

LAFARGE CANADA INC.

AMBIENT AIR QUALITY MONTHLY REPORT DECEMBER 2020

JANUARY 14, 2021





AMBIENT AIR QUALITY MONTHLY REPORT

DECEMBER 2020

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-04
DATE: JANUARY 14, 2021

WSP
SUITE 1000
840 HOWE STREET
VANCOUVER, BC, CANADA V6Z 2M1

T: +1 604 685-9381
F: +1 604 683-8655
WSP.COM



January 11, 2021

LAFARGE CANADA INC.
Highway 1A
Exshaw, AB T0L 2C0

Attention: Janet Brygger

Dear Ms. Brygger

Subject: Ambient Air Quality Monthly Report – December 2020

At the Lagoon station, all meteorological sensors, as well as the NO₂ and SO₂ analyzers, recorded 99.6% uptime during the month of December due to three hours of power failure, occurring on December 22nd from 18:00 – 20:00. PM₁₀ and PM_{2.5} recorded 99.2% uptime during the month of December due to six hours of power failure occurring on December 22nd from 18:00 – 23:00. TSP recorded 96.1% uptime during the month of December, due to twenty-three hours of equipment malfunction, occurring from December 11th at 14:00 – December 12th at 12:00, and a further six hours of power failure, occurring on December 22nd from 18:00 – 23:00. 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 December at the Lagoon monitoring location.

At the Windridge Station, all analyzers had 99.2% uptime for the month of December, due to six hours of power failure, occurring on December 22nd from 18:00 – 23:00. There were 6 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 westerly 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: 99.1% at the West monitor due to two hours of equipment malfunction on December 4th at 14:00 – 15:00, and a further five hours of power failure on December 22nd from 17:00 – 21:00; 100% at the Berm monitor; and 97.2% at the Entrance monitor due to 21 hours of power failure occurring on December 22nd at 18:00 to December 23rd at 14:00.

The West GRIMM monitor recorded zero exceedances of the 24-hour TSP AAAQG and zero exceedances of the 24-hour PM_{2.5} AAAQG. The Berm GRIMM had 16 exceedances of the TSP AAAQG and 2 exceedances of the 24-hour PM_{2.5} AAAQG. The Entrance GRIMM monitor exceeded the 24-hour TSP AAAQG for 14 days and did not exceed the 24-hour PM_{2.5} AAAQG.

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,

SUITE 1000
840 HOWE STREET
VANCOUVER, BC, CANADA V6Z 2M1

T: +1 604 685-9381
F: +1 604 683-8655
wsp.com



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

SIGNATURES

PREPARED BY



January 14, 2021

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

Date

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



January 14, 2021

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

Date

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1 INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon, Windridge, and GRIMM monitors in Exshaw, AB. The stations are operated by WSP on behalf of Lafarge Canada Inc. (Lafarge) and are a requirement of Lafarge's Approval 1702-02-04. This report contains data collected between December 1, 2020 and December 31, 2020.

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

1.1 EXSHAW CREEK FLOOD MITIGATION

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



Figure 1 Photo of Completed Flood Mitigation Work at Exshaw Creek

2 DECEMBER 2020 REPORT SUMMARY

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

2.1 LAGOON STATION

Table 2-1 Lagoon station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
NO ₂ (ppb)	99.6	22.7	0	12.2	-
SO ₂ (ppb)	99.6	6.3	0	2.3	0
PM _{2.5} (µg/m ³)	99.2	22.3	0*	6.4	0
PM ₁₀ (µg/m ³)	99.2	382.8	-	62.1	-
TSP (µg/m ³)	96.1	459.1	-	76.2	0
Temperature (°C)	99.6	11.8	-	9.2	-
Wind Speed (km/hr) /Direction (Degrees)	99.6	61.6/W	-	42.9/WSW	-
Precipitation (mm)	99.6	2.5*	-	14.5*	-

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:

- At the Lagoon station, all meteorological sensors, as well as the NO₂ and SO₂ analyzers, recorded 99.6% uptime during the month of December due to three hours of power failure, occurring on December 22nd from 18:00 – 20:00. PM₁₀ and PM_{2.5} recorded 99.2% uptime during the month of December due to six hours of power failure occurring on December 22nd from 18:00 – 23:00. TSP recorded 96.1% uptime during the month of December, due to twenty-three hours of equipment malfunction, occurring from December 11th at 14:00 – December 12th at 12:00, and a further six hours of power failure, occurring on December 22nd from 18:00 – 23:00.

2.2 WINDRIDGE STATION

Table 2-2 Windridge station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
PM _{2.5} (µg/m ³)	99.2	51.0	0*	11.3	0
PM ₁₀ (µg/m ³)	99.2	485.0	-	224.7	-
TSP (µg/m ³)	99.2	985.0	-	275.5	6

* 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 exceedance of the 1-hour PM_{2.5} AAAQG.
- There were 6 days exceeding the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- At the Windridge Station the analyzers had 99.2% uptime for the month of December due to six hours of power failure occurring on December 22nd from 18:00 – 23:00.

2.3 WEST GRIMM

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

Table 2-3 West station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} (µg/m ³)	99.1	20.2	0*	6.3	0
PM ₁₀ (µg/m ³)	99.1	28.9	-	7.9	-
TSP (µg/m ³)	99.1	27.4	-	7.6	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 99.1% uptime for the month of December, due to two hours of equipment malfunction on December 4th at 14:00 – 15:00. And further, five hours of power failure on December 22nd from 17:00 – 21:00.

2.4 BERM GRIMM

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

Table 2-4 Berm station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} (µg/m ³)	100.0	219.9	12*	67.9	2
PM ₁₀ (µg/m ³)	100.0	1879.7	-	572.9	-
TSP (µg/m ³)	100.0	3952.6	-	1693.8	16

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

Data Quality Notes:

- There were 2 exceedances of the 24-hour PM_{2.5} AAAQG.
- There were 12 exceedances of the 1-hour PM_{2.5} AAAQG.
- There were 16 days exceeding the 24-hour TSP AAAQG.

Calibration/Maintenance Notes:

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

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)	97.2	46.3	0*	28.3	0
PM ₁₀ (µg/m ³)	97.2	369.1	-	201.8	-
TSP (µg/m ³)	97.2	3482.9	-	639.9	14

* 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 exceedance of the 24-hour PM_{2.5} AAAQG.
- There were no exceedances of the 1-hour PM_{2.5} AAAQG.
- There were 14 days exceeding the 24-hour TSP AAAQG.

Calibration/Maintenance Notes:

- The analyzer had 97.2% uptime for the month of December, due to 21 hours of power failure occurring on December 22nd at 18:00 to December 23rd at 14:00.

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 December 2020.

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

3.1 OPERATIONAL SUMMARY

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

Table 3-1 Instrumentation List at the Lagoon Station

Parameter Measured	Equipment Description	Notes
PM_{2.5} Concentrations	MetOne BAM-1020 FRM Continuous Particulate Monitor	The PM _{2.5} monitor was calibrated on December 3 rd . The monitor had 99.2% uptime in December, due to due to six hours of power failure occurring on December 22 nd from 18:00 – 23:00.
PM₁₀ Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM ₁₀ monitor was calibrated on December 3 rd . The monitor had 99.2% uptime in December, due to due to six hours of power failure occurring on December 22 nd from 18:00 – 23:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on December 3 rd . The monitor had 96.1% uptime in December, due to, twenty-three hours of equipment malfunction, occurring from December 11th at 14:00 – December 12th at 12:00. And further, six hours of power failure, occurring on December 22nd from 18:00 – 23:00.
Oxides of Nitrogen	TEI 42C	The NO _x monitor was calibrated on December 3 rd . The monitor had 99.6% uptime for the month of December, due to three hours of power failure, occurring on December 22 nd from 18:00 – 20:00.
Sulphur Dioxide	Teledyne API 102A	The SO ₂ monitor was calibrated on December 3 rd . The monitor had 99.6% uptime for the month of December, due to three hours of power failure, occurring on December 22 nd from 18:00 – 20:00.

Precipitation	MetOne 130 Rain/Snow Gauge	The monitor had 99.6% uptime for the month of December due to three hours of equipment malfunction on December 22 nd from 18:00 – 20:00.
Wind Speed	MetOne Wind Sensor	The monitor had 99.6% uptime for the month of December due to three hours of equipment malfunction on December 22 nd from 18:00 – 20:00.
Wind Direction		
Ambient Temperature	MetOne Ambient Temperature Sensor	The monitor had 99.6% uptime for the month of December due to three hours of equipment malfunction on December 22 nd from 18:00 – 20:00.



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. The wind rose indicates that the winds predominantly came from the west direction, which is typical for the airshed.

Table 3-2 summarizes the hourly and daily concentrations recorded in December 2020.

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 December 2020 for the pollutants listed in Table 3-2. Additionally, Figure 3-4 to Figure 3-8 show the histograms of the hourly concentrations of NO₂, SO₂, PM_{2.5}, PM₁₀, and TSP measured at the Lagoon station.

There were no exceedances of the 24-hour TSP (100 µg/m³) AAAQO. There were no exceedances of the 24-hour PM_{2.5} (29 µg/m³) AAAQO. Further, there was no exceedance of the 1-hour PM_{2.5} AAAQG (80 µg/m³).

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

Table 3-2 Summary of December 2020 data at Lagoon

Parameter	Guideline / Objectives		Station	Exceedances		Monthly		1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable	Day	
NO ₂ (ppb)	159	-	Lagoon	0	-	1.0	7.2	22.7	28	21	8.0	346.7	12.2	11	99.6
SO ₂ (ppb)	172	48	Lagoon	0	0	0.0	0.4	6.3	24	4	31.3	295.2	2.3	24	99.6
PM _{2.5} (µg/m ³)	80	29	Lagoon	0	0	0.0	3.3	22.3	9	16	6.1	245.8	6.4	31	99.2
PM ₁₀ (µg/m ³)	-	-	Lagoon	-	-	0.0	23.0	382.8	19	10	39.3	268.9	62.1	19	99.2
TSP (µg/m ³)	-	100	Lagoon	-	0	0.2	31.0	459.1	19	10	39.3	268.9	76.2	19	96.1
Temperature (°C)	-	-	Lagoon	-	-	-16.1	-2.1	11.8	7	11	38.4	267.0	9.2	7	99.6
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	1.9	22.4	61.6/W	18	22	61.6	254.5	42.9/WSW	19	99.6
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.0	2.5	3	13	33.7	327.6	14.5	-	99.6

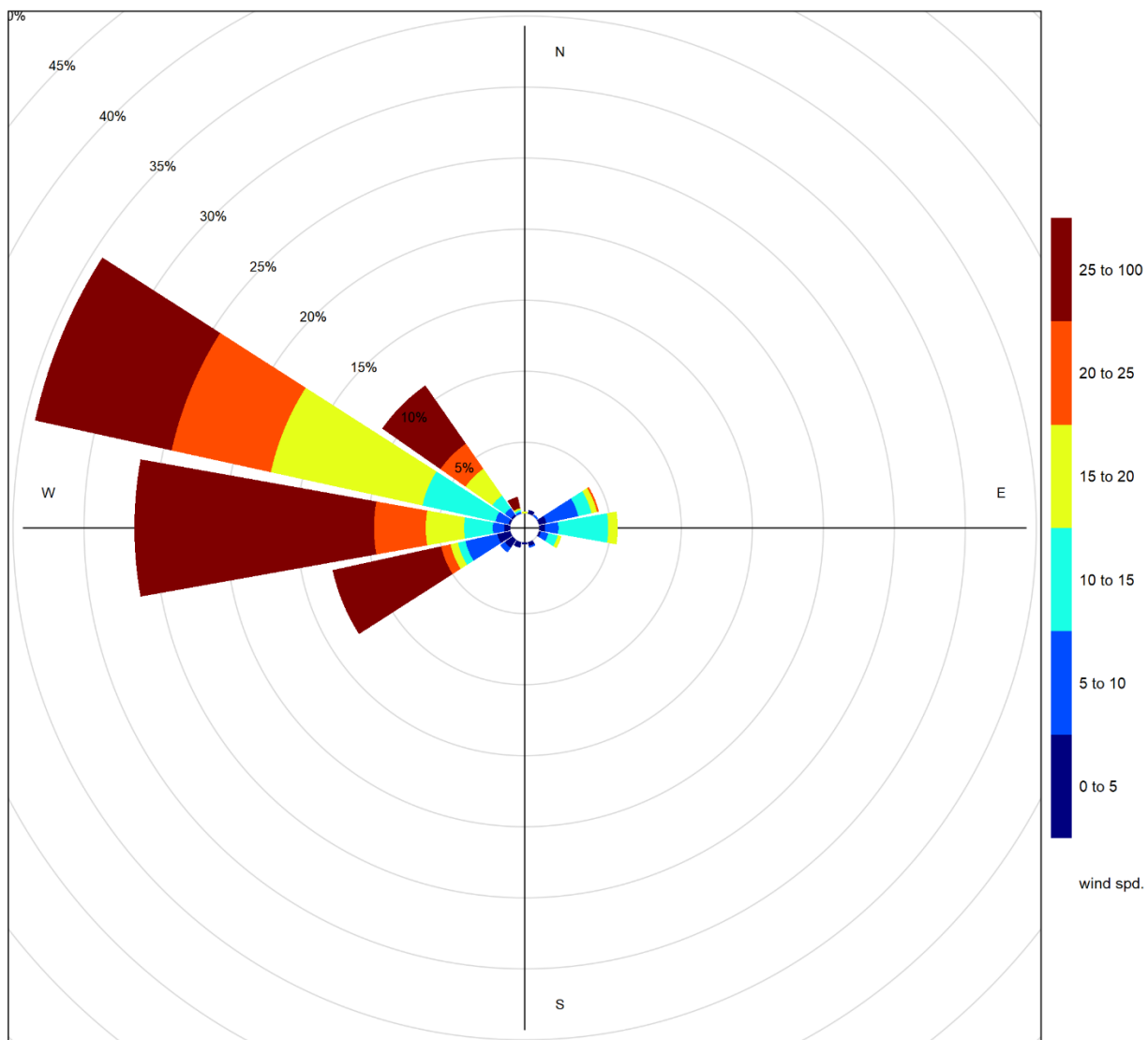


Figure 3-2 December 2020 wind rose for the Lagoon Station

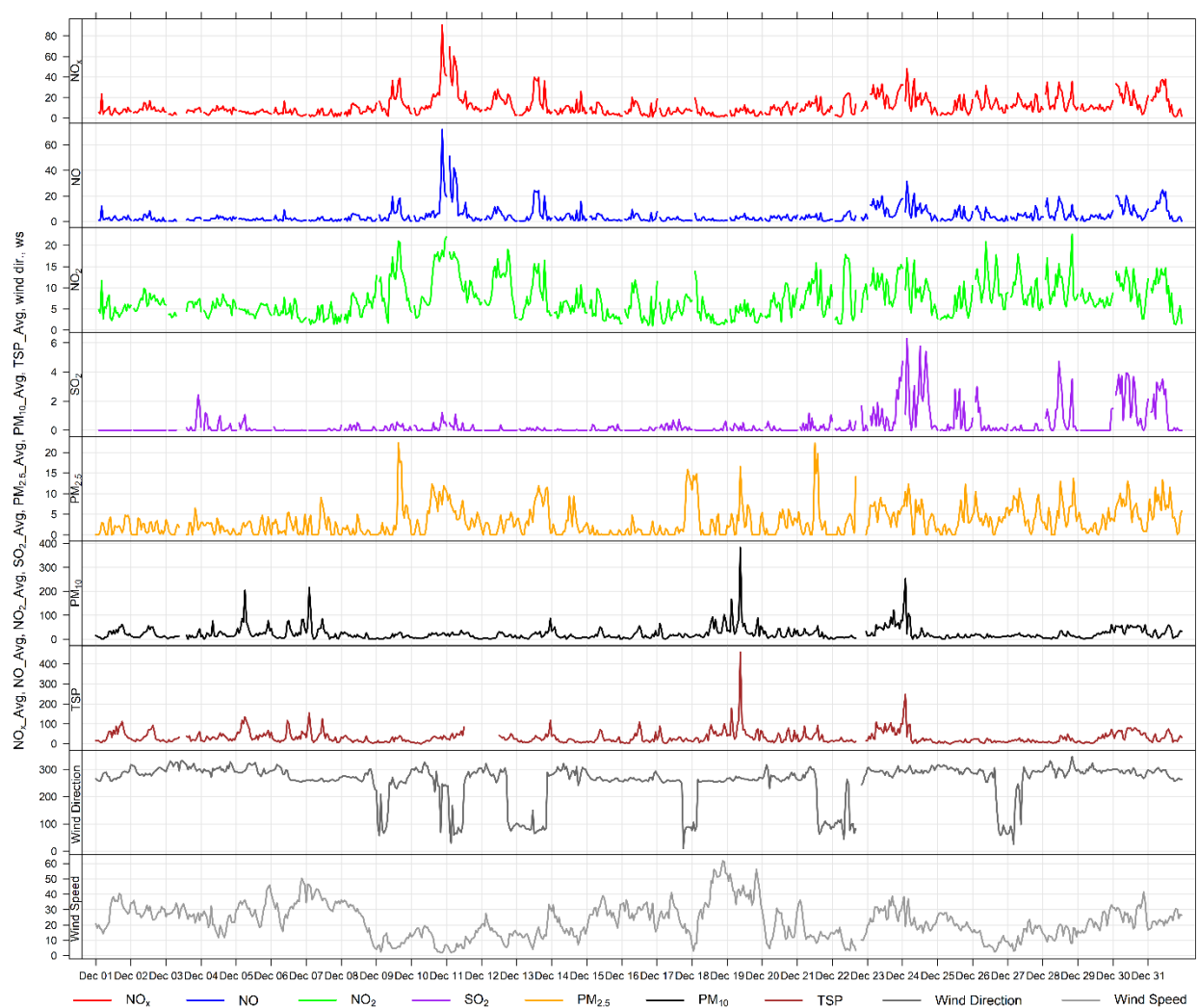


Figure 3-3 1-hour concentrations of NO_x , SO_2 , particulate matter, wind direction and wind speed at the Lagoon station

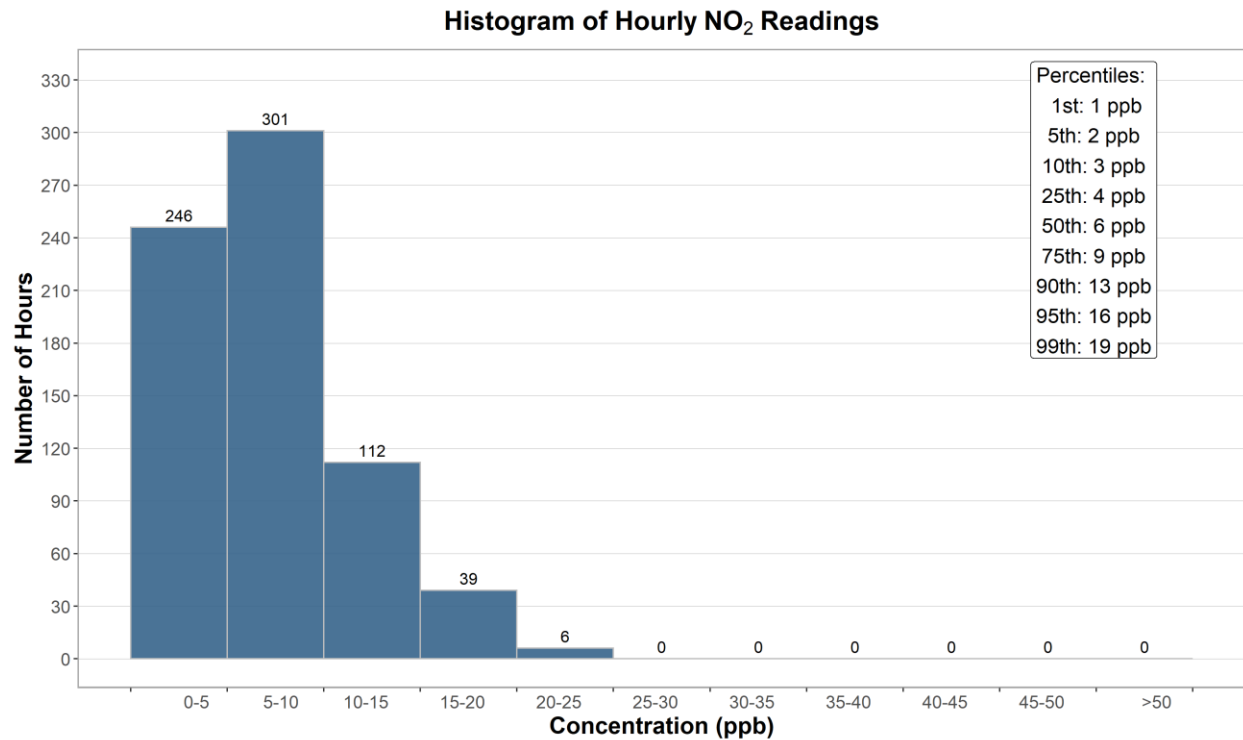


Figure 3-4 Histogram of hourly NO₂ concentrations at the Lagoon station

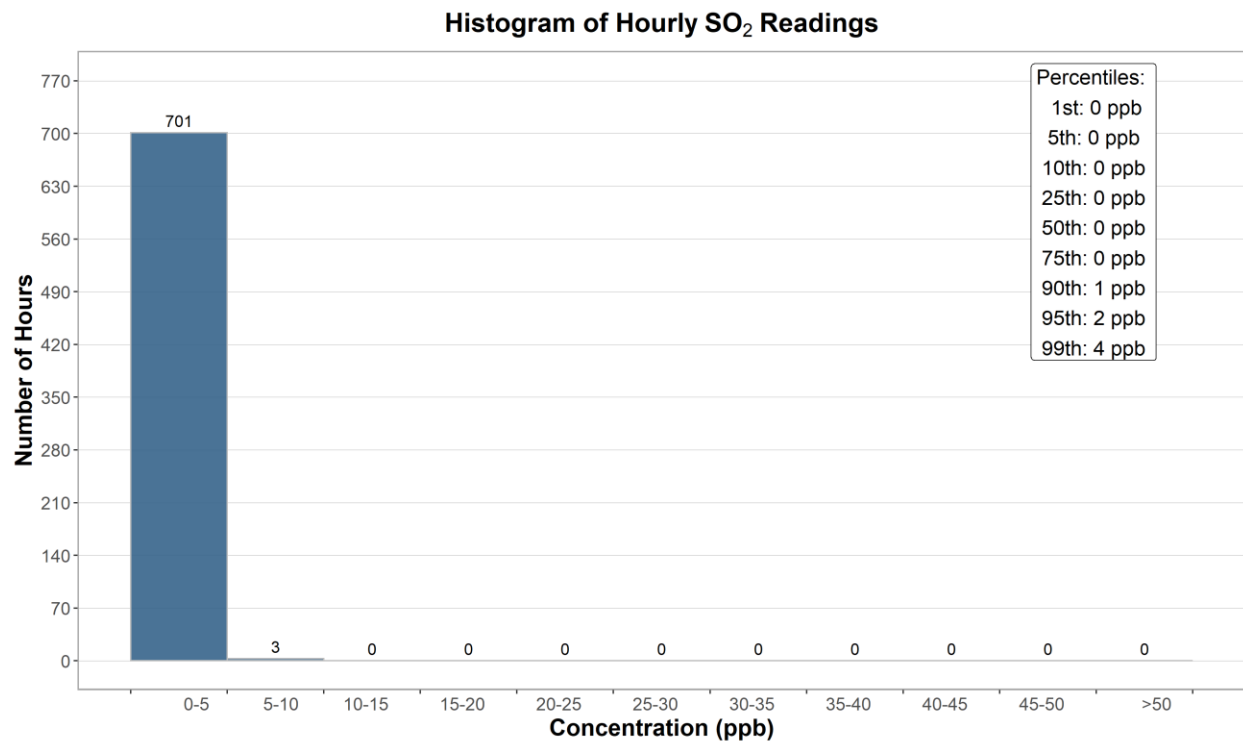


Figure 3-5 Histogram of hourly SO₂ concentrations at the Lagoon station

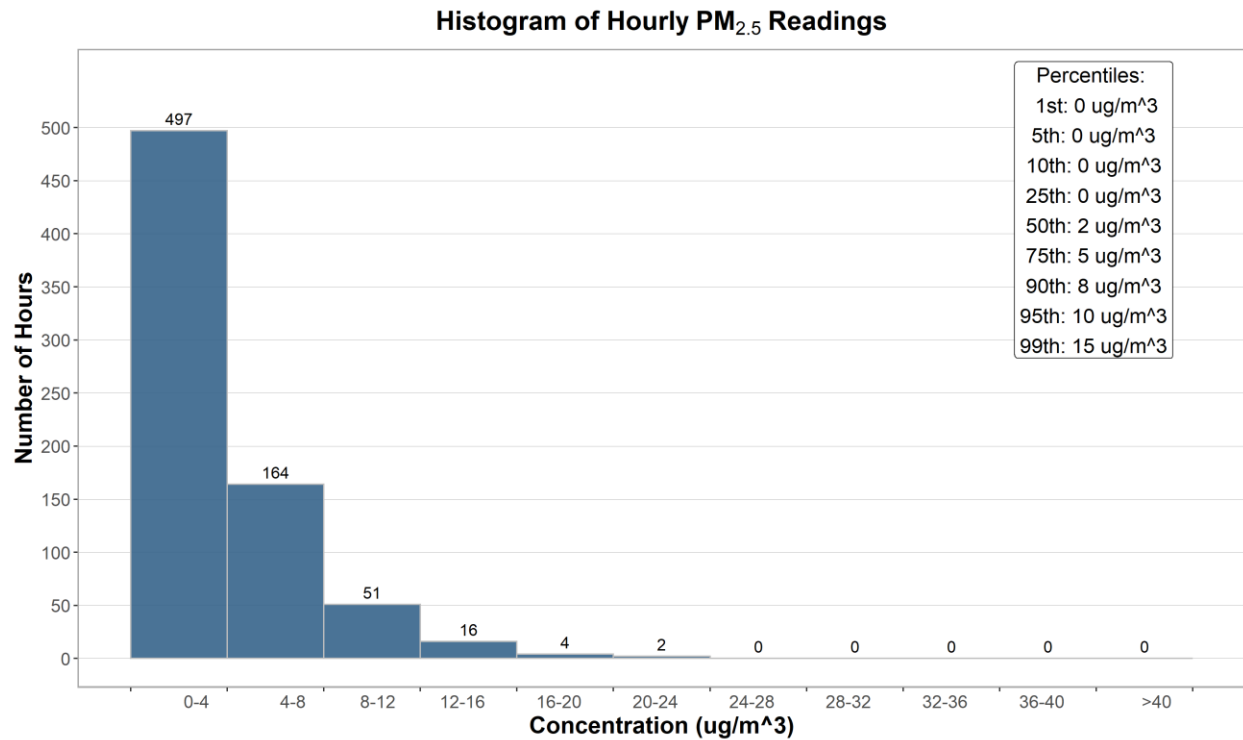


Figure 3-6 Histogram of hourly PM_{2.5} concentrations at the Lagoon station

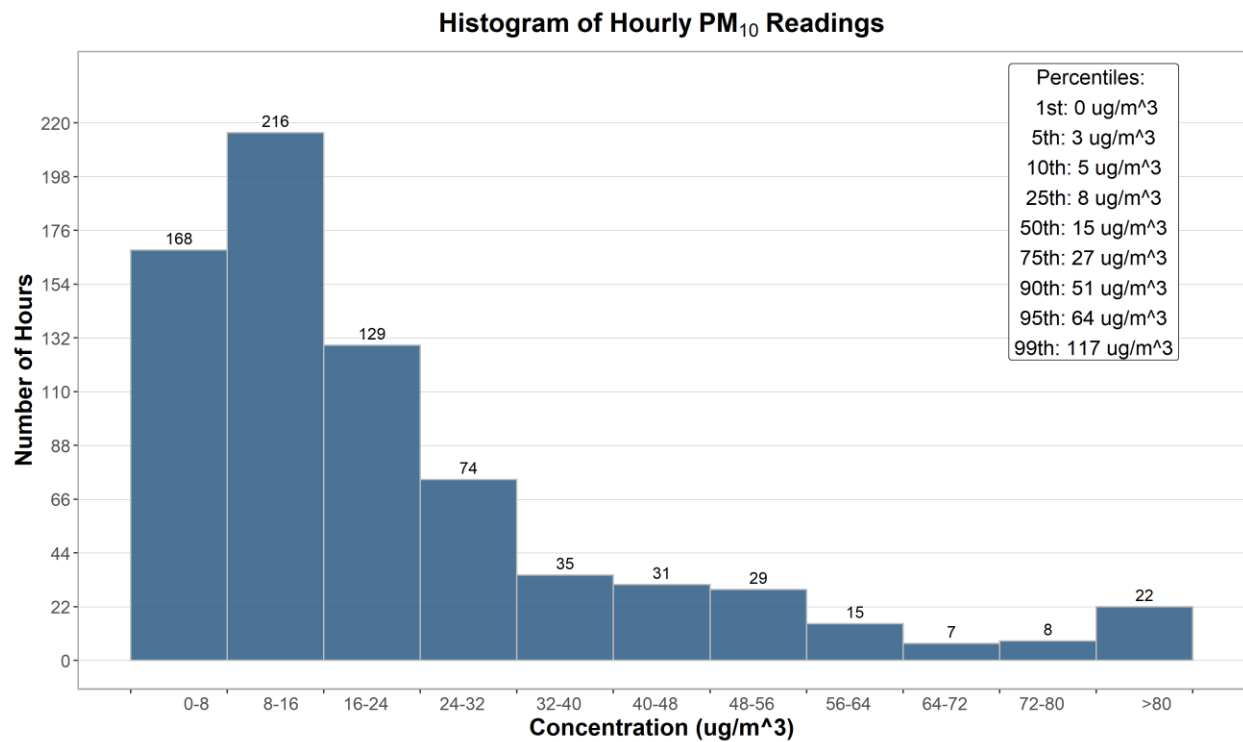


Figure 3-7 Histogram of hourly PM₁₀ concentrations at the Lagoon station

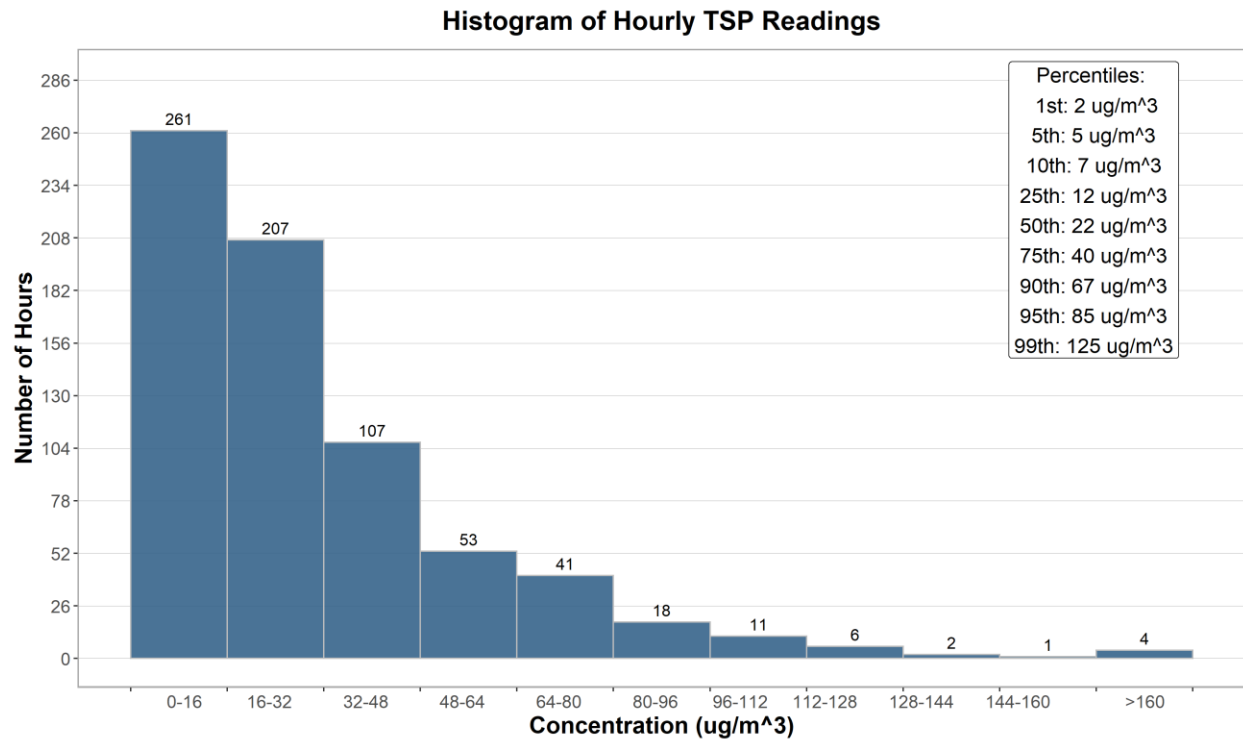


Figure 3-8 Histogram of hourly TSP concentrations at the Lagoon station

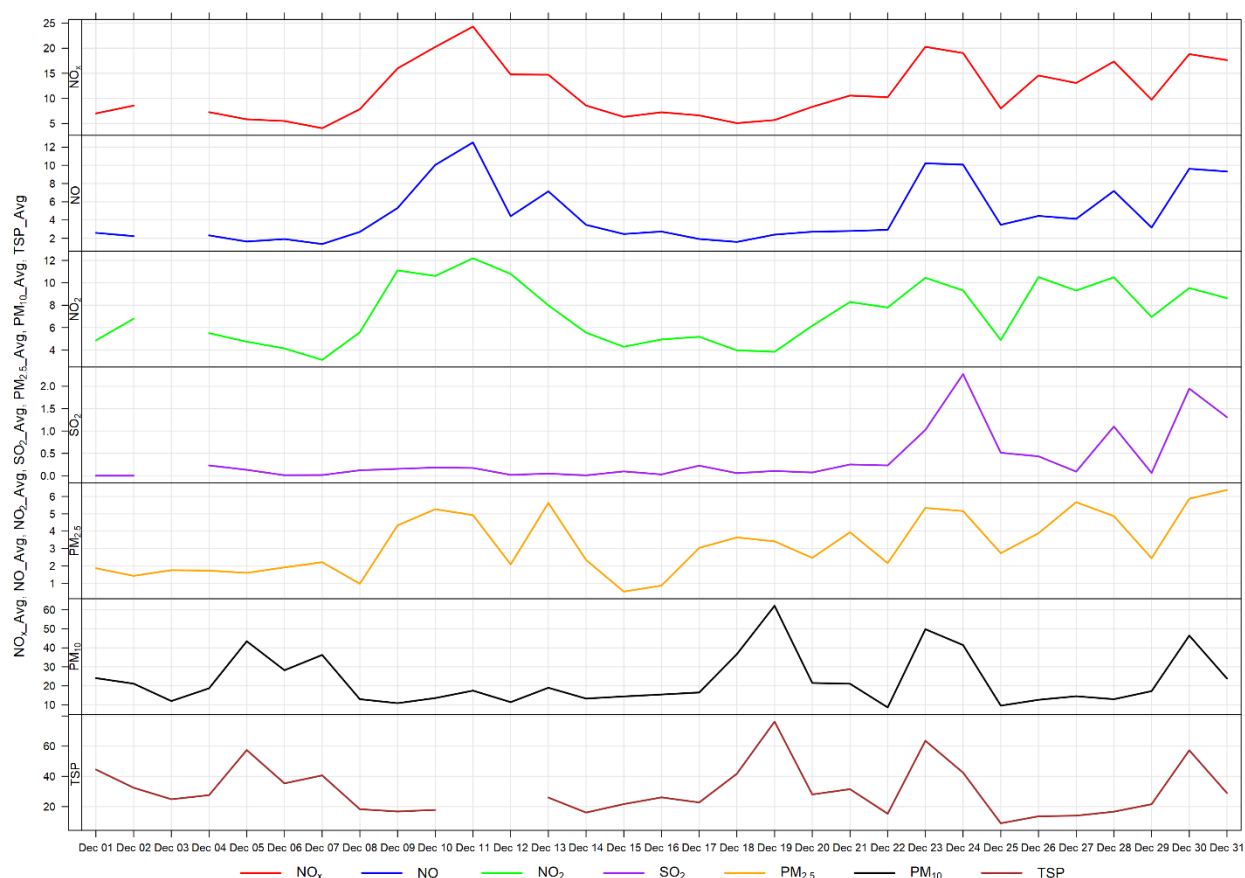


Figure 3-9 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

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.

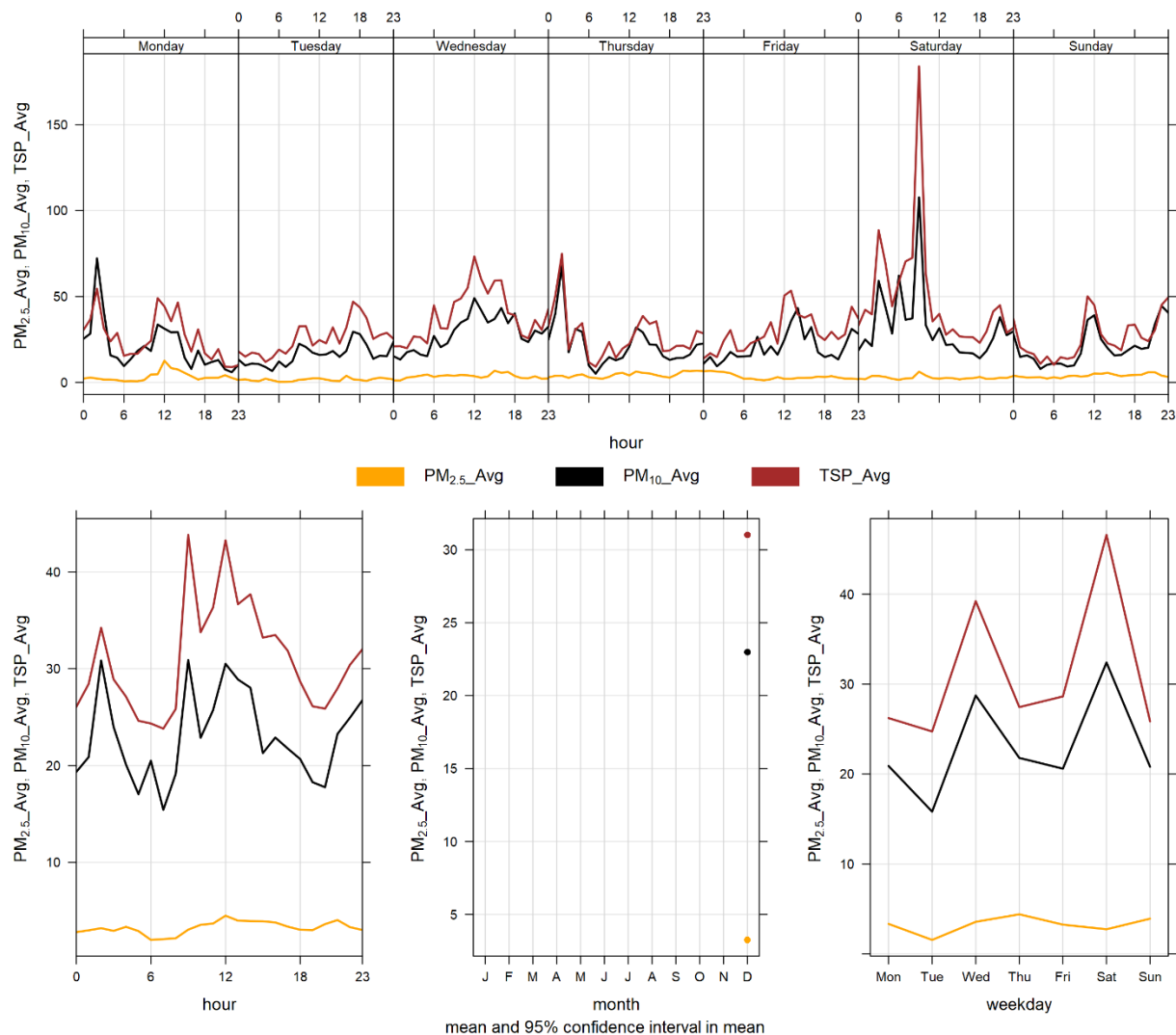


Figure 3-10 Lagoon monitor particulate matter time variation

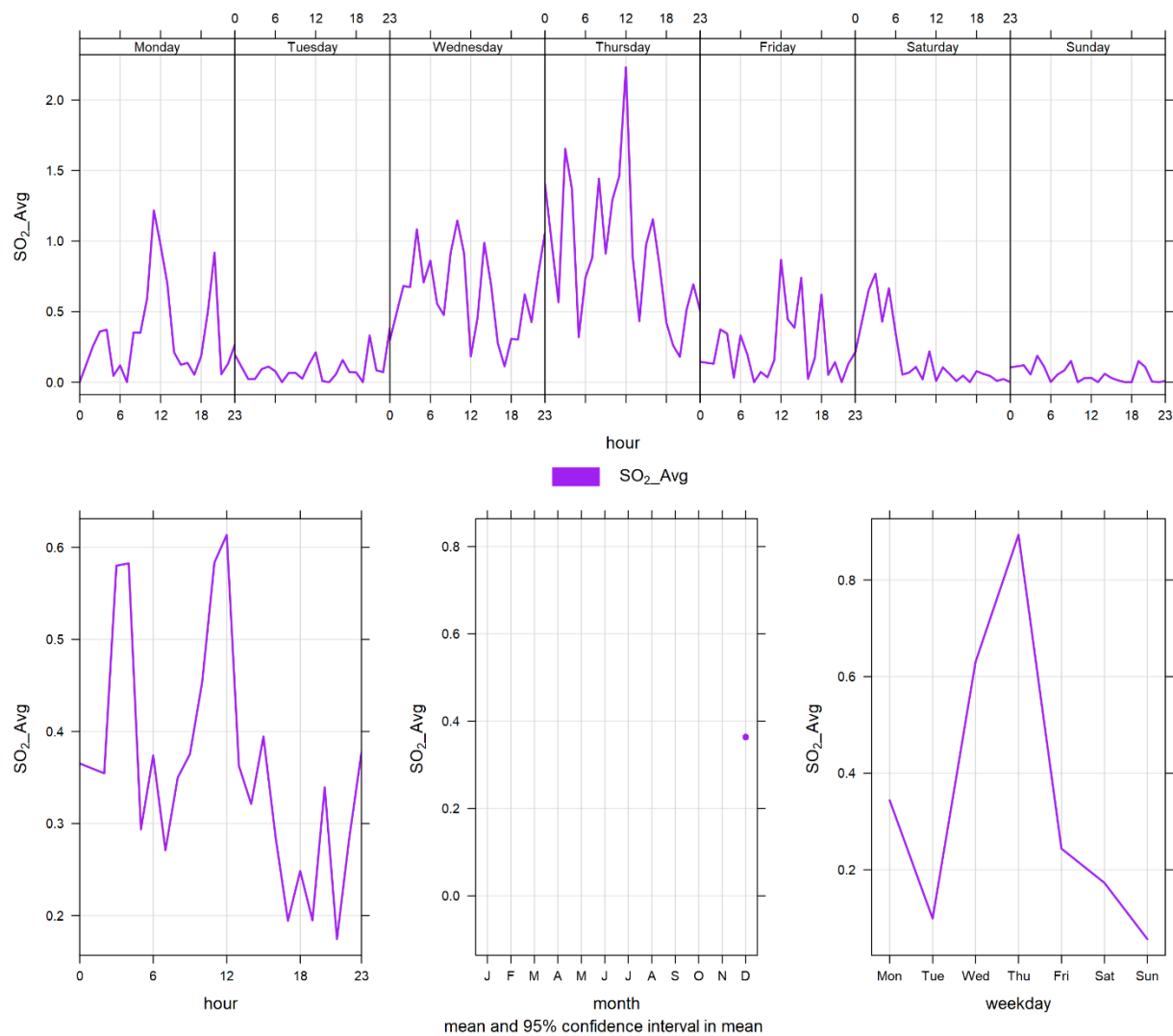


Figure 3-11 Lagoon monitor SO₂ time variation

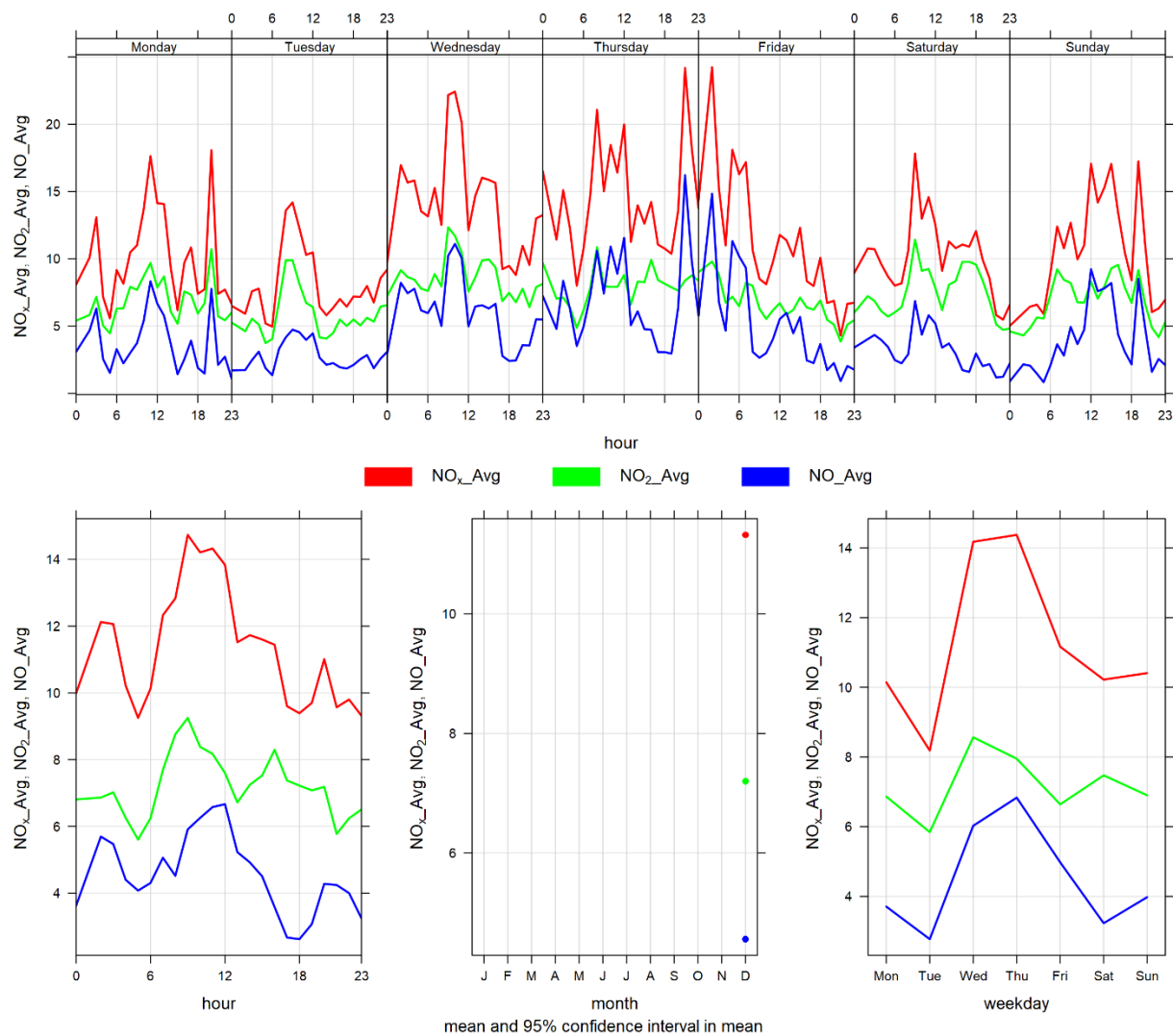


Figure 3-12 Lagoon monitor NO_x time variation

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 December 2020.

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

4.1 OPERATIONAL SUMMARY

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

Table 4-1 Instrumentation List at the Windridge monitoring location

Parameter Measured	Equipment Description	Notes
PM_{2.5} Concentrations	MetOne BAM-1020 FRM Continuous Particulate Monitor	The PM _{2.5} monitor was calibrated on December 4 th . The monitor had 99.2% uptime for the month of December due to six hours of power failure occurring on December 22 nd from 18:00 – 23:00.
PM₁₀ Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The PM ₁₀ monitor was calibrated on December 4 th . The monitor had 99.2% uptime for the month of December due to six hours of power failure occurring on December 22 nd from 18:00 – 23:00.
TSP Concentrations	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on December 4 th . The monitor had 99.2% uptime for the month of December due to six hours of power failure occurring on December 22 nd from 18:00 – 23:00.

4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in December 2020, 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 6 exceedances of the 24-hour TSP AAAQO. TSP exceedances occurred primarily on days with high westerly wind speeds.

Historically in December, the average number of 24-hour TSP AAAQO exceedances and 24-hour PM_{2.5} AAAQO exceedances is 2 and 0, respectively.

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

Table 4-2 Summary of December 2020 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	4.1	51.0	19	10	39.3	268.9	11.3	19	99.2
PM₁₀ (µg/m ³)	-	-	Windridge	-	-	0.0	49.1	485.0	18	16	56.2	253.5	224.7	19	99.2
TSP (µg/m ³)	-	100	Windridge	-	6	0.0	64.5	985.0	18	16	56.2	253.5	275.5	19	99.2

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						
2020-12-07	106.1	-	260.1	37.1	39.4	High wind event
2020-12-16	144.6	-	262.7	28.9	47.4	High wind event
2020-12-17	126.6	-	260.1	24.7	54.7	High wind event
2020-12-18	264.0	-	255.8	37.1	48.7	High wind event
2020-12-19	275.5	-	264.7	42.9	33.8	High wind event
2020-12-23	115.6	-	289.6	28.3	61.6	High wind event
Total # of Exceedances	6	0				
Maximum # of Exceedances (December)	16 (2018)	0 (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019)				
Average # of Exceedances (December)	2	0				
Minimum # of Exceedances (December)	0 (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2019)	0 (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019)				

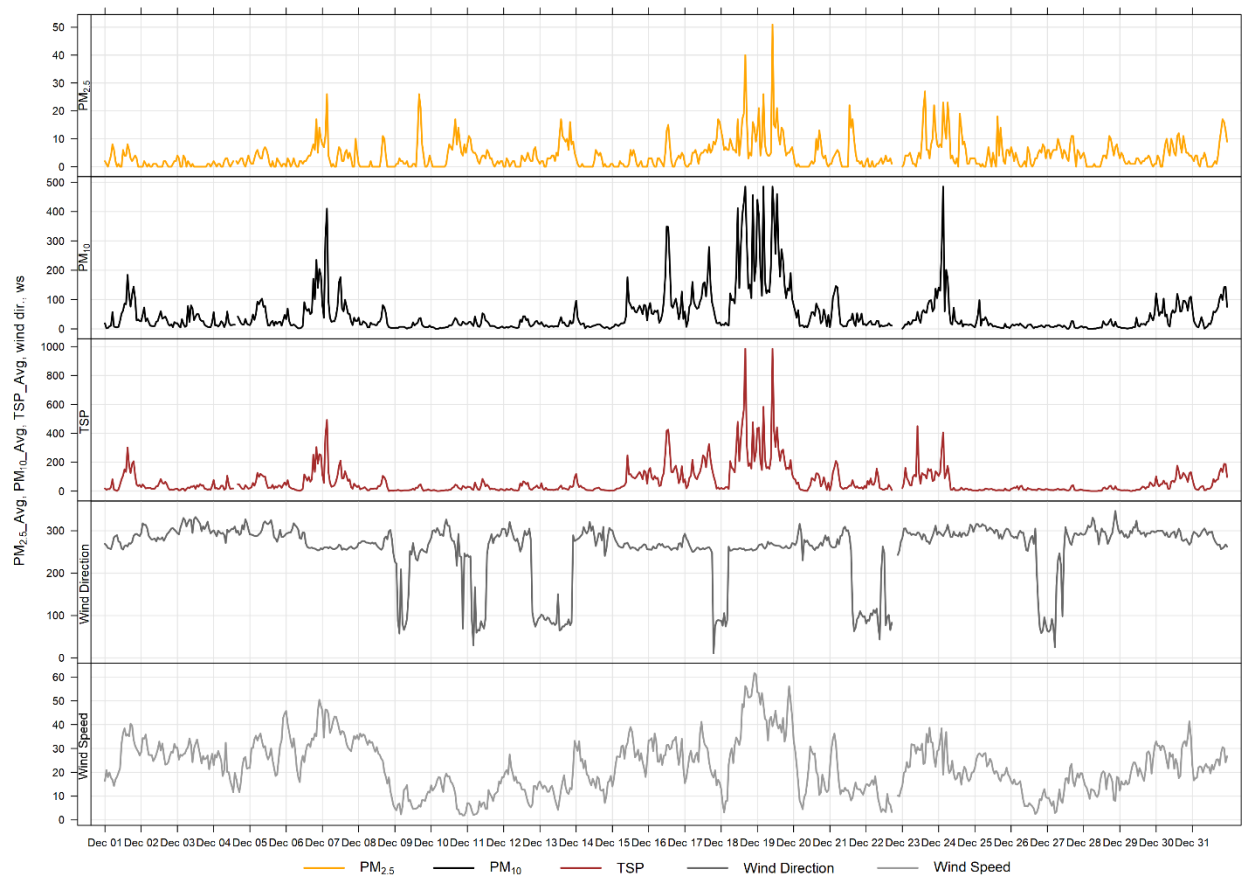


Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

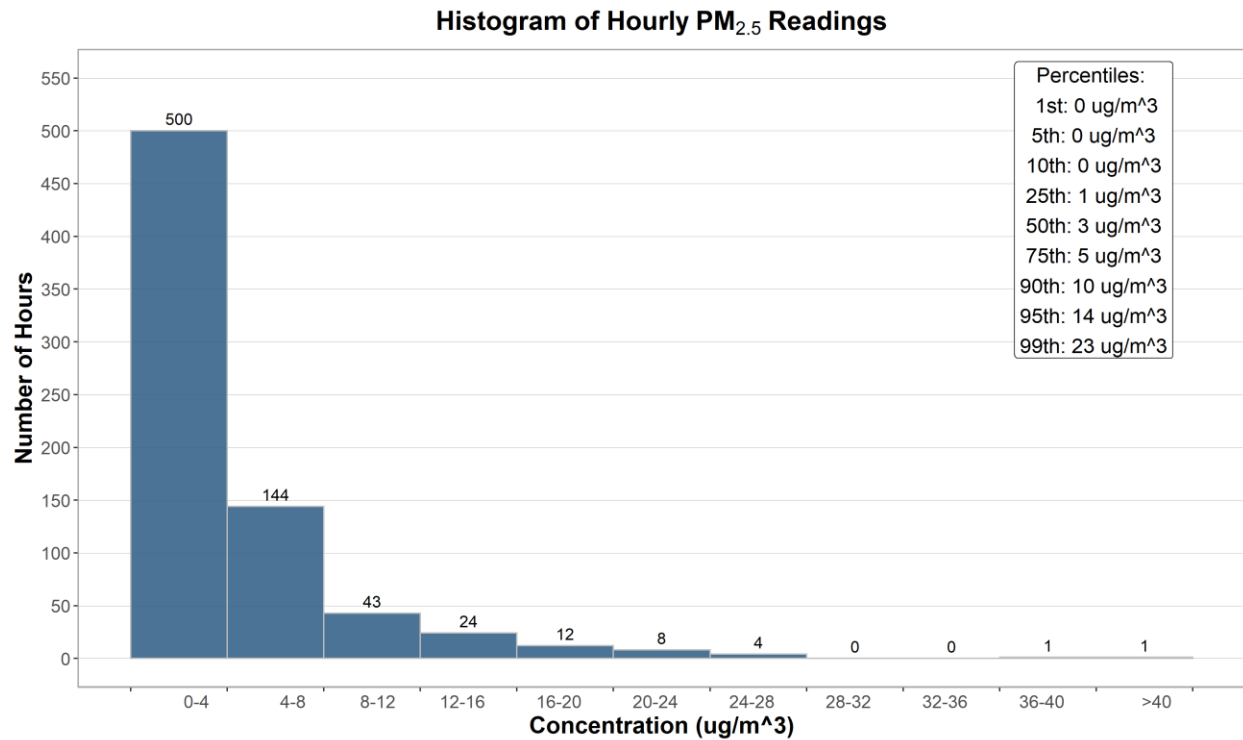


Figure 4-2 Histogram of hourly PM_{2.5} concentrations at the Windridge station

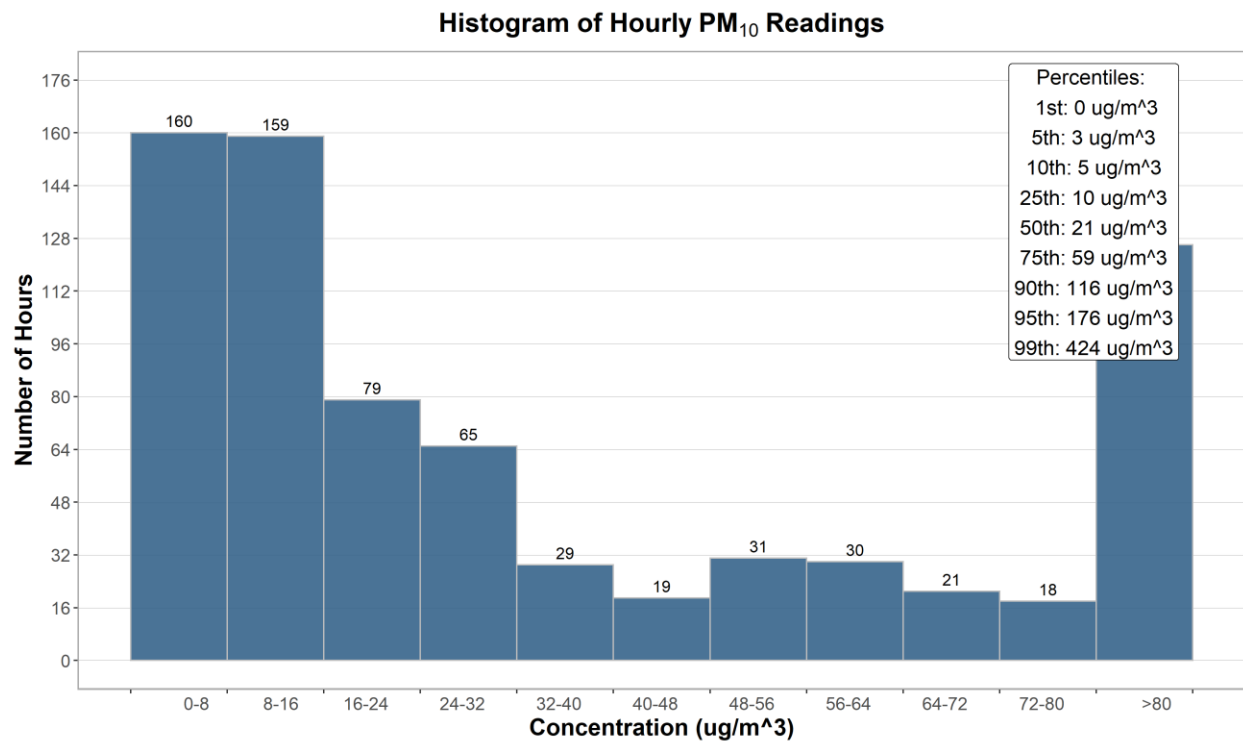


Figure 4-3 Histogram of hourly PM₁₀ concentrations at the Windridge station

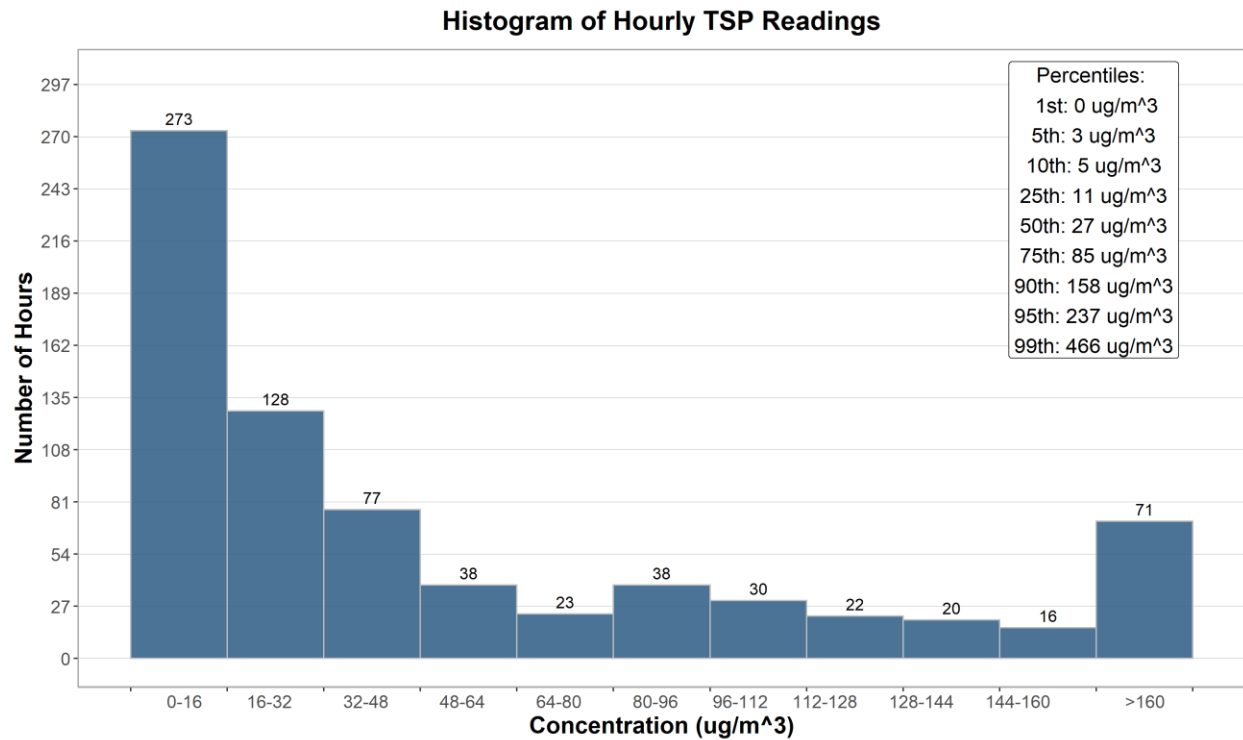


Figure 4-4 Histogram of hourly TSP concentrations at the Windridge station

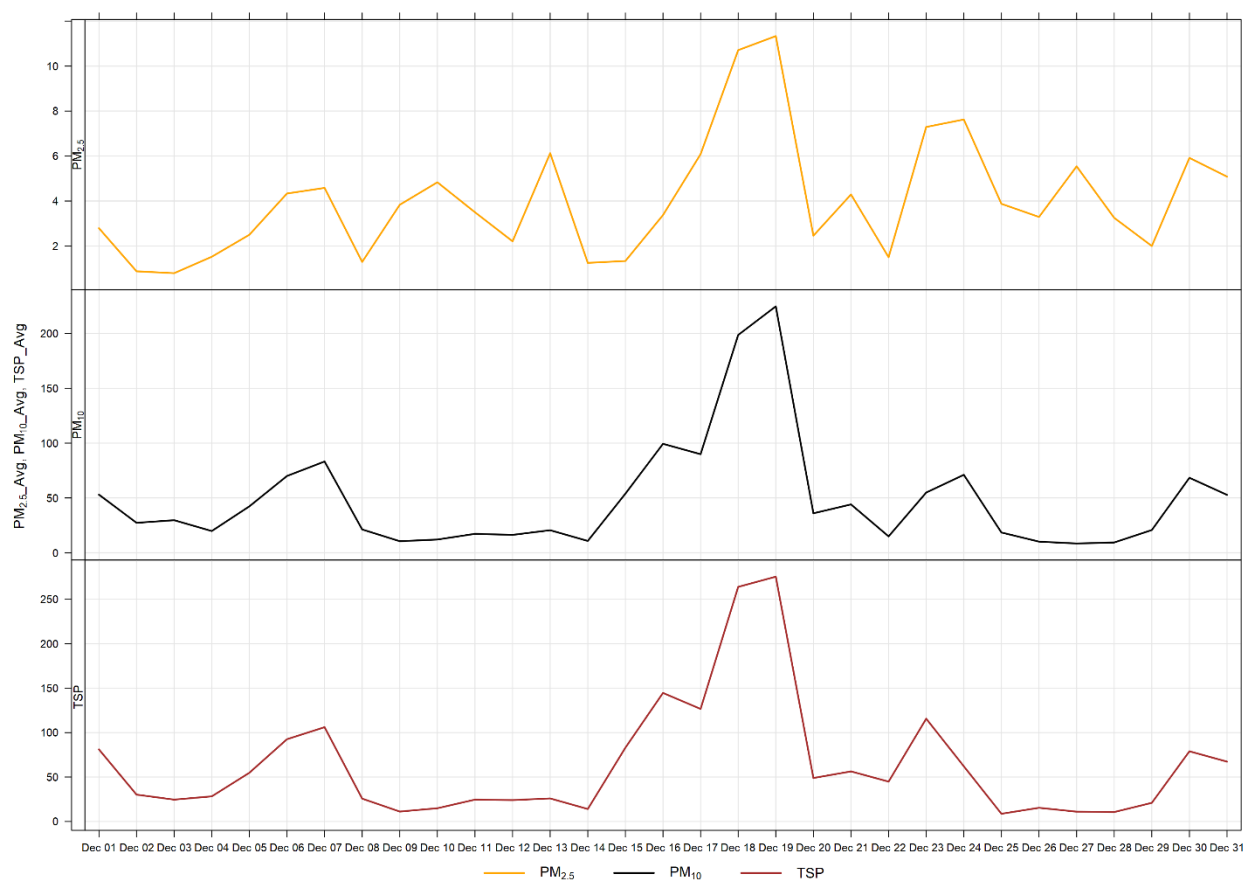


Figure 4-5 24-hour particulate matter concentrations at the Windridge monitor

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

Figure 4-7 illustrates the hourly PM concentrations recorded at the Windridge monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-7 is based on data collected during December 2020 and similar to the Lagoon station shows a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other activities. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.

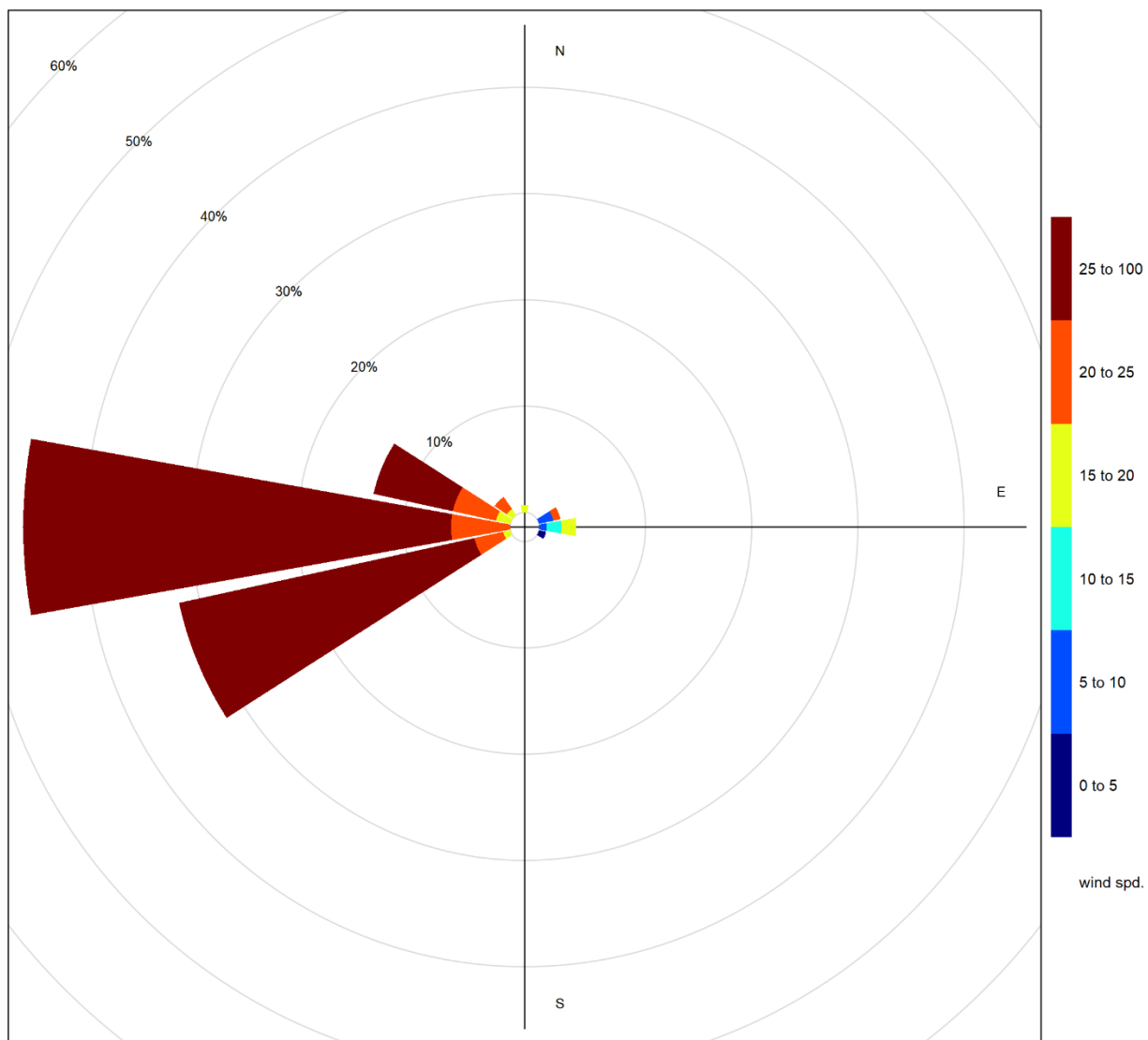


Figure 4-6 Wind rose for TSP exceedance days recorded at the Windridge Station

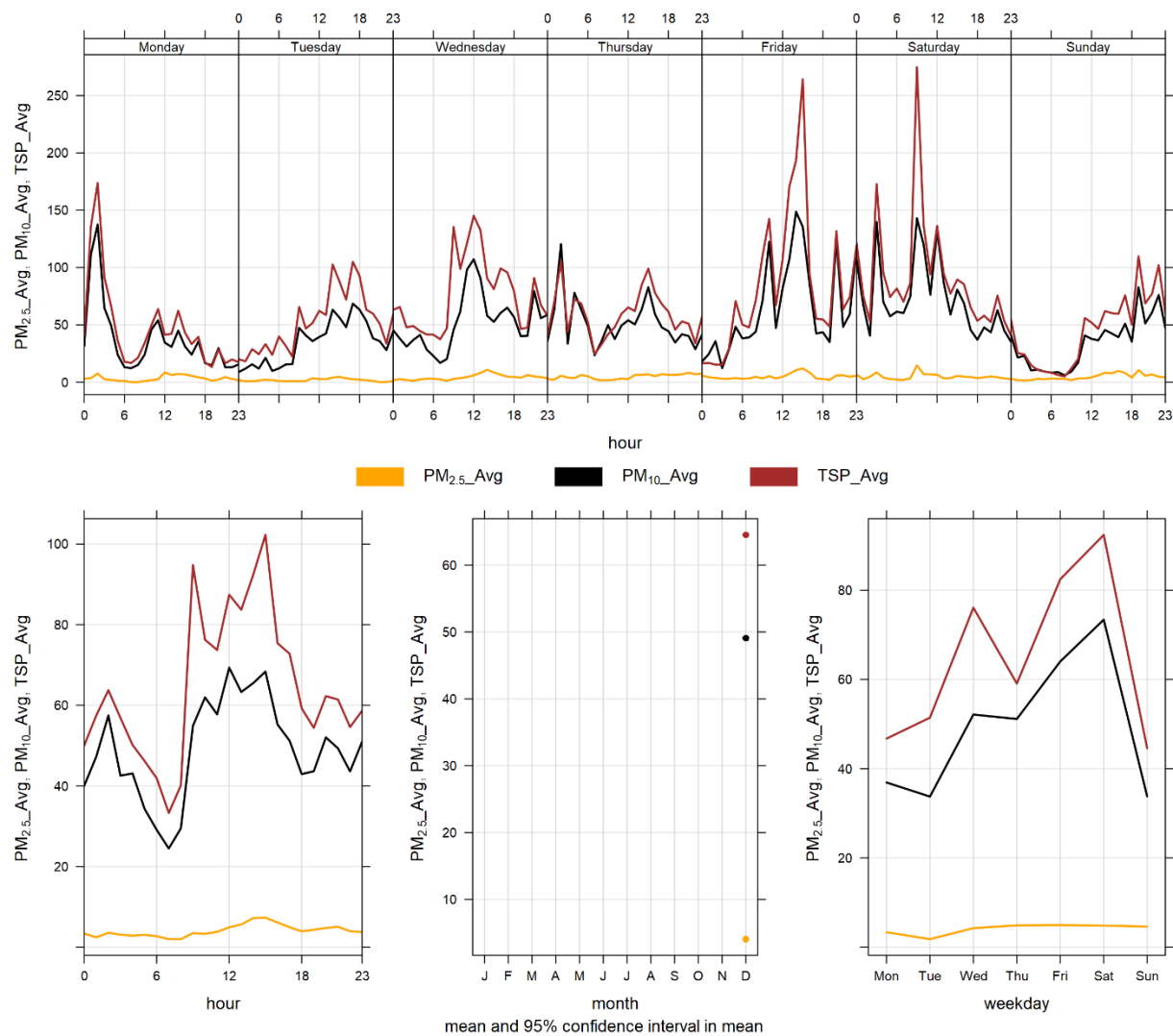


Figure 4-7 Windridge particulate matter time variation

5 WEST INDUSTRIAL GRIMM

5.1 OPERATIONAL SUMMARY

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

Table 5-1 Instrumentation List at the West monitoring location

Parameter Measured	Equipment Description	Notes
PM_{2.5}, PM₁₀, TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 99.1% uptime for the month of December, due to two hours of equipment malfunction on December 4 th at 14:00 – 15:00. And further, five hours of power failure on December 22 nd from 17:00 – 21:00

5.2 MONITORING RESULTS AND TRENDS

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

Figure 5-1 and Figure 5-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month.

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 December, the average number of 24-hour TSP guideline exceedances and 24-hour PM_{2.5} guideline exceedances are 1 and 0, respectfully. The maximum number of 24-hour TSP guidelines exceedances was 4 days in 2012 for TSP, and 1 day in 2010 for PM_{2.5}.

Table 5-2 Summary of December 2020 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	0.1	3.1	20.2	17	21	14.5	86.9	6.3	11	99.1
PM₁₀ (µg/m ³)	-	-	West	-	-	0.1	4.0	28.9	17	22	16.8	89.4	7.9	11	99.1
TSP (µg/m ³)	-	100	West	-	0	0.1	3.4	27.4	17	21	14.5	86.9	7.6	17	99.1

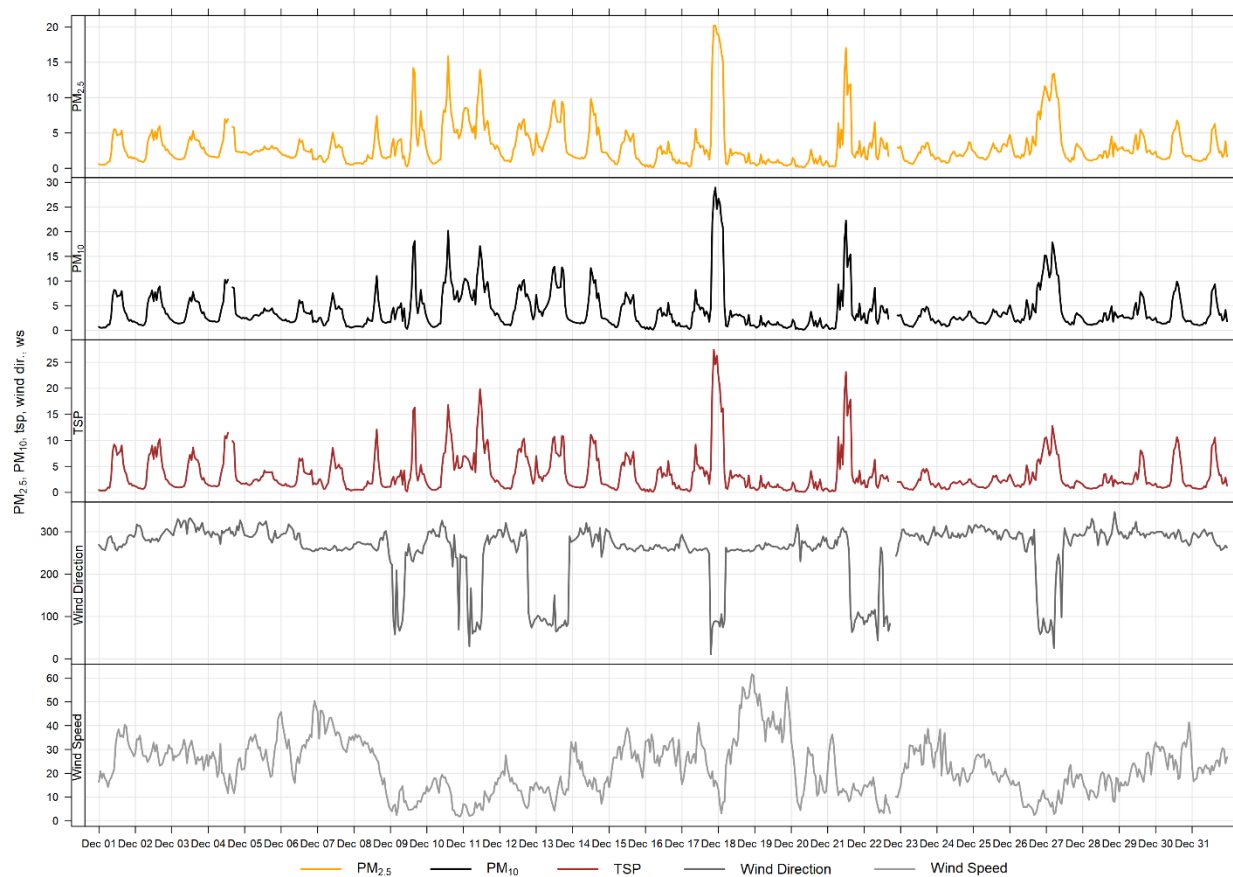


Figure 5-1 1-hour particulate matter concentrations at the West monitor

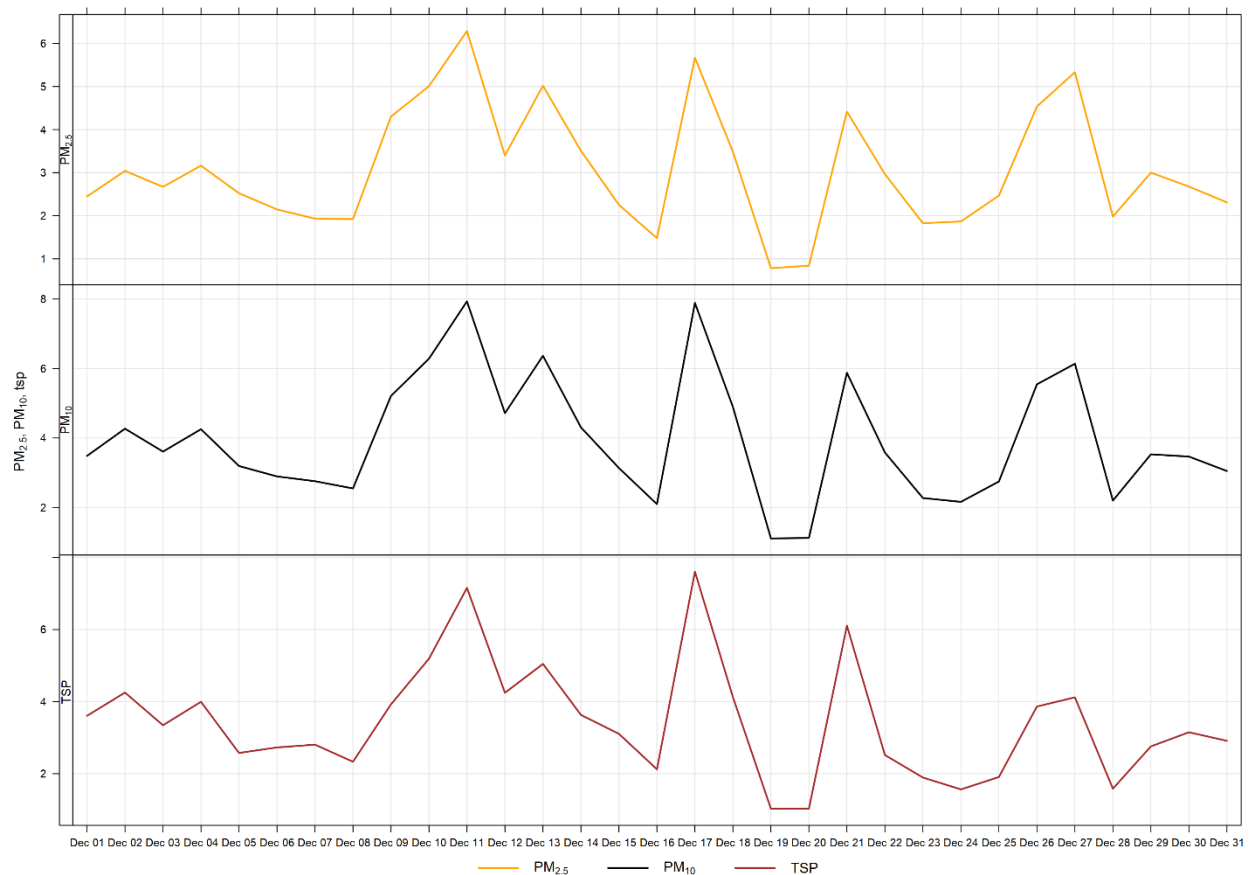


Figure 5-2 24-hour particulate matter concentrations at the West monitor

Figure 5-3 illustrates the hourly PM concentrations recorded at the West monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 5-3 is based on data collected during December 2020. As the monitor is generally ‘up-wind’ of the facility, the daily variations in PM are more likely a result of higher traffic volume during daylight hours than specific Lafarge operations.

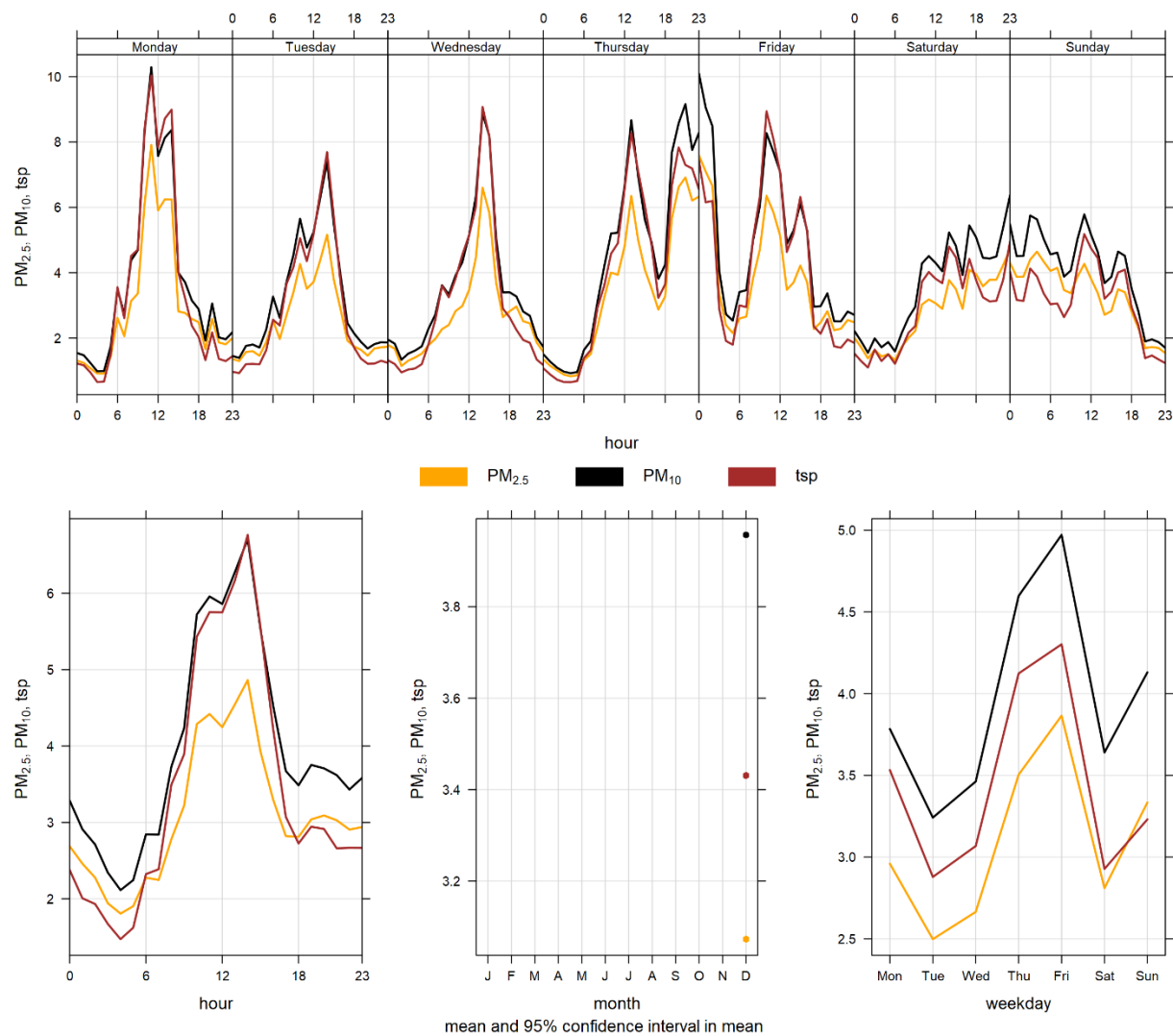


Figure 5-3 West particulate matter time variation

6 BERM INDUSTRIAL GRIMM

6.1 OPERATIONAL SUMMARY

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

Table 6-1 Instrumentation List at the Berm monitoring location

Parameter Measured	Equipment Description	Notes
PM _{2.5} , PM ₁₀ , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 100% uptime for the month of December.

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.

There were 16 and 2 exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (29 µg/m³) guidelines, respectively. There were 12 hours exceeding the 1-hour PM_{2.5} AAAQG.

Historically during the month of December, the Berm monitor records an average of 16 and 1 exceedances of the 24-hour TSP and PM_{2.5} guidelines, respectively. The maximum number of TSP exceedances recorded during December occurred in 2011 where there were 24 days that exceeded the guideline. On the other hand, the maximum number of PM_{2.5} exceedances in December was 12 days 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 Berm monitor is located along a ridge at the edge of the Lafarge property and is in an area where on-site trucks drive through site, which can create fugitive dust. Quarry blasting also has the potential to impact short term PM immediately following a blast. The low precipitation and strong wind gusting that occurred in December would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, Lac des Arcs lake, dry sections of the Bow River, roads (sanding from previous snowstorms) and open areas. Most of the TSP exceedances recorded were associated with high wind events in December.

Table 6-2 Summary of December 2020 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	12	2	0.2	11.1	219.9	18	15	47.4	257.9	67.9	18	100.0
PM₁₀ (µg/m ³)	-	-	Berm	-	-	0.2	83.2	1879.7	18	15	47.4	257.9	572.9	18	100.0
TSP (µg/m ³)	-	100	Berm	-	16	0.1	288.6	3952.6	18	15	47.4	257.9	1693.8	18	100.0

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

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Berm						
2020-12-01	272.4	-	273.9	27.3	38.5	High wind event
2020-12-05	183.2	-	297.1	31.1	53.2	High wind event
2020-12-06	582.2	-	275.7	32.8	42.9	High wind event
2020-12-07	400.2	-	260.1	37.1	39.4	High wind event
2020-12-13	130.8	-	76.9	14.3	79.5	Winds predominately from the west
2020-12-15	525.9	-	263.4	28.0	49.9	High wind event
2020-12-16	733.3	-	262.7	28.9	47.4	High wind event
2020-12-17	494.5	-	260.1	24.7	54.7	High wind event
2020-12-18	1693.8	67.9	255.8	37.1	48.7	High wind event
2020-12-19	1577.6	57.9	264.7	42.9	33.8	High wind event
2020-12-20	147.8	-	269.8	17.4	63.1	Winds predominately from the west
2020-12-21	134.8	-	278.0	16.2	61.8	Winds predominately from the west
2020-12-23	806.2	-	289.6	28.3	61.6	High wind event
2020-12-24	334.5	-	295.6	22.2	61.3	High wind event
2020-12-30	283.2	-	287.6	28.2	60.9	High wind event

2020-12-31	129.5	-	280.3	23.1	60.6	High wind event
Total # of Exceedances	16	2				
Maximum # of Exceedances (December)	24 (2011)	12 (2018)				
Average # of Exceedances (December)	16	1				
Minimum # of Exceedances (December)	8 (2019)	0 (2012, 2013, 2015, 2016, 2017, 2019)				

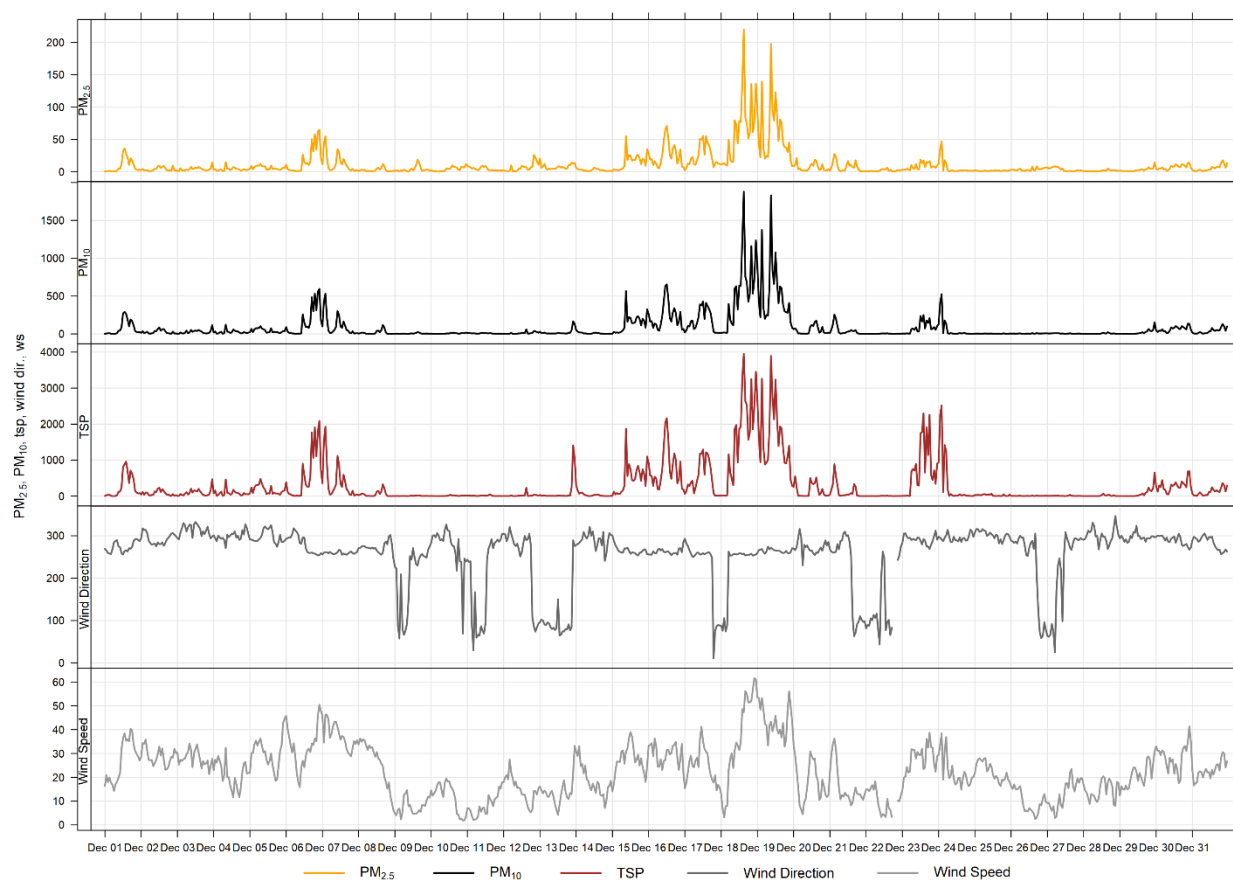


Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

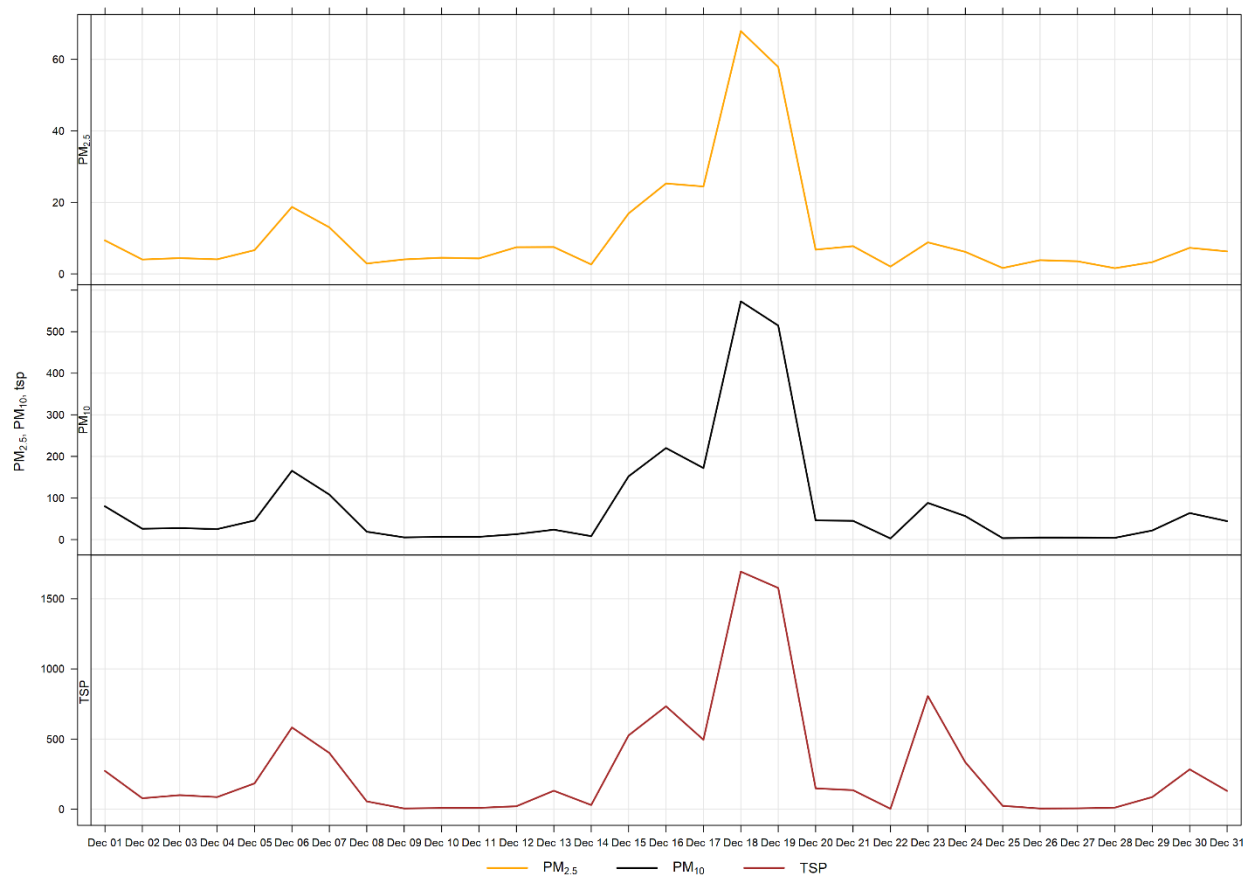


Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 shows the wind rose for the 16 days of TSP exceedances. The wind rose shows that the winds predominantly came from the west direction, and were predominately over 20 km/hr.

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

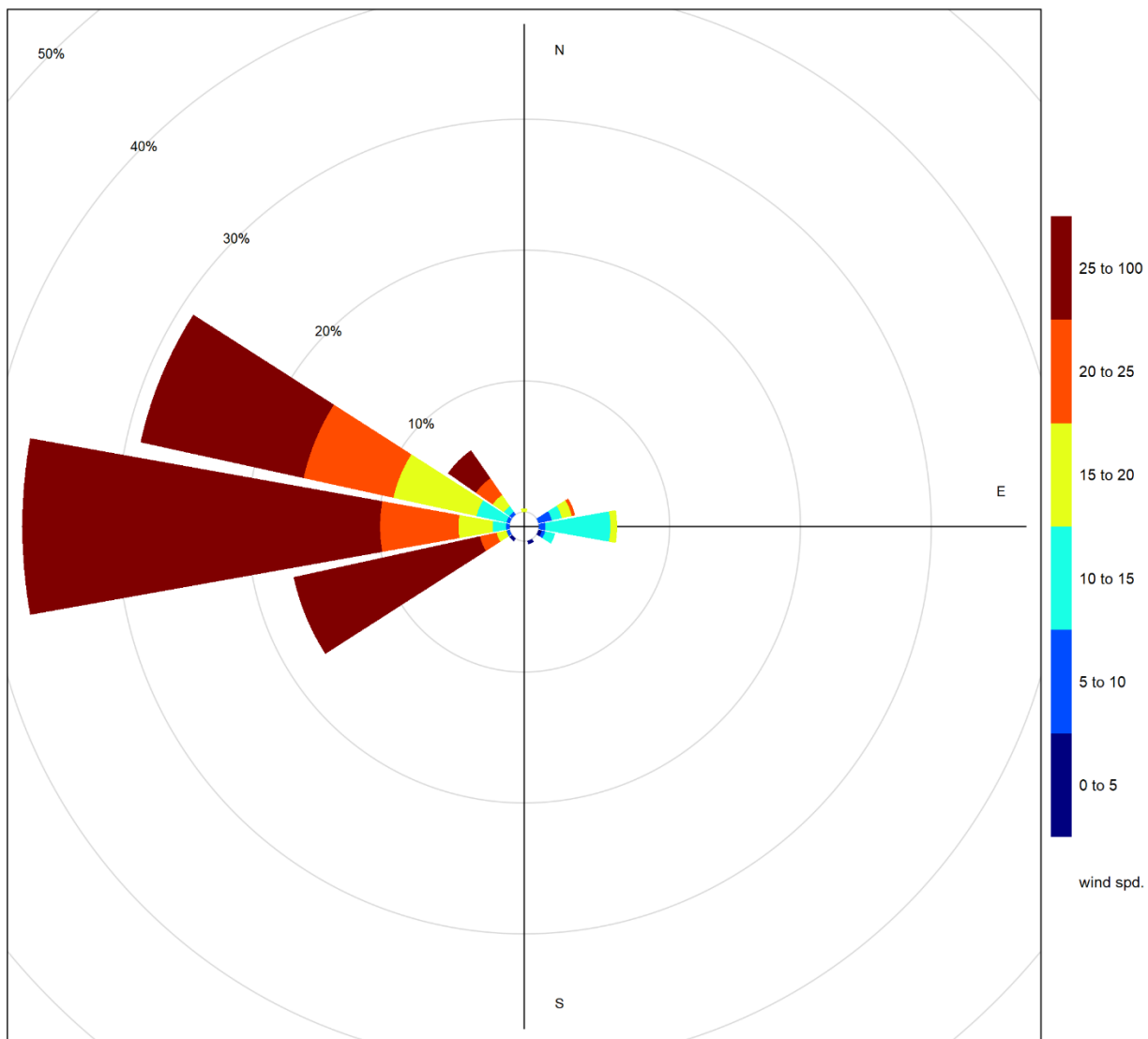


Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

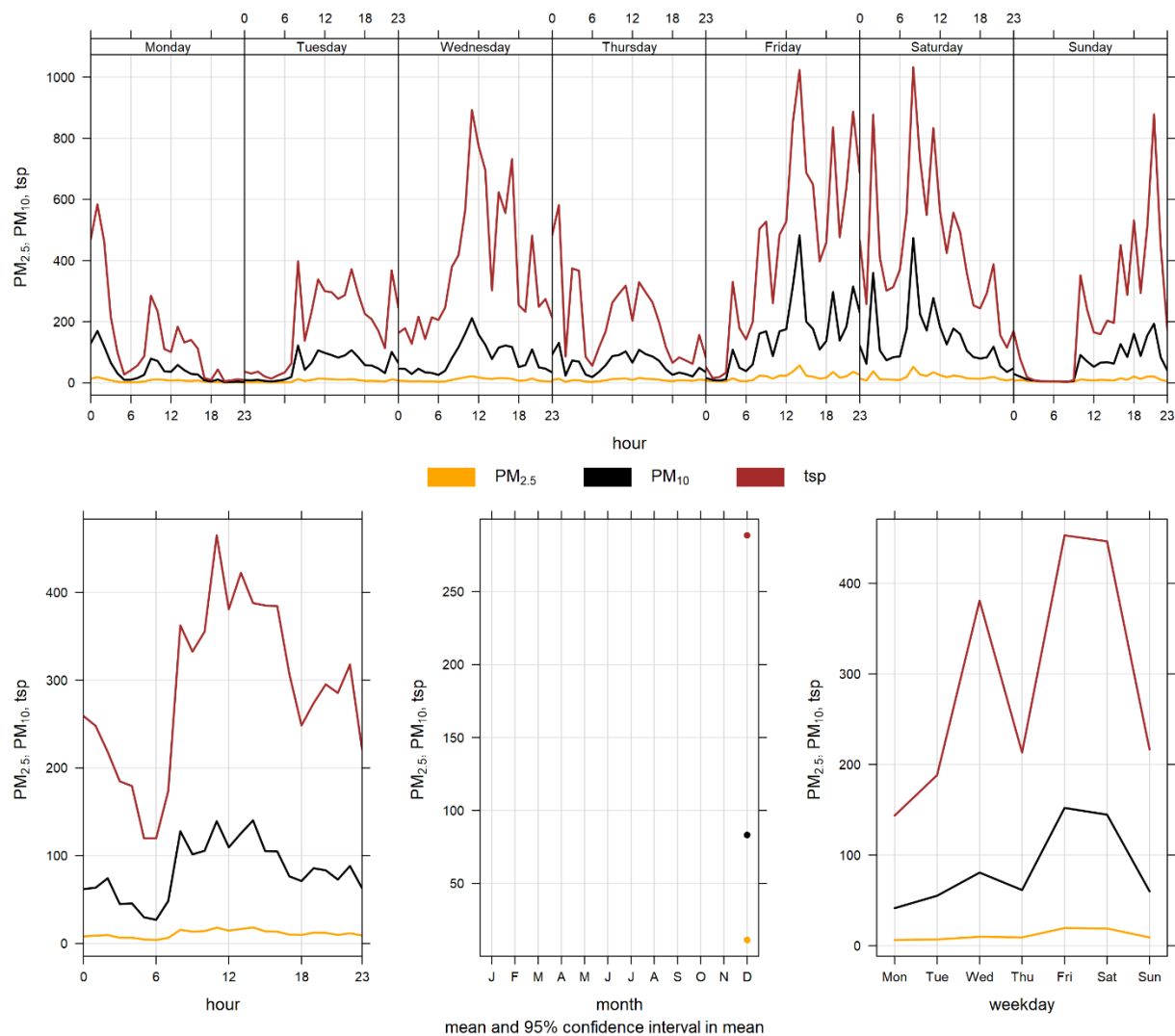


Figure 6-4 Berm particulate matter time variation

7 ENTRANCE INDUSTRIAL GRIMM

7.1 OPERATIONAL SUMMARY

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

Table 7-1 Instrumentation List at the Entrance monitoring location

Parameter Measured	Equipment Description	Notes
PM _{2.5} , PM ₁₀ , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer had 97.2% uptime for the month of December, due to 21 hours of power failure occurring on December 22 nd at 18:00 to December 23 rd at 14:00.

7.2 MONITORING RESULTS AND TRENDS

The Entrance monitor was placed at its current location as a result of dispersion modelling conducted in 2009. This area was indicated as being the area where the maximum PM concentrations were expected. Figure 7-1 and Figure 7-2 show the hourly and daily PM_{2.5}, 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.

During the month of December, there were 14 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 17 and zero exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively, during the month of December. The maximum number of TSP exceedances recorded during December occurred in 2013, which had 27 days that exceeded the guideline. The minimum number of TSP exceedances recorded during December occurred in 2019, which had 8 days that exceeded the guideline. On the other hand, the maximum number of PM_{2.5} exceedances recorded during the month of December was 5 days in 2014.

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

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

The low precipitation and strong wind gusting that occurred in December would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, Lac des Arcs lake, dry

sections of the Bow River, roads (sanding from previous snowstorms) and open areas. Most of the TSP exceedances recorded were associated with high wind events in December.

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

Table 7-2 Summary of December 2020 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	10.3	46.3	5	20	31.1	302.2	28.3	5	97.2
PM₁₀ (µg/m ³)	-	-	Entrance	-	-	0.7	52.9	369.1	24	1	33.5	295.1	201.8	5	97.2
TSP (µg/m ³)	-	100	Entrance	-	14	0.5	175.4	3482.9	24	1	33.5	295.1	639.9	5	97.2

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						
2020-12-01	255.8	-	273.9	27.3	38.5	High wind event
2020-12-02	315.5	-	293.3	28.9	56.3	High wind event
2020-12-03	507.6	-	314.4	27.7	52.8	High wind event
2020-12-04	309.3	-	298.8	21.1	51.0	High wind event
2020-12-05	639.9	-	297.1	31.1	53.2	High wind event
2020-12-06	170.1	-	275.7	32.8	42.9	High wind event
2020-12-07	132.2	-	260.1	37.1	39.4	High wind event
2020-12-13	133.9	-	76.9	14.3	79.5	Winds predominantly from the west
2020-12-18	218.1	-	255.8	37.1	48.7	High wind event
2020-12-19	267.7	-	264.7	42.9	33.8	High wind event
2020-12-24	522.4	-	295.6	22.2	61.3	High wind event
2020-12-25	180.0	-	303.1	22.2	65.2	High wind event
2020-12-29	129.5	-	297.0	21.4	68.2	High wind event
2020-12-30	193.4	-	287.6	28.2	60.9	High wind event
Total # of Exceedances	14	0				

Maximum # of Exceedances (December)	27 (2013)	5 (2014)				
Average # of Exceedances (December)	17	0				
Minimum # of Exceedances (December)	8 (2019)	0 (2011, 2012, 2013, 2015, 2016, 2019)				

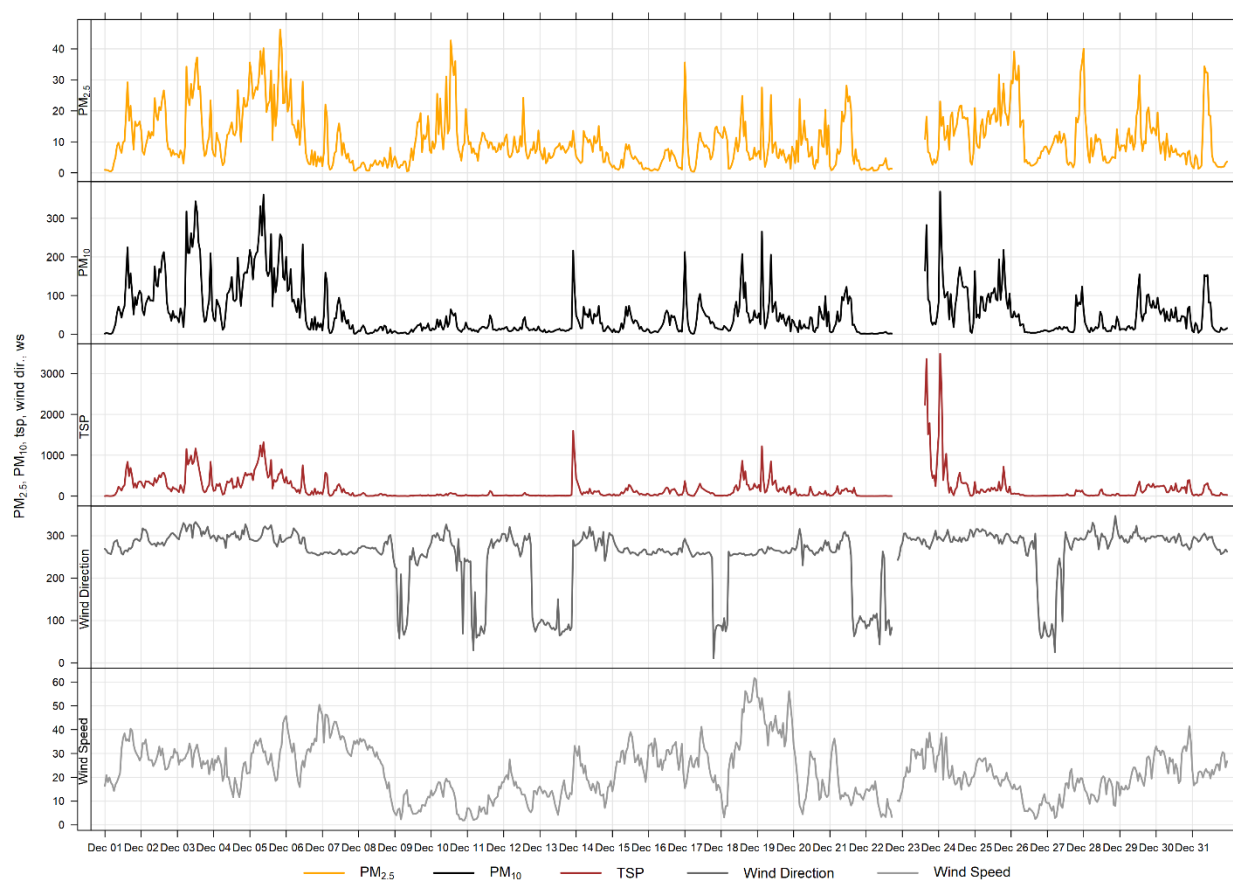


Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor

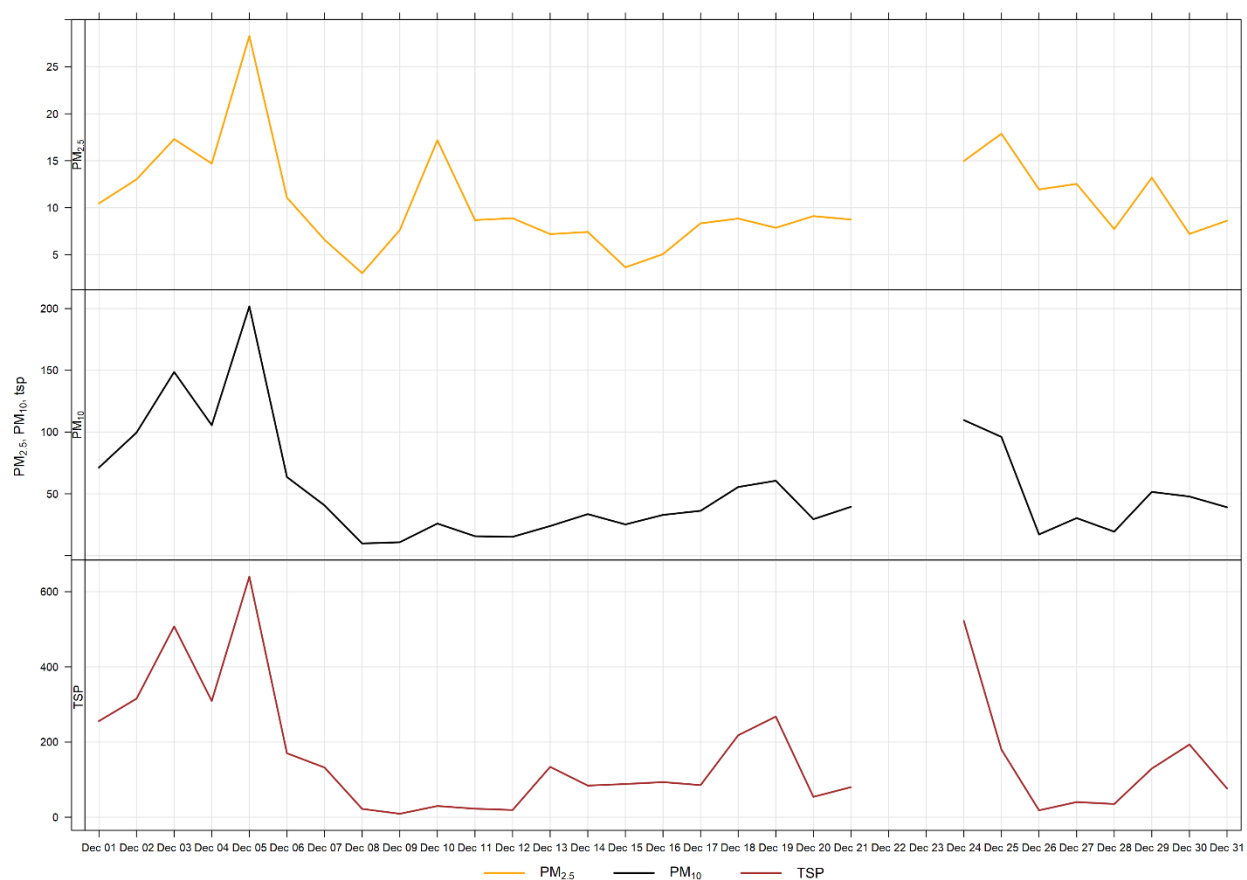


Figure 7-2 24-hour particulate matter concentrations at the Entrance monitor

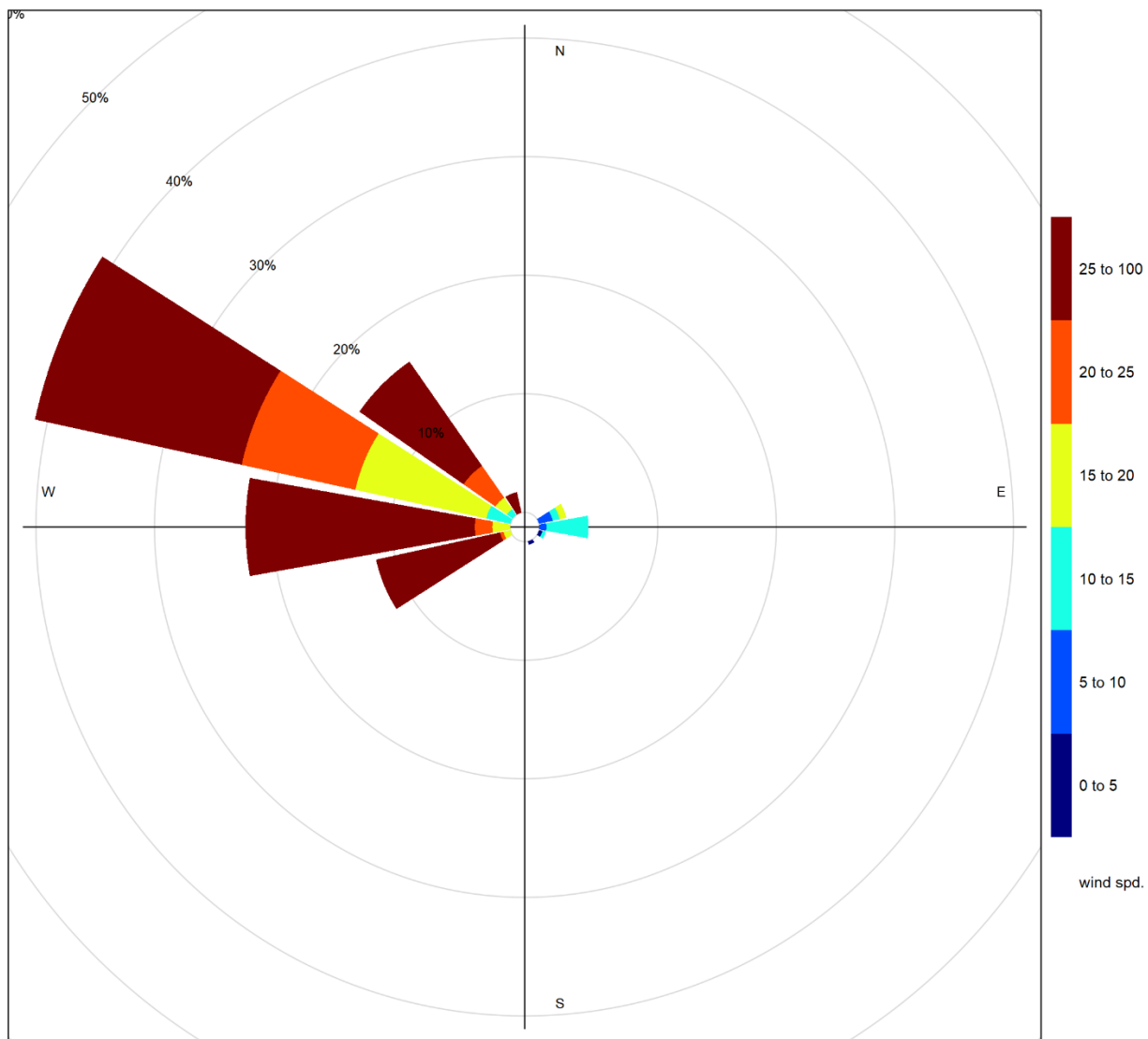


Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

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 December 2020. The diurnal pattern differs from the Windridge, Lagoon and Berm stations and are likely more influenced by daytime traffic emission (from vehicles serving Lafarge as well as regular highway traffic) given its location near the highway entrance to Lafarge.

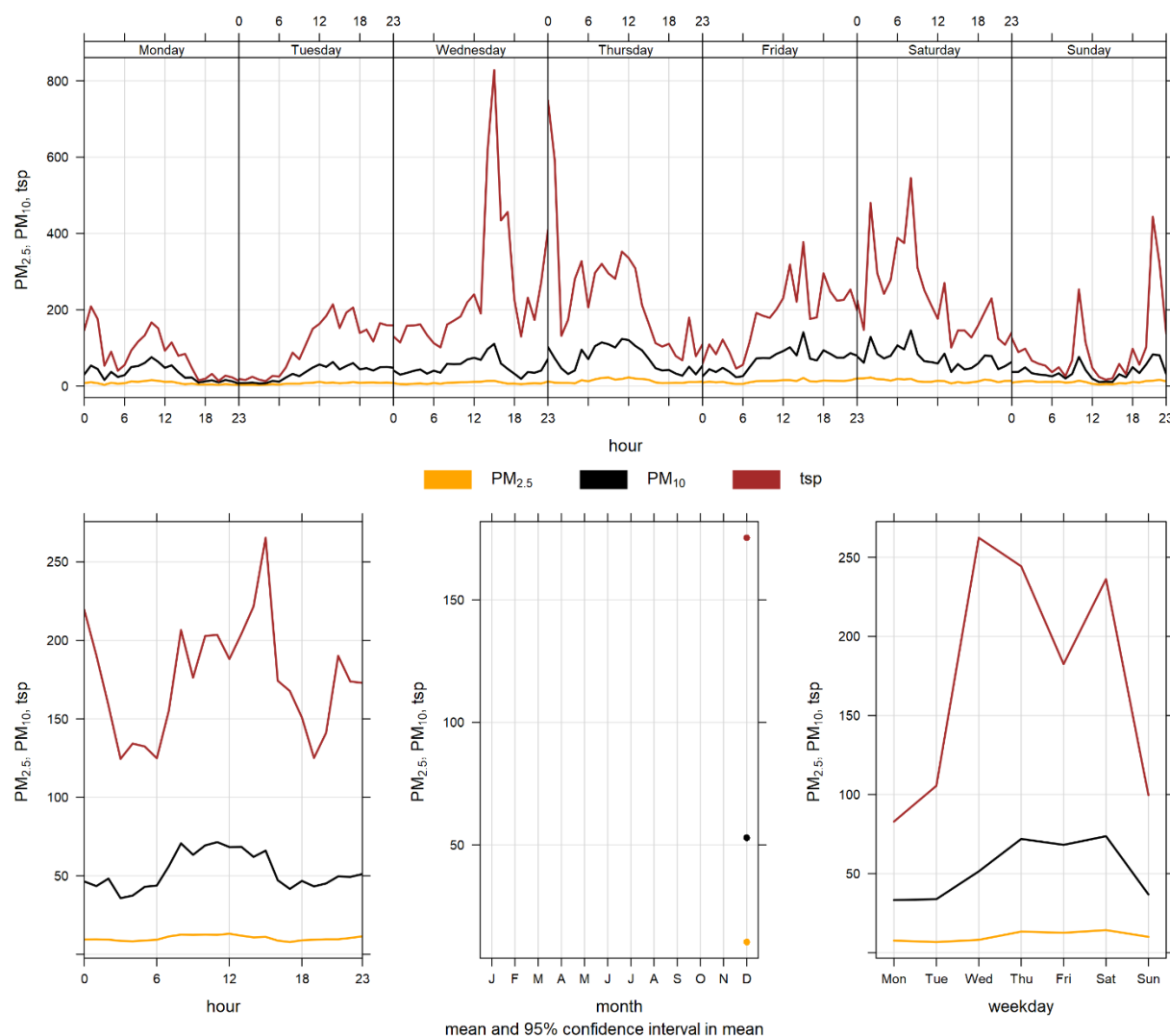


Figure 7-4 Entrance particulate matter time variation

BIBLIOGRAPHY

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- Levelton Consultants Ltd. (2015, June 15). Comparison of GRIMM and E-BAM Data. Alberta, Can

APPENDIX

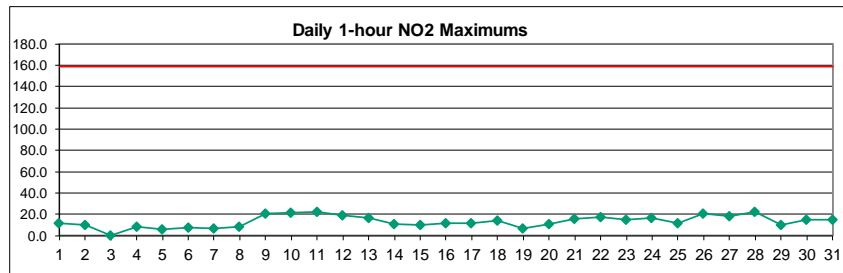
A DATA & CALIBRATION REPORTS

APPENDIX



Lagoon NO₂ (ppb) – December 2020

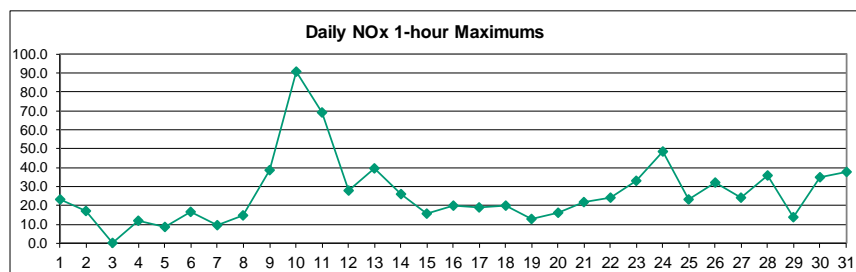
HOUR																										
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	2.2	S	4.8	4.0	11.7	2.6	5.5	5.2	7.4	8.2	2.8	2.2	3.5	5.4	4.0	4.1	3.0	3.7	4.2	5.2	6.0	4.5	6.1	5.2	4.9	11.7
2	5.8	S	5.0	4.5	4.6	5.5	6.8	7.5	7.1	9.8	9.4	5.6	6.1	8.7	7.2	7.8	8.2	6.8	7.4	6.3	5.9	6.7	7.4	6.1	6.8	9.8
3	5.9	S	3.7	3.8	2.9	3.2	4.2	3.4	C	C	C	C	C	C	4.5	6.5	6.7	6.6	6.8	5.2	6.6	6.1	7.0	7.4	-	-
4	4.3	S	4.6	4.1	3.0	2.6	3.7	4.5	6.8	5.3	5.2	7.5	6.0	5.6	6.4	8.5	7.0	6.7	5.7	5.9	5.7	3.5	7.2	6.7	5.5	8.5
5	5.1	S	5.0	4.9	4.9	4.7	4.9	3.9	4.7	3.7	3.8	3.8	3.6	2.7	4.0	4.6	5.5	6.3	6.1	5.9	5.8	6.2	4.9	4.0	4.7	6.3
6	3.5	S	3.6	6.0	4.7	3.5	3.4	4.4	4.0	7.7	3.7	3.8	4.2	6.2	2.8	5.1	7.4	6.7	3.0	2.9	2.0	1.8	2.2	2.6	4.1	7.7
7	2.9	S	2.6	1.3	2.4	1.7	1.9	2.6	5.7	2.5	5.6	5.9	1.9	2.4	2.7	2.8	4.8	6.6	3.8	1.4	3.7	1.5	3.2	1.9	3.1	6.6
8	3.6	S	2.5	3.7	1.6	4.5	3.2	8.1	8.8	7.7	7.5	6.2	5.7	3.1	3.0	4.8	5.6	5.9	8.8	6.5	6.8	5.2	7.8	7.7	5.6	8.8
9	12.9	S	11.5	12.4	6.9	7.5	5.8	3.0	1.6	13.2	12.7	17.2	12.9	12.0	15.2	21.0	20.7	14.3	13.3	11.9	10.2	6.9	7.4	4.9	11.1	21.0
10	4.3	S	5.7	3.0	3.0	3.3	5.5	7.9	7.6	6.8	6.4	5.8	6.0	7.0	11.8	15.3	17.8	17.3	18.4	16.2	17.2	18.9	17.4	21.5	10.6	21.5
11	22.0	S	18.4	16.9	16.9	18.5	17.2	16.8	16.1	12.7	11.3	9.5	9.1	11.5	6.5	8.1	11.7	11.3	9.0	7.7	8.6	7.5	7.4	6.0	12.2	22.0
12	6.4	S	7.0	6.3	5.9	5.9	7.0	8.7	13.8	15.0	12.3	16.8	13.2	12.4	13.1	13.4	12.6	13.9	19.0	17.1	11.7	7.7	6.2	2.8	10.8	19.0
13	3.0	S	2.5	2.4	2.9	5.0	5.7	7.9	5.9	6.4	9.4	10.8	15.6	14.2	13.4	15.6	9.5	8.5	7.0	16.5	9.4	4.3	4.5	3.4	8.0	16.5
14	3.5	S	4.1	4.3	2.8	3.4	6.6	4.2	6.6	6.7	7.0	6.1	5.3	3.8	5.8	4.3	5.7	9.8	5.3	6.1	10.6	5.4	6.3	4.0	5.6	10.6
15	4.0	S	5.2	7.2	3.3	3.9	3.3	9.8	9.5	8.2	6.3	2.4	2.2	2.3	5.0	3.1	2.9	3.3	3.8	2.6	3.3	2.6	3.1	1.5	4.3	9.8
16	1.6	S	4.9	3.6	2.9	5.7	5.1	11.1	8.9	11.8	10.0	7.8	6.1	2.8	1.7	3.3	2.4	2.3	1.1	1.8	7.9	1.0	4.8	5.2	4.9	11.8
17	11.5	S	6.5	2.9	1.6	1.6	2.5	4.5	7.2	3.1	2.3	3.9	4.3	4.2	6.9	5.4	4.2	3.5	4.7	7.6	8.5	7.7	7.7	6.7	5.2	11.5
18	7.0	S	13.8	11.6	4.1	4.3	2.2	7.9	6.0	4.3	2.8	3.9	3.5	1.8	3.7	1.6	1.8	1.2	1.4	1.6	1.7	1.4	2.5	4.0	13.8	
19	1.9	S	4.9	1.7	2.3	2.0	5.7	4.4	4.1	6.0	4.6	4.6	7.1	3.3	6.3	4.1	3.3	4.3	5.1	2.0	1.8	1.8	3.0	3.9	3.8	7.1
20	3.2	S	3.3	2.8	3.6	3.1	7.1	6.7	8.8	6.0	5.3	6.4	6.1	1.9	7.4	8.1	11.1	10.9	9.6	5.6	3.0	8.2	5.5	8.0	6.2	11.1
21	9.9	S	4.7	6.1	5.1	6.7	9.2	9.4	11.3	8.4	12.1	11.1	11.9	15.9	5.8	7.4	14.3	4.9	3.1	3.6	5.8	7.9	5.3	10.7	8.3	15.9
22	8.0	S	2.5	3.0	1.7	1.4	1.4	4.1	14.9	17.8	17.0	17.0	15.3	3.9	2.2	3.0	9.4	P	P	P	4.2	8.5	9.5	10.9	7.8	17.8
23	7.2	S	10.4	11.1	14.7	9.9	9.4	13.4	10.2	12.0	13.3	9.8	5.9	12.0	10.8	6.2	6.8	5.5	7.1	7.8	12.2	14.7	14.3	15.4	10.4	15.4
24	14.7	S	9.5	17.0	12.8	5.5	4.1	12.4	16.5	7.6	9.8	8.9	10.2	6.7	7.9	9.9	12.1	11.1	9.4	9.0	3.5	5.0	6.0	4.7	9.3	17.0
25	2.7	S	2.4	2.9	2.9	3.4	2.8	3.7	3.0	2.9	2.8	3.8	8.3	4.5	8.3	10.4	5.0	5.7	11.5	7.0	4.5	2.8	4.5	6.7	4.9	11.5
26	10.5	S	12.0	14.5	11.3	10.2	6.5	8.6	10.2	20.9	15.7	11.8	7.4	6.4	8.9	11.2	17.7	14.6	8.0	8.5	8.3	4.8	4.8	8.6	10.5	20.9
27	8.8	S	7.8	8.3	11.3	10.7	13.1	17.9	15.1	12.7	8.7	6.0	7.3	5.8	8.3	8.4	10.2	5.4	7.3	11.6	12.2	5.2	4.6	7.2	9.3	17.9
28	5.3	S	11.9	17.0	9.9	6.1	7.4	9.1	8.1	13.2	10.2	15.6	12.5	12.6	10.1	6.3	5.6	8.0	11.6	15.7	22.7	8.0	7.0	7.4	10.5	22.7
29	8.5	S	8.1	9.8	7.3	6.3	6.7	7.1	8.8	7.5	7.1	5.8	5.4	6.1	6.2	7.5	6.6	7.1	5.2	5.9	7.8	5.9	5.8	7.4	7.0	9.8
30	8.8	S	13.9	11.6	13.3	10.3	11.1	9.3	11.9	14.8	13.1	12.0	6.8	7.6	14.5	11.5	8.8	5.4	8.6	6.1	2.6	2.6	5.5	9.2	9.5	14.8
31	12.1	S	9.9	8.8	11.6	10.7	14.6	11.0	12.1	14.5	13.1	13.0	14.7	8.6	10.5	4.3	8.8	3.6	1.5	1.4	2.4	4.3	5.7	1.6	8.6	14.7
NO. MEAN MAX	31	-	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	30	30	30	31	31	31	31	704	99.6%
	6.8	-	6.9	7.0	6.3	5.6	6.2	7.7	8.8	9.3	8.4	8.2	7.6	6.7	7.2	7.5	8.3	7.4	7.2	7.1	7.2	5.8	6.2	6.5		
	22.0	-	18.4	17.0	16.9	18.5	17.2	17.9	16.5	20.9	17.0	17.2	15.6	15.9	15.2	21.0	20.7	17.3	19.0	17.1	22.7	18.9	17.4	21.5		



Number of 1HR Exceedences	0
Number of Non-Zero Readings	704
Maximum 1-HR Average	22.7 PPB
Maximum 24-HR Average	12.2 PPB
Monthly Calibration	6
Standard Deviation	4.2
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	7.2 PPB

Lagoon NOx (ppb) – December 2020

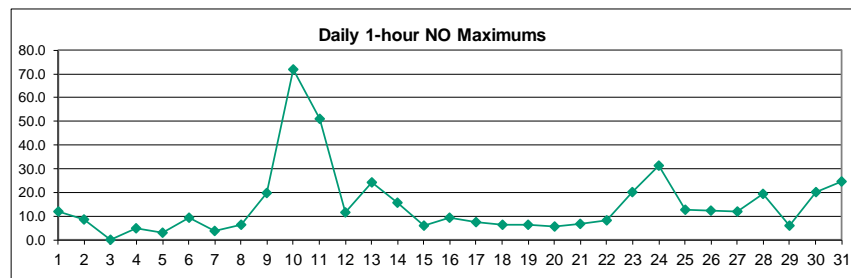
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	2.1	S	5.5	4.3	23.3	3.9	6.7	7.4	8.9	11.1	3.6	3.0	5.9	9.7	6.0	5.0	3.5	5.2	5.7	8.5	8.9	5.7	10.5	7.1	7.0	23.3
2	6.4	S	5.3	6.1	5.2	6.2	8.6	8.9	7.7	14.9	14.3	8.0	10.5	16.9	8.4	8.8	10.8	6.8	7.2	7.5	6.1	6.5	10.0	5.9	8.6	16.9
3	5.8	S	3.9	4.1	2.8	3.2	5.6	3.4	C	C	C	C	C	C	5.3	8.1	7.3	6.8	7.1	5.3	8.8	8.5	9.5	10.2	-	-
4	5.8	S	5.4	4.8	3.4	2.9	4.3	6.6	8.4	7.3	7.2	12.0	7.8	9.2	9.0	11.6	7.9	8.9	6.4	7.6	8.3	3.7	10.5	8.2	7.3	12.0
5	7.8	S	6.5	6.9	6.3	6.2	6.4	4.3	6.0	4.1	4.1	4.3	5.2	3.3	6.2	5.6	6.5	7.8	8.4	6.3	5.9	6.7	5.3	4.3	5.8	8.4
6	4.0	S	4.9	10.2	5.7	3.6	4.6	5.1	4.1	16.4	5.3	5.7	5.6	8.4	3.2	6.3	9.7	7.8	3.3	3.2	2.1	1.8	2.5	3.0	5.5	16.4
7	3.4	S	3.2	1.4	3.0	2.0	2.4	3.7	8.4	3.4	8.4	9.5	2.8	3.2	3.1	3.2	5.6	8.8	4.0	1.4	4.8	1.5	4.4	2.1	4.1	9.5
8	5.2	S	3.9	6.0	1.8	7.8	3.9	12.8	14.6	12.8	12.5	10.7	10.4	4.2	4.1	6.4	6.3	6.5	11.8	8.7	9.2	5.2	8.0	7.8	7.9	14.6
9	14.5	S	16.4	13.0	7.0	9.4	8.5	3.6	2.0	19.1	18.8	36.6	19.1	18.1	22.2	36.4	38.7	19.3	15.0	12.4	11.3	9.3	11.8	5.2	16.0	38.7
10	4.3	S	9.6	3.2	3.1	3.4	8.5	10.7	9.4	8.2	12.2	9.1	11.9	10.1	18.8	23.3	20.6	21.9	24.7	22.2	43.4	90.6	53.7	42.7	20.2	90.6
11	41.3	S	69.2	38.2	31.8	60.2	55.2	46.2	20.3	17.7	17.5	14.6	17.2	26.2	8.8	13.1	14.8	14.1	9.2	8.0	11.3	8.4	9.3	6.2	24.3	69.2
12	7.6	S	8.1	7.4	10.1	9.2	8.3	11.6	20.1	26.0	18.1	28.0	21.8	19.9	17.6	17.2	13.3	14.9	23.1	21.9	15.7	9.5	7.3	2.9	14.8	28.0
13	3.1	S	2.7	2.6	3.1	5.2	5.9	11.1	6.6	8.1	14.4	17.2	39.7	37.3	36.1	39.5	14.3	12.0	8.8	36.2	17.4	5.0	8.0	4.2	14.7	39.7
14	5.8	S	7.7	6.7	3.3	4.1	9.2	4.5	8.2	9.4	12.2	12.0	11.0	5.3	10.0	5.1	6.2	18.1	5.5	6.6	25.8	6.6	10.0	4.3	8.6	25.8
15	5.3	S	8.7	10.9	4.6	6.3	4.4	15.4	15.1	13.0	11.1	4.7	3.1	3.0	7.2	3.8	3.5	4.0	4.8	3.6	4.1	2.8	4.3	1.8	6.3	15.4
16	2.0	S	6.5	4.5	4.1	8.7	6.5	20.1	11.4	16.7	16.1	13.2	8.9	3.7	2.3	4.6	3.0	3.2	1.2	1.9	14.4	1.2	5.8	7.0	7.2	20.1
17	18.7	S	9.3	3.5	1.7	1.9	2.8	7.3	10.1	4.4	3.4	5.8	5.9	5.7	10.5	6.8	5.4	4.1	4.9	7.8	9.2	7.9	8.4	6.9	6.6	18.7
18	7.3	S	19.7	13.1	4.6	5.6	2.5	10.7	9.1	5.5	3.5	5.2	4.9	2.2	5.7	1.7	2.4	1.4	1.6	1.5	1.9	2.0	1.6	3.2	5.1	19.7
19	2.3	S	7.4	2.1	2.7	2.3	9.6	6.6	5.6	9.4	7.6	7.9	12.8	4.6	9.1	5.5	4.8	5.4	8.0	2.4	2.1	2.1	4.4	6.5	5.7	12.8
20	3.8	S	5.0	3.2	3.6	3.2	11.1	9.2	12.7	8.4	7.4	10.6	9.1	2.5	10.2	11.2	13.6	16.1	11.6	6.1	3.1	10.9	9.0	9.8	8.3	16.1
21	14.4	S	6.0	9.2	7.0	7.7	13.6	12.0	16.4	10.7	15.2	14.1	14.8	21.5	6.7	8.6	20.6	5.5	3.1	3.8	6.0	8.4	5.7	12.2	10.6	21.5
22	9.4	S	2.7	3.1	1.7	1.5	1.6	4.7	19.3	21.5	23.1	24.3	23.1	5.0	3.4	3.4	13.3	P	P	P	6.7	8.8	11.9	16.4	10.2	24.3
23	9.0	S	23.1	23.2	32.2	21.4	18.4	29.4	20.9	25.4	33.1	19.8	9.6	22.3	20.0	9.7	10.1	8.5	11.0	12.4	19.8	26.2	28.5	32.3	20.3	33.1
24	32.3	S	16.8	48.2	32.6	11.2	6.6	27.6	38.2	10.9	20.6	18.2	24.3	12.7	16.7	18.9	24.8	18.5	15.5	15.0	3.8	6.7	10.5	7.2	19.0	48.2
25	2.9	S	2.7	5.1	4.2	3.7	3.2	5.3	4.6	3.5	4.3	7.3	17.2	8.0	17.2	22.8	8.3	7.6	23.0	9.7	6.0	3.1	5.3	9.4	8.0	23.0
26	18.0	S	21.1	26.5	19.2	17.1	7.7	10.2	10.8	31.9	22.1	18.2	10.3	8.8	12.2	14.8	19.6	15.5	8.7	9.1	10.6	4.9	5.0	12.7	14.6	31.9
27	9.2	S	11.3	9.8	14.0	11.7	14.1	24.2	19.8	17.9	12.7	10.5	14.0	8.5	11.7	11.3	16.3	5.9	9.9	23.5	21.6	6.4	5.7	10.9	13.1	24.2
28	8.7	S	23.4	35.0	15.3	8.5	11.5	12.4	8.8	20.5	18.9	35.0	28.1	26.3	17.5	7.8	6.4	11.0	16.9	19.2	35.7	13.1	10.8	8.0	17.3	35.7
29	10.6	S	8.8	13.6	7.5	6.6	8.2	8.3	10.1	12.4	11.2	8.8	9.9	10.4	8.4	13.2	8.4	10.0	6.6	7.9	11.0	11.3	8.2	13.0	9.7	13.6
30	17.0	S	33.5	31.6	30.6	22.0	23.9	14.4	20.6	34.8	29.8	23.1	12.5	12.3	27.3	19.9	15.5	8.4	13.0	9.9	3.3	4.6	8.8	16.0	18.8	34.8
31	21.4	S	17.6	16.6	21.2	20.4	30.3	24.7	26.7	36.7	37.6	32.5	37.8	16.5	18.6	6.0	13.0	3.9	1.6	1.5	2.9	7.3	9.0	1.8	17.6	37.8
NO.	31	-	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	30	30	30	31	31	31	31	704	99.6%
MEAN	10.0	-	12.1	12.1	10.2	9.3	10.1	12.3	12.8	14.7	14.2	14.3	13.8	11.5	11.7	11.6	11.4	9.6	9.4	9.7	11.0	9.6	9.8	9.3		
MAX	41.3	-	69.2	48.2	32.6	60.2	55.2	46.2	38.2	36.7	37.6	36.6	39.7	37.3	36.1	39.5	38.7	21.9	24.7	36.2	43.4	90.6	53.7	42.7		



Number of Non-Zero Readings	704
Maximum 1-HR Average	90.6 PPB
Maximum 24-HR Average	24.3 PPB
Monthly Calibration	6
Standard Deviation	9.635
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	11.3 PPB

Lagoon NO (ppb) – December 2020

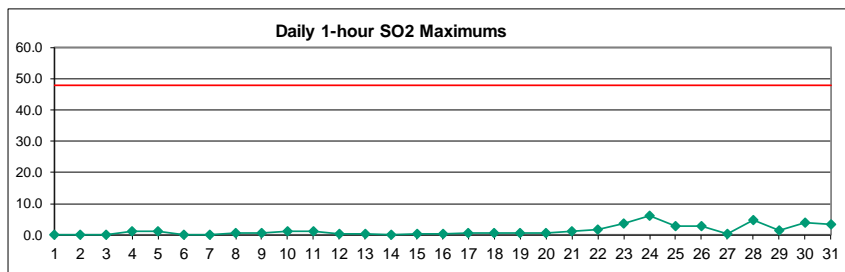
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.3	S	1.2	0.8	12.1	1.7	1.7	2.7	2.0	3.3	1.1	1.2	2.8	4.6	2.4	1.4	0.9	1.9	1.9	3.7	3.3	1.5	4.9	2.3	2.6	12.1
2	1.1	S	0.8	2.0	1.1	1.2	2.3	1.8	1.0	5.5	5.4	2.9	4.8	8.5	1.6	1.4	3.0	0.5	0.4	1.7	0.7	0.3	3.0	0.2	2.2	8.5
3	0.3	S	0.6	0.7	0.3	0.4	1.8	0.4	C	C	C	C	C	C	1.4	2.1	1.2	0.8	1.0	0.7	2.7	3.0	3.1	3.4	-	-
4	2.0	S	1.3	1.2	0.9	0.8	1.0	2.6	2.2	2.5	2.5	5.1	2.4	4.2	3.2	3.8	1.5	2.8	1.3	2.3	3.2	0.8	3.9	2.1	2.3	5.1
5	3.2	S	2.1	2.5	1.9	2.1	2.0	0.9	1.9	0.9	0.8	1.0	2.1	1.0	2.7	1.5	1.6	2.0	2.8	1.0	0.7	1.1	1.0	0.8	1.6	3.2
6	1.1	S	1.8	4.8	1.6	0.7	1.7	1.2	0.6	9.3	2.2	2.4	1.9	2.7	1.0	1.7	2.8	1.7	0.8	0.8	0.7	0.6	0.8	0.9	1.9	9.3
7	1.0	S	1.0	0.5	1.1	0.7	0.8	1.4	3.2	1.3	3.2	3.9	1.2	1.1	0.9	0.9	1.3	2.5	0.7	0.5	1.5	0.5	1.7	0.7	1.4	3.9
8	2.0	S	1.8	2.7	0.6	3.7	1.0	5.2	6.3	5.6	5.4	4.8	5.0	1.4	1.4	2.0	1.1	1.1	3.5	2.7	2.9	0.6	0.7	0.6	2.7	6.3
9	2.1	S	5.3	1.1	0.7	2.3	3.2	1.0	0.8	6.3	6.5	19.8	6.7	6.6	7.4	15.7	18.3	5.5	2.1	0.9	1.5	2.8	4.8	0.7	5.3	19.8
10	0.5	S	4.4	0.6	0.6	0.6	3.4	3.2	2.2	1.9	6.2	3.7	6.4	3.6	7.5	8.4	3.2	5.0	6.7	6.4	26.6	72.0	36.5	21.4	10.0	72.0
11	19.6	S	51.2	21.6	15.3	42.0	38.2	29.6	4.7	5.5	6.6	5.6	8.6	15.0	2.8	5.5	3.5	3.3	0.7	0.7	3.1	1.5	2.4	0.7	12.5	51.2
12	1.7	S	1.5	1.5	4.6	3.6	1.8	3.4	6.7	11.4	6.3	11.6	9.1	8.0	5.0	4.3	1.1	1.4	4.5	5.2	4.5	2.3	1.6	0.6	4.4	11.6
13	0.6	S	0.6	0.6	0.6	0.7	0.7	3.7	1.1	2.1	5.5	6.9	24.4	23.4	23.0	24.1	5.3	4.1	2.3	20.0	8.4	1.1	3.9	1.2	7.1	24.4
14	2.7	S	4.1	2.8	0.9	1.2	3.0	0.8	2.0	3.1	5.6	6.3	6.1	1.8	4.7	1.2	0.9	8.7	0.7	1.0	15.7	1.6	4.1	0.7	3.5	15.7
15	1.7	S	4.0	4.2	1.7	2.8	1.6	6.1	6.1	5.3	5.3	2.6	1.3	1.1	2.6	1.0	1.0	1.1	1.4	1.4	1.3	0.7	1.7	0.7	2.5	6.1
16	0.8	S	2.0	1.3	1.7	3.4	1.8	9.4	3.0	5.3	6.5	5.8	3.2	1.3	1.0	1.7	1.0	1.3	0.6	0.6	6.9	0.7	1.5	2.3	2.7	9.4
17	7.7	S	3.2	1.0	0.6	0.7	0.8	3.3	3.4	1.6	1.5	2.4	2.0	2.0	4.1	1.9	1.6	1.1	0.6	0.8	1.3	0.7	1.3	0.7	1.9	7.7
18	0.8	S	6.3	2.0	0.9	1.8	0.8	3.3	3.5	1.7	1.1	1.7	1.8	0.9	2.7	0.7	1.1	0.7	0.8	0.7	0.8	0.8	0.7	1.2	1.6	6.3
19	0.8	S	3.1	0.9	1.0	0.8	4.5	2.7	2.1	3.9	3.6	3.9	6.3	1.8	3.4	1.9	2.0	1.7	3.4	1.0	0.8	0.8	1.9	3.1	2.4	6.3
20	1.0	S	2.3	0.9	0.6	0.6	4.5	3.1	4.4	2.9	2.7	4.8	3.6	1.1	3.4	3.7	3.0	5.7	2.6	1.1	0.7	3.2	4.1	2.3	2.7	5.7
21	5.0	S	1.8	3.6	2.4	1.5	4.9	3.1	5.7	2.8	3.6	3.5	3.4	6.1	1.4	1.7	6.8	1.2	0.6	0.6	0.7	1.0	1.0	1.9	2.8	6.8
22	1.9	S	0.6	0.6	0.6	0.6	0.6	1.0	4.8	4.2	6.5	7.8	8.3	1.5	1.6	0.8	4.6	P	P	P	3.1	0.8	2.9	6.0	2.9	8.3
23	2.3	S	13.1	12.5	17.8	11.9	9.4	16.4	11.1	13.8	20.1	10.4	4.1	10.7	9.6	3.9	3.8	3.3	4.3	5.0	8.0	11.8	14.6	17.1	10.2	20.1
24	17.9	S	7.6	31.4	20.0	6.0	2.9	15.6	21.9	3.7	11.2	9.6	14.5	6.4	9.1	9.4	13.0	7.8	6.5	6.5	0.6	2.0	4.9	2.9	10.1	31.4
25	0.7	S	0.6	2.5	1.6	0.7	0.8	1.9	1.9	1.0	1.8	3.8	9.3	3.8	9.3	12.7	3.7	2.3	11.9	3.1	1.9	0.6	1.1	3.1	3.5	12.7
26	7.8	S	9.5	12.4	8.3	7.2	1.7	1.9	1.1	11.3	6.8	6.7	3.3	2.8	3.8	4.0	2.3	1.2	1.1	0.9	2.7	0.5	0.6	4.4	4.5	12.4
27	0.9	S	3.9	1.9	3.1	1.4	1.3	6.5	5.1	5.5	4.4	4.9	7.1	3.0	3.9	3.3	6.4	0.8	2.9	12.2	9.8	1.5	1.4	4.0	4.1	12.2
28	3.6	S	11.8	18.4	5.8	2.7	4.5	3.6	1.2	7.7	9.1	19.6	15.9	14.1	7.8	1.9	1.2	3.3	5.7	3.8	13.2	5.4	4.2	1.0	7.2	19.6
29	2.5	S	1.2	4.2	0.6	0.6	1.9	1.6	1.6	5.3	4.4	3.4	4.9	4.7	2.6	6.0	2.2	3.3	1.7	2.3	3.7	5.8	2.8	5.9	3.2	6.0
30	8.7	S	19.9	20.3	17.5	12.1	13.2	5.5	9.1	20.2	17.0	11.4	6.1	5.1	13.1	8.8	7.1	3.3	4.7	4.1	1.0	2.3	3.7	7.1	9.6	20.3
31	9.7	S	8.1	8.1	10.0	9.9	16.0	14.0	14.9	22.5	24.7	19.8	23.3	8.3	8.5	2.1	4.6	0.7	0.5	0.5	0.9	3.4	3.6	0.5	9.3	24.7
NO.	31	-	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	30	30	30	31	31	31	31	704	99.6%
MEAN	3.6	-	5.7	5.5	4.4	4.1	4.3	5.1	4.5	5.9	6.3	6.6	6.7	5.2	4.9	4.5	3.6	2.7	2.6	3.1	4.3	4.2	4.0	3.2		
MAX	19.6	-	51.2	31.4	20.0	42.0	38.2	29.6	21.9	22.5	24.7	19.8	24.4	23.4	23.0	24.1	18.3	8.7	11.9	20.0	26.6	72.0	36.5	21.4		



Number of Non-Zero Readings	704		
Maximum 1-HR Average	72.0 PPB		
Maximum 24-HR Average	12.5 PPB		
Monthly Calibration	6	Operational Time	741 HRS
Standard Deviation	6.194	Operational Uptime	99.6 %
		Monthly Average	4.6 PPB

Lagoon SO₂ (ppb) – December 2020

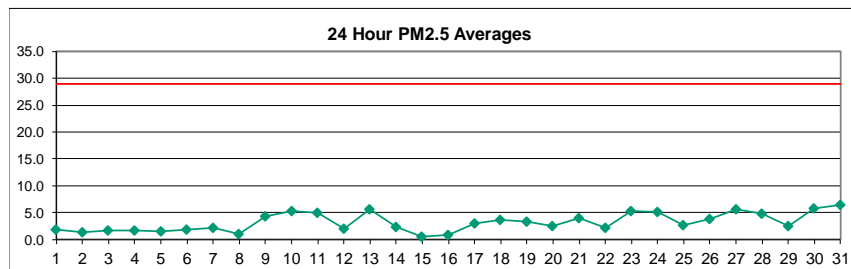
Day	HOURLY																								MEAN	MAX		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
3	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.2	0.0	0.0	0.2	0.0	0.0	0.0	1.1	2.4	1.7	-	-	
4	0.2	S	0.0	1.2	1.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.0	0.0	0.0	0.1	0.1	0.2	0.5	0.0	0.0	0.0	0.0	0.2	1.2	
5	0.0	S	0.5	0.1	0.5	0.7	1.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	
6	0.0	S	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
7	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
8	0.3	S	0.0	0.1	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.5	0.0	
9	0.0	S	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.3	0.4	0.0	0.0	0.6	0.4	0.3	0.2	0.4	0.0	0.1	0.0	0.0	0.3	0.2	0.6	0.0	
10	0.0	S	0.3	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.4	1.2	0.5	0.6	0.2	1.2	0.0	
11	0.3	S	0.5	0.3	0.3	0.0	1.1	0.4	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.0	
12	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
13	0.0	S	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
14	0.0	S	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
15	0.0	S	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.0	0.0	0.4	0.1	0.0	0.1	0.4	0.0	
16	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.2	0.0	
17	0.2	S	0.2	0.4	0.1	0.0	0.4	0.5	0.0	0.3	0.0	0.7	0.3	0.2	0.0	0.7	0.3	0.0	0.1	0.2	0.2	0.0	0.2	0.0	0.2	0.7	0.0	
18	0.1	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.6	0.1	0.6	0.0	
19	0.0	S	0.2	0.0	0.0	0.4	0.3	0.2	0.0	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.5	0.0	
20	0.0	S	0.2	0.2	0.6	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0
21	0.0	S	0.2	0.0	0.5	0.0	0.4	0.0	1.2	0.0	0.8	0.1	0.3	0.0	0.0	0.0	0.3	0.2	0.4	0.0	0.1	0.0	0.2	1.1	0.3	1.2	0.0	
22	0.6	S	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.7	0.0	0.0	0.0	0.6	P	P	P	1.7	0.0	0.0	0.3	0.2	1.7	0.0	
23	0.0	S	1.0	0.3	1.6	1.0	0.3	1.9	0.3	0.6	1.5	0.5	0.0	0.9	0.7	0.0	0.0	0.0	0.6	0.5	2.8	2.1	3.6	3.4	1.0	3.6	0.0	
24	4.7	S	1.1	6.3	4.2	0.8	0.0	0.9	3.1	0.2	1.6	2.7	5.8	2.4	2.0	3.6	5.4	3.7	1.8	1.1	0.1	0.3	0.3	0.2	2.3	6.3	0.0	
25	0.0	S	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.1	0.1	2.8	0.8	1.5	2.8	0.1	0.4	2.0	0.0	0.0	0.0	0.1	0.2	0.5	2.8	0.0		
26	0.8	S	2.0	3.0	1.3	1.6	0.0	0.0	0.3	0.0	0.1	0.4	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.4	3.0	0.0	
27	0.4	S	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.1	0.4	0.0	
28	0.0	S	0.8	1.4	0.9	0.2	0.0	0.0	0.2	1.4	1.5	4.7	3.6	2.8	0.8	0.4	0.2	0.0	0.3	1.9	3.5	0.2	0.3	0.0	1.1	4.7	0.0	
29	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.1	1.5	0.0	
30	1.5	S	2.4	3.0	3.8	2.5	3.7	0.7	2.0	3.9	3.9	3.7	0.9	1.3	3.7	3.1	1.1	0.3	0.5	0.8	0.1	0.0	0.2	1.5	1.9	3.9	0.0	
31	2.1	S	1.2	1.3	2.5	0.8	3.3	2.9	2.7	3.1	3.5	2.5	2.8	1.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	1.3	3.5	0.0	
NO.	31	-	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	30	30	30	31	31	31	31	704	99.6%	0.0	
MEAN	0.4	-	0.4	0.6	0.6	0.3	0.4	0.3	0.3	0.4	0.5	0.6	0.6	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.4			0.0	
MAX	4.7	-	2.4	6.3	4.2	2.5	3.7	2.9	3.1	3.9	3.9	4.7	5.8	2.8	3.7	3.6	5.4	3.7	2.0	1.9	3.5	2.1	3.6	3.4			0.0	



Number of 1HR Exceedences	0
Number of Non-Zero Readings	308
Maximum 1-HR Average	6.3 PPB
Maximum 24-HR Average	2.3 PPB
Monthly Calibration	6
Standard Deviation	0.86
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	0.4 PPB

Lagoon PM_{2.5} (µg/m³) – December 2020

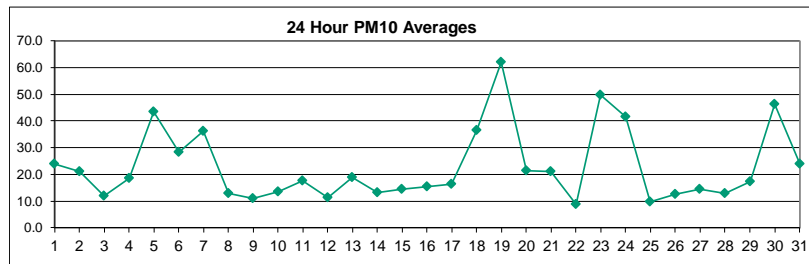
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.0	0.0	0.0	0.7	3.0	2.8	1.0	0.0	0.0	3.4	4.3	0.0	0.3	2.2	1.9	1.9	2.2	1.4	0.5	1.5	4.7	4.4	4.7	3.7	1.9	4.7
2	0.3	0.0	0.0	0.0	0.0	4.0	3.8	1.3	2.6	2.8	0.8	0.4	0.7	3.0	3.1	0.8	1.0	3.0	3.4	0.7	0.2	1.1	0.1	1.1	1.4	4.0
3	3.6	2.8	0.8	0.4	0.0	0.0	0.0	1.6	2.5	1.8	C	C	C	C	0.0	0.0	3.0	2.9	0.0	2.0	6.5	4.2	1.2	1.9	1.8	6.5
4	3.0	3.0	2.2	2.3	3.0	3.0	2.6	2.9	1.1	0.0	0.9	4.0	2.9	0.5	2.2	1.9	0.8	0.9	1.2	0.4	0.0	0.5	1.5	0.8	1.7	4.0
5	0.0	0.0	0.4	0.0	1.9	2.9	1.9	2.3	3.0	3.3	3.0	0.8	0.0	0.0	0.0	0.0	1.2	3.7	4.7	1.1	0.0	1.9	4.4	1.8	1.6	4.7
6	0.0	3.0	2.6	3.7	2.6	0.2	0.8	0.5	0.8	1.0	0.0	5.1	5.4	3.7	2.6	1.1	2.3	4.3	0.4	0.0	0.8	0.1	0.2	5.0	1.9	5.4
7	2.5	0.0	3.7	4.7	0.0	0.0	0.0	0.0	0.0	2.0	9.0	7.6	5.8	2.9	1.2	4.4	3.6	0.0	0.1	0.0	3.1	2.2	0.3	0.0	2.2	9.0
8	0.0	1.7	1.5	1.2	2.2	1.1	0.1	0.1	1.5	0.0	0.5	5.0	3.6	1.2	0.8	0.2	0.0	0.5	1.2	0.9	0.0	0.0	0.0	0.0	1.0	5.0
9	0.0	0.0	0.4	0.5	2.9	0.8	0.0	1.9	1.1	0.0	0.0	0.0	2.2	1.2	3.3	22.3	17.6	17.9	6.2	4.1	7.2	6.9	4.0	3.6	4.3	22.3
10	0.0	0.0	0.1	1.9	3.7	2.2	0.0	0.0	0.0	0.0	1.6	5.8	5.2	8.0	12.3	11.6	9.4	8.7	5.6	10.5	9.4	7.3	11.9	11.2	5.3	12.3
11	10.5	8.4	9.7	7.3	6.5	5.5	5.8	3.7	3.7	4.1	6.6	8.3	5.4	2.6	2.2	1.2	1.6	4.0	3.3	1.9	3.3	5.5	4.4	3.0	4.9	10.5
12	1.5	0.0	1.9	3.0	2.9	2.2	0.0	0.0	0.0	0.0	0.0	1.2	2.6	4.7	2.6	0.5	1.9	3.7	3.7	3.7	5.5	4.4	1.9	2.3	2.1	5.5
13	3.7	4.0	2.6	0.8	0.0	0.0	2.6	3.3	2.3	6.2	5.1	3.0	7.6	9.1	9.8	11.9	10.1	9.4	6.9	8.4	11.2	11.5	5.1	0.4	5.6	11.9
14	0.5	2.6	1.1	0.0	0.0	0.0	0.0	0.0	0.8	0.9	3.6	3.4	9.4	5.8	2.0	9.4	6.2	3.0	1.5	0.4	0.8	0.9	1.9	2.2	2.3	9.4
15	2.9	1.9	0.1	0.5	2.2	0.0	0.0	1.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.2	0.4	0.0	0.0	0.0	0.0	1.2	0.8	0.5	2.9
16	0.0	0.0	0.0	1.2	1.5	0.0	0.0	4.7	2.9	0.4	0.8	1.5	1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	0.8	0.0	0.9	4.7
17	0.0	0.8	2.2	0.4	0.0	0.0	1.5	1.1	0.0	0.0	0.0	0.0	0.0	1.5	1.9	0.5	1.2	1.2	0.8	3.7	13.0	15.9	14.1	13.0	3.0	15.9
18	10.9	14.4	13.4	14.8	10.1	4.0	0.0	1.2	0.1	0.0	0.0	0.0	0.0	3.7	3.7	1.9	0.0	4.3	5.1	0.1	0.0	0.0	0.0	0.0	3.6	14.8
19	2.2	1.9	2.3	5.1	3.6	0.0	0.1	4.7	3.5	16.5	9.0	5.8	1.9	2.3	7.3	6.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0	4.4	3.4	16.5
20	5.4	1.5	0.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.6	5.5	4.1	6.2	4.4	1.9	1.6	6.2	5.1	3.3	2.3	4.0	3.7	2.5	6.2
21	3.0	5.6	2.6	0.8	0.0	0.5	2.6	2.9	1.8	0.0	0.0	3.9	22.3	14.9	19.7	4.4	3.0	1.2	2.2	3.3	0.0	0.0	0.1	0.0	3.9	22.3
22	0.0	0.0	0.0	0.0	1.9	0.8	0.0	0.0	0.0	2.6	3.3	4.4	5.1	4.4	1.9	0.4	14.1	P	P	P	P	P	P	0.0	2.2	14.1
23	1.9	2.3	7.2	6.9	6.9	8.0	5.4	3.0	7.3	9.0	6.9	7.2	7.3	5.5	4.7	4.0	1.9	4.8	5.5	3.6	1.9	5.8	5.0	6.2	5.3	9.0
24	6.9	6.9	10.5	7.0	12.3	9.7	5.4	0.1	0.2	8.5	5.5	7.2	4.9	8.7	6.9	2.6	0.0	0.0	3.3	4.0	5.1	4.7	2.6	0.8	5.2	12.3
25	1.5	1.2	0.0	0.0	1.9	2.6	0.1	1.2	1.5	0.8	0.0	0.0	0.0	1.5	2.3	5.5	8.4	4.4	3.0	12.3	7.9	3.0	3.0	3.6	2.7	12.3
26	4.7	5.5	10.5	6.9	4.4	3.3	4.0	2.2	3.3	5.1	4.0	1.9	4.4	3.3	0.0	0.0	1.5	2.4	4.4	3.3	3.0	4.4	4.1	6.5	3.9	10.5
27	6.5	4.8	6.2	5.9	9.5	8.7	8.7	5.6	11.2	8.7	7.6	5.1	2.2	3.3	3.7	0.8	0.1	1.2	3.7	4.4	8.4	9.8	6.5	3.7	5.7	11.2
28	3.0	3.0	1.6	1.2	6.5	4.7	0.0	0.0	0.0	2.6	5.8	4.1	13.0	9.8	7.2	4.0	1.9	2.6	6.6	6.9	7.0	13.7	8.3	3.3	4.9	13.7
29	4.4	5.4	3.3	1.2	1.5	1.5	0.4	0.5	1.2	1.6	0.8	2.6	2.9	0.4	0.0	1.2	1.9	4.9	4.0	1.2	3.7	6.5	3.3	4.0	2.4	6.5
30	3.7	3.3	6.5	7.6	8.4	10.1	6.9	8.7	6.9	7.3	13.0	11.5	6.9	3.0	6.2	6.9	7.6	4.7	3.7	4.0	1.5	0.8	0.8	0.8	5.9	13.0
31	4.1	8.7	5.8	3.7	4.4	11.6	8.0	9.8	7.9	5.9	13.3	9.0	6.2	7.3	6.6	11.6	7.6	4.0	4.3	2.6	0.1	0.5	4.4	5.8	6.4	13.3
NO.	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	30	30	30	30	30	30	31	734	99.2%
MEAN	2.8	3.0	3.2	2.9	3.3	2.9	2.0	2.1	2.2	3.1	3.6	3.7	4.5	4.0	3.9	3.9	3.8	3.4	3.0	3.0	3.6	4.0	3.3	3.0		
MAX	10.9	14.4	13.4	14.8	12.3	11.6	8.7	9.8	11.2	16.5	13.3	11.5	22.3	14.9	19.7	22.3	17.6	17.9	6.9	12.3	13.0	15.9	14.1	13.0		



Number of 24HR Exceedences	0
Number of Non-Zero Readings	587
Maximum 1-HR Average	22.3 UG/M3
Maximum 24-HR Average	6.4 UG/M3
Monthly Calibration	4
Standard Deviation	3.559
Operational Time	738 HRS
Operational Uptime	99.2 %
Monthly Average	3.3 UG/M3

Lagoon PM₁₀ (µg/m³) – December 2020

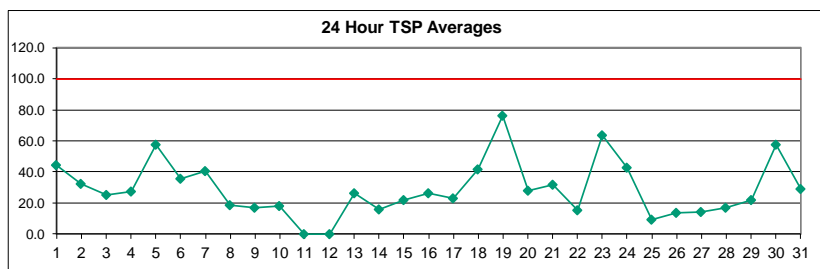
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	15.3	11.9	8.6	7.0	0.5	0.3	7.4	8.2	12.0	32.8	34.3	20.9	35.7	23.3	39.8	27.7	50.1	51.4	62.3	46.5	21.6	20.6	16.6	22.5	24.1	62.3
2	14.0	11.2	8.0	8.0	7.4	7.3	6.6	15.8	21.4	29.8	30.8	37.0	55.9	41.3	50.8	50.9	31.0	17.1	10.7	10.1	9.3	8.2	10.9	13.8	21.1	55.9
3	8.4	2.7	3.6	8.7	7.9	6.3	10.8	12.1	12.8	13.4	C	C	C	C	17.0	0.0	17.0	9.0	14.4	6.7	6.8	9.8	29.3	43.3	12.0	43.3
4	10.4	15.3	0.9	7.2	25.5	22.4	12.8	17.3	76.9	15.9	10.8	11.7	27.4	33.6	29.1	19.1	23.2	15.2	10.2	10.9	12.8	13.4	12.8	14.0	18.7	76.9
5	23.7	45.4	25.7	45.8	85.3	71.7	204.1	72.2	56.2	34.9	19.2	12.7	12.5	18.5	23.7	14.2	26.0	20.8	22.0	28.2	23.4	42.8	77.4	36.4	43.4	204.1
6	44.4	17.9	13.2	9.1	4.7	6.1	7.9	5.9	3.5	6.2	13.5	70.2	77.2	43.9	30.2	15.3	12.2	25.6	15.0	28.3	19.2	81.4	82.3	43.5	28.2	82.3
7	26.7	53.3	216.9	124.7	22.9	0.0	5.0	13.1	40.9	44.6	46.4	85.5	42.9	25.2	28.6	19.9	1.6	8.1	9.3	8.3	22.5	4.5	2.1	17.0	36.2	216.9
8	30.5	22.1	29.4	24.3	23.6	13.1	17.8	10.6	9.2	16.4	8.7	19.7	10.7	10.6	7.8	3.3	5.3	27.1	15.9	0.0	0.7	3.1	0.6	0.7	13.0	30.5
9	3.4	4.4	0.6	0.9	1.9	2.9	7.3	6.5	3.3	3.6	8.9	22.8	9.4	20.7	17.3	24.5	28.4	27.1	6.2	8.9	12.3	15.5	15.7	8.7	10.9	28.4
10	7.9	6.0	6.0	6.6	4.6	3.9	3.3	3.4	4.8	7.4	8.1	9.5	21.2	16.1	25.4	21.0	22.4	25.7	15.6	17.6	18.5	23.9	27.2	19.3	13.6	27.2
11	15.3	22.3	12.7	22.7	29.0	17.6	19.5	18.1	17.3	23.1	36.6	27.3	21.1	24.5	27.7	27.6	13.9	10.4	14.9	5.3	5.3	4.4	0.7	1.9	17.5	36.6
12	2.0	3.4	5.2	3.5	5.8	0.8	0.0	3.3	3.4	4.7	7.0	24.1	31.5	26.5	28.7	22.3	12.1	11.6	11.7	18.2	18.2	6.7	7.9	15.6	11.4	31.5
13	5.8	7.2	5.3	16.4	9.2	5.9	3.9	3.2	1.6	8.4	15.2	21.0	22.7	29.9	21.1	24.2	32.4	8.8	11.1	18.3	31.4	26.2	38.9	87.5	19.0	87.5
14	33.0	39.4	50.9	19.2	12.5	9.2	6.1	7.5	9.7	14.6	0.3	6.4	13.3	21.1	12.7	10.5	6.5	4.0	4.7	5.9	4.8	8.2	10.0	8.7	13.3	50.9
15	7.8	4.1	6.9	10.8	10.6	9.4	20.4	12.4	30.3	51.2	46.1	23.4	8.2	10.1	11.1	17.1	10.0	8.1	8.7	7.9	6.1	8.6	16.6	0.6	14.4	51.2
16	1.6	7.3	6.5	4.0	4.5	1.4	3.5	7.3	17.4	26.4	28.4	40.7	55.9	38.9	9.8	6.0	17.0	8.0	7.8	4.1	6.9	20.4	11.6	35.3	15.4	55.9
17	14.7	16.5	66.1	39.8	3.9	2.5	1.5	5.0	10.6	18.7	15.0	18.6	14.3	16.7	14.7	24.7	19.7	9.9	7.6	22.2	19.9	14.5	9.4	9.4	16.5	66.1
18	10.1	11.1	16.4	20.0	15.7	18.0	12.6	8.7	8.1	20.8	28.6	15.6	41.8	74.3	92.4	43.7	82.2	38.4	25.8	27.5	26.2	60.7	102.3	78.6	36.6	102.3
19	34.6	36.5	30.7	167.4	65.0	21.3	31.5	61.8	84.4	382.8	84.7	52.7	66.4	33.3	24.9	23.4	22.6	26.9	12.9	17.4	51.2	88.8	13.3	55.7	62.1	382.8
20	46.5	22.4	33.9	14.2	4.2	9.0	13.5	14.4	6.8	10.0	22.2	43.5	44.8	13.9	9.4	8.8	10.4	29.0	49.2	22.3	10.8	13.9	42.6	20.6	21.5	49.2
21	36.6	16.1	14.4	18.3	21.7	44.8	24.6	25.7	15.8	20.2	20.5	26.2	34.4	35.2	56.2	10.7	11.2	29.5	4.0	16.6	11.6	3.1	1.0	7.8	21.1	56.2
22	3.1	0.2	4.8	8.0	7.4	7.5	10.0	8.6	6.1	8.0	8.0	6.9	11.1	15.7	7.9	5.9	3.9	P	P	P	P	P	P	32.7	8.7	32.7
23	13.6	15.5	16.9	27.6	14.7	15.5	60.6	43.8	51.5	48.6	46.7	38.3	67.2	54.4	47.4	51.2	91.5	63.2	121.9	52.5	60.8	68.8	43.9	78.2	49.8	121.9
24	76.7	155.0	253.1	23.3	107.8	95.4	14.5	0.0	16.9	17.4	4.3	9.2	17.3	47.7	29.4	12.1	13.6	26.6	20.5	12.9	14.6	10.0	8.6	7.4	41.4	253.1
25	7.6	10.6	7.7	1.0	0.6	2.1	15.6	17.4	4.0	4.8	8.2	10.0	8.8	10.3	23.9	10.0	9.2	6.1	8.1	20.3	9.3	7.4	8.6	18.6	9.6	23.9
26	14.2	14.6	22.8	19.6	20.2	19.8	12.6	8.5	4.8	8.2	22.2	9.1	15.8	8.9	11.4	10.0	8.0	8.1	9.4	9.4	10.3	13.3	11.4	11.1	12.6	22.8
27	15.9	12.0	10.5	15.3	13.2	20.1	18.5	20.5	25.1	14.9	16.5	10.8	11.5	13.2	18.7	14.5	8.9	11.4	10.0	9.3	19.3	14.2	14.0	10.4	14.5	25.1
28	5.3	4.8	6.6	4.7	5.9	3.3	2.3	8.0	6.6	5.3	5.9	16.5	34.5	34.9	19.4	16.5	12.0	32.6	23.3	16.6	12.9	14.6	10.6	8.1	13.0	34.9
29	9.5	11.1	5.2	3.2	2.6	2.8	5.3	5.3	4.0	4.1	5.9	15.5	14.5	21.8	24.7	20.3	22.2	31.4	25.5	33.4	26.6	30.1	27.1	61.3	17.2	61.3
30	43.6	28.0	56.0	53.4	52.5	49.3	57.2	29.1	20.2	44.2	59.3	46.0	56.8	55.1	48.9	51.9	48.5	56.7	54.1	51.4	28.2	37.9	59.7	26.5	46.4	59.7
31	17.0	19.1	10.6	9.3	31.6	38.7	18.7	4.8	7.9	16.6	24.0	20.1	30.7	47.3	59.2	52.6	36.7	4.8	7.6	11.4	11.4	23.0	35.0	33.9	23.8	59.2
NO.	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	30	30	30	30	30	30	31	734	99.2%
MEAN	19.3	20.9	30.8	24.0	20.1	17.1	20.5	15.4	19.1	30.9	22.9	25.7	30.5	28.9	28.0	21.3	22.9	21.8	20.7	18.3	17.8	23.3	24.9	26.7		
MAX	76.7	155.0	253.1	167.4	107.8	95.4	204.1	72.2	84.4	382.8	84.7	85.5	77.2	74.3	92.4	52.6	91.5	63.2	121.9	52.5	60.8	88.8	102.3	87.5		



Number of Non-Zero Readings	729		
Maximum 1-HR Average	382.8 UG/M3		
Maximum 24-HR Average	62.1 UG/M3		
Monthly Calibration	4	Operational Time	738 HRS
Standard Deviation	27.8	Operational Uptime	99.2 %
		Monthly Average	23.0 UG/M3

Lagoon TSP ($\mu\text{g}/\text{m}^3$) – December 2020

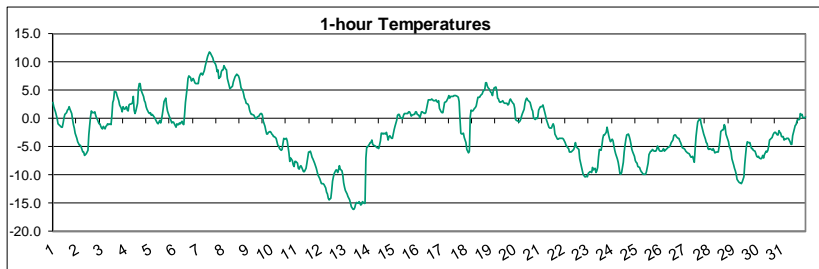
HOUR																										
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	16.6	14.1	15.0	8.3	5.7	15.2	13.0	19.4	40.3	62.6	63.2	32.8	68.0	47.6	87.6	49.3	84.9	92.7	111.2	75.9	46.9	41.0	29.2	27.7	44.5	111.2
2	24.7	18.1	16.4	10.6	22.6	19.2	14.3	18.5	24.4	35.5	37.8	44.6	69.3	69.6	75.9	91.2	62.9	24.7	18.3	19.2	12.7	14.4	20.5	13.7	32.5	91.2
3	8.5	9.1	19.0	9.9	10.4	18.5	22.9	25.2	26.8	32.8	C	C	C	C	38.7	32.3	39.4	12.9	20.9	18.1	17.1	27.2	47.7	59.9	24.9	59.9
4	15.4	15.1	10.9	19.4	38.4	29.9	18.6	25.6	34.6	31.5	23.6	23.1	37.2	53.2	38.2	49.5	41.3	34.2	24.5	16.0	24.5	14.7	24.6	18.0	27.6	53.2
5	38.7	57.9	52.0	65.7	117.9	100.5	134.5	113.8	92.7	75.3	34.5	19.9	25.0	24.8	41.1	21.0	44.1	38.7	35.8	52.0	40.9	52.4	66.5	32.2	57.4	134.5
6	56.5	26.0	18.0	15.2	11.6	16.2	7.6	15.3	14.3	19.7	27.7	115.6	101.0	51.4	28.7	19.6	21.8	35.4	23.3	37.9	23.3	61.8	51.3	50.0	35.4	115.6
7	30.8	83.5	153.4	77.0	18.8	7.6	15.6	19.0	34.2	48.6	53.1	125.0	60.3	27.0	50.9	41.6	18.3	19.2	12.9	17.8	33.2	8.1	6.1	13.8	40.7	153.4
8	33.1	28.5	37.8	42.1	30.1	22.3	21.9	14.9	6.4	16.7	15.8	21.7	11.4	13.7	8.4	7.5	15.5	38.9	19.1	11.0	7.0	4.3	3.2	7.0	18.3	42.1
9	5.1	16.2	5.5	7.2	8.4	7.4	12.6	10.3	7.1	7.9	21.6	34.7	11.1	31.6	25.3	29.9	40.0	33.6	14.4	20.3	10.3	16.7	15.2	10.2	16.8	40.0
10	5.8	7.0	5.6	3.1	5.7	4.1	0.2	0.6	7.2	8.8	14.2	16.6	12.9	17.5	29.6	34.8	36.0	33.0	26.5	27.0	35.3	21.7	40.0	34.1	17.8	40.0
11	23.9	26.0	19.4	39.8	51.8	26.8	33.1	51.0	45.7	45.6	63.9	42.3	84.5	X	X	X	X	X	X	X	X	X	X	X	-	-
12	X	X	X	X	X	X	X	X	X	X	X	X	42.7	35.8	29.5	32.7	20.4	19.9	25.5	31.8	51.0	43.4	25.0	22.7	-	-
13	24.4	12.4	8.9	15.2	7.2	9.6	7.4	7.1	7.4	12.6	13.2	23.8	26.0	41.1	31.4	29.2	27.2	17.0	19.9	26.5	49.0	34.4	55.4	117.0	26.0	117.0
14	36.6	44.4	41.7	20.0	25.6	11.1	8.6	9.6	4.5	7.0	6.5	19.9	25.1	24.8	19.5	17.6	7.3	9.9	9.7	7.0	4.5	7.3	9.7	7.4	16.0	44.4
15	12.3	7.4	11.2	10.2	8.4	7.8	19.7	23.4	43.3	70.5	64.8	33.7	15.6	18.2	18.6	22.2	19.1	11.7	17.7	10.0	11.9	23.1	34.4	4.7	21.7	70.5
16	9.6	5.6	3.1	5.7	4.2	2.2	22.2	20.0	29.3	51.9	38.9	66.4	107.5	71.6	15.6	9.0	16.9	17.9	13.6	6.3	15.9	22.8	10.2	60.0	26.1	107.5
17	20.3	35.4	88.8	43.1	9.6	4.2	1.8	6.4	17.6	29.6	13.3	23.6	22.1	18.4	23.0	34.6	32.5	17.6	9.2	21.3	27.3	16.6	14.1	15.2	22.7	88.8
18	11.3	13.3	24.1	30.5	27.8	5.0	15.2	11.6	17.4	29.1	47.9	16.2	70.2	94.1	67.7	49.5	63.8	40.1	40.8	49.5	42.6	60.7	99.7	73.9	41.8	99.7
19	39.3	45.1	41.8	177.6	68.0	22.8	34.1	93.3	122.3	459.1	128.0	69.6	71.9	43.1	44.1	38.6	33.5	33.9	19.7	24.7	64.6	74.0	15.6	65.0	76.2	459.1
20	60.6	29.5	32.5	17.7	10.1	13.7	8.9	14.8	4.8	13.3	26.6	52.3	43.1	8.3	6.3	21.9	17.9	60.8	77.8	33.2	10.2	18.4	66.7	23.7	28.1	77.8
21	45.1	10.2	15.9	24.5	38.7	88.1	32.2	34.8	22.3	22.4	24.6	39.6	51.3	52.6	92.5	17.4	29.0	46.6	12.7	12.7	12.4	6.1	11.4	14.1	31.5	92.5
22	15.2	11.5	15.6	17.9	14.3	19.0	31.3	19.0	9.9	10.3	17.9	12.7	14.3	19.3	13.6	7.3	10.9	P	P	P	P	P	P	15.3	15.3	31.3
23	15.3	36.7	24.0	51.4	28.5	22.1	109.2	81.4	75.2	79.3	65.6	52.9	100.2	61.6	71.5	85.7	104.1	61.0	82.3	44.4	46.2	74.8	52.7	99.5	63.6	109.2
24	100.2	183.1	247.2	34.1	93.3	97.3	17.2	2.3	14.5	21.2	2.1	11.3	13.1	21.4	28.4	14.6	23.5	19.6	19.8	23.3	15.3	5.9	8.1	1.7	42.4	247.2
25	4.9	13.5	4.5	6.9	3.5	11.0	6.9	2.8	0.2	0.4	4.6	8.6	10.1	12.8	12.7	14.0	13.7	8.5	8.6	22.9	8.5	8.4	7.8	19.6	9.0	22.9
26	21.1	23.8	24.9	22.4	22.9	9.6	7.0	4.2	2.4	17.4	27.2	17.0	19.8	7.2	8.9	15.0	7.4	12.6	11.2	9.8	8.6	9.8	8.4	7.0	13.6	27.2
27	6.2	13.9	11.7	18.0	14.4	20.7	17.0	21.4	28.3	13.1	20.3	8.6	9.9	11.1	24.6	15.0	7.8	19.3	13.6	6.2	13.6	7.1	7.1	7.3	14.0	28.3
28	9.7	8.4	7.0	4.8	12.4	8.3	5.6	3.2	5.7	4.8	12.5	11.6	40.2	38.0	23.1	35.0	17.3	47.7	32.4	16.1	27.2	15.4	8.3	4.8	16.6	47.7
29	12.7	13.6	7.0	4.2	1.0	7.3	9.6	7.0	5.6	2.9	1.8	6.2	14.0	15.0	31.7	26.6	28.9	44.7	26.7	53.1	35.5	42.0	48.7	72.2	21.6	72.2
30	50.0	28.6	50.4	58.8	67.6	62.7	65.7	27.3	20.4	59.5	80.2	76.4	78.3	66.7	69.9	80.0	73.0	64.3	66.8	47.0	42.9	52.9	54.1	30.5	57.3	80.2
31	27.2	15.3	13.5	6.0	34.3	48.1	16.5	11.2	10.7	25.2	27.8	27.2	41.7	65.7	73.7	53.8	46.3	7.7	16.8	16.5	12.0	25.9	39.8	31.8	28.9	73.7
NO.	30	30	30	30	30	30	30	30	30	30	29	29	30	29	30	30	30	29	29	29	29	29	29	30	711	96.1%
MEAN	26.0	28.4	34.2	28.9	27.1	24.6	24.3	23.8	25.9	43.8	33.8	36.3	43.3	36.7	37.7	33.2	33.5	31.9	28.7	26.1	25.9	28.0	30.4	32.0		
MAX	100.2	183.1	247.2	177.6	117.9	100.5	134.5	113.8	122.3	459.1	128.0	125.0	107.5	94.1	92.5	91.2	104.1	92.7	111.2	75.9	64.6	74.8	99.7	117.0		



Number of 24HR Exceedences	0
Number of Non-Zero Readings	711
Maximum 1-HR Average	459.1 UG/M3
Maximum 24-HR Average	76.2 UG/M3
Monthly Calibration	4
Standard Deviation	31.8
Operational Time	715 HRS
Operational Uptime	96.1 %
Monthly Average	31.0 UG/M3

Lagoon Temperature (°C) – December 2020

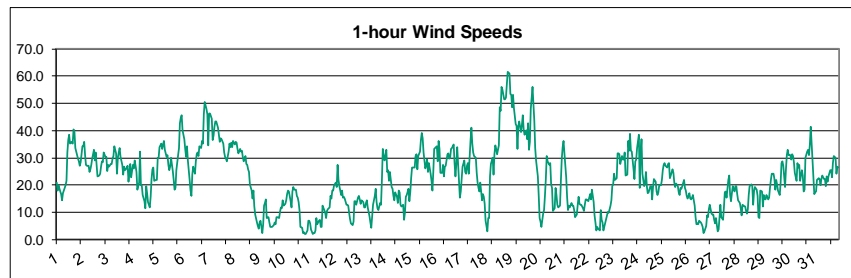
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	2.8	2.0	1.1	0.6	0.0	-0.9	-1.1	-1.4	-1.5	-1.6	-0.8	0.1	0.7	1.0	1.5	1.6	2.0	1.6	0.9	-0.2	-1.1	-1.6	-2.7	-3.5	0.0	2.8
2	-4.1	-4.5	-4.8	-4.8	-5.0	-6.0	-6.0	-6.6	-6.5	-6.2	-5.6	-2.9	-1.2	0.3	1.3	1.0	1.0	1.1	0.6	0.1	-0.3	-1.0	-0.9	-1.4	-2.6	1.3
3	-1.7	-1.9	-1.4	-1.8	-1.4	-1.2	-0.9	-1.0	-0.9	-1.2	0.6	2.8	3.3	4.8	4.7	4.1	3.6	3.2	2.3	1.7	1.2	2.0	1.8	1.6	1.0	4.8
4	2.1	1.4	1.4	2.3	2.5	2.6	2.7	3.9	1.5	0.8	1.2	2.7	5.3	6.1	6.2	5.1	4.6	3.9	3.1	2.8	2.0	1.6	1.1	0.9	2.8	6.2
5	0.9	0.5	0.6	0.6	0.1	-0.2	-0.6	-0.8	-0.9	-0.4	-0.8	-0.2	0.7	1.8	3.0	3.7	2.2	1.4	0.8	0.4	-0.3	-0.8	-0.6	-0.7	0.4	3.7
6	-1.0	-1.5	-0.9	-1.1	-1.1	-0.8	-0.9	-0.6	-0.9	-1.1	0.6	2.8	5.4	7.1	7.6	7.4	7.1	6.6	7.1	6.8	6.3	6.1	6.2	6.1	3.1	7.6
7	7.2	7.6	7.9	8.0	7.7	8.4	9.2	9.8	10.4	11.0	11.8	11.6	11.3	11.0	10.6	10.2	9.7	9.1	8.3	8.6	7.1	7.4	8.2	8.6	9.2	11.8
8	8.7	9.4	8.8	8.6	7.1	6.4	5.9	5.3	5.6	5.8	6.5	6.9	7.4	7.8	7.6	7.6	7.0	6.3	5.4	4.9	4.3	3.6	3.3	2.7	6.4	9.4
9	2.5	2.2	1.4	1.1	0.8	0.7	0.5	0.3	-0.1	0.0	0.3	0.4	0.7	0.8	0.9	0.5	-0.5	-1.4	-2.1	-2.8	-2.7	-2.5	-2.3	-2.5	-0.2	2.5
10	-2.7	-2.9	-3.2	-3.2	-3.6	-4.1	-4.7	-4.9	-5.4	-5.7	-5.5	-4.4	-3.6	-3.7	-3.6	-4.0	-5.0	-6.1	-7.7	-7.1	-7.5	-8.3	-8.5	-7.5	-5.1	-2.7
11	-7.6	-7.8	-8.8	-8.9	-8.6	-8.4	-8.7	-9.4	-9.4	-9.2	-8.8	-8.0	-5.9	-6.0	-5.7	-6.2	-6.9	-7.2	-7.9	-8.4	-8.8	-9.4	-10.1	-10.6	-8.2	-5.7
12	-11.1	-11.5	-11.5	-11.6	-11.6	-12.4	-13.0	-13.4	-14.2	-14.5	-14.1	-12.7	-11.2	-10.3	-9.8	-9.1	-9.1	-9.6	-9.2	-8.3	-8.9	-9.3	-10.0	-11.3	-11.2	-8.3
13	-12.2	-12.8	-13.4	-13.9	-14.2	-14.5	-15.0	-15.6	-16.0	-16.1	-15.9	-15.2	-15.0	-15.1	-14.8	-15.0	-15.3	-15.3	-14.8	-15.0	-15.0	-7.1	-5.0	-5.1	-13.6	-5.0
14	-4.6	-4.3	-4.3	-3.9	-4.6	-4.8	-4.9	-5.1	-5.2	-5.3	-5.3	-4.0	-2.6	-2.6	-2.8	-2.6	-2.7	-2.5	-3.1	-3.8	-3.2	-3.1	-3.5	-3.5	-3.8	-2.5
15	-2.8	-2.1	-1.4	-0.4	0.5	0.7	0.7	0.3	0.1	0.0	0.6	0.9	0.8	0.9	1.1	1.2	0.8	0.4	0.6	0.7	0.7	1.2	1.2	1.2	0.3	1.2
16	0.6	0.5	0.1	0.6	1.2	1.2	1.0	0.9	1.0	1.8	2.5	3.2	3.3	3.2	3.4	3.2	3.1	3.2	3.3	3.0	2.8	3.2	1.8	1.2	2.1	3.4
17	1.0	1.0	2.0	2.9	3.0	3.3	3.6	4.0	3.7	3.8	3.9	3.9	4.0	4.1	4.1	3.9	3.7	2.9	0.0	-2.6	-2.7	-2.7	-3.3	-3.8	1.8	4.1
18	-4.2	-5.5	-6.0	-5.8	0.2	1.4	1.4	1.3	1.7	1.9	2.2	2.9	3.7	3.7	4.1	4.1	4.3	4.8	5.1	6.3	6.2	5.8	5.4	5.2	2.1	6.3
19	4.7	4.6	4.1	4.9	5.4	5.6	4.9	3.6	3.5	3.0	2.9	3.1	3.1	2.8	2.7	2.6	2.6	2.4	2.6	3.1	3.4	3.2	2.7	2.5	3.5	5.6
20	1.7	-0.1	-0.4	-0.6	-0.6	-0.5	-0.2	0.4	0.9	1.7	2.7	3.2	3.5	3.2	3.0	2.9	2.2	1.6	1.4	0.1	-0.2	0.1	-0.1	0.2	1.1	3.5
21	1.4	2.0	2.1	2.1	2.3	1.7	0.5	-0.2	-0.7	-1.0	-1.5	-1.8	-1.7	-1.3	-0.9	-1.4	-2.8	-3.4	-3.6	-3.7	-3.6	-3.5	-3.5	-3.6	-1.1	2.3
22	-3.7	-4.0	-4.2	-4.7	-5.1	-5.4	-5.9	-6.0	-6.0	-5.7	-5.5	-5.1	-4.3	-5.0	-5.1	-5.5	-7.1	P	P	P	-9.9	-10.3	-10.3	-10.2	-6.1	-3.7
23	-10.4	-9.7	-9.4	-9.4	-9.5	-8.7	-9.1	-8.9	-9.6	-9.2	-8.7	-6.9	-5.5	-5.7	-4.7	-3.6	-2.9	-2.9	-2.5	-1.6	-2.2	-3.1	-3.6	-4.1	-6.3	-1.6
24	-3.7	-4.0	-4.9	-5.6	-6.2	-7.1	-7.8	-8.7	-9.8	-9.9	-9.6	-7.7	-6.0	-4.8	-3.8	-2.9	-2.7	-3.2	-3.9	-4.6	-5.5	-5.9	-6.7	-7.5	-5.9	-2.7
25	-7.7	-7.9	-8.5	-8.6	-9.2	-9.5	-9.5	-9.8	-10.0	-10.0	-9.5	-8.6	-7.9	-6.4	-5.8	-5.7	-5.4	-5.7	-5.8	-5.5	-4.8	-5.2	-5.7	-5.7	-7.4	-4.8
26	-5.8	-5.9	-5.7	-5.4	-5.8	-5.7	-5.4	-5.2	-5.1	-5.0	-4.7	-4.2	-3.8	-3.1	-2.9	-2.9	-3.2	-3.5	-3.5	-3.9	-4.3	-4.8	-5.1	-5.3	-4.6	-2.9
27	-5.6	-5.8	-6.0	-6.0	-6.3	-6.6	-6.8	-6.8	-6.7	-7.8	-5.3	-3.2	-1.8	-0.7	-0.3	0.0	-1.0	-1.6	-2.2	-2.7	-3.7	-4.3	-4.5	-5.4	-4.2	0.0
28	-5.6	-5.3	-5.5	-5.6	-5.3	-5.7	-6.1	-6.0	-5.9	-5.0	-3.9	-2.3	-2.0	-2.0	-1.1	-1.5	-2.8	-3.6	-4.1	-5.1	-5.3	-6.0	-7.2	-4.5	-1.1	
29	-8.2	-8.8	-9.2	-10.0	-10.8	-11.3	-11.5	-11.4	-11.6	-11.2	-10.3	-8.1	-6.4	-4.9	-4.2	-4.3	-4.3	-4.9	-5.4	-5.4	-5.6	-5.8	-6.3	-6.6	-7.8	-4.2
30	-6.8	-6.7	-7.0	-7.2	-7.0	-6.6	-7.0	-6.4	-5.7	-6.0	-5.6	-4.9	-3.8	-3.6	-3.4	-2.9	-2.6	-2.5	-2.5	-2.9	-2.9	-2.2	-2.4	-2.7	-4.6	-2.2
31	-3.2	-3.3	-3.9	-3.8	-3.7	-3.5	-3.6	-3.9	-4.1	-4.6	-4.6	-3.1	-1.8	-1.2	-1.2	-0.6	-0.2	-0.2	0.8	0.6	0.8	0.0	0.1	0.3	-2.0	0.8
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	99.6%
MEAN	-2.6	-2.7	-2.9	-2.9	-2.9	-3.0	-3.2	-3.3	-3.5	-3.5	-2.9	-1.9	-1.0	-0.6	-0.3	-0.3	-0.6	-0.8	-1.2	-1.5	-2.1	-2.0	-2.2	-2.5		
MAX	8.7	9.4	8.8	8.6	7.7	8.4	9.2	9.8	10.4	11.0	11.8	11.6	11.3	11.0	10.6	10.2	9.7	9.1	8.3	8.6	7.1	7.4	8.2	8.6		



Number of Non-Zero Readings	741		
Maximum 1-HR Average	11.8 C		
Maximum 24-HR Average	9.2 C		
Monthly Calibration	0	Operational Time	741 HRS
Standard Deviation	5.409	Operational Uptime	99.6 %
		Monthly Average	-2.1 C

Lagoon Wind Speed (km/hr) – December 2020

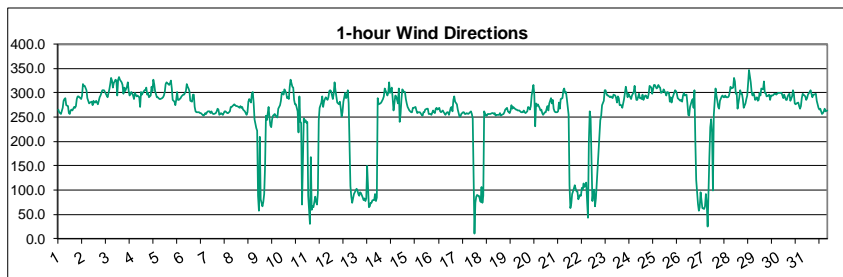
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	20.9	18.0	19.9	17.8	16.8	14.3	17.0	18.1	19.8	21.7	31.9	36.4	38.4	35.3	35.9	35.1	40.4	39.6	33.7	31.1	29.8	28.7	27.1	28.4	27.3	40.4
2	34.4	34.1	35.8	31.0	27.3	27.2	27.2	24.7	25.8	27.5	29.7	32.9	29.1	32.1	27.3	23.2	23.4	24.3	26.9	28.6	28.3	31.9	30.2	30.3	28.9	35.8
3	25.3	27.4	26.9	27.6	27.9	29.6	30.6	34.2	31.6	24.3	30.0	32.0	33.7	30.5	27.4	23.7	26.8	25.4	25.8	27.0	21.3	24.7	27.7	23.0	27.7	34.2
4	27.3	26.2	28.9	27.0	24.9	18.4	20.9	32.4	20.1	20.0	16.4	14.2	11.6	19.8	17.2	13.8	11.7	15.8	22.4	25.8	26.4	21.5	21.8	21.8	21.1	32.4
5	30.2	30.2	33.9	35.3	33.3	35.0	36.2	33.0	30.4	31.0	27.4	25.4	26.8	30.0	25.1	21.9	18.5	19.0	25.3	31.1	33.5	42.8	44.7	45.7	31.1	45.7
6	40.3	36.9	33.3	30.4	34.2	29.0	21.9	18.0	15.9	24.0	26.9	24.2	28.8	31.4	31.9	30.6	34.2	33.6	36.2	35.2	45.9	50.4	47.8	46.0	32.8	50.4
7	34.6	46.3	46.2	44.4	36.5	38.3	41.3	43.4	43.3	41.1	38.4	35.8	37.3	37.0	35.1	31.9	30.3	29.6	28.8	32.3	35.2	34.0	35.5	33.8	37.1	46.3
8	36.3	34.9	35.9	35.4	33.3	31.5	33.4	32.4	32.6	30.3	28.6	30.6	27.9	27.3	25.7	24.8	20.2	18.1	15.2	17.9	12.2	9.2	6.2	4.9	25.2	36.3
9	4.1	6.4	6.9	2.3	5.6	12.6	13.3	14.6	7.9	8.4	6.2	4.6	4.7	4.7	5.2	6.1	5.6	8.3	8.3	8.0	10.3	11.8	11.5	14.5	8.0	14.6
10	12.3	13.3	14.4	16.7	18.0	17.7	14.2	11.8	17.6	19.4	18.2	18.4	16.0	15.3	13.6	10.9	4.6	4.3	2.4	2.7	1.9	2.0	3.4	7.0	11.5	19.4
11	7.0	6.0	3.7	2.1	2.3	2.5	3.5	7.8	5.5	7.0	7.4	4.7	4.6	12.5	10.8	9.9	7.9	10.6	11.3	11.9	16.2	15.2	18.0	18.0	8.6	18.0
12	20.0	20.8	19.1	27.5	22.0	19.6	16.5	18.1	15.5	15.7	15.2	12.9	12.7	12.6	10.0	7.5	6.0	5.3	6.5	14.2	14.2	12.8	15.3	16.2	14.9	27.5
13	14.6	13.2	14.4	13.7	11.8	11.9	13.5	14.3	11.8	8.7	6.4	4.2	8.5	12.7	16.0	18.7	13.9	11.6	10.9	13.4	12.8	21.8	33.2	30.8	14.3	33.2
14	29.0	33.0	24.7	25.5	21.7	24.8	19.2	18.5	16.1	14.5	17.3	15.7	13.3	18.1	17.3	12.6	12.3	12.9	7.1	10.0	15.7	16.4	18.5	14.1	17.9	33.0
15	17.2	22.6	26.6	26.5	26.4	30.8	31.3	25.7	30.7	32.2	36.5	39.0	37.1	32.0	26.2	27.4	29.4	24.9	28.0	24.3	21.6	18.0	24.9	33.3	28.0	39.0
16	33.6	34.3	28.9	36.3	33.1	24.5	24.4	27.5	23.0	26.9	27.2	31.4	31.5	29.6	30.2	33.1	33.6	34.9	28.2	23.1	27.8	34.0	21.6	15.4	28.9	36.3
17	17.8	22.2	26.8	29.1	24.7	24.2	27.0	28.2	24.3	36.2	41.2	35.2	31.9	30.8	29.9	24.5	21.0	19.0	17.8	20.8	14.5	16.8	15.6	13.0	24.7	41.2
18	6.9	3.2	7.8	8.0	23.2	27.7	30.1	23.9	31.3	34.6	33.3	31.4	34.6	48.6	47.4	56.2	55.1	51.4	51.4	52.0	57.0	61.6	61.1	53.6	37.1	61.6
19	53.2	48.4	53.2	48.4	42.5	41.7	33.4	41.8	43.3	39.3	41.9	45.8	40.3	38.3	40.0	36.7	42.8	32.9	35.8	47.8	56.1	49.9	43.6	33.5	42.9	56.1
20	29.1	23.1	15.9	8.0	6.5	4.5	9.6	11.0	16.1	22.3	30.8	28.8	27.5	27.9	20.3	18.8	10.6	11.5	19.0	16.5	12.8	11.7	12.5	21.7	17.4	30.8
21	29.7	34.0	36.2	31.8	22.9	15.7	10.8	12.5	11.9	13.5	12.4	12.4	10.7	8.2	9.3	12.9	15.7	13.1	12.9	12.9	11.6	10.6	12.9	14.9	16.2	36.2
22	14.9	14.2	15.4	16.7	14.7	18.3	13.7	8.8	6.1	3.4	4.6	4.0	3.3	10.9	7.1	6.3	3.4	P	P	P	10.2	9.9	12.5	14.5	10.1	18.3
23	19.8	20.4	24.3	22.0	22.4	31.8	31.6	31.4	27.9	30.6	29.5	29.4	32.0	23.5	24.0	36.1	32.5	38.7	32.7	32.4	25.7	22.3	28.8	29.4	28.3	38.7
24	33.5	38.4	19.0	31.3	36.9	24.0	19.7	20.8	24.8	19.6	16.9	17.5	19.7	19.8	14.8	19.3	22.3	21.2	17.6	16.3	17.2	19.9	20.0	21.8	22.2	38.4
25	25.5	27.3	28.0	27.2	26.6	27.8	28.0	22.4	23.4	25.7	24.5	21.0	19.4	20.6	19.7	17.3	16.3	19.0	18.7	19.5	22.0	19.1	18.0	16.2	22.2	28.0
26	15.2	17.0	15.1	14.9	15.4	16.3	12.4	8.3	5.8	5.9	5.7	7.0	6.3	5.7	4.7	2.4	3.2	5.1	8.8	8.2	11.1	12.9	9.7	9.2	9.4	17.0
27	9.3	7.4	5.9	7.8	2.9	3.6	8.0	12.8	8.1	7.1	11.7	17.3	17.5	15.4	22.0	23.5	16.2	14.1	17.1	19.5	17.7	19.6	19.5	16.7	13.4	23.5
28	14.5	13.5	11.4	8.9	12.9	12.6	12.2	10.4	9.6	11.1	16.5	19.5	20.4	19.6	12.9	17.8	19.4	18.2	16.1	8.3	8.0	18.1	17.6	12.3	14.2	20.4
29	16.2	15.0	14.8	16.5	14.9	15.4	19.0	22.0	24.1	24.1	22.3	18.5	21.8	20.1	18.1	16.4	21.0	28.2	28.8	27.1	19.5	25.6	30.9	33.0	21.4	33.0
30	31.2	31.2	29.3	31.3	30.7	28.4	24.6	21.6	28.2	26.5	27.5	21.5	25.6	23.4	17.5	18.5	30.0	32.4	33.1	31.0	34.9	41.4	35.2	23.0	28.2	41.4
31	16.6	17.4	17.8	21.9	22.5	22.1	19.9	22.2	23.5	22.1	22.2	19.5	23.2	21.2	23.2	25.4	25.4	22.9	28.2	30.5	30.1	24.2	26.7	26.3	23.1	30.5
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	99.6%
MEAN	23.2	23.8	23.2	23.3	22.4	22.0	21.4	21.7	21.2	21.8	22.7	22.3	22.5	23.1	21.5	21.4	21.1	21.5	21.8	22.7	22.6	23.8	24.3	23.3		
MAX	53.2	48.4	53.2	48.4	42.5	41.7	41.3	43.4	43.3	41.1	41.9	45.8	40.3	48.6	47.4	56.2	55.1	51.4	51.4	52.0	57.0	61.6	61.1	53.6		



Number of Non-Zero Readings	741
Maximum 1-HR Average	61.6 KM/HR
Maximum 24-HR Average	42.9 KM/HR
Monthly Calibration	0
Standard Deviation	11.14
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	22.4 KM/HR

Lagoon Wind Direction (°) – December 2020

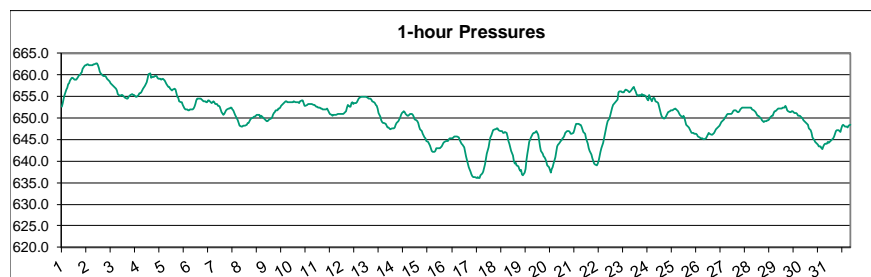
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	265.2	259.5	258.1	256.8	268.7	284.4	287.6	289.6	274.7	273.1	258.9	255.7	263.8	265.8	263.1	270.6	269.4	273.6	287.7	291.8	292.7	289.9	287.4	294.3	273.9	294.3
2	317.4	313.8	313.8	305.7	288.4	282.8	279.0	280.4	281.3	275.1	284.3	280.2	280.4	284.4	276.5	283.2	291.3	295.2	300.0	305.3	306.1	302.5	298.8	294.3	293.3	317.4
3	291.4	307.6	318.0	330.0	324.6	310.3	319.7	326.3	325.3	295.0	327.1	332.3	327.6	322.2	316.6	298.9	310.4	304.0	311.9	321.5	304.2	293.8	298.2	301.0	314.4	332.3
4	294.1	287.0	300.1	296.0	292.9	295.1	290.1	271.1	302.5	296.9	300.7	304.7	304.5	309.8	295.8	300.0	290.4	293.6	313.4	303.2	326.8	318.1	303.4	291.2	298.8	326.8
5	291.0	289.5	287.9	287.5	288.1	291.7	295.1	302.3	317.7	322.0	317.4	315.6	319.0	325.0	308.4	284.6	281.4	274.1	285.6	302.2	285.2	285.4	288.5	292.8	297.1	325.0
6	294.6	295.8	296.1	304.0	317.6	312.9	309.1	302.7	282.9	281.1	296.3	295.6	270.5	261.9	259.6	259.5	260.3	258.2	258.0	255.7	253.7	254.4	258.8	256.0	275.7	317.6
7	260.0	261.3	261.3	258.5	261.9	259.1	257.0	256.5	258.5	261.1	267.0	264.9	255.1	258.0	256.6	255.2	258.1	261.2	262.6	259.0	257.4	259.6	261.9	270.9	260.1	270.9
8	270.9	274.8	275.9	275.0	272.1	272.0	270.7	269.9	272.2	269.7	271.5	265.3	261.1	257.8	255.2	259.9	281.7	286.4	279.9	298.4	301.6	280.3	246.0	227.0	271.3	301.6
9	222.4	87.9	57.6	208.8	81.0	66.1	76.1	91.8	149.1	252.0	243.8	271.0	249.4	233.2	229.7	245.8	253.5	256.9	252.1	250.5	248.5	267.1	274.9	283.2	246.8	283.2
10	300.1	301.3	296.5	306.4	299.6	289.5	291.7	287.7	312.9	326.4	311.9	311.6	285.5	276.6	275.6	261.4	217.9	292.6	240.0	237.9	69.3	246.6	239.3	243.4	293.7	326.4
11	238.5	239.8	87.7	29.8	167.1	59.5	66.3	64.3	86.7	76.3	69.3	94.3	244.5	269.9	279.2	291.8	270.5	282.6	286.3	290.9	285.9	291.3	304.3	304.8	293.9	304.8
12	303.5	286.9	297.3	320.9	304.6	292.1	279.7	275.9	281.2	268.6	251.1	260.3	282.1	299.6	289.7	292.1	305.0	277.8	107.6	85.9	73.8	83.5	92.5	95.8	297.4	320.9
13	102.1	100.0	91.1	89.1	95.3	93.6	84.6	80.0	82.9	77.7	82.4	150.3	64.8	66.6	74.4	74.1	80.1	79.0	91.0	77.3	83.8	289.1	276.0	278.0	76.9	289.1
14	280.5	282.9	287.4	291.8	308.9	299.0	293.7	300.0	320.8	299.9	310.1	289.1	264.0	277.8	294.1	293.4	277.7	309.1	240.7	257.1	287.3	306.6	301.5	300.9	292.2	320.8
15	287.6	277.9	271.6	264.5	262.1	260.4	260.1	269.9	270.0	271.7	264.4	257.5	260.8	260.0	259.3	255.5	253.4	259.9	260.5	264.7	268.1	266.6	256.5	255.9	263.4	287.6
16	255.7	255.3	263.1	259.2	258.3	266.5	269.7	265.4	268.6	262.4	260.8	262.6	263.0	259.2	254.4	257.8	259.3	259.5	255.5	269.6	270.7	261.3	285.0	293.0	262.7	293.0
17	281.5	275.7	265.7	258.2	250.2	251.2	255.6	260.0	259.9	255.7	256.4	258.9	256.3	258.5	260.2	261.2	256.3	247.8	11.1	74.6	86.9	89.4	88.4	87.9	260.1	281.5
18	76.2	105.7	74.4	89.0	262.4	253.1	253.6	256.5	257.3	256.1	256.1	258.6	258.5	256.5	257.9	253.5	254.7	255.2	255.5	257.5	253.2	254.5	255.6	259.6	255.8	262.4
19	266.1	267.6	268.4	261.6	257.7	262.8	274.3	268.0	271.8	268.9	266.1	265.5	264.5	264.5	263.8	260.4	259.3	260.2	264.2	259.8	258.4	261.0	270.8	269.7	264.7	274.3
20	266.0	273.1	295.0	316.2	296.3	230.4	278.6	273.5	276.9	269.2	264.4	265.1	258.6	254.4	260.9	259.3	266.7	272.3	264.5	277.4	288.9	277.5	285.2	267.9	269.8	316.2
21	262.7	260.5	260.7	262.2	280.5	268.0	287.7	288.7	305.6	309.4	299.3	301.2	286.3	254.2	110.4	63.2	71.2	91.3	97.2	110.2	102.1	97.0	98.2	81.4	278.0	309.4
22	89.7	87.7	104.9	100.6	113.3	106.4	116.0	77.3	43.5	200.8	262.7	247.6	76.8	97.0	101.3	65.8	82.9	P	P	P	243.1	253.3	274.6	282.9	104.9	282.9
23	305.0	305.7	297.6	294.1	295.2	290.1	292.4	290.9	289.8	295.7	295.0	288.2	279.5	292.0	288.8	274.9	274.6	268.9	278.7	287.8	299.1	312.0	290.7	297.7	289.6	312.0
24	295.1	290.9	287.5	295.2	301.0	313.9	298.3	284.9	285.3	297.6	289.5	289.3	286.7	296.1	285.0	294.3	294.9	288.5	289.3	298.8	314.2	310.5	297.3	307.5	295.6	314.2
25	315.7	315.5	309.6	310.0	315.6	312.3	311.4	299.7	302.2	307.4	303.9	300.6	294.1	302.5	300.3	282.3	291.5	280.6	289.2	300.1	305.0	303.5	297.6	288.2	303.1	315.7
26	286.6	283.3	286.2	281.8	293.8	299.9	295.1	295.6	277.6	254.6	252.5	271.6	283.0	288.0	269.1	305.1	201.6	121.6	71.3	58.3	65.0	95.5	78.4	63.8	299.9	305.1
27	61.8	67.3	92.1	72.3	25.0	170.1	229.9	246.5	218.9	98.4	255.2	308.3	294.2	284.2	271.7	266.6	283.2	293.5	293.8	290.5	290.1	294.7	291.2	290.6	285.2	308.3
28	292.7	300.3	312.1	308.0	311.4	330.7	323.2	298.5	299.5	268.0	290.2	305.4	297.7	297.8	288.0	268.9	277.6	287.8	294.9	320.0	346.7	320.7	302.5	293.8	299.4	346.7
29	299.9	294.3	285.7	291.5	283.2	286.0	299.6	294.5	308.8	307.2	323.5	299.3	299.6	292.0	294.2	295.7	286.0	294.3	294.5	293.7	298.8	298.9	296.6	297.5	297.0	323.5
30	300.4	299.1	300.3	300.3	295.3	288.7	295.7	285.8	285.6	293.4	295.8	298.1	283.6	293.2	304.9	297.4	278.6	276.0	278.5	280.7	273.4	267.1	272.1	289.0	287.6	304.9
31	297.4	294.6	292.2	285.9	288.5	295.4	301.2	305.5	298.4	290.4	296.9	296.4	297.8	283.7	275.6	269.7	265.9	267.6	256.5	258.7	261.7	267.7	262.5	262.9	280.3	305.5
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	99.6%
MEAN	257.2	253.0	248.3	252.0	256.8	254.6	259.4	256.8	260.3	260.7	268.5	273.1	264.9	265.9	258.7	254.9	251.8	259.0	242.4	248.0	245.2	258.0	256.0	255.6		
MAX	317.4	315.5	318.0	330.0	324.6	330.7	323.2	326.3	325.3	326.4	327.1	332.3	327.6	325.0	316.6	305.1	310.4	309.1	313.4	321.5	346.7	320.7	304.3	307.5		



Number of Non-Zero Readings	741
Maximum 1-HR Average	347 degrees
Maximum 24-HR Average	314 degrees
Monthly Calibration	0
Standard Deviation	68.57
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	256.7 degrees

Lagoon Pressure (mmHg) – December 2020

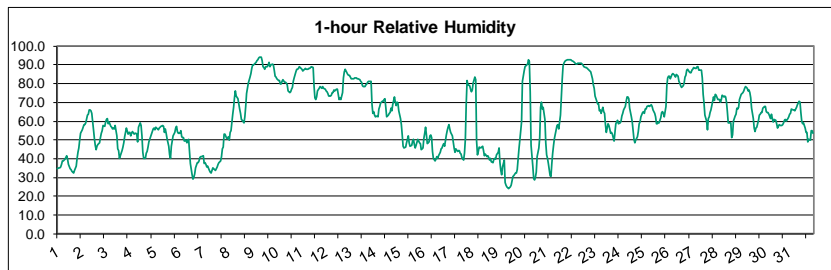
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	652.6	653.5	654.4	655.4	656.6	657.0	657.7	658.0	658.6	659.3	659.3	659.1	658.9	658.9	658.9	659.4	659.8	659.9	660.4	660.6	661.4	661.9	662.1	662.2	658.6	662.2
2	662.5	662.5	662.3	662.1	662.2	662.3	662.5	662.5	662.7	662.7	662.2	661.5	660.8	660.2	659.9	659.8	659.7	659.6	659.5	659.1	658.8	658.4	658.1	657.9	660.8	662.7
3	657.6	657.1	657.0	656.8	656.3	655.6	655.3	655.1	655.4	655.2	655.1	654.9	654.7	654.5	654.4	654.9	655.2	655.4	655.4	655.3	655.3	655.1	654.9	655.0	655.5	657.6
4	655.4	655.6	655.8	656.0	656.3	656.9	657.5	657.9	658.3	659.1	660.2	660.4	659.4	659.4	659.4	659.4	659.8	659.8	659.2	659.0	659.0	659.0	658.9	659.0	658.4	660.4
5	658.9	658.6	658.2	657.7	657.2	657.1	656.7	656.6	656.4	656.6	656.9	656.5	655.8	654.8	654.7	653.9	653.7	653.6	653.0	652.6	652.1	652.0	651.9	651.8	655.3	658.9
6	651.8	651.9	651.9	651.9	652.2	652.6	653.2	654.0	654.5	654.5	654.5	654.5	654.3	654.1	653.9	653.8	653.6	653.7	654.1	654.1	653.6	653.5	653.6	653.8	653.5	654.5
7	653.6	653.1	653.3	652.9	652.8	652.6	651.9	651.4	650.7	650.8	651.2	651.7	652.0	652.3	652.3	652.4	652.3	651.9	651.7	650.7	650.2	649.9	649.4	648.9	651.7	653.6
8	648.1	647.9	647.9	648.1	648.2	648.2	648.4	648.7	648.8	649.2	649.7	649.9	650.0	650.3	650.3	650.6	650.6	650.8	650.7	650.1	650.4	650.3	650.0	649.6	649.5	650.8
9	649.5	649.3	649.2	649.5	649.6	649.9	650.1	650.7	651.1	651.4	651.7	651.8	652.1	652.1	652.4	652.7	653.1	653.5	653.7	653.8	653.8	653.7	653.6	653.6	651.7	653.8
10	653.6	653.6	653.6	653.8	653.7	653.7	653.6	653.6	653.5	653.8	654.1	654.1	653.4	652.9	652.8	653.0	653.2	653.3	653.3	653.2	653.1	653.0	652.9	652.8	653.4	654.1
11	652.7	652.5	652.4	652.4	652.2	652.1	652.0	651.9	651.9	652.0	652.1	651.8	651.3	650.8	650.7	650.6	650.8	650.7	650.6	650.8	650.9	651.0	650.8	650.9	651.5	652.7
12	650.9	650.9	651.1	651.2	651.6	652.3	653.0	652.6	652.7	653.3	653.6	653.3	653.4	653.5	653.6	654.0	654.4	654.7	654.8	655.0	655.0	654.9	654.9	654.9	653.3	655.0
13	654.6	654.5	654.4	654.4	654.2	653.9	653.6	653.3	653.0	652.8	652.2	651.2	650.3	649.5	648.9	648.8	648.7	648.2	647.9	647.9	647.5	647.5	647.4	647.6	651.0	654.6
14	647.6	647.6	647.9	648.4	648.7	649.2	649.6	650.1	650.7	651.1	651.5	651.3	651.0	650.6	650.6	650.6	650.9	651.0	650.8	650.6	650.3	649.7	649.4	649.3	649.9	651.5
15	648.8	648.0	647.4	647.0	646.4	645.9	645.5	645.2	644.7	644.4	644.1	643.6	643.0	642.3	642.1	642.2	642.4	643.0	642.9	643.0	643.0	643.1	643.4	643.8	644.4	648.8
16	644.2	644.3	644.7	644.6	644.7	645.1	645.3	645.3	645.2	645.5	645.6	645.6	645.7	645.7	645.4	644.8	644.4	644.0	643.9	643.2	642.1	641.1	640.3	639.5	644.2	645.7
17	638.6	637.5	636.8	636.6	636.4	636.0	636.4	636.1	636.1	636.6	637.1	637.6	638.3	639.1	640.5	641.8	643.1	644.5	645.4	645.9	646.5	646.5	647.1	647.1	639.4	647.1
18	647.4	647.4	647.5	647.5	647.1	647.0	646.9	647.0	646.5	646.4	646.7	646.4	645.7	644.6	644.0	643.2	642.4	641.2	640.0	639.5	639.7	639.0	638.8	638.1	644.2	647.5
19	637.7	637.9	636.8	636.8	637.3	638.2	640.2	641.7	642.9	644.4	645.4	645.9	646.3	646.5	646.6	646.9	646.5	646.1	644.9	643.4	642.3	641.8	641.1	640.8	642.4	646.9
20	640.4	639.8	639.0	638.5	637.9	637.4	638.1	638.5	639.4	640.9	642.2	643.5	643.8	644.1	644.7	644.9	645.3	645.4	645.8	646.6	646.9	647.0	646.9	646.6	642.7	647.0
21	646.2	646.2	646.6	647.2	647.9	648.5	648.7	648.6	648.4	648.4	648.1	647.4	646.8	646.3	645.3	644.5	644.0	643.1	642.3	641.5	640.7	640.1	639.4	639.1	645.2	648.7
22	639.1	639.5	640.1	641.2	642.2	642.9	644.1	645.3	646.3	647.4	648.3	649.2	649.8	650.6	651.6	652.4	653.0	P	P	P	654.2	655.9	656.1	656.1	647.9	656.1
23	656.0	655.8	655.9	656.3	656.6	656.3	656.2	656.0	656.1	656.4	657.0	657.1	656.6	656.1	655.5	655.1	655.3	655.1	655.3	655.5	655.2	655.3	655.1	654.7	655.9	657.1
24	654.2	654.0	655.2	654.6	653.7	654.5	654.6	654.5	653.9	653.7	653.5	652.7	651.7	650.9	650.2	649.9	649.8	650.1	650.5	651.0	651.3	651.6	651.8	651.8	652.5	655.2
25	651.8	652.0	652.2	652.0	651.8	651.5	651.2	650.7	650.3	650.2	650.5	650.1	649.3	648.4	648.0	647.7	647.3	647.0	646.5	646.5	646.4	646.4	646.3	646.0	649.2	652.2
26	645.6	645.4	645.3	645.2	645.2	645.1	645.1	645.3	645.7	646.1	646.5	646.4	646.1	646.1	646.3	646.6	647.0	647.4	647.7	647.9	648.2	648.7	649.0	649.3	646.5	649.3
27	649.6	650.0	650.3	650.8	650.8	650.9	651.0	651.0	651.2	651.5	651.7	651.7	651.5	651.4	651.4	651.6	651.9	652.4	652.5	652.3	652.3	652.4	652.4	652.4	651.4	652.5
28	652.3	652.3	652.3	652.0	651.8	651.5	651.3	651.0	650.6	650.5	650.1	649.9	649.4	649.2	649.0	649.2	649.2	649.4	649.5	649.6	650.1	650.5	650.6	651.0	650.5	652.3
29	651.4	651.6	651.8	652.2	652.3	652.1	652.2	652.3	652.3	652.4	652.8	652.3	651.7	651.5	651.4	651.4	651.5	651.5	651.3	651.2	651.2	650.9	650.6	650.6	651.7	652.8
30	650.5	650.2	649.8	649.5	649.2	649.0	648.9	648.4	647.6	647.3	647.2	646.6	645.6	644.9	644.4	644.3	644.1	643.9	643.5	643.3	642.9	642.8	643.3	643.8	646.3	650.5
31	644.0	644.0	644.3	644.3	644.5	644.7	645.1	645.3	645.7	646.3	647.0	647.2	647.1	647.0	646.8	647.5	648.1	648.4	648.1	648.0	647.9	647.9	648.1	648.3	646.5	648.4
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	99.6%
MEAN	649.9	649.8	649.9	649.9	649.9	650.0	650.2	650.3	650.4	650.6	650.9	650.8	650.5	650.2	650.1	650.2	650.3	650.2	650.1	650.0	650.1	650.0	649.9	649.9		
MAX	662.5	662.5	662.3	662.1	662.2	662.3	662.5	662.5	662.7	662.7	662.2	661.5	660.8	660.2	659.9	659.8	659.8	659.9	660.4	660.6	661.4	661.9	662.1	662.2		



Number of Non-Zero Readings	741
Maximum 1-HR Average	663 MMHg
Maximum 24-HR Average	661 MMHg
Monthly Calibration	0
Standard Deviation	5.529
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	650.2 MMHg

Lagoon Relative Humidity (%) – December 2020

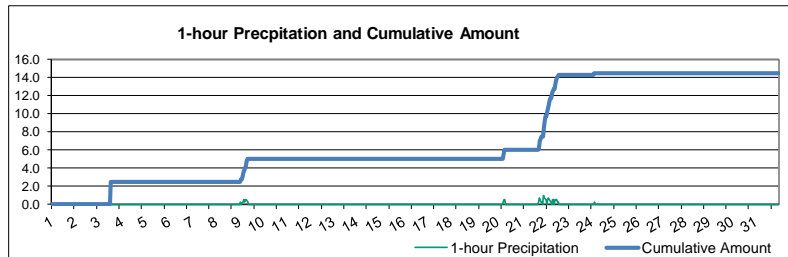
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	34.5	35.3	35.2	35.6	37.0	38.9	38.8	39.7	40.6	41.4	39.8	37.1	34.8	34.4	33.3	33.0	32.4	33.7	36.0	40.0	43.6	45.7	50.0	53.4	38.5	53.4	
2	55.6	57.0	58.0	57.9	59.3	63.4	63.5	66.0	66.1	65.7	63.9	55.5	50.8	47.0	44.8	46.7	47.6	48.4	51.2	53.6	55.1	57.9	57.4	59.6	56.3	66.1	
3	60.8	61.5	58.6	59.7	57.5	56.8	55.8	56.3	56.1	57.8	52.1	45.4	44.3	40.4	41.4	44.1	46.2	48.3	51.8	54.0	56.5	53.3	53.9	54.1	52.8	61.5	
4	52.1	53.8	54.4	52.9	53.5	53.7	53.2	49.1	56.9	59.1	57.5	52.2	43.3	40.4	40.1	42.9	43.7	46.0	48.9	50.5	53.3	54.4	56.0	56.4	51.0	59.1	
5	55.5	56.8	55.8	55.2	56.3	56.7	57.4	57.7	57.5	54.1	55.9	53.7	50.7	46.6	42.0	40.0	46.5	49.6	52.3	54.1	56.2	57.1	54.6	53.5	53.2	57.7	
6	53.7	54.9	51.5	51.5	51.4	49.5	50.1	48.3	49.8	50.4	44.0	37.3	31.5	29.3	29.9	32.1	35.0	38.1	37.7	38.8	40.7	41.1	41.0	41.4	42.9	54.9	
7	37.6	37.7	37.0	35.6	35.9	33.9	33.0	32.5	33.8	35.0	34.2	34.0	34.5	35.5	36.9	38.0	39.0	41.3	45.4	46.0	52.9	53.2	50.9	50.8	39.4	53.2	
8	51.6	49.9	53.9	55.1	63.6	67.3	72.7	76.1	73.2	71.9	69.1	66.3	64.3	61.1	60.4	59.0	62.3	67.8	74.6	77.4	80.4	83.3	85.4	88.2	68.1	88.2	
9	89.8	89.9	90.8	91.4	92.1	92.9	93.7	94.2	94.2	92.2	89.1	88.4	87.7	88.9	88.9	89.8	91.3	89.2	90.0	90.3	89.8	87.0	83.9	83.5	90.0	94.2	
10	82.4	81.6	81.7	79.8	79.8	81.1	81.9	80.9	80.9	80.5	79.4	76.3	75.1	75.8	76.9	78.0	81.3	83.2	86.4	87.7	87.8	88.3	88.8	88.7	81.9	88.8	
11	87.5	86.6	87.1	87.7	88.2	87.7	87.8	88.1	88.1	88.6	89.0	88.8	78.7	72.2	71.3	73.1	76.0	77.5	78.6	78.0	77.5	78.4	77.7	76.9	82.1	89.0	
12	76.1	75.8	74.5	73.6	73.3	74.0	75.0	75.2	76.6	76.1	77.0	76.9	74.3	71.7	72.5	71.6	75.1	82.9	86.1	87.5	86.7	84.9	84.6	84.5	77.8	87.5	
13	83.4	82.5	82.7	82.6	82.9	83.2	82.9	82.7	82.6	82.0	81.2	80.5	79.0	78.4	78.5	79.5	80.0	80.6	81.4	81.1	81.2	69.3	64.3	65.3	79.5	83.4	
14	63.2	62.3	62.8	62.3	66.4	67.6	69.6	70.4	70.6	71.7	72.1	67.6	62.2	63.3	64.2	64.5	66.7	65.6	68.8	72.8	69.9	68.4	70.2	69.7	67.2	72.8	
15	65.5	61.4	58.1	52.6	46.5	45.7	46.3	48.5	50.3	52.2	48.5	46.5	47.3	49.4	50.4	47.7	45.9	47.1	50.3	49.6	48.3	48.0	44.7	45.7	49.9	65.5	
16	51.0	53.5	56.7	52.6	48.2	49.1	52.4	52.7	51.2	44.0	40.2	38.8	39.9	41.0	40.2	41.8	43.4	45.2	45.8	47.3	48.2	46.7	52.4	54.9	47.4	56.7	
17	56.9	58.1	55.8	53.9	52.2	48.9	45.8	43.3	45.1	43.9	44.4	44.4	42.9	42.3	40.6	39.4	42.9	50.4	69.2	81.8	79.5	78.7	77.1	75.8	54.7	81.8	
18	76.4	80.3	83.4	82.0	49.3	42.1	43.8	46.1	45.5	46.1	46.5	44.5	41.6	42.5	40.9	41.7	40.8	39.1	40.2	38.2	37.8	39.6	40.1	39.7	48.7	83.4	
19	42.1	43.3	45.9	37.7	33.6	31.5	35.6	39.5	27.1	25.8	25.2	24.4	24.3	24.9	26.0	28.1	30.3	31.0	32.5	32.6	34.1	39.7	45.2	49.9	33.8	49.9	
20	59.5	81.1	84.0	86.9	89.0	89.3	90.5	92.9	91.9	75.7	47.2	35.9	29.6	28.6	30.1	33.0	40.9	45.7	51.1	67.5	70.2	66.3	67.4	60.7	63.1	92.9	
21	48.3	41.9	40.1	37.5	31.2	30.7	37.4	42.9	47.3	50.8	55.3	57.9	58.0	55.9	59.4	63.4	82.3	89.6	90.9	91.8	92.3	92.5	92.7	92.7	61.8	92.7	
22	92.7	92.5	92.3	91.9	91.5	91.1	90.4	90.3	90.8	90.9	91.0	90.9	90.6	89.8	88.9	88.7	88.6	P	P	P	P	86.3	84.5	82.8	79.5	89.3	92.7
23	77.4	73.3	70.6	69.2	69.0	65.3	65.8	64.2	67.3	64.9	64.2	58.0	53.8	58.7	57.7	56.1	53.4	53.9	53.1	49.6	54.1	58.5	59.5	60.5	61.6	77.4	
24	58.6	59.3	60.1	62.6	64.1	66.0	67.8	70.6	73.1	73.0	71.8	66.7	62.3	59.5	55.1	50.2	48.5	49.8	51.8	54.5	58.5	59.6	62.2	64.8	61.3	73.1	
25	64.9	64.3	66.4	66.4	67.8	68.4	67.8	68.4	68.6	68.0	66.1	63.9	62.3	58.7	58.6	59.6	59.2	62.0	64.6	65.1	64.2	62.4	67.7	79.1	65.2	79.1	
26	82.8	84.1	83.8	82.7	84.9	85.3	84.7	84.3	83.7	84.9	83.9	81.3	80.3	78.7	78.1	78.8	80.3	83.7	84.3	87.0	87.8	86.2	85.8	85.8	83.5	87.8	
27	87.1	87.7	88.3	87.9	88.2	88.8	89.1	87.1	87.1	87.2	83.0	74.1	69.8	63.3	60.0	55.6	61.2	62.4	64.5	65.8	70.5	72.7	71.1	74.1	76.1	89.1	
28	73.7	71.3	71.4	71.5	70.0	71.5	73.8	73.1	73.4	73.1	70.0	65.3	59.0	59.2	59.2	51.4	52.6	59.8	63.0	63.5	67.0	66.3	67.4	71.7	66.6	73.8	
29	74.3	75.0	75.2	76.2	77.5	78.2	77.3	76.3	76.4	75.0	72.6	67.0	61.5	56.5	54.4	56.2	56.8	60.3	63.3	63.7	64.7	64.4	66.7	67.9	68.2	78.2	
30	67.7	65.0	64.8	64.7	63.5	61.6	63.6	61.5	59.4	61.1	60.3	58.7	56.3	57.4	58.3	57.6	57.7	58.2	58.9	60.6	61.0	60.0	61.3	62.2	60.9	67.7	
31	63.9	64.4	66.3	65.9	65.9	65.4	66.2	67.5	68.7	70.6	70.2	64.6	60.2	58.5	58.9	56.3	54.1	53.8	48.7	50.5	50.0	54.7	55.0	53.7	60.6	70.6	
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	99.6%
MEAN	65.4	65.9	66.0	65.3	64.2	64.0	65.0	65.4	65.6	65.0	62.7	59.4	56.5	55.2	54.8	54.8	56.8	58.1	60.7	62.7	64.7	64.6	65.1	66.0			
MAX	92.7	92.5	92.3	91.9	92.1	92.9	93.7	94.2	94.2	92.2	91.0	90.9	90.6	89.8	88.9	89.8	91.3	89.6	90.9	91.8	92.3	92.5	92.7	92.7			



Number of Non-Zero Readings	741
Maximum 1-HR Average	94.2 %
Maximum 24-HR Average	90.0 %
Monthly Calibration	0
Standard Deviation	17.2
Operational Time	741 HRS
Operational Uptime	99.6 %
Monthly Average	62.2 %

Lagoon Precipitation (mm) – December 2020

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	
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	
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	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.5
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	0.3	0.0	0.3	0.5	0.3	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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	0.5
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	0.3	0.8	0.3	0.3	0.0	1.0	0.1	1.0
22	0.8	0.5	0.0	0.5	0.8	0.5	0.3	0.0	0.5	0.5	0.0	0.5	0.5	0.3	0.3	0.0	0.0	P	P	P	0.0	0.0	0.0	0.0	0.3	0.8
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	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	0.3
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	741	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.8	0.5	0.0	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.0	0.5	2.5	0.3	0.3	0.0	0.0	0.0	0.3	0.8	0.3	0.3	0.0	1.0	0.0	0.0

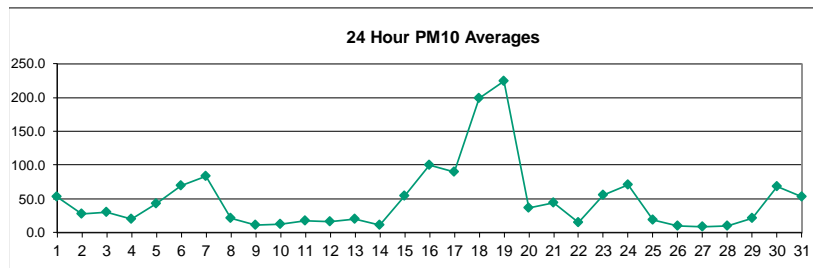


Number of Non-Zero Readings 28

Maximum 1-HR Average 2.5 MM
Maximum 24-HR Average 0.3 MM

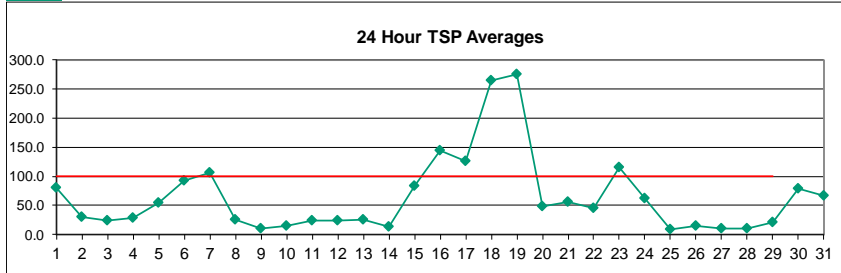
Monthly Calibration 0 Operational Time 741 HRS
Standard Deviation 0.129 Operational Uptime 99.6 %
Monthly Average 0.02 MM

Windridge PM₁₀ (µg/m³) – December 2020



Number of Non-Zero Readings	729		
Maximum 1-HR Average	485.0 UG/M3		
Maximum 24-HR Average	224.7 UG/M3		
Monthly Calibration	1	Operational Time	738 HRS
Standard Deviation	74.22	Operational Uptime	99.2 %
		Monthly Average	49.1 UG/M3

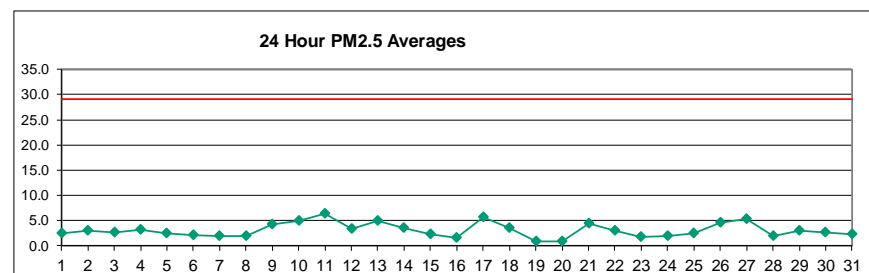
Windridge TSP ($\mu\text{g}/\text{m}^3$) – December 2020



Number of 24HR Exceedences	6	Proposed Guideline	
Number of Non-Zero Readings	726		
Maximum 1-HR Average	985.0 UG/M3		
Maximum 24-HR Average	275.5 UG/M3		
IZS Calibration Time		Operational Time	738 HRS
Down Time	0	Operational Uptime	99.2 %
Standard Deviation	98.5	Monthly Average	64.5 UG/M3

West PM_{2.5} (µg/m³) – December 2020

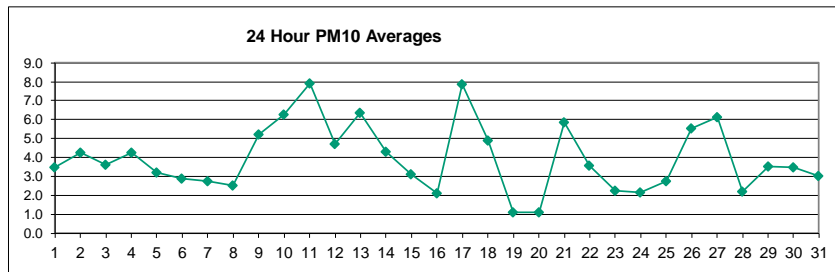
Day	HOUR																								MEAN	MAX		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1	0.5	0.5	0.5	0.5	0.7	0.9	1.0	1.9	4.6	5.6	5.4	4.6	4.8	4.8	5.4	3.3	2.6	2.3	1.7	1.5	1.6	1.4	1.5	1.4	2.4	5.6		
2	1.3	1.1	1.0	1.0	0.9	1.0	1.5	3.6	4.4	4.8	5.5	4.0	5.2	4.1	5.6	6.0	4.3	3.2	3.2	2.5	2.7	2.3	2.0	1.9	3.0	6.0		
3	1.6	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.9	2.8	3.8	4.5	4.0	5.3	4.2	4.0	4.0	3.8	3.1	2.8	3.0	2.2	2.0	1.9	2.7	5.3		
4	1.7	1.7	1.6	1.6	1.6	1.5	1.7	2.5	3.4	4.1	7.0	6.5	6.9	X	X	5.9	5.8	2.5	2.3	2.3	2.3	2.2	2.3	2.2	3.2	7.0		
5	2.2	2.1	1.9	1.9	2.1	2.3	2.5	2.5	2.3	2.4	2.7	2.6	3.1	2.8	2.7	2.7	2.9	3.2	2.8	2.8	2.9	2.6	2.3	2.1	2.5	3.2		
6	1.9	1.8	1.8	1.6	1.7	1.5	1.5	1.5	1.6	1.9	2.8	4.1	3.7	3.9	2.6	2.5	2.4	2.4	2.3	2.8	1.2	1.4	1.2	1.3	2.1	4.1		
7	1.7	1.8	1.3	0.9	0.9	1.3	1.5	2.6	3.7	5.0	4.1	2.9	3.0	3.3	2.9	2.9	1.7	1.3	0.6	0.7	0.6	0.5	0.5	0.6	1.9	5.0		
8	0.8	0.7	0.7	0.7	0.7	0.6	1.0	1.0	1.9	1.5	1.4	1.4	3.0	5.2	7.4	4.3	2.9	1.8	1.5	1.5	1.4	1.6	1.6	1.6	1.9	7.4		
9	3.3	4.2	1.8	3.0	3.9	4.0	4.2	1.4	1.7	0.5	0.2	0.9	2.3	6.2	14.2	13.5	4.9	3.2	5.0	8.1	5.4	5.4	3.6	2.5	4.3	14.2		
10	1.7	1.2	0.9	0.7	0.7	0.8	0.9	1.2	1.2	5.9	8.2	7.9	9.7	15.9	10.6	7.8	6.6	5.1	5.1	5.5	4.2	4.7	5.8	7.9	5.0	15.9		
11	8.5	8.5	8.3	6.6	5.9	5.0	6.0	4.2	8.6	10.9	13.9	11.8	8.0	5.4	6.2	6.7	5.0	3.4	3.5	3.3	2.7	3.2	3.0	2.3	6.3	13.9		
12	1.7	1.6	1.1	1.1	1.1	0.9	1.4	2.7	3.1	4.3	5.9	6.3	5.5	6.6	7.0	4.7	5.0	4.5	4.1	2.7	1.8	2.5	5.0	3.4	7.0			
13	3.7	3.0	3.0	2.3	3.3	3.8	4.5	5.2	5.8	7.4	9.3	9.6	7.5	6.6	6.5	6.5	9.4	9.0	4.3	2.3	2.0	1.9	1.8	1.7	5.0	9.6		
14	1.6	1.5	1.4	1.4	1.3	1.5	1.4	1.5	2.1	3.5	5.4	9.8	8.8	7.5	7.7	4.7	5.8	4.3	2.4	2.2	2.3	2.2	2.0	1.6	3.5	9.8		
15	1.4	1.1	1.1	0.6	0.5	0.9	2.0	3.3	3.7	3.8	5.4	4.9	4.5	3.8	4.4	4.9	2.2	1.3	1.4	1.1	0.7	0.5	0.5	0.2	2.3	5.4		
16	0.5	0.2	0.5	0.2	0.1	0.5	1.2	2.8	2.9	3.2	2.0	2.5	2.1	2.1	3.8	2.2	2.3	1.1	1.3	0.8	0.7	1.2	0.7	0.7	1.5	3.8		
17	0.7	0.7	0.8	0.4	0.2	0.4	2.4	2.7	5.6	3.7	3.6	2.9	3.2	3.0	2.0	2.6	2.2	1.2	3.4	15.8	20.2	20.2	19.0	18.9	5.7	20.2		
18	17.9	16.4	15.1	3.8	0.7	0.5	1.5	2.8	1.8	2.1	2.2	2.2	2.0	2.2	2.0	1.9	1.8	0.8	0.9	2.2	0.7	0.7	0.8	0.6	3.5	17.9		
19	0.4	0.5	0.7	2.0	0.8	1.0	0.6	1.0	1.3	0.9	0.9	0.8	0.9	0.8	1.2	0.8	0.8	0.7	0.4	0.5	0.3	0.5	0.5	0.6	0.8	2.0		
20	1.5	1.2	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.6	0.8	1.4	2.7	1.6	0.7	1.4	0.6	1.1	1.8	0.6	0.4	0.6	1.1	0.8	0.8	2.7		
21	0.3	0.3	0.4	0.2	0.3	1.8	6.4	2.9	5.5	3.3	13.1	17.0	10.4	11.8	11.9	2.2	1.8	1.5	2.4	2.1	3.9	1.7	2.2	3.0	4.4	17.0		
22	1.4	1.2	3.0	3.6	2.9	4.4	6.5	1.6	1.2	2.2	4.3	4.0	3.0	2.7	3.6	1.7	P	P	P	P	P	3.0	2.9	3.1	3.0	6.5		
23	2.3	1.3	1.0	1.1	0.8	0.7	0.7	0.6	0.9	1.3	1.7	2.2	2.2	3.1	3.1	2.8	3.6	3.6	2.7	1.8	2.0	1.6	1.2	1.5	1.8	3.6		
24	1.5	1.2	0.9	1.1	1.0	0.8	0.8	0.9	1.8	2.1	2.4	2.0	1.7	1.8	2.0	1.8	1.7	2.1	2.4	2.7	3.7	3.6	2.6	2.4	1.9	3.7		
25	2.2	1.8	1.6	1.5	1.5	1.5	1.3	1.2	1.5	1.8	2.3	2.9	3.6	2.8	2.9	2.4	2.3	2.4	3.2	3.5	3.3	3.1	4.1	4.8	2.5	4.8		
26	3.7	2.7	1.8	1.6	1.8	1.6	1.4	2.0	1.7	2.4	4.3	3.5	1.9	2.5	4.5	3.5	3.2	7.5	8.1	7.0	9.2	10.3	11.6	11.1	4.5	11.6		
27	10.2	9.5	10.5	13.2	13.4	11.8	10.1	9.8	6.2	3.6	2.6	2.0	1.5	1.4	1.0	0.9	1.6	1.2	2.9	3.5	3.1	3.0	2.7	2.3	5.3	13.4		
28	1.7	1.4	1.2	1.2	1.1	1.1	1.2	1.2	1.3	1.5	1.9	1.8	1.4	2.4	2.4	1.5	1.8	3.3	4.5	1.7	3.6	3.1	2.5	2.8	2.0	4.5		
29	2.8	3.0	2.6	2.5	2.5	2.6	2.2	2.1	2.1	3.8	4.8	2.6	3.4	5.5	5.1	4.7	3.8	2.2	2.4	2.6	2.1	2.0	2.2	2.4	3.0	5.5		
30	1.6	1.6	1.5	1.3	1.3	1.3	1.3	1.5	1.4	2.2	4.7	5.4	5.5	6.8	6.3	4.7	3.5	2.1	1.9	1.7	1.8	1.7	1.8	1.3	2.7	6.8		
31	1.2	1.2	1.1	1.1	1.0	1.1	1.2	1.4	1.2	1.8	2.0	2.4	5.4	5.8	6.3	4.2	3.0	2.2	2.4	1.6	2.0	3.8	1.7	0.6	2.3	6.3		
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	30	30	30	31	31	737	99%
MEAN	2.7	2.5	2.3	1.9	1.8	1.9	2.3	2.2	2.8	3.2	4.3	4.4	4.2	4.5	4.9	3.9	3.3	2.8	2.8	3.0	3.1	3.0	2.9	2.9				
MAX	17.9	16.4	15.1	13.2	13.4	11.8	10.1	9.8	8.6	10.9	13.9	17.0	10.4	15.9	14.2	13.5	9.4	9.0	8.1	15.8	20.2	20.2	19.0	18.9				



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	737	
Maximum 1-HR Average	20.2 UG/M3	
Maximum 24-HR Average	6.3 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	2.946	Monthly Average
		737 HRS
		99.1 %
		3.1 UG/M3

West PM₁₀ (µg/m³) – December 2020

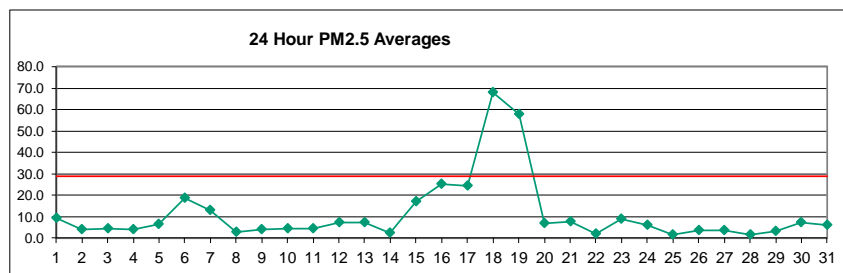
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.5	0.5	0.6	0.5	0.8	1.1	1.2	2.7	6.8	8.2	8.0	6.8	7.0	7.1	8.0	5.0	3.8	3.3	2.4	1.9	2.2	1.7	1.8	1.6	3.5	8.2	
2	1.5	1.2	1.2	1.1	1.0	1.2	1.9	5.2	6.6	7.1	8.1	5.9	7.8	6.1	8.3	8.9	6.3	4.7	4.5	3.3	3.4	2.7	2.3	2.1	4.3	8.9	
3	1.8	1.6	1.5	1.4	1.4	1.4	1.5	1.6	2.5	4.0	5.6	6.7	5.9	7.8	6.3	5.9	5.9	5.6	4.1	3.4	3.7	2.6	2.4	2.1	3.6	7.8	
4	1.9	1.9	1.8	1.9	1.7	1.7	1.9	3.4	4.8	5.9	10.3	9.6	10.3	X	X	8.7	8.5	3.5	3.0	2.8	2.6	2.4	2.6	2.4	4.3	10.3	
5	2.5	2.3	2.1	2.2	2.5	3.0	3.1	3.1	2.9	3.1	3.6	3.5	4.5	4.0	4.0	3.9	4.2	4.5	3.6	3.3	3.3	2.8	2.5	2.3	3.2	4.5	
6	2.0	2.0	2.2	1.8	1.9	1.6	1.6	1.7	1.8	2.4	4.1	6.1	5.5	5.8	3.8	3.7	3.4	3.4	3.3	4.0	1.7	2.0	1.7	1.8	2.9	6.1	
7	2.5	2.6	1.7	1.0	1.1	1.7	2.0	3.8	5.6	7.5	6.0	4.3	4.4	4.9	4.3	4.3	2.5	1.7	0.7	0.9	0.7	0.5	0.6	0.7	2.8	7.5	
8	0.8	0.8	0.8	0.8	0.7	0.7	1.3	1.3	2.5	2.0	2.0	1.9	4.3	7.7	11.0	6.3	4.1	2.2	1.7	1.6	1.5	1.7	1.7	1.7	2.5	11.0	
9	3.6	4.6	2.2	3.8	4.7	4.6	5.5	1.9	4.5	0.7	0.3	1.4	4.0	8.4	17.0	18.1	5.9	3.5	5.2	8.2	5.5	5.5	3.6	2.5	5.2	18.1	
10	1.7	1.3	0.9	0.7	0.7	0.8	1.0	1.4	1.4	6.8	9.7	9.6	12.5	20.2	13.7	9.9	9.0	6.2	6.5	8.0	5.8	6.3	7.3	9.4	6.3	20.2	
11	10.5	10.2	9.7	8.2	6.7	6.1	8.2	5.2	10.9	13.4	17.1	14.8	10.8	7.7	9.1	9.8	7.2	4.6	4.2	3.8	3.0	3.5	3.2	2.4	7.9	17.1	
12	1.9	1.7	1.2	1.1	1.2	1.2	1.0	1.7	3.6	4.2	6.1	8.5	9.2	8.1	9.9	10.2	6.9	7.3	6.5	5.7	3.4	2.2	3.2	7.2	4.7	10.2	
13	4.9	3.7	3.8	2.9	4.1	4.5	5.0	5.7	6.8	9.5	12.3	12.9	9.7	8.6	8.7	8.7	12.8	12.0	5.3	2.9	2.3	2.1	1.9	1.7	6.4	12.9	
14	1.6	1.6	1.5	1.5	1.4	1.6	1.4	1.7	2.6	4.7	7.6	12.6	11.3	9.6	10.2	6.5	7.5	5.1	2.6	2.4	2.4	2.3	2.1	1.7	4.3	12.6	
15	1.5	1.1	1.2	0.7	0.6	1.1	2.8	4.7	5.4	5.3	7.7	7.0	6.5	5.4	6.3	7.2	3.2	1.9	1.9	1.3	0.8	0.6	0.7	0.3	3.1	7.7	
16	0.6	0.2	0.6	0.2	0.2	0.7	1.7	4.0	4.2	4.6	2.9	3.6	3.0	3.0	5.6	3.2	3.3	1.6	1.9	1.0	0.9	1.5	0.8	0.8	2.1	5.6	
17	0.7	0.8	0.9	0.5	0.3	0.6	3.6	3.9	8.2	5.3	5.2	4.2	4.6	4.4	3.0	3.9	3.3	1.7	4.6	22.1	27.2	28.9	24.6	26.7	7.9	28.9	
18	25.7	22.3	20.8	4.7	0.9	0.7	2.1	4.0	2.7	3.0	3.2	3.2	3.0	3.2	2.9	2.8	2.6	1.1	1.3	3.1	1.0	0.9	1.1	0.9	4.9	25.7	
19	0.5	0.7	1.0	3.0	1.1	1.5	0.8	1.5	1.9	1.3	1.2	1.1	1.3	1.1	1.7	1.1	1.1	0.9	0.6	0.6	0.4	0.6	0.7	0.9	1.1	3.0	
20	2.2	1.6	0.3	0.5	0.2	0.3	0.3	0.1	0.3	0.7	1.1	2.0	3.8	2.3	0.9	1.9	0.7	1.4	2.5	0.8	0.4	0.8	1.2	0.9	1.1	3.8	
21	0.3	0.3	0.5	0.3	0.4	2.6	9.3	4.2	8.1	4.9	17.6	22.3	12.8	14.5	15.4	3.2	2.6	2.0	3.3	2.7	5.4	2.1	2.6	3.5	5.9	22.3	
22	1.5	1.4	3.6	4.4	3.8	5.7	8.6	2.0	1.3	2.6	5.0	5.0	3.8	3.5	4.4	2.3	P	P	P	P	P	3.0	3.0	3.2	3.6	8.6	
23	2.4	1.5	1.1	1.2	0.9	0.8	0.8	0.7	1.1	1.6	2.2	2.9	2.8	4.3	4.4	3.8	4.8	4.5	3.3	2.1	2.3	1.8	1.4	1.8	2.3	4.8	
24	2.0	1.6	1.0	1.3	1.2	0.8	0.9	1.0	2.1	2.5	2.8	2.4	2.2	2.3	2.6	2.3	2.0	2.4	2.7	2.9	3.9	3.8	2.7	2.5	2.2	3.9	
25	2.3	1.8	1.6	1.5	1.5	1.6	1.4	1.2	1.5	1.9	2.5	3.2	4.3	3.7	3.9	3.1	2.8	2.7	3.4	3.7	3.4	3.2	4.4	5.1	2.7	5.1	
26	3.9	2.9	2.0	1.7	2.1	1.8	1.5	2.3	2.1	3.1	6.2	4.9	2.2	3.0	5.4	4.1	3.6	9.0	9.6	8.2	10.6	12.4	15.2	15.1	5.5	15.2	
27	12.9	10.7	11.7	17.8	16.4	13.8	11.4	11.0	6.7	3.7	2.7	2.1	1.7	1.8	1.3	1.1	1.7	1.2	2.9	3.5	3.2	3.0	2.7	2.4	6.1	17.8	
28	1.7	1.5	1.2	1.2	1.1	1.1	1.3	1.3	1.6	2.0	2.0	1.7	3.5	3.5	2.0	2.3	3.8	4.9	1.7	3.7	3.2	2.6	2.8	2.8	2.2	4.9	
29	2.9	3.1	2.6	2.6	2.6	2.7	2.4	2.3	2.5	4.5	5.6	3.2	4.6	7.8	7.3	6.6	4.6	2.4	2.6	2.7	2.3	2.0	2.2	2.6	3.5	7.8	
30	1.6	1.6	1.6	1.4	1.3	1.4	1.4	1.7	1.7	2.7	6.1	7.7	8.2	9.9	9.1	6.8	5.0	2.7	2.2	1.8	2.0	1.9	2.0	1.4	3.5	9.9	
31	1.2	1.2	1.2	1.1	1.0	1.1	1.2	1.6	1.4	2.3	2.8	3.3	8.0	8.5	9.3	6.3	4.4	3.1	3.3	2.0	2.4	4.1	1.8	0.6	3.0	9.3	
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	30	30	30	31	31	31
MEAN	3.3	2.9	2.7	2.3	2.1	2.2	2.8	2.8	3.7	4.2	5.7	6.0	5.9	6.3	6.7	5.5	4.5	3.7	3.5	3.8	3.7	3.6	3.4	3.6	737	99%	
MAX	25.7	22.3	20.8	17.8	16.4	13.8	11.4	11.0	10.9	13.4	17.6	22.3	12.8	20.2	17.0	18.1	12.8	12.0	9.6	22.1	27.2	28.9	24.6	26.7			



Number of Non-Zero Readings	737		
Maximum 1-HR Average	28.9 UG/M3		
Maximum 24-HR Average	7.9 UG/M3		
IZS Calibration Time		OperatioEI Time	737 HRS
Down Time	0	OperatioEI Uptime	99.1 %
Standard Deviation	4.0	Monthly Average	4.0 UG/M3

Berm PM_{2.5} (µg/m³) – December 2020

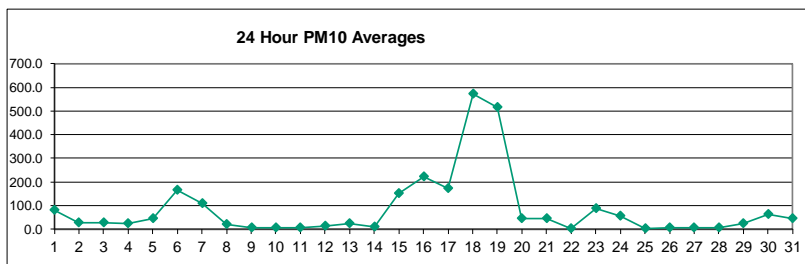
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	1.2	1.2	1.6	0.7	0.4	0.4	0.7	1.8	5.3	5.1	12.1	31.9	36.2	28.0	22.2	10.6	20.8	17.5	10.9	4.8	3.1	2.7	3.3	2.4	9.4	36.2
2	4.4	2.4	2.7	2.1	1.4	1.0	1.5	2.0	4.7	4.3	8.5	9.4	5.9	7.8	9.2	5.4	2.5	2.2	2.1	1.6	9.7	2.0	2.0	1.3	4.0	9.7
3	1.1	5.6	2.0	1.7	2.1	3.5	2.4	4.1	7.8	4.3	5.1	6.3	5.4	7.4	6.0	4.7	3.2	2.8	2.4	2.4	3.3	4.9	14.3	3.2	4.4	14.3
4	4.2	1.4	1.8	2.9	4.0	1.2	1.8	14.9	4.4	4.8	2.7	4.4	7.2	6.5	4.3	4.4	3.5	1.9	2.8	4.1	3.0	2.7	3.7	4.8	4.1	14.9
5	9.0	3.8	7.9	8.8	9.6	9.5	12.3	8.9	8.3	8.2	3.1	4.0	3.6	9.8	4.1	5.4	4.2	4.4	3.4	2.9	4.7	6.2	5.8	11.1	6.6	12.3
6	4.2	2.6	2.5	2.2	1.8	1.1	1.1	1.4	1.4	1.9	26.7	15.1	12.8	13.3	10.5	15.7	50.4	31.2	58.4	34.7	62.8	64.6	21.6	11.7	18.7	64.6
7	43.8	54.9	21.8	5.6	2.4	2.5	4.3	6.7	12.6	34.8	30.5	14.0	11.6	19.8	13.9	9.7	6.3	3.2	1.9	4.4	1.4	2.0	2.5	1.4	13.0	54.9
8	2.0	3.3	2.4	3.0	0.8	0.7	1.7	1.0	0.8	1.4	2.1	5.1	6.1	3.3	6.1	12.1	8.4	2.6	0.8	1.0	0.9	0.9	1.8	1.2	2.9	12.1
9	2.3	1.8	0.7	1.9	1.6	3.2	2.2	0.9	0.2	3.0	5.2	2.3	4.9	10.2	18.4	14.7	6.6	1.3	2.7	2.7	3.4	3.1	1.6	2.3	4.0	18.4
10	1.2	0.8	0.8	0.5	0.5	0.7	0.7	1.5	1.2	5.2	5.2	4.2	6.1	10.0	7.6	7.4	6.5	3.1	2.7	7.8	7.0	6.6	11.9	9.1	4.5	11.9
11	8.1	7.0	4.9	6.0	4.9	3.2	2.4	4.1	8.1	9.3	7.3	9.2	5.5	2.5	2.5	2.6	2.1	1.8	2.1	1.9	2.4	2.0	1.8	1.8	4.3	9.3
12	1.6	1.4	1.2	1.8	9.9	0.7	0.7	0.9	1.9	5.0	4.5	9.5	8.0	7.9	6.9	3.0	3.6	6.9	7.7	25.9	22.2	16.3	10.9	20.6	7.5	25.9
13	6.2	8.3	12.2	5.4	3.5	5.2	4.1	4.9	4.7	4.8	5.8	8.3	8.5	6.4	7.5	6.2	5.0	5.2	10.5	10.5	14.3	12.7	13.6	6.1	7.5	14.3
14	4.3	3.3	3.4	3.2	1.5	2.0	1.2	1.0	1.3	2.0	3.6	6.6	5.4	4.4	4.1	2.3	2.9	2.2	1.6	1.3	1.3	1.5	1.5	1.4	2.6	6.6
15	3.9	2.7	2.9	2.3	2.9	4.3	5.4	8.7	54.7	18.0	26.0	24.5	17.2	18.8	18.1	25.3	26.2	20.9	11.7	20.2	18.8	9.2	35.0	27.9	16.9	54.7
16	19.0	19.5	10.3	16.1	12.6	6.5	5.5	13.8	26.3	47.7	65.8	70.6	52.6	25.7	20.4	35.8	41.1	32.9	12.8	19.7	34.4	8.1	7.4	2.3	25.3	70.6
17	6.1	12.9	11.6	20.3	23.0	12.1	10.8	17.9	25.3	50.6	49.8	55.5	26.4	54.9	44.6	41.6	31.7	20.1	6.9	13.0	15.1	12.9	12.0	11.6	24.4	55.5
18	12.3	13.4	10.8	9.4	49.1	19.4	15.1	15.6	79.6	73.0	43.7	78.3	77.0	136.8	219.9	84.7	73.4	51.6	60.2	135.6	61.0	77.8	136.1	95.5	67.9	219.9
19	42.8	22.1	139.3	35.5	20.5	24.6	22.9	64.7	197.5	94.2	79.3	122.8	87.6	47.7	80.9	75.7	43.5	38.1	37.8	30.7	45.5	17.2	8.7	8.8	57.9	197.5
20	10.8	21.2	3.9	5.3	2.3	2.6	1.8	1.9	2.0	4.4	9.6	12.7	9.3	18.6	16.8	8.5	2.8	3.6	11.4	2.8	2.4	2.0	4.4	1.6	6.8	21.2
21	6.3	15.5	27.4	23.1	9.5	2.6	0.9	1.6	2.6	1.9	10.2	16.6	9.3	10.7	7.1	6.5	17.7	8.5	3.5	0.7	0.9	0.9	1.3	0.7	7.8	27.4
22	0.6	0.9	1.2	1.5	0.5	0.5	0.5	0.9	1.7	3.9	4.2	4.1	3.6	6.2	1.6	3.0	1.3	0.5	0.5	1.7	2.6	1.9	2.6	3.0	2.0	6.2
23	3.4	2.8	4.9	3.1	2.5	10.4	5.4	4.7	12.1	4.4	3.3	18.9	13.3	17.5	7.0	15.3	14.1	16.5	6.4	8.1	8.6	6.2	9.8	12.4	8.8	18.9
24	35.6	47.2	1.6	17.9	12.8	2.1	0.6	2.0	2.5	1.1	1.3	1.3	1.4	2.2	1.8	1.8	2.5	2.1	1.7	1.5	1.6	1.6	1.5	2.1	6.2	47.2
25	1.6	1.6	1.2	1.1	1.2	1.6	1.8	1.1	1.4	1.4	1.8	1.4	2.0	1.7	1.7	1.8	1.2	1.2	2.2	1.7	1.5	2.2	3.2	3.2	1.6	3.2
26	3.1	3.2	2.3	2.1	4.1	4.7	1.8	1.6	1.1	2.8	2.7	2.2	1.2	8.1	1.9	2.4	8.5	4.7	3.7	4.7	5.5	6.1	7.0	6.5	3.8	8.5
27	4.9	5.7	7.2	7.9	8.5	7.8	8.0	5.6	3.3	5.4	1.3	1.1	1.1	1.2	1.6	1.0	0.8	0.9	1.7	2.1	2.4	2.2	1.5	1.3	3.5	8.5
28	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.9	1.0	1.9	2.5	1.7	1.6	5.1	3.1	2.1	2.5	2.5	1.9	1.6	1.6	1.6	1.6	5.1
29	1.5	1.2	1.3	1.3	1.2	1.1	0.9	1.0	0.9	1.6	2.5	2.6	2.6	4.1	3.7	2.0	3.9	4.1	7.0	4.9	4.6	5.4	14.4	5.0	3.3	14.4
30	3.5	5.2	5.2	6.8	3.9	4.5	1.6	2.3	5.0	9.3	8.0	8.2	11.7	9.9	7.1	7.2	11.7	11.3	8.8	6.7	13.8	14.1	6.5	2.6	7.3	14.1
31	1.7	1.2	1.0	2.7	3.0	2.2	0.9	1.6	1.9	2.6	3.7	3.7	7.5	6.5	5.2	7.3	8.0	6.9	13.7	17.8	13.0	6.3	13.3	18.9	6.3	18.9
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	8.1	8.9	9.6	6.5	6.5	4.6	3.9	6.4	15.5	13.5	14.1	18.0	14.6	16.4	18.2	13.8	13.5	10.1	9.8	12.3	12.0	9.8	11.7	9.1		
MAX	43.8	54.9	139.3	35.5	49.1	24.6	22.9	64.7	197.5	94.2	79.3	122.8	87.6	136.8	219.9	84.7	73.4	51.6	60.2	135.6	62.8	77.8	136.1	95.5		



Number of 24HR Exceedences	2	Proposed Guideline
Number of Non-Zero Readings	744	
Maximum 1-HR Average	219.9 UG/M3	
Maximum 24-HR Average	67.9 UG/M3	
Monthly Calibration	0	Operational Time
Standard Deviation	20.8	Operational Uptime
		Monthly Average
		744 HRS
		100.0 %
		11.1 UG/M3

Berm PM₁₀ (µg/m³) – December 2020

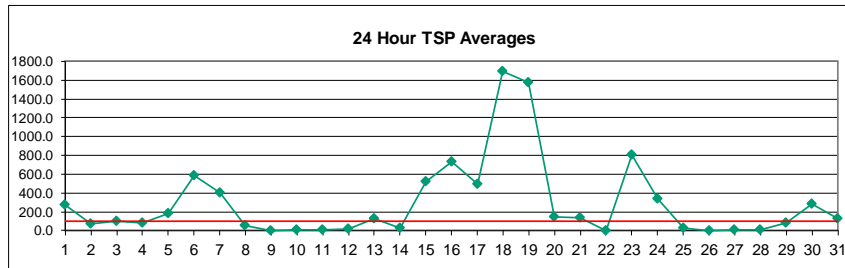
DAY	<div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> <div>17</div> <div>18</div> <div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div> </div>																								MEAN	MAX
1	5.9	8.1	10.2	2.3	0.6	0.5	1.5	10.8	40.7	43.7	86.8	269.9	290.6	265.8	189.1	100.3	189.8	169.9	111.7	38.8	24.5	21.4	23.6	13.5	80.0	290.6
2	35.6	11.2	18.0	27.7	6.2	3.8	7.7	10.8	39.0	35.6	66.4	83.7	42.0	63.2	63.3	35.4	13.5	8.3	5.3	3.5	29.8	5.6	5.9	3.4	26.0	83.7
3	1.5	18.5	7.6	5.4	14.0	43.3	9.8	18.4	52.6	27.8	38.3	44.7	37.3	52.7	39.5	32.1	12.2	8.4	6.4	7.8	12.9	37.7	114.6	18.1	27.6	114.6
4	31.8	3.3	6.0	18.5	29.0	2.4	9.5	120.3	30.2	26.9	11.7	21.1	57.5	43.1	32.8	32.6	19.7	7.3	9.4	24.2	15.9	11.2	16.7	22.3	25.1	120.3
5	65.9	23.1	60.3	74.7	75.3	78.2	101.7	70.4	61.2	50.6	15.5	18.5	22.2	74.1	21.0	28.5	22.1	23.4	15.5	9.2	24.4	37.4	37.9	89.5	45.9	101.7
6	30.2	13.1	12.9	6.7	5.1	1.7	2.6	3.3	2.6	7.0	258.5	149.6	91.8	95.0	79.0	151.3	483.4	301.0	531.7	313.1	557.1	593.9	182.7	98.3	165.5	593.9
7	428.9	531.4	203.9	44.0	13.6	13.7	31.5	53.9	91.9	302.7	249.0	98.4	79.2	163.2	110.1	53.0	43.2	14.1	7.9	33.7	5.3	8.1	10.2	4.8	108.2	531.4
8	8.3	16.2	16.4	11.6	1.6	1.4	2.7	1.2	1.0	1.8	6.8	40.0	43.1	21.9	49.3	118.5	83.8	20.0	1.1	1.2	1.0	0.9	2.3	1.4	18.9	118.5
9	2.7	2.3	0.8	2.5	1.9	3.3	2.2	1.0	0.2	4.4	7.7	3.4	7.3	12.6	23.8	18.9	8.8	1.9	3.6	3.3	4.2	3.7	1.8	3.2	5.2	23.8
10	1.6	0.9	1.0	0.5	0.6	0.9	0.8	2.0	1.5	5.9	5.9	5.3	15.1	13.9	14.6	10.9	8.7	3.5	3.3	11.7	10.4	9.7	17.1	13.0	6.6	17.1
11	11.7	10.0	6.5	8.7	6.5	3.9	2.7	5.7	12.0	14.0	10.7	13.4	8.0	7.4	12.7	6.7	2.8	2.2	2.4	2.0	2.9	2.2	1.9	2.2	6.6	14.0
12	2.0	1.7	1.5	2.5	14.5	0.7	0.8	1.0	2.5	7.4	6.5	14.2	11.9	11.7	60.3	4.2	5.0	10.0	11.3	38.3	33.0	24.1	15.8	30.2	13.0	60.3
13	8.7	11.9	17.9	7.6	4.5	6.7	4.9	5.9	5.2	5.3	6.7	12.1	11.7	7.1	8.6	7.1	5.3	5.5	14.5	14.8	48.8	165.8	134.3	50.1	23.8	165.8
14	31.5	18.9	18.3	17.7	5.4	8.0	3.1	1.1	1.5	2.7	8.9	15.0	16.2	13.5	11.0	4.3	4.2	2.6	1.8	1.4	1.4	1.8	1.9	3.9	8.2	31.5
15	28.3	14.9	20.0	14.5	19.3	31.1	46.6	82.3	565.4	160.1	222.0	209.5	142.1	143.2	150.5	218.3	232.8	198.1	112.6	199.5	171.2	83.2	323.8	262.4	152.2	565.4
16	162.3	168.3	79.6	136.3	126.6	55.7	42.0	120.9	235.2	423.4	630.9	654.0	473.7	209.0	163.6	281.0	340.6	276.9	114.5	157.3	289.6	58.7	64.5	17.6	220.1	654.0
17	46.8	105.7	97.6	166.7	176.7	64.3	80.4	140.3	218.4	389.8	376.9	427.7	195.5	409.6	369.4	328.4	276.5	157.4	29.0	14.1	16.7	14.0	12.9	13.5	172.0	427.7
18	16.1	19.5	14.8	14.7	394.6	187.0	136.3	113.3	598.6	629.8	322.3	637.0	633.4	1218.0	1879.7	757.2	681.6	425.4	527.9	1159.2	533.2	720.9	1236.3	891.8	572.9	1879.7
19	412.3	219.6	1373.0	344.1	199.6	249.6	241.1	627.9	1828.9	838.4	660.1	1073.6	695.7	405.2	627.7	602.9	383.3	298.7	286.8	279.9	409.5	149.7	80.8	62.9	514.6	1828.9
20	73.2	49.7	5.9	7.9	3.4	3.9	2.7	2.8	2.9	6.6	97.7	117.1	104.6	158.4	174.0	90.5	16.3	30.0	91.9	19.0	10.4	10.2	17.1	10.7	46.1	174.0
21	55.8	127.2	255.5	200.3	103.4	16.9	4.2	7.0	12.3	9.6	26.4	30.0	33.3	50.4	38.7	37.7	50.0	12.5	4.9	0.8	1.1	1.0	1.3	0.7	45.0	255.5
22	0.6	1.0	1.3	1.7	0.6	0.7	0.6	1.1	2.2	5.7	5.9	5.7	4.7	9.1	2.2	4.4	1.4	0.5	0.6	1.9	2.9	2.0	3.1	3.8	2.6	9.1
23	4.6	4.1	7.2	4.6	3.7	63.7	69.0	52.9	87.4	33.3	31.6	236.3	164.0	248.8	72.3	176.9	145.3	208.3	61.6	67.4	89.1	53.2	102.1	129.1	88.2	248.8
24	407.9	524.5	9.0	178.1	133.2	11.6	1.0	11.8	6.9	1.4	2.1	2.7	4.3	12.6	5.3	8.2	15.0	5.6	3.2	2.8	1.8	1.7	1.7	3.8	56.5	524.5
25	3.2	4.4	2.9	2.9	2.8	4.2	5.4	3.3	4.1	3.4	5.1	2.2	2.7	2.3	2.8	2.9	1.6	1.5	8.4	2.6	2.0	1.7	4.8	4.0	3.4	8.4
26	4.0	4.3	3.1	2.8	5.9	6.8	2.3	2.0	1.4	4.0	3.7	3.0	1.5	11.7	2.2	2.8	11.7	5.4	4.6	5.4	5.9	7.0	7.9	7.3	4.9	11.7
27	5.3	6.2	7.7	8.4	9.4	9.3	10.3	6.4	3.5	6.3	1.4	1.2	2.5	4.0	9.0	3.1	1.8	1.7	2.4	4.1	4.6	2.7	1.7	1.4	4.8	10.3
28	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.3	8.5	15.3	7.1	6.0	22.2	12.4	3.3	3.6	7.3	2.2	1.7	1.6	1.6	4.2	22.2
29	1.5	1.3	1.3	1.3	1.2	1.1	0.9	1.1	1.0	1.8	3.9	6.8	8.6	14.3	22.0	7.3	26.8	31.6	64.8	42.0	35.5	52.2	152.1	45.1	21.9	152.1
30	25.0	43.2	39.2	60.8	33.2	34.9	8.9	13.9	42.0	86.0	70.8	80.7	103.3	89.7	67.2	63.6	102.3	90.0	73.7	59.2	135.0	132.6	57.8	16.9	63.7	135.0
31	6.5	3.8	2.3	14.0	23.1	15.3	2.6	7.3	9.3	11.9	31.5	33.9	77.9	51.1	39.8	51.9	47.8	44.5	89.6	130.8	100.3	41.4	99.7	126.3	44.3	130.8
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	62.0	63.5	74.3	44.8	45.7	29.9	27.0	48.4	127.8	101.6	105.6	139.3	109.6	125.5	140.2	105.3	104.8	76.4	71.2	85.7	83.3	72.8	88.3	63.0		
MAX	428.9	531.4	1373.0	344.1	394.6	249.6	241.1	627.9	1828.9	838.4	660.1	1073.6	695.7	1218.0	1879.7	757.2	681.6	425.4	531.7	1159.2	557.1	720.9	1236.3	891.8		



Number of Non-Zero Readings	744
Maximum 1-HR Average	1879.7 UG/M3
Maximum 24-HR Average	572.9 UG/M3
Monthly Calibration	0
Standard Deviation	188.3
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	83.2 UG/M3

Berm TSP (µg/m³) – December 2020

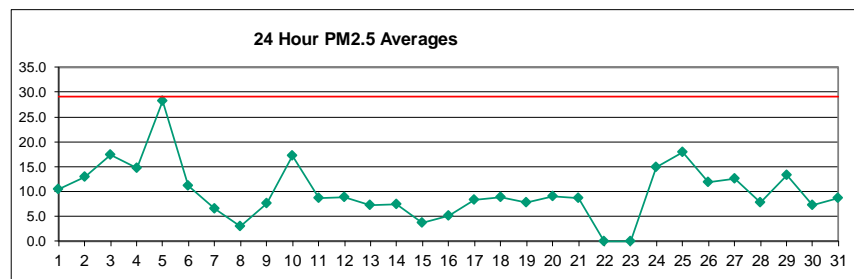
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	24.7	33.2	37.1	5.4	0.4	0.3	1.2	23.1	116.5	126.2	232.2	807.3	879.2	956.0	702.2	361.7	708.3	619.7	471.0	141.7	92.6	71.9	83.9	41.9	272.4	956.0
2	114.9	38.0	96.9	94.9	27.0	14.5	30.7	34.2	126.4	115.2	206.5	231.5	115.2	193.0	138.6	79.0	42.4	43.8	9.9	6.6	53.4	9.4	23.8	4.7	77.1	231.5
3	3.7	55.3	35.6	15.3	67.6	105.6	46.7	78.7	206.8	98.4	155.0	144.9	126.0	198.5	134.3	80.3	31.3	20.7	11.1	27.0	41.3	159.1	468.2	71.8	99.3	468.2
4	158.1	6.1	31.1	80.9	122.6	4.7	32.3	461.3	88.6	80.1	42.5	54.2	174.7	122.5	90.3	89.8	61.7	19.2	23.7	85.3	49.0	54.6	50.0	70.5	85.6	461.3
5	236.9	84.2	243.7	300.5	305.7	319.0	474.2	336.4	233.5	184.5	53.4	79.8	67.7	283.1	62.7	90.3	72.0	74.0	55.3	41.7	111.6	143.6	156.3	386.1	183.2	474.2
6	115.1	54.6	48.2	17.6	8.1	2.8	8.9	6.2	4.2	20.1	899.5	581.9	317.2	259.8	260.4	544.0	1766.0	1065.2	1912.1	1106.3	1795.6	2087.5	731.8	359.4	582.2	2087.5
7	1545.6	1929.2	884.9	213.3	42.2	56.8	140.5	214.3	322.7	1116.1	877.0	336.5	252.7	593.0	413.3	193.3	136.6	43.5	29.7	149.3	16.7	29.6	42.1	25.3	400.2	1929.2
8	35.2	70.5	62.2	39.7	2.9	4.5	4.2	1.0	0.7	1.6	21.4	124.9	143.7	58.3	130.3	325.0	223.0	59.7	1.5	0.9	0.7	0.6	2.1	1.0	54.8	325.0
9	2.0	1.7	0.5	1.9	1.4	2.1	1.5	0.6	0.1	4.7	8.6	3.7	8.0	10.1	17.5	15.2	6.9	1.7	3.0	2.5	3.3	2.7	1.3	3.0	4.3	17.5
10	1.2	0.6	0.7	0.3	0.5	0.7	0.6	1.9	1.2	4.3	5.9	21.7	37.8	11.8	22.1	10.8	6.9	2.5	2.5	12.8	10.1	9.4	14.8	12.0	8.0	37.8
11	9.6	8.1	4.7	8.8	5.7	2.8	1.9	5.1	12.5	15.2	9.3	11.8	7.9	27.6	47.0	16.9	2.2	1.6	1.6	1.4	2.4	1.6	1.3	1.8	8.7	47.0
12	1.7	1.4	1.3	2.2	16.5	0.5	0.6	0.7	2.4	8.3	6.9	15.1	13.2	13.1	230.4	3.4	3.8	9.0	9.5	36.2	35.4	24.3	15.4	29.1	20.0	230.4
13	7.1	10.2	17.0	6.2	3.3	5.5	3.5	4.4	3.7	3.8	4.5	11.3	9.6	4.8	6.2	4.9	3.4	3.6	13.5	14.7	241.7	1407.8	1055.2	294.0	130.8	1407.8
14	157.1	67.0	84.6	96.6	51.3	27.8	16.4	0.8	1.2	2.4	13.3	32.8	35.4	37.5	35.1	7.4	6.2	3.1	1.2	1.1	0.9	1.7	2.5	9.3	28.9	157.1
15	121.6	46.8	82.4	57.3	64.2	117.7	163.1	291.5	1870.4	554.2	888.1	742.5	442.3	422.8	465.8	719.3	839.3	663.1	422.7	741.9	617.5	274.2	1098.8	913.1	525.9	1870.4
16	569.3	559.4	281.7	537.6	491.6	192.4	185.2	441.2	738.7	1350.4	2038.1	2162.3	1596.8	687.0	479.0	879.1	1186.3	1004.1	355.5	466.7	954.6	200.7	183.5	57.8	733.3	2162.3
17	138.1	321.3	278.2	383.3	423.4	74.8	221.5	422.6	585.4	1180.4	1176.4	1291.9	592.1	1213.9	1182.9	1040.3	782.9	434.3	75.2	9.7	11.6	9.5	8.7	9.5	494.5	1291.9
18	13.7	16.8	11.1	19.4	1156.4	652.4	486.5	298.5	1868.3	1973.5	926.9	1866.2	1923.4	3261.7	3952.6	2635.4	2531.1	1566.2	1762.7	3250.1	1852.7	2500.2	3453.5	2672.2	1693.8	3952.6
19	1619.6	940.5	3260.9	1333.0	878.2	926.4	1003.8	1875.7	3892.4	2735.1	2132.1	3235.5	2162.6	1388.6	1931.1	1878.6	1352.9	926.6	906.1	1091.4	1400.0	450.5	282.9	257.3	1577.6	3892.4
20	548.4	240.3	4.8	6.9	3.1	3.3	2.4	2.0	2.9	7.2	500.9	362.9	330.9	359.4	515.1	227.1	30.6	79.4	197.7	51.6	8.3	13.7	12.6	36.1	147.8	548.4
21	175.4	338.4	884.6	550.3	301.2	24.6	7.3	13.0	25.2	20.2	39.5	42.7	48.9	78.9	62.9	332.5	268.8	12.0	5.0	0.5	0.7	0.7	0.9	0.5	134.8	884.6
22	0.4	0.7	0.9	1.1	0.5	0.4	0.4	0.9	1.7	5.8	5.4	4.7	3.6	8.2	1.8	4.1	1.0	0.3	0.4	1.3	1.9	1.3	2.4	3.2	2.2	8.2
23	4.2	4.0	8.0	4.7	3.7	687.7	750.4	711.1	893.6	300.5	293.2	1746.9	1770.0	2297.4	651.0	1907.6	1137.1	2255.7	585.0	442.5	714.1	340.6	900.5	938.5	806.2	2297.4
24	2254.8	2516.8	111.9	1416.0	1240.4	185.8	3.6	54.7	20.1	1.1	9.6	13.6	14.1	51.4	12.4	26.3	37.5	13.1	7.0	6.5	1.2	1.3	1.4	27.4	334.5	2516.8
25	25.6	31.5	28.0	24.2	36.1	56.0	47.1	33.6	45.5	40.0	62.6	6.0	3.1	2.1	2.4	5.6	1.2	1.3	49.0	6.1	1.7	1.2	42.9	3.2	23.1	62.6
26	3.4	3.8	2.6	2.2	5.8	6.7	1.9	1.4	0.9	3.9	3.3	2.5	1.1	13.0	1.5	2.0	11.8	3.8	3.5	4.0	4.1	5.3	5.9	5.2	4.2	13.0
27	3.5	4.1	5.1	5.5	6.2	6.6	7.7	4.3	2.3	4.3	0.9	0.8	3.4	13.3	32.1	8.4	2.9	3.0	1.6	3.1	4.0	2.2	1.2	1.0	5.3	32.1
28	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6	4.1	30.5	66.1	24.8	17.1	28.4	37.5	3.4	2.6	24.5	2.6	1.1	1.0	1.0	10.4	66.1
29	1.0	0.8	0.8	0.8	0.8	0.7	0.6	0.7	0.7	1.3	5.0	12.5	30.4	38.4	73.7	24.2	86.4	111.7	231.5	155.0	139.9	219.6	652.2	270.3	85.8	652.2
30	124.5	290.3	252.2	443.1	192.8	174.8	60.3	45.2	136.8	319.1	280.4	317.7	382.3	291.9	226.1	236.6	405.4	352.9	319.6	244.3	682.3	690.7	261.8	64.4	283.2	690.7
31	17.7	11.5	4.8	56.2	101.8	57.9	7.7	19.1	28.5	27.9	111.6	117.3	245.4	171.0	125.4	159.6	128.5	113.9	231.3	360.2	300.8	131.1	291.6	286.3	129.5	360.2
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	259.2	248.0	218.3	184.7	179.4	119.9	119.8	173.7	362.4	332.5	355.3	465.0	380.8	422.3	387.8	385.1	384.3	306.8	248.4	273.8	295.3	285.4	317.8	221.2		
MAX	2254.8	2516.8	3260.9	1416.0	1240.4	926.4	1003.8	1875.7	3892.4	2735.1	2132.1	3235.5	2162.6	3261.7	3952.6	2635.4	2531.1	2255.7	1912.1	3250.1	1852.7	2500.2	3453.5	2672.2		



Number of 24HR Exceedences	16	Proposed Guideline
Number of Non-Zero Readings	744	
Maximum 1-HR Average	3952.6 UG/M3	
Maximum 24-HR Average	1693.8 UG/M3	
IZS Calibration Time		Operational Time 744 HRS
Monthly Calibration	0	Operational Uptime 100.0 %
Standard Deviation	580.8	Monthly Average 288.6 UG/M3

Entrance PM_{2.5} (µg/m³) – December 2020

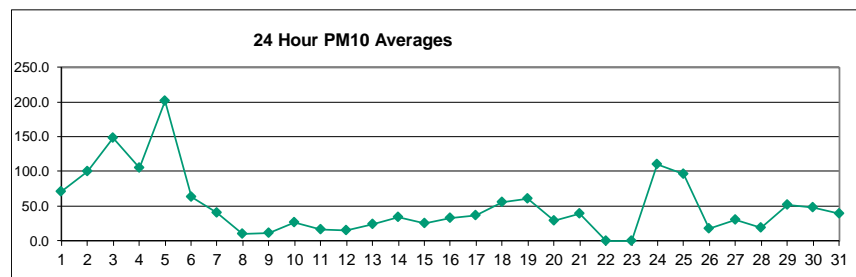
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.9	0.8	0.5	0.5	1.0	3.3	5.1	8.7	9.7	7.8	6.5	9.9	10.2	19.4	29.2	16.9	21.6	14.1	7.5	16.5	15.1	15.5	16.6	13.7	10.5	29.2	
2	6.9	5.9	8.7	10.7	13.4	11.2	13.2	12.1	24.1	18.4	17.0	21.3	20.2	24.1	26.6	21.9	10.8	7.6	7.8	5.4	7.2	5.9	6.2	5.9	13.0	26.6	
3	4.9	7.2	6.3	3.1	8.4	34.3	24.1	21.8	28.7	24.1	27.8	34.7	37.3	27.0	27.9	17.9	9.6	5.4	6.2	9.8	11.5	23.4	8.0	5.9	17.3	37.3	
4	5.3	12.9	10.7	9.5	4.9	2.5	3.4	8.1	12.3	12.7	14.6	16.3	12.6	12.1	13.7	26.7	18.6	10.0	18.2	24.2	21.3	21.6	25.1	35.6	14.7	35.6	
5	31.4	23.9	25.7	27.6	26.8	30.9	39.3	31.9	40.2	30.9	19.6	22.2	23.1	33.0	10.5	28.5	15.1	20.5	32.9	46.3	40.4	22.4	22.7	32.8	28.3	46.3	
6	19.8	22.0	30.2	15.6	15.5	13.7	11.3	17.0	9.0	15.7	29.4	15.3	6.5	4.0	2.9	2.8	7.2	2.6	6.9	2.1	5.3	3.6	5.2	2.2	11.1	30.2	
7	6.7	22.0	18.4	3.0	1.1	1.4	2.8	6.3	6.9	13.1	15.9	12.2	5.7	9.7	6.7	4.6	6.3	3.5	3.3	3.9	0.8	0.7	1.2	1.7	6.6	22.0	
8	1.8	3.0	3.4	2.6	0.9	0.7	0.8	2.7	2.2	3.1	4.1	2.6	2.6	3.8	3.5	2.1	4.9	3.8	1.6	3.1	8.1	2.0	4.1	5.2	3.0	8.1	
9	3.6	1.8	1.6	2.5	2.5	3.7	3.7	0.5	0.7	3.9	7.9	4.1	8.5	11.3	16.4	16.5	19.3	6.6	12.2	10.9	12.2	18.4	7.4	6.4	7.6	19.3	
10	10.2	7.8	10.0	25.5	12.4	24.0	13.0	7.6	14.9	31.1	12.7	14.2	42.7	36.0	31.5	36.0	13.5	7.7	6.3	4.0	8.4	9.5	20.6	12.9	17.2	42.7	
11	9.3	9.9	6.4	7.9	6.1	6.3	3.9	8.7	10.3	13.0	12.6	10.6	10.3	8.0	9.9	9.7	7.6	8.4	6.7	7.2	9.6	7.6	9.7	8.8	8.7	13.0	
12	11.3	12.4	6.1	4.9	5.4	6.9	11.7	8.7	6.6	7.0	11.9	8.5	24.2	11.0	6.2	4.6	5.6	7.7	7.3	10.0	6.4	7.6	13.7	7.5	8.9	24.2	
13	5.9	4.3	8.0	3.1	3.9	6.4	4.7	5.0	5.7	7.6	8.2	8.5	9.6	7.5	8.7	7.6	6.4	7.3	8.0	10.1	8.4	13.6	8.7	5.3	7.2	13.6	
14	4.5	3.8	3.1	3.7	13.6	11.6	11.2	9.8	10.8	9.3	6.8	11.9	9.6	10.2	15.1	7.2	8.4	3.4	3.5	6.6	6.1	3.3	2.6	1.8	7.4	15.1	
15	2.4	1.3	1.3	1.0	1.7	4.3	1.7	5.7	9.2	7.6	9.0	6.3	5.0	4.4	5.3	4.6	3.8	2.9	3.3	1.4	1.1	1.6	1.3	1.4	3.7	9.2	
16	0.8	0.7	0.9	1.3	1.1	0.8	1.4	2.8	4.0	4.7	7.4	7.3	7.8	3.9	7.2	6.1	5.4	4.0	2.3	1.7	1.7	1.0	11.5	35.6	5.1	35.6	
17	20.0	7.9	2.5	0.8	0.4	1.6	5.7	10.3	13.0	10.4	9.8	8.3	8.9	8.2	7.6	4.3	5.2	7.9	14.4	14.9	13.1	12.7	11.8		8.3	20.0	
18	11.3	14.8	13.0	10.6	1.3	1.4	2.6	4.3	7.7	11.3	6.9	9.8	17.3	24.8	11.9	16.6	7.2	6.4	4.1	4.6	4.6	8.1	5.4	6.2	8.8	24.8	
19	7.1	4.3	27.5	9.0	2.0	3.6	7.2	10.8	25.1	6.5	9.1	9.9	5.3	4.7	7.6	5.7	7.4	5.2	3.3	4.7	5.8	1.3	8.4	6.9	7.9	27.5	
20	3.1	10.3	3.6	23.8	9.0	11.3	16.9	10.6	11.0	5.2	5.5	8.4	2.8	1.3	4.2	3.3	13.8	13.7	8.6	8.3	20.3	6.0	15.3	2.2	9.1	23.8	
21	0.9	1.2	2.0	2.7	7.6	6.1	7.1	19.8	16.6	18.8	28.1	23.0	24.7	20.6	6.0	2.9	7.6	3.9	4.1	1.5	0.9	1.2	1.4	1.0	8.7	28.1	
22	0.9	1.0	1.3	1.8	0.7	0.8	0.8	1.2	2.5	2.4	2.5	3.3	4.7	1.6	1.1	1.4	1.3	P	P	P	P	P	P	P	-	-	
23	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10.9	18.1	6.8	6.4	4.1	2.6	4.4	3.1	4.2	7.8	-	-
24	23.0	15.2	18.1	10.6	11.5	15.2	7.4	18.2	19.5	11.9	13.9	15.5	19.4	21.5	21.7	17.6	18.0	17.4	17.8	12.3	3.6	2.6	6.2	20.9	15.0	23.0	
25	9.9	8.3	8.0	15.3	17.3	11.3	12.3	17.4	20.0	15.7	18.7	19.0	20.9	16.4	17.1	31.7	15.2	21.9	28.8	19.6	18.5	15.4	20.6	29.7	17.9	31.7	
26	28.8	39.1	30.3	29.9	34.6	14.7	16.5	17.0	3.5	4.2	3.0	3.4	2.3	2.3	2.6	2.9	3.4	4.9	4.7	6.9	7.1	8.3	8.6	7.6	11.9	39.1	
27	6.1	7.6	8.7	9.9	11.8	12.1	9.7	13.3	9.7	10.6	12.6	10.3	3.4	2.5	3.4	3.1	1.8	3.0	17.8	16.3	18.7	32.6	35.7	40.0	12.5	40.0	
28	19.1	12.8	5.8	3.3	11.2	5.3	7.8	12.4	10.0	11.1	10.6	7.4	3.9	5.3	3.3	3.2	3.4	4.3	5.2	5.0	4.8	14.1	9.1	7.1	7.7	19.1	
29	8.9	8.7	8.9	6.9	12.3	14.4	9.6	12.0	7.4	9.4	18.4	21.1	31.5	11.4	7.0	10.2	9.5	19.7	21.1	15.1	12.8	14.6	14.0	12.1	13.2	31.5	
30	19.5	10.6	6.2	9.3	10.1	4.2	12.6	8.1	5.1	8.8	6.6	6.7	7.8	5.8	6.0	5.2	6.0	6.3	6.2	2.7	6.6	7.1	3.3	2.0	7.2	19.5	
31	1.5	5.7	4.7	1.3	1.7	2.3	15.6	34.4	32.4	32.3	18.6	18.3	5.8	3.6	3.2	2.3	1.9	1.9	1.8	2.0	2.0	3.1	3.7	6.6	8.6	34.4	
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	30	30	30	30	30	30	30	723	97%	
MEAN	9.5	9.6	9.4	8.6	8.3	8.8	9.3	11.4	12.5	12.4	12.5	12.4	13.1	11.9	10.8	11.1	8.8	7.9	9.0	9.3	9.6	9.6	10.4	11.5			
MAX	31.4	39.1	30.3	29.9	34.6	34.3	39.3	34.4	40.2	32.3	29.4	42.7	36.0	31.5	36.0	36.0	21.6	21.9	32.9	46.3	40.4	32.6	35.7	40.0			



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	723	
Maximum 1-HR Average	46.3 UG/M3	
Maximum 24-HR Average	28.3 UG/M3	
Monthly Calibration	0	
Standard Deviation	8.513	
Operational Time	723 HRS	
Operational Uptime	97.2 %	
Monthly Average	10.3 UG/M3	

Entrance PM₁₀ (µg/m³) – December 2020

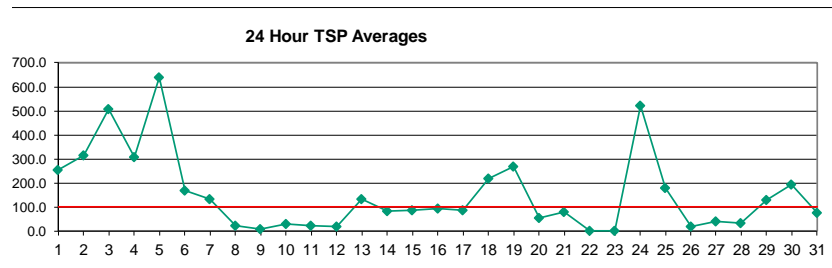
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	3.2	2.2	0.9	0.8	3.3	14.2	26.8	55.1	71.3	59.5	42.9	61.6	73.3	149.0	224.5	119.4	157.7	106.4	51.1	95.6	75.1	99.1	112.3	104.5	71.2	224.5	
2	60.8	49.1	78.3	88.2	98.3	87.3	87.5	85.9	175.6	126.7	123.4	168.7	160.1	201.3	212.3	169.5	84.4	55.8	51.3	34.6	60.0	42.6	46.5	41.5	99.6	212.3	
3	30.8	66.4	52.6	17.9	75.6	317.5	210.1	210.0	261.7	225.8	259.3	344.0	317.2	237.0	216.4	127.2	59.9	31.6	36.2	65.8	87.9	209.8	67.2	39.7	148.7	344.0	
4	33.7	89.1	78.9	68.7	37.3	11.0	18.1	58.8	103.9	109.3	120.6	147.9	89.2	85.4	90.5	198.1	128.6	72.9	117.5	154.8	160.4	158.4	181.5	218.0	105.5	218.0	
5	196.7	141.8	195.0	208.1	214.2	258.0	331.4	255.4	361.2	260.2	165.0	150.6	162.0	258.9	71.7	171.2	108.3	137.3	197.9	258.3	251.2	147.7	140.2	200.3	201.8	361.2	
6	112.0	117.0	168.4	84.3	89.2	73.1	57.1	91.9	42.3	90.3	232.7	97.0	35.6	18.9	12.7	11.5	39.2	12.1	44.8	10.9	29.5	17.8	27.3	9.9	63.6	232.7	
7	49.3	159.4	134.9	16.8	2.3	4.1	14.6	40.8	41.4	77.1	94.4	73.9	32.3	60.5	39.8	27.4	36.8	14.7	13.7	23.4	1.4	1.5	5.0	9.0	40.6	159.4	
8	7.5	16.4	22.6	15.7	2.7	1.3	1.5	3.9	3.1	5.3	11.5	7.8	11.1	17.9	19.5	9.3	22.2	19.5	2.2	4.9	12.0	2.8	6.1	7.7	9.8	22.6	
9	4.6	2.1	2.1	3.4	2.9	4.0	4.2	0.7	0.8	5.8	11.8	5.8	12.7	16.7	22.6	23.5	27.4	8.6	18.1	14.6	17.6	27.5	11.0	9.5	10.8	27.5	
10	15.2	11.7	14.9	38.2	18.7	36.0	19.4	11.3	22.3	46.6	18.9	29.3	64.1	53.9	47.2	54.0	20.1	11.3	9.1	5.6	12.2	13.9	29.9	17.3	25.9	64.1	
11	12.7	14.5	8.5	11.8	8.1	9.2	5.1	13.0	15.3	19.5	18.7	15.7	15.5	23.0	48.9	37.8	11.3	12.5	9.9	10.7	14.3	11.3	14.5	13.2	15.6	48.9	
12	16.9	18.5	9.1	7.4	8.1	10.4	17.5	13.0	9.8	10.5	17.7	12.6	36.9	43.5	18.3	15.7	9.6	11.4	10.8	14.5	9.2	11.1	20.1	10.6	15.1	43.5	
13	8.3	5.9	11.7	4.2	5.2	8.6	5.8	6.0	6.8	9.6	11.0	12.0	13.8	9.4	11.2	9.5	7.8	9.5	10.2	14.1	14.6	216.1	114.0	48.3	23.9	216.1	
14	38.9	28.6	15.3	15.5	70.7	50.6	51.8	43.7	64.5	38.8	27.1	52.7	46.1	48.3	72.8	28.1	29.1	8.0	8.3	15.1	20.6	15.1	10.1	5.1	33.5	72.8	
15	13.2	5.3	7.0	4.2	10.7	28.1	13.6	32.9	70.8	47.0	72.9	53.7	37.1	28.1	36.0	34.4	26.6	13.4	18.9	10.4	7.5	8.1	13.5	11.2	25.2	72.9	
16	3.9	3.6	5.5	7.4	6.7	4.7	10.6	15.8	22.4	31.9	52.7	61.2	53.4	23.2	48.9	43.4	46.1	31.1	14.0	6.4	9.5	6.3	68.2	212.6	32.9	212.6	
17	90.2	28.3	10.0	3.0	1.0	1.5	14.9	44.8	89.1	104.0	71.8	62.3	54.5	47.1	45.7	43.3	27.2	32.1	27.9	15.9	16.3	13.4	13.2	12.1	36.2	104.0	
18	12.0	21.5	17.5	12.9	8.2	10.1	19.9	32.1	64.6	83.9	45.6	67.0	142.3	207.3	93.4	133.6	58.2	52.7	29.1	35.9	37.2	61.2	43.8	41.9	55.5	207.3	
19	53.9	25.6	265.5	76.1	15.2	27.6	51.8	89.6	205.5	57.0	73.0	83.5	34.7	32.6	54.6	39.5	51.2	32.3	21.9	38.8	46.9	7.1	37.6	32.6	60.6	265.5	
20	20.9	17.5	5.3	35.7	13.4	16.9	25.2	15.9	16.3	14.5	43.3	42.4	9.8	5.3	16.3	16.8	71.8	57.0	40.7	37.5	98.4	20.2	58.3	7.0	29.4	98.4	
21	4.3	7.2	18.7	26.9	58.7	32.4	36.2	96.5	87.7	107.2	122.4	78.6	97.8	91.3	23.9	24.8	14.7	5.6	6.0	1.9	1.0	1.4	1.5	1.1	39.5	122.4	
22	1.0	1.1	1.5	2.0	0.9	0.9	1.1	1.5	3.1	3.0	3.2	4.2	6.2	2.0	1.3	1.8	1.5	P	P	P	P	P	P	P	-	-	
23	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	164.6	282.7	89.8	83.4	33.8	24.1	30.3	25.5	47.3	82.6	-	-
24	369.1	227.7	130.7	94.8	101.5	109.0	38.0	103.9	48.0	17.9	73.5	99.0	143.9	172.6	147.8	123.6	120.9	122.9	120.4	65.5	7.7	3.3	27.3	163.3	109.7	369.1	
25	42.9	51.0	41.8	97.3	95.6	61.3	60.2	92.6	104.5	81.8	106.8	105.8	119.3	90.6	87.4	193.7	88.6	129.6	218.0	136.4	84.8	65.9	104.9	44.6	96.1	218.0	
26	43.3	58.7	45.4	44.8	51.8	22.1	24.8	25.5	5.1	6.1	4.0	4.5	3.6	3.5	3.5	4.0	5.8	5.5	8.0	7.7	10.2	9.8	8.4	8.4	17.1	58.7	
27	6.3	7.9	9.3	10.3	13.6	15.9	13.0	19.6	13.7	12.5	18.7	16.0	17.9	8.3	6.0	5.3	4.7	12.3	101.2	73.2	82.3	77.0	122.9	60.1	30.3	122.9	
28	28.7	19.2	8.7	4.7	16.8	7.9	11.7	18.5	15.0	19.3	58.1	48.3	14.7	16.7	8.6	6.9	8.8	8.0	21.0	19.6	14.4	45.2	32.5	10.6	19.3	58.1	
29	13.3	13.1	13.3	10.3	18.4	21.5	14.3	17.9	11.0	14.1	56.6	114.4	154.8	53.6	33.4	51.7	54.3	100.9	102.6	76.2	68.0	86.5	68.3	67.9	51.5	154.8	
30	94.5	64.3	51.5	59.9	65.9	33.4	58.6	37.4	34.2	64.0	43.6	42.5	69.5	32.9	34.3	33.6	47.1	45.8	43.9	14.2	66.1	71.6	30.0	8.2	47.8	94.5	
31	4.9	29.1	22.8	3.5	8.2	12.1	70.1	153.1	150.0	153.2	81.4	81.9	22.1	14.8	10.1	7.2	5.8	5.9	16.6	11.3	10.9	12.7	15.5	34.7	39.1	153.2	
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	30	30	30	30	30	30	30	723	97%	
MEAN	46.4	43.5	48.3	35.8	37.4	43.0	43.8	56.2	70.7	63.4	69.4	71.5	68.4	68.5	62.1	66.1	47.2	41.7	46.8	43.3	45.2	49.7	49.3	51.1	-	-	
MAX	369.1	227.7	265.5	208.1	214.2	317.5	331.4	255.4	361.2	260.2	259.3	344.0	317.2	258.9	224.5	282.7	157.7	137.3	218.0	258.3	251.2	216.1	181.5	218.0	-	-	



Number of Non-Zero Readings	723	Operational Time	723 HRS
Maximum 1-HR Average	369.1 UG/M3	Operational Uptime	97.2 %
Maximum 24-HR Average	201.8 UG/M3	Monthly Average	52.9 UG/M3
Monthly Calibration	0		
Standard Deviation	62.33		

Entrance TSP ($\mu\text{g}/\text{m}^3$) – December 2020

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	5.0	3.4	0.6	0.5	3.2	14.5	45.7	112.4	227.8	187.2	134.2	225.2	270.6	647.5	838.2	489.9	687.9	488.0	210.5	308.7	200.5	330.0	361.3	345.6	255.8	838.2
2	262.0	207.1	366.0	349.2	360.5	307.7	298.6	253.9	437.6	332.3	404.9	512.9	456.1	559.1	565.9	475.1	244.8	178.5	174.9	110.8	219.1	177.5	174.5	142.6	315.5	565.9
3	95.9	269.1	186.2	80.7	309.4	1149.5	769.6	860.2	990.5	785.2	848.4	1163.8	960.6	741.7	541.0	332.4	147.0	90.6	120.7	214.2	274.1	839.1	286.1	126.3	507.6	1163.8
4	141.0	290.0	248.2	305.8	162.8	39.4	55.6	213.9	361.4	330.2	359.9	432.1	192.0	238.1	217.7	456.3	275.1	206.5	305.5	456.7	568.9	499.5	537.3	529.2	309.3	568.9
5	557.3	388.5	638.7	720.0	811.8	960.0	1242.1	970.7	1319.2	945.9	649.7	451.3	513.4	883.1	186.7	394.5	349.8	386.9	534.8	559.7	654.9	441.5	328.1	470.1	639.9	1319.2
6	311.4	305.4	367.9	215.0	205.5	173.8	102.4	154.9	66.5	228.1	752.9	302.3	96.1	49.4	26.1	33.1	117.6	37.7	183.4	46.5	111.4	57.6	95.1	42.0	170.1	752.9
7	213.9	573.7	531.2	72.3	3.6	14.4	48.2	143.7	137.9	254.7	289.3	210.2	89.6	177.4	95.0	68.7	77.8	31.4	19.4	75.5	2.5	2.6	13.6	26.7	132.2	573.7
8	23.9	49.6	77.6	55.5	8.8	1.5	2.2	3.9	2.8	5.7	23.0	19.9	21.8	49.1	54.4	22.0	39.3	31.7	2.3	5.6	13.3	2.3	6.1	7.9	22.1	77.6
9	3.4	1.4	1.6	2.5	2.0	2.6	2.8	0.5	0.5	6.2	13.1	5.7	14.3	16.9	17.2	18.4	22.4	6.2	14.7	10.5	12.4	25.5	10.5	9.5	9.2	25.5
10	16.9	12.8	16.8	43.4	20.4	40.8	21.7	11.8	25.7	53.1	20.1	64.8	73.9	61.5	54.3	62.1	21.1	10.8	9.0	5.2	10.0	12.8	30.0	16.0	29.8	73.9
11	10.7	13.5	6.7	12.1	7.4	8.9	4.3	13.3	17.3	22.3	18.2	14.8	16.7	44.9	125.8	97.6	12.4	13.5	10.5	12.1	16.2	12.6	16.6	15.2	22.7	125.8
12	19.7	21.4	10.5	8.4	9.4	11.5	20.1	14.7	10.9	11.7	19.1	12.8	43.1	82.8	31.5	34.8	13.1	11.4	10.2	14.1	8.1	10.8	19.6	10.1	19.1	82.8
13	6.7	4.8	11.5	3.4	4.1	7.6	4.6	4.7	5.4	8.1	9.5	10.0	13.2	7.3	9.1	7.7	5.8	7.7	8.0	13.6	33.4	1594.5	1000.6	432.3	133.9	1594.5
14	325.4	211.6	90.8	32.2	93.7	72.4	107.7	63.0	179.5	77.2	55.8	119.4	107.2	108.2	127.6	45.2	34.8	11.9	14.7	22.7	33.6	46.5	23.6	15.6	84.2	325.4
15	46.5	12.4	27.2	15.5	33.6	94.3	61.5	105.7	194.1	141.1	278.6	242.0	166.4	98.8	95.9	130.8	79.8	38.5	56.6	40.8	29.7	24.6	59.7	46.1	88.3	278.6
16	15.1	12.4	19.7	39.9	25.5	18.8	54.2	59.7	61.2	99.2	171.3	212.7	180.4	60.1	149.2	155.3	175.5	121.7	49.5	13.9	39.4	28.6	110.2	367.5	93.4	367.5
17	133.4	43.2	27.0	13.2	1.9	6.0	67.8	131.4	212.0	302.5	206.2	177.3	153.8	126.1	107.0	93.5	61.7	78.4	60.3	11.1	11.1	8.8	8.6	7.9	85.4	302.5
18	7.9	18.7	13.5	9.0	31.2	31.6	66.5	84.3	213.0	266.3	131.9	197.2	508.6	861.7	398.8	606.7	282.8	274.2	149.2	171.2	184.3	302.5	225.7	197.1	218.1	861.7
19	275.3	111.4	1217.9	402.3	85.3	117.1	263.2	484.1	845.8	274.4	332.3	384.2	145.9	107.7	181.7	150.1	216.1	106.9	84.8	198.1	250.4	36.2	77.9	75.1	267.7	1217.9
20	182.7	39.9	5.8	41.0	15.0	18.9	28.5	17.4	18.0	25.1	230.0	124.1	29.5	13.6	22.7	31.1	97.7	62.0	48.4	45.5	127.1	17.4	51.1	6.6	54.1	230.0
21	14.1	26.9	69.8	103.8	243.6	64.8	52.1	145.4	129.8	173.9	185.8	108.5	126.3	125.2	73.8	202.3	59.6	5.2	5.7	1.7	0.7	0.9	1.0	0.7	80.1	243.6
22	0.7	0.8	1.0	1.3	0.7	0.7	0.9	1.2	2.3	2.3	2.4	3.2	4.6	1.5	1.0	1.4	1.1	P	P	P	P	P	P	P	-	-
23	P	P	P	P	P	P	P	P	P	P	P	P	P	P	2234.4	3355.3	1511.7	1784.6	672.2	440.9	508.1	242.5	904.6	1484.5	-	-
24	3482.9	2602.5	388.6	724.5	1032.9	406.8	82.7	217.0	87.2	20.6	158.3	209.4	449.9	571.8	336.5	316.3	319.2	323.8	282.4	122.1	11.6	4.0	40.5	346.0	522.4	3482.9
25	76.3	113.8	65.1	159.1	153.0	103.2	95.4	150.3	174.4	117.4	204.7	159.4	204.5	129.8	141.1	348.4	132.9	225.1	716.7	351.8	125.9	88.4	232.4	51.6	180.0	716.7
26	49.6	67.4	52.8	51.8	59.7	25.1	28.4	29.4	5.1	5.3	3.2	3.6	2.8	6.2	3.7	2.5	2.7	4.0	4.1	5.6	5.2	8.5	7.0	5.8	18.3	67.4
27	4.2	5.2	6.1	6.7	9.1	13.4	9.8	19.0	13.2	9.1	20.5	18.5	51.7	24.9	8.4	8.5	10.2	15.9	150.5	117.8	133.5	105.5	136.9	69.7	40.4	150.5
28	32.9	22.1	9.6	4.7	19.0	8.5	13.0	21.2	17.0	25.4	135.8	166.5	47.5	45.8	20.8	20.9	18.6	12.0	35.5	27.4	17.2	58.7	52.2	11.1	35.1	166.5
29	14.5	14.2	14.6	10.7	18.1	20.6	13.8	19.4	10.8	14.8	112.1	260.0	352.2	120.9	80.9	116.5	154.5	264.1	286.7	235.9	223.8	302.1	210.7	236.3	129.5	352.2
30	239.7	235.2	244.4	242.8	258.1	205.6	93.9	90.7	145.4	248.1	140.5	146.4	309.7	124.1	102.5	136.9	215.8	189.6	223.2	72.4	378.0	391.6	166.7	40.8	193.4	391.6
31	12.7	35.9	39.2	7.7	38.5	32.8	89.0	263.2	285.3	314.6	172.7	146.1	40.3	40.4	21.0	11.7	13.1	13.0	80.7	41.6	29.1	30.6	25.6	50.9	76.5	314.6
NO.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	30	30	30	30	30	30	30	723	97%
MEAN	219.4	190.5	158.6	124.5	134.3	132.4	124.9	155.4	206.6	176.3	202.8	203.5	188.1	204.2	221.6	265.3	174.3	167.7	150.8	125.1	141.1	190.1	173.8	172.9		
MAX	3482.9	2602.5	1217.9	724.5	1032.9	1149.5	1242.1	970.7	1319.2	945.9	848.4	1163.8	960.6	883.1	2234.4	3355.3	1511.7	1784.6	716.7	559.7	654.9	1594.5	1000.6	1484.5		



Number of 24HR Exceedences	14	Proposed Guideline
Number of Non-Zero Readings	723	
Maximum 1-HR Average	3482.9 UG/M3	
Maximum 24-HR Average	639.9 UG/M3	
Monthly Calibration	0	Operational Time
Standard Deviation	315.9	Operational Uptime
		Monthly Average
		723 HRS
		97.2 %
		175.4 UG/M3