273.9	257.6	265.6	281.5	268.0	297.9
23	288.0	287.9	289.4	270.2	257.8	260.4	261.2	255.2	264.0	265.8	267.0	260.5	261.4	262.9	254.2	253.1	274.9	274.9	263.6	246.7	245.2	264.5	282.3	307.7	265.1	307.7
24	269.2	254.2	250.1	268.6	308.1	287.5	230.7	30.6	272.2	272.7	261.3	266.9	266.9	248.4	200.7	233.7	141.3	67.7	67.7	67.1	67.4	212.1	242.0	241.3	263.6	308.1
25	233.5	303.6	311.1	315.6	319.4	296.1	287.0	293.2	298.6	299.8	301.8	297.8	264.0	256.6	253.6	254.1	252.2	258.2	262.6	257.8	260.9	267.3	261.0	256.2	273.2	319.4
26	260.9	261.0	271.2	261.1	284.8	272.0	253.5	267.2	278.0	276.8	259.7	258.0	244.5	256.8	277.8	268.2	279.8	258.2	235.3	229.2	209.3	239.2	293.7	306.8	264.4	306.8
27	304.0	310.0	315.4	318.8	307.1	290.5	290.6	288.6	294.9	305.4	316.2	323.8	305.6	284.7	254.0	249.2	281.1	282.0	308.9	307.3	314.9	316.4	310.5	325.4	299.0	325.4
28	323.0	304.3	300.1	297.0	293.7	299.2	297.2	292.8	296.2	290.6	289.8	285.4	287.0	270.8	261.9	263.3	272.2	283.3	293.7	299.0	296.3	291.0	284.9	277.7	290.1	323.0
29	286.9	290.4	290.7	288.7	276.4	282.2	301.0	293.6	316.3	323.9	334.1	282.5	304.1	270.0	259.6	243.6	251.3	257.3	257.7	257.9	262.8	259.5	252.7	253.2	273.2	334.1
30	249.4	249.2	250.2	254.0	263.1	280.1	299.7	300.3	295.0	300.9	277.4	263.6	253.5	248.8	248.4	247.7	256.0	262.4	260.6	257.1	274.0	281.2	276.0	272.2	263.0	300.9
31	268.2	256.3	256.5	263.1	259.5	252.3	302.2	79.2	84.1	84.4	89.1	81.2	85.0	75.4	59.1	50.7	47.8	58.9	68.0	84.2	76.6	74.1	78.3	77.0	55.2	302.2
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	230.3	238.6	237.8	240.4	244.3	244.2	243.0	228.9	240.3	242.8	234.6	233.4	233.1	228.3	224.0	217.7	209.6	208.9	218.7	219.1	216.5	214.5	215.3	220.4		
MAX	323.0	310.0	315.4	318.8	319.4	315.7	318.0	311.4	316.4	337.1	334.1	323.8	321.0	315.2	357.0	325.2	295.7	310.1	324.3	307.3	351.7	316.4	310.5	325.4		

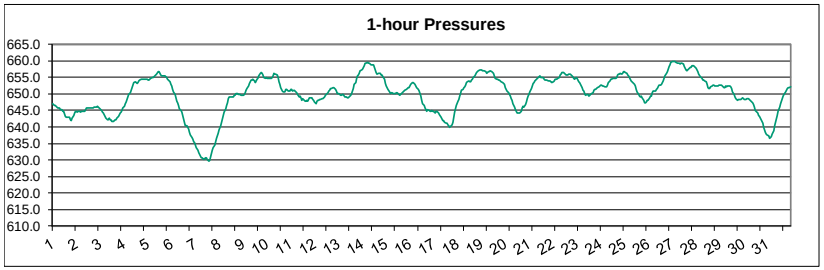


Number of Non-Zero Readings	744
Maximum 1-HR Average	357 degrees
Maximum 24-HR Average	303 degrees

		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	85.15	Monthly Average	228.5 degrees

Lagoon Pressure (mmHg) – January 2022

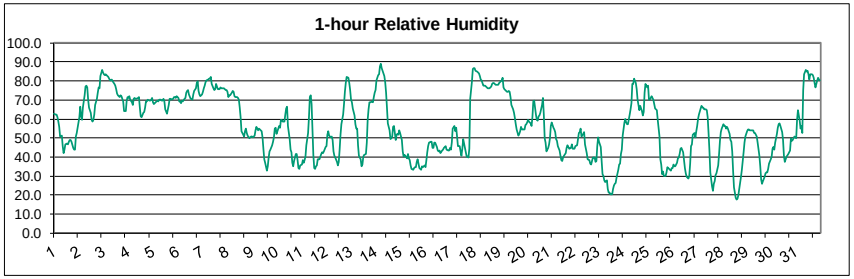
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	647.1	646.7	646.6	646.5	645.9	645.7	645.8	645.6	645.2	645.2	644.6	644.7	643.9	643.3	643.0	643.0	643.0	643.0	642.2	642.0	642.6	643.5	644.2	644.7	644.5	647.1
2	644.6	644.5	644.6	644.7	644.5	644.6	644.7	644.6	644.6	645.3	645.7	645.8	645.9	645.7	645.7	645.7	645.7	645.7	645.9	645.9	646.1	646.4	646.0	645.6	645.4	646.4
3	645.5	644.9	644.5	644.1	643.7	643.1	642.6	642.2	642.2	642.5	642.2	642.1	641.7	641.7	641.8	642.2	642.2	642.7	643.1	643.6	644.2	644.5	645.0	645.6	643.3	645.6
4	646.3	646.9	647.6	648.3	649.0	649.7	650.4	651.2	651.9	652.8	653.3	653.5	653.3	653.3	653.5	653.9	654.1	654.3	654.4	654.5	654.4	654.5	654.3	654.3	652.1	654.5
5	654.3	654.2	654.4	654.6	654.9	655.0	655.2	655.5	655.8	656.1	656.6	656.8	656.3	655.6	655.5	655.4	655.4	655.5	655.2	654.9	654.4	654.1	653.8	653.0	655.1	656.8
6	652.5	651.5	650.7	649.8	648.8	647.9	647.2	646.6	645.6	645.0	644.4	643.5	642.4	641.3	640.5	640.3	639.8	639.3	638.4	637.5	636.9	636.2	635.6	635.2	643.2	652.5
7	634.5	633.6	632.9	632.3	631.6	631.0	630.6	630.5	630.3	630.3	630.7	630.7	630.1	629.5	629.8	630.9	631.8	633.0	633.7	634.5	635.5	636.5	637.2	638.2	632.5	638.2
8	639.2	640.4	641.3	642.4	643.5	644.4	645.4	646.4	647.3	648.5	649.2	649.2	649.1	649.1	649.1	649.5	649.7	650.0	650.0	649.7	649.8	649.8	649.6	649.6	647.2	650.0
9	649.6	649.8	650.5	651.0	651.5	652.5	653.1	653.7	654.1	654.2	654.3	653.9	653.4	653.8	654.4	654.8	655.5	656.3	656.4	656.2	655.8	655.0	654.8	655.0	653.7	656.4
10	654.7	654.7	654.7	654.6	654.7	654.8	655.5	656.2	656.0	655.9	655.7	654.9	653.7	652.8	651.9	650.9	650.6	650.5	650.6	651.4	651.2	651.0	650.8	650.9	653.3	656.2
11	651.3	651.3	651.0	651.1	650.8	650.6	650.3	649.9	649.2	649.2	648.8	648.0	648.5	648.3	647.9	647.9	648.0	647.9	648.3	648.8	648.9	648.7	648.3	647.9	649.2	651.3
12	647.4	647.1	647.8	648.0	648.1	648.2	648.4	648.5	648.6	648.7	649.0	649.6	649.9	650.4	650.8	651.0	651.6	651.7	651.9	651.9	651.6	651.3	650.7	650.1	649.7	651.9
13	650.1	649.9	649.7	649.6	649.9	649.7	649.2	649.1	649.1	648.7	648.8	649.1	649.6	650.1	650.8	651.5	652.9	653.4	654.6	655.5	655.7	656.3	657.0	657.3	651.6	657.3
14	657.6	658.1	658.6	659.2	659.4	659.4	659.2	659.3	658.9	658.8	658.9	658.8	657.9	657.3	656.6	656.0	656.3	656.3	656.3	655.6	655.7	655.2	654.4	653.2	657.4	659.4
15	652.3	651.9	651.3	650.5	650.2	650.4	650.3	650.0	650.1	650.0	650.4	650.4	650.2	649.7	649.7	650.0	650.3	650.6	650.9	651.1	651.3	651.6	651.8	652.0	650.7	652.3
16	652.4	653.0	653.4	653.5	653.2	653.0	652.5	651.9	651.4	650.9	650.2	649.3	648.1	646.9	646.4	645.8	645.2	644.7	645.3	645.1	644.8	644.8	644.9	644.7	648.8	653.5
17	644.6	644.3	644.7	644.7	644.5	644.2	643.7	642.9	642.5	642.0	641.9	641.4	641.2	641.1	640.5	640.4	639.9	640.0	640.7	641.5	642.9	644.4	645.5	646.6	642.7	646.6
18	647.7	648.3	649.3	650.1	651.0	651.3	651.8	652.0	652.7	653.3	653.7	653.8	653.7	653.7	654.1	654.4	654.9	655.5	656.0	656.4	656.7	656.9	657.1	657.2	653.4	657.2
19	657.2	657.1	657.0	656.9	656.7	656.3	656.5	656.7	656.7	656.9	656.8	656.4	656.1	655.4	654.8	654.4	654.3	654.3	654.1	654.0	653.7	653.4	653.1	652.8	655.5	657.2
20	652.0	651.3	650.9	650.4	649.8	649.2	648.6	648.1	647.0	646.1	645.2	644.6	644.3	644.2	644.1	644.4	644.8	645.7	646.3	646.1	646.7	647.6	648.5	649.2	647.3	652.0
21	649.9	650.7	651.6	652.5	653.1	653.5	653.8	654.3	654.7	655.0	655.1	655.4	655.1	654.9	654.9	654.5	654.2	654.2	654.2	654.0	654.0	654.0	653.6	653.5	653.8	655.4
22	653.7	653.9	654.3	654.4	654.4	654.6	655.0	655.6	655.9	656.3	656.6	656.4	656.1	655.8	655.6	655.8	655.9	655.9	655.7	655.5	655.2	654.7	654.5	654.8	655.3	656.6
23	654.8	654.1	653.7	653.3	652.8	652.0	651.2	650.9	650.1	649.7	649.8	649.8	649.4	649.6	649.8	650.2	650.4	651.2	651.4	651.4	651.7	651.9	652.1	652.3	651.4	654.8
24	652.6	652.7	652.5	652.4	652.1	652.1	652.2	652.6	653.4	653.8	654.3	654.5	654.7	654.7	654.6	654.8	655.1	655.6	655.8	656.1	656.1	656.1	656.2	656.7	654.2	656.7
25	656.6	656.4	656.2	655.7	655.4	655.0	654.3	653.8	653.5	653.2	652.9	652.5	651.3	650.6	649.8	649.2	649.1	649.3	648.9	648.0	647.3	647.2	647.6	648.0	651.7	656.6
26	648.1	648.9	649.3	649.4	650.3	650.8	650.8	650.9	651.3	651.6	652.2	652.7	652.7	652.8	653.3	654.0	654.7	655.4	656.3	656.8	657.6	658.3	658.9	659.4	653.2	659.4
27	659.8	659.8	659.9	659.8	659.6	659.2	659.2	659.2	659.1	659.3	659.3	659.0	658.4	657.8	657.3	657.1	657.4	657.6	657.9	658.1	658.5	658.5	658.4	658.1	658.7	659.9
28	657.9	657.1	656.8	655.9	655.3	655.0	654.8	654.2	654.1	654.0	653.7	653.0	651.9	651.5	651.7	652.1	652.3	652.5	652.6	652.5	652.3	652.3	652.5	652.7	653.7	657.9
29	652.8	652.7	652.6	652.2	651.8	652.0	652.4	652.2	652.4	652.4	652.3	652.2	651.6	650.6	649.9	649.1	648.6	648.2	648.1	648.3	648.3	648.3	648.6	648.7	650.7	652.8
30	648.6	648.3	648.3	648.4	648.6	648.6	648.3	647.9	647.6	647.3	646.8	646.1	645.0	644.4	644.1	643.4	643.1	642.6	642.0	641.2	640.0	639.1	638.3	637.9	644.8	648.6
31	637.6	637.3	636.6	636.7	637.1	637.9	638.9	640.3	641.4	642.5	643.5	644.8	645.9	646.9	647.8	648.7	649.3	649.9	650.5	651.2	651.6	651.8	651.9	652.0	644.7	652.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	650.1	650.0	650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.2	650.2	650.1	649.7	649.5	649.3	649.4	649.6	649.8	649.9	650.0	650.0	650.1	650.2	650.2		
MAX	659.8	659.8	659.9	659.8	659.6	659.4	659.2	659.3	659.1	659.3	659.3	659.0	658.4	657.8	657.3	657.1	657.4	657.6	657.9	658.1	658.5	658.5	658.9	659.4		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	660 MMHg		
Maximum 24-HR Average	659 MMHg		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	5.918	Monthly Average	650.0 MMHg

Lagoon Relative Humidity (%) – January 2021

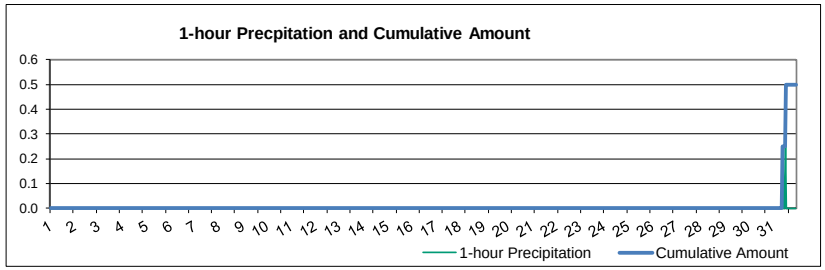
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	62.9	62.4	62.3	61.0	58.5	55.7	50.8	51.4	45.9	41.9	43.8	46.8	47.2	46.8	48.2	48.9	49.0	48.2	45.0	43.8	43.7	50.7	52.6	55.5	51.0	62.9
2	60.9	66.6	61.6	59.7	65.8	72.3	77.2	77.7	76.5	70.0	65.9	63.2	59.3	58.7	59.6	62.2	67.2	70.6	73.8	76.4	76.3	82.6	85.6	84.5	69.8	85.6
3	83.5	82.8	83.4	82.8	82.1	81.1	80.1	80.3	80.5	79.6	78.4	77.6	75.5	73.5	72.6	71.6	72.4	72.0	70.8	69.2	64.0	64.0	69.9	71.4	75.8	83.5
4	71.0	71.9	70.3	68.7	67.3	70.6	70.9	70.7	70.8	71.0	71.4	65.8	61.5	60.9	63.1	63.7	65.9	69.2	69.4	70.0	69.8	69.8	70.1	70.9	68.5	71.9
5	68.7	68.0	68.8	69.2	69.7	69.4	70.3	70.1	69.8	69.6	70.7	69.4	65.2	62.7	65.0	67.5	70.8	70.6	70.0	70.7	71.7	71.4	70.8	72.0	69.3	72.0
6	71.2	69.4	69.1	68.3	69.8	69.0	70.5	71.0	73.6	74.9	75.2	73.0	70.5	70.4	70.0	73.0	74.9	76.2	79.1	80.0	74.7	72.8	71.9	73.1	72.6	80.0
7	74.4	76.1	77.7	79.4	80.3	80.8	81.2	81.4	82.1	78.2	76.3	75.1	75.7	78.3	77.2	75.8	75.8	76.4	76.1	76.0	76.3	76.0	75.1	75.0	77.4	82.1
8	74.4	71.7	72.3	72.5	73.7	74.7	74.3	72.1	71.3	71.5	71.0	70.0	66.0	60.8	53.7	51.7	50.6	53.4	54.8	52.9	51.1	49.9	50.4	50.9	63.2	74.7
9	50.8	50.4	51.3	54.0	56.1	54.7	54.1	55.1	54.0	53.7	50.2	44.2	38.8	36.9	32.8	35.0	39.8	43.1	44.0	46.3	48.2	50.4	55.1	55.2	48.1	56.1
10	52.0	54.9	56.5	55.4	59.6	59.5	58.7	58.8	62.2	65.4	66.5	56.2	49.5	44.0	42.4	37.1	34.9	38.0	41.4	41.8	38.6	34.4	33.8	35.5	49.0	66.5
11	36.1	38.3	37.2	38.1	40.3	46.0	52.7	60.8	71.4	72.3	67.7	41.3	34.4	33.8	35.0	35.4	38.7	38.9	40.0	41.5	42.4	42.1	42.8	45.5	44.7	72.3
12	45.8	51.9	53.7	51.1	50.4	50.6	48.9	42.9	40.7	39.8	37.3	35.6	37.3	43.8	51.6	57.1	62.5	67.8	74.1	78.7	82.0	81.4	79.0	75.1	55.8	82.0
13	70.2	68.8	65.5	62.0	57.3	54.8	55.1	46.3	40.7	38.9	35.2	36.1	40.2	41.0	41.8	47.6	59.3	65.2	68.6	68.7	69.4	68.9	71.3	73.7	56.1	73.7
14	75.1	80.3	83.0	83.6	87.5	89.1	86.9	84.1	82.6	79.3	73.7	65.8	57.5	54.2	49.5	50.1	50.7	55.8	56.1	48.9	51.9	52.3	51.9	54.0	66.8	89.1
15	52.8	49.1	42.9	40.2	41.2	40.6	39.5	41.5	39.3	38.6	35.8	33.9	33.5	34.4	34.7	34.9	37.3	38.7	34.4	33.7	33.4	35.0	34.6	35.8	38.2	52.8
16	34.8	38.5	42.7	45.8	47.4	48.1	48.2	44.8	45.0	47.4	47.3	45.2	43.6	43.0	43.3	41.9	43.3	44.1	44.8	45.3	45.7	44.0	43.2	43.3	44.2	48.2
17	44.8	43.7	47.7	54.9	56.2	53.8	55.4	50.9	45.5	45.5	42.8	40.8	44.5	49.5	47.0	42.6	40.2	40.0	39.8	44.3	70.4	80.0	86.3	86.7	52.2	86.7
18	86.5	85.1	85.0	84.5	84.1	82.5	80.5	80.1	77.6	77.7	77.7	77.2	76.6	76.0	76.1	76.5	77.0	78.3	78.7	78.7	78.2	77.9	78.0	77.8	79.5	86.5
19	79.0	79.9	80.3	81.7	76.4	75.7	75.0	74.5	74.4	74.8	74.5	71.6	67.3	65.0	63.3	60.5	57.1	54.5	51.2	52.2	53.3	55.9	54.4	54.7	67.0	81.7
20	54.6	56.6	57.2	57.9	59.5	58.7	57.7	56.3	60.7	69.4	69.8	62.1	59.7	59.3	61.5	61.7	63.4	67.3	70.9	62.1	49.9	47.4	43.2	44.6	58.8	70.9
21	46.5	49.7	56.4	58.2	55.5	54.5	53.0	49.6	48.6	45.8	43.7	40.8	38.2	37.7	39.9	40.5	42.2	44.9	46.2	45.2	44.1	44.9	46.6	44.3	46.5	58.2
22	44.3	44.3	45.8	46.2	49.6	52.6	53.1	55.1	51.0	52.3	53.1	46.8	44.4	42.0	38.7	38.5	36.6	35.9	37.9	39.6	39.8	37.5	37.7	45.6	44.5	55.1
23	50.4	47.9	45.3	37.7	31.2	30.0	27.7	26.9	27.8	23.3	21.3	21.5	20.3	20.5	23.2	24.9	25.8	26.5	28.9	33.5	35.9	36.4	41.4	44.0	31.3	50.4
24	51.2	58.2	60.1	58.1	57.3	57.3	62.3	64.9	68.4	78.6	78.3	81.4	79.0	75.5	70.1	67.4	64.8	67.0	64.1	61.9	63.6	73.8	78.3	76.5	67.4	81.4
25	77.5	70.2	70.2	71.1	71.8	70.2	67.7	65.6	65.2	64.8	59.7	51.0	39.0	36.1	31.1	32.4	30.2	30.0	32.1	34.6	34.4	34.0	32.9	34.3	50.3	77.5
26	34.4	35.9	35.2	35.2	36.9	39.4	39.8	41.7	44.4	44.9	42.6	38.2	34.3	31.3	29.5	28.5	30.1	36.5	45.6	46.7	51.8	52.8	50.5	53.6	40.0	53.6
27	56.2	60.1	62.4	65.4	67.1	65.8	65.8	64.9	65.0	64.8	60.9	52.4	43.5	31.8	24.6	22.3	26.1	27.2	30.4	31.6	35.5	41.7	48.6	53.3	48.6	67.1
28	55.1	57.2	56.5	56.4	54.8	55.9	55.1	52.0	48.9	48.1	43.0	33.1	24.0	18.4	17.8	18.0	20.1	23.2	29.5	33.5	38.1	42.7	47.6	50.7	40.8	57.2
29	53.7	54.6	54.6	54.1	54.0	53.8	53.9	52.5	52.5	51.6	50.9	47.3	40.9	35.0	28.2	26.1	27.2	29.7	31.4	32.1	31.9	33.9	36.5	38.6	42.7	54.6
30	40.3	44.2	45.2	43.8	47.4	52.1	55.6	57.2	57.8	56.2	53.0	48.8	40.4	37.6	38.8	40.0	41.5	42.7	43.3	50.0	48.6	48.8	51.0	50.4	47.3	57.8
31	49.9	59.7	64.7	59.2	54.8	56.4	52.8	75.2	83.4	86.0	84.7	85.4	83.3	80.6	83.4	83.3	82.9	81.5	78.9	76.5	80.1	81.8	80.5	80.2	74.4	86.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	58.4	59.6	60.2	59.9	60.1	60.5	60.5	60.5	60.6	60.5	58.8	54.8	51.3	49.7	48.8	48.9	50.3	52.0	53.3	53.8	54.7	56.0	57.1	58.3		
MAX	86.5	85.1	85.0	84.5	87.5	89.1	86.9	84.1	83.4	86.0	84.7	85.4	83.3	80.6	83.4	83.3	82.9	81.5	79.1	80.0	82.0	82.6	86.3	86.7		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	89.1 %		
Maximum 24-HR Average	79.5 %		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	16.31	Monthly Average	56.2 %

Lagoon Precipitation (mm) – January 2022

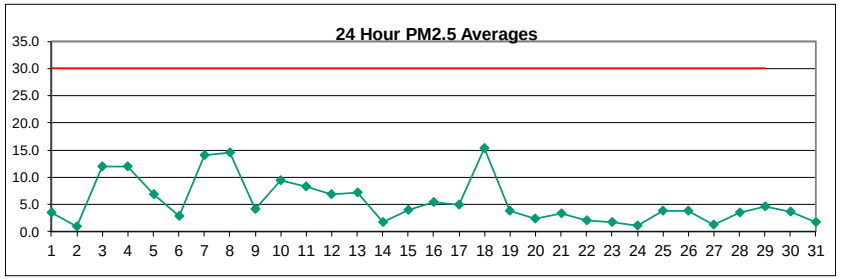
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
31	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	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		



Number of Non-Zero Readings	2		
Maximum 1-HR Average	0.3 MM		
Maximum 24-HR Average	0.0 MM		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	0.013	Monthly Average	0.00 MM

Windridge $PM_{2.5}$ (µg/m^3) – January 2022

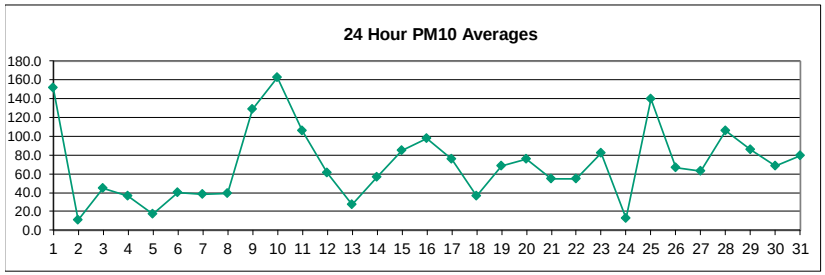
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	3.0	2.0	5.0	4.0	6.0	9.0	6.0	5.0	4.0	6.0	10.0	8.0	8.0	5.0	1.0	0.0	3.5	10.0
2	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	2.0	3.0	5.0	6.0	1.0	6.0
3	6.0	5.0	4.0	7.0	10.0	9.0	13.0	15.0	13.0	17.0	18.0	10.0	10.0	12.0	10.0	8.0	12.0	7.0	10.0	20.0	11.0	12.0	23.0	24.0	11.9	24.0
4	25.0	18.0	21.0	18.0	18.0	22.0	18.0	11.0	10.0	11.0	14.0	14.0	10.0	7.0	6.0	8.0	4.0	5.0	5.0	10.0	10.0	8.0	8.0	6.0	12.0	25.0
5	11.0	30.0	3.0	3.0	7.0	4.0	2.0	2.0	4.0	4.0	4.0	15.0	1.0	4.0	3.0	5.0	6.0	10.0	11.0	6.0	10.0	7.0	6.0	6.0	6.8	30.0
6	3.0	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	6.0	23.0	17.0	17.0	0.0	0.0	0.0	0.0	1.0	2.9	23.0
7	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	9.0	9.0	11.0	15.0	9.0	13.0	18.0	30.0	31.0	31.0	37.0	34.0	41.0	44.0	14.0	44.0
8	35.0	31.0	30.0	24.0	28.0	28.0	26.0	23.0	21.0	25.0	22.0	15.0	14.0	10.0	6.0	3.0	1.0	0.0	0.0	0.0	0.0	4.0	2.0	0.0	14.5	35.0
9	1.0	2.0	1.0	1.0	3.0	12.0	7.0	2.0	4.0	5.0	3.0	2.0	3.0	3.0	8.0	5.0	5.0	3.0	1.0	8.0	5.0	6.0	5.0	3.0	4.1	12.0
10	3.0	3.0	0.0	0.0	5.0	4.0	10.0	5.0	0.0	1.0	0.0	3.0	5.0	5.0	C	68.0	36.0	21.0	7.0	9.0	10.0	10.0	7.0	4.0	9.4	68.0
11	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	4.0	0.0	0.0	0.0	1.0	1.0	4.0	4.0	4.0	3.0	89.0	78.0	8.3	89.0
12	15.0	9.0	48.0	3.0	10.0	5.0	0.0	1.0	2.0	2.0	3.0	2.0	X	2.0	1.0	2.0	10.0	16.0	8.0	7.0	3.0	2.0	2.0	5.0	6.9	48.0
13	12.0	20.0	1.0	22.0	11.0	6.0	29.0	12.0	11.0	5.0	2.0	2.0	1.0	0.0	1.0	3.0	18.0	4.0	2.0	0.0	0.0	1.0	1.0	10.0	7.3	29.0
14	5.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	5.0	4.0	10.0	4.0	0.0	0.0	0.0	1.0	3.0	2.0	1.8	10.0
15	1.0	2.0	4.0	29.0	6.0	3.0	0.0	2.0	7.0	4.0	6.0	12.0	5.0	0.0	0.0	0.0	2.0	1.0	3.0	6.0	4.0	0.0	0.0	0.0	4.0	29.0
16	6.0	28.0	16.0	0.0	0.0	0.0	1.0	3.0	1.0	0.0	1.0	2.0	2.0	5.0	4.0	5.0	4.0	12.0	10.0	6.0	9.0	5.0	5.0	6.0	5.5	28.0
17	6.0	2.0	1.0	3.0	0.0	0.0	5.0	25.0	29.0	4.0	2.0	1.0	9.0	4.0	0.0	2.0	2.0	0.0	1.0	3.0	6.0	5.0	3.0	5.0	4.9	29.0
18	9.0	10.0	19.0	7.0	10.0	17.0	16.0	11.0	12.0	12.0	21.0	20.0	19.0	43.0	19.0	9.0	6.0	26.0	22.0	20.0	11.0	7.0	15.0	9.0	15.4	43.0
19	12.0	10.0	17.0	0.0	1.0	4.0	1.0	0.0	1.0	2.0	0.0	6.0	5.0	2.0	0.0	0.0	2.0	4.0	3.0	9.0	8.0	5.0	1.0	1.0	3.9	17.0
20	4.0	5.0	9.0	5.0	2.0	1.0	1.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	3.0	7.0	10.0	6.0	2.5	10.0
21	3.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	7.0	7.0	6.0	5.0	1.0	1.0	9.0	10.0	9.0	4.0	2.0	2.0	5.0	3.3	10.0
22	4.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	2.0	2.0	3.0	7.0	7.0	6.0	3.0	2.0	1.0	0.0	2.0	1.0	1.0	2.1	7.0
23	1.0	0.0	0.0	0.0	1.0	1.0	5.0	4.0	1.0	12.0	7.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	3.0	0.0	0.0	0.0	1.7	12.0
24	2.0	4.0	0.0	0.0	0.0	0.0	0.0	1.0	4.0	4.0	4.0	2.0	1.0	1.0	0.0	0.0	0.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	1.2	4.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	5.0	4.0	3.0	6.0	12.0	7.0	6.0	14.0	21.0	2.0	1.0	8.0	3.8	21.0
26	5.0	1.0	0.0	0.0	0.0	0.0	2.0	1.0	1.0	6.0	9.0	9.0	16.0	10.0	7.0	6.0	3.0	9.0	6.0	0.0	0.0	0.0	0.0	1.0	3.8	16.0
27	1.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	0.0	1.0	2.0	2.0	0.0	2.0	2.0	4.0	1.0	0.0	1.0	2.0	2.0	1.0	1.0	4.0	1.2	4.0
28	2.0	5.0	4.0	5.0	4.0	1.0	0.0	1.0	1.0	0.0	3.0	5.0	5.0	10.0	10.0	7.0	8.0	5.0	1.0	2.0	2.0	1.0	3.0	1.0	3.6	10.0
29	0.0	1.0	2.0	1.0	0.0	4.0	3.0	0.0	0.0	1.0	1.0	0.0	0.0	2.0	4.0	14.0	9.0	8.0	10.0	9.0	15.0	12.0	9.0	5.0	4.6	15.0
30	6.0	8.0	8.0	7.0	6.0	3.0	0.0	0.0	0.0	1.0	0.0	6.0	6.0	7.0	6.0	6.0	5.0	3.0	1.0	4.0	2.0	1.0	1.0	0.0	3.6	8.0
31	1.0	4.0	4.0	1.0	1.0	6.0	2.0	1.0	1.0	0.0	1.0	2.0	0.0	2.0	1.0	0.0	1.0	0.0	0.0	2.0	3.0	3.0	2.0	4.0	1.8	6.0
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	742	99.9%
MEAN	5.9	6.6	6.3	4.4	4.0	4.3	4.6	4.0	4.2	4.0	4.7	5.2	5.0	5.5	4.1	6.4	6.9	7.0	6.0	6.2	6.2	4.8	8.0	7.9	7.5	
MAX	35.0	31.0	48.0	29.0	28.0	28.0	29.0	25.0	29.0	25.0	22.0	20.0	19.0	43.0	19.0	68.0	36.0	30.0	31.0	31.0	37.0	34.0	89.0	78.0	17.4	70.0



Number of 24HR Exceedences	0	Proposed Guideline	
Number of Non-Zero Readings	558		
Maximum 1-HR Average	89.0 UG/M3		
Maximum 24-HR Average	15.4 UG/M3		
		Opperational Time	743 HRS
Monthly Calibration	1	Opperational Uptime	99.9 %
Standard Deviation	8.6	Monthly Average	5.5 UG/M3

Windridge PM_{10} (µg/m^3) – January 2022

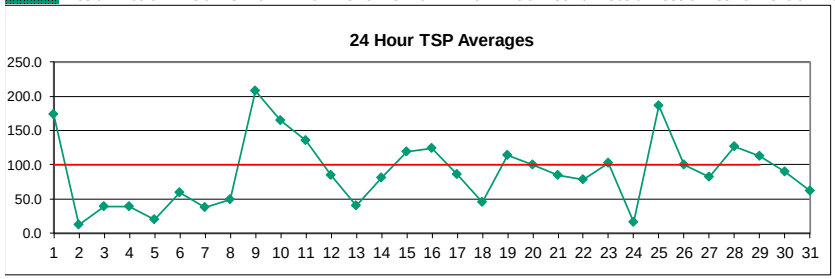
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	30.0	53.0	17.0	32.0	124.0	53.0	49.0	29.0	325.0	91.0	203.0	109.0	246.0	263.0	252.0	242.0	216.0	314.0	367.0	268.0	243.0	85.0	14.0	7.0	151.3	367.0
2	2.0	2.0	9.0	19.0	13.0	32.0	48.0	20.0	13.0	8.0	5.0	2.0	7.0	7.0	5.0	9.0	9.0	6.0	3.0	0.0	0.0	10.0	21.0	13.0	11.0	48.0
3	13.0	15.0	18.0	26.0	32.0	40.0	30.0	21.0	35.0	34.0	26.0	25.0	25.0	44.0	57.0	41.0	91.0	29.0	78.0	31.0	13.0	29.0	175.0	143.0	44.6	175.0
4	137.0	61.0	15.0	13.0	25.0	50.0	28.0	22.0	31.0	22.0	158.0	47.0	27.0	47.0	56.0	46.0	22.0	22.0	5.0	8.0	8.0	8.0	5.0	11.0	36.4	158.0
5	45.0	30.0	22.0	15.0	10.0	6.0	6.0	4.0	12.0	22.0	21.0	10.0	12.0	14.0	15.0	17.0	24.0	40.0	21.0	14.0	15.0	13.0	8.0	9.0	16.9	45.0
6	9.0	7.0	15.0	4.0	4.0	6.0	9.0	10.0	52.0	30.0	12.0	7.0	18.0	2.0	21.0	124.0	235.0	152.0	48.0	64.0	28.0	31.0	37.0	40.0	40.2	235.0
7	26.0	10.0	7.0	27.0	34.0	37.0	51.0	47.0	22.0	19.0	32.0	31.0	29.0	25.0	36.0	70.0	41.0	69.0	34.0	46.0	43.0	49.0	43.0	84.0	38.0	84.0
8	54.0	53.0	32.0	26.0	43.0	48.0	39.0	46.0	29.0	27.0	31.0	49.0	44.0	33.0	25.0	15.0	50.0	21.0	28.0	44.0	27.0	43.0	58.0	63.0	38.7	63.0
9	85.0	112.0	97.0	84.0	104.0	65.0	77.0	63.0	97.0	173.0	329.0	205.0	154.0	148.0	167.0	144.0	157.0	96.0	74.0	97.0	158.0	187.0	148.0	65.0	128.6	329.0
10	114.0	36.0	33.0	56.0	16.0	16.0	1.0	6.0	10.0	7.0	27.0	207.0	207.0	207.0	C	324.0	485.0	485.0	178.0	97.0	485.0	323.0	318.0	99.0	162.5	485.0
11	130.0	160.0	168.0	61.0	63.0	47.0	57.0	45.0	32.0	54.0	97.0	383.0	56.0	44.0	48.0	83.0	93.0	166.0	217.0	86.0	157.0	83.0	100.0	113.0	106.0	383.0
12	58.0	65.0	13.0	52.0	70.0	54.0	101.0	179.0	127.0	162.0	122.0	69.0	X	66.0	101.0	65.0	55.0	30.0	2.0	1.0	1.0	1.0	2.0	4.0	60.9	179.0
13	2.0	3.0	41.0	25.0	49.0	22.0	52.0	44.0	42.0	91.0	61.0	66.0	46.0	27.0	30.0	15.0	8.0	2.0	10.0	6.0	5.0	5.0	6.0	5.0	27.6	91.0
14	10.0	10.0	6.0	3.0	3.0	3.0	11.0	7.0	7.0	6.0	77.0	62.0	48.0	106.0	130.0	142.0	78.0	38.0	37.0	131.0	84.0	56.0	80.0	216.0	56.3	216.0
15	53.0	68.0	55.0	89.0	75.0	51.0	70.0	82.0	242.0	121.0	67.0	179.0	41.0	78.0	60.0	78.0	115.0	117.0	66.0	192.0	58.0	30.0	34.0	23.0	85.2	242.0
16	6.0	17.0	9.0	13.0	7.0	13.0	35.0	40.0	52.0	37.0	59.0	109.0	110.0	182.0	131.0	115.0	121.0	305.0	485.0	110.0	95.0	104.0	100.0	81.0	97.3	485.0
17	105.0	80.0	55.0	1.0	0.0	37.0	55.0	93.0	95.0	86.0	121.0	86.0	59.0	30.0	30.0	33.0	119.0	31.0	16.0	20.0	29.0	191.0	136.0	309.0	75.7	309.0
18	96.0	210.0	115.0	51.0	81.0	54.0	15.0	13.0	19.0	20.0	43.0	21.0	19.0	15.0	17.0	15.0	10.0	7.0	6.0	8.0	8.0	10.0	8.0	19.0	36.7	210.0
19	7.0	14.0	10.0	9.0	7.0	7.0	5.0	4.0	7.0	9.0	22.0	22.0	21.0	26.0	28.0	85.0	94.0	206.0	145.0	232.0	190.0	226.0	134.0	125.0	68.1	232.0
20	131.0	184.0	195.0	125.0	145.0	81.0	130.0	80.0	90.0	39.0	22.0	46.0	32.0	64.0	46.0	3.0	2.0	2.0	3.0	89.0	116.0	82.0	59.0	40.0	75.3	195.0
21	47.0	3.0	0.0	0.0	0.0	9.0	14.0	28.0	23.0	51.0	63.0	98.0	100.0	111.0	51.0	68.0	81.0	118.0	109.0	99.0	58.0	28.0	70.0	90.0	55.0	118.0
22	68.0	56.0	18.0	40.0	28.0	6.0	9.0	7.0	20.0	58.0	85.0	77.0	71.0	98.0	86.0	85.0	85.0	61.0	86.0	63.0	55.0	67.0	58.0	18.0	54.4	98.0
23	3.0	28.0	17.0	41.0	170.0	66.0	242.0	178.0	130.0	485.0	84.0	88.0	140.0	51.0	42.0	50.0	28.0	20.0	12.0	35.0	48.0	6.0	4.0	2.0	82.1	485.0
24	1.0	3.0	1.0	1.0	0.0	0.0	1.0	22.0	52.0	31.0	38.0	39.0	16.0	17.0	0.0	14.0	8.0	23.0	6.0	3.0	2.0	6.0	5.0	3.0	12.2	52.0
25	2.0	0.0	0.0	1.0	6.0	5.0	5.0	53.0	53.0	48.0	71.0	73.0	172.0	190.0	145.0	186.0	329.0	171.0	283.0	485.0	485.0	170.0	202.0	216.0	139.6	485.0
26	59.0	31.0	36.0	98.0	27.0	44.0	85.0	102.0	101.0	108.0	174.0	159.0	101.0	73.0	56.0	96.0	70.0	95.0	12.0	9.0	17.0	9.0	18.0	5.0	66.0	174.0
27	4.0	4.0	4.0	24.0	21.0	34.0	41.0	49.0	49.0	75.0	138.0	61.0	80.0	96.0	165.0	136.0	136.0	65.0	47.0	40.0	24.0	24.0	88.0	100.0	62.7	165.0
28	148.0	214.0	152.0	248.0	171.0	96.0	26.0	35.0	60.0	65.0	96.0	154.0	101.0	277.0	193.0	164.0	152.0	46.0	20.0	46.0	26.0	10.0	17.0	15.0	105.5	277.0
29	6.0	5.0	3.0	7.0	38.0	31.0	7.0	16.0	16.0	6.0	13.0	15.0	20.0	94.0	55.0	146.0	91.0	115.0	214.0	206.0	438.0	309.0	143.0	66.0	85.8	438.0
30	125.0	220.0	121.0	119.0	73.0	11.0	7.0	7.0	5.0	18.0	27.0	78.0	138.0	121.0	118.0	140.0	78.0	39.0	17.0	39.0	59.0	37.0	21.0	26.0	68.5	220.0
31	23.0	23.0	51.0	29.0	22.0	40.0	13.0	54.0	106.0	154.0	159.0	165.0	223.0	169.0	140.0	49.0	35.0	16.0	27.0	111.0	161.0	101.0	21.0	17.0	79.5	223.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	30	31	30	31	31	31	31	31	31	31	31	31	742	99.9%
MEAN	51.6	57.3	43.1	43.2	47.1	34.3	42.5	45.4	63.0	69.6	80.1	88.5	78.8	87.9	76.9	90.3	100.6	93.8	85.7	86.5	101.2	75.3	68.8	65.4	42.0	
MAX	148.0	220.0	195.0	248.0	171.0	96.0	242.0	179.0	325.0	485.0	329.0	383.0	246.0	277.0	252.0	324.0	485.0	485.0	485.0	485.0	485.0	323.0	318.0	309.0	91.1	433.3



Number of Non-Zero Readings	731		
Maximum 1-HR Average	485.0 UG/M3		
Maximum 24-HR Average	162.5 UG/M3		
		Opperational Time	743 HRS
Monthly Calibration	1	Opperational Uptime	99.9 %
Standard Deviation	79.98	Monthly Average	69.8 UG/M3

Windridge TSP (µg/m³) – January 2022

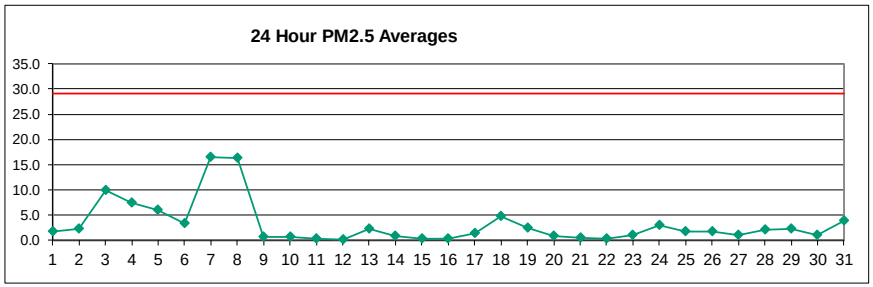
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	24.0	58.0	32.0	47.0	125.0	71.0	54.0	21.0	209.0	123.0	263.0	130.0	351.0	349.0	295.0	204.0	257.0	486.0	507.0	273.0	201.0	70.0	14.0	8.0	173.8	507.0
2	12.0	10.0	7.0	10.0	7.0	34.0	41.0	18.0	24.0	4.0	5.0	4.0	7.0	5.0	17.0	17.0	18.0	6.0	7.0	5.0	7.0	16.0	10.0	15.0	12.8	41.0
3	17.0	12.0	16.0	29.0	37.0	42.0	41.0	20.0	37.0	36.0	27.0	41.0	26.0	25.0	59.0	32.0	71.0	37.0	62.0	30.0	14.0	23.0	107.0	93.0	38.9	107.0
4	90.0	58.0	15.0	11.0	14.0	20.0	28.0	12.0	22.0	29.0	219.0	56.0	29.0	64.0	82.0	75.0	32.0	25.0	11.0	7.0	10.0	9.0	6.0	12.0	39.0	219.0
5	44.0	25.0	25.0	8.0	15.0	8.0	4.0	7.0	19.0	24.0	24.0	7.0	13.0	15.0	17.0	25.0	30.0	60.0	33.0	16.0	19.0	17.0	15.0	13.0	20.1	60.0
6	11.0	7.0	26.0	13.0	9.0	5.0	7.0	13.0	56.0	38.0	17.0	6.0	7.0	4.0	25.0	206.0	331.0	223.0	74.0	124.0	57.0	51.0	57.0	48.0	59.0	331.0
7	30.0	9.0	8.0	15.0	16.0	38.0	39.0	37.0	25.0	16.0	35.0	34.0	27.0	22.0	34.0	61.0	45.0	62.0	38.0	51.0	49.0	54.0	48.0	118.0	38.0	118.0
8	74.0	53.0	33.0	31.0	43.0	61.0	38.0	46.0	28.0	29.0	32.0	31.0	34.0	22.0	52.0	29.0	84.0	19.0	40.0	68.0	43.0	79.0	100.0	101.0	48.8	101.0
9	124.0	172.0	116.0	162.0	227.0	131.0	132.0	120.0	182.0	266.0	363.0	374.0	239.0	230.0	275.0	273.0	277.0	180.0	132.0	186.0	271.0	256.0	196.0	109.0	208.0	374.0
10	203.0	59.0	42.0	73.0	31.0	22.0	6.0	20.0	12.0	9.0	47.0	385.0	260.0	183.0	183.0	C	257.0	477.0	220.0	154.0	413.0	289.0	307.0	141.0	164.9	477.0
11	144.0	186.0	175.0	78.0	103.0	82.0	78.0	66.0	40.0	72.0	125.0	372.0	84.0	70.0	82.0	122.0	151.0	183.0	257.0	115.0	215.0	130.0	164.0	156.0	135.4	372.0
12	72.0	121.0	25.0	83.0	115.0	93.0	146.0	188.0	174.0	176.0	144.0	99.0	73.0	93.0	153.0	103.0	86.0	43.0	5.0	9.0	7.0	2.0	3.0	7.0	84.2	188.0
13	5.0	9.0	38.0	20.0	51.0	21.0	74.0	76.0	64.0	140.0	101.0	113.0	83.0	38.0	44.0	26.0	11.0	7.0	12.0	8.0	6.0	6.0	7.0	4.0	40.2	140.0
14	13.0	11.0	8.0	4.0	1.0	5.0	11.0	11.0	6.0	6.0	78.0	91.0	77.0	190.0	213.0	172.0	119.0	63.0	55.0	202.0	141.0	98.0	139.0	241.0	81.5	241.0
15	63.0	85.0	67.0	132.0	117.0	73.0	112.0	125.0	226.0	166.0	108.0	233.0	64.0	111.0	80.0	114.0	159.0	191.0	103.0	270.0	93.0	52.0	58.0	39.0	118.4	270.0
16	15.0	27.0	13.0	19.0	9.0	11.0	60.0	78.0	105.0	72.0	101.0	221.0	221.0	285.0	202.0	156.0	129.0	343.0	329.0	139.0	111.0	115.0	111.0	104.0	124.0	343.0
17	106.0	90.0	64.0	5.0	4.0	43.0	78.0	106.0	126.0	120.0	181.0	114.0	74.0	43.0	50.0	60.0	107.0	37.0	27.0	30.0	38.0	181.0	137.0	255.0	86.5	255.0
18	117.0	228.0	126.0	94.0	110.0	54.0	19.0	14.0	22.0	20.0	22.0	15.0	29.0	24.0	22.0	18.0	17.0	8.0	16.0	12.0	15.0	20.0	14.0	40.0	44.8	228.0
19	27.0	22.0	12.0	24.0	28.0	22.0	22.0	22.0	65.0	59.0	57.0	55.0	27.0	35.0	64.0	245.0	198.0	381.0	217.0	305.0	255.0	304.0	152.0	139.0	114.0	381.0
20	164.0	191.0	228.0	145.0	170.0	110.0	191.0	100.0	107.0	57.0	22.0	63.0	55.0	91.0	69.0	8.0	5.0	1.0	0.0	120.0	190.0	130.0	94.0	73.0	99.3	228.0
21	71.0	6.0	5.0	4.0	6.0	16.0	21.0	51.0	46.0	82.0	90.0	148.0	153.0	150.0	84.0	114.0	128.0	177.0	158.0	151.0	98.0	40.0	107.0	135.0	85.0	177.0
22	111.0	59.0	28.0	50.0	40.0	12.0	20.0	14.0	28.0	84.0	119.0	104.0	97.0	132.0	116.0	104.0	118.0	95.0	126.0	102.0	92.0	105.0	98.0	26.0	78.3	132.0
23	8.0	33.0	25.0	58.0	154.0	122.0	322.0	212.0	201.0	562.0	123.0	96.0	113.0	74.0	57.0	74.0	32.0	28.0	21.0	48.0	74.0	14.0	8.0	3.0	102.6	562.0
24	1.0	2.0	5.0	4.0	0.0	0.0	15.0	41.0	81.0	28.0	33.0	33.0	11.0	24.0	6.0	20.0	16.0	30.0	18.0	2.0	2.0	7.0	5.0	0.0	16.0	260.0
25	0.0	5.0	3.0	1.0	6.0	8.0	12.0	84.0	73.0	75.0	112.0	105.0	301.0	287.0	228.0	277.0	434.0	217.0	355.0	556.0	581.0	210.0	271.0	260.0	185.9	581.0
26	81.0	42.0	59.0	137.0	33.0	52.0	113.0	148.0	149.0	151.0	266.0	241.0	140.0	107.0	103.0	158.0	125.0	170.0	11.0	18.0	20.0	22.0	30.0	22.0	99.9	266.0
27	2.0	8.0	16.0	19.0	28.0	43.0	54.0	64.0	64.0	94.0	144.0	61.0	115.0	150.0	281.0	222.0	212.0	101.0	76.0	45.0	26.0	28.0	63.0	55.0	82.1	281.0
28	74.0	205.0	168.0	327.0	185.0	67.0	38.0	46.0	74.0	80.0	122.0	193.0	136.0	370.0	280.0	227.0	213.0	69.0	36.0	44.0	38.0	15.0	24.0	21.0	127.2	370.0
29	11.0	6.0	11.0	24.0	44.0	42.0	11.0	11.0	17.0	15.0	23.0	22.0	33.0	144.0	80.0	225.0	132.0	171.0	302.0	270.0	469.0	352.0	202.0	91.0	112.8	469.0
30	178.0	269.0	162.0	178.0	92.0	20.0	8.0	9.0	10.0	19.0	36.0	114.0	200.0	138.0	145.0	157.0	93.0	46.0	27.0	59.0	76.0	58.0	32.0	32.0	89.9	269.0
31	26.0	27.0	66.0	47.0	36.0	54.0	20.0	54.0	92.0	97.0	117.0	116.0	175.0	117.0	72.0	60.0	29.0	6.0	25.0	74.0	71.0	72.0	18.0	20.0	62.1	175.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	743	100.0%
MEAN	61.9	67.6	52.4	59.7	59.9	44.6	58.5	59.2	76.9	88.7	101.8	118.6	105.0	115.9	111.9	119.5	126.3	127.2	106.5	112.7	119.4	91.1	83.8	76.8		
MAX	203.0	269.0	228.0	327.0	227.0	131.0	322.0	212.0	226.0	562.0	363.0	385.0	351.0	370.0	295.0	277.0	434.0	486.0	507.0	556.0	581.0	352.0	307.0	260.0		



Number of 24HR Exceedences	11 Proposed Guideline			
Number of Non-Zero Readings	738			
Maximum 1-HR Average	581.0 UG/M3			
Maximum 24-HR Average	208.0 UG/M3			
IZS Calibration Time		Opperational Time	744 HRS	
Down Time	0	Opperational Uptime	100.0 %	
Standard Deviation	94.2	Monthly Average	89.4 UG/M3	

West $PM_{2.5}$ (µg/m^3) – January 2022

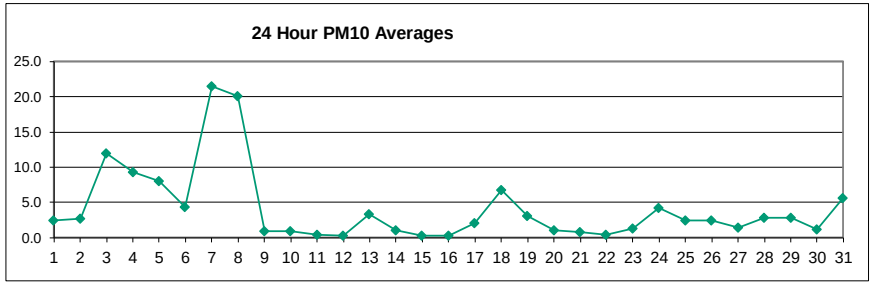
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	1.9	2.1	1.1	1.7	1.5	2.1	2.2	1.2	1.7	2.7	3.0	1.9	2.5	1.9	1.9	1.5	1.3	1.8	1.4	1.4	1.3	1.3	0.8	0.8	1.7	3.0
2	0.8	0.8	0.7	0.9	1.2	2.1	2.2	1.9	1.4	0.7	0.8	0.9	1.0	1.1	1.2	1.5	1.2	1.0	1.2	1.6	1.8	9.3	8.9	10.6	2.3	10.6
3	11.6	11.8	12.2	11.6	12.4	11.9	12.1	11.2	10.8	9.2	9.9	10.5	9.9	9.0	8.4	8.7	8.5	7.8	6.6	6.9	6.4	7.0	10.5	12.8	9.9	12.8
4	11.3	11.4	9.9	9.0	9.0	10.1	10.1	15.8	6.6	6.7	6.4	6.1	5.9	6.3	6.5	6.8	6.6	6.8	4.2	4.6	4.1	4.1	3.9	4.3	7.4	15.8
5	5.2	4.7	5.3	3.5	8.0	4.3	4.2	5.0	11.7	6.8	7.6	6.6	6.0	5.7	3.9	3.6	6.0	6.7	6.2	6.3	8.0	7.1	5.7	5.1	6.0	11.7
6	3.8	3.4	2.7	2.3	2.1	1.9	1.6	1.7	3.5	3.0	2.0	1.9	1.6	1.5	1.8	10.3	12.0	7.7	3.3	3.8	2.8	2.1	2.3	1.8	3.4	12.0
7	1.5	1.0	1.1	1.7	1.4	1.5	1.8	2.2	1.6	1.9	14.0	12.8	12.7	12.4	12.0	15.5	20.5	28.1	30.8	35.0	40.9	45.2	49.5	51.3	16.5	51.3
8	39.8	33.0	32.6	30.4	31.8	31.1	29.4	27.3	26.6	26.4	24.3	20.8	14.7	9.5	3.9	1.5	0.8	0.7	0.7	1.1	0.8	0.7	1.0	1.1	16.3	39.8
9	1.1	1.4	1.3	0.9	0.7	0.4	0.3	0.4	0.5	0.3	0.7	1.0	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.6	1.4
10	0.3	0.2	0.2	0.2	0.4	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.7	1.1	0.8	2.1	2.1	1.1	0.8	0.6	2.1
11	1.0	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.3	1.0
12	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.6	0.3	0.2	0.1	0.2	0.4	0.3	0.2	0.3	0.2	0.2	0.6
13	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.4	0.3	0.4	0.5	0.6	0.5	1.0	4.5	4.6	5.3	7.3	11.5	4.5	4.8	4.3	3.1	2.3	11.5
14	2.6	2.3	1.8	1.7	2.3	1.9	1.3	1.0	1.0	0.8	0.6	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.9	2.6
15	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.4
16	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.4
17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.7	0.4	0.2	0.4	0.5	0.4	0.4	0.4	0.3	0.2	0.2	6.7	6.0	8.2	8.9	1.5	8.9
18	3.9	4.7	4.1	4.4	4.5	4.7	4.4	4.6	3.1	2.6	2.7	2.6	3.3	4.1	5.5	4.3	5.4	4.9	5.2	5.0	6.4	6.7	7.8	7.4	4.7	7.8
19	6.0	5.9	5.8	5.1	4.1	3.0	2.3	2.1	2.2	2.2	2.5	2.2	1.7	1.7	1.3	1.2	1.1	0.9	0.8	1.2	1.1	1.6	0.7	0.8	2.4	6.0
20	1.6	2.1	2.1	1.9	1.2	1.0	0.8	0.6	0.6	0.6	0.5	0.4	0.4	0.5	0.4	0.5	0.5	0.6	0.6	0.5	0.6	0.4	0.3	0.3	0.8	2.1
21	0.4	0.6	0.5	0.7	0.3	0.2	0.2	0.4	0.9	1.4	1.3	1.0	0.7	0.4	0.7	0.3	0.5	0.9	0.6	0.5	0.3	0.3	0.3	0.2	0.6	1.4
22	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.5	0.7	0.4	0.7
23	0.6	0.5	0.5	0.5	0.4	0.5	0.8	1.2	2.7	4.9	2.0	0.7	0.6	0.6	0.4	0.5	0.5	0.4	0.4	0.8	0.7	0.6	1.5	1.2	1.0	4.9
24	0.7	1.4	1.1	1.1	1.1	1.6	1.4	12.2	9.9	2.4	2.4	2.2	1.6	1.9	1.2	1.9	3.0	7.4	5.7	3.8	1.3	2.0	2.0	3.0	3.0	12.2
25	2.1	1.0	0.8	1.1	2.8	2.9	0.7	3.0	5.2	1.7	1.4	0.8	1.0	1.0	1.7	1.1	1.8	1.0	1.0	2.2	3.7	1.7	1.2	1.0	1.7	5.2
26	0.6	0.4	0.5	0.5	0.5	0.4	0.7	1.0	1.5	3.9	2.7	2.0	2.0	1.7	1.2	0.7	1.7	5.5	3.7	3.5	2.7	2.2	1.6	1.3	1.8	5.5
27	1.1	1.1	0.9	0.9	0.8	0.9	0.8	0.8	1.0	1.2	1.3	1.7	1.4	0.8	0.8	0.9	1.1	0.9	1.0	1.4	1.3	1.3	1.4	2.1	1.1	2.1
28	3.4	2.8	2.6	2.5	2.1	2.3	1.3	1.9	2.1	2.4	2.3	2.4	2.8	1.4	1.5	1.5	1.4	1.5	1.7	2.2	2.0	2.1	2.0	2.0	2.1	3.4
29	2.1	2.2	1.7	1.8	2.3	2.3	1.6	1.5	1.6	2.0	2.2	2.0	1.9	2.1	2.3	2.6	2.2	2.8	2.8	2.3	3.9	2.7	1.9	1.7	2.2	3.9
30	1.8	2.0	1.3	1.5	1.3	1.1	1.2	1.3	1.5	1.6	1.6	1.7	1.1	0.6	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.6	0.4	0.3	1.0	2.0
31	0.3	0.3	0.3	0.3	0.3	0.3	1.8	10.4	5.9	5.2	6.3	5.7	2.8	4.5	11.4	7.0	3.2	1.4	3.4	6.3	5.6	5.6	3.5	2.9	3.9	11.4
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	3.4	3.2	3.0	2.8	3.0	2.9	2.7	3.6	3.4	3.0	3.3	2.9	2.6	2.3	2.4	2.6	2.8	3.2	3.0	3.4	3.6	3.9	4.0	4.1		
MAX	39.8	33.0	32.6	30.4	31.8	31.1	29.4	27.3	26.6	26.4	24.3	20.8	14.7	12.4	12.0	15.5	20.5	28.1	30.8	35.0	40.9	45.2	49.5	51.3		



Number of 24HR Exceedences	0 Proposed Guideline		
Number of Non-Zero Readings	744		
Maximum 1-HR Average	51.3 UG/M3		
Maximum 24-HR Average	16.5 UG/M3		
IZS Calibration Time		Opperational Time	744 HRS
Down Time	0	Opperational Uptime	100.0 %
Standard Deviation	5.883	Monthly Average	3.1 UG/M3

West PM_{10} ($\mu g/m^3$) – January 2022

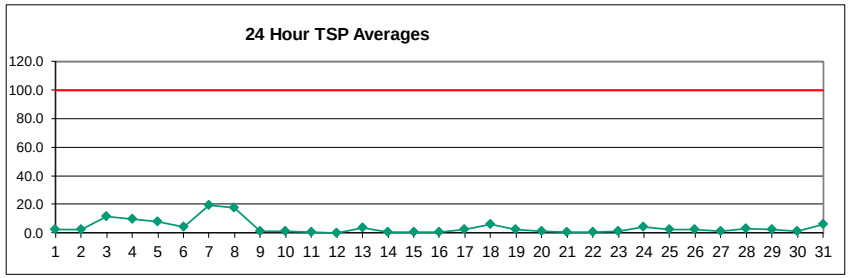
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	2.4	2.9	1.5	2.3	2.1	3.1	3.3	1.7	2.4	3.8	4.4	2.7	3.6	2.6	2.7	2.1	1.8	2.5	2.0	2.0	1.8	1.8	1.1	0.9	2.4	4.4
2	1.0	0.9	0.8	1.1	1.5	2.9	3.1	2.6	1.8	0.8	0.9	1.1	1.2	1.3	1.6	1.9	1.5	1.1	1.3	1.8	1.9	11.9	9.8	12.6	2.8	12.6
3	15.0	15.5	15.2	13.5	14.3	14.0	14.5	12.2	12.8	11.1	11.7	12.7	11.7	11.1	10.2	10.7	10.3	9.6	8.0	8.6	7.8	8.8	12.6	15.6	12.0	15.6
4	13.3	13.9	12.4	11.4	11.3	12.4	12.5	20.1	8.1	8.9	8.5	7.8	7.0	7.9	8.1	8.9	9.6	9.2	5.2	6.0	5.4	5.5	5.1	5.9	9.4	20.1
5	7.5	6.6	7.5	4.6	11.4	5.5	5.4	6.5	14.8	9.7	11.2	9.3	8.4	8.0	5.2	4.7	8.0	9.0	9.1	9.3	10.1	8.7	6.6	6.1	8.0	14.8
6	4.4	3.9	3.1	2.5	2.4	2.2	1.9	2.2	5.0	4.1	2.6	2.3	2.0	1.7	2.3	12.7	14.7	10.0	4.6	5.6	4.1	3.0	3.3	2.5	4.3	14.7
7	2.1	1.2	1.3	2.3	1.9	2.0	2.4	3.1	2.2	2.3	18.2	17.3	16.9	15.8	15.0	19.8	25.7	35.9	36.8	46.4	56.9	62.3	58.9	70.0	21.5	70.0
8	49.6	42.6	44.2	37.6	37.9	39.0	34.3	32.3	34.2	33.6	29.3	23.8	17.0	10.7	4.4	1.7	1.0	0.8	1.0	1.5	1.0	0.9	1.4	1.6	20.1	49.6
9	1.6	2.0	2.0	1.3	1.0	0.6	0.3	0.6	0.6	0.4	1.1	1.5	1.1	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.4	0.9	2.0
10	0.3	0.2	0.3	0.3	0.5	0.3	0.3	0.5	0.5	0.6	0.6	0.6	0.5	0.5	1.0	0.7	0.7	1.0	1.6	1.1	3.1	3.1	1.5	1.1	0.9	3.1
11	1.5	0.7	0.5	0.4	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.7	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	1.5
12	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.4	0.8	0.4	0.2	0.1	0.2	0.4	0.3	0.2	0.3	0.2	0.2	0.8
13	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.5	0.4	0.5	0.7	0.8	0.6	1.5	6.7	6.8	7.9	10.7	16.5	6.6	7.0	6.3	3.9	3.3	16.5
14	3.1	2.6	1.9	1.8	2.3	1.9	1.3	1.0	1.0	0.9	0.7	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.4	1.0	3.1
15	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.4	0.3	0.5	0.3	0.5
16	0.2	0.2	0.3	0.3	0.3	0.5	0.2	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.3	0.5
17	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.4	0.7	1.0	0.5	0.2	0.5	0.6	0.5	0.5	0.6	0.5	0.3	0.2	10.0	8.8	12.1	12.4	2.1	12.4
18	5.0	6.6	5.8	6.3	6.5	6.8	6.5	6.6	4.3	3.6	3.7	3.6	4.8	5.9	8.1	6.2	8.0	7.2	7.6	6.9	9.3	9.9	11.2	11.0	6.7	11.2
19	8.9	8.6	8.2	6.3	4.6	3.2	2.6	2.4	2.5	2.7	3.2	2.8	2.2	2.2	1.7	1.7	1.5	1.1	0.9	1.5	1.4	2.2	0.9	1.0	3.1	8.9
20	2.2	3.0	3.0	2.6	1.6	1.3	1.1	0.7	0.8	0.6	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.7	0.6	0.6	0.8	0.5	0.4	0.5	1.0	3.0
21	0.5	0.8	0.6	0.8	0.4	0.2	0.3	0.6	1.3	2.1	1.9	1.5	1.0	0.5	1.0	0.5	0.7	1.3	0.8	0.7	0.4	0.3	0.4	0.3	0.8	2.1
22	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.6	0.7	0.5	0.5	0.6	0.7	0.7	0.6	0.4	0.4	0.5	0.5	0.8	0.4	0.8
23	0.7	0.5	0.6	0.5	0.5	0.6	1.1	1.6	4.0	7.3	3.0	1.0	0.7	0.8	0.5	0.6	0.6	0.5	0.5	1.0	0.9	0.8	2.0	1.5	1.3	7.3
24	0.8	1.7	1.3	1.2	1.2	2.1	1.8	18.1	14.8	3.4	3.4	2.9	1.9	2.5	1.5	2.8	4.4	10.9	8.3	5.6	1.9	2.5	2.7	3.9	4.2	18.1
25	2.6	1.2	0.8	1.5	4.1	4.2	0.8	4.5	7.8	2.5	1.9	1.1	1.3	1.3	2.4	1.6	2.6	1.4	1.4	3.2	5.5	2.6	1.7	1.4	2.5	7.8
26	0.9	0.5	0.6	0.7	0.6	0.5	0.9	1.3	2.2	5.0	3.5	2.6	2.6	2.4	1.7	1.0	2.5	8.2	5.5	5.2	3.9	3.2	2.2	1.6	2.5	8.2
27	1.4	1.3	1.0	1.0	0.9	1.2	1.0	1.0	1.2	1.5	1.7	2.3	2.0	1.1	1.1	1.2	1.5	1.2	1.3	2.0	1.6	1.7	1.9	3.0	1.5	3.0
28	5.0	4.1	3.8	3.5	3.1	3.2	1.5	2.6	3.0	3.4	3.3	3.5	4.1	1.9	2.1	1.9	1.8	2.0	2.4	2.9	2.5	2.6	2.2	2.3	2.9	5.0
29	2.4	2.4	1.9	2.0	3.0	3.0	1.8	1.8	1.8	2.5	2.8	2.6	2.6	2.9	2.7	3.2	2.8	3.6	3.8	3.3	5.8	3.9	2.6	2.2	2.8	5.8
30	2.3	2.6	1.5	1.7	1.3	1.2	1.2	1.4	1.8	1.9	1.9	2.1	1.4	0.7	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.8	0.6	0.4	1.2	2.6
31	0.4	0.4	0.3	0.3	0.3	0.3	2.7	15.5	8.7	7.5	9.1	8.2	3.9	6.5	17.0	10.2	4.5	1.9	5.0	9.1	7.9	7.8	4.8	3.9	5.7	17.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	4.4	4.1	3.9	3.5	3.7	3.7	3.3	4.6	4.5	4.0	4.2	3.8	3.3	3.0	3.1	3.4	3.7	4.2	3.9	4.7	5.0	5.3	5.0	5.4		
MAX	49.6	42.6	44.2	37.6	37.9	39.0	34.3	32.3	34.2	33.6	29.3	23.8	17.0	15.8	17.0	19.8	25.7	35.9	36.8	46.4	56.9	62.3	58.9	70.0		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	70.0 UG/M3		
Maximum 24-HR Average	21.5 UG/M3		
IZS Calibration Time		OpperatioEl Time	744 HRS
Down Time	0	OpperatioEl Uptime	100.0 %
Standard Deviation	7.6	Monthly Average	4.1 UG/M3

West TSP (µg/m³) – January 2022

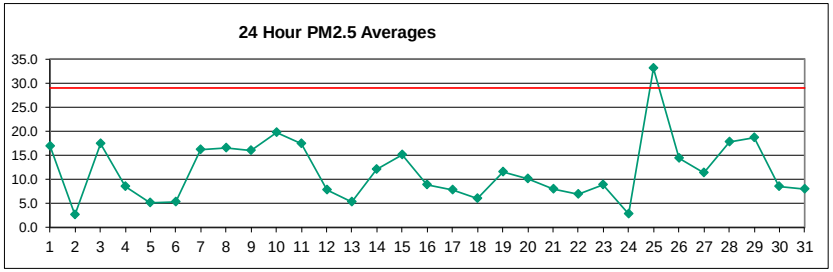
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	2.2	3.0	1.3	2.3	2.2	3.4	3.5	1.6	2.5	4.1	4.9	2.8	4.0	2.8	2.9	2.2	1.8	2.7	2.2	2.2	1.9	1.7	0.8	0.6	2.5	4.9
2	0.8	0.7	0.6	0.8	1.3	3.0	3.1	2.2	1.7	0.5	0.6	0.7	0.9	1.0	1.2	1.5	1.1	0.8	0.8	1.2	1.3	9.8	7.2	9.2	2.2	9.8
3	12.0	11.9	11.7	12.1	13.4	12.9	13.3	9.5	13.1	11.4	10.6	13.0	10.9	10.7	11.5	12.3	11.9	11.1	9.1	9.4	6.5	9.0	14.6	17.8	11.6	17.8
4	15.3	16.1	13.3	11.8	11.5	14.3	14.5	19.2	7.5	9.4	9.0	7.1	5.1	7.5	8.3	10.0	9.8	9.7	4.0	5.1	4.6	5.0	4.4	5.8	9.5	19.2
5	8.3	7.1	7.9	4.1	12.6	4.9	4.9	6.5	16.7	11.1	12.6	9.6	8.8	8.0	4.5	3.8	8.2	9.7	9.4	9.0	8.3	7.1	4.7	4.9	8.0	16.7
6	3.1	2.7	2.2	1.8	1.7	1.5	1.3	1.8	5.4	4.1	2.2	1.7	1.5	1.3	1.9	14.7	17.0	11.4	4.5	6.4	4.6	3.3	3.6	2.6	4.3	17.0
7	2.1	1.0	1.0	2.1	1.7	1.9	2.5	3.1	2.1	1.6	19.5	16.0	13.9	13.6	13.9	21.7	25.9	35.0	27.0	38.6	50.4	59.8	44.0	63.2	19.2	63.2
8	52.8	42.5	37.1	28.7	33.1	38.9	32.2	31.5	28.8	27.1	20.9	16.4	13.1	7.9	3.1	1.2	0.8	0.7	0.8	1.4	0.9	0.7	1.3	1.6	17.6	52.8
9	1.6	2.1	2.1	1.3	1.0	0.5	0.3	0.6	0.6	0.3	1.1	1.6	1.1	0.8	0.8	0.7	0.7	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.8	2.1
10	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.9	0.6	0.6	1.0	1.7	1.1	3.5	3.4	1.7	1.1	0.8	3.5
11	1.6	0.7	0.5	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.3	1.6
12	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.6	0.3	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.6
13	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.4	0.5	0.6	0.5	1.3	7.4	7.6	8.9	11.9	19.1	7.1	7.1	5.8	2.9	3.5	19.1
14	2.3	1.7	1.2	1.2	1.5	1.2	0.8	0.7	0.7	0.6	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.7	2.3
15	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.2	0.4
16	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3
17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.6	0.9	0.4	0.2	0.4	0.4	0.4	0.4	0.5	0.4	0.2	0.1	11.0	10.0	14.0	14.1	2.3	14.1
18	3.3	4.5	4.0	4.5	4.7	5.3	6.2	5.6	3.7	3.0	3.1	3.1	4.5	5.9	8.3	6.2	7.9	6.8	7.0	5.9	8.9	10.0	12.2	12.2	6.1	12.2
19	8.7	8.2	6.8	4.4	3.1	2.1	1.9	1.8	1.8	2.0	2.7	2.2	1.8	1.9	1.5	1.5	1.4	1.0	0.7	1.4	1.2	2.2	0.7	0.8	2.6	8.7
20	2.2	3.0	3.4	2.8	1.6	1.2	0.9	0.6	0.5	0.4	0.4	0.3	0.3	0.4	0.3	0.5	0.4	0.5	0.4	0.5	0.7	0.4	0.3	0.4	0.9	3.4
21	0.4	0.6	0.5	0.6	0.3	0.1	0.2	0.5	1.4	2.1	1.9	1.4	1.0	0.4	1.0	0.4	0.6	1.1	0.7	0.5	0.3	0.2	0.3	0.2	0.7	2.1
22	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.3	0.2	0.3	0.4	0.6	0.3	0.6
23	0.5	0.3	0.4	0.4	0.4	0.5	1.1	1.6	4.4	8.4	3.3	0.8	0.6	0.7	0.3	0.4	0.5	0.4	0.4	0.8	0.6	0.6	1.7	1.3	1.3	8.4
24	0.5	1.3	0.9	0.8	0.8	2.1	1.6	20.9	17.0	3.2	3.0	2.2	1.3	2.0	1.1	2.7	4.4	12.2	9.0	6.3	1.8	2.1	2.2	2.8	4.3	20.9
25	1.9	0.8	0.5	1.4	4.5	4.7	0.7	5.1	8.9	2.8	2.0	1.0	1.1	1.2	2.4	1.5	2.8	1.3	1.4	3.6	6.3	2.8	1.8	1.5	2.6	8.9
26	0.8	0.4	0.5	0.6	0.5	0.3	0.7	1.3	2.3	4.3	2.9	2.1	2.1	2.2	1.6	0.8	2.7	9.4	6.1	5.7	3.8	3.0	1.8	1.2	2.4	9.4
27	1.0	0.9	0.7	0.7	0.6	1.0	0.7	0.7	0.9	1.2	1.5	2.2	2.0	0.9	0.9	1.0	1.3	1.0	1.2	2.0	1.3	1.5	1.7	3.1	1.3	3.1
28	5.6	4.6	4.1	3.8	3.3	3.4	1.3	2.4	2.9	3.3	3.1	3.6	4.5	1.8	1.8	1.6	1.6	1.8	2.2	2.5	2.0	1.9	1.5	1.6	2.8	5.6
29	1.6	1.6	1.2	1.3	2.7	2.9	1.4	1.3	1.3	2.0	2.4	2.2	2.1	2.4	2.0	2.4	2.2	3.0	3.7	3.3	6.4	4.1	2.5	1.9	2.4	6.4
30	2.0	2.4	1.1	1.2	0.9	0.8	0.8	1.0	1.3	1.3	1.4	1.6	1.1	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.7	0.4	0.3	0.9	2.4
31	0.3	0.3	0.2	0.2	0.2	0.2	2.9	17.9	9.8	8.5	10.4	7.1	2.9	5.9	16.9	10.4	4.3	1.6	5.0	10.0	8.8	8.5	4.2	3.3	5.8	17.9
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	4.3	3.8	3.4	2.9	3.4	3.5	3.1	4.5	4.4	3.7	3.9	3.3	2.8	2.7	2.9	3.5	3.8	4.3	3.6	4.5	4.7	5.1	4.4	5.0		
MAX	52.8	42.5	37.1	28.7	33.1	38.9	32.2	31.5	28.8	27.1	20.9	16.4	13.9	13.6	16.9	21.7	25.9	35.0	27.0	38.6	50.4	59.8	44.0	63.2		



Number of 24HR Exceedences	0	Proposed Guideline	
Number of Non-Zero Readings	744		
Maximum 1-HR Average	63.2 UG/M3		
Maximum 24-HR Average	19.2 UG/M3		
IZS Calibration Time		Opperational Time	744 HRS
Down Time	0	Opperational Uptime	100.0 %
Standard Deviation	7.013	Monthly Average	3.8 UG/M3

Berm $PM_{2.5}$ (µg/m^3) – January 2022

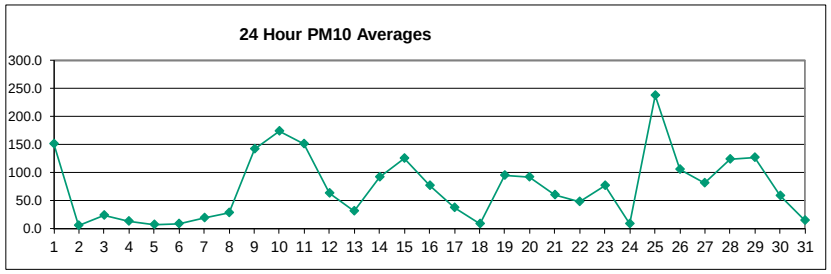
DAY \ HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	2.8	2.3	2.2	3.6	3.7	2.9	3.9	1.4	14.9	10.8	42.5	27.4	38.9	33.5	26.9	23.6	25.3	60.2	40.2	19.8	12.0	5.0	2.1	1.2	17.0	60.2
2	1.5	1.2	1.1	1.1	1.6	3.3	3.8	2.9	2.7	1.1	1.4	1.1	1.2	1.2	2.1	2.2	1.9	1.1	1.1	1.3	2.4	7.8	9.7	9.2	2.7	9.7
3	9.8	10.2	11.4	16.5	21.9	16.7	19.1	14.7	20.3	15.5	13.9	17.1	14.1	13.7	30.6	16.5	33.2	10.0	22.2	10.5	6.3	11.0	36.5	28.9	17.5	36.5
4	31.8	14.4	7.9	7.6	14.5	11.8	11.8	8.3	7.9	5.0	11.5	7.8	8.3	12.5	11.9	8.1	4.4	4.6	2.9	2.7	2.6	2.6	3.0	3.0	8.6	31.8
5	5.7	5.0	4.3	3.3	2.6	2.5	2.4	2.9	11.5	5.7	5.6	2.6	4.0	2.9	4.1	3.8	8.3	9.3	7.9	5.2	7.6	6.2	5.4	4.2	5.1	11.5
6	4.2	3.4	4.5	4.5	2.6	2.0	1.6	3.3	5.9	3.9	2.3	2.4	2.1	1.9	3.4	13.3	26.8	19.2	3.7	5.3	3.1	3.4	3.7	2.3	5.4	26.8
7	2.4	1.2	0.9	2.2	2.1	2.4	3.8	4.1	2.5	3.3	10.6	10.8	11.0	11.2	13.0	17.6	21.4	29.1	30.0	32.8	36.8	44.0	47.2	47.3	16.1	47.3
8	40.2	33.6	27.8	27.2	27.9	30.0	29.7	27.9	23.7	22.3	22.3	20.5	16.7	10.9	5.8	2.1	2.4	0.9	2.3	4.5	2.0	4.8	5.5	6.1	16.5	40.2
9	5.0	13.2	10.4	7.3	6.7	3.4	2.6	3.7	8.5	12.2	44.3	33.0	17.2	13.8	15.9	26.3	23.5	25.7	21.6	16.7	28.6	22.5	15.0	8.1	16.0	44.3
10	11.1	3.7	3.1	6.3	1.9	1.7	0.6	1.3	1.2	0.9	4.9	39.5	20.8	7.5	7.8	43.2	57.2	68.5	31.4	18.7	55.7	42.9	29.9	15.1	19.8	68.5
11	18.8	23.8	18.5	7.7	5.4	9.5	12.6	5.9	2.7	4.5	6.6	42.0	8.9	9.3	6.1	23.1	27.6	30.5	42.7	17.3	33.1	14.3	24.9	24.7	17.5	42.7
12	8.8	3.8	0.6	1.4	0.9	7.8	17.8	29.5	20.4	20.0	21.9	11.7	5.9	9.0	7.8	6.2	6.8	4.6	0.4	1.2	0.8	0.3	0.5	0.9	7.9	29.5
13	0.9	1.2	10.4	5.1	11.0	5.0	8.6	6.2	7.1	22.6	12.0	10.4	2.9	4.3	5.1	1.7	1.9	0.5	3.2	1.1	0.6	2.0	1.9	1.7	5.3	22.6
14	3.0	2.9	2.1	1.4	1.9	1.6	1.9	1.8	1.0	0.9	8.1	10.5	8.0	16.8	18.7	25.5	13.3	4.9	6.7	40.9	27.9	13.0	35.8	40.8	12.1	40.9
15	8.7	10.2	7.1	14.4	6.4	3.5	4.9	6.7	24.7	31.7	17.6	30.6	11.0	19.1	11.3	14.2	29.7	29.1	17.9	37.3	11.8	5.2	5.9	5.1	15.2	37.3
16	1.7	1.0	1.2	1.2	0.8	2.1	2.6	3.9	4.6	4.7	4.9	13.5	15.4	23.1	16.7	14.9	5.8	35.8	25.0	13.7	9.5	4.1	4.1	3.3	8.9	35.8
17	3.2	2.8	1.3	0.3	0.7	1.2	1.8	10.8	15.3	11.4	16.9	10.3	6.5	2.8	3.6	4.0	9.2	2.8	1.7	0.7	6.1	22.4	19.6	31.5	7.8	31.5
18	14.3	26.0	14.1	12.1	16.0	8.8	4.0	2.0	4.8	3.9	4.7	2.7	3.7	2.5	2.2	2.8	2.6	2.1	2.5	4.6	3.0	2.8	2.4	2.5	6.1	26.0
19	4.7	4.7	5.0	4.2	3.9	3.0	2.5	2.4	3.1	3.7	3.7	3.5	2.7	2.2	3.3	17.7	20.3	44.2	22.9	37.6	23.9	29.5	12.8	14.5	11.5	44.2
20	15.2	15.5	23.7	13.0	13.1	11.1	28.8	16.6	14.9	3.8	2.2	7.2	5.3	7.9	5.4	1.1	0.4	0.5	0.7	12.4	22.0	7.1	7.7	7.2	10.1	28.8
21	7.7	0.8	0.3	0.3	0.4	0.9	0.9	2.8	3.3	5.1	7.7	11.3	7.7	20.3	10.2	12.8	13.0	8.4	10.9	15.0	11.8	3.7	17.1	18.6	8.0	20.3
22	11.0	5.0	0.9	1.3	1.3	0.5	0.8	1.0	1.8	9.9	15.8	15.2	7.8	9.6	9.8	11.2	9.7	10.3	12.0	9.5	7.1	9.4	4.4	2.1	7.0	15.8
23	1.2	2.9	2.3	7.6	14.1	10.6	33.6	17.6	18.8	40.5	11.4	10.9	11.5	6.9	4.1	3.2	3.0	3.2	2.7	4.2	2.6	0.8	0.7	0.6	9.0	40.5
24	0.9	0.8	1.6	2.9	0.6	0.6	4.1	3.2	8.7	5.3	5.6	6.3	3.8	6.5	1.8	3.2	2.4	4.3	2.0	0.4	1.2	1.0	0.4	0.8	2.9	8.7
25	1.9	1.3	1.1	0.8	1.9	2.1	3.4	5.2	6.5	7.4	8.5	11.2	44.5	50.1	47.0	56.9	79.2	46.2	59.2	111.1	103.5	31.7	51.1	61.3	33.1	111.1
26	10.8	2.8	5.5	15.0	6.3	8.8	22.2	20.8	11.7	18.8	40.6	34.3	25.5	20.2	22.4	34.3	17.1	15.1	1.3	1.9	3.8	2.5	2.8	2.3	14.4	40.6
27	1.3	1.5	1.2	1.0	3.4	5.1	6.2	6.2	8.2	8.3	11.5	14.9	10.6	28.2	70.7	34.7	23.0	11.6	6.4	6.0	3.9	2.8	4.5	4.1	11.5	70.7
28	7.3	20.3	24.8	29.8	16.3	9.3	4.7	5.5	9.4	9.3	11.9	25.0	17.9	83.6	55.8	36.2	24.2	9.0	4.4	4.5	5.4	3.3	3.8	4.1	17.7	83.6
29	1.9	2.0	2.2	2.6	4.7	5.0	2.5	2.0	3.3	2.3	3.1	4.7	6.7	27.4	9.6	43.3	15.7	33.4	52.0	35.1	78.3	62.9	35.2	12.4	18.7	78.3
30	17.7	38.3	15.4	12.1	3.9	1.6	1.5	2.2	1.9	2.9	4.5	11.8	18.9	11.2	13.1	15.1	6.4	4.0	1.9	2.0	7.4	5.9	4.2	3.1	8.6	38.3
31	2.1	1.2	3.2	3.2	1.6	1.1	1.3	14.9	28.8	8.9	1.1	0.9	1.2	1.0	1.5	1.4	0.8	0.6	4.9	32.1	42.9	19.4	7.7	11.1	8.0	42.9
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	8.3	8.3	7.0	7.0	6.4	5.7	7.9	7.7	9.7	9.9	12.2	14.6	11.6	15.2	14.4	16.8	16.7	17.1	14.3	16.3	18.2	12.7	13.1	12.2		
MAX	40.2	38.3	27.8	29.8	27.9	30.0	33.6	29.5	28.8	40.5	44.3	42.0	44.5	83.6	70.7	56.9	79.2	68.5	59.2	111.1	103.5	62.9	51.1	61.3		



Number of 24HR Exceedences	1 Proposed Guideline		
Number of Non-Zero Readings	744		
Maximum 1-HR Average	111.1 UG/M3		
Maximum 24-HR Average	33.1 UG/M3		
		Operational Time	744 HRS
Monthly Calibration	0	Operational Uptime	100.0 %
Standard Deviation	14.0	Monthly Average	11.8 UG/M3

Berm PM_{10} ($\mu g/m^3$) – January 2022

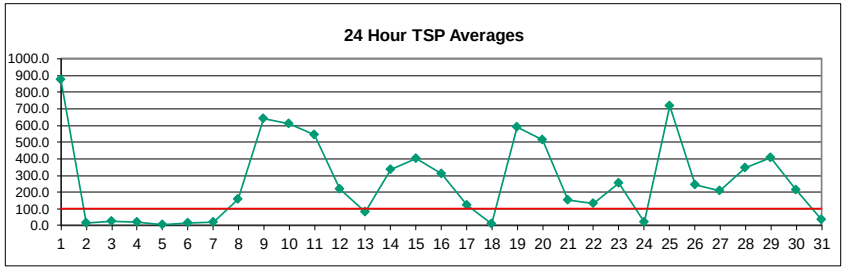
DAY \ HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	6.9	10.4	9.4	24.8	34.0	21.4	34.0	6.5	137.8	87.1	354.8	222.5	336.2	314.8	277.6	199.6	217.9	622.6	390.1	182.3	100.7	41.3	10.0	3.5	151.9	622.6
2	7.2	4.2	3.8	3.1	5.1	14.6	5.5	4.1	3.8	1.3	2.0	2.0	2.3	3.0	13.0	13.4	8.8	1.8	1.2	1.4	2.6	9.3	11.7	10.6	5.7	14.6
3	12.0	11.8	12.9	22.2	30.2	22.8	26.3	19.0	29.1	21.5	18.6	23.6	18.7	18.6	44.9	23.5	49.1	13.8	32.3	14.5	7.6	14.9	53.5	41.7	24.3	53.5
4	46.1	19.8	8.9	8.3	19.2	15.4	15.8	10.4	10.6	5.9	16.9	11.2	11.9	18.7	48.7	32.6	5.3	5.6	3.1	3.0	2.8	2.8	3.6	3.6	13.7	48.7
5	8.1	7.1	5.9	4.1	2.9	2.6	2.5	3.3	16.6	7.5	7.7	3.0	5.2	3.6	5.7	5.2	12.2	13.6	10.5	6.6	9.3	8.1	6.4	5.2	6.8	16.6
6	5.5	4.3	6.3	6.5	3.4	2.5	2.0	4.8	8.7	5.7	3.2	3.1	4.3	2.6	6.4	48.2	40.2	28.7	5.4	7.9	4.5	4.9	5.4	3.3	9.1	48.2
7	3.3	1.4	1.1	3.1	2.9	3.4	5.5	5.9	3.5	4.1	14.8	15.8	14.7	13.0	17.0	23.5	27.9	36.5	31.4	35.2	39.0	45.6	50.6	61.4	19.2	61.4
8	52.2	43.0	29.3	28.7	29.9	37.8	34.7	33.2	25.3	23.1	27.6	29.7	21.7	15.1	19.6	6.6	16.6	3.4	17.8	37.0	13.8	32.3	46.0	54.8	28.3	54.8
9	45.5	106.4	86.4	57.3	63.4	29.5	18.6	27.8	60.1	106.8	392.1	309.3	153.8	128.2	145.9	255.4	206.9	226.4	178.7	139.6	255.7	211.3	139.1	69.2	142.2	392.1
10	112.4	29.8	26.9	59.6	17.4	12.3	2.1	10.6	5.3	3.1	39.9	362.2	168.3	53.9	55.9	339.3	507.3	601.7	290.9	161.0	483.0	397.2	287.5	135.8	173.5	601.7
11	186.3	212.3	172.3	65.5	49.8	72.1	104.9	43.2	18.8	6.7	44.8	367.2	71.0	70.2	41.2	179.0	239.7	273.8	403.0	164.1	272.8	134.6	215.5	211.0	150.8	403.0
12	75.6	35.6	2.8	8.6	3.9	64.7	157.2	247.2	189.5	173.7	178.5	92.6	46.9	63.7	46.7	42.5	50.3	32.1	0.5	1.6	1.1	0.3	0.7	1.3	63.2	247.2
13	1.3	2.4	50.1	24.6	52.7	25.2	67.6	36.8	55.2	155.5	91.5	79.6	18.5	30.4	28.9	6.2	6.5	0.6	10.3	1.4	0.7	5.2	3.8	1.7	31.5	155.5
14	7.0	4.1	2.8	1.6	2.1	1.7	2.5	2.4	1.2	1.1	37.2	109.7	68.1	157.3	171.2	231.2	111.7	43.8	56.7	318.5	219.8	99.5	256.1	307.2	92.3	318.5
15	68.2	75.4	53.9	81.0	44.6	21.8	33.5	52.1	229.6	222.0	148.9	253.7	98.7	163.5	96.8	129.0	257.8	252.2	157.4	315.7	102.3	47.3	53.8	38.0	124.9	315.7
16	13.3	6.9	8.0	6.9	4.2	10.5	18.5	35.5	40.7	34.7	36.7	123.5	128.7	208.8	144.4	124.7	47.2	341.3	225.5	120.5	76.8	33.3	24.9	20.2	76.5	341.3
17	19.7	17.3	5.6	0.9	2.5	4.8	6.0	60.8	91.6	71.7	115.6	73.7	45.4	13.4	20.1	31.9	92.0	21.8	14.0	2.2	40.1	53.8	29.2	46.8	36.7	115.6
18	21.1	38.5	20.9	17.8	23.7	12.8	5.5	2.5	6.9	5.6	6.7	3.5	5.1	3.1	2.6	3.7	3.4	2.4	2.9	5.5	3.8	3.6	3.0	3.0	8.6	38.5
19	6.9	6.7	6.2	5.3	5.0	3.6	3.0	2.9	4.1	5.2	12.7	14.5	10.1	10.3	26.8	199.7	184.7	435.9	205.0	350.0	229.7	281.4	120.9	135.3	94.4	435.9
20	146.9	150.7	232.5	119.1	130.0	106.2	257.7	150.3	127.3	35.6	15.3	52.3	40.9	69.8	43.9	5.5	1.0	1.4	1.9	121.4	206.6	54.6	73.5	68.2	92.2	257.7
21	48.0	4.3	0.5	0.8	0.8	3.9	5.6	27.4	26.4	45.3	61.9	88.2	63.0	156.8	82.2	102.3	115.7	54.2	74.3	101.5	90.2	26.9	122.0	127.1	59.6	156.8
22	80.2	32.2	3.8	7.4	10.2	2.4	5.2	4.2	10.8	72.7	122.3	103.4	51.7	58.6	59.4	62.4	62.1	82.0	79.5	76.2	48.7	67.9	32.1	14.9	47.9	122.3
23	8.1	21.7	17.2	67.1	126.2	89.5	287.3	156.8	174.7	402.1	101.6	93.9	106.2	55.2	25.8	21.1	21.3	28.3	14.6	24.1	14.3	2.0	1.8	1.0	77.6	402.1
24	2.4	1.8	5.4	10.3	0.9	0.8	12.7	12.1	43.9	30.9	8.3	9.3	5.5	9.7	5.4	17.9	6.6	13.9	5.4	0.8	1.9	2.9	0.4	1.1	8.8	43.9
25	6.1	3.8	3.0	1.9	4.6	8.3	20.1	47.6	62.9	73.1	80.9	97.8	362.5	372.6	349.8	421.5	549.8	315.8	394.6	840.6	711.9	224.7	364.9	400.2	238.3	840.6
26	77.6	17.0	43.6	115.5	39.9	64.8	150.3	154.6	99.7	144.7	305.5	254.1	174.8	137.3	160.0	272.3	138.7	120.2	4.3	7.6	13.1	9.7	12.1	13.2	105.4	305.5
27	2.8	6.2	3.4	3.3	17.0	31.9	41.0	37.6	55.1	67.0	96.8	65.3	84.2	227.6	505.4	253.5	176.5	94.5	46.0	33.0	27.2	11.6	27.4	27.8	80.9	505.4
28	50.9	152.2	188.4	241.8	129.7	50.1	26.4	32.8	53.0	65.3	89.9	201.7	148.2	576.6	348.4	249.9	182.6	61.4	23.6	25.4	22.1	10.5	14.1	16.9	123.4	576.6
29	4.0	3.9	4.5	10.7	23.6	37.6	6.1	5.3	14.9	6.7	13.8	27.1	42.9	186.9	51.0	293.1	96.4	226.2	362.8	260.7	594.3	454.6	253.5	80.2	127.5	594.3
30	117.8	277.8	100.6	76.3	18.8	4.1	3.5	7.9	8.0	13.6	25.3	82.0	129.0	73.5	91.8	118.1	43.6	30.2	10.2	10.8	57.8	52.1	33.3	25.6	58.8	277.8
31	11.1	6.3	23.8	20.8	8.5	4.0	6.8	38.6	43.0	13.2	1.4	1.0	1.4	1.2	2.0	1.9	1.0	0.8	7.1	47.9	64.1	28.8	11.4	16.3	15.1	64.1
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	40.5	42.4	36.8	35.6	29.3	25.3	44.2	41.4	53.5	61.7	79.8	102.5	78.7	103.8	94.8	119.8	112.3	128.6	98.7	110.3	119.9	76.6	73.2	62.8		
MAX	186.3	277.8	232.5	241.8	130.0	106.2	287.3	247.2	229.6	402.1	392.1	367.2	362.5	576.6	505.4	421.5	549.8	622.6	403.0	840.6	711.9	454.6	364.9	400.2		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	840.6 UG/M3		
Maximum 24-HR Average	238.3 UG/M3		
		Operational Time	744 HRS
Monthly Calibration	0	Operational Uptime	100.0 %
Standard Deviation	109.9	Monthly Average	73.8 UG/M3

Berm TSP (µg/m^3) – January 2022

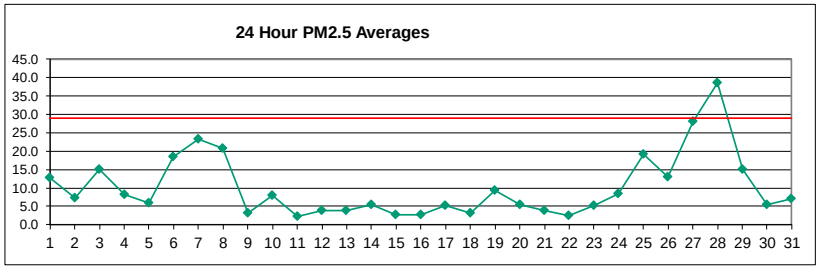
DAY \ HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	54.9	123.1	60.0	141.5	268.1	169.2	284.1	40.6	1023.8	519.3	1915.5	1059.3	1702.6	1897.2	1850.9	1131.9	1240.5	3293.0	2341.5	1069.1	593.3	203.8	41.1	9.8	876.4	3293.0
2	22.0	14.4	10.0	11.0	24.7	136.6	5.8	3.8	3.8	1.0	2.7	2.5	3.8	4.6	45.4	50.8	38.6	1.4	0.8	1.0	1.7	7.1	9.3	7.6	17.1	136.6
3	9.9	8.7	9.9	23.5	32.9	23.8	28.7	18.6	32.7	23.4	19.1	25.2	18.8	18.4	51.8	26.3	56.9	14.5	37.3	15.5	5.7	14.5	62.0	48.0	26.1	62.0
4	53.0	21.3	6.7	6.0	18.1	15.3	16.8	9.6	10.6	4.6	18.5	11.5	12.0	21.3	110.5	93.3	4.2	4.3	2.0	2.1	1.9	1.9	2.6	2.9	18.8	110.5
5	8.7	7.5	5.4	3.5	2.0	1.7	1.6	2.5	18.2	6.9	7.5	2.2	4.5	2.9	5.6	4.6	11.5	11.8	7.5	4.8	7.2	7.3	4.9	4.4	6.0	18.2
6	5.1	3.8	6.5	7.0	3.2	2.2	1.7	4.9	9.6	6.0	3.2	2.7	10.9	9.2	8.1	124.9	46.7	33.3	5.8	8.9	4.9	5.4	5.9	3.4	13.5	124.9
7	3.4	1.1	0.9	2.8	2.8	3.4	6.1	6.3	3.4	3.3	18.8	33.8	37.4	10.2	16.1	25.1	28.5	36.4	22.2	26.7	29.5	32.9	35.3	51.5	18.2	51.5
8	54.6	44.2	21.2	19.2	21.9	38.2	31.6	30.8	18.6	15.9	21.0	91.3	151.8	47.1	252.5	33.5	136.5	22.6	192.6	509.1	190.0	420.8	625.6	774.3	156.9	774.3
9	447.6	720.7	522.3	272.1	302.7	156.1	155.9	162.3	292.5	477.4	1489.7	1552.2	808.2	620.0	627.5	947.4	718.2	739.6	622.3	607.7	1029.9	1047.9	709.8	351.1	640.9	1552.2
10	592.8	127.4	115.4	238.9	78.2	52.4	4.7	34.3	13.6	8.2	131.8	1274.2	585.2	215.6	199.3	1094.6	1713.2	2176.0	1005.2	529.4	1574.0	1260.6	1089.4	512.1	609.4	2176.0
11	721.1	795.5	658.5	235.4	217.2	223.4	296.0	125.4	57.4	7.5	161.5	1170.8	279.3	232.1	119.6	567.7	897.5	1031.7	1581.4	636.7	922.1	597.2	856.0	690.0	545.0	1581.4
12	286.8	161.2	10.0	29.4	12.4	190.0	495.7	805.5	701.9	594.7	614.5	334.1	184.8	197.7	162.4	130.5	154.4	118.2	0.9	1.4	0.9	0.2	0.6	1.3	216.2	805.5
13	1.2	2.1	45.8	25.8	50.1	31.8	209.3	73.5	159.7	449.8	310.7	236.2	61.4	111.6	64.7	10.2	14.3	0.4	18.3	2.0	0.5	8.7	6.6	1.1	79.0	449.8
14	9.2	3.8	2.3	1.1	1.5	1.2	2.3	2.2	0.9	0.9	144.2	488.9	273.4	638.2	749.1	919.8	440.3	149.0	192.0	1095.7	718.2	374.9	834.3	962.7	333.6	1095.7
15	241.2	294.9	202.7	211.3	148.0	87.7	112.3	173.8	813.6	676.7	443.6	766.8	318.0	551.9	315.0	501.9	883.6	753.1	507.9	882.9	300.1	155.1	185.0	143.5	403.0	883.6
16	43.9	19.9	21.6	14.0	7.6	12.4	37.1	124.5	153.0	122.0	113.7	510.7	453.8	809.8	601.6	528.0	203.9	1419.7	976.6	565.3	333.4	164.2	112.2	88.6	309.9	1419.7
17	81.0	64.0	20.9	1.6	2.5	6.4	11.3	143.1	226.0	214.8	342.5	256.9	147.0	33.8	59.4	116.6	383.9	111.9	63.6	4.9	270.6	316.3	33.5	54.2	123.6	383.9
18	24.4	44.6	23.9	20.5	27.4	13.8	5.2	2.0	6.8	5.6	6.8	3.0	4.9	2.5	2.0	3.3	2.7	1.6	2.0	3.9	2.9	2.8	2.4	2.1	9.1	44.6
19	7.1	5.7	4.5	4.4	4.0	2.8	2.4	2.2	3.8	5.1	163.6	152.5	117.9	104.9	133.7	1255.7	1390.7	2283.6	1541.5	2131.6	1572.1	1872.4	697.3	690.1	589.6	2283.6
20	1124.3	1215.6	1806.3	1036.3	1154.7	644.1	1101.2	647.5	736.4	177.0	69.0	233.5	153.5	300.8	172.7	14.9	2.1	4.7	6.2	434.9	698.7	168.8	231.3	194.8	513.7	1806.3
21	85.7	4.5	0.6	1.1	1.7	4.6	11.7	83.7	83.3	160.2	165.4	234.3	169.9	415.7	208.5	270.8	324.1	125.8	210.9	252.3	214.8	84.1	284.4	319.2	154.9	415.7
22	225.5	65.2	11.5	34.2	54.0	13.4	22.0	25.9	44.1	210.9	327.3	272.9	123.5	148.0	113.5	102.6	147.9	229.4	188.3	217.3	134.8	228.5	117.1	57.1	129.8	327.3
23	30.8	76.1	64.0	205.1	426.0	300.4	945.8	567.5	601.4	1187.3	339.1	340.0	374.3	209.6	80.2	95.1	99.5	112.4	28.7	39.4	33.9	1.8	2.1	1.8	256.8	1187.3
24	4.4	2.1	5.5	7.8	1.8	0.6	9.7	10.7	232.0	134.7	9.0	9.7	5.5	10.8	6.2	36.3	7.1	15.3	5.4	2.8	1.4	2.6	0.3	0.9	21.8	232.0
25	4.7	2.9	3.0	2.6	13.1	28.5	57.2	193.0	253.1	266.0	280.7	268.4	1193.8	1121.7	1187.5	1342.2	1536.0	852.9	1100.2	2407.4	2131.6	720.7	1068.8	1180.3	717.4	2407.4
26	236.2	49.7	119.9	301.6	49.9	125.0	291.5	355.7	248.6	387.2	854.3	584.9	391.2	260.3	342.6	575.2	304.9	242.0	8.6	10.3	12.4	13.2	25.5	25.2	242.3	854.3
27	2.6	7.6	8.3	7.3	47.0	124.8	117.4	105.3	219.5	215.2	278.8	148.7	230.2	522.1	1234.9	612.7	434.8	240.9	123.3	86.6	74.4	31.8	81.1	92.6	210.3	1234.9
28	173.8	569.3	693.3	860.6	527.4	163.5	87.3	115.9	139.3	184.3	241.1	517.5	410.6	1298.1	857.0	588.2	462.9	174.7	63.7	67.9	63.6	21.9	33.9	34.8	347.9	1298.1
29	4.0	14.8	7.2	36.3	69.1	148.2	21.5	8.3	48.8	15.0	34.3	75.6	124.9	599.7	151.8	884.6	324.1	768.9	1245.8	837.8	1743.8	1488.2	848.5	250.1	406.3	1743.8
30	398.3	953.2	342.4	269.6	75.2	10.2	7.6	26.6	32.1	41.7	90.0	307.5	493.4	239.4	321.9	438.1	181.4	135.5	32.0	43.4	214.9	233.8	142.7	102.1	213.9	953.2
31	43.3	23.8	130.8	104.1	37.9	6.8	17.4	167.0	48.4	14.8	0.9	0.7	1.0	0.9	1.7	1.6	0.7	0.5	7.6	54.5	74.1	33.3	11.4	18.1	33.4	167.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	161.3	175.8	159.4	133.4	118.8	88.3	141.9	131.4	201.2	198.0	278.0	353.8	285.4	343.7	324.3	404.1	393.3	487.3	391.7	404.9	418.0	307.2	263.3	215.4		
MAX	1124.3	1215.6	1806.3	1036.3	1154.7	644.1	1101.2	805.5	1023.8	1187.3	1915.5	1552.2	1702.6	1897.2	1850.9	1342.2	1713.2	3293.0	2341.5	2407.4	2131.6	1872.4	1089.4	1180.3		



Number of 24HR Exceedences	21 Proposed Guideline		
Number of Non-Zero Readings	744		
Maximum 1-HR Average	3293.0 UG/M3		
Maximum 24-HR Average	876.4 UG/M3		
IZS Calibration Time		Operational Time	744 HRS
Monthly Calibration	0	Operational Uptime	100.0 %
Standard Deviation	427.6	Monthly Average	265.8 UG/M3

Entrance $PM_{2.5}$ (µg/m^3) – January 2022

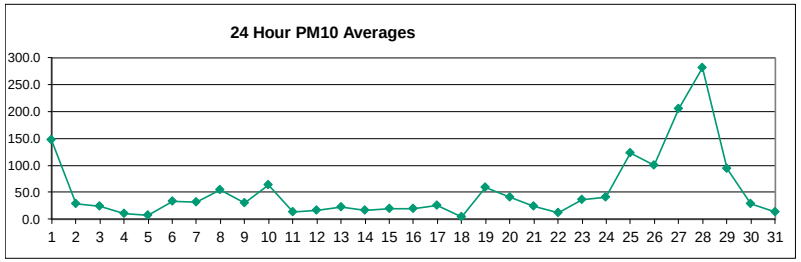
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	5.9	16.9	16.9	14.3	18.2	13.6	10.9	12.3	22.6	11.4	16.2	10.0	19.1	18.1	13.3	18.1	15.8	15.0	10.5	6.9	4.0	3.6	5.6	7.8	12.8	22.6
2	4.9	6.6	5.2	7.8	11.3	12.7	12.5	10.0	9.1	1.5	4.2	9.6	9.2	8.9	5.0	3.8	4.6	4.4	4.7	7.5	4.1	9.0	9.6	10.6	7.4	12.7
3	9.3	10.2	12.3	12.7	14.3	15.3	16.5	12.6	15.9	15.5	13.6	15.5	12.0	11.6	17.5	12.4	18.2	10.8	19.7	9.3	6.2	9.9	37.8	28.9	14.9	37.8
4	43.0	12.4	7.4	7.2	8.4	8.2	7.4	8.1	6.5	6.7	6.8	5.7	5.5	6.4	7.0	7.6	7.6	7.7	4.4	4.2	3.8	3.8	4.9	5.3	8.2	43.0
5	4.9	5.9	5.6	3.9	4.5	3.3	4.7	4.3	6.0	4.8	4.6	4.5	4.7	4.4	3.9	4.3	6.0	9.8	8.7	5.6	6.4	9.4	9.0	14.1	6.0	14.1
6	19.3	15.1	18.1	16.0	18.9	14.3	22.9	31.4	39.9	31.0	39.1	28.1	24.3	18.2	8.5	19.5	20.9	11.4	8.7	10.8	8.1	5.5	8.8	6.5	18.6	39.9
7	9.2	17.5	7.2	8.2	10.3	24.9	24.9	27.2	16.0	9.2	15.2	13.8	14.1	13.5	13.9	18.6	22.7	31.2	31.7	35.9	41.3	45.8	49.6	54.1	23.2	54.1
8	43.4	33.4	31.0	32.5	34.9	34.3	32.0	30.0	25.1	24.5	27.1	28.1	36.5	46.8	5.9	3.0	3.6	2.1	2.7	5.3	3.3	4.4	5.5	3.6	20.8	46.8
9	2.4	3.5	2.7	1.3	1.4	0.7	1.0	5.1	1.9	7.0	8.0	7.7	6.0	4.0	3.9	3.2	2.0	2.4	2.9	2.2	2.4	3.0	2.7	1.2	3.3	8.0
10	1.8	2.9	8.1	3.2	6.1	4.0	5.3	10.5	22.9	26.9	16.5	10.9	4.2	3.5	1.6	4.6	7.1	7.5	4.9	2.0	11.4	12.9	7.6	5.1	8.0	26.9
11	4.8	2.3	1.4	0.8	1.0	0.6	0.6	2.4	3.1	1.8	1.4	5.6	2.6	1.8	2.5	4.1	2.6	7.6	3.2	0.8	1.0	1.3	1.0	0.7	2.3	7.6
12	1.5	0.5	0.3	0.2	0.2	0.1	0.8	1.7	2.6	5.2	5.3	4.5	5.3	4.8	3.0	1.1	0.6	0.2	8.6	11.6	9.1	7.1	9.4	9.5	3.9	11.6
13	11.2	13.1	10.3	1.3	2.2	4.2	2.0	1.1	1.9	5.4	2.3	4.2	3.0	7.5	3.5	3.3	1.2	1.8	2.1	2.2	2.2	2.0	2.4	2.6	3.9	13.1
14	9.9	13.2	4.7	6.9	3.0	2.8	6.1	10.1	16.9	23.0	8.0	3.4	2.8	2.6	3.2	3.1	2.0	2.0	2.1	1.8	1.2	0.8	1.2	1.3	5.5	23.0
15	1.1	1.1	0.9	0.6	0.7	0.5	0.7	2.1	6.7	3.1	2.7	7.5	6.2	4.7	5.2	3.0	3.6	1.1	3.3	2.8	3.6	1.4	2.5	1.5	2.8	7.5
16	4.2	2.3	4.1	1.2	6.2	2.3	0.8	1.6	2.3	1.5	1.4	4.9	2.4	4.9	2.9	1.9	2.3	9.1	4.1	1.2	0.9	1.4	0.5	0.3	2.7	9.1
17	0.5	0.2	0.3	1.3	7.5	0.6	0.5	3.6	6.5	5.7	9.9	6.1	3.7	3.8	4.8	5.3	5.6	4.1	2.2	1.8	3.9	11.9	8.5	29.2	5.3	29.2
18	2.7	2.3	2.2	1.8	1.8	1.4	1.9	2.3	1.7	2.0	2.1	2.1	3.1	4.0	3.7	3.1	4.1	3.8	3.6	4.7	5.0	4.6	4.9	6.3	3.1	6.3
19	6.3	5.9	6.8	9.9	4.6	4.5	7.2	3.2	10.5	15.8	17.3	18.2	9.8	17.7	23.2	12.5	13.7	10.4	10.3	4.4	3.8	4.8	2.7	1.9	9.4	23.2
20	3.7	5.3	6.5	5.5	7.2	3.2	2.0	2.3	2.4	6.7	14.9	2.5	2.0	3.7	7.1	12.1	9.8	12.2	15.0	3.1	2.1	0.6	0.4	0.6	5.5	15.0
21	1.1	14.1	5.3	11.7	11.3	2.4	2.1	3.3	3.8	4.2	2.4	2.3	4.1	2.6	3.4	5.0	4.7	1.4	1.1	0.8	1.0	0.7	1.2	0.9	3.8	14.1
22	0.8	0.3	0.6	0.5	1.5	3.0	2.1	3.7	2.3	5.4	2.8	2.3	3.9	2.3	2.6	1.8	1.1	0.9	0.9	1.2	1.1	1.6	1.7	13.4	2.4	13.4
23	14.1	3.1	7.1	5.0	1.9	3.1	3.6	4.2	9.4	19.2	11.6	6.2	4.3	3.6	1.4	2.2	2.7	3.1	5.3	1.6	2.0	3.8	6.6	2.2	5.3	19.2
24	7.4	8.0	10.9	18.8	3.2	7.6	7.6	14.0	26.4	16.9	7.7	10.2	12.4	5.7	1.6	5.7	17.2	6.1	4.5	1.4	1.2	2.1	1.4	6.2	8.5	26.4
25	8.8	10.1	7.8	12.3	16.3	15.2	22.7	20.8	23.0	23.7	27.3	14.9	12.3	14.9	13.0	13.7	12.7	9.6	7.0	11.9	11.8	137.5	4.8	4.8	19.0	137.5
26	3.7	1.8	4.3	3.4	16.6	3.2	2.3	10.1	11.1	14.6	13.9	14.6	16.5	11.1	13.7	20.6	15.8	28.9	11.5	14.9	12.1	9.7	34.3	20.2	12.9	34.3
27	20.8	18.2	7.6	12.0	22.0	34.6	36.2	36.8	43.6	39.2	66.5	57.2	36.8	22.4	12.4	10.0	9.1	12.0	18.6	29.4	26.2	15.7	33.9	52.2	28.1	66.5
28	50.9	76.5	47.5	48.1	54.7	56.3	46.4	57.9	51.9	59.5	44.4	28.4	23.8	18.1	11.7	9.0	8.0	12.4	30.7	43.5	45.5	36.1	37.9	26.6	38.6	76.5
29	19.2	18.3	20.2	27.5	28.7	22.8	22.3	17.5	11.2	5.9	14.4	26.8	11.3	11.9	5.1	9.3	5.6	13.0	17.4	10.1	20.6	14.6	4.5	3.1	15.0	28.7
30	5.9	3.8	3.5	4.9	3.0	2.8	5.6	8.8	12.4	6.1	4.0	7.4	5.9	6.2	6.4	8.8	3.6	3.9	4.5	2.0	4.6	6.6	4.3	3.2	5.3	12.4
31	3.3	1.2	1.6	1.6	1.1	0.5	3.7	14.7	22.1	29.5	13.1	1.9	2.3	2.3	4.2	3.1	3.5	2.1	3.9	18.1	16.9	9.3	3.3	3.7	7.0	29.5
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	10.5	10.5	8.7	9.1	10.4	9.8	10.2	12.1	14.1	14.0	13.7	11.8	10.0	9.4	6.9	7.5	7.7	8.0	8.3	8.4	8.6	12.3	10.0	10.6		
MAX	50.9	76.5	47.5	48.1	54.7	56.3	46.4	57.9	51.9	59.5	66.5	57.2	36.8	46.8	23.2	20.6	22.7	31.2	31.7	43.5	45.5	137.5	49.6	54.1		



Number of 24HR Exceedences	1	Proposed Guideline	
Number of Non-Zero Readings	744		
Maximum 1-HR Average	137.5 UG/M3		
Maximum 24-HR Average	38.6 UG/M3		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	12.1	Monthly Average	10.1 UG/M3

Entrance PM_{10} (µg/m^3) – January 2022

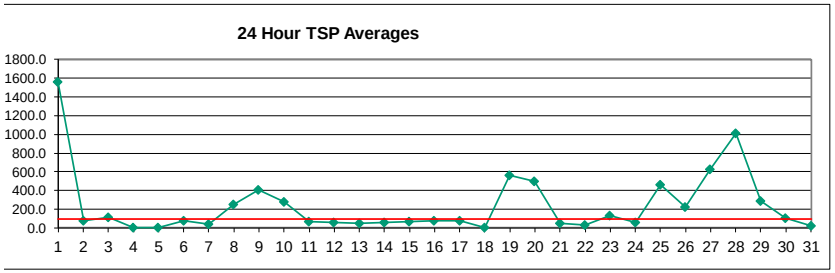
Day	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	46.4	199.2	166.1	142.5	190.6	126.0	149.6	68.1	219.1	139.6	208.9	122.8	309.6	266.8	174.7	231.1	206.1	200.0	132.1	82.3	39.3	22.8	43.1	54.5	147.6	309.6
2	31.9	43.7	33.6	60.8	88.0	67.3	18.7	15.1	14.9	4.5	19.1	48.0	56.6	53.7	25.7	18.2	24.8	24.2	6.9	11.1	5.5	10.6	10.7	12.3	29.4	88.0
3	10.4	11.8	15.1	15.3	18.0	20.6	22.7	15.7	22.3	21.6	18.2	21.3	15.7	15.6	25.0	17.3	26.3	15.3	28.4	13.0	7.8	25.8	126.0	41.6	23.8	126.0
4	62.4	16.1	7.8	7.3	9.3	9.0	7.4	8.2	6.6	8.4	7.2	6.0	5.8	7.1	8.7	10.7	10.8	10.7	5.1	5.1	4.6	4.6	6.4	7.0	10.1	62.4
5	6.8	8.2	7.6	4.8	5.8	3.5	5.3	5.1	8.1	6.7	6.0	5.4	7.3	8.2	4.8	5.0	8.2	13.8	11.6	7.6	8.0	10.8	11.6	20.9	8.0	20.9
6	28.8	22.3	27.1	24.0	28.3	21.4	34.4	47.1	59.9	46.6	58.6	42.1	36.4	27.3	23.3	43.6	30.9	16.9	12.2	16.1	12.1	13.7	81.9	39.9	33.1	81.9
7	13.7	26.3	10.7	12.3	15.4	37.4	37.4	40.8	24.0	19.6	25.7	20.0	18.9	17.4	18.2	25.8	29.2	41.3	39.1	49.3	56.0	62.0	57.4	78.4	32.3	78.4
8	58.4	41.5	36.0	41.8	44.4	45.3	39.8	36.9	26.8	25.9	53.7	65.2	189.2	260.9	19.8	14.5	22.4	10.3	19.7	51.6	31.3	53.2	69.4	43.7	54.2	260.9
9	21.2	34.3	30.2	9.7	11.1	3.5	7.4	26.6	9.7	69.1	81.9	88.6	59.0	35.5	34.7	28.5	14.3	17.9	27.4	22.4	23.9	27.4	28.6	9.0	30.1	88.6
10	11.0	13.7	40.1	17.6	38.5	21.0	33.2	74.2	192.6	256.1	131.3	99.2	35.5	21.8	7.9	33.4	62.6	66.4	35.1	12.8	99.1	112.2	62.6	37.6	63.1	256.1
11	35.3	16.8	10.7	5.0	6.0	2.7	1.9	3.8	6.4	4.1	6.6	37.7	16.1	9.4	18.5	28.9	16.2	48.1	22.4	4.4	5.0	7.2	7.1	3.0	13.5	48.1
12	10.5	1.9	1.0	0.7	1.0	0.5	6.5	15.4	27.1	46.4	43.1	31.6	33.9	37.9	23.2	5.6	2.0	0.7	22.6	17.4	13.6	10.6	14.1	14.2	15.9	46.4
13	71.8	89.8	75.9	8.3	15.3	32.7	14.5	4.3	11.9	47.3	12.7	15.3	17.1	42.3	24.5	22.3	4.5	4.7	5.6	2.7	5.1	3.7	3.5	2.8	22.4	89.8
14	14.0	19.6	6.8	10.2	3.6	3.4	9.1	15.2	25.4	34.4	46.8	23.9	22.6	18.1	24.6	24.2	12.1	13.0	16.7	14.7	7.7	3.7	9.4	7.8	16.1	46.8
15	7.1	7.1	6.4	2.3	1.7	2.2	3.2	11.7	55.3	21.7	20.0	56.7	42.1	25.8	33.3	20.5	21.8	5.2	28.1	20.9	24.6	7.2	18.9	9.8	18.9	56.7
16	31.1	13.4	33.8	6.4	50.1	13.6	5.2	11.3	24.8	9.4	9.3	33.7	21.4	46.1	18.9	11.2	8.6	78.6	30.7	8.0	4.2	4.7	1.4	0.7	19.9	78.6
17	1.8	0.6	1.3	6.4	46.1	2.2	2.6	24.6	56.8	48.5	76.6	44.2	25.6	20.8	39.2	38.3	41.3	17.6	14.0	13.4	14.2	17.7	12.6	43.1	25.4	76.6
18	3.0	2.7	2.5	2.1	2.2	1.7	2.2	2.6	1.9	2.2	2.4	2.6	4.0	5.6	5.1	4.1	5.7	5.0	4.5	6.1	6.4	6.1	6.9	9.3	4.0	9.3
19	9.1	8.0	9.5	14.7	6.4	6.3	10.7	4.5	15.7	23.8	26.0	81.2	91.9	176.5	187.3	143.7	183.6	122.6	118.5	53.9	38.2	58.1	28.8	14.8	59.7	187.3
20	44.6	74.9	92.4	76.1	102.7	38.4	18.0	21.0	15.1	35.3	93.0	12.2	7.8	17.6	40.0	71.2	54.9	61.5	80.3	18.7	16.7	1.8	1.0	2.2	41.6	102.7
21	4.0	106.7	48.5	90.1	86.8	16.0	11.1	12.6	21.1	18.4	14.7	16.0	21.7	14.7	20.7	38.1	18.5	6.1	5.6	3.3	4.7	2.4	4.4	3.5	24.6	106.7
22	3.5	0.8	1.7	1.4	6.3	14.6	8.5	16.2	10.4	24.1	13.8	10.2	18.9	10.6	9.2	6.9	4.1	2.1	2.2	4.7	4.4	10.0	9.2	82.0	11.5	82.0
23	101.6	15.7	37.8	27.3	14.4	24.8	38.2	35.9	85.6	182.3	78.5	31.2	24.7	20.2	6.4	13.0	13.9	19.1	28.5	7.9	11.8	19.5	35.9	9.0	36.8	182.3
24	40.2	47.4	52.5	95.0	19.9	42.9	52.1	139.8	222.5	25.3	11.6	15.2	18.5	17.9	4.4	26.6	99.3	22.8	9.8	2.6	2.7	3.3	1.9	9.1	41.0	222.5
25	13.0	36.1	38.1	64.0	95.6	99.1	175.2	186.2	199.6	191.9	240.8	135.6	115.6	136.8	120.5	126.7	119.1	64.4	57.6	108.8	114.6	435.8	39.9	33.0	122.8	435.8
26	22.4	9.2	22.3	22.4	124.0	21.4	14.8	74.2	100.6	110.1	108.5	114.2	118.5	78.0	104.3	166.8	115.2	283.3	107.5	129.7	84.5	75.4	251.2	146.7	100.2	283.3
27	123.6	98.7	49.1	71.5	148.3	255.3	221.9	238.8	329.0	272.0	520.8	446.5	269.6	173.4	110.7	91.0	78.3	110.2	138.3	207.6	188.4	111.8	244.7	431.3	205.4	520.8
28	432.8	582.0	386.7	418.1	438.8	379.9	318.5	423.1	411.6	460.4	340.0	196.1	201.4	124.6	81.9	61.3	53.9	69.2	209.0	290.6	289.7	187.9	224.8	161.7	281.0	582.0
29	101.5	90.2	106.2	162.6	197.7	165.7	139.2	101.3	71.3	26.5	98.0	165.1	66.3	69.6	23.1	70.5	27.9	74.2	137.1	71.2	163.5	97.1	24.3	15.5	94.4	197.7
30	41.0	28.7	21.7	30.9	13.1	9.1	24.1	42.0	70.0	28.6	13.8	32.7	37.3	21.9	41.1	64.6	22.7	19.4	19.6	10.3	25.2	33.3	18.8	12.7	28.4	70.0
31	15.1	3.7	10.6	6.5	5.2	0.9	31.5	38.3	32.9	44.0	19.3	2.7	3.2	3.4	6.2	4.6	5.0	2.9	5.4	26.8	24.9	13.5	4.5	5.0	13.2	44.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	45.7	53.9	44.8	47.0	59.2	48.0	47.3	56.8	76.7	72.7	77.6	65.3	61.7	57.6	41.5	47.4	43.4	46.7	44.6	41.8	43.2	46.9	47.1	43.9		
MAX	432.8	582.0	386.7	418.1	438.8	379.9	318.5	423.1	411.6	460.4	520.8	446.5	309.6	266.8	187.3	231.1	206.1	283.3	209.0	290.6	289.7	435.8	251.2	431.3		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	582.0 UG/M3		
Maximum 24-HR Average	281.0 UG/M3		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	79.06	Monthly Average	52.5 UG/M3

Entrance TSP (µg/m^3) – January 2022

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	254.5	1025.1	738.1	675.8	1001.9	687.7	1292.3	429.1	2123.5	1864.7	2660.8	1777.8	3720.2	3448.2	2889.1	3049.2	2994.3	2535.0	2055.4	1283.5	455.3	147.7	154.9	163.5	1559.5	3720.2
2	94.8	130.2	107.6	191.1	277.9	299.3	21.7	17.3	29.6	11.3	44.5	83.6	113.6	117.1	64.9	50.2	72.9	62.0	6.9	12.2	4.8	7.8	8.0	9.1	76.6	299.3
3	7.4	8.6	11.9	13.5	17.5	22.4	25.4	15.2	25.2	24.6	19.2	23.9	16.3	16.7	28.8	19.5	30.5	17.1	32.9	46.8	49.7	552.4	1663.4	48.2	114.0	1663.4
4	72.3	16.4	5.3	4.9	6.9	7.2	4.8	5.3	4.2	5.7	4.6	3.9	3.7	4.7	6.3	8.3	9.0	9.3	3.6	4.0	3.5	3.6	5.8	6.5	8.7	72.3
5	6.8	8.1	6.7	3.7	5.1	2.4	4.1	4.1	8.5	7.0	5.2	4.0	23.5	34.8	3.6	3.6	7.4	11.3	8.6	5.7	5.9	7.5	10.2	22.5	8.8	34.8
6	32.6	24.9	30.9	26.8	32.2	24.0	39.4	54.3	69.0	54.1	67.8	48.8	41.6	30.2	62.5	137.0	35.1	19.0	12.3	18.2	13.9	95.0	606.3	244.1	75.8	606.3
7	15.9	30.1	12.1	14.1	17.7	43.4	43.4	47.1	27.7	131.4	96.8	29.1	16.9	15.8	18.3	28.6	30.1	43.7	33.5	48.4	56.0	65.6	46.0	81.2	41.4	131.4
8	64.4	41.3	31.0	35.1	43.8	49.8	40.1	36.1	20.3	18.8	158.8	161.7	669.5	590.0	53.6	41.2	58.4	31.3	101.2	453.2	323.0	789.1	1186.5	984.9	249.3	1186.5
9	414.7	710.7	610.5	185.7	267.3	42.0	119.9	219.3	48.2	944.5	1172.4	1785.4	922.5	434.0	248.3	217.3	99.7	109.2	210.2	297.7	176.8	218.2	299.7	62.7	409.0	1785.4
10	78.0	43.6	95.2	106.6	159.2	88.3	108.9	275.9	722.9	901.8	459.5	434.8	210.9	86.1	36.1	178.7	334.1	355.6	210.1	61.5	499.3	638.2	351.1	157.3	274.7	901.8
11	203.1	109.5	67.3	33.7	43.0	14.2	5.7	9.4	11.3	10.7	52.7	134.4	65.8	30.9	86.0	117.2	63.1	194.5	125.7	39.2	24.8	53.8	65.7	18.2	65.8	203.1
12	57.1	11.1	3.2	4.4	4.9	2.0	41.4	91.5	146.1	208.7	194.2	117.2	118.6	105.3	100.7	14.5	6.2	1.7	36.7	20.2	15.6	12.0	15.8	16.3	56.1	208.7
13	173.3	186.7	159.8	24.7	44.5	105.6	38.5	7.1	33.0	111.1	36.5	38.2	54.5	83.1	68.5	52.9	18.9	7.5	6.2	2.1	5.4	5.5	3.2	1.9	52.9	186.7
14	15.2	22.1	6.6	11.1	2.7	2.8	10.1	17.3	29.3	40.0	221.8	123.9	136.7	88.3	120.2	103.1	64.5	66.2	92.7	106.4	50.8	23.7	69.5	51.5	61.5	221.8
15	36.1	58.0	36.3	14.9	8.9	11.4	18.9	41.5	245.7	78.5	62.2	181.3	116.6	71.7	102.7	60.9	64.4	21.0	111.6	83.5	113.3	21.8	87.7	44.5	70.6	245.7
16	75.7	20.7	54.2	16.0	107.2	27.6	36.4	55.4	104.6	54.6	36.1	175.0	110.9	261.9	101.9	50.1	27.5	308.5	175.1	49.3	20.6	30.4	3.1	0.9	79.3	308.5
17	7.1	2.9	3.3	23.7	111.7	3.7	12.6	84.2	200.6	155.2	247.4	134.0	91.8	60.2	128.0	110.1	143.7	44.7	42.0	31.6	97.7	20.0	14.6	49.9	75.9	247.4
18	1.9	1.8	1.7	1.4	1.5	1.2	1.5	1.8	1.3	1.6	1.7	1.8	3.0	4.9	4.4	3.4	5.1	4.0	3.2	4.9	5.4	4.8	6.1	9.3	3.2	9.3
19	7.7	5.9	7.0	14.2	5.2	5.3	11.0	4.0	17.7	27.5	29.9	478.2	576.3	799.1	621.0	1038.2	2307.9	1866.3	1970.2	1054.7	698.8	1228.6	533.6	240.4	564.5	2307.9
20	801.4	1571.1	1986.4	1870.8	2593.5	1040.5	399.2	325.7	157.0	88.5	257.2	41.1	16.1	55.0	84.1	168.2	128.1	84.0	145.8	71.4	79.9	7.7	3.3	7.8	499.3	2593.5
21	12.3	135.7	70.4	117.8	147.8	27.5	18.9	26.1	33.6	38.6	46.6	52.2	56.5	32.2	62.8	114.9	46.3	17.4	12.3	16.0	23.6	10.8	10.9	16.2	47.8	147.8
22	16.7	2.7	5.4	3.8	11.4	24.0	19.0	30.8	28.0	58.6	31.1	16.2	40.4	30.0	20.3	22.3	10.1	8.4	6.4	11.4	30.3	57.0	48.4	175.1	29.5	175.1
23	252.5	55.7	107.2	60.7	71.2	106.8	206.6	153.6	434.8	827.9	358.3	85.1	84.5	76.6	22.8	43.7	47.8	57.1	49.5	17.0	32.0	30.2	41.4	12.0	134.8	827.9
24	54.7	54.0	53.1	120.3	66.9	70.6	79.5	223.8	371.6	28.0	12.4	16.9	20.0	18.6	9.1	39.4	136.4	33.5	12.3	6.5	4.0	2.8	1.9	9.7	60.3	371.6
25	14.4	51.3	70.5	171.1	302.5	361.4	692.6	795.3	825.1	718.9	903.2	540.5	570.6	608.4	556.9	594.0	512.3	219.6	262.3	579.4	664.3	690.7	189.8	135.7	459.6	903.2
26	70.3	39.2	50.5	66.4	191.9	42.4	50.8	198.7	356.1	407.1	454.9	374.3	291.1	179.1	221.6	345.2	203.5	397.5	204.7	246.6	140.0	123.3	430.8	282.7	223.7	454.9
27	188.2	176.9	141.8	174.9	499.7	885.8	657.2	762.9	1121.0	770.2	1589.5	1274.5	726.1	581.2	386.2	280.3	274.8	400.3	402.7	606.6	537.1	317.4	704.8	1580.8	626.7	1589.5
28	1661.9	2234.0	1595.7	1877.1	1966.5	1468.5	1085.0	1597.0	1678.6	1869.5	1306.4	666.4	615.9	430.5	270.2	193.2	208.4	205.2	491.3	749.5	745.6	439.4	590.2	345.6	1012.1	2234.0
29	196.7	144.2	222.3	423.9	599.0	543.4	357.9	273.8	219.2	82.8	296.8	349.4	189.3	230.0	79.7	231.3	81.7	282.7	560.3	289.7	670.9	425.8	105.0	81.7	289.1	670.9
30	220.8	173.2	119.8	161.3	72.0	48.1	49.9	106.0	182.7	97.7	67.7	114.5	130.7	67.9	143.1	256.3	87.3	69.9	43.8	29.8	103.3	111.9	51.8	46.3	106.5	256.3
31	52.1	12.4	64.1	27.6	24.6	1.9	81.8	157.9	38.2	50.7	21.9	2.2	3.0	3.4	5.8	5.0	5.0	2.7	4.7	30.1	28.0	14.5	3.8	4.2	26.9	157.9
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	166.5	229.3	208.9	208.9	280.8	195.5	179.8	195.7	300.5	312.6	352.2	299.1	314.8	277.3	213.1	244.4	261.7	241.5	239.8	202.5	183.2	198.6	235.9	158.4		
MAX	1661.9	2234.0	1986.4	1877.1	2593.5	1468.5	1292.3	1597.0	2123.5	1869.5	2660.8	1785.4	3720.2	3448.2	2889.1	3049.2	2994.3	2535.0	2055.4	1283.5	745.6	1228.6	1663.4	1580.8		



Number of 24HR Exceedences	14 Proposed Guideline		
Number of Non-Zero Readings	744		
Maximum 1-HR Average	3720.2 UG/M3		
Maximum 24-HR Average	1559.5 UG/M3		
		Opperational Time	744 HRS
Monthly Calibration	0	Opperational Uptime	100.0 %
Standard Deviation	473.0	Monthly Average	237.5 UG/M3