

LAFARGE CANADA INC.

# AMBIENT AIR QUALITY MONTHLY REPORT

## JANUARY 2020

FEBRUARY 25, 2020





# AMBIENT AIR QUALITY MONTHLY REPORT

JANUARY 2020

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-00  
DATE: FEBRUARY 25, 2020

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February 25, 2020

LAFARGE CANADA INC.  
Highway 1A  
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**Attention: Janet Brygger**

Dear Ms. Brygger

**Subject: Ambient Air Quality Monthly Report – January 2020**

The operational uptime for the meteorological systems and all analyzers (except for the PM<sub>10</sub> and TSP channels) at the Lagoon station was 100% in January. The PM<sub>10</sub> and TSP channels had 99.3% and 98.8% uptime, respectively, for the month of January. The PM<sub>10</sub> uptime was due to five-hours of equipment malfunction. Further, the TSP channel experienced eight hours of equipment malfunction. There was no exceedance of the 24-hour TSP Alberta Ambient Air Quality Objective. Further, there was no exceedance of the 24-hour PM<sub>2.5</sub> AAAQOs, nor the 1-hour PM<sub>2.5</sub> AAAQG in January at the Lagoon monitoring location.

The Windridge station was taken out of operation beginning April 8<sup>th</sup> as a result of construction work for flood mitigation along Exshaw Creek. The monitor at this station is expected to be re-installed sometime in 2020, after the completion of the construction work

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 all 3 monitors was as follows: 76.2% at the West GRIMM due to the monitor being removed for repair on January 24<sup>th</sup> at 16:00, 100% at the Berm GRIMM, and 85.3% at the Entrance GRIMM due to non-routine maintenance from dryer pump failure occurring between January 1<sup>st</sup> at 1:00 – January 5<sup>th</sup> at 10:00, and then again from January 5<sup>th</sup> at 12:00-14:00. The West GRIMM monitor recorded zero exceedances of the 24-hour TSP AAAQG and the 24-hour PM<sub>2.5</sub> AAAQG. The Berm GRIMM had 19 exceedances of the 24-hour TSP guideline and 1 exceedance of the PM<sub>2.5</sub> 24-hour guideline. Further, the Berm GRIMM had 3 hours of exceedance of the 1-hour PM<sub>2.5</sub> guideline. The Entrance GRIMM monitor recorded 12 and 0 exceedances for the 24-hour TSP AAAQG and 24-hour PM<sub>2.5</sub> AAAQG, respectively. High particulate levels and exceedances at the Berm and Entrance monitors are likely influenced by the flood mitigation work completed along Exshaw creek. The resulting exposed open soil is likely producing fugitive dust near the monitors. The MD of Bighorn is planning to hydroseed the area in mid 2020.

PM levels in the airshed are likely also influenced by Firesmart and Pine Beetle control work being conducted in the Exshaw / Bow Valley area. This work is planned to continue well into the spring of 2020

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,

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Tyler Abel, M.Sc.  
Team Leader, Environmental  
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# SIGNATURES

PREPARED BY



February 25, 2020

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

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Date

APPROVED<sup>1</sup> BY *(must be reviewed for technical accuracy prior to approval)*



February 25, 2020

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Team Leader, Environmental Management,  
Vancouver Region, Environment

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Date

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### A DATA & CALIBRATION REPORTS

# 1 INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon, Windridge, and GRIMM monitors in Exshaw, AB. The stations are operated by WSP on behalf of Lafarge Canada Inc. (Lafarge) and are a requirement of Lafarge's Approval 1702-02-04. This report contains data collected between January 1, 2020 and January 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 1-1), the Windridge monitor was taken out of operation and removed from the site on April 8, 2019. The monitoring station will be re-installed after the completion of construction in 2020.

Dust created from the flood mitigation work has the potential to impact particulate matter concentrations at the remaining stations.



**Figure 1-1 Photo of Flood Mitigation Construction at Exshaw Creek**

## 2 JANUARY 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<sub>2.5</sub> are those above the 1-hour PM<sub>2.5</sub> 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
<b>NO<sub>2</sub> (ppb)</b>	100.0	31.6	0	22.5	-
<b>SO<sub>2</sub> (ppb)</b>	100.0	6.9	0	2.9	0
<b>PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>	100.0	47.9	0 <sup>1</sup>	21.4	0
<b>PM<sub>10</sub> (µg/m<sup>3</sup>)</b>	99.3	131.4	-	53.6	-
<b>TSP (µg/m<sup>3</sup>)</b>	98.8	257.4	-	84.8	0
<b>Temperature (°C)</b>	100.0	8.2	-	5.0	-
<b>Wind Speed (km/hr) /Direction (Degrees)</b>	100.0	67.6/W	-	38.8/WSW	-
<b>Precipitation (mm)</b>	100.0	0 <sup>2</sup>	-	0 <sup>3</sup>	-

<sup>1</sup> Any exceedances reported for 1-hour PM<sub>2.5</sub> are over the guideline level (AAAQG) of 80 µg/m<sup>3</sup>.

<sup>2</sup> Maximum Daily Total Accumulation of Precipitation (mm)

<sup>3</sup> Monthly Total Accumulation of Precipitation (mm)

#### Data Quality Notes:

- There were no exceedances of the 24-hour PM<sub>2.5</sub> AAAQO.
- There were no exceedances of the 1-hour PM<sub>2.5</sub> AAAQG.
- There was no exceedance of the 24-hour TSP AAAQO.

### Calibration/Maintenance Notes:

- All analyzers and meteorological sensors had 100% uptime for the month of January. Except for the TSP channel which had 98.8% uptime due to eight hours of equipment malfunction, and the PM<sub>10</sub> channel which had 99.3% uptime due to five hours of equipment malfunction.

## 2.2 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 2-2 West station data summary**

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	76.2	5.9	0*	3.4	0
PM <sub>10</sub> (µg/m <sup>3</sup> )	76.2	8.0	-	4.3	-
TSP (µg/m <sup>3</sup> )	76.2	8.6	-	3.9	0

\* Any exceedances reported for 1-hour PM<sub>2.5</sub> are over the guideline level (AAAQG) of 80 µg/m<sup>3</sup>.

### Data Quality Notes:

- There were no exceedances of the 24-hour PM<sub>2.5</sub> AAAQG.
- There were no exceedances of the 1-hour PM<sub>2.5</sub> AAAQG.
- There were no exceedances of the 24-hour TSP AAAQG.

### Calibration/Maintenance Notes:

- The analyzer had 76.2% uptime for the month of January due to the GRIMM monitor being removed for repair on January 24<sup>th</sup> at 16:00. The monitoring equipment was decommissioned through to the end of the month.

## 2.3 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 2-3 Berm station data summary**

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	100.0	99.1	3*	40.2	1
PM <sub>10</sub> (µg/m <sup>3</sup> )	100.0	841.5	-	342.1	-
TSP (µg/m <sup>3</sup> )	100.0	2917.9	-	1125.6	19

\* Any exceedances reported for 1-hour PM<sub>2.5</sub> are over the guideline level (AAQG) of 80 µg/m<sup>3</sup>.

#### Data Quality Notes:

- There was 1 day exceeding the 24-hour PM<sub>2.5</sub> AAQG.
- There were 3 hours exceeding the 1-hour PM<sub>2.5</sub> AAQG.
- There were 19 days exceeding the 24-hour TSP AAQG.

#### Calibration/Maintenance Notes:

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

## 2.4 ENTRANCE GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their FDCBMP-P. The AAQO 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 AAQO.

**Table 2-4 Entrance station data summary**

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	85.3	35.5	0*	15.9	0
PM <sub>10</sub> (µg/m <sup>3</sup> )	85.3	238.9	-	66.2	-
TSP (µg/m <sup>3</sup> )	85.3	2684.8	-	427.6	12

\* Any exceedances reported for 1-hour PM<sub>2.5</sub> are over the guideline level (AAQG) of 80 µg/m<sup>3</sup>.

#### Data Quality Notes:

- There were no exceedances of the 24-hour PM<sub>2.5</sub> AAQG
- There were no exceedances of the 1-hour PM<sub>2.5</sub> AAQG.
- There were 12 days exceeding the 24-hour TSP AAQG.

**Calibration/Maintenance Notes:**

- The analyzer had 85.3% uptime for the month of January due to non-routine maintenance from dryer pump failure occurring between January 1st at 1:00 – January 5th at 10:00, and then again from January 5th at 12:00-14:00.

## 3 LAGOON STATION

The Lagoon trailer contains NO<sub>x</sub>, SO<sub>2</sub>, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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 January 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
<b>PM<sub>2.5</sub> Concentrations</b>	MetOne BAM-1020 FRM Continuous Particulate Monitor	The PM <sub>2.5</sub> monitor was calibrated on January 20 <sup>th</sup> .  The monitor had 100% uptime in January.
<b>PM<sub>10</sub> Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The PM <sub>10</sub> monitor was calibrated on January 20 <sup>th</sup> .  The monitor had 99.3% uptime in January due to five hour of equipment malfunction.
<b>TSP Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on January 20 <sup>th</sup> . The monitor had 98.8% uptime in January due to eight hours of equipment malfunction.
<b>Oxides of Nitrogen</b>	TEI 42C	Both monitors were calibrated on January 14 <sup>th</sup> . The monitors had 100% uptime in January.
<b>Sulphur Dioxide</b>	Teledyne API 102A	
<b>Precipitation</b>	MetOne 130 Rain/Snow Gauge	The monitor had 100% uptime in January.
<b>Wind Speed</b>	MetOne Wind Sensor	The monitors had 100% uptime in January.
<b>Wind Direction</b>		
<b>Ambient Temperature</b>	MetOne Ambient Temperature Sensor	The monitor had 100% uptime in January.





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

## 3.2 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 3-2) illustrates the frequency of wind speed by wind direction for the month of January 2020. The wind rose indicates that the winds predominantly came from the west, west-northwest and east directions.

Table 3-2 summarizes the hourly, daily, and monthly concentrations recorded in January 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 January 2020 for the pollutants listed in Table 3-2. Additionally, Figure 3-4 **Error! Reference source not found.** to Figure 3-8 **Error! Reference source not found.** show the histograms of the hourly concentrations of NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP measured at the Lagoon station.

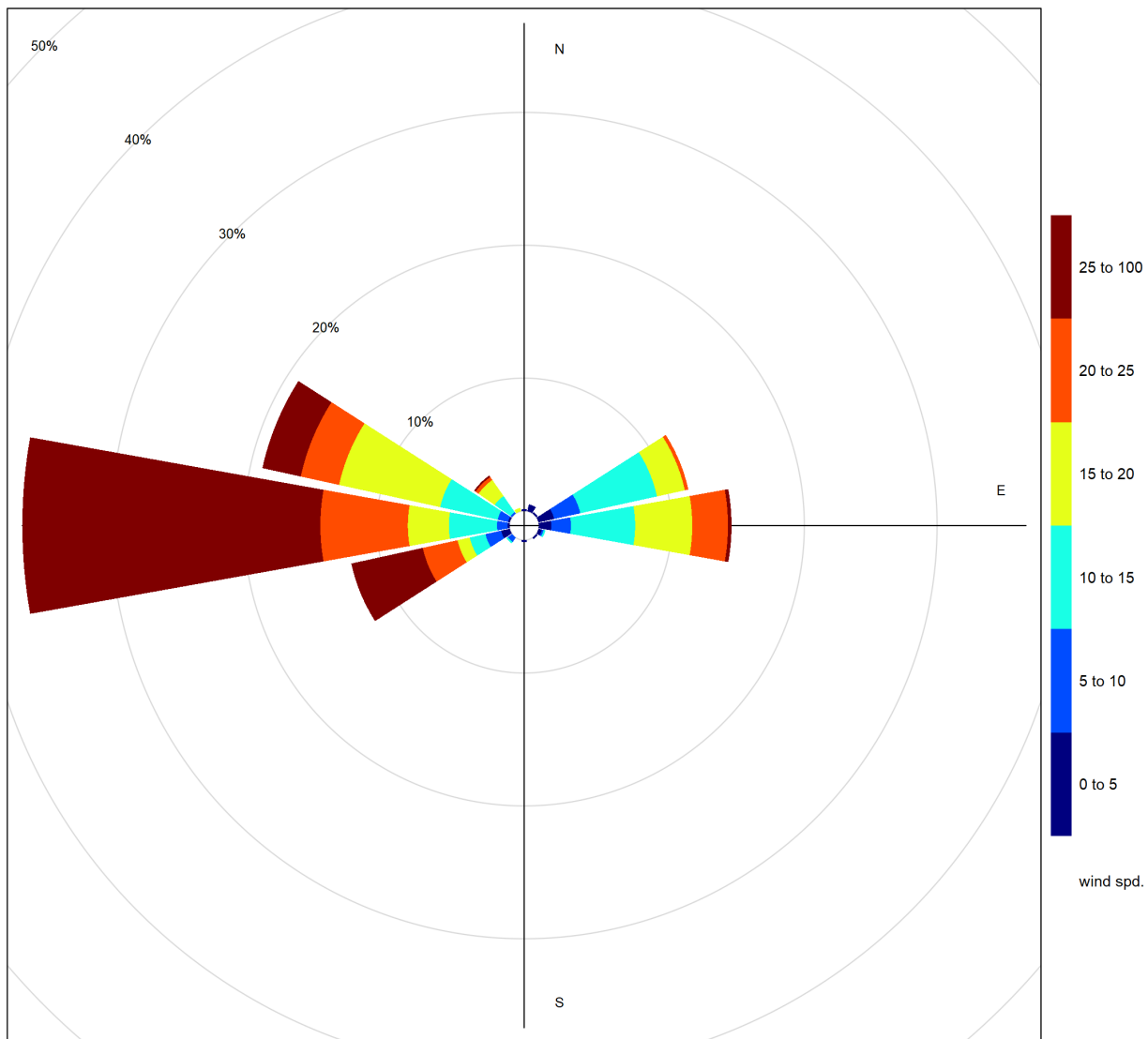
Dust created from the flood mitigation work (section 1.1) has the potential to impact the monitored particulate matter concentrations in the airshed, including at the Lagoon station. There were no exceedances of the 24-hour TSP (100 µg/m<sup>3</sup>) AAAQO. Further, there were no exceedances of the 24-hour PM<sub>2.5</sub> (29 µg/m<sup>3</sup>) AAAQO, nor the 1-hour PM<sub>2.5</sub> AAQG. The highest PM<sub>2.5</sub> concentrations recorded during the month were likely, based on wind direction and a corresponding rise in NO<sub>x</sub> emissions, not attributable to Lafarge operations and could be from woodsmoke from the community or industrial emissions to the east. PM levels at the Lagoon monitor are also likely influenced by the FireSmart and Pine Beetle control work occurring in the area.

Historically in January, the average number of 24-hour TSP AAAQO exceedances and 24-hour PM<sub>2.5</sub> AAAQO exceedances is zero, respectively.

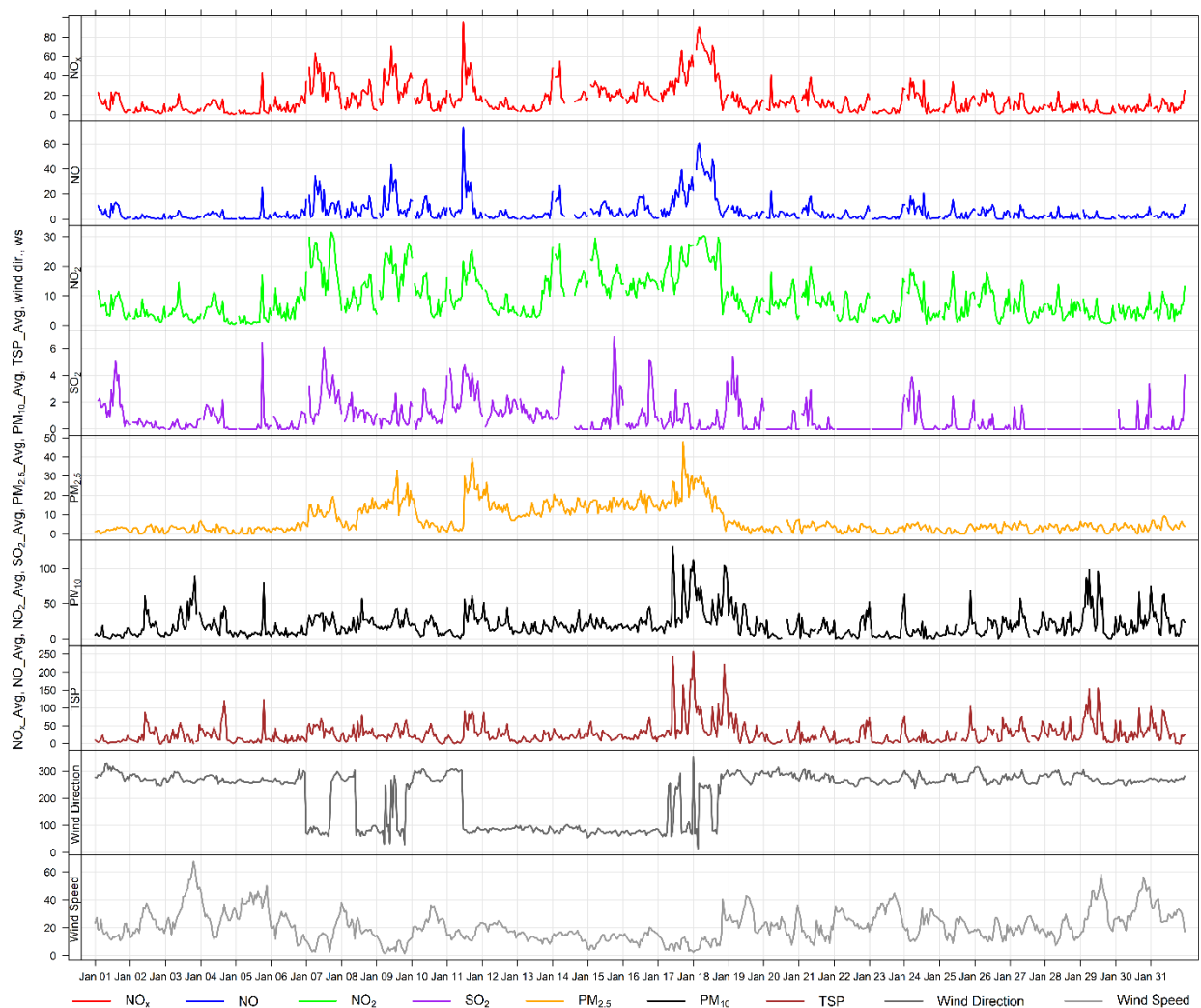


**Table 3-2 Summary of January 2020 data at Lagoon**

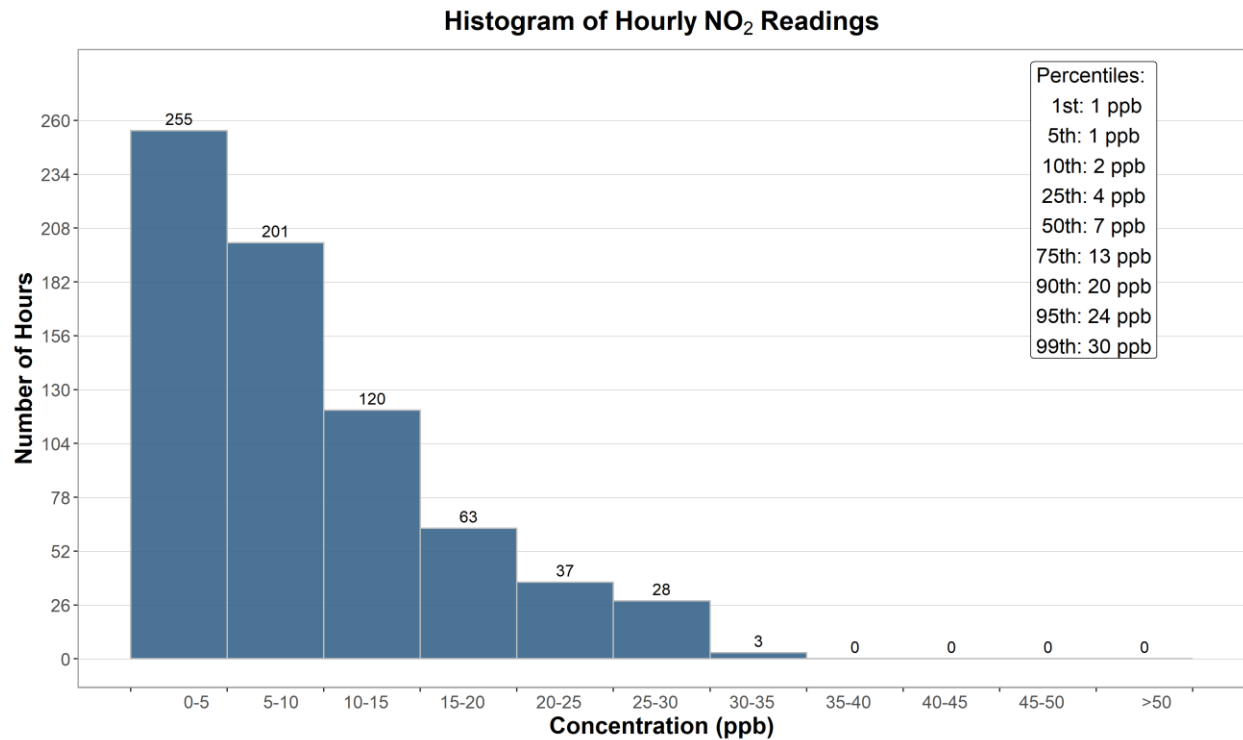
Parameter	Guideline / Objectives		Station	Exceedances		Monthly		1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable	Day	
NO <sub>2</sub> (ppb)	159	-	Lagoon	0	-	0.4	9.1	31.6	7	18	10.9	261.8	22.5	18	100.0
SO <sub>2</sub> (ppb)	172	48	Lagoon	0	0	0.0	0.8	6.9	15	19	15.6	79.0	2.9	11	100.0
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	80	29	Lagoon	0	0	0.0	7.3	47.9	17	18	12.5	75.8	21.4	17	100.0
PM <sub>10</sub> (µg/m <sup>3</sup> )	-	-	Lagoon	-	-	0.0	19.6	131.4	17	11	7.5	80.7	53.6	18	99.3
TSP (µg/m <sup>3</sup> )	-	100	Lagoon	-	0	0.0	27.4	257.4	18	1	2.3	354.7	84.8	18	98.8
Temperature (°C)	-	-	Lagoon	-	-	-32.0	-6.7	8.2	31	24	17.4	281.7	5.0	31	100.0
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	1.5	21.1	67.6/W	3	20	67.6	258.0	38.8/WSW	3	100.0
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.0	0.0	1	24	19.4	266.9	0.0	-	100.0



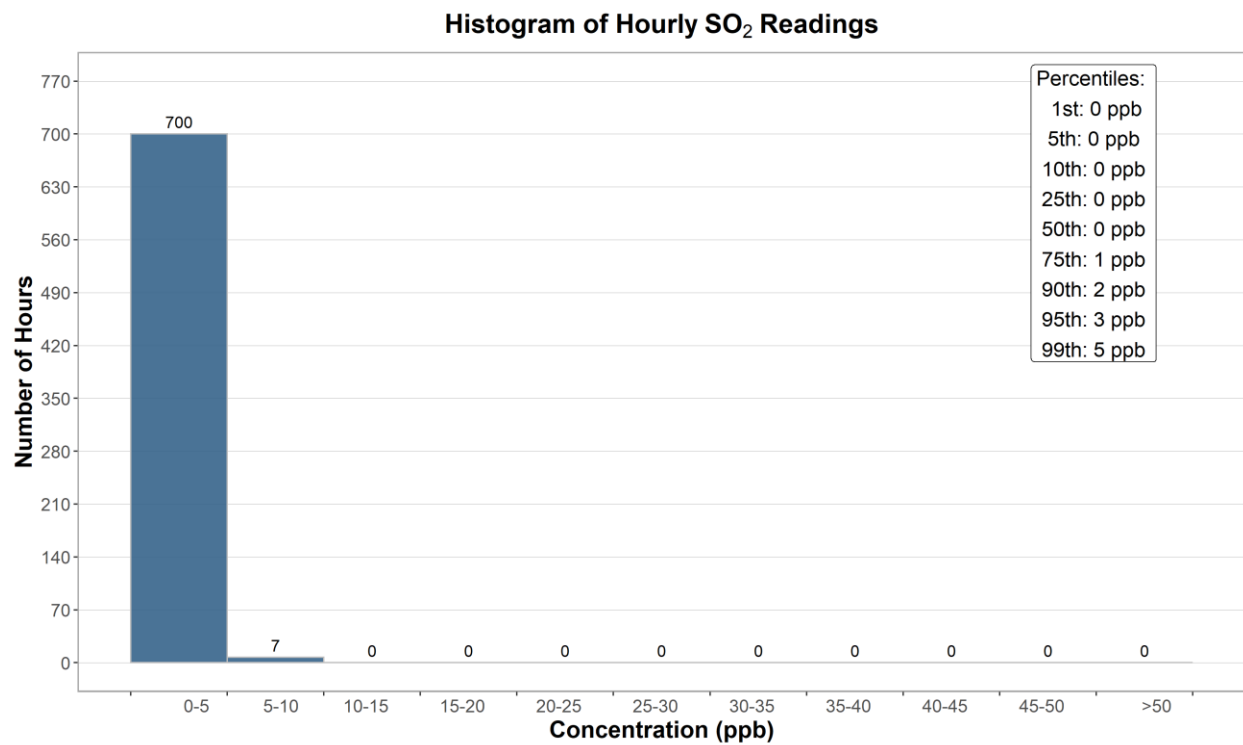
**Figure 3-2 January 2020 wind rose from the Lagoon Station**



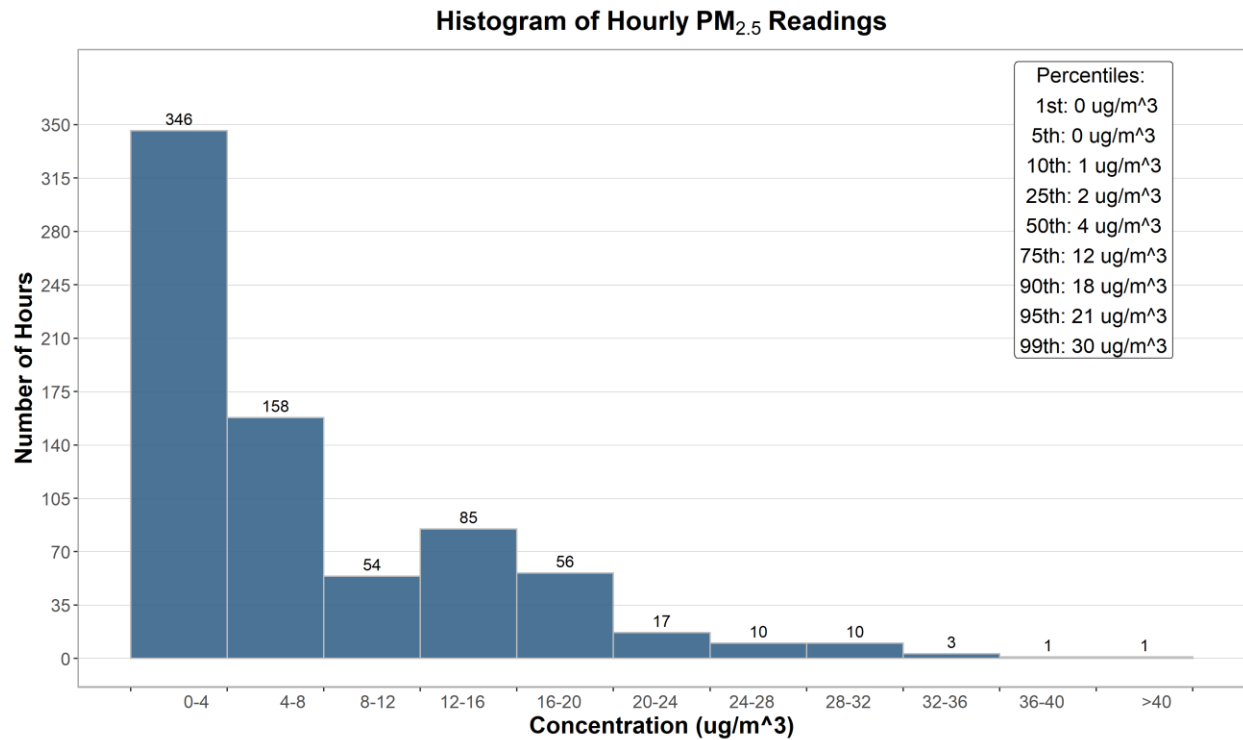
**Figure 3-3 1-hour concentrations of NO<sub>x</sub>, SO<sub>2</sub>, particulate matter, wind direction and wind speed at the Lagoon station**



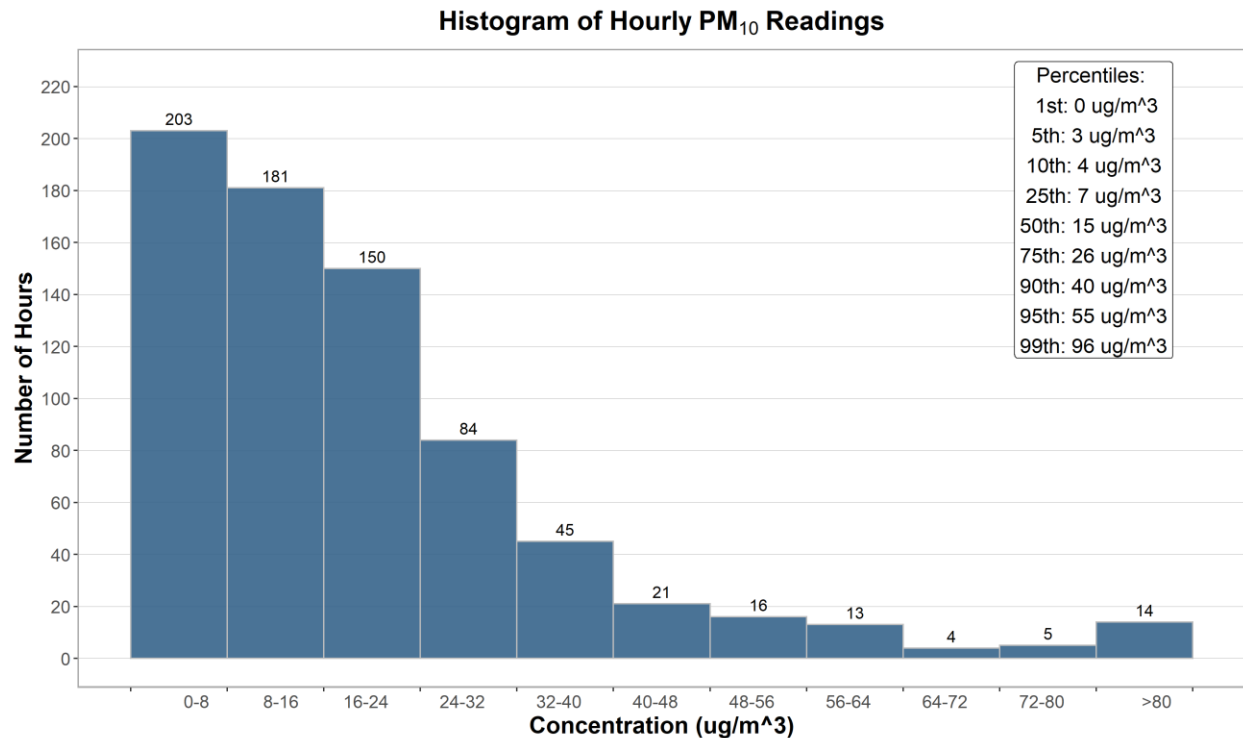
**Figure 3-4** Histogram of hourly NO<sub>2</sub> concentrations at the Lagoon station



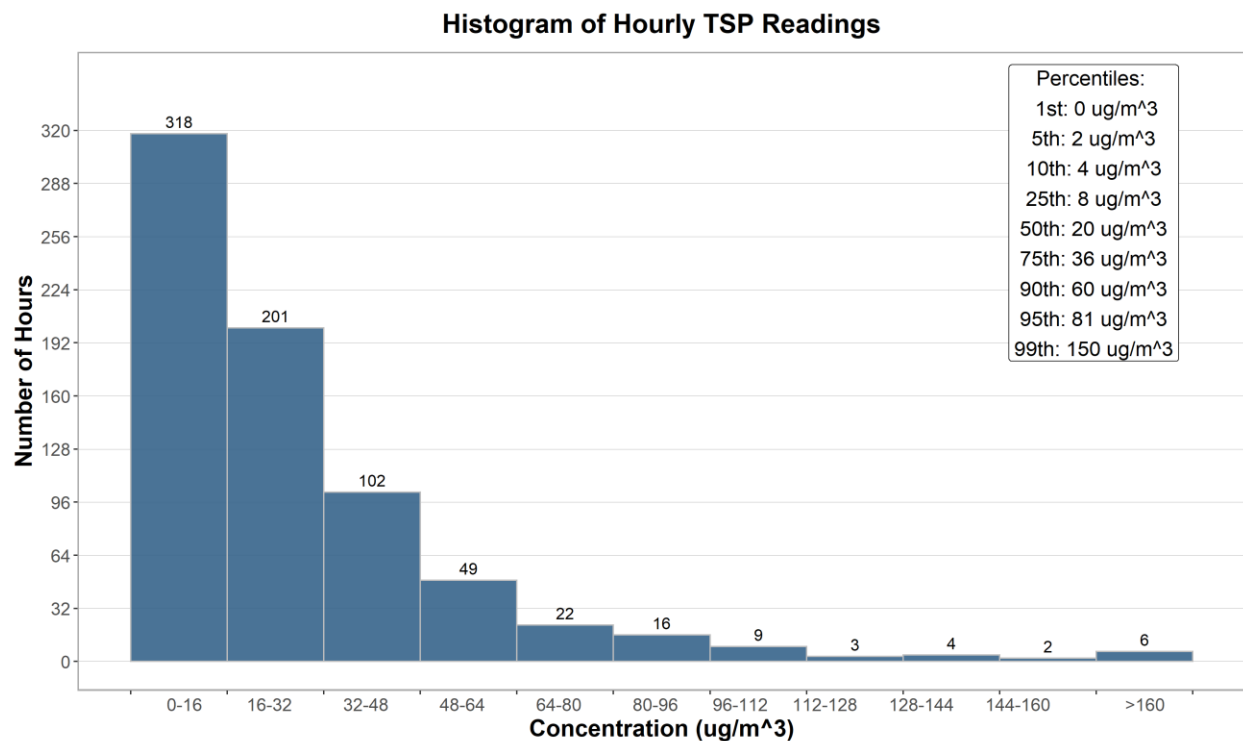
**Figure 3-5** Histogram of hourly SO<sub>2</sub> concentrations at the Lagoon station



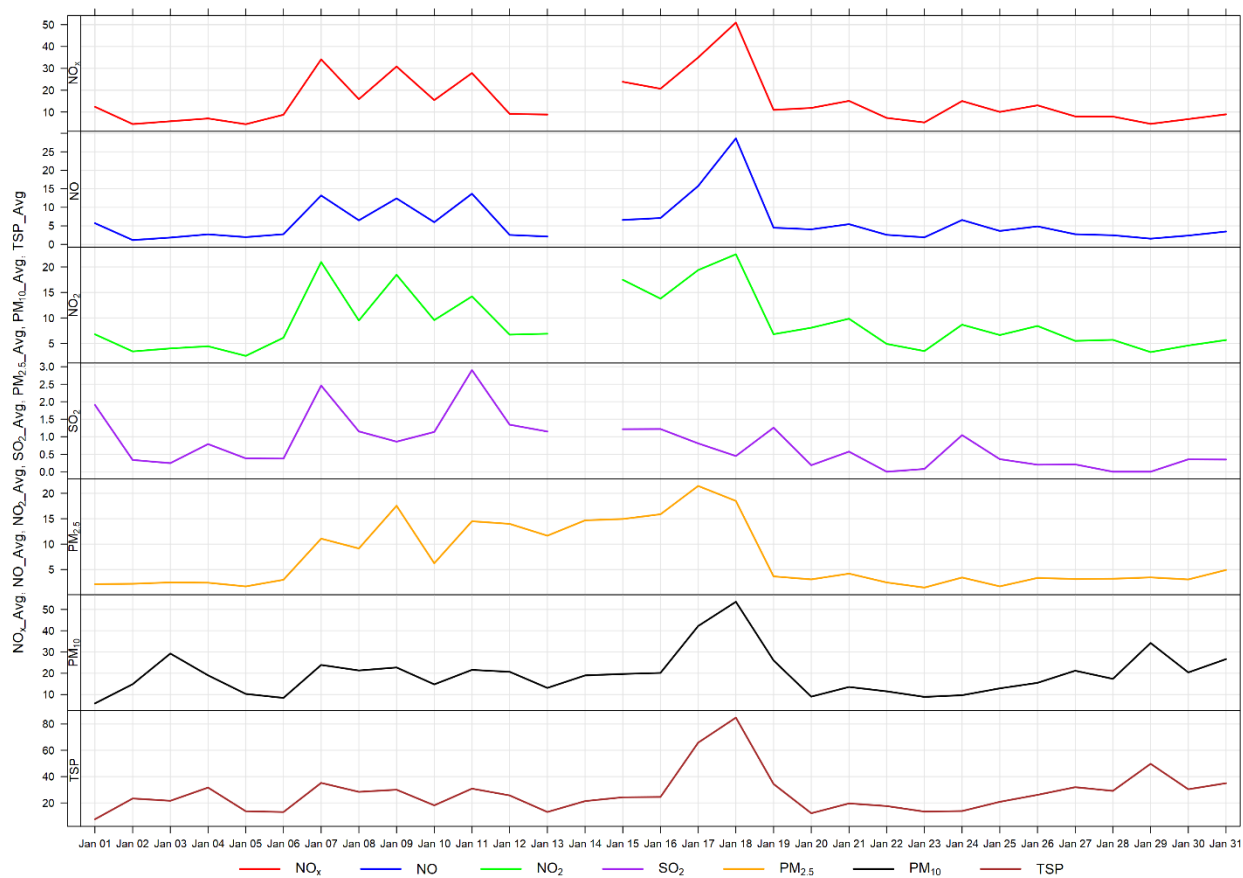
**Figure 3-6** Histogram of hourly PM<sub>2.5</sub> concentrations at the Lagoon station



**Figure 3-7** Histogram of hourly PM<sub>10</sub> concentrations at the Lagoon station



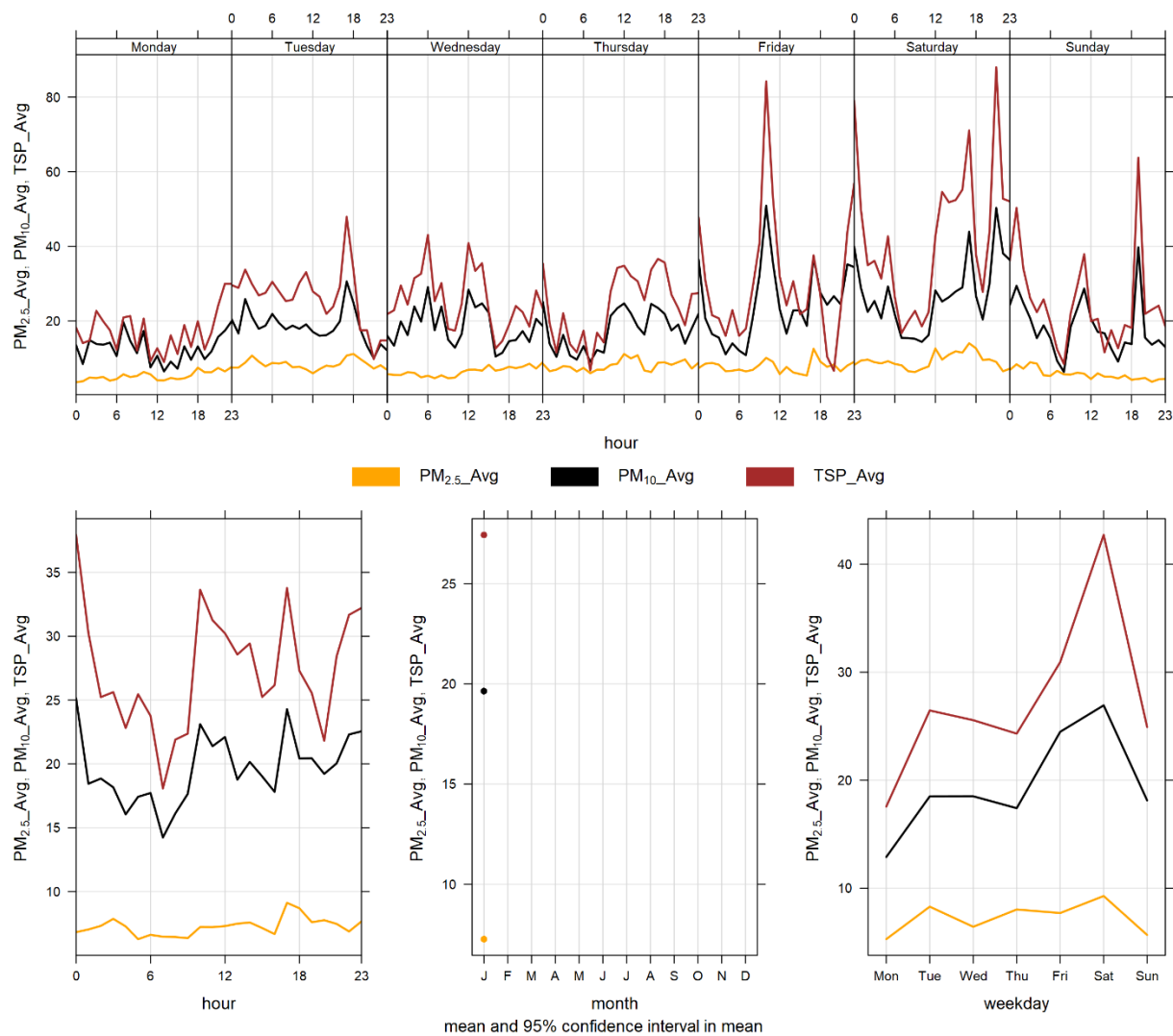
**Figure 3-8** Histogram of hourly TSP concentrations at the Lagoon station



**Figure 3-9 24-hour concentrations of NO<sub>x</sub>, SO<sub>2</sub>, and particulate matter at the Lagoon monitor**

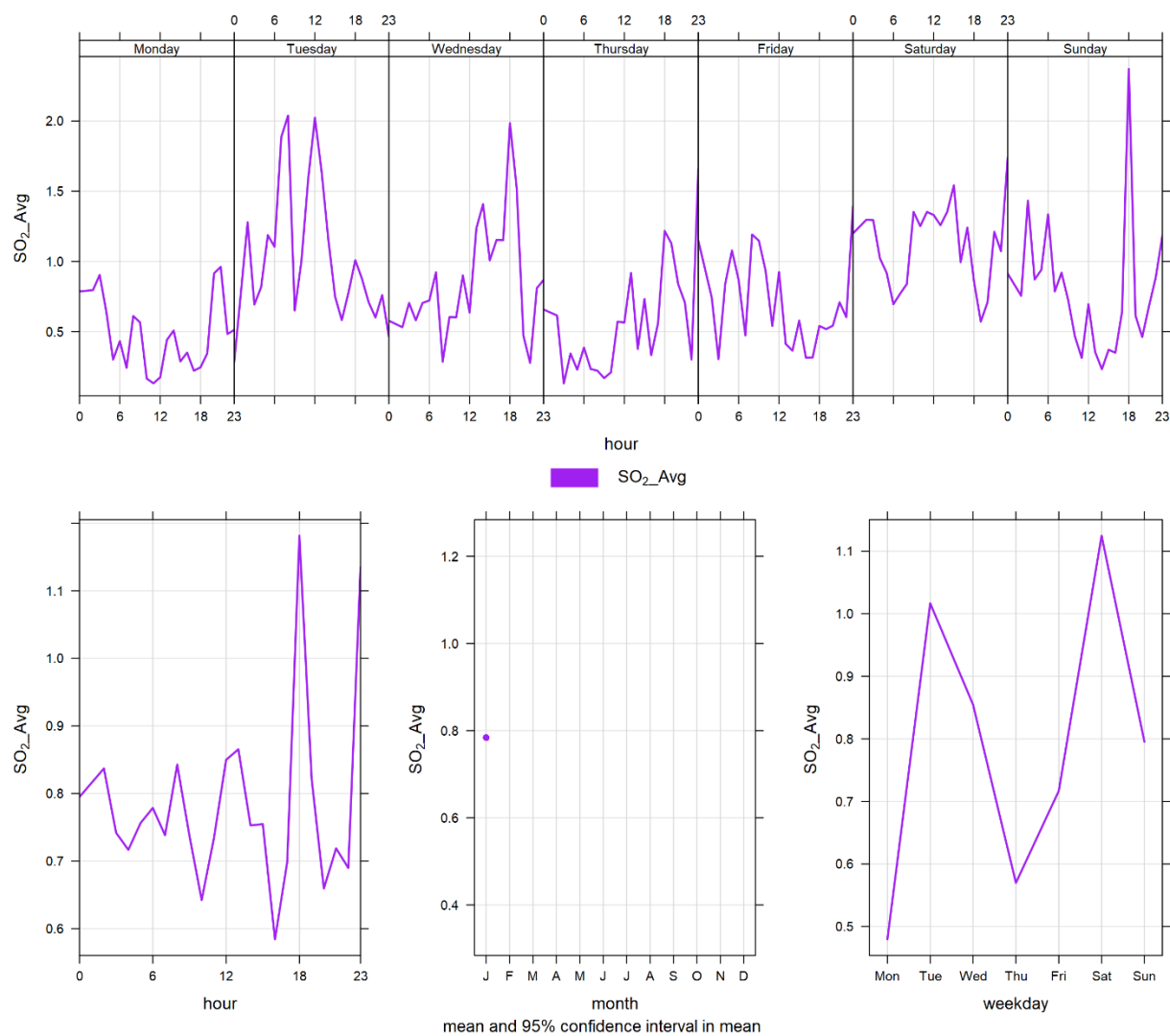
Figure 3-10 **Error! Reference source not found.** through Figure 3-12 **Error! Reference source not found.** show the variation in concentrations over various time averaging periods for PM, SO<sub>2</sub> and NO<sub>x</sub>. The particulate matter plot in **Error! Reference source not found.** Figure 3-10 shows that PM<sub>10</sub> 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. This month also saw higher PM concentrations during the evening and nighttime hours that could be related to woodsmoke.

Figure 3-11 **Error! Reference source not found.** shows the variation of SO<sub>2</sub> over various time periods. SO<sub>2</sub> concentrations patterns are dependent on the timing of the highest SO<sub>2</sub> concentrations recorded in the month because in general SO<sub>2</sub> concentrations are very low. Figure 3-12 **Error! Reference source not found.** shows the variation of NO<sub>x</sub>, NO and NO<sub>2</sub>, with the peak of all three pollutants occurring in the early morning. This may be indicative of a peak in traffic.

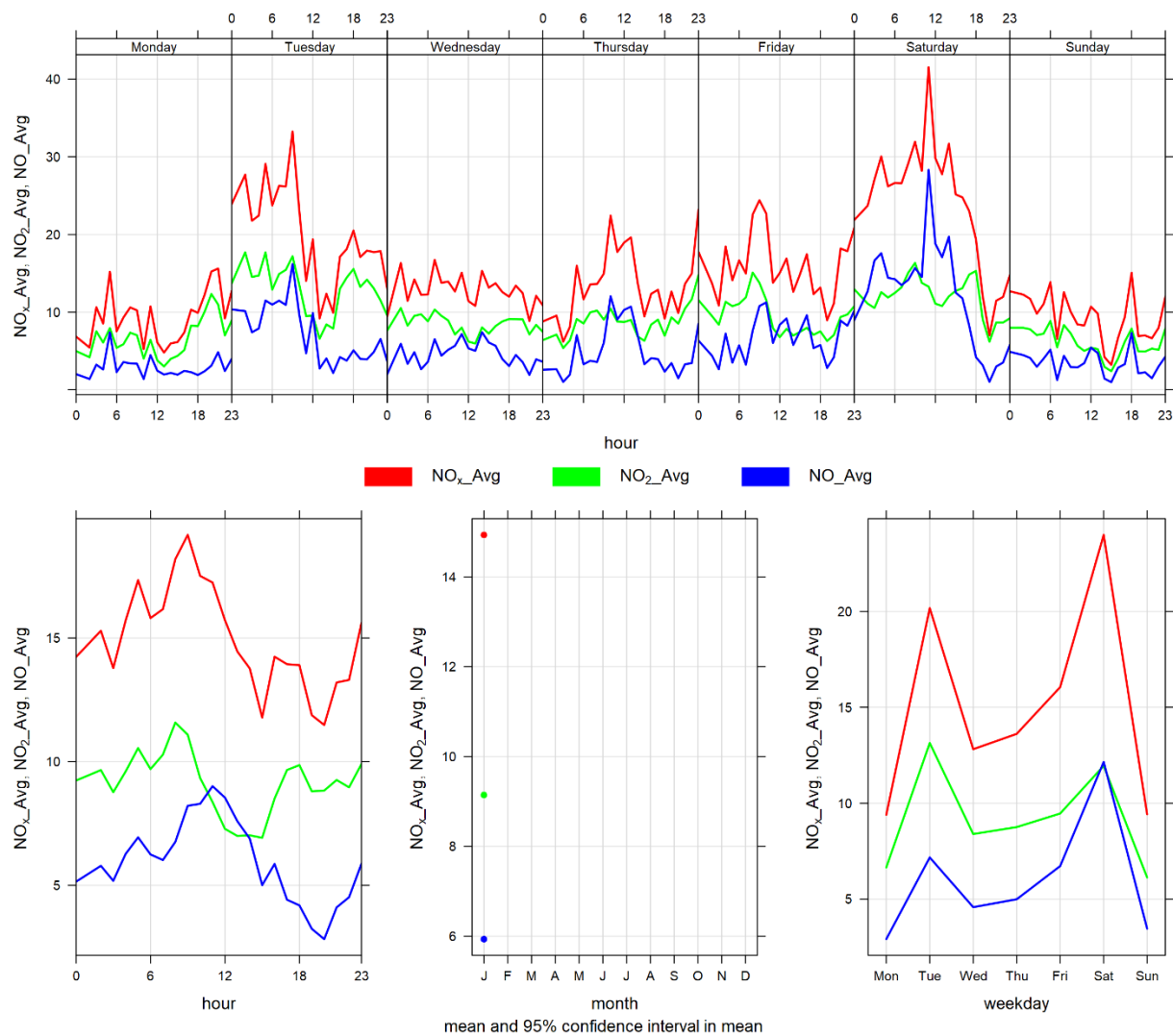


**Figure 3-10 Lagoon monitor particulate matter time variation**





**Figure 3-11 Lagoon monitor SO<sub>2</sub> time variation**



**Figure 3-12 Lagoon monitor NO<sub>x</sub> time variation**

# 4 WEST INDUSTRIAL GRIMM

## 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 West monitoring location**

Parameter Measured	Equipment Description	Notes
<b>PM<sub>2.5</sub>, PM<sub>10</sub>, TSP Concentrations</b>	GRIMM 365 Continuous Particulate Monitor	The monitors had 76.2% uptime in January due to the GRIMM monitor being removed for repair January 24 <sup>th</sup> at 16:00 through to the end of the month.

## 4.2 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 4-2 summarizes the monthly concentrations, and 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.

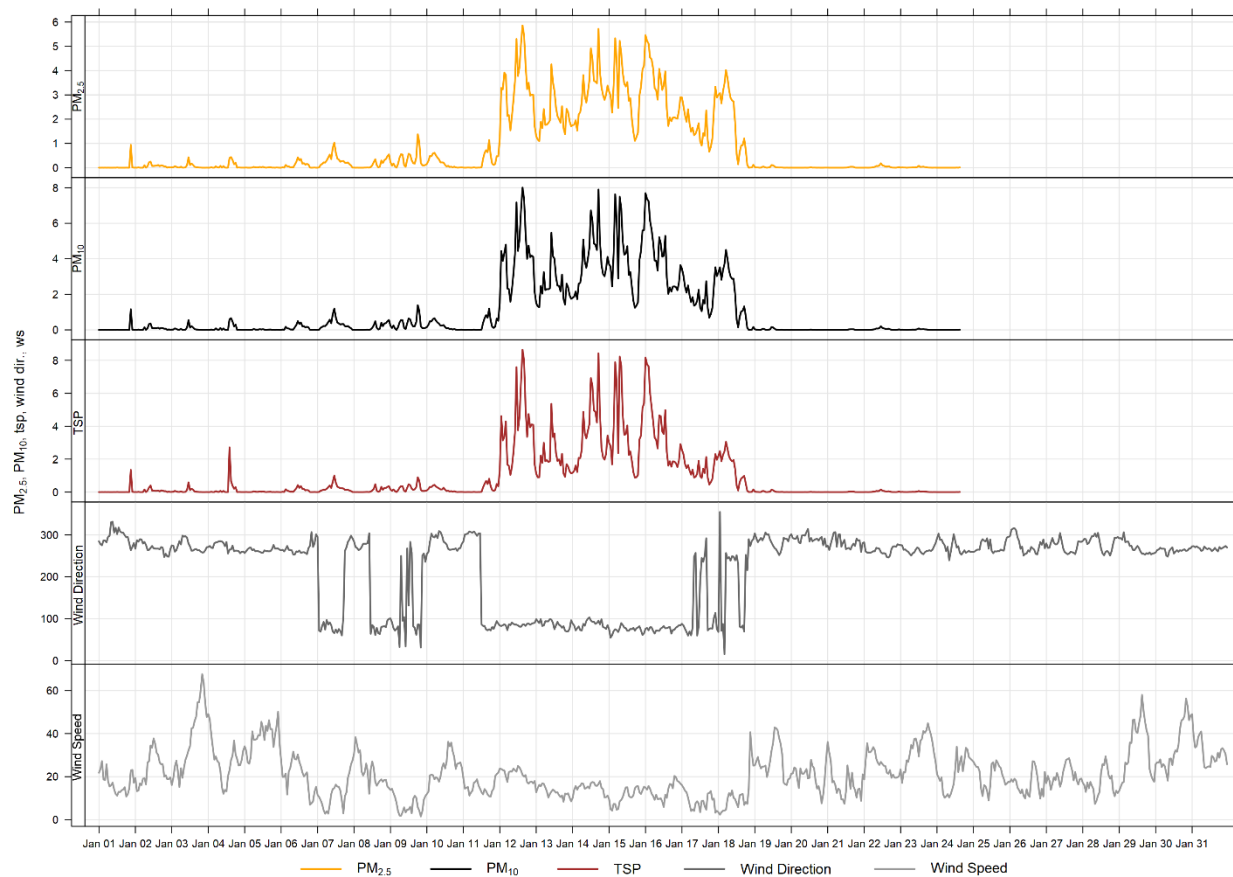
Figure 4-1 and Figure 4-2 show the hourly and daily PM<sub>2.5</sub>, PM<sub>10</sub> and TSP concentrations recorded over the month. PM levels at the Lagoon monitor are also likely influenced by the FireSmart and Pine Beetle control work occurring in the area.

Despite this, there were no exceedances of the 24-hour TSP guideline (100 µg/m<sup>3</sup>) nor the 24-hour PM<sub>2.5</sub> guideline (29µg/m<sup>3</sup>).

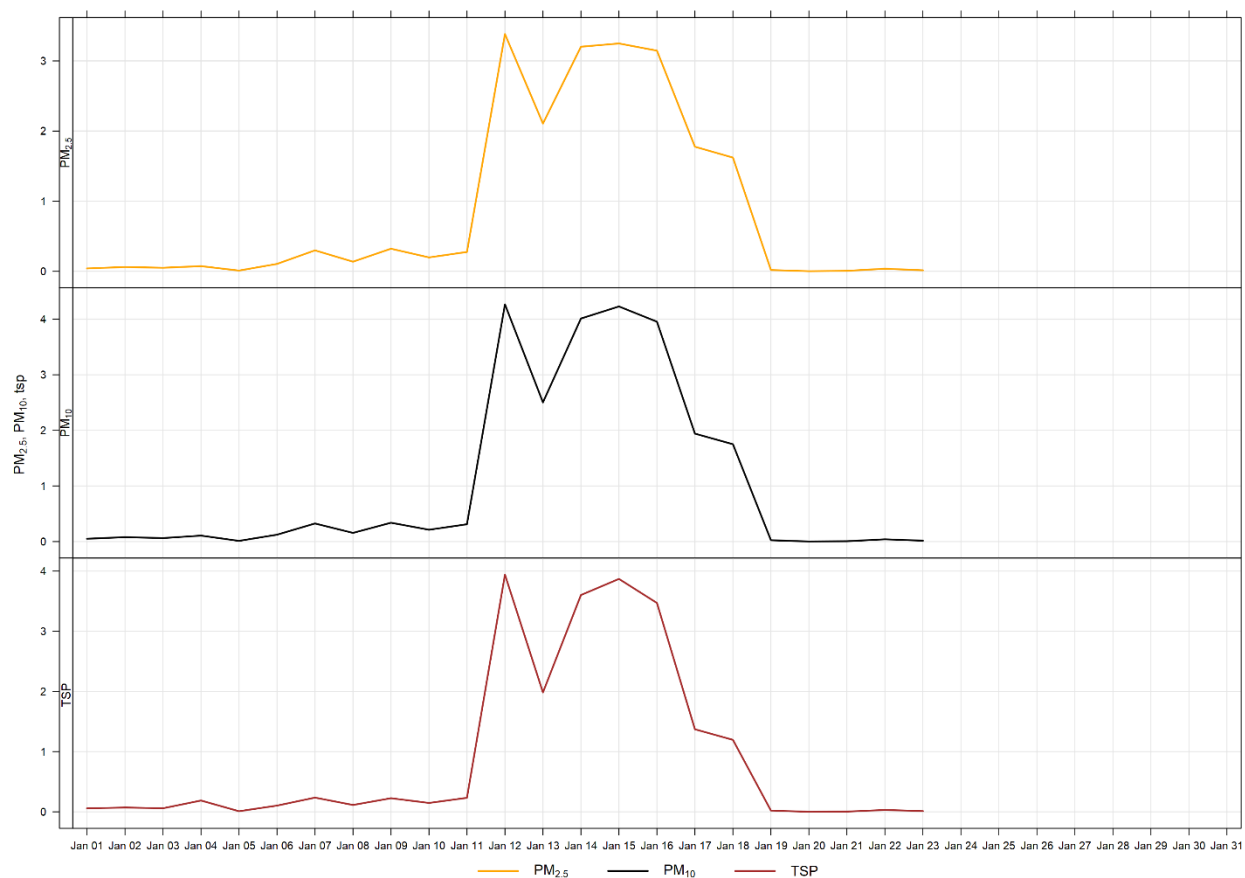
Historically in January, the average number of 24-hour TSP AAAQG exceedances and 24-hour PM<sub>2.5</sub> AAAQG exceedances are two and zero, respectively. The maximum number of 24-hour AAAQG exceedances was 7 days in 2013 for TSP, and 2 days in 2010 for PM<sub>2.5</sub>.

**Table 4-2      Summary of January 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	
<b>PM<sub>2.5</sub></b> (µg/m <sup>3</sup> )	80	29	West	0	0	0.0	0.9	5.9	12	15	20.8	85.8	3.4	12	76.2
<b>PM<sub>10</sub></b> (µg/m <sup>3</sup> )	-	-	West	-	-	0.0	1.0	8.0	12	15	20.8	85.8	4.3	12	76.2
<b>TSP</b> (µg/m <sup>3</sup> )	-	100	West	-	0	0.0	0.9	8.6	12	15	20.8	85.8	3.9	12	76.2

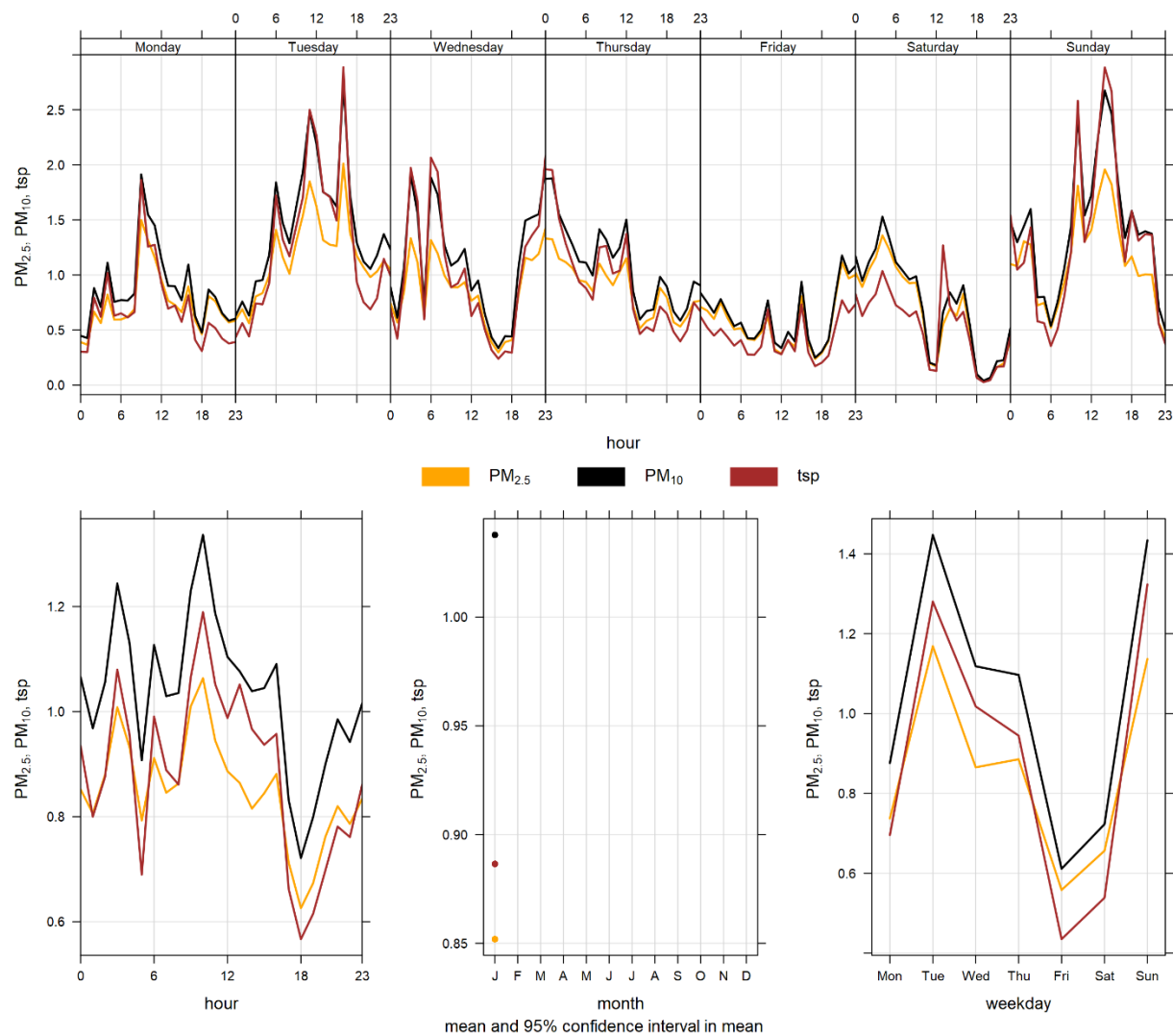


**Figure 4-1 1-hour particulate matter concentrations at the West monitor**



**Figure 4-2 24-hour particulate matter concentrations at the West monitor**

Figure 4-3 below 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 4-3 is based on data collected during January 2020 and indicates a diurnal relationship that could be due to the proximity of the West monitor to the highway. As the monitor is generally ‘up-wind’ of the facility, the daily variations in PM are more likely a result of higher traffic volume during daylight hours than specific Lafarge operations.



**Figure 4-3 West particulate matter time variation**

# 5 BERM 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 Berm monitoring location**

Parameter Measured	Equipment Description	Notes
PM <sub>2.5</sub> , PM <sub>10</sub> , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The monitors had 100% uptime in January.

## 5.2 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 5-1 and Figure 5-2 show the hourly and daily PM<sub>2.5</sub>, PM<sub>10</sub> and TSP concentrations recorded over the month. Figure 5-3 and Figure 5-4 show the wind roses for the PM<sub>2.5</sub> and TSP days of exceedance. Table 5-2 summarizes the monthly concentrations, and the maximum 1-hour and 24-hour PM concentrations recorded during the month, and Table 5-3 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 19 and 1 exceedances of the 24-hour TSP (100 µg/m<sup>3</sup>) and PM<sub>2.5</sub> (29 µg/m<sup>3</sup>) guidelines, respectively. There were 3 hours exceeding the 1-hour PM<sub>2.5</sub> AAAQG.

Historically during the month of January, the Berm monitor records an average of 19 and 1 exceedances of the 24-hour TSP and PM<sub>2.5</sub> guidelines, respectively. The maximum number of TSP exceedances recorded during January occurred in 2013 where there were 26 days that exceeded the guideline. On the other hand, the maximum number of PM<sub>2.5</sub> exceedances in January occurred in 2015 & 2019, where there were 3 days that exceeded the guideline.

It should also be noted that the GRIMM monitors become more conservative in the reported PM concentrations as the size fraction increases. The PM<sub>2.5</sub> size fraction has been shown to match other regulatory approved PM<sub>2.5</sub> 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.

High particulate levels and exceedances at the Berm monitor are likely influenced by flood mitigation work along Exshaw creek which is producing fugitive dust near the monitors. FireSmart and Pine Beetle control work is likely to have increased levels of PM<sub>2.5</sub> as well.



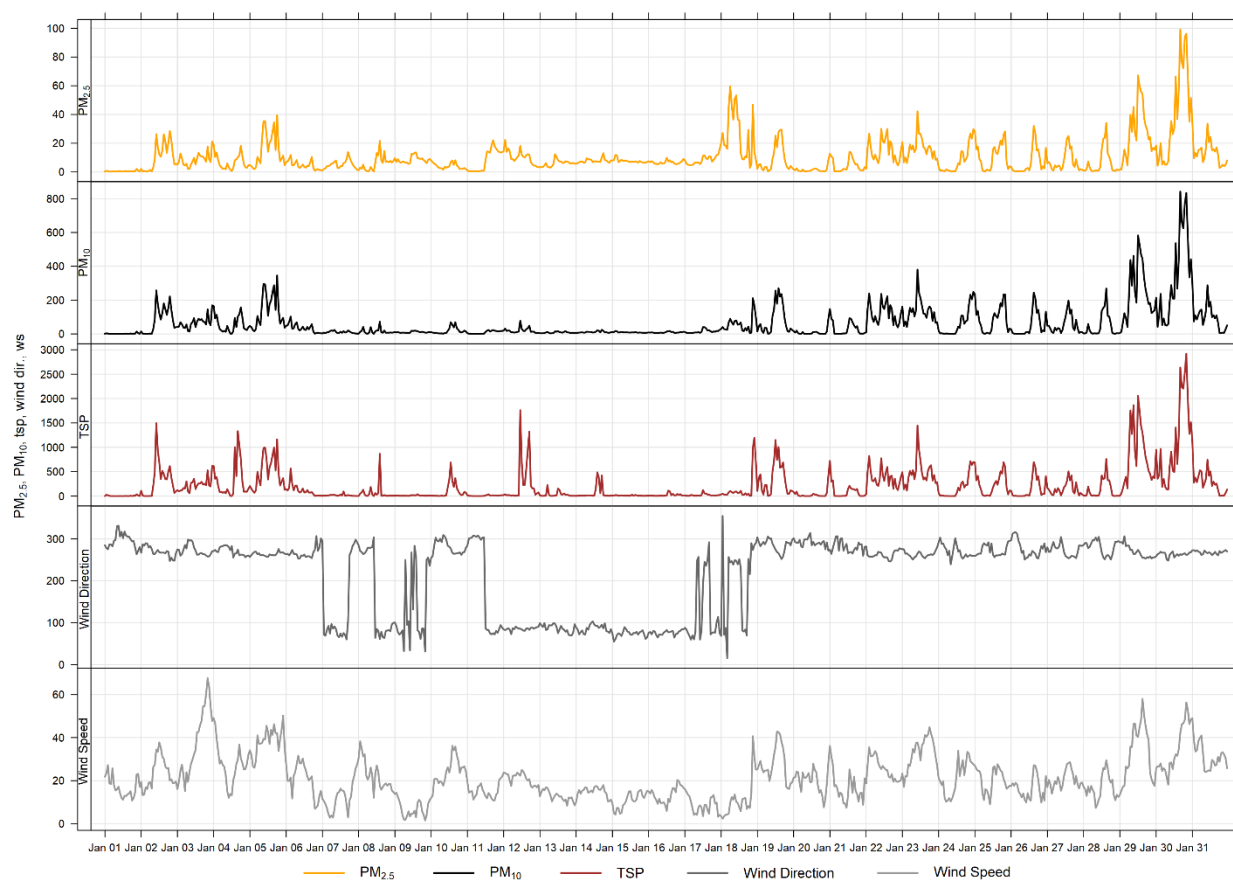
**Table 5-2      Summary of January 2020 data at the Berm GRIMM**

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	
<b>PM<sub>2.5</sub></b> (µg/m <sup>3</sup> )	80	29	West	3	1	0.2	10.3	99.1	30	16	42.2	263.3	40.2	30	100.0
<b>PM<sub>10</sub></b> (µg/m <sup>3</sup> )	-	-	West	-	-	0.3	62.5	841.5	30	16	42.2	263.3	342.1	30	100.0
<b>TSP</b> (µg/m <sup>3</sup> )	-	100	West	-	19	0.2	216.2	2917.9	30	20	56.4	261.7	1125.6	30	100.0

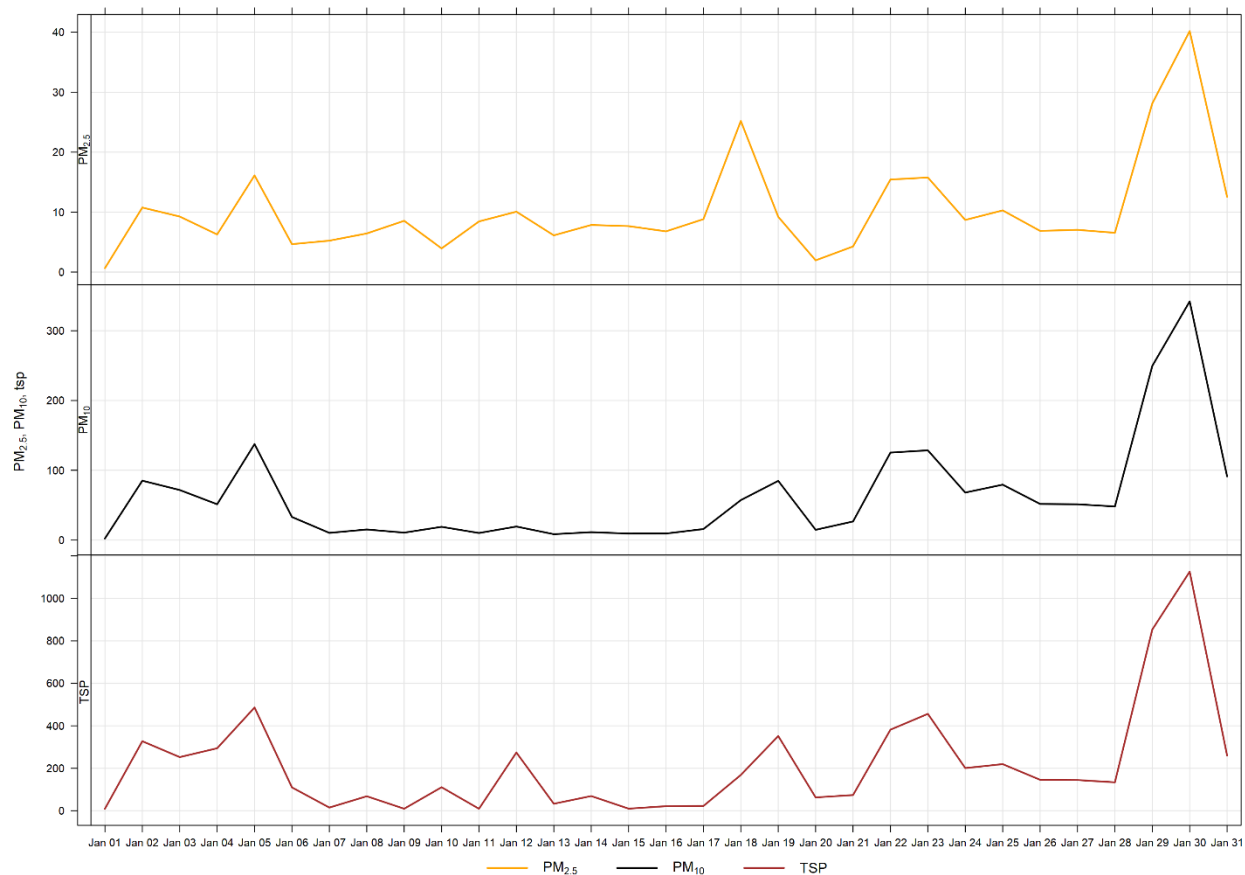
**Table 5-3 Days exceeding the Guideline for TSP or PM<sub>2.5</sub> at the Berm Monitor**

Date	TSP (ug/m <sup>3</sup> )	PM <sub>2.5</sub> (ug/m <sup>3</sup> )	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
<b>Entrance</b>						
<b>2020-01-02</b>	327.3	-	268.7	23.4	47.7	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-03</b>	252.5	-	268.8	38.8	51.9	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-04</b>	294.2	-	269.2	27.0	50.3	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-05</b>	486.1	-	263.5	38.1	40.5	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-06</b>	109.9	-	263.9	19.9	45.2	TSP - Dust, possibly from flood mitigation work
<b>2020-01-10</b>	110.7	-	278.6	24.4	62.4	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-12</b>	274.1	-	85.5	20.6	70.5	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-18</b>	168.6	-	273.1	12.2	71.4	TSP - Dust, possibly from flood mitigation work
<b>2020-01-19</b>	351.8	-	280.8	27.4	61.1	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-22</b>	381.7	-	261.9	25.6	44.5	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-23</b>	456.2	-	262.8	33.0	50.8	High wind event; Dust, possibly from flood mitigation work

<b>2020-01-24</b>	200.9	-	267.7	21.6	59.3	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-25</b>	219.5	-	270.8	19.9	52.6	TSP - Dust, possibly from flood mitigation work
<b>2020-01-26</b>	145.8	-	276.4	16.4	58.6	TSP - Dust, possibly from flood mitigation work
<b>2020-01-27</b>	144.6	-	270.8	20.5	49.2	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-28</b>	133.9	-	275.4	16.7	51.5	TSP - Dust, possibly from flood mitigation work
<b>2020-01-29</b>	853.2	-	265.7	33.7	50.3	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-30</b>	1125.6	40.2	263.9	35.1	39.9	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-31</b>	260.1	-	268.1	30.2	51.5	High wind event; Dust, possibly from flood mitigation work
<b>Total # of Exceedances</b>	<b>19</b>	<b>1</b>				
<b>Maximum # of Exceedances (January)</b>	<b>26 (2013)</b>	<b>3 (2015, 2019)</b>				
<b>Average # of Exceedances (January)</b>	<b>19</b>	<b>1</b>				
<b>Minimum # of Exceedances (January)</b>	<b>13 (2016)</b>	<b>0 (2011, 2014, 2016, 2017, 2018)</b>				



**Figure 5-1 1-hour particulate matter concentrations recorded at the Berm monitor**

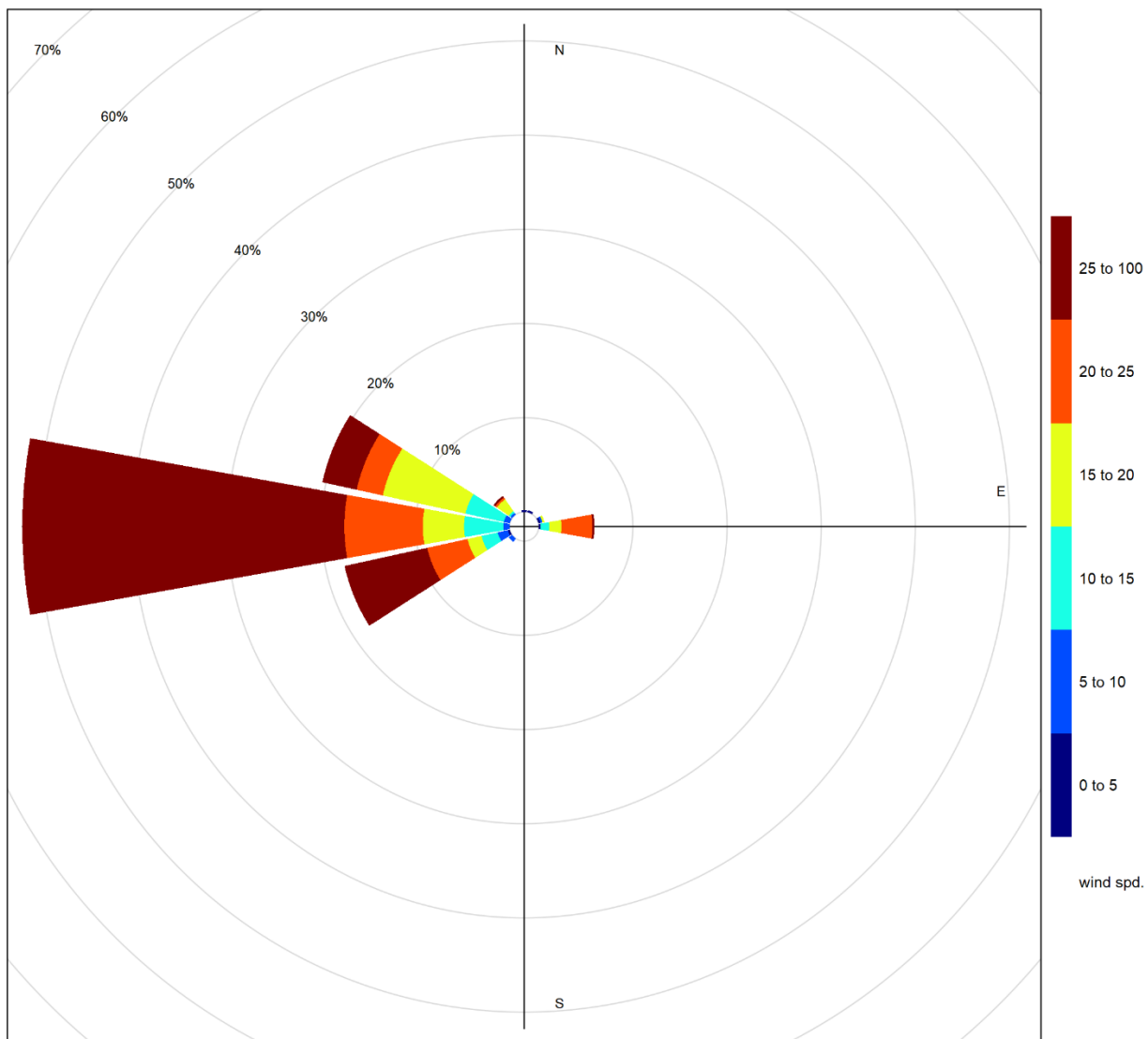


**Figure 5-2 24-hour particulate matter concentrations recorded at the Berm monitor**

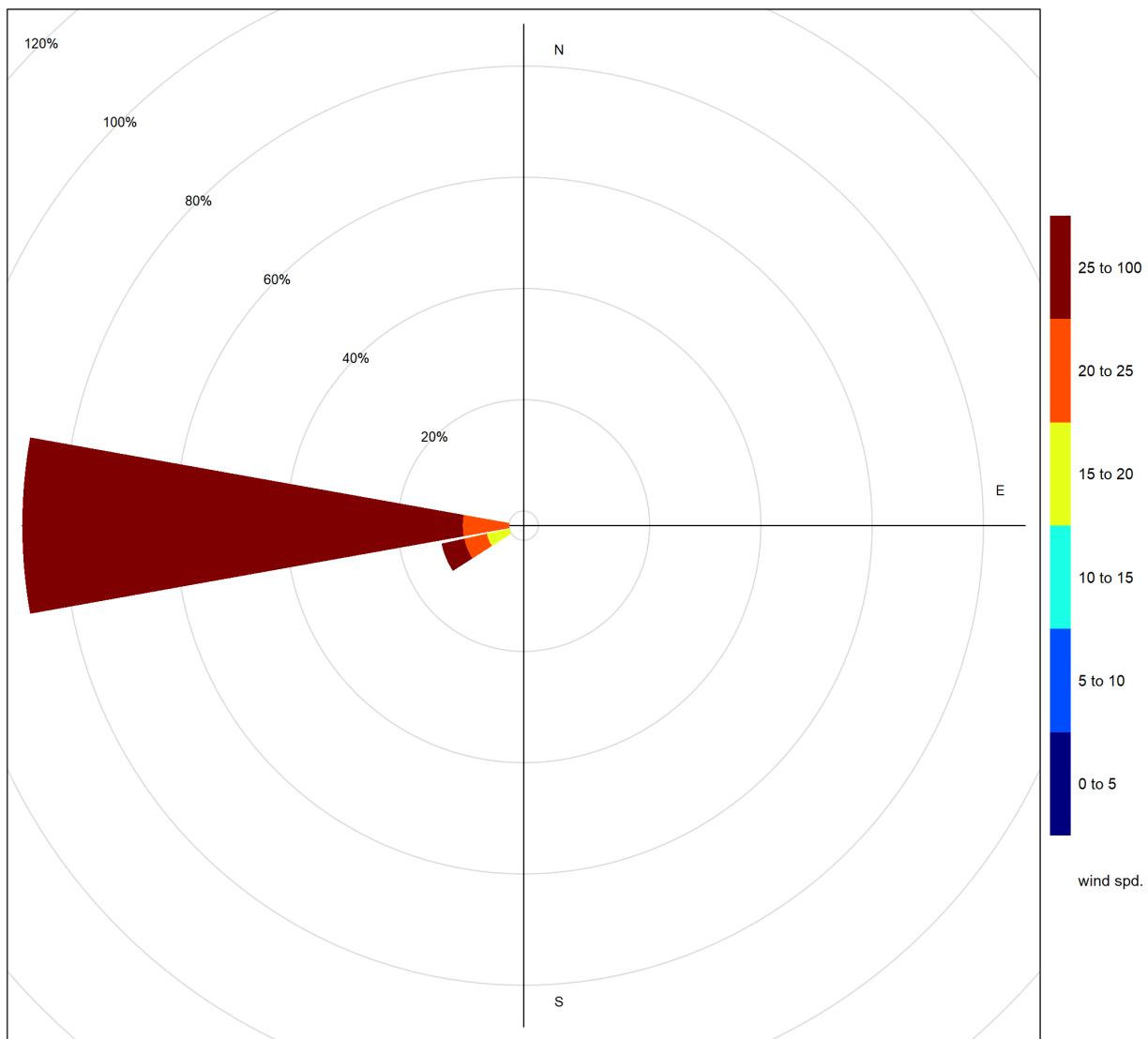
Figure 5-3 shows the wind rose for the 19 days of TSP exceedances recorded this month. The wind rose shows that the winds predominantly came from the west, west-southwest and west-northwest directions.

Figure 5-4 shows the wind rose for the 1 day of PM<sub>2.5</sub> exceedances recorded this month. The winds predominately came from the west direction.

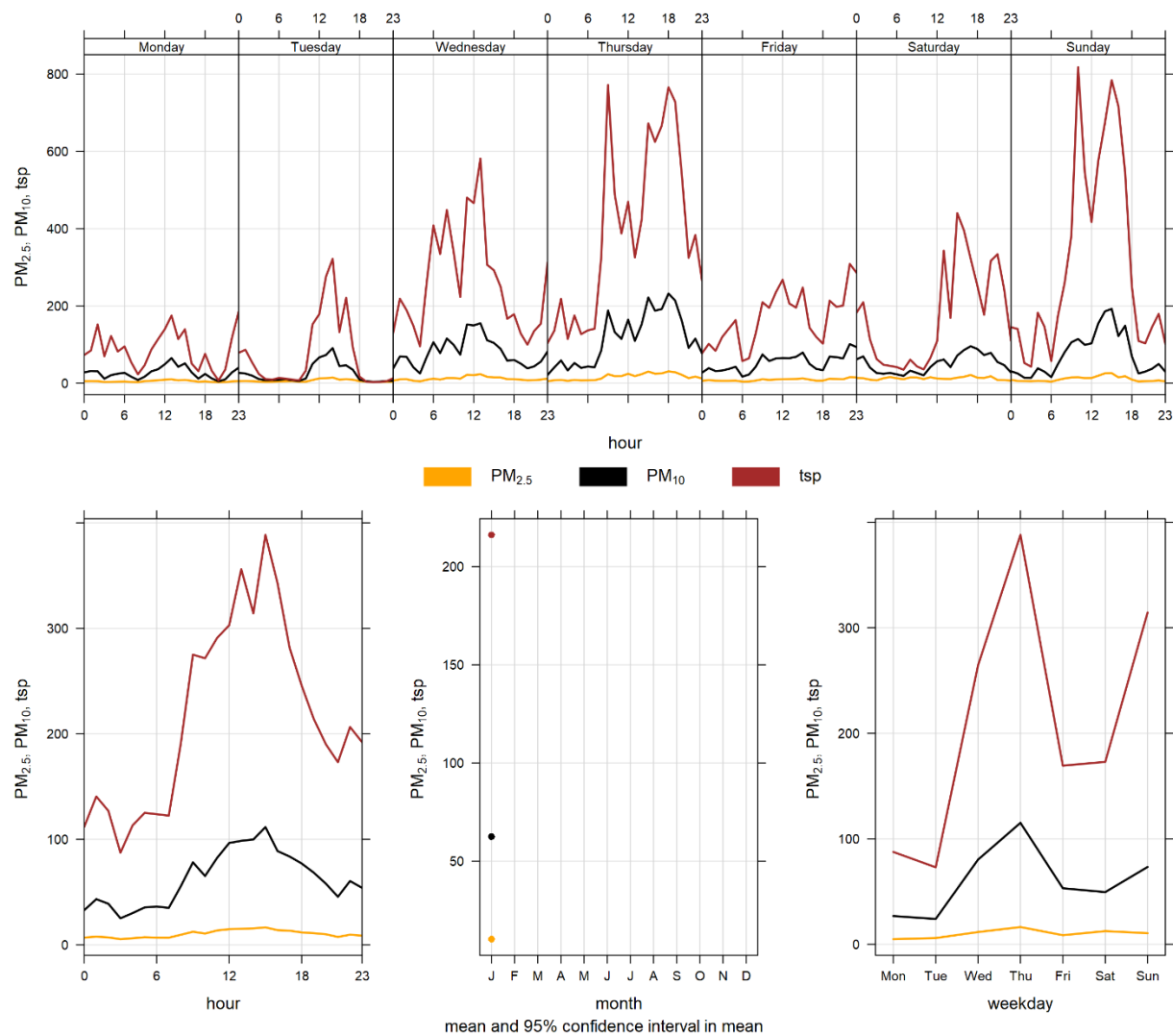
Figure 5-5 shows the variation of PM recorded at the Berm monitor over various time averaging periods. The Berm monitor diurnal pattern, similar to the Windridge and Lagoon stations, is associated with Lafarge operations, but also daytime emissions from traffic and other activities in Exshaw, such as the flood mitigation work and FireSmart work that is currently underway.



**Figure 5-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM**



**Figure 5-4 Wind rose for PM<sub>2.5</sub> exceedance days recorded at the Berm GRIMM**



**Figure 5-5** Berm particulate matter time variation



# 6 ENTRANCE 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 Entrance monitoring location**

Parameter Measured	Equipment Description	Notes
PM <sub>2.5</sub> , PM <sub>10</sub> , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	➤ The GRIMM analyzer had 85.3% uptime for the month of January due to non-routine maintenance from dryer pump failure occurring between January 1st at 1:00 – January 5th at 10:00, and then again from January 5th at 12:00-14:00.

## 6.2 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 6-1 and Figure 6-2 show the hourly and daily PM<sub>2.5</sub>, PM<sub>10</sub> and TSP concentrations recorded over the month. Table 6-2 summarizes the monthly concentrations, and the maximum 1-hour and 24-hour PM concentrations recorded during the month. 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.

During January, there were 12 and zero exceedances of the 24-hour TSP (100 µg/m<sup>3</sup>) and PM<sub>2.5</sub> (29 µg/m<sup>3</sup>) guidelines, respectively. Dust created from the flood mitigation work (section 1.1) has the potential to impact particulate matter concentrations and may have contributed to particulate at the Entrance monitor.

Historically, the Entrance monitor records an average of 19 and 0 exceedances of the 24-hour TSP and PM<sub>2.5</sub> guidelines respectively, during the month of January. The maximum number of TSP exceedances recorded during January occurred in 2014 (29 days), while the minimum occurred in 2011 & 2018 with 11 exceedances. On the other hand, the maximum number of PM<sub>2.5</sub> exceedances in January was 5 days, occurring in 2013.

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

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

Figure 6-3 shows the wind rose for the 12 days that exceeded the TSP guideline. The wind rose indicates that the winds predominantly came from the west, west-southwest and west-northwest and east directions. High wind speeds and flood mitigation work could be attributed as the causation for the 12 TSP exceedances recorded during the month of January.

High particulate levels and exceedances at the Entrance monitor are likely influenced by flood mitigation work along Exshaw creek which is producing fugitive dust near the monitors. FireSmart and Pine Beetle control work is likely to have increased levels of PM<sub>2.5</sub> as well.

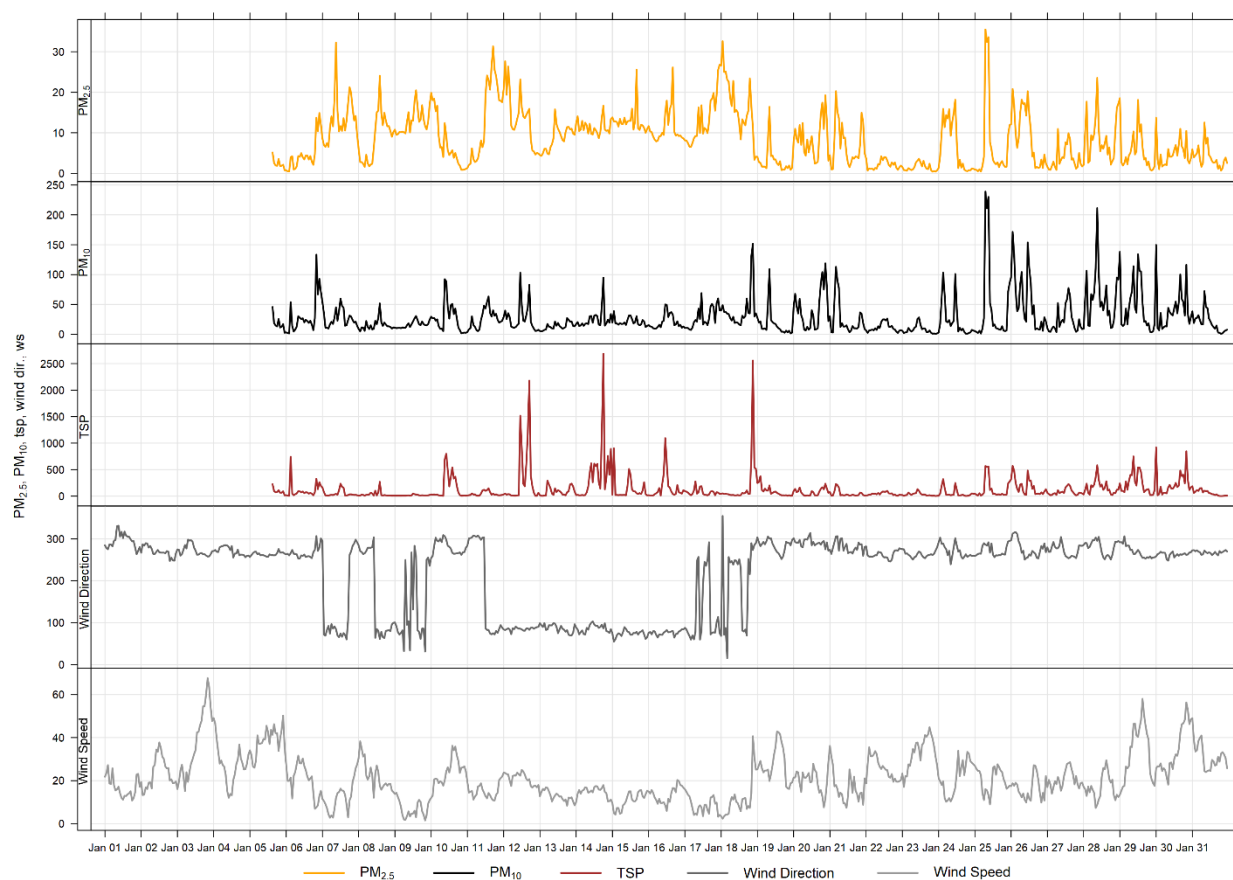
**Table 6-2      Summary of January 2020 data at the Entrance GRIMM**

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	
<b>PM<sub>2.5</sub></b> (µg/m <sup>3</sup> )	80	29	Entrance	0	0	0.4	8.4	35.5	25	7	16.0	286.0	15.9	18	85.3
<b>PM<sub>10</sub></b> (µg/m <sup>3</sup> )	-	-	Entrance	-	-	0.8	28.5	238.9	25	7	16.0	286.0	66.2	28	85.3
<b>TSP</b> (µg/m <sup>3</sup> )	-	100	Entrance	-	12	0.7	125.5	2684.8	14	18	17.9	86.5	427.6	14	85.3

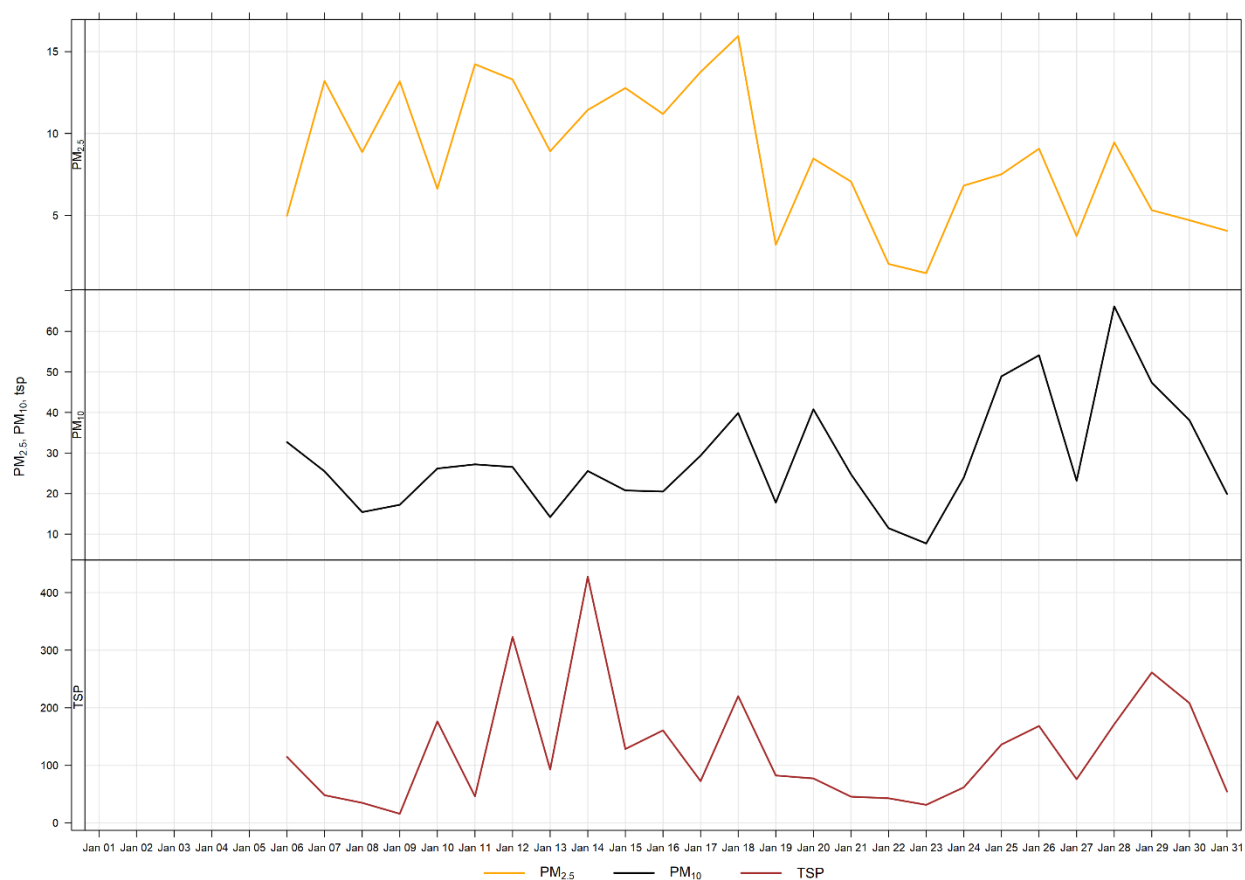
**Table 6-3 Days exceeding the Guideline for TSP or PM<sub>2.5</sub> at the Entrance Monitor**

Date	TSP (ug/m <sup>3</sup> )	PM <sub>2.5</sub> (ug/m <sup>3</sup> )	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
<b>Entrance</b>						
<b>2020-01-06</b>	114.8	-	263.9	19.9	45.2	TSP - Dust, possibly from flood mitigation work
<b>2020-01-10</b>	176.2	-	278.6	24.4	62.4	High wind event; Dust, possibly from flood mitigation work
<b>2020-01-12</b>	323.0	-	85.5	20.6	70.5	TSP - Dust, possibly from flood mitigation work
<b>2020-01-14</b>	427.6	-	86.3	14.8	65.4	TSP - Dust, possibly from flood mitigation work
<b>2020-01-15</b>	128.4	-	74.2	10.9	65.2	TSP - Dust, possibly from flood mitigation work
<b>2020-01-16</b>	160.8	-	76.8	13.5	65.6	TSP - Dust, possibly from flood mitigation work
<b>2020-01-18</b>	220.2	-	273.1	12.2	71.4	TSP - Dust, possibly from flood mitigation work
<b>2020-01-25</b>	136.2	-	270.8	19.9	52.6	TSP - Dust, possibly from flood mitigation work
<b>2020-01-26</b>	168.4	-	276.4	16.4	58.6	TSP - Dust, possibly from flood mitigation work
<b>2020-01-28</b>	171.4	-	275.4	16.7	51.5	TSP - Dust, possibly from flood mitigation work

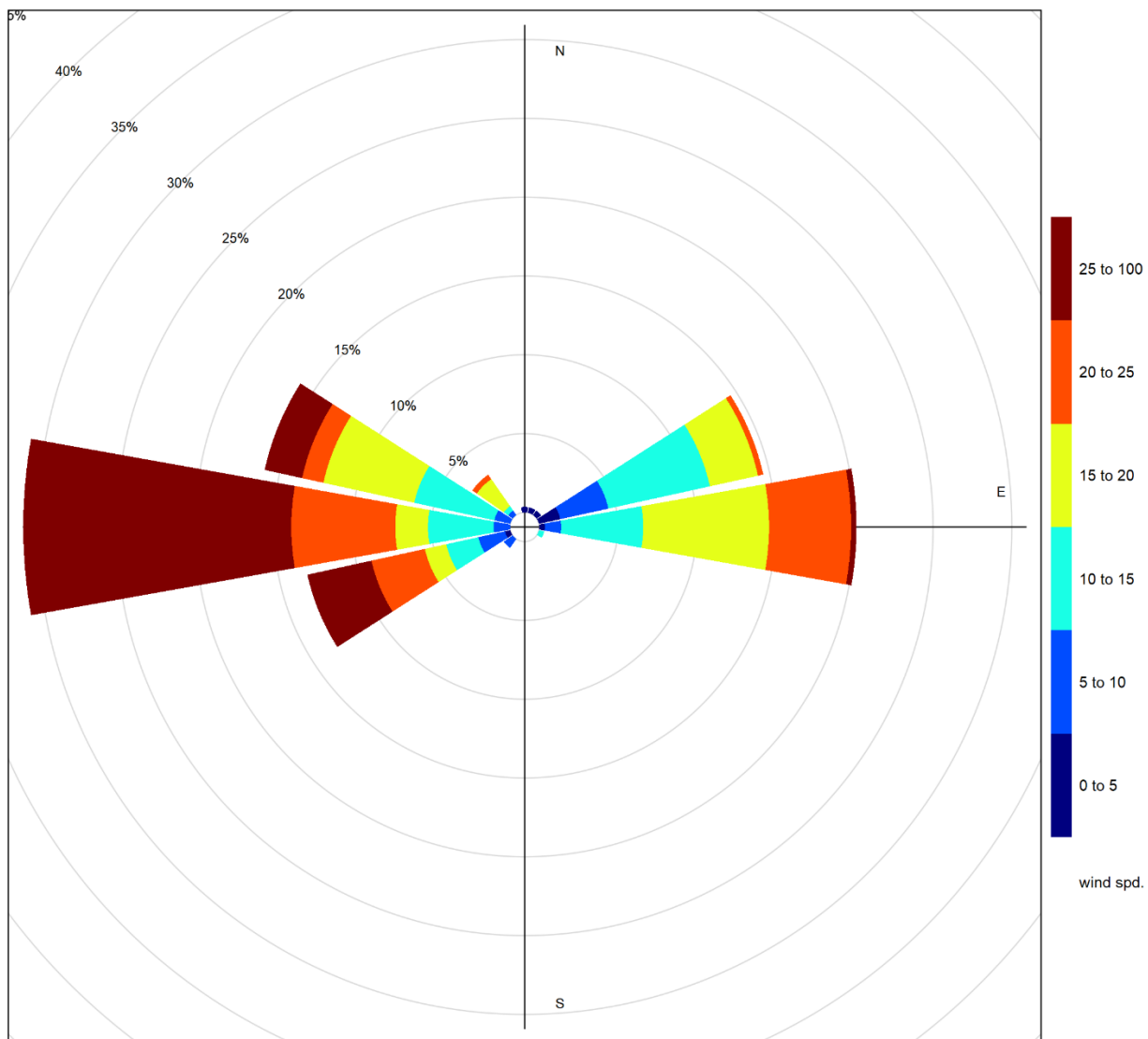
<b>2020-01-29</b>	261.3	-	265.7	33.7	50.3	High wind event; Dust, possibly from flood mitigation work
<b>Total # of Exceedances</b>	<b>12</b>	<b>0</b>				
<b>Maximum # of Exceedances (January)</b>	<b>29 (2014)</b>	<b>5 (2013)</b>				
<b>Average # of Exceedances (January)</b>	<b>19</b>	<b>0</b>				
<b>Minimum # of Exceedances (January)</b>	<b>11 (2011, 2018)</b>	<b>0 (2011, 2012, 2015-2019)</b>				



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



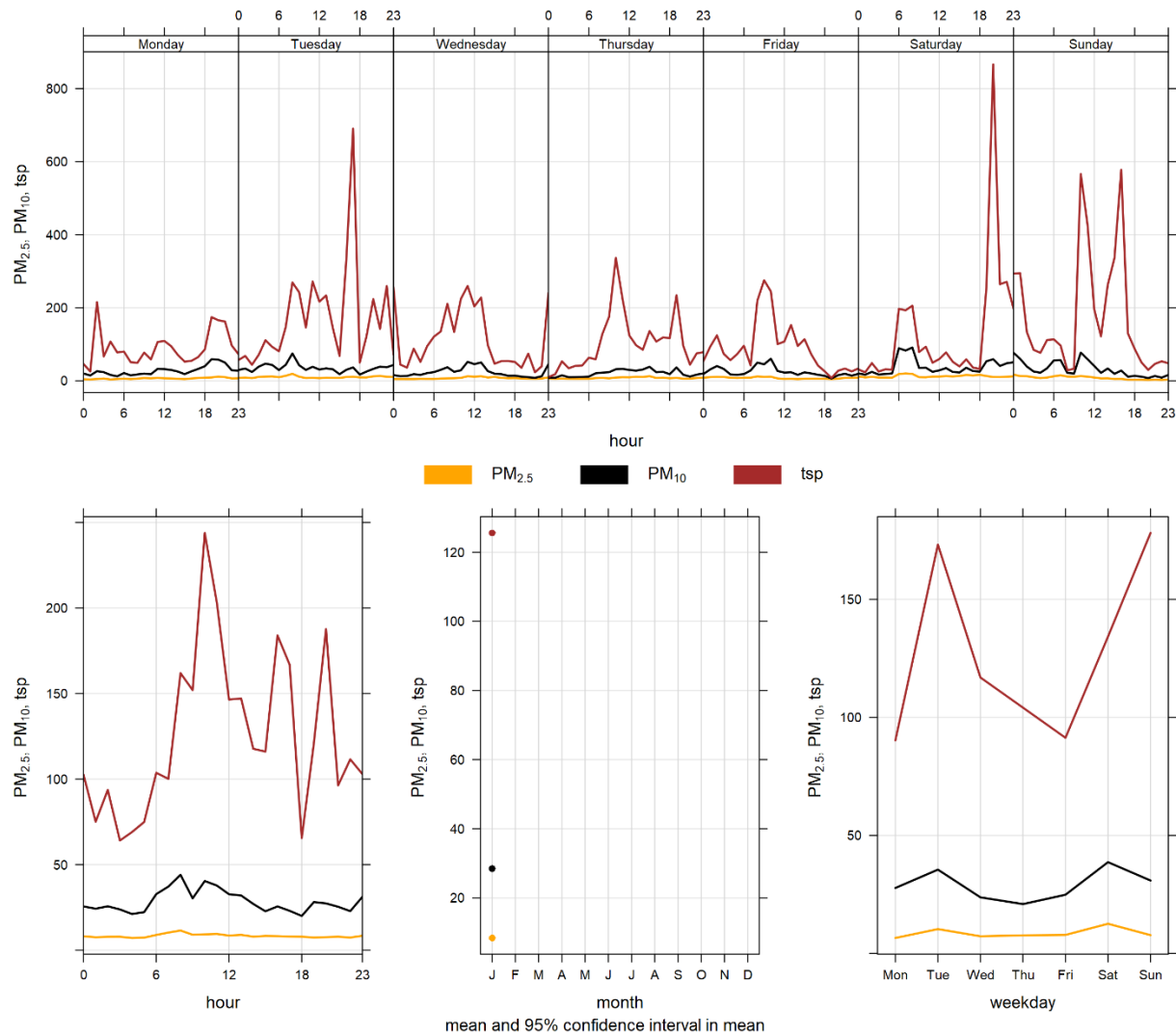
**Figure 6-2 24-hour particulate matter concentrations at the Entrance monitor**



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



Figure 6-4 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 6-4 is based on data collected during January 2020. The diurnal pattern is 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, but can also be influenced by the flood mitigation work currently underway, as well as industry and rail sources.



**Figure 6-4** Entrance particulate matter time variation

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- Carslaw, D.C. and K. Ropkins, (2012). Openair — an R package for air quality data analysis. Environmental Modelling & Software. Volume 27–28, 52–61.
- Levelton Consultants Ltd. (2015, June 15). Comparison of GRIMM and E-BAM Data. Alberta, Canada.

# APPENDIX

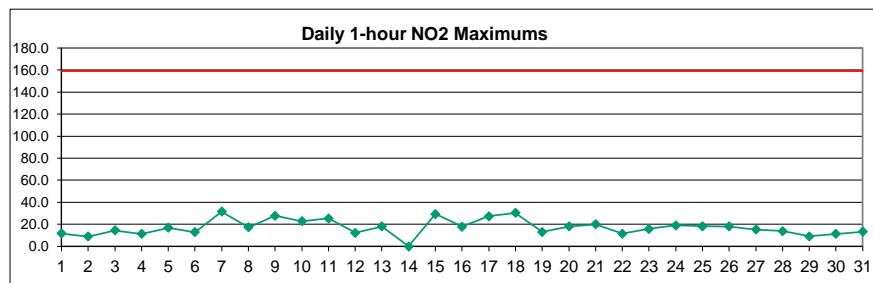
## A DATA & CALIBRATION REPORTS

# APPENDIX



# Lagoon NO<sub>2</sub> (ppb) – January 2020

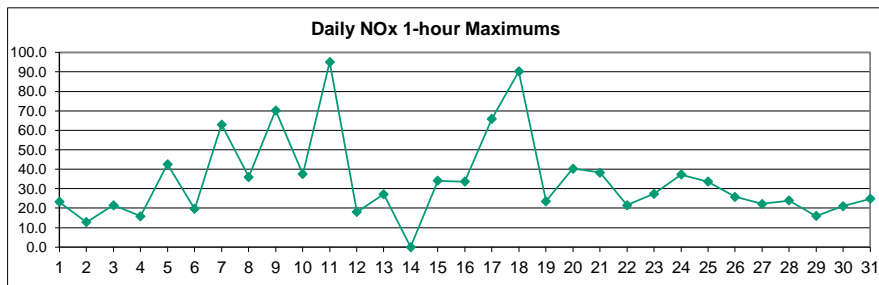
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	8.4	S	11.7	9.3	6.2	6.9	6.5	7.6	3.4	3.7	3.1	10.4	5.3	8.3	9.9	9.9	11.4	9.0	7.8	5.1	2.6	1.9	3.2	4.4	6.8	11.7
2	3.1	S	2.3	2.3	5.4	2.8	3.1	3.1	8.9	5.6	3.0	5.2	2.9	3.6	3.7	3.5	2.9	1.8	1.6	2.9	1.3	1.0	2.5	6.4	3.4	8.9
3	2.7	S	3.1	4.0	3.6	5.8	4.8	5.9	6.8	14.5	7.3	5.2	2.9	3.5	4.1	3.6	2.1	1.8	2.0	0.9	1.0	1.8	2.8	2.1	4.0	14.5
4	3.8	S	2.4	3.9	6.0	6.2	6.1	6.3	9.1	11.3	10.3	6.5	4.7	3.6	5.1	8.2	1.5	1.3	2.4	0.8	0.5	1.1	0.5	0.4	4.4	11.3
5	0.9	S	3.0	0.8	1.9	0.9	3.2	0.6	1.1	0.9	0.6	0.6	1.2	1.2	1.0	1.1	1.1	8.4	16.9	2.4	2.6	1.5	1.1	5.7	2.6	16.9
6	3.3	S	5.0	12.5	6.3	3.6	7.3	2.4	3.0	4.5	1.6	7.3	2.6	2.1	4.1	6.0	2.0	7.4	9.8	7.3	12.8	11.7	9.4	8.6	6.1	12.8
7	18.2	S	29.8	19.6	19.9	24.6	27.9	27.9	22.4	22.0	21.1	12.8	19.7	10.2	15.2	11.9	25.2	31.6	30.5	28.7	21.6	17.5	13.6	10.1	21.0	31.6
8	5.2	S	6.3	4.3	9.3	5.6	7.0	8.8	12.9	9.5	9.4	4.8	6.8	7.1	13.4	13.9	14.7	12.8	12.9	17.3	17.0	8.8	5.1	5.4	9.5	17.3
9	3.8	S	11.8	8.7	9.6	20.6	24.5	24.2	22.6	21.0	26.7	17.7	20.3	20.8	13.6	7.9	15.6	17.6	13.5	24.1	20.5	25.4	27.7	26.5	18.5	27.7
10	22.9	S	14.1	10.4	11.8	10.6	9.4	11.7	16.6	16.5	17.9	9.0	10.0	4.3	3.2	2.6	3.6	3.6	8.8	3.1	5.8	8.0	8.0	8.3	9.6	22.9
11	16.1	S	12.1	8.2	6.7	5.5	8.4	8.3	9.1	8.6	9.9	21.7	17.1	13.7	17.9	17.7	23.9	25.4	19.4	19.7	14.8	15.4	13.8	13.8	14.2	25.4
12	12.4	S	11.9	11.2	8.9	7.1	7.3	5.5	5.2	5.1	4.0	3.3	5.5	6.1	5.6	5.5	10.5	10.5	4.4	5.1	4.7	6.3	4.3	4.3	6.7	12.4
13	3.5	S	3.1	4.2	6.4	4.2	2.8	3.7	2.9	2.9	3.0	6.4	3.4	2.6	3.1	3.5	5.2	11.8	10.8	16.7	14.9	15.8	9.9	18.1	6.9	18.1
14	26.3	S	24.0	22.3	22.8	27.7	13.2	12.3	9.9	C	C	C	C	C	C	10.2	12.4	13.9	15.6	14.6	16.5	18.5	17.5	12.8	-	-
15	14.8	S	22.3	21.9	24.9	29.4	24.8	22.7	16.6	18.6	13.5	13.8	13.1	10.3	12.6	9.2	13.0	15.8	16.9	17.7	20.7	17.8	17.6	14.0	17.5	29.4
16	14.0	S	11.7	10.2	10.6	14.1	11.9	15.8	11.0	9.4	13.9	15.7	14.0	14.3	14.5	12.4	15.5	17.9	15.9	14.7	15.5	15.1	14.9	14.0	13.8	17.9
17	12.1	S	14.9	11.7	16.5	19.1	19.9	21.9	26.8	16.4	15.8	10.5	14.2	14.3	16.2	23.7	26.6	21.8	21.7	19.9	20.5	27.4	26.7	27.1	19.4	27.4
18	27.2	S	27.1	28.0	29.8	29.2	29.9	30.3	30.0	27.1	23.8	21.8	21.4	23.1	23.3	18.8	24.0	29.7	27.9	12.6	3.6	7.7	9.4	11.3	22.5	30.3
19	9.6	S	10.1	13.2	9.0	8.3	10.8	5.4	9.0	7.3	4.6	4.8	3.1	3.7	1.1	1.1	3.7	5.4	7.5	9.7	7.2	4.2	8.6	9.3	6.8	13.2
20	8.3	S	4.7	4.3	3.7	18.1	7.0	6.5	8.3	7.2	5.5	8.9	8.0	6.6	7.7	6.0	8.6	9.5	9.4	13.8	15.6	11.9	4.2	2.1	8.1	18.1
21	3.1	S	9.7	11.1	9.6	14.9	6.7	14.7	20.0	15.7	13.1	9.7	7.3	7.7	7.1	6.1	9.9	8.8	7.2	6.7	10.6	11.3	6.8	8.3	9.8	20.0
22	4.9	S	3.5	1.7	1.4	2.0	3.9	9.3	11.6	10.5	4.4	1.8	2.1	2.1	3.0	1.8	1.1	5.8	7.2	4.5	4.4	5.6	9.3	10.9	4.9	11.6
23	9.4	S	2.6	1.5	2.3	1.3	1.1	2.6	2.7	2.9	3.5	2.7	1.7	1.0	0.9	1.7	4.8	4.1	1.0	2.6	1.6	4.5	8.1	15.8	3.5	15.8
24	14.7	S	11.2	10.9	19.1	16.7	18.0	13.6	13.8	12.3	9.9	8.2	4.6	14.8	4.3	0.6	6.1	2.9	1.7	2.7	4.1	2.7	4.0	2.9	8.7	19.1
25	4.8	S	2.8	2.0	7.8	6.6	5.4	7.9	12.1	18.3	11.0	3.1	1.1	2.7	1.8	6.1	3.0	3.0	11.6	3.1	5.9	10.5	11.0	11.2	6.6	18.3
26	9.1	S	6.9	6.0	8.5	12.6	14.1	10.5	18.0	15.8	13.4	11.2	11.9	9.9	4.1	1.9	0.8	0.6	2.8	2.5	5.2	9.2	6.7	12.2	8.4	18.0
27	4.9	S	3.9	9.1	7.9	5.9	4.5	10.9	15.2	13.5	6.0	3.1	1.2	0.7	1.1	2.0	4.7	4.4	2.8	2.5	6.1	4.6	4.6	6.9	5.5	15.2
28	7.1	S	7.3	5.1	6.6	3.6	3.7	4.6	9.5	13.8	6.2	6.0	1.6	1.8	2.9	3.3	4.6	3.5	9.0	2.9	8.1	4.9	8.0	7.0	5.7	13.8
29	4.9	S	8.8	4.0	5.9	4.7	1.9	3.2	3.1	2.3	5.2	9.2	3.7	1.9	1.2	1.3	0.9	0.7	0.7	0.8	0.8	1.6	6.6	2.4	3.3	9.2
30	1.8	S	7.1	4.2	3.9	6.7	2.1	4.1	5.9	6.2	5.2	2.6	4.7	5.3	1.6	6.0	3.1	3.8	2.8	2.2	3.7	6.3	5.2	11.2	4.6	11.2
31	5.3	S	4.1	5.0	5.6	1.6	3.2	6.5	11.4	9.1	7.0	6.8	2.3	2.3	7.2	6.8	1.5	5.3	3.5	4.7	3.9	6.9	7.0	13.3	5.7	13.3
NO.	31	-	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	707	100%
MEAN	9.2	-	9.7	8.8	9.6	10.5	9.7	10.3	11.6	11.1	9.3	8.4	7.3	7.0	7.0	6.9	8.5	9.7	9.9	8.8	8.8	9.3	9.0	9.9		
MAX	27.2	-	29.8	28.0	29.8	29.4	29.9	30.3	30.0	27.1	26.7	21.8	21.4	23.1	23.3	23.7	26.6	31.6	30.5	28.7	21.6	27.4	27.7	27.1		



Number of 1HR Exceedences	0
Number of Non-Zero Readings	707
Maximum 1-HR Average	31.6 PPB
Maximum 24-HR Average	22.5 PPB
Monthly Calibration	6
Standard Deviation	7.1
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	9.1 PPB

# Lagoon NOx (ppb) – January 2020

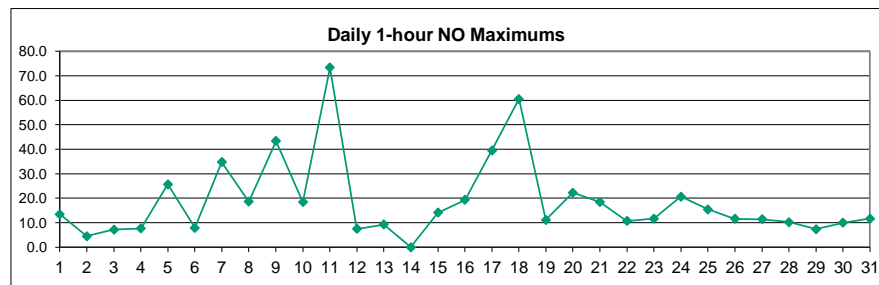
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	13.5	S	22.7	16.9	13.7	10.8	10.8	15.6	6.0	5.7	4.1	22.9	10.8	20.0	23.3	22.2	22.2	14.2	9.8	6.1	2.8	1.9	4.6	5.1	12.4	23.3
2	4.5	S	2.2	2.2	7.1	2.9	3.5	3.9	12.8	7.8	3.9	8.2	4.3	5.0	4.7	4.3	3.5	2.1	1.7	3.9	1.3	0.9	2.6	10.7	4.5	12.8
3	3.0	S	3.6	7.1	3.8	8.3	6.9	8.4	10.0	21.5	12.5	7.1	4.3	5.1	5.6	4.6	2.9	2.2	2.6	1.2	1.4	2.3	5.3	3.5	5.8	21.5
4	6.2	S	3.8	7.4	9.8	10.9	9.1	10.6	15.4	15.4	15.0	11.3	7.1	5.0	10.0	15.8	1.8	1.7	2.8	0.7	0.5	1.6	0.4	0.2	7.1	15.8
5	1.0	S	4.2	0.8	2.5	0.9	4.5	0.6	1.4	1.1	0.6	0.7	1.7	1.6	1.0	1.4	1.3	14.5	42.6	4.1	3.4	1.8	1.3	9.5	4.4	42.6
6	3.8	S	8.4	18.2	8.7	4.8	10.2	3.7	5.4	7.0	2.7	13.6	3.8	2.8	6.3	9.7	2.2	10.8	10.5	7.8	14.9	19.6	15.7	11.3	8.8	19.6
7	34.0	S	48.7	21.2	22.3	31.6	62.9	54.2	41.8	52.3	41.9	18.9	43.1	12.7	22.6	14.6	32.6	43.9	43.8	41.2	26.3	28.9	28.1	17.8	34.1	62.9
8	6.0	S	8.0	5.0	17.7	7.0	10.9	22.5	21.5	16.2	19.8	6.5	11.3	9.1	24.3	25.7	23.5	22.0	20.9	36.0	29.3	11.2	5.7	5.8	15.9	36.0
9	4.3	S	16.4	9.7	12.3	47.6	34.6	32.1	30.2	41.9	70.2	39.9	50.5	52.6	27.5	11.1	23.3	22.3	18.5	31.4	22.3	33.5	35.3	42.0	30.9	70.2
10	37.5	S	16.7	11.0	17.7	11.3	12.2	16.4	29.6	34.6	36.3	14.9	22.3	7.1	4.7	3.4	4.8	4.3	14.0	3.5	9.1	15.8	17.2	11.2	15.5	37.5
11	24.9	S	21.1	12.6	9.5	7.1	14.2	13.8	16.5	13.6	18.4	95.1	58.6	31.0	48.6	39.8	53.5	44.7	23.7	28.6	15.4	15.7	14.7	19.4	27.9	95.1
12	13.3	S	15.9	13.9	10.6	7.9	8.8	5.8	5.7	7.7	5.6	5.6	12.5	12.8	9.4	7.9	18.0	14.3	5.4	6.1	5.4	8.4	5.3	4.8	9.2	18.0
13	3.7	S	3.2	5.3	8.9	5.3	3.2	4.0	3.3	3.3	3.8	10.0	5.1	3.5	4.4	4.9	6.5	13.2	14.4	21.7	18.6	20.5	10.3	27.2	8.9	27.2
14	48.3	S	38.3	39.1	38.3	55.1	18.1	15.4	11.9	C	C	C	C	C	C	13.4	13.9	14.6	16.3	15.8	19.6	23.9	22.7	14.5	-	-
15	17.1	S	30.5	28.8	29.0	34.1	30.8	28.6	18.4	28.8	25.6	27.8	27.1	18.6	22.3	13.4	20.2	18.1	18.9	19.4	24.9	20.8	26.2	19.1	23.9	34.1
16	17.3	S	15.9	11.4	13.4	19.0	16.7	23.0	13.0	12.5	26.4	33.6	31.4	31.4	33.6	19.7	24.0	28.9	20.9	19.5	17.4	16.0	16.0	14.8	20.7	33.6
17	13.0	S	22.1	13.4	25.0	20.5	26.3	24.8	34.1	28.5	33.9	20.7	37.2	33.8	33.4	54.7	65.9	44.4	43.0	29.8	33.7	55.6	50.2	60.9	35.0	65.9
18	49.9	S	66.7	86.2	90.2	79.0	74.1	70.6	65.5	65.1	61.4	55.3	52.0	70.5	65.7	33.9	40.3	42.4	34.1	15.5	4.5	13.3	15.6	20.0	51.0	90.2
19	20.3	S	17.7	23.6	13.9	13.3	20.8	7.5	17.3	10.7	6.3	8.2	5.4	6.1	1.2	1.3	6.7	8.1	9.4	15.1	8.4	4.6	12.0	15.2	11.0	23.6
20	13.8	S	5.8	4.8	4.3	40.3	11.7	7.4	11.5	9.4	6.8	15.0	13.8	12.0	11.7	7.3	13.2	12.2	11.4	16.9	19.8	16.4	5.7	2.4	11.9	40.3
21	3.8	S	14.7	19.9	17.1	25.9	9.2	30.7	38.3	23.5	19.6	14.2	12.8	12.0	10.0	7.2	16.1	9.7	7.4	8.4	14.7	12.1	8.2	12.4	15.1	38.3
22	6.0	S	4.4	2.0	1.6	2.3	6.9	13.1	18.8	16.1	6.4	2.6	2.9	3.7	5.1	2.7	1.4	7.8	9.7	4.7	4.5	8.6	15.4	21.5	7.3	21.5
23	15.9	S	2.9	1.5	3.0	1.3	1.2	3.7	3.7	4.1	5.2	4.0	2.4	1.1	1.1	2.0	6.7	5.7	1.0	4.8	1.8	7.4	12.8	27.4	5.2	27.4
24	26.1	S	20.0	15.4	37.3	28.3	33.3	17.4	22.5	22.2	20.3	14.4	7.6	35.3	7.8	0.7	11.9	3.4	1.9	3.3	5.1	3.4	5.0	3.6	15.0	37.3
25	6.4	S	3.2	2.1	10.6	7.8	9.1	11.3	19.2	33.7	17.9	4.4	1.6	4.6	2.4	11.0	3.5	3.2	16.9	3.3	7.7	15.2	17.1	19.4	10.1	33.7
26	16.2	S	11.2	8.6	12.1	22.1	21.4	12.3	25.9	20.8	21.2	18.6	23.2	18.7	5.3	2.1	0.8	0.6	2.9	2.5	10.8	11.8	13.3	18.4	13.1	25.9
27	6.1	S	4.4	14.2	12.2	10.4	5.1	22.1	22.2	21.3	7.7	4.3	1.8	0.9	1.5	2.7	7.7	5.1	3.3	2.5	7.7	6.0	5.2	10.0	8.0	22.2
28	9.5	S	9.0	6.9	12.0	3.8	4.8	4.8	12.9	23.9	7.6	9.0	2.3	2.9	4.5	4.4	6.0	4.2	14.5	2.9	11.1	6.1	12.4	7.2	7.9	23.9
29	4.7	S	16.0	4.6	9.0	7.0	2.0	4.0	4.1	2.8	7.4	15.7	5.0	2.7	1.6	1.8	1.3	0.8	0.7	0.8	0.8	1.7	8.6	2.8	4.6	16.0
30	2.0	S	10.3	6.1	4.8	9.1	2.2	5.2	8.4	8.5	6.5	3.1	6.2	8.0	1.9	10.2	4.4	5.4	3.7	3.7	6.6	10.4	8.1	21.1	6.8	21.1
31	9.0	S	6.0	7.5	8.5	2.0	4.5	7.9	16.6	15.3	10.5	11.9	3.8	3.2	11.5	11.1	1.8	7.3	4.4	7.1	6.3	13.9	11.5	24.8	9.0	24.8
NO.	31	-	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	707	100%
MEAN	14.2	-	15.3	13.8	15.7	17.3	15.8	16.2	18.2	19.2	17.5	17.2	15.7	14.5	13.8	11.8	14.2	13.9	13.9	11.9	11.5	13.2	13.3	15.6		
MAX	49.9	-	66.7	86.2	90.2	79.0	74.1	70.6	65.5	65.1	70.2	95.1	58.6	70.5	65.7	54.7	65.9	44.7	43.8	41.2	33.7	55.6	50.2	60.9		



Number of Non-Zero Readings	707
Maximum 1-HR Average	95.1 PPB
Maximum 24-HR Average	51.0 PPB
Monthly Calibration	6
Standard Deviation	14.59
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	14.9 PPB

# Lagoon NO (ppb) – January 2020

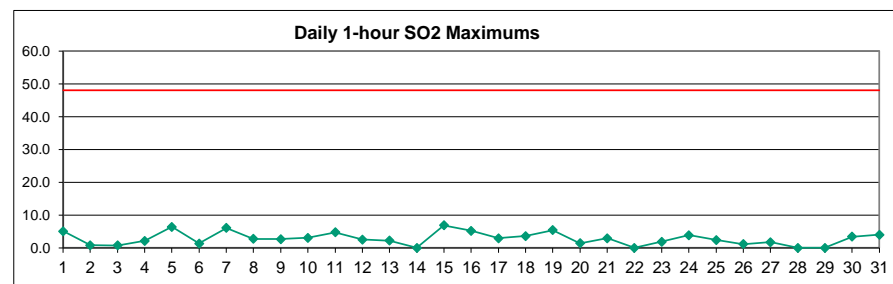
Day	HOURLY																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	5.1	S	10.9	7.6	7.5	3.9	4.4	8.0	2.6	2.0	1.1	12.5	5.5	11.8	13.5	12.4	11.0	5.4	2.1	1.2	0.3	0.1	1.5	0.8	5.7	13.5
2	1.5	S	0.1	0.0	1.9	0.2	0.5	0.8	4.0	2.2	0.9	3.0	1.4	1.5	1.0	0.8	0.6	0.3	0.2	1.1	0.1	0.0	0.2	4.5	1.2	4.5
3	0.5	S	0.6	3.1	0.2	2.6	2.1	2.5	3.3	7.1	5.3	1.8	1.5	1.6	1.5	0.9	0.8	0.4	0.6	0.3	0.5	0.6	2.6	1.4	1.8	7.1
4	2.4	S	1.5	3.5	3.9	4.7	3.1	4.4	6.4	4.2	4.8	4.9	2.4	1.5	5.0	7.7	0.3	0.5	0.5	0.0	0.1	0.6	0.0	0.0	2.7	7.7
5	0.2	S	1.2	0.0	0.6	0.1	1.3	0.1	0.3	0.2	0.0	0.1	0.6	0.5	0.1	0.5	0.3	6.1	25.7	1.7	0.9	0.4	0.3	3.8	2.0	25.7
6	0.5	S	3.4	5.7	2.5	1.4	3.0	1.3	2.4	2.6	1.2	6.3	1.2	0.8	2.2	3.8	0.3	3.5	0.9	0.6	2.2	7.9	6.4	2.9	2.7	7.9
7	15.8	S	18.9	1.7	2.5	7.1	34.8	26.1	19.4	30.3	20.7	6.2	23.3	2.6	7.4	2.8	7.4	12.2	13.2	12.4	4.7	11.4	14.6	7.8	13.2	34.8
8	0.9	S	1.7	0.7	8.6	1.6	4.0	13.7	8.6	6.7	10.5	1.8	4.6	2.1	11.0	11.9	8.8	9.2	8.1	18.6	12.4	2.5	0.7	0.6	6.5	18.6
9	0.6	S	4.8	1.2	2.9	27.0	10.1	7.9	7.7	20.8	43.4	22.1	30.0	31.6	14.0	3.3	7.7	4.9	5.1	7.3	1.8	8.1	7.6	15.5	12.4	43.4
10	14.7	S	2.7	0.8	6.0	0.9	3.0	4.8	13.1	18.1	18.4	6.2	12.4	2.9	1.6	0.9	1.2	0.8	5.3	0.5	3.4	7.9	9.3	3.1	6.0	18.4
11	8.9	S	9.1	4.6	2.9	1.7	5.9	5.7	7.5	5.1	8.6	73.4	41.4	17.3	30.6	22.0	29.5	19.3	4.3	8.9	0.7	0.5	1.0	5.7	13.7	73.4
12	1.1	S	4.1	2.8	2.0	1.0	1.6	0.5	0.6	2.6	1.6	2.3	7.0	6.8	3.9	2.5	7.5	3.9	1.1	1.1	0.8	2.2	1.1	0.6	2.5	7.5
13	0.3	S	0.1	1.2	2.6	1.2	0.5	0.4	0.5	0.4	1.0	3.8	1.8	0.9	1.4	1.5	1.5	1.6	3.8	5.2	4.0	5.1	0.8	9.2	2.1	9.2
14	22.0	S	14.5	16.8	15.7	27.3	5.1	3.3	2.3	C	C	C	C	C	C	3.4	1.5	0.8	0.9	1.4	3.4	5.6	5.4	2.0	-	-
15	2.6	S	8.4	7.2	4.4	4.9	6.2	6.1	2.1	10.5	12.3	14.1	14.1	8.6	9.9	4.5	7.4	2.5	2.1	2.0	4.5	3.3	8.9	5.4	6.6	14.1
16	3.6	S	4.4	1.6	3.1	5.2	5.2	7.5	2.3	3.5	12.7	18.0	17.6	17.1	19.3	7.5	8.6	11.1	5.2	4.9	2.0	1.0	1.3	0.9	7.1	19.3
17	1.0	S	7.4	1.9	8.6	1.6	6.5	3.1	7.4	12.3	18.3	10.5	23.2	19.8	17.4	31.2	39.5	22.8	21.4	10.0	13.3	28.0	23.4	33.8	15.8	39.5
18	22.7	S	39.6	58.2	60.5	49.8	44.1	40.2	35.4	37.9	37.6	33.5	30.7	47.5	42.5	15.3	16.5	12.9	6.5	3.3	1.3	6.0	6.7	9.0	28.6	60.5
19	11.1	S	8.0	10.8	5.3	5.4	10.3	2.4	8.6	3.7	1.9	3.7	2.6	2.6	0.4	0.5	3.2	3.0	2.2	5.6	1.5	0.6	3.8	6.2	4.5	11.1
20	5.8	S	1.3	0.8	0.9	22.2	5.0	1.2	3.4	2.4	1.5	6.4	6.1	5.7	4.3	1.5	4.8	3.0	2.3	3.4	4.4	4.7	1.7	0.5	4.1	22.2
21	0.8	S	5.1	9.0	7.6	11.1	2.6	16.0	18.4	8.0	6.6	4.7	5.6	4.4	3.0	1.3	6.4	1.1	0.5	2.0	4.3	1.0	1.6	4.3	5.5	18.4
22	1.4	S	1.2	0.5	0.4	0.4	3.1	3.9	7.4	5.8	2.0	0.8	0.9	1.6	2.2	1.0	0.5	2.2	2.7	0.4	0.4	3.3	6.3	10.7	2.6	10.7
23	6.7	S	0.5	0.2	0.8	0.2	0.3	1.2	1.2	1.3	1.8	1.3	0.7	0.3	0.4	0.5	2.0	1.8	0.1	2.3	0.4	3.0	4.9	11.7	1.9	11.7
24	11.6	S	9.1	4.8	18.3	11.8	15.5	4.1	8.9	10.1	10.6	6.5	3.3	20.7	3.8	0.4	6.0	0.7	0.4	1.1	0.9	1.2	0.9	0.9	6.6	20.7
25	1.8	S	0.6	0.3	3.0	1.4	3.9	3.7	7.3	15.5	7.0	1.5	0.6	2.0	0.8	5.0	0.8	0.5	5.5	0.4	2.0	4.9	6.3	8.4	3.6	15.5
26	7.2	S	4.6	2.8	3.9	9.7	7.4	2.1	8.0	5.2	8.0	7.6	11.5	9.0	1.4	0.4	0.3	0.2	0.3	0.2	5.8	2.8	6.8	6.4	4.9	11.5
27	1.5	S	0.7	5.2	4.4	4.6	0.8	11.4	7.1	8.0	1.9	1.3	0.7	0.4	0.8	1.0	3.2	1.0	0.7	0.3	1.9	1.7	0.8	3.3	2.7	11.4
28	2.7	S	2.1	2.1	5.7	0.5	1.4	0.4	3.6	10.3	1.6	3.2	0.8	1.2	1.7	1.2	1.5	0.9	5.7	0.2	3.3	1.4	4.6	0.4	2.5	10.3
29	0.1	S	7.4	0.8	3.4	2.5	0.4	0.9	1.3	0.8	2.4	6.7	1.5	0.9	0.6	0.7	0.6	0.4	0.3	0.3	0.4	2.2	0.6	0.6	1.5	7.4
30	0.5	S	3.4	2.1	1.1	2.6	0.3	1.3	2.7	2.5	1.4	0.8	1.7	2.9	0.6	4.3	1.4	1.7	1.1	1.7	3.1	4.3	3.1	10.0	2.4	10.0
31	3.9	S	2.1	2.7	2.9	0.6	1.5	1.7	5.4	6.3	3.6	5.2	1.6	1.0	4.5	4.5	0.5	2.1	1.1	2.5	2.6	7.1	4.8	11.7	3.5	11.7
NO.	31	-	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	707	100%
MEAN	5.1	-	5.8	5.2	6.3	6.9	6.2	6.0	6.8	8.2	8.3	9.0	8.5	7.6	6.9	5.0	5.9	4.4	4.2	3.2	2.8	4.1	4.5	5.9		
MAX	22.7	-	39.6	58.2	60.5	49.8	44.1	40.2	35.4	37.9	43.4	73.4	41.4	47.5	42.5	31.2	39.5	22.8	25.7	18.6	13.3	28.0	23.4	33.8		



Number of Non-Zero Readings	704		
Maximum 1-HR Average	73.4 PPB		
Maximum 24-HR Average	28.6 PPB		
Monthly Calibration	6	Operational Time	744 HRS
Standard Deviation	8.584	Operational Uptime	100.0 %
		Monthly Average	5.9 PPB

# Lagoon SO<sub>2</sub> (ppb) – January 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	1.7	S	2.1	2.3	1.6	1.6	1.9	1.9	0.9	1.4	0.9	2.9	1.7	3.9	5.1	3.6	4.0	1.6	1.8	1.2	0.2	0.6	0.5	0.3	1.9	5.1
2	0.3	S	0.5	0.5	0.5	0.3	0.8	0.6	0.4	0.2	0.3	0.6	0.5	0.4	0.5	0.1	0.1	0.6	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.8
3	0.0	S	0.0	0.0	0.2	0.5	0.1	0.5	0.7	0.3	0.0	0.0	0.0	0.0	0.5	0.1	0.3	0.4	0.2	0.1	0.1	0.1	0.7	0.7	0.2	0.7
4	0.8	S	0.7	1.4	1.8	1.7	1.4	1.0	1.6	1.3	1.0	0.9	0.4	0.6	1.0	2.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	2.2
5	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	0.3	0.1	0.1	6.4	1.0	0.2	0.4	0.0	0.2	0.4	6.4
6	0.3	S	1.0	0.7	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.6	0.0	0.1	0.0	0.0	0.4	0.9	1.3	1.2	1.1	0.4	1.3
7	0.4	S	3.2	0.9	0.8	0.3	1.1	1.2	1.1	1.7	2.6	4.4	6.1	4.9	3.2	2.8	2.3	3.1	4.0	3.3	1.9	2.4	2.9	1.9	2.5	6.1
8	1.2	S	0.6	0.7	1.3	1.9	1.7	2.7	0.6	1.6	1.5	0.8	1.1	1.4	1.4	1.4	0.5	1.2	1.2	1.1	1.0	0.4	0.3	0.9	1.2	2.7
9	1.1	S	0.8	0.0	0.8	0.7	0.7	0.5	0.6	0.3	0.5	1.4	1.3	2.7	0.4	0.3	1.3	1.8	0.8	0.6	0.4	0.3	0.5	2.0	0.9	2.7
10	1.7	S	0.6	0.0	0.6	0.8	0.5	1.0	3.0	2.9	1.7	1.3	1.1	1.5	0.7	1.0	0.8	0.4	0.6	0.6	0.4	1.1	1.6	2.1	1.1	3.0
11	4.0	S	4.5	3.6	1.6	1.6	1.3	1.9	1.5	1.7	2.7	4.4	4.8	4.0	4.1	3.7	2.4	4.1	3.3	2.1	2.8	3.6	2.0	1.2	2.9	4.8
12	1.0	S	0.2	0.3	0.7	0.8	1.2	2.1	1.5	1.3	1.1	1.0	1.4	1.4	0.9	1.1	1.3	2.5	2.1	1.2	1.3	2.1	2.2	1.9	1.3	2.5
13	1.5	S	2.2	1.3	1.8	1.2	1.4	1.0	0.7	1.1	0.7	0.4	0.7	1.6	1.5	1.1	1.3	0.7	0.9	0.9	1.4	1.3	0.7	0.9	1.1	2.2
14	0.7	S	0.8	0.8	1.0	2.1	3.1	4.6	4.2	C	C	C	C	C	C	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	-	-
15	0.0	S	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.3	0.9	0.6	0.0	1.3	2.9	6.9	5.3	1.2	0.3	3.3	3.1	1.2	6.9
16	1.8	S	0.3	0.2	0.4	0.0	0.4	0.1	0.1	0.4	0.2	0.9	1.0	1.5	1.0	1.2	0.2	0.4	5.2	4.9	3.8	2.0	0.9	1.0	1.2	5.2
17	0.6	S	0.8	0.2	0.0	0.2	0.4	0.5	1.3	0.5	0.1	0.5	2.9	0.6	0.6	0.8	0.4	0.8	1.9	1.8	1.9	1.4	0.0	0.1	0.8	2.9
18	0.0	S	0.0	0.2	0.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.4	0.3	0.3	1.4	0.8	0.0	0.2	0.0	0.6	1.5	3.6	0.4	3.6
19	2.0	S	2.5	5.4	2.7	2.2	4.0	1.0	2.2	1.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.9	0.2	0.3	0.0	1.3	2.3	1.3	5.4
20	1.4	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	1.4	1.3	0.0	0.0	0.2	1.4
21	0.0	S	1.1	1.0	1.4	2.3	0.2	1.8	2.9	0.3	0.4	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.2	0.0	0.6	2.9
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	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	1.8	0.1	1.8
24	2.5	S	2.3	1.4	3.4	3.9	3.2	0.3	0.7	2.0	2.8	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	1.0	3.9
25	0.0	S	0.0	0.0	0.0	0.3	0.1	0.2	0.3	2.4	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	2.2	0.4	2.4
26	0.6	S	0.3	0.0	0.1	0.7	0.2	0.0	0.0	0.1	0.7	0.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.2	1.1
27	0.0	S	0.0	1.6	0.3	0.0	0.0	0.0	1.8	1.1	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	0.2	1.8
28	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
29	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	S	1.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	3.4	0.4	3.4
31	0.9	S	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.6	0.3	4.0
NO.	31	-	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	707	100%
MEAN	0.8	-	0.8	0.7	0.7	0.8	0.8	0.7	0.8	0.7	0.6	0.7	0.8	0.9	0.8	0.8	0.6	0.7	1.2	0.8	0.7	0.7	0.7	1.1		
MAX	4.0	-	4.5	5.4	3.4	3.9	4.0	4.6	4.2	2.9	2.8	4.4	6.1	4.9	5.1	3.7	4.0	4.1	6.9	5.3	3.8	3.6	3.3	4.0		

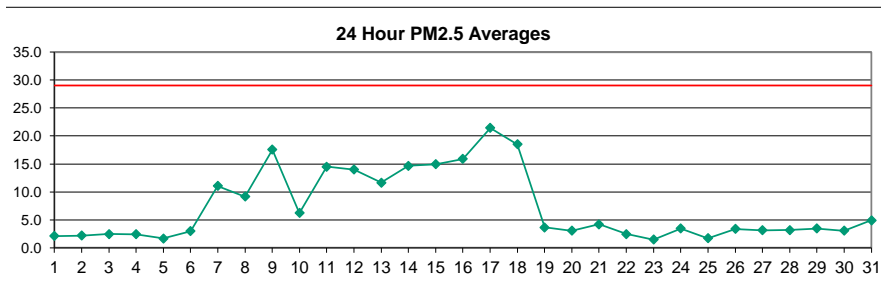


Number of 1HR Exceedences	0
Number of Non-Zero Readings	437
Maximum 1-HR Average	6.9 PPB
Maximum 24-HR Average	2.9 PPB
Monthly Calibration	6
Standard Deviation	1.129
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	0.8 PPB



# Lagoon PM<sub>2.5</sub> (µg/m<sup>3</sup>) – January 2020

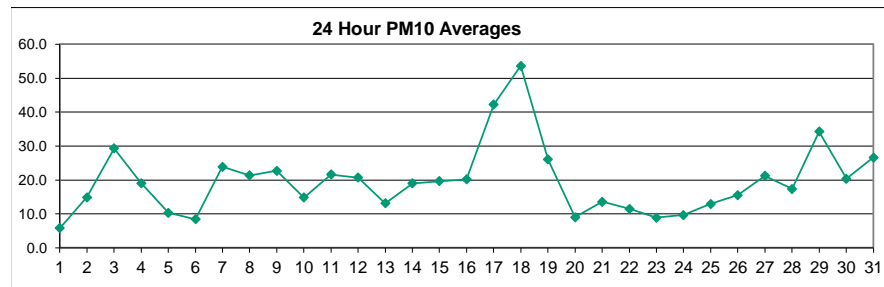
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	1.2	1.4	1.9	1.2	0.1	0.8	1.2	1.2	2.2	2.2	1.9	2.2	2.1	3.0	2.2	3.7	3.0	3.3	3.7	3.0	3.3	3.0	2.2	1.2	2.1	3.7
2	0.8	1.2	3.0	3.3	3.3	2.2	0.0	0.0	0.1	0.8	1.5	3.7	4.0	4.0	5.1	3.0	0.8	4.0	3.7	2.6	0.4	1.9	3.3	0.0	2.2	5.1
3	0.0	1.2	1.5	3.7	4.4	4.0	3.4	3.7	2.6	2.6	3.0	3.3	3.4	2.6	1.5	0.4	0.4	1.5	2.2	4.8	0.4	0.8	1.5	6.2	2.5	6.2
4	6.9	4.8	4.0	2.3	1.9	1.5	1.9	0.8	2.6	2.6	0.4	5.1	3.7	0.8	3.3	3.7	3.3	3.3	1.9	0.0	0.0	0.0	2.2	0.7	2.4	6.9
5	0.1	0.4	0.0	1.2	3.3	0.1	0.0	0.0	0.0	3.3	3.0	0.0	0.1	2.6	2.6	3.7	3.3	2.2	3.3	3.4	2.2	1.4	2.6	1.5	1.7	3.7
6	0.7	2.6	3.0	2.2	3.4	3.0	2.6	3.0	1.9	0.8	1.2	3.0	1.9	2.2	3.4	2.2	1.9	3.7	5.8	4.5	1.9	5.1	6.1	5.8	3.0	6.1
7	4.4	4.0	14.8	15.2	11.6	9.1	9.1	10.5	15.2	11.2	12.3	9.8	8.7	9.1	11.6	10.9	11.9	17.3	19.5	16.2	11.2	6.5	8.7	7.3	11.1	19.5
8	5.5	3.7	3.7	6.6	4.8	2.0	2.6	4.0	4.8	4.4	2.2	11.2	12.7	13.4	10.5	13.4	15.9	11.6	10.9	14.1	13.0	18.8	13.0	17.0	9.1	18.8
9	14.1	13.0	13.0	14.1	15.5	13.4	17.0	12.7	18.0	16.2	17.0	15.5	23.2	24.5	33.1	9.8	14.5	16.2	18.8	18.0	20.6	26.3	14.5	22.4	17.5	33.1
10	18.0	18.4	14.1	10.9	7.7	6.2	6.2	5.1	3.0	5.5	7.3	5.8	3.4	5.5	5.8	4.8	4.0	4.0	1.2	1.2	4.0	3.7	2.2	1.9	6.2	18.4
11	0.8	3.0	5.1	6.5	4.4	2.0	2.6	1.9	1.5	2.6	1.9	3.7	29.9	24.9	21.3	23.8	29.5	39.2	34.2	23.4	23.1	25.6	17.7	19.5	14.5	39.2
12	18.8	23.1	20.2	26.7	18.8	12.3	12.7	15.9	16.6	13.4	12.7	15.5	12.3	13.7	11.2	14.5	12.3	15.9	11.6	8.4	6.9	7.3	6.9	8.3	14.0	26.7
13	8.7	9.4	8.7	9.1	9.8	9.1	10.5	9.7	9.1	11.6	16.3	12.7	10.5	9.8	10.6	10.9	8.7	11.2	17.3	16.6	18.1	15.9	11.6	14.1	11.7	18.1
14	13.7	20.6	17.7	18.1	15.9	14.7	18.1	15.5	12.1	10.6	12.7	12.3	9.8	13.4	12.7	11.2	13.4	18.8	18.4	14.5	14.1	13.7	17.3	13.4	14.7	20.6
15	10.9	14.5	16.6	16.6	17.7	17.7	17.3	10.5	15.5	12.7	12.8	13.7	14.1	11.9	12.3	17.3	11.2	18.8	18.8	14.1	17.3	14.1	15.2	17.3	15.0	18.8
16	18.4	12.7	15.9	17.3	13.7	12.7	14.1	12.3	13.0	14.1	18.1	18.1	22.4	16.3	15.2	20.6	10.9	18.8	19.8	18.1	15.9	14.1	14.1	14.8	15.9	22.4
17	13.0	11.9	15.5	17.7	14.5	13.0	15.9	17.0	15.5	17.3	27.4	26.7	14.1	22.0	15.9	18.8	17.0	47.9	35.7	29.2	31.4	19.1	28.2	30.3	21.4	47.9
18	23.1	28.5	28.8	26.7	28.1	30.6	26.0	26.7	21.6	19.5	23.8	20.9	15.9	11.6	19.1	19.8	12.9	13.4	13.0	11.2	10.9	5.1	1.5	5.5	18.5	30.6
19	6.9	6.2	5.8	5.1	6.9	5.8	3.9	6.1	3.3	2.2	4.4	2.2	2.2	3.7	1.2	0.1	2.6	1.9	1.9	2.6	3.3	1.9	3.3	4.0	3.6	6.9
20	1.9	0.8	2.7	1.5	2.6	1.5	0.0	3.3	4.0	3.7	3.3	1.9	0.8	C	C	C	7.3	4.5	3.9	1.5	0.4	4.8	6.9	6.9	3.1	7.3
21	7.6	2.2	0.1	4.0	4.4	3.4	4.4	3.3	4.0	6.5	5.8	3.3	1.9	3.7	3.7	4.0	4.4	4.8	4.0	6.5	6.2	5.1	4.0	3.3	4.2	7.6
22	4.4	3.7	1.2	0.8	2.2	0.1	0.0	1.5	0.7	1.2	4.4	2.7	1.5	1.9	3.0	2.6	0.8	0.8	5.1	5.5	4.0	4.0	3.3	3.7	2.5	5.5
23	4.0	2.6	0.8	1.5	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.8	3.3	2.2	0.0	0.1	0.1	1.5	0.4	1.2	3.3	3.3	3.0	4.0	1.5	4.0
24	1.2	3.7	5.5	4.5	3.0	5.1	5.1	4.4	5.1	6.2	4.0	2.2	3.3	4.0	4.8	2.6	1.5	4.4	3.0	0.4	0.4	2.1	3.3	2.6	3.4	6.2
25	1.9	1.2	0.4	0.1	0.0	2.6	3.3	3.0	0.1	0.4	2.2	1.4	0.8	1.2	0.0	0.0	0.1	0.0	1.4	3.4	4.7	5.2	4.4	3.0	1.7	5.2
26	1.5	3.7	2.6	2.6	5.1	3.3	4.4	4.4	2.6	3.4	4.4	5.5	3.0	3.7	5.1	1.9	0.0	1.5	0.0	3.3	6.2	4.0	4.4	3.9	3.4	6.2
27	3.0	2.3	4.8	5.8	4.0	2.2	4.4	6.7	4.8	4.8	4.4	5.1	3.0	0.0	0.0	0.0	0.4	1.9	2.6	2.2	4.4	3.7	1.2	3.7	3.1	6.7
28	4.0	3.0	2.6	5.5	4.4	4.0	3.3	4.8	4.8	1.9	0.0	2.6	3.3	2.1	4.0	4.8	3.7	1.9	2.6	1.9	2.6	3.3	2.2	3.3	3.2	5.5
29	6.5	4.4	4.0	5.8	5.5	3.7	5.4	5.8	3.7	2.6	2.6	1.4	4.0	4.4	5.1	4.0	2.2	0.4	0.0	0.0	0.8	2.6	2.2	5.5	3.5	6.5
30	5.1	3.0	1.9	3.0	3.5	3.3	5.8	4.8	3.3	3.3	4.4	4.4	2.6	2.6	0.4	0.0	5.1	3.3	1.5	1.2	4.4	2.6	1.2	2.6	3.0	5.8
31	4.4	7.3	6.9	4.4	3.0	4.8	4.0	2.0	8.0	9.4	8.7	6.9	4.4	4.0	2.8	2.0	3.7	4.8	3.3	2.8	5.1	6.5	4.8	4.1	4.9	9.4
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	741	100%
MEAN	6.8	7.0	7.3	7.9	7.3	6.3	6.6	6.5	6.4	6.4	7.2	7.2	7.3	7.5	7.6	7.1	6.7	9.1	8.7	7.6	7.8	7.5	6.9	7.7		
MAX	23.1	28.5	28.8	26.7	28.1	30.6	26.0	26.7	21.6	19.5	27.4	26.7	29.9	24.9	33.1	23.8	29.5	47.9	35.7	29.2	31.4	26.3	28.2	30.3		



Number of 24HR Exceedences	0
Number of Non-Zero Readings	708
Maximum 1-HR Average	47.9 UG/M3
Maximum 24-HR Average	21.4 UG/M3
Monthly Calibration	3
Standard Deviation	7.243
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	7.3 UG/M3

# Lagoon PM<sub>10</sub> (µg/m<sup>3</sup>) – January 2020

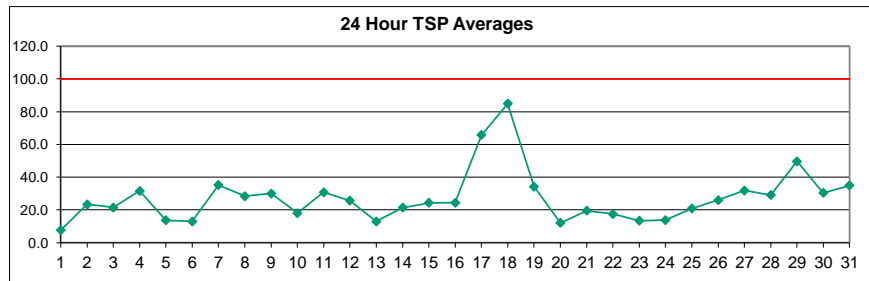
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	5.3	7.4	4.0	4.0	6.7	18.9	2.6	2.6	2.2	1.3	0.0	2.3	6.7	5.3	3.5	6.0	5.3	5.3	1.3	1.3	9.4	8.0	15.0	15.5	5.8	18.9
2	10.1	6.4	5.3	6.7	4.6	2.7	6.7	6.0	13.5	12.1	60.9	35.8	41.9	22.9	16.1	21.5	17.5	24.3	18.3	7.4	5.9	3.3	4.2	2.6	14.9	60.9
3	9.2	6.7	4.7	5.3	8.0	20.4	12.8	11.4	11.6	33.8	46.0	37.9	19.6	13.5	17.5	53.4	25.8	57.5	48.0	67.0	89.4	35.8	X	37.9	29.3	89.4
4	32.6	20.9	16.9	12.8	17.5	20.2	20.2	12.8	20.2	31.1	21.7	16.2	8.0	4.6	37.9	29.7	46.7	40.6	8.7	8.1	11.3	6.7	2.6	8.7	19.0	46.7
5	7.5	3.3	7.4	11.4	8.7	7.4	9.4	5.3	0.6	5.3	4.0	7.4	6.0	9.4	8.0	6.7	7.4	4.7	17.5	80.5	6.0	6.2	10.1	6.7	10.3	80.5
6	3.3	8.7	7.4	22.3	12.6	8.7	5.0	9.2	7.4	4.7	15.1	2.6	7.4	6.0	9.4	6.7	6.0	3.3	9.4	8.7	7.4	18.3	6.0	6.7	8.4	22.3
7	5.3	20.9	33.8	25.8	18.2	24.3	33.9	33.9	33.8	31.1	37.2	37.2	11.2	32.4	25.0	20.1	18.9	26.3	38.5	27.7	16.8	6.0	9.2	6.3	23.9	38.5
8	17.5	15.5	14.1	7.4	8.0	16.9	11.4	12.8	31.1	14.1	8.7	32.4	13.5	23.6	57.2	26.3	27.0	28.4	25.0	21.6	28.9	31.2	19.6	19.6	21.3	57.2
9	16.6	16.9	14.1	17.5	13.5	15.1	18.2	12.8	18.2	15.8	18.2	25.3	31.8	41.9	43.3	22.3	15.5	25.7	16.9	32.4	43.3	31.7	20.2	18.2	22.7	43.3
10	21.6	19.6	20.8	12.8	10.8	6.7	2.6	4.7	4.7	22.9	26.3	20.2	24.3	33.8	30.4	16.9	22.3	14.8	4.0	8.0	4.7	8.0	5.3	8.7	14.8	33.8
11	10.1	11.4	12.8	9.4	4.9	3.3	3.3	4.6	2.3	0.0	6.0	5.3	56.2	31.8	23.6	47.3	42.9	61.2	48.7	26.9	30.4	20.9	27.3	27.7	21.6	61.2
12	32.7	51.4	25.0	30.1	23.1	11.8	11.4	13.6	10.9	13.5	14.7	32.3	21.6	18.9	18.2	20.5	22.3	44.5	22.6	13.4	16.1	6.3	10.8	10.8	20.7	51.4
13	9.4	8.3	9.4	10.8	23.0	17.5	11.4	7.2	6.7	7.7	20.9	11.4	23.8	10.7	8.7	7.7	6.8	11.4	25.7	18.2	19.6	16.9	11.4	10.1	13.1	25.7
14	18.2	32.4	26.3	20.0	16.2	20.9	23.0	19.6	15.5	18.2	12.1	9.4	8.8	19.5	18.2	9.4	16.1	26.3	41.3	13.3	10.8	15.5	20.9	23.6	19.0	41.3
15	17.3	24.2	35.8	21.6	16.6	14.1	30.4	22.8	17.6	15.4	31.1	21.6	22.3	14.1	15.4	17.5	11.2	13.5	16.8	18.4	14.1	19.6	19.8	20.7	19.7	35.8
16	14.8	16.3	16.9	19.2	14.5	12.1	15.6	15.5	20.0	18.0	9.4	23.6	30.9	20.9	23.5	24.2	20.0	41.1	45.8	30.6	10.8	13.5	15.5	11.4	20.2	45.8
17	13.5	15.5	17.5	15.5	7.7	17.1	24.6	23.6	17.1	26.3	131.4	85.3	16.2	27.0	30.4	26.3	22.3	104.9	74.5	42.5	31.0	48.0	98.9	96.3	42.2	131.4
18	113.1	79.0	54.6	73.1	54.9	75.1	55.5	36.9	31.0	22.9	23.7	23.0	20.2	55.5	35.8	29.7	19.6	63.1	39.9	33.1	54.1	104.2	101.5	87.3	53.6	113.1
19	33.8	55.5	59.6	35.6	26.3	51.4	35.1	6.7	5.0	23.6	49.4	49.4	39.9	13.5	15.5	6.0	6.0	4.0	6.0	32.4	16.2	11.4	21.6	20.9	26.0	59.6
20	15.5	6.7	26.4	1.3	2.6	5.3	7.4	4.6	4.6	2.6	0.0	0.6	1.3	C	C	C	27.7	12.8	6.7	6.0	6.0	10.8	13.5	27.0	9.0	27.7
21	36.5	1.0	30.4	8.7	8.0	7.4	6.2	2.6	13.5	12.1	10.8	13.5	X	7.4	12.8	12.8	21.6	31.1	14.8	23.6	10.1	6.0	12.1	8.8	13.5	36.5
22	25.7	0.0	1.9	2.6	0.6	0.0	2.6	5.3	8.0	9.4	12.8	7.3	3.3	6.7	5.3	2.6	0.6	3.3	26.3	32.5	33.8	12.8	40.9	31.8	11.5	40.9
23	52.1	20.1	2.6	4.0	2.6	1.9	4.0	5.3	3.3	3.3	2.6	5.9	10.8	5.3	0.0	2.6	3.3	4.0	2.6	2.6	1.3	1.9	25.7	45.3	8.9	52.1
24	62.9	14.8	7.4	5.3	3.4	4.0	12.8	8.9	10.1	14.1	10.8	4.6	24.3	0.6	16.8	0.0	3.3	4.6	4.0	0.0	0.0	4.6	8.7	6.0	9.7	62.9
25	4.0	4.0	5.3	6.0	5.3	18.2	8.0	7.4	8.0	6.7	6.0	20.2	X	8.9	8.0	4.6	6.7	10.8	9.4	13.5	23.6	69.4	20.9	21.7	12.9	69.4
26	23.0	7.4	7.4	5.7	3.3	4.7	5.3	11.4	8.7	31.1	25.7	25.7	14.9	26.3	25.0	16.9	0.6	3.5	8.9	32.4	23.6	30.4	16.8	13.5	15.5	32.4
27	25.7	10.1	16.2	20.9	16.2	25.0	18.4	57.5	39.9	30.4	33.1	15.5	10.1	2.6	X	X	12.1	10.8	10.8	6.0	14.1	16.9	38.6	35.9	21.2	57.5
28	21.6	12.1	12.8	29.7	29.0	22.3	24.3	21.6	8.0	13.5	11.4	16.2	31.1	4.6	8.7	27.0	23.0	38.5	4.7	6.7	15.5	12.3	12.8	9.4	17.4	38.5
29	14.1	19.6	43.3	45.3	87.3	49.1	98.1	44.0	60.2	34.5	11.4	18.9	96.1	68.3	41.9	58.2	8.0	6.7	3.3	0.6	0.0	0.0	7.4	5.3	34.2	98.1
30	31.8	9.4	12.8	33.8	18.2	16.2	21.6	5.3	6.0	8.0	15.5	26.3	8.0	18.9	9.4	11.1	66.3	22.3	25.7	14.1	33.8	18.9	24.3	31.8	20.4	66.3
31	75.1	46.7	31.8	38.5	25.2	21.6	7.4	5.3	60.2	63.6	39.9	29.7	31.1	8.0	18.9	17.5	19.6	3.7	7.4	4.0	8.0	25.7	27.7	23.1	26.6	75.1
NO.	31	31	31	31	31	31	31	31	31	31	31	31	29	30	29	29	31	31	31	31	31	31	30	31	736	99%
MEAN	25.2	18.4	18.9	18.2	16.0	17.4	17.7	14.2	16.1	17.6	23.1	21.4	22.1	18.8	20.2	19.0	17.8	24.3	20.4	20.4	19.2	20.0	22.3	22.6		
MAX	113.1	79.0	59.6	73.1	87.3	75.1	98.1	57.5	60.2	63.6	131.4	85.3	96.1	68.3	57.2	58.2	66.3	104.9	74.5	80.5	89.4	104.2	101.5	96.3		



Number of Non-Zero Readings	725
Maximum 1-HR Average	131.4 UG/M3
Maximum 24-HR Average	53.6 UG/M3
Monthly Calibration	3
Standard Deviation	18.14
Operational Time	739 HRS
Operational Uptime	99.3 %
Monthly Average	19.6 UG/M3

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

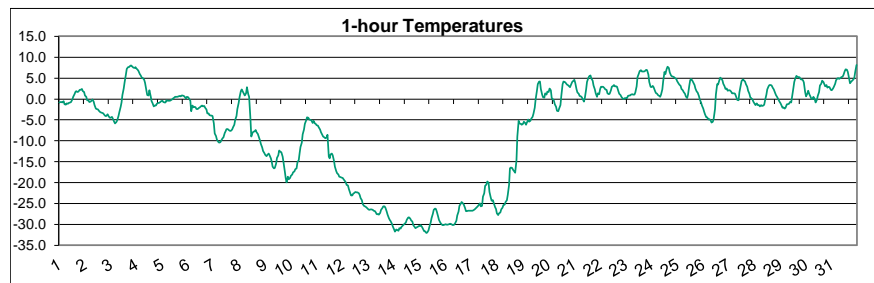
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	9.9	5.7	4.4	5.7	12.6	23.7	7.1	7.1	3.2	0.2	3.0	3.0	3.0	3.0	3.0	5.4	5.7	4.4	7.1	11.3	8.5	8.5	22.3	13.4	7.5	23.7
2	12.6	9.9	8.5	7.1	5.7	3.0	18.2	10.5	26.5	8.5	87.3	63.8	59.7	34.8	29.2	33.4	25.1	47.2	37.7	15.4	0.0	0.0	7.1	8.5	23.3	87.3
3	20.9	23.7	3.0	3.0	20.9	40.3	14.1	26.5	14.0	42.7	58.3	43.1	30.6	5.7	18.2	27.9	19.6	4.4	11.3	0.2	X	5.7	8.5	54.1	21.6	58.3
4	38.9	42.6	30.6	19.6	33.4	30.6	26.5	15.4	32.0	45.8	34.8	19.6	11.3	9.9	63.7	80.4	119.1	74.9	9.9	8.5	7.1	3.0	0.2	1.6	31.6	119.1
5	5.7	16.8	15.4	14.0	14.0	5.7	4.4	4.4	5.5	3.0	8.5	7.1	1.6	5.5	4.4	12.7	7.1	1.6	19.6	123.2	10.8	11.3	14.0	11.0	13.6	123.2
6	5.7	22.3	5.7	43.1	18.2	15.4	8.5	8.5	5.7	4.4	22.3	1.6	11.3	8.5	20.9	5.3	8.5	7.1	23.7	11.3	8.5	19.6	16.8	9.9	13.0	43.1
7	4.4	47.2	55.5	31.8	25.1	54.1	48.0	54.1	51.4	39.8	69.9	59.6	15.4	41.7	34.8	33.4	26.5	43.1	45.8	23.7	16.8	8.5	7.1	7.1	35.2	69.9
8	26.5	30.6	9.9	4.4	7.1	22.3	18.2	19.6	52.7	22.3	5.7	63.8	16.8	34.8	79.0	22.3	33.4	36.1	26.5	34.8	29.2	43.1	22.3	19.6	28.4	79.0
9	14.0	23.7	20.9	22.3	23.7	18.2	18.2	5.7	27.9	20.9	16.8	32.0	40.3	56.9	56.9	39.6	15.7	37.1	25.1	54.1	66.5	44.6	19.6	19.6	30.0	66.5
10	16.8	18.2	26.5	12.7	14.0	12.7	7.1	3.0	9.9	25.1	36.1	29.2	42.4	56.4	38.9	20.9	26.5	12.7	7.1	1.6	0.0	0.0	1.6	15.4	18.1	56.4
11	14.0	22.3	16.1	9.9	3.0	0.0	1.6	5.3	3.0	1.6	7.1	14.0	90.1	51.4	38.9	81.8	69.5	88.7	78.9	31.5	33.4	20.9	27.9	29.2	30.8	90.1
12	52.8	85.9	32.0	32.0	34.8	9.8	14.0	19.6	12.7	12.7	18.2	43.1	27.9	19.6	29.2	23.7	33.4	55.5	22.3	7.1	11.3	7.1	8.5	3.0	25.7	85.9
13	0.2	7.1	4.4	9.9	19.6	15.4	5.7	5.7	4.4	4.4	11.3	12.7	23.7	14.0	11.3	7.1	5.7	8.5	37.5	25.1	27.9	32.0	8.5	11.3	13.1	37.5
14	22.3	41.7	29.3	23.7	19.6	15.4	22.3	9.9	11.3	16.8	15.4	12.7	22.3	26.5	19.6	15.4	16.8	25.1	41.7	14.0	16.8	15.4	27.9	30.6	21.3	41.7
15	19.7	50.0	62.4	29.2	22.3	25.1	30.6	21.9	12.7	8.5	37.5	30.6	27.9	25.1	21.0	18.2	8.5	11.3	12.3	14.0	16.8	23.7	26.5	26.5	24.3	62.4
16	12.7	18.2	18.2	12.7	16.8	11.3	14.0	11.3	25.1	18.2	12.7	25.1	38.9	29.2	37.5	33.6	27.9	56.9	73.5	38.9	16.8	12.7	19.6	6.4	24.5	73.5
17	18.2	19.6	19.6	25.1	18.2	25.1	37.5	37.5	22.2	32.0	243.5	141.2	14.0	38.9	37.5	27.9	36.2	163.4	109.4	48.6	25.1	80.4	179.9	178.6	65.8	243.5
18	257.4	130.2	87.3	106.7	80.4	103.9	62.4	38.9	32.1	32.0	22.3	23.7	26.5	102.5	52.7	38.9	18.2	112.2	55.5	52.7	95.6	221.4	144.0	138.4	84.8	257.4
19	44.4	84.5	85.9	56.9	32.0	81.8	52.7	11.3	1.6	23.7	51.3	61.0	26.5	16.8	1.0	4.4	4.4	11.3	22.3	51.3	20.9	18.2	27.9	32.0	34.3	85.9
20	23.7	5.7	27.9	9.9	5.7	1.6	0.0	0.0	0.2	3.2	4.4	3.0	8.5	C	C	C	40.3	16.8	3.0	4.4	11.3	11.3	30.6	43.1	12.1	43.1
21	62.4	0.0	32.0	8.5	11.3	4.4	15.4	4.4	16.2	22.3	11.3	23.7	12.6	X	X	18.6	37.5	48.6	35.7	25.1	14.0	4.4	12.6	9.9	19.6	62.4
22	36.1	0.0	1.4	5.8	4.4	8.5	7.1	9.9	11.3	7.1	14.0	0.2	1.6	4.4	X	7.1	4.4	3.1	45.9	51.4	52.7	14.0	65.2	48.5	17.6	65.2
23	72.1	27.9	3.0	3.0	3.0	1.6	3.0	1.6	0.2	0.2	4.4	15.4	25.1	5.7	7.1	4.4	1.6	7.1	8.5	8.4	4.4	3.5	44.4	65.2	13.4	72.1
24	76.2	23.7	15.4	4.4	5.7	8.5	12.6	9.9	5.7	15.4	19.6	3.0	38.9	7.1	33.4	4.4	4.4	7.1	5.7	1.6	1.3	5.7	9.9	11.3	13.8	76.2
25	5.8	4.4	5.5	8.3	8.5	36.2	15.4	7.1	12.7	11.3	9.9	32.0	X	X	X	8.5	14.0	8.5	7.1	18.2	38.9	106.8	38.9	38.9	20.8	106.8
26	41.7	14.0	3.0	1.6	8.5	5.7	7.1	14.0	14.0	48.6	40.3	40.3	23.7	40.3	X	29.2	5.7	7.1	8.2	73.4	44.4	55.5	45.8	27.9	26.1	73.4
27	43.1	20.9	20.9	27.9	36.1	37.6	34.8	69.3	74.9	36.2	44.4	19.6	7.1	4.4	X	20.9	20.9	19.6	15.4	8.5	19.6	33.4	63.8	55.5	31.9	74.9
28	29.2	26.5	18.2	55.5	51.4	36.1	36.2	43.1	22.3	23.7	24.2	36.1	61.0	11.3	11.3	27.9	36.1	74.9	11.3	7.1	22.3	10.7	11.3	11.3	29.1	74.9
29	16.8	27.9	69.3	76.6	110.8	83.6	152.2	68.0	70.7	51.1	26.5	25.3	155.0	99.8	38.9	59.6	10.9	18.2	3.0	8.5	4.4	3.0	4.4	8.5	49.7	155.0
30	65.2	16.8	7.1	65.2	19.6	23.9	33.4	4.4	4.4	23.2	18.2	34.8	9.9	33.4	22.3	16.8	98.4	34.8	33.4	18.2	29.2	33.4	45.4	37.5	30.4	98.4
31	106.6	69.3	43.1	58.3	20.9	27.8	8.5	12.6	92.8	88.7	63.8	48.6	33.4	12.6	25.1	27.9	29.2	0.2	1.6	0.0	0.0	23.7	19.6	24.8	35.0	106.6
NO.	31	31	31	31	31	31	31	31	31	31	31	31	30	28	25	30	31	31	31	31	30	31	31	31	732	99%
MEAN	37.9	30.2	25.2	25.6	22.8	25.5	23.8	18.1	21.9	22.4	33.6	31.2	30.2	28.6	29.4	25.2	26.2	33.8	27.3	25.5	21.8	28.4	31.7	32.2		
MAX	257.4	130.2	87.3	106.7	110.8	103.9	152.2	69.3	92.8	88.7	243.5	141.2	155.0	102.5	79.0	81.8	119.1	163.4	109.4	123.2	95.6	221.4	179.9	178.6		



Number of 24HR Exceedences	0
Number of Non-Zero Readings	721
Maximum 1-HR Average	257.4 UG/M3
Maximum 24-HR Average	84.8 UG/M3
Monthly Calibration	3
Standard Deviation	29.9
Operational Time	735 HRS
Operational Uptime	98.8 %
Monthly Average	27.4 UG/M3

# Lagoon Temperature (°C) – January 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	-0.8	-0.7	-0.7	-0.9	-0.5	-1.2	-1.4	-1.0	-1.1	-0.9	-0.8	-0.8	-0.1	0.5	1.1	1.6	1.9	1.6	1.8	2.1	2.2	2.4	1.9	1.7	0.3	2.4
2	0.8	0.5	-0.3	-0.3	-0.7	-0.6	-0.4	-0.1	-0.6	-1.5	-2.2	-2.4	-2.5	-2.8	-3.1	-3.3	-3.4	-3.5	-3.9	-4.1	-4.0	-3.7	-4.1	-4.5	-2.1	0.8
3	-4.5	-4.3	-4.7	-5.4	-5.8	-5.5	-5.2	-4.1	-3.1	-1.8	-0.8	0.9	2.5	3.9	5.8	7.2	7.7	7.7	8.0	8.0	7.8	7.5	7.4	7.6	1.5	8.0
4	7.3	7.0	6.7	6.0	5.7	5.0	5.0	4.6	3.9	2.1	1.0	0.8	2.1	0.7	-0.5	-0.9	-1.7	-1.5	-1.6	-1.2	-1.0	-0.9	-0.8	-0.5	2.0	7.3
5	-0.4	-0.7	-0.9	-0.9	-0.3	-0.5	-0.4	-0.4	-0.3	-0.1	0.1	0.3	0.5	0.6	0.6	0.7	0.7	0.6	0.8	0.8	0.7	0.5	0.1	0.5	0.1	0.8
6	0.4	0.1	-0.4	-2.9	-1.6	-2.0	-1.9	-2.0	-2.4	-2.4	-2.2	-2.0	-1.8	-1.6	-1.7	-1.7	-2.1	-2.5	-3.4	-3.4	-3.9	-3.9	-4.0	-4.1	-2.2	0.4
7	-5.9	-8.3	-8.9	-9.7	-10.3	-10.4	-10.3	-9.9	-9.4	-9.2	-8.1	-7.7	-7.2	-7.2	-7.4	-7.6	-7.6	-7.3	-6.8	-6.1	-5.0	-4.1	-2.4	-0.9	-7.4	-0.9
8	0.4	1.9	2.3	1.9	1.3	0.9	1.4	2.8	1.1	0.5	-4.7	-9.0	-8.0	-7.8	-7.7	-7.4	-7.9	-8.4	-9.0	-9.9	-10.8	-11.6	-12.4	-12.9	-4.7	2.8
9	-13.4	-13.6	-13.4	-13.1	-13.5	-14.2	-15.0	-16.2	-16.6	-16.5	-15.5	-14.1	-13.4	-12.3	-12.6	-12.7	-13.7	-15.2	-17.4	-18.9	-20.0	-18.6	-19.2	-18.9	-15.3	-12.3
10	-18.4	-18.0	-17.6	-17.3	-16.8	-16.6	-15.2	-14.6	-12.9	-11.5	-10.4	-8.5	-7.3	-6.0	-5.2	-4.4	-4.5	-4.9	-5.0	-5.1	-5.7	-5.2	-5.8	-5.9	-10.1	-4.4
11	-6.2	-6.4	-6.8	-7.4	-7.9	-8.5	-8.9	-9.2	-9.4	-9.2	-8.5	-13.8	-14.2	-13.2	-13.0	-13.5	-14.8	-16.2	-17.3	-17.8	-18.0	-18.5	-18.7	-18.8	-12.3	-6.2
12	-18.9	-19.2	-19.6	-19.9	-20.5	-20.7	-21.5	-22.4	-23.1	-23.1	-22.7	-22.4	-22.3	-22.4	-22.3	-22.5	-23.0	-23.7	-24.2	-25.1	-25.5	-25.7	-25.9	-26.1	-22.6	-18.9
13	-26.4	-26.5	-26.4	-26.4	-26.5	-26.7	-26.8	-27.2	-27.5	-27.6	-27.6	-27.2	-26.5	-26.1	-25.7	-25.7	-26.0	-27.0	-27.7	-28.5	-28.9	-29.3	-29.9	-30.5	-27.3	-25.7
14	-31.2	-31.7	-31.2	-31.3	-31.5	-30.9	-31.0	-30.6	-30.2	-30.1	-29.8	-29.5	-28.9	-28.4	-28.2	-28.6	-29.0	-29.3	-30.2	-30.6	-30.9	-30.7	-30.6	-30.4	-30.2	-28.2
15	-30.4	-30.1	-30.6	-31.0	-31.6	-31.6	-32.0	-32.0	-31.4	-30.6	-29.6	-28.5	-27.4	-26.5	-26.2	-26.3	-27.0	-28.1	-28.9	-29.5	-29.9	-30.1	-30.2	-30.0	-29.6	-26.2
16	-29.9	-30.1	-30.0	-29.9	-29.9	-29.9	-30.0	-30.1	-30.0	-29.8	-29.2	-27.8	-26.9	-25.6	-25.1	-24.7	-24.9	-25.2	-26.1	-26.8	-26.8	-26.8	-26.7	-26.7	-27.9	-24.7
17	-26.7	-26.7	-26.6	-26.4	-26.2	-25.9	-25.7	-25.3	-25.0	-25.7	-25.6	-23.4	-22.6	-20.8	-20.4	-19.7	-20.1	-22.2	-23.6	-24.3	-24.2	-25.0	-25.9	-26.3	-24.3	-19.7
18	-27.3	-27.7	-27.4	-27.2	-26.4	-26.0	-25.4	-25.3	-24.7	-24.2	-23.0	-20.5	-16.5	-16.4	-16.5	-16.9	-17.3	-17.6	-14.7	-8.9	-5.2	-5.8	-6.0	-6.1	-18.9	-5.2
19	-6.0	-5.4	-5.8	-6.2	-5.6	-4.9	-5.5	-5.2	-4.7	-4.3	-3.5	-2.1	-0.1	2.0	3.6	4.1	4.2	2.4	1.1	0.4	0.3	1.3	1.1	1.8	-1.5	4.2
20	1.7	2.5	2.1	0.2	-0.1	-0.4	-1.2	-1.9	-2.8	-2.9	-2.3	-1.5	0.8	3.5	4.2	4.1	3.8	3.4	3.4	3.0	2.9	3.4	4.1	4.3	1.4	4.3
21	4.6	3.9	2.3	1.5	1.3	0.8	0.6	0.4	-0.2	-0.6	0.3	2.3	4.1	5.0	5.4	5.6	5.0	4.4	3.2	2.3	1.4	0.6	1.4	1.1	2.4	5.6
22	2.3	2.9	3.0	3.0	2.6	2.3	2.2	1.4	1.1	1.3	2.1	2.9	3.1	3.3	3.1	3.1	2.9	1.9	1.3	0.9	0.5	0.1	0.0	0.2	2.0	3.3
23	0.2	0.2	0.7	0.8	0.8	1.1	1.2	1.0	1.1	1.6	3.1	5.3	6.1	6.7	6.9	6.6	6.6	6.6	6.7	7.0	6.9	5.9	4.0	2.9	3.7	7.0
24	2.9	3.1	2.8	2.0	1.5	1.2	1.0	0.8	0.5	1.0	2.3	4.3	6.5	6.0	7.2	7.8	7.4	6.3	5.6	5.4	5.3	5.2	5.0	4.8	4.0	7.8
25	4.3	3.7	3.4	3.2	2.4	2.0	1.7	1.3	0.6	0.2	1.0	3.2	4.5	4.8	4.4	4.0	3.3	2.5	1.8	1.6	0.7	-0.1	-0.8	-1.6	2.2	4.8
26	-2.3	-3.0	-3.7	-4.4	-4.4	-4.9	-4.8	-5.1	-5.6	-5.4	-4.7	-2.4	1.1	3.5	3.4	4.5	5.1	4.9	4.5	3.6	3.0	2.4	2.5	2.0	-0.4	5.1
27	2.1	2.1	1.8	1.4	1.4	1.4	1.2	0.4	-0.2	-0.3	1.6	3.3	4.3	4.7	4.5	4.2	3.6	2.9	2.0	1.3	0.4	0.2	-0.1	-0.7	1.8	4.7
28	-1.1	-1.5	-1.1	-1.5	-1.5	-1.8	-1.4	-1.6	-1.6	-1.4	-0.4	1.1	2.3	3.1	3.4	3.4	3.3	2.7	2.3	1.4	1.0	0.4	0.0	-0.6	0.4	3.4
29	-1.0	-1.4	-2.1	-2.0	-2.3	-2.1	-1.3	-1.2	-1.1	-0.7	-0.8	0.5	2.6	4.1	4.8	5.5	5.3	5.3	5.2	4.7	4.7	4.5	4.0	1.6	1.5	5.5
30	0.7	1.3	2.0	1.1	0.6	0.1	0.0	0.5	0.0	-0.8	-0.2	0.7	1.7	3.2	3.6	4.4	4.1	3.6	3.1	3.3	2.7	3.0	2.8	2.2	1.8	4.4
31	2.1	2.5	2.9	3.7	4.5	5.0	5.0	4.8	5.0	5.3	5.4	5.8	6.7	7.1	7.0	6.5	5.0	3.8	4.2	4.3	4.7	5.1	6.5	8.2	5.0	8.2
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	-7.1	-7.2	-7.4	-7.7	-7.8	-7.9	-7.9	-8.0	-8.1	-8.0	-7.6	-6.8	-5.7	-5.0	-4.7	-4.6	-4.9	-5.5	-6.0	-6.1	-6.3	-6.4	-6.5	-6.7		
MAX	7.3	7.0	6.7	6.0	5.7	5.0	5.0	4.8	5.0	5.3	5.4	5.8	6.7	7.1	7.2	7.8	7.7	7.7	8.0	8.0	7.8	7.5	7.4	8.2		



Number of Non-Zero Readings 744

Maximum 1-HR Average 8.2 C

Maximum 24-HR Average 5.0 C

Monthly Calibration 0

Standard Deviation 11.84

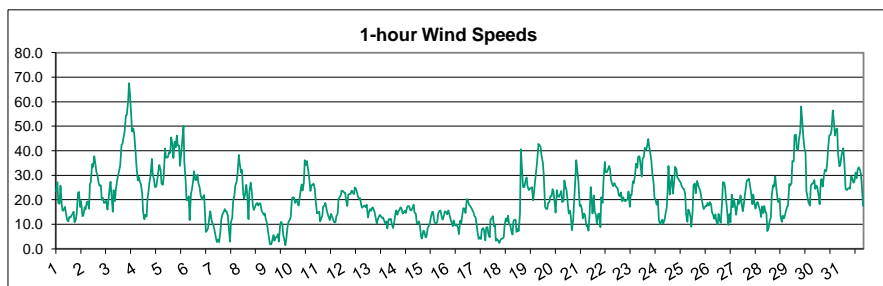
Operational Time 744 HRS

Operational Uptime 100.0 %

Monthly Average -6.7 C

# Lagoon Wind Speed (km/hr) –January 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	23.6	27.2	18.7	18.4	25.7	17.9	15.4	16.0	17.1	14.1	12.0	11.2	13.0	12.8	13.7	14.1	15.1	10.7	11.9	14.5	22.9	23.1	17.2	19.4	16.9	27.2
2	13.2	13.5	16.8	16.1	19.0	19.2	16.4	26.4	27.2	34.4	33.5	37.8	35.3	31.1	30.1	26.6	25.7	25.8	20.0	20.6	18.8	18.9	19.6	16.1	23.4	37.8
3	19.4	24.7	27.4	22.4	15.1	23.9	19.4	24.2	27.8	29.8	32.3	34.2	42.4	42.7	45.8	47.8	54.5	54.6	60.1	67.6	63.5	54.2	47.7	49.1	38.8	67.6
4	46.6	39.4	33.6	27.9	29.4	27.2	26.5	22.6	15.1	12.1	13.8	13.2	20.3	22.9	27.7	29.8	36.7	30.3	28.2	25.2	25.4	27.7	32.1	34.1	27.0	46.6
5	31.9	26.6	26.0	29.3	41.0	37.1	37.2	37.5	39.4	39.1	45.5	42.6	37.0	43.6	41.3	46.2	42.1	42.1	33.8	39.4	43.6	50.2	35.3	27.6	38.1	50.2
6	19.9	19.9	21.4	11.7	22.2	24.0	27.7	31.6	28.1	28.0	30.3	26.8	24.8	21.9	20.1	21.0	22.0	14.3	6.9	7.6	8.5	13.0	15.2	11.5	19.9	31.6
7	10.5	9.1	7.2	4.4	2.8	3.9	2.8	6.9	11.9	14.2	14.7	16.3	15.4	15.3	13.5	8.8	2.9	10.9	12.6	19.5	22.0	25.7	27.5	30.5	12.9	30.5
8	38.3	34.9	31.2	32.3	22.4	20.5	21.9	26.1	22.5	12.1	23.3	27.0	24.0	17.5	15.8	17.0	18.1	18.7	17.6	18.5	18.5	15.4	14.7	13.8	21.8	38.3
9	14.3	12.4	10.5	7.8	3.9	1.9	1.9	3.5	5.7	3.4	4.6	4.7	6.0	3.0	9.7	11.1	10.2	5.8	4.2	1.5	3.9	9.3	11.0	12.0	6.8	14.3
10	13.0	20.6	21.0	20.7	18.8	19.7	19.2	17.7	20.1	24.3	26.2	23.8	27.0	36.2	34.1	35.8	31.8	29.2	23.6	26.0	26.1	26.6	24.3	19.4	24.4	36.2
11	14.4	14.8	15.2	11.2	12.6	13.5	17.2	17.6	18.7	15.9	14.4	12.7	11.8	14.2	13.3	11.7	10.9	10.8	13.4	14.4	20.3	21.2	21.9	23.7	15.2	23.7
12	23.6	23.1	22.9	20.0	17.5	22.2	22.4	22.3	23.7	23.0	22.3	25.0	24.3	22.8	20.8	20.1	20.7	17.4	16.8	17.5	17.7	16.9	18.0	12.8	20.6	25.0
13	14.7	16.1	15.5	16.9	16.6	15.0	13.2	10.3	11.9	13.1	13.9	13.4	12.6	12.7	11.4	10.5	11.2	8.4	12.1	11.9	12.2	10.3	8.5	10.1	12.6	16.9
14	13.9	15.6	13.9	15.3	15.7	16.9	16.6	14.4	14.7	15.4	14.6	17.0	17.5	17.3	15.9	15.7	16.6	17.9	14.8	14.2	10.4	10.5	11.2	9.6	14.8	17.9
15	4.9	4.2	7.3	7.3	4.7	4.9	8.5	9.2	10.5	12.9	15.0	15.1	11.2	10.4	10.4	11.3	14.6	15.4	15.6	12.8	11.9	13.7	15.3	14.9	10.9	15.6
16	14.0	15.6	14.3	12.1	11.0	9.2	11.6	9.6	9.6	9.9	8.5	5.9	11.6	10.1	14.3	16.6	16.4	14.6	20.3	19.8	17.9	17.6	16.7	16.0	13.5	20.3
17	14.9	13.5	12.7	10.3	7.2	4.0	4.7	4.1	7.7	8.5	7.5	3.5	8.7	8.8	6.2	4.7	12.1	12.5	13.3	9.3	9.8	3.2	4.1	3.4	8.1	14.9
18	2.3	3.5	4.1	4.2	4.6	9.7	12.3	11.2	13.6	10.1	9.5	7.6	5.8	11.4	11.7	12.0	6.9	8.2	7.3	14.4	40.7	31.1	25.1	25.2	12.2	40.7
19	27.1	29.2	25.8	23.8	24.7	24.7	25.1	19.8	23.0	27.0	32.0	35.6	42.8	42.5	41.6	37.9	35.2	30.3	17.2	16.5	16.1	18.8	19.1	21.4	27.4	42.8
20	21.5	24.2	23.8	18.7	14.7	23.8	21.5	21.3	22.2	23.6	19.2	19.5	27.8	24.9	23.9	18.0	14.4	15.6	12.7	7.6	11.5	18.6	28.6	36.1	20.6	36.1
21	31.2	27.4	17.4	17.9	16.1	12.4	14.4	13.7	9.4	9.4	7.3	12.8	25.2	20.4	14.3	21.8	15.4	13.8	10.3	14.1	14.4	8.8	21.1	18.7	16.2	31.2
22	27.5	35.5	31.4	31.3	32.1	33.7	32.3	28.3	26.4	25.5	26.8	25.9	25.1	24.9	21.8	21.4	23.0	19.4	21.0	19.5	19.4	19.7	20.3	23.3	25.6	35.5
23	17.1	22.1	21.9	27.6	26.8	30.3	34.7	33.2	37.5	37.7	35.0	29.4	36.6	37.5	41.2	40.4	41.5	44.8	41.8	39.5	35.9	31.0	27.1	21.1	33.0	44.8
24	19.7	18.0	19.6	11.8	10.2	10.8	11.8	10.3	11.8	14.1	16.7	23.7	33.9	22.1	26.4	29.5	22.6	27.4	33.4	32.6	29.1	28.3	27.6	26.9	21.6	33.9
25	25.5	24.6	24.5	22.5	14.3	11.0	16.0	15.5	13.2	8.9	15.5	26.0	26.7	22.7	27.6	26.4	24.7	24.0	20.8	19.0	16.2	16.8	17.6	17.4	19.9	27.6
26	18.7	17.7	19.0	18.2	14.9	13.7	12.2	14.0	11.1	9.9	14.2	11.5	10.7	19.1	27.2	27.0	24.6	20.3	14.5	9.8	14.3	10.8	22.2	17.0	16.4	27.2
27	20.3	18.2	13.9	16.9	19.8	18.4	21.7	19.5	15.3	17.5	22.1	24.9	27.7	28.2	28.6	25.4	22.8	18.3	22.1	18.3	16.4	18.8	19.1	17.1	20.5	28.6
28	16.0	12.9	17.2	14.6	17.5	15.7	14.2	7.3	8.7	11.2	12.8	21.7	25.8	25.3	29.4	25.6	20.7	19.0	20.4	13.3	10.9	13.4	12.4	13.4	16.7	29.4
29	15.4	17.1	17.6	26.5	25.7	26.7	35.8	35.6	46.3	46.5	41.0	40.3	44.6	48.2	58.0	50.7	45.5	41.5	39.0	23.6	20.6	18.7	17.6	25.8	33.7	58.0
30	26.7	26.5	28.0	24.4	25.8	24.9	21.5	18.1	28.2	28.5	25.4	30.1	32.2	31.6	34.6	42.2	46.2	46.6	48.2	56.4	52.9	46.3	48.5	49.0	35.1	56.4
31	38.8	33.6	34.1	38.4	40.0	41.0	33.1	24.4	24.0	24.5	24.8	24.5	29.6	29.0	27.0	27.4	31.1	28.8	32.6	33.2	32.2	30.5	25.8	17.4	30.2	41.0
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	20.6	20.7	19.8	18.7	18.5	18.6	19.0	18.5	19.4	19.5	20.5	21.4	23.8	23.6	24.4	24.3	23.7	22.5	21.5	21.2	22.1	21.6	21.7	21.1		
MAX	46.6	39.4	34.1	38.4	41.0	41.0	37.2	37.5	46.3	46.5	45.5	42.6	44.6	48.2	58.0	50.7	54.5	54.6	60.1	67.6	63.5	54.2	48.5	49.1		



Number of Non-Zero Readings 744

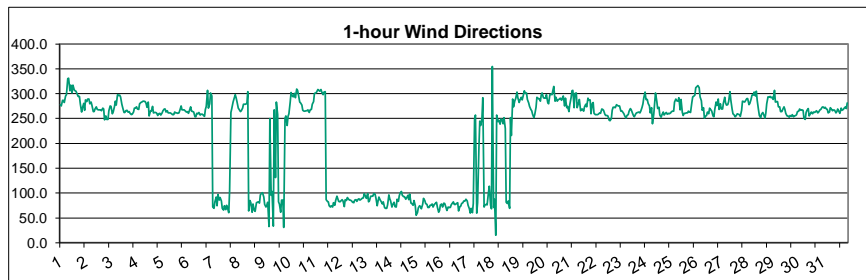
Maximum 1-HR Average 67.6 KM/HR

Maximum 24-HR Average 38.8 KM/HR

Monthly Calibration	0	Operational Time	744 HRS
Standard Deviation	10.89	Operational Uptime	100.0 %
		Monthly Average	21.1 KM/HR

# Lagoon Wind Direction (°) –January 2020

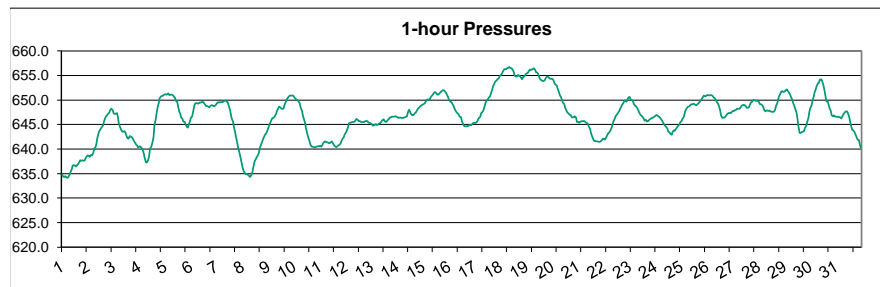
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	278.0	275.2	286.8	286.4	282.4	295.4	297.7	330.1	331.3	305.6	316.8	301.8	317.3	307.8	305.6	305.1	299.0	294.2	294.8	279.5	263.3	271.3	280.5	266.9	291.5	331.3
2	287.3	283.9	289.7	289.1	279.2	283.1	275.9	264.1	264.1	268.8	273.5	268.1	267.1	267.0	267.1	265.8	270.8	269.4	247.2	254.8	248.6	248.0	265.6	275.0	268.7	289.7
3	274.1	260.0	263.4	274.0	285.2	277.2	298.1	295.9	296.8	293.6	279.2	272.2	262.1	262.6	265.3	266.4	263.2	263.5	260.3	258.0	258.3	263.1	270.6	271.0	268.8	298.1
4	273.5	269.4	268.5	279.9	281.9	282.7	284.7	284.9	284.2	280.9	272.9	282.8	255.5	264.9	265.1	274.2	261.0	262.3	262.1	261.2	256.2	259.6	260.3	256.5	269.2	284.9
5	261.1	265.9	269.0	269.3	263.3	265.6	260.9	261.6	261.0	259.5	257.7	257.4	262.9	261.3	261.2	260.6	261.3	266.1	275.7	267.2	267.2	267.4	264.7	263.2	263.5	275.7
6	264.3	260.5	266.1	273.6	264.4	264.1	263.1	253.2	253.3	260.6	259.5	262.5	256.9	258.3	258.8	257.0	254.0	268.3	274.0	306.7	271.2	279.3	301.1	295.2	263.9	306.7
7	71.5	68.9	82.7	92.2	74.1	96.8	86.0	91.1	84.4	69.4	65.4	74.1	66.4	75.1	70.5	60.1	105.1	261.8	270.2	283.3	289.1	298.1	291.8	284.3	7.9	298.1
8	271.0	268.7	263.8	265.5	270.8	278.7	278.9	278.8	280.2	303.8	63.8	85.0	80.5	61.1	78.2	65.2	63.4	80.4	81.1	82.1	79.7	96.0	99.6	100.3	352.2	303.8
9	91.6	77.4	71.6	75.4	81.6	32.1	249.7	95.1	103.6	33.7	267.5	131.4	283.4	257.5	82.1	77.8	61.4	85.9	85.5	31.1	250.5	255.5	235.8	254.4	84.5	283.4
10	259.1	283.4	302.7	295.3	293.9	300.4	292.0	309.0	306.4	298.2	283.5	281.1	277.0	266.6	264.4	264.7	265.5	266.1	267.7	261.8	267.7	268.5	278.8	284.1	278.6	309.0
11	300.9	301.9	303.5	308.2	306.6	305.1	308.1	303.2	297.8	303.0	303.7	86.4	82.8	82.5	74.1	72.2	74.7	72.0	80.2	75.6	84.8	94.1	88.1	83.5	26.5	308.2
12	82.6	84.2	86.7	83.6	72.6	86.4	84.6	90.7	87.5	85.7	85.6	84.0	81.1	80.8	85.8	86.5	82.9	87.7	88.3	85.5	87.8	89.4	89.8	98.7	85.5	98.7
13	93.8	89.6	99.1	82.7	83.7	93.8	93.6	93.7	99.3	97.6	90.1	74.8	83.7	92.3	85.4	83.3	78.4	82.1	71.4	69.4	69.5	76.0	96.3	88.3	86.4	99.3
14	83.8	72.1	77.3	81.4	72.7	71.8	87.5	83.2	94.3	99.9	102.9	95.7	92.5	92.6	87.6	89.8	95.1	86.5	98.4	80.0	78.7	75.5	84.6	74.3	86.3	102.9
15	54.9	60.4	70.4	74.6	72.8	68.3	77.2	89.4	85.0	78.7	77.4	71.0	71.1	75.6	74.9	78.0	71.5	76.9	79.0	81.8	72.2	61.0	65.1	75.9	74.2	89.4
16	77.7	72.2	79.5	79.2	70.8	64.5	71.9	71.2	70.7	76.3	78.8	82.3	77.0	77.4	79.1	80.3	64.4	72.9	73.5	78.8	80.7	84.3	84.0	87.7	76.8	87.7
17	83.8	75.6	68.3	59.6	69.3	60.2	78.4	247.8	256.9	59.7	80.7	190.9	245.1	235.8	250.3	291.9	72.0	75.8	77.1	76.2	101.1	113.6	75.1	68.4	78.7	291.9
18	354.7	71.1	87.3	15.1	256.5	243.7	246.7	238.5	248.9	247.9	239.2	251.3	230.3	81.2	78.9	83.6	69.4	252.1	215.7	289.6	273.4	285.6	289.8	303.5	273.1	354.7
19	291.8	282.6	287.7	292.7	287.1	294.5	305.6	300.5	301.3	288.8	281.6	274.3	268.6	265.6	259.1	251.8	257.9	272.6	293.2	290.5	290.4	284.7	297.5	301.6	280.8	305.6
20	292.2	291.1	290.8	297.6	282.3	279.8	298.3	299.2	298.2	306.6	314.2	284.7	292.7	284.8	287.5	289.6	290.8	286.2	292.2	295.0	275.2	291.3	271.7	274.0	289.7	314.2
21	264.1	278.3	292.0	305.7	306.5	271.7	300.4	301.5	271.9	280.9	288.0	266.0	267.9	268.8	264.8	273.7	279.1	273.5	291.2	286.2	287.4	259.6	280.7	282.0	280.0	306.5
22	260.3	257.8	252.8	257.4	258.6	261.0	260.7	269.0	268.1	266.9	258.7	255.7	256.4	255.3	246.8	245.9	250.2	266.5	272.4	273.0	271.7	277.5	276.2	275.4	261.9	277.5
23	275.1	264.5	265.4	262.1	259.5	254.8	250.6	256.3	258.1	265.2	269.9	267.4	260.1	255.8	253.8	258.6	261.2	261.9	263.3	261.4	264.6	272.4	279.9	291.9	262.8	291.9
24	302.9	288.1	288.7	280.4	275.2	261.2	271.6	239.3	258.5	280.3	301.9	284.9	269.7	273.1	257.3	252.7	257.5	263.0	257.3	259.4	262.2	258.7	260.0	259.1	267.7	302.9
25	261.0	264.0	264.9	264.6	283.5	289.6	286.0	284.5	291.8	267.2	288.8	261.8	256.4	260.8	260.3	261.3	261.2	264.8	263.1	262.5	282.1	293.8	295.1	296.7	270.8	296.7
26	312.4	315.0	315.9	311.6	294.0	285.5	266.7	271.9	250.5	254.4	255.7	263.1	259.9	271.2	267.8	264.7	254.8	253.4	268.0	283.0	276.6	289.2	268.2	279.6	276.4	315.9
27	268.9	269.2	281.8	292.4	281.0	277.4	277.6	283.9	304.4	287.6	268.9	259.2	256.6	253.7	255.4	259.4	258.6	257.5	254.0	266.7	284.6	283.7	283.4	285.4	270.8	304.4
28	290.5	289.7	277.9	280.8	289.2	296.8	296.7	303.1	295.2	304.7	286.7	267.6	255.8	251.4	259.1	261.8	258.1	250.6	261.6	279.3	293.2	292.7	294.8	291.7	275.4	304.7
29	292.3	288.3	306.3	282.8	284.0	283.7	273.2	273.9	264.2	263.8	268.5	273.6	268.5	260.4	254.9	254.9	253.0	256.3	254.6	258.1	253.5	255.5	256.1	258.2	265.7	306.3
30	263.7	265.2	269.2	266.8	267.0	266.6	250.7	248.1	262.0	266.5	270.1	255.6	259.8	263.4	259.7	263.3	261.8	264.2	265.5	261.7	262.8	267.2	267.9	272.8	263.9	272.8
31	273.1	270.5	272.7	269.6	268.1	261.7	263.2	272.0	268.3	265.9	267.8	266.2	261.2	264.2	269.0	264.3	260.6	270.9	266.6	268.7	271.0	273.4	270.0	281.7	268.1	281.7
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	229.4	218.2	222.8	221.0	226.4	224.3	233.4	235.0	235.4	226.5	226.4	214.0	217.0	210.6	204.2	205.3	197.3	211.8	213.1	215.1	221.8	225.4	226.5	228.4		
MAX	354.7	315.0	315.9	311.6	306.6	305.1	308.1	330.1	331.3	306.6	316.8	301.8	317.3	307.8	305.6	305.1	299.0	294.2	294.8	306.7	293.2	298.1	301.1	303.5		



Number of Non-Zero Readings	744
Maximum 1-HR Average	355 degrees
Maximum 24-HR Average	352 degrees
Monthly Calibration	0
Standard Deviation	88.01
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	220.4 degrees

# Lagoon Pressure (mmHg) – January 2020

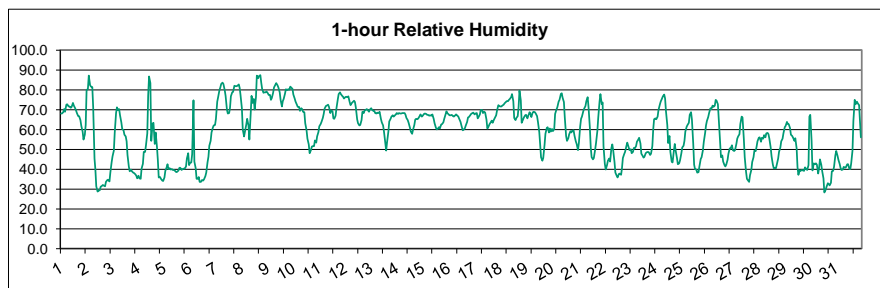
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	634.8	634.4	634.3	634.4	634.3	634.1	634.3	634.7	635.3	635.9	636.6	636.7	636.6	636.4	636.7	636.9	637.3	637.7	637.6	637.7	637.6	637.6	638.2	638.5	636.2	638.5
2	638.7	638.6	638.4	638.8	638.7	639.3	640.1	640.4	641.1	642.2	643.3	643.8	644.1	644.5	644.8	645.5	646.3	646.7	646.8	647.2	647.4	648.0	648.2	647.9	643.4	648.2
3	647.3	647.1	647.2	647.3	646.5	645.3	644.4	644.0	643.6	643.5	643.7	643.3	642.6	642.2	642.1	642.6	642.5	642.4	642.1	641.6	641.3	640.9	640.6	640.3	643.5	647.3
4	640.5	640.5	640.2	639.9	639.0	638.1	637.2	637.3	637.8	638.6	640.0	640.5	641.1	642.4	644.7	646.0	647.3	648.7	649.4	650.3	650.7	650.8	650.9	651.1	643.5	651.1
5	651.2	651.1	651.1	651.3	651.0	651.1	651.1	651.0	650.7	650.5	649.9	649.6	648.7	647.6	647.1	646.4	646.1	645.6	645.5	645.0	644.6	644.3	645.2	645.7	648.4	651.3
6	646.3	646.7	647.5	648.9	649.3	649.4	649.3	649.3	649.5	649.5	649.6	649.6	649.4	649.1	648.7	648.7	648.6	648.5	648.7	648.9	648.9	648.7	648.8	649.1	648.8	649.6
7	649.3	649.5	649.5	649.6	649.6	649.6	649.7	649.8	649.9	649.8	649.6	649.0	648.0	647.1	646.3	645.6	644.6	643.4	642.3	641.1	640.2	639.2	638.4	637.4	646.2	649.9
8	636.1	635.5	635.1	634.9	635.0	634.7	634.5	634.3	634.7	635.2	636.2	637.5	637.8	638.3	638.6	639.3	640.3	641.0	641.4	641.9	642.6	642.9	643.3	643.7	638.1	643.7
9	644.4	645.0	645.6	646.0	646.3	646.4	646.7	647.1	647.7	648.3	648.7	648.5	648.2	648.2	648.2	648.9	649.6	650.1	650.5	650.8	650.9	650.9	650.9	650.9	648.3	650.9
10	650.6	650.3	650.1	649.9	649.8	649.3	648.5	647.9	646.8	646.2	645.3	644.3	643.2	642.4	641.6	640.9	640.5	640.5	640.4	640.3	640.4	640.5	640.5	640.6	644.6	650.6
11	640.6	640.5	640.7	641.3	641.5	641.5	641.4	641.4	641.2	641.2	641.4	641.5	641.1	640.7	640.6	640.4	640.5	640.7	640.8	641.1	641.7	642.2	642.4	642.9	641.2	642.9
12	643.3	643.7	644.5	645.2	645.4	645.5	645.5	645.5	645.6	645.9	646.2	646.0	645.7	645.7	645.5	645.5	645.5	645.5	645.7	645.7	645.7	645.4	645.3	645.3	645.4	646.2
13	645.0	644.8	644.8	645.0	645.1	644.9	645.0	645.2	645.2	645.6	645.9	646.1	645.7	645.5	645.6	645.8	646.1	646.4	646.5	646.6	646.6	646.6	646.6	646.6	645.7	646.6
14	646.5	646.3	646.4	646.4	646.3	646.3	646.4	646.5	646.6	646.7	647.7	648.1	647.4	647.1	646.8	646.9	647.3	647.4	647.8	648.2	648.4	648.7	648.9	649.0	647.2	649.0
15	649.1	649.2	649.6	650.0	650.1	650.1	650.1	650.5	650.9	651.1	651.5	651.6	651.4	651.1	651.1	651.4	651.5	651.8	652.0	652.0	651.8	651.4	651.0	650.7	650.9	652.0
16	650.0	649.7	649.6	649.3	648.8	648.3	647.7	647.5	647.3	647.0	646.6	646.5	645.7	645.1	644.7	644.6	644.6	644.7	644.7	644.9	644.8	644.9	645.2	645.3	646.6	650.0
17	645.3	645.3	645.6	646.1	646.3	646.6	647.3	647.6	647.8	648.7	649.4	649.9	650.1	650.4	650.7	651.3	652.1	652.8	653.3	653.8	654.0	654.2	654.4	654.8	649.9	654.8
18	655.0	655.3	655.8	656.2	656.3	656.3	656.5	656.6	656.7	656.6	656.5	656.3	655.7	655.0	654.7	654.8	655.1	655.0	654.9	654.5	654.2	654.8	654.8	655.2	655.5	656.7
19	655.4	655.4	655.8	656.2	656.1	656.2	656.4	656.5	656.1	655.7	655.6	655.2	654.5	654.1	654.0	653.8	653.9	654.1	654.5	654.7	654.7	654.5	654.3	654.3	655.1	656.5
20	654.3	654.2	653.5	653.1	653.0	652.4	651.6	651.0	650.5	650.0	649.5	649.2	648.5	647.8	647.5	647.3	647.1	646.9	646.5	646.4	646.5	646.6	646.4	645.5	649.4	654.3
21	645.5	645.4	645.6	645.6	645.7	645.7	645.7	645.4	645.3	645.2	644.6	644.0	643.3	642.7	642.0	641.7	641.7	641.6	641.6	641.4	641.5	641.5	641.8	642.1	643.6	645.7
22	642.1	641.9	642.3	642.8	643.1	643.4	643.7	644.3	645.0	645.6	646.2	646.7	647.1	647.3	647.7	648.1	648.6	649.1	649.3	649.7	649.9	649.7	650.1	650.5	646.4	650.5
23	650.6	650.0	650.0	649.6	649.1	648.9	648.6	648.4	647.9	647.4	646.9	646.8	646.5	646.2	645.7	646.0	645.6	645.7	645.9	646.1	646.2	646.4	646.4	646.6	647.4	650.6
24	646.8	646.9	646.8	646.7	646.4	646.1	645.8	645.4	645.0	644.7	644.6	644.2	643.5	643.4	643.0	643.0	643.5	643.8	643.8	644.1	644.4	644.7	645.0	645.4	644.9	646.9
25	645.7	646.0	646.5	647.2	647.8	648.3	648.6	648.6	648.8	649.1	649.1	649.2	649.2	649.0	648.9	649.1	649.4	649.5	649.9	650.2	650.7	650.9	650.7	650.8	648.9	650.9
26	651.0	651.0	650.9	651.0	651.0	650.8	650.5	650.4	650.0	649.6	649.3	648.8	647.9	646.9	646.3	646.4	646.4	646.6	646.9	647.2	647.3	647.4	647.3	647.6	648.7	651.0
27	647.7	647.7	647.9	648.0	648.2	648.2	648.2	648.3	648.8	648.9	649.0	649.0	648.6	648.4	648.4	648.6	649.1	649.5	649.7	650.0	650.0	649.8	649.8	649.9	648.8	650.0
28	649.6	649.2	649.1	649.0	648.7	648.0	647.7	647.8	647.8	647.8	647.8	647.7	647.6	647.6	647.6	647.9	648.8	649.3	650.0	650.7	651.2	651.7	651.8	651.6	649.0	651.8
29	651.7	652.0	652.1	651.8	651.7	651.2	650.7	650.1	649.5	648.8	648.2	647.4	646.2	644.8	643.3	643.2	643.4	643.5	643.6	644.3	644.7	645.4	646.3	647.5	647.6	652.1
30	648.3	648.9	649.6	650.6	651.6	652.3	652.8	653.4	653.5	654.1	654.2	654.0	653.1	652.2	650.7	649.7	649.8	649.1	648.3	647.8	646.9	646.7	646.9	646.6	650.5	654.2
31	646.6	646.6	646.5	646.5	646.4	646.2	646.8	647.2	647.5	647.7	647.7	647.3	646.5	645.6	644.8	643.9	643.8	643.5	643.0	642.4	642.0	641.8	641.0	640.3	645.1	647.7
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	646.8	646.7	646.9	647.1	647.0	646.9	646.9	646.9	646.9	647.0	647.1	647.0	646.6	646.3	646.1	646.1	646.4	646.5	646.6	646.7	646.7	646.8	646.8	646.9		
MAX	655.4	655.4	655.8	656.2	656.3	656.3	656.5	656.6	656.7	656.6	656.5	656.3	655.7	655.0	654.7	654.8	655.1	655.0	654.9	654.7	654.7	654.8	654.8	655.2		



Number of Non-Zero Readings	744
Maximum 1-HR Average	657 MMHg
Maximum 24-HR Average	656 MMHg
Monthly Calibration	0
Standard Deviation	4.633
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	646.7 MMHg

# Lagoon Relative Humidity (%) –January 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	68.1	68.2	68.7	70.2	68.9	72.5	72.7	71.6	71.6	71.0	71.4	73.4	72.0	70.8	69.6	68.3	66.8	66.8	64.9	61.9	59.0	54.9	57.4	62.3	67.6	73.4
2	79.8	80.5	87.1	82.4	81.6	81.4	71.3	45.4	39.8	31.3	28.7	29.1	29.3	31.1	31.5	32.1	31.6	31.5	33.6	34.6	34.8	33.9	38.2	43.6	47.7	87.1
3	46.6	49.3	58.5	68.2	71.2	69.9	70.3	67.3	63.7	60.3	59.6	57.4	56.5	54.0	47.2	41.3	39.0	39.8	38.9	38.3	38.1	37.3	36.8	35.3	51.9	71.2
4	36.7	35.5	35.2	40.3	42.7	48.7	48.8	52.1	58.0	77.2	86.7	83.4	54.3	62.9	63.5	52.9	58.4	51.1	44.5	35.8	36.0	35.2	34.2	34.1	50.3	86.7
5	35.9	39.2	41.0	42.5	40.0	40.5	40.0	40.1	39.6	39.5	39.1	38.5	38.7	39.4	40.8	40.8	39.6	40.2	40.3	40.4	41.5	45.4	48.1	42.1	40.5	48.1
6	43.1	43.5	47.6	74.7	44.0	40.5	35.1	35.2	36.2	33.5	33.6	34.6	34.4	35.1	36.5	38.4	43.6	46.4	51.8	54.3	58.5	61.0	62.0	62.3	45.2	74.7
7	65.5	74.0	76.2	80.0	81.3	82.9	83.7	82.9	79.8	76.9	70.1	68.0	68.4	70.9	76.7	78.7	79.0	82.1	82.0	81.9	82.0	82.8	81.1	77.2	77.7	83.7
8	70.7	60.0	56.5	59.1	62.5	65.5	62.0	54.9	67.9	77.0	73.4	75.4	70.0	76.2	87.2	85.8	86.9	87.5	83.7	80.6	78.5	78.8	78.8	79.1	73.3	87.5
9	78.4	77.4	77.4	74.9	75.8	78.5	81.3	82.5	83.4	82.3	81.2	78.8	75.0	71.5	74.3	75.3	78.2	80.4	79.8	80.3	80.2	81.7	80.9	80.5	78.7	83.4
10	77.5	75.6	74.0	72.5	71.4	71.3	69.4	70.7	70.4	68.9	68.7	63.3	59.6	55.5	52.5	48.0	49.6	51.5	51.6	51.6	54.6	53.4	56.5	58.8	62.4	77.5
11	61.7	62.8	63.9	66.0	68.0	70.4	71.9	72.1	72.4	71.4	68.3	69.6	69.2	65.6	65.4	66.9	70.9	75.2	77.9	78.8	77.8	76.9	76.6	75.6	70.6	78.8
12	76.3	76.5	76.3	76.7	73.9	72.3	73.4	73.9	74.4	73.8	71.3	65.2	63.3	62.1	62.2	64.8	68.9	68.4	69.7	70.0	70.2	69.9	69.0	70.1	70.5	76.7
13	70.7	69.9	69.4	69.4	68.3	68.2	68.4	68.3	69.0	65.3	63.7	62.2	59.0	55.2	49.5	53.6	59.1	64.2	65.5	66.5	67.1	66.5	67.2	67.6	64.7	70.7
14	68.2	67.9	68.2	68.0	68.0	68.4	68.3	68.3	67.4	65.9	64.7	63.3	61.0	59.1	57.8	59.8	62.4	65.0	65.4	65.1	65.6	66.9	67.6	66.5	65.4	68.4
15	66.9	67.8	68.1	67.9	67.4	67.5	67.0	67.1	67.0	67.5	65.5	63.3	60.9	60.1	60.2	61.2	60.6	62.5	62.9	63.6	65.4	67.7	69.1	68.3	65.2	69.1
16	67.7	67.3	67.1	67.4	66.9	66.4	67.3	67.7	66.9	66.4	65.4	63.9	62.0	59.6	59.9	60.8	62.0	63.9	66.1	66.4	67.2	68.0	68.4	68.5	65.6	68.5
17	67.6	68.1	68.3	65.7	66.3	67.6	70.0	69.8	68.3	69.1	68.4	64.9	60.5	61.1	62.9	63.5	64.5	63.4	65.0	65.8	67.3	69.6	72.3	71.8	66.7	72.3
18	71.7	71.7	72.1	72.4	73.1	73.8	74.4	74.4	74.9	75.4	76.3	77.9	74.4	65.9	64.6	65.8	66.8	71.3	79.7	74.8	63.4	64.9	66.2	67.1	71.4	79.7
19	67.4	65.7	67.0	68.8	67.9	66.3	68.4	69.1	68.9	68.2	66.7	63.8	58.8	52.6	46.0	44.3	45.7	52.4	57.9	60.7	61.3	58.6	60.5	58.9	61.1	69.1
20	60.3	59.1	60.4	67.8	70.1	71.2	74.0	75.0	77.8	78.2	76.0	73.8	66.1	56.7	54.4	55.6	57.5	59.3	58.6	59.3	59.7	56.9	54.1	52.7	63.9	78.2
21	49.7	53.3	61.6	65.4	66.6	69.1	70.4	72.0	74.4	76.2	71.2	61.0	51.0	46.0	45.1	45.5	49.8	53.2	59.2	65.9	74.0	77.9	72.7	73.6	62.7	77.9
22	51.7	42.8	39.8	42.1	44.3	45.4	43.9	50.7	52.5	49.6	43.6	38.2	36.7	35.9	37.7	37.8	37.2	40.6	45.7	47.6	48.7	51.7	53.4	51.2	44.5	53.4
23	49.6	50.0	48.0	48.8	50.8	50.5	51.6	53.8	55.0	55.9	53.1	47.9	46.7	45.8	46.2	48.1	48.5	48.7	48.5	47.1	47.8	51.6	60.0	65.3	50.8	65.3
24	65.7	65.1	66.5	69.8	72.4	74.1	75.8	76.7	77.6	75.6	69.3	62.4	53.2	56.7	48.9	43.8	43.3	49.4	52.7	49.5	45.7	42.5	43.0	44.6	59.3	77.6
25	48.1	51.0	51.9	54.3	59.0	61.4	62.4	63.4	67.5	68.8	65.0	52.7	42.3	40.0	39.8	38.3	38.5	41.5	45.3	46.1	49.6	53.9	58.4	62.2	52.6	68.8
26	64.3	66.3	68.3	70.8	70.4	72.1	71.3	72.2	74.9	74.6	72.7	65.3	53.9	46.2	46.9	43.8	42.1	41.5	42.3	44.7	48.0	50.6	50.6	52.0	58.6	74.9
27	49.6	49.1	49.6	52.7	55.5	56.5	57.7	62.8	66.5	66.1	55.3	46.0	38.8	35.1	34.5	33.7	36.9	39.7	43.6	46.1	49.5	49.3	51.4	54.0	49.2	66.5
28	55.8	56.0	53.8	55.9	55.4	57.2	56.1	58.1	58.4	57.7	55.3	51.0	46.5	42.4	40.6	40.5	40.5	43.4	45.3	48.8	51.0	54.0	55.4	58.1	51.5	58.4
29	61.3	62.0	63.9	62.8	62.7	60.7	57.3	56.7	55.9	54.2	55.6	50.5	40.9	37.1	39.4	39.1	39.5	39.5	39.2	40.9	40.2	39.5	42.0	66.6	50.3	66.6
30	67.4	54.2	39.5	43.0	42.5	42.9	42.2	37.8	40.5	45.0	42.3	39.2	35.4	28.3	29.7	31.3	32.9	32.5	31.8	33.1	39.0	39.2	41.3	46.9	39.9	67.4
31	49.1	46.8	44.8	42.4	40.6	39.7	40.0	41.2	40.7	41.0	42.5	42.5	40.1	40.1	42.9	49.3	64.2	75.1	72.7	74.0	73.2	72.3	64.0	56.0	51.5	75.1
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100%
MEAN	61.1	60.5	61.0	63.3	62.9	63.7	63.4	63.0	63.9	64.0	62.1	58.9	54.2	52.2	52.1	51.9	53.7	55.7	57.0	57.2	57.9	58.5	59.3	60.4		
MAX	79.8	80.5	87.1	82.4	81.6	82.9	83.7	82.9	83.4	82.3	86.7	83.4	75.0	76.2	87.2	85.8	86.9	87.5	83.7	81.9	82.0	82.8	81.1	80.5		

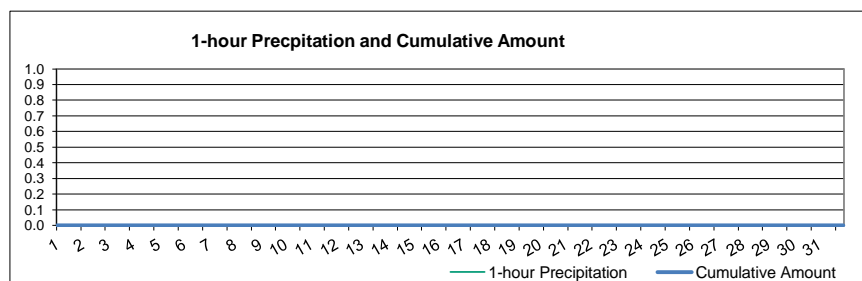


Number of Non-Zero Readings	744		
Maximum 1-HR Average	87.5 %		
Maximum 24-HR Average	78.7 %		
Monthly Calibration	0	Operational Time	744 HRS
Standard Deviation	13.9	Operational Uptime	100.0 %
		Monthly Average	59.1 %



# Lagoon Precipitation (mm) – January 2020

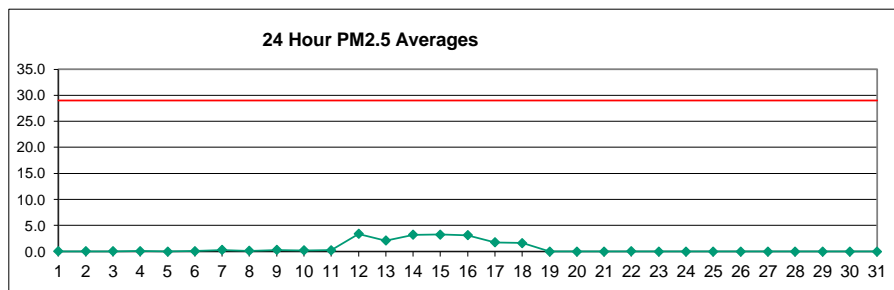
HOUR																										
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	31	31	31	31	31	31	31	744	100%
MEAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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

# West PM<sub>2.5</sub> (µg/m<sup>3</sup>) – January 2020

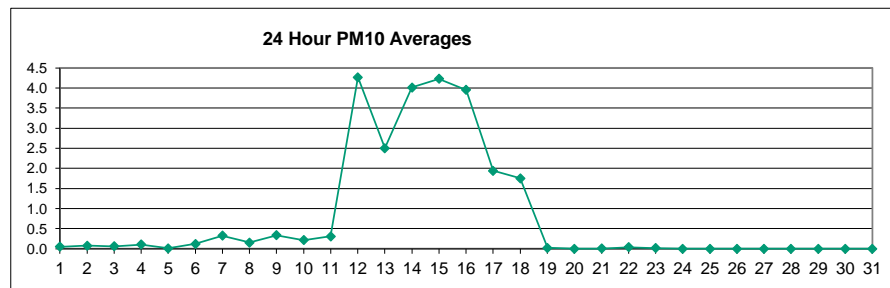
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.9
2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.2	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
4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.4	0.4	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
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	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.3	0.4	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
7	0.0	0.1	0.2	0.2	0.2	0.3	0.4	0.5	0.4	0.8	1.0	0.6	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.3	1.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.0	0.3	0.2	0.3	0.4	0.5	0.5	0.2	0.1	0.5
9	0.1	0.2	0.1	0.0	0.2	0.4	0.6	0.5	0.1	0.0	0.3	0.6	0.5	0.3	0.2	0.2	0.4	1.4	1.1	0.2	0.1	0.1	0.1	0.2	0.3	1.4
10	0.3	0.5	0.5	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6
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	0.4	0.6	0.7	0.6	1.1	0.5	0.2	0.1	0.2	0.5	0.5	1.2	0.3	1.2
12	3.3	3.2	3.9	3.8	2.1	2.2	1.5	2.1	2.8	3.5	5.3	3.8	4.2	5.1	5.7	5.5	4.2	3.2	3.5	3.0	3.0	3.0	1.7	1.3	3.4	5.9
13	1.2	1.1	1.9	1.6	2.4	1.8	1.8	1.8	1.9	4.3	3.5	3.2	2.5	2.1	2.0	1.9	2.5	1.6	1.4	2.4	2.3	1.9	1.7	1.8	2.1	4.3
14	1.8	1.9	1.5	2.2	2.3	2.7	3.8	2.9	2.7	3.1	3.6	4.9	4.5	3.6	3.5	3.5	5.7	3.9	3.3	3.0	2.8	3.0	3.4	3.1	3.2	5.7
15	3.0	2.3	3.4	5.3	4.5	2.5	5.2	4.7	3.9	3.5	3.3	3.5	2.8	2.9	2.0	1.5	1.1	1.3	1.4	3.0	3.3	4.0	4.2	5.5	3.2	5.5
16	5.2	5.1	4.5	4.5	4.1	3.3	3.2	2.8	4.1	3.7	3.2	3.4	4.0	2.4	1.7	2.1	1.9	2.1	2.1	2.0	2.0	2.4	2.9	2.9	3.1	5.2
17	2.5	2.2	1.9	2.4	1.8	1.5	1.7	1.3	1.4	1.6	1.8	1.1	0.9	1.4	1.3	2.4	1.1	0.7	0.9	1.2	2.4	3.3	2.9	3.0	1.8	3.3
18	3.1	2.7	3.1	3.5	4.0	3.7	3.2	2.9	2.8	2.7	1.9	0.6	0.1	0.6	0.9	0.9	1.2	0.7	0.1	0.0	0.0	0.0	0.1	0.0	1.6	4.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	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
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
23	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	0.0	0.1
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	G	G	G	G	G	G	G	G	G	-	-
25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
NO.	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	567	76%
MEAN	0.9	0.8	0.9	1.0	0.9	0.8	0.9	0.8	0.9	1.0	1.1	0.9	0.9	0.9	0.8	0.8	0.9	0.7	0.6	0.7	0.8	0.8	0.8	0.8		
MAX	5.2	5.1	4.5	5.3	4.5	3.7	5.2	4.7	4.1	4.3	5.3	4.9	4.5	5.1	5.9	5.5	5.7	3.9	3.5	3.0	3.3	4.0	4.2	5.5		



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	465	
Maximum 1-HR Average	5.9 UG/M3	
Maximum 24-HR Average	3.4 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	1.365	Monthly Average
		567 HRS
		76.2 %
		0.9 UG/M3

# West PM<sub>10</sub> (µg/m<sup>3</sup>) –January 2020

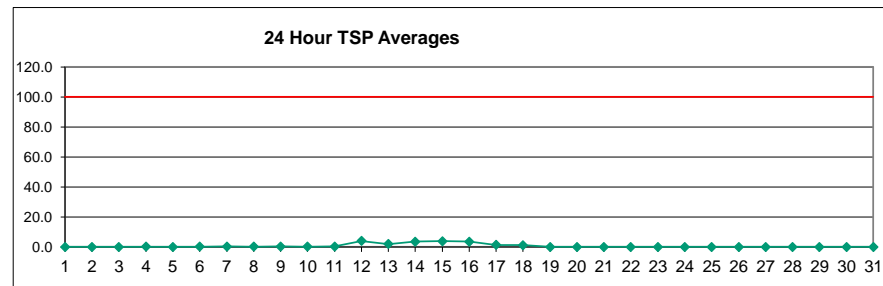
HOUR																											
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	MAX	
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.4
3	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.5	0.1	0.2	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	0.5
4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.6	0.7	0.5	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
6	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.3	0.5	0.3	0.4	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
7	0.0	0.1	0.2	0.2	0.2	0.3	0.4	0.6	0.4	0.9	1.2	0.7	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.3	1.2	
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.1	0.0	0.1	0.4	0.2	0.4	0.4	0.5	0.6	0.2	0.2	0.6	
9	0.1	0.2	0.1	0.0	0.2	0.4	0.6	0.5	0.1	0.0	0.4	0.6	0.6	0.3	0.2	0.2	0.4	1.4	1.1	0.2	0.1	0.1	0.1	0.2	0.3	1.4	
10	0.3	0.5	0.5	0.6	0.7	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	
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	0.4	0.7	0.8	0.7	1.2	0.5	0.2	0.1	0.2	0.6	0.5	1.5	0.3	1.5	
12	4.4	3.9	4.3	4.8	2.3	2.3	1.6	2.3	3.2	4.2	7.2	4.4	5.1	6.7	8.0	7.4	5.4	4.0	4.7	4.1	4.2	4.1	2.1	1.5	4.3	8.0	
13	1.3	1.3	2.5	2.0	3.3	2.2	2.3	2.3	2.3	5.5	4.2	4.0	3.0	2.5	2.5	2.2	3.1	1.7	1.4	2.6	2.4	2.0	1.7	1.8	2.5	5.5	
14	1.9	2.2	1.7	2.6	2.6	3.3	5.1	3.8	3.5	4.0	4.6	6.7	6.2	4.9	4.8	4.5	7.9	5.0	3.7	3.2	3.0	3.4	4.1	3.7	4.0	7.9	
15	3.6	2.4	4.3	7.6	6.2	2.9	7.5	6.8	5.0	4.2	4.3	4.7	3.1	3.3	2.4	1.6	1.2	1.4	1.5	3.9	4.4	5.6	5.6	7.7	4.2	7.7	
16	7.4	7.2	6.1	5.6	4.9	3.9	3.9	3.3	5.2	4.9	4.1	4.2	5.3	3.0	2.0	2.4	2.2	2.4	2.4	2.4	2.2	2.6	3.6	3.4	4.0	7.4	
17	3.0	2.4	2.1	2.5	2.0	1.6	1.8	1.4	1.4	1.6	2.3	1.3	1.1	1.7	1.5	2.7	1.2	0.7	0.9	1.2	2.4	3.5	3.0	3.2	1.9	3.5	
18	3.5	2.8	3.4	3.7	4.5	4.0	3.3	3.0	2.9	2.9	2.0	0.6	0.1	0.7	1.0	1.1	1.3	0.8	0.1	0.0	0.0	0.0	0.2	0.0	1.8	4.5	
19	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
23	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	0.0	0.1	
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	G	G	G	G	G	G	G	G	G	-	-	
25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-	
NO.	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	567	76%	
MEAN	1.1	1.0	1.1	1.2	1.1	0.9	1.1	1.0	1.0	1.2	1.3	1.2	1.1	1.1	1.0	1.0	1.1	0.8	0.7	0.8	0.9	1.0	0.9	1.0			
MAX	7.4	7.2	6.1	7.6	6.2	4.0	7.5	6.8	5.2	5.5	7.2	6.7	6.2	6.7	8.0	7.4	7.9	5.0	4.7	4.1	4.4	5.6	5.6	7.7			



Number of Non-Zero Readings	467		
Maximum 1-HR Average	8.0 UG/M3		
Maximum 24-HR Average	4.3 UG/M3		
IZS Calibration Time		OperatioEI Time	567 HRS
Down Time	0	OperatioEI Uptime	76.2 %
Standard Deviation	1.7	Monthly Average	1.0 UG/M3

# West TSP (µg/m³) – January 2020

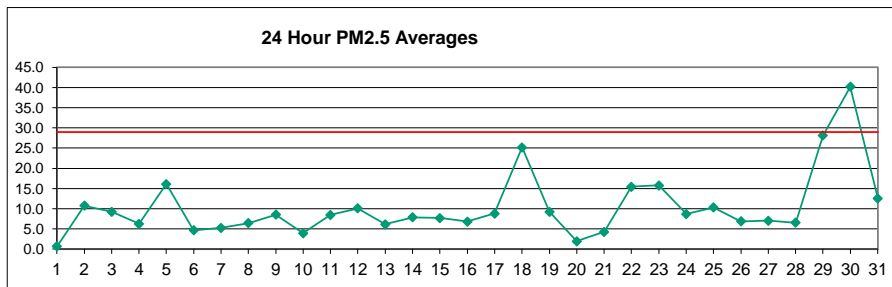
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.1	1.3
2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.3	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.4
3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	2.7	0.7	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
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	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
7	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.2	0.6	1.0	0.6	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	1.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.1	0.0	0.1	0.3	0.1	0.2	0.2	0.3	0.4	0.2	0.1	0.5
9	0.1	0.2	0.1	0.0	0.1	0.3	0.4	0.3	0.1	0.0	0.3	0.5	0.4	0.2	0.1	0.2	0.3	0.9	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.9
10	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
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	0.3	0.5	0.7	0.5	0.8	0.4	0.1	0.1	0.1	0.5	0.3	1.3	0.2	1.3
12	4.6	3.1	3.3	4.3	1.7	1.6	1.0	1.5	2.4	3.6	7.6	3.8	4.6	6.7	8.6	8.0	5.1	3.4	4.7	3.9	4.1	4.1	1.7	1.1	3.9	8.6
13	0.9	0.9	2.2	1.8	3.0	1.9	1.9	1.8	1.9	5.4	3.3	3.6	2.4	1.9	2.0	1.6	2.3	1.1	0.9	1.7	1.6	1.3	1.1	1.2	2.0	5.4
14	1.3	1.6	1.2	2.1	2.1	2.6	4.9	3.6	3.3	3.7	4.1	6.9	6.5	5.0	4.9	4.2	8.4	4.7	2.7	2.1	2.0	2.3	3.4	3.0	3.6	8.4
15	2.8	1.7	3.9	7.9	6.7	2.4	8.2	7.7	4.7	3.5	3.5	4.0	2.3	2.5	1.9	1.2	0.9	0.9	1.0	3.2	3.4	5.1	5.4	8.2	3.9	8.2
16	7.8	7.6	6.0	5.1	4.3	3.3	3.2	2.7	4.6	4.6	3.7	3.5	5.0	2.5	1.6	1.9	1.5	1.9	1.8	1.8	1.5	1.9	2.9	2.6	3.5	7.8
17	2.3	1.7	1.5	1.6	1.3	1.1	1.4	0.9	0.9	1.1	1.9	1.0	0.9	1.4	1.2	2.1	0.9	0.5	0.6	0.8	1.6	2.3	2.0	2.2	1.4	2.3
18	2.5	1.9	2.2	2.5	3.1	2.6	2.2	2.0	1.9	1.9	1.4	0.4	0.1	0.6	0.8	0.9	1.0	0.5	0.1	0.0	0.0	0.0	0.2	0.0	1.2	3.1
19	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
23	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	0.0	0.1
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	G	G	G	G	G	G	G	G	G	-	-
25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	-	-
NO.	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	567	76%
MEAN	0.9	0.8	0.9	1.1	1.0	0.7	1.0	0.9	0.9	1.1	1.2	1.1	1.0	1.1	1.0	0.9	1.0	0.7	0.6	0.6	0.7	0.8	0.8	0.9		
MAX	7.8	7.6	6.0	7.9	6.7	3.3	8.2	7.7	4.7	5.4	7.6	6.9	6.5	6.7	8.6	8.0	8.4	4.7	4.7	3.9	4.1	5.1	5.4	8.2		



Number of 24HR Exceedences	0	Proposed Guideline	
Number of Non-Zero Readings	467		
Maximum 1-HR Average	8.6 UG/M3		
Maximum 24-HR Average	3.9 UG/M3		
IZS Calibration Time		Operational Time	567 HRS
Down Time	0	Operational Uptime	76.2 %
Standard Deviation	1.643	Monthly Average	0.9 UG/M3

# Berm PM<sub>2.5</sub> (µg/m<sup>3</sup>) – January 2020

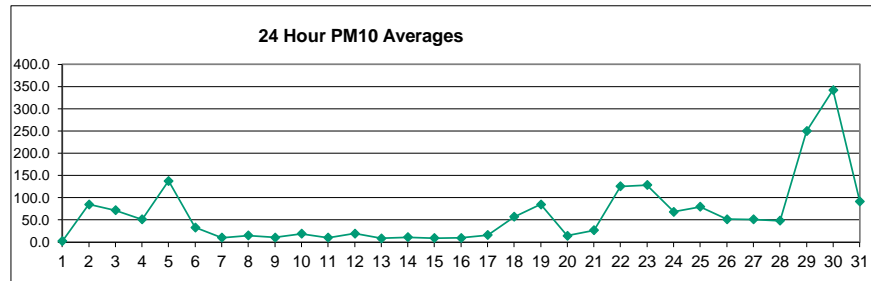
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	0.8	0.6	0.3	0.2	0.5	0.3	0.4	0.3	0.6	0.7	0.3	0.4	0.4	0.7	0.5	0.5	0.7	0.5	0.6	0.6	2.2	1.0	0.4	2.2	0.6	2.2
2	0.4	0.8	0.5	0.2	0.8	1.4	0.4	3.2	8.8	26.3	17.5	12.2	10.6	14.9	26.2	21.4	13.4	20.3	28.5	22.1	12.2	5.3	5.7	5.1	10.8	28.5
3	7.1	12.8	9.5	5.2	4.6	5.7	2.1	2.1	5.4	7.3	9.9	5.2	9.5	13.3	11.5	10.7	10.6	9.1	7.2	17.6	8.9	6.9	21.2	18.9	9.3	21.2
4	10.5	13.5	8.1	4.7	3.5	2.2	2.6	2.0	6.0	3.3	1.5	0.7	2.8	8.2	8.8	10.2	11.5	18.3	11.2	5.5	3.3	2.9	4.7	4.7	6.3	18.3
5	4.1	2.6	2.0	3.2	10.6	8.1	6.1	22.7	35.4	35.4	26.1	14.1	20.5	21.8	28.5	34.5	15.3	39.4	16.6	7.5	9.2	11.4	4.8	7.0	16.1	39.4
6	7.3	9.2	11.8	4.5	4.7	6.4	8.3	3.8	2.8	3.8	5.2	3.6	3.1	4.4	4.1	7.0	10.5	2.8	0.9	1.7	2.0	1.4	1.3	1.2	4.7	11.8
7	2.0	2.6	4.1	4.0	4.8	5.8	6.0	7.2	7.9	2.9	2.6	4.0	3.9	6.2	6.5	9.0	13.9	10.2	7.5	5.4	3.7	2.6	1.5	1.3	5.2	13.9
8	3.1	2.1	5.1	1.7	1.0	0.4	0.9	3.5	1.6	0.3	6.5	13.1	11.6	21.7	8.0	6.3	14.7	7.0	7.5	6.8	7.7	6.6	7.7	9.7	6.4	21.7
9	7.0	8.9	7.1	6.5	7.2	7.0	6.5	6.5	5.7	6.0	12.6	12.2	13.3	13.6	9.6	9.4	9.1	9.5	8.3	7.4	6.2	8.5	9.1	8.0	8.5	13.6
10	6.7	5.8	5.2	4.0	3.1	2.7	2.6	1.6	3.6	3.1	3.5	4.0	7.0	7.9	5.0	8.1	4.7	3.5	2.0	2.2	2.4	2.8	2.0	1.2	3.9	8.1
11	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.6	0.8	0.9	0.9	8.3	14.3	14.1	13.5	18.4	22.1	18.1	16.3	14.9	13.9	13.6	13.8	14.5	8.4	22.1
12	22.2	14.0	16.3	14.5	9.0	9.1	7.6	8.9	10.2	11.6	18.1	11.9	10.6	10.2	11.6	12.4	12.0	6.7	5.3	4.4	4.5	3.5	3.5	3.3	10.1	22.2
13	3.4	3.5	4.6	6.2	3.7	3.4	3.0	4.0	5.6	12.4	10.4	8.2	7.4	7.3	6.2	6.4	7.4	7.2	6.9	5.9	6.0	6.3	5.7	5.8	6.1	12.4
14	6.2	6.9	7.1	7.4	6.4	6.7	9.5	8.9	8.8	8.5	6.8	7.4	7.5	7.1	7.3	7.0	10.3	13.1	8.3	8.0	7.0	6.5	8.0	8.1	7.9	13.1
15	8.2	11.8	11.5	6.9	7.5	8.6	7.7	7.9	7.9	7.5	7.2	6.9	7.3	7.1	7.3	7.3	6.5	7.7	7.1	6.7	6.4	6.5	7.0	7.4	7.7	11.8
16	6.9	7.5	6.8	5.8	5.6	5.6	5.7	6.8	5.8	5.9	7.0	9.8	7.4	8.2	6.8	7.2	5.8	5.5	5.7	5.8	6.7	7.4	9.0	8.2	6.8	9.8
17	5.9	5.1	4.8	4.9	4.9	6.0	6.6	6.5	6.6	5.5	7.0	11.3	11.5	9.5	8.9	10.9	10.7	7.2	8.3	9.8	11.8	11.9	15.8	20.2	8.8	20.2
18	27.1	18.8	18.2	16.0	44.9	59.6	46.6	36.4	51.0	53.3	36.5	36.0	13.0	9.0	8.7	10.8	10.1	29.2	2.9	5.3	46.7	13.9	8.6	2.2	25.2	59.6
19	5.1	5.4	2.2	1.1	3.5	3.6	0.5	1.0	2.0	9.1	13.2	25.2	17.2	27.6	29.3	29.4	17.6	9.2	4.9	2.8	2.0	4.2	2.8	1.9	9.2	29.4
20	1.2	2.6	1.0	0.6	0.4	1.7	0.5	0.5	0.6	0.7	0.9	1.4	2.0	2.3	2.3	1.6	0.9	0.7	0.7	0.6	0.6	1.9	8.6	12.8	2.0	12.8
21	10.8	9.8	0.5	0.6	0.5	0.6	0.6	1.2	2.1	2.0	1.6	5.0	14.0	13.5	9.8	7.2	5.2	5.7	2.7	1.4	1.2	1.0	3.4	2.3	4.3	14.0
22	17.3	26.6	17.7	11.0	8.7	12.0	9.1	6.2	10.7	30.0	21.4	20.3	24.8	29.9	11.9	21.4	19.1	6.7	11.5	7.0	4.6	6.9	14.7	20.9	15.4	30.0
23	6.7	10.0	6.3	11.9	19.1	15.6	18.5	13.9	16.3	42.2	26.7	26.5	23.0	17.3	16.1	12.3	17.0	18.3	15.8	9.3	14.7	8.5	9.3	3.3	15.8	42.2
24	0.9	1.2	0.8	0.6	1.8	1.1	1.0	0.4	0.4	0.5	0.5	2.7	6.1	5.2	14.5	14.1	7.2	8.6	10.9	22.0	26.8	23.2	29.7	28.4	8.7	29.7
25	15.9	17.5	9.0	7.5	1.2	0.4	0.6	1.6	1.3	0.9	3.3	15.9	17.3	13.4	12.5	17.0	21.9	18.8	25.9	28.2	7.1	2.0	3.9	3.7	10.3	28.2
26	1.3	0.8	0.5	0.4	0.6	0.5	0.4	0.6	0.9	2.4	2.8	1.2	4.9	17.0	32.0	26.9	15.0	15.6	9.7	1.8	3.9	2.5	16.8	6.1	6.9	32.0
27	7.0	5.0	1.8	1.0	4.6	3.3	4.3	4.5	1.2	2.8	8.2	15.6	23.5	25.0	16.2	17.7	5.0	3.5	8.8	4.2	1.2	1.9	1.6	1.0	7.0	25.0
28	1.0	2.1	7.3	3.3	1.0	0.6	0.8	1.0	0.9	1.1	3.4	15.8	23.0	23.9	34.2	12.7	10.6	6.9	1.4	0.9	0.7	1.8	1.3	1.7	6.6	34.2
29	1.8	7.5	15.6	11.4	4.6	21.9	39.8	28.0	45.3	27.3	22.0	67.2	60.1	55.9	54.3	38.0	32.3	29.6	22.7	24.2	14.5	16.8	15.7	18.5	28.1	67.2
30	4.4	9.2	20.0	5.2	7.5	5.0	5.2	7.3	22.2	35.4	26.3	30.5	66.4	36.8	56.7	99.1	76.5	72.1	93.9	96.1	67.2	35.0	51.5	35.1	40.2	99.1
31	9.6	13.2	10.8	15.2	15.7	17.0	6.8	9.8	16.7	33.6	20.8	24.4	15.1	15.7	14.2	17.1	12.1	2.9	3.7	5.1	4.0	5.1	8.0	4.7	12.5	33.6
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	6.9	7.7	7.0	5.4	6.2	7.2	6.8	6.7	9.5	12.3	10.7	13.6	14.8	15.1	15.6	16.5	13.9	13.4	11.7	11.0	10.0	7.4	9.6	8.7		
MAX	27.1	26.6	20.0	16.0	44.9	59.6	46.6	36.4	51.0	53.3	36.5	67.2	66.4	55.9	56.7	99.1	76.5	72.1	93.9	96.1	67.2	35.0	51.5	35.1		



Number of 24HR Exceedences	1	Proposed Guideline	
Number of Non-Zero Readings	744		
Maximum 1-HR Average	99.1 UG/M3		
Maximum 24-HR Average	40.2 UG/M3		
Monthly Calibration	0	Operational Time	744 HRS
Standard Deviation	12.2	Operational Uptime	100.0 %
		Monthly Average	10.3 UG/M3

# Berm PM<sub>10</sub> (µg/m<sup>3</sup>) – January 2020

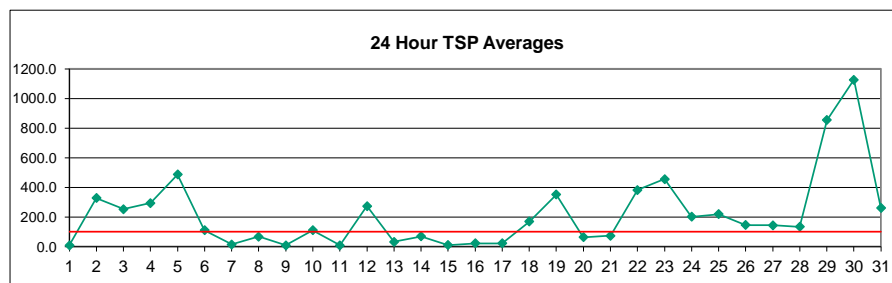
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.7	2.0	0.5	0.3	0.7	0.3	0.5	0.3	0.6	0.8	0.3	0.7	1.0	1.4	0.7	0.7	2.5	0.8	1.6	1.5	13.9	4.9	0.7	14.4	2.3	14.4
2	1.3	1.1	0.7	0.3	1.1	2.0	0.6	29.1	84.8	257.2	178.3	121.1	85.2	122.4	180.0	147.2	112.9	153.4	221.8	143.2	82.0	36.0	40.4	40.3	85.1	257.2
3	43.6	68.8	57.0	38.0	35.0	55.8	17.3	14.4	59.5	70.1	93.6	39.7	72.6	89.6	81.8	87.8	73.5	69.6	55.2	145.2	68.4	51.2	168.7	164.9	71.7	168.7
4	91.4	112.9	61.1	29.4	21.0	13.5	18.2	12.7	47.8	22.3	2.1	1.1	16.3	95.1	40.5	102.1	116.6	156.9	99.1	34.9	27.1	22.9	39.5	47.2	51.3	156.9
5	40.0	22.1	16.2	29.4	106.0	73.0	52.7	184.6	295.7	292.9	223.0	106.9	174.3	197.3	249.8	287.5	141.8	345.4	140.9	60.5	79.6	95.4	37.4	47.6	137.5	345.4
6	50.9	71.9	102.2	30.2	33.7	58.0	68.6	29.9	20.3	28.5	42.9	26.3	22.9	41.0	27.5	41.7	57.3	14.0	1.5	5.6	6.8	4.8	4.0	3.0	33.1	102.2
7	7.7	4.5	9.4	9.8	16.7	20.4	17.7	23.7	11.8	4.5	5.3	13.3	6.7	16.4	8.1	10.9	20.4	14.6	8.6	5.7	3.9	2.8	1.7	1.8	10.3	23.7
8	12.2	18.0	41.3	9.7	3.0	0.9	8.8	40.2	9.0	0.4	14.7	20.2	19.8	72.3	9.4	7.0	19.7	7.0	7.5	6.9	8.9	7.2	8.6	10.9	15.1	72.3
9	8.5	10.8	7.4	6.6	7.8	7.4	6.9	6.7	5.8	7.1	18.6	17.4	19.1	18.4	15.7	12.3	10.0	13.1	10.5	7.8	7.2	9.7	10.2	10.2	10.6	19.1
10	7.7	6.6	6.1	4.7	3.4	2.9	3.2	1.7	5.1	5.5	18.1	31.1	69.2	53.9	38.5	68.9	33.4	24.3	10.8	8.7	12.3	19.4	14.5	4.6	18.9	69.2
11	1.1	1.3	1.0	0.5	0.5	0.6	0.6	0.6	0.9	1.0	1.7	11.9	19.3	23.1	14.1	19.2	23.0	19.1	17.7	15.1	15.4	17.5	17.6	19.6	10.1	23.1
12	31.6	17.6	20.1	18.8	9.7	9.7	7.8	9.2	11.4	14.2	77.6	29.9	17.8	17.3	27.9	33.9	48.6	12.4	13.3	13.3	6.3	5.7	6.0	4.3	19.4	77.6
13	4.0	4.0	5.6	8.4	12.0	6.1	3.4	4.3	5.8	14.6	13.2	15.8	11.2	8.7	7.4	12.4	16.1	9.1	8.8	6.0	6.4	6.5	5.9	6.0	8.4	16.1
14	6.7	8.0	8.5	9.4	7.4	8.0	13.2	12.3	12.0	11.5	8.0	9.0	13.1	21.0	18.5	8.9	24.3	18.3	9.2	9.7	7.2	6.8	9.7	9.9	11.3	24.3
15	10.8	17.3	16.1	8.0	9.5	12.0	9.8	8.9	9.5	8.8	8.3	7.8	9.3	8.2	10.3	9.1	7.0	8.6	7.7	6.9	6.6	6.7	7.5	8.6	9.3	17.3
16	7.7	9.2	7.6	5.9	5.8	5.8	6.1	8.0	6.3	6.6	9.1	14.0	15.9	17.5	11.2	12.8	6.5	6.0	7.9	7.7	11.9	10.0	13.1	11.7	9.3	17.5
17	6.9	5.5	5.1	5.4	5.6	7.7	8.6	8.3	10.4	6.5	12.0	40.4	40.1	32.8	20.7	21.5	15.6	10.5	14.3	12.8	17.5	17.2	23.6	30.2	15.8	40.4
18	40.6	28.2	27.3	24.0	67.2	89.4	69.8	54.6	76.4	79.9	54.6	56.6	67.4	20.2	16.4	34.3	19.9	43.5	3.8	7.8	211.2	167.4	98.6	15.1	57.3	211.2
19	46.0	58.3	18.3	6.2	36.8	34.6	1.4	2.6	12.0	104.3	144.1	255.8	178.4	270.0	220.8	235.3	171.9	93.6	45.5	16.3	12.4	31.9	23.3	16.5	84.8	270.0
20	8.0	19.3	4.2	0.8	0.4	11.1	0.5	0.5	0.8	0.8	1.1	2.7	11.9	11.7	12.9	7.3	1.8	1.0	0.9	0.7	0.7	14.8	90.8	147.4	14.7	147.4
21	89.7	78.6	0.9	1.3	0.8	0.7	0.7	1.7	3.0	2.8	4.2	40.1	92.8	89.4	68.8	50.3	37.0	45.7	11.6	1.5	1.7	1.2	5.4	9.4	26.6	92.8
22	149.1	239.1	160.1	95.3	70.7	105.6	73.5	53.3	96.1	236.3	161.0	147.4	187.3	222.6	91.4	169.9	149.3	52.1	105.8	55.3	38.5	66.0	121.2	161.8	125.4	239.1
23	46.5	72.6	40.8	98.8	154.2	128.8	152.2	104.2	138.3	380.0	243.4	211.2	165.1	120.0	118.2	95.3	146.1	162.6	148.8	76.3	128.5	66.1	69.5	18.6	128.6	380.0
24	3.0	4.1	1.9	1.0	2.6	1.5	1.3	0.4	0.5	0.6	0.7	18.3	43.8	35.4	107.7	107.8	59.7	74.9	80.9	168.9	231.3	204.2	248.3	234.9	68.1	248.3
25	112.9	134.1	71.9	50.9	8.2	1.7	2.0	7.1	4.0	1.8	22.3	96.5	122.5	106.0	94.5	129.7	182.8	162.4	232.6	232.5	59.9	10.4	30.4	27.9	79.4	232.6
26	5.1	1.6	1.0	0.5	1.0	0.7	0.6	1.2	1.5	11.3	12.2	3.3	41.2	133.0	244.8	212.1	125.2	142.2	77.7	9.4	21.2	15.4	131.7	48.6	51.8	244.8
27	48.1	30.1	10.3	5.8	36.6	22.2	34.2	31.7	5.2	22.9	64.9	99.0	148.9	197.6	120.8	142.9	36.2	22.3	84.1	35.9	4.8	12.5	10.0	3.3	51.3	197.6
28	2.8	7.9	58.6	21.7	5.3	1.8	3.6	3.0	2.8	3.7	30.1	136.6	153.7	164.6	268.0	106.7	102.2	59.8	6.3	1.7	1.3	4.6	3.6	4.6	48.1	268.0
29	12.8	67.5	122.3	92.9	40.7	219.0	437.1	286.1	462.2	250.0	184.8	582.3	530.5	470.3	443.0	333.8	264.7	221.3	177.4	181.8	123.0	132.1	140.4	214.4	249.6	582.3
30	42.0	109.1	236.5	52.2	91.3	52.8	49.2	57.3	189.1	288.3	209.4	208.4	536.5	268.0	434.5	841.5	662.0	624.0	771.2	833.3	574.0	334.4	441.9	303.8	342.1	841.5
31	74.0	108.8	85.9	113.5	137.2	144.0	53.5	86.9	136.7	287.6	161.8	189.7	99.1	110.9	91.7	109.2	66.4	5.2	5.4	7.6	6.6	27.4	50.3	31.4	91.3	287.6
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	32.8	43.3	38.9	25.1	30.1	35.4	36.2	35.0	55.7	78.2	65.2	82.4	96.5	98.6	99.9	111.6	88.8	83.7	77.1	68.4	57.9	45.6	60.5	54.0		
MAX	149.1	239.1	236.5	113.5	154.2	219.0	437.1	286.1	462.2	380.0	243.4	582.3	536.5	470.3	443.0	841.5	662.0	624.0	771.2	833.3	574.0	334.4	441.9	303.8		



Number of Non-Zero Readings	744
Maximum 1-HR Average	841.5 UG/M3
Maximum 24-HR Average	342.1 UG/M3
Monthly Calibration	0
Standard Deviation	102.9
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	62.5 UG/M3

# Berm TSP ( $\mu\text{g}/\text{m}^3$ ) – January 2020

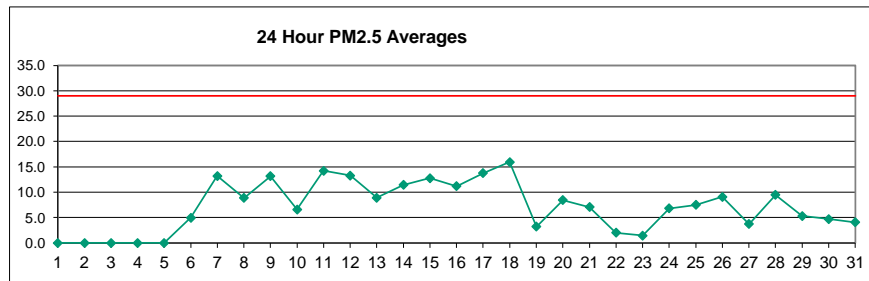
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	24.9	17.0	3.7	0.2	0.6	0.2	0.4	0.2	0.4	0.5	0.2	0.6	1.1	1.9	0.5	0.4	4.7	0.6	5.8	5.2	33.8	13.8	0.5	109.0	9.4	109.0
2	7.3	0.9	0.6	0.2	1.0	1.9	1.9	213.8	490.5	1495.6	941.2	693.1	349.2	517.1	450.2	347.9	341.8	505.4	613.9	377.3	219.8	64.2	97.8	122.5	327.3	1495.6
3	95.7	111.5	117.7	164.4	155.5	301.0	96.7	58.4	272.0	281.9	356.5	143.6	215.8	259.4	257.4	291.2	235.6	251.3	219.6	527.1	217.2	198.4	617.8	614.7	252.5	617.8
4	354.6	388.2	201.0	82.8	88.0	67.8	82.9	57.7	142.0	76.1	1.9	1.0	48.1	1002.7	408.8	1331.0	1036.5	766.5	298.5	89.5	91.3	89.6	148.6	205.5	294.2	1331.0
5	149.8	99.6	68.3	119.8	497.1	334.5	218.8	684.7	986.6	992.4	775.6	339.8	587.1	678.5	845.0	992.6	525.8	1163.2	463.3	215.7	294.4	365.5	130.1	139.0	486.1	1163.2
6	115.9	167.3	565.2	250.8	117.6	212.0	213.6	100.9	72.8	90.6	154.4	75.7	76.4	123.7	72.6	71.2	80.2	40.5	2.6	5.5	11.2	6.5	6.3	4.0	109.9	565.2
7	9.3	5.5	10.4	12.2	20.8	23.7	21.0	27.4	12.2	4.4	10.3	31.6	11.1	93.8	6.3	8.5	20.7	13.5	6.2	3.8	2.5	1.9	1.3	1.6	15.0	93.8
8	50.4	74.6	129.3	32.0	3.2	2.3	41.0	184.6	33.4	0.3	60.1	28.9	58.4	867.2	7.5	5.2	20.3	4.6	4.9	4.5	7.2	5.0	6.3	8.0	68.3	867.2
9	6.6	8.3	4.9	4.3	5.3	4.9	4.5	4.4	3.8	5.5	20.1	16.7	17.3	14.1	36.8	13.5	7.2	10.6	7.6	5.0	5.3	6.7	7.2	8.2	9.5	36.8
10	5.7	4.9	4.9	3.8	2.5	2.2	7.5	1.8	5.3	15.8	179.9	339.6	689.2	312.1	189.1	366.3	163.3	98.2	44.3	19.5	31.5	87.1	68.4	14.5	110.7	689.2
11	4.3	3.1	1.1	0.8	0.4	0.4	0.4	0.4	0.7	1.9	2.1	13.4	22.7	34.5	11.3	13.0	15.2	12.9	12.3	9.9	11.4	16.4	16.3	20.5	9.4	34.5
12	36.1	16.8	19.3	18.9	6.9	16.6	5.1	6.2	8.8	12.5	1761.2	681.6	225.3	229.8	573.2	949.4	1319.9	204.2	160.2	157.0	27.9	53.4	73.8	15.2	274.1	1761.2
13	3.2	3.1	4.8	8.5	224.1	25.1	2.4	3.0	4.0	12.5	11.7	153.9	123.5	36.4	30.9	53.9	24.2	28.0	17.9	3.9	4.4	4.2	4.0	4.0	33.0	224.1
14	4.7	6.1	6.7	8.4	6.1	7.0	14.6	13.6	13.3	12.1	6.5	8.0	149.8	486.0	378.2	56.1	420.1	20.4	7.0	8.7	4.8	4.7	8.3	9.2	69.2	486.0
15	10.7	19.9	17.9	6.6	9.2	13.4	9.7	7.0	8.0	7.3	6.7	5.9	28.6	6.1	21.2	17.4	4.6	6.2	5.4	4.6	4.4	4.3	5.2	7.3	9.9	28.6
16	6.3	8.6	6.0	3.9	3.9	4.0	4.5	6.7	4.7	5.0	8.4	14.8	111.5	95.7	18.3	44.6	16.2	14.2	42.5	23.2	37.8	9.5	14.3	12.2	21.5	111.5
17	5.2	3.9	4.1	21.4	18.7	6.1	7.5	6.7	12.0	4.8	18.6	123.8	53.4	51.7	32.4	30.0	14.5	12.2	14.6	9.4	16.7	15.1	23.6	33.3	22.5	123.8
18	47.0	32.0	28.5	26.3	76.7	103.5	81.0	62.7	88.6	92.8	62.5	67.1	108.7	27.1	23.8	57.2	21.4	49.2	3.2	8.5	989.8	1194.0	688.4	105.3	168.6	1194.0
19	377.0	442.7	114.8	31.1	224.0	231.5	4.7	6.5	42.1	500.6	716.0	1150.3	739.4	1004.3	583.1	596.7	688.8	412.2	187.0	40.8	45.7	117.1	103.2	83.3	351.8	1150.3
20	39.9	89.8	11.9	0.6	0.3	12.9	0.4	0.4	0.6	0.6	0.9	10.0	45.8	32.9	30.3	10.9	2.0	1.8	0.7	1.0	0.8	67.1	423.9	720.8	62.8	720.8
21	295.3	318.6	2.4	1.6	1.0	0.5	0.4	1.6	2.9	2.8	9.9	147.3	208.7	153.3	143.7	139.2	119.7	145.9	37.4	1.0	1.4	0.9	5.8	34.6	74.0	318.6
22	510.5	823.6	509.1	312.2	305.9	364.7	234.7	208.3	334.6	774.0	435.5	310.8	481.1	595.7	209.8	408.5	415.9	146.9	355.4	173.4	123.3	250.2	388.8	488.7	381.7	823.6
23	142.4	233.8	113.1	374.3	514.7	433.2	531.2	344.0	523.0	1445.1	949.1	720.5	464.5	340.3	378.5	321.5	526.1	599.6	632.0	319.4	430.1	266.9	284.9	60.7	456.2	1445.1
24	7.3	10.3	6.6	1.5	2.3	1.2	1.1	0.3	0.4	0.4	0.6	64.5	171.0	114.2	266.0	295.6	175.1	230.5	226.4	502.5	715.5	638.5	700.2	689.8	200.9	715.5
25	323.1	413.9	223.4	139.5	25.4	6.4	1.4	17.8	11.5	2.6	75.1	179.1	255.1	307.8	231.4	360.1	509.1	460.7	694.7	599.5	174.2	35.1	112.3	109.4	219.5	694.7
26	16.2	1.8	5.2	0.3	0.7	0.6	0.4	1.7	2.9	22.6	19.4	7.5	117.1	387.2	698.6	599.3	333.9	402.6	192.6	23.0	44.0	43.4	409.8	168.1	145.8	698.6
27	131.8	77.4	25.5	18.4	145.5	76.9	163.4	111.4	13.3	81.5	180.8	215.7	312.5	505.7	322.5	421.5	95.9	53.2	282.0	116.9	11.1	62.6	34.3	10.3	144.6	505.7
28	4.6	15.1	194.7	72.7	13.9	4.9	17.7	3.6	7.8	9.0	103.2	421.8	344.4	370.7	759.3	325.3	323.5	190.1	16.8	1.3	1.7	4.3	3.9	4.4	133.9	759.3
29	52.6	157.4	284.6	394.8	158.3	923.1	1755.8	1272.2	1865.2	923.0	613.3	2055.5	1761.6	1437.0	1292.6	1029.8	802.8	674.4	519.4	454.7	328.9	401.5	369.1	949.5	853.2	2055.5
30	355.7	426.1	965.6	188.7	351.1	190.1	140.9	134.7	612.2	909.0	520.5	492.0	1405.3	660.2	1229.1	2635.0	2232.3	2204.1	2533.5	2917.9	1997.9	1274.7	1514.2	1124.2	1125.6	2917.9
31	272.1	377.4	284.5	405.1	526.5	505.5	173.0	254.4	355.1	744.2	418.5	504.8	208.5	292.7	232.7	254.9	129.1	6.2	6.0	8.5	7.7	64.1	133.3	77.3	260.1	744.2
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	111.8	140.6	127.0	87.3	113.1	125.1	123.8	122.5	191.3	275.1	271.6	290.9	303.0	356.1	314.2	388.6	342.8	281.6	245.6	214.1	190.1	173.1	206.5	192.1		
MAX	510.5	823.6	965.6	405.1	526.5	923.1	1755.8	1272.2	1865.2	1495.6	1761.2	2055.5	1761.6	1437.0	1292.6	2635.0	2232.3	2204.1	2533.5	2917.9	1997.9	1274.7	1514.2	1124.2		



Number of 24HR Exceedences	19	Proposed Guideline
Number of Non-Zero Readings	744	
Maximum 1-HR Average	2917.9 UG/M3	
Maximum 24-HR Average	1125.6 UG/M3	
IZS Calibration Time		Operational Time
Monthly Calibration	0	Operational Uptime
Standard Deviation	369.2	Monthly Average
		744 HRS
		100.0 %
		216.2 UG/M3

# Entrance PM<sub>2.5</sub> (µg/m<sup>3</sup>) – January 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	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
2	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
3	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
4	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
5	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	5.1	NRM	NRM	NRM	5.1	2.5	1.9	1.9	3.5	1.8	1.9	2.1	0.8	0.7	-	-
6	0.5	0.4	4.0	4.2	1.0	1.1	1.7	4.3	4.1	5.0	3.9	3.4	4.4	4.4	3.4	4.3	2.8	2.1	4.7	13.7	10.4	14.9	12.0	8.6	5.0	14.9
7	6.9	6.5	7.5	6.6	11.2	14.0	11.6	18.6	32.2	15.4	10.3	11.6	10.5	13.6	10.6	13.0	17.3	21.2	19.8	16.0	13.0	14.1	9.4	6.0	13.2	32.2
8	2.8	2.8	2.3	1.6	4.6	2.5	1.7	2.2	2.4	6.2	10.7	15.0	15.5	24.1	14.9	11.9	14.9	13.0	11.6	11.7	10.4	9.0	10.2	10.8	8.9	24.1
9	9.5	9.7	10.2	10.2	10.3	10.1	9.9	12.7	15.1	10.1	13.1	13.0	17.7	20.5	16.4	12.7	13.2	16.8	13.4	11.6	10.8	12.7	17.0	19.8	13.2	20.5
10	18.0	18.4	15.3	16.7	9.2	6.4	6.5	4.0	12.4	9.2	5.7	4.5	5.0	5.7	3.8	5.0	3.7	2.4	1.9	0.9	0.9	0.9	1.1	1.3	6.6	18.4
11	2.1	2.3	6.2	3.5	2.8	3.0	3.7	5.6	8.1	6.5	7.9	19.4	24.1	23.0	20.6	26.4	31.3	25.5	24.0	21.3	18.0	17.9	17.6	20.7	14.2	31.3
12	27.6	19.4	26.3	21.3	11.8	10.9	10.7	11.9	13.5	14.9	23.2	16.3	14.1	13.6	14.4	15.2	15.9	8.3	5.6	5.4	4.6	5.0	4.9	4.5	13.3	27.6
13	4.3	4.9	6.0	6.1	4.9	4.7	6.4	7.2	8.7	15.8	12.1	11.0	10.2	9.2	8.2	7.9	10.1	11.4	11.5	10.8	11.0	9.8	9.5	12.3	8.9	15.8
14	14.1	10.4	10.8	12.9	10.7	12.5	11.9	9.8	12.2	9.7	9.6	11.2	10.6	9.9	8.7	10.2	13.8	16.7	10.8	10.5	10.6	9.8	13.4	13.8	11.4	16.7
15	12.8	12.8	12.6	11.5	13.4	12.2	12.2	13.7	12.1	12.8	12.9	12.9	15.9	10.8	12.9	25.6	11.1	10.7	12.0	11.8	11.2	10.0	10.9	11.6	12.8	25.6
16	10.4	10.2	9.1	8.3	7.9	8.1	9.1	9.2	10.0	9.4	15.1	17.9	11.9	15.8	17.0	26.1	10.2	9.3	9.6	9.2	9.3	8.8	8.6	8.1	11.2	26.1
17	8.1	7.5	6.6	6.5	7.5	8.7	9.2	9.2	16.3	10.0	16.8	9.8	11.2	10.8	9.9	12.6	17.9	18.4	19.8	15.5	19.2	25.5	26.8	26.5	13.8	26.8
18	32.6	25.0	25.1	23.1	22.6	18.5	16.6	22.8	15.1	15.6	15.0	12.2	8.4	13.3	12.5	11.8	14.2	15.4	23.4	16.6	11.4	3.3	4.1	4.1	15.9	32.6
19	2.8	2.6	1.7	1.7	1.6	1.3	8.4	16.4	4.3	4.4	3.4	3.4	2.4	2.0	3.0	0.8	0.9	0.9	1.7	1.3	1.9	0.9	1.4	7.8	3.2	16.4
20	11.0	8.5	7.6	11.9	7.0	12.4	5.2	4.3	8.3	5.2	7.2	9.2	5.6	2.4	2.5	2.9	9.1	14.7	17.4	10.9	19.2	12.9	3.1	4.5	8.5	19.2
21	1.0	1.0	8.3	20.3	15.2	13.5	6.1	12.5	8.7	8.8	4.7	2.4	1.5	2.6	4.0	3.6	4.1	4.0	3.7	7.0	14.9	12.7	5.0	3.7	7.1	20.3
22	0.7	1.2	1.1	1.2	0.8	1.3	1.2	2.3	2.2	4.2	3.2	4.0	4.0	3.2	2.0	1.6	2.7	2.1	2.7	1.4	0.9	1.5	1.9	1.5	2.0	4.2
23	0.8	0.8	0.6	1.3	1.0	0.8	1.0	1.5	2.7	3.1	3.6	2.7	1.7	3.1	1.8	1.2	1.0	2.4	0.8	0.4	0.6	0.4	0.7	1.3	1.5	3.6
24	4.4	10.0	15.9	11.4	14.4	13.5	15.8	9.3	12.6	14.9	18.1	7.9	1.3	3.3	1.4	2.4	0.9	0.6	0.5	0.8	0.8	1.2	1.1	0.9	6.8	18.1
25	0.8	0.5	1.0	0.4	1.8	4.1	35.5	32.4	33.6	7.7	5.9	3.3	2.6	2.2	2.7	1.5	2.5	3.0	2.1	1.6	1.6	9.4	11.9	12.1	7.5	35.5
26	20.8	16.7	9.8	6.3	8.5	14.9	18.1	17.0	17.3	14.2	20.2	14.6	10.7	4.2	5.1	1.3	1.6	1.3	1.5	3.4	1.3	4.6	2.5	1.6	9.1	20.8
27	0.9	0.9	1.8	2.8	1.6	0.8	11.0	2.3	3.3	4.0	3.8	7.6	7.2	9.9	8.4	3.4	3.7	2.4	1.2	1.6	5.0	2.4	1.7	2.1	3.7	11.0
28	10.1	17.7	2.6	3.1	9.4	8.2	9.8	14.2	23.5	11.0	5.5	6.9	6.1	7.4	9.2	4.6	6.4	2.1	3.0	3.7	10.5	16.2	17.2	18.5	9.5	23.5
29	2.7	1.9	2.5	4.0	2.2	4.4	5.1	7.1	10.3	4.7	5.4	18.1	10.2	12.1	6.5	3.4	3.8	1.9	2.9	1.0	0.7	1.0	1.8	13.7	5.3	18.1
30	3.5	1.0	4.6	1.7	2.0	2.2	2.0	6.0	4.1	4.1	4.4	5.8	7.0	4.4	7.0	11.0	6.7	5.9	3.8	10.5	3.2	2.5	3.6	5.9	4.7	11.0
31	4.0	4.4	4.9	6.9	3.4	1.6	2.5	12.5	7.3	8.8	4.5	4.0	3.0	2.6	2.7	3.3	1.1	1.9	0.7	1.3	3.2	3.9	2.5	6.4	4.1	12.5
NO. MEAN MAX	26	26	26	26	26	26	26	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27	27	27	635	85%
	8.2	7.6	7.9	7.9	7.2	7.4	8.9	10.3	11.5	9.1	9.3	9.5	8.6	9.0	8.0	8.4	8.3	8.0	7.9	7.5	7.7	7.9	7.4	8.5		
	32.6	25.0	26.3	23.1	22.6	18.5	35.5	32.4	33.6	15.8	23.2	19.4	24.1	24.1	20.6	26.4	31.3	25.5	24.0	21.3	19.2	25.5	26.8	26.5		

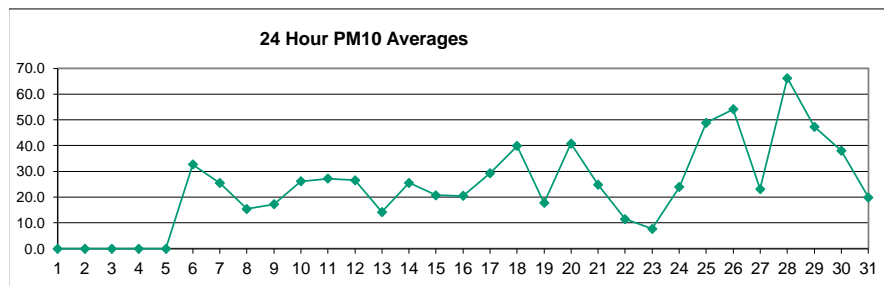


Number of 24HR Exceedences	0	Proposed Guideline	
Number of Non-Zero Readings	635		
Maximum 1-HR Average	35.5 UG/M3		
Maximum 24-HR Average	15.9 UG/M3		
		Operational Time	635 HRS
Monthly Calibration	0	Operational Uptime	85.3 %
Standard Deviation	6.606	Monthly Average	8.4 UG/M3



# Entrance PM<sub>10</sub> (µg/m<sup>3</sup>) – January 2020

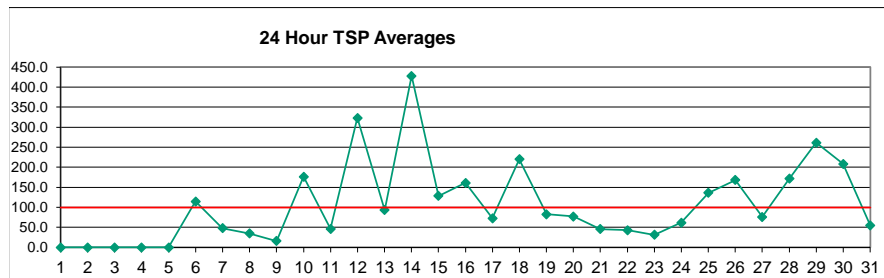
Day	HOURLY																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
2	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
3	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
4	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
5	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
6	2.2	1.5	53.8	13.9	4.8	7.8	13.0	30.2	27.7	25.7	26.8	20.2	24.3	22.2	19.2	22.7	16.2	7.1	26.9	133.3	66.9	92.8	71.0	54.5	32.7	133.3
7	35.2	11.3	11.0	9.7	16.7	21.0	17.4	27.8	45.2	22.8	38.8	59.7	47.5	44.7	14.4	15.4	23.9	31.4	29.7	24.0	19.6	21.2	14.1	9.0	25.5	59.7
8	4.9	11.5	11.1	5.9	22.3	12.5	8.9	15.1	8.2	9.3	22.5	17.1	27.4	51.7	20.2	14.1	19.5	16.5	13.5	13.4	12.3	9.8	11.4	11.2	15.4	51.7
9	10.3	10.7	10.9	10.3	11.5	11.2	10.8	15.3	18.4	12.2	16.8	21.6	26.8	30.6	23.9	16.7	15.5	21.5	17.1	15.3	15.1	17.1	24.5	29.5	17.2	30.6
10	27.0	27.5	22.9	25.0	13.7	9.2	9.4	5.4	92.3	88.8	45.5	26.3	48.8	51.1	33.9	43.0	26.6	11.5	7.1	1.7	2.3	3.0	2.6	3.9	26.2	92.3
11	8.4	10.3	30.1	15.4	12.6	7.1	5.3	8.4	24.2	33.9	48.0	43.6	54.4	63.3	35.7	29.9	40.2	31.0	34.2	24.4	19.7	21.0	22.7	29.0	27.2	63.3
12	39.7	25.7	35.3	29.0	13.0	11.6	11.2	12.1	15.3	17.8	103.2	49.3	22.9	21.5	32.1	45.3	82.9	20.8	14.0	9.5	5.7	6.1	7.6	5.6	26.6	103.2
13	5.0	5.8	7.5	8.0	17.4	12.9	12.1	10.0	9.7	21.4	14.5	19.1	13.9	11.7	9.5	10.6	12.3	27.2	24.4	21.1	21.5	14.1	13.5	17.3	14.2	27.2
14	20.5	14.0	14.8	18.2	14.2	17.7	18.3	17.2	30.2	30.7	19.4	31.3	32.5	30.4	16.3	15.2	47.3	94.8	14.7	18.2	24.3	19.6	33.9	19.8	25.6	94.8
15	38.8	18.6	18.1	16.2	18.9	17.4	17.5	19.7	15.8	24.2	31.6	31.7	25.5	18.3	20.2	30.3	16.9	15.3	16.5	23.9	21.4	12.2	14.0	15.4	20.8	38.8
16	13.2	12.9	10.3	9.6	9.8	12.2	15.9	11.9	21.2	22.8	50.1	49.2	29.0	35.7	37.2	32.9	15.5	16.5	21.7	13.6	15.8	11.2	13.1	10.7	20.5	50.1
17	10.8	10.6	8.2	7.2	11.3	20.3	23.9	21.4	43.0	25.8	69.1	16.3	20.9	19.7	15.4	26.0	47.0	51.0	45.7	19.1	52.0	60.1	40.0	39.8	29.4	69.1
18	48.8	37.4	37.6	34.6	33.9	27.1	23.2	29.3	19.1	20.2	19.3	16.4	15.2	31.1	27.4	30.2	59.9	35.6	35.1	130.8	151.5	30.0	35.0	27.9	39.9	151.5
19	19.9	21.7	9.3	8.9	10.0	7.4	51.8	109.0	23.9	20.5	18.4	17.3	12.9	10.1	8.6	4.3	4.4	2.7	6.1	3.3	6.0	1.6	2.9	45.6	17.8	109.0
20	67.9	46.8	35.0	59.4	32.1	24.7	7.8	6.5	12.5	7.7	10.8	40.4	31.2	7.6	8.5	10.2	54.1	85.3	104.1	75.0	118.8	79.7	22.0	30.2	40.8	118.8
21	3.4	3.0	55.9	113.0	90.3	77.2	12.2	18.7	13.0	13.1	14.9	8.3	3.6	6.2	13.7	10.2	10.2	9.7	12.3	36.8	34.3	19.0	8.8	6.4	24.8	113.0
22	2.4	6.4	7.0	7.9	6.8	10.1	7.3	13.5	10.5	20.7	24.8	25.1	23.4	26.3	12.9	12.4	14.3	9.2	8.2	4.5	2.4	6.1	6.9	5.9	11.5	26.3
23	2.3	3.3	3.6	10.6	7.1	4.7	6.6	10.9	12.9	25.8	28.2	15.9	8.5	10.0	9.9	3.9	3.8	6.5	2.6	1.0	1.4	0.8	1.6	2.9	7.7	28.2
24	17.8	59.9	103.1	66.3	21.5	20.3	23.7	13.9	18.9	22.4	101.0	43.3	4.8	10.9	6.7	9.4	4.1	1.2	0.9	2.3	3.1	7.5	6.2	5.5	24.0	103.1
25	4.0	2.2	5.9	1.3	9.5	27.0	238.9	210.8	230.1	52.1	40.7	13.9	16.4	10.4	9.7	8.3	7.5	13.5	6.3	5.4	6.5	71.2	86.1	95.7	48.9	238.9
26	171.5	132.8	72.6	38.6	43.4	84.1	104.3	48.6	25.9	21.3	153.7	111.2	86.1	33.7	48.6	8.1	10.2	8.5	7.9	21.2	5.9	28.3	21.7	10.2	54.1	171.5
27	4.9	4.2	9.5	13.2	10.1	3.8	52.5	12.7	20.3	24.2	20.0	51.9	58.5	77.5	64.1	29.6	20.9	10.5	4.3	6.5	25.2	12.9	8.7	9.5	23.1	77.5
28	60.1	106.4	14.8	13.8	67.3	57.7	70.2	111.1	211.3	103.5	46.3	54.4	39.9	55.4	81.8	31.7	39.4	10.6	11.7	22.5	52.5	95.0	91.9	138.2	66.2	211.3
29	17.0	13.9	16.6	43.1	16.9	44.5	61.7	71.8	114.1	44.6	36.3	134.0	106.5	105.0	52.9	21.4	22.2	14.8	18.4	4.2	3.6	5.1	17.8	149.7	47.3	149.7
30	10.3	6.8	35.8	9.1	12.0	13.7	13.1	44.3	37.4	33.7	31.8	44.0	54.8	35.1	52.9	100.1	59.1	54.2	31.4	116.3	34.3	17.5	28.5	38.4	38.1	116.3
31	19.0	26.6	27.5	32.1	23.5	16.6	16.5	72.4	45.6	43.8	26.3	21.4	15.5	12.2	9.5	14.7	3.0	2.5	0.9	1.8	4.7	6.5	7.7	27.2	19.9	72.4
NO.	26	26	26	26	26	26	26	26	26	26	27	26	26	26	27	27	27	27	27	27	27	27	27	27	635	85%
MEAN	25.6	24.3	25.7	23.9	21.2	22.3	32.8	37.2	44.1	30.3	40.5	37.8	32.7	32.0	27.1	22.8	25.6	23.1	20.1	28.2	27.4	25.4	22.9	31.2		
MAX	171.5	132.8	103.1	113.0	90.3	84.1	238.9	210.8	230.1	103.5	153.7	134.0	106.5	105.0	81.8	100.1	82.9	94.8	104.1	133.3	151.5	95.0	91.9	149.7		



Number of Non-Zero Readings	635
Maximum 1-HR Average	238.9 UG/M3
Maximum 24-HR Average	66.2 UG/M3
Monthly Calibration	0
Standard Deviation	31.16
Operational Time	635 HRS
Operational Uptime	85.3 %
Monthly Average	28.5 UG/M3

# Entrance TSP ( $\mu\text{g}/\text{m}^3$ ) –January 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	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
2	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
3	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
4	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
5	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-
6	9.0	5.6	742.0	45.1	17.0	35.6	49.7	92.4	89.4	71.2	85.8	56.7	71.6	67.8	46.1	58.7	46.4	15.8	72.3	325.7	130.8	263.2	192.8	163.3	114.8	742.0
7	76.4	13.8	10.2	8.9	18.6	23.4	19.5	31.0	42.0	24.2	111.5	233.8	174.2	160.5	13.2	11.6	19.2	32.5	33.3	26.9	21.9	24.0	15.8	9.7	48.2	233.8
8	10.0	28.6	22.5	8.0	23.4	26.7	29.8	63.7	49.2	10.5	101.8	12.4	68.2	269.6	18.0	10.7	19.5	14.4	9.8	10.0	9.9	6.8	8.3	7.6	35.0	269.6
9	7.1	7.8	7.3	6.7	8.0	7.5	7.5	10.9	13.9	8.6	13.2	47.6	36.0	29.4	26.9	14.4	11.9	15.8	13.2	12.5	12.8	14.1	21.8	29.5	16.0	47.6
10	27.9	30.6	25.7	28.7	14.5	9.2	9.8	4.8	692.2	797.8	489.2	182.9	356.5	541.6	330.1	366.5	188.8	69.7	19.1	5.5	7.5	11.4	7.8	11.5	176.2	797.8
11	17.1	21.0	49.6	29.7	32.2	9.4	5.5	9.1	47.3	107.8	118.8	98.9	111.5	146.8	74.9	24.7	46.3	24.3	32.3	19.2	14.2	17.4	21.6	31.8	46.3	146.8
12	45.7	26.6	37.8	32.0	11.3	10.9	7.5	8.0	12.5	15.8	1516.2	905.5	232.8	184.8	603.6	1200.3	2178.3	381.2	186.5	64.6	4.9	5.1	62.9	16.8	323.0	2178.3
13	4.0	4.7	9.6	11.4	290.1	218.7	148.7	46.5	22.6	146.8	78.3	111.0	96.5	68.9	29.3	28.6	14.3	71.4	91.4	219.2	234.3	181.9	83.1	18.9	92.9	290.1
14	23.4	14.4	15.1	20.5	14.6	20.0	71.0	179.5	437.6	618.2	260.9	611.5	564.9	608.4	258.5	140.0	1177.5	2684.8	127.6	331.8	758.8	403.8	892.1	27.6	427.6	2684.8
15	900.2	21.0	20.7	17.6	21.3	19.6	19.9	21.9	15.5	187.6	511.4	403.7	124.0	89.8	87.1	54.3	39.0	57.1	37.4	103.8	261.4	38.0	13.8	16.3	128.4	900.2
16	13.0	12.4	12.0	36.0	52.2	76.0	152.6	11.1	232.8	418.3	1093.4	619.7	185.3	158.4	87.9	38.4	26.5	40.9	207.5	74.0	59.7	46.2	111.3	93.5	160.8	1093.4
17	83.3	65.9	38.3	16.5	38.9	107.6	277.1	45.9	69.3	180.8	185.5	44.7	23.8	22.6	14.7	30.6	83.7	93.9	79.7	16.2	72.3	65.4	42.5	45.1	72.7	277.1
18	50.8	38.7	42.1	37.7	33.3	21.0	19.0	21.7	13.3	14.3	20.0	13.0	18.2	58.7	50.0	60.0	106.3	41.5	40.6	725.0	2558.0	538.3	515.6	246.7	220.2	2558.0
19	264.3	377.5	113.1	85.6	140.3	106.3	102.1	200.8	43.9	59.0	77.6	84.6	59.9	44.0	29.1	14.3	15.7	13.3	16.8	6.0	16.2	4.8	6.9	96.5	82.4	377.5
20	134.2	74.9	89.4	162.5	68.4	34.1	8.9	7.2	14.1	8.8	12.3	94.0	74.4	15.6	13.1	15.2	84.1	136.5	166.1	128.1	233.3	142.9	60.7	77.6	77.4	233.3
21	7.7	10.7	89.2	228.3	207.1	157.9	13.9	21.5	14.9	14.8	30.4	22.8	9.2	13.2	27.6	17.7	10.0	12.2	19.5	66.0	58.0	22.0	9.4	11.9	45.7	228.3
22	15.6	28.6	27.2	47.6	43.1	46.2	32.6	58.5	30.5	66.5	85.5	81.6	82.3	99.6	52.1	47.9	51.7	18.5	29.7	9.3	6.3	26.6	22.0	19.6	42.9	99.6
23	5.0	16.3	21.2	66.2	40.3	22.7	42.8	50.9	54.7	130.1	99.7	48.1	26.9	30.3	29.5	10.2	12.7	16.8	7.5	4.9	7.2	1.1	4.5	5.9	31.5	130.1
24	46.7	195.0	319.5	153.9	24.9	23.5	27.4	15.9	21.8	25.8	247.5	122.6	13.2	13.1	17.3	26.3	9.1	1.6	4.1	8.1	26.2	50.3	44.8	46.2	61.9	319.5
25	25.4	10.5	53.6	8.9	29.2	61.5	567.2	548.5	556.3	114.2	141.6	36.8	49.2	27.6	31.5	33.1	24.1	43.4	24.2	24.3	26.5	237.7	275.8	317.2	136.2	567.2
26	570.3	480.0	248.5	136.9	78.3	218.4	230.8	81.3	30.0	24.4	482.3	291.5	293.6	136.3	192.7	36.1	44.4	47.5	36.3	68.4	35.4	85.4	130.0	61.5	168.4	570.3
27	37.1	17.2	20.8	47.9	54.2	22.4	112.7	57.4	71.3	82.1	57.9	163.8	193.9	227.4	194.3	107.8	73.5	36.1	13.9	24.5	64.9	60.9	49.5	31.4	76.0	227.4
28	120.3	233.8	61.1	27.2	204.2	170.2	219.0	355.3	582.4	312.0	180.1	218.5	118.6	152.9	278.8	104.0	120.1	32.1	20.1	64.8	56.6	119.8	120.8	240.0	171.4	582.4
29	98.1	100.3	74.1	278.3	119.9	287.3	401.2	395.5	748.2	270.6	198.5	540.9	540.2	452.5	233.7	74.7	104.9	126.2	131.2	19.4	19.3	22.0	114.9	918.9	261.3	918.9
30	15.5	35.8	172.7	28.5	63.5	61.3	51.0	162.7	211.3	145.4	139.3	177.7	248.5	171.4	196.2	481.8	378.6	401.6	240.3	845.7	304.8	115.4	163.0	185.1	208.2	845.7
31	59.2	81.5	113.9	97.1	147.7	151.7	69.8	101.6	94.5	96.7	57.5	52.5	35.9	34.4	18.9	31.9	8.6	2.0	0.7	1.6	4.7	7.5	7.7	33.0	54.6	151.7
NO.	26	26	26	26	26	26	26	26	26	26	27	26	26	26	27	27	27	27	27	27	27	27	27	27	635	85%
MEAN	102.6	75.1	93.7	64.1	69.1	75.0	103.7	100.1	162.0	152.0	243.9	202.9	146.5	147.1	117.8	116.1	184.0	166.9	65.6	121.1	187.7	96.4	111.6	103.0		
MAX	900.2	480.0	742.0	278.3	290.1	287.3	567.2	548.5	748.2	797.8	1516.2	905.5	564.9	608.4	603.6	1200.3	2178.3	2684.8	240.3	845.7	2558.0	538.3	892.1	918.9		



Number of 24HR Exceedences	12	Proposed Guideline
Number of Non-Zero Readings	635	
Maximum 1-HR Average	2684.8	UG/M3
Maximum 24-HR Average	427.6	UG/M3
Monthly Calibration	0	
Standard Deviation	241.1	
Operational Time	635	HRS
Operational Uptime	85.3	%
Monthly Average	125.6	UG/M3