

LAFARGE CANADA INC.

AMBIENT AIR QUALITY MONTHLY REPORT MARCH 2019

APRIL 05, 2019





AMBIENT AIR QUALITY MONTHLY REPORT

MARCH 2019

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-00
DATE: APRIL 05, 2019

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April 05, 2019

LAFARGE CANADA INC.
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Attention: Janet Brygger

Dear Ms. Brygger

Subject: Ambient Air Quality Monthly Report - March 2019

The operational uptime for the meteorological systems and all analyzers at the Lagoon station was 100% in March. There were zero exceedances of the 24-hour TSP Alberta Ambient Air Quality Objectives (AAAQOs), zero exceedances of the 24-hour PM_{2.5} AAAQOs, and zero exceedances of the 1-hour PM_{2.5} AAAQG in March at the Lagoon monitoring location.

All analyzers at the Windridge station had 100% operational uptime in March. There were 5 exceedances of the 24-hour TSP AAAQO, zero exceedances of the 24-hour PM_{2.5} AAAQO, and zero exceedances of the 1-hour PM_{2.5} AAAQG. TSP exceedances primarily occurred on days with high wind speeds.

Data collected at all of 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. The operational uptime at the 3 monitors was as follows: 100% at the West monitor; 96.8% at the Berm monitor due to 24 hours of machine malfunction; and 97% at the Entrance monitor due to 22 hours of machine malfunction. The West GRIMM monitor recorded zero exceedances of the 24-hour TSP Objective and zero exceedances of the 24-hour PM_{2.5} Objective. The Berm GRIMM had 9 exceedances of the TSP Objective and zero exceedances of the PM_{2.5} Objective. The Entrance GRIMM monitor exceeded the 24-hour TSP AAAQO for 17 days, and did not exceed the 24-hour PM_{2.5} AAAQO.

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

Sincerely,

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

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APPROVED¹ BY *(must be reviewed for technical accuracy prior to approval)*



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Date

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A DATA & CALIBRATION REPORTS

1 INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon, Windridge, and GRIMM monitors in Exshaw, AB. The station is operated by WSP on behalf of Lafarge Canada Inc. (Lafarge) and is a requirement of Lafarge's Approval 1702-02-04. This report contains data collected between March 1, 2019 and March 31, 2019.

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

2 MARCH 2019 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	41.2	0 ¹	19.1	-
SO ₂ (ppb)	100.0	9.1	0	1.9	0
PM _{2.5} (µg/m ³)	100.0	52.2	0	21.8	0
PM ₁₀ (µg/m ³)	100.0	167.8	-	46.0	-
TSP (µg/m ³)	100.0	283.3	-	61.2	0
Temperature (°C)	100.0	18.5	-	7.0	-
Wind Speed (km/hr) /Direction (Degrees)	100.0	51.8/W	-	43.2/WSW	-
Precipitation (mm)	100.0	1.5 ²	-	6 ³	-

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

² Maximum Daily Total Accumulation of Precipitation (mm)

³ Monthly Total Accumulation of Precipitation (mm)

Data Quality Notes:

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

Calibration/Maintenance Notes:

- All analyzers and meteorological sensors had 100% uptime for the month of March.

2.2 WINDRIDGE STATION

Table 2-2 Windridge station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
PM _{2.5} (µg/m ³)	100.0	49.6	0*	21.9	0
PM ₁₀ (µg/m ³)	100.0	422.6	-	171.9	-
TSP (µg/m ³)	100.0	592.6	-	247.1	5

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

Data Quality Notes:

- There were no exceedances of the 24-hour PM_{2.5} AAAQO.
- There were no exceedances of the 1-hour PM_{2.5} AAAQG.
- There were 5 days exceeding the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- All analyzers had 100% uptime for the month of March.

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	49.5	0*	21.5	0
PM ₁₀ (µg/m ³)	100.0	58.9	-	23.7	-
TSP (µg/m ³)	100.0	40.1	-	15.4	0

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

Data Quality Notes:

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

Calibration/Maintenance Notes:

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

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)	96.8	75.0	0*	27.9	0
PM ₁₀ (µg/m ³)	96.8	632.9	-	250.2	-
TSP (µg/m ³)	96.8	2194.5	-	923.9	9

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

Data Quality Notes:

- There were no exceedances of the 24-hour PM_{2.5} AAAQG.
- There were no exceedances of the 1-hour PM_{2.5} AAAQG.
- There were 9 days exceeding the 24-hour TSP AAAQG.

Calibration/Maintenance Notes:

- The analyzer had 96.8% uptime for the month of March due to 24 hours of machine malfunction.

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)	97.0	58.4	0*	26.8	0
PM ₁₀ (µg/m ³)	97.0	552.9	-	179.7	-
TSP (µg/m ³)	97.0	1667.1	-	479.7	17

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

Data Quality Notes:

- There were no exceedances of the 24-hour PM_{2.5} AAAQG.
- There were no exceedances of the 1-hour PM_{2.5} AAAQG.
- There were 17 days exceeding the 24-hour TSP AAAQG.

Calibration/Maintenance Notes:

- The analyzer had 97% uptime for the month of March due to 22 hours of machine malfunction.

3 LAGOON STATION

The Lagoon trailer contains NO_x, SO₂, TSP, PM₁₀, and PM_{2.5} analyzers as well as meteorological sensors, and is shown in Figure 3-1. An ambient air quality station has been at this location since 2002, providing a long-term data record for air quality in the Exshaw area.

This section provides a summary of the monitoring activities for the Lagoon ambient air quality station, including: a table of instrumentation (Table 3-1), a data summary table (Table 3-2), site visit notes, a wind rose (Figure 3-2) and tables and graphs illustrating the monitoring results for March 2019.

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	No operational issues observed. The PM _{2.5} monitor was calibrated on March 14 th . The monitor had 100% uptime in March.
PM₁₀ Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	No operational issues observed. The PM ₁₀ monitor was calibrated on March 14 th . The monitor had 100% uptime in March.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	No operational issues observed. The TSP monitor was calibrated on March 14 th . The monitor had 100% uptime in March.
Oxides of Nitrogen	TEI 42C	No operational issues observed. Both monitors were calibrated on March 14 th . The monitors had 100% uptime in March.
Sulphur Dioxide	Teledyne API 102A	
Precipitation	MetOne 130 Rain/Snow Gauge	No operational issues observed. The monitor had 100% uptime in March.
Wind Speed	MetOne Wind Sensor	No operational issues observed. The monitors had 100% uptime in March.
Wind Direction		
Ambient Temperature	MetOne Ambient Temperature Sensor	No operational issues observed. The monitor had 100% uptime in March.



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

3.2 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 3-2) illustrates the frequency of wind speed by wind direction for the month of March 2019. The wind rose indicates that the winds predominantly came from the west-southwest direction, which is typical for the airshed.

Table 3-2 summarizes the hourly and daily concentrations recorded in March 2019.

Figure 3-3 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-9 shows daily average concentrations recorded during March 2019 for the pollutants listed in Table 3-2. Additionally, Figure 3-4 to Figure 3-8 show the histograms of the hourly concentrations of NO_2 , SO_2 , $\text{PM}_{2.5}$, PM_{10} , and TSP measured at the Lagoon station. Elevated $\text{PM}_{2.5}$ concentrations this month could be associated with residential woodsmoke, open burning or industrial combustion sources in the airshed.

There were zero exceedances of the 24-hour TSP ($100 \mu\text{g}/\text{m}^3$) AAAQO, zero exceedances of the 24-hour $\text{PM}_{2.5}$ ($29 \mu\text{g}/\text{m}^3$) AAAQO, and zero exceedances of the 1-hour $\text{PM}_{2.5}$ AAAQG. Historically in March, the average number of 24-hour TSP AAQO exceedances and 24-hour $\text{PM}_{2.5}$ AAAQO exceedances are both zero. The maximum number of 24-hour TSP exceedances was 1 day in March 2015. The station has not recorded an exceedance of the $\text{PM}_{2.5}$ AAAQO in March since monitoring began in 2010.

Table 3-2 Summary of March 2019 data at Lagoon

Parameter	Guideline / Objectives		Station	Exceedances		Monthly		1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable	Day	
NO ₂ (ppb)	159	-	Lagoon	0	-	0.4	10.1	41.2	6	7	2.2	73.8	19.1	6	100.0
SO ₂ (ppb)	172	48	Lagoon	0	0	0.0	0.6	9.1	18	10	18.7	273.8	1.9	22	100.0
PM _{2.5} (µg/m ³)	80	29	Lagoon	0	0	0.0	6.4	52.2	24	4	16.6	80.7	21.8	24	100.0
PM ₁₀ (µg/m ³)	-	-	Lagoon	-	-	0.0	21.8	167.8	21	10	15.4	266.6	46.0	21	100.0
TSP (µg/m ³)	-	100	Lagoon	-	0	0.0	30.7	283.3	11	8	28.7	264.3	61.2	21	100.0
Temperature (°C)	-	-	Lagoon	-	-	-33.0	-1.8	18.5	21	15	7.0	89.5	7.0	22	100.0
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	1.4	15.7	51.8/W	11	18	51.8	248.9	43.2/WSW	11	100.0
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.0	1.5	31	18	6.4	73.5	6.0	-	100.0

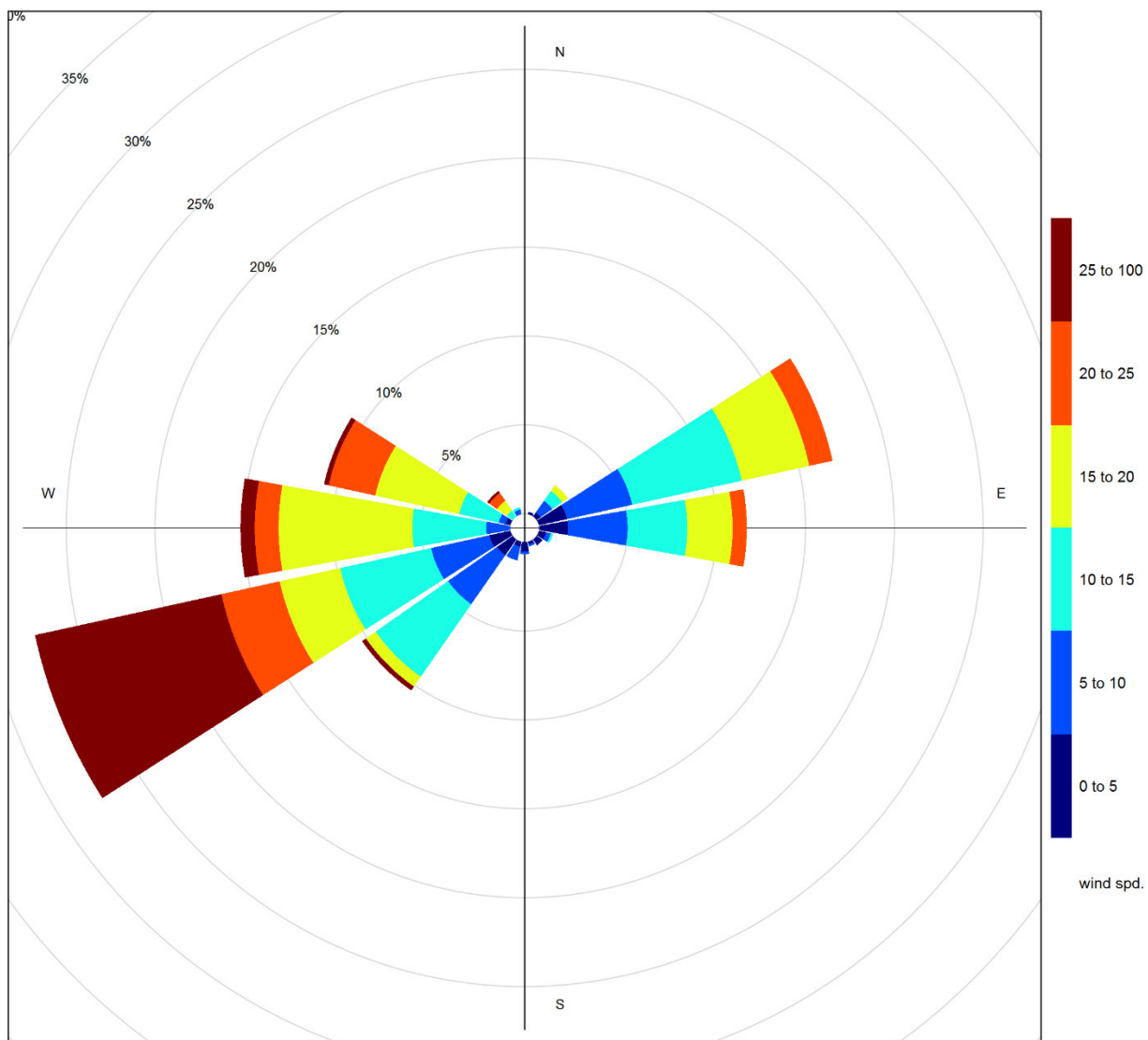


Figure 3-2 March 2019 wind rose from the Lagoon Station

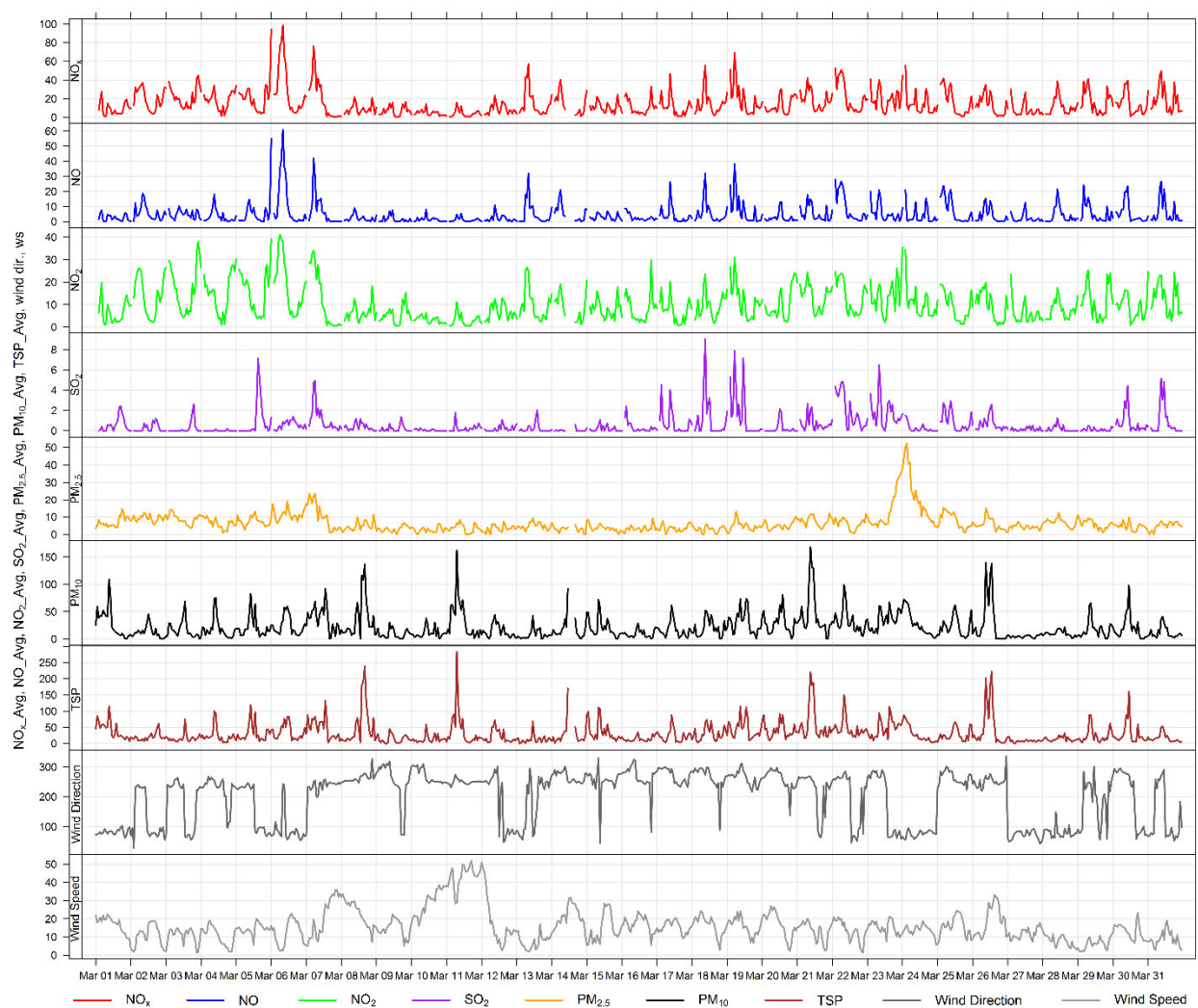


Figure 3-3 1-hour concentrations of NO_x, SO₂, particulate matter, wind direction and wind speed at the Lagoon station

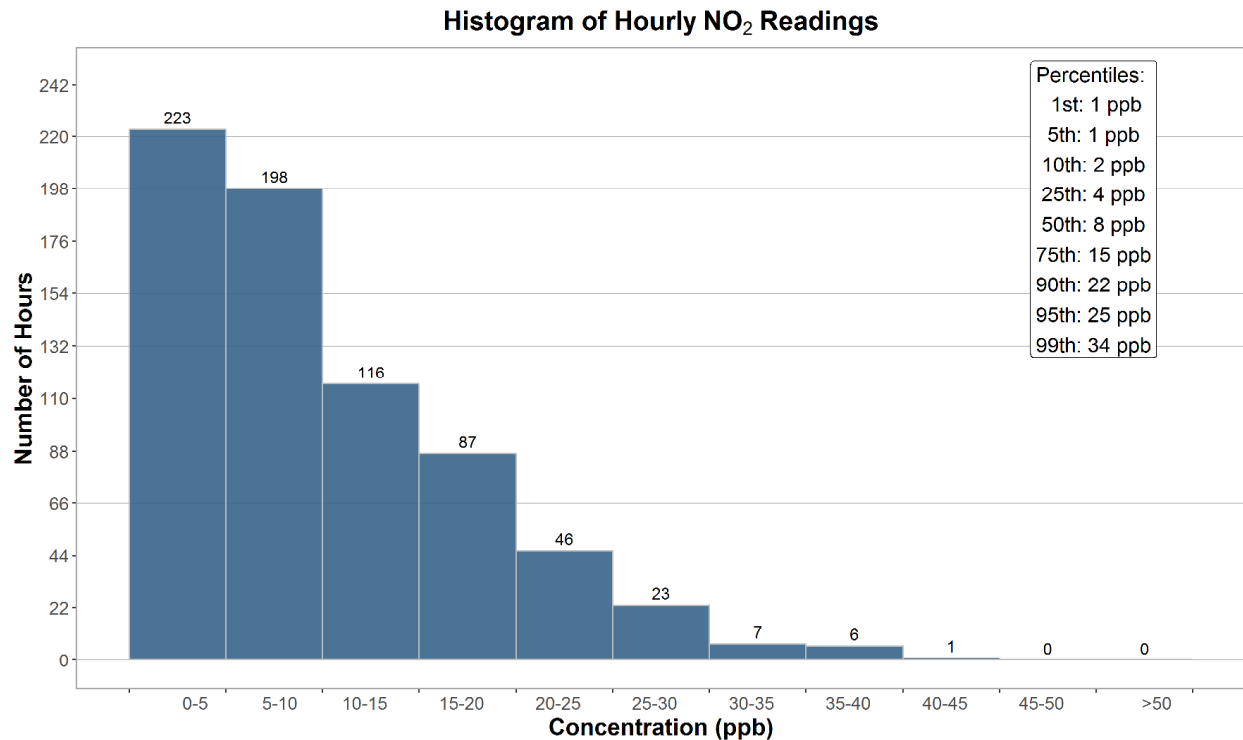


Figure 3-4 Histogram of hourly NO₂ concentrations at the Lagoon station

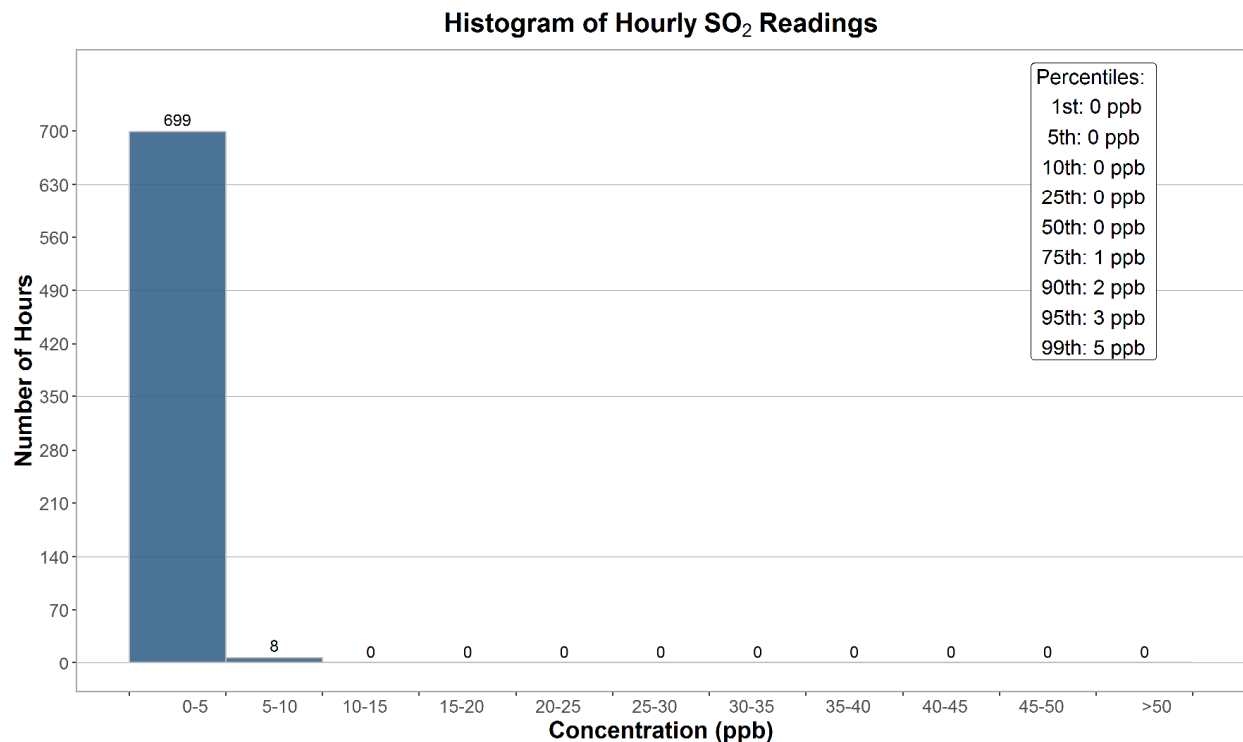


Figure 3-5 Histogram of hourly SO₂ concentrations at the Lagoon station

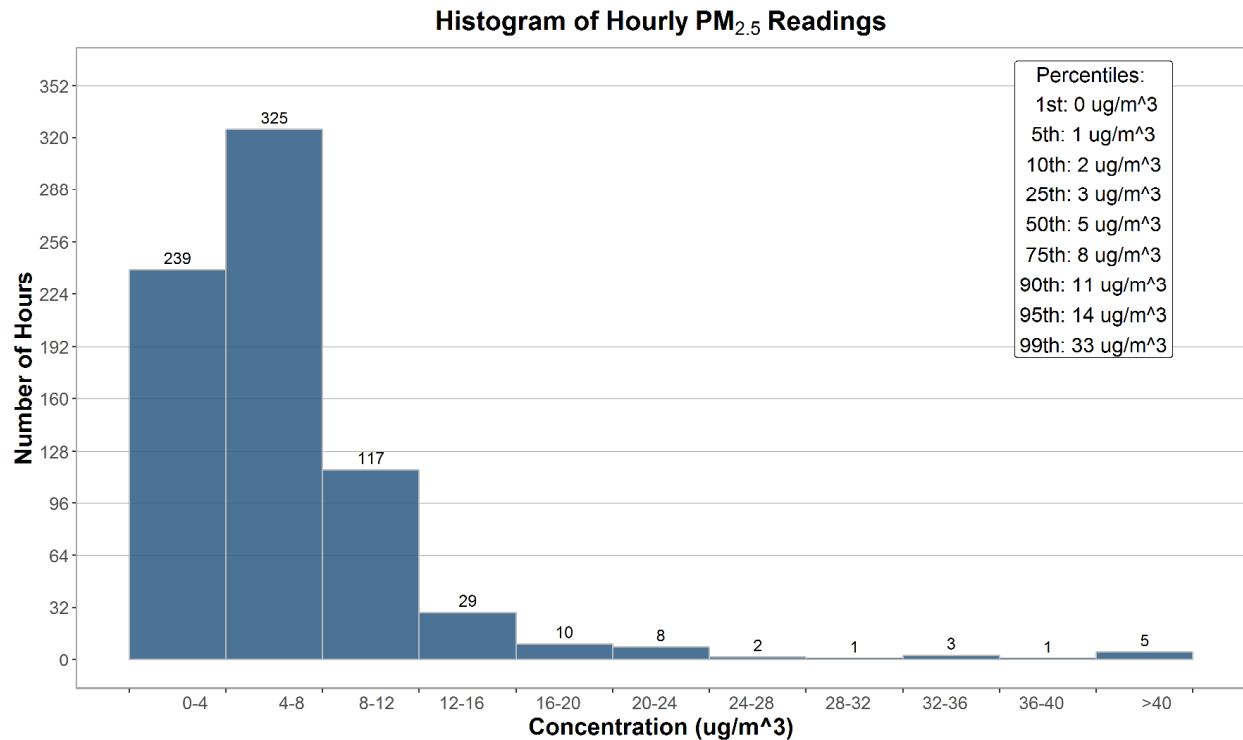


Figure 3-6 Histogram of hourly PM_{2.5} concentrations at the Lagoon station

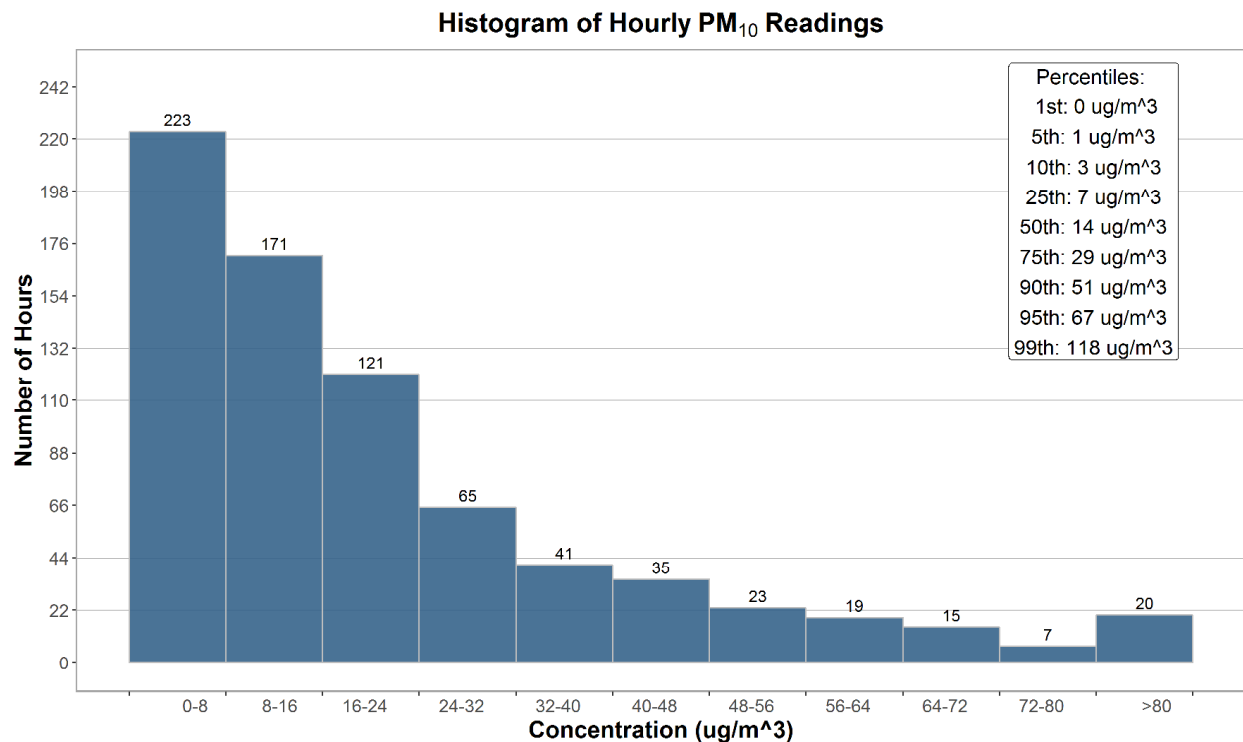


Figure 3-7 Histogram of hourly PM₁₀ concentrations at the Lagoon station

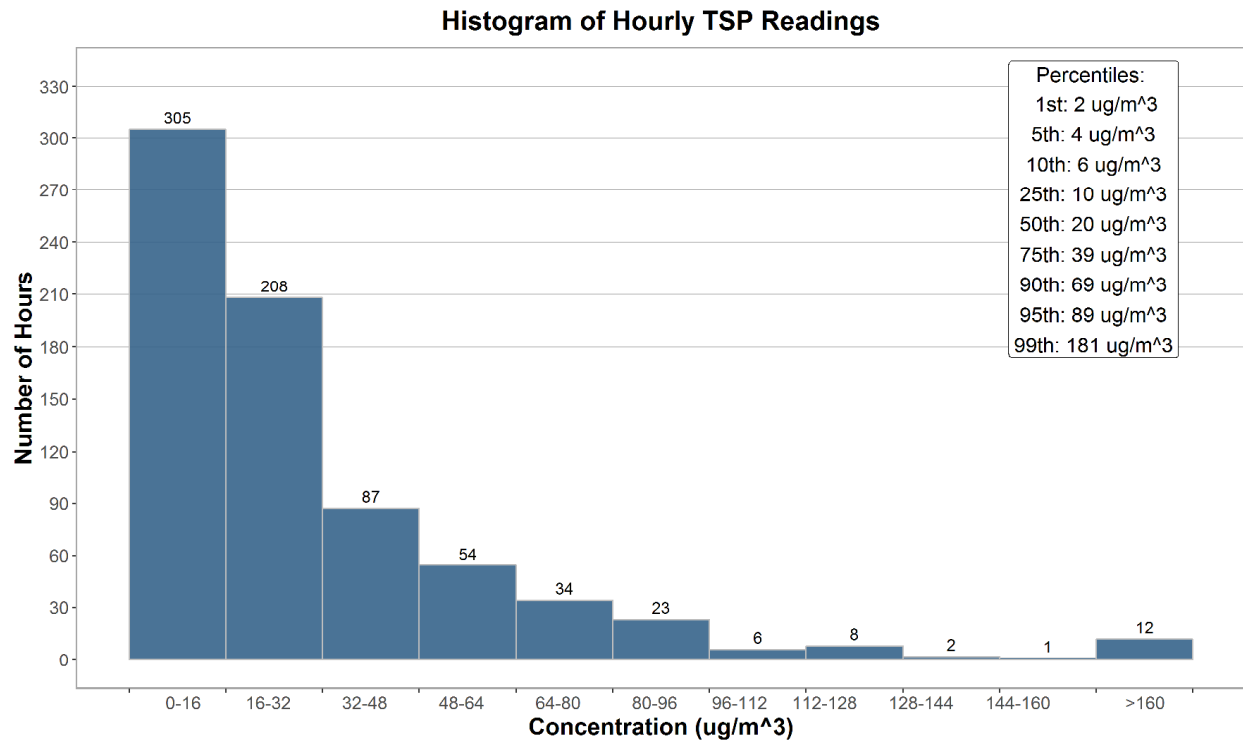


Figure 3-8 **Histogram of hourly TSP concentrations at the Lagoon station**

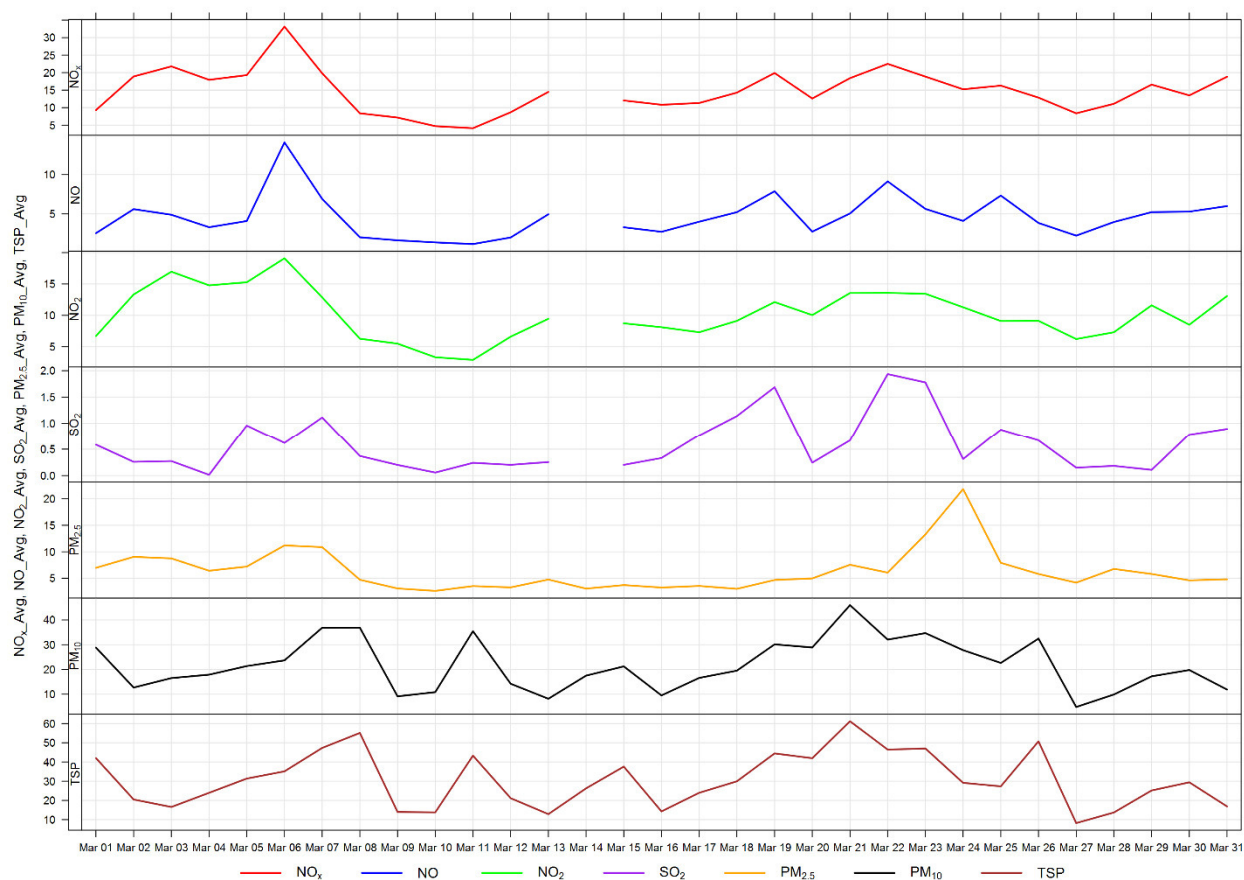


Figure 3-9 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

Figure 3-10 through Figure 3-12 show the variation in concentrations over various time averaging periods for PM, SO₂ and NO_x. The particulate matter plot in Figure 3-10 shows that PM₁₀ and TSP concentrations shows a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other activities. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.

Figure 3-11 shows the variation of SO₂ over various time periods. SO₂ concentrations patterns are dependent on the timing of the highest SO₂ concentrations recorded in the month because in general SO₂ concentrations are very low. Figure 3-12 shows the variation of NO_x, NO and NO₂, with the peak of all three pollutants occurring in the early morning. This may be indicative of a peak in traffic.

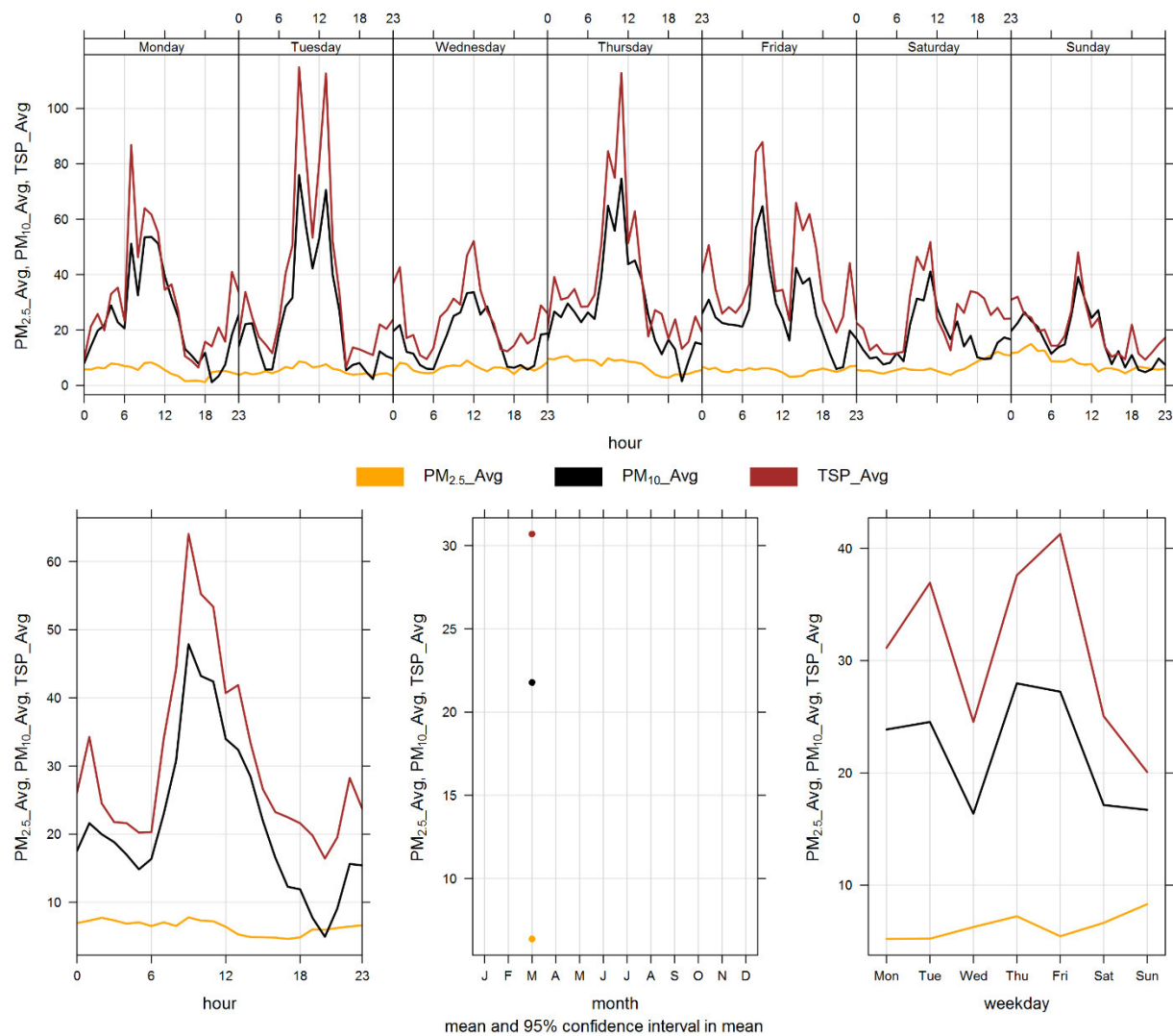


Figure 3-10 Lagoon monitor particulate matter time variation

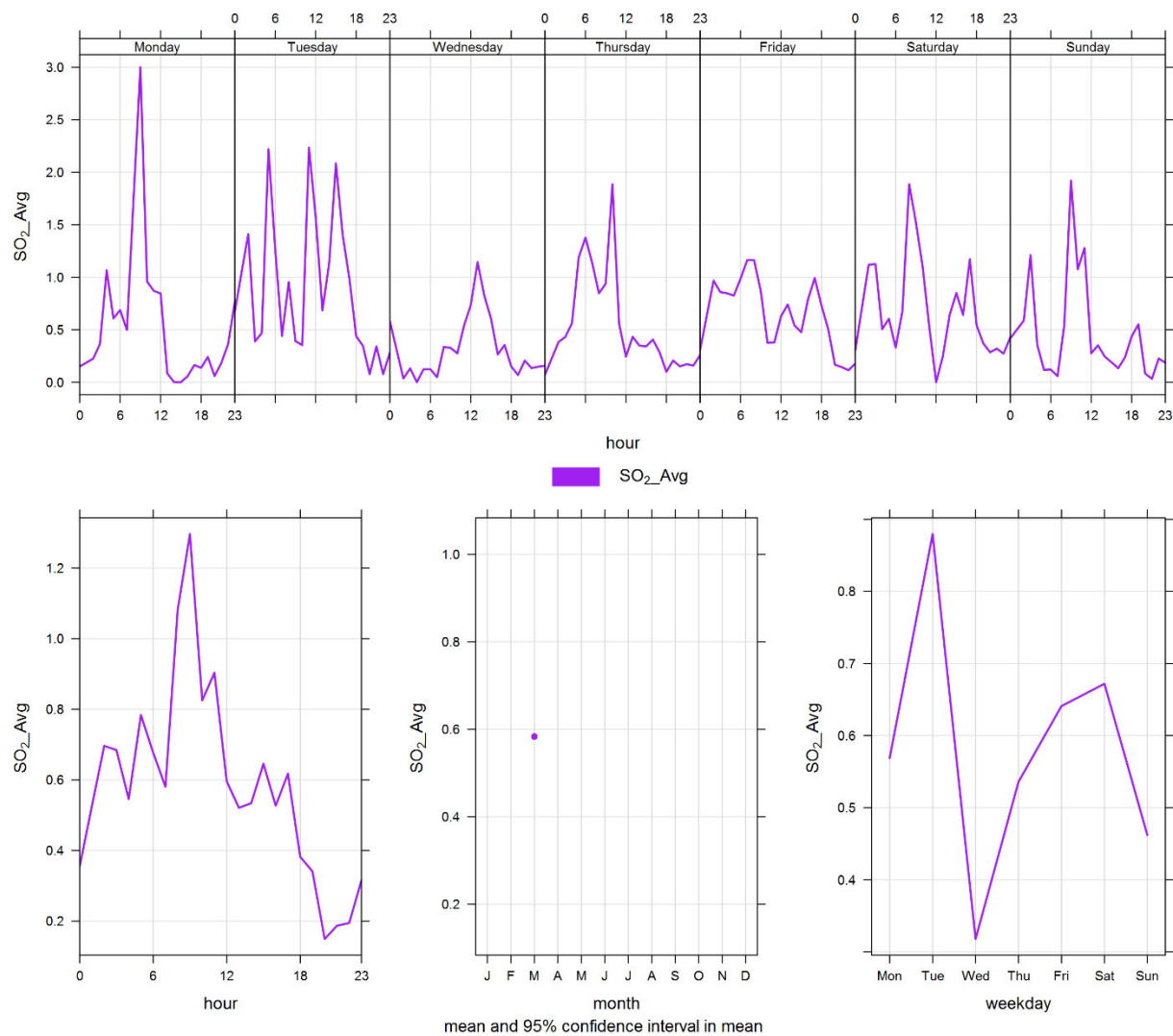


Figure 3-11 Lagoon monitor SO₂ time variation

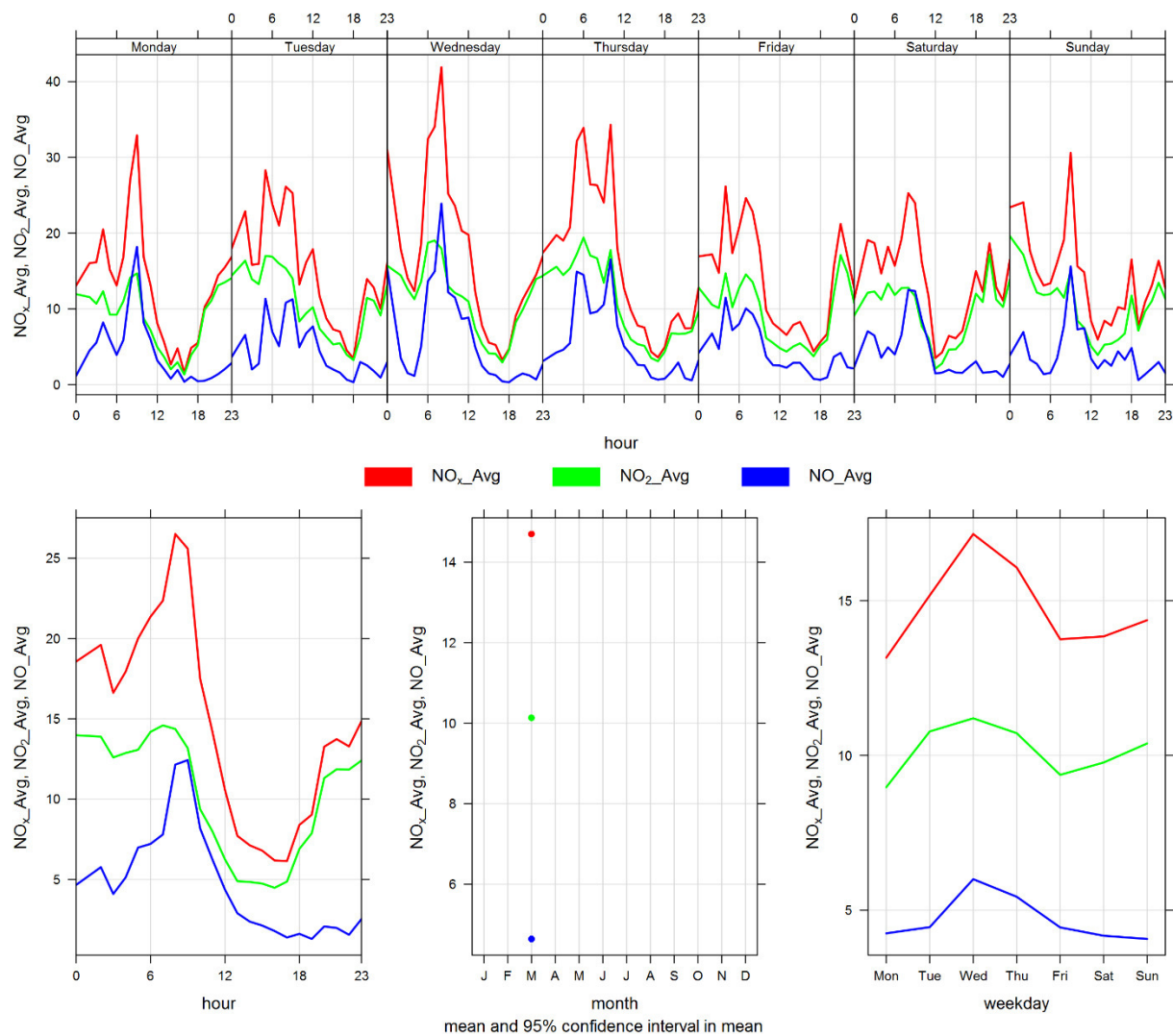


Figure 3-12 Lagoon monitor NO_x time variation

4 WINDRIDGE STATION

The Windridge station contains TSP, PM₁₀, 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 March 2019.

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	No operational issues observed. The PM _{2.5} monitor was calibrated on March 13 th . The monitor had 100% uptime in March.
PM₁₀ Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	No operational issues observed. The PM ₁₀ monitor was calibrated on March 13 th . The monitor had 100% uptime in March.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	No operational issues observed. The TSP monitor was calibrated on March 13 th . The monitor had 100% uptime in March.

4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in March 2019, 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 illustrate the histograms for hourly PM, Figure 4-5 illustrates the time series for daily PM, Figure 4-6 displays the wind rose for the 24-hour TSP exceedance days, and Figure 4-7 illustrates the time series for hourly PM over different time periods.

There were zero exceedances of the 24-hour PM_{2.5} AAAQO, zero exceedances of the 1-hour PM_{2.5} AAQ, and 5 exceedances of the 24-hour TSP AAAQO. TSP exceedances occurred primarily on days with high wind speeds. As the Windridge monitor began reporting in November 2017, we can compare the exceedances in March 2019 with the exceedances in March 2018. In March 2018, there was 1 exceedance of the 24-hour PM_{2.5} AAAQO and 2 exceedances of the 24-hour TSP AAAQO.

Higher levels of particulate, especially in the PM_{2.5} size fraction, were recorded in March 2019. This could be

associated with residential woodsmoke, open burning or industrial combustion sources in the airshed.

Table 4-2 Summary of March 2019 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} (µg/m ³)	80	29	Windridge	0	0	0.0	6.2	49.6	24	5	13.5	95.1	21.9	24	100.0
PM₁₀ (µg/m ³)	-	-	Windridge	-	-	0.0	37.1	422.6	11	11	42.6	255.9	171.9	11	100.0
TSP (µg/m ³)	-	100	Windridge	-	5	0.0	56.3	592.6	10	23	38.2	248.8	247.1	11	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						
3/7/2019	109.2	-	242.9	20.7	55.1	high wind event
3/8/2019	203.4	-	258.7	23.2	45.0	high wind event
3/10/2019	124.8	-	264.6	28.6	42.4	high wind event
3/11/2019	247.1	-	248.9	43.2	38.8	high wind event
3/26/2019	109.3	-	251.8	19.0	52.3	
Total # of Exceedances	5	0				
Maximum # of Exceedances (March)	2 (2018)	1 (2018)				
Average # of Exceedances (March)	2 (2018)	1 (2018)				
Minimum # of Exceedances (March)	2 (2018)	1 (2018)				

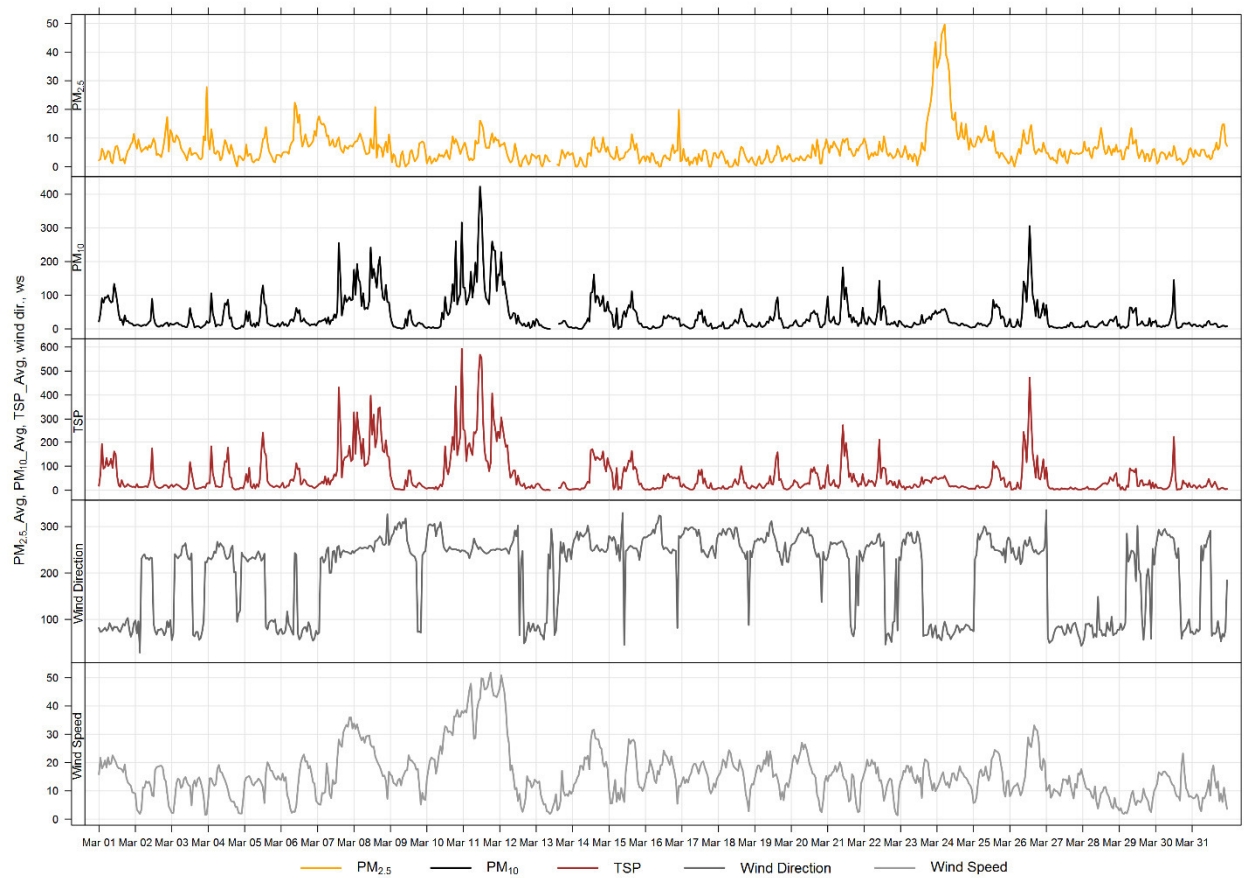


Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

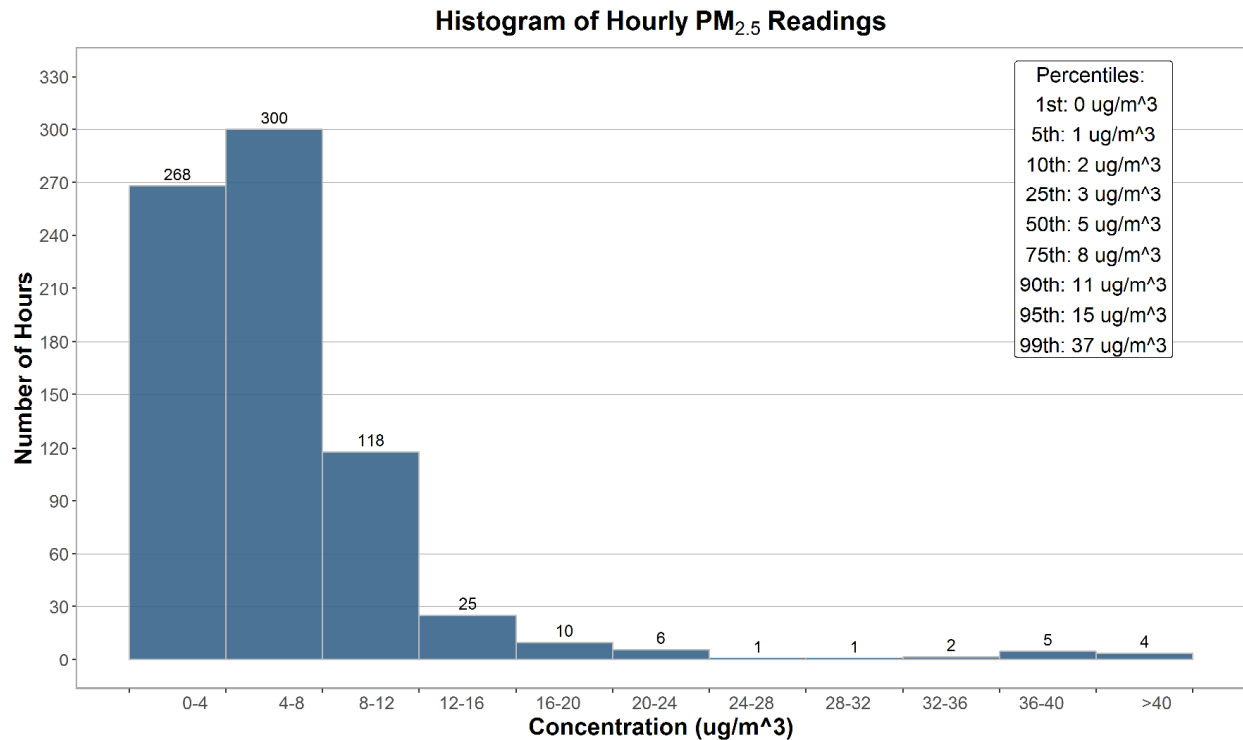


Figure 4-2 Histogram of hourly PM_{2.5} concentrations at the Windridge station

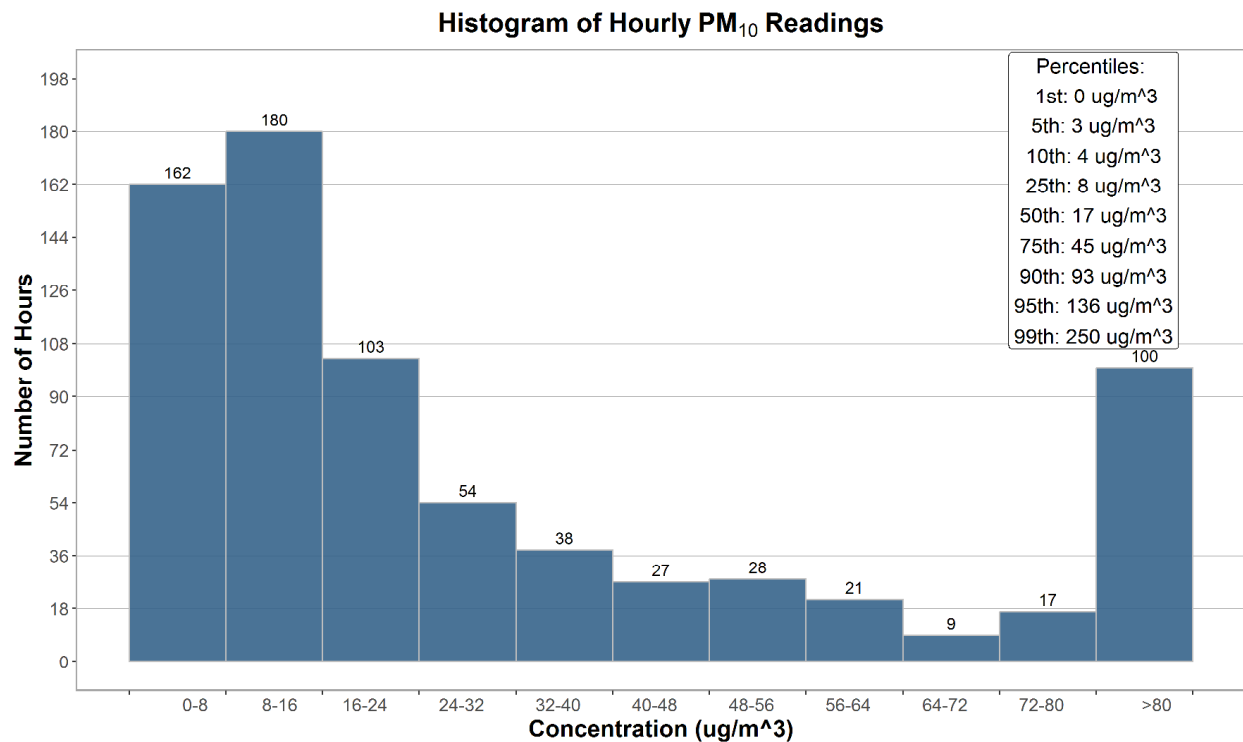


Figure 4-3 Histogram of hourly PM₁₀ concentrations at the Windridge station

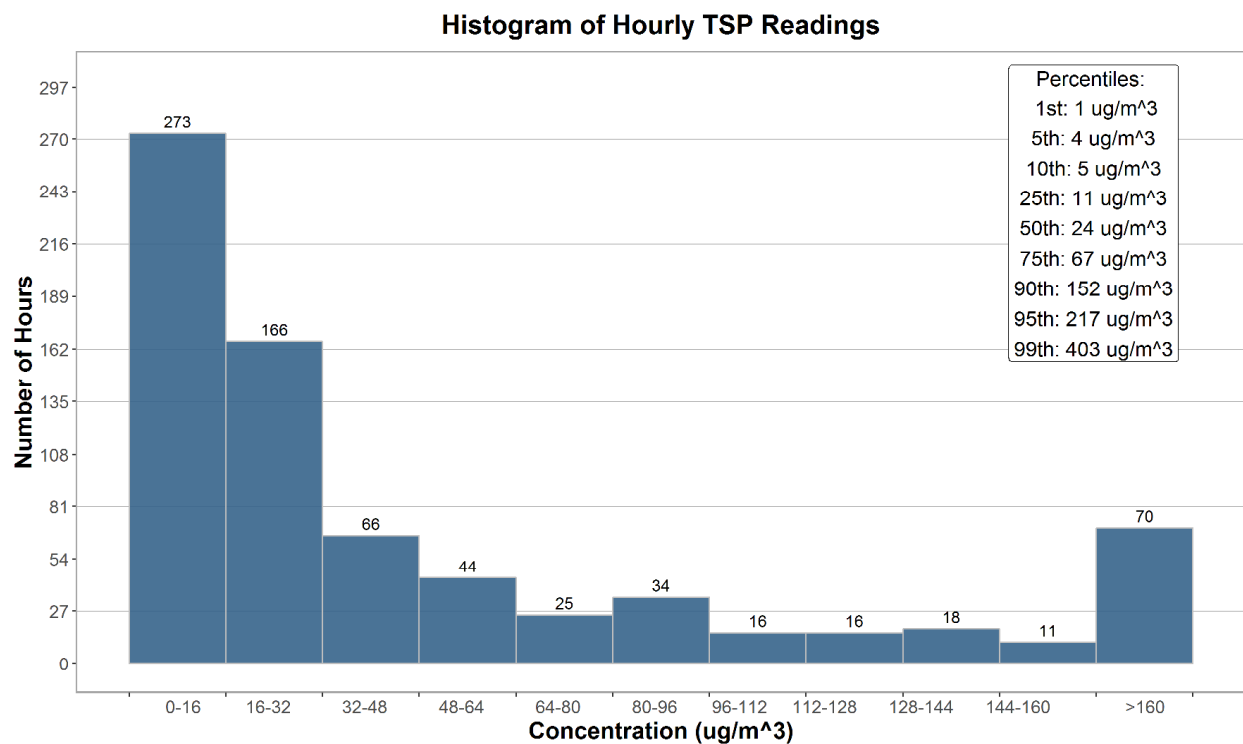


Figure 4-4 **Histogram of hourly TSP concentrations at the Windridge station**

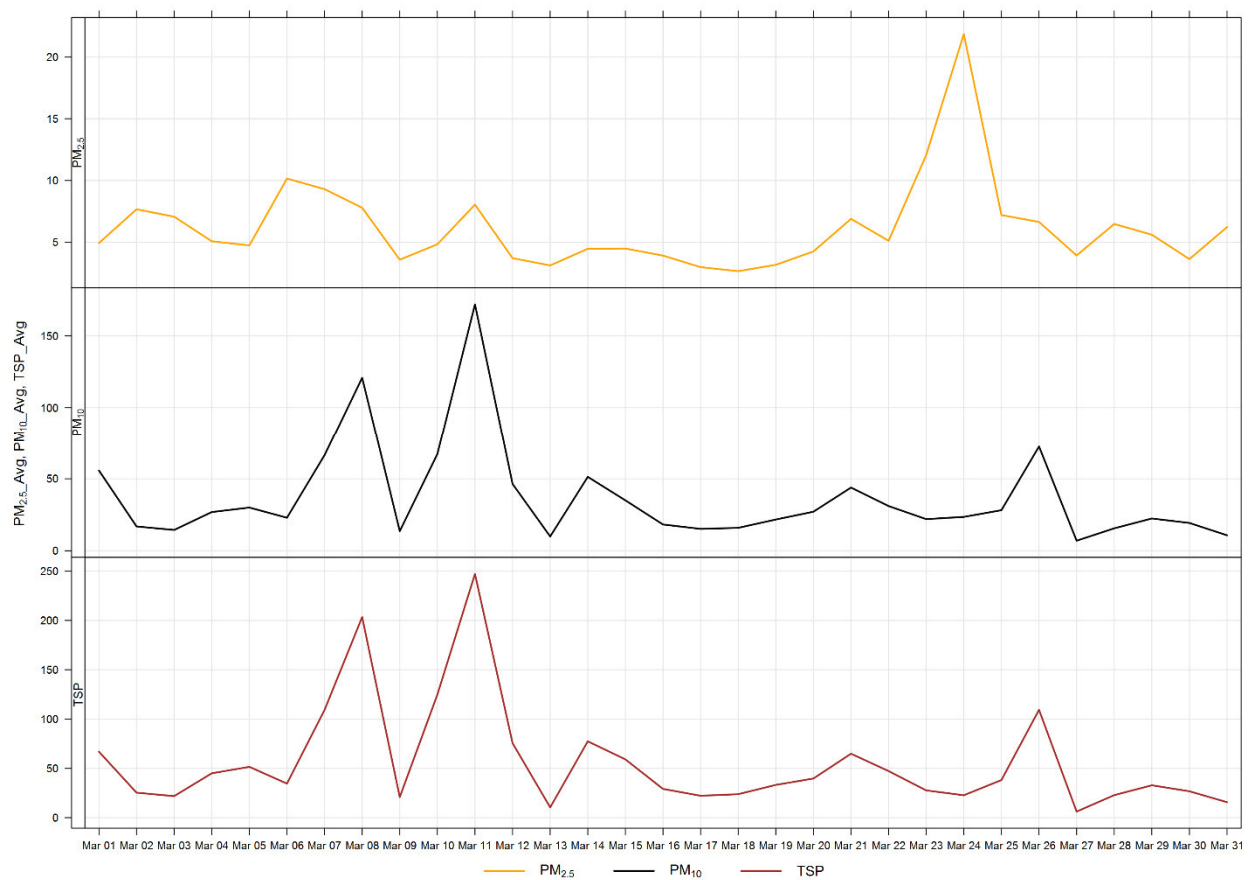


Figure 4-5 24-hour particulate matter concentrations at the Windridge monitor

Figure 4-6 shows the wind rose for the 5 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west-southwest direction, and were mostly over 20 km/hr.

Figure 4-7 illustrates the hourly PM concentrations recorded at the Windridge monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-7 is based on data collected during March 2019 and similar to the Lagoon station shows a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other activities. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.

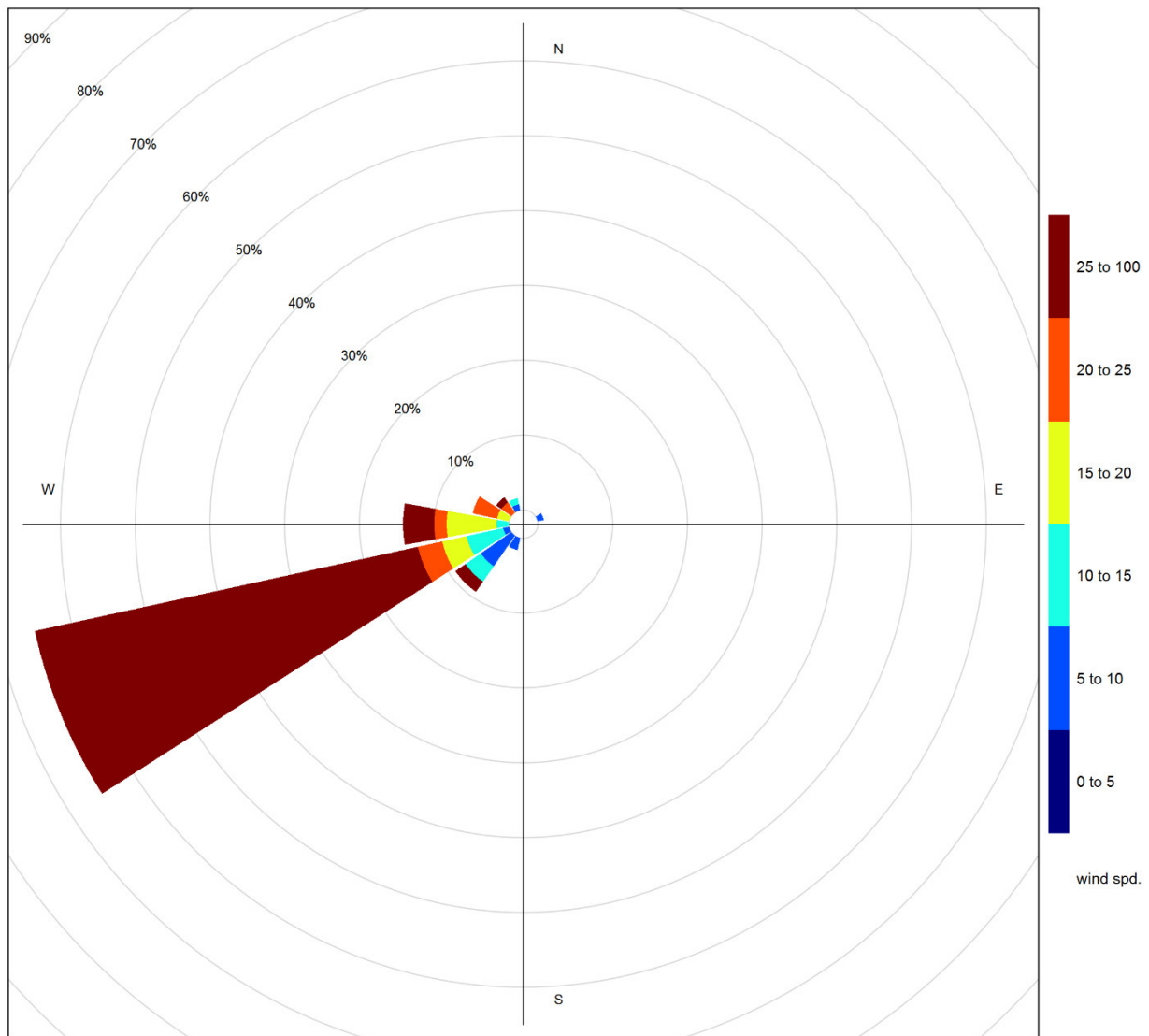


Figure 4-6 Wind rose for TSP exceedance day recorded at the Windridge Station

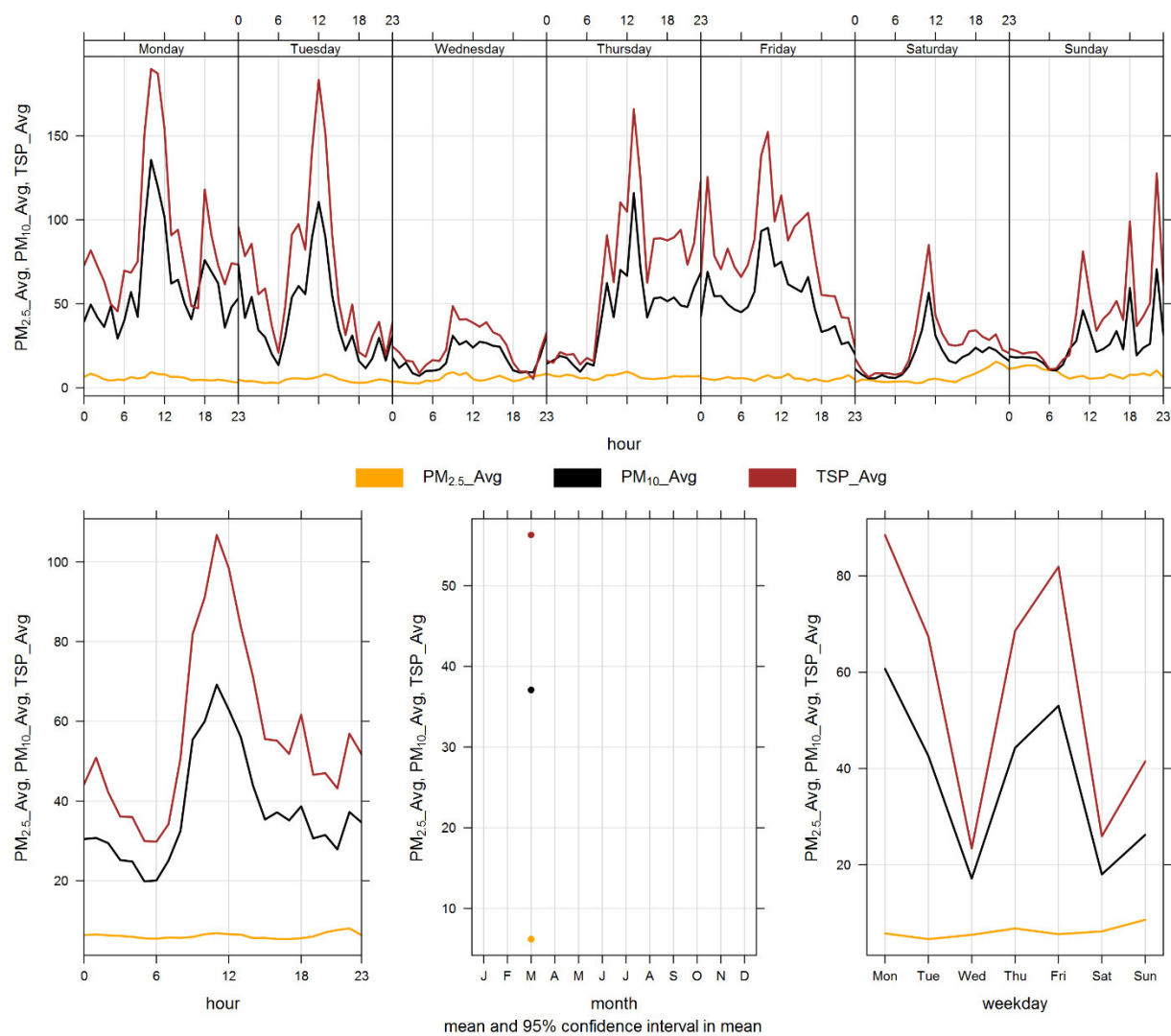


Figure 4-7 Windridge particulate matter time variation

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	No operational issues observed. The monitors had 100% uptime in March.

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}, PM₁₀ and TSP concentrations recorded over the month. Elevated PM_{2.5} concentrations this month could be associated with residential woodsmoke, open burning or industrial combustion sources in the airshed. However, there were zero exceedances of the 24-hour TSP guideline (100 µg/m³) and zero exceedances of the PM_{2.5} (29µg/m³) guideline. Historically in March, the average number of 24-hour TSP AAAQO exceedances and 24-hour PM_{2.5} AAAQO exceedances are 2 and zero, respectively. The maximum number of 24-hour TSP AAAQO exceedances was 10 days in 2014, while the maximum number of 24-hour PM_{2.5} AAAQO exceedances was 1 day in 2013 and 2018.

Table 5-2 Summary of March 2019 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} (µg/m ³)	80	29	West	0	0	0.2	5.3	49.5	24	5	13.5	95.1	21.5	24	100.0
PM₁₀ (µg/m ³)	-	-	West	-	-	0.3	7.0	58.9	23	23	9.9	86.3	23.7	24	100.0
TSP (µg/m ³)	-	100	West	-	0	0.2	6.2	40.1	23	23	9.9	86.3	15.4	24	100.0

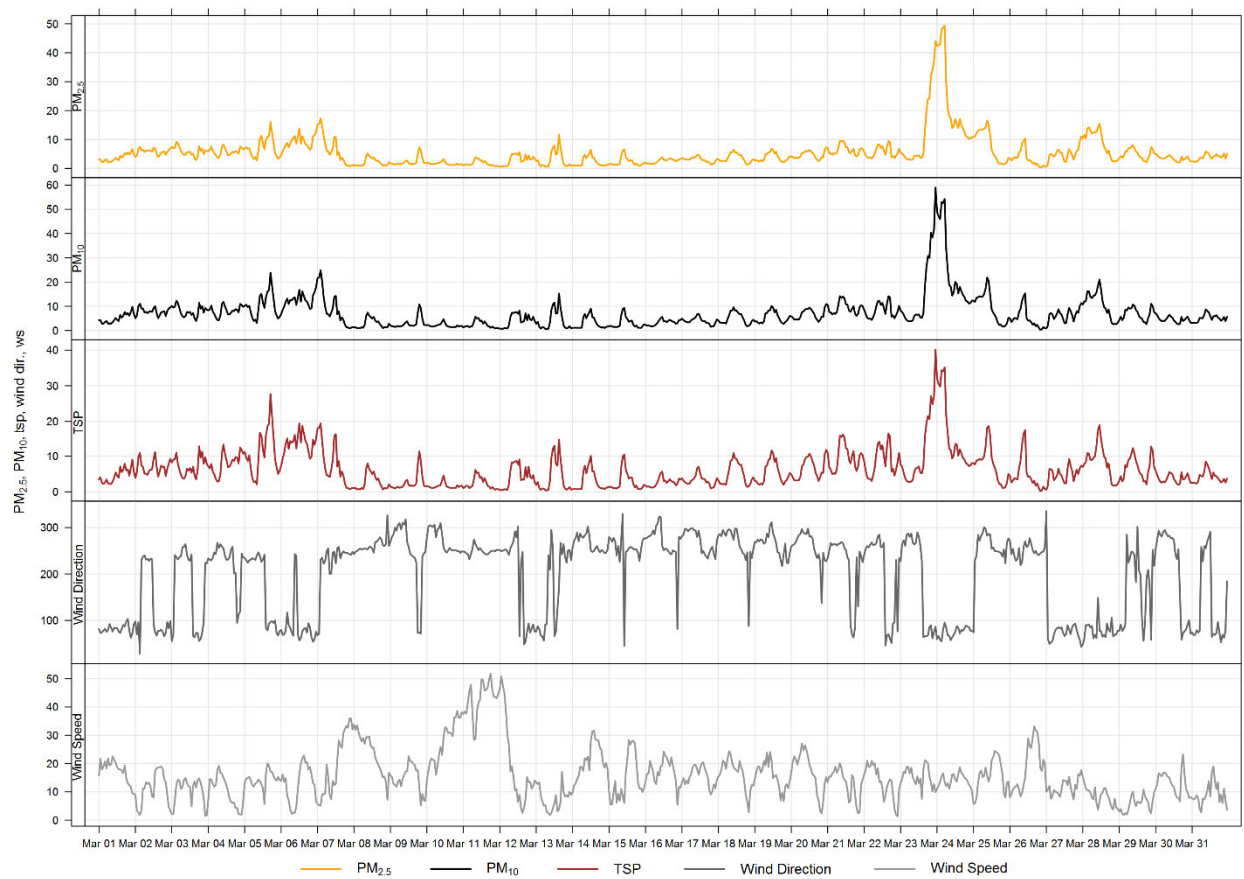


Figure 5-1 1-hour particulate matter concentrations at the West monitor

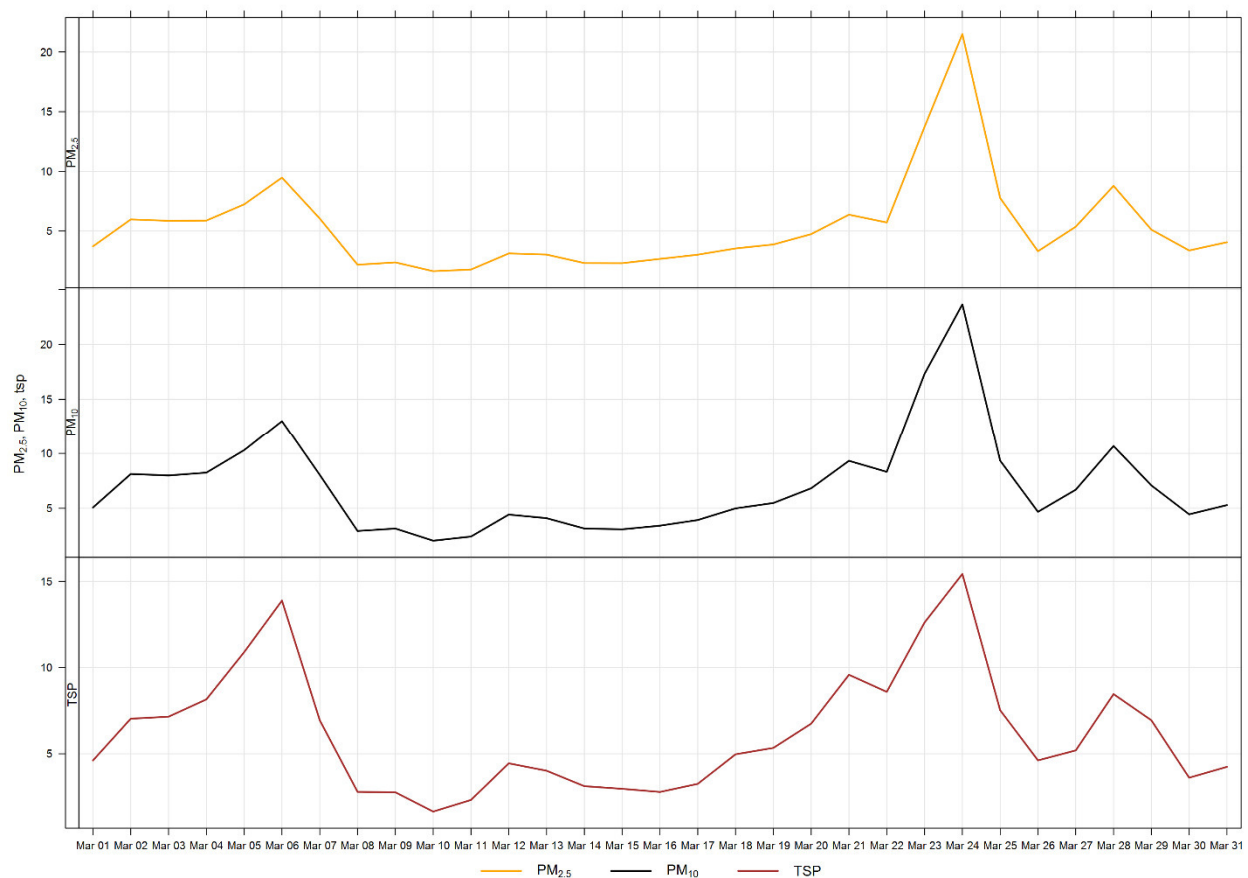


Figure 5-2 24-hour particulate matter concentrations at the West monitor

Figure 5- 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- is based on data collected during March 2019 and indicates a diurnal relationship that could be due to the proximity of the West monitor to the highway. As the monitor is generally ‘up-wind’ of the facility, the daily variations in PM are more likely a result of higher traffic volume during daylight hours than specific Lafarge operations.

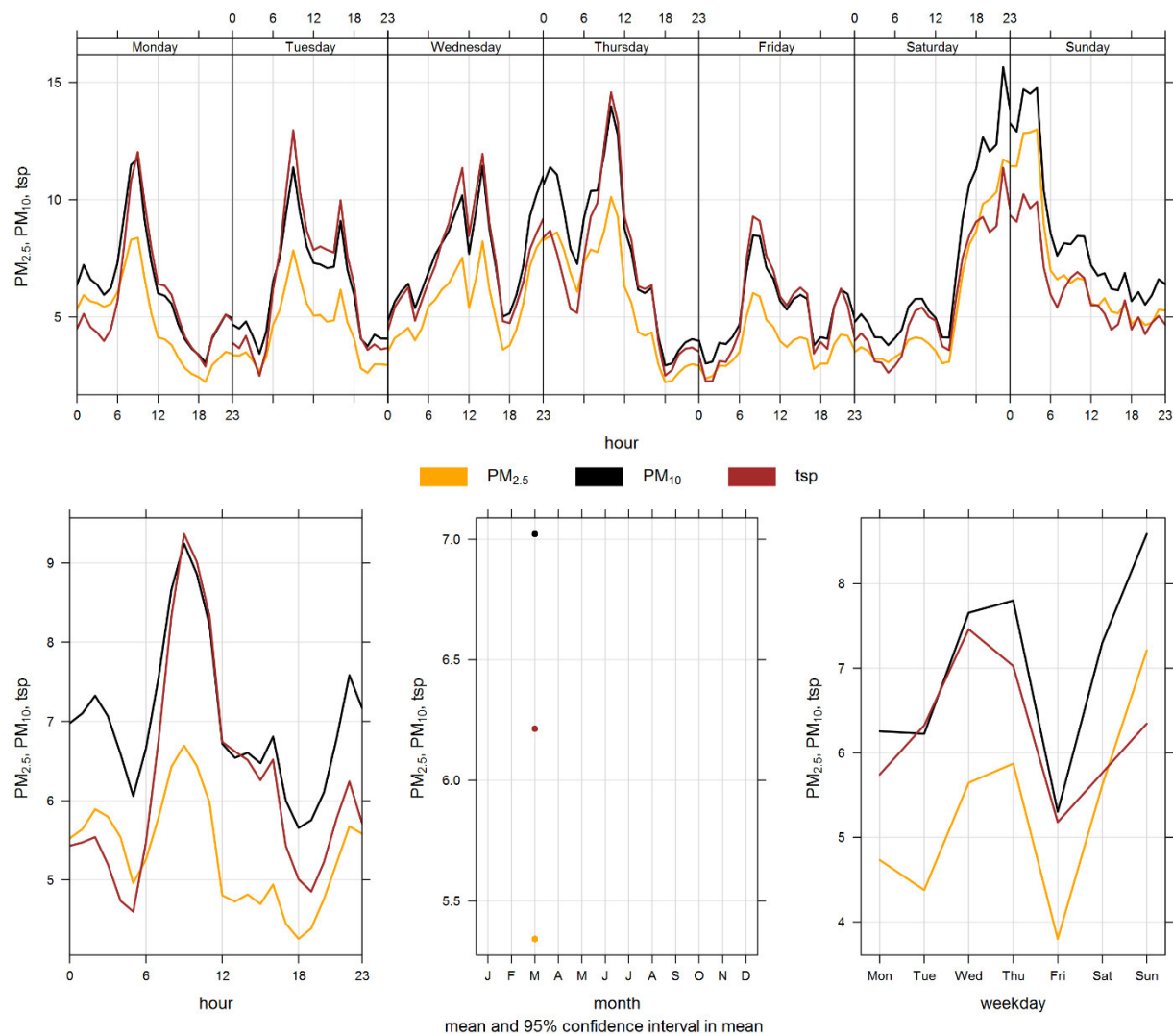


Figure 5-3 West particulate matter time variation

6 BERM INDUSTRIAL GRIMM

6.1 OPERATIONAL SUMMARY

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

Table 6-1 Instrumentation List at the Berm monitoring location

Parameter Measured	Equipment Description	Notes
PM _{2.5} , PM ₁₀ , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	Machine malfunction led to 24 hours of lost operational time between March 13th at 12:00 and March 14th at 11:00. These hours were flagged as X for “instrument malfunction, data quality cannot be assured.” Operational time and valid data were still above 95% for the month of March, at 96.8%.

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}, PM₁₀ 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.

Elevated PM_{2.5} concentrations this month could be associated with residential woodsmoke, open burning or industrial combustion sources in the airshed. However, there were 9 and zero exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (29 µg/m³) guidelines, respectively.

Historically during the month of March, the Berm monitor records an average of 13 and zero exceedances of the 24-hour TSP and PM_{2.5} guidelines, respectively. The maximum number of TSP exceedances recorded during March occurred in 2010 where there were 28 days that exceeded the guideline. The minimum number of TSP exceedances was recorded during March 2018, which had 4 days that exceeded the guideline. With respect to PM_{2.5}, March 2012 recorded the maximum number of exceedances (1 day).

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.

Table 6-2 Summary of March 2019 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} (µg/m ³)	80	29	Berm	0	0	0.4	10.1	75.0	11	10	41.5	251.3	27.9	11	96.8
PM₁₀ (µg/m ³)	-	-	Berm	-	-	0.4	55.4	632.9	11	10	41.5	251.3	250.2	11	96.8
TSP (µg/m ³)	-	100	Berm	-	9	0.3	152.5	2194.5	11	10	41.5	251.3	923.9	11	96.8

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

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Berm						
3/4/2019	101.6	-	242.6	10.4	61.9	
3/5/2019	101.1	-	154.8	14.4	56.8	
3/7/2019	578.9	-	242.9	20.7	55.1	high wind event
3/8/2019	668.2	-	258.7	23.2	45.0	high wind event
3/10/2019	406.8	-	264.6	28.6	42.4	high wind event
3/11/2019	923.9	-	248.9	43.2	38.8	high wind event
3/12/2019	132.2	-	253.1	18.3	67.8	
3/21/2019	104.7	-	255.5	13.2	44.7	
3/26/2019	320.5	-	251.8	19.0	52.3	
Total # of Exceedances	9	0				
Maximum # of Exceedances (March)	28 (2010)	1 (2012)				
Average # of Exceedances (March)	13	0				
Minimum # of Exceedances (March)	4 (2018)	0 (2010, 2011, 2013 ~ 2018)				

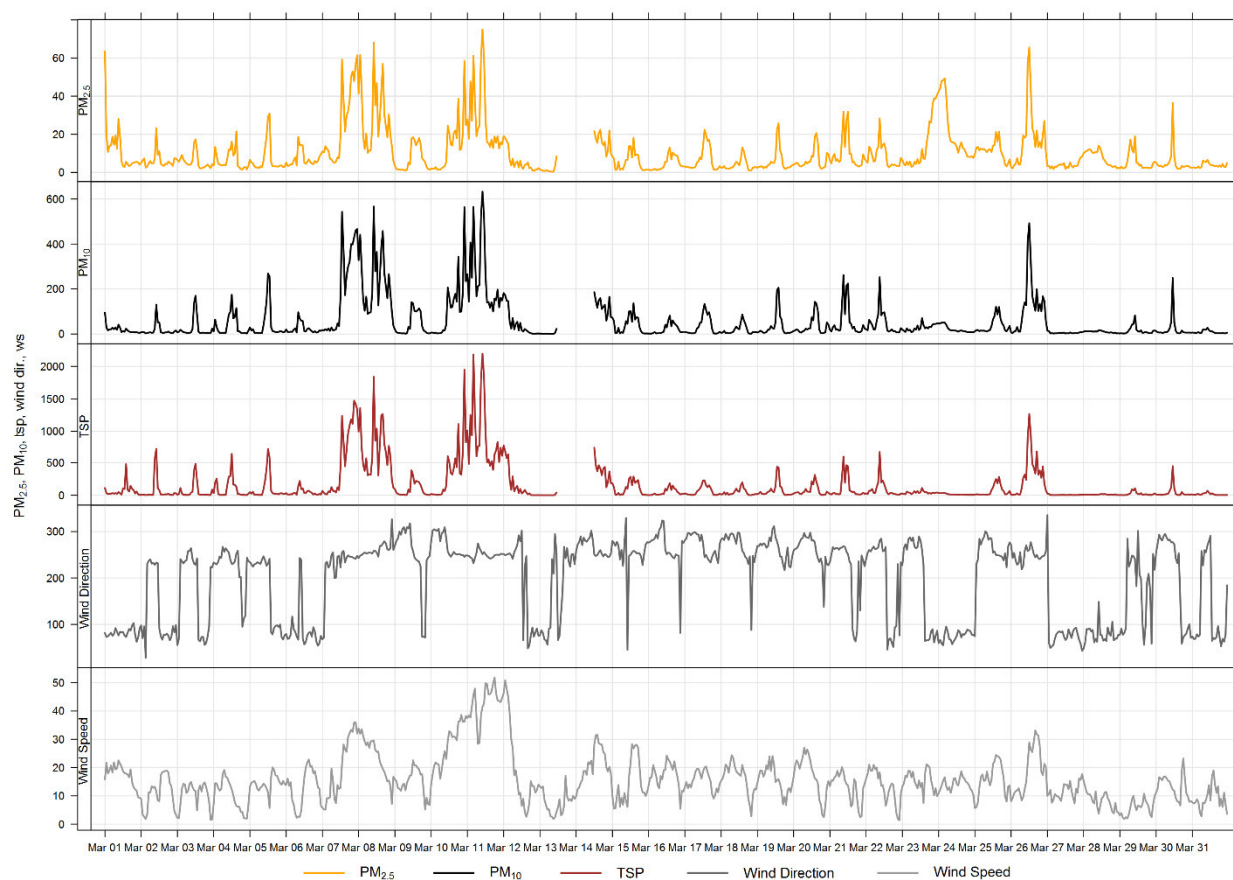


Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

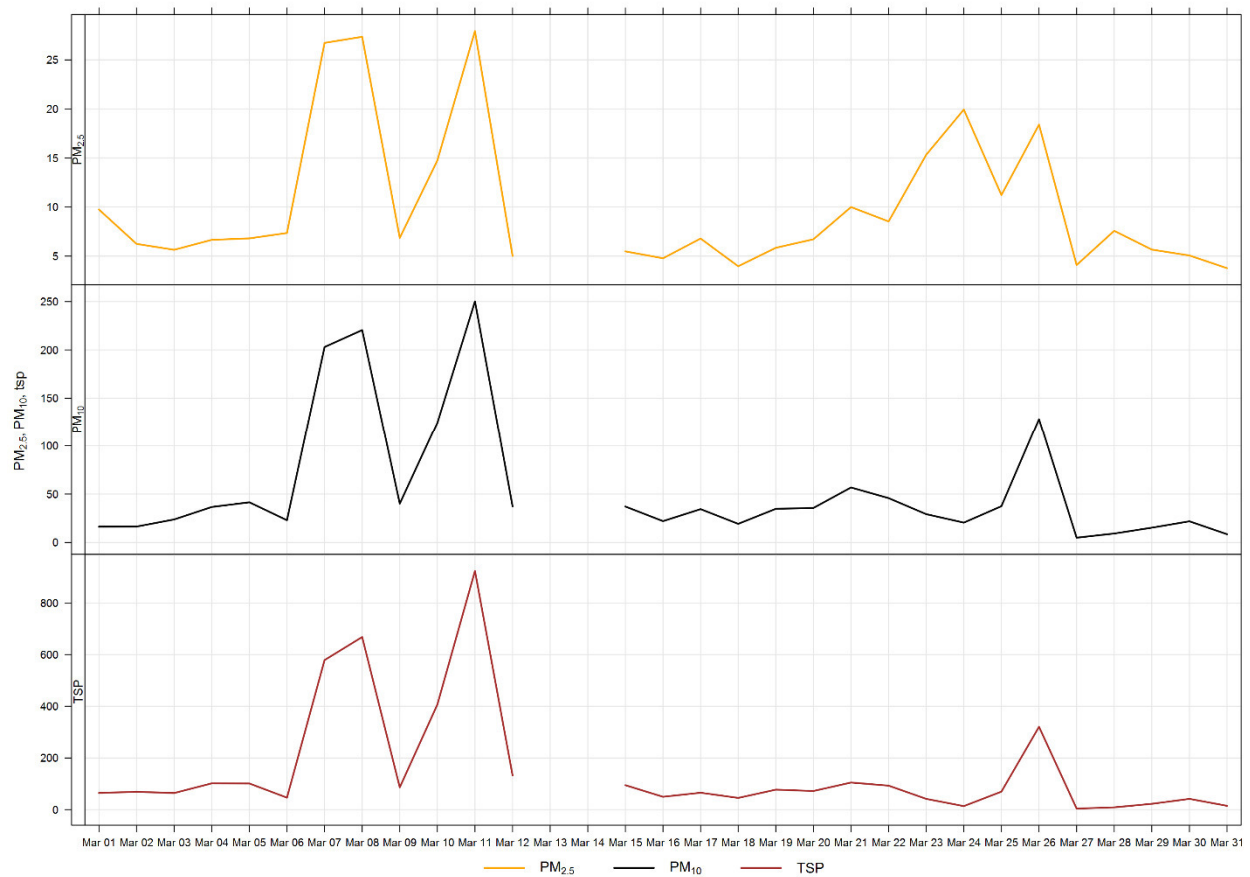


Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 shows the wind rose for the 9 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west-southwest direction.

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

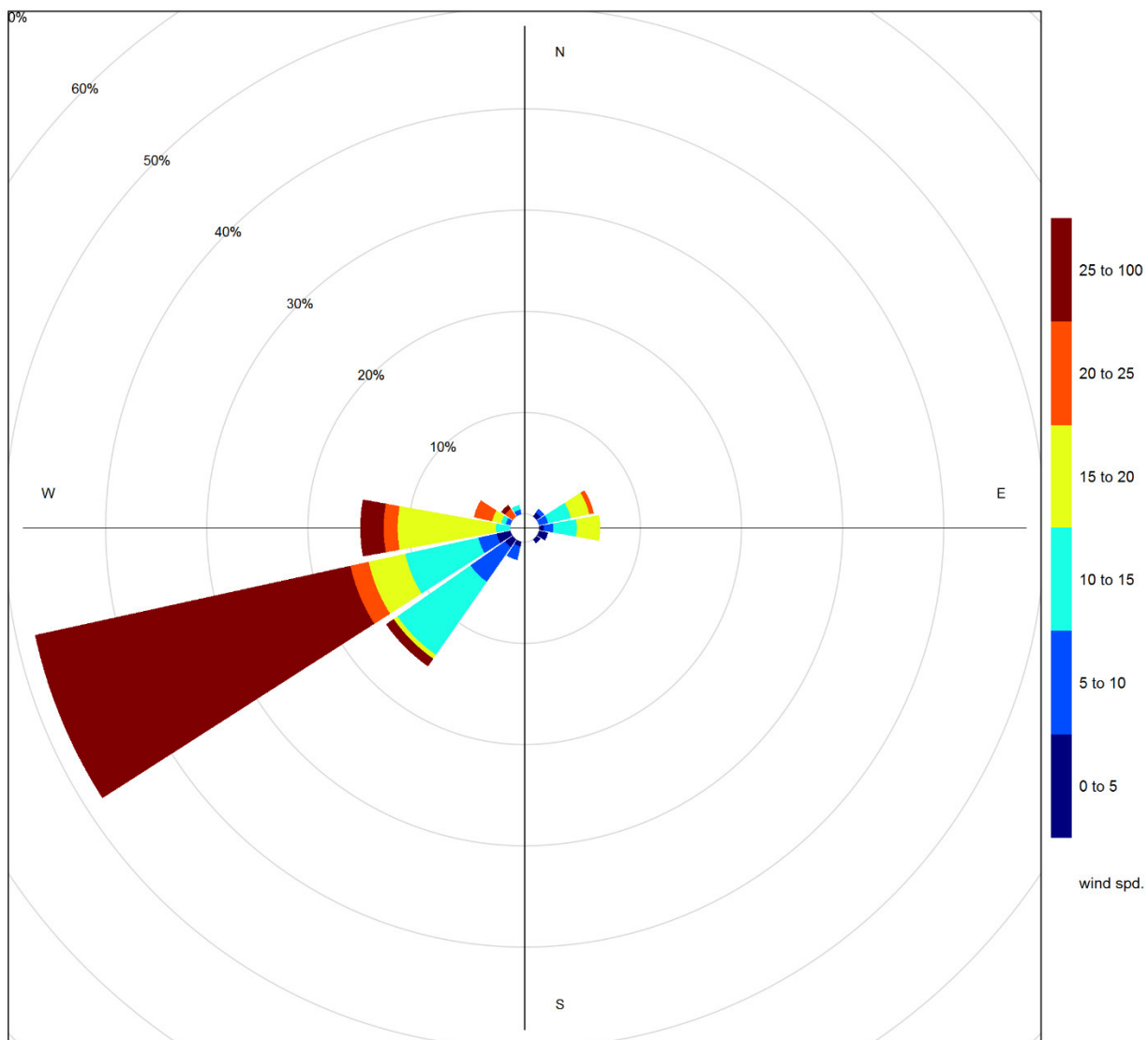


Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

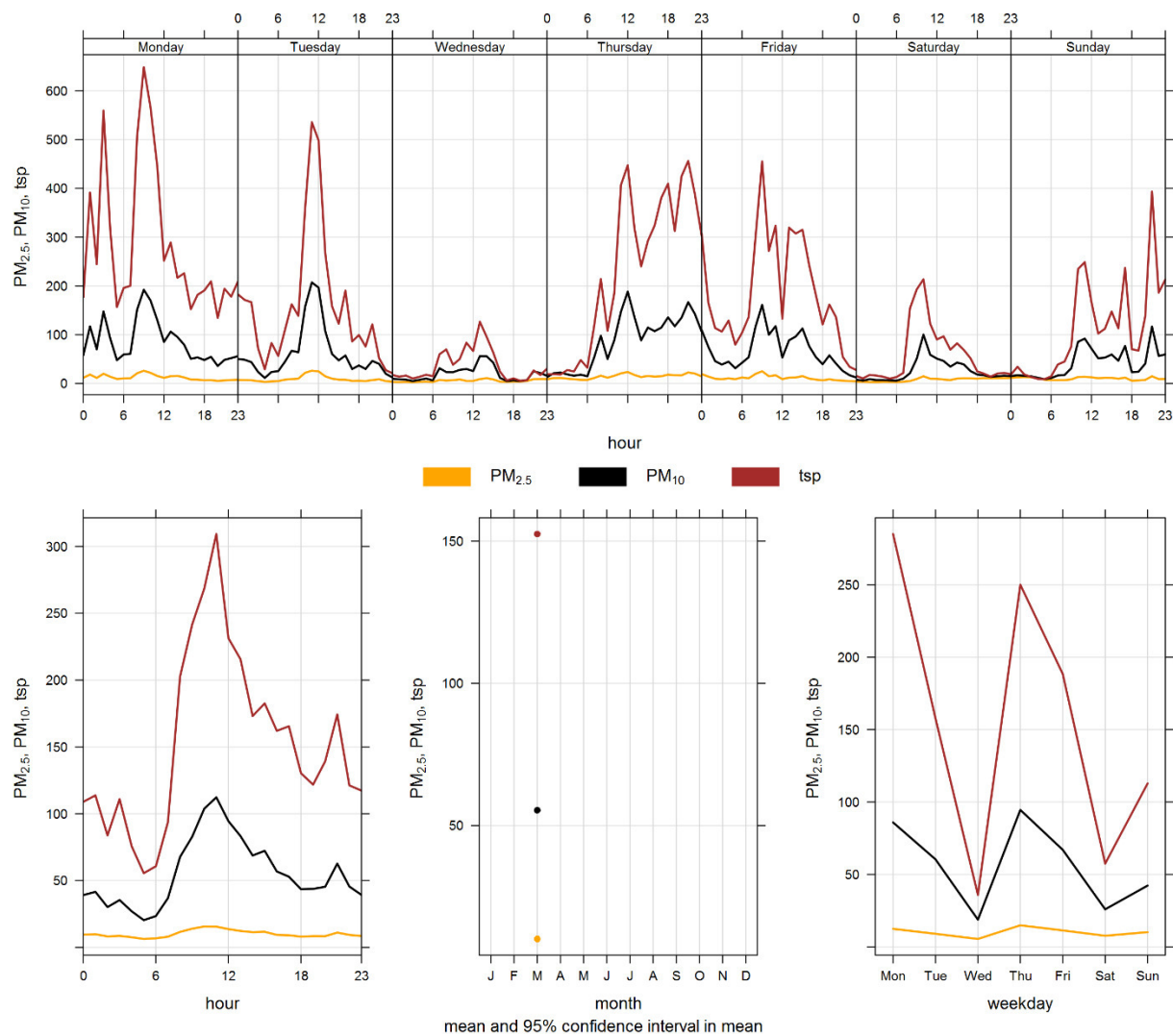


Figure 6-4 Berm particulate matter time variation

7 ENTRANCE INDUSTRIAL GRIMM

7.1 OPERATIONAL SUMMARY

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

Table 7-1 Instrumentation List at the Entrance monitoring location

Parameter Measured	Equipment Description	Notes
PM _{2.5} , PM ₁₀ , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	Machine malfunction led to 22 hours of lost operational time between March 13 th at 13:00 and March 14 th at 10:00. These hours were flagged as X for “instrument malfunction, data quality cannot be assured.” Operational time and valid data were still above 95% for the month of March, at 97%.

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}, PM₁₀ 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.

Elevated PM_{2.5} concentrations this month could be associated with residential woodsmoke, open burning or industrial combustion sources in the airshed. However, during March, there were 17 and zero exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (29 µg/m³) guidelines, respectively.

Historically, the Entrance monitor records an average of 11 and zero exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively, during the month of March. The maximum number of TSP exceedances recorded during March occurred in 2014, which had 28 days that exceeded the guideline. The minimum number of TSP exceedances recorded during March occurred in 2011, which had zero days that exceeded the guideline. On the other hand, the maximum number of PM_{2.5} exceedances recorded during the month of March was 1 day in 2018.

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

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

the Entrance monitor. Lafarge has been informed the crossing is scheduled to be repaired in the spring of 2019.

Figure 7-3 shows the wind rose for the 17 days that exceeded the TSP Guideline. The wind rose indicates that the winds predominantly came from the west-southwest direction. High wind speeds were not a primary factor for most of the TSP exceedances in March at the Entrance station. On those days without high wind speeds other sources, such as industry, traffic and rail may have contributed to the TSP exceedances.

Table 7-2 Summary of March 2019 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	0	0	0.4	12.2	58.4	19	9	18.8	279.5	26.8	23	97.0
PM₁₀ (µg/m ³)	-	-	Entrance	-	-	0.9	58.5	552.9	19	9	18.8	279.5	179.7	19	97.0
TSP (µg/m ³)	-	100	Entrance	-	17	0.7	149.1	1667.1	19	9	18.8	279.5	479.7	19	97.0

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						
3/7/2019	182.7	-	242.9	20.7	55.1	high wind event
3/9/2019	220.8	-	273.3	14.6	53.6	
3/10/2019	282.5	-	264.6	28.6	42.4	high wind event
3/11/2019	196.4	-	248.9	43.2	38.8	high wind event
3/15/2019	105.1	-	258.9	14.6	46.2	
3/16/2019	138.4	-	271.6	17.1	43.3	
3/17/2019	219.4	-	271.9	15.4	45.9	
3/18/2019	341.2	-	275.6	16.4	43.1	
3/19/2019	479.7	-	268.6	15.8	39.9	
3/20/2019	375.7	-	271.6	17.0	38.8	
3/21/2019	193.1	-	255.5	13.2	44.7	
3/22/2019	235.3	-	267.6	13.3	41.8	
3/23/2019	233.9	-	313.0	15.2	49.7	
3/26/2019	158.0	-	251.8	19.0	52.3	
3/28/2019	134.3	-	77.4	8.0	72.2	
3/29/2019	148.4	-	212.9	6.0	60.2	

3/30/2019	190.4	-	298.2	13.0	46.7	
Total # of Exceedances	17	0				
Maximum # of Exceedances (March)	28 (2014)	1 (2018)				
Average # of Exceedances (March)	11	0				
Minimum # of Exceedances (March)	0 (2011)	0 (2010 ~ 2017)				

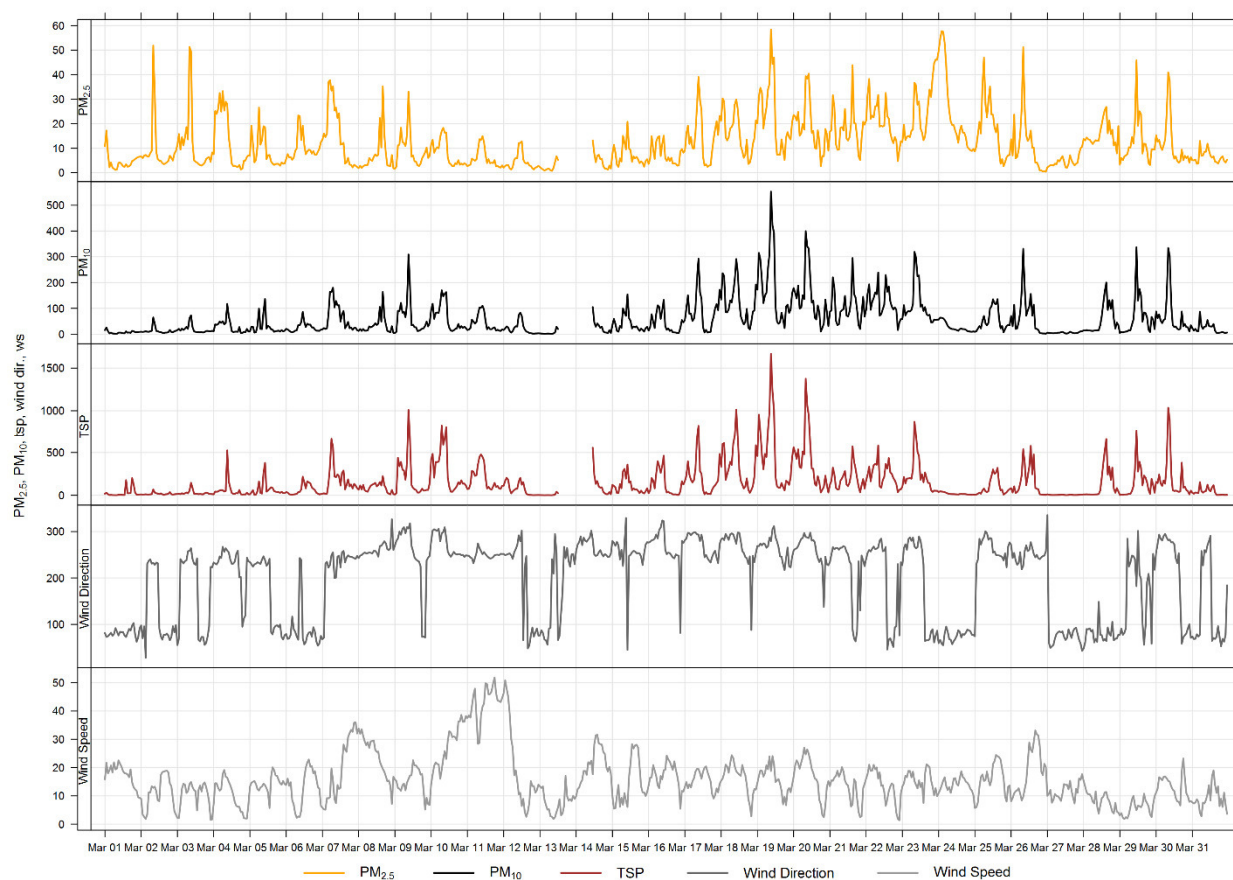


Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor

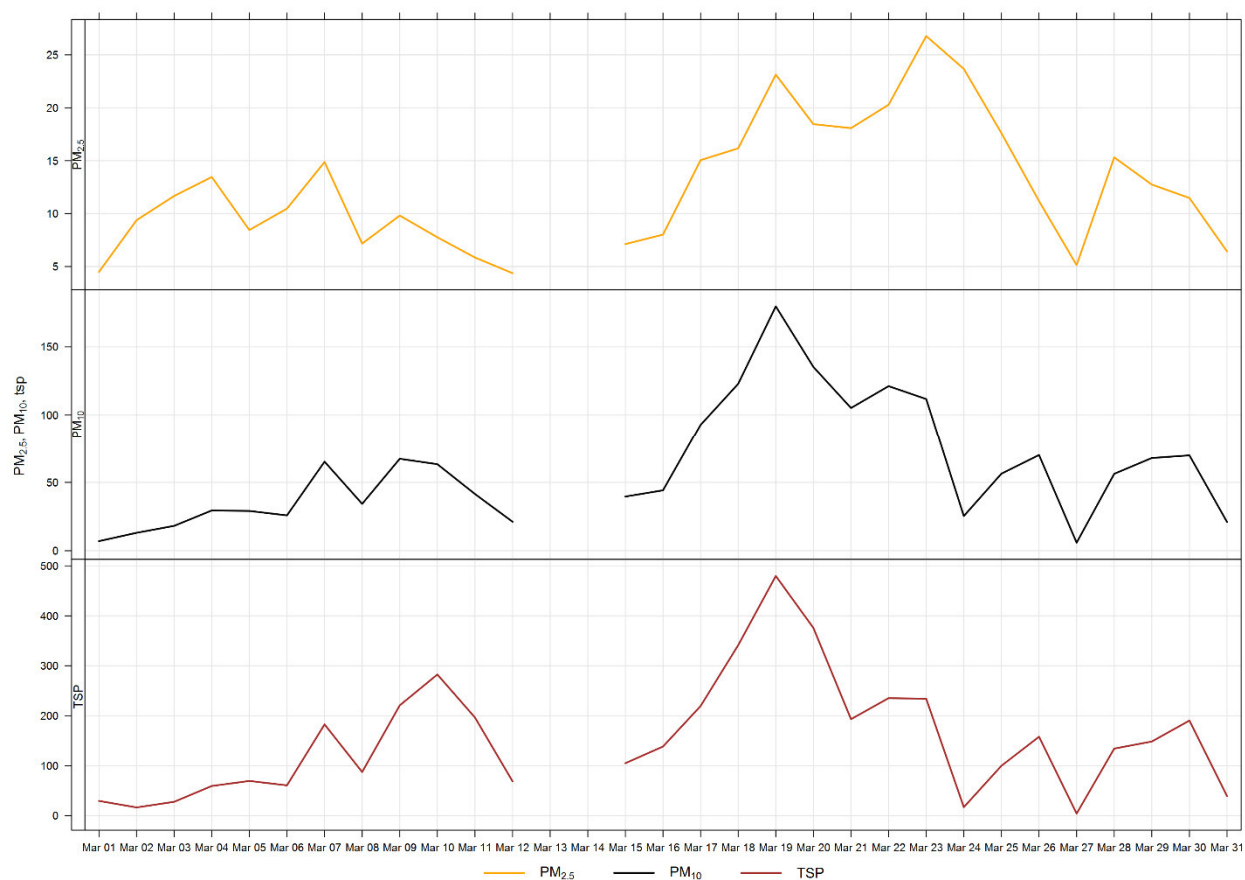


Figure 7-2 24-hour particulate matter concentrations at the Entrance monitor

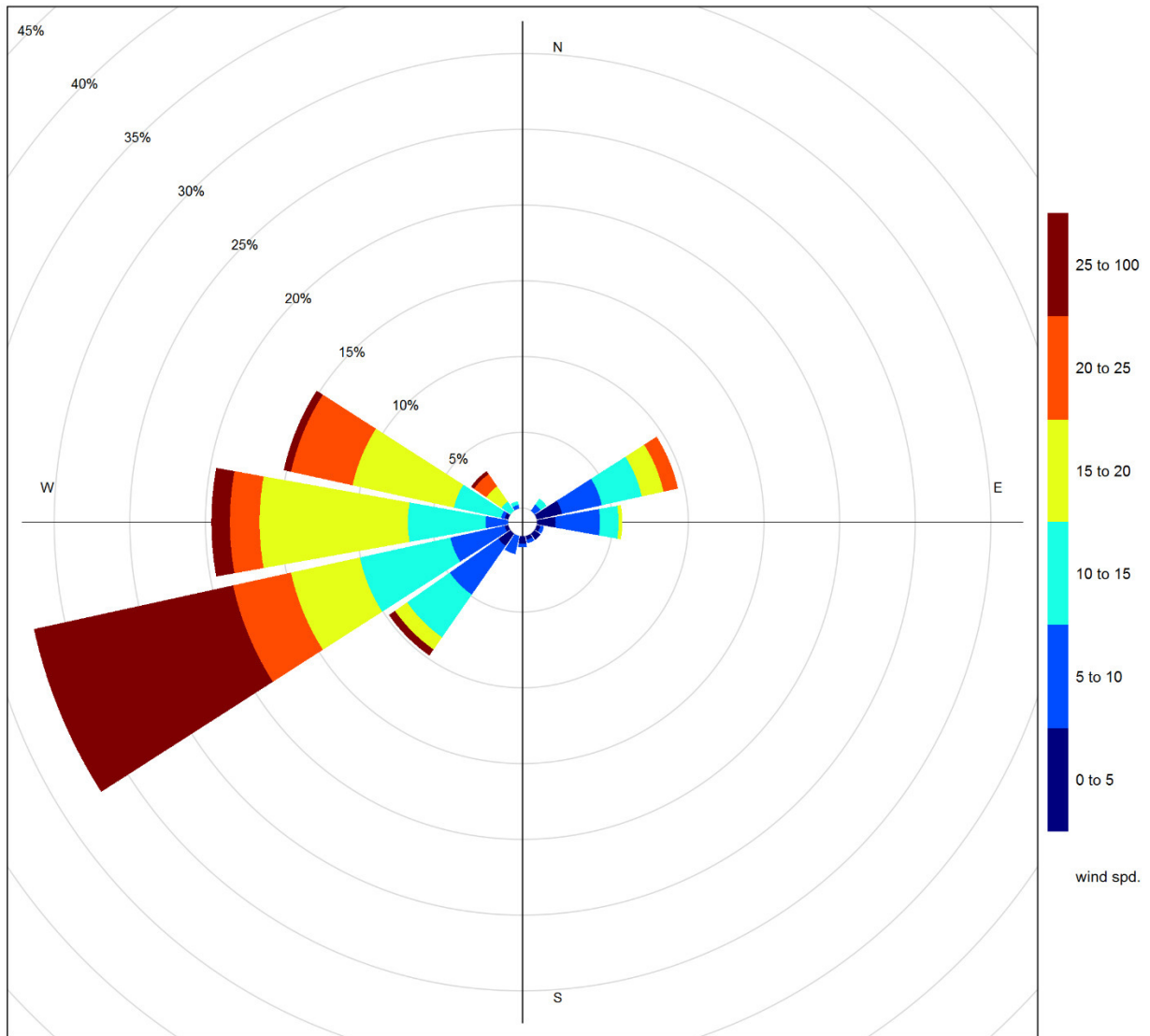


Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

Figure 7-4 illustrates the hourly PM concentrations recorded at the Entrance monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 7-4 is based on data collected during March 2019. The diurnal pattern differs from the Windridge, Lagoon and Berm stations and are likely more influenced by daytime traffic emission (from vehicles serving Lafarge as well as regular highway traffic) given its location near the highway entrance to Lafarge.

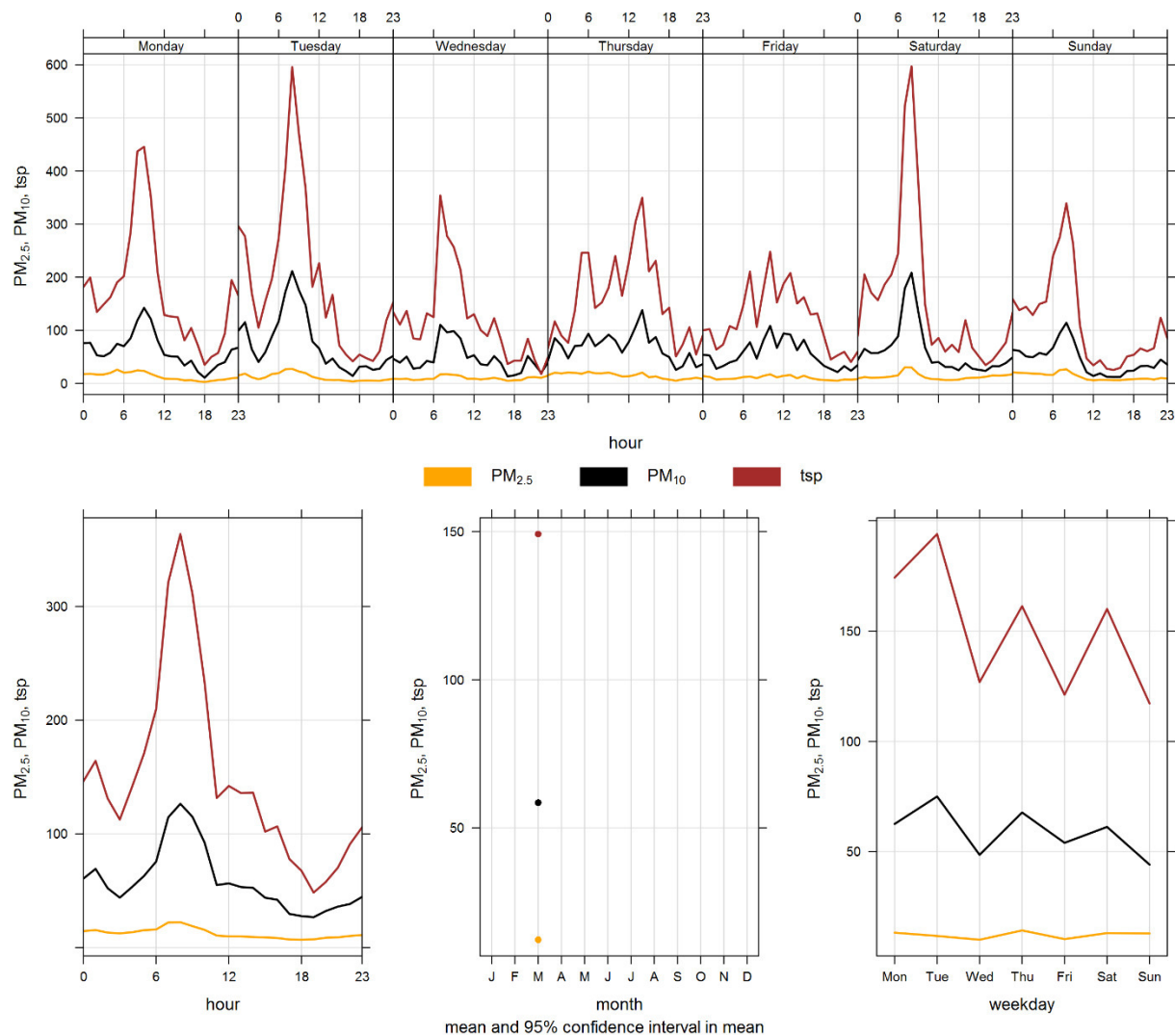


Figure 7-4 Entrance particulate matter time variation

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APPENDIX

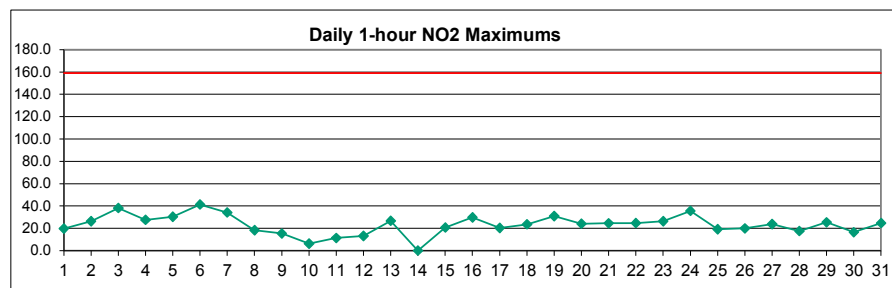
A DATA & CALIBRATION REPORTS

APPENDIX



Lagoon NO₂ (ppb) – March 2019

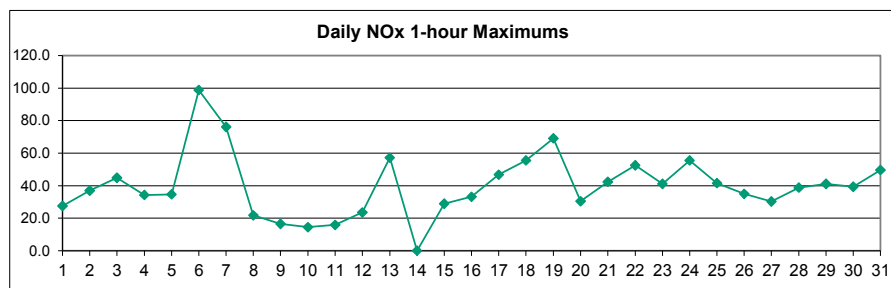
Day	HOUR																								MEAN	MAX
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1	10.4	S	6.4	12.8	19.8	2.8	1.0	1.3	10.1	7.6	5.0	1.8	2.3	3.9	2.2	2.4	2.5	3.3	3.8	8.5	11.4	14.2	11.2	9.3	6.7	19.8
2	9.6	S	12.8	20.0	23.2	25.7	26.3	24.6	18.3	12.2	7.1	5.6	3.7	3.0	2.5	2.2	2.6	5.8	16.5	14.7	11.0	13.3	20.2	25.6	13.3	26.3
3	26.5	S	29.6	28.2	24.2	22.3	17.2	17.2	11.9	10.0	6.4	5.0	4.3	4.9	8.4	5.6	7.4	7.0	19.5	14.3	16.3	33.1	38.0	32.6	17.0	38.0
4	26.5	S	23.1	17.8	18.5	14.0	15.8	15.3	16.8	16.2	9.3	6.5	3.7	4.2	1.0	6.7	1.4	6.6	10.8	22.5	23.5	27.3	27.5	24.7	14.8	27.5
5	30.3	S	25.8	23.8	23.5	18.7	18.8	21.0	19.6	16.3	9.4	7.3	10.2	6.1	4.3	3.8	4.9	3.7	4.9	4.5	25.6	27.7	17.9	23.0	15.3	30.3
6	39.1	S	19.6	22.5	24.2	37.8	41.2	39.1	37.8	28.6	25.1	16.4	9.3	5.6	7.1	4.5	4.6	4.7	6.0	11.3	9.0	10.8	15.6	19.0	19.1	41.2
7	20.3	S	28.6	28.5	32.5	34.1	29.7	21.1	27.7	19.2	19.3	9.7	8.3	5.7	0.7	2.6	1.5	1.3	1.0	0.6	0.6	0.7	1.4	0.8	12.9	34.1
8	0.9	S	2.7	4.5	6.4	2.8	6.3	6.8	7.2	12.7	9.8	3.8	1.5	4.0	5.3	6.8	4.9	4.4	6.1	8.3	6.6	18.2	11.3	3.0	6.3	18.2
9	6.4	S	2.7	3.3	3.7	5.5	4.4	6.4	6.3	8.0	6.1	7.9	1.5	0.6	0.6	0.5	1.0	5.7	12.2	9.8	15.3	6.0	7.5	4.8	5.5	15.3
10	2.9	S	2.8	3.7	4.4	4.4	5.2	5.8	4.0	3.8	6.3	2.1	1.3	1.7	3.1	4.1	3.4	4.3	4.4	1.2	2.1	1.9	1.6	2.1	3.3	6.3
11	1.3	S	0.8	0.7	0.9	2.6	5.1	11.2	5.9	3.3	6.5	2.5	1.1	0.6	0.7	0.6	0.4	1.3	2.8	2.8	3.6	4.8	5.0	2.3	2.9	11.2
12	1.5	S	2.4	2.6	3.8	2.1	9.5	10.8	7.6	12.6	9.9	6.1	3.2	6.2	13.0	11.7	10.7	6.7	2.8	6.0	7.0	3.8	6.4	5.7	6.6	13.0
13	3.6	S	4.8	8.4	10.5	7.0	24.8	26.7	24.9	13.4	12.4	12.6	5.1	4.3	4.9	4.1	2.4	2.3	5.6	4.4	3.3	8.0	12.8	10.9	9.4	26.7
14	14.7	S	11.3	12.5	10.2	16.2	19.1	13.3	8.4	5.0	C	C	C	C	C	C	2.1	2.1	3.6	6.6	1.2	2.2	5.5	12.4	-	-
15	20.8	S	9.3	5.7	10.3	7.6	9.5	16.0	13.0	10.2	5.5	5.2	2.9	3.8	8.6	7.3	5.6	3.7	6.1	2.7	10.5	17.8	8.9	9.8	8.7	20.8
16	4.2	S	13.8	17.0	11.4	13.8	9.6	4.3	4.2	3.9	3.1	3.8	2.2	3.5	3.1	2.4	1.9	6.0	7.2	11.0	29.7	11.6	8.4	10.2	8.1	29.7
17	8.4	S	10.9	17.6	6.8	7.3	8.0	7.3	8.5	20.3	11.0	7.9	1.5	3.9	0.9	0.8	0.9	1.4	5.3	1.3	5.3	10.1	13.2	9.7	7.3	20.3
18	8.0	S	3.3	5.4	12.1	4.7	5.2	8.2	19.3	23.5	8.3	11.2	11.3	7.0	3.7	1.8	2.3	6.4	5.9	9.0	12.0	15.7	12.6	12.8	9.1	23.5
19	16.7	S	26.8	14.6	15.6	30.8	23.7	14.2	17.1	7.3	5.1	16.6	12.7	5.1	2.5	2.9	3.6	4.6	3.2	13.2	11.2	11.6	9.4	10.0	12.1	30.8
20	12.1	S	9.6	6.1	5.3	5.0	6.5	7.2	6.7	7.5	4.1	6.7	15.5	17.4	6.9	2.8	2.8	2.3	3.8	13.1	20.3	21.5	24.0	23.6	10.0	24.0
21	19.6	S	18.9	13.4	15.1	15.3	19.5	24.4	18.1	19.2	16.6	7.1	4.7	5.1	7.1	9.4	6.1	5.6	9.3	12.5	17.7	15.8	15.4	15.7	13.5	24.4
22	18.1	S	24.7	17.8	22.5	23.2	24.0	23.4	20.9	13.4	6.8	4.9	9.9	8.0	6.8	4.8	6.8	5.2	5.3	5.9	8.1	16.1	18.6	16.9	13.6	24.7
23	15.0	S	21.3	10.5	10.2	12.2	7.1	15.4	19.0	17.8	6.2	3.6	2.1	4.9	14.0	14.0	17.4	20.4	13.6	7.0	26.2	22.1	9.4	19.7	13.4	26.2
24	35.6	S	34.4	12.9	8.4	12.2	12.4	12.3	10.0	18.1	6.2	5.7	4.9	4.9	9.4	8.9	15.3	14.2	5.2	5.0	5.1	4.8	7.8	5.9	11.3	35.6
25	12.0	S	19.0	18.8	17.8	15.7	10.8	9.5	14.4	15.7	10.6	8.6	3.6	2.9	2.7	2.7	1.2	1.4	1.3	5.3	5.3	4.6	8.9	16.4	9.1	19.0
26	8.9	S	10.5	14.7	10.1	16.3	15.6	17.9	17.0	19.9	8.8	7.6	14.9	12.1	5.4	2.8	2.6	0.8	2.1	1.3	2.0	1.3	2.9	14.0	9.1	19.9
27	7.9	S	23.6	13.4	5.1	4.6	2.3	3.1	2.5	2.4	6.8	10.9	13.9	2.2	2.5	5.1	6.5	2.4	2.8	4.2	6.9	6.8	3.3	3.9	6.2	23.6
28	2.9	S	3.4	3.5	3.5	3.2	9.3	9.3	12.5	10.4	17.4	14.1	10.1	7.1	8.2	3.3	4.3	3.4	3.3	7.5	7.2	8.3	5.9	9.7	7.3	17.4
29	14.0	S	9.6	9.8	14.5	14.6	23.1	25.2	16.5	10.5	3.6	11.8	7.4	2.0	2.2	5.9	3.7	2.1	4.4	4.2	23.4	19.3	23.8	14.8	11.6	25.2
30	10.2	S	10.0	10.6	7.5	9.5	11.9	12.9	16.2	16.4	16.0	9.6	1.1	1.9	2.8	4.2	5.4	5.1	10.5	12.0	3.6	3.0	5.9	9.0	8.5	16.4
31	24.7	S	8.1	9.5	17.0	12.9	17.0	21.0	22.9	23.0	12.3	16.7	13.5	4.1	4.6	7.7	2.6	6.8	24.3	13.7	19.6	5.3	6.8	6.3	13.1	24.7
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	707	100%
MEAN	14.0	-	13.9	12.6	12.9	13.1	14.2	14.6	14.4	13.2	9.4	8.0	6.3	4.9	4.8	4.7	4.5	4.9	6.9	7.9	11.3	11.9	11.8	12.4		
MAX	39.1	-	34.4	28.5	32.5	37.8	41.2	39.1	37.8	28.6	25.1	16.7	15.5	17.4	14.0	14.0	17.4	20.4	24.3	22.5	29.7	33.1	38.0	32.6		



Number of 1HR Exceedences	0
Number of Non-Zero Readings	707
Maximum 1-HR Average	41.2 PPB
Maximum 24-HR Average	19.1 PPB
Monthly Calibration	6
Standard Deviation	7.8
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	10.1 PPB

Lagoon NOx (ppb) – March 2019

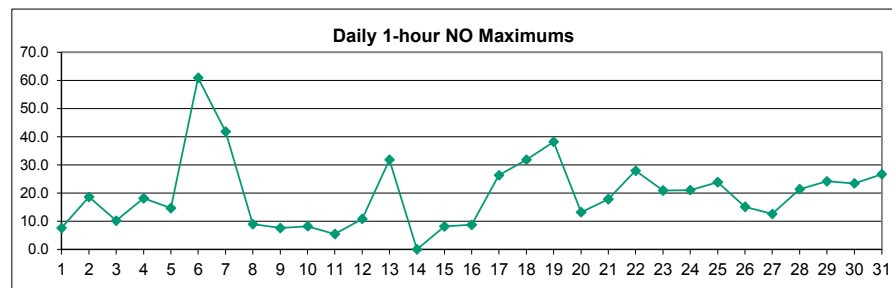
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	13.7	S	8.0	18.5	27.4	3.3	0.9	1.3	14.8	11.8	9.3	3.3	4.6	7.7	3.9	4.2	3.7	3.9	3.8	11.1	17.3	19.2	12.2	9.7	9.3	27.4
2	9.8	S	13.0	32.3	26.9	29.8	32.5	34.4	37.0	29.2	17.5	13.7	8.0	6.5	4.6	3.9	4.1	7.8	24.1	18.2	11.5	14.2	23.2	32.4	18.9	37.0
3	31.3	S	38.1	31.8	26.7	24.3	18.0	22.1	18.9	20.0	13.5	10.4	8.7	10.2	16.4	9.4	11.6	9.4	26.7	15.4	17.2	41.4	44.8	34.8	21.8	44.8
4	27.5	S	24.0	18.2	19.8	15.6	18.8	20.5	26.6	34.3	17.8	12.6	6.5	7.2	1.4	12.6	1.7	8.1	10.8	22.5	23.8	28.6	28.2	25.5	17.9	34.3
5	34.1	S	26.6	24.5	24.2	19.1	19.7	25.6	31.2	30.9	16.9	12.8	19.3	9.9	6.6	5.2	6.1	3.9	5.0	4.6	34.7	34.1	19.0	29.4	19.3	34.7
6	94.2	S	24.9	24.2	27.5	55.6	76.6	80.5	98.7	64.7	56.8	28.7	16.1	8.5	10.1	5.5	5.2	4.9	6.2	12.7	9.4	11.6	16.0	23.6	33.1	98.7
7	21.9	S	29.2	34.0	42.8	76.1	58.5	28.0	41.8	33.1	34.6	15.9	13.6	11.7	0.8	4.7	2.0	1.6	1.1	0.6	0.4	0.7	1.4	1.0	19.8	76.1
8	0.9	S	3.5	5.7	8.0	3.2	7.8	10.8	11.6	21.7	16.5	5.9	2.5	5.8	7.8	10.5	6.5	5.1	6.5	9.3	6.7	21.1	12.5	2.9	8.4	21.7
9	10.7	S	2.7	3.4	3.7	9.3	4.5	8.0	8.4	15.1	9.9	15.5	2.4	0.8	0.7	0.5	1.2	6.9	14.4	9.8	16.4	6.0	7.6	6.6	7.2	16.4
10	2.9	S	2.8	4.1	7.1	4.9	6.3	8.2	5.2	5.6	14.5	3.2	2.0	2.6	5.0	6.5	5.0	6.0	5.9	1.4	2.4	2.2	1.8	2.6	4.7	14.5
11	1.4	S	0.9	0.7	1.0	3.3	6.4	15.9	8.2	4.9	12.0	4.3	1.6	0.8	0.9	0.9	0.5	1.7	3.7	3.9	4.9	7.0	6.8	3.0	4.1	15.9
12	1.8	S	3.0	3.2	5.2	2.2	10.8	14.3	8.5	23.5	15.8	7.5	3.7	7.9	17.2	15.9	14.2	8.1	3.2	7.4	7.3	3.9	8.0	6.8	8.7	23.5
13	3.8	S	5.0	8.8	10.6	6.9	42.9	42.7	57.1	22.3	22.4	23.2	8.6	7.2	7.7	6.4	3.5	2.8	5.9	4.4	3.9	9.2	13.4	14.5	14.5	57.1
14	24.3	S	17.2	21.8	17.5	32.5	40.4	23.6	12.5	8.6	C	C	C	C	C	C	2.6	2.7	4.7	8.4	1.3	2.5	6.4	20.8	-	-
15	28.8	S	12.2	7.5	12.4	8.2	11.1	22.2	18.8	14.9	8.6	8.3	4.4	5.9	15.7	12.6	9.2	4.6	7.7	3.1	12.2	24.4	12.1	11.7	12.0	28.8
16	4.5	S	22.5	25.6	17.1	20.3	13.6	4.9	5.7	6.7	4.4	6.4	3.4	5.3	5.0	3.4	2.4	7.3	9.0	12.9	33.1	14.0	9.2	12.3	10.8	33.1
17	9.9	S	15.0	28.2	10.6	9.3	10.7	9.3	12.8	46.7	22.5	16.1	2.0	6.1	1.1	1.0	1.0	1.6	7.2	1.4	5.9	11.0	17.5	13.3	11.3	46.7
18	10.1	S	3.9	7.6	19.6	7.8	7.4	14.7	40.3	55.5	14.7	21.9	19.5	11.0	4.9	2.2	2.7	7.9	6.2	9.0	13.3	17.3	14.8	16.4	14.3	55.5
19	26.6	S	51.1	20.7	23.6	69.1	48.6	21.4	34.0	11.8	7.2	30.7	20.0	6.6	3.2	3.6	4.4	5.2	3.4	23.0	11.3	11.7	9.6	10.7	19.9	69.1
20	16.6	S	11.2	6.4	5.5	7.1	7.8	9.3	8.8	10.6	5.4	10.6	27.9	30.4	9.5	3.5	3.3	2.6	3.8	14.6	23.5	21.9	25.0	24.3	12.6	30.4
21	20.4	S	29.0	16.8	19.1	16.6	27.0	42.3	28.5	34.1	29.6	9.8	6.2	6.7	9.3	13.6	7.7	6.3	10.5	12.5	27.9	16.3	15.7	17.7	18.4	42.3
22	25.5	S	52.5	29.8	44.4	46.6	50.7	47.6	40.0	25.5	9.7	7.0	15.0	11.0	9.2	6.2	8.4	6.0	5.5	5.9	8.2	21.1	23.5	18.1	22.5	52.5
23	19.2	S	41.1	16.5	15.7	17.8	8.2	28.2	39.8	33.2	9.6	4.7	2.6	6.3	18.3	17.5	21.1	25.5	14.9	6.9	28.7	27.0	9.4	21.6	18.9	41.1
24	44.7	S	55.5	13.7	8.4	13.5	13.4	13.6	13.9	31.1	7.0	6.2	5.2	5.4	14.2	11.0	30.6	25.0	5.3	5.1	5.2	5.2	10.9	6.2	15.2	55.5
25	13.2	S	35.3	38.0	41.6	33.9	19.7	16.4	32.9	36.9	22.7	13.9	4.8	3.6	3.4	3.5	1.4	1.6	1.3	5.6	5.4	4.8	12.2	22.4	16.3	41.6
26	9.3	S	10.8	14.9	10.8	22.8	16.2	22.7	30.7	35.0	13.0	13.4	28.5	22.3	7.9	4.4	3.4	0.9	2.4	1.5	2.4	1.4	3.3	17.6	12.9	35.0
27	9.1	S	30.2	16.8	5.7	4.9	2.4	3.5	2.9	3.1	9.9	18.6	26.5	2.9	3.8	6.7	8.9	2.7	3.1	4.7	8.3	8.9	3.6	5.4	8.4	30.2
28	3.1	S	3.5	3.5	3.6	3.3	9.7	11.9	22.4	20.3	38.8	28.2	18.2	11.0	13.3	4.3	5.1	3.8	3.5	11.7	8.0	10.2	6.3	11.5	11.1	38.8
29	15.7	S	9.8	12.3	38.6	25.5	33.2	41.1	28.9	17.1	5.0	15.9	10.2	2.4	2.7	7.9	4.5	2.3	4.6	4.2	33.3	20.3	24.3	21.2	16.6	41.1
30	12.2	S	16.1	15.6	9.9	13.9	19.7	20.6	35.5	35.8	39.3	17.8	1.2	2.5	3.5	5.2	6.9	6.6	12.5	13.5	3.6	3.1	6.0	9.3	13.5	39.3
31	28.2	S	8.9	10.0	21.1	13.4	18.5	27.4	44.8	49.5	20.6	38.2	24.3	5.5	5.5	11.0	2.9	7.7	37.5	14.7	23.8	5.6	6.9	6.7	18.8	49.5
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	707	100%
MEAN	18.6	-	19.6	16.6	17.9	20.0	21.4	22.4	26.5	25.6	17.5	14.2	10.6	7.7	7.1	6.8	6.2	6.2	8.4	9.0	13.3	13.7	13.3	14.8		
MAX	94.2	-	55.5	38.0	44.4	76.1	76.6	80.5	98.7	64.7	56.8	38.2	28.5	30.4	18.3	17.5	30.6	25.5	37.5	23.0	34.7	41.4	44.8	34.8		



Number of Non-Zero Readings	707
Maximum 1-HR Average	98.7 PPB
Maximum 24-HR Average	33.1 PPB
Monthly Calibration	6
Standard Deviation	13.37
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	14.7 PPB

Lagoon NO (ppb) – March 2019

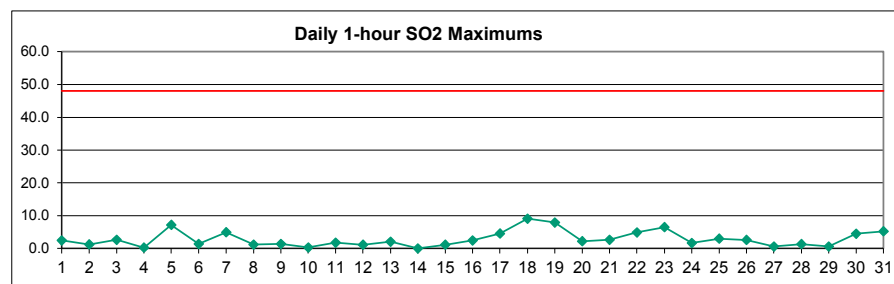
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.2	S	1.6	5.6	7.6	4.0	0.0	0.0	4.6	4.2	4.1	1.4	2.2	3.6	1.6	1.6	1.1	0.6	0.0	2.6	5.9	5.0	1.1	0.5	2.5	7.6
2	0.3	S	0.3	12.3	3.7	4.0	6.3	9.8	18.6	17.0	10.6	8.2	4.4	3.4	2.1	1.7	1.4	2.0	7.6	3.6	0.7	1.0	3.1	6.8	5.6	18.6
3	4.7	S	8.4	3.6	2.5	2.0	0.8	4.8	7.1	10.2	7.2	5.6	4.5	5.4	8.1	4.0	4.3	2.5	7.3	1.2	1.0	8.2	6.7	2.2	4.9	10.2
4	1.0	S	1.0	0.6	1.4	1.7	3.1	5.3	10.0	18.1	8.7	6.3	2.9	3.2	0.5	5.9	0.5	1.6	0.3	0.2	0.5	1.3	0.7	0.9	3.3	18.1
5	3.8	S	0.9	0.8	0.8	0.6	1.0	4.7	11.6	14.6	7.7	5.7	9.2	3.9	2.4	1.4	1.2	0.2	0.2	0.2	9.1	6.5	1.2	6.4	4.1	14.6
6	55.0	S	5.4	1.8	3.3	17.6	35.2	41.2	60.9	36.1	31.6	12.5	7.0	3.0	3.1	1.1	0.7	0.3	0.3	1.4	0.5	1.0	0.5	4.7	14.1	60.9
7	1.7	S	0.7	5.5	10.3	41.9	28.7	6.8	14.0	13.8	15.2	6.3	5.3	5.9	0.1	2.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.1	6.9	41.9
8	0.0	S	0.7	1.2	1.5	0.3	1.4	3.9	4.3	8.9	6.6	1.9	0.9	1.6	2.4	3.5	1.5	0.6	0.4	0.9	0.1	2.8	1.2	0.0	2.0	8.9
9	4.2	S	0.0	0.0	0.0	3.8	0.1	1.6	2.0	7.0	3.7	7.5	0.8	0.2	0.0	0.0	0.1	1.2	2.0	0.1	1.2	0.0	0.2	1.8	1.6	7.5
10	0.0	S	0.0	0.4	2.7	0.5	1.1	2.4	1.2	1.9	8.2	1.1	0.7	0.9	1.8	2.4	1.6	1.7	1.5	0.1	0.3	0.3	0.2	0.5	1.4	8.2
11	0.0	S	0.0	0.0	0.1	0.6	1.2	4.7	2.3	1.6	5.4	1.7	0.5	0.2	0.3	0.3	0.1	0.4	0.8	1.0	1.2	2.1	1.6	0.6	1.2	5.4
12	0.2	S	0.6	0.5	1.3	0.0	1.3	3.5	0.9	10.8	5.8	1.4	0.5	1.6	4.2	4.1	3.3	1.4	0.2	1.3	0.3	0.1	1.5	1.1	2.0	10.8
13	0.2	S	0.1	0.3	0.1	0.0	17.8	15.8	31.8	8.8	9.9	10.5	3.4	2.8	2.7	2.1	1.0	0.4	0.2	0.0	0.5	1.2	0.5	3.7	5.0	31.8
14	9.4	S	5.8	9.2	7.2	16.2	21.1	10.2	4.1	3.6	C	C	C	C	C	C	0.5	0.7	1.1	1.8	0.1	0.4	0.9	8.4	-	-
15	8.1	S	3.1	1.8	2.2	0.7	1.7	6.2	5.9	4.7	3.0	3.1	1.4	2.0	6.9	5.2	3.5	0.8	1.6	0.4	1.7	6.6	3.3	2.0	3.3	8.1
16	0.4	S	8.6	8.6	5.7	6.6	4.1	0.7	1.5	2.7	1.3	2.6	1.2	1.7	1.8	0.9	0.4	1.3	1.8	2.0	3.3	2.5	0.9	2.1	2.7	8.6
17	1.6	S	4.1	10.5	3.8	2.1	2.8	2.1	4.3	26.3	11.4	8.1	0.4	2.0	0.1	0.2	0.1	0.2	1.9	0.1	0.7	1.0	4.3	3.7	4.0	26.3
18	2.1	S	0.7	2.2	7.5	3.1	2.2	6.4	20.9	31.8	6.3	10.5	8.1	3.9	1.3	0.6	0.6	1.7	0.5	0.3	1.4	1.7	2.4	3.8	5.2	31.8
19	9.9	S	24.3	6.2	8.0	38.2	24.7	7.3	16.9	4.5	2.1	14.1	7.3	1.6	0.8	0.9	0.9	0.9	0.5	10.1	0.3	0.4	0.5	0.9	7.9	38.2
20	4.7	S	1.7	0.5	0.4	2.3	1.4	2.3	2.2	3.2	1.3	3.9	12.5	13.2	2.8	1.0	0.8	0.6	0.4	1.9	3.4	0.6	1.2	0.8	2.7	13.2
21	1.0	S	10.2	3.5	4.1	1.4	7.5	17.8	10.6	14.9	13.0	2.8	1.5	1.7	2.5	4.5	1.9	1.1	1.6	0.5	10.6	0.8	0.6	2.2	5.1	17.8
22	7.6	S	27.9	12.1	21.8	23.4	26.7	24.2	19.1	12.2	3.1	2.2	5.2	3.3	2.8	1.7	2.0	1.2	0.6	0.4	0.5	5.3	5.1	1.5	9.1	27.9
23	4.4	S	20.0	6.2	5.7	5.7	1.3	13.0	20.9	15.4	3.5	1.1	0.7	1.8	4.7	3.9	4.0	5.3	1.5	0.3	2.6	5.0	0.4	2.2	5.6	20.9
24	9.1	S	21.0	1.1	0.3	1.5	1.3	1.4	4.1	13.0	1.0	0.8	0.5	0.7	5.0	2.3	15.4	10.8	0.3	0.3	0.3	0.6	3.3	0.5	4.1	21.0
25	1.4	S	16.3	19.2	23.8	18.3	9.1	7.1	18.5	21.2	12.2	5.4	1.2	0.9	1.0	1.0	0.4	0.4	0.3	0.6	0.3	0.4	3.5	6.1	7.3	23.8
26	0.6	S	0.5	0.4	0.9	6.5	0.8	4.9	13.8	15.1	4.3	5.8	13.6	10.3	2.5	1.7	0.9	0.2	0.4	0.3	0.5	0.2	0.5	3.6	3.8	15.1
27	1.2	S	6.6	3.5	0.7	0.4	0.2	0.5	0.6	0.8	3.2	7.8	12.5	0.8	1.3	1.7	2.5	0.4	0.4	0.6	1.5	2.1	0.4	1.6	2.2	12.5
28	0.3	S	0.3	0.2	0.3	0.2	0.6	2.7	9.9	9.9	21.4	14.2	8.3	4.2	5.3	1.1	0.9	0.6	0.5	4.4	1.0	2.2	0.7	2.1	4.0	21.4
29	2.0	S	0.5	2.8	24.2	11.1	10.2	16.0	12.6	6.8	1.5	4.3	3.0	0.6	0.8	2.4	1.2	0.6	0.5	0.4	10.0	1.2	0.7	6.7	5.2	24.2
30	2.3	S	6.3	5.3	2.7	4.6	8.1	7.9	19.5	19.6	23.5	8.3	0.3	0.9	1.1	1.4	1.8	1.9	2.3	1.8	0.4	0.4	0.5	0.7	5.3	23.5
31	3.7	S	1.1	0.9	4.3	0.8	1.7	6.7	22.0	26.6	8.6	21.7	11.0	1.5	1.2	3.6	0.5	1.2	13.2	1.2	4.4	0.6	0.4	0.8	6.0	26.6
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	707	100%
MEAN	4.7	-	5.8	4.1	5.1	7.0	7.2	7.8	12.1	12.4	8.2	6.2	4.4	2.9	2.4	2.1	1.8	1.4	1.6	1.3	2.1	2.0	1.6	2.5		
MAX	55.0	-	27.9	19.2	24.2	41.9	35.2	41.2	60.9	36.1	31.6	21.7	13.6	13.2	8.1	5.9	15.4	10.8	13.2	10.1	10.6	8.2	6.7	8.4		



Number of Non-Zero Readings	690		
Maximum 1-HR Average	60.9 PPB		
Maximum 24-HR Average	14.1 PPB		
Monthly Calibration	6	Operational Time	744 HRS
Standard Deviation	6.925	Operational Uptime	100.0 %
		Monthly Average	4.6 PPB

Lagoon SO₂ (ppb) – March 2019

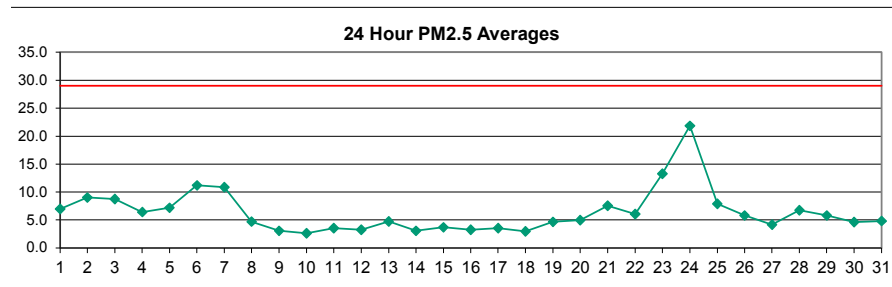
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.0	S	0.0	0.1	0.4	0.0	0.0	0.0	0.6	0.5	0.6	0.4	0.0	0.5	0.7	1.0	2.3	2.4	1.7	1.4	0.6	0.2	0.1	0.0	0.6	2.4
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.6	0.0	0.0	0.0	1.0	0.7	1.2	0.9	0.4	0.0	0.0	0.0	0.0	0.3	1.2
3	0.0	S	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	0.2	0.9	1.8	2.6	0.4	0.2	0.0	0.0	0.3	2.6
4	0.0	S	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
5	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	2.7	7.1	5.2	3.3	1.4	1.0	0.3	0.4	0.0	0.2	1.0	7.1
6	1.3	S	0.1	0.0	0.0	0.3	0.5	0.1	0.9	0.7	0.9	1.1	0.5	1.0	1.0	1.4	1.0	0.8	0.6	0.3	0.6	0.3	0.2	0.6	0.6	1.4
7	0.2	S	0.4	1.2	1.6	4.8	4.9	1.5	2.2	1.3	2.1	1.0	0.5	0.3	0.3	0.4	0.4	0.9	0.2	0.4	0.3	0.2	0.0	0.5	1.1	4.9
8	0.2	S	0.3	0.5	0.2	0.0	0.2	0.2	0.1	0.7	1.2	0.5	0.1	1.2	0.7	0.8	0.2	0.6	0.3	0.1	0.2	0.2	0.0	0.0	0.4	1.2
9	0.0	S	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.7	0.2	0.3	0.0	0.0	0.0	0.0	0.6	1.4	0.7	0.3	0.1	0.0	0.0	0.0	0.2	1.4
10	0.0	S	0.1	0.2	0.1	0.0	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
11	0.0	S	0.0	0.0	0.0	0.0	1.8	0.4	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.0	0.2	0.2	0.1	0.6	0.2	0.3	0.7	0.4	0.2	1.8
12	0.3	S	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.6	0.1	1.1	0.6	0.1	0.3	0.0	0.1	0.0	0.5	0.1	0.4	0.2	1.1
13	0.7	S	0.0	0.2	0.0	0.0	0.0	0.1	0.5	0.4	0.0	0.0	0.3	1.3	2.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0
14	0.1	S	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	C	C	C	C	C	C	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
15	0.3	S	0.2	0.0	0.0	0.0	0.0	0.3	0.5	1.1	0.0	0.5	0.0	0.4	0.7	0.0	0.0	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.2	1.1
16	0.0	S	1.3	2.4	0.6	0.8	0.7	0.3	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.4	0.1	0.3	0.3	0.3	2.4
17	0.1	S	1.0	4.5	0.9	0.4	0.3	0.2	0.4	4.0	2.2	1.5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9	0.8	4.5
18	0.6	S	0.0	0.6	1.5	0.0	0.0	0.9	5.0	9.1	1.7	2.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.8	1.1	9.1
19	1.9	S	5.3	1.4	1.8	7.9	4.5	1.4	2.6	0.5	1.0	7.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	7.9
20	0.2	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	2.1	1.8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.2	2.1
21	0.0	S	1.1	0.5	0.3	0.0	0.5	2.7	0.6	2.1	2.3	0.1	0.0	1.0	0.2	0.6	0.6	0.3	0.2	0.4	0.3	0.5	0.6	0.5	0.7	2.7
22	1.1	S	4.4	3.7	3.4	4.0	4.8	4.9	4.2	2.1	0.1	0.0	2.9	1.7	0.6	0.6	1.2	1.8	1.3	0.6	0.0	0.3	0.5	0.5	1.9	4.9
23	1.2	S	3.6	2.1	1.1	1.8	0.5	2.0	6.5	4.0	0.5	0.2	0.0	0.9	2.7	3.0	1.9	2.6	1.1	0.9	0.8	1.2	1.0	1.3	1.8	6.5
24	1.6	S	1.5	1.3	0.7	0.2	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.3	0.7	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	1.6
25	0.0	S	0.9	0.9	2.7	2.4	1.0	0.7	2.1	2.9	1.9	0.8	0.1	0.0	0.0	0.0	0.0	0.5	0.2	0.4	0.0	0.2	0.6	1.8	0.9	2.9
26	0.5	S	0.2	0.2	0.1	1.0	0.6	0.4	1.2	0.8	0.4	1.6	2.2	2.6	0.7	0.6	0.2	0.3	0.3	0.3	0.0	0.4	0.3	0.4	0.7	2.6
27	0.2	S	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.4	0.2	0.5	0.0	0.5	0.0	0.0	0.2	0.0	0.4	0.0	0.2	0.5
28	0.0	S	0.0	0.0	0.3	0.0	0.0	0.3	0.6	0.4	1.3	0.5	0.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3
29	0.0	S	0.0	0.0	0.2	0.1	0.0	0.5	0.4	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.1	0.5
30	0.3	S	0.6	1.1	0.5	0.4	0.5	0.9	2.9	2.2	4.4	1.4	0.0	0.3	0.3	0.1	0.0	0.7	0.0	0.3	0.2	0.3	0.1	0.6	0.8	4.4
31	0.4	S	0.3	0.0	0.0	0.0	0.0	0.0	2.3	5.2	3.0	4.8	1.3	1.4	0.4	0.5	0.3	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.9	5.2
NO.	31	-	31	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	707	100%
MEAN	0.4	-	0.7	0.7	0.5	0.8	0.7	0.6	1.1	1.3	0.8	0.9	0.6	0.5	0.5	0.6	0.5	0.6	0.4	0.3	0.1	0.2	0.2	0.3		
MAX	1.9	-	5.3	4.5	3.4	7.9	4.9	4.9	6.5	9.1	4.4	7.2	3.2	2.6	2.7	7.1	5.2	3.3	1.8	2.6	0.8	1.2	1.1	1.8		



Number of 1HR Exceedences	0
Number of Non-Zero Readings	435
Maximum 1-HR Average	9.1 PPB
Maximum 24-HR Average	1.9 PPB
Monthly Calibration	6
Standard Deviation	1.105
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	0.6 PPB

Lagoon PM_{2.5} (µg/m³) – March 2019

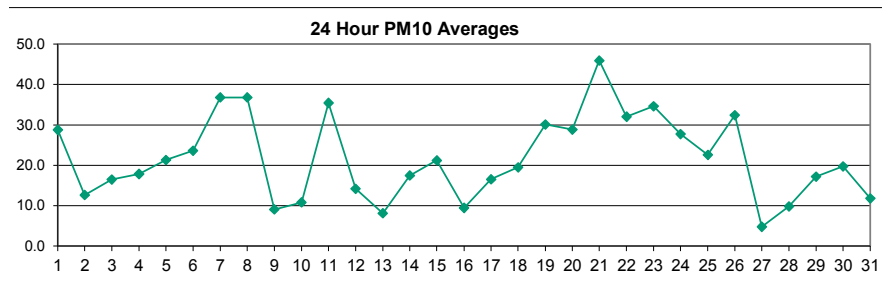
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.5	4.8	8.3	6.2	5.8	6.2	5.1	6.2	4.0	5.1	4.7	5.5	5.5	4.4	3.7	4.4	10.5	10.1	14.4	12.3	7.6	10.1	10.1	8.3	7.0	14.4
2	7.6	8.7	10.9	8.0	6.9	9.0	8.7	10.5	9.8	12.3	11.6	9.0	8.3	11.9	9.1	6.2	5.5	6.9	7.6	11.2	10.2	9.4	7.7	9.8	9.0	12.3
3	11.2	8.4	10.9	14.1	13.7	12.7	10.2	10.1	9.4	7.6	8.0	7.6	7.3	8.0	5.1	4.8	4.4	3.5	4.4	8.3	9.8	8.7	10.5	11.2	8.7	14.1
4	10.5	10.5	9.8	9.1	10.5	8.7	6.6	7.8	4.4	7.6	9.8	6.5	4.1	4.4	4.4	0.8	1.9	1.9	1.5	7.6	6.6	8.0	6.2	4.8	6.4	10.5
5	5.5	10.9	7.6	8.0	6.2	4.4	2.6	5.5	6.2	7.6	10.9	9.4	11.2	13.0	8.7	7.6	7.6	6.9	7.3	5.8	4.4	4.8	5.5	5.1	7.2	13.0
6	10.1	17.3	13.7	8.7	6.2	7.3	9.1	10.5	12.4	13.0	11.2	19.1	13.7	10.9	8.0	9.8	10.9	10.1	7.3	11.2	10.5	9.5	13.0	15.2	11.2	19.1
7	17.3	16.6	23.8	21.3	17.6	22.3	23.8	17.0	7.6	15.9	11.6	9.0	9.1	10.1	10.9	6.2	1.2	1.2	1.5	4.0	3.0	2.2	3.7	4.0	10.9	23.8
8	2.6	1.2	2.6	3.3	4.1	4.4	3.0	3.0	1.9	3.0	5.1	9.8	6.2	2.3	5.1	4.8	8.3	8.0	5.8	4.0	3.3	3.7	11.2	6.4	4.7	11.2
9	1.9	3.7	3.3	1.9	1.2	1.9	3.3	4.0	2.9	1.9	1.2	1.2	3.0	1.5	0.1	2.2	4.0	4.0	5.8	6.5	5.5	5.1	4.0	3.3	3.1	6.5
10	4.0	4.0	2.6	1.2	0.0	0.8	2.6	3.0	4.0	3.0	0.8	3.3	2.6	1.5	1.9	0.8	1.5	1.2	5.5	6.2	4.9	2.2	1.2	3.7	2.6	6.2
11	3.3	2.6	1.9	4.0	3.7	3.7	4.4	6.4	5.5	8.3	6.2	5.5	4.4	0.1	0.0	0.0	0.0	0.8	0.8	6.5	6.2	3.7	3.3	3.0	3.5	8.3
12	1.5	1.5	1.2	0.0	4.0	1.9	0.0	5.8	5.5	5.8	4.0	4.0	2.2	1.9	1.2	7.2	5.8	3.0	2.6	3.3	3.3	4.8	4.7	3.0	3.3	7.2
13	3.6	4.8	4.0	3.3	4.7	3.7	1.6	3.7	4.4	7.3	7.3	9.1	6.6	4.8	5.1	7.3	6.9	5.1	3.0	5.5	4.0	1.9	2.6	4.0	4.7	9.1
14	6.5	5.1	2.9	3.0	2.2	0.5	2.9	4.0	4.0	3.3	3.0	4.0	C	C	C	C	5.5	3.3	1.2	2.6	3.3	3.3	0.0	0.0	3.0	6.5
15	8.0	8.3	5.5	3.3	1.9	2.6	3.7	3.0	5.1	6.2	5.1	4.4	3.7	3.0	4.0	4.0	2.2	3.7	3.3	1.9	2.9	0.8	0.1	2.2	3.7	8.3
16	2.2	1.2	0.4	3.3	3.7	2.2	5.1	4.4	2.6	2.6	3.0	3.7	3.7	1.2	2.2	4.4	4.8	2.2	1.9	2.9	3.0	9.1	5.8	2.2	3.2	9.1
17	3.7	2.6	2.2	5.5	7.6	4.4	0.0	1.5	3.7	4.4	4.4	3.3	4.0	1.5	1.5	3.3	1.5	1.5	2.3	3.7	3.0	5.5	6.9	6.9	3.5	7.6
18	5.1	4.0	3.0	1.9	2.2	4.0	2.9	0.0	0.1	5.1	5.8	4.1	2.9	3.3	3.7	1.9	0.4	0.0	1.5	3.7	4.0	4.8	4.4	3.0	3.0	5.8
19	0.8	0.4	2.2	4.8	5.5	6.5	13.0	10.2	5.8	6.2	5.4	3.3	5.1	6.5	5.4	2.9	2.6	2.2	1.5	5.1	3.3	4.0	4.8	4.0	4.7	13.0
20	4.8	6.6	8.3	6.2	2.2	1.9	2.3	3.3	4.4	4.0	5.5	5.1	5.5	3.7	2.6	5.5	4.7	3.7	2.6	4.4	6.2	6.9	8.7	10.1	5.0	10.1
21	8.4	8.7	7.3	9.1	7.3	6.4	3.7	8.0	10.1	11.2	11.6	11.5	8.7	6.5	5.4	4.4	3.3	2.9	4.4	6.3	6.6	7.6	11.9	9.8	7.5	11.9
22	8.7	5.8	9.4	7.3	4.4	8.0	7.6	9.8	9.1	8.0	7.6	4.8	1.5	1.2	1.2	0.4	2.2	4.4	5.1	5.1	7.3	8.3	6.6	11.6	6.1	11.6
23	10.1	7.3	6.7	5.5	5.5	5.8	6.2	4.0	7.3	8.3	7.3	6.9	5.5	5.8	6.2	12.3	13.4	18.7	22.0	22.0	30.2	32.4	33.8	35.3	13.3	35.3
24	37.8	44.3	50.4	52.2	40.7	41.4	25.6	23.8	19.5	25.6	20.2	17.7	18.8	10.2	15.9	14.5	13.7	10.9	9.5	8.3	6.9	7.6	4.7	4.4	21.8	52.2
25	4.0	5.8	11.2	9.4	15.2	14.1	14.1	12.4	12.3	11.2	11.2	12.6	10.9	8.7	5.5	3.5	4.4	4.0	0.8	1.2	3.7	4.4	4.4	4.8	7.9	15.2
26	6.9	5.8	4.8	4.4	4.8	4.8	5.5	5.1	6.9	14.8	12.7	9.4	8.7	9.0	8.7	4.4	1.5	3.3	4.8	3.0	3.0	3.0	2.6	1.4	5.8	14.8
27	1.2	4.0	4.8	3.3	5.5	4.8	5.3	7.3	6.6	4.4	4.0	2.6	3.7	5.1	4.8	3.3	3.3	4.7	3.7	4.0	4.4	3.0	1.9	4.4	4.2	7.3
28	6.2	7.3	7.1	8.7	8.0	7.6	6.6	6.6	6.5	8.7	9.4	12.3	8.0	8.3	7.3	7.3	5.8	4.7	4.0	2.8	2.6	3.5	4.4	8.3	6.7	12.3
29	10.9	9.1	5.8	4.8	7.6	7.6	7.3	9.1	8.3	8.7	8.0	3.7	6.3	4.8	1.9	4.0	3.0	1.2	1.9	4.0	3.3	4.7	6.3	6.9	5.8	10.9
30	5.8	5.5	5.3	4.4	4.0	5.8	4.4	8.3	5.8	2.6	4.4	9.8	5.5	1.5	1.5	1.2	1.5	4.4	5.8	5.8	4.8	4.8	4.0	3.3	4.6	9.8
31	1.5	0.1	1.9	1.9	0.0	3.7	5.1	4.8	6.3	7.6	6.3	5.3	5.8	3.7	6.2	7.3	6.7	4.8	6.7	7.3	7.3	5.5	5.1	4.4	4.8	7.6
NO.	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	740	100%
MEAN	6.9	7.3	7.7	7.4	6.9	7.1	6.5	7.1	6.5	7.8	7.3	7.2	6.4	5.3	4.9	4.9	4.8	4.6	4.9	6.0	6.0	6.2	6.5	6.6		
MAX	37.8	44.3	50.4	52.2	40.7	41.4	25.6	23.8	19.5	25.6	20.2	19.1	18.8	13.0	15.9	14.5	13.7	18.7	22.0	22.0	30.2	32.4	33.8	35.3		



Number of 24HR Exceedences	0
Number of Non-Zero Readings	728
Maximum 1-HR Average	52.2 UG/M3
Maximum 24-HR Average	21.8 UG/M3
Monthly Calibration	4
Standard Deviation	5.673
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	6.4 UG/M3

Lagoon PM₁₀ (µg/m³) – March 2019

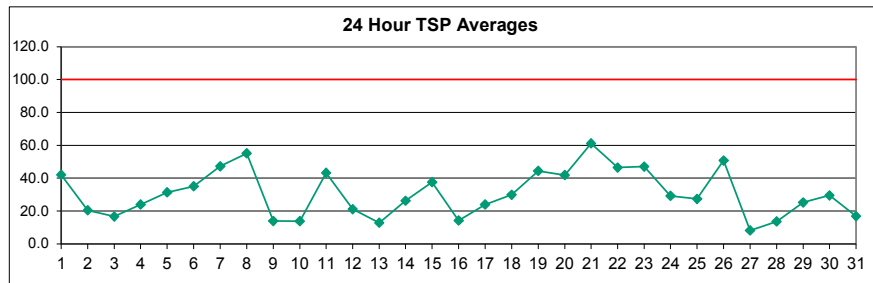
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	25.7	58.9	38.5	41.9	41.9	52.1	46.0	41.9	41.1	109.0	78.5	21.6	16.9	14.1	11.4	10.1	7.5	6.3	10.1	6.7	0.0	0.0	4.0	7.4	28.8	109.0
2	7.7	4.7	7.7	11.4	11.4	15.5	12.8	10.1	15.5	10.1	18.2	29.9	45.3	31.8	19.6	8.7	8.0	19.0	6.0	8.0	0.6	0.0	0.0	1.9	12.7	45.3
3	4.7	4.7	29.0	28.4	17.5	15.5	13.3	9.4	5.3	16.8	25.7	31.8	47.3	68.3	22.3	9.5	10.7	8.0	4.2	3.3	4.7	8.0	7.4	0.0	16.5	68.3
4	3.3	21.6	19.6	6.7	16.8	10.8	9.4	20.9	16.9	73.7	75.1	39.2	25.0	10.1	19.5	14.1	10.1	5.3	3.3	1.9	1.9	1.3	5.3	16.8	17.9	75.1
5	19.6	18.2	18.9	6.7	6.7	7.6	17.5	18.2	18.2	46.6	82.5	42.7	22.3	64.2	14.9	20.9	3.6	7.5	10.7	8.0	6.0	22.2	14.2	14.4	21.3	82.5
6	25.6	25.0	15.5	14.1	12.1	10.8	8.1	28.3	33.1	57.5	53.4	59.5	50.1	42.6	8.8	15.8	14.8	8.1	6.7	6.0	10.1	12.8	20.9	27.7	23.6	59.5
7	23.6	48.0	37.7	38.5	51.4	53.4	68.3	38.6	23.0	43.9	52.1	58.2	44.0	91.3	67.7	31.9	0.0	2.6	27.0	16.9	4.7	28.8	23.6	8.8	36.8	91.3
8	16.8	10.8	12.1	12.1	18.7	19.6	16.2	6.7	10.1	10.1	48.6	66.3	40.7	0.0	116.7	107.7	136.0	70.0	48.8	22.4	22.9	21.6	42.4	7.5	36.9	136.0
9	8.7	19.5	4.7	3.6	6.2	6.7	2.6	1.3	3.3	30.3	18.9	23.6	16.2	3.6	4.0	3.3	0.0	0.0	0.0	6.0	14.8	18.9	12.1	10.1	9.1	30.3
10	8.7	8.0	3.3	4.6	7.4	5.3	4.0	3.6	7.3	18.2	37.1	27.7	6.8	9.4	10.7	9.4	30.3	5.4	20.2	0.0	3.3	8.0	10.1	10.7	10.8	37.1
11	10.1	17.5	10.1	62.0	61.6	48.8	44.0	162.0	79.6	65.7	52.8	71.0	46.8	25.8	9.5	8.7	7.4	8.0	16.8	1.3	7.3	14.8	2.7	16.8	35.5	162.0
12	8.1	15.5	11.9	10.1	3.3	0.6	4.6	26.2	33.1	44.3	27.1	31.7	25.0	6.8	16.1	25.6	8.1	9.4	8.0	2.6	2.6	8.0	9.1	2.7	14.2	44.3
13	1.9	4.6	2.6	0.0	2.6	1.9	1.3	2.6	2.6	9.0	12.8	42.4	17.0	5.4	18.1	16.9	20.2	0.0	1.2	8.0	5.3	4.0	7.3	7.4	8.1	42.4
14	6.7	16.8	11.5	8.7	8.7	9.4	8.7	17.5	21.6	36.2	22.4	92.0	C	C	C	C	37.8	10.7	7.4	2.6	0.0	4.7	6.0	20.2	17.5	92.0
15	48.7	48.0	21.6	14.8	14.1	8.7	8.0	10.9	71.7	56.8	22.7	15.5	23.6	17.6	37.2	29.0	12.1	12.8	11.4	7.4	0.0	0.0	6.7	10.1	21.2	71.7
16	10.7	10.1	11.4	8.0	4.7	3.3	5.3	5.3	2.6	6.7	20.2	29.0	12.8	16.2	8.7	16.2	3.3	3.3	4.7	5.3	0.0	2.0	16.2	21.6	9.5	29.0
17	20.2	19.6	14.1	11.4	10.5	6.7	1.9	14.8	24.3	29.7	61.6	45.3	29.7	14.1	16.2	1.3	4.7	6.2	16.8	8.7	3.3	1.3	19.6	15.5	16.6	61.6
18	10.8	10.8	26.3	4.7	4.0	4.7	6.0	10.1	18.9	52.1	50.7	39.9	24.3	43.9	35.1	14.1	20.1	13.5	22.2	0.0	0.0	7.4	33.1	15.5	19.5	52.1
19	18.9	39.2	37.9	29.7	8.0	9.4	33.1	46.6	40.6	73.1	32.4	33.8	46.0	73.7	69.7	29.8	10.1	11.4	13.5	8.7	0.6	18.9	18.9	18.9	30.1	73.7
20	43.3	51.4	28.4	27.0	10.1	8.7	10.7	12.8	31.7	30.4	37.8	27.7	61.5	48.3	80.5	44.5	18.9	16.8	17.5	12.8	0.0	4.8	37.1	29.7	28.9	80.5
21	29.1	33.8	37.2	59.5	35.9	20.9	19.6	31.1	104.2	167.8	130.7	129.4	68.4	29.8	36.5	22.9	20.9	22.9	24.3	26.3	0.0	0.0	25.6	26.3	46.0	167.8
22	31.8	29.7	47.3	36.5	22.3	19.6	26.3	51.4	98.7	81.9	45.4	23.7	23.6	33.8	43.2	15.5	13.5	24.3	14.8	22.2	6.7	5.3	18.2	33.1	32.0	98.7
23	35.8	16.9	14.1	20.2	11.4	10.8	19.5	10.1	60.1	59.5	41.3	25.0	34.4	43.3	27.7	66.9	48.7	36.1	32.4	28.3	33.1	56.1	54.1	46.0	34.7	66.9
24	58.2	72.4	69.0	67.0	62.9	48.7	35.9	23.7	28.3	25.0	30.4	20.9	16.9	22.9	14.8	12.9	10.8	9.4	10.7	10.1	7.4	3.3	1.3	4.0	27.8	72.4
25	8.0	6.7	22.9	13.5	33.0	27.0	23.0	11.5	14.8	22.2	35.8	54.7	61.5	46.0	34.5	15.8	5.4	4.7	4.7	1.3	4.0	6.7	32.4	52.7	22.6	61.5
26	9.5	15.5	20.9	6.1	4.7	5.3	19.5	22.9	34.4	139.8	88.9	60.7	119.0	137.4	59.2	31.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0	2.6	32.5	139.8
27	7.3	6.0	2.0	4.6	4.7	2.6	3.4	5.3	5.3	3.3	1.3	3.4	6.0	6.0	6.7	6.7	4.0	2.0	0.0	2.6	7.3	6.7	8.0	10.1	4.8	10.1
28	6.0	8.0	12.1	11.4	10.1	7.4	8.7	8.7	8.0	11.4	18.2	18.9	18.9	14.2	10.8	21.5	6.1	8.7	7.4	6.0	1.3	1.9	6.7	4.0	9.9	21.5
29	6.7	7.4	3.3	7.3	12.8	8.7	9.4	26.3	62.1	65.6	21.3	20.9	16.2	15.5	3.4	21.5	24.3	13.0	8.1	0.0	0.0	5.9	27.6	25.7	17.2	65.6
30	20.9	12.8	10.8	7.4	4.0	4.6	18.1	16.8	29.7	49.9	54.8	97.9	32.1	14.3	23.6	20.2	10.3	30.9	7.5	0.0	0.0	0.0	3.9	3.3	19.7	97.9
31	6.0	8.0	16.8	5.4	7.3	4.7	2.0	16.8	8.8	37.0	40.8	29.8	21.0	20.9	6.1	5.3	5.3	3.3	2.6	5.8	5.3	8.7	10.1	6.7	11.9	40.8
NO.	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	740	100%
MEAN	17.5	21.6	20.0	18.8	17.0	14.8	16.4	23.0	30.8	47.9	43.2	42.4	34.0	32.4	28.4	21.9	16.5	12.3	11.9	7.7	4.9	9.1	15.6	15.4		
MAX	58.2	72.4	69.0	67.0	62.9	53.4	68.3	162.0	104.2	167.8	130.7	129.4	119.0	137.4	116.7	107.7	136.0	70.0	48.8	28.3	33.1	56.1	54.1	52.7		



Number of Non-Zero Readings	707		
Maximum 1-HR Average	167.8 UG/M3		
Maximum 24-HR Average	46.0 UG/M3		
Monthly Calibration	4	Operational Time	744 HRS
Standard Deviation	23.38	Operational Uptime	100.0 %
		Monthly Average	21.8 UG/M3

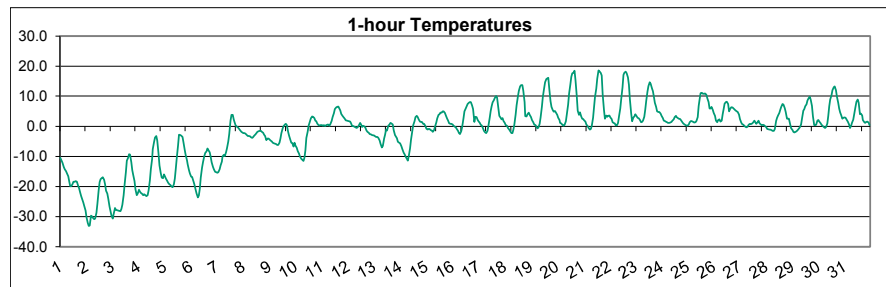
Lagoon TSP (µg/m³) – March 2019

Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	45.9	84.5	69.3	47.2	56.9	59.6	54.1	48.6	51.5	114.9	76.2	23.7	18.1	27.9	62.4	23.7	22.3	25.1	20.9	18.2	11.3	20.9	18.2	7.2	42.0	114.9
2	19.4	15.4	14.0	22.3	19.3	8.5	9.9	8.5	14.0	7.1	18.2	8.5	18.2	23.7	32.0	16.8	19.6	33.4	49.9	61.0	22.4	15.4	18.2	15.4	20.5	61.0
3	20.9	16.8	9.9	15.4	8.5	14.0	8.5	5.7	5.7	12.7	14.0	9.9	19.6	74.8	26.5	8.5	5.7	12.7	20.1	16.8	9.6	14.0	18.0	29.2	16.6	74.8
4	18.2	25.1	14.0	18.2	22.3	18.2	18.2	22.3	25.2	99.8	92.7	38.9	15.7	9.8	19.5	3.0	4.4	4.4	3.0	22.5	15.4	18.2	29.2	16.8	24.0	99.8
5	9.9	27.9	16.8	12.7	15.6	18.2	12.7	23.7	34.3	70.7	119.1	50.8	27.3	97.0	18.2	26.5	5.7	15.4	14.0	9.8	9.9	44.4	43.1	29.2	31.4	119.1
6	41.7	44.4	19.6	15.4	14.0	25.1	30.6	54.1	48.6	76.2	51.4	81.8	83.2	58.2	8.5	16.8	12.8	15.4	9.9	16.8	23.7	16.8	29.2	48.6	35.1	83.2
7	29.2	87.3	50.0	41.7	76.2	72.7	83.1	55.5	33.4	65.2	66.9	67.9	45.8	132.9	74.9	3.0	11.3	18.2	23.7	23.7	15.4	20.9	29.2	7.1	47.3	132.9
8	14.0	8.5	8.5	7.1	15.9	12.9	9.8	15.9	20.9	21.0	64.0	79.0	44.4	3.0	181.3	191.0	238.0	126.1	86.0	41.7	22.6	22.3	79.0	9.9	55.1	238.0
9	16.8	29.2	8.5	3.0	9.8	5.7	0.2	0.0	4.3	44.8	34.8	30.0	18.2	4.4	1.6	1.6	2.9	5.0	18.2	23.7	26.5	22.3	12.7	11.3	14.0	44.8
10	8.5	14.0	7.1	9.7	3.0	7.1	7.1	5.7	4.9	11.3	58.2	29.3	9.9	5.7	3.0	16.8	32.0	9.9	30.6	5.2	11.3	11.3	15.4	14.0	13.8	58.2
11	5.2	20.9	14.0	40.3	80.4	90.1	51.5	283.3	120.7	68.6	45.9	76.2	21.0	8.5	5.7	3.0	3.0	7.1	12.6	9.9	25.1	9.9	19.5	16.8	43.3	283.3
12	16.0	14.0	8.5	15.4	4.4	3.1	5.7	49.9	50.9	72.1	43.1	37.5	44.4	19.6	12.7	44.4	5.1	9.9	8.5	7.1	4.4	8.5	12.6	9.8	21.2	72.1
13	14.0	16.8	0.0	1.6	9.8	4.4	0.8	12.8	7.1	11.3	9.9	68.4	25.2	4.4	4.4	16.8	16.8	3.0	15.4	22.3	4.4	8.5	18.2	12.7	12.9	68.4
14	7.1	20.4	1.6	8.5	14.0	16.8	7.5	22.3	30.6	38.9	38.9	169.9	C	C	C	C	51.3	23.7	7.7	8.5	11.3	12.6	8.5	25.2	26.3	169.9
15	88.7	98.3	32.1	26.5	20.9	12.7	27.9	12.8	110.8	106.5	37.5	25.1	45.8	25.1	59.6	37.4	18.2	25.2	14.0	16.8	7.1	15.4	22.3	15.4	37.6	110.8
16	19.6	12.6	9.9	7.1	11.3	8.5	7.1	7.6	9.8	15.4	25.1	34.7	9.9	14.0	11.3	9.9	7.1	5.7	15.4	8.5	11.3	29.9	21.0	29.9	14.3	34.7
17	36.1	29.2	19.6	19.6	11.3	5.7	3.0	15.4	32.0	36.2	87.3	61.0	41.6	4.4	7.9	4.4	4.4	5.8	33.4	20.9	11.3	23.7	32.0	29.2	24.0	87.3
18	11.3	22.3	45.8	7.1	3.0	7.7	9.9	27.4	25.2	65.2	73.4	47.2	34.8	69.3	38.9	15.4	7.1	8.5	38.9	18.2	18.2	25.1	55.5	43.1	29.9	73.4
19	25.1	67.9	58.3	32.1	19.6	16.8	44.5	61.0	54.2	114.9	45.8	48.6	70.2	112.2	83.1	9.9	11.3	16.8	22.3	26.5	27.9	32.2	22.8	43.1	44.4	114.9
20	70.7	88.4	43.1	45.8	18.2	8.5	15.4	23.7	47.2	32.0	48.2	32.0	91.5	62.4	88.6	47.2	12.6	25.1	22.3	30.6	26.5	32.0	59.7	35.4	42.0	91.5
21	35.4	33.4	52.7	63.8	40.3	16.0	18.2	41.7	130.1	220.0	180.0	186.8	90.1	32.0	25.1	18.2	40.3	41.6	23.4	52.7	21.0	20.9	51.3	33.4	61.2	220.0
22	41.7	45.8	58.3	45.8	32.1	34.6	37.5	70.7	149.5	108.0	53.7	32.0	30.6	40.3	20.9	25.1	19.5	54.0	23.7	31.9	43.1	32.0	38.9	45.0	46.4	149.5
23	36.2	23.7	15.4	27.9	8.5	19.6	22.3	19.6	94.2	77.6	54.1	25.1	36.1	47.2	12.7	113.4	95.6	66.6	66.6	43.1	47.2	61.0	59.7	55.5	47.0	113.4
24	69.3	87.3	79.0	69.3	62.4	58.3	34.8	27.9	23.7	23.7	27.9	14.0	15.4	11.3	15.4	16.1	9.9	11.3	18.4	5.8	3.0	3.2	4.4	8.0	29.1	87.3
25	4.4	16.8	29.2	14.0	26.5	25.1	14.1	14.0	14.0	22.3	34.7	58.2	66.5	58.3	42.8	21.0	20.9	5.8	8.5	5.7	25.1	9.9	59.6	58.3	27.3	66.5
26	18.2	25.1	15.4	9.9	19.5	8.5	27.6	27.6	62.4	201.8	126.1	76.3	181.1	221.8	94.5	52.8	4.4	12.6	7.1	4.4	1.6	3.0	3.0	13.0	50.7	221.8
27	20.9	21.0	5.8	9.9	1.6	0.0	7.1	8.5	5.7	5.7	7.1	5.4	8.5	12.6	5.7	8.5	9.9	5.7	9.9	5.4	5.7	10.5	8.5	7.1	8.2	21.0
28	9.9	15.4	19.5	12.7	8.5	8.0	5.2	11.3	9.8	14.0	14.0	26.4	18.4	23.7	16.8	32.0	5.8	19.5	12.7	10.4	5.2	8.5	10.4	11.3	13.7	32.0
29	13.0	16.1	5.8	3.0	15.4	11.3	18.2	34.6	88.6	88.7	34.9	9.9	33.3	21.0	5.5	3.0	11.2	16.8	8.5	16.8	11.3	33.3	62.3	41.7	25.2	88.7
30	21.0	20.9	15.4	13.1	8.5	14.0	18.4	25.1	40.2	87.2	76.3	160.3	37.9	5.8	5.7	5.7	59.4	16.9	20.7	19.6	11.3	8.5	8.5	8.5	29.4	160.3
31	19.5	12.7	12.6	8.5	12.6	15.4	18.2	16.8	22.7	51.4	52.7	39.0	18.2	25.1	16.8	5.8	5.7	7.1	7.1	8.5	11.3	7.1	4.4	5.7	16.9	52.7
NO.	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	740	100%
MEAN	26.1	34.3	24.5	21.8	21.6	20.2	20.3	34.0	44.3	64.0	55.2	53.4	40.7	41.9	33.4	26.6	23.2	22.5	21.6	19.8	16.4	19.5	28.2	23.8		
MAX	88.7	98.3	79.0	69.3	80.4	90.1	83.1	283.3	149.5	220.0	180.0	186.8	181.1	221.8	181.3	191.0	238.0	126.1	86.0	61.0	47.2	61.0	79.0	58.3		



Lagoon Temperature (°C) – March 2019

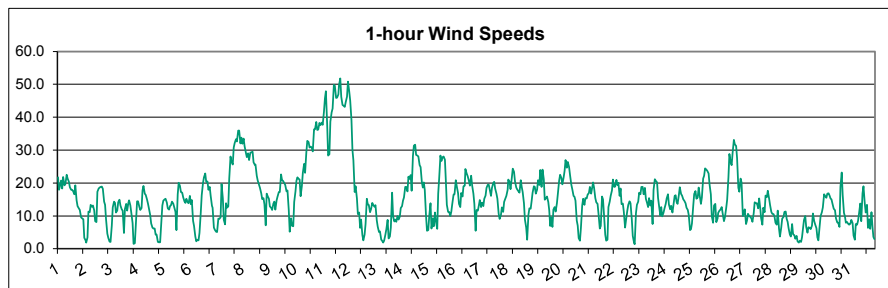
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	-10.4	-11.4	-12.1	-13.5	-14.3	-14.9	-15.7	-16.6	-18.3	-19.9	-19.9	-19.2	-18.4	-18.4	-18.2	-18.4	-19.5	-20.7	-21.9	-23.1	-24.4	-25.3	-26.5	-28.0	-18.7	-10.4
2	-30.2	-32.1	-33.0	-32.9	-29.7	-29.9	-30.5	-30.9	-30.7	-28.7	-25.8	-21.2	-18.6	-17.6	-17.1	-16.9	-17.8	-19.2	-21.4	-22.4	-24.0	-26.7	-28.2	-29.7	-25.6	-16.9
3	-30.7	-29.1	-27.1	-27.7	-27.8	-28.0	-28.1	-28.2	-27.5	-26.1	-22.9	-19.4	-15.2	-11.4	-10.4	-9.3	-9.4	-11.9	-14.6	-16.2	-18.2	-20.9	-22.8	-22.4	-21.0	-9.3
4	-21.1	-21.7	-22.2	-22.3	-22.9	-22.5	-22.9	-23.2	-22.9	-21.3	-18.1	-14.3	-10.9	-7.6	-5.2	-3.7	-3.2	-4.7	-9.1	-12.9	-15.5	-17.1	-17.2	-16.0	-15.8	-3.2
5	-16.5	-17.3	-18.1	-18.7	-19.2	-19.5	-19.9	-20.3	-19.3	-17.4	-14.1	-10.5	-6.4	-2.8	-2.9	-3.1	-3.6	-5.3	-7.9	-9.5	-11.3	-12.6	-14.5	-15.6	-12.8	-2.8
6	-16.7	-16.8	-18.2	-19.2	-21.0	-22.4	-23.5	-23.0	-20.8	-17.1	-13.8	-12.0	-9.9	-8.9	-8.3	-7.4	-8.2	-8.6	-10.1	-12.0	-13.4	-14.3	-15.1	-15.3	-14.8	-7.4
7	-15.5	-15.3	-14.3	-13.0	-11.8	-10.1	-9.5	-9.9	-8.7	-7.3	-5.0	-2.6	1.8	3.7	3.8	2.3	1.3	0.3	-0.2	-0.4	-0.8	-1.3	-1.8	-2.1	-4.8	3.8
8	-2.3	-2.3	-2.5	-2.8	-3.2	-3.2	-3.3	-3.6	-3.8	-3.5	-3.1	-2.7	-2.2	-1.8	-1.6	-1.6	-1.5	-1.8	-2.2	-2.7	-3.2	-4.6	-4.1	-4.1	-2.8	-1.5
9	-4.4	-4.8	-5.0	-5.4	-5.6	-5.8	-5.9	-6.2	-6.2	-5.5	-4.1	-2.2	-0.7	0.1	0.6	0.8	0.4	-1.9	-3.1	-4.4	-5.5	-5.6	-6.7	-5.4	-3.8	0.8
10	-6.3	-7.2	-8.2	-9.1	-10.0	-10.8	-11.1	-11.5	-10.4	-8.0	-3.9	-1.8	0.1	1.6	2.7	3.3	3.2	2.7	1.9	1.7	1.0	0.4	0.3	0.4	-3.3	3.3
11	0.4	0.2	0.4	0.1	0.4	0.5	0.5	0.1	0.8	1.8	3.0	4.4	5.7	6.2	6.4	6.6	6.1	5.3	4.1	3.5	3.0	2.5	2.0	1.9	2.7	6.6
12	1.8	1.7	1.5	1.0	0.1	0.1	-0.2	-0.4	-0.5	-0.2	0.3	1.1	0.5	-0.2	0.2	0.0	-0.4	-1.4	-1.9	-2.2	-2.5	-2.6	-2.9	-3.0	-0.4	1.8
13	-3.0	-3.3	-3.5	-3.5	-3.9	-4.7	-5.8	-7.1	-6.5	-4.1	-2.8	-1.2	-1.4	0.2	0.5	1.2	0.9	0.6	-1.3	-2.9	-3.4	-4.0	-5.1	-5.4	-2.9	1.2
14	-5.7	-6.7	-7.6	-8.7	-9.2	-10.2	-10.8	-11.4	-9.9	-7.4	-4.5	-1.6	0.4	1.7	3.1	3.6	3.0	2.3	1.6	1.4	1.4	0.9	0.9	0.1	-3.1	3.6
15	-0.8	-1.1	-0.8	-0.8	-1.3	-1.4	-1.8	-1.3	-0.1	1.2	2.6	3.7	4.0	4.5	4.5	5.0	5.0	4.4	3.6	2.5	1.9	1.0	0.9	0.9	1.5	5.0
16	0.6	0.2	-0.2	-0.4	-0.9	-1.5	-2.3	-2.6	-1.6	-0.1	2.6	4.9	6.0	6.7	7.4	7.9	8.0	8.0	6.9	5.6	1.5	3.2	3.1	2.2	2.7	8.0
17	1.7	1.1	0.5	0.3	-0.7	-1.5	-2.0	-2.3	-1.6	0.2	2.8	5.1	6.7	7.9	8.7	9.5	10.0	9.5	6.1	3.5	2.8	2.3	2.7	1.8	3.1	10.0
18	1.1	0.5	0.2	-0.6	-1.1	-1.7	-2.2	-2.3	-1.2	0.6	3.9	7.0	9.8	11.8	13.2	13.6	13.6	11.7	8.0	3.4	3.3	4.0	4.5	3.9	4.4	13.6
19	3.0	2.1	1.4	0.6	0.4	-0.1	-0.7	-0.5	0.8	2.9	6.4	9.8	12.6	14.6	15.7	15.9	16.1	12.6	8.4	6.5	5.4	4.9	5.1	4.5	6.2	16.1
20	3.8	2.8	2.0	1.2	1.0	0.5	0.2	0.5	1.7	4.0	7.1	10.8	13.8	16.4	17.7	17.7	18.4	15.3	10.1	5.2	3.8	4.6	3.2	2.6	6.9	18.4
21	2.4	2.0	1.5	0.6	0.1	-0.5	-1.1	-0.8	0.2	2.9	6.3	9.7	12.6	15.8	18.5	18.2	17.7	16.8	10.6	5.5	2.5	3.6	3.1	3.5	6.3	18.5
22	3.6	3.0	2.4	1.3	1.1	1.0	0.3	0.4	1.2	3.3	6.0	9.2	13.0	17.0	17.9	18.2	17.6	16.2	13.8	9.0	4.3	1.7	2.9	3.2	7.0	18.2
23	4.0	3.4	2.8	2.6	2.2	1.3	1.4	1.8	3.2	5.5	8.3	11.5	13.4	14.6	14.1	12.7	11.7	9.8	7.8	6.5	4.9	4.8	4.2	4.2	6.6	14.6
24	3.5	2.7	1.8	1.7	1.5	1.3	1.2	1.1	1.2	1.4	1.8	2.3	3.0	3.5	3.1	2.7	2.5	2.4	2.0	1.4	0.9	0.6	0.3	0.2	1.8	3.5
25	0.3	0.7	1.4	1.8	1.7	1.5	1.2	1.3	1.8	3.0	6.8	9.0	11.0	11.1	10.7	10.8	10.9	10.5	9.4	8.1	5.9	6.0	6.4	5.4	5.7	11.1
26	4.4	3.5	1.9	1.3	2.1	2.2	1.6	1.9	4.0	5.7	7.6	8.0	8.1	7.5	5.0	6.0	6.3	6.3	6.0	5.5	5.3	5.0	4.8	3.9	4.7	8.1
27	2.4	1.3	0.7	0.5	0.1	-0.1	-0.3	-0.1	0.5	0.8	0.7	0.9	1.2	1.8	1.3	0.8	1.4	1.8	1.0	0.6	0.4	0.5	0.4	0.0	0.8	2.4
28	-0.3	-0.8	-1.0	-1.1	-1.1	-1.3	-1.6	-1.5	-0.9	1.8	2.8	3.6	4.4	5.5	6.5	7.4	7.1	6.1	4.7	2.5	2.5	2.6	0.6	-0.6	2.0	7.4
29	-1.2	-1.9	-2.1	-1.8	-1.6	-1.2	-0.8	-0.3	0.6	2.7	5.1	5.7	6.6	7.3	8.5	9.2	9.9	8.9	6.7	3.3	0.4	0.4	0.5	1.8	2.8	9.9
30	2.1	1.6	1.0	0.5	0.0	-0.2	-0.5	-0.2	1.0	3.5	6.6	9.0	10.4	12.1	12.9	13.3	12.0	9.8	7.8	5.9	4.6	3.8	2.5	2.8	5.1	13.3
31	3.0	2.8	2.1	1.6	0.6	-0.6	0.3	1.1	2.2	4.1	6.4	8.1	8.9	7.8	4.0	4.3	3.6	2.1	1.5	1.1	1.5	1.5	1.3	0.4	2.9	8.9
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	-4.1	-4.6	-5.0	-5.4	-5.6	-5.9	-6.3	-6.3	-5.5	-3.9	-1.6	0.5	2.3	3.6	4.0	4.2	4.0	2.8	0.9	-0.8	-2.1	-2.6	-3.1	-3.4		
MAX	4.4	3.5	2.8	2.6	2.2	2.2	1.6	1.9	4.0	5.7	8.3	11.5	13.8	17.0	18.5	18.2	18.4	16.8	13.8	9.0	5.9	6.0	6.4	5.4		



Number of Non-Zero Readings	744
Maximum 1-HR Average	18.5 C
Maximum 24-HR Average	7.0 C
Monthly Calibration	0
Standard Deviation	9.928
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	-1.8 C

Lagoon Wind Speed (km/hr) – March 2019

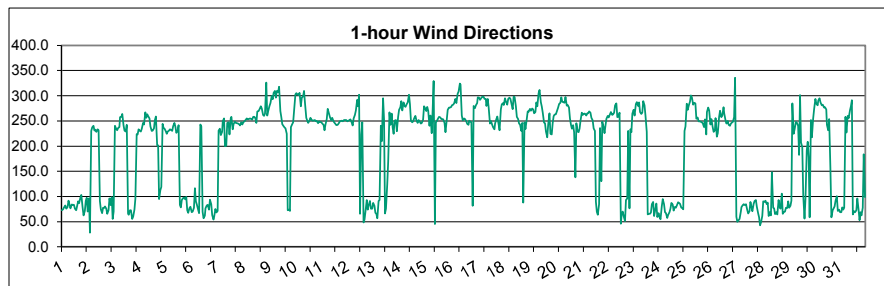
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	21.7	17.9	19.0	20.7	18.3	21.8	19.4	19.7	22.5	21.4	20.3	18.7	18.0	17.9	17.6	16.6	19.4	14.8	13.0	12.3	11.8	9.5	9.3	9.0	17.1	22.5
2	3.4	2.6	1.8	3.4	11.3	11.2	13.4	12.8	13.2	11.7	8.4	8.1	17.4	18.4	18.6	18.8	18.9	18.3	14.4	13.4	9.0	4.5	3.3	2.2	10.8	18.9
3	2.1	7.1	12.6	14.3	13.9	11.0	11.7	14.2	14.9	13.1	12.0	11.7	4.8	12.1	13.6	11.6	14.1	14.8	13.2	10.9	7.8	1.5	1.7	7.2	10.5	14.9
4	14.5	14.4	12.8	11.8	12.4	17.8	19.1	16.8	16.4	15.0	13.8	12.2	10.3	7.7	6.5	6.1	6.1	4.3	4.3	2.1	2.0	2.0	6.9	13.2	10.4	19.1
5	14.6	15.0	15.2	14.1	12.4	11.9	13.0	13.3	14.3	13.8	12.7	11.2	5.7	16.6	20.1	19.1	17.2	17.1	15.6	14.4	14.0	15.2	14.2	13.8	14.4	20.1
6	16.1	13.5	14.8	8.5	6.9	3.7	2.2	2.7	2.6	4.8	11.0	16.4	20.0	21.8	22.9	20.3	20.5	18.0	18.8	16.1	13.1	12.5	6.5	5.8	12.5	22.9
7	5.2	5.1	9.2	9.1	9.6	19.7	15.3	8.8	7.4	13.8	12.5	12.8	21.4	28.1	26.4	25.6	30.8	32.2	33.3	32.7	35.9	35.9	32.0	33.8	20.7	35.9
8	31.9	33.5	31.1	29.3	27.9	29.0	27.0	29.3	29.4	29.6	26.3	25.5	25.6	22.2	20.7	19.5	18.5	16.9	15.1	15.4	13.6	7.2	16.8	15.8	23.2	33.5
9	15.2	12.8	12.5	11.8	13.8	14.3	11.9	14.7	15.9	17.2	17.3	22.6	20.8	20.7	20.0	19.4	17.5	17.8	11.8	5.2	9.3	7.1	6.8	14.2	14.6	22.6
10	17.5	20.7	21.8	21.3	21.1	16.0	19.2	23.1	25.8	23.1	29.5	32.8	32.4	30.8	31.0	30.7	29.6	36.4	36.4	38.6	36.2	36.2	38.2	37.5	28.6	38.6
11	38.4	37.7	41.7	45.7	47.9	37.9	28.4	28.7	38.7	41.5	42.6	49.8	49.5	45.9	46.0	47.0	49.7	51.8	46.3	43.7	43.5	43.1	44.6	46.3	43.2	51.8
12	50.8	47.9	45.1	39.1	30.1	26.9	17.3	19.0	15.3	10.6	11.0	6.4	8.9	4.2	2.6	4.4	7.5	15.2	13.5	13.4	11.1	12.0	13.9	13.4	18.3	50.8
13	12.8	13.3	8.7	6.7	5.1	5.3	2.8	2.6	1.8	2.5	4.3	5.9	8.8	3.1	3.8	6.4	17.1	9.9	8.3	8.8	8.2	10.0	8.9	9.8	7.3	17.1
14	12.4	12.9	14.6	15.6	18.8	18.8	17.4	21.9	21.2	22.4	17.6	28.2	31.4	31.6	28.5	28.3	28.1	25.5	24.8	20.1	18.6	20.2	17.9	10.0	21.1	31.6
15	5.5	5.7	10.0	13.8	6.1	9.3	6.8	11.0	8.2	6.1	16.7	21.4	28.3	26.8	27.8	28.1	27.1	20.5	13.3	11.2	11.2	10.0	11.3	13.7	14.6	28.3
16	16.5	16.6	20.9	19.0	17.0	13.7	12.7	17.0	15.8	19.1	19.2	24.2	22.9	22.1	20.6	19.2	22.2	19.3	16.8	13.7	5.5	11.7	11.5	13.2	17.1	24.2
17	14.8	12.7	14.1	12.9	15.1	16.2	18.5	19.5	19.5	18.0	16.0	18.5	20.0	20.4	18.4	16.8	15.2	10.7	9.1	10.2	12.6	11.2	14.2	15.3	15.4	20.4
18	16.1	17.9	21.0	20.4	18.2	21.6	24.4	23.4	20.5	18.7	18.1	17.5	17.1	20.9	18.8	17.3	13.8	8.9	6.5	2.8	10.4	12.4	12.2	14.5	16.4	24.4
19	17.1	19.0	18.9	16.8	18.0	20.9	19.4	24.0	18.8	24.1	21.2	14.9	15.4	16.0	14.2	11.7	7.0	9.6	6.7	11.9	12.7	11.3	13.9	16.8	15.8	24.1
20	20.8	22.5	21.5	19.6	21.7	23.7	27.0	24.7	26.4	24.8	22.5	19.5	18.1	16.1	15.8	14.7	8.6	7.0	3.2	2.4	6.4	13.2	15.2	13.4	17.0	27.0
21	15.4	15.3	16.5	17.0	18.9	16.8	17.9	20.1	18.6	15.4	14.1	13.7	10.6	6.2	7.0	15.9	15.0	9.1	4.3	2.4	2.8	12.7	14.3	16.1	13.2	20.1
22	17.8	21.0	18.8	18.9	21.0	19.4	20.0	16.1	18.3	13.5	13.8	11.3	6.5	8.8	11.6	13.3	14.4	13.8	9.0	3.9	1.9	1.4	10.8	13.3	13.3	21.0
23	14.4	17.1	16.6	18.8	18.8	16.6	18.5	15.2	13.9	12.6	15.5	13.1	14.6	7.5	17.9	21.1	20.7	20.1	15.5	13.2	10.2	12.7	9.9	10.9	15.2	21.1
24	12.2	13.7	15.3	16.6	13.5	12.1	13.1	11.1	13.2	16.1	16.3	14.2	13.7	16.3	18.7	16.7	16.2	15.0	14.6	13.9	12.5	11.8	10.3	5.7	13.9	18.7
25	6.0	7.7	13.1	16.7	17.5	15.3	15.6	18.6	15.7	13.7	15.6	21.3	22.2	24.4	24.0	23.7	22.9	19.6	16.5	9.8	7.9	13.2	13.6	8.1	15.9	24.4
26	9.2	10.9	11.6	11.9	12.7	10.8	8.4	9.6	12.4	14.9	21.7	28.9	26.3	25.5	29.1	33.1	31.8	31.3	27.5	18.5	17.3	21.3	20.1	10.0	19.0	33.1
27	10.8	12.1	7.6	8.6	10.7	10.0	9.8	9.2	8.2	10.8	14.2	13.8	13.9	12.3	15.3	11.8	9.4	7.3	12.5	11.1	16.2	15.7	17.7	15.3	11.8	17.7
28	13.3	11.2	10.6	10.6	9.8	7.9	7.3	11.6	6.1	3.8	6.5	9.2	9.7	11.3	11.4	9.1	8.1	6.3	4.3	3.8	7.5	4.5	4.1	3.0	8.0	13.3
29	3.9	2.2	1.8	2.5	2.0	3.5	6.1	8.7	10.0	6.6	4.9	6.5	6.3	6.0	7.0	10.8	8.4	7.4	6.3	3.4	2.5	6.9	9.9	11.1	6.0	11.1
30	12.6	16.6	16.1	15.5	16.7	16.9	16.2	15.3	15.0	13.3	12.2	11.7	9.3	8.0	7.9	6.6	18.9	23.2	16.4	10.9	9.9	7.9	8.1	7.7	13.0	23.2
31	7.3	7.6	8.8	7.8	4.0	2.7	7.6	7.3	8.5	10.6	13.8	8.4	16.9	19.0	13.9	11.0	13.4	6.4	9.0	6.1	11.1	6.9	3.6	3.0	8.9	19.0
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	15.2	15.6	16.3	16.1	15.8	15.6	15.1	15.8	15.8	15.6	16.2	17.1	17.6	17.7	18.0	17.9	18.3	17.0	14.8	12.8	12.7	13.0	13.6	13.7		
MAX	50.8	47.9	45.1	45.7	47.9	37.9	28.4	29.3	38.7	41.5	42.6	49.8	49.5	45.9	46.0	47.0	49.7	51.8	46.3	43.7	43.5	43.1	44.6	46.3		



Number of Non-Zero Readings	744
Maximum 1-HR Average	51.8 KM/HR
Maximum 24-HR Average	43.2 KM/HR
Monthly Calibration	0
Standard Deviation	9.053
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	15.7 KM/HR

Lagoon Wind Direction (°) – March 2019

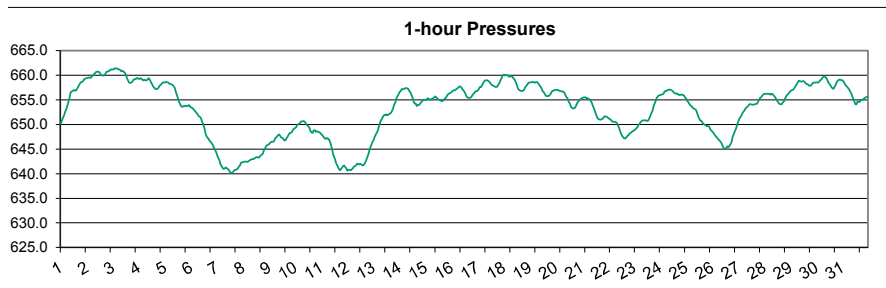
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	73.1	74.5	78.1	82.1	75.6	79.3	91.9	84.1	76.3	84.1	83.4	83.4	76.2	72.8	81.7	90.2	86.8	97.5	103.0	78.1	62.6	71.5	92.0	97.8	81.8	103.0
2	70.0	95.8	28.3	230.5	236.9	240.2	230.9	232.6	228.3	233.2	231.7	91.0	74.6	67.1	77.7	77.0	80.2	75.6	65.7	72.8	96.1	83.0	98.6	55.4	96.3	240.2
3	69.7	240.5	235.7	231.3	236.2	238.1	257.6	258.5	264.0	241.0	230.8	228.6	242.2	66.5	63.5	73.0	73.0	55.9	59.8	73.9	96.0	223.8	223.0	233.4	228.6	264.0
4	231.0	229.2	234.8	246.3	242.9	267.2	256.0	263.8	259.1	255.3	239.5	230.5	231.0	235.3	252.2	258.6	201.2	201.9	95.1	112.6	119.3	244.0	235.8	234.2	242.6	267.2
5	229.6	224.3	229.3	230.8	233.8	232.4	230.3	239.7	246.5	238.6	226.3	231.0	241.3	83.5	78.4	92.7	96.9	98.0	94.8	99.6	72.7	67.5	76.8	79.4	154.8	246.5
6	68.8	69.8	78.0	116.8	90.1	83.9	73.8	67.0	243.0	238.8	69.6	56.9	61.9	76.5	82.2	83.5	73.7	93.8	84.8	63.5	54.1	59.3	75.2	68.1	74.9	243.0
7	71.5	231.1	234.7	222.3	228.2	249.3	255.0	199.8	200.9	246.1	247.8	223.0	255.6	258.1	233.5	244.0	248.7	246.1	245.5	244.6	242.7	241.1	247.6	242.8	242.9	258.1
8	248.0	249.6	252.3	254.7	253.1	253.6	254.8	254.2	252.7	258.2	258.3	254.6	246.1	268.9	269.3	273.9	279.0	274.8	262.0	259.9	264.3	326.3	260.3	269.9	258.7	326.3
9	280.0	285.3	299.7	293.1	305.8	309.3	296.4	309.4	306.6	317.7	269.1	258.0	243.9	239.8	237.2	235.1	224.9	73.1	73.9	71.6	237.7	243.8	247.6	279.0	273.3	317.7
10	302.2	304.9	303.0	301.5	305.8	278.9	296.1	299.0	309.3	285.2	256.7	250.2	245.8	250.4	256.1	252.0	250.7	251.3	251.5	249.2	250.0	245.4	248.8	248.2	264.6	309.3
11	247.8	244.1	242.5	231.8	243.0	253.9	274.4	264.3	257.8	251.3	255.9	251.3	247.1	244.1	242.1	242.6	245.0	248.9	249.9	250.2	249.2	252.0	251.6	251.7	248.9	274.4
12	249.2	250.3	251.6	252.9	248.8	241.1	255.4	262.2	270.6	291.8	278.8	302.0	66.1	223.0	247.3	48.4	54.4	75.8	93.2	73.8	82.5	91.2	76.0	76.2	253.1	302.0
13	87.4	81.6	67.7	65.5	56.4	91.0	92.7	240.4	209.6	294.8	253.1	66.3	75.6	124.3	170.2	267.0	242.5	264.5	236.7	224.2	250.9	251.6	229.5	258.3	214.3	294.8
14	271.9	277.3	289.4	270.8	286.7	280.5	278.1	283.2	286.8	301.8	283.0	250.6	247.6	249.1	255.3	260.0	251.7	246.5	251.5	249.3	245.2	245.7	252.3	279.6	263.7	301.8
15	275.9	269.4	277.8	270.0	240.1	260.3	225.7	273.8	329.3	45.2	247.2	249.9	255.1	258.4	257.1	253.5	253.6	252.8	245.9	228.0	252.4	271.9	277.0	276.3	258.9	329.3
16	277.9	281.0	282.1	284.9	293.6	285.3	303.7	308.7	323.9	322.2	260.3	251.2	254.5	253.6	249.1	244.3	242.3	250.7	248.6	247.7	81.8	280.0	275.7	281.4	271.6	323.9
17	285.0	297.2	296.3	292.0	295.9	298.1	298.0	294.0	293.5	279.7	293.4	276.2	244.6	249.8	242.4	237.3	233.3	245.0	253.2	258.5	243.4	232.0	272.8	283.2	271.9	298.1
18	285.8	281.5	294.8	288.2	282.1	293.9	296.0	294.1	284.7	273.8	297.8	297.4	279.4	258.1	253.9	245.2	242.6	230.1	246.5	88.1	247.7	234.1	253.8	269.0	275.6	297.8
19	268.6	274.1	270.4	274.7	272.7	265.1	268.0	286.6	279.5	305.1	311.5	287.5	278.6	266.5	246.6	245.7	229.3	217.0	243.0	265.5	224.5	223.3	245.5	259.3	268.6	311.5
20	262.7	263.8	268.7	277.0	283.9	286.1	296.7	288.4	287.4	285.9	297.7	280.4	281.9	276.9	255.2	242.7	234.5	242.0	227.5	137.7	245.5	229.3	227.5	234.3	271.6	297.7
21	250.4	266.4	261.9	264.7	264.5	261.0	265.0	265.4	268.9	266.6	256.4	251.1	235.3	229.8	89.5	69.5	63.6	84.3	235.7	130.1	248.4	237.8	225.4	241.0	255.5	268.9
22	254.2	260.1	257.1	262.9	267.7	262.1	263.2	266.0	280.8	284.6	257.6	258.8	266.9	46.0	67.3	70.0	60.6	51.5	93.2	96.4	229.9	76.3	233.8	227.7	267.6	284.6
23	264.3	272.5	260.8	283.6	287.5	280.0	287.1	267.8	263.8	266.3	289.3	280.8	261.0	228.3	64.2	65.9	65.5	68.3	85.1	89.5	61.2	75.0	86.3	59.5	313.0	289.3
24	66.6	58.5	55.1	80.7	95.1	84.7	68.4	66.8	57.5	63.9	68.8	75.6	87.4	84.1	72.0	79.2	77.8	82.1	88.8	87.2	85.2	77.9	77.2	74.5	75.6	95.1
25	230.1	239.5	284.2	272.0	282.2	288.1	300.6	296.6	282.4	286.2	284.7	254.3	257.0	249.5	248.8	248.5	247.4	245.3	237.9	252.9	223.1	267.5	276.6	271.3	263.9	300.6
26	242.9	253.8	237.3	228.4	231.9	255.7	218.7	225.9	257.8	270.2	258.0	260.3	277.0	265.0	251.5	244.5	249.9	242.4	240.6	244.6	247.1	248.3	257.4	335.3	251.8	335.3
27	60.3	49.4	52.7	55.7	69.7	79.3	83.1	85.0	82.7	85.0	73.6	66.5	70.6	89.4	79.8	70.8	85.2	91.0	92.6	79.6	67.0	58.5	43.1	48.2	70.3	92.6
28	60.9	90.1	89.4	91.5	84.8	88.0	61.2	68.9	62.2	148.5	77.6	76.7	65.0	68.4	64.2	93.3	79.7	75.9	105.5	65.5	69.1	69.7	77.8	77.1	77.4	148.5
29	90.6	77.6	81.8	91.9	284.6	224.7	233.5	248.2	246.8	240.2	182.2	301.3	207.6	197.6	102.7	56.1	96.3	191.2	208.8	177.7	58.6	252.0	217.7	254.7	212.9	301.3
30	273.4	293.4	284.3	280.6	290.6	294.9	286.7	281.3	282.5	276.8	277.3	272.8	242.5	232.0	253.4	152.9	58.3	72.6	76.4	80.6	91.3	100.4	71.1	74.0	298.2	294.9
31	68.4	69.2	78.7	73.9	77.9	258.1	227.1	259.9	255.5	270.7	279.7	290.8	64.6	70.6	68.7	73.0	96.4	73.5	52.9	68.8	62.7	77.9	184.2	98.8	66.0	290.8
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	194.1	208.3	208.3	216.2	224.1	231.1	229.9	236.6	243.6	242.2	232.2	219.6	199.5	186.6	174.6	167.4	162.1	161.9	166.1	152.3	163.3	182.5	190.9	194.8		
MAX	302.2	304.9	303.0	301.5	305.8	309.3	303.7	309.4	329.3	322.2	311.5	302.0	281.9	276.9	269.3	273.9	279.0	274.8	262.0	265.5	264.3	326.3	277.0	335.3		



Number of Non-Zero Readings	744
Maximum 1-HR Average	335 degrees
Maximum 24-HR Average	313 degrees
Monthly Calibration	0
Standard Deviation	87.35
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	199.5 degrees

Lagoon Pressure (mmHg) – March 2019

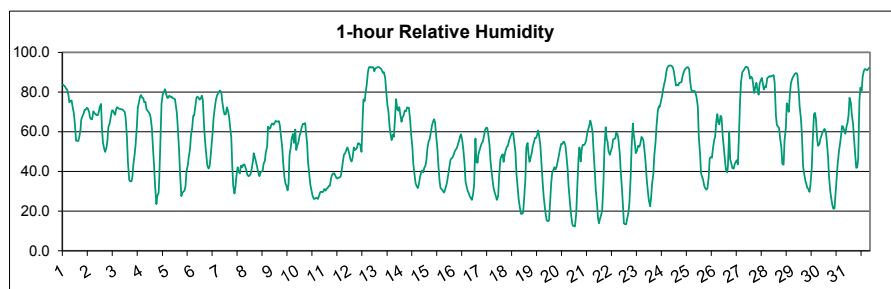
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	650.1	650.8	651.3	651.9	652.5	653.2	653.9	654.5	655.4	656.5	656.7	656.8	657.0	656.9	656.9	657.2	657.7	658.1	658.5	658.6	658.7	659.0	659.3	659.3	655.9	659.3
2	659.4	659.5	659.6	659.5	659.6	659.8	660.1	660.3	660.5	660.8	660.7	660.7	660.5	660.1	659.9	659.9	660.0	660.3	660.7	660.8	660.8	661.1	661.2	661.2	660.3	661.2
3	661.2	661.3	661.4	661.4	661.3	661.2	661.2	661.0	660.8	660.9	660.7	660.4	660.0	659.3	658.9	658.5	658.5	658.5	658.7	659.1	659.2	659.2	659.4	659.4	660.1	661.4
4	659.2	659.4	659.3	659.1	659.0	659.1	659.0	659.0	659.1	659.4	659.1	658.6	658.2	657.8	657.5	657.2	657.2	657.2	657.4	657.9	658.0	658.3	658.5	658.6	658.5	659.4
5	658.6	658.6	658.6	658.5	658.3	658.3	658.1	658.0	657.8	657.4	656.6	655.9	655.2	654.4	654.0	653.7	653.6	653.7	653.9	653.7	653.8	653.8	654.0	653.7	655.9	658.6
6	653.5	653.3	653.2	652.9	652.6	652.4	652.0	651.7	651.5	651.4	650.7	650.2	649.4	648.5	647.8	647.4	647.2	646.7	646.5	646.2	645.7	645.3	644.9	644.4	649.4	653.5
7	643.8	643.3	642.7	642.0	641.6	641.2	641.0	641.1	641.2	641.1	641.0	640.6	640.2	640.2	640.2	640.5	640.7	640.8	640.8	641.1	641.4	641.8	642.2	642.3	641.4	643.8
8	642.3	642.4	642.5	642.5	642.4	642.5	642.7	642.8	643.0	643.1	643.2	643.4	643.3	643.4	643.7	643.9	644.1	644.7	645.1	645.6	645.7	645.9	645.9	645.9	643.5	645.9
9	646.0	646.3	646.5	646.5	646.5	646.9	647.3	647.5	647.8	648.0	647.7	647.4	647.3	647.0	646.7	646.8	647.2	647.6	648.0	648.3	648.3	648.6	649.0	649.1	647.4	649.1
10	649.3	649.6	649.9	650.1	650.2	650.6	650.7	650.6	650.7	650.4	650.1	649.8	649.7	649.3	648.7	648.4	648.3	648.8	648.8	648.5	648.6	648.5	648.5	648.3	649.4	650.7
11	648.0	647.9	647.5	647.2	647.0	647.3	647.2	647.0	646.5	645.8	644.8	643.8	643.2	642.6	642.0	641.5	641.1	640.7	640.9	641.3	641.6	641.7	641.5	641.1	644.1	648.0
12	640.6	640.7	640.8	640.7	640.9	641.2	641.4	641.6	641.7	642.1	642.0	641.8	642.0	641.9	641.7	641.8	642.1	642.6	643.1	643.8	644.5	645.2	645.8	646.4	642.3	646.4
13	646.8	647.4	647.9	648.3	648.9	649.5	650.2	650.9	651.2	651.7	652.0	651.9	652.1	651.9	652.0	652.2	652.3	652.7	653.3	654.0	654.5	655.2	655.6	656.1	651.6	656.1
14	656.5	656.8	657.2	657.2	657.2	657.4	657.4	657.4	657.3	656.7	656.5	655.9	655.5	654.7	654.3	654.2	653.8	654.0	654.0	654.3	654.5	654.8	655.0	655.0	655.7	657.4
15	655.0	655.0	655.3	655.2	655.0	655.0	655.3	655.4	655.6	655.7	655.4	655.2	655.1	655.0	654.8	654.8	654.8	655.1	655.3	655.6	655.9	656.2	656.3	656.4	655.4	656.4
16	656.6	656.9	657.0	657.0	657.2	657.3	657.5	657.7	657.7	657.5	657.2	656.8	656.5	656.1	655.7	655.4	655.4	655.4	655.5	655.9	656.3	656.5	656.7	656.8	656.6	657.7
17	656.8	657.2	657.6	657.6	658.0	658.3	658.8	659.0	658.9	658.9	658.8	658.6	658.4	658.1	657.9	657.8	657.7	657.6	657.7	658.1	658.5	658.9	659.5	659.9	658.3	659.9
18	660.1	659.9	660.1	660.0	659.8	659.7	659.9	659.8	659.7	659.5	659.1	658.7	658.2	657.4	657.1	656.9	656.8	656.8	656.9	657.3	657.6	657.9	658.2	658.5	658.6	660.1
19	658.5	658.6	658.7	658.7	658.5	658.6	658.6	658.6	658.3	657.9	657.7	657.2	656.7	656.5	656.1	655.8	655.7	655.8	655.9	656.2	656.6	656.8	656.9	657.0	657.3	658.7
20	657.0	657.0	657.0	656.8	656.8	656.8	656.7	656.7	656.3	655.9	655.5	655.2	654.6	654.2	653.5	653.3	653.3	653.3	653.6	654.0	654.4	654.8	655.0	655.2	655.3	657.0
21	655.4	655.4	655.5	655.5	655.4	655.4	655.2	655.1	654.9	654.4	653.8	653.2	652.6	652.1	651.5	651.2	651.0	651.0	651.1	651.2	651.5	651.7	651.6	651.5	653.2	655.5
22	651.4	651.2	651.0	650.9	650.6	650.5	650.5	650.5	650.3	649.9	649.3	648.8	648.2	647.8	647.4	647.2	647.2	647.4	647.7	647.9	648.1	648.3	648.5	648.7	649.1	651.4
23	648.8	649.0	649.2	649.5	649.9	650.2	650.5	650.7	650.8	650.9	650.9	650.8	650.8	650.8	651.2	651.7	652.3	652.9	653.7	654.4	654.9	655.4	655.8	655.9	651.7	655.9
24	656.0	656.0	656.1	656.3	656.6	656.8	656.8	657.0	657.1	657.1	657.0	656.9	656.7	656.4	656.3	656.3	656.3	656.0	655.9	656.0	656.1	656.0	655.9	655.5	656.4	657.1
25	655.3	654.8	654.5	654.2	653.9	653.7	653.4	653.3	653.2	652.9	652.4	651.7	651.3	650.8	650.8	650.4	650.1	650.0	649.8	649.7	649.7	649.6	649.2	648.8	651.8	655.3
26	648.6	648.3	648.0	647.7	647.4	647.2	646.9	646.6	646.3	646.0	645.5	645.1	645.1	645.2	645.6	645.4	645.7	646.1	646.7	647.5	648.1	648.7	649.2	650.0	646.9	650.0
27	650.6	651.2	651.5	651.9	652.3	652.7	653.0	653.3	653.6	653.7	654.1	654.2	654.1	654.0	654.0	654.1	654.2	654.2	654.5	655.0	655.3	655.5	655.8	656.1	653.7	656.1
28	656.3	656.3	656.3	656.2	656.2	656.2	656.0	656.2	656.1	655.8	655.5	655.2	654.7	654.4	654.2	654.1	654.2	654.4	654.7	655.1	655.7	656.0	656.2	656.5	655.5	656.5
29	656.8	657.0	657.0	657.2	657.5	657.9	658.2	658.7	658.9	658.8	658.7	658.8	658.8	658.7	658.4	658.2	658.2	657.9	657.8	657.9	658.2	658.5	658.6	658.5	658.1	658.9
30	658.6	658.5	658.6	658.9	659.0	659.3	659.6	659.8	659.7	659.4	659.0	658.6	658.2	657.9	657.6	657.3	657.3	657.8	658.2	658.7	659.0	659.1	659.1	659.0	658.7	659.8
31	658.9	658.7	658.3	658.0	657.7	657.4	657.1	656.8	656.3	655.7	655.2	654.7	654.1	654.1	654.8	654.6	654.6	654.9	655.0	655.1	655.3	655.4	655.6	655.7	656.0	658.9
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	653.4	653.5	653.5	653.5	653.5	653.7	653.8	653.8	653.8	653.7	653.4	653.1	652.8	652.5	652.3	652.2	652.2	652.3	652.5	652.8	653.1	653.3	653.5	653.6		
MAX	661.2	661.3	661.4	661.4	661.3	661.2	661.2	661.0	660.8	660.9	660.7	660.7	660.5	660.1	659.9	659.9	660.0	660.3	660.7	660.8	660.8	661.1	661.2	661.2		



Number of Non-Zero Readings	744
Maximum 1-HR Average	661 MMHg
Maximum 24-HR Average	660 MMHg
Monthly Calibration	0
Standard Deviation	5.528
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	653.2 MMHg

Lagoon Relative Humidity (%) – March 2019

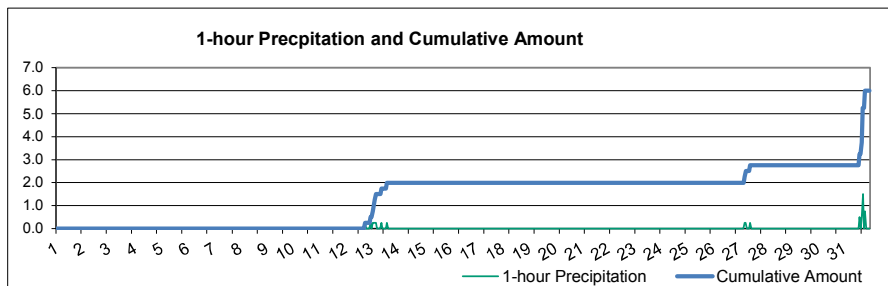
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	83.5	83.4	82.6	81.7	81.3	78.6	74.8	75.5	75.8	72.7	69.3	64.4	55.4	55.6	55.2	57.4	61.3	66.0	67.8	68.8	71.1	71.2	72.0	71.6	70.7	83.5
2	69.7	67.4	66.3	66.3	70.3	69.5	68.8	68.5	68.5	70.0	72.5	74.0	61.2	54.5	51.4	49.9	52.1	55.6	62.4	64.1	67.1	70.6	70.8	69.4	65.0	74.0
3	68.6	71.0	72.3	71.7	71.6	71.4	71.2	71.0	70.4	69.9	66.9	56.8	44.7	35.8	35.0	34.9	37.3	43.6	48.6	53.5	63.0	72.3	74.3	77.7	60.6	77.7
4	78.5	77.2	76.9	74.7	74.9	71.3	70.5	69.8	68.6	67.1	61.5	52.8	42.0	32.3	23.5	27.7	29.4	37.0	57.5	74.1	78.7	80.0	81.5	79.2	61.9	81.5
5	77.1	77.1	78.3	77.5	77.7	76.8	76.7	76.4	72.8	69.3	61.9	50.3	38.6	27.6	29.5	29.9	30.5	32.6	40.1	43.1	47.1	51.3	58.1	62.2	56.8	78.3
6	68.0	68.2	73.3	77.0	77.7	77.1	76.1	76.9	78.2	76.2	62.7	55.4	48.2	43.0	41.5	42.5	46.7	52.3	60.3	67.3	72.7	76.0	78.5	79.1	65.6	79.1
7	80.2	80.8	79.5	74.9	70.6	68.6	68.8	72.3	71.0	67.8	62.9	57.1	43.2	32.9	28.9	32.2	37.5	42.0	39.8	39.1	42.9	42.1	43.4	43.6	55.1	80.8
8	42.7	40.6	38.3	37.6	37.9	39.0	41.5	45.5	49.1	46.9	45.1	42.1	39.7	37.5	39.3	40.1	40.2	43.9	45.3	49.8	52.3	62.6	61.4	61.7	45.0	62.6
9	63.4	64.2	63.4	64.4	65.3	65.2	65.1	65.2	62.8	58.2	52.6	44.8	37.3	34.3	32.4	30.5	33.9	48.0	52.3	56.9	58.7	54.4	61.1	50.8	53.6	65.3
10	53.0	54.8	57.6	59.9	62.2	64.0	64.0	64.4	60.5	54.0	44.5	38.2	33.4	30.1	27.8	26.1	26.1	26.6	26.7	26.2	27.6	29.6	29.8	29.6	42.4	64.4
11	30.1	31.1	30.3	31.2	31.7	32.7	32.7	36.6	38.2	39.1	39.0	38.0	36.7	36.6	37.0	37.0	37.7	40.3	45.2	48.4	49.1	50.7	52.1	50.7	38.8	52.1
12	48.6	46.3	44.9	46.8	52.1	50.8	51.2	52.1	54.2	54.0	53.4	49.7	64.3	76.2	75.5	79.9	83.3	90.0	92.3	92.7	92.3	92.6	92.4	90.5	67.8	92.7
13	91.8	92.2	92.5	92.4	92.1	91.6	90.8	89.7	89.8	87.0	80.6	73.4	70.3	62.1	58.5	55.7	58.5	57.4	67.8	76.4	71.3	70.6	72.4	68.8	77.2	92.5
14	64.9	67.2	68.3	70.6	70.3	72.2	72.1	72.0	65.8	58.7	52.1	43.5	38.0	34.1	32.4	31.6	33.4	36.4	39.6	40.4	39.6	41.8	43.0	46.2	51.4	72.2
15	51.7	55.2	56.3	60.1	63.0	65.3	66.3	64.5	58.5	51.7	43.5	35.1	31.7	30.9	30.3	29.5	30.3	32.4	34.3	38.3	41.8	45.9	46.6	46.9	46.2	66.3
16	48.3	50.0	51.2	51.8	53.5	55.4	57.7	58.6	55.6	51.2	44.1	35.0	31.9	30.2	28.8	27.5	26.5	25.7	28.9	33.5	56.6	44.6	44.4	48.5	43.3	58.6
17	50.7	52.4	54.4	54.9	58.1	60.9	62.1	61.9	58.9	53.4	45.2	39.3	35.0	31.3	28.9	27.4	25.6	27.7	37.6	46.2	47.5	48.7	44.9	48.0	45.9	62.1
18	50.2	52.4	52.7	55.3	57.0	58.5	59.7	59.2	55.1	49.9	39.2	31.8	26.1	21.6	18.8	18.5	19.2	25.9	35.8	52.2	54.3	48.5	44.8	46.6	43.1	59.7
19	49.4	52.5	54.8	56.9	57.0	58.5	60.5	58.1	52.8	44.9	34.5	27.9	21.8	18.0	15.2	15.0	15.5	23.6	34.5	39.3	41.0	42.1	41.0	42.6	39.9	60.5
20	45.1	48.2	51.0	53.8	53.7	54.9	55.0	53.1	48.5	41.5	32.8	25.1	19.6	14.2	12.9	12.5	12.3	18.9	31.2	46.1	52.1	45.0	50.8	53.4	38.8	55.0
21	53.2	53.9	55.5	59.0	60.9	63.2	65.6	63.7	59.9	50.6	40.0	30.7	23.6	16.4	13.9	16.0	18.3	20.3	33.8	51.2	62.3	56.5	54.8	50.1	44.7	65.6
22	48.3	50.1	52.1	56.1	56.4	56.6	59.4	58.7	55.8	49.2	40.3	31.0	22.7	13.8	13.5	13.5	16.1	19.1	23.8	36.9	52.5	64.1	59.4	54.7	41.8	64.1
23	49.2	50.4	52.9	52.3	53.8	57.5	56.7	55.5	50.9	44.1	36.4	29.7	25.4	22.4	27.0	33.7	38.8	48.0	55.2	63.0	70.6	72.7	72.6	74.9	49.7	74.9
24	77.7	80.8	84.1	86.1	90.6	92.3	92.9	93.3	93.4	93.1	92.4	90.4	86.1	83.1	83.5	83.4	84.6	84.7	84.9	87.9	89.9	91.2	91.9	92.4	87.9	93.4
25	92.5	91.5	85.2	80.9	80.1	80.4	80.6	79.3	77.3	72.6	57.5	48.6	39.1	37.5	36.1	32.8	31.6	30.8	31.7	37.3	46.5	47.4	46.8	51.4	58.1	92.5
26	55.9	57.4	65.7	68.7	64.5	63.7	67.9	67.1	57.3	52.4	45.2	40.8	39.5	42.8	60.1	46.2	43.8	41.6	41.5	43.6	45.0	45.6	43.6	55.8	52.3	68.7
27	75.7	85.1	90.0	90.6	91.7	92.4	92.7	92.4	90.8	86.8	87.7	86.9	83.7	79.5	82.0	84.6	81.3	78.6	84.2	86.0	87.0	84.3	81.2	82.9	85.8	92.7
28	82.4	87.0	87.4	88.0	87.8	88.0	88.2	88.4	84.8	68.2	63.4	62.6	61.8	57.0	51.9	44.0	43.4	55.8	61.7	74.2	72.1	70.0	79.5	84.4	72.2	88.4
29	86.8	87.8	88.8	89.4	89.4	88.9	80.9	72.8	66.9	59.3	42.4	39.1	35.3	33.7	31.8	31.0	29.6	33.5	41.5	55.7	68.9	69.4	66.4	56.1	60.2	89.4
30	52.8	53.8	56.4	58.4	59.9	60.7	61.5	60.0	55.2	47.1	37.3	29.9	26.6	23.4	21.3	21.2	28.1	37.1	44.0	50.1	53.5	57.3	62.8	62.3	46.7	62.8
31	60.2	59.0	63.0	64.7	68.5	77.0	74.8	69.0	64.0	56.8	48.1	41.7	42.1	46.3	75.9	82.3	80.7	87.6	90.7	91.5	91.5	90.9	91.4	92.2	71.3	92.2
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%
MEAN	62.9	64.2	65.4	66.3	67.1	67.8	68.0	67.5	64.9	60.1	53.4	47.3	42.1	38.5	38.7	38.5	39.8	44.0	49.7	55.9	60.2	61.0	61.7	62.1		
MAX	92.5	92.2	92.5	92.4	92.1	92.4	92.9	93.3	93.4	93.1	92.4	90.4	86.1	83.1	83.5	84.6	84.6	90.0	92.3	92.7	92.3	92.6	92.4	92.4		



Number of Non-Zero Readings	744
Maximum 1-HR Average	93.4 %
Maximum 24-HR Average	87.9 %
Monthly Calibration	0
Standard Deviation	19.72
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	56.1 %

Lagoon Precipitation (mm) – March 2019

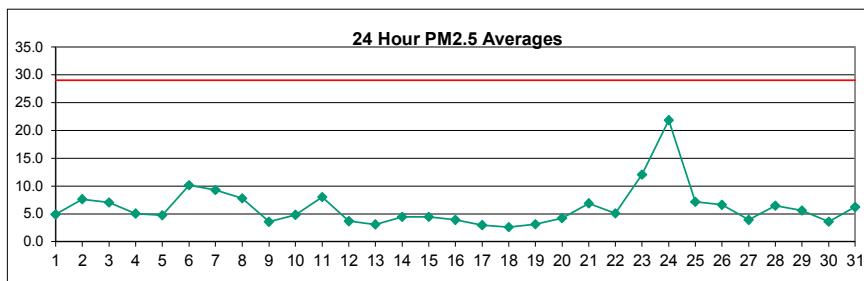
Day	HOURLY																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
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	0.3	0.3	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	0.3
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	0.0	0.0	0.0	0.0	0.5	0.0	0.5	1.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0	1.5
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.5	0.0	0.5	1.5	0.3	0.8	0.0	0.0	0.0	0.3	0.0	0.0



Number of Non-Zero Readings	15		
Maximum 1-HR Average	1.5 MM		
Maximum 24-HR Average	0.1 MM		
Monthly Calibration	0	Operational Time	744 HRS
Standard Deviation	0.073	Operational Uptime	100.0 %
		Monthly Average	0.01 MM

Windridge PM_{2.5} (µg/m³) – March 2019

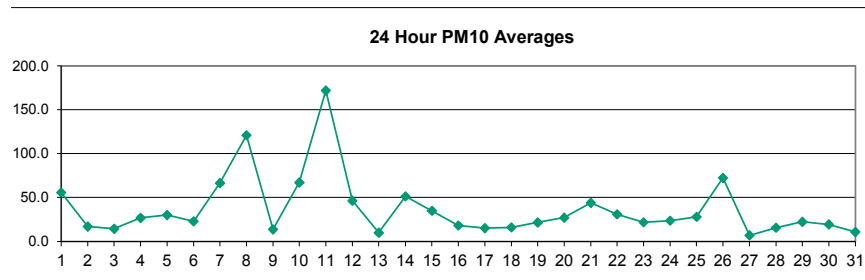
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	2.7	6.2	5.1	2.6	3.7	5.5	5.1	1.8	1.2	4.8	7.0	7.3	5.2	2.2	2.2	2.8	1.2	3.7	5.5	6.3	7.8	8.5	11.4	8.4	4.9	11.4
2	6.3	9.5	7.1	5.2	5.9	6.3	6.9	5.9	7.4	6.6	8.1	9.9	8.3	4.1	4.4	4.0	3.4	5.6	8.7	13.3	17.3	5.3	12.8	11.7	7.7	17.3
3	8.8	8.6	11.0	10.2	9.1	6.6	5.5	4.7	3.6	2.3	4.8	6.5	4.1	4.4	4.8	4.8	4.0	2.9	2.6	3.1	10.6	9.3	27.8	9.5	7.1	27.8
4	6.1	13.1	9.4	4.8	4.4	5.5	5.1	2.2	3.0	6.3	9.3	8.0	5.8	4.5	7.7	5.8	3.6	1.4	0.1	3.7	3.7	2.9	2.2	3.1	5.1	13.1
5	7.7	3.7	4.4	4.3	1.8	1.5	2.2	2.6	2.2	3.4	6.0	9.5	10.0	13.8	8.5	5.5	4.4	3.3	1.8	1.5	4.0	4.0	4.0	3.3	4.7	13.8
6	4.8	5.1	5.1	5.1	4.5	7.2	8.4	9.1	22.3	20.8	15.4	18.1	10.9	7.0	8.9	11.3	8.8	7.0	7.4	8.1	8.9	12.4	10.8	16.2	10.2	22.3
7	17.5	15.4	14.7	15.0	13.8	10.6	10.9	7.4	8.1	9.5	7.0	7.0	9.2	10.2	6.6	5.5	4.8	7.3	6.6	6.3	7.3	7.3	7.0	8.1	9.3	17.5
8	8.8	8.9	10.3	11.6	9.9	8.4	5.9	4.4	4.5	4.9	9.8	6.6	6.3	20.8	3.1	7.7	7.0	6.5	3.4	6.7	8.7	4.9	11.2	6.8	7.8	20.8
9	1.6	4.4	3.6	0.4	0.0	0.0	4.1	5.4	1.8	0.0	0.8	1.2	5.2	5.8	3.6	1.9	2.6	3.5	8.1	8.4	8.8	8.4	5.4	1.2	3.6	8.8
10	2.6	3.6	1.1	1.9	2.9	1.9	2.6	4.4	3.7	4.0	3.3	4.5	5.8	3.6	2.7	6.4	10.6	8.1	9.5	8.4	6.5	4.4	5.9	7.3	4.8	10.6
11	8.4	6.4	3.6	2.2	2.9	2.2	2.8	9.1	8.1	8.3	16.1	15.0	13.4	9.1	6.6	6.6	6.6	9.6	11.6	8.5	10.2	9.2	9.4	7.0	8.0	16.1
12	7.7	7.7	8.4	6.2	4.0	2.5	1.5	1.9	3.8	8.0	5.4	2.8	0.3	0.0	2.2	3.0	4.0	2.2	0.8	1.6	4.4	4.0	3.7	2.9	3.7	8.4
13	3.7	3.9	1.0	0.0	1.6	4.0	3.6	2.2	1.8	C	C	C	C	0.7	0.4	3.0	5.9	4.7	3.0	4.4	5.1	4.1	4.4	4.7	3.1	5.9
14	2.5	0.0	0.0	1.1	3.3	2.3	0.7	0.0	0.0	4.4	4.8	3.8	9.4	10.2	6.5	6.7	5.1	5.2	6.7	10.2	6.9	5.2	6.9	5.1	4.5	10.2
15	3.7	3.3	2.6	3.0	6.9	3.7	2.2	2.9	2.9	3.4	5.1	5.1	5.9	6.3	11.3	8.4	5.9	8.0	4.7	1.1	2.2	3.3	3.6	1.9	4.5	11.3
16	3.7	3.3	1.5	4.8	4.4	2.3	1.1	1.7	0.0	0.0	2.2	3.7	4.0	2.9	2.9	2.3	5.5	7.6	4.8	5.5	5.6	19.8	1.9	2.3	3.9	19.8
17	6.2	2.9	1.9	3.3	0.5	1.8	1.1	2.9	3.3	0.8	4.4	2.9	1.9	5.5	5.9	5.5	2.5	0.0	0.0	2.3	4.8	4.7	3.3	3.0	3.0	6.2
18	4.4	5.5	4.5	2.9	1.1	2.2	0.0	0.0	0.0	0.8	2.5	0.7	0.4	4.8	7.0	6.5	4.7	3.3	2.2	1.5	2.6	3.3	1.8	0.7	2.6	7.0
19	0.4	2.6	3.6	1.1	1.1	2.2	3.0	5.8	3.6	1.7	1.5	1.9	3.7	4.1	7.3	6.6	4.0	1.9	3.0	3.7	2.6	3.7	4.4	2.6	3.2	7.3
20	1.8	1.9	2.9	2.9	2.2	3.7	2.9	2.2	2.2	3.3	4.0	3.4	3.0	7.7	6.2	3.8	9.5	6.1	1.1	1.2	5.9	6.7	9.5	7.7	4.2	9.5
21	4.8	7.3	6.7	8.8	7.7	6.6	5.9	3.7	7.4	9.5	8.5	9.6	9.8	5.9	6.2	4.7	3.7	4.1	6.2	5.5	7.0	7.7	8.1	9.9	6.9	9.9
22	8.4	5.3	2.6	3.7	4.8	3.7	5.1	4.0	4.1	8.8	6.2	5.2	10.6	7.9	4.7	3.7	4.7	4.0	2.9	3.3	4.1	6.2	5.1	3.4	5.1	10.6
23	3.4	5.2	7.3	5.1	2.6	4.4	3.6	1.8	4.4	3.6	0.4	3.0	4.5	8.4	6.2	5.7	14.4	17.6	20.2	23.2	28.4	38.2	43.4	34.5	12.1	43.4
24	36.3	38.6	46.2	47.7	49.6	38.8	37.1	33.1	22.2	16.8	16.2	18.9	12.0	9.5	10.7	15.3	10.2	9.6	14.9	10.2	6.0	9.9	7.7	7.0	21.9	49.6
25	7.0	8.8	10.6	10.2	8.5	9.9	10.7	14.2	11.3	9.2	9.5	8.9	12.4	7.6	4.8	5.1	3.1	4.8	4.7	3.7	2.9	2.2	1.1	1.5	7.2	14.2
26	3.6	1.8	0.0	2.3	4.4	6.2	4.5	8.9	12.8	9.4	8.1	8.2	12.5	14.6	9.8	5.8	4.4	5.4	6.2	5.5	5.2	8.4	6.5	4.8	6.6	14.6
27	4.7	3.3	2.6	3.3	2.2	2.2	1.2	5.5	6.2	4.0	3.4	5.4	1.8	1.2	3.7	5.8	4.8	4.6	4.4	4.8	4.4	4.6	4.8	5.2	3.9	6.2
28	8.7	5.9	5.5	6.5	4.0	3.0	6.3	7.0	6.2	6.7	10.0	13.5	9.8	6.2	4.4	4.9	7.3	5.8	4.1	6.2	5.2	7.6	5.1	5.4	6.5	13.5
29	5.8	2.6	2.6	5.5	7.0	6.3	10.7	13.4	8.0	8.5	9.4	5.1	3.0	4.4	5.8	4.7	1.9	4.4	4.3	1.9	3.0	5.9	6.2	4.0	5.6	13.4
30	1.1	1.9	4.4	5.1	4.8	4.4	2.6	3.7	5.1	3.7	3.8	7.3	5.1	2.2	2.6	2.9	2.2	0.8	1.5	1.9	3.0	5.9	6.5	4.7	3.6	7.3
31	3.4	5.8	4.8	4.0	3.7	5.9	5.9	5.8	4.0	3.3	4.0	2.6	3.0	5.5	5.9	8.4	5.9	6.7	11.8	14.7	14.9	8.4	7.2	3.6	6.2	14.9
NO.	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	31	31	740	100%
MEAN	6.3	6.5	6.3	6.2	5.9	5.5	5.5	5.7	5.7	5.9	6.6	6.9	6.6	6.5	5.6	5.6	5.4	5.3	5.6	6.0	7.0	7.6	8.0	6.4		
MAX	36.3	38.6	46.2	47.7	49.6	38.8	37.1	33.1	22.3	20.8	16.2	18.9	13.4	20.8	11.3	15.3	14.4	17.6	20.2	23.2	28.4	38.2	43.4	34.5		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	724	
Maximum 1-HR Average	49.6 UG/M3	
Maximum 24-HR Average	21.9 UG/M3	
Monthly Calibration	4	
Standard Deviation	5.7	
Operational Time	744 HRS	
Operational Uptime	100.0 %	
Monthly Average	6.2 UG/M3	

Windridge PM₁₀ (µg/m³) – March 2019

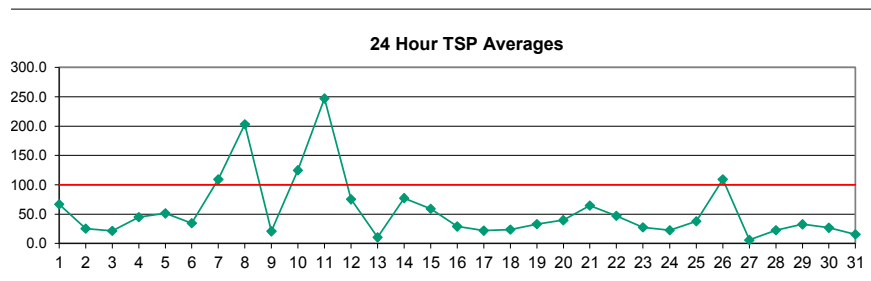
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	45.5	90.5	77.6	93.5	92.3	100.0	85.2	78.6	81.3	133.7	110.4	81.8	45.6	25.8	28.0	11.5	40.2	23.0	24.2	17.5	16.7	14.7	9.5	10.8	55.7	133.7
2	12.2	12.1	9.5	8.1	10.8	12.1	10.8	14.4	20.4	24.6	89.5	36.1	16.6	9.3	6.7	6.8	10.7	8.2	13.6	16.8	18.7	8.2	16.1	13.4	16.9	89.5
3	12.2	14.9	17.6	17.4	12.2	12.0	8.1	7.9	5.3	5.6	18.6	61.7	34.9	22.5	4.2	6.7	8.0	6.6	2.7	5.4	9.5	12.4	22.9	17.6	14.5	61.7
4	21.0	105.6	45.6	27.9	6.8	12.1	12.1	10.8	12.4	45.5	75.9	70.9	86.6	30.2	34.5	7.9	3.8	0.0	0.0	1.8	2.8	9.3	5.6	15.8	26.9	105.6
5	53.4	22.4	50.5	12.0	8.3	15.9	5.7	18.7	10.0	34.6	99.7	128.8	77.1	69.1	17.5	14.3	10.8	10.7	8.0	6.8	9.6	16.0	6.9	13.6	30.0	128.8
6	20.0	10.9	14.7	8.2	12.5	25.5	28.2	22.0	37.2	61.9	47.6	56.0	21.6	23.2	30.9	21.5	17.5	14.8	9.5	13.4	12.2	14.7	9.6	17.0	22.9	61.9
7	23.0	21.7	24.7	25.8	30.7	16.7	34.6	13.7	25.7	26.1	43.0	32.6	52.9	254.9	152.7	39.9	65.9	99.8	80.4	86.9	94.6	84.7	87.1	175.5	66.4	254.9
8	101.6	192.6	147.5	137.7	68.2	105.8	58.3	62.2	60.1	81.6	241.5	151.2	178.1	149.6	122.3	186.5	213.4	135.8	93.3	86.1	130.5	79.9	78.8	37.4	120.8	241.5
9	18.6	6.8	6.6	3.9	2.6	2.6	1.0	1.3	3.4	29.9	9.2	50.3	56.0	25.0	13.4	9.4	8.3	16.3	18.8	14.8	14.7	7.9	4.0	2.7	13.6	56.0
10	5.3	4.0	2.7	5.3	2.6	2.6	2.7	4.1	7.9	48.1	29.0	95.1	52.5	40.8	49.1	78.8	132.6	82.6	260.3	72.3	91.0	103.8	315.8	123.3	67.2	315.8
11	121.9	72.0	84.5	102.3	169.9	93.2	133.4	197.0	138.9	308.3	422.6	356.7	216.9	119.8	90.6	83.6	73.4	181.2	259.6	234.5	231.1	112.5	162.1	159.2	171.9	422.6
12	227.7	130.4	141.4	107.6	79.0	45.6	29.9	35.5	47.3	45.1	15.6	40.0	20.1	16.0	9.7	15.9	8.1	8.4	19.2	2.7	5.9	23.9	8.7	29.4	46.4	227.7
13	23.9	10.8	12.0	6.6	3.9	2.6	1.2	0.0	0.0	C	C	C	C	C	14.9	16.2	17.6	24.3	22.8	13.4	6.7	4.0	5.3	2.6	9.9	24.3
14	1.9	4.3	2.6	0.0	0.0	0.0	5.5	13.6	19.1	31.0	21.6	107.1	109.2	161.3	78.9	98.8	93.1	68.2	76.2	98.2	52.8	53.2	80.9	54.1	51.3	161.3
15	49.9	41.4	5.4	10.2	61.3	0.0	5.3	5.9	39.5	52.6	35.5	55.7	70.3	63.1	111.6	59.5	54.7	48.3	22.8	14.9	16.0	6.7	4.1	5.3	35.0	111.6
16	5.3	1.3	0.0	1.4	8.0	4.0	2.7	4.0	4.1	8.1	11.2	37.8	31.1	32.6	40.5	35.2	36.4	29.8	33.8	32.4	27.5	32.1	8.1	10.8	18.2	40.5
17	13.3	9.4	6.7	4.0	1.3	1.3	2.7	7.0	27.0	24.8	50.2	43.5	56.2	19.2	36.1	13.4	8.1	9.3	15.9	0.0	2.7	3.8	2.7	6.7	15.2	56.2
18	9.4	8.3	19.9	1.3	1.7	1.3	2.8	10.8	10.9	17.7	26.9	20.2	16.5	35.6	59.3	44.3	22.9	18.7	6.7	8.0	6.8	14.7	9.4	8.0	15.9	59.3
19	5.4	8.3	19.4	8.0	5.4	8.1	12.4	22.2	17.9	36.4	27.3	24.6	39.9	78.9	93.6	29.8	32.2	18.6	2.7	4.2	4.0	2.8	9.4	9.4	21.7	93.6
20	10.9	20.4	25.5	13.4	8.1	8.1	8.5	17.6	17.7	28.3	25.6	22.1	46.0	47.5	54.0	43.4	45.6	22.7	5.3	4.1	12.1	14.2	53.6	96.3	27.1	96.3
21	25.6	19.0	25.9	36.1	16.1	14.8	12.3	21.7	96.6	182.8	87.4	123.4	81.7	35.3	41.5	19.2	34.7	20.3	22.7	8.2	17.5	17.1	63.0	30.0	43.9	182.8
22	14.8	13.9	35.5	29.6	21.5	17.4	12.5	30.3	57.3	142.7	26.4	62.4	67.5	54.7	12.3	14.8	12.3	17.5	15.0	22.1	12.0	7.0	24.3	21.5	31.0	142.7
23	13.4	10.5	5.4	9.4	6.7	5.3	4.0	9.6	18.8	14.8	12.1	13.5	15.4	41.5	17.6	17.8	29.8	29.9	36.3	27.4	44.7	44.6	54.0	44.8	22.0	54.0
24	48.7	48.9	56.8	55.6	59.3	51.1	36.2	20.2	18.9	16.9	17.5	16.8	14.7	10.7	9.6	16.2	14.7	10.7	11.6	9.4	6.6	4.0	3.8	5.3	23.5	59.3
25	5.5	12.2	17.5	13.5	16.1	10.8	12.1	9.4	6.9	13.5	17.1	30.9	86.2	62.5	73.0	65.0	63.0	31.2	37.8	32.0	8.0	6.9	15.2	29.9	28.2	86.2
26	8.0	5.3	5.4	9.8	28.0	10.7	6.1	45.4	140.7	126.4	80.3	164.4	305.4	194.5	99.9	79.0	37.7	86.8	33.8	32.9	50.6	76.4	40.0	70.6	72.4	305.4
27	17.3	5.4	8.0	6.7	4.0	4.0	2.7	4.0	4.0	2.7	3.9	5.3	4.2	11.5	7.1	18.9	17.3	6.6	4.0	5.4	6.7	3.9	5.4	9.3	7.0	18.9
28	7.1	20.3	22.7	9.3	6.7	6.8	6.6	4.0	5.4	9.6	16.1	17.7	22.7	12.1	11.0	9.6	18.9	27.0	26.9	21.8	31.3	37.2	8.6	14.5	15.6	37.2
29	1.3	6.8	6.6	2.7	5.4	10.2	63.7	63.3	47.6	55.7	62.4	10.8	13.5	15.0	22.7	13.4	9.1	10.8	11.3	31.9	8.4	21.6	19.1	24.9	22.4	63.7
30	6.8	9.3	6.7	5.4	9.3	6.8	10.7	9.6	16.6	32.7	50.6	145.1	35.8	3.7	2.7	4.3	6.0	16.2	16.8	14.4	14.9	18.8	12.1	8.2	19.3	145.1
31	13.5	13.1	7.8	8.1	10.6	8.0	4.4	12.1	9.7	20.4	24.1	13.4	12.2	13.5	16.2	14.6	5.3	5.4	6.8	9.4	9.3	6.7	8.0	5.4	10.8	24.1
NO.	31	31	31	31	31	31	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	739	100%
MEAN	30.5	30.7	29.4	25.2	24.8	19.8	20.1	25.1	32.5	55.4	60.0	69.2	62.9	56.0	43.9	35.4	37.2	35.1	38.7	30.6	31.5	27.9	37.2	34.6		
MAX	227.7	192.6	147.5	137.7	169.9	105.8	133.4	197.0	140.7	308.3	422.6	356.7	305.4	254.9	152.7	186.5	213.4	181.2	260.3	234.5	231.1	112.5	315.8	175.5		



Number of Non-Zero Readings	730	Operational Time	744 HRS
Maximum 1-HR Average	422.6 UG/M3	Operational Uptime	100.0 %
Maximum 24-HR Average	171.9 UG/M3	Monthly Average	37.1 UG/M3
Monthly Calibration	5		
Standard Deviation	50.34		

Windridge TSP (µg/m³) – March 2019

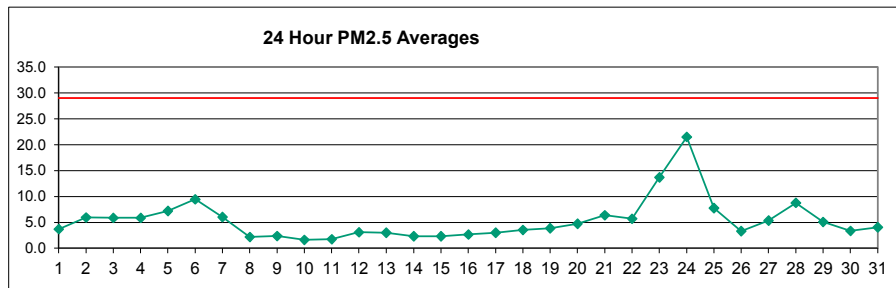
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	66.4	191.7	89.5	95.7	133.5	100.5	108.9	130.7	92.3	161.1	147.6	57.5	21.5	14.1	41.6	22.9	13.5	16.4	25.5	18.9	16.1	13.5	14.8	11.1	66.9	191.7
2	25.4	12.1	12.1	12.0	13.5	14.9	16.1	12.5	30.2	52.6	173.5	46.9	21.5	13.4	10.8	8.1	10.8	13.6	20.3	21.5	17.4	8.3	17.7	22.8	25.3	173.5
3	13.6	19.0	24.3	21.3	17.4	12.0	6.6	4.0	4.1	8.4	27.6	117.0	75.2	41.3	9.3	5.4	6.7	8.1	9.5	12.2	14.7	9.8	27.1	29.7	21.8	117.0
4	28.9	182.0	69.9	41.4	14.9	16.1	13.5	13.4	16.1	77.8	120.5	116.5	176.4	55.5	51.9	12.0	5.3	2.3	4.8	4.1	9.4	10.7	7.2	28.9	45.0	182.0
5	66.9	32.5	93.2	17.3	8.5	25.3	7.1	25.4	14.2	44.7	164.4	238.2	159.7	145.3	37.8	26.9	19.7	17.4	12.2	14.9	18.8	16.1	11.0	19.2	51.5	238.2
6	30.7	10.8	11.0	18.9	18.1	40.9	44.5	38.4	61.8	111.9	86.8	90.6	23.1	28.8	44.5	38.9	24.2	20.2	16.2	17.3	12.0	7.9	13.6	17.7	34.5	111.9
7	25.7	27.3	36.3	27.7	57.5	23.6	49.5	23.0	40.6	43.8	66.2	58.7	86.5	431.7	272.9	53.0	120.9	135.5	138.3	143.3	184.3	120.6	126.9	328.1	109.2	431.7
8	151.8	327.9	255.2	209.7	130.7	213.2	100.4	107.0	109.6	149.4	397.5	231.1	318.1	178.2	210.6	343.2	348.3	228.9	163.8	157.1	207.3	143.6	137.6	61.7	203.4	397.5
9	36.0	14.6	4.8	4.8	4.0	4.0	2.6	1.3	2.3	42.6	16.4	81.3	81.4	32.1	18.9	17.4	11.1	24.5	30.9	24.1	16.1	13.4	8.0	6.8	20.8	81.4
10	9.4	9.4	8.1	10.6	5.2	14.6	2.9	12.4	24.1	15.6	49.3	182.2	90.2	65.8	101.7	161.4	222.1	168.2	436.3	145.9	182.5	227.1	592.6	257.5	124.8	592.6
11	250.3	120.8	183.3	195.5	164.9	146.0	241.2	236.3	260.2	480.7	567.9	553.8	296.4	164.3	123.2	119.6	79.2	114.1	406.8	298.7	260.2	203.1	247.3	216.4	247.1	567.9
12	306.7	260.5	214.7	180.5	186.7	103.3	51.7	63.0	81.3	81.6	22.5	60.2	30.8	18.9	17.8	27.9	6.8	9.5	14.7	9.7	20.0	8.1	11.1	24.4	75.5	306.7
13	27.0	24.0	12.0	5.2	1.2	0.0	1.3	1.2	0.0	C	C	C	C	C	C	9.4	9.6	24.5	33.7	28.1	9.3	3.9	1.3	2.6	10.4	33.7
14	4.0	5.3	5.3	3.9	1.4	8.0	6.8	11.0	24.5	35.7	29.8	166.8	170.5	148.7	124.9	138.1	132.7	126.1	131.9	161.4	103.9	78.1	133.2	105.5	77.4	170.5
15	90.5	72.5	4.1	13.3	92.1	2.1	13.4	6.3	66.8	95.9	77.5	96.6	123.2	118.6	162.8	86.8	96.1	86.1	45.7	22.1	28.1	10.7	5.3	1.3	59.1	162.8
16	4.0	2.6	1.3	5.4	9.3	4.0	6.7	9.4	6.8	10.8	11.6	61.8	38.2	59.7	68.8	54.2	57.0	48.8	52.7	50.0	47.6	57.6	17.5	13.7	29.1	68.8
17	25.5	14.8	10.7	8.0	4.0	2.6	2.7	7.0	25.7	28.0	82.3	62.7	85.7	28.7	48.3	20.1	9.4	8.4	29.3	5.3	4.0	4.0	6.7	9.4	22.2	85.7
18	8.0	6.9	17.4	6.7	7.2	5.5	12.2	14.8	13.8	31.4	45.8	30.4	23.4	52.3	99.7	63.1	29.8	30.8	11.7	8.0	6.9	18.8	14.8	12.0	23.8	99.7
19	7.2	17.7	26.9	18.7	9.4	9.6	19.1	28.4	27.6	59.0	25.6	23.7	70.2	134.6	157.7	42.0	47.1	28.0	8.0	5.3	2.7	4.1	8.2	16.3	33.2	157.7
20	20.6	41.8	35.1	30.8	13.4	9.5	14.9	20.4	25.7	25.8	29.6	25.4	87.9	76.2	95.4	71.8	70.0	44.4	6.6	6.9	20.0	9.1	67.1	104.3	39.7	104.3
21	28.2	19.1	28.7	42.8	16.3	20.1	9.7	26.4	143.4	274.2	142.0	196.8	136.7	54.4	69.8	34.4	68.6	40.5	36.1	15.0	26.9	23.8	67.2	35.2	64.8	274.2
22	17.6	22.3	41.8	33.9	39.1	30.8	16.6	38.8	90.4	210.0	49.5	92.1	93.4	88.2	24.4	28.6	39.2	36.2	19.2	34.8	13.4	10.0	41.6	21.4	47.2	210.0
23	10.9	15.9	2.8	13.5	12.2	16.0	8.1	11.0	24.3	21.7	13.5	13.6	22.2	54.7	26.0	42.0	43.3	40.6	39.1	30.1	48.8	50.2	55.4	47.4	27.6	55.4
24	46.1	49.9	51.4	50.3	59.3	45.8	32.2	17.5	14.9	16.9	14.9	17.5	14.8	10.8	10.9	16.2	16.1	13.5	12.1	9.3	5.4	6.7	6.6	6.6	22.7	59.3
25	4.2	17.6	18.7	9.6	12.2	14.6	12.1	9.5	10.8	13.7	24.7	47.5	120.0	91.0	101.4	92.1	80.5	42.1	48.8	52.1	14.8	13.7	27.2	35.9	38.1	120.0
26	2.6	2.7	8.0	5.9	32.0	9.4	5.3	76.5	242.0	204.2	116.2	241.8	472.6	306.2	152.2	105.9	52.0	143.2	50.0	44.0	81.1	128.5	47.0	94.7	109.3	472.6
27	20.0	8.0	6.7	7.9	2.7	4.0	5.3	3.9	2.7	8.0	5.4	6.6	5.3	4.0	6.8	12.0	6.6	4.1	9.3	5.3	2.6	2.6	2.7	5.4	6.2	20.0
28	6.7	8.2	14.6	4.0	5.3	4.0	5.3	2.7	4.1	9.5	13.6	19.1	25.7	28.4	29.6	24.5	32.6	54.0	44.5	38.4	61.2	70.7	17.7	23.9	22.8	70.7
29	2.9	13.3	2.6	0.3	18.7	13.8	90.6	82.3	82.1	74.8	89.3	17.5	16.7	39.3	41.5	19.0	23.9	22.9	22.0	41.2	7.2	32.0	8.4	25.4	32.8	90.6
30	10.7	8.1	10.7	8.0	4.0	4.0	5.4	9.6	16.6	37.7	73.1	221.4	51.7	1.3	4.0	3.7	7.4	40.3	28.4	26.7	12.5	29.9	14.4	12.3	26.7	221.4
31	21.5	17.3	7.0	14.9	20.1	10.8	10.9	16.2	15.1	28.8	47.0	26.7	12.3	23.2	34.9	21.2	4.0	4.1	8.1	10.7	6.6	4.1	5.3	5.3	15.7	47.0
NO.	31	31	31	31	31	31	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	739	100%
MEAN	44.2	50.9	42.2	36.1	36.0	30.0	29.8	34.2	50.8	81.9	91.1	106.7	98.4	83.7	71.3	55.5	55.1	51.8	61.6	46.6	47.0	43.2	56.9	51.7		
MAX	306.7	327.9	255.2	209.7	186.7	213.2	241.2	236.3	260.2	480.7	567.9	553.8	472.6	431.7	272.9	343.2	348.3	228.9	436.3	298.7	260.2	227.1	592.6	328.1		



Number of 24HR Exceedences	5	Proposed Guideline
Number of Non-Zero Readings	737	
Maximum 1-HR Average	592.6 UG/M3	
Maximum 24-HR Average	247.1 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	80.2	Monthly Average
		744 HRS
		100.0 %
		56.3 UG/M3

West PM_{2.5} (µg/m³) – March 2019

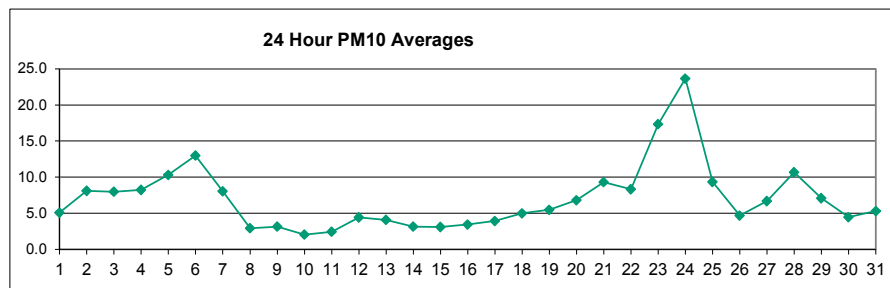
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.0	2.1	2.3	2.9	3.0	2.2	2.2	2.2	2.6	3.1	3.6	3.1	2.9	4.4	3.7	4.2	5.3	4.8	5.4	4.9	5.5	6.6	4.9	3.9	3.7	6.6
2	4.5	6.8	7.4	6.3	6.4	5.7	6.3	6.1	6.2	6.2	5.7	7.1	6.9	5.1	3.9	4.5	5.4	5.7	5.9	4.7	5.8	6.3	7.0	7.4	6.0	7.4
3	6.9	7.1	9.2	8.6	7.4	6.0	5.1	4.6	4.8	5.6	5.6	5.7	4.7	5.0	3.6	2.9	4.1	7.6	6.1	6.7	5.0	6.2	6.0	5.9	5.9	9.2
4	6.5	7.6	5.8	5.3	4.5	3.8	3.6	4.8	7.6	8.3	7.0	5.8	4.5	4.6	5.1	5.8	5.5	6.0	5.7	5.1	7.6	7.1	6.6	6.9	5.9	8.3
5	7.3	6.8	6.9	5.2	4.0	3.2	3.9	2.7	6.2	10.3	11.2	8.4	6.7	9.9	10.8	11.2	16.0	12.4	8.9	5.4	4.2	3.4	3.8	4.6	7.2	16.0
6	5.9	7.0	7.9	8.8	7.3	8.7	9.9	10.4	11.2	8.6	10.9	13.6	8.6	11.0	9.8	8.4	8.0	7.3	6.5	7.1	11.0	11.5	12.7	15.2	9.5	15.2
7	15.4	17.3	14.9	11.3	8.3	6.0	5.8	4.8	5.6	6.8	10.9	10.7	4.6	5.6	2.9	3.7	3.1	1.7	1.0	0.9	0.7	0.9	1.1	1.1	6.0	17.3
8	1.1	0.9	1.0	0.9	1.1	1.0	1.7	4.2	5.2	4.3	3.9	3.4	3.9	2.9	2.5	2.7	1.9	1.5	0.9	1.1	1.1	1.2	2.2	1.7	2.2	5.2
9	1.6	1.5	1.3	1.5	1.6	1.4	1.6	1.7	2.1	2.5	2.7	1.8	1.5	1.6	1.4	1.6	1.9	4.9	7.3	6.2	3.6	1.9	1.8	1.9	2.4	7.3
10	1.9	1.6	1.5	1.5	1.5	1.7	1.8	2.0	2.1	2.6	3.2	2.2	1.5	1.3	1.2	1.2	1.1	1.2	1.2	1.6	1.3	1.4	1.4	1.0	1.6	3.2
11	1.2	1.4	1.4	1.1	1.3	1.5	2.6	3.9	3.4	3.5	2.8	2.8	2.0	2.6	2.0	1.4	1.3	0.9	1.2	1.0	0.7	0.8	0.8	0.7	1.8	3.9
12	0.7	0.6	0.8	0.8	0.7	1.5	3.8	4.9	4.9	5.0	5.2	4.7	5.6	2.3	2.5	2.7	4.8	2.9	4.5	3.1	3.0	4.0	3.3	2.5	3.1	5.6
13	2.8	1.4	0.7	1.2	1.1	0.6	0.6	0.7	2.3	5.7	7.2	7.8	4.7	5.3	11.7	7.2	4.0	1.7	1.0	0.8	0.9	1.4	0.8	1.0	3.0	11.7
14	1.0	1.0	1.0	1.0	0.9	1.0	3.9	4.7	3.5	4.3	5.1	6.4	3.8	3.7	2.6	1.9	1.4	1.2	1.0	1.1	0.9	1.2	1.3	1.4	2.3	6.4
15	1.6	1.4	1.3	1.3	1.2	1.4	1.5	4.4	6.1	6.6	3.9	3.3	2.5	2.8	2.9	1.8	1.3	1.6	1.0	1.0	1.0	1.4	1.9	1.9	2.3	6.6
16	1.6	1.7	1.6	1.5	1.6	1.7	1.9	2.4	3.0	3.4	3.9	2.9	2.9	2.8	3.2	3.4	3.3	3.0	2.8	2.4	2.6	3.2	3.3	3.6	2.7	3.9
17	3.4	3.2	3.1	3.0	3.0	3.5	3.7	3.8	4.0	4.6	4.7	3.8	2.9	2.9	2.8	2.3	2.4	2.0	1.4	1.5	1.6	2.4	3.2	3.1	3.0	4.7
18	2.6	2.6	2.6	2.6	2.4	3.5	4.3	5.6	5.6	6.4	5.5	5.6	4.9	4.6	4.6	3.6	2.9	1.6	1.3	1.5	1.9	2.8	3.1	2.7	3.5	6.4
19	2.8	2.6	2.4	2.8	2.5	3.0	4.9	5.0	5.6	5.6	6.8	6.4	5.1	5.8	4.2	3.4	2.6	2.2	2.1	2.5	2.9	3.5	4.2	4.1	3.9	6.8
20	3.9	3.5	3.6	3.6	3.6	4.1	5.3	5.4	5.8	6.0	5.9	6.4	5.9	5.3	4.7	3.6	3.1	2.5	3.0	3.9	3.8	6.4	7.3	7.1	4.7	7.3
21	5.2	5.1	4.7	5.2	5.0	5.3	7.1	9.5	9.4	9.6	9.0	7.3	7.3	5.6	5.3	6.0	6.7	4.7	4.1	4.6	6.4	7.1	6.7	5.7	6.4	9.6
22	4.7	3.8	3.7	3.8	3.4	4.2	5.1	6.8	8.2	8.3	7.1	7.6	6.3	4.7	7.4	9.4	9.1	3.9	4.2	3.5	4.3	5.2	6.8	5.5	5.7	9.4
23	5.2	4.6	3.8	3.3	3.0	3.1	2.9	3.1	4.2	4.5	4.4	4.5	3.7	3.6	4.9	13.0	19.8	24.0	24.1	32.1	34.0	37.1	44.0	42.4	13.7	44.0
24	42.6	42.9	48.1	48.7	49.5	30.1	20.7	18.1	17.3	13.9	14.7	17.2	15.4	14.0	17.0	14.9	13.9	12.7	11.2	10.8	10.2	10.3	10.8	10.8	21.5	49.5
25	11.0	12.1	12.9	13.4	13.4	13.5	13.7	14.3	16.5	15.3	11.4	6.4	5.0	4.4	3.5	2.2	1.6	1.8	1.5	1.4	1.6	2.2	3.6	3.5	7.8	16.5
26	2.7	3.3	3.8	3.8	3.6	5.4	6.1	8.6	9.6	10.3	3.4	2.8	2.9	2.4	1.7	2.0	1.3	1.6	0.8	0.2	0.4	1.0	0.6	0.7	3.3	10.3
27	1.5	4.5	5.0	4.6	4.0	4.6	6.1	6.5	5.5	5.4	3.8	2.3	2.3	4.8	6.6	5.6	4.5	3.0	4.7	6.0	6.4	9.4	11.1	10.3	5.4	11.1
28	11.6	10.4	13.8	14.2	13.2	12.0	12.4	12.5	12.6	14.1	15.4	12.7	9.5	7.5	6.7	5.2	6.2	4.4	2.8	2.4	2.4	2.4	2.8	3.5	8.8	15.4
29	4.2	3.7	4.2	5.8	5.8	7.0	6.9	7.4	8.0	7.1	5.8	5.4	4.3	3.8	3.6	2.6	2.5	2.1	3.4	4.5	7.3	6.8	5.2	5.0	5.1	8.0
30	4.7	4.0	3.6	3.4	3.5	3.5	3.8	4.2	4.6	4.0	3.7	2.9	2.7	2.1	2.0	2.1	4.1	2.8	3.2	3.6	4.1	3.1	2.4	2.4	3.4	4.7
31	2.3	2.3	2.3	2.6	3.6	3.6	3.6	4.5	5.8	5.5	5.1	4.1	3.2	4.1	4.3	4.9	4.2	4.2	3.7	4.1	5.2	3.3	5.1	5.5	4.1	5.8
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	5.5	5.6	5.9	5.8	5.5	5.0	5.3	5.8	6.4	6.7	6.4	6.0	4.8	4.7	4.8	4.7	4.9	4.4	4.3	4.4	4.8	5.2	5.7	5.6		
MAX	42.6	42.9	48.1	48.7	49.5	30.1	20.7	18.1	17.3	15.3	15.4	17.2	15.4	14.0	17.0	14.9	19.8	24.0	24.1	32.1	34.0	37.1	44.0	42.4		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	744	
Maximum 1-HR Average	49.5 UG/M3	
Maximum 24-HR Average	21.5 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	5.698	Monthly Average
		744 HRS
		100.0 %
		5.3 UG/M3

West PM₁₀ (µg/m³) – March 2019

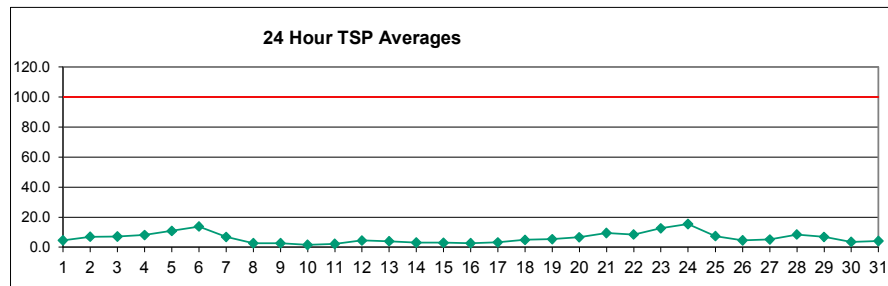
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	4.2	2.9	2.8	3.5	3.9	2.9	2.9	2.9	3.4	4.3	5.2	4.4	3.9	6.4	5.3	6.0	7.6	6.6	7.2	6.1	7.6	9.8	6.9	5.1	5.1	9.8
2	6.2	10.1	11.1	9.1	9.1	7.5	7.7	7.2	7.8	8.0	7.6	9.3	10.0	7.2	5.1	6.2	7.5	7.7	8.0	6.0	8.1	9.1	9.5	10.1	8.1	11.1
3	9.5	9.8	12.3	11.4	9.2	7.0	5.9	5.4	5.9	7.6	7.5	7.6	6.4	7.2	5.0	4.0	5.9	11.4	9.0	10.0	7.4	9.2	8.6	8.3	8.0	12.3
4	8.7	10.2	7.7	6.8	5.3	4.3	4.3	6.2	10.9	11.9	9.9	8.4	6.6	6.7	7.4	8.2	8.0	8.8	8.5	7.5	11.0	10.5	9.8	10.2	8.2	11.9
5	10.6	9.7	10.2	7.5	5.3	4.0	4.5	3.2	8.6	14.4	15.1	11.5	9.3	13.7	16.1	16.6	23.8	18.5	13.3	8.0	6.2	4.9	5.5	6.8	10.3	23.8
6	8.5	9.9	11.8	13.2	10.9	12.6	12.5	13.3	13.7	10.6	13.4	16.8	11.9	16.1	14.2	12.4	11.9	10.6	8.9	9.2	14.5	15.9	17.8	21.7	13.0	21.7
7	21.8	24.8	20.3	13.9	9.8	6.9	6.7	5.8	7.4	9.1	14.0	14.2	6.6	8.0	4.2	5.3	4.4	2.4	1.3	1.2	0.9	1.1	1.4	1.3	8.0	24.8
8	1.3	1.0	1.1	1.0	1.3	1.1	2.2	6.0	7.4	6.2	5.6	4.9	5.6	4.1	3.5	3.7	2.6	2.0	1.0	1.4	1.3	1.4	2.8	2.1	2.9	7.4
9	1.8	1.7	1.5	1.7	1.9	1.7	1.8	2.0	2.6	3.4	3.8	2.5	2.0	2.0	1.9	2.2	2.5	7.3	10.8	9.2	5.0	2.4	2.2	2.3	3.2	10.8
10	2.2	1.9	1.7	1.6	1.7	2.0	2.2	2.4	2.6	3.6	4.6	3.1	1.9	1.6	1.5	1.4	1.4	1.5	1.4	2.1	1.7	1.9	1.9	1.3	2.1	4.6
11	1.6	1.9	1.8	1.4	1.7	1.9	3.7	5.7	5.0	5.1	3.9	4.1	2.9	3.7	2.9	1.9	1.7	1.2	1.6	1.2	0.9	1.0	0.9	0.8	2.4	5.7
12	0.8	0.7	1.0	0.9	0.8	2.1	5.6	7.3	7.2	7.5	7.6	6.9	8.2	3.3	3.6	3.9	7.1	4.2	6.6	4.5	4.3	5.7	3.9	2.8	4.4	8.2
13	3.6	1.6	0.8	1.4	1.3	0.7	0.6	0.8	3.1	8.5	10.8	11.6	7.0	7.2	15.2	9.5	5.6	2.2	1.2	0.9	1.1	1.8	0.9	1.1	4.1	15.2
14	1.1	1.1	1.1	1.1	1.1	1.2	5.4	6.9	5.1	6.4	7.6	9.0	5.5	5.4	3.7	2.5	1.8	1.5	1.2	1.4	1.0	1.5	1.6	1.8	3.2	9.0
15	1.9	1.7	1.4	1.5	1.3	1.7	1.9	6.4	8.9	9.3	5.7	4.7	3.6	4.0	4.1	2.4	1.6	2.1	1.2	1.1	1.1	1.8	2.5	2.4	3.1	9.3
16	2.0	2.1	1.9	1.7	1.8	2.0	2.5	3.3	4.3	5.1	5.6	3.8	3.9	3.4	4.0	4.4	4.0	3.6	3.4	2.7	3.1	4.3	4.4	4.9	3.4	5.6
17	4.3	3.8	3.5	3.4	3.4	4.2	4.6	4.9	5.4	6.7	6.9	5.5	4.1	3.8	3.9	3.1	3.3	2.6	1.5	1.7	1.8	3.2	4.5	4.2	3.9	6.9
18	3.3	3.3	3.1	3.2	2.9	4.7	6.2	8.2	8.2	9.6	8.2	8.2	7.2	6.8	6.8	5.3	4.2	2.2	1.8	2.0	2.5	3.9	4.4	3.7	5.0	9.6
19	3.8	3.3	2.9	3.4	2.9	3.8	7.1	7.3	8.2	8.4	10.1	9.5	7.5	8.5	6.2	5.1	3.7	3.1	2.7	3.5	4.0	4.9	6.0	5.9	5.5	10.1
20	5.3	4.5	4.5	4.5	4.5	5.6	7.6	7.8	8.6	8.9	8.9	9.5	8.8	7.9	7.0	5.3	4.5	3.5	4.4	5.7	5.5	9.5	10.9	10.6	6.8	10.9
21	7.7	7.5	6.6	7.2	6.9	7.6	10.6	14.2	13.4	14.0	13.3	10.8	10.6	8.3	7.7	8.9	10.1	6.9	6.1	6.9	9.6	10.5	10.0	8.5	9.3	14.2
22	6.9	5.2	4.9	4.9	4.4	5.6	7.3	10.1	12.1	12.2	10.6	11.4	9.2	6.9	11.0	14.1	13.6	5.7	6.3	5.1	6.3	7.8	10.2	8.2	8.3	14.1
23	7.6	6.6	5.1	4.3	3.8	3.9	3.8	4.2	6.0	6.6	6.5	6.7	5.4	5.3	7.0	18.0	26.1	30.7	30.0	40.3	38.4	41.6	58.9	49.0	17.3	58.9
24	47.1	45.9	53.0	52.6	54.2	33.7	25.1	18.8	18.0	14.4	15.8	20.1	19.2	15.3	18.0	16.2	14.7	13.9	12.3	11.9	11.1	11.4	12.3	12.3	23.7	54.2
25	11.8	13.5	13.8	14.1	13.9	14.0	15.0	17.3	21.8	20.4	14.5	8.7	7.3	6.4	5.1	3.2	2.3	2.4	1.7	1.6	2.0	2.9	5.2	5.0	9.3	21.8
26	3.6	4.4	5.2	5.0	4.7	7.7	8.9	12.3	14.2	15.3	5.0	4.0	4.2	3.4	2.4	3.0	1.8	2.3	1.2	0.3	0.5	1.4	0.9	0.9	4.7	15.3
27	2.0	6.7	7.2	6.6	4.7	5.7	7.0	8.7	7.2	6.6	4.8	3.0	3.0	6.7	9.3	8.0	6.3	3.7	6.2	7.9	7.3	10.0	11.3	10.7	6.7	11.3
28	12.0	12.1	16.2	16.3	13.9	13.4	14.3	14.6	15.7	18.5	21.0	17.0	12.3	9.7	9.1	7.3	8.7	5.8	3.1	2.6	2.7	2.6	3.2	4.3	10.7	21.0
29	5.7	4.3	5.2	8.5	8.3	9.5	9.0	9.2	10.7	10.2	8.5	7.8	6.0	5.2	4.9	3.5	3.4	2.6	5.1	6.6	11.0	10.2	7.6	7.1	7.1	11.0
30	6.3	5.1	4.3	3.9	4.0	4.0	4.7	5.7	6.5	5.8	5.4	4.1	3.6	2.8	2.6	2.8	5.6	3.9	4.4	5.1	5.7	4.4	3.2	3.2	4.5	6.5
31	3.1	3.1	3.1	3.6	5.2	5.1	5.1	6.5	8.7	8.1	7.4	5.9	4.4	5.9	5.9	6.3	5.4	4.9	4.0	4.5	5.6	3.9	5.6	5.8	5.3	8.7
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	7.0	7.1	7.3	7.1	6.6	6.1	6.7	7.6	8.7	9.2	8.9	8.2	6.7	6.5	6.6	6.5	6.8	6.0	5.7	5.8	6.1	6.8	7.6	7.2		
MAX	47.1	45.9	53.0	52.6	54.2	33.7	25.1	18.8	21.8	20.4	21.0	20.1	19.2	16.1	18.0	18.0	26.1	30.7	30.0	40.3	38.4	41.6	58.9	49.0		



Number of Non-Zero Readings	744
Maximum 1-HR Average	58.9 UG/M3
Maximum 24-HR Average	23.7 UG/M3
IZS Calibration Time	
Down Time	0
Standard Deviation	6.7
OperatioEI Time	744 HRS
OperatioEI Uptime	100.0 %
Monthly Average	7.0 UG/M3

West TSP (µg/m³) – March 2019

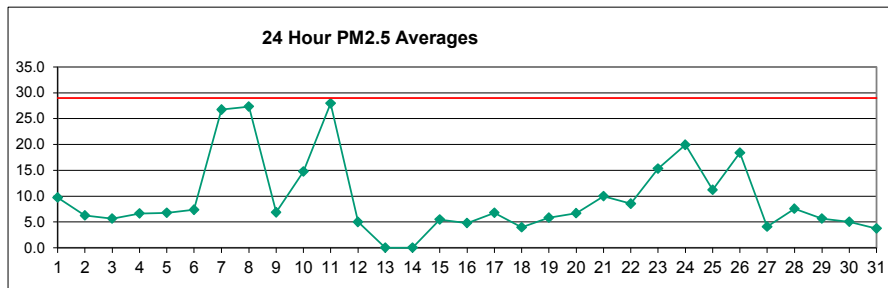
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	4.0	2.5	2.2	2.7	3.4	2.4	2.2	2.2	2.8	3.9	5.4	4.4	4.0	7.1	5.5	6.1	7.9	6.0	6.3	4.6	6.6	9.0	5.7	3.9	4.6	9.0
2	5.5	9.8	10.9	7.4	6.9	5.1	5.1	4.8	5.8	6.2	6.3	9.2	11.1	7.1	4.3	5.7	7.3	7.0	7.0	4.4	6.4	7.9	9.2	8.2	7.0	11.1
3	9.0	9.1	11.0	7.8	6.2	4.7	3.9	3.7	4.4	6.5	5.9	6.6	5.4	7.0	4.6	3.5	6.0	12.7	9.6	11.3	7.9	9.6	7.9	7.2	7.2	12.7
4	6.6	7.8	5.6	4.9	3.6	2.9	3.0	4.9	10.8	13.2	10.7	8.9	6.9	7.1	7.9	9.0	8.7	9.7	9.6	8.0	12.4	11.7	10.7	11.2	8.2	13.2
5	9.5	8.7	10.2	6.6	3.9	2.7	3.0	2.1	8.8	16.5	15.7	11.8	9.6	15.8	18.7	19.3	27.6	21.5	15.4	9.1	6.9	5.0	5.8	7.3	10.9	27.6
6	9.3	10.9	13.4	15.0	12.0	14.2	13.8	14.1	15.9	12.2	15.5	19.5	13.8	18.7	16.5	14.3	13.4	11.3	9.2	9.9	14.6	13.2	14.6	18.1	13.9	19.5
7	18.1	19.4	14.4	9.7	6.5	4.7	4.5	4.1	6.1	8.8	15.7	16.1	7.1	8.6	4.2	5.7	4.5	2.3	1.2	1.1	0.8	0.9	1.1	1.0	6.9	19.4
8	1.1	0.7	0.8	0.7	1.1	0.8	2.0	6.5	7.9	6.4	5.8	4.9	5.7	4.2	3.3	3.7	2.4	1.6	0.7	1.0	0.9	1.0	2.1	1.5	2.8	7.9
9	1.2	1.2	1.0	1.2	1.4	1.1	1.3	1.4	2.1	3.0	3.4	1.9	1.6	1.8	1.6	1.8	2.4	7.6	11.3	8.7	4.3	1.8	1.5	1.6	2.8	11.3
10	1.5	1.3	1.1	1.1	1.2	1.4	1.6	1.7	1.9	3.3	4.6	2.8	1.5	1.3	1.2	1.1	1.1	1.1	1.1	1.9	1.4	1.6	1.7	1.1	1.6	4.6
11	1.4	1.7	1.6	1.1	1.4	1.6	3.7	6.1	5.3	5.4	3.9	4.2	2.8	3.8	2.8	1.7	1.5	0.9	1.3	1.0	0.6	0.8	0.7	0.5	2.3	6.1
12	0.5	0.5	0.7	0.7	0.6	2.0	5.9	8.3	8.2	8.5	8.6	7.7	9.1	3.2	3.5	3.4	6.9	4.0	7.0	4.2	3.8	4.7	2.7	1.9	4.4	9.1
13	2.7	1.1	0.5	0.9	0.9	0.5	0.4	0.5	2.9	9.4	12.1	12.9	7.8	7.3	14.6	9.2	5.5	1.9	0.9	0.6	0.9	1.3	0.6	0.7	4.0	14.6
14	0.8	0.8	0.8	0.7	0.8	0.8	5.5	7.3	5.2	7.0	8.4	10.1	5.7	5.8	3.7	2.3	1.5	1.2	0.9	1.0	0.7	1.2	1.2	1.4	3.1	10.1
15	1.4	1.2	1.0	1.1	0.9	1.3	1.5	6.9	9.9	10.4	6.3	5.0	3.7	4.1	4.0	2.1	1.2	1.8	0.8	0.8	0.7	1.3	1.9	1.8	3.0	10.4
16	1.4	1.5	1.3	1.2	1.2	1.5	2.0	2.8	4.1	5.3	5.7	3.1	3.1	2.5	3.0	3.5	3.0	2.8	2.6	1.8	2.3	3.7	3.4	3.8	2.8	5.7
17	3.1	2.7	2.4	2.2	2.3	3.1	3.4	3.8	4.5	6.6	7.0	5.2	3.8	3.6	3.6	2.6	2.9	2.3	1.0	1.1	1.3	2.5	3.8	3.2	3.3	7.0
18	2.4	2.3	2.1	2.3	2.0	4.2	6.1	8.7	8.9	10.8	9.3	9.2	8.1	7.6	7.6	5.8	4.2	1.9	1.4	1.6	2.1	3.5	4.0	3.1	5.0	10.8
19	2.9	2.3	2.0	2.3	2.0	3.0	7.1	7.3	8.9	9.3	11.5	11.0	8.4	9.4	6.8	5.2	3.6	2.6	2.0	2.9	3.3	4.2	5.3	4.9	5.3	11.5
20	4.1	3.2	3.2	3.2	3.2	4.3	7.2	7.6	9.1	9.7	9.9	10.7	9.8	8.5	7.5	5.4	4.4	3.1	4.1	5.4	5.3	10.5	11.7	11.0	6.7	11.7
21	6.8	6.2	5.0	5.2	5.0	6.3	10.7	15.7	15.4	16.0	15.2	12.2	12.0	8.9	8.0	10.0	11.4	7.1	5.8	7.1	10.3	10.8	10.3	8.5	9.6	16.0
22	6.0	4.0	3.6	3.6	3.0	4.8	6.8	10.7	13.5	14.0	11.9	13.0	10.2	7.1	12.4	16.3	15.5	5.7	6.4	4.6	6.2	8.2	10.9	7.6	8.6	16.3
23	7.0	5.4	3.9	3.1	2.8	2.7	2.9	3.3	5.6	6.6	7.1	5.4	5.2	7.0	15.4	19.5	21.5	20.7	27.1	24.8	27.1	40.1	32.0		12.6	40.1
24	30.5	29.8	34.3	34.1	35.2	21.9	16.6	12.1	11.7	9.3	10.3	13.4	13.2	10.1	11.9	10.8	9.6	9.1	8.0	7.8	7.2	7.4	8.1	8.0	15.4	35.2
25	7.7	8.7	8.9	9.2	9.0	9.1	9.9	12.6	18.2	18.7	15.7	9.5	7.9	6.8	5.5	3.3	2.2	2.2	1.2	1.1	1.4	2.5	5.0	4.5	7.5	18.7
26	2.6	3.2	3.8	3.6	3.5	6.6	8.7	13.4	16.2	17.6	5.3	4.2	4.3	3.6	2.5	3.1	1.8	2.3	1.1	0.2	0.4	1.4	0.8	0.6	4.6	17.6
27	1.7	6.4	6.3	6.0	3.2	3.8	4.6	6.5	5.0	4.6	3.3	2.4	2.4	6.5	9.2	7.3	5.8	3.0	4.8	6.2	5.0	6.6	7.3	7.0	5.2	9.2
28	7.8	8.3	10.8	10.7	9.0	8.9	9.5	9.9	12.8	17.5	18.9	14.9	12.3	9.9	9.4	6.8	7.9	5.2	2.1	1.7	1.9	1.7	2.2	3.1	8.5	18.9
29	4.4	2.9	3.7	7.5	6.9	8.9	9.3	10.6	12.2	10.7	8.7	7.5	5.8	5.0	4.6	2.9	3.0	2.1	5.5	7.2	12.7	11.5	6.9	5.9	6.9	12.7
30	4.7	3.6	2.9	2.6	2.9	2.6	3.3	4.3	5.6	5.2	5.0	3.6	2.9	2.2	2.0	2.3	5.5	3.5	3.6	4.3	5.2	3.8	2.5	2.6	3.6	5.6
31	2.5	2.5	2.3	2.9	4.8	4.5	4.3	5.7	8.5	7.7	6.7	5.2	3.6	5.4	4.4	4.4	3.8	3.2	2.6	2.9	3.6	2.6	3.7	3.9	4.2	8.5
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	5.4	5.5	5.5	5.2	4.7	4.6	5.5	6.8	8.3	9.4	9.0	8.3	6.7	6.6	6.5	6.3	6.5	5.4	5.0	4.9	5.2	5.8	6.2	5.7		
MAX	30.5	29.8	34.3	34.1	35.2	21.9	16.6	15.7	18.2	18.7	18.9	19.5	13.8	18.7	18.7	19.3	27.6	21.5	20.7	27.1	24.8	27.1	40.1	32.0		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	744	
Maximum 1-HR Average	40.1 UG/M3	
Maximum 24-HR Average	15.4 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	5.326	Monthly Average
		744 HRS
		100.0 %
		6.2 UG/M3

Berm PM_{2.5} (µg/m³) – March 2019

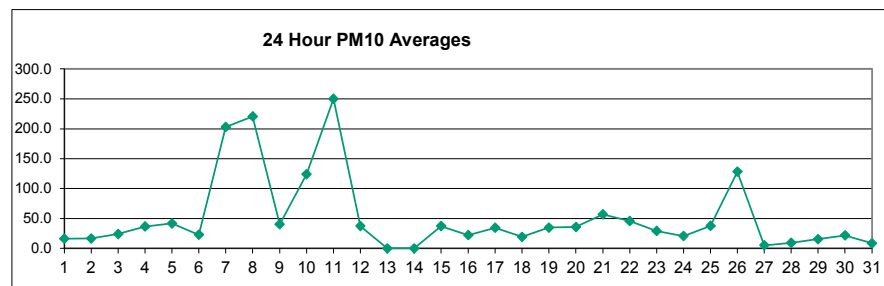
HOUR																										
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	19.4	10.8	13.9	14.1	18.7	14.5	19.3	12.3	28.0	19.0	5.8	3.2	2.9	5.6	4.4	3.3	3.7	4.8	5.1	5.4	5.5	5.2	4.0	4.9	9.7	28.0
2	6.3	7.3	2.5	3.1	4.8	5.9	4.6	4.7	7.1	23.3	9.2	11.1	4.5	3.8	3.4	4.5	4.3	5.7	4.9	4.5	3.4	7.4	7.2	6.5	6.2	23.3
3	5.5	7.3	9.1	6.8	5.5	4.7	4.1	3.9	4.3	6.1	15.4	17.3	11.4	3.4	2.1	2.1	2.6	2.8	3.5	4.1	3.2	2.2	4.3	3.6	5.6	17.3
4	13.3	8.7	4.5	4.2	3.7	3.7	4.0	3.8	7.2	12.0	11.7	16.1	8.9	10.0	21.5	3.3	2.6	1.7	1.5	2.6	2.8	1.6	3.5	6.7	6.7	21.5
5	5.1	4.8	3.2	2.5	2.7	2.3	3.2	2.7	6.1	12.6	18.7	29.2	30.9	5.5	3.2	3.2	3.2	3.1	3.1	3.6	3.6	2.7	3.0	5.2	6.8	30.9
6	3.4	3.5	4.2	4.3	6.2	7.9	3.6	18.7	14.3	14.3	14.1	5.1	4.5	5.6	6.8	5.4	4.6	4.3	6.0	5.1	6.0	8.2	9.6	11.0	7.4	18.7
7	10.5	13.7	12.3	11.4	7.2	6.8	5.6	5.0	5.7	7.9	7.4	19.2	59.2	38.1	21.4	29.8	32.0	37.6	50.4	53.0	47.9	56.8	61.5	41.4	26.7	61.5
8	61.6	42.6	18.9	12.3	20.5	10.3	11.4	11.6	24.0	68.2	35.3	46.9	18.8	28.0	42.9	57.0	30.3	24.3	18.4	30.4	19.9	13.7	6.0	3.4	27.4	68.2
9	1.8	1.6	1.5	1.3	1.4	1.2	1.1	1.3	5.2	4.2	17.8	18.4	17.0	14.2	15.8	18.1	15.0	7.5	6.5	5.3	2.9	1.8	1.5	2.0	6.9	18.4
10	2.0	1.8	2.7	1.5	1.5	1.5	2.2	2.7	3.3	5.4	24.5	20.6	14.7	14.1	20.8	22.0	18.0	38.7	11.8	12.5	20.9	58.5	24.8	27.6	14.8	58.5
11	17.7	47.7	27.1	61.2	37.4	19.0	22.8	24.6	60.1	75.0	59.9	27.9	15.7	15.4	13.5	17.1	12.7	18.8	15.6	18.9	12.6	15.7	14.9	19.1	27.9	75.0
12	18.1	16.4	15.1	6.5	3.6	7.2	2.9	4.9	5.9	2.6	6.1	2.7	1.9	3.9	4.2	5.2	2.3	2.5	1.2	0.8	1.3	1.6	2.2	1.5	5.0	18.1
13	1.3	0.8	0.7	0.9	0.9	0.6	0.4	0.4	0.4	3.0	8.3	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	X	21.6	18.0	15.5	20.6	22.4	15.8	14.3	16.0	8.3	11.1	21.9	9.8	8.3	-	-
15	7.4	1.3	1.4	5.6	1.4	1.9	1.6	3.8	6.6	6.5	13.8	13.7	7.8	18.2	8.9	9.5	9.2	4.1	2.2	1.3	1.1	1.4	1.4	1.4	5.5	18.2
16	1.2	1.2	1.5	1.8	1.3	1.4	1.6	1.8	2.2	2.9	5.6	5.6	10.8	13.0	6.8	10.4	9.5	8.9	8.7	5.5	3.7	3.2	3.2	3.1	4.8	13.0
17	2.9	2.8	2.6	2.4	2.4	2.5	3.0	5.2	5.8	7.9	6.8	13.5	22.3	19.6	16.5	17.2	12.9	4.4	1.5	1.5	1.4	2.1	3.2	2.4	6.8	22.3
18	2.4	3.3	2.1	2.1	2.0	2.2	2.5	2.9	4.2	5.5	4.7	3.7	7.0	13.0	11.2	7.5	4.9	1.3	1.0	1.1	2.5	2.7	2.8	2.4	4.0	13.0
19	2.9	3.1	3.2	2.2	2.9	2.6	3.7	4.1	5.5	5.1	4.9	7.3	22.6	25.7	11.6	9.5	3.3	2.1	2.0	2.6	2.6	3.0	3.8	4.2	5.8	25.7
20	4.3	5.1	4.5	3.3	3.1	3.7	4.1	5.7	4.6	5.5	5.6	8.6	8.3	18.6	20.6	16.0	3.8	2.1	2.1	2.6	3.1	10.1	9.6	6.3	6.7	20.6
21	4.7	8.1	9.6	6.1	6.9	5.5	6.0	17.8	31.9	13.3	27.3	31.8	9.7	9.9	5.3	5.5	4.0	3.6	3.1	3.4	3.8	9.5	7.1	6.1	10.0	31.9
22	5.0	13.4	12.2	8.8	5.7	6.1	11.8	13.2	28.4	12.7	14.4	15.2	11.9	3.9	2.7	3.2	4.2	3.8	4.1	3.5	3.3	3.4	7.6	6.5	8.5	28.4
23	4.5	3.6	5.6	4.0	5.6	3.0	3.2	5.5	4.4	6.9	4.6	5.5	12.2	7.2	7.2	15.1	20.2	26.8	26.1	35.6	38.9	38.7	40.7	42.6	15.3	42.6
24	44.2	48.0	48.4	49.3	40.7	27.2	19.4	16.3	15.8	15.6	15.0	13.3	10.4	13.5	15.7	12.9	12.2	10.5	8.4	8.1	8.1	8.3	7.6	9.4	19.9	49.3
25	12.9	13.4	11.6	12.5	12.1	12.3	11.6	10.7	11.9	12.0	10.7	14.0	14.4	21.2	16.2	21.4	11.8	9.5	8.0	4.1	3.1	4.7	6.8	2.7	11.2	21.4
26	2.2	3.7	4.5	7.4	4.1	4.1	9.5	19.4	18.2	19.3	57.7	65.6	43.7	23.4	20.6	13.2	21.9	13.4	16.0	12.8	19.9	27.0	10.6	3.2	18.4	65.6
27	3.5	2.1	3.2	1.8	3.0	2.9	3.6	4.0	4.1	3.9	4.9	1.8	2.9	2.4	5.2	3.3	2.6	3.5	3.2	3.7	6.2	7.8	8.3	10.0	4.1	10.0
28	10.8	11.2	11.8	12.2	11.4	10.2	10.3	10.8	10.5	14.1	12.7	10.1	7.2	6.3	4.9	4.0	3.8	3.6	2.9	2.9	3.3	2.1	2.4	2.1	7.6	14.1
29	3.0	2.1	2.3	2.9	6.0	11.3	17.2	12.3	10.4	18.9	4.9	4.9	3.5	4.0	2.2	2.5	2.5	2.5	2.4	2.2	2.5	4.9	5.6	5.1	5.7	18.9
30	4.0	3.2	3.6	3.0	3.0	4.0	3.6	4.5	5.9	8.8	36.5	8.4	3.4	2.0	1.8	1.9	3.4	2.8	3.1	3.3	3.4	2.9	2.5	2.5	5.1	36.5
31	2.6	2.4	2.4	3.1	2.2	2.8	6.1	5.8	5.4	6.6	4.9	3.9	3.8	3.5	3.2	3.5	2.9	3.7	2.9	4.4	2.9	2.8	5.0	3.7	3.8	6.6
NO. MEAN MAX	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	97%
	9.5	9.8	8.2	8.6	7.6	6.3	6.8	8.0	11.6	14.0	15.7	15.5	13.7	12.3	11.4	11.7	9.3	9.1	8.1	8.4	8.4	11.1	9.3	8.5		
	61.6	48.0	48.4	61.2	40.7	27.2	22.8	24.6	60.1	75.0	59.9	65.6	59.2	38.1	42.9	57.0	32.0	38.7	50.4	53.0	47.9	58.5	61.5	42.6		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	720	
Maximum 1-HR Average	75.0 UG/M3	
Maximum 24-HR Average	27.9 UG/M3	
Monthly Calibration	0	Operational Time
Standard Deviation	11.6	Operational Uptime
		Monthly Average
		720 HRS
		96.8 %
		10.1 UG/M3

Berm PM₁₀ (µg/m³) – March 2019

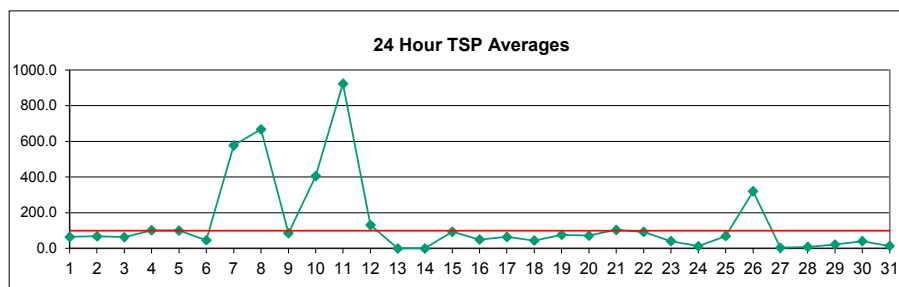
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	28.7	15.8	20.4	20.7	27.6	21.2	28.6	18.1	41.5	28.0	8.5	12.9	9.9	23.8	16.1	10.9	8.2	8.9	8.7	7.2	7.5	6.0	4.6	7.6	16.3	41.5
2	7.9	7.5	2.9	3.9	6.3	7.4	5.3	5.8	23.0	130.1	51.9	51.1	7.4	5.5	4.8	7.1	7.0	10.8	6.0	5.1	3.6	11.6	15.4	7.2	16.4	130.1
3	10.0	18.6	12.8	8.1	6.6	5.3	4.5	4.5	7.3	22.0	136.6	169.9	83.8	10.1	4.0	4.7	6.1	4.1	4.2	5.3	3.8	3.5	23.6	11.6	23.8	169.9
4	63.8	30.3	12.7	4.9	4.5	4.6	5.4	5.0	44.6	85.8	98.1	174.1	69.0	75.7	114.8	12.2	11.3	5.7	3.3	4.0	4.4	2.1	14.8	29.0	36.7	174.1
5	15.6	21.4	5.5	4.5	5.0	4.1	4.4	3.6	39.4	85.1	144.0	268.6	255.5	30.9	12.9	10.9	8.2	8.0	9.2	12.1	11.2	7.1	9.3	20.2	41.5	268.6
6	9.0	8.8	10.1	8.9	19.3	25.4	6.5	96.6	68.3	59.0	57.6	12.9	11.2	22.4	25.5	18.0	12.5	6.6	12.4	6.2	7.1	15.7	13.9	17.7	23.0	96.6
7	16.1	21.4	16.1	23.9	13.9	28.8	16.2	17.6	20.8	46.6	34.6	165.5	543.1	372.9	172.4	259.6	299.4	320.3	399.5	398.0	430.0	459.6	466.4	328.5	203.0	543.1
8	441.2	290.3	150.2	103.3	165.6	88.9	94.4	96.7	182.6	566.6	278.7	365.3	127.1	250.6	385.5	458.1	271.2	212.9	159.1	265.9	182.8	99.1	36.4	19.6	220.5	566.6
9	7.7	5.1	4.4	3.2	2.5	3.3	1.5	3.0	31.3	22.6	141.4	135.4	102.3	100.0	104.7	114.0	101.2	34.7	16.1	11.5	5.1	2.7	2.7	6.2	40.1	141.4
10	6.0	4.1	5.3	2.6	3.2	3.4	6.0	17.3	16.1	41.4	206.3	164.8	117.6	119.7	155.6	178.4	143.8	343.3	97.6	100.2	185.7	564.1	234.8	265.8	124.3	564.1
11	144.4	406.7	250.0	565.2	348.1	167.3	212.7	217.9	523.2	632.9	522.3	260.0	139.7	142.0	116.6	140.7	100.2	157.4	150.0	197.2	118.4	160.5	149.5	182.0	250.2	632.9
12	172.2	147.7	146.0	53.9	24.2	71.4	20.6	43.3	54.1	16.1	49.4	16.0	11.1	22.2	16.4	11.3	6.0	3.6	1.4	0.9	1.3	1.7	2.3	1.5	37.3	172.2
13	1.3	0.9	0.8	1.0	1.1	0.7	0.5	0.4	0.4	4.3	22.6	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	X	185.8	147.9	116.6	149.4	159.4	111.0	119.4	129.7	59.1	89.6	164.9	74.9	72.5	-	-
15	58.0	3.3	3.9	26.9	2.5	7.8	4.8	26.0	57.4	45.1	100.0	101.0	54.2	136.5	64.3	74.0	72.1	29.5	11.5	3.6	2.3	2.1	2.2	1.8	37.1	136.5
16	1.6	1.7	4.5	8.1	2.5	3.5	3.7	4.1	6.7	10.1	40.7	29.2	60.3	81.4	34.3	60.2	47.6	41.4	33.2	18.9	8.4	8.6	9.2	9.3	22.0	81.4
17	7.5	5.7	5.1	3.2	2.9	3.3	6.0	24.6	29.2	49.5	52.0	100.0	133.6	106.9	84.6	96.6	67.5	22.7	2.7	1.9	1.9	3.9	9.9	5.2	34.4	133.6
18	6.2	14.0	4.2	5.6	3.2	4.4	6.3	9.3	22.1	32.8	25.0	20.7	52.4	86.0	62.4	45.2	24.3	3.1	1.5	1.7	8.4	8.4	8.4	6.3	19.2	86.0
19	9.5	14.3	10.3	5.2	5.8	8.4	18.6	20.1	34.9	26.4	23.1	51.8	195.4	205.6	78.4	64.0	16.6	4.4	2.7	5.4	5.0	6.0	9.2	13.2	34.8	205.6
20	15.5	21.1	16.3	8.0	6.1	11.4	14.2	23.5	20.0	24.7	25.0	74.2	60.8	143.0	135.6	105.8	19.0	4.0	3.3	4.6	7.5	51.2	41.4	18.9	35.6	143.0
21	11.1	29.8	38.9	19.2	21.5	14.7	17.7	130.4	261.6	87.7	214.5	224.4	51.1	45.5	24.6	32.9	12.8	11.1	7.1	8.1	13.2	39.9	24.2	21.0	56.8	261.6
22	16.6	62.9	52.3	39.7	19.8	21.1	58.1	86.8	252.9	83.1	93.4	96.4	63.4	15.5	10.7	14.5	20.4	12.0	13.2	7.4	6.8	7.0	25.7	19.5	45.8	252.9
23	14.2	9.0	24.8	15.3	18.6	8.2	10.8	24.0	19.2	37.5	17.7	25.6	70.5	39.7	25.4	29.8	24.5	32.5	29.9	42.1	44.5	44.6	46.9	46.5	29.2	70.5
24	46.8	50.6	50.1	51.2	41.6	27.4	19.5	16.3	15.8	17.7	15.1	13.4	10.5	13.9	15.8	13.0	12.2	10.5	8.7	8.3	8.2	8.5	7.7	11.4	20.5	51.2
25	17.2	17.3	13.0	15.3	14.2	14.8	12.9	11.1	15.0	17.5	34.8	65.3	79.5	121.0	87.2	119.9	66.7	47.5	37.4	15.7	11.8	22.4	35.4	6.4	37.5	121.0
26	4.1	11.0	13.1	30.8	10.2	10.6	57.3	111.3	139.9	128.5	412.9	492.4	324.5	170.0	134.2	103.2	198.4	102.6	134.1	100.8	167.4	145.7	58.5	14.5	128.2	492.4
27	13.3	2.6	4.1	2.0	3.2	3.0	3.8	4.4	4.8	4.5	6.0	2.2	3.9	2.7	6.6	3.9	2.8	4.2	3.5	4.0	6.2	8.2	8.6	10.3	5.0	13.3
28	11.7	12.2	12.2	12.5	11.9	10.5	10.5	11.1	10.9	16.4	16.4	14.0	11.3	10.1	7.5	6.6	5.5	7.3	5.8	3.8	6.1	2.4	3.5	2.2	9.3	16.4
29	3.7	2.2	2.4	3.2	8.1	16.9	25.8	41.5	44.8	82.2	18.2	12.0	9.9	16.0	4.7	6.1	9.3	6.7	4.4	3.5	3.6	13.8	15.6	12.4	15.3	82.2
30	7.9	6.2	7.0	4.8	5.6	8.8	7.6	12.9	25.3	53.2	248.8	52.8	14.2	4.0	3.1	3.3	15.2	7.5	6.4	6.0	6.1	6.3	5.6	6.2	21.9	248.8
31	5.9	4.5	5.4	8.0	4.3	4.7	19.5	19.2	18.5	27.7	17.1	11.3	11.8	7.8	4.5	4.0	3.2	4.0	3.0	4.8	3.0	3.1	5.7	3.9	8.5	27.7
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	97%
MEAN	39.2	41.6	30.2	35.4	27.0	20.4	23.5	36.9	67.7	82.8	103.8	112.3	94.4	83.3	68.8	72.3	56.8	52.9	43.5	43.8	45.4	62.7	45.5	39.3		
MAX	441.2	406.7	250.0	565.2	348.1	167.3	212.7	217.9	523.2	632.9	522.3	492.4	543.1	372.9	385.5	458.1	299.4	343.3	399.5	398.0	430.0	564.1	466.4	328.5		



Number of Non-Zero Readings	720
Maximum 1-HR Average	632.9 UG/M3
Maximum 24-HR Average	250.2 UG/M3
Monthly Calibration	0
Standard Deviation	94.9
Operational Time	720 HRS
Operational Uptime	96.8 %
Monthly Average	55.4 UG/M3

Berm TSP ($\mu\text{g}/\text{m}^3$) – March 2019

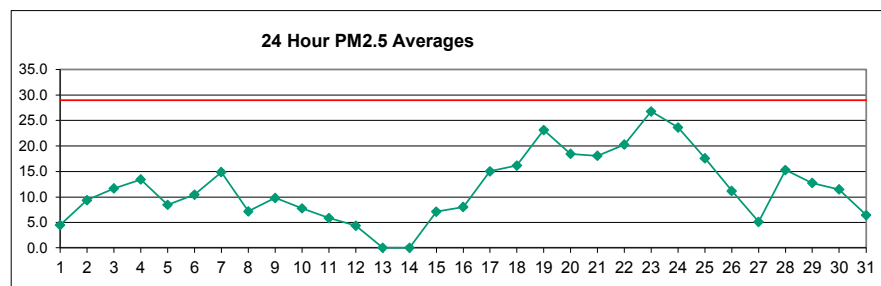
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	32.9	18.1	23.3	23.8	32.0	24.2	32.9	20.9	48.2	32.5	9.6	106.5	95.0	479.5	83.7	57.1	143.1	99.5	77.5	26.9	55.3	15.4	3.0	6.9	64.5	479.5
2	6.1	5.0	2.1	3.3	5.7	6.1	3.7	4.9	556.8	713.0	108.3	78.0	10.8	11.4	8.6	14.2	12.5	22.3	5.5	3.9	2.3	33.9	28.4	7.3	68.9	713.0
3	18.7	109.9	25.4	5.6	4.7	3.7	3.0	7.2	37.7	53.6	378.1	481.9	227.7	15.7	7.6	6.5	9.9	4.9	5.2	7.2	2.5	2.4	85.7	31.5	64.0	481.9
4	195.9	255.9	21.0	3.3	3.4	3.6	4.9	4.3	155.1	283.5	291.2	636.2	162.9	161.0	130.1	17.1	17.8	7.3	4.6	4.3	3.4	1.4	23.3	46.5	101.6	636.2
5	24.9	52.8	5.3	9.7	6.3	3.3	4.0	2.7	93.4	221.0	401.0	711.0	579.1	71.9	29.9	25.6	20.2	20.0	15.2	27.4	31.2	20.1	18.4	31.9	101.1	711.0
6	11.2	10.6	15.8	13.7	34.9	31.5	5.8	139.8	219.4	92.9	104.0	32.6	30.9	64.8	68.7	49.7	35.6	10.0	26.4	7.2	6.6	19.3	10.5	66.1	46.2	219.4
7	36.6	17.8	12.3	57.9	46.4	124.6	67.2	61.4	41.9	121.8	78.9	436.4	1236.9	826.7	445.4	694.8	966.5	1088.7	1183.3	1116.4	1472.0	1421.3	1341.6	995.7	578.9	1472.0
8	1357.4	731.0	469.3	375.3	568.3	307.0	322.4	314.0	575.4	1838.8	838.7	1040.8	305.6	768.1	1240.7	1267.2	785.8	664.5	462.7	758.8	602.9	233.5	114.2	94.2	668.2	1838.8
9	39.3	18.1	11.3	7.3	6.1	8.1	1.3	6.5	89.2	46.8	383.6	308.7	177.6	220.5	209.9	199.6	157.0	92.3	32.4	16.9	7.8	3.2	4.0	17.2	86.0	383.6
10	14.0	11.9	8.7	3.7	6.3	8.8	15.5	87.2	65.0	144.0	599.3	510.5	342.5	317.6	416.1	567.7	431.0	1110.5	334.2	317.3	674.3	1949.6	813.9	1012.6	406.8	1949.6
11	481.7	1251.1	937.4	2184.6	1245.4	596.9	752.8	763.0	1798.2	2194.5	1829.5	974.8	503.4	550.1	450.0	520.6	389.3	628.3	690.6	818.3	511.2	730.1	606.0	766.2	923.9	2194.5
12	676.9	571.5	628.5	233.8	83.3	289.5	58.8	110.5	142.3	34.6	96.8	27.3	45.2	82.3	41.1	13.0	27.5	3.5	1.0	0.6	0.9	1.1	1.5	1.0	132.2	676.9
13	0.8	0.6	0.6	0.7	0.7	0.5	0.3	0.3	0.3	4.4	40.8	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	X	731.4	465.0	366.9	459.9	413.0	307.8	409.7	435.0	120.9	195.5	364.6	185.1	183.9	-	-
15	124.7	7.3	5.2	34.0	1.7	15.4	7.0	59.3	127.7	100.5	252.3	283.1	153.2	287.4	190.4	209.3	232.1	112.6	42.6	6.5	8.0	3.8	2.3	1.2	94.5	287.4
16	1.6	3.1	12.7	25.4	8.0	6.6	11.0	12.7	19.5	17.8	98.8	70.2	131.0	184.3	80.4	147.4	101.9	91.6	51.5	32.8	12.5	18.7	20.4	27.8	49.5	184.3
17	18.8	12.2	10.1	4.2	2.8	5.5	15.6	58.7	76.3	104.2	148.0	227.2	227.9	153.5	121.9	152.2	114.5	60.7	4.0	3.6	3.5	7.8	23.8	10.9	65.3	227.9
18	16.1	45.6	11.0	39.1	5.4	16.0	16.5	26.4	60.5	99.8	64.0	52.3	149.3	196.3	103.4	85.2	34.9	4.0	1.1	1.2	7.7	12.9	17.3	16.7	45.1	196.3
19	26.2	52.8	20.9	17.5	18.2	27.6	53.0	58.2	98.4	60.6	44.9	137.2	436.4	428.5	138.9	119.1	41.8	5.5	1.8	6.9	8.3	8.2	14.5	24.7	77.1	436.4
20	38.3	42.3	45.2	25.1	16.5	37.7	50.9	96.7	56.2	52.9	50.3	216.5	165.4	312.7	213.5	136.9	34.9	6.0	2.3	6.8	8.8	55.2	36.3	18.2	71.9	312.7
21	12.5	30.5	34.4	16.6	19.5	12.6	22.9	282.9	593.2	190.6	461.4	441.8	73.4	61.8	43.7	54.3	17.0	16.0	12.3	10.0	17.6	37.2	21.5	28.5	104.7	593.2
22	18.5	67.7	69.1	95.9	34.4	32.5	126.3	196.9	666.0	199.1	223.8	167.7	95.4	31.5	15.0	33.5	35.9	20.9	18.0	11.9	10.1	6.1	24.8	24.1	92.7	666.0
23	21.3	15.4	54.7	41.0	39.1	15.6	32.2	61.1	37.6	63.1	30.5	47.0	111.6	62.6	44.5	46.9	25.0	34.9	24.6	37.4	35.0	38.3	41.8	34.0	41.5	111.6
24	30.4	32.7	32.6	34.2	26.9	17.7	12.6	10.5	10.2	10.1	9.8	8.7	6.8	9.1	10.2	8.4	7.9	6.8	5.7	5.4	5.3	5.5	4.9	8.6	13.4	34.2
25	13.8	13.3	8.7	11.3	10.0	10.6	9.0	7.4	11.3	16.1	78.9	118.8	191.7	248.6	183.3	280.8	167.3	87.5	66.2	13.3	14.8	32.4	65.5	6.9	69.5	280.8
26	3.1	8.2	11.8	27.6	8.4	11.6	109.7	267.4	315.4	237.9	892.8	1267.4	933.3	483.3	424.3	332.1	672.0	315.8	379.3	268.0	444.1	178.2	74.9	26.0	320.5	1267.4
27	19.2	1.9	3.2	1.4	2.1	2.0	2.5	2.9	3.3	3.2	5.0	1.4	3.2	1.8	5.4	2.9	1.9	2.9	2.3	2.6	4.0	5.3	5.6	6.7	3.9	19.2
28	7.9	8.4	8.1	8.2	7.8	6.8	6.8	7.2	7.1	11.0	14.4	19.6	14.6	18.7	11.4	7.6	4.3	8.7	7.6	3.3	13.6	1.7	2.9	1.4	8.7	19.6
29	2.7	1.4	1.5	2.2	8.0	18.4	29.4	90.7	72.1	106.0	33.5	19.6	14.4	31.1	7.3	9.1	15.5	8.5	4.7	4.4	2.5	13.8	26.6	11.2	22.3	106.0
30	8.1	10.7	6.9	3.5	10.2	13.0	17.6	22.8	68.2	123.2	447.0	108.5	20.0	4.3	3.0	3.5	47.9	17.1	10.3	9.2	12.3	7.1	13.1	9.2	41.5	447.0
31	8.0	4.5	15.5	19.0	6.6	8.4	26.3	31.2	35.2	67.8	38.6	15.3	29.1	15.9	4.8	2.6	2.1	2.6	2.0	3.1	1.9	2.0	3.8	2.6	14.5	67.8
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	97%
MEAN	108.9	113.7	83.8	111.0	75.6	55.5	60.7	93.9	202.7	241.5	268.5	309.3	231.3	215.6	173.1	182.6	162.0	165.5	130.3	121.7	139.2	174.3	121.2	117.3		
MAX	1357.4	1251.1	937.4	2184.6	1245.4	596.9	752.8	763.0	1798.2	2194.5	1829.5	1267.4	1236.9	826.7	1240.7	1267.2	966.5	1110.5	1183.3	1116.4	1472.0	1949.6	1341.6	1012.6		



Number of 24HR Exceedences	9	Proposed Guideline
Number of Non-Zero Readings	720	
Maximum 1-HR Average	2194.5 UG/M3	
Maximum 24-HR Average	923.9 UG/M3	
IZS Calibration Time		Operational Time
Monthly Calibration	0	Operational Uptime
Standard Deviation	302.0	Monthly Average
		720 HRS
		96.8 %
		152.5 UG/M3

Entrance PM_{2.5} (µg/m³) – March 2019

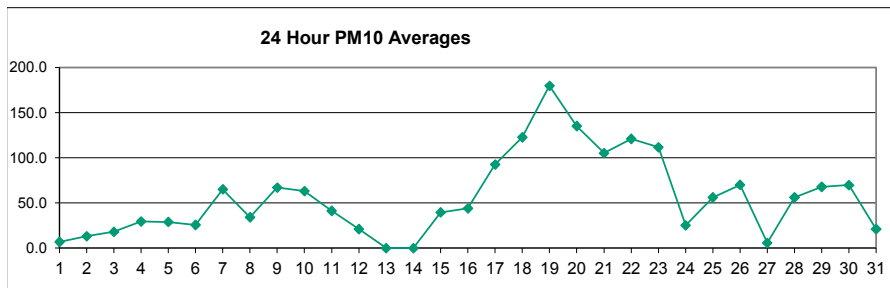
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	17.2	8.0	2.3	4.2	2.1	1.6	1.2	1.4	4.0	4.2	3.6	2.6	2.5	3.5	2.5	2.6	3.2	4.7	5.1	5.6	6.0	6.4	6.5	6.6	4.5	17.2
2	6.0	7.0	7.3	6.7	6.6	7.9	9.0	51.8	32.3	8.5	5.5	5.0	4.8	4.0	3.5	3.8	4.3	4.9	6.9	6.1	5.0	7.9	8.9	11.4	9.4	51.8
3	15.8	9.5	14.5	11.2	14.5	18.6	13.6	51.3	49.5	12.6	5.1	4.5	4.2	3.5	3.1	2.9	3.4	4.1	5.5	6.1	6.4	4.4	8.3	7.6	11.7	51.3
4	25.2	24.0	26.1	32.5	24.9	33.3	25.4	29.0	28.0	14.5	9.5	3.7	2.7	2.8	2.6	2.3	3.2	1.4	1.7	4.8	5.0	6.5	7.1	6.9	13.5	33.3
5	19.1	11.9	4.3	5.2	10.9	26.6	11.5	13.3	19.0	18.5	5.5	7.1	7.2	4.6	3.8	3.2	3.6	3.6	3.6	2.9	4.2	3.7	3.8	5.6	8.4	26.6
6	7.6	6.3	6.4	5.3	6.2	8.9	9.9	23.3	23.1	13.3	19.2	11.3	7.5	8.7	9.4	9.2	7.8	8.8	7.3	7.3	8.6	9.8	12.5	13.4	10.5	23.3
7	16.0	14.6	15.9	36.9	37.8	33.5	35.2	25.4	26.5	22.3	24.2	11.5	11.7	12.2	3.8	4.2	6.1	3.3	3.2	2.2	3.3	2.9	2.3	1.9	14.9	37.8
8	2.9	2.0	2.7	3.1	3.0	3.2	6.0	5.2	4.9	6.5	7.5	6.8	7.4	22.3	10.4	35.3	15.7	7.9	3.0	2.9	2.7	7.2	1.8	1.6	7.2	35.3
9	2.5	11.1	11.5	18.3	12.5	12.1	10.8	15.4	33.0	19.8	6.6	7.1	4.7	4.5	3.1	2.8	3.7	5.9	7.0	8.3	10.3	6.1	6.9	11.6	9.8	33.0
10	13.4	8.2	9.6	10.4	10.0	14.6	17.0	18.3	16.3	16.4	6.2	4.0	3.5	2.7	2.7	3.9	3.6	5.1	3.3	3.7	3.3	3.9	3.5	2.7	7.8	18.3
11	3.0	3.3	5.7	5.3	4.9	5.5	9.4	13.7	13.4	14.9	12.5	7.3	3.9	5.5	3.9	4.1	3.9	5.2	2.6	2.8	2.3	2.1	3.0	2.1	5.9	14.9
12	2.8	3.2	3.1	1.8	1.3	2.3	5.4	6.0	5.9	12.1	12.2	12.8	5.4	4.2	3.8	4.2	3.0	2.8	1.8	1.4	2.1	2.3	2.8	2.3	4.4	12.8
13	1.8	1.3	0.9	1.2	1.6	1.7	1.0	0.8	1.9	4.4	6.7	5.2	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	13.2	7.8	4.3	7.0	7.3	5.6	5.7	2.7	1.7	1.7	1.3	3.0	1.7	7.6	-	-
15	11.4	8.2	3.3	2.4	5.9	4.6	15.0	12.5	9.6	20.8	9.9	9.2	4.5	6.6	5.9	6.5	5.5	3.9	4.6	4.1	2.5	4.8	5.5	3.6	7.1	20.8
16	5.9	14.9	9.5	5.6	12.7	14.4	15.0	6.8	11.7	15.1	5.9	4.8	6.3	4.8	6.1	3.7	3.8	3.7	2.9	3.0	8.7	9.7	8.2	9.0	8.0	15.1
17	16.0	19.2	11.8	14.6	10.1	9.8	16.2	27.2	39.0	29.6	25.6	6.6	3.0	3.4	2.4	2.9	3.1	8.7	13.8	17.7	21.0	15.4	23.2	21.2	15.1	39.0
18	30.3	29.1	14.4	13.2	14.5	18.1	18.7	20.1	27.7	29.9	26.1	18.0	10.9	8.8	6.1	7.4	13.5	3.6	4.1	6.5	11.8	14.0	21.3	20.1	16.2	30.3
19	31.3	34.6	32.7	18.1	22.8	26.6	33.9	36.2	58.4	44.3	47.0	15.8	7.3	7.4	7.3	13.6	9.4	5.2	14.5	16.6	14.5	13.6	20.7	23.5	23.1	58.4
20	23.0	21.3	24.8	15.1	16.0	19.9	17.6	39.4	38.4	40.4	27.6	16.3	17.0	10.2	9.7	17.3	12.9	2.7	6.8	6.7	17.9	15.8	9.0	16.7	18.5	40.4
21	17.4	31.6	26.7	11.6	9.4	9.4	18.3	18.6	17.2	26.0	14.0	13.1	14.5	19.8	43.9	20.3	20.1	14.5	6.7	5.2	13.9	20.8	19.6	21.3	18.1	43.9
22	31.9	38.2	22.0	23.3	22.6	27.1	27.2	31.7	18.8	19.1	18.9	19.2	32.5	23.1	22.1	16.3	13.7	12.1	14.6	13.1	4.8	9.4	12.8	12.5	20.3	38.2
23	19.6	13.3	14.7	15.0	14.5	17.1	17.7	36.7	35.7	27.8	29.1	18.2	16.4	13.3	14.8	20.8	27.8	33.9	30.9	39.0	44.6	46.1	46.1	49.6	26.8	49.6
24	54.5	57.7	57.5	52.9	43.7	31.8	25.4	20.9	19.5	19.4	17.1	15.4	12.2	17.0	19.2	16.4	16.3	14.5	10.6	9.8	9.2	8.9	9.7	8.7	23.7	57.7
25	10.9	15.7	20.7	16.0	35.0	47.0	28.1	22.5	29.5	35.2	23.8	23.6	18.5	16.5	19.8	9.2	3.7	5.5	2.6	4.3	6.3	7.1	7.2	13.6	17.6	47.0
26	7.1	23.7	5.9	6.4	9.4	15.5	26.5	51.2	26.1	15.3	13.0	13.9	17.2	10.2	10.2	4.2	4.2	2.9	0.9	1.0	0.5	0.6	0.4	2.2	11.2	51.2
27	2.6	3.1	3.2	2.9	3.7	3.5	5.2	4.7	5.8	6.8	4.8	2.2	2.1	3.6	7.1	5.1	3.8	3.0	3.7	4.1	7.8	10.0	10.7	13.7	5.1	13.7
28	13.2	14.4	13.7	13.5	12.6	11.8	12.6	13.3	13.1	13.1	16.8	19.8	23.1	25.6	26.8	16.1	21.3	15.8	17.5	11.1	12.4	7.9	19.0	3.3	15.3	26.8
29	6.0	5.1	6.7	7.1	7.7	10.4	10.2	14.5	11.9	20.8	45.8	19.2	25.1	23.8	7.9	11.9	11.7	9.2	3.9	3.2	9.5	9.6	9.5	15.3	12.7	45.8
30	12.7	13.4	10.6	9.3	11.3	13.5	24.1	40.9	37.5	18.3	8.0	5.8	6.7	4.8	4.1	4.8	9.4	5.1	6.9	6.0	6.6	4.1	6.4	5.1	11.5	40.9
31	5.1	5.4	3.7	3.9	13.0	6.9	7.1	8.6	8.6	11.9	9.1	6.9	6.1	6.7	4.6	4.3	3.7	5.1	6.2	6.7	4.8	4.2	5.3	6.3	6.4	13.0
NO.	30	30	30	30	30	30	30	30	30	30	31	31	30	30	30	30	30	30	30	30	30	30	30	30	722	97%
MEAN	14.4	15.3	13.1	12.4	13.4	15.2	15.8	22.0	22.2	18.7	15.5	10.5	9.8	9.7	9.3	8.8	8.4	7.0	6.8	7.1	8.6	8.9	10.1	10.9		
MAX	54.5	57.7	57.5	52.9	43.7	47.0	35.2	51.8	58.4	44.3	47.0	23.6	32.5	25.6	43.9	35.3	27.8	33.9	30.9	39.0	44.6	46.1	46.1	49.6		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	722	
Maximum 1-HR Average	58.4 UG/M3	
Maximum 24-HR Average	26.8 UG/M3	
Monthly Calibration	0	Operational Time
Standard Deviation	10.61	Operational Uptime
		Monthly Average
		722 HRS
		97.0 %
		12.2 UG/M3

Entrance PM₁₀ (µg/m³) – March 2019

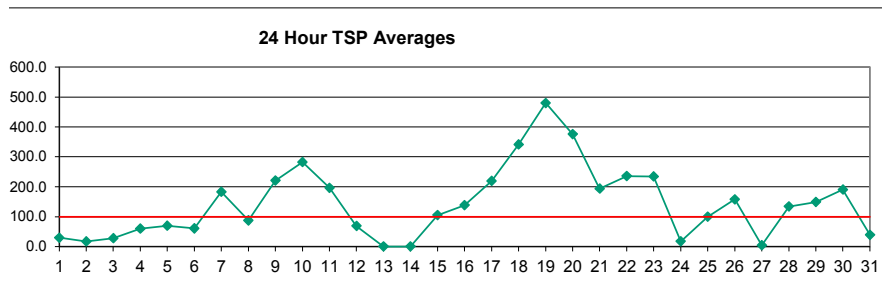
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	25.3	11.6	2.8	5.5	2.6	1.9	1.4	1.6	5.6	6.0	5.0	3.5	3.3	10.8	5.5	6.5	4.8	12.4	11.3	7.6	7.6	8.0	8.7	9.3	7.0	25.3
2	8.4	9.5	10.5	9.5	8.8	10.9	12.8	64.5	40.5	12.5	10.9	8.6	7.8	5.2	4.1	5.9	5.9	7.5	15.9	8.4	7.2	11.1	12.8	15.8	13.1	64.5
3	20.2	13.6	21.4	16.0	21.5	27.9	20.4	61.9	72.7	27.5	10.9	8.7	7.9	7.3	7.0	7.5	6.2	8.0	12.0	12.3	11.1	10.9	12.8	11.2	18.2	72.7
4	37.7	36.0	39.1	48.7	43.8	49.9	38.0	43.4	117.6	69.0	43.6	11.5	7.8	9.2	9.6	8.9	27.4	3.6	4.4	9.0	7.6	20.1	10.5	10.3	29.5	117.6
5	28.5	28.9	5.8	7.6	32.0	99.1	20.1	19.4	87.7	136.2	21.7	31.8	28.1	18.9	17.0	9.2	11.1	12.3	13.4	10.1	15.4	10.8	13.1	20.2	29.1	136.2
6	18.3	12.9	9.0	7.6	9.1	13.2	14.9	35.0	34.6	46.8	86.6	47.1	27.5	40.4	36.5	36.7	26.2	25.9	17.9	13.2	13.1	12.7	17.3	18.4	25.9	86.6
7	23.2	20.0	22.3	75.2	163.9	163.7	179.9	103.6	128.5	111.9	112.0	48.8	77.3	89.8	22.7	32.9	47.3	23.0	25.3	16.4	24.1	24.3	15.2	12.5	65.2	179.9
8	19.7	12.5	19.9	13.3	13.2	14.7	30.1	26.2	29.3	33.7	42.0	35.4	40.8	105.5	48.7	163.6	67.8	38.0	12.6	9.8	7.1	30.6	4.7	3.7	34.3	163.6
9	9.4	90.1	90.2	121.1	83.0	86.6	65.7	118.1	308.7	185.6	34.5	36.3	26.9	26.4	12.0	13.1	16.6	21.1	22.7	31.9	48.5	29.7	43.0	93.8	67.3	308.7
10	117.7	59.4	82.0	83.9	82.4	118.8	170.0	146.7	156.7	162.7	46.0	24.3	14.0	12.1	14.7	20.4	22.3	39.7	23.2	30.7	23.9	28.9	23.2	15.7	63.3	170.0
11	17.7	23.4	56.0	48.7	41.0	47.5	76.9	102.9	102.5	109.8	94.6	51.0	18.7	26.8	19.2	19.1	23.9	26.0	13.6	16.9	13.4	12.5	17.8	15.9	41.5	109.8
12	20.0	30.0	25.2	11.6	5.9	11.4	24.6	30.4	29.2	74.1	83.3	70.8	31.4	17.6	10.2	8.2	4.1	3.8	2.2	1.6	2.5	2.7	3.2	2.8	21.2	83.3
13	2.1	1.7	1.1	1.4	2.0	2.0	1.2	0.9	2.7	6.4	28.2	19.8	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	104.9	45.7	28.8	41.2	34.1	24.2	28.7	10.3	6.4	6.0	3.9	14.9	4.2	35.0	-	-
15	59.1	39.1	12.7	9.6	31.6	24.5	100.0	83.1	70.6	154.0	61.9	51.5	22.2	29.6	26.4	30.3	20.6	12.6	20.9	16.6	9.9	22.9	28.0	13.7	39.6	154.0
16	27.0	77.0	47.6	23.7	77.6	111.4	105.8	59.4	93.4	132.6	30.4	16.6	22.1	12.5	16.3	6.8	6.5	5.9	4.3	4.7	23.7	54.4	45.7	54.9	44.2	132.6
17	100.1	150.5	78.9	79.5	51.0	59.7	99.0	212.2	292.6	162.4	137.6	27.1	6.2	16.4	6.0	8.0	8.5	46.3	67.5	100.3	116.6	92.9	172.2	134.1	92.7	292.6
18	236.3	225.2	85.8	84.6	96.0	130.9	123.1	160.3	209.9	291.4	239.6	128.6	69.3	51.8	37.3	46.9	97.9	24.8	18.3	47.9	87.2	92.5	192.1	172.5	122.9	291.4
19	315.2	288.3	206.3	120.4	149.9	160.4	255.0	310.1	552.9	421.2	392.4	107.3	48.3	40.2	46.4	82.6	57.1	23.6	107.0	114.0	82.3	95.0	158.7	178.4	179.7	552.9
20	160.5	138.5	188.2	99.3	102.9	150.6	136.5	399.8	340.4	331.8	218.4	122.6	129.5	63.7	57.1	111.0	84.4	10.2	24.1	41.1	133.8	84.6	31.2	86.3	135.3	399.8
21	92.5	220.0	178.0	52.1	35.1	38.4	86.8	92.6	96.7	148.3	72.4	68.1	87.2	128.6	295.0	155.9	141.6	93.5	34.6	19.9	79.5	144.7	67.8	94.8	105.2	295.0
22	157.1	193.1	94.1	125.4	140.2	162.0	155.1	239.2	71.1	77.7	96.2	114.5	229.4	164.5	184.3	127.1	106.8	95.9	103.4	94.3	15.8	45.4	58.4	58.0	121.2	239.2
23	112.1	72.5	84.9	89.6	87.8	93.8	116.3	318.8	297.7	224.6	227.2	106.8	114.5	90.1	104.8	77.1	72.5	74.7	45.9	46.0	56.2	55.4	56.1	56.3	111.7	318.8
24	63.7	63.4	61.0	55.0	45.0	32.2	25.6	21.4	19.5	19.5	17.5	15.6	12.8	19.6	21.2	19.3	19.5	16.8	11.9	10.4	9.5	9.0	10.1	8.9	25.4	63.7
25	11.5	21.7	30.9	22.1	51.3	70.4	42.2	33.8	44.2	98.9	108.0	135.0	119.3	115.6	135.7	59.8	22.8	31.5	6.9	19.5	31.7	35.5	34.4	70.3	56.4	135.7
26	30.5	113.3	20.3	22.1	46.6	84.4	168.1	331.0	176.2	71.2	91.6	106.7	155.8	71.9	113.9	22.0	20.1	16.4	3.8	3.5	2.4	2.6	1.5	5.6	70.1	331.0
27	4.6	4.1	3.8	3.3	4.1	3.7	5.5	5.5	7.2	8.8	5.5	2.6	2.3	4.3	9.3	6.5	4.5	3.4	4.1	4.4	7.9	10.6	11.1	14.3	5.9	14.3
28	13.9	15.6	14.1	14.0	13.0	12.4	13.7	14.3	14.8	15.3	34.4	69.6	119.1	166.3	200.0	93.6	131.5	98.7	132.1	59.8	21.7	44.8	34.3	3.8	56.3	200.0
29	8.7	6.5	8.7	9.7	10.7	15.5	15.3	36.6	57.1	135.8	337.2	130.2	175.0	149.6	47.9	84.0	81.5	64.8	16.8	8.0	66.4	55.9	19.5	87.7	67.9	337.2
30	62.2	76.5	51.8	42.6	54.8	59.4	143.4	334.0	301.6	117.8	35.2	27.6	29.8	21.2	17.4	20.7	87.6	30.4	38.9	27.2	26.5	10.4	34.3	23.5	69.8	334.0
31	13.5	20.2	11.4	11.6	87.0	31.4	20.4	29.1	29.8	54.4	31.7	29.5	29.4	39.0	13.4	5.0	4.1	5.5	6.4	8.3	5.4	4.7	6.0	7.1	21.0	87.0
NO.	30	30	30	30	30	30	30	30	30	30	31	31	30	30	30	30	30	30	30	30	30	30	30	30	722	97%
MEAN	60.6	69.2	52.1	43.8	53.1	62.9	75.6	114.5	126.4	114.9	92.3	54.9	56.4	53.2	52.5	43.8	42.0	29.6	27.6	26.7	32.1	36.0	38.3	44.5		
MAX	315.2	288.3	206.3	125.4	163.9	163.7	255.0	399.8	552.9	421.2	392.4	135.0	229.4	166.3	295.0	163.6	141.6	98.7	132.1	114.0	133.8	144.7	192.1	178.4		



Number of Non-Zero Readings	722
Maximum 1-HR Average	552.9 UG/M3
Maximum 24-HR Average	179.7 UG/M3
Monthly Calibration	0
Standard Deviation	69.92
Operational Time	722 HRS
Operational Uptime	97.0 %
Monthly Average	58.5 UG/M3

Entrance TSP (µg/m³) – March 2019

Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	29.1	13.1	2.0	3.7	1.8	1.3	0.9	1.1	4.4	4.9	4.3	2.9	2.9	176.4	22.9	23.0	25.5	200.0	128.0	30.0	6.1	6.5	8.5	9.5	29.5	200.0
2	7.4	8.7	11.0	8.8	8.2	10.3	13.1	67.6	31.2	22.8	19.8	14.3	21.2	11.9	3.7	10.6	12.4	17.6	36.5	12.3	7.2	11.2	13.4	14.9	16.5	67.6
3	18.1	13.5	23.3	15.0	22.8	31.7	21.8	52.1	145.0	85.9	19.0	16.4	17.0	12.0	15.5	11.8	10.6	22.7	30.2	26.8	15.7	15.1	12.9	11.0	27.8	145.0
4	42.3	40.1	44.7	56.1	60.2	57.8	43.9	50.0	525.2	161.3	85.2	26.6	16.5	16.6	25.7	22.0	62.0	12.3	7.4	10.0	8.8	29.6	11.3	10.7	59.4	525.2
5	31.7	59.2	4.6	7.0	47.5	161.4	26.5	20.0	263.1	377.9	42.3	56.0	73.4	92.8	85.9	49.3	41.2	37.6	36.1	27.9	40.0	25.5	23.9	36.8	69.5	377.9
6	31.1	12.8	7.4	6.3	9.0	12.5	15.5	36.8	39.2	68.7	216.6	152.4	81.3	162.8	149.4	140.0	91.0	75.3	60.8	28.7	18.8	9.7	13.9	16.1	60.7	216.6
7	23.2	17.0	16.7	132.4	337.5	659.9	559.7	219.5	211.3	244.0	223.0	113.9	262.1	288.2	68.4	118.9	185.1	104.1	125.3	79.7	133.4	113.5	82.4	64.6	182.7	659.9
8	113.7	68.3	120.5	57.6	46.5	41.8	81.3	111.6	123.4	132.2	144.2	103.9	119.6	153.2	114.8	223.7	115.9	84.0	29.7	18.4	10.6	62.1	13.2	8.0	87.4	223.7
9	24.4	437.2	339.1	389.1	299.8	287.0	181.2	375.8	1009.4	643.3	118.7	85.7	69.0	61.9	31.0	30.8	47.4	75.9	53.9	55.1	62.9	61.6	140.0	419.6	220.8	1009.4
10	483.3	205.3	387.9	388.3	392.1	492.9	825.8	591.4	665.7	806.9	204.3	97.4	41.9	40.0	59.8	80.7	105.6	151.4	130.1	174.4	135.0	136.1	112.6	71.9	282.5	825.8
11	76.2	129.4	284.1	275.7	225.8	233.8	361.2	448.7	476.0	448.1	403.7	211.8	78.6	97.3	74.2	65.0	100.6	143.9	97.5	107.4	80.4	74.7	109.8	110.8	196.4	476.0
12	168.6	204.7	179.2	70.5	21.6	43.4	61.3	74.4	76.0	159.6	204.0	123.4	151.7	67.8	17.9	7.5	3.3	3.1	1.6	1.1	1.8	1.9	2.3	1.9	68.7	204.7
13	1.5	1.2	0.7	0.9	1.4	1.3	0.8	0.7	2.7	6.7	40.9	23.4	X	X	X	X	X	X	X	X	X	X	X	X	-	-
14	X	X	X	X	X	X	X	X	X	X	555.3	237.8	132.6	165.6	101.7	89.0	92.6	38.6	22.1	12.0	12.6	36.6	12.1	120.8	-	-
15	108.4	91.3	25.4	26.3	130.1	83.0	278.8	308.1	193.9	358.8	150.6	162.2	59.1	80.6	65.1	68.9	51.8	23.8	53.2	30.2	21.1	45.6	81.4	23.6	105.1	358.8
16	57.4	200.3	171.9	80.5	249.6	398.2	339.8	262.1	345.2	462.8	91.9	32.2	41.2	25.4	23.0	9.8	9.4	10.2	3.9	4.3	46.5	164.1	125.8	166.1	138.4	462.8
17	230.4	396.5	241.1	179.8	150.5	177.1	304.5	672.7	823.0	282.5	249.7	64.8	11.2	35.1	14.4	17.6	13.5	63.2	96.3	115.0	142.8	171.7	481.7	330.6	219.4	823.0
18	600.4	610.1	180.0	245.0	309.3	391.2	355.0	602.0	696.0	1012.2	696.2	300.9	169.6	125.6	78.7	100.7	197.1	65.0	27.8	61.7	105.8	215.7	584.3	459.1	341.2	1012.2
19	953.5	740.3	472.7	304.0	482.7	448.2	769.6	988.8	1667.1	1230.1	1001.1	215.8	103.7	90.1	88.0	143.2	97.0	56.6	168.7	153.8	121.8	210.8	445.8	559.7	479.7	1667.1
20	498.8	425.8	536.0	329.7	318.3	511.9	479.7	1374.6	1063.0	945.4	595.8	312.1	308.2	135.3	111.7	223.0	153.5	32.1	65.4	97.4	228.6	117.5	31.5	122.6	375.7	1374.6
21	167.5	322.2	243.5	87.8	67.3	70.0	169.6	197.5	235.9	282.7	126.1	105.9	147.8	241.0	571.2	395.3	310.0	200.9	100.2	33.9	117.0	189.0	79.4	173.4	193.1	571.2
22	240.8	332.8	162.6	268.8	350.8	367.0	356.6	581.1	103.1	89.2	175.2	214.7	367.0	311.8	434.4	266.6	249.4	202.1	172.8	130.5	35.2	63.9	69.4	100.4	235.3	581.1
23	213.4	138.6	195.4	196.0	200.9	193.1	301.2	870.8	714.1	510.2	456.9	182.1	242.3	152.2	267.2	199.6	144.9	142.4	59.2	38.7	53.9	51.7	51.6	37.4	233.9	870.8
24	45.3	42.7	40.2	36.1	29.2	20.8	16.6	13.8	12.6	12.6	11.3	10.1	8.5	14.0	15.0	13.8	14.4	12.4	8.4	7.0	6.1	5.8	6.6	5.8	17.1	45.3
25	7.5	18.2	29.6	18.4	54.3	78.8	47.0	35.7	50.1	160.6	225.7	301.1	250.3	264.6	320.3	136.9	57.8	65.2	7.3	20.7	34.6	56.6	72.7	82.2	99.8	320.3
26	31.5	104.1	25.6	37.5	65.7	135.8	236.4	538.3	377.2	116.4	219.9	332.3	576.9	245.1	476.2	85.9	75.3	69.3	11.1	7.7	5.5	4.7	3.6	10.5	158.0	576.9
27	6.2	2.9	2.5	2.2	2.7	2.4	3.6	3.7	5.6	6.8	3.8	1.7	1.5	3.1	6.8	5.2	3.1	2.2	2.7	2.9	5.2	7.2	7.3	9.5	4.2	9.5
28	9.3	10.8	9.3	9.1	8.4	8.0	8.9	9.4	10.5	14.1	55.1	202.4	371.6	522.1	657.2	241.3	335.3	179.4	322.4	77.7	29.3	83.3	44.1	2.8	134.3	657.2
29	7.9	5.5	8.2	9.0	10.4	16.8	16.0	50.0	107.4	305.2	765.3	277.6	391.1	317.9	115.1	229.7	206.1	149.7	60.6	16.1	190.7	119.2	29.6	157.3	148.4	765.3
30	142.4	241.5	137.4	109.3	172.9	135.4	386.9	1034.5	885.4	254.2	59.9	49.9	54.0	48.3	38.7	44.9	380.6	90.3	100.3	62.1	47.6	10.5	53.5	28.2	190.4	1034.5
31	19.0	32.2	29.2	25.1	152.8	47.9	30.4	43.0	49.7	123.2	65.2	45.8	91.8	117.0	33.3	3.3	2.7	3.6	4.2	5.5	3.5	3.1	3.9	4.6	39.2	152.8
NO.	30	30	30	30	30	30	30	30	30	30	31	31	30	30	30	30	30	30	30	30	30	30	30	30	722	97%
MEAN	146.3	164.2	131.1	112.5	141.0	170.7	209.8	321.2	363.7	311.0	233.3	131.5	142.1	135.9	136.2	101.9	106.5	77.8	67.5	48.3	57.6	70.2	90.9	105.7		
MAX	953.5	740.3	536.0	389.1	482.7	659.9	825.8	1374.6	1667.1	1230.1	1001.1	332.3	576.9	522.1	657.2	395.3	380.6	202.1	322.4	174.4	228.6	215.7	584.3	559.7		



Number of 24HR Exceedences	17	Proposed Guideline	
Number of Non-Zero Readings	722		
Maximum 1-HR Average	1667.1 UG/M3		
Maximum 24-HR Average	479.7 UG/M3		
		Operational Time	722 HRS
Monthly Calibration	0	Operational Uptime	97.0 %
Standard Deviation	204.6	Monthly Average	149.1 UG/M3