

LAFARGE CANADA INC.

# AMBIENT AIR QUALITY MONTHLY REPORT

## JULY 2023

AUGUST 21, 2023



wsp



# AMBIENT AIR QUALITY MONTHLY REPORT

JULY 2023

LAFARGE CANADA INC.

PROJECT NO.: 171-00556-05  
DATE: AUGUST 21, 2023

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August 21, 2023

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

**Attention: Nikolaos Veriotes P. Eng.**

Dear Mr. Veriotes,

**Subject: Ambient Air Quality Monthly Report – July 2023**

The following table summarizes the data completeness and reported exceedances of Alberta Ambient Air Quality Objectives (AAAQOs) or Guidelines (AAAQG) at the Lagoon Station for July 2023. Most of the recorded exceedances this month are associated with wildfire smoke impacts.

Lagoon	Data Completeness (%)	1-Hour Average	24-hour Average
		Exceedances of AAAQO or AAAQG	Exceedances of AAAQO
TSP	99.5%	-	1
PM <sub>2.5</sub>	98.9%	7	4
PM <sub>10</sub>	99.6%	-	-
NO	99.9%	-	-
NO <sub>2</sub>	99.9%	0	-
NO <sub>x</sub>	99.9%	-	-
SO <sub>2</sub>	99.9%	0	0
Temperature	100.0%	-	-
Wind Speed / Direction	100.0%	-	-
Pressure	100.0%	-	-
Relative Humidity	100.0%	-	-

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<b>Precipitation</b>	100.0%	-	-
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The following table summarizes the data completeness and reported exceedances of Alberta Ambient Air Quality Objectives (AAAQOs) or Guidelines (AAAQG) at the Windridge Station for July 2023. Most of the recorded exceedances this month are associated with wildfire smoke impacts.

<b>Windridge</b>	<b>Data Completeness (%)</b>	<b>1-Hour Average</b>	<b>24-hour Average</b>	
		Exceedances of AAAQG	Exceedances of PM <sub>2.5</sub> AAAQO	Exceedances of TSP AAAQO
<b>TSP</b>	99.9%	-	-	4
<b>PM<sub>2.5</sub></b>	99.9%	2	3	-
<b>PM<sub>10</sub></b>	100.0%	-	-	-

The GRIMM monitors are considered Industrial Ambient Monitors and are meant for assessing the performance of Lafarge Exshaw’s Fugitive Dust Control Best Management Practices – Program; the GRIMM monitors are not Air Monitoring Directive (AMD) compliant. This Program uses the AAAQOs as Guidelines. The following table summarizes the data completeness and exceedances of the Guidelines at the GRIMM Monitors for July 2023.

<b>GRIMM Stations</b>	<b>Data Completeness (%)</b>	<b>1-Hour Average</b>	<b>24-hour Average</b>	
		Exceedances of PM <sub>2.5</sub> Guidelines	Exceedances of PM <sub>2.5</sub> Guidelines	Exceedances of TSP Guidelines
<b>West</b>	100.0%	2	4	0
<b>Berm</b>	100.0%	0	4	7
<b>Entrance</b>	0%	0	0	0

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

Sincerely,

Tyler Abel, M.Sc.  
Senior Air Quality Specialist,  
Vancouver Region

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# SIGNATURES

PREPARED BY



August 21, 2023

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Tuonan Li, M.Sc.  
Air Quality Specialist  
Vancouver Region, Environment

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Date

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



August 21, 2023

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Tyler Abel, M.Sc.  
Senior Air Quality Specialist  
Vancouver Region, Environment

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Date

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## APPENDICES

### 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 (Figure 1-1). 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 July 1, 2023 and July 31, 2023.

This monthly report was prepared by Tuonan Li, Air Quality Specialist with WSP, on behalf of Lafarge and was reviewed by Tyler Abel, Senior Air Quality Specialist at WSP.

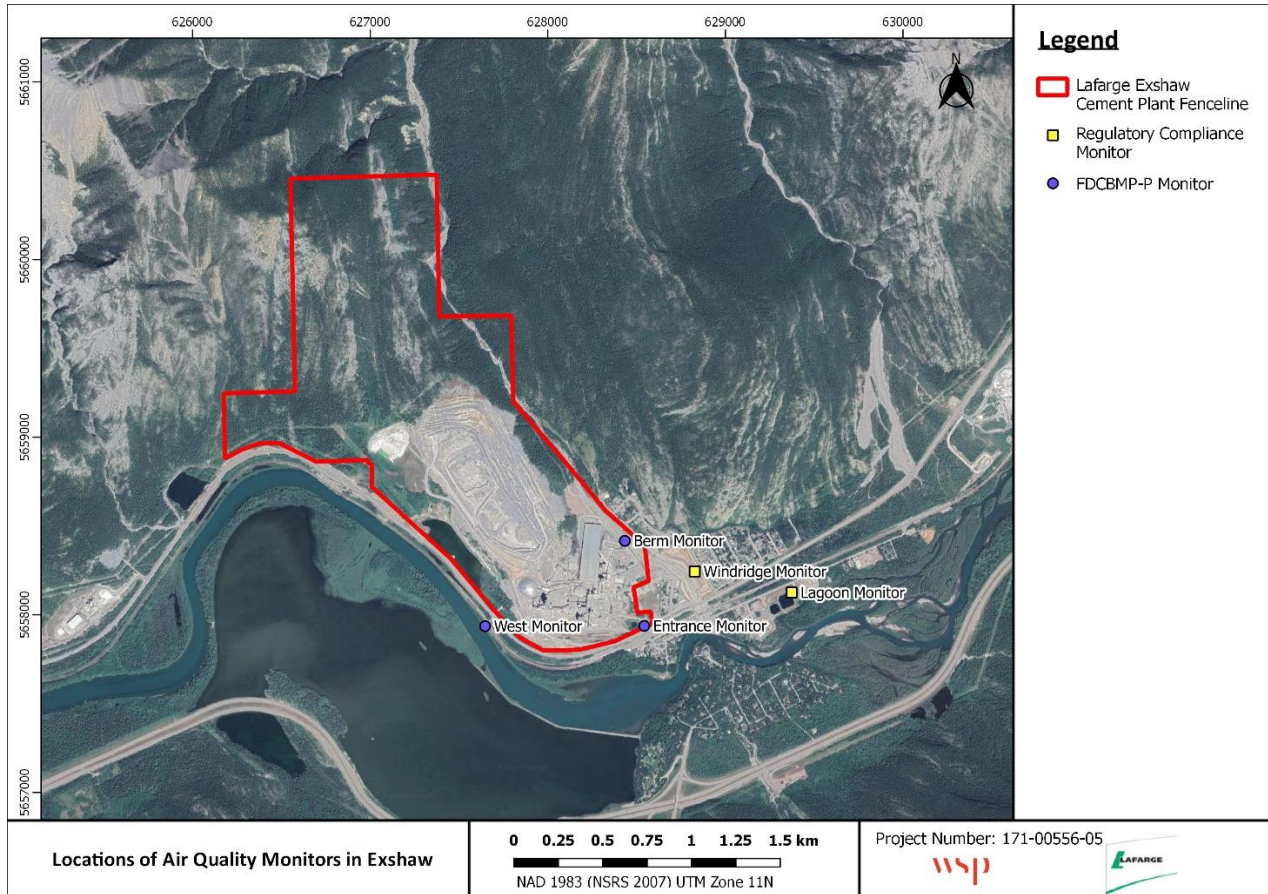


Figure 1-1 Locations of Air Quality Monitors in Exshaw

## 1.1 EXSHAW CREEK FLOOD MITIGATION

Due to flood mitigation construction at Exshaw creek (Figure 1-2), the Windridge monitoring station was taken out of operation and removed from the site on April 8, 2019. The flood mitigation work was completed in Summer 2020. The Windridge station was reinstalled on September 1, 2020. The flood mitigation work has left an exposed creek bed area (see Figure below) that is a potential source of fugitive dust between Lafarge’s eastern fenceline and the Windridge station.



**Figure 1-2 Photo of Completed Flood Mitigation Work at Exshaw Creek**

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## 1.2 WILDFIRE IMPACT ON BOW VALLEY AIRSHED

During the month of July regional wildfire activity, including smoke impacts from Alberta, had an impact on air quality in the Bow Valley airshed. Wildfires produce a large amount of suspended particulate matter which can affect air quality and result in AAAQO and AAAQG exceedances. The majority of TSP and PM<sub>2.5</sub> exceedances during the month of July can be attributed to smoke from a regional wildfire, and not specific industrial operations from Lafarge Exshaw.

# 2 JULY 2023 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 each station 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>	99.9	25.0	0	11.2	-
<b>SO<sub>2</sub> (ppb)</b>	99.9	20.1	0	4.2	0
<b>PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>	98.9	101.8	7 <sup>1</sup>	64.7	4
<b>PM<sub>10</sub> (µg/m<sup>3</sup>)</b>	99.6	153.1	-	72.9	-
<b>TSP (µg/m<sup>3</sup>)</b>	99.5	297.6	-	113.2	1
<b>Temperature (°C)</b>	100.0	30.9	-	23.2	-
<b>Wind Speed (km/hr) /Direction (Degrees)</b>	100.0	37.2/W	-	27.2/WSW	-
<b>Precipitation (mm)</b>	100.0	19.5 <sup>2</sup>	-	76 <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) – freezing temperatures can impact the precipitation totals in winter months

<sup>3</sup> Monthly Total Accumulation of Precipitation (mm) - freezing temperatures can impact the precipitation totals in winter months

### Data Quality Notes:

- There were four days exceeding the 24-hour PM<sub>2.5</sub> AAAQO due to wildfire smoke in the airshed.
- There were seven exceedances of the 1-hour PM<sub>2.5</sub> AAAQG due to wildfire smoke in the airshed.
- There were one day exceeding the 24-hour TSP AAAQO.



### Calibration/Maintenance Notes:

- At the Lagoon station, all meteorological analyzers recorded 100% uptime during the month of July.
- NO<sub>2</sub> and SO<sub>2</sub> analyzers recorded 99.9% uptime during the month of July due to one hour of equipment malfunction occurring on July 26<sup>th</sup> at 8:00.
- The PM<sub>10</sub> analyzer recorded 99.6% uptime for the month of July due to three hours of non-routine maintenance occurring on July 31<sup>st</sup> 10:00 – 12:00.
- The TSP analyzer recorded 99.5% uptime for the month of July due to three hours of non-routine maintenance occurring on July 31<sup>st</sup> 10:00 – 13:00.
- The PM<sub>2.5</sub> analyzer recorded 98.9% uptime for the month of July due to five hours of equipment malfunction occurring on July 31<sup>st</sup> 5:00 – 9:00. Further, three hours of non-routine maintenance occurring on July 31<sup>st</sup> 10:00 – 12:00.

## 2.2 WINDRIDGE STATION

Table 2-2 Windridge station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQG	Maximum Concentration	Exceedances of AAAQO
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	99.7	90.0	2*	53.9	3
PM <sub>10</sub> (µg/m <sup>3</sup> )	99.9	311.0	-	177.0	-
TSP (µg/m <sup>3</sup> )	99.9	513.0	-	296.3	4

\* 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 three days exceeding the 24-hour PM<sub>2.5</sub> AAAQO due to wildfire smoke in the airshed.
- There were two hours exceeding the 1-hour PM<sub>2.5</sub> AAAQG due to wildfire smoke in the airshed.
- There were four days exceeding the 24-hour TSP AAAQO.

### Calibration/Maintenance Notes:

- At the Windridge station, TSP and PM<sub>10</sub> analyzers recorded 99.9% uptime for the month of July due to one hours of non-routine maintenance occurring on July 31<sup>st</sup> 12:00.
- The PM<sub>2.5</sub> monitor recorded 99.7% uptime during the month of July due to two hours of non-routine maintenance occurring on July 31<sup>st</sup> 11:00 – 12:00.

## 2.3 WEST GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their Fugitive Dust Control Best Management Practices – Program (FDCBMP-P). The AAAQO are used as Guidelines to

evaluate the performance of the FDCBMP-P; however, these Industrial monitors are not Alberta Air Monitoring Directive (AMD) compliant and not required to show compliance with the AAAQO.

**Table 2-3 West station data summary**

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	100.0	82.9	2*	64.7	4
PM <sub>10</sub> (µg/m <sup>3</sup> )	100.0	108.7	-	69.9	-
TSP (µg/m <sup>3</sup> )	100.0	128.9	-	73.5	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 four exceedances of the 24-hour PM<sub>2.5</sub> Guidelines.
- There were two exceedance of the 1-hour PM<sub>2.5</sub> Guidelines.
- There were zero exceedances of the 24-hour TSP Guidelines.

**Calibration/Maintenance Notes:**

- The PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP analyzers recorded 100% uptime during the month of July.

## 2.4 BERM GRIMM

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

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

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	100.0	79.0	0*	41.5	4
PM <sub>10</sub> (µg/m <sup>3</sup> )	100.0	492.8	-	282.0	-
TSP (µg/m <sup>3</sup> )	100.0	1698.6	-	863.8	7

\* 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 four exceedance of the 24-hour PM<sub>2.5</sub> Guidelines.
- There was zero exceedance of the 1-hour PM<sub>2.5</sub> Guidelines.

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

**Calibration/Maintenance Notes:**

- The PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP monitors recorded 100% uptime during the month of July.
- 

## 2.5 ENTRANCE GRIMM

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

**Calibration/Maintenance Notes:**

- The analyzer had 0% uptime for the month of July due to collection error (i.e., communication error).

# 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 (**Error! Reference source not found.**) and tables and graphs illustrating the monitoring results for July 2023.

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

## 3.1 OPERATIONAL SUMMARY

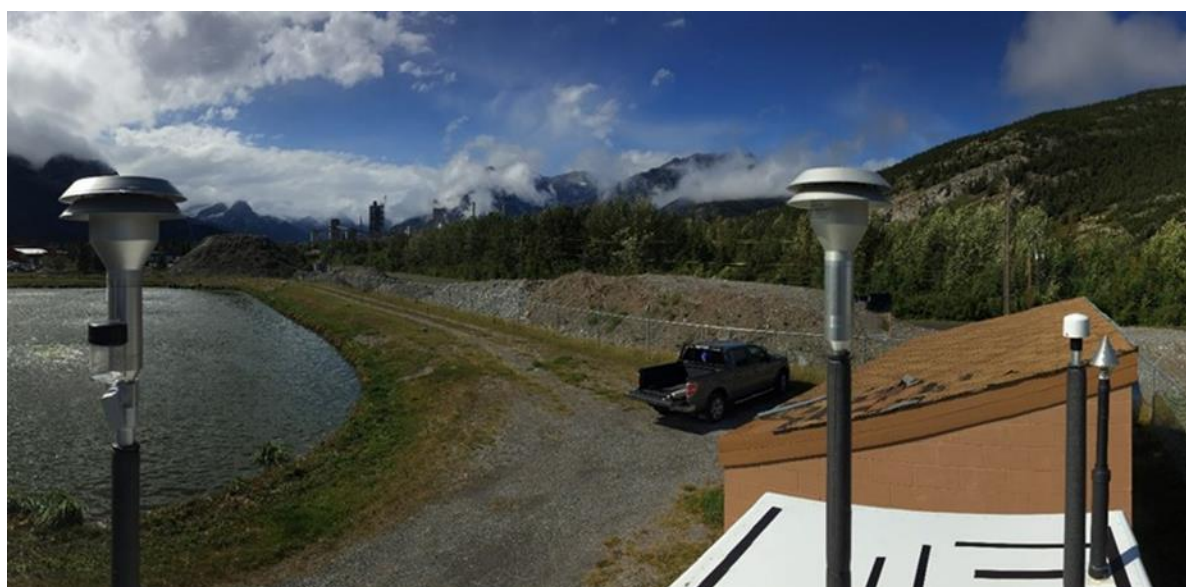
A summary of the station operation for the month is provided in Table 3-1.

**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 July 25 <sup>th</sup> . The monitor had 98.9% uptime for the month of July due to five hours of equipment malfunction occurring on July 31 <sup>st</sup> 5:00 – 9:00. Further, three hours of non-routine maintenance occurring on July 31 <sup>st</sup> 10:00 – 12:00.
<b>PM<sub>10</sub> Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The PM <sub>10</sub> monitor was calibrated on July 25 <sup>th</sup> . The monitor had 99.6% uptime for the month of July due to three hours of non-routine maintenance occurring on July 31 <sup>st</sup> 10:00 – 12:00.
<b>TSP Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The PM <sub>10</sub> monitor was calibrated on July 25 <sup>th</sup> . The monitor had 99.5% uptime for the month of July due to four hours of non-routine maintenance occurring on July 31 <sup>st</sup> 10:00 – 13:00.
<b>Oxides of Nitrogen</b>	TEI 42C	The NO <sub>x</sub> monitor was calibrated on July 25 <sup>th</sup> . The monitor had 99.9% uptime for the month of July due to one hour of equipment malfunction occurring on July 26 <sup>th</sup> at 8:00.
<b>Sulphur Dioxide</b>	Teledyne API 102A	The SO <sub>2</sub> monitor was calibrated on July 25 <sup>th</sup> . The monitor had 99.9% uptime for the month of July due to one hour of equipment malfunction occurring on July 26 <sup>th</sup> at 8:00.
<b>Precipitation</b>	MetOne 130 Rain/Snow Gauge	The monitor had 100% uptime for the month of July.



<b>Wind Speed</b>	MetOne Wind Sensor	The monitor had 100% uptime for the month of July.
<b>Wind Direction</b>		
<b>Ambient Temperature</b>	MetOne Ambient Temperature Sensor	The monitor had 100% uptime for the month of July.



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

## 3.2 MONITORING RESULTS AND TRENDS

Table 3-2 summarizes the hourly and daily concentrations recorded in July 2023. Figure 3-2 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-8 shows daily average concentrations recorded during July 2023 for the pollutants listed in Table 3-2. Additionally, Figure 3-3 to Figure 3-7 show the histograms of the hourly concentrations of NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP measured at the Lagoon station.

There was 1 day exceeding the 24-hour TSP (100 µg/m<sup>3</sup>) AAAQO. There were 4 exceedances of the 24-hour PM<sub>2.5</sub> (29 µg/m<sup>3</sup>) AAAQO. Further, there were 7 exceedances of the 1-hour PM<sub>2.5</sub> AAQ (80 µg/m<sup>3</sup>). As discussed in Section 1.2, the Bow Valley airshed was heavily impacted from regional wildfire activity in July. Most of the exceedances were primarily attributable to wildfire activity and smoke in the airshed from fires in Alberta.

Historically in July, the average number of 24-hour TSP AAAQO exceedances and 24-hour PM<sub>2.5</sub> AAAQO exceedances are 1 and 2, respectively. The maximum number of 24-hour TSP and PM<sub>2.5</sub> AAAQO exceedances recorded in July were 5 days and 16 days in 2021.

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

**Table 3-2 Summary of July 2023 data at Lagoon**

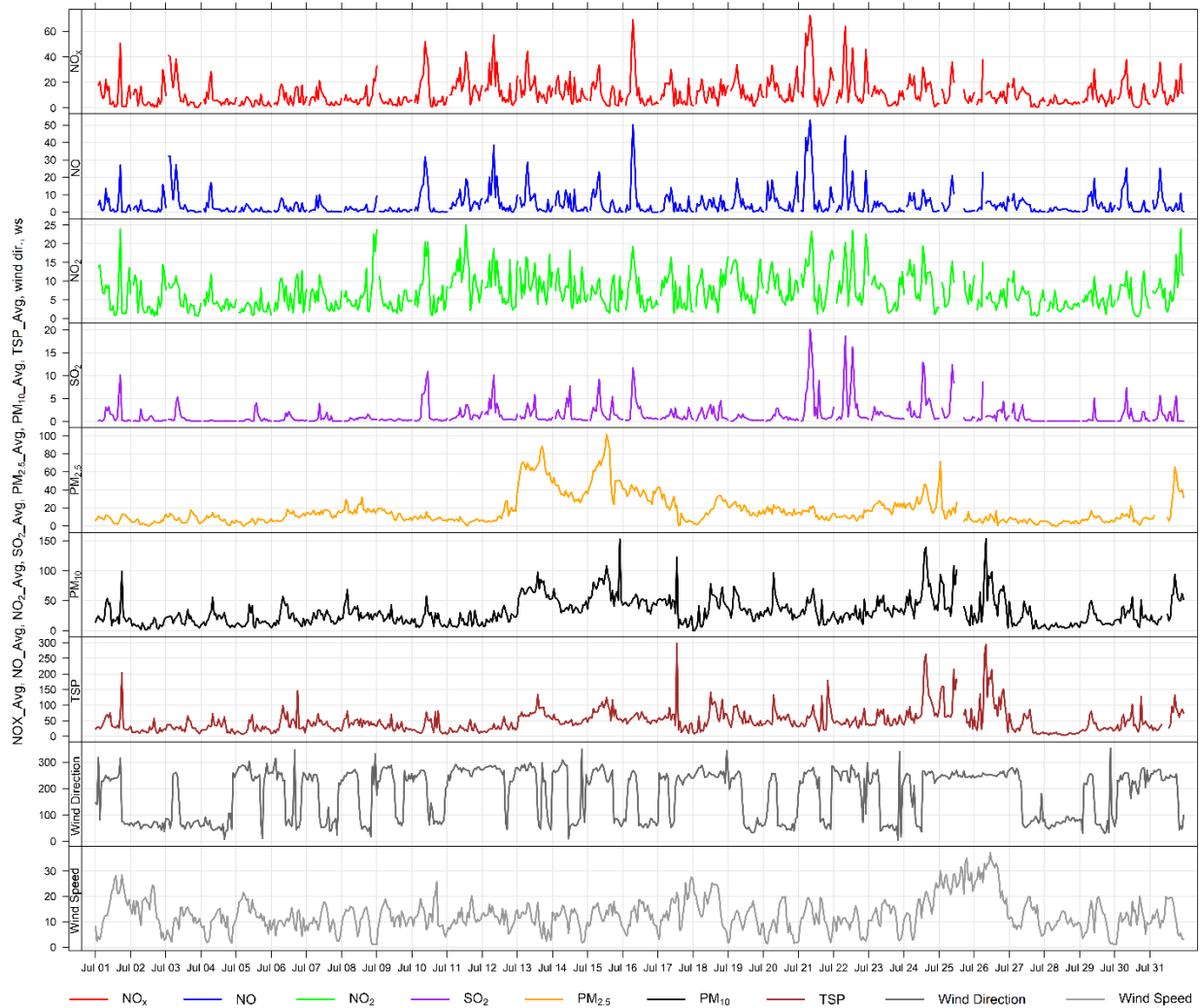
Parameter	Guideline / Objectives		Station	Exceedances		Monthly		1-hour				24-hour		Operational Time (Percent)	
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable		Day
<b>NO<sub>2</sub> (ppb)</b>	159	-	Lagoon	0	-	0.5	7.0	25.0	11	14	8.6	270.7	11.2	11	99.9
<b>SO<sub>2</sub> (ppb)</b>	172	48	Lagoon	0	0	0.0	1.3	20.1	21	9	17.8	266.5	4.2	21	99.9
<b>PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>	80	29	Lagoon	7	4	0.0	17.0	101.8	15	14	14.5	228.8	64.7	13	98.9
<b>PM<sub>10</sub> (µg/m<sup>3</sup>)</b>	-	-	Lagoon	-	-	0.0	31.1	153.1	26	9	30.7	251.2	72.9	15	99.6
<b>TSP (µg/m<sup>3</sup>)</b>	-	100	Lagoon	-	1	3.4	47.7	297.6	17	14	21.5	239.8	113.2	26	99.5
<b>Temperature (°C)</b>	-	-	Lagoon	-	-	5.6	17.1	30.9	24	15	19.1	264.9	23.2	24	100.0
<b>Wind Speed (km/hr)/Direction (degrees)</b>	-	-	Lagoon	-	-	1.0	12.7	37.2/W	26	12	37.2	253.0	27.2/WSW	26	100.0
<b>Precipitation (mm)</b>	-	-	Lagoon	-	-	0.0	0.1	19.5 <sup>1</sup>	12	24	14.0	278.6	76.0 <sup>2</sup>		100.0

<sup>1</sup> Maximum Daily Total Accumulation of Precipitation (mm) - freezing temperatures can impact the precipitation totals in winter months

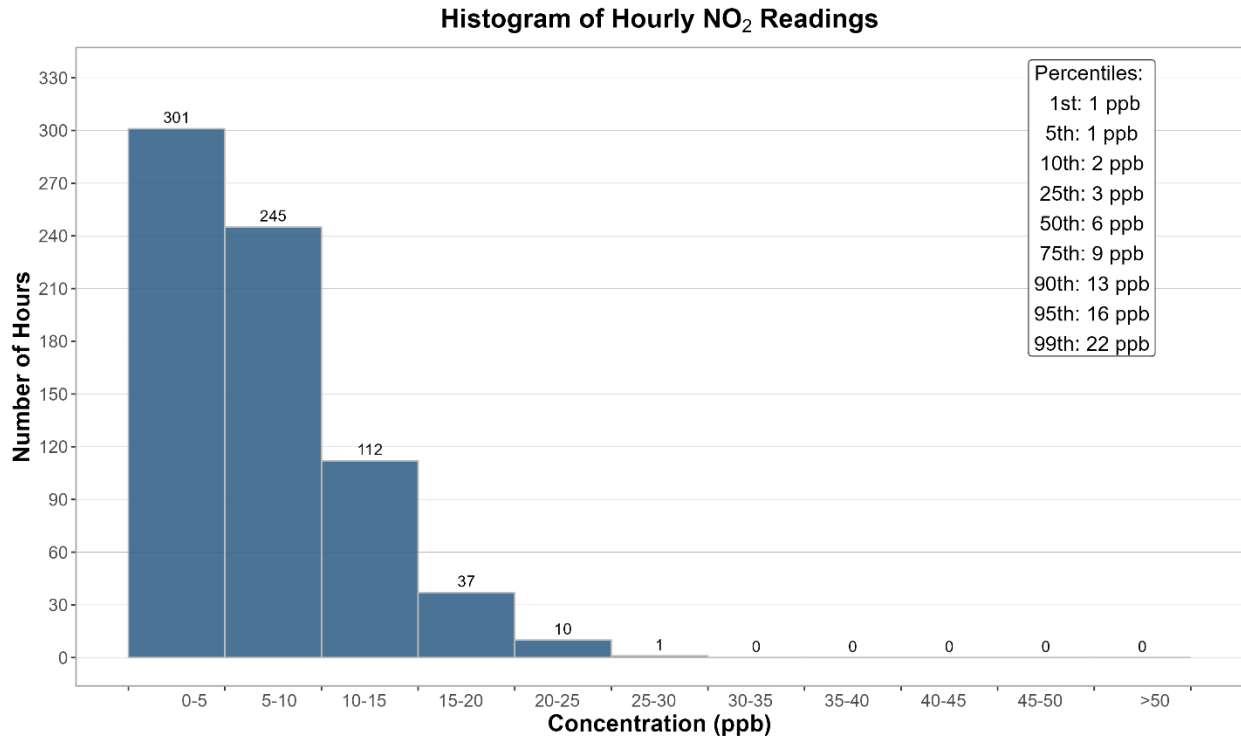
<sup>2</sup> Monthly Total Accumulation of Precipitation (mm) - freezing temperatures can impact the precipitation totals in winter months

**Table 3-3 Days exceeding the TSP AAAQO or PM<sub>2.5</sub> AAAQO at the Lagoon Station**

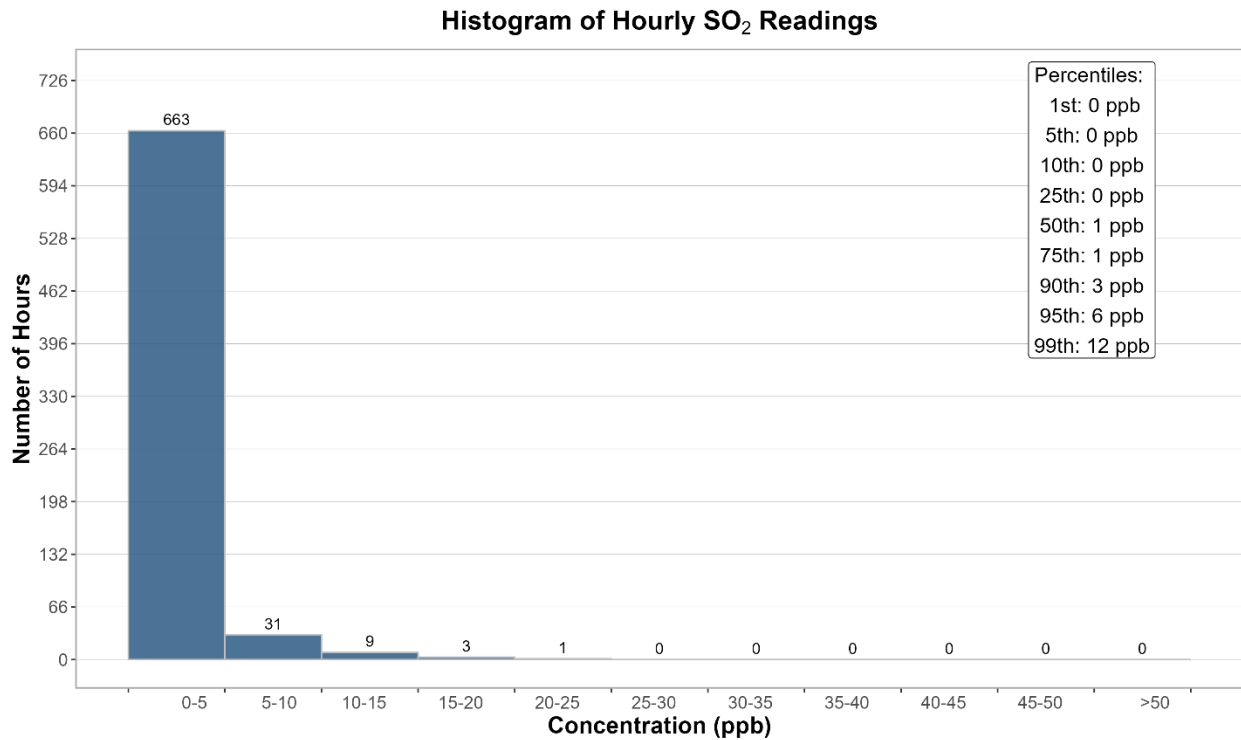
Date	TSP (ug/m <sup>3</sup> )	PM <sub>2.5</sub> (ug/m <sup>3</sup> )	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
<b>Lagoon</b>						
2023-07-13	-	64.7	281.8	10.4	77.2	Regional wildfire activity
2023-07-14	-	36.2	322.7	10.9	69.4	Regional wildfire activity
2023-07-15	-	59.9	258.7	13.3	56.8	Regional wildfire activity
2023-07-16	-	36.5	65.4	12.1	59.5	Regional wildfire activity
2023-07-26	113.2	-	251.0	27.2	31.5	High wind event
<b>Total # of Exceedances</b>	<b>1</b>	<b>4</b>				
<b>Maximum # of Exceedances (July)</b>	<b>5 (2021)</b>	<b>16 (2021)</b>				
<b>Average # of Exceedances (July)</b>	<b>1</b>	<b>2</b>				
<b>Minimum # of Exceedances (July)</b>	<b>0 (2010, 2012, 2015 – 2020)</b>	<b>0 (2010 – 2013, 2015, 2016, 2018, 2019, 2020, 2022)</b>				



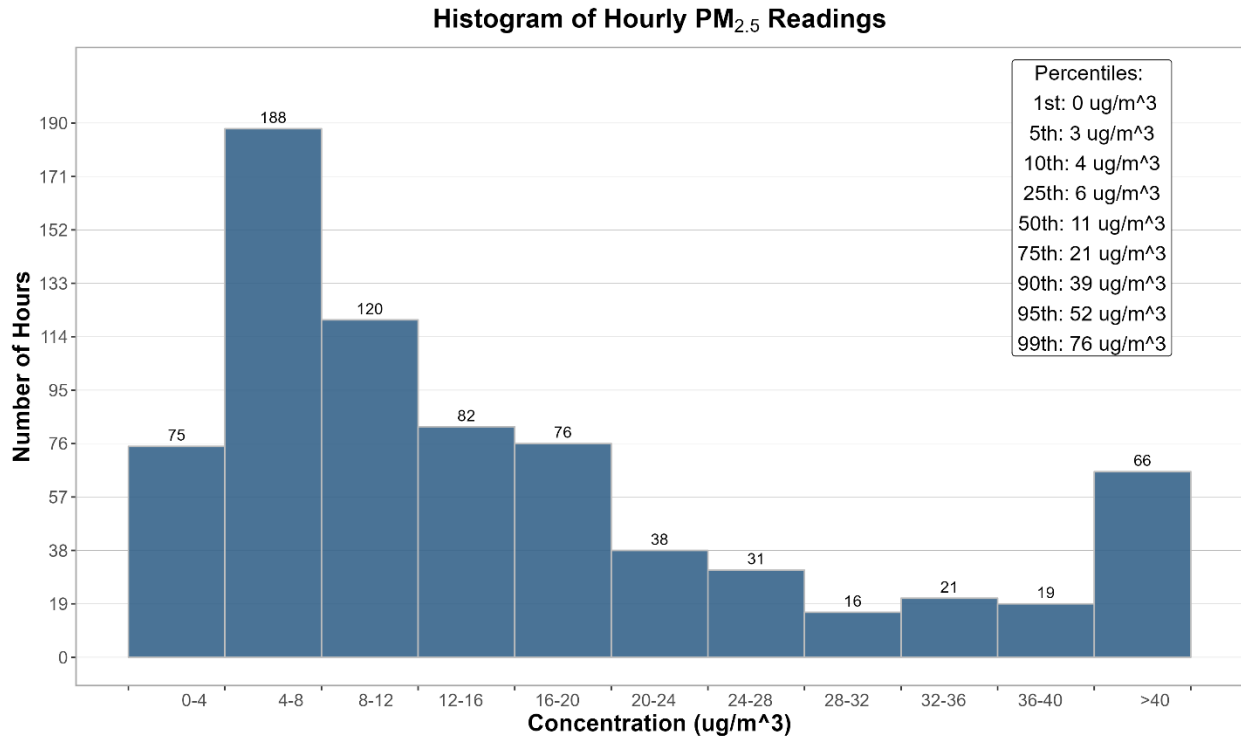
**Figure 3-2 1-hour concentrations of NO<sub>x</sub>, SO<sub>2</sub>, particulate matter, wind direction and wind speed at the Lagoon station**



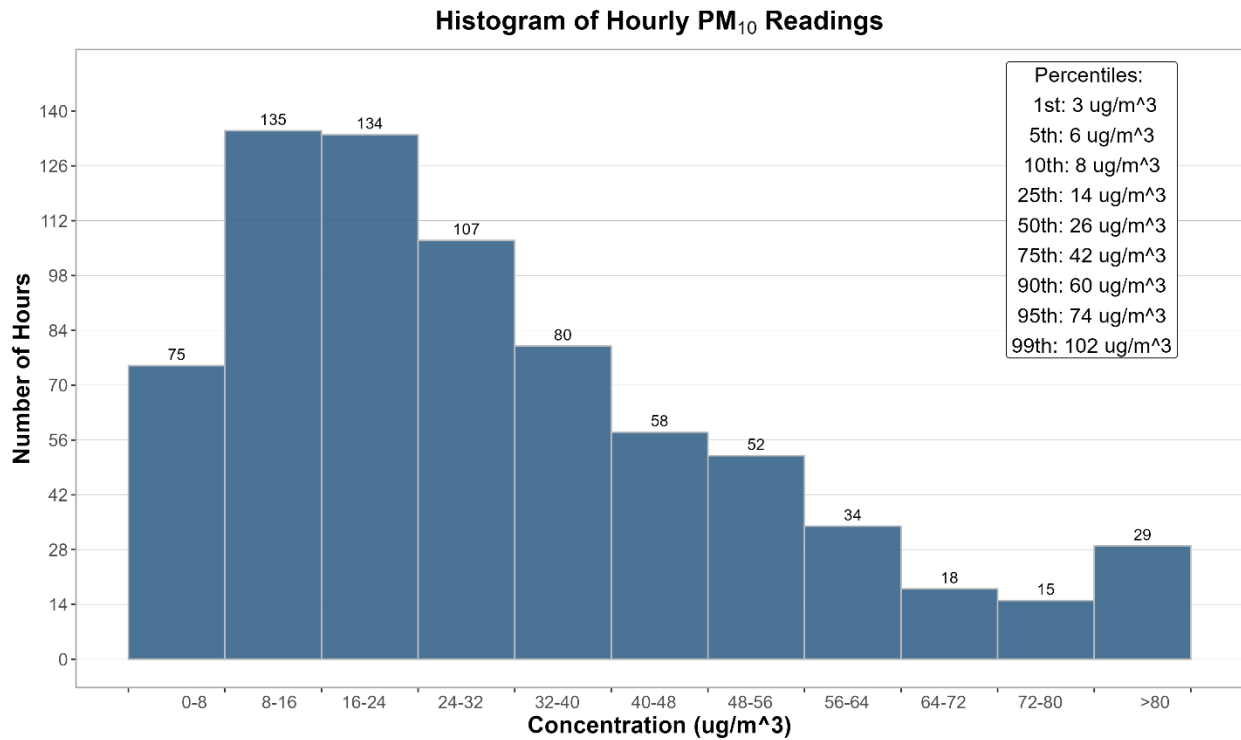
**Figure 3-3** Histogram of hourly NO<sub>2</sub> concentrations at the Lagoon station



**Figure 3-4** Histogram of hourly SO<sub>2</sub> concentrations at the Lagoon station

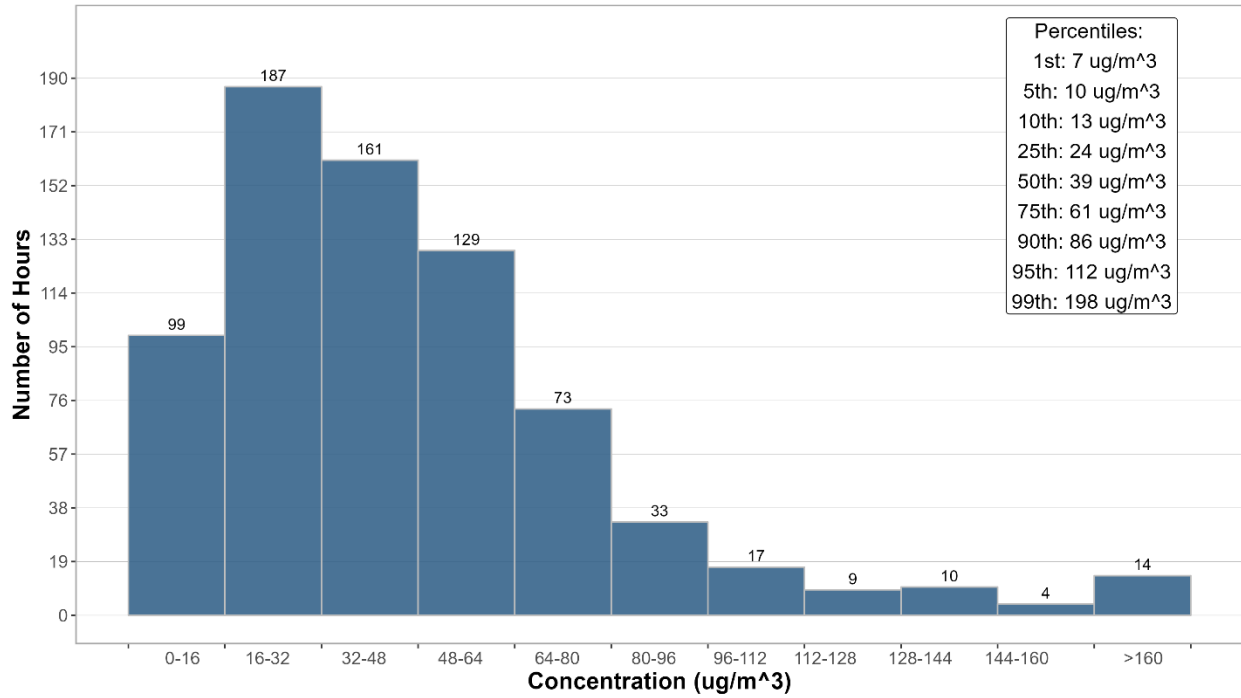


**Figure 3-5** Histogram of hourly PM<sub>2.5</sub> concentrations at the Lagoon station

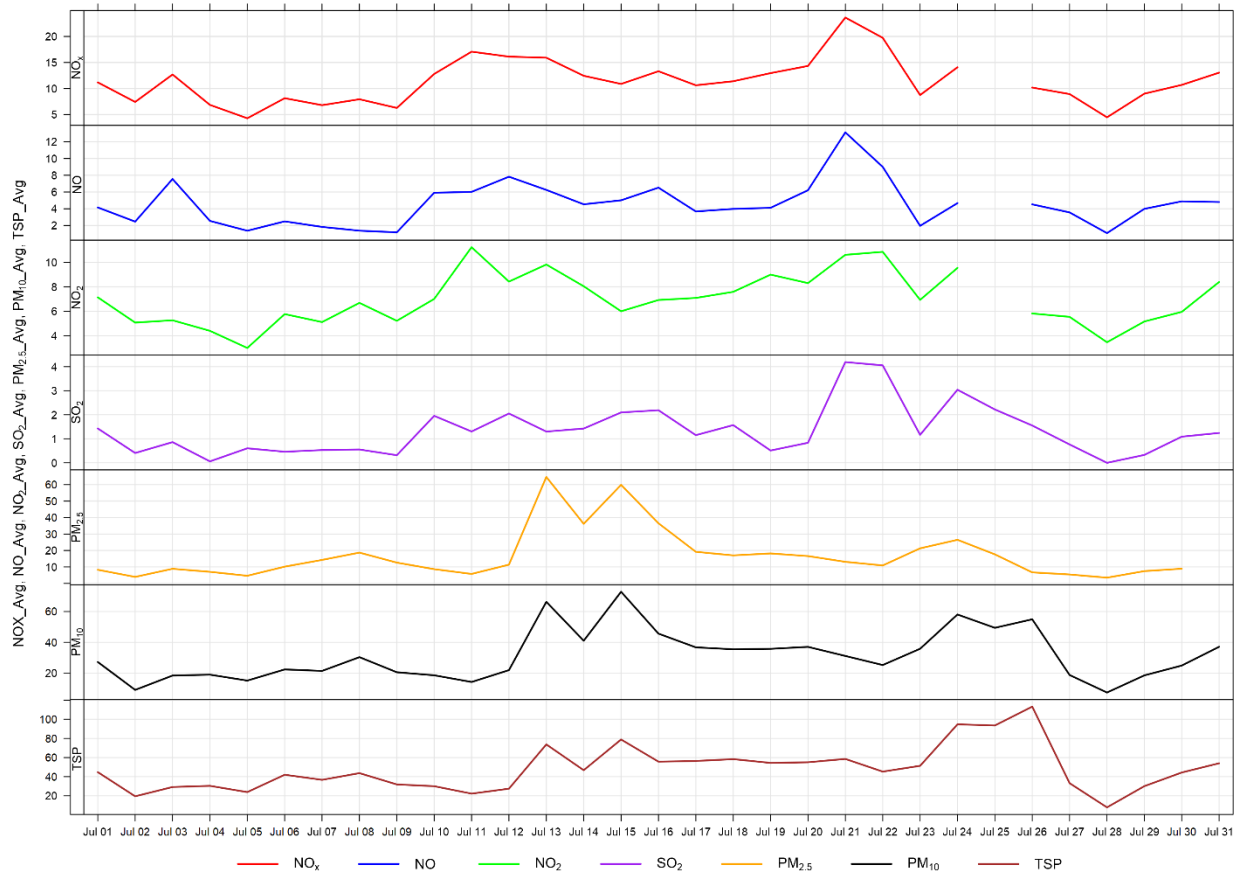


**Figure 3-6** Histogram of hourly PM<sub>10</sub> concentrations at the Lagoon station

### Histogram of Hourly TSP Readings



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



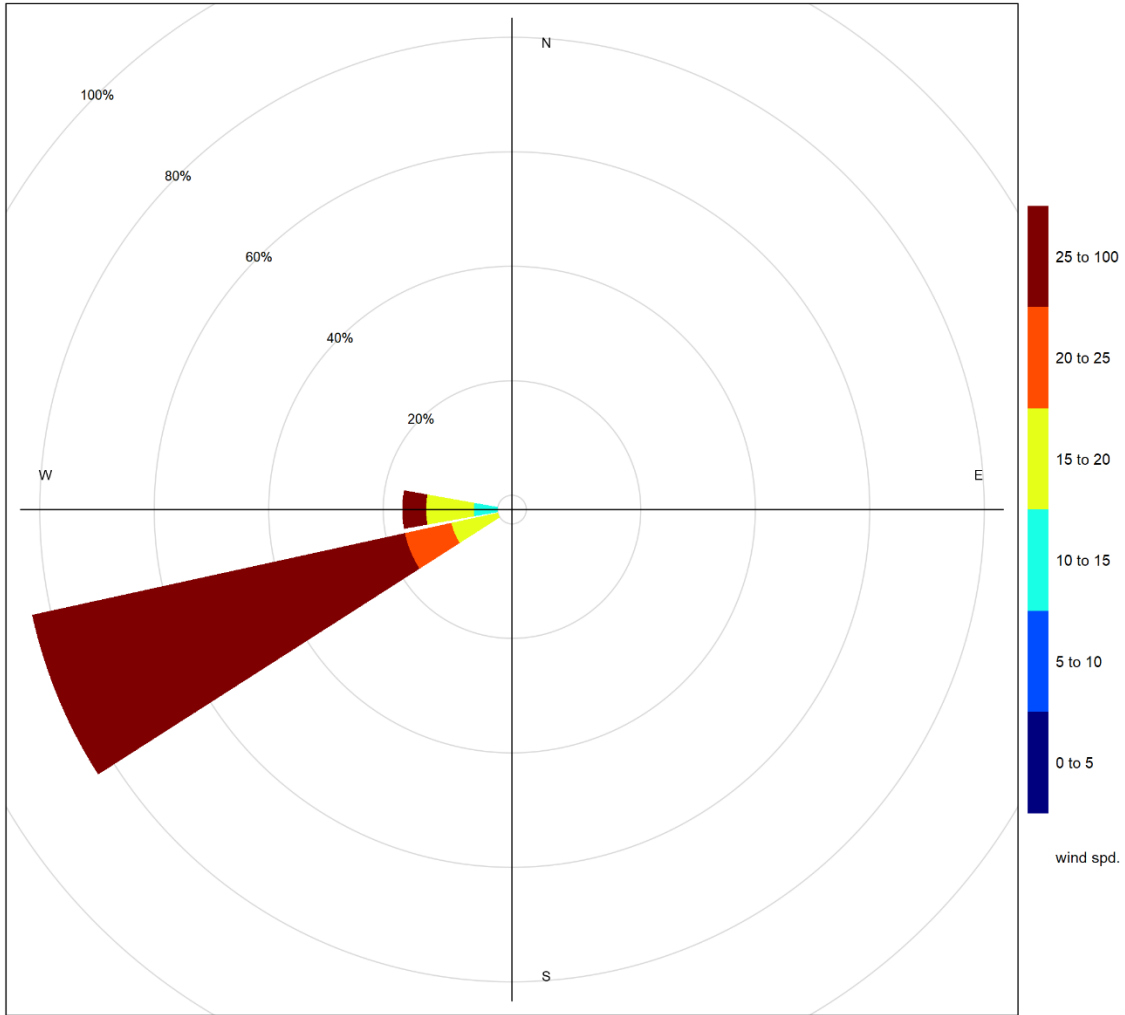
**Figure 3-8 24-hour concentrations of NO<sub>x</sub>, SO<sub>2</sub>, and particulate matter at the Lagoon monitor**

Figure 3-9 shows the wind rose for the 1 day of exceedance in July. The wind rose shows that the winds predominately came from the west-southwest. Figure 3-10 shows the wind rose for the 4 days of PM<sub>2.5</sub> exceedances. The variation in wind conditions producing exceedances shows that, this month, the PM<sub>2.5</sub> exceedances were largely driven by wildfire activity rather than windblown fugitive dust.

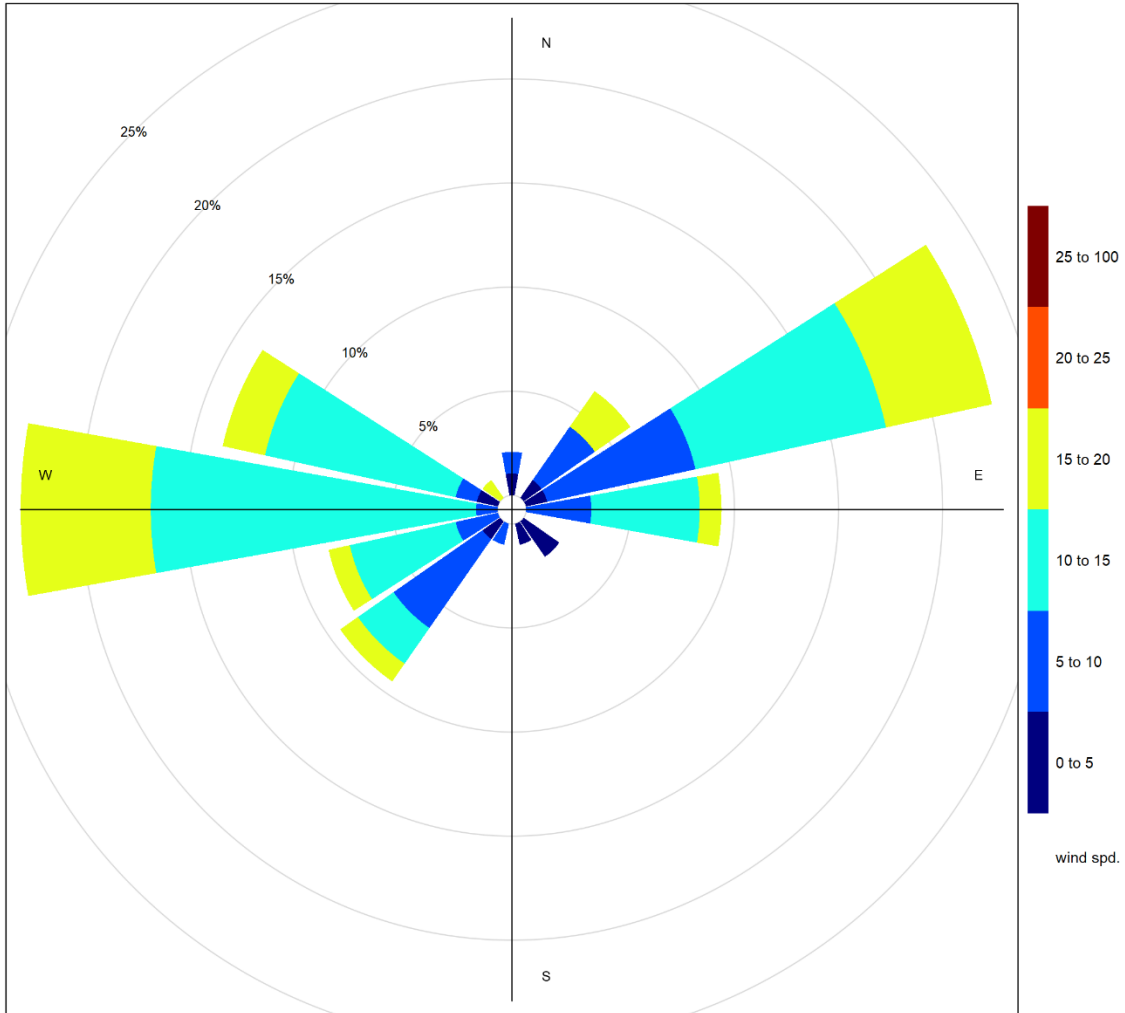
Figure 3-11 through Figure 3-13 show the variation in concentrations over various time averaging periods for PM, SO<sub>2</sub> and NO<sub>x</sub>. The particulate matter plot in Figure 3-11 typically shows that PM<sub>10</sub> and TSP concentrations have a diurnal pattern associated with Lafarge operations, daytime emissions from traffic and other airshed activities. The diurnal patterns also typically follow the diurnal pattern of higher wind speeds during the daytime hours.

Figure 3-12 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 3-13 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.

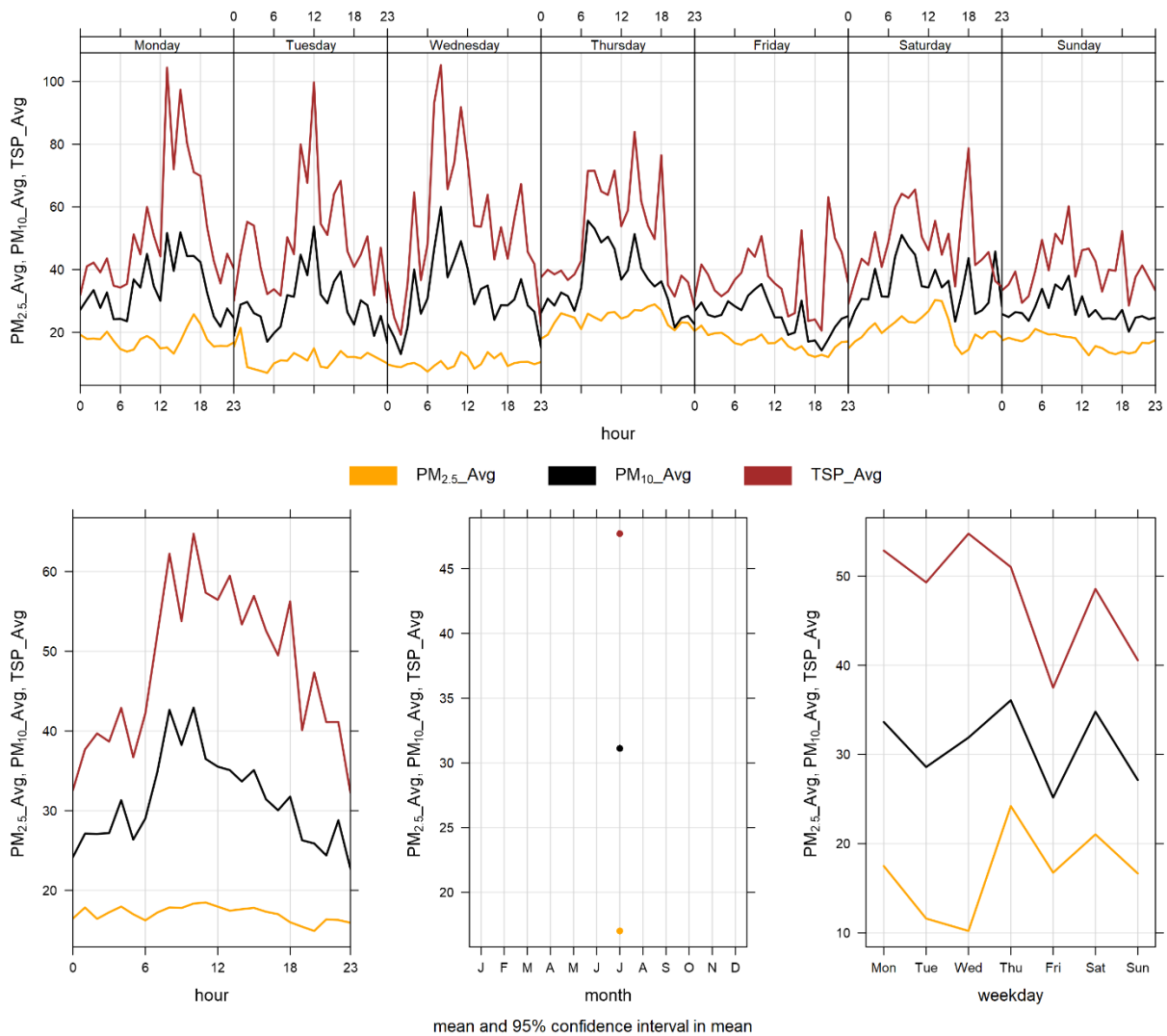




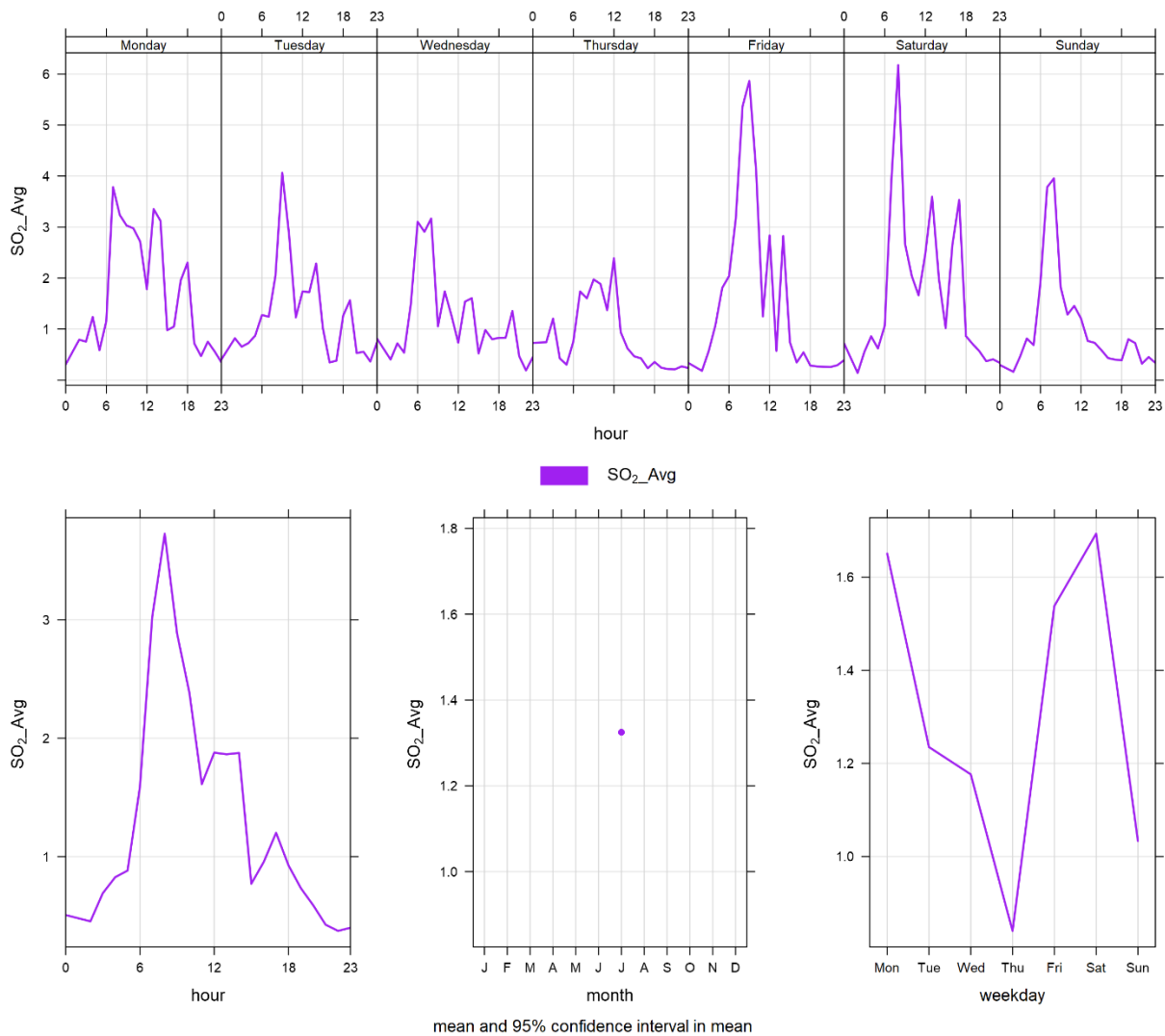
**Figure 3-9 Wind rose for TSP exceedance days recorded at the Lagoon Station**



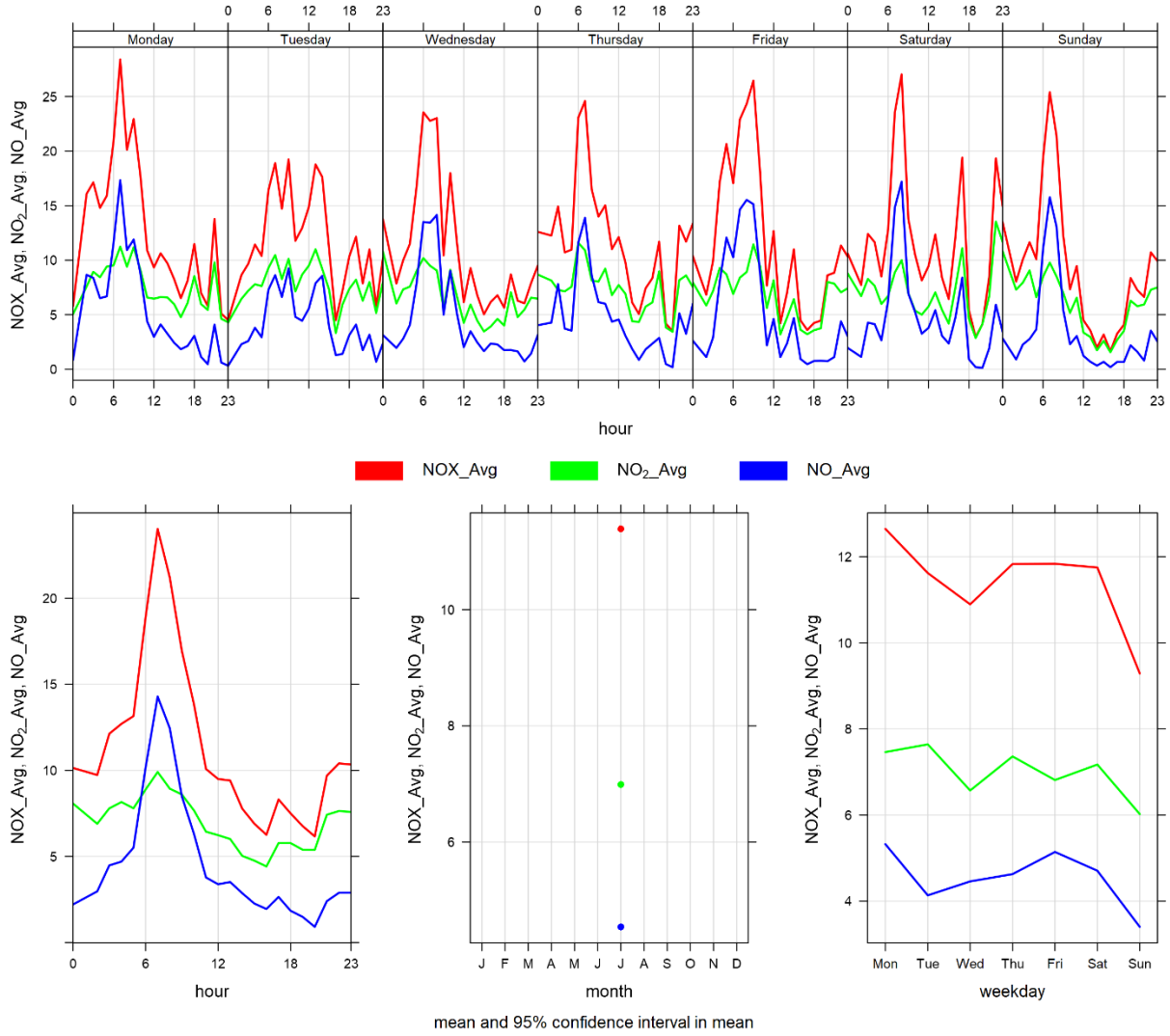
**Figure 3-10 Wind rose for PM<sub>2.5</sub> exceedance days recorded at the Lagoon Station**



**Figure 3-11 Lagoon monitor particulate matter time variation**



**Figure 3-12 Lagoon monitor SO<sub>2</sub> time variation**



**Figure 3-13 Lagoon monitor NO<sub>x</sub> time variation**

## 4 WINDRIDGE STATION

The Windridge station contains TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> analyzers only. This section provides a summary of the monitoring activities for the Windridge ambient air quality station, including: a table of instrumentation (Table 4-1), a data summary table (Table 4-2), a table of recorded exceedances (Table 4-3), site visit notes, and graphs illustrating the monitoring results for July 2023.

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

### 4.1 OPERATIONAL SUMMARY

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

**Table 4-1 Instrumentation List at the Windridge monitoring location**

Parameter Measured	Equipment Description	Notes
<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 July 25 <sup>th</sup> . The monitor recorded 99.7% uptime during the month of July due to two hours of non-routine maintenance occurring on July 31 <sup>st</sup> 11:00 – 12:00.
<b>PM<sub>10</sub> Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The PM <sub>2.5</sub> monitor was calibrated July 25 <sup>th</sup> . The monitor recorded 99.9% uptime for the month of July due to one hour of non-routine maintenance occurring on July 31 <sup>st</sup> 12:00.
<b>TSP Concentrations</b>	MetOne BAM-1020 Continuous Particulate Monitor	The TSP monitor was calibrated on July 25 <sup>th</sup> . The monitor recorded 99.9% uptime for the month of July due to one hour of non-routine maintenance occurring on July 31 <sup>st</sup> 12:00.

### 4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in July 2023, and **Error! Reference source not found.** summarizes the recorded exceedances. Figure 4-1 illustrates the time series for hourly PM, Figure 4-2 to Figure 4-4 illustrates the histograms for hourly PM, Figure 4-5 illustrates the time series for daily PM, **Error! Reference source not found.** displays the wind rose for the 24-hour TSP and while Figure 4-7 displays the wind rose for the 24-hour PM<sub>2.5</sub> exceedance days, and Figure 4-8 illustrates the time series for hourly PM over different time periods.

There were 3 exceedances of the 24-hour PM<sub>2.5</sub> AAAQO, 2 exceedances of the 1-hour PM<sub>2.5</sub> AAAQG, and 4 exceedances of the 24-hour TSP AAAQO. As discussed in Section 1.2, the Bow Valley airshed was heavily impacted from regional wildfire activity in July. Most of the exceedances were primarily attributable to wildfire activity and smoke in the airshed from fires in Alberta.

Historically in July, the average number of 24-hour TSP AAAQO exceedances and 24-hour PM<sub>2.5</sub> AAAQO exceedances is 2 and 5, respectively. The maximum number of 24-hour TSP and PM<sub>2.5</sub> AAAQO exceedances recorded in July were 4 days and 16 days in 2021.

Due to flood mitigation construction at Exshaw creek the Windridge monitoring station was taken out of operation and removed from the site on April 8<sup>th</sup>, 2019. The flood mitigation work was completed in August 2020. The Windridge station was reinstalled for September 1<sup>st</sup>, 2020. As per the photo presented in section 1.1 the flood mitigation work has left an exposed creek bed area immediately west of the Windridge monitor that may contribute to an increase in TSP levels. Further, the strong wind gusting that occurred in July would have contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, dry sections of the Bow River, and open areas.

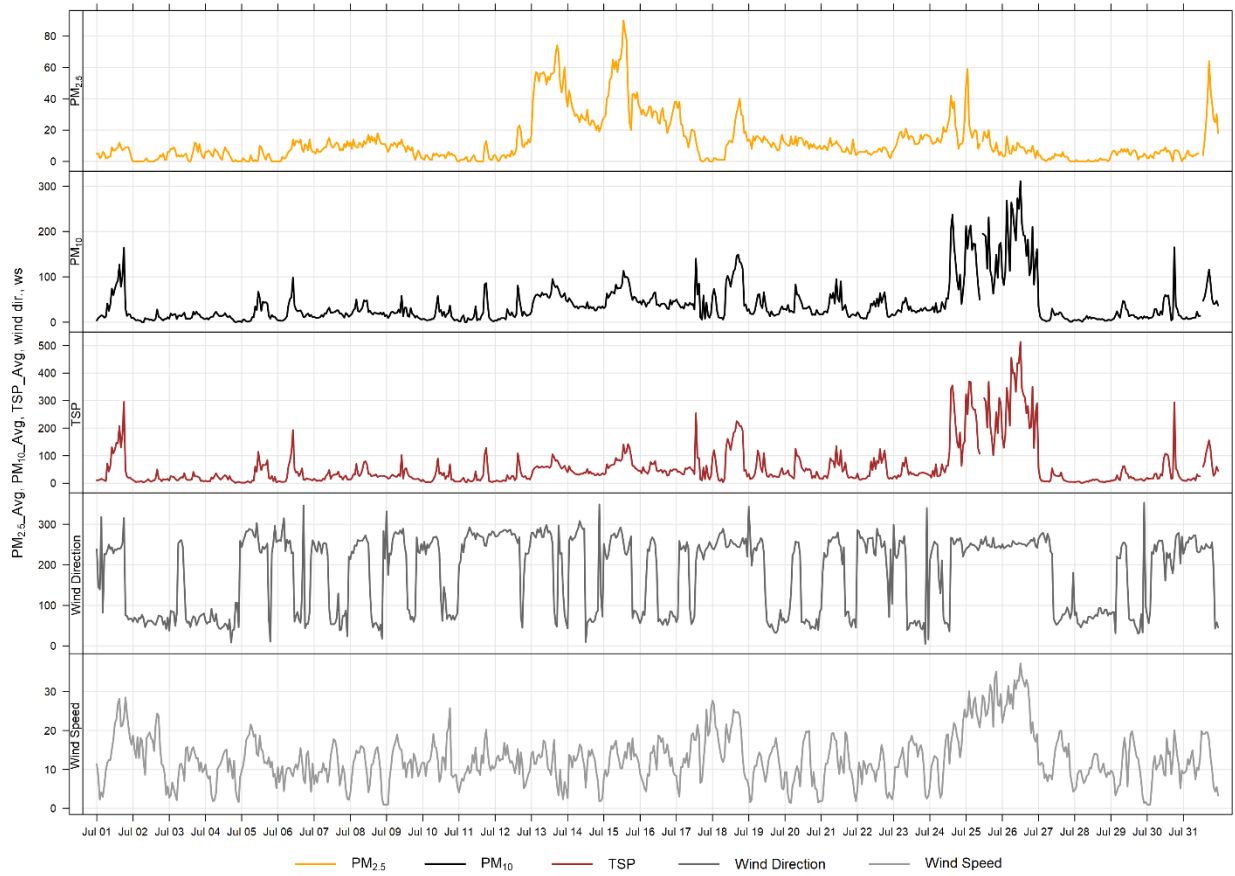
**Table 4-2 Summary of July 2023 data at the Windridge Station**

Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour				Maximum 24-hour		Operational Time (Percent)	
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration		Day
<b>PM<sub>2.5</sub></b> (µg/m <sup>3</sup> )	80	29	Windridge	2	3	0.0	12.4	90.0	15	13	12.2	254.8	53.9	13	99.7
<b>PM<sub>10</sub></b> (µg/m <sup>3</sup> )	-	-	Windridge	-	-	0.0	39.0	311.0	26	12	37.2	253.0	177.0	26	99.9
<b>TSP</b> (µg/m <sup>3</sup> )	-	100	Windridge	-	4	1.0	56.3	513.0	26	12	37.2	253.0	296.3	26	99.9



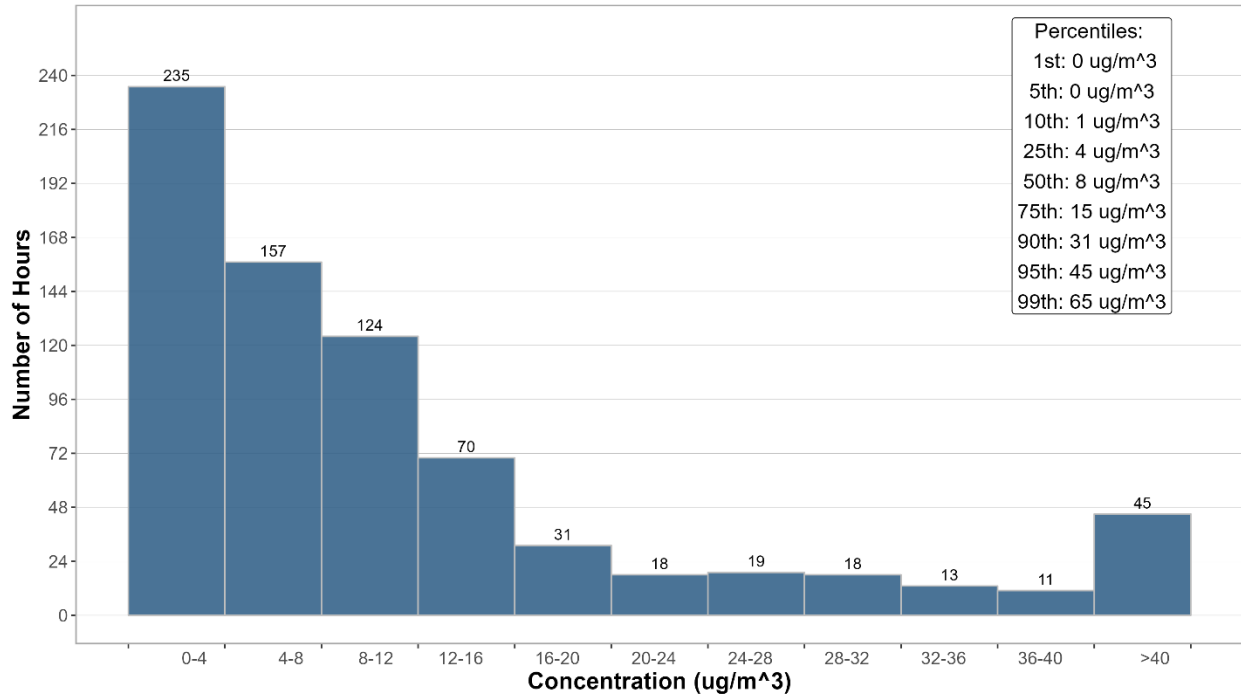
**Table 4-3 Days exceeding the TSP AAAQO or PM<sub>2.5</sub> AAAQO at the Windridge Station**

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>Windridge</b>						
2023-07-13	-	53.9	281.8	10.4	77.2	Regional wildfire activity
2023-07-15	-	51.9	258.7	13.3	56.8	Regional wildfire activity
2023-07-16	-	29.8	65.4	12.1	59.5	Regional wildfire activity
2023-07-18	107.7	-	254.5	17.6	39.9	
2023-07-24	124.1	-	252.3	15.1	38.1	Regional wildfire activity
2023-07-25	240.4	-	248.4	26.6	28.3	High wind event
2023-07-26	296.3	-	251.0	27.2	31.5	High wind event
<b>Total # of Exceedances</b>	<b>4</b>	<b>3</b>				
<b>Maximum # of Exceedances (July)</b>	<b>4 (2021)</b>	<b>16 (2021)</b>				
<b>Average # of Exceedances (July)</b>	<b>2</b>	<b>5</b>				
<b>Minimum # of Exceedances (July)</b>	<b>0 (2018)</b>	<b>0 (2018, 2022)</b>				



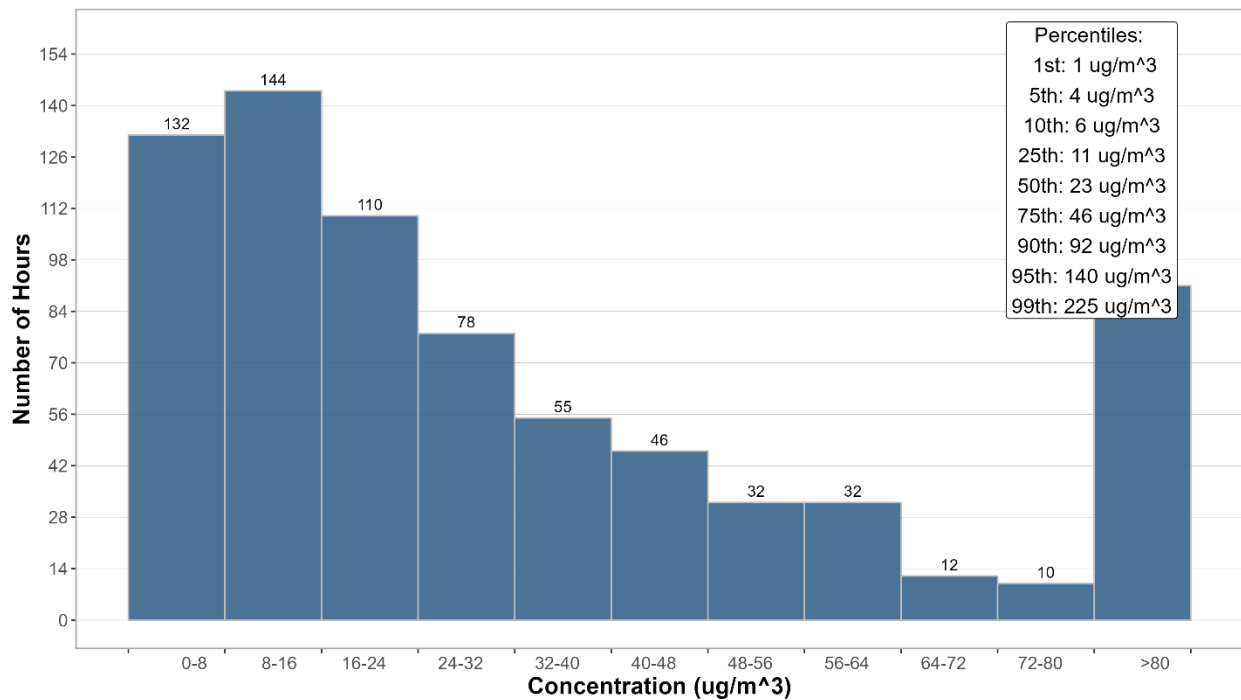
**Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor**

**Histogram of Hourly PM<sub>2.5</sub> Readings**



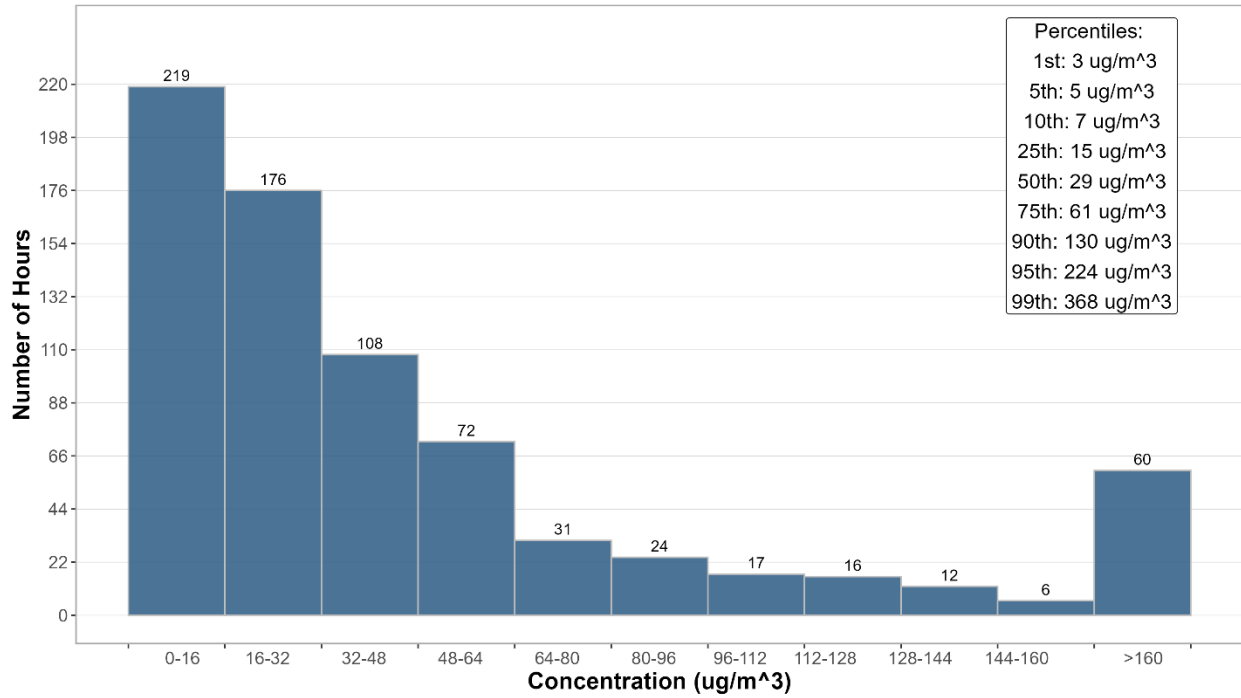
**Figure 4-2 Histogram of hourly PM<sub>2.5</sub> concentrations at the Windridge station**

**Histogram of Hourly PM<sub>10</sub> Readings**

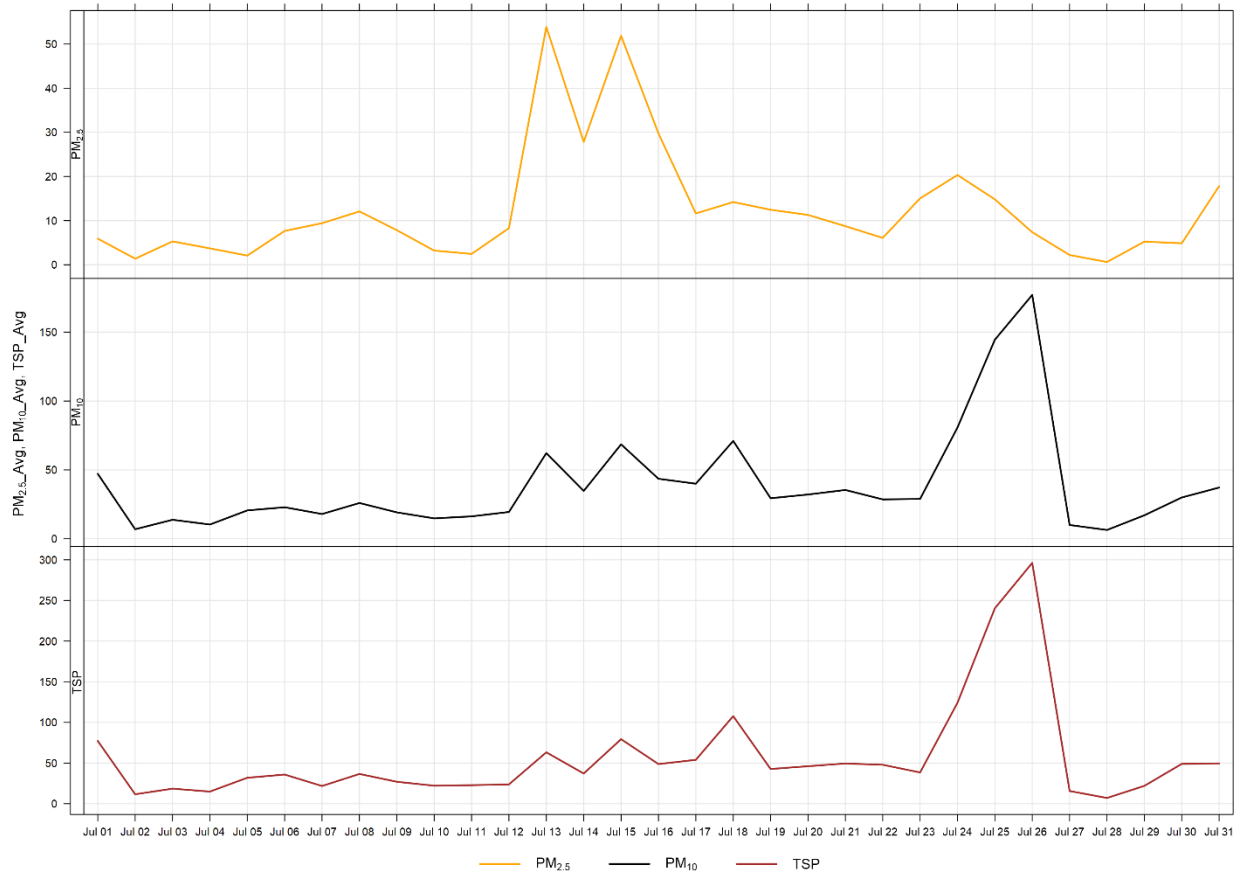


**Figure 4-3 Histogram of hourly PM<sub>10</sub> concentrations at the Windridge station**

### Histogram of Hourly TSP Readings



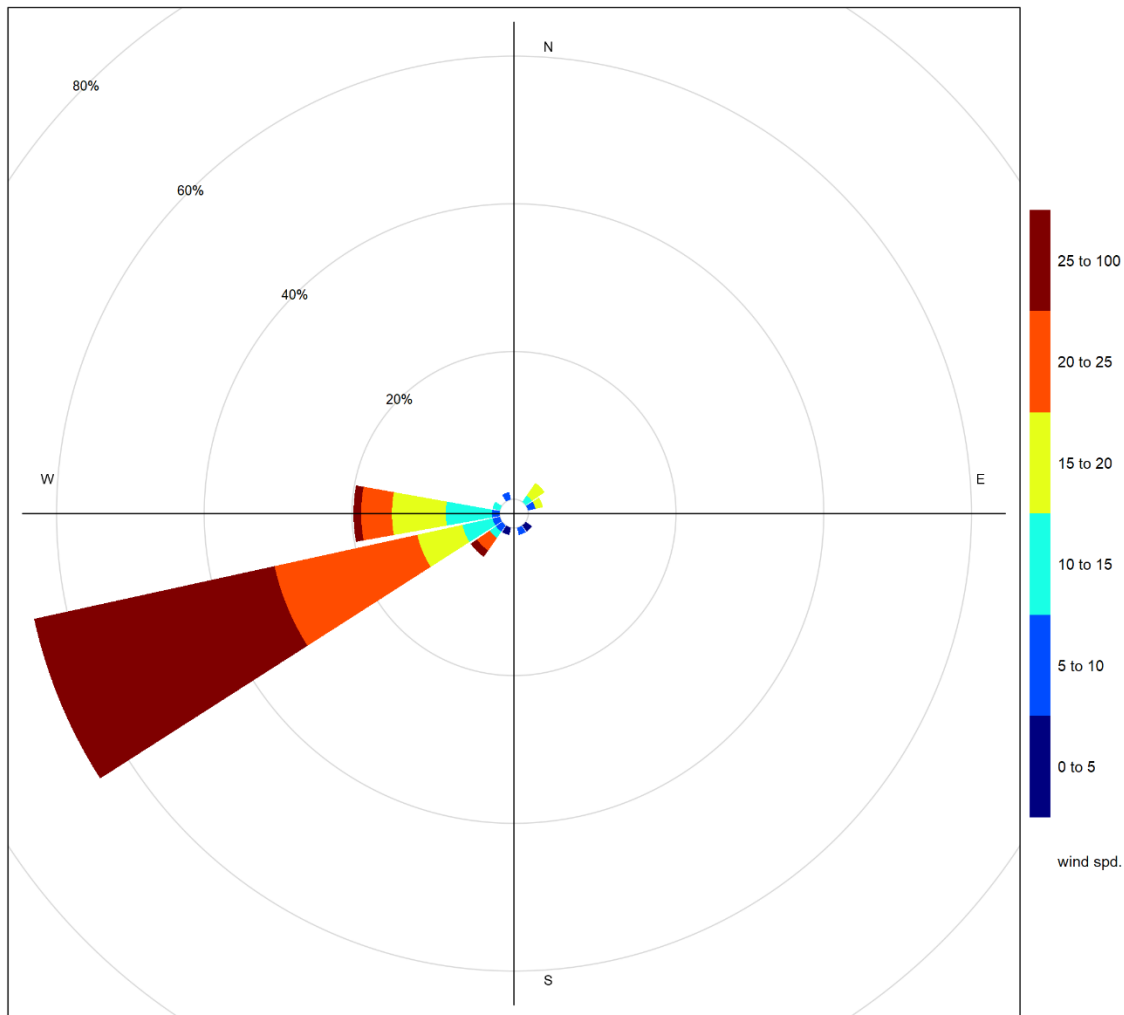
**Figure 4-4 Histogram of hourly TSP concentrations at the Windridge station**



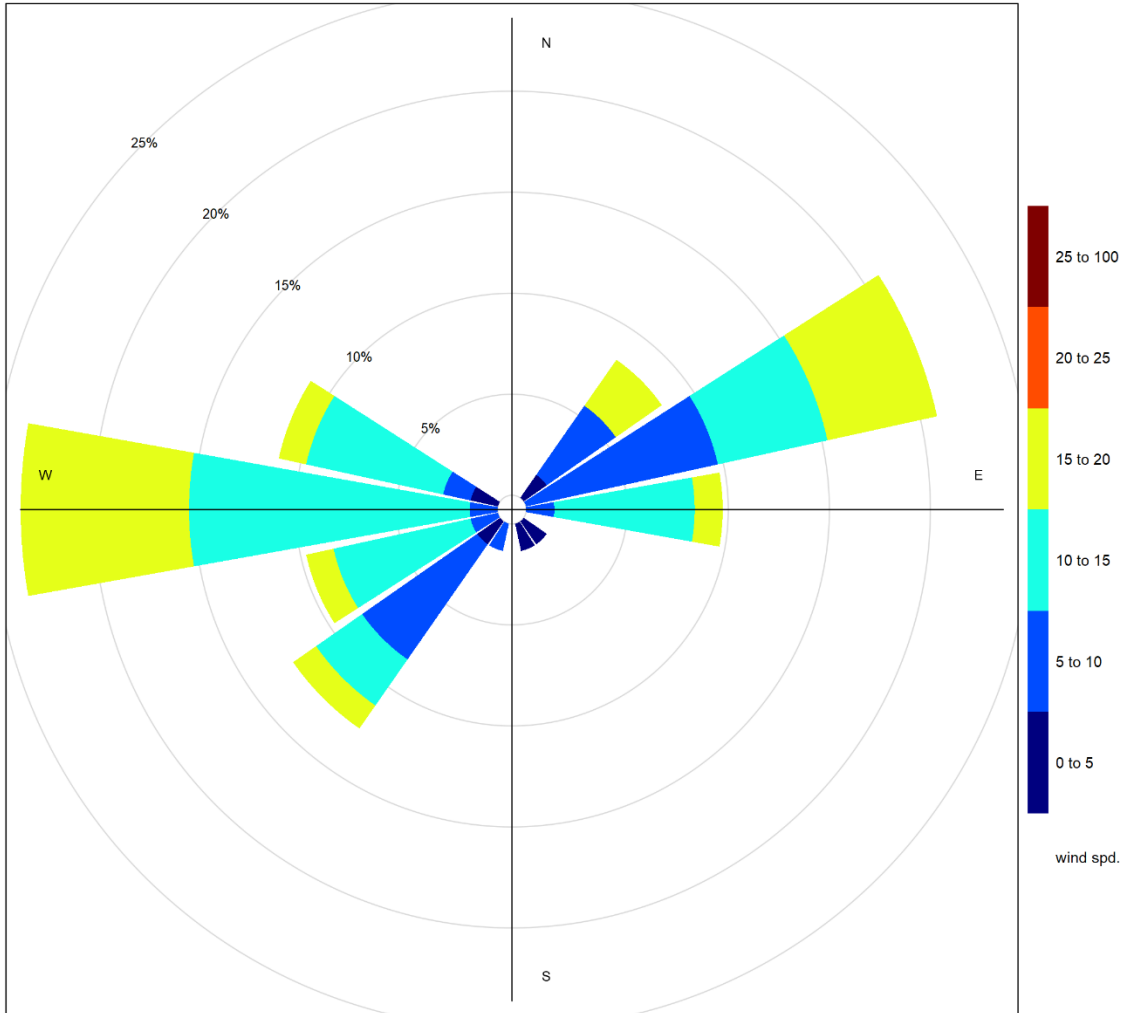
**Figure 4-5 24-hour particulate matter concentrations at the Windridge monitor**

Figure 4-6 shows the wind rose for the 4 days of TSP exceedance in July. The wind rose shows that the winds predominately came from the west-southwest in high speed. Figure 4-7 shows the wind rose for the 3 days of PM<sub>2.5</sub> exceedances. The variation in wind conditions producing exceedances shows that, this month, the PM<sub>2.5</sub> exceedances were largely driven by wildfire activity rather than windblown fugitive dust.

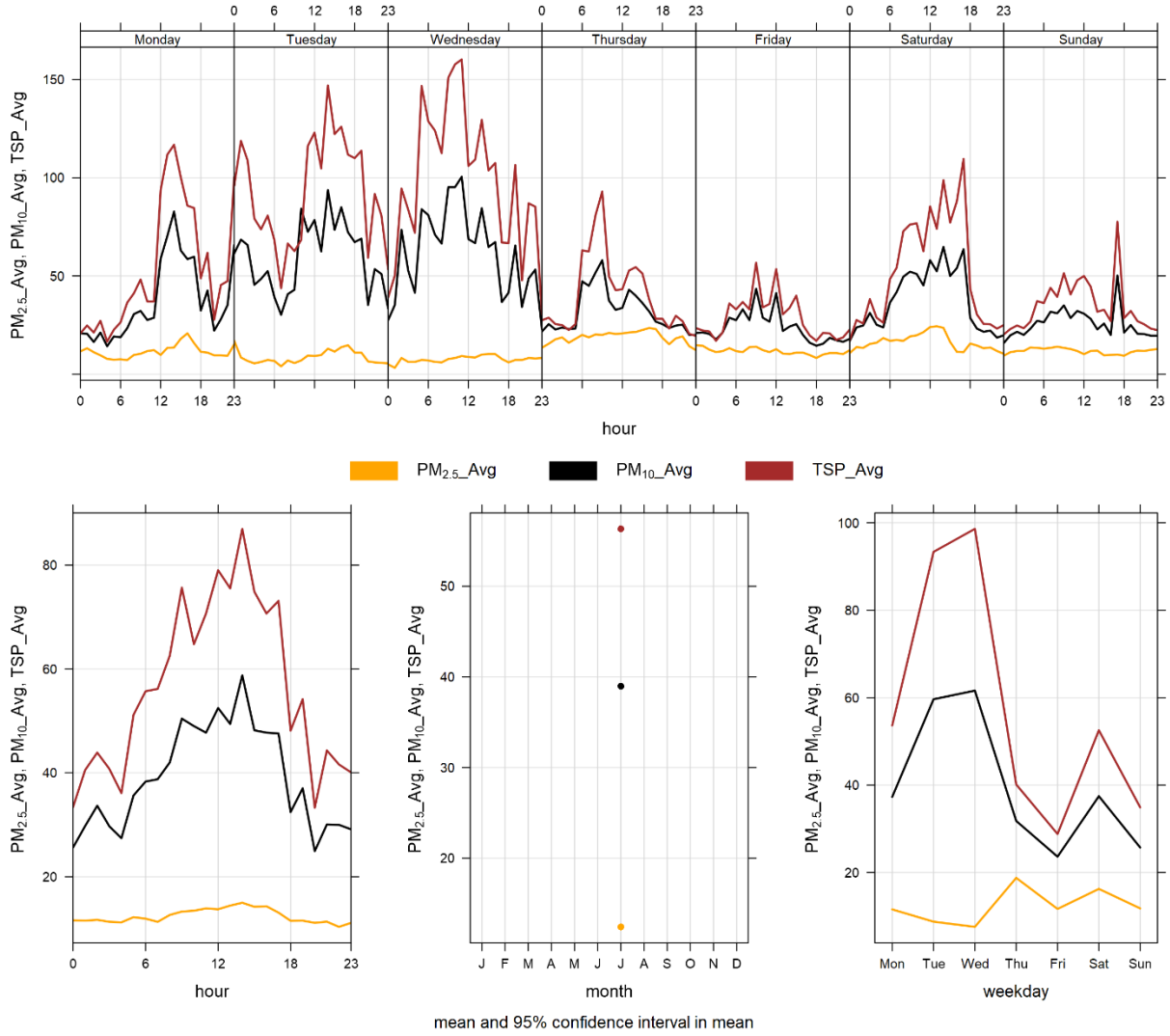
Figure 4-8 illustrates the hourly PM concentrations recorded at the Windridge monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-8 is based on data collected during July 2023. Similar to the Lagoon station, and similar to the Lagoon station shows a more muted diurnal pattern associated with Lafarge operations, daytime emissions from traffic and wildfire smoke impacts in July. The diurnal patterns also follow the diurnal pattern of higher wind speeds during the daytime hours.



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



**Figure 4-7 Wind rose for PM<sub>2.5</sub> exceedance days recorded at the Windridge Station**



**Figure 4-8 Windridge particulate matter time variation**



# 5 WEST INDUSTRIAL GRIMM

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## 5.1 OPERATIONAL SUMMARY

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

**Table 5-1 Instrumentation List at the West monitoring location**

Parameter Measured	Equipment Description	Notes
PM <sub>2.5</sub> , PM <sub>10</sub> , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer was calibrated on July 25 <sup>th</sup> . The analyzer had 100% uptime during the month of July.

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## 5.2 MONITORING RESULTS AND TRENDS

The West GRIMM was moved to its current location in order to monitor “background” PM concentrations since the predominant wind pattern is from west to east in the valley. Table 5-2 summarizes the maximum 1-hour and 24-hour concentrations recorded over the course of the month. While Table 5-3 summarizes the recorded exceedances over the course of month. This is an industrial monitor that is not Alberta Air Monitoring Directive (AMD) compliant and is not required to show compliance with the AAAQO.

Figure 5-1 and Figure 5-2 show the hourly and daily PM<sub>2.5</sub>, PM<sub>10</sub> and TSP concentrations recorded over the month.

There were 0 exceedances of the 24-hour TSP Guideline (100 µg/m<sup>3</sup>) and 4 exceedances of the 24-hour PM<sub>2.5</sub> (29µg/m<sup>3</sup>) Guideline. Further, there were 2 hours exceeding the 1-hour PM<sub>2.5</sub> Guideline. As discussed in Section 1.2, the Bow Valley airshed was heavily impacted from regional wildfire activity in July. Most of the exceedances were primarily attributable to wildfire activity and smoke in the airshed from fires in Alberta.

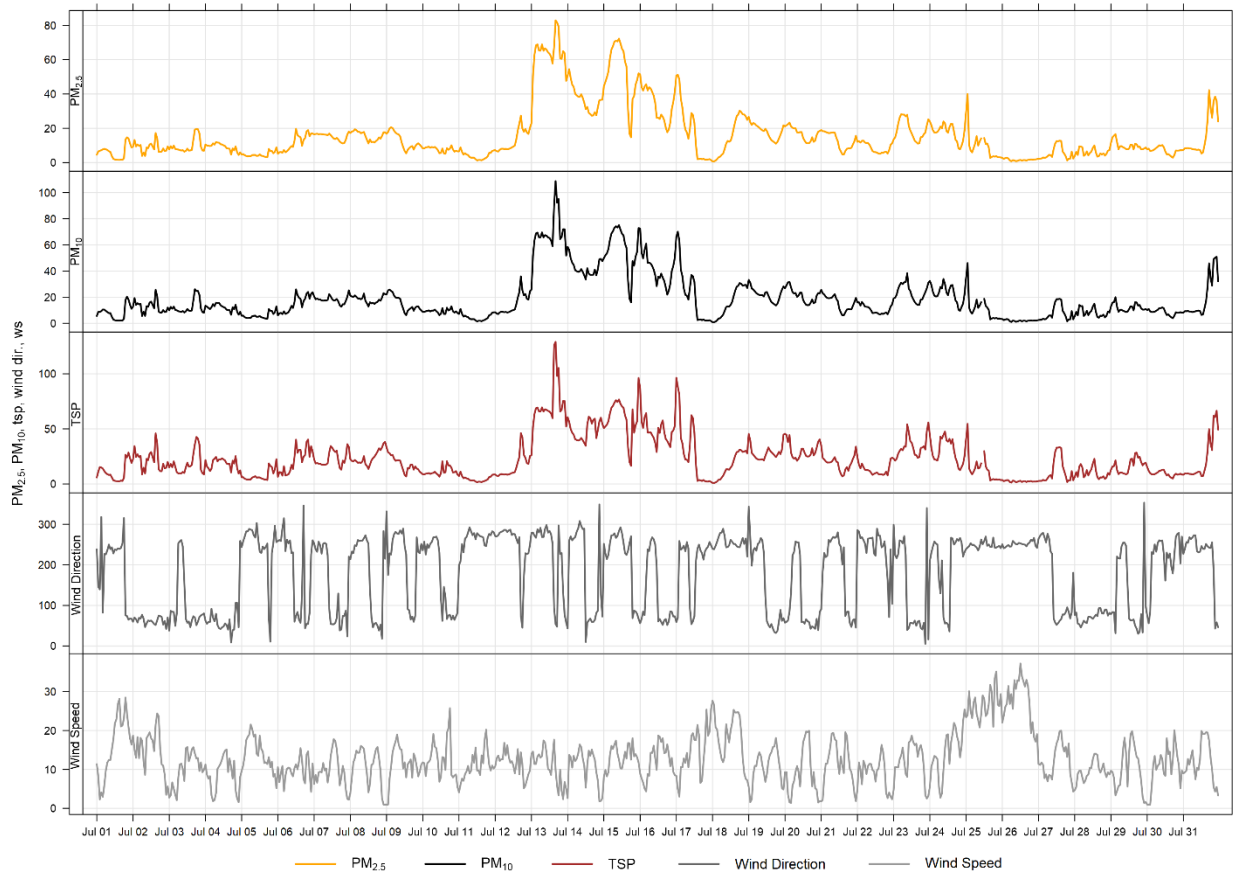
Historically during the month of July, the West monitor records an average of 0 and 2 exceedances of the 24-hour TSP and PM<sub>2.5</sub> guidelines. The maximum number of 24-hour TSP and PM<sub>2.5</sub> AAAQO exceedances recorded in July were 1 day in 2010 and 2014, and 16 days in 2021 respectively.

**Table 5-2 Summary of July 2023 data at the West GRIMM**

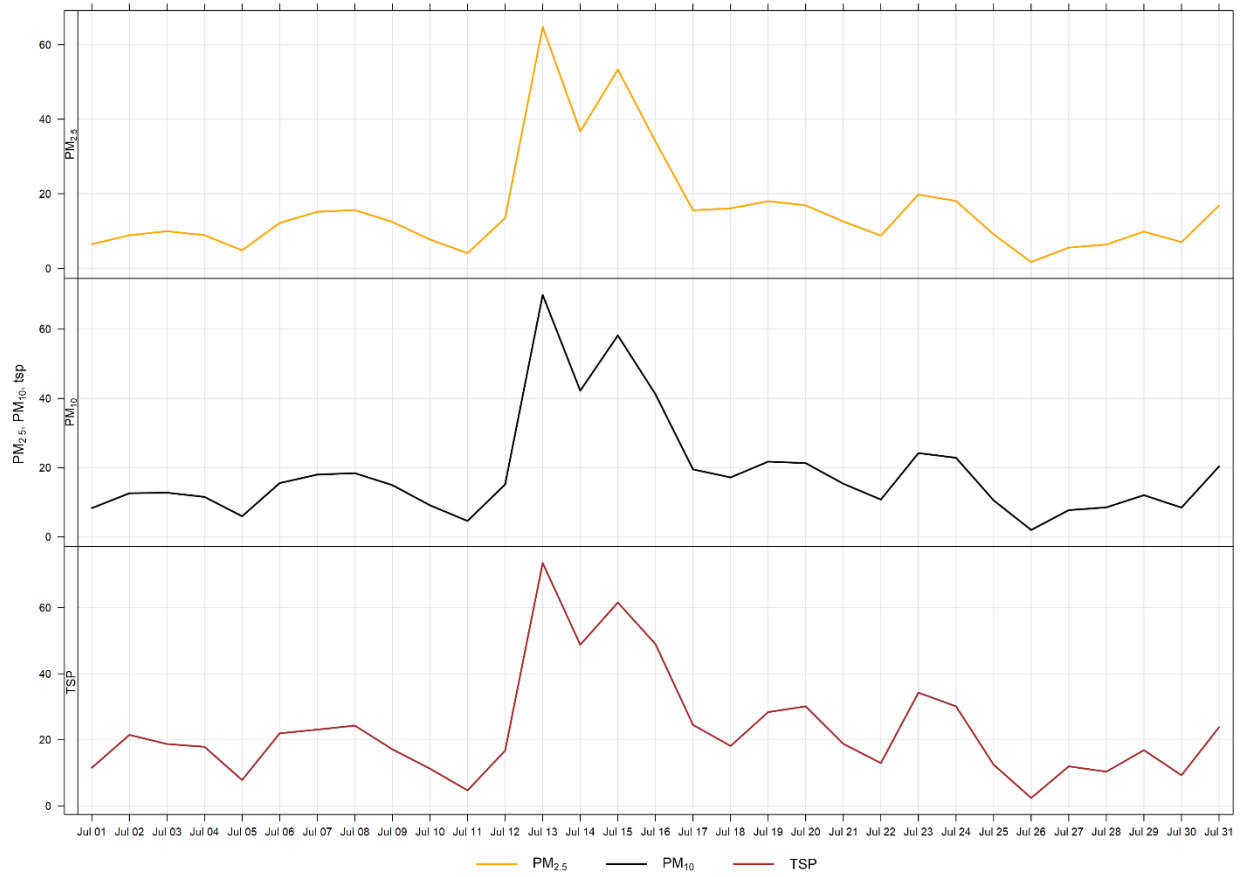
Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
<b>PM<sub>2.5</sub></b> ( $\mu\text{g}/\text{m}^3$ )	80	29	West	2	4	0.7	15.8	82.9	13	16	9.9	54.3	64.7	13	100.0
<b>PM<sub>10</sub></b> ( $\mu\text{g}/\text{m}^3$ )	-	-	West	-	-	0.8	18.8	108.7	13	16	9.9	54.3	69.9	13	100.0
<b>TSP</b> ( $\mu\text{g}/\text{m}^3$ )	-	100	West	-	0	0.9	23.0	128.9	13	16	9.9	54.3	73.5	13	100.0

**Table 5-3 Days exceeding the TSP AAAQO or PM<sub>2.5</sub> AAAQO at the West GRIMM**

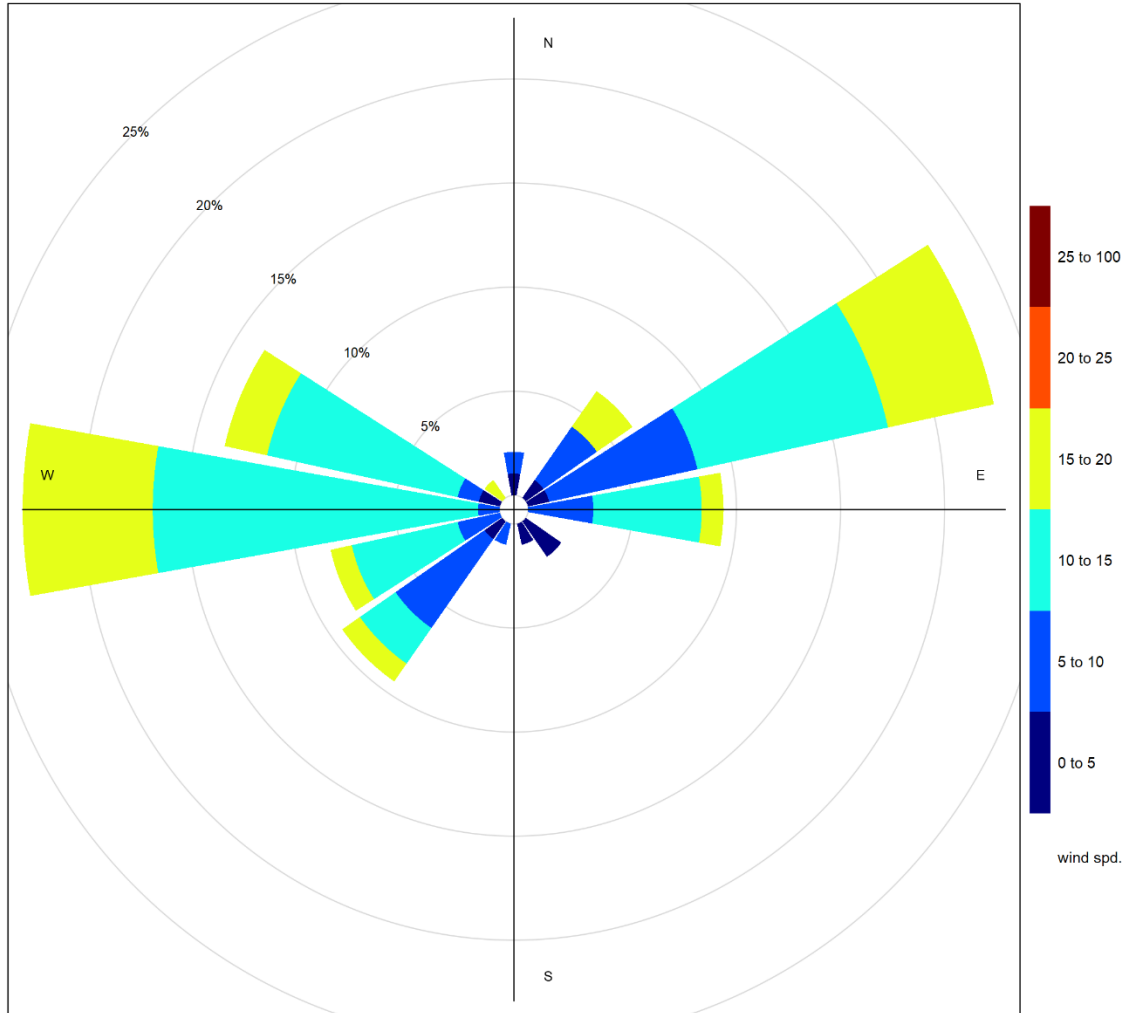
Date	TSP (ug/m <sup>3</sup> )	PM <sub>2.5</sub> (ug/m <sup>3</sup> )	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
<b>Windridge</b>						
<b>2023-07-13</b>	-	64.7	281.8	10.4	77.2	Regional wildfire activity
<b>2023-07-14</b>	-	36.7	322.7	10.9	69.4	Regional wildfire activity
<b>2023-07-15</b>	-	53.3	258.7	13.3	56.8	Regional wildfire activity
<b>2023-07-16</b>	-	34.0	65.4	12.1	59.5	Regional wildfire activity
<b>Total # of Exceedances</b>	<b>0</b>	<b>3</b>				
<b>Maximum # of Exceedances (July)</b>	<b>1 (2010, 2014)</b>	<b>16 (2021)</b>				
<b>Average # of Exceedances (July)</b>	<b>0</b>	<b>2</b>				
<b>Minimum # of Exceedances (July)</b>	<b>0 (2011, 2012, 2013, 2015 – 2022)</b>	<b>0 (2010 – 2013, 2015, 2016, 2018, 2019, 2020, 2022)</b>				



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



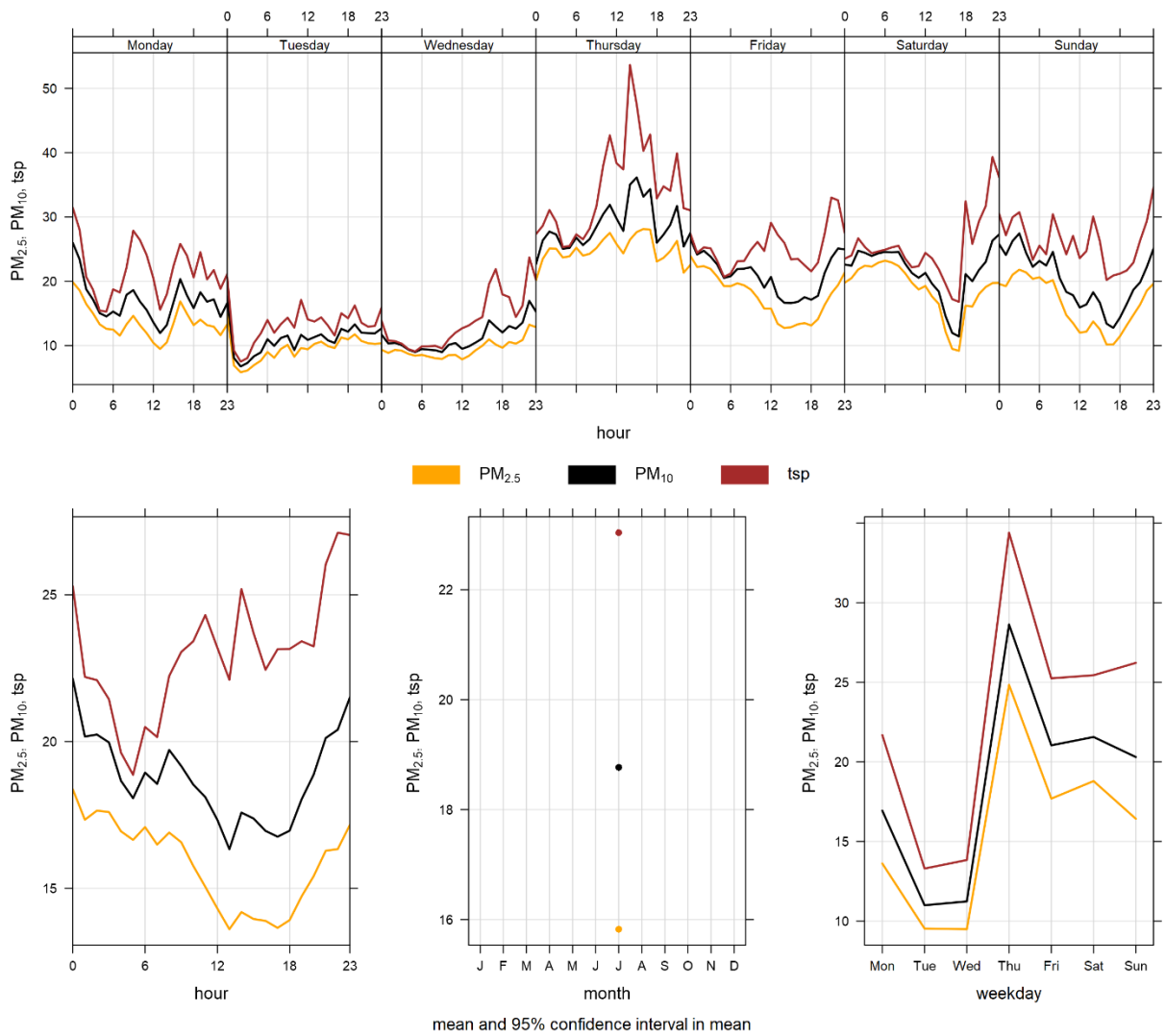
**Figure 5-2 24-hour particulate matter concentrations at the West monitor**



**Figure 5-3 Wind rose for PM<sub>2.5</sub> exceedance days recorded at the West GRIMM**

Figure 5-3 shows the wind rose for the 4 days of PM<sub>2.5</sub> exceedances. The variation in wind conditions producing exceedances shows that wildfire activity rather than windblown fugitive dust was the primary air quality issue this month.

Figure 5-4 illustrates the hourly PM concentrations recorded at the West monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 5-3 is based on data collected during July 2023. The diurnal pattern is not significant due to the low PM concentrations recorded in July. Historically this monitor saw daily variations in PM that were more likely a result of higher traffic volume during daylight hours than specific Lafarge operations. The West monitor was moved to its current location (Figure 1-1) on December 1<sup>st</sup>, 2021, and will continue to be evaluated to better understand influences from background sources, Lafarge Exshaw, as well as highway and rail sources.



**Figure 5-4 West monitor particulate matter time variation**

# 6 BERM INDUSTRIAL GRIMM

## 6.1 OPERATIONAL SUMMARY

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

**Table 6-1 Instrumentation List at the Berm monitoring location**

Parameter Measured	Equipment Description	Notes
PM <sub>2.5</sub> , PM <sub>10</sub> , TSP Concentrations	GRIMM 365 Continuous Particulate Monitor	The analyzer was calibrated on July 25 <sup>th</sup> . The analyzer had 100% uptime during the month of July.

## 6.2 MONITORING RESULTS AND TRENDS

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

There were 7 and 4 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 0 hour exceeding the 1-hour PM<sub>2.5</sub> Guideline.

Historically during the month of July, the Berm monitor records an average of 11 and 1 exceedances of the 24-hour TSP and PM<sub>2.5</sub> guidelines, respectively. The maximum number of TSP exceedances recorded during July occurred in 2020 where there were 22 days that exceeded the guideline. On the other hand, the maximum number of PM<sub>2.5</sub> exceedances in July was 9 days in 2021.

It should also be noted that the GRIMM monitors become more conservative in the reported PM concentrations as the size fraction increases. The PM<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. The strong wind gusting that occurred in July would have also contributed to increased particulate levels that may have arisen from multiple sources: Lafarge Plant, Exshaw Creek, dry sections of the Bow River, and open areas.

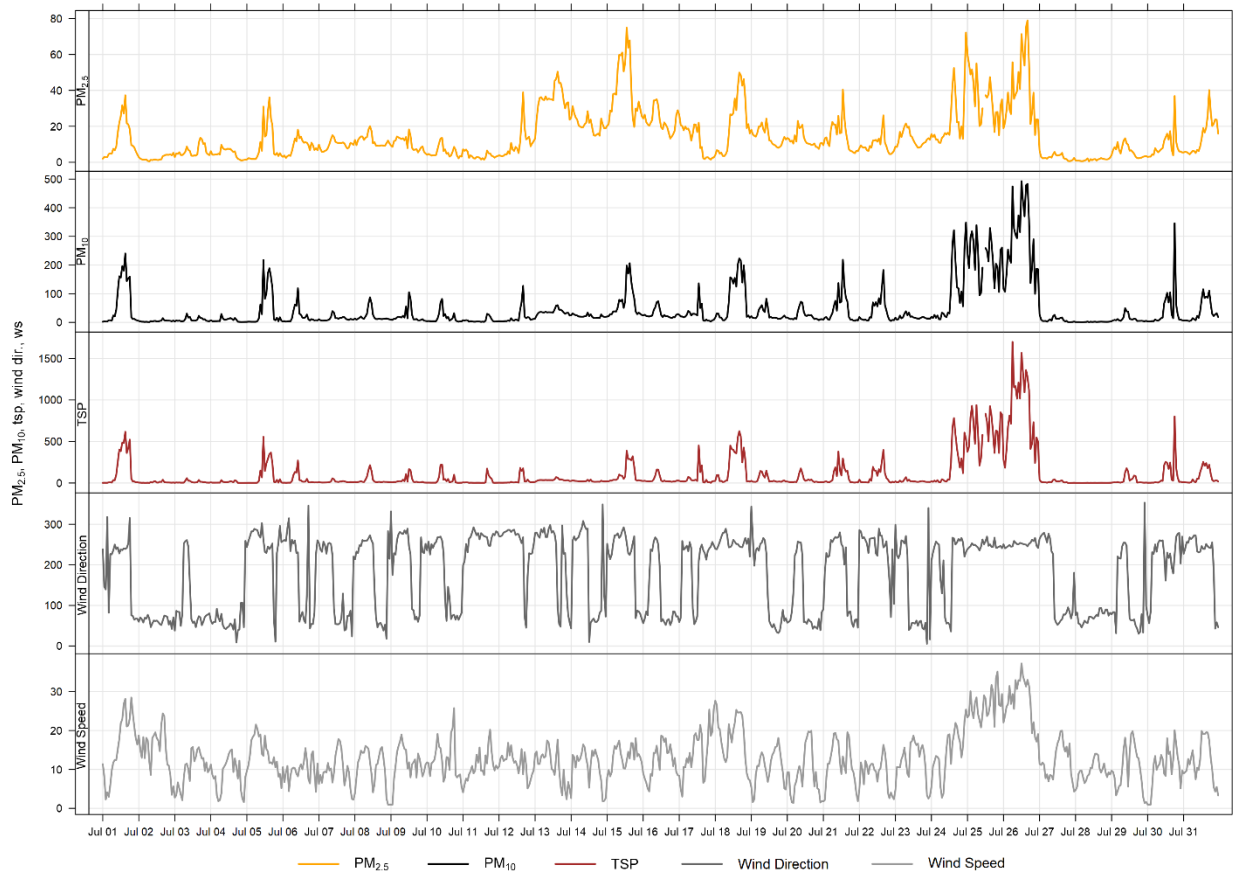


**Table 6-2 Summary of July 2023 data at the Berm GRIMM**

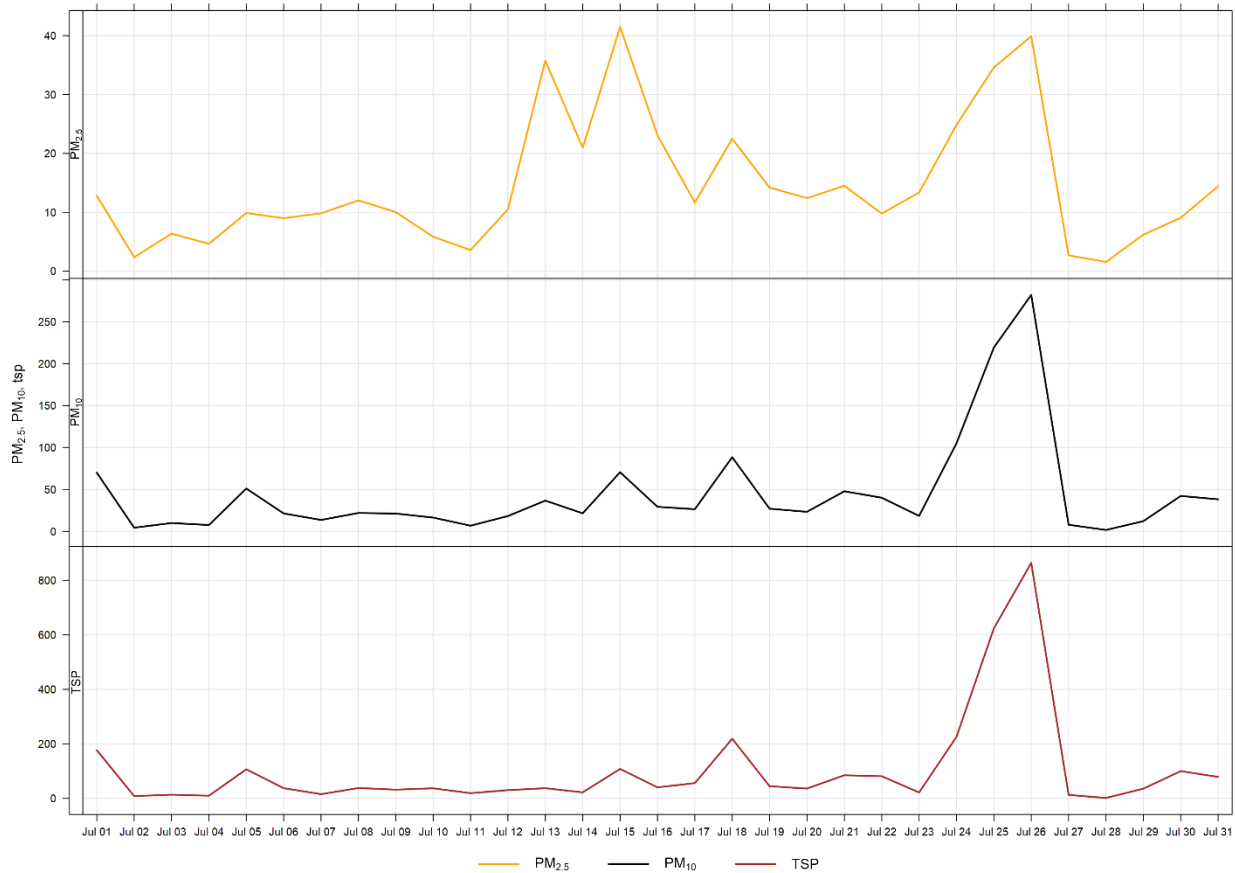
Parameter	Guideline		Station	Exceedances		Monthly		Maximum 1-hour				Maximum 24-hour		Operational Time (Percent)	
	1-hr	24-hr		1-hr	24-hr	Minimum	Average	Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration		Day
<b>PM<sub>2.5</sub></b> (µg/m <sup>3</sup> )	80	29	Berm	0	4	0.5	14.5	79.0	26	16	33.0	245.8	41.5	15	100.0
<b>PM<sub>10</sub></b> (µg/m <sup>3</sup> )	-	-	Berm	-	-	0.5	44.9	492.8	26	12	37.2	253.0	282.0	26	100.0
<b>TSP</b> (µg/m <sup>3</sup> )	-	100	Berm	-	7	0.5	103.1	1698.6	26	6	29.4	245.6	863.8	26	100.0

**Table 6-3 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>Berm</b>						
2023-07-01	176.9	-	235.9	16.5	48.7	
2023-07-05	106.7	-	268.5	14.1	48.6	
2023-07-13	-	35.8	281.8	10.4	77.2	Regional wildfire activity
2023-07-15	108.1	41.5	258.7	13.3	56.8	Regional wildfire activity
2023-07-18	218.8	-	254.5	17.6	39.9	
2023-07-24	225.6	-	252.3	15.1	38.1	
2023-07-25	623.6	34.6	248.4	26.6	28.3	High wind event
2023-07-26	863.8	39.9	251.0	27.2	31.5	High wind event
<b>Total # of Exceedances</b>	<b>7</b>	<b>4</b>				
<b>Maximum # of Exceedances (July)</b>	<b>22 (2010)</b>	<b>9 (2021)</b>				
<b>Average # of Exceedances (July)</b>	<b>11</b>	<b>1</b>				
<b>Minimum # of Exceedances (July)</b>	<b>3 (2013)</b>	<b>0 (2010 – 2013, 2015, 2016, 2018, 2019, 2020, 2022)</b>				



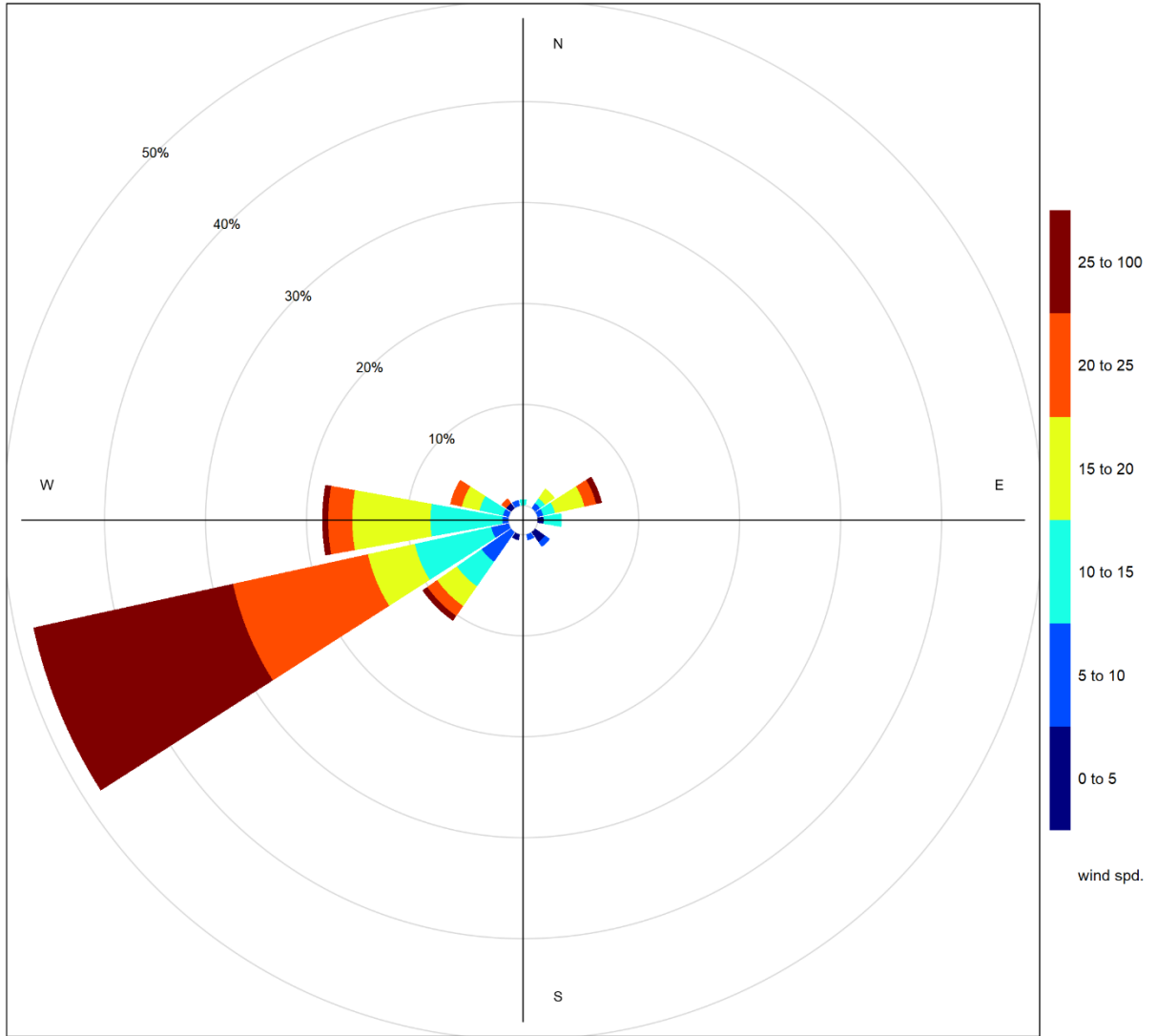
**Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor**



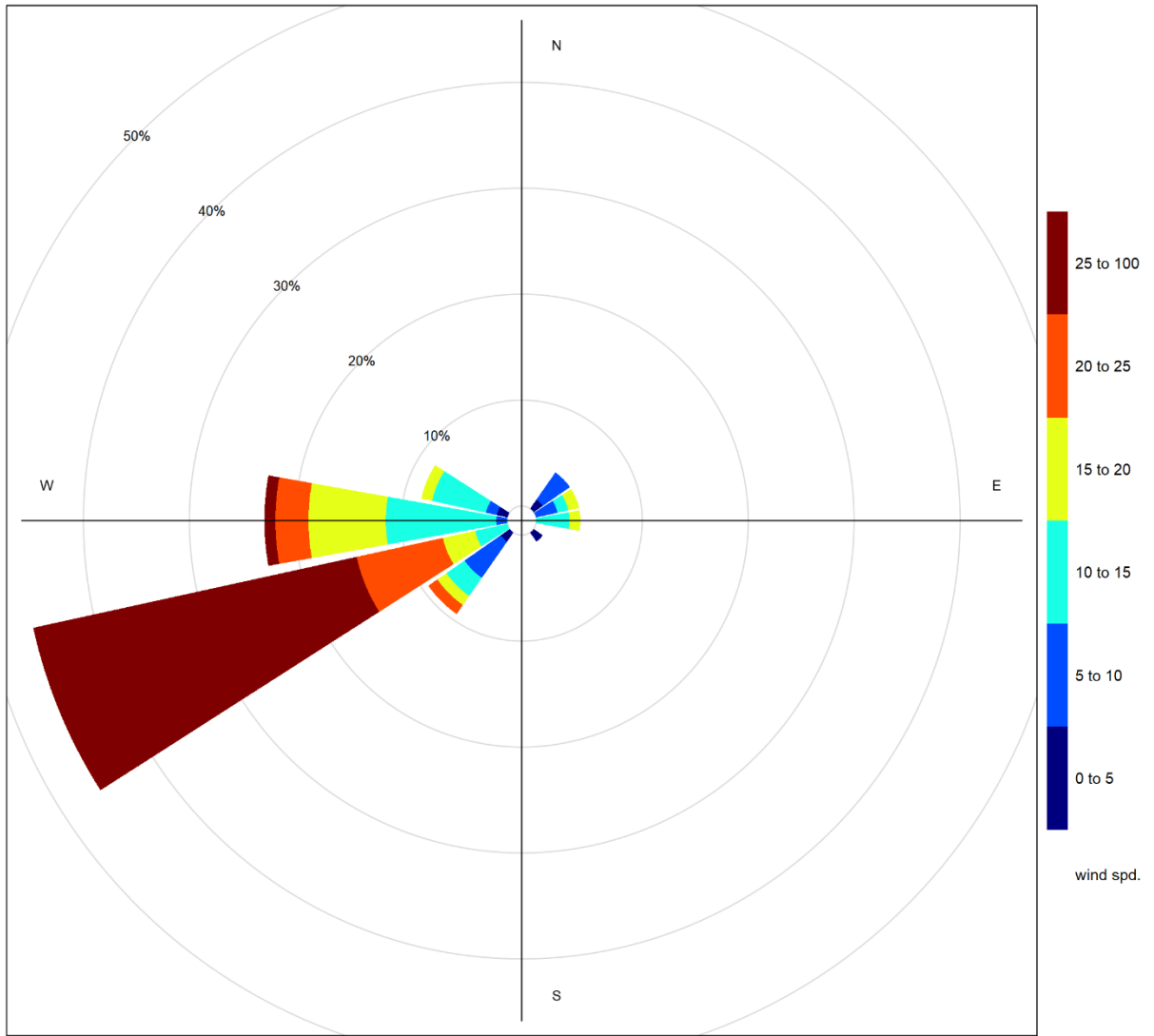
**Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor**

Figure 6-3 shows the wind rose for the 7 days of TSP exceedances. Figure 6-4 shows the wind rose for the 4 days of PM<sub>2.5</sub> exceedances. The wind rose shows that the wind predominately came from the west-southwest direction. This month many of the TSP and PM<sub>2.5</sub> exceedances were driven by windblown fugitive dust, and winds from the west which suggest impacts from the Lafarge Facility. Furthermore, wildfire activities also contribute to half of the PM<sub>2.5</sub> exceedances in the month of July.

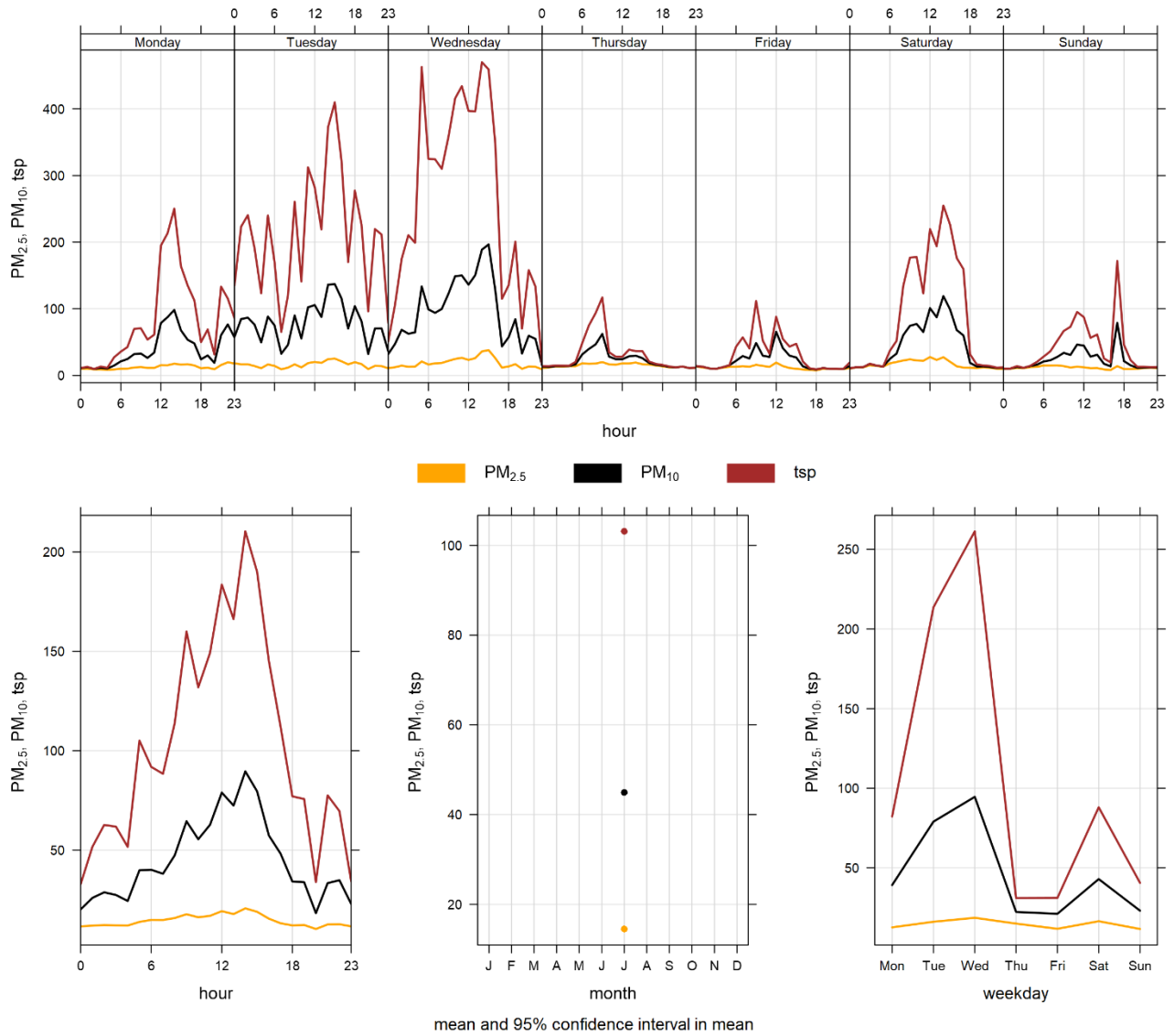
Figure 6-5 shows the variation of PM recorded at the Berm monitor over various time averaging periods. The Berm monitor diurnal pattern, similar to the Lagoon station, and is associated with Lafarge operations, but also daytime emissions from other activities and sources in Exshaw.



**Figure 6-3 Windrose for TSP exceedance days recorded at the Berm GRIMM**



**Figure 6-4 Windrose for PM<sub>2.5</sub> exceedance days recorded at the Berm GRIMM**



**Figure 6-5 Berm particulate matter time variation**

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



# APPENDIX

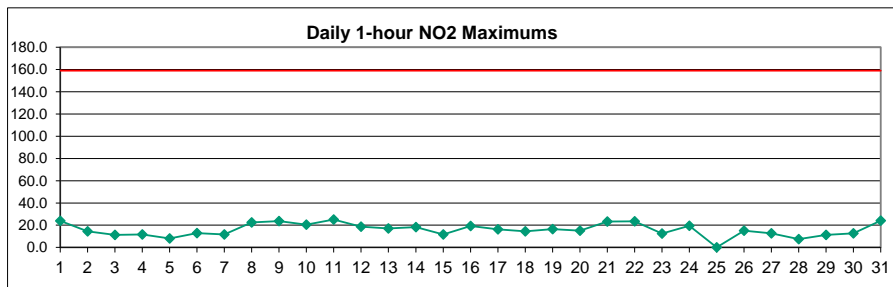
## A DATA & CALIBRATION REPORTS

# APPENDIX



# Lagoon NO<sub>2</sub> (ppb) – July 2023

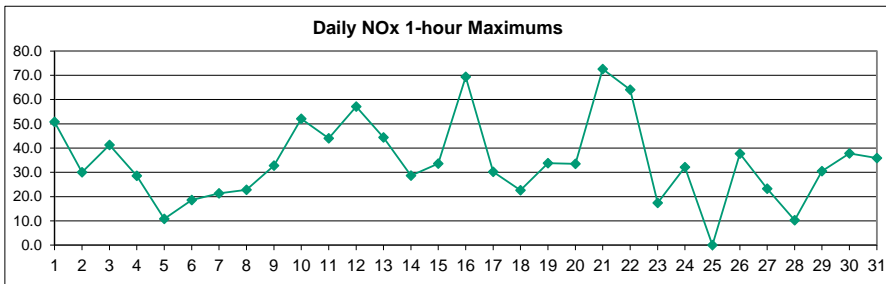
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	11.2	S	13.9	14.2	10.0	6.9	6.6	8.9	8.0	8.9	2.3	2.2	3.4	0.8	0.9	2.4	12.6	23.9	1.6	1.2	1.5	1.3	8.0	13.6	7.1	23.9
2	6.7	S	9.0	11.7	10.3	1.5	5.6	10.1	3.4	1.9	1.5	1.7	3.3	3.1	1.2	2.5	0.7	1.8	0.9	5.7	2.9	4.5	14.4	12.5	5.1	14.4
3	7.7	S	9.3	8.1	8.3	9.1	9.3	11.4	9.2	8.4	3.4	3.6	3.1	6.5	5.3	1.4	2.1	3.9	3.4	3.5	0.8	0.9	0.6	1.9	5.3	11.4
4	4.0	S	5.0	3.3	7.1	4.5	8.5	11.8	4.4	3.8	4.1	4.5	3.6	3.0	1.9	3.4	2.6	5.1	5.2	2.3	4.3	3.2	2.9	2.9	4.4	11.8
5	5.1	S	1.7	1.6	2.7	1.8	2.7	3.8	4.3	3.7	3.3	0.9	0.9	4.3	4.4	2.6	2.0	8.1	2.9	1.8	1.8	1.8	4.4	2.5	3.0	8.1
6	1.0	S	2.0	4.3	2.3	5.3	10.2	10.8	9.0	4.4	8.7	3.8	2.1	6.7	4.1	1.5	6.8	11.0	11.9	4.2	3.9	12.8	1.5	4.3	5.8	12.8
7	7.8	S	2.1	6.5	7.9	7.3	4.2	7.2	4.5	11.7	9.4	8.0	6.5	6.0	2.7	2.3	2.0	4.1	2.2	2.0	4.7	3.4	2.4	2.8	5.1	11.7
8	7.2	S	5.7	7.4	4.4	5.1	4.7	3.4	3.3	3.2	4.9	2.3	3.1	6.1	5.5	6.3	7.4	13.4	2.0	1.9	6.3	9.6	22.6	18.0	6.7	22.6
9	23.7	S	11.3	6.6	4.8	3.3	3.8	3.1	2.5	4.6	3.9	1.8	2.3	2.1	1.4	6.3	2.3	1.9	5.2	7.6	7.5	5.0	4.5	4.8	5.2	23.7
10	4.7	S	3.6	7.5	3.1	6.7	9.1	8.9	10.8	20.4	16.5	20.5	8.0	1.3	0.8	6.1	1.5	1.8	5.6	5.2	4.9	8.8	2.3	3.1	7.0	20.5
11	8.5	S	8.2	8.7	11.5	12.1	11.5	15.7	12.6	18.8	9.6	12.6	16.4	25.0	17.0	13.7	2.1	4.6	11.0	11.9	8.6	7.8	4.2	6.4	11.2	25.0
12	10.2	S	8.2	8.5	8.4	15.4	8.3	15.4	18.6	8.8	15.5	11.6	6.7	8.6	4.2	5.2	3.8	4.5	4.3	15.6	3.6	2.3	3.1	3.1	8.4	18.6
13	15.3	S	13.6	5.4	9.2	6.4	16.3	15.8	8.7	7.4	8.8	10.5	14.9	8.9	3.8	11.3	9.0	7.1	9.9	5.7	3.8	8.4	17.2	8.4	9.8	17.2
14	12.4	S	7.5	11.7	13.4	7.7	6.8	4.6	6.0	8.5	8.7	8.1	18.3	3.0	2.7	11.4	6.2	4.0	6.0	4.3	13.8	10.4	5.3	4.5	8.0	18.3
15	6.3	S	5.0	8.8	7.6	6.6	6.7	9.9	10.8	5.9	5.1	4.4	3.7	2.1	2.0	1.4	6.9	10.4	11.6	2.8	2.2	1.8	11.3	4.9	6.0	11.6
16	7.4	S	2.3	4.3	9.6	10.6	15.8	19.3	14.6	11.5	6.7	11.0	2.9	6.3	3.8	1.8	2.2	5.2	4.7	5.7	2.6	3.0	3.4	4.7	6.9	19.3
17	3.6	S	6.1	10.3	8.1	11.1	9.5	11.0	12.7	16.3	10.8	1.4	9.9	2.6	3.3	8.6	3.2	2.8	4.2	2.3	2.6	14.2	6.7	2.1	7.1	16.3
18	1.7	S	3.1	8.7	9.5	10.7	13.3	9.4	4.6	2.7	5.1	8.9	8.5	5.0	8.7	4.8	5.2	1.5	6.2	13.1	8.4	11.9	9.0	14.4	7.6	14.4
19	16.5	S	12.0	14.2	15.3	15.7	14.6	9.2	7.5	4.7	10.9	7.0	4.9	6.6	5.1	3.8	6.1	1.6	1.4	5.2	5.8	13.1	15.9	9.6	9.0	16.5
20	8.2	S	7.2	6.7	10.9	13.4	15.1	11.0	7.9	11.7	11.8	6.1	7.4	4.8	4.3	3.6	6.2	4.9	13.2	4.7	5.0	6.7	10.3	9.8	8.3	15.1
21	6.9	S	11.8	8.3	11.4	15.9	13.9	14.3	19.8	23.3	17.5	4.5	5.4	1.2	9.0	7.4	3.1	1.9	3.5	6.2	9.6	13.7	17.2	18.3	10.6	23.3
22	16.0	S	4.1	6.7	10.0	6.7	8.8	14.9	20.3	13.6	3.3	8.4	14.3	23.6	14.5	5.9	5.4	4.7	6.7	3.6	5.2	11.8	22.5	18.8	10.9	23.6
23	11.5	S	9.1	10.5	11.5	8.8	8.4	7.8	9.4	8.9	8.4	7.4	5.2	1.7	1.4	1.9	2.3	3.4	4.3	2.0	3.2	11.0	8.9	12.5	6.9	12.5
24	6.6	S	11.5	12.1	15.7	12.1	11.2	14.3	5.9	5.3	6.7	4.7	9.6	19.4	16.3	9.2	12.2	12.2	12.5	10.7	5.6	1.1	1.7	3.0	9.5	19.4
25	2.8	S	9.5	8.1	3.1	3.3	3.8	5.1	11.5	15.2	9.7	C	C	C	C	C	C	12.5	7.1	5.5	3.9	9.1	4.6	8.1	-	-
26	11.4	S	2.3	5.0	3.9	3.1	15.1	X	5.8	5.2	6.7	7.1	4.5	4.2	4.1	2.2	3.8	4.2	7.6	5.6	7.9	4.7	2.9	10.7	5.8	15.1
27	10.3	S	9.8	12.8	6.2	5.1	4.7	6.0	6.9	8.7	7.5	6.7	6.5	7.2	5.4	0.9	1.0	1.6	0.9	0.7	1.1	4.7	5.4	7.6	5.5	12.8
28	4.8	S	2.0	2.2	4.5	3.9	2.7	7.5	5.4	2.3	2.1	1.8	2.5	2.6	4.5	4.6	3.1	2.9	2.6	2.5	3.8	3.9	3.3	4.2	3.5	7.5
29	3.1	S	4.8	4.4	6.2	4.7	6.8	7.2	7.6	3.3	11.2	7.7	4.4	2.6	4.3	5.0	5.4	3.2	1.1	4.8	5.5	9.0	3.4	3.1	5.2	11.2
30	4.8	S	4.9	6.6	9.1	8.9	8.9	8.6	12.7	8.1	5.4	10.9	3.1	1.6	0.8	0.6	0.5	1.2	2.6	10.5	12.6	6.2	5.2	3.0	6.0	12.7
31	2.8	S	7.3	6.7	6.9	8.0	8.4	10.7	8.4	5.5	8.1	2.7	1.7	3.3	7.2	4.6	4.9	9.7	17.1	8.3	13.3	24.1	11.8	11.5	8.4	24.1
NO.	31	-	31	31	31	31	31	30	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	706	99.9%
MEAN	8.1	-	6.9	7.8	8.2	7.8	8.9	9.9	8.9	8.6	7.7	6.4	6.2	6.0	5.0	4.8	4.4	5.8	5.8	5.4	5.4	7.4	7.6	7.6		
MAX	23.7	-	13.9	14.2	15.7	15.9	16.3	19.3	20.3	23.3	17.5	20.5	18.3	25.0	17.0	13.7	12.6	23.9	17.1	15.6	13.8	24.1	22.6	18.8		



Number of 1HR Exceedences	0
Number of Non-Zero Readings	706
Maximum 1-HR Average	25.0 PPB
Maximum 24-HR Average	11.2 PPB
Monthly Calibration	6
Standard Deviation	4.6
Operational Time	743 HRS
Operational Uptime	99.9 %
Monthly Average	7.0 PPB

# Lagoon NOx (ppb) – July 2023

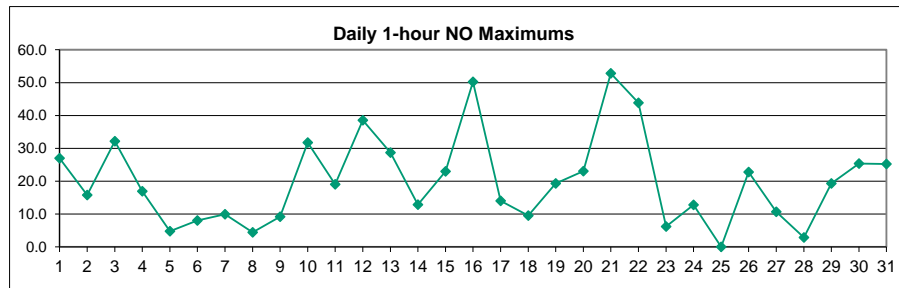
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	14.4	S	17.8	20.6	11.3	7.5	8.5	22.3	13.6	17.0	3.2	2.8	5.0	0.9	1.0	3.4	23.5	50.8	1.5	1.2	1.4	1.2	10.7	17.6	11.2	50.8
2	7.5	S	10.5	14.8	13.7	1.5	7.8	17.0	4.8	2.6	2.0	2.4	4.7	3.9	1.5	3.1	0.7	2.2	0.8	7.7	2.9	6.0	30.1	22.6	7.4	30.1
3	10.0	S	41.3	40.0	24.8	16.0	25.7	38.3	26.6	14.2	5.3	5.5	4.6	10.6	7.4	1.6	2.6	4.8	4.1	4.3	0.7	0.8	0.5	2.1	12.7	41.3
4	4.1	S	6.7	3.4	12.4	6.9	21.9	28.6	6.7	5.5	5.7	6.2	4.9	4.5	2.1	4.4	3.1	6.3	7.4	2.4	4.5	3.8	3.0	3.3	6.9	28.6
5	8.1	S	1.7	1.7	5.3	2.2	4.9	8.5	8.2	6.1	4.9	1.0	1.1	5.8	5.9	3.4	2.4	10.8	3.6	1.8	1.8	1.7	5.0	2.6	4.3	10.8
6	0.9	S	2.9	4.1	2.4	6.5	15.6	18.6	15.9	6.4	12.1	4.5	2.4	9.4	5.0	1.9	11.2	16.7	16.5	4.6	4.2	17.9	2.7	4.4	8.1	18.6
7	8.6	S	2.1	7.3	8.8	8.5	5.4	16.4	6.7	21.4	13.6	11.2	8.7	7.8	3.1	2.6	2.0	4.6	2.2	2.0	5.0	3.4	2.4	2.7	6.8	21.4
8	7.3	S	6.0	10.3	5.5	6.6	7.8	5.2	4.7	4.3	6.7	2.6	3.6	7.3	6.6	7.4	9.3	17.7	2.0	1.9	6.3	9.6	22.8	21.2	7.9	22.8
9	32.8	S	11.5	6.9	4.7	3.3	4.9	3.7	3.0	7.1	5.4	2.1	2.8	2.3	1.5	8.4	2.3	2.1	6.3	8.8	8.6	4.9	4.6	6.0	6.3	32.8
10	5.9	S	4.3	10.2	3.9	12.7	20.9	23.3	26.7	52.1	41.9	37.9	10.6	1.5	0.8	8.2	1.5	2.0	5.4	5.1	4.8	9.2	2.2	3.0	12.8	52.1
11	8.4	S	10.1	10.4	16.9	15.8	14.9	23.2	20.7	31.6	13.1	16.8	24.6	44.1	34.0	21.2	2.6	6.8	15.7	17.9	13.0	12.6	5.6	12.8	17.1	44.1
12	17.6	S	13.2	15.3	14.1	35.3	17.8	38.1	57.1	16.9	36.2	22.0	8.8	14.0	5.4	7.8	4.3	6.8	4.8	19.0	3.6	2.1	4.4	6.0	16.1	57.1
13	24.9	S	21.8	8.2	13.7	10.2	35.5	44.4	23.3	13.6	16.8	19.3	25.4	12.1	4.3	12.8	10.3	7.8	10.4	5.9	3.8	15.4	17.5	8.6	15.9	44.4
14	15.5	S	11.0	21.6	25.4	11.3	10.3	6.5	10.0	20.9	18.4	10.4	28.7	3.5	3.1	24.1	8.0	4.4	6.8	5.1	15.3	10.9	7.9	7.2	12.4	28.7
15	6.4	S	5.9	18.6	20.6	14.8	17.4	28.6	33.6	12.2	8.1	5.5	4.4	2.0	2.0	1.3	12.0	17.2	14.9	2.8	2.1	1.6	13.6	4.8	10.9	33.6
16	7.4	S	2.2	8.3	10.4	12.1	46.1	69.4	47.3	23.1	9.5	15.8	3.6	7.7	4.5	1.9	2.4	6.8	5.3	9.2	2.5	2.9	3.3	4.6	13.3	69.4
17	3.5	S	6.2	10.9	9.2	19.1	19.4	19.5	18.3	30.2	19.1	1.4	15.3	3.1	3.9	13.2	3.9	3.2	5.5	2.5	2.8	23.1	8.6	2.4	10.6	30.2
18	2.0	S	3.2	13.4	12.8	14.9	22.6	15.3	6.6	3.7	8.2	15.9	15.2	7.7	16.7	7.5	7.8	1.5	11.0	22.5	10.1	18.2	9.6	15.8	11.4	22.6
19	17.4	S	13.8	16.3	19.9	25.2	33.8	21.7	16.0	7.6	18.2	10.3	6.4	9.8	7.8	5.4	10.6	1.7	1.4	5.7	6.5	14.0	18.6	10.0	13.0	33.8
20	8.3	S	8.2	24.1	17.1	21.0	33.5	22.9	13.8	19.6	17.3	8.2	9.8	6.4	5.6	4.4	7.1	5.6	18.9	5.6	5.0	13.6	21.0	32.7	14.3	33.5
21	12.5	S	12.3	8.5	27.8	58.6	49.1	58.5	72.5	60.0	37.1	6.0	9.4	1.3	15.6	10.9	3.8	1.9	4.5	8.2	10.0	16.5	31.7	26.8	23.6	72.5
22	21.6	S	4.1	8.0	13.8	8.0	14.1	45.7	64.1	28.8	4.2	14.8	27.2	47.2	23.7	9.7	8.9	5.3	7.6	3.7	5.3	15.7	46.1	26.6	19.7	64.1
23	11.4	S	9.0	12.7	17.4	11.4	14.3	10.7	14.3	13.7	11.9	10.7	6.8	2.0	1.5	1.8	2.4	3.8	5.0	1.9	3.2	13.1	9.2	13.2	8.8	17.4
24	6.7	S	14.6	16.3	26.6	18.5	17.5	25.0	7.8	6.7	9.2	5.8	13.9	32.1	26.5	12.8	19.2	18.2	20.4	13.9	5.9	1.1	1.9	3.6	14.1	32.1
25	3.4	S	14.5	11.5	3.7	4.0	6.1	8.6	24.8	36.1	20.1	C	C	C	C	C	C	14.2	7.2	5.7	3.9	9.4	4.8	8.9	-	-
26	11.9	S	2.7	6.7	6.7	4.5	37.8	X	10.7	11.2	12.7	12.9	8.3	7.5	8.1	3.5	7.3	7.8	12.7	8.2	13.3	6.4	3.6	19.5	10.2	37.8
27	16.2	S	16.1	23.2	9.6	6.2	7.7	12.4	12.9	16.4	13.8	12.1	10.8	11.3	9.6	1.1	1.1	3.3	1.0	0.7	0.9	5.8	5.5	7.7	8.9	23.2
28	4.9	S	2.0	2.2	6.7	4.3	3.5	10.3	8.2	3.6	3.0	3.0	3.9	4.1	6.4	6.4	4.1	3.5	3.6	2.6	4.1	4.5	3.4	4.6	4.5	10.3
29	3.2	S	4.9	4.5	7.0	5.7	16.4	15.9	19.2	6.7	30.5	14.9	7.2	4.4	8.8	10.5	7.4	6.0	1.1	5.1	5.6	14.2	3.4	4.7	9.0	30.5
30	8.5	S	7.1	7.7	12.0	22.2	23.6	26.2	37.8	14.7	7.9	16.4	4.6	1.9	0.9	0.7	0.4	1.5	3.0	14.2	19.0	6.3	6.5	3.1	10.7	37.8
31	2.9	S	13.9	8.2	9.5	13.3	20.9	35.9	21.2	11.5	13.0	3.8	2.2	5.9	9.9	5.5	5.3	12.3	22.1	9.2	14.9	34.7	12.3	11.5	13.0	35.9
NO.	31	-	31	31	31	31	31	30	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	706	99.9%
MEAN	10.1	-	9.7	12.1	12.7	13.2	18.9	24.0	21.2	16.9	13.8	10.1	9.5	9.4	7.8	6.9	6.3	8.3	7.5	6.8	6.2	9.7	10.4	10.3		
MAX	32.8	-	41.3	40.0	27.8	58.6	49.1	69.4	72.5	60.0	41.9	37.9	28.7	47.2	34.0	24.1	23.5	50.8	22.1	22.5	19.0	34.7	46.1	32.7		



Number of Non-Zero Readings	706		
Maximum 1-HR Average	72.5 PPB		
Maximum 24-HR Average	23.6 PPB		
Monthly Calibration	6	Operational Time	743 HRS
Standard Deviation	10.63	Operational Uptime	99.9 %
		Monthly Average	11.4 PPB

# Lagoon NO (ppb) – July 2023

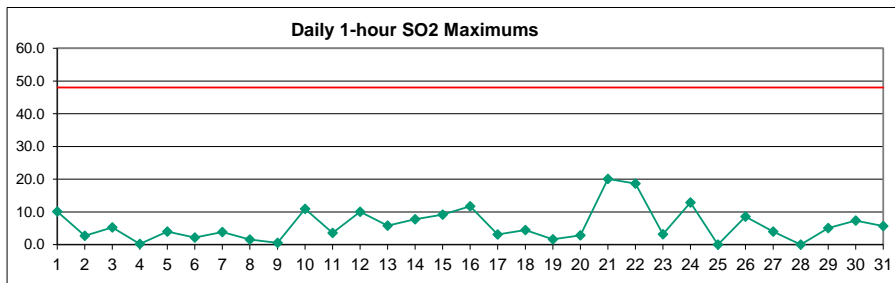
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.4	S	4.2	6.6	1.5	0.8	2.1	13.5	5.8	8.2	0.9	0.7	1.7	0.2	0.1	1.0	11.0	27.0	0.0	0.1	0.0	0.0	2.8	4.1	4.2	27.0
2	0.9	S	1.6	3.2	3.5	0.1	2.4	6.9	1.5	0.8	0.6	0.7	1.5	0.9	0.4	0.7	0.2	0.5	0.0	2.2	0.1	1.6	15.8	10.3	2.5	15.8
3	2.5	S	32.1	32.1	16.7	7.0	16.5	27.0	17.5	6.0	2.0	2.1	1.7	4.1	2.2	0.3	0.7	1.0	0.9	0.9	0.0	0.0	0.0	0.3	7.6	32.1
4	0.1	S	1.8	0.0	5.4	2.6	13.6	16.9	2.5	1.8	1.7	1.8	1.4	1.7	0.2	1.1	0.6	1.4	2.3	0.2	0.3	0.6	0.1	0.4	2.5	16.9
5	3.1	S	0.1	0.2	2.7	0.4	2.3	4.8	4.1	2.5	1.6	0.2	0.3	1.6	1.6	0.9	0.5	2.8	0.9	0.1	0.1	0.0	0.7	0.2	1.4	4.8
6	0.0	S	1.0	0.0	0.2	1.3	5.5	8.0	7.1	2.1	3.6	0.8	0.4	2.8	1.1	0.5	4.5	5.8	4.8	0.5	0.5	5.3	1.4	0.2	2.5	8.0
7	1.1	S	0.1	0.9	1.0	1.3	1.3	9.4	2.4	9.9	4.5	3.5	2.4	2.0	0.5	0.4	0.1	0.6	0.2	0.1	0.4	0.1	0.1	0.0	1.8	9.9
8	0.2	S	0.4	3.1	1.2	1.6	3.2	1.9	1.6	1.2	1.9	0.4	0.6	1.3	1.2	1.3	2.1	4.4	0.1	0.1	0.1	0.1	0.4	3.3	1.4	4.4
9	9.2	S	0.4	0.4	0.1	0.2	1.2	0.8	0.6	2.7	1.6	0.4	0.6	0.3	0.3	2.3	0.2	0.3	1.3	1.3	1.3	0.0	0.2	1.3	1.2	9.2
10	1.4	S	0.8	3.0	0.9	6.2	12.0	14.6	16.2	31.7	25.6	17.4	2.7	0.3	0.1	2.3	0.1	0.3	0.0	0.0	0.0	0.5	0.0	0.0	5.9	31.7
11	0.1	S	2.1	1.9	5.6	3.9	3.6	7.7	8.4	12.9	3.7	4.3	8.4	19.1	17.2	7.8	0.5	2.3	4.9	6.3	4.7	5.0	1.5	6.6	6.0	19.1
12	7.7	S	5.2	7.0	5.9	20.1	9.7	22.8	38.6	8.3	20.8	10.5	2.3	5.6	1.4	2.7	0.6	2.4	4.7	3.5	0.1	0.0	1.4	3.0	7.8	38.6
13	9.7	S	8.4	2.9	4.6	3.9	19.3	28.7	14.8	6.5	8.2	8.9	10.7	3.3	0.6	1.7	1.5	1.0	0.7	0.4	0.1	7.1	0.5	0.4	6.3	28.7
14	3.4	S	3.7	10.1	12.2	3.7	3.7	2.0	4.1	12.5	9.8	2.5	10.5	0.7	0.4	12.9	1.9	0.5	0.8	0.8	1.6	0.7	2.7	2.9	4.5	12.9
15	0.2	S	1.0	9.9	13.2	8.4	10.9	18.9	23.0	6.5	3.1	1.3	0.8	0.0	0.0	0.0	5.2	6.9	3.4	0.1	0.0	0.0	2.5	0.0	5.0	23.0
16	0.1	S	0.0	4.1	1.0	1.8	30.5	50.2	33.0	11.8	2.9	5.0	0.8	1.6	0.8	0.2	0.3	1.7	0.7	3.6	0.0	0.0	0.0	0.0	6.5	50.2
17	0.0	S	0.3	0.8	1.2	8.2	10.1	8.8	5.9	14.0	8.5	0.1	5.5	0.6	0.7	4.8	0.8	0.5	1.4	0.3	0.2	9.1	2.1	0.5	3.7	14.0
18	0.4	S	0.2	4.8	3.6	4.4	9.5	6.2	2.2	1.2	3.2	7.2	6.9	2.9	8.2	2.8	2.7	0.1	4.9	9.5	1.8	6.4	0.8	1.5	4.0	9.5
19	1.0	S	1.9	2.1	4.8	9.6	19.3	12.7	8.8	3.1	7.5	3.5	1.5	3.4	2.8	1.7	4.6	0.2	0.2	0.6	0.8	1.1	2.9	0.5	4.1	19.3
20	0.3	S	1.2	17.7	6.5	7.7	18.4	12.2	6.1	8.1	5.8	2.2	2.6	1.8	1.4	0.9	1.1	0.8	5.9	1.0	0.1	7.0	10.9	23.1	6.2	23.1
21	5.8	S	0.7	0.4	16.6	42.8	35.2	44.3	52.8	36.7	19.6	1.6	4.1	0.2	6.7	3.6	0.7	0.1	1.0	2.1	0.5	3.0	14.6	8.8	13.1	52.8
22	5.7	S	0.0	1.5	3.9	1.4	5.4	30.9	43.8	15.3	1.0	6.5	13.0	23.7	9.4	3.9	3.5	0.7	1.0	0.2	0.3	4.1	23.8	8.0	9.0	43.8
23	0.1	S	0.1	2.4	6.2	2.8	6.1	3.1	5.1	5.0	3.7	3.4	1.7	0.3	0.1	0.0	0.2	0.5	0.7	0.0	0.0	2.2	0.4	0.8	2.0	6.2
24	0.3	S	3.3	4.4	11.0	6.6	6.6	10.9	2.0	1.5	2.6	1.2	4.4	12.8	10.3	3.7	7.1	6.2	8.0	3.3	0.4	0.1	0.2	0.7	4.7	12.8
25	0.7	S	5.2	3.6	0.7	0.8	2.4	3.6	13.5	21.0	10.6	C	C	C	C	C	C	1.9	0.4	0.4	0.2	0.6	0.4	0.9	-	-
26	0.8	S	0.5	1.9	2.9	1.5	22.8	X	5.2	6.2	6.2	6.1	4.0	3.4	4.1	1.4	3.7	3.8	5.3	2.8	5.6	1.8	0.8	8.9	4.5	22.8
27	6.1	S	6.6	10.7	3.6	1.2	3.2	6.7	6.3	7.9	6.5	5.6	4.5	4.4	4.4	0.4	0.2	1.8	0.1	0.1	0.0	1.2	0.2	0.2	3.6	10.7
28	0.2	S	0.0	0.2	2.4	0.4	0.9	2.9	2.8	1.4	1.0	1.3	1.5	1.6	2.0	1.9	1.0	0.7	1.0	0.2	0.4	0.7	0.1	0.4	1.1	2.9
29	0.2	S	0.2	0.2	0.9	1.1	9.7	8.9	11.8	3.6	19.3	7.5	2.9	1.9	4.6	5.7	2.1	3.0	0.1	0.4	0.3	5.4	0.2	1.7	4.0	19.3
30	3.8	S	2.3	1.2	3.1	13.4	14.9	17.8	25.4	6.7	2.6	5.7	1.6	0.3	0.1	0.2	0.0	0.4	0.5	3.9	6.6	0.3	1.3	0.2	4.9	25.4
31	0.2	S	6.8	1.7	2.8	5.5	12.6	25.3	13.1	6.1	5.1	1.2	0.6	2.7	2.9	1.1	0.5	2.7	5.1	1.1	1.7	10.8	0.7	0.2	4.8	25.3
NO.	31	-	31	31	31	31	31	30	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	706	99.9%
MEAN	2.2	-	3.0	4.5	4.7	5.5	10.2	14.3	12.4	8.5	6.3	3.8	3.4	3.5	2.9	2.3	1.9	2.6	1.8	1.5	0.9	2.4	2.9	2.9		
MAX	9.7	-	32.1	32.1	16.7	42.8	35.2	50.2	52.8	36.7	25.6	17.4	13.0	23.7	17.2	12.9	11.0	27.0	8.0	9.5	6.6	10.8	23.8	23.1		



Number of Non-Zero Readings	688	Operational Time	743 HRS
Maximum 1-HR Average	52.8 PPB	Operational Uptime	99.9 %
Maximum 24-HR Average	13.1 PPB	Monthly Average	4.5 PPB
Monthly Calibration	6		
Standard Deviation	7.007		

# Lagoon SO<sub>2</sub> (ppb) – July 2023

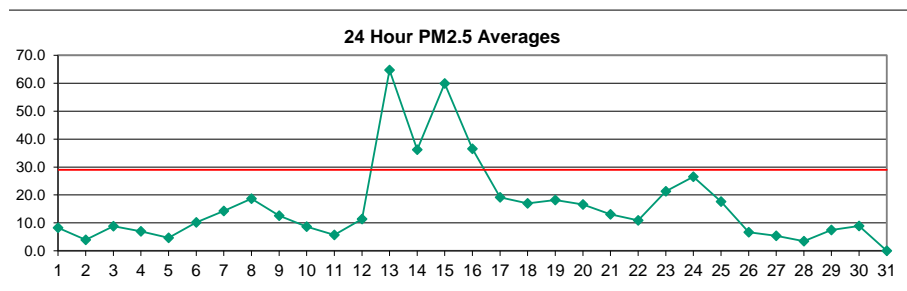
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.3	S	0.2	0.2	0.1	0.1	0.4	3.0	2.3	3.2	1.6	1.5	1.3	0.3	0.2	1.0	6.1	10.1	0.3	0.2	0.0	0.0	0.2	0.2	1.4	10.1	
2	0.1	S	0.0	0.2	0.1	0.0	0.1	2.7	0.8	0.3	0.3	0.3	0.4	1.0	1.2	0.8	0.2	0.1	0.1	0.2	0.1	0.0	0.2	0.2	0.4	2.7	
3	0.2	S	0.4	0.5	0.3	0.3	0.3	4.0	5.3	3.5	1.5	0.8	0.8	0.6	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.9	5.3	
4	0.0	S	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	
5	0.1	S	0.0	0.1	0.1	0.0	0.3	0.4	0.5	0.4	0.2	0.1	0.1	3.4	4.0	1.4	0.9	0.2	0.1	0.6	0.3	0.4	0.1	0.2	0.6	4.0	
6	0.0	S	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.4	1.8	1.1	2.2	1.5	0.9	0.5	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.5	2.2	
7	0.2	S	0.0	0.1	0.0	0.1	0.2	0.3	0.7	3.9	0.3	0.7	0.5	1.1	1.9	0.4	0.3	1.2	0.1	0.1	0.0	0.1	0.1	0.1	0.5	3.9	
8	0.1	S	0.0	0.1	0.1	0.2	0.8	0.6	0.4	0.3	0.7	0.4	0.8	0.8	0.8	0.8	0.6	0.9	1.6	1.1	0.6	0.4	0.4	0.4	0.6	1.6	
9	0.4	S	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.1	0.2	0.4	0.6	0.4	0.3	0.3	0.3	0.2	0.1	0.3	0.3	0.3	0.6	
10	0.3	S	0.2	0.1	0.2	0.3	0.8	5.9	5.9	6.7	9.5	10.9	0.7	0.5	0.4	0.2	0.4	0.5	0.3	0.3	0.1	0.2	0.2	0.2	2.0	10.9	
11	0.6	S	0.3	0.5	0.6	0.7	0.7	1.3	1.3	3.0	0.9	1.0	1.5	3.5	3.6	2.6	0.5	0.4	1.4	1.4	1.2	1.2	0.5	1.3	1.3	3.6	
12	2.1	S	1.6	2.1	1.5	5.0	2.7	6.8	10.1	1.9	3.9	3.0	1.1	1.3	0.6	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.3	0.4	2.1	10.1	
13	1.5	S	1.1	0.5	0.9	0.6	2.2	3.9	2.9	1.1	2.0	2.5	5.8	1.0	0.5	0.4	0.4	0.4	0.4	0.4	0.2	0.3	0.6	0.3	1.3	5.8	
14	0.9	S	0.6	2.0	2.5	1.2	0.8	0.5	0.7	3.2	5.1	3.2	7.8	0.5	0.5	0.6	0.4	0.3	0.5	0.5	0.3	0.2	0.3	0.2	1.4	7.8	
15	0.2	S	0.2	1.9	3.1	2.3	2.3	6.3	9.2	3.3	1.9	1.3	1.0	0.5	0.4	0.3	2.7	5.4	1.5	1.4	1.4	0.8	0.6	0.5	2.1	9.2	
16	0.5	S	0.3	0.2	0.3	0.5	5.2	11.7	9.2	4.7	3.6	2.8	3.3	1.6	0.8	0.6	0.7	0.9	0.6	0.8	0.6	0.5	0.6	0.6	2.2	11.7	
17	0.5	S	0.4	0.7	0.8	0.7	1.2	1.1	1.6	2.7	1.6	0.8	2.9	0.8	0.9	0.6	0.5	0.5	1.1	0.5	0.6	3.1	2.1	0.9	1.2	3.1	
18	0.4	S	0.1	0.4	1.6	2.0	3.0	1.8	0.5	0.8	2.0	2.7	3.7	1.6	3.3	1.1	0.4	0.3	3.4	4.5	0.7	0.8	0.7	0.6	1.6	4.5	
19	0.2	S	0.0	0.0	0.3	0.5	0.8	1.5	1.2	0.7	1.6	0.9	0.8	0.6	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.5	1.6	
20	0.3	S	0.0	0.3	0.2	0.3	0.7	1.4	1.2	2.8	2.9	1.5	1.3	0.8	0.6	0.9	1.0	0.3	0.8	0.4	0.4	0.3	0.3	0.6	0.8	2.9	
21	0.2	S	0.1	0.2	1.8	6.0	7.2	11.9	20.1	16.3	10.9	1.1	3.1	0.7	8.9	2.0	0.7	0.7	0.5	0.5	0.7	0.7	0.8	1.2	4.2	20.1	
22	3.0	S	0.3	0.6	1.0	0.5	1.5	9.5	18.7	6.5	0.9	4.3	9.1	16.3	8.4	2.9	3.8	1.3	0.9	0.8	0.9	0.7	0.9	0.6	4.1	18.7	
23	0.5	S	0.3	1.4	3.2	1.5	2.1	1.4	2.1	1.9	1.5	1.2	1.2	1.1	1.2	0.9	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.6	1.2	3.2	
24	0.5	S	2.7	2.3	4.4	1.0	1.1	2.3	1.1	0.8	1.0	0.8	4.4	12.9	11.8	3.5	3.9	5.0	4.4	2.7	1.6	0.5	0.5	0.7	3.0	12.9	
25	0.6	S	2.9	1.8	0.8	0.8	1.2	1.6	6.2	12.4	8.4	C	C	C	C	C	C	0.7	0.3	0.3	0.2	0.3	0.3	1.0	-	-	
26	0.8	S	0.0	0.7	0.3	0.4	8.6	X	1.0	1.2	1.2	1.1	1.0	0.8	1.5	0.0	2.3	2.4	2.6	1.9	4.4	0.9	0.2	1.0	1.6	8.6	
27	1.2	S	1.8	4.0	0.6	0.3	0.0	1.4	2.2	3.6	0.8	0.4	0.3	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.0	
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	0.0
29	0.0	S	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.2	5.1	0.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.1	
30	0.0	S	0.0	0.0	0.1	1.1	1.9	2.8	7.4	1.7	0.6	2.8	1.1	0.0	0.0	0.0	0.0	0.0	0.3	2.1	2.1	0.4	0.6	0.0	1.1	7.4	
31	0.0	S	0.3	0.2	0.5	0.7	2.4	5.7	2.3	1.4	1.3	0.3	0.0	1.9	2.2	0.2	0.1	3.7	5.5	0.0	0.0	0.1	0.0	0.0	1.2	5.7	
NO.	31	-	31	31	31	31	31	30	31	31	31	30	30	30	30	30	30	31	31	31	31	31	31	31	706	99.9%	
MEAN	0.5	-	0.5	0.7	0.8	0.9	1.6	3.0	3.7	2.9	2.4	1.6	1.9	1.9	1.9	0.8	1.0	1.2	0.9	0.7	0.6	0.4	0.4	0.4			
MAX	3.0	-	2.9	4.0	4.4	6.0	8.6	11.9	20.1	16.3	10.9	10.9	9.1	16.3	11.8	3.5	6.1	10.1	5.5	4.5	4.4	3.1	2.1	1.3			



Number of 1HR Exceedences	0
Number of Non-Zero Readings	626
Maximum 1-HR Average	20.1 PPB
Maximum 24-HR Average	4.2 PPB
Monthly Calibration	6
Standard Deviation	2.333
Operational Time	743 HRS
Operational Uptime	99.9 %
Monthly Average	1.3 PPB

# Lagoon PM<sub>2.5</sub> (µg/m<sup>3</sup>) – July 2023

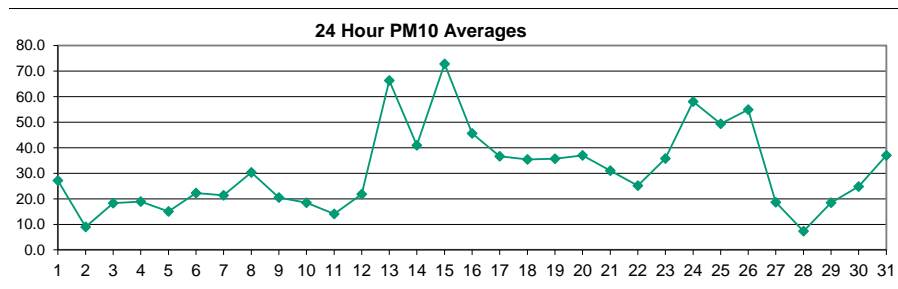
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	6.3	7.9	10.9	8.7	9.1	7.5	7.5	12.4	11.3	10.4	9.2	6.9	3.8	2.5	3.0	2.0	4.6	8.3	12.8	13.3	12.3	10.8	9.3	7.4	8.3	13.3
2	6.3	4.4	3.9	4.5	7.2	7.5	3.1	1.5	3.2	2.2	1.3	1.6	0.0	0.3	2.8	2.6	5.2	4.8	3.8	3.6	3.2	6.7	5.1	9.7	3.9	9.7
3	13.3	9.9	9.9	13.7	12.1	11.2	7.8	6.0	6.8	9.1	6.4	3.4	3.5	3.2	3.5	6.4	10.0	17.6	15.9	13.2	11.7	10.1	5.3	2.8	8.9	17.6
4	3.6	4.3	6.6	7.3	11.5	9.3	10.3	10.7	15.0	10.1	9.6	10.8	11.9	7.6	6.5	5.5	7.2	5.1	1.7	0.5	0.8	5.7	3.9	3.2	7.0	15.0
5	6.3	4.9	4.4	4.8	1.8	0.0	0.3	2.7	3.0	4.8	4.7	8.2	5.9	1.8	4.2	8.1	7.5	6.5	7.0	6.6	3.9	3.6	4.7	5.2	4.6	8.2
6	7.9	4.9	5.6	5.8	6.2	5.0	5.2	5.6	7.1	9.4	11.3	18.2	16.7	14.0	13.6	17.1	11.7	10.7	10.9	9.4	10.6	11.9	13.9	11.3	10.2	18.2
7	14.0	14.9	13.7	12.6	15.2	17.4	12.5	12.9	15.1	12.4	17.2	13.0	17.7	17.2	17.5	17.0	15.9	10.7	8.9	11.5	9.6	14.3	16.5	14.7	14.3	17.7
8	14.7	16.6	18.3	29.0	25.8	14.3	16.4	14.0	14.1	18.2	13.7	21.7	24.3	23.9	31.9	17.9	17.9	15.1	19.3	17.5	15.4	15.8	18.7	14.1	18.7	31.9
9	16.9	19.4	20.0	19.7	17.2	18.4	15.4	14.0	14.1	13.7	16.4	12.4	7.5	5.8	9.7	14.1	13.5	9.6	7.6	5.8	7.5	7.7	7.1	9.5	12.6	20.0
10	6.4	8.7	10.7	9.3	7.6	9.1	11.8	8.7	8.8	8.9	15.8	9.5	10.7	7.9	6.3	6.5	7.4	7.9	8.3	9.8	8.1	6.2	6.5	6.8	8.6	15.8
11	5.1	7.7	7.6	7.4	7.1	5.5	7.0	7.0	5.0	10.2	7.0	5.1	3.5	1.1	0.0	3.6	4.5	5.0	5.4	6.3	7.3	7.7	5.4	6.1	5.7	10.2
12	6.4	6.1	4.3	4.2	5.4	5.1	4.7	5.0	6.5	5.5	6.7	10.0	10.9	8.0	13.4	17.5	27.0	27.9	11.2	16.1	20.4	16.4	17.4	16.6	11.4	27.9
13	37.5	49.3	60.5	69.6	70.8	68.1	62.7	69.8	65.6	61.8	64.9	61.7	62.3	65.3	67.9	71.2	85.0	88.1	80.4	64.9	57.7	56.7	59.2	51.0	64.7	88.1
14	47.4	53.5	45.8	44.6	44.7	39.6	34.9	35.7	33.1	39.0	35.3	32.0	35.0	37.4	32.4	26.7	29.4	27.9	30.3	25.5	29.3	34.6	36.1	38.2	36.2	53.5
15	35.9	42.4	46.0	51.6	61.5	60.4	65.7	66.8	71.9	66.9	73.0	77.7	86.3	101.8	94.3	86.3	46.7	29.2	24.0	50.2	49.8	50.7	50.5	47.3	59.9	101.8
16	41.2	41.1	39.3	32.9	35.1	40.6	45.4	42.4	38.9	43.1	41.3	35.4	32.5	34.6	39.9	37.3	33.9	28.2	27.8	27.5	24.0	38.4	35.9	39.9	36.5	45.4
17	42.9	43.3	38.1	29.7	35.5	28.9	21.1	21.4	17.6	20.8	28.4	32.4	20.8	22.7	0.2	0.8	14.0	9.8	6.6	4.6	4.3	6.1	5.2	4.9	19.2	43.3
18	4.1	2.0	2.3	1.3	3.5	5.5	7.4	8.5	11.6	14.5	12.3	13.6	17.9	18.4	19.4	24.5	30.4	32.9	33.8	33.8	29.4	27.0	28.9	25.6	17.0	33.8
19	21.5	20.4	22.1	23.8	25.7	27.3	21.7	22.2	23.1	16.5	19.0	23.1	20.9	15.6	17.1	12.0	11.5	14.6	12.9	11.1	10.6	16.8	13.3	13.9	18.2	27.3
20	17.4	13.2	18.0	21.4	16.5	19.2	13.3	23.3	20.2	19.4	21.2	20.6	15.7	14.8	18.8	13.2	11.6	14.3	15.0	13.6	11.5	18.5	13.2	14.3	16.6	23.3
21	14.5	14.6	12.2	17.6	16.8	16.6	17.2	15.3	21.3	19.6	22.0	18.5	9.6	11.7	7.1	9.0	11.4	8.2	6.5	9.9	6.5	6.0	9.7	12.7	13.1	22.0
22	14.2	12.7	9.5	9.7	10.3	10.2	10.0	11.7	11.1	9.2	8.6	8.4	9.1	12.3	10.8	7.7	5.5	8.8	11.0	10.8	8.7	17.9	15.9	17.4	10.9	17.9
23	17.1	16.9	16.2	20.6	23.2	24.7	24.9	27.8	27.1	23.2	24.4	19.1	19.9	18.2	18.9	15.5	12.5	21.4	26.0	21.6	24.9	21.2	25.1	20.8	21.3	27.8
24	25.6	19.7	23.3	24.6	25.6	19.8	17.9	19.2	24.6	32.2	24.6	24.6	30.1	36.3	45.9	45.3	38.7	27.9	23.8	16.2	13.9	18.2	20.5	37.2	26.5	45.9
25	48.6	71.5	19.0	17.0	8.5	7.8	15.4	17.9	12.0	18.6	20.1	14.3	26.1	C	C	C	C	5.3	7.7	6.2	16.2	8.9	6.5	5.2	17.6	71.5
26	4.7	5.3	4.4	6.6	7.8	4.1	3.0	7.3	10.6	6.4	6.3	13.4	11.3	8.1	4.3	16.8	0.7	4.1	5.7	6.7	7.0	5.5	3.7	6.4	6.7	16.8
27	8.9	9.4	8.0	7.4	7.9	6.4	2.9	4.9	6.1	4.3	7.2	5.3	2.8	6.2	8.2	6.0	4.4	2.6	1.5	1.2	2.7	5.4	5.7	4.9	5.4	9.4
28	5.8	5.5	4.6	3.9	2.8	0.3	1.4	0.1	0.0	0.2	2.7	2.4	3.9	6.0	5.1	4.9	5.4	4.6	2.8	4.3	2.9	6.0	5.2	2.5	3.5	6.0
29	3.0	5.5	7.3	6.0	7.6	6.3	8.1	11.1	17.1	11.7	10.6	8.8	10.1	10.9	9.7	6.6	4.6	3.7	5.1	4.6	3.8	5.3	6.7	4.7	7.5	17.1
30	5.3	9.3	8.6	7.8	8.7	14.1	11.9	10.6	13.4	11.3	9.1	22.0	16.7	4.3	6.5	5.1	2.6	0.9	3.6	7.5	9.0	9.3	9.1	7.7	8.9	22.0
31	7.7	7.8	7.9	11.5	X	X	X	X	X	NRM	NRM	NRM	9.0	5.6	10.0	26.6	38.7	65.4	58.4	44.4	39.1	37.8	40.3	32.0	-	-
NO.	31	31	31	31	30	30	30	30	30	30	30	30	31	30	30	30	30	31	31	31	31	31	31	31	732	98.9%
MEAN	16.5	17.8	16.4	17.2	18.0	17.0	16.2	17.2	17.9	17.8	18.3	18.5	18.0	17.4	17.6	17.8	17.3	17.0	16.0	15.4	14.9	16.4	16.3	15.9		
MAX	48.6	71.5	60.5	69.6	70.8	68.1	65.7	69.8	71.9	66.9	73.0	77.7	86.3	101.8	94.3	86.3	85.0	88.1	80.4	64.9	57.7	56.7	59.2	51.0		



Number of 24HR Exceedences	4
Number of Non-Zero Readings	728
Maximum 1-HR Average	101.8 UG/M3
Maximum 24-HR Average	64.7 UG/M3
Operational Time	736 HRS
Monthly Calibration	4
Operational Uptime	98.9 %
Standard Deviation	16.46
Monthly Average	17.0 UG/M3

# Lagoon PM<sub>10</sub> (µg/m<sup>3</sup>) – July 2023

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	14.2	21.0	24.4	19.1	19.1	14.9	19.8	46.0	53.5	43.6	45.3	8.5	18.8	15.6	17.1	22.8	11.1	40.7	98.8	24.1	19.8	15.0	17.4	20.9	27.2	98.8	
2	19.1	7.8	11.2	9.4	7.5	8.3	5.5	1.8	12.7	7.3	2.0	1.6	6.0	3.5	11.3	10.9	21.1	18.3	4.5	2.4	9.5	7.2	8.9	17.9	9.0	21.1	
3	21.6	22.4	23.3	24.0	22.5	12.1	18.6	22.1	24.6	30.2	24.0	11.0	11.4	9.1	21.3	35.2	19.7	24.4	16.1	16.2	8.9	9.4	6.8	4.8	18.3	35.2	
4	9.3	12.1	14.3	8.3	15.4	18.2	27.2	32.2	55.4	26.9	28.1	18.6	26.1	24.8	19.6	23.6	30.0	17.8	9.7	8.9	5.0	8.7	7.4	6.1	18.9	55.4	
5	10.5	12.8	11.0	9.2	6.2	7.0	7.4	11.7	15.2	43.7	30.3	41.7	7.1	4.6	20.5	19.3	12.3	12.3	15.3	14.6	16.0	12.2	12.2	8.1	15.0	43.7	
6	5.0	7.6	13.2	8.4	17.5	11.7	27.0	44.2	57.3	47.1	41.5	44.6	20.7	20.6	28.5	29.4	15.1	20.7	16.2	13.4	9.2	6.8	20.4	9.1	22.3	57.3	
7	17.9	18.0	12.5	9.4	18.5	29.9	21.1	20.4	34.6	34.6	27.3	27.9	17.7	26.8	34.5	26.8	24.4	14.5	16.3	10.8	11.8	15.4	23.7	17.4	21.3	34.6	
8	20.1	20.9	43.3	50.7	68.7	27.9	27.0	29.2	35.1	39.5	35.5	40.9	16.9	30.2	20.4	21.6	24.7	25.3	30.4	19.8	27.5	18.1	25.4	28.2	30.3	68.7	
9	24.0	30.0	33.4	27.7	25.7	15.3	19.1	21.6	28.1	20.0	42.7	17.8	12.5	10.8	21.6	16.6	20.7	24.1	10.7	12.5	18.0	14.5	12.2	11.8	20.5	42.7	
10	19.7	13.6	19.6	5.7	9.0	5.1	8.2	11.6	24.4	28.1	57.6	32.4	25.8	30.5	19.3	7.4	29.4	19.5	29.0	14.2	9.7	6.7	9.7	7.6	18.5	57.6	
11	5.4	9.9	19.6	8.8	7.4	7.5	6.5	6.1	10.6	29.6	17.2	19.7	9.5	11.6	8.1	27.6	33.1	7.6	11.7	33.7	21.3	9.7	7.7	9.3	14.1	33.7	
12	14.4	7.5	7.6	19.0	15.2	14.5	20.3	14.7	33.1	23.1	15.3	29.5	23.5	21.9	35.7	41.9	33.0	25.3	14.6	15.4	27.9	25.9	23.2	22.2	21.9	41.9	
13	27.6	55.0	62.4	70.7	69.3	60.8	62.4	68.4	71.8	72.7	67.8	63.8	63.9	73.0	97.4	70.1	85.0	80.4	82.6	65.7	55.6	60.1	52.5	52.5	66.3	97.4	
14	54.2	69.6	54.7	53.2	49.9	43.6	29.7	33.4	32.8	36.9	38.3	34.4	43.5	42.2	29.5	34.7	39.2	36.9	31.3	29.2	31.6	43.3	42.3	49.2	41.0	69.6	
15	36.0	55.9	53.3	59.1	80.8	74.3	69.5	75.6	87.6	85.2	86.8	77.3	91.9	107.9	91.4	82.4	50.0	67.0	40.8	57.5	64.7	51.0	152.4	50.2	72.9	152.4	
16	43.0	45.0	47.2	43.0	40.8	44.9	46.4	53.1	54.4	60.5	56.4	37.4	49.5	52.6	51.8	49.1	50.9	31.7	34.4	28.4	41.3	46.6	43.8	42.7	45.6	60.5	
17	50.8	52.3	52.1	50.1	52.4	52.7	41.9	45.5	59.8	36.5	50.9	48.9	28.5	122.7	4.4	18.9	10.5	10.3	15.1	20.5	5.5	7.5	17.6	24.8	36.7	122.7	
18	0.3	0.0	3.8	9.4	41.0	7.3	6.4	10.9	37.0	19.7	25.2	38.2	77.9	59.8	60.0	57.3	55.1	40.5	36.4	59.2	72.5	48.5	43.6	40.3	35.4	77.9	
19	37.2	33.2	21.1	37.8	74.1	68.0	62.3	57.4	38.4	33.9	35.0	37.6	32.7	26.9	36.0	35.9	26.4	16.1	15.7	25.7	29.0	19.6	31.7	25.5	35.7	74.1	
20	23.8	33.0	31.1	38.9	31.0	25.7	33.7	96.0	62.1	52.9	43.7	37.8	31.9	39.2	38.3	38.2	44.6	33.2	28.8	36.6	17.8	27.1	20.9	21.7	37.0	96.0	
21	24.3	24.9	31.9	35.5	27.3	36.3	55.7	46.1	46.7	56.8	70.3	49.2	32.0	23.6	8.8	14.3	51.1	10.5	9.4	10.5	19.1	15.4	19.9	26.1	31.1	70.3	
22	31.2	21.2	18.2	11.3	20.1	23.9	13.2	24.6	28.9	29.6	28.8	18.0	27.2	28.1	25.6	42.1	21.5	18.6	36.3	16.4	10.7	52.1	24.6	31.8	25.2	52.1	
23	25.7	23.8	21.8	32.3	32.0	33.9	57.7	40.5	52.0	46.8	58.9	32.8	33.4	38.7	32.7	27.6	22.2	41.2	35.2	36.1	33.0	31.0	36.9	32.5	35.8	58.9	
24	27.4	37.6	57.0	42.9	67.6	40.9	34.5	20.3	51.8	42.2	47.4	46.8	56.9	79.6	130.3	139.2	100.7	73.7	78.6	57.2	50.7	34.8	42.1	33.4	58.1	139.2	
25	60.2	93.3	81.1	77.8	36.4	35.0	38.7	38.0	24.3	49.0	108.3	76.4	101.4	C	C	C	C	39.7	32.0	19.0	15.7	8.5	42.2	10.5	49.4	108.3	
26	28.6	20.5	12.4	20.1	64.5	14.2	33.1	102.8	153.1	49.5	91.5	87.4	98.0	62.3	43.0	42.6	24.2	60.9	68.8	66.2	74.8	56.6	38.9	4.7	54.9	153.1	
27	48.6	27.2	7.4	12.7	8.4	9.0	13.8	13.9	21.1	22.0	49.0	40.1	30.6	26.3	41.2	24.2	3.3	4.2	17.4	6.4	3.5	4.1	7.2	6.6	18.7	49.0	
28	10.7	5.5	3.2	1.5	6.2	9.8	6.7	8.3	12.7	6.4	5.6	7.8	5.6	6.3	4.0	4.0	5.6	6.0	12.6	6.2	8.4	12.4	11.4	8.0	7.3	12.7	
29	5.5	15.2	14.0	12.3	12.4	16.0	27.0	44.9	50.0	39.2	27.2	28.6	16.6	17.8	16.9	13.1	9.7	10.6	12.0	11.6	12.2	10.8	9.1	10.1	18.4	50.0	
30	17.2	17.7	18.4	18.2	12.1	38.7	40.6	21.7	29.0	33.4	30.0	38.1	56.1	19.2	18.2	17.3	7.2	5.5	50.9	21.6	21.3	26.4	19.1	18.3	24.8	56.1	
31	16.3	26.2	15.2	16.3	11.7	10.1	18.3	18.0	23.6	NRM	NRM	NRM	27.6	16.4	22.5	58.9	61.1	93.8	73.0	54.9	50.3	50.3	61.7	51.9	37.0	93.8	
NO.	31	31	31	31	31	31	31	31	31	30	30	30	31	30	30	30	30	31	31	31	31	31	31	31	31	737	99.6%
MEAN	24.2	27.1	27.1	27.2	31.3	26.4	29.0	34.9	42.6	38.2	42.9	36.5	35.5	35.1	33.7	35.1	31.4	30.0	31.8	26.3	25.9	24.4	28.8	22.7			
MAX	60.2	93.3	81.1	77.8	80.8	74.3	69.5	102.8	153.1	85.2	108.3	87.4	101.4	122.7	130.3	139.2	100.7	93.8	98.8	66.2	74.8	60.1	152.4	52.5			

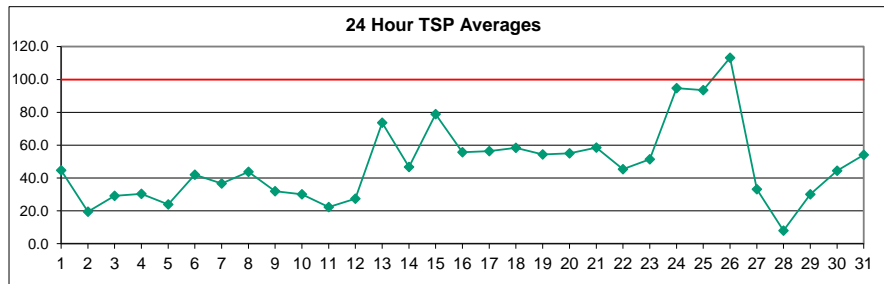


Number of Non-Zero Readings	736		
Maximum 1-HR Average	153.1 UG/M3		
Maximum 24-HR Average	72.9 UG/M3		
Monthly Calibration	4	Operational Time	741 HRS
Standard Deviation	22.91	Operational Uptime	99.6 %
		Monthly Average	31.1 UG/M3



# Lagoon TSP ( $\mu\text{g}/\text{m}^3$ ) – July 2023

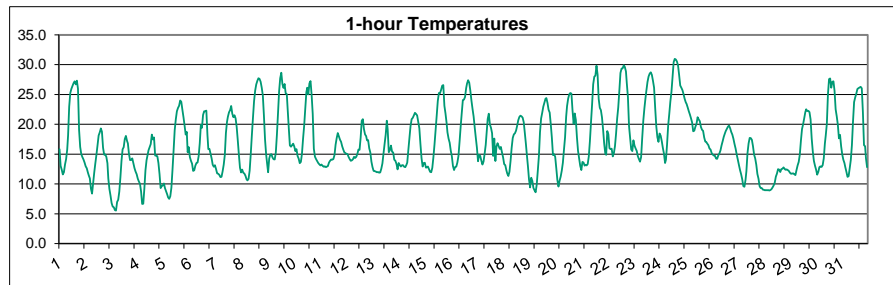
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	23.2	28.4	30.6	24.7	28.6	39.1	50.6	63.9	69.1	60.1	74.9	33.8	31.3	28.8	27.6	36.0	27.2	72.7	203.2	28.4	23.7	20.7	21.0	26.6	44.8	203.2
2	31.8	13.2	13.5	12.2	16.3	14.8	9.4	15.7	20.5	16.0	16.3	11.7	11.9	31.1	21.0	26.3	58.1	20.3	10.5	12.0	26.9	15.0	20.2	23.2	19.5	58.1
3	21.7	37.5	36.0	38.0	30.8	24.1	21.7	29.5	28.9	23.9	32.9	18.0	22.2	14.5	35.9	66.0	51.6	46.5	27.7	25.1	27.5	18.0	14.0	8.7	29.2	66.0
4	16.8	20.7	19.7	20.7	22.7	35.7	32.5	31.1	72.1	38.4	34.3	35.0	55.5	41.1	30.4	42.4	61.5	34.5	11.5	15.0	10.5	24.7	15.3	7.7	30.4	72.1
5	13.4	16.8	12.9	10.2	6.7	8.1	9.7	13.2	23.9	53.5	44.5	69.1	20.4	15.8	36.7	25.9	21.2	16.3	33.2	22.4	31.1	24.4	24.4	19.3	23.9	69.1
6	8.7	10.5	19.0	11.2	22.9	19.4	43.9	67.8	98.9	69.0	54.4	78.4	31.7	28.9	51.8	55.8	45.8	26.9	145.6	25.2	24.7	26.2	30.8	11.2	42.0	145.6
7	30.5	53.3	48.3	35.0	32.5	45.7	34.3	47.2	71.8	46.8	52.1	38.4	36.3	41.7	47.5	31.1	30.8	24.2	23.9	15.3	22.2	27.1	26.2	18.6	36.7	71.8
8	17.0	35.5	56.0	57.9	80.6	27.6	41.4	43.5	36.3	50.0	53.1	53.1	34.0	56.5	29.2	51.0	39.8	46.7	49.5	34.0	45.5	36.3	40.5	34.0	43.7	80.6
9	32.6	47.0	53.3	38.6	36.8	28.4	23.7	28.6	39.5	27.7	71.2	21.4	16.6	22.0	43.7	23.7	30.2	47.2	20.8	14.5	28.1	24.7	21.0	24.2	31.9	71.2
10	19.0	22.0	20.0	16.3	12.2	12.0	9.5	14.2	24.2	46.2	77.6	52.9	49.6	56.0	27.7	12.5	78.0	27.0	80.9	20.2	12.5	8.5	9.7	12.5	30.0	80.9
11	6.3	11.4	27.6	22.8	13.2	16.6	14.0	14.5	24.2	34.5	25.5	26.1	19.4	21.5	15.5	37.8	53.6	20.4	18.3	41.2	27.9	16.7	9.8	15.7	22.3	53.6
12	13.5	14.7	15.0	12.0	19.3	22.5	25.1	23.9	41.0	24.3	23.3	33.5	22.5	24.0	44.4	63.6	38.1	33.3	20.3	28.8	44.5	23.0	27.9	20.8	27.5	63.6
13	29.4	64.3	64.2	77.4	63.4	68.9	63.9	67.6	64.4	76.2	71.4	76.4	76.2	87.7	134.3	89.3	91.7	91.2	93.2	67.0	62.4	67.4	64.4	56.9	73.7	134.3
14	54.4	70.4	53.7	53.1	52.8	41.6	37.4	41.3	38.8	48.8	43.3	42.5	48.3	53.1	34.3	38.3	43.3	36.8	41.2	39.1	43.0	53.3	55.3	58.4	46.8	70.4
15	44.9	59.4	60.9	59.4	88.8	77.0	77.0	79.7	96.1	97.0	110.1	91.3	102.9	124.6	99.6	85.5	49.8	116.6	64.7	86.3	58.8	52.7	56.0	53.7	78.9	124.6
16	46.1	53.1	57.6	39.9	47.0	52.1	58.9	60.6	66.6	71.6	75.7	54.5	62.1	78.9	67.4	56.9	61.3	44.4	47.0	40.1	49.7	50.3	51.3	44.1	55.7	78.9
17	54.6	58.9	53.6	53.6	57.6	66.1	58.0	59.6	92.7	52.3	70.3	70.6	34.5	297.6	20.6	48.2	12.7	18.3	27.4	35.8	18.7	9.8	39.9	42.5	56.4	297.6
18	13.1	8.0	13.0	14.2	63.9	13.5	21.0	16.8	42.9	30.9	45.4	61.3	141.2	101.2	107.2	112.1	89.8	58.8	48.1	79.3	118.3	56.2	73.6	69.9	58.3	141.2
19	54.8	39.2	29.4	54.2	96.2	93.4	99.7	77.6	61.5	59.6	40.6	80.8	42.5	47.5	44.0	66.8	49.2	38.8	34.8	33.8	42.4	34.5	50.0	34.4	54.4	99.7
20	38.8	39.3	46.2	50.8	47.3	41.8	37.3	133.2	86.5	74.3	55.9	65.8	50.2	59.4	63.6	52.4	64.8	71.1	53.7	40.1	30.6	50.0	37.4	31.1	55.1	133.2
21	31.1	32.3	43.5	39.8	30.9	37.0	65.4	58.4	62.8	73.8	100.6	63.8	53.6	36.9	14.9	29.5	129.6	23.3	19.8	20.7	178.5	111.6	90.6	56.6	58.5	178.5
22	44.9	42.8	48.8	46.5	42.5	37.1	37.3	42.8	39.1	55.5	49.2	30.0	36.5	47.2	49.3	61.7	32.2	26.2	51.1	36.6	62.2	89.6	37.8	40.7	45.3	89.6
23	35.0	37.3	35.3	38.8	35.5	44.0	86.0	63.2	83.1	72.4	87.1	39.0	37.5	68.0	43.2	33.5	35.8	54.7	55.8	38.1	41.8	68.3	56.1	42.9	51.4	87.1
24	38.1	51.8	82.3	60.3	95.0	52.9	58.9	42.9	73.2	57.0	59.1	62.1	70.6	127.1	237.7	264.1	181.8	131.4	122.7	108.1	93.0	65.7	74.2	62.9	94.7	264.1
25	83.8	138.1	160.6	158.4	63.1	62.8	67.4	64.2	62.1	75.8	214.6	148.3	182.9	C	C	C	C	69.8	85.5	43.4	45.8	29.7	89.2	24.4	93.5	214.6
26	63.0	28.7	19.5	64.2	136.3	22.6	57.6	258.3	294.6	125.2	187.9	184.1	213.2	128.3	89.7	99.4	64.4	125.7	85.4	139.7	151.1	100.6	64.7	13.1	113.2	294.6
27	73.3	45.7	24.5	19.2	13.1	23.8	26.0	17.4	36.4	40.4	73.6	65.7	57.1	59.7	86.1	49.6	13.6	9.6	13.5	7.7	7.8	8.7	11.3	12.8	33.2	86.1
28	8.7	10.6	8.1	5.4	9.6	8.0	9.9	9.1	13.2	6.9	6.7	6.8	4.0	3.7	3.4	5.5	6.4	10.0	11.3	7.0	8.6	8.0	10.1	8.9	7.9	13.2
29	15.1	17.2	20.9	18.8	19.2	23.3	37.8	69.9	80.4	51.6	40.4	44.1	26.1	20.6	18.0	23.0	24.1	27.5	25.0	21.9	25.7	28.6	26.3	17.0	30.1	80.4
30	21.2	25.4	37.0	17.4	22.0	58.9	69.4	30.6	47.3	53.5	50.7	62.2	102.7	33.5	38.0	24.3	14.5	31.5	127.3	37.9	41.5	48.2	37.8	32.0	44.4	127.3
31	26.0	34.9	19.1	27.3	22.3	19.2	23.2	30.8	37.3	NRM	NRM	NRM	NRM	27.2	38.1	96.1	77.2	132.2	90.7	78.5	62.1	75.9	87.5	74.9	54.0	132.2
NO.	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	31	31	31	31	31	31	31	736	99.5%
MEAN	32.6	37.7	39.7	38.7	42.9	36.7	42.2	52.2	62.2	53.8	64.8	57.4	56.5	59.5	53.4	56.9	52.6	49.5	56.2	40.1	47.3	41.1	41.1	32.2		
MAX	83.8	138.1	160.6	158.4	136.3	93.4	99.7	258.3	294.6	125.2	214.6	184.1	213.2	297.6	237.7	264.1	181.8	132.2	203.2	139.7	178.5	111.6	90.6	74.9		



Number of 24HR Exceedences	1
Number of Non-Zero Readings	736
Maximum 1-HR Average	297.6 UG/M3
Maximum 24-HR Average	113.2 UG/M3
Monthly Calibration	4
Standard Deviation	37.1
Operational time	740 HRS
Operational Uptime	99.5 %
Monthly Average	47.7 UG/M3

# Lagoon Temperature (°C) – July 2023

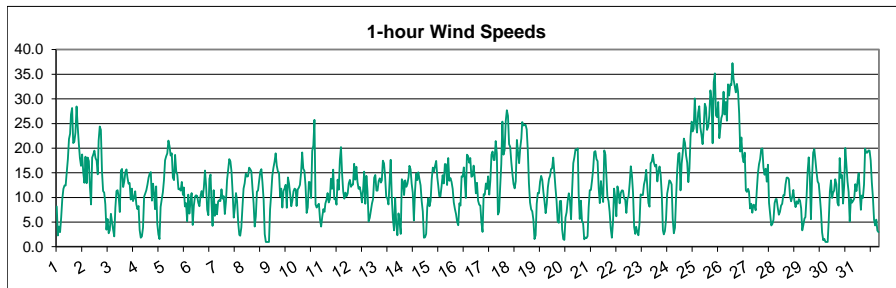
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	15.8	13.0	12.4	11.6	12.0	13.3	14.2	15.8	18.2	22.9	25.2	26.0	26.4	26.9	27.2	26.7	27.3	25.9	19.0	16.2	15.0	14.5	14.1	13.6	18.9	27.3
2	13.0	12.6	11.9	11.5	11.0	9.2	8.4	10.2	11.9	13.5	14.9	16.5	18.1	18.6	19.3	18.7	16.1	14.9	14.9	14.5	13.5	10.9	9.2	8.1	13.4	19.3
3	6.8	6.2	6.1	5.6	5.6	7.0	7.3	8.7	11.1	13.9	15.8	16.2	17.5	18.1	17.2	16.8	15.0	14.0	14.0	14.3	13.5	12.7	12.1	11.6	12.0	18.1
4	10.9	10.4	10.0	8.8	6.7	6.7	9.2	12.3	14.0	14.9	15.7	16.2	16.7	18.3	17.5	17.8	14.8	14.7	14.7	13.5	11.7	9.3	9.6	9.8	12.7	18.3
5	10.1	9.3	8.8	8.2	7.8	7.5	7.9	9.4	12.4	15.6	19.0	20.8	22.2	22.8	23.1	24.0	23.8	22.4	21.2	19.8	18.3	18.7	15.3	16.2	16.0	24.0
6	14.5	13.9	13.4	12.2	12.3	13.1	13.5	13.6	14.7	16.8	19.9	19.4	21.5	22.2	22.2	22.3	18.2	15.8	15.9	15.1	14.3	13.2	12.9	13.1	16.0	22.3
7	12.5	11.8	11.7	11.5	11.1	11.2	12.1	13.2	14.8	18.5	20.4	21.3	22.0	22.4	23.1	21.8	21.2	21.5	21.0	19.6	17.3	14.9	12.8	11.9	16.7	23.1
8	12.4	11.9	11.8	11.4	10.8	10.6	10.9	12.2	15.0	18.1	21.0	23.8	25.6	26.7	27.3	27.7	27.6	27.1	26.1	24.9	21.4	17.5	15.0	13.3	18.7	27.7
9	12.0	14.2	14.9	15.0	14.4	14.1	14.1	15.3	18.2	21.8	25.5	27.7	28.6	26.8	26.1	26.7	25.2	25.1	22.5	19.4	16.5	16.2	16.5	16.8	19.7	28.6
10	16.3	15.5	15.8	14.7	14.3	13.5	13.7	15.1	17.6	19.8	22.6	25.4	26.1	25.0	26.9	27.2	24.9	21.8	15.9	14.6	14.2	13.9	13.5	13.3	18.4	27.2
11	13.1	13.3	13.0	12.9	13.0	12.8	12.9	13.0	13.6	13.9	14.1	14.1	14.2	14.9	16.6	17.7	18.5	18.0	17.4	17.1	16.3	15.8	15.3	15.2	14.9	18.5
12	15.0	15.0	14.5	14.2	13.9	13.9	14.1	14.6	14.4	14.6	15.0	15.8	15.7	17.8	20.6	20.8	19.2	18.3	18.0	17.3	17.3	16.0	15.3	13.8	16.0	20.8
13	12.8	12.2	12.2	12.1	12.0	12.0	11.9	11.9	12.6	13.4	15.1	16.7	18.3	20.6	19.1	15.3	15.7	16.4	15.4	15.3	14.1	13.9	13.4	12.4	14.4	20.6
14	13.5	13.2	12.9	13.1	13.1	12.9	12.8	13.2	13.6	15.7	17.7	19.7	20.9	21.1	21.5	21.9	21.8	21.5	20.4	19.3	16.7	14.3	12.9	13.5	16.6	21.9
15	13.6	12.7	12.8	12.9	12.5	12.0	12.0	12.7	14.5	16.6	19.0	21.5	23.9	25.2	25.2	25.8	26.5	26.6	23.1	21.8	20.2	18.6	17.6	16.9	18.5	26.6
16	15.6	14.6	13.0	12.3	12.9	12.9	13.6	14.7	17.1	19.6	21.9	24.1	24.1	24.6	26.0	26.8	27.4	27.0	25.7	24.0	22.6	21.3	19.4	17.7	20.0	27.4
17	16.1	13.8	14.9	14.7	13.9	13.3	13.7	15.1	16.5	18.5	20.9	21.8	20.0	19.4	18.5	14.7	17.6	13.8	16.3	16.8	16.3	15.9	16.2	15.3	16.4	21.8
18	14.5	13.3	13.1	12.3	11.7	11.3	12.1	13.8	16.1	17.7	18.3	18.5	18.9	19.8	20.7	21.2	21.4	21.3	21.1	20.4	18.5	16.7	15.0	13.0	16.7	21.4
19	10.7	9.4	11.0	10.5	9.3	8.9	8.6	9.9	12.2	14.7	18.7	21.0	21.9	23.0	23.6	24.3	24.4	23.6	22.4	22.0	20.0	17.7	14.9	15.0	16.6	24.4
20	14.6	12.7	10.7	9.6	10.5	11.2	12.2	13.6	15.7	17.8	21.3	23.0	24.3	25.0	25.3	25.1	22.3	20.1	21.8	20.7	17.8	15.6	14.3	13.0	17.4	25.3
21	12.3	13.7	13.6	13.1	13.2	13.1	13.3	14.6	17.2	20.3	23.4	26.7	28.0	28.2	29.8	28.3	24.3	22.8	22.4	21.2	19.1	16.7	15.1	14.9	19.4	29.8
22	18.9	18.3	16.0	15.9	15.9	14.6	15.1	16.3	18.4	21.0	22.9	25.7	28.6	29.3	29.4	29.9	29.6	28.9	26.8	24.5	19.7	17.7	15.7	15.5	21.4	29.9
23	17.3	16.4	15.9	15.5	14.6	14.2	13.7	14.5	17.7	20.6	22.7	24.5	25.7	27.1	28.0	28.5	28.7	28.3	27.3	26.1	22.7	19.7	17.8	17.1	21.0	28.7
24	18.5	18.1	17.2	16.0	15.0	13.5	14.1	16.6	19.7	21.7	23.8	25.4	27.9	30.4	30.9	30.9	30.5	29.8	28.2	26.5	26.1	25.7	25.1	24.3	23.2	30.9
25	23.7	23.4	22.8	22.2	21.6	21.0	20.3	18.8	18.9	19.6	20.1	21.2	20.8	20.5	19.6	19.1	18.9	17.8	17.1	17.0	16.7	16.5	16.0	15.8	19.6	23.7
26	15.2	14.9	14.8	14.7	14.3	14.2	14.8	15.1	15.6	16.4	17.2	17.9	18.5	18.8	19.2	19.6	19.8	19.3	18.7	18.3	17.6	16.7	15.9	14.9	16.8	19.8
27	14.1	13.2	12.3	11.6	10.8	9.6	9.5	10.7	12.1	15.2	16.8	17.7	17.7	17.4	16.3	14.9	14.3	13.2	11.7	10.9	9.7	9.3	9.3	9.0	12.8	17.7
28	9.0	9.0	9.0	8.9	9.0	8.9	9.0	9.1	9.4	9.8	10.2	11.2	11.7	12.5	12.4	12.0	12.5	12.6	12.8	12.5	12.4	12.4	12.3	12.2	10.9	12.8
29	11.9	11.7	11.7	11.8	11.6	11.5	12.3	13.1	13.7	14.9	17.2	19.2	20.0	21.0	22.0	22.5	22.2	22.3	22.0	20.8	17.6	15.5	13.9	13.1	16.4	22.5
30	12.4	11.6	12.0	12.8	13.0	12.9	13.1	14.3	16.8	18.1	20.1	25.0	27.6	27.7	26.1	27.1	27.2	25.6	22.5	21.3	19.9	17.6	18.2	16.3	19.1	27.7
31	15.0	14.1	13.5	12.8	12.1	11.2	11.3	12.6	14.0	16.5	20.4	23.7	24.5	25.1	25.9	26.1	26.2	26.3	26.0	22.1	16.5	16.3	14.3	12.8	18.3	26.3
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	13.9	13.3	13.0	12.6	12.3	12.0	12.3	13.4	15.1	17.2	19.3	20.9	21.9	22.5	22.8	22.7	22.0	21.2	20.1	19.0	17.2	15.9	14.8	14.2		
MAX	23.7	23.4	22.8	22.2	21.6	21.0	20.3	18.8	19.7	22.9	25.5	27.7	28.6	30.4	30.9	30.9	30.5	29.8	28.2	26.5	26.1	25.7	25.1	24.3		



Number of Non-Zero Readings	744
Maximum 1-HR Average	30.9 C
Maximum 24-HR Average	23.2 C
Monthly Calibration	0
Standard Deviation	5.288
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	17.1 C

# Lagoon Wind Speed (km/hr) – July 2023

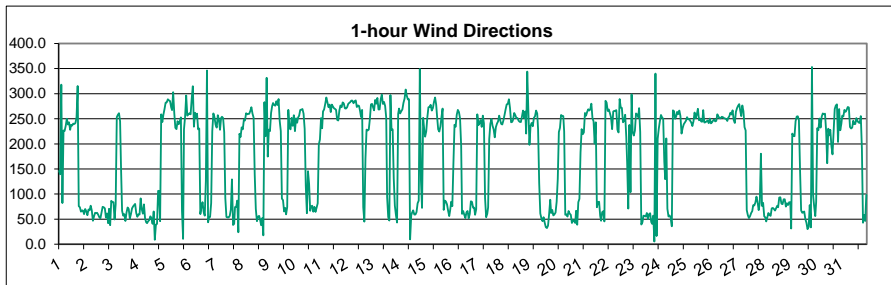
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	8.2	2.3	4.1	3.0	6.0	9.7	11.8	12.4	12.4	15.2	17.8	21.9	22.9	26.8	28.2	21.1	21.3	23.2	28.5	24.4	21.0	18.0	16.4	18.7	16.5	28.5	
2	15.1	13.0	18.3	12.9	18.1	17.4	12.1	8.6	18.1	18.7	19.5	18.0	17.4	14.7	21.5	24.4	23.7	15.3	11.3	11.0	8.6	3.5	5.6	2.8	14.6	24.4	
3	3.4	6.7	5.1	3.5	2.1	7.9	11.3	11.5	10.1	7.0	15.4	15.8	12.1	13.2	15.2	15.7	14.1	12.8	12.9	9.6	11.8	9.3	9.9	11.3	10.3	15.8	
4	8.6	7.6	8.3	3.4	1.8	2.1	3.9	10.1	10.8	11.5	12.6	14.0	14.8	15.1	9.3	12.8	10.7	7.6	12.2	4.7	2.5	1.6	8.1	9.6	8.5	15.1	
5	11.0	13.5	17.5	18.4	19.0	21.5	20.4	18.5	19.0	14.0	13.5	18.7	15.3	14.6	11.6	11.8	11.4	13.1	10.5	12.0	8.2	8.8	5.2	10.6	14.1	21.5	
6	6.7	9.2	10.9	4.4	8.3	10.2	10.5	10.3	8.9	8.2	10.4	11.3	10.0	12.0	15.5	12.4	7.5	6.4	13.8	14.6	9.2	4.2	11.5	6.3	9.7	15.5	
7	8.6	6.6	9.2	9.4	9.2	11.6	9.8	10.2	6.6	9.2	13.5	15.7	17.8	17.3	15.3	11.0	5.9	7.9	10.9	9.2	4.9	2.4	2.2	3.9	9.5	17.8	
8	7.9	11.8	12.9	14.8	14.3	14.3	16.0	15.7	15.3	11.9	8.9	4.1	6.2	11.1	11.4	13.4	15.2	15.8	12.9	9.6	2.6	1.0	1.0	1.0	10.4	16.0	
9	1.0	7.6	10.7	14.4	16.0	17.2	19.0	16.5	15.3	15.0	10.2	11.8	8.0	11.3	11.8	12.6	7.9	14.1	12.8	10.7	8.2	9.4	11.3	11.8	11.9	19.0	
10	11.6	8.3	11.6	12.0	12.6	15.0	19.1	15.8	15.4	12.3	6.8	8.0	13.2	13.0	9.9	19.5	20.6	25.8	8.6	7.9	8.4	8.7	5.5	4.1	12.2	25.8	
11	6.1	7.6	7.1	8.8	9.5	10.9	9.0	9.6	13.8	11.8	15.6	9.7	9.7	8.6	13.6	11.6	17.6	20.2	14.8	11.2	9.7	11.0	10.2	10.8	11.2	20.2	
12	12.9	13.6	12.2	12.6	12.6	16.8	13.6	16.2	13.1	11.7	12.1	11.0	9.0	11.4	15.2	8.7	14.4	11.3	5.1	5.9	7.3	8.8	9.7	14.0	11.6	16.8	
13	14.6	11.4	11.4	13.3	13.9	13.0	13.4	17.4	16.9	14.2	10.1	9.8	8.6	13.1	17.6	9.9	5.7	3.3	9.9	4.5	2.3	6.8	5.0	2.6	10.4	17.6	
14	13.7	13.2	10.5	13.5	12.2	12.7	14.1	16.4	15.7	12.8	11.0	5.3	11.2	14.8	13.5	15.1	13.7	12.5	9.3	7.1	1.8	1.9	2.6	8.0	10.9	16.4	
15	9.9	8.2	9.3	13.7	16.0	15.3	16.4	17.4	14.1	12.5	10.3	10.2	12.2	14.5	12.8	16.8	16.7	12.5	18.0	13.4	13.9	13.1	11.8	9.0	13.3	18.0	
16	7.7	6.6	5.1	4.4	8.8	8.4	14.3	14.2	16.1	12.9	9.9	18.7	18.4	17.0	18.0	14.2	14.3	16.5	14.0	10.8	13.0	9.4	8.5	8.3	12.1	18.7	
17	4.9	3.0	10.7	10.6	12.8	11.7	14.3	10.6	13.4	18.7	19.3	17.6	17.6	21.5	19.0	6.5	7.1	12.1	16.8	25.4	18.7	19.6	25.5	27.7	15.2	27.7	
18	26.6	20.8	20.3	17.2	14.8	12.7	11.9	13.3	21.7	19.2	16.9	20.1	22.0	25.3	24.6	24.6	24.7	23.8	19.6	12.9	9.0	7.6	7.2	5.5	17.6	26.6	
19	1.6	2.3	8.7	10.9	10.9	13.2	14.4	13.5	11.1	9.2	6.8	8.7	12.1	13.7	14.4	15.7	15.9	18.1	15.1	12.0	9.3	5.1	4.8	9.3	10.7	18.1	
20	9.3	3.5	1.6	1.4	5.9	7.0	9.4	10.9	9.4	5.6	11.8	17.0	18.2	19.7	19.6	19.9	10.8	5.6	9.4	5.2	4.8	1.5	1.9	1.8	8.8	19.9	
21	2.1	8.0	11.5	11.5	13.4	15.7	19.2	19.4	17.8	17.4	11.9	8.8	13.3	10.9	9.1	19.6	18.7	13.9	10.1	9.3	7.1	3.7	1.8	4.9	11.6	19.6	
22	11.8	10.0	6.2	12.2	11.1	8.8	10.9	11.4	11.4	9.8	9.5	6.9	9.8	10.2	12.9	16.3	14.5	10.9	4.0	2.6	4.0	3.0	2.3	4.7	9.0	16.3	
23	10.6	10.5	10.5	12.6	13.6	15.6	12.2	8.8	8.1	16.9	17.3	18.7	17.0	16.3	16.6	13.3	15.3	16.3	14.6	10.6	3.3	2.5	3.2	5.6	12.1	18.7	
24	10.8	12.0	13.5	13.2	12.6	5.6	2.7	3.8	9.9	15.4	18.8	19.0	11.4	16.8	19.1	22.0	21.1	18.5	17.1	13.1	15.9	22.4	25.4	23.4	15.1	25.4	
25	24.0	30.1	25.1	23.2	27.2	28.5	24.3	22.7	20.8	24.1	29.0	28.2	23.7	24.3	26.6	31.7	30.0	21.0	33.5	35.2	26.6	26.3	29.4	22.1	26.6	35.2	
26	23.8	26.1	26.9	31.5	26.8	29.4	25.6	33.0	30.7	32.9	32.8	37.2	33.9	32.6	31.3	33.0	31.5	27.1	19.3	22.2	18.3	17.2	19.1	11.4	27.2	37.2	
27	11.1	11.8	11.2	7.8	8.7	6.9	8.6	8.4	7.4	11.4	14.9	16.7	17.8	19.9	20.0	16.1	14.6	15.8	13.2	16.6	8.9	6.6	4.3	4.6	11.8	20.0	
28	5.5	8.9	9.7	9.7	8.0	6.5	7.1	8.4	8.7	10.4	10.4	12.7	14.0	14.0	13.7	10.2	9.2	10.1	11.5	9.3	8.0	9.2	8.7	9.7	9.7	14.0	
29	9.3	7.8	3.3	4.4	5.7	6.0	9.8	15.1	18.1	14.1	5.6	14.2	19.1	19.8	17.6	15.2	13.2	12.8	10.2	7.1	2.9	1.4	1.6	1.0	9.8	19.8	
30	1.0	1.0	5.5	11.2	13.5	9.9	10.9	11.4	13.7	12.7	8.9	8.4	18.0	14.0	14.6	8.8	12.4	20.1	16.6	13.3	11.1	5.1	9.7	8.9	10.9	20.1	
31	9.3	9.7	12.7	11.3	13.2	14.9	11.0	7.5	10.4	9.9	12.6	19.9	19.1	19.1	19.5	19.5	17.5	13.1	10.0	5.5	4.3	5.5	3.3	3.0	11.7	19.9	
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	10.0	10.1	11.0	11.3	12.2	12.8	13.1	13.5	14.0	13.8	13.7	14.8	15.3	16.4	16.7	16.2	15.4	14.8	13.8	11.8	9.2	8.2	8.8	8.9			
MAX	26.6	30.1	26.9	31.5	27.2	29.4	25.6	33.0	30.7	32.9	32.8	37.2	33.9	32.6	31.3	33.0	31.5	27.1	33.5	35.2	26.6	26.3	29.4	27.7			



Number of Non-Zero Readings	744		
Maximum 1-HR Average	37.2 KM/HR		
Maximum 24-HR Average	27.2 KM/HR		
Operational Time		744 HRS	
Monthly Calibration	0	Operational Uptime	100.0 %
Standard Deviation	6.464	Monthly Average	12.7 KM/HR

# Lagoon Wind Direction (°) – July 2023

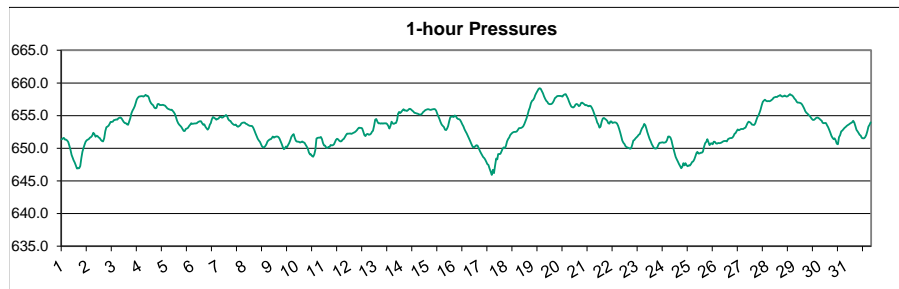
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	146.0	139.5	317.9	82.1	226.6	226.0	235.9	250.0	238.7	243.0	228.2	237.8	236.4	240.5	239.3	241.8	253.0	315.4	75.8	73.9	64.9	67.6	67.1	59.9	235.9	317.9
2	70.1	66.0	57.9	69.5	67.7	76.9	67.2	46.7	55.7	62.8	61.7	62.7	59.0	54.1	51.8	63.0	74.8	73.8	71.7	52.9	61.5	42.2	70.6	38.0	63.3	76.9
3	86.5	84.1	83.9	49.5	79.8	253.1	258.1	261.0	244.8	156.6	66.7	57.2	60.2	46.5	63.3	73.3	70.2	51.3	59.9	71.4	75.5	77.6	80.2	62.3	66.5	261.0
4	54.7	59.5	59.2	91.6	69.8	61.1	79.3	51.5	43.8	41.9	46.0	48.1	55.5	51.6	40.5	65.6	8.8	38.8	40.7	106.2	106.3	46.2	259.0	243.6	49.1	259.0
5	258.2	269.6	282.3	282.6	288.7	286.8	285.4	272.9	267.4	303.0	261.9	232.1	229.3	245.3	238.9	244.7	252.5	66.5	10.9	229.1	253.8	296.2	256.1	258.8	268.5	303.0
6	261.1	258.7	290.0	314.9	234.0	262.0	252.9	260.3	228.9	230.7	60.0	74.2	83.9	64.4	57.1	126.0	346.0	43.6	54.3	54.2	82.1	225.3	260.5	253.3	357.4	346.0
7	238.2	232.3	257.1	248.5	227.8	252.0	254.1	251.5	223.1	91.9	54.2	53.7	53.6	56.4	69.0	129.2	38.5	40.7	74.0	74.3	86.9	23.8	220.2	214.0	71.3	257.1
8	232.7	229.1	248.2	246.5	261.1	258.7	259.9	259.8	265.6	272.9	260.2	252.4	139.6	70.3	46.1	55.1	56.8	49.8	38.2	52.2	17.9	283.2	215.1	331.7	282.4	331.7
9	174.9	228.5	225.4	261.5	275.7	281.3	277.5	276.2	284.9	277.4	289.1	246.1	225.4	91.1	87.9	65.3	72.3	59.8	74.4	267.6	231.8	228.7	251.8	236.1	265.1	289.1
10	257.1	225.5	250.8	242.1	252.1	256.3	267.7	268.1	269.5	260.3	229.8	117.1	62.0	145.7	120.3	66.5	75.2	76.8	65.0	74.8	64.4	73.1	81.5	198.9	180.3	269.5
11	208.8	251.4	231.0	264.8	268.6	279.6	292.5	282.6	273.1	278.2	263.1	278.1	274.1	270.7	269.5	267.7	247.8	246.4	266.8	276.4	273.0	282.6	280.4	270.9	267.1	292.5
12	270.2	272.8	279.5	281.4	282.9	286.3	286.2	281.0	285.0	286.7	273.6	276.3	275.5	264.4	253.6	267.8	73.9	45.2	170.5	228.6	226.7	228.6	249.4	278.6	273.8	286.7
13	279.7	272.2	266.9	287.7	279.9	291.4	268.7	268.6	288.6	298.2	279.5	283.4	275.5	251.8	94.2	54.3	47.5	297.1	227.1	229.1	131.1	76.7	57.9	43.4	281.8	298.2
14	259.7	270.1	260.5	265.2	268.6	281.8	290.2	308.2	295.8	288.2	289.0	9.8	57.5	63.3	67.5	59.4	59.2	64.0	81.5	87.0	349.0	127.9	72.6	251.9	322.7	349.0
15	228.1	214.4	224.9	253.1	272.8	273.2	277.6	266.5	271.4	283.6	292.4	277.9	254.8	228.8	224.6	234.7	253.7	270.4	68.6	86.9	85.4	79.4	66.9	56.0	258.7	292.4
16	67.0	84.8	76.0	161.9	238.2	234.2	258.1	267.6	263.2	250.5	195.8	60.5	66.4	59.0	52.0	63.5	66.3	51.6	60.6	85.6	84.2	72.8	73.1	59.0	65.4	267.6
17	69.6	258.8	237.2	241.2	247.2	233.7	256.2	240.6	92.5	53.8	60.7	73.6	209.5	239.8	249.8	235.8	228.7	213.0	233.4	240.4	244.8	256.4	248.3	239.7	237.4	258.8
18	238.4	246.7	256.9	268.6	278.5	279.7	288.9	271.4	243.2	243.7	248.2	261.4	256.9	251.5	251.5	246.1	243.7	243.4	254.6	266.5	251.6	264.8	220.7	343.7	254.5	343.7
19	265.5	198.1	236.0	241.5	234.9	251.7	255.1	266.3	260.5	229.0	121.9	46.1	51.9	46.1	54.0	43.0	34.1	32.2	37.3	60.6	88.9	62.1	68.6	57.5	30.2	266.3
20	59.5	63.3	84.8	129.8	223.4	231.9	257.4	255.6	255.3	224.7	58.9	59.7	55.1	66.1	61.2	58.7	42.5	48.3	45.9	42.4	66.8	39.1	84.1	90.6	55.8	257.4
21	183.0	229.2	219.2	222.6	261.4	256.2	263.8	268.8	266.5	268.7	280.1	251.2	244.8	200.6	243.1	73.8	84.1	84.8	56.6	47.1	64.1	65.7	45.4	285.6	253.8	285.6
22	282.2	265.6	268.4	261.2	252.7	229.3	264.4	265.3	265.7	267.2	228.0	222.8	289.1	271.9	271.7	243.1	246.1	258.1	213.3	161.8	71.3	237.9	103.9	298.7	257.8	298.7
23	223.7	216.6	226.2	260.4	258.6	253.1	271.0	223.4	39.6	44.0	56.9	56.5	55.4	62.5	49.8	60.2	62.0	44.2	40.8	56.9	5.5	340.0	16.3	210.1	39.4	340.0
24	230.1	245.1	257.4	252.6	250.1	164.5	129.9	211.0	70.6	55.4	57.5	52.7	35.9	267.0	264.9	250.1	255.1	263.7	259.5	266.5	255.5	220.4	231.7	239.0	252.3	267.0
25	242.7	246.0	253.3	248.9	249.4	246.2	242.6	235.6	244.8	262.4	250.9	258.4	269.7	247.0	250.4	244.4	244.3	267.1	242.5	242.8	244.9	246.6	241.2	250.7	248.4	269.7
26	241.0	243.0	246.3	248.9	244.9	245.6	258.9	254.6	251.2	250.8	254.1	253.0	251.5	250.4	249.8	245.8	252.0	254.7	261.9	258.6	266.6	247.2	241.7	263.9	251.0	266.6
27	271.4	276.0	279.0	267.7	255.4	276.7	265.0	233.4	226.9	67.9	57.9	52.1	56.3	62.1	66.1	77.8	77.2	83.0	95.1	84.2	68.0	82.7	180.5	76.5	64.1	279.0
28	82.5	55.5	53.5	45.7	53.4	62.3	58.3	56.5	71.7	72.5	70.1	67.1	72.0	77.0	73.6	93.2	93.8	80.8	79.9	89.6	89.6	74.9	81.6	78.3	72.6	93.8
29	83.7	83.3	31.5	220.5	216.0	215.4	245.2	254.4	254.7	247.1	150.1	67.6	62.9	63.5	65.2	50.2	42.8	30.2	34.7	78.3	33.5	353.2	98.4	75.4	56.7	353.2
30	56.0	84.4	231.1	227.0	250.3	232.6	254.2	260.6	258.8	260.3	226.5	161.3	230.2	217.1	227.9	195.7	178.9	224.6	269.3	276.4	278.7	203.6	269.5	227.3	237.8	278.7
31	239.9	256.3	254.5	267.8	263.7	267.5	273.2	272.7	233.6	230.7	232.5	246.1	239.4	239.4	251.5	245.6	242.7	241.6	255.5	189.1	42.9	58.2	46.4	98.4	248.7	273.2
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	189.1	197.6	211.2	219.6	230.1	235.7	241.8	240.1	220.5	206.6	177.6	152.0	154.5	153.7	148.6	143.3	139.5	134.2	123.2	142.3	137.7	160.8	152.9	183.6		
MAX	282.2	276.0	317.9	314.9	288.7	291.4	292.5	308.2	295.8	303.0	292.4	283.4	289.1	271.9	271.7	267.8	346.0	315.4	269.3	276.4	349.0	353.2	280.4	343.7		



Number of Non-Zero Readings	744		
Maximum 1-HR Average	353 degrees		
Maximum 24-HR Average	357 degrees		
		Operational Time	744 HRS
Monthly Calibration	0	Operational Uptime	100.0 %
Standard Deviation	94.69	Monthly Average	179.0 degrees

# Lagoon Pressure (mmHg) – July 2023

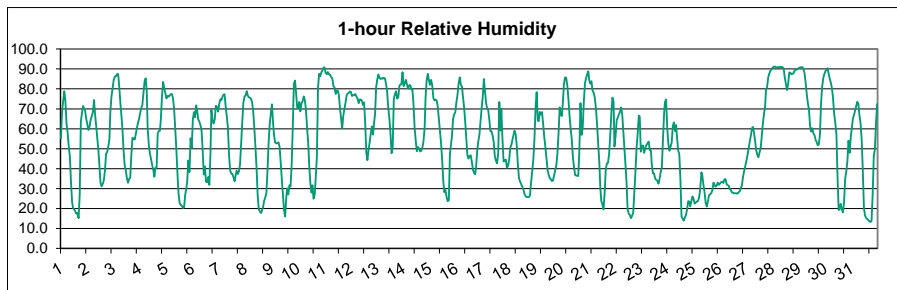
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	651.4	651.5	651.6	651.3	651.3	651.2	651.0	650.4	649.8	649.0	648.5	648.2	647.8	647.4	646.9	646.9	646.9	647.3	648.5	649.5	650.1	650.6	651.0	651.2	649.5	651.6
2	651.3	651.4	651.6	651.7	651.9	652.4	652.2	651.8	652.0	651.8	651.7	651.6	651.3	651.1	651.5	652.6	653.2	653.3	653.5	653.8	654.1	654.1	654.1	654.1	654.1	654.1
3	654.3	654.3	654.4	654.4	654.6	654.7	654.7	654.5	654.3	654.0	653.9	653.8	653.7	653.6	654.1	654.6	655.4	655.8	656.1	656.5	656.9	657.5	657.8	657.9	655.1	657.9
4	658.0	658.0	658.0	657.9	658.0	658.2	658.0	658.0	657.8	657.3	656.9	656.7	656.6	656.3	656.1	656.2	656.8	656.8	656.6	656.6	656.6	656.7	656.6	656.5	657.1	658.2
5	656.3	656.1	656.0	655.9	655.9	655.9	655.7	655.5	655.3	654.7	654.2	653.8	653.6	653.4	653.2	652.9	652.7	652.7	653.0	653.0	653.1	653.4	653.6	653.8	654.3	656.3
6	653.7	653.8	653.8	653.8	653.8	654.0	654.1	654.1	654.1	653.8	653.6	653.7	653.3	653.1	652.8	653.1	653.6	653.8	654.4	654.8	654.7	654.6	654.4	654.5	653.9	654.8
7	654.5	654.8	654.9	654.7	654.7	654.8	655.0	655.1	654.9	654.5	654.3	654.2	653.9	653.7	653.6	653.6	653.6	653.4	653.3	653.4	653.5	653.8	653.9	653.9	654.2	655.1
8	653.9	653.8	653.7	653.6	653.5	653.4	653.4	653.4	653.1	652.7	652.3	651.9	651.5	651.2	651.0	650.7	650.3	650.2	650.5	650.8	651.2	651.0	651.2	651.3	652.0	653.9
9	651.4	651.6	651.8	651.6	651.7	651.8	651.8	651.7	651.5	651.1	650.7	650.2	649.9	650.0	650.3	650.2	650.5	650.8	651.2	651.8	652.0	652.2	651.6	651.2	651.2	652.2
10	651.0	651.0	651.0	650.9	650.9	651.1	650.9	650.8	650.6	650.3	649.9	649.4	649.1	649.1	648.8	648.7	649.0	649.8	651.5	651.6	651.6	651.6	651.7	651.4	650.5	651.7
11	650.8	650.4	650.4	650.1	650.0	650.2	650.2	650.5	650.4	650.5	650.6	651.0	651.3	651.5	651.3	651.2	651.0	651.1	651.3	651.4	651.7	652.0	652.2	652.2	651.0	652.2
12	652.2	652.3	652.2	652.3	652.4	652.4	652.6	652.7	653.0	653.1	653.1	653.1	653.1	653.1	652.6	652.0	651.9	652.1	652.2	652.1	652.2	652.5	652.7	652.7	652.5	653.4
13	654.4	654.5	654.1	653.8	653.8	653.8	653.8	653.8	653.8	653.8	653.8	653.7	653.4	653.0	653.4	654.1	653.8	653.7	653.8	653.9	654.4	655.3	655.6	655.4	654.0	655.6
14	655.6	655.8	656.0	655.8	655.8	655.7	655.9	656.0	656.0	655.9	655.8	655.6	655.4	655.4	655.3	655.3	655.2	655.2	655.2	655.3	655.5	655.7	655.8	655.9	655.6	656.0
15	656.0	656.0	655.9	655.9	655.9	656.0	656.0	656.0	655.8	655.3	654.9	654.5	654.0	653.6	653.4	653.3	652.8	652.8	653.1	653.4	654.1	654.8	654.9	654.9	654.7	656.0
16	654.8	655.0	654.9	654.6	654.5	654.4	654.4	654.0	653.7	653.3	652.9	652.6	652.3	651.9	651.5	651.2	650.7	650.4	650.1	650.1	650.3	650.5	650.4	650.0	652.4	655.0
17	649.6	649.3	649.0	648.7	648.5	648.3	647.9	647.6	647.4	646.9	646.4	645.9	646.7	646.2	647.3	648.4	648.3	649.1	649.1	649.2	649.5	649.9	650.1	650.0	648.3	650.1
18	650.4	651.1	651.4	651.6	652.0	652.2	652.4	652.5	652.5	652.5	652.6	652.8	653.1	653.1	653.1	653.2	653.4	653.7	654.2	654.6	655.1	655.8	656.3	656.9	653.2	656.9
19	657.3	657.4	657.7	658.1	658.4	658.8	659.1	659.2	659.1	658.8	658.4	658.0	657.6	657.3	657.1	656.8	656.8	656.8	657.0	657.3	657.7	657.8	657.8	657.8	657.8	659.2
20	658.0	658.0	658.0	658.0	657.9	658.2	658.3	658.3	658.0	657.6	657.1	656.7	656.4	656.3	656.2	656.4	656.7	656.8	656.7	656.5	656.6	656.9	657.0	656.9	657.2	658.3
21	656.7	656.6	656.6	656.5	656.4	656.5	656.4	656.2	655.8	655.3	654.9	654.4	653.9	653.7	653.2	653.3	654.1	654.5	654.7	654.5	654.4	654.2	653.8	653.8	655.0	656.7
22	654.1	654.1	653.9	653.9	654.0	653.9	653.8	653.5	653.0	652.4	651.7	651.2	650.8	650.6	650.3	650.2	650.1	650.0	649.9	650.0	650.6	651.2	651.3	651.5	651.9	654.1
23	651.7	651.8	652.1	652.2	652.6	653.1	653.3	653.7	653.5	653.0	652.5	652.0	651.5	651.1	650.6	650.3	650.0	650.0	650.1	650.6	650.8	650.8	650.9	650.9	651.6	653.7
24	650.9	650.8	650.9	651.0	651.2	651.8	651.8	651.7	651.2	650.6	649.9	649.3	648.7	648.3	648.0	647.6	647.3	647.0	647.2	647.7	647.4	647.7	647.4	647.3	649.3	651.8
25	647.4	647.4	647.6	647.9	648.0	648.3	648.8	649.3	649.5	649.2	649.2	649.3	649.3	649.5	650.2	650.8	651.0	651.4	650.9	650.5	650.7	650.8	650.6	651.0	649.5	651.4
26	651.0	650.7	650.7	650.8	650.8	650.8	650.9	651.0	651.1	651.1	651.1	651.0	651.4	651.5	651.6	651.6	651.6	651.9	652.2	652.3	652.6	652.9	652.7	652.8	651.5	652.9
27	652.9	653.0	652.9	653.1	653.2	653.5	653.8	654.1	654.0	653.9	653.6	653.6	653.6	653.8	654.3	654.8	655.1	655.5	655.9	656.6	657.1	657.3	657.4	657.3	654.6	657.4
28	657.2	657.2	657.2	657.3	657.4	657.5	657.7	657.8	657.9	657.9	658.0	658.1	658.2	658.0	657.9	658.0	658.1	658.0	657.9	658.0	658.2	658.3	658.2	658.1	657.8	658.3
29	657.9	657.6	657.4	657.1	657.0	657.0	656.9	656.9	656.7	656.4	656.1	655.7	655.4	655.3	655.1	655.0	654.8	654.5	654.3	654.4	654.5	654.6	654.7	654.6	655.8	657.9
30	654.5	654.4	654.2	653.9	653.9	653.9	653.9	653.5	653.2	652.8	652.4	651.9	651.6	651.4	651.5	651.2	650.7	650.6	651.7	652.0	652.6	652.7	652.9	653.1	652.7	654.5
31	653.3	653.4	653.5	653.6	653.8	653.9	654.0	654.2	653.9	653.4	652.8	652.6	652.3	652.1	651.9	651.6	651.5	651.5	651.7	652.0	652.6	653.3	653.6	654.0	652.9	654.2
<b>NO.</b>	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
<b>MEAN</b>	653.6	653.6	653.7	653.6	653.7	653.8	653.8	653.8	653.6	653.3	653.0	652.8	652.6	652.4	652.4	652.4	652.5	652.6	652.8	653.0	653.3	653.6	653.6	653.7		
<b>MAX</b>	658.0	658.0	658.0	658.1	658.4	658.8	659.1	659.2	659.1	658.8	658.4	658.1	658.2	658.0	657.9	658.0	658.1	658.0	657.9	658.0	658.2	658.3	658.2	658.1		



Number of Non-Zero Readings	744
Maximum 1-HR Average	659 MMHg
Maximum 24-HR Average	658 MMHg
Monthly Calibration	0
Standard Deviation	2.745
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Average	653.2 MMHg

# Lagoon Relative Humidity (%) – July 2023

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	55.2	68.7	74.0	78.8	73.9	62.4	57.9	51.1	46.2	33.1	23.2	20.5	19.6	18.7	17.5	17.7	15.2	27.0	63.3	68.1	71.4	70.1	69.2	65.1	48.7	78.8
2	62.3	59.5	61.0	64.6	66.4	68.4	74.4	66.9	60.9	54.7	50.1	41.8	32.9	31.1	32.3	34.2	39.2	47.5	48.4	51.2	55.1	68.4	76.1	80.3	55.3	80.3
3	84.5	86.2	86.3	87.4	87.4	80.9	72.7	66.0	60.2	49.5	41.8	39.3	35.2	32.9	34.8	35.5	47.1	55.5	55.2	54.6	56.8	60.0	62.6	64.6	59.9	87.4
4	67.6	70.3	71.8	77.7	83.7	85.3	78.6	60.1	52.1	47.6	44.8	41.9	39.5	35.9	40.6	40.6	57.8	59.0	59.1	65.0	76.2	83.6	80.5	77.8	62.4	85.3
5	75.3	76.4	76.1	76.6	77.5	77.3	75.3	70.4	60.6	50.3	38.1	27.6	22.8	21.8	21.4	20.2	20.7	27.0	29.3	33.8	44.2	38.3	55.2	50.5	48.6	77.5
6	64.6	68.4	65.7	71.8	68.6	64.7	63.6	61.9	59.1	49.4	37.0	41.2	33.5	33.2	35.8	31.9	48.3	69.4	64.6	62.6	64.7	71.5	71.1	68.6	57.1	71.8
7	72.4	74.7	74.5	76.2	77.1	77.4	71.1	66.1	60.5	46.8	39.1	37.5	37.3	35.6	33.7	37.0	39.0	37.3	38.6	42.0	52.4	63.1	73.0	76.2	55.8	77.4
8	76.8	78.8	76.6	75.9	75.5	75.1	73.3	68.9	60.5	51.0	40.6	26.8	19.7	18.6	17.8	18.8	20.6	23.9	25.6	27.6	38.8	53.2	62.3	67.9	48.9	78.8
9	72.3	62.7	57.2	53.1	52.6	52.8	53.2	50.9	43.4	34.7	27.1	19.1	16.0	25.7	30.1	27.0	31.6	31.0	41.4	60.9	82.7	84.2	77.7	70.6	48.3	84.2
10	70.4	73.4	68.8	72.8	73.8	76.3	74.6	69.5	60.5	53.0	40.8	32.4	28.0	31.7	25.0	26.8	35.9	46.3	80.6	87.5	86.4	88.3	89.4	90.7	61.8	90.7
11	90.8	88.2	87.4	88.4	87.3	87.2	85.8	85.2	81.4	80.8	77.5	79.1	79.3	77.2	70.7	65.3	60.1	66.6	69.8	73.1	76.7	77.7	78.0	78.7	78.8	90.8
12	78.5	76.5	76.8	76.9	77.5	76.0	75.1	72.9	74.7	74.7	74.1	72.0	73.2	63.0	48.1	44.3	49.6	53.3	57.8	61.2	57.0	63.4	67.2	80.8	67.7	80.8
13	84.8	87.2	85.5	85.0	85.4	85.1	85.5	85.1	81.9	78.8	70.7	65.4	58.0	47.7	50.5	75.0	77.4	78.8	75.1	75.8	81.6	82.0	82.3	88.4	77.2	88.4
14	81.4	82.8	84.6	82.2	80.0	81.8	81.9	79.7	79.8	72.6	60.7	54.2	48.7	50.9	50.1	48.6	49.0	50.7	53.9	60.8	75.5	84.3	87.6	84.3	69.4	87.6
15	82.1	84.5	81.6	75.5	74.2	74.7	74.1	71.7	65.6	59.4	53.4	44.9	34.2	28.2	29.2	25.8	23.8	24.1	47.3	51.3	56.1	64.9	67.3	68.3	56.8	84.5
16	73.3	77.1	82.9	85.7	81.9	81.1	76.3	71.2	64.1	55.6	46.8	45.1	46.3	46.7	43.5	39.6	37.9	37.2	40.7	48.9	53.8	57.1	63.9	70.5	59.5	85.7
17	76.4	85.0	78.6	72.8	69.9	69.6	64.9	58.8	58.7	56.6	53.3	46.2	43.9	42.7	47.7	73.4	59.1	69.5	55.0	43.5	44.1	44.6	40.4	41.4	58.2	85.0
18	44.4	50.5	52.0	54.7	56.7	59.1	57.4	51.7	41.9	35.2	33.5	32.2	30.9	29.4	27.2	26.2	25.8	25.8	25.7	26.6	32.9	38.6	44.3	54.5	39.9	59.1
19	70.3	78.4	64.3	63.8	68.4	67.1	68.4	62.3	55.9	50.8	45.1	39.2	36.9	35.2	34.6	33.8	34.0	36.6	39.2	41.5	47.8	57.8	70.7	66.9	52.9	78.4
20	66.5	74.7	82.4	85.8	85.7	81.8	75.1	66.7	60.1	54.9	45.8	40.9	36.9	36.5	36.5	36.3	49.0	72.9	56.9	60.6	73.5	82.7	85.3	87.3	63.9	87.3
21	88.7	84.4	82.6	83.9	79.1	78.1	75.5	70.2	62.7	52.9	43.8	30.1	24.0	22.1	19.6	27.5	39.5	42.5	42.9	47.2	56.3	67.5	75.6	73.7	57.1	88.7
22	51.1	56.4	64.4	65.6	67.3	68.5	70.7	66.9	58.1	49.3	40.8	33.3	19.3	17.6	16.7	15.1	16.5	18.1	28.2	38.5	50.6	57.9	66.6	66.2	46.0	70.7
23	48.5	51.3	51.7	48.0	50.4	51.8	52.7	53.6	49.3	49.2	42.4	37.8	37.6	35.0	34.4	33.9	32.5	34.9	38.4	40.8	54.7	67.5	73.5	74.7	47.7	74.7
24	60.6	52.5	49.0	51.0	53.1	61.4	63.2	58.8	61.9	55.4	49.2	47.2	34.8	16.1	14.9	13.9	15.5	16.7	19.8	23.7	23.5	21.1	23.8	26.1	38.1	63.2
25	24.9	22.5	23.1	23.5	23.8	25.8	30.4	38.2	36.6	31.9	28.2	23.0	21.0	23.7	26.7	27.2	27.8	29.1	33.1	31.8	31.0	31.4	33.0	31.9	28.3	38.2
26	32.6	33.3	33.5	32.8	34.7	34.8	32.1	31.8	31.5	29.8	29.1	28.0	27.9	27.7	27.6	27.6	27.5	28.2	28.8	30.2	31.6	35.9	38.8	41.2	31.5	41.2
27	43.8	46.7	50.1	53.3	56.5	60.2	60.9	58.2	54.0	49.3	47.0	45.7	48.2	50.2	56.4	62.6	67.5	71.4	79.5	81.2	85.8	87.8	89.2	89.9	62.3	89.9
28	90.7	91.2	91.2	90.8	90.7	90.9	90.8	91.0	90.9	90.9	90.3	85.5	82.5	79.4	82.5	88.3	88.1	87.4	87.6	87.8	89.2	89.5	89.7	90.2	88.6	91.2
29	90.6	90.9	90.8	90.9	89.9	88.2	83.3	77.6	73.0	69.8	61.5	58.7	60.3	57.7	56.7	54.3	53.4	51.7	52.1	56.7	72.5	81.1	85.3	87.6	72.3	90.9
30	89.0	89.6	90.3	87.6	85.1	83.1	80.2	75.0	67.2	63.0	57.1	35.8	19.3	19.9	22.4	19.5	18.1	23.2	34.8	38.6	43.8	54.0	47.9	55.8	54.2	90.3
31	60.5	65.6	66.6	69.0	71.1	73.5	72.6	66.6	62.7	54.4	38.9	20.2	16.4	15.4	14.8	14.3	13.7	13.3	13.8	27.0	46.3	49.7	63.0	72.4	45.1	73.5
NO.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	100.0%
MEAN	68.7	70.6	70.4	71.0	71.1	71.0	69.4	65.3	60.5	54.4	47.5	41.7	37.6	35.7	35.5	36.9	39.4	43.7	48.0	51.6	58.5	63.8	67.4	69.1		
MAX	90.8	91.2	91.2	90.9	90.7	90.9	90.8	91.0	90.9	90.9	90.3	85.5	82.5	79.4	82.5	88.3	88.1	87.4	87.6	87.8	89.2	89.5	89.7	90.7		

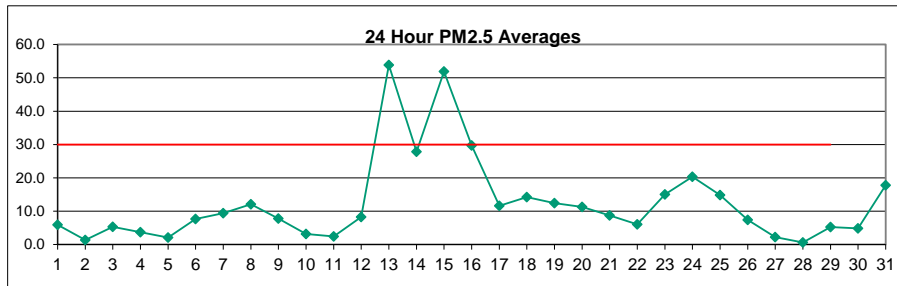


Number of Non-Zero Readings	744
Maximum 1-HR Average	91.2 %
Maximum 24-HR Average	88.6 %
Operational Time	744 HRS
Monthly Calibration	0
Operational Uptime	100.0 %
Standard Deviation	21.29
Monthly Average	56.2 %



# Windridge PM<sub>2.5</sub> (µg/m<sup>3</sup>) – July 2023

Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	5.0	2.0	3.0	6.0	5.0	2.0	2.0	3.0	3.0	9.0	7.0	7.0	8.0	9.0	12.0	9.0	7.0	8.0	9.0	9.0	9.0	6.0	2.0	0.0	5.9	12.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	4.0	3.0	5.0	1.0	1.0	6.0	6.0	1.4	6.0
3	8.0	8.0	9.0	7.0	3.0	4.0	3.0	4.0	3.0	4.0	5.0	2.0	0.0	0.0	3.0	7.0	12.0	11.0	6.0	11.0	6.0	3.0	2.0	6.0	5.3	12.0
4	6.0	7.0	6.0	4.0	3.0	8.0	7.0	6.0	4.0	2.0	1.0	6.0	9.0	7.0	6.0	4.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	3.7	9.0
5	2.0	1.0	0.0	0.0	0.0	4.0	1.0	0.0	1.0	0.0	1.0	10.0	9.0	6.0	3.0	1.0	4.0	5.0	2.0	0.0	0.0	0.0	0.0	0.0	2.1	10.0
6	0.0	0.0	3.0	2.0	2.0	4.0	6.0	7.0	8.0	14.0	10.0	13.0	13.0	12.0	14.0	8.0	6.0	11.0	10.0	7.0	14.0	8.0	6.0	6.0	7.7	14.0
7	5.0	8.0	6.0	6.0	7.0	8.0	9.0	9.0	13.0	15.0	11.0	9.0	9.0	11.0	12.0	11.0	7.0	8.0	7.0	11.0	9.0	13.0	10.0	12.0	9.4	15.0
8	8.0	14.0	10.0	9.0	9.0	12.0	11.0	9.0	13.0	11.0	13.0	17.0	12.0	16.0	13.0	15.0	11.0	18.0	15.0	12.0	11.0	11.0	11.0	9.0	12.1	18.0
9	6.0	8.0	11.0	10.0	12.0	11.0	9.0	12.0	11.0	14.0	10.0	9.0	6.0	10.0	8.0	7.0	9.0	4.0	1.0	4.0	7.0	5.0	2.0	2.0	7.8	14.0
10	1.0	4.0	4.0	2.0	1.0	1.0	5.0	4.0	5.0	4.0	3.0	4.0	4.0	4.0	2.0	4.0	6.0	4.0	5.0	4.0	4.0	2.0	0.0	0.0	3.2	6.0
11	1.0	1.0	1.0	2.0	3.0	0.0	0.0	1.0	3.0	4.0	1.0	0.0	0.0	0.0	0.0	10.0	13.0	7.0	2.0	1.0	1.0	4.0	4.0	2.5	13.0	
12	2.0	0.0	1.0	3.0	4.0	4.0	2.0	4.0	4.0	3.0	7.0	4.0	5.0	8.0	21.0	23.0	19.0	10.0	9.0	12.0	11.0	14.0	12.0	17.0	8.3	23.0
13	39.0	50.0	57.0	56.0	51.0	56.0	56.0	57.0	55.0	49.0	54.0	52.0	56.0	56.0	57.0	68.0	74.0	69.0	50.0	44.0	51.0	60.0	41.0	35.0	53.9	74.0
14	45.0	40.0	35.0	32.0	29.0	30.0	28.0	25.0	30.0	28.0	27.0	26.0	33.0	24.0	23.0	26.0	26.0	23.0	20.0	23.0	19.0	22.0	26.0	28.0	27.8	45.0
15	29.0	40.0	42.0	52.0	54.0	65.0	59.0	64.0	57.0	65.0	65.0	72.0	90.0	83.0	78.0	45.0	25.0	20.0	43.0	43.0	40.0	44.0	36.0	34.0	51.9	90.0
16	30.0	33.0	30.0	29.0	31.0	35.0	35.0	28.0	32.0	32.0	31.0	25.0	24.0	31.0	34.0	26.0	26.0	18.0	22.0	24.0	29.0	33.0	38.0	38.0	29.8	38.0
17	34.0	38.0	24.0	23.0	16.0	16.0	14.0	9.0	14.0	20.0	20.0	19.0	13.0	8.0	5.0	1.0	0.0	0.0	1.0	2.0	2.0	0.0	0.0	0.0	11.6	38.0
18	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0	11.0	13.0	13.0	12.0	17.0	26.0	31.0	35.0	40.0	30.0	29.0	18.0	19.0	13.0	14.0	14.2	40.0
19	13.0	8.0	16.0	13.0	16.0	16.0	15.0	14.0	12.0	16.0	14.0	14.0	12.0	11.0	9.0	12.0	11.0	9.0	7.0	7.0	12.0	17.0	13.0	12.0	12.5	17.0
20	11.0	10.0	10.0	16.0	11.0	11.0	16.0	10.0	15.0	15.0	15.0	13.0	10.0	13.0	12.0	8.0	11.0	9.0	11.0	9.0	8.0	9.0	10.0	8.0	11.3	16.0
21	8.0	10.0	9.0	7.0	11.0	15.0	10.0	11.0	11.0	13.0	11.0	10.0	9.0	6.0	6.0	6.0	9.0	7.0	5.0	5.0	14.0	8.0	4.0	5.0	8.8	15.0
22	6.0	6.0	6.0	6.0	6.0	7.0	5.0	5.0	4.0	5.0	6.0	6.0	6.0	8.0	8.0	6.0	9.0	9.0	8.0	6.0	3.0	2.0	6.0	7.0	6.1	9.0
23	9.0	11.0	15.0	18.0	19.0	15.0	16.0	21.0	18.0	14.0	16.0	16.0	15.0	11.0	11.0	12.0	17.0	14.0	16.0	17.0	17.0	17.0	16.0	16.0	15.0	21.0
24	13.0	11.0	12.0	12.0	15.0	13.0	12.0	15.0	22.0	19.0	19.0	24.0	28.0	42.0	34.0	38.0	22.0	18.0	8.0	11.0	11.0	13.0	27.0	49.0	20.3	49.0
25	59.0	24.0	19.0	15.0	18.0	20.0	19.0	8.0	11.0	C	13.0	19.0	16.0	15.0	20.0	11.0	8.0	6.0	7.0	12.0	7.0	4.0	6.0	4.0	14.8	59.0
26	3.0	4.0	16.0	9.0	5.0	5.0	10.0	7.0	7.0	12.0	11.0	9.0	9.0	9.0	7.0	5.0	7.0	7.0	6.0	10.0	6.0	2.0	7.0	4.0	7.4	16.0
27	4.0	2.0	1.0	1.0	0.0	1.0	2.0	1.0	3.0	2.0	5.0	4.0	4.0	4.0	3.0	6.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	2.2	6.0
28	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	2.0	1.0	1.0	1.0	1.0	0.0	1.0	4.0	0.6	4.0
29	6.0	7.0	6.0	4.0	6.0	6.0	8.0	6.0	8.0	6.0	8.0	5.0	4.0	6.0	7.0	7.0	5.0	1.0	3.0	3.0	3.0	5.0	4.0	2.0	5.3	8.0
30	2.0	4.0	3.0	2.0	6.0	6.0	5.0	5.0	7.0	7.0	7.0	9.0	6.0	7.0	6.0	3.0	0.0	7.0	7.0	7.0	6.0	3.0	0.0	2.0	4.9	9.0
31	2.0	5.0	7.0	4.0	4.0	3.0	4.0	4.0	5.0	5.0	NRM	NRM	4.0	13.0	24.0	40.0	64.0	46.0	37.0	27.0	25.0	30.0	18.0	21.0	17.8	64.0
NO.	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	741	99.7%
MEAN	11.6	11.5	11.7	11.3	11.2	12.2	11.9	11.3	12.6	13.3	13.5	13.9	13.7	14.5	15.0	14.2	14.3	13.1	11.5	11.5	11.1	11.4	10.4	11.1	7.5	
MAX	59.0	50.0	57.0	56.0	54.0	65.0	59.0	64.0	57.0	65.0	65.0	72.0	90.0	83.0	78.0	68.0	74.0	69.0	50.0	44.0	51.0	60.0	41.0	49.0	17.4	70.0

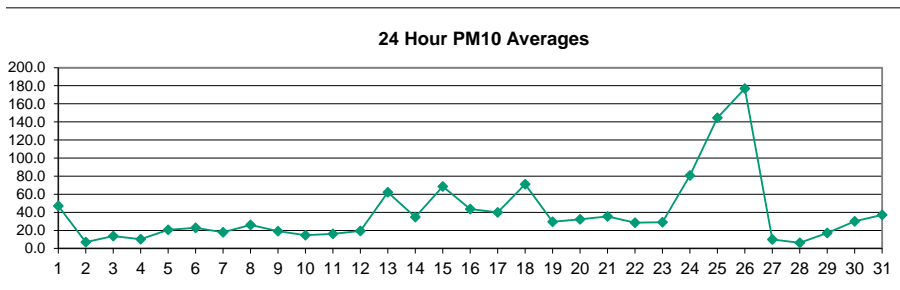


Number of 24HR Exceedences	2	Proposed Guideline
Number of Non-Zero Readings	673	
Maximum 1-HR Average	90.0 UG/M3	
Maximum 24-HR Average	53.9 UG/M3	
Operational Time		742 HRS
Monthly Calibration	1	Operational Uptime
Standard Deviation	14.4	Monthly Average
		99.7 %
		12.4 UG/M3



# Windridge PM<sub>10</sub> (µg/m<sup>3</sup>) – July 2023

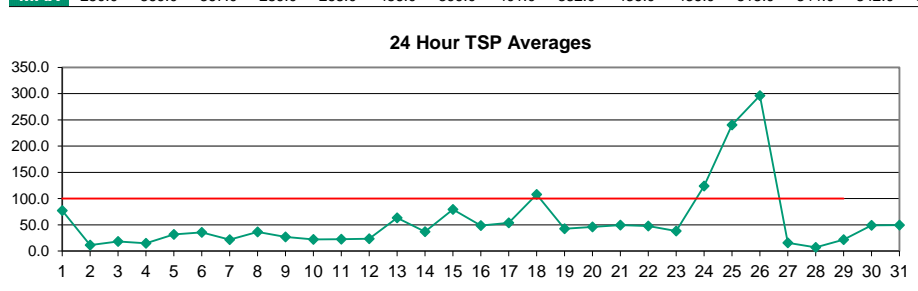
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	9.0	12.0	15.0	14.0	10.0	12.0	41.0	25.0	40.0	74.0	60.0	74.0	85.0	92.0	127.0	78.0	101.0	164.0	30.0	14.0	18.0	17.0	9.0	10.0	47.1	164.0
2	7.0	4.0	5.0	4.0	3.0	0.0	0.0	9.0	7.0	7.0	5.0	6.0	4.0	4.0	8.0	28.0	12.0	10.0	6.0	4.0	7.0	7.0	11.0	8.0	6.9	28.0
3	19.0	15.0	17.0	18.0	7.0	14.0	15.0	13.0	17.0	21.0	8.0	8.0	8.0	8.0	10.0	23.0	17.0	23.0	18.0	17.0	11.0	10.0	7.0	7.0	13.8	23.0
4	9.0	6.0	10.0	12.0	12.0	19.0	23.0	18.0	14.0	14.0	14.0	15.0	20.0	14.0	11.0	14.0	9.0	7.0	2.0	0.0	1.0	2.0	2.0	0.0	10.3	23.0
5	6.0	5.0	2.0	1.0	2.0	3.0	11.0	11.0	35.0	27.0	67.0	53.0	25.0	45.0	43.0	44.0	41.0	14.0	8.0	16.0	12.0	12.0	7.0	4.0	20.6	67.0
6	4.0	3.0	3.0	5.0	8.0	13.0	38.0	51.0	55.0	98.0	37.0	28.0	24.0	25.0	26.0	20.0	11.0	12.0	17.0	19.0	13.0	16.0	11.0	12.0	22.9	98.0
7	10.0	9.0	10.0	11.0	16.0	12.0	19.0	19.0	27.0	32.0	21.0	21.0	22.0	23.0	26.0	26.0	19.0	19.0	15.0	10.0	20.0	17.0	12.0	15.0	18.0	32.0
8	18.0	26.0	30.0	50.0	25.0	23.0	27.0	32.0	48.0	46.0	48.0	22.0	25.0	20.0	17.0	21.0	20.0	19.0	18.0	21.0	17.0	21.0	13.0	16.0	26.0	50.0
9	9.0	14.0	22.0	23.0	20.0	20.0	21.0	28.0	21.0	58.0	13.0	32.0	32.0	14.0	12.0	31.0	19.0	16.0	10.0	14.0	10.0	8.0	6.0	7.0	19.2	58.0
10	7.0	5.0	4.0	5.0	5.0	7.0	7.0	13.0	34.0	58.0	23.0	27.0	14.0	23.0	11.0	18.0	20.0	37.0	13.0	8.0	4.0	5.0	5.0	2.0	14.8	58.0
11	2.0	11.0	15.0	0.0	0.0	9.0	6.0	5.0	7.0	13.0	35.0	4.0	7.0	6.0	15.0	20.0	83.0	86.0	41.0	10.0	6.0	3.0	2.0	4.0	16.3	86.0
12	3.0	7.0	6.0	9.0	9.0	9.0	6.0	29.0	20.0	15.0	22.0	14.0	11.0	17.0	81.0	52.0	32.0	14.0	23.0	18.0	14.0	16.0	17.0	23.0	19.5	81.0
13	43.0	54.0	60.0	61.0	59.0	56.0	65.0	60.0	62.0	62.0	55.0	54.0	64.0	95.0	82.0	77.0	80.0	72.0	61.0	55.0	58.0	64.0	48.0	45.0	62.2	95.0
14	53.0	48.0	43.0	36.0	33.0	35.0	30.0	34.0	34.0	35.0	33.0	31.0	44.0	30.0	34.0	31.0	33.0	26.0	26.0	33.0	34.0	31.0	35.0	31.0	34.7	53.0
15	34.0	63.0	54.0	60.0	67.0	66.0	63.0	83.0	74.0	75.0	75.0	83.0	113.0	99.0	100.0	97.0	83.0	62.0	49.0	56.0	54.0	46.0	43.0	46.0	68.5	113.0
16	39.0	49.0	44.0	34.0	42.0	43.0	51.0	53.0	63.0	66.0	38.0	39.0	35.0	40.0	41.0	41.0	37.0	30.0	29.0	49.0	39.0	47.0	46.0	50.0	43.5	66.0
17	43.0	38.0	32.0	34.0	30.0	42.0	38.0	37.0	43.0	39.0	40.0	28.0	140.0	61.0	85.0	10.0	6.0	59.0	8.0	43.0	15.0	10.0	20.0	58.0	40.0	140.0
18	73.0	57.0	25.0	11.0	9.0	10.0	6.0	17.0	92.0	102.0	93.0	78.0	98.0	112.0	118.0	146.0	149.0	133.0	130.0	117.0	36.0	39.0	25.0	29.0	71.0	149.0
19	19.0	18.0	18.0	25.0	42.0	60.0	62.0	38.0	31.0	66.0	42.0	24.0	22.0	13.0	24.0	17.0	14.0	16.0	17.0	18.0	28.0	35.0	28.0	29.0	29.4	66.0
20	27.0	38.0	23.0	25.0	23.0	21.0	83.0	61.0	60.0	51.0	43.0	30.0	30.0	30.0	32.0	35.0	28.0	16.0	17.0	16.0	27.0	20.0	17.0	18.0	32.1	83.0
21	17.0	23.0	24.0	21.0	35.0	62.0	53.0	65.0	41.0	95.0	53.0	45.0	90.0	27.0	31.0	38.0	22.0	12.0	11.0	16.0	17.0	16.0	14.0	22.0	35.4	95.0
22	18.0	10.0	10.0	8.0	9.0	8.0	21.0	22.0	41.0	37.0	46.0	34.0	52.0	35.0	64.0	43.0	55.0	66.0	36.0	13.0	11.0	14.0	18.0	15.0	28.6	66.0
23	16.0	22.0	27.0	25.0	22.0	44.0	43.0	54.0	40.0	27.0	35.0	24.0	26.0	24.0	21.0	25.0	24.0	30.0	25.0	30.0	32.0	26.0	26.0	26.0	28.9	54.0
24	28.0	34.0	22.0	42.0	21.0	24.0	24.0	44.0	36.0	29.0	53.0	52.0	85.0	205.0	237.0	170.0	134.0	94.0	72.0	105.0	40.0	68.0	107.0	212.0	80.8	237.0
25	162.0	200.0	213.0	159.0	173.0	172.0	122.0	81.0	50.0	C	195.0	193.0	189.0	118.0	231.0	114.0	99.0	63.0	96.0	149.0	98.0	170.0	175.0	101.0	144.5	231.0
26	82.0	111.0	268.0	176.0	113.0	264.0	245.0	206.0	180.0	273.0	250.0	311.0	217.0	192.0	190.0	146.0	182.0	103.0	118.0	210.0	83.0	132.0	161.0	35.0	177.0	311.0
27	13.0	7.0	5.0	4.0	2.0	3.0	3.0	8.0	30.0	21.0	15.0	19.0	17.0	22.0	20.0	13.0	9.0	7.0	7.0	4.0	1.0	1.0	4.0	5.0	10.0	30.0
28	4.0	5.0	5.0	3.0	1.0	6.0	8.0	14.0	8.0	12.0	8.0	10.0	9.0	8.0	6.0	7.0	6.0	7.0	6.0	3.0	3.0	5.0	5.0	4.0	6.4	14.0
29	6.0	8.0	15.0	24.0	15.0	10.0	30.0	47.0	45.0	29.0	26.0	13.0	15.0	16.0	16.0	11.0	11.0	7.0	10.0	12.0	8.0	13.0	10.0	12.0	17.0	47.0
30	8.0	10.0	10.0	14.0	29.0	29.0	17.0	15.0	24.0	17.0	52.0	60.0	57.0	59.0	32.0	4.0	8.0	165.0	36.0	28.0	15.0	14.0	9.0	7.0	30.0	165.0
31	7.0	11.0	7.0	7.0	8.0	9.0	10.0	10.0	23.0	14.0	14.0	NRM	47.0	55.0	71.0	94.0	116.0	86.0	51.0	40.0	41.0	47.0	37.0	50.0	37.2	116.0
NO.	31	31	31	31	31	31	31	31	31	30	31	30	31	31	31	31	31	31	31	31	31	31	31	31	742	99.9%
MEAN	25.6	29.8	33.7	29.7	27.4	35.6	38.3	38.8	42.0	50.4	49.0	47.7	52.5	49.4	58.8	48.2	47.7	47.6	32.5	37.0	24.9	30.1	30.0	29.1	42.0	
MAX	162.0	200.0	268.0	176.0	173.0	264.0	245.0	206.0	180.0	273.0	250.0	311.0	217.0	205.0	237.0	170.0	182.0	165.0	130.0	210.0	98.0	170.0	175.0	212.0	91.1	433.3



Number of Non-Zero Readings	736
Maximum 1-HR Average	311.0 UG/M3
Maximum 24-HR Average	177.0 UG/M3
Operational Time	743 HRS
Monthly Calibration	1
Operational Uptime	99.9 %
Standard Deviation	45.84
Monthly Average	39.0 UG/M3

# Windridge TSP ( $\mu\text{g}/\text{m}^3$ ) – July 2023

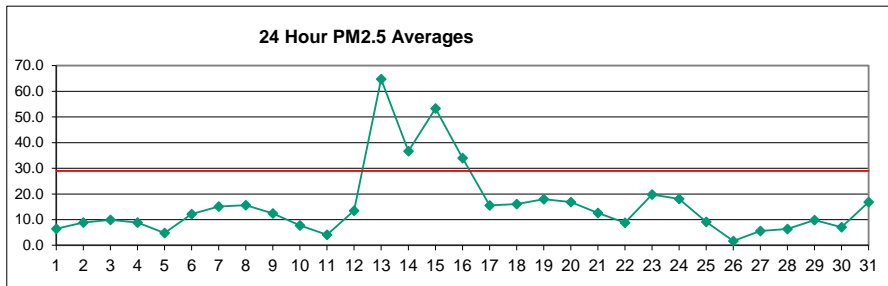
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	11.0	13.0	16.0	13.0	11.0	8.0	7.0	43.0	64.0	131.0	109.0	122.0	147.0	145.0	208.0	130.0	176.0	295.0	46.0	24.0	20.0	21.0	15.0	12.0	77.1	295.0
2	8.0	4.0	6.0	5.0	8.0	6.0	3.0	6.0	9.0	15.0	9.0	6.0	9.0	10.0	18.0	50.0	17.0	14.0	7.0	15.0	13.0	13.0	16.0	10.0	11.5	50.0
3	26.0	24.0	23.0	16.0	11.0	11.0	18.0	22.0	20.0	37.0	17.0	12.0	12.0	12.0	14.0	41.0	25.0	25.0	24.0	20.0	8.0	9.0	7.0	9.0	18.5	41.0
4	7.0	8.0	7.0	21.0	16.0	26.0	36.0	26.0	19.0	13.0	18.0	25.0	29.0	25.0	13.0	26.0	13.0	9.0	5.0	1.0	4.0	5.0	3.0	2.0	14.9	36.0
5	2.0	2.0	4.0	7.0	4.0	2.0	10.0	9.0	61.0	42.0	114.0	75.0	47.0	67.0	66.0	84.0	20.0	16.0	27.0	8.0	23.0	3.0	6.0	31.9	114.0	
6	8.0	5.0	5.0	5.0	6.0	19.0	61.0	82.0	113.0	193.0	53.0	39.0	41.0	26.0	37.0	54.0	13.0	12.0	18.0	15.0	15.0	12.0	11.0	16.0	35.8	193.0
7	12.0	8.0	11.0	9.0	9.0	17.0	14.0	28.0	34.0	48.0	16.0	27.0	31.0	31.0	32.0	42.0	23.0	24.0	13.0	23.0	28.0	14.0	14.0	13.0	21.7	48.0
8	18.0	32.0	31.0	70.0	35.0	26.0	33.0	50.0	76.0	80.0	68.0	34.0	34.0	25.0	28.0	28.0	32.0	23.0	25.0	27.0	27.0	27.0	25.0	23.0	36.5	80.0
9	17.0	18.0	26.0	31.0	27.0	24.0	24.0	33.0	26.0	102.0	17.0	50.0	55.0	36.0	25.0	23.0	19.0	15.0	15.0	15.0	16.0	12.0	7.0	13.0	26.9	102.0
10	7.0	4.0	4.0	5.0	4.0	6.0	13.0	25.0	46.0	90.0	34.0	39.0	29.0	38.0	15.0	27.0	24.0	69.0	12.0	14.0	7.0	6.0	6.0	6.0	22.1	90.0
11	7.0	14.0	20.0	6.0	3.0	14.0	9.0	6.0	8.0	14.0	43.0	10.0	14.0	9.0	18.0	28.0	104.0	128.0	60.0	7.0	6.0	4.0	7.0	7.0	22.8	128.0
12	10.0	8.0	6.0	6.0	11.0	10.0	8.0	29.0	17.0	16.0	27.0	26.0	11.0	18.0	109.0	72.0	39.0	25.0	23.0	26.0	15.0	17.0	14.0	26.0	23.7	109.0
13	46.0	55.0	59.0	62.0	56.0	58.0	61.0	58.0	59.0	60.0	60.0	56.0	63.0	105.0	95.0	81.0	84.0	74.0	62.0	53.0	57.0	63.0	49.0	40.0	63.2	105.0
14	62.0	48.0	44.0	39.0	34.0	33.0	31.0	32.0	35.0	34.0	39.0	37.0	52.0	35.0	42.0	34.0	36.0	29.0	30.0	35.0	29.0	31.0	36.0	33.0	37.1	62.0
15	34.0	69.0	55.0	62.0	66.0	67.0	70.0	92.0	83.0	85.0	81.0	87.0	140.0	108.0	115.0	142.0	129.0	99.0	63.0	62.0	54.0	50.0	45.0	46.0	79.3	142.0
16	36.0	59.0	44.0	40.0	34.0	47.0	77.0	69.0	70.0	81.0	46.0	43.0	46.0	49.0	38.0	47.0	43.0	28.0	30.0	48.0	44.0	50.0	50.0	50.0	48.7	81.0
17	41.0	42.0	38.0	33.0	32.0	54.0	52.0	56.0	59.0	50.0	46.0	33.0	254.0	92.0	91.0	13.0	11.0	57.0	15.0	64.0	26.0	14.0	28.0	93.0	53.9	254.0
18	120.0	84.0	41.0	12.0	8.0	16.0	4.0	17.0	132.0	161.0	144.0	121.0	153.0	183.0	189.0	225.0	220.0	208.0	207.0	189.0	45.0	48.0	24.0	34.0	107.7	225.0
19	15.0	17.0	22.0	33.0	64.0	119.0	98.0	57.0	40.0	110.0	54.0	27.0	22.0	31.0	32.0	23.0	27.0	24.0	24.0	23.0	40.0	55.0	33.0	34.0	42.7	119.0
20	37.0	47.0	29.0	27.0	21.0	17.0	125.0	100.0	98.0	85.0	58.0	49.0	43.0	54.0	47.0	52.0	46.0	18.0	27.0	20.0	42.0	28.0	17.0	18.0	46.0	125.0
21	15.0	27.0	26.0	18.0	41.0	91.0	82.0	80.0	58.0	135.0	72.0	65.0	120.0	42.0	48.0	75.0	36.0	20.0	21.0	23.0	19.0	18.0	19.0	35.0	49.4	135.0
22	15.0	12.0	15.0	17.0	16.0	19.0	27.0	25.0	79.0	48.0	92.0	52.0	81.0	74.0	124.0	74.0	91.0	119.0	69.0	23.0	16.0	20.0	16.0	24.0	47.8	124.0
23	25.0	17.0	30.0	24.0	31.0	74.0	61.0	94.0	59.0	31.0	41.0	33.0	35.0	30.0	28.0	28.0	37.0	37.0	38.0	38.0	36.0	34.0	31.0	29.0	38.4	94.0
24	21.0	46.0	26.0	69.0	25.0	26.0	30.0	69.0	49.0	39.0	63.0	64.0	114.0	342.0	355.0	289.0	213.0	150.0	129.0	184.0	63.0	138.0	151.0	323.0	124.1	171.0
25	250.0	369.0	367.0	278.0	268.0	267.0	224.0	126.0	107.0	C	C	309.0	296.0	202.0	368.0	210.0	167.0	102.0	168.0	258.0	182.0	310.0	289.0	171.0	240.4	369.0
26	129.0	174.0	346.0	289.0	209.0	456.0	399.0	401.0	332.0	436.0	436.0	513.0	344.0	321.0	311.0	254.0	280.0	199.0	204.0	350.0	128.0	253.0	291.0	55.0	296.3	513.0
27	19.0	8.0	9.0	6.0	7.0	8.0	5.0	10.0	54.0	34.0	28.0	27.0	26.0	26.0	39.0	18.0	10.0	9.0	6.0	5.0	5.0	5.0	5.0	4.0	15.5	54.0
28	5.0	6.0	6.0	2.0	1.0	3.0	5.0	7.0	5.0	10.0	9.0	14.0	11.0	14.0	13.0	9.0	5.0	6.0	4.0	3.0	7.0	7.0	6.0	10.0	7.0	14.0
29	9.0	12.0	12.0	29.0	16.0	11.0	41.0	61.0	62.0	37.0	34.0	18.0	25.0	18.0	19.0	12.0	12.0	12.0	14.0	16.0	11.0	9.0	15.0	20.0	21.9	62.0
30	15.0	17.0	18.0	17.0	34.0	35.0	16.0	18.0	33.0	28.0	90.0	107.0	105.0	98.0	50.0	16.0	19.0	294.0	53.0	45.0	26.0	18.0	12.0	10.0	48.9	294.0
31	9.0	8.0	15.0	13.0	11.0	16.0	19.0	10.0	32.0	25.0	25.0	NRM	60.0	75.0	109.0	132.0	156.0	122.0	64.0	27.0	35.0	60.0	45.0	71.0	49.5	156.0
NO.	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	741	99.9%
MEAN	33.4	40.5	43.9	40.8	36.1	51.2	55.7	56.2	62.5	75.7	64.8	70.7	79.0	75.5	87.0	74.9	70.7	73.1	48.1	54.2	33.3	44.3	41.6	40.1		
MAX	250.0	369.0	367.0	289.0	268.0	456.0	399.0	401.0	332.0	436.0	436.0	513.0	344.0	342.0	368.0	289.0	280.0	295.0	207.0	350.0	182.0	310.0	291.0	323.0		



Number of 24HR Exceedences	4	Proposed Guideline
Number of Non-Zero Readings	741	
Maximum 1-HR Average	513.0 UG/M3	
Maximum 24-HR Average	296.3 UG/M3	
IZS Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	75.5	Monthly Average
		743 HRS
		99.9 %
		56.3 UG/M3

# West PM<sub>2.5</sub> (µg/m<sup>3</sup>) – July 2023

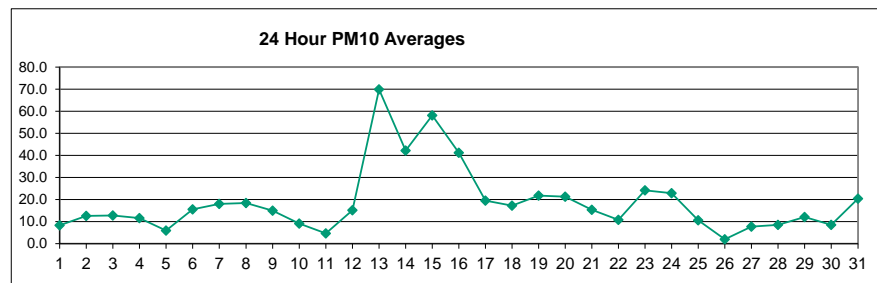
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	6.5	6.9	7.2	7.7	8.0	7.8	7.4	6.7	6.2	3.8	2.2	1.8	1.7	1.6	1.6	1.7	1.6	2.6	13.4	14.7	14.1	11.2	8.9	9.2	6.4	14.7
2	13.2	9.5	10.6	9.8	10.3	3.9	5.9	3.9	8.8	8.4	10.6	11.1	9.4	7.7	17.2	14.2	6.4	6.2	6.5	8.2	6.8	7.0	9.5	7.7	8.9	17.2
3	9.6	8.3	9.9	8.0	7.8	7.6	7.3	7.0	7.2	6.4	6.9	8.2	7.0	7.1	7.4	13.6	19.2	19.6	19.5	17.0	9.3	7.1	6.9	10.6	9.9	19.6
4	10.0	9.9	9.6	9.9	11.2	10.5	12.0	11.7	11.6	10.7	10.6	10.1	9.7	8.5	8.2	8.1	4.7	8.3	7.2	9.5	5.9	4.5	6.0	4.7	8.9	12.0
5	5.0	4.3	3.9	3.7	3.8	3.8	4.4	4.5	4.5	3.9	4.1	4.8	4.0	3.9	3.5	3.3	3.1	8.0	6.6	6.8	5.5	6.3	8.9	5.1	4.8	8.9
6	6.1	6.2	5.8	7.4	6.1	6.6	7.5	8.7	9.7	9.2	12.8	19.7	16.1	15.3	14.8	9.9	13.2	14.3	18.1	18.9	15.4	17.0	16.9	16.5	12.2	19.7
7	16.7	16.8	16.6	16.7	16.6	16.5	16.3	16.3	16.0	16.9	16.0	14.9	14.0	13.8	14.4	13.5	12.3	11.6	11.2	11.4	13.3	16.4	18.1	17.3	15.1	18.1
8	18.1	18.3	19.5	18.9	18.0	17.9	17.1	17.5	17.9	15.5	13.3	11.2	13.5	11.9	12.2	11.7	12.6	13.3	14.7	14.0	15.5	17.7	17.7	16.8	15.6	19.5
9	17.8	20.0	20.6	20.1	18.6	17.5	16.8	16.5	15.3	11.8	9.1	6.8	5.4	7.4	8.5	9.3	9.6	7.6	9.5	10.6	11.2	10.5	9.5	8.3	12.4	20.6
10	8.4	8.9	9.0	9.3	8.7	9.1	8.9	9.1	8.3	7.3	5.5	5.7	8.2	5.4	5.2	8.4	7.5	8.2	10.1	7.6	6.4	6.9	6.6	6.6	7.7	10.1
11	8.9	6.3	4.6	5.5	4.7	4.5	3.3	2.9	2.9	2.0	1.3	1.6	1.6	1.4	1.8	2.3	2.8	3.7	5.7	5.7	6.8	7.1	7.2	4.1	8.9	
12	6.7	6.5	7.5	8.1	8.1	7.9	8.0	7.8	8.0	8.3	8.9	9.4	10.0	13.7	18.9	22.8	27.3	19.9	18.0	19.6	17.6	16.7	20.3	22.9	13.5	27.3
13	50.5	62.8	68.3	68.9	65.3	65.2	68.8	65.2	66.6	65.8	64.2	63.4	61.8	57.8	67.2	82.9	81.6	79.3	60.7	60.5	65.0	63.7	47.7	50.7	64.7	82.9
14	54.5	49.3	45.5	44.1	40.1	39.2	38.5	38.3	39.8	37.8	34.9	31.2	32.4	29.0	28.3	27.4	27.5	29.4	27.6	32.3	36.3	36.6	36.7	44.5	36.7	54.5
15	47.0	49.8	53.1	60.7	65.9	67.8	70.5	71.0	70.6	72.2	69.5	66.3	64.9	58.9	55.9	30.8	16.8	14.7	37.1	38.7	45.4	48.1	52.0	51.4	53.3	72.2
16	44.0	42.0	44.3	45.7	42.1	43.9	43.2	41.2	39.0	34.9	26.1	26.1	25.5	28.0	26.7	24.6	20.5	17.7	19.2	23.3	31.3	35.4	41.3	50.7	34.0	50.7
17	51.2	48.5	37.2	32.1	24.0	19.3	17.6	13.9	19.5	28.9	27.8	23.0	10.2	2.0	2.1	2.3	2.0	2.2	1.8	1.8	1.8	2.1	1.5	0.7	15.6	51.2
18	0.8	1.2	2.1	3.1	3.5	4.5	5.3	7.9	11.0	12.6	12.2	12.7	15.6	19.9	23.8	27.0	28.1	30.2	29.5	28.1	28.0	27.0	24.9	26.6	16.1	30.2
19	23.5	22.0	23.1	22.6	21.7	21.1	20.4	19.5	18.8	18.4	19.7	18.4	16.2	14.4	13.1	12.5	11.8	11.1	12.1	14.1	16.2	18.6	21.8	21.2	18.0	23.5
20	21.7	22.4	23.3	21.2	20.4	19.9	20.0	17.7	17.5	17.8	17.8	14.5	12.8	11.5	11.3	11.4	12.4	14.8	12.1	12.9	16.1	18.0	18.4	19.0	16.9	23.3
21	18.3	18.3	17.9	17.6	17.2	17.3	17.5	17.6	17.5	14.6	12.4	8.3	6.6	4.8	4.7	6.8	8.0	8.3	8.3	8.6	10.6	12.4	15.6	12.1	12.6	18.3
22	12.5	11.7	12.7	12.8	11.7	11.4	11.5	10.4	8.7	6.8	6.2	6.1	5.8	5.3	5.1	5.8	5.7	6.2	6.3	5.3	7.2	10.4	11.3	13.5	8.8	13.5
23	14.7	17.9	22.6	26.2	28.2	28.0	28.0	27.0	27.9	21.5	18.8	16.9	14.9	12.7	12.0	11.1	11.3	14.9	14.9	16.6	17.6	21.8	25.3	24.0	19.8	28.2
24	21.8	18.9	17.6	17.5	17.9	19.1	21.0	20.0	24.0	22.9	18.4	17.4	20.6	22.6	22.5	18.0	13.4	12.4	8.3	7.8	9.8	12.7	19.1	29.4	18.0	29.4
25	40.1	10.3	7.0	6.0	8.5	11.2	15.4	10.0	12.3	14.2	C	14.4	10.9	11.1	9.0	2.7	3.3	3.7	3.5	3.7	3.2	3.0	2.8	9.1	40.1	
26	2.2	2.7	2.9	2.4	1.3	0.8	1.4	1.3	0.9	1.0	1.4	1.6	1.2	1.5	1.5	1.3	1.6	1.7	1.9	1.8	1.9	1.9	2.1	2.2	1.7	2.9
27	2.3	2.4	3.0	2.8	3.0	3.7	4.5	4.4	3.4	7.9	11.1	12.5	12.5	12.8	12.6	6.5	5.3	3.7	1.3	2.3	2.3	6.4	2.4	3.9	5.5	12.8
28	6.3	4.5	9.5	9.4	9.0	4.0	4.6	6.5	4.2	5.6	6.4	8.6	10.0	5.9	3.5	3.8	5.4	4.7	5.4	4.1	5.1	7.0	7.3	11.6	6.4	11.6
29	14.8	15.7	16.6	12.0	7.8	9.5	9.6	9.0	8.5	7.9	7.8	8.1	10.4	10.4	7.7	11.0	10.7	9.1	9.4	7.8	7.8	8.2	8.8	7.7	9.8	16.6
30	8.1	6.8	7.0	7.2	7.8	8.6	9.2	10.1	9.9	10.2	9.0	6.5	4.8	5.0	4.2	3.5	2.9	4.4	7.1	7.0	7.0	7.2	7.2	7.4	7.0	10.2
31	8.3	8.4	8.5	8.2	8.2	7.9	7.7	7.7	7.4	7.6	7.3	5.3	6.0	10.2	15.2	25.0	42.2	32.3	26.2	35.9	38.5	35.9	24.0	19.2	16.8	42.2
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%
MEAN	18.4	17.3	17.6	17.6	16.9	16.6	17.1	16.5	16.9	16.6	15.8	15.0	14.3	13.6	14.2	14.0	13.9	13.6	13.9	14.7	15.4	16.3	16.3	17.2		
MAX	54.5	62.8	68.3	68.9	65.9	67.8	70.5	71.0	70.6	72.2	69.5	66.3	64.9	58.9	67.2	82.9	81.6	79.3	60.7	60.5	65.0	63.7	52.0	51.4		



Number of 24HR Exceedences	4	Proposed Guideline
Number of Non-Zero Readings	743	
Maximum 1-HR Average	82.9 UG/M3	
Maximum 24-HR Average	64.7 UG/M3	
IZS Calibration Time		Operational Time 744 HRS
Down Time	0	Operational Uptime 100.0 %
Standard Deviation	15.16	Monthly Average 15.8 UG/M3

# West PM<sub>10</sub> (µg/m<sup>3</sup>) – July 2023

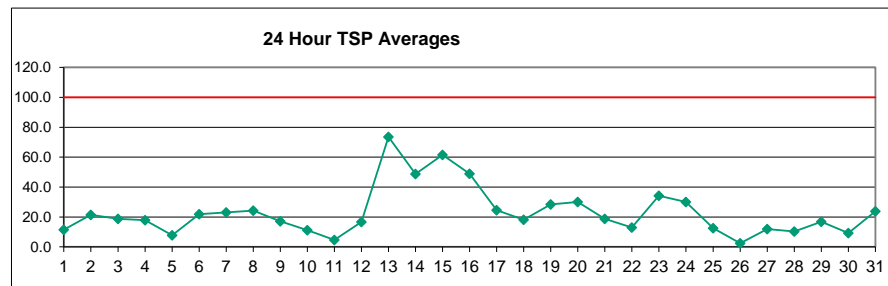
Day	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	8.7	8.7	9.3	10.5	10.5	9.5	8.6	7.8	7.8	5.0	2.8	2.4	2.1	2.1	2.0	2.3	2.1	3.5	17.7	20.4	18.2	14.2	11.1	12.7	8.3	20.4
2	19.3	14.0	15.4	14.5	14.8	5.6	8.8	5.7	13.1	12.6	15.8	16.6	14.1	11.5	25.6	20.8	9.0	8.2	8.2	10.1	8.6	8.8	12.0	9.9	12.6	25.6
3	12.5	11.2	12.7	10.3	9.9	9.3	9.0	8.7	9.4	8.3	9.1	10.9	9.7	9.4	9.9	17.8	26.1	24.7	24.8	21.7	11.3	8.6	8.1	13.4	12.8	26.1
4	12.7	11.8	10.9	12.2	14.7	13.1	15.7	15.5	15.7	13.8	13.0	12.4	11.9	10.4	10.1	10.1	6.5	12.2	10.7	14.2	8.7	6.6	8.8	5.8	11.6	15.7
5	5.9	4.7	4.2	3.9	4.1	4.1	5.4	5.7	5.9	4.9	5.1	5.5	4.6	4.3	3.9	3.7	3.4	10.9	9.6	9.6	7.1	8.4	12.9	6.0	6.0	12.9
6	7.6	8.0	7.0	9.2	7.2	7.7	8.5	10.6	13.3	11.8	16.3	25.9	21.6	19.5	18.7	12.3	17.0	18.7	22.7	24.0	18.9	22.5	23.8	20.6	15.6	25.9
7	18.4	18.9	18.3	18.2	17.5	17.3	17.4	17.4	17.9	22.4	20.5	18.5	17.4	17.6	18.6	16.7	13.7	12.6	14.6	14.5	17.1	20.2	25.2	21.2	18.0	25.2
8	20.5	20.2	21.3	20.3	19.0	19.0	18.4	19.2	22.7	17.2	15.2	12.9	16.0	15.2	15.7	14.8	15.8	16.4	18.0	17.2	19.7	23.0	22.3	22.1	18.4	23.0
9	25.1	25.8	24.8	24.0	21.1	19.7	19.5	19.5	18.8	14.5	11.3	7.6	6.2	9.5	10.7	11.5	12.5	9.6	11.9	12.8	12.9	11.0	9.9	8.7	15.0	25.8
10	8.7	9.2	9.5	9.8	9.1	9.7	9.7	10.5	9.2	8.2	6.2	7.3	11.6	7.1	7.2	11.9	9.9	10.4	12.9	9.1	8.2	9.1	7.8	7.2	9.1	12.9
11	11.0	7.2	5.1	5.9	5.1	4.7	3.6	3.1	3.2	3.2	2.2	1.5	1.9	1.9	1.6	2.2	2.6	3.3	4.0	6.2	6.5	8.1	8.4	8.5	4.6	11.0
12	7.4	7.1	8.3	8.9	8.7	8.5	8.7	8.3	8.5	9.1	9.8	10.1	10.6	14.6	19.8	23.9	35.8	25.3	21.4	22.4	18.7	18.1	24.5	25.8	15.2	35.8
13	51.4	63.4	68.7	69.4	65.8	65.8	69.5	65.7	67.4	67.0	65.6	65.2	63.3	59.0	89.4	108.7	92.2	95.0	64.4	66.0	72.0	71.9	51.8	58.5	69.9	108.7
14	56.2	49.8	46.4	44.7	40.6	39.8	39.4	39.7	41.4	39.3	36.6	33.6	42.1	38.1	37.0	37.0	37.1	41.0	36.7	41.3	49.0	49.3	47.6	49.8	42.2	56.2
15	52.0	53.5	56.8	63.7	68.7	70.4	73.1	74.2	73.3	75.1	71.6	68.5	67.2	60.8	57.6	32.5	18.8	16.0	47.6	44.1	51.0	54.6	72.9	72.5	58.2	75.1
16	53.9	49.7	56.3	60.8	46.3	46.4	45.8	43.9	41.1	36.8	28.4	35.6	34.6	38.0	34.9	32.4	27.5	21.9	24.9	30.1	40.0	43.9	50.2	66.1	41.2	66.1
17	70.0	63.3	41.0	36.2	26.5	21.7	21.1	18.1	27.5	36.9	36.0	31.6	13.6	2.5	2.8	3.0	2.4	2.9	2.2	2.1	2.0	2.4	1.7	0.8	19.5	70.0
18	0.9	1.3	2.2	3.7	3.9	5.2	6.6	9.4	12.4	13.1	12.7	14.1	16.4	20.9	24.9	28.0	28.8	30.8	30.2	28.8	29.2	29.4	27.0	33.2	17.2	33.2
19	31.0	26.6	25.8	24.5	23.1	22.3	21.7	21.6	21.5	20.5	23.7	23.9	21.2	18.5	16.2	15.3	14.5	13.6	14.9	18.2	22.6	25.7	28.2	26.8	21.8	31.0
20	29.0	31.3	31.6	27.5	23.9	22.8	23.2	20.2	21.2	23.5	23.4	17.9	15.7	14.1	13.8	14.0	15.7	18.3	15.4	16.1	21.2	23.1	23.0	25.6	21.3	31.6
21	23.0	22.0	20.4	19.4	19.2	19.3	19.6	21.0	22.2	18.7	17.0	11.1	8.2	6.0	6.2	8.4	10.5	10.8	10.7	10.6	13.3	16.2	19.4	16.0	15.4	23.0
22	16.0	13.6	16.4	14.8	12.7	12.6	12.5	11.6	10.0	7.8	7.9	8.2	8.0	7.2	6.8	7.4	7.2	7.7	8.2	6.9	9.5	12.9	14.4	19.1	10.8	19.1
23	19.6	21.9	26.4	29.3	31.1	29.9	31.4	31.6	38.3	26.5	24.7	20.8	18.4	16.2	14.8	14.0	14.2	18.2	18.3	21.2	23.8	26.8	31.0	32.4	24.2	38.3
24	29.3	24.1	21.1	20.5	20.7	23.4	27.8	26.7	33.9	30.0	23.6	21.5	26.2	29.0	29.3	23.1	17.5	16.0	10.4	9.5	12.5	15.0	22.6	34.8	22.9	34.8
25	46.0	12.0	8.8	7.4	9.8	12.8	18.1	11.8	13.5	16.2	C	18.7	13.3	12.1	10.3	3.0	3.7	4.1	3.7	4.1	3.5	3.7	3.4	3.2	10.6	46.0
26	2.4	2.9	3.2	2.9	1.5	1.0	2.0	1.8	1.2	1.4	1.9	2.1	1.5	2.0	1.9	1.5	2.0	2.0	2.2	1.9	2.1	2.0	2.2	2.5	2.0	3.2
27	2.6	2.7	3.5	3.1	3.3	4.5	6.0	6.0	4.3	11.7	16.4	18.5	18.5	18.7	18.2	9.6	7.7	5.3	1.6	3.0	3.1	9.3	3.1	5.4	7.7	18.7
28	8.8	6.0	14.0	13.1	13.2	5.6	6.8	9.6	6.2	8.3	9.5	12.9	15.0	8.7	4.8	4.3	5.8	5.6	6.6	4.5	5.7	8.9	8.3	12.9	8.5	15.0
29	15.8	16.2	19.9	12.8	8.8	10.3	10.3	9.6	9.1	8.6	8.9	10.8	13.1	12.8	9.9	16.1	15.9	13.5	14.0	11.4	10.5	10.5	10.9	10.1	12.1	19.9
30	11.0	9.1	8.6	8.6	8.9	9.6	10.3	11.6	11.6	12.2	11.5	8.5	6.3	6.7	5.5	4.5	3.8	5.8	8.5	8.0	8.1	8.5	8.1	8.2	8.5	12.2
31	9.3	9.2	9.4	9.0	9.0	8.5	8.8	9.2	9.5	9.7	9.3	6.4	6.8	11.7	16.9	27.8	45.9	35.0	28.8	49.0	50.1	50.9	32.1	26.6	20.4	50.9
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%
MEAN	22.1	20.2	20.2	20.0	18.7	18.1	18.9	18.6	19.7	19.2	18.5	18.1	17.3	16.3	17.6	17.4	17.0	16.8	17.0	18.0	18.9	20.1	20.4	21.5		
MAX	70.0	63.4	68.7	69.4	68.7	70.4	73.1	74.2	73.3	75.1	71.6	68.5	67.2	60.8	89.4	108.7	92.2	95.0	64.4	66.0	72.0	71.9	72.9	72.5		



Number of Non-Zero Readings	743		
Maximum 1-HR Average	108.7 UG/M3		
Maximum 24-HR Average	69.9 UG/M3		
IZS Calibration Time	OperatioEI Time	744 HRS	
Down Time	0	OperatioEI Uptime	100.0 %
Standard Deviation	16.8	Monthly Average	18.8 UG/M3

# West TSP ( $\mu\text{g}/\text{m}^3$ ) – July 2023

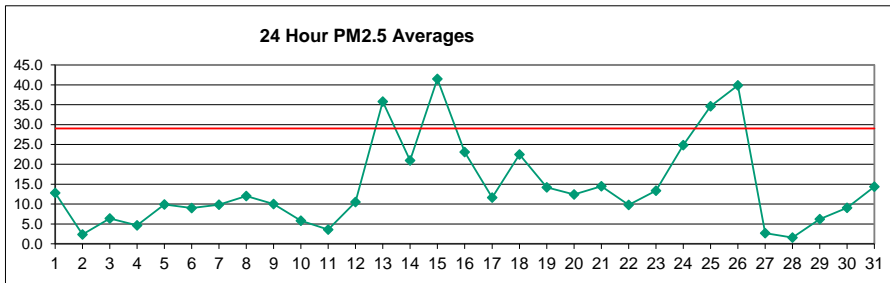
Day	HOUR																								MEAN	MAX	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	11.1	15.4	14.9	14.0	11.6	9.9	8.8	8.2	8.4	5.9	3.3	2.8	2.6	2.5	2.4	3.0	2.7	5.6	26.5	24.1	28.5	23.4	19.2	22.4	11.5	28.5	
2	34.3	24.5	26.9	24.4	25.5	8.8	14.7	9.4	22.8	21.6	27.5	28.9	24.4	19.7	45.9	37.2	13.4	11.6	11.5	18.2	14.3	14.7	20.0	15.1	21.5	45.9	
3	18.1	15.2	20.4	15.7	10.7	9.6	9.8	9.6	10.9	9.9	15.2	19.3	15.8	16.1	17.3	27.5	36.1	42.7	41.2	35.8	12.7	9.7	8.6	21.6	18.7	42.7	
4	15.9	14.2	11.7	13.8	21.6	22.9	24.5	20.5	22.2	22.2	23.3	22.2	21.3	18.6	18.1	18.1	10.5	21.1	18.5	25.3	14.3	9.4	12.3	6.1	17.9	25.3	
5	6.1	4.7	4.3	4.0	4.1	4.2	5.8	6.3	7.0	5.7	6.0	5.9	5.1	4.6	4.1	4.0	3.6	18.6	16.3	15.4	9.6	13.3	22.5	6.5	7.8	22.5	
6	10.8	10.5	7.5	16.1	7.7	8.2	8.7	11.4	17.2	13.6	24.5	40.2	28.3	31.1	31.1	19.8	24.7	26.2	38.2	40.3	24.7	34.3	29.5	22.3	22.0	40.3	
7	18.6	19.1	18.3	18.4	17.6	17.3	17.5	17.7	18.9	28.6	34.4	32.8	30.5	29.0	30.2	21.3	14.4	13.0	21.1	19.1	24.3	36.1	33.6	22.4	23.1	36.1	
8	20.9	20.5	21.7	20.6	19.2	19.5	19.1	20.4	25.2	17.9	16.3	13.7	17.4	21.4	23.4	24.8	26.9	29.4	32.3	30.7	33.1	36.9	38.2	33.2	24.3	38.2	
9	28.8	27.9	26.0	26.4	22.9	21.0	21.5	21.5	21.2	16.7	12.5	8.2	6.8	14.4	14.0	17.6	17.4	13.0	15.9	14.0	13.2	11.1	10.0	8.8	17.1	28.8	
10	8.8	9.2	9.5	9.9	9.1	9.8	10.0	11.0	9.5	8.4	6.6	9.6	20.5	10.2	10.6	20.6	16.9	16.8	14.7	10.4	10.7	11.7	8.6	7.2	11.3	20.6	
11	11.1	7.2	5.2	5.9	5.1	4.7	3.6	3.1	3.2	3.2	2.2	1.5	2.1	2.0	1.7	2.3	2.7	3.4	4.0	6.3	6.6	8.2	8.5	8.6	4.7	11.1	
12	7.5	7.2	8.5	9.0	8.8	8.5	8.8	8.4	8.6	9.2	9.9	10.2	10.8	14.9	20.0	24.5	46.1	42.2	26.3	23.7	18.9	18.3	25.3	26.2	16.7	46.1	
13	51.4	63.4	68.7	69.4	65.9	65.8	69.5	65.7	67.8	67.2	66.4	65.7	63.9	59.8	126.0	128.9	98.0	105.3	65.7	67.3	75.4	75.2	52.1	60.6	73.5	128.9	
14	56.5	49.8	46.5	44.7	40.6	39.9	39.5	40.0	41.7	39.7	37.2	34.6	53.9	61.1	59.7	54.9	58.2	59.2	41.6	48.9	56.7	60.1	54.5	50.7	48.8	61.1	
15	52.2	53.7	57.0	63.9	69.1	70.9	73.8	76.0	74.5	76.7	72.7	70.4	69.3	62.3	58.2	33.3	19.9	16.5	67.7	46.5	53.2	56.8	96.2	86.8	61.6	96.2	
16	56.2	50.9	60.6	64.2	46.7	46.6	47.0	44.3	41.9	37.4	29.0	51.0	46.4	54.2	57.6	47.1	40.8	39.0	36.3	33.4	47.1	48.5	52.7	96.3	49.0	96.3	
17	88.2	81.1	41.6	36.9	27.1	22.1	22.0	19.8	35.3	62.3	59.8	46.1	17.8	2.7	3.6	3.3	2.7	3.6	2.5	2.2	2.1	2.7	1.9	0.9	24.5	88.2	
18	0.9	1.4	2.2	3.8	3.9	5.6	7.4	10.3	13.2	13.3	12.9	14.8	16.8	21.3	25.6	28.9	29.2	31.2	30.6	29.1	29.5	30.1	27.9	45.5	18.1	45.5	
19	39.2	28.1	26.6	24.8	23.1	22.4	21.9	22.1	22.5	21.4	25.5	29.1	33.1	30.5	28.8	27.5	26.0	24.4	26.5	29.1	27.1	31.3	44.7	45.6	28.4	45.6	
20	44.4	37.8	44.4	28.3	24.3	23.0	23.7	21.1	22.9	25.9	31.9	31.9	28.3	25.4	24.9	25.1	26.6	32.4	25.9	28.1	32.9	38.4	40.4	34.9	30.1	44.4	
21	23.7	22.3	20.5	19.4	19.5	20.3	22.2	24.3	20.3	19.6	12.8	9.2	6.8	7.8	13.2	15.4	12.0	16.5	19.1	22.7	25.8	33.8	24.1	18.8	33.8	18.8	33.8
22	17.5	14.2	18.5	15.3	12.8	12.6	12.5	11.9	10.3	8.3	9.1	9.9	10.4	8.9	8.7	8.8	8.2	8.8	11.1	7.8	15.1	23.0	23.8	23.1	12.9	23.8	
23	21.2	22.8	27.5	30.1	31.8	30.6	34.0	33.8	54.1	47.3	39.0	37.3	32.6	26.5	26.2	23.7	24.5	32.8	33.0	34.2	31.3	48.1	55.8	44.3	34.3	55.8	
24	32.5	25.3	22.3	21.9	21.3	26.4	42.9	41.2	44.5	47.5	39.7	38.4	41.0	36.7	40.7	30.5	23.6	19.9	13.9	12.5	15.3	18.2	25.7	40.8	30.1	47.5	
25	54.5	14.1	11.0	8.7	11.1	14.3	20.4	14.0	14.7	18.7	C	29.8	16.1	13.1	12.1	3.2	3.9	4.4	3.8	4.3	3.8	4.0	3.5	3.6	12.5	54.5	
26	2.5	3.0	3.5	3.4	1.7	1.2	2.9	2.7	1.6	1.9	2.5	2.9	1.8	2.5	2.6	1.8	2.5	2.3	2.7	2.0	2.2	2.1	2.3	2.7	2.4	3.5	
27	2.8	2.7	3.7	3.2	3.4	5.1	7.2	8.0	5.0	19.8	29.0	33.0	32.9	33.3	32.7	16.3	11.8	7.3	1.8	3.4	3.3	11.7	3.4	6.4	12.0	33.3	
28	10.7	6.5	15.7	18.0	15.0	6.0	7.6	12.6	7.8	10.9	13.3	18.6	22.8	12.1	6.2	4.3	6.0	5.8	6.9	4.5	5.7	10.0	8.4	12.9	10.3	22.8	
29	15.8	16.2	21.3	12.8	9.0	10.3	10.4	9.8	9.2	8.9	9.3	15.1	22.5	22.9	16.6	28.1	28.3	23.8	24.6	19.9	16.9	18.5	19.3	15.3	16.9	28.3	
30	12.0	9.7	8.8	8.7	8.9	9.7	10.5	11.9	12.2	12.9	12.9	9.9	7.8	8.6	6.6	5.6	4.9	8.1	9.2	8.5	8.6	9.3	8.5	8.4	9.3	12.9	
31	9.5	9.3	9.5	9.1	9.0	8.6	9.0	9.6	10.5	11.1	10.9	7.0	7.2	12.2	17.7	30.0	49.8	37.1	30.7	61.8	60.6	66.4	49.4	35.1	23.8	66.4	
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%	
MEAN	25.3	22.2	22.1	21.4	19.6	18.9	20.5	20.2	22.2	23.0	23.4	24.3	23.2	22.1	25.2	23.7	22.4	23.1	23.2	23.4	23.2	26.0	27.1	27.0			
MAX	88.2	81.1	68.7	69.4	69.1	70.9	73.8	76.0	74.5	76.7	72.7	70.4	69.3	62.3	126.0	128.9	98.0	105.3	67.7	67.3	75.4	75.2	96.2	96.3			



Number of 24HR Exceedences	0	Proposed Guideline
Number of Non-Zero Readings	743	
Maximum 1-HR Average	128.9 UG/M3	
Maximum 24-HR Average	73.5 UG/M3	
I/S Calibration Time		Operational Time
Down Time	0	Operational Uptime
Standard Deviation	19.12	Monthly Average
		744 HRS
		100.0 %
		23.0 UG/M3

# Berm PM<sub>2.5</sub> (µg/m<sup>3</sup>) – July 2023

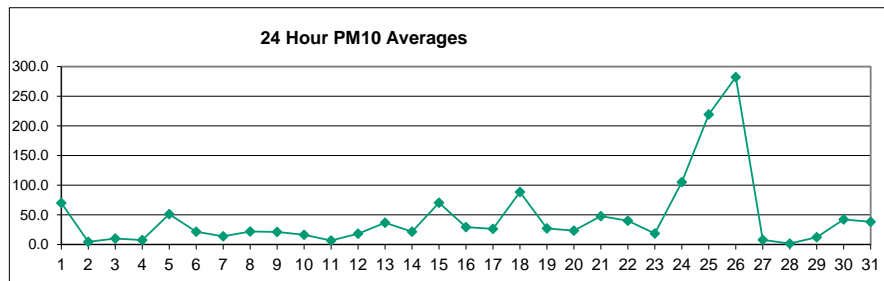
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.0	2.8	2.9	4.6	4.9	4.8	7.5	6.7	8.8	16.5	22.0	25.6	31.8	27.2	37.3	21.7	21.1	18.4	9.6	9.2	8.2	6.1	4.4	2.9	12.8	37.3
2	2.1	1.6	1.4	1.4	1.5	0.8	0.5	1.4	1.2	1.5	1.6	1.3	1.2	1.6	1.6	3.4	3.7	4.1	4.2	4.1	4.4	3.9	5.3	2.9	2.4	5.3
3	5.0	4.6	5.6	4.0	4.0	4.7	5.9	8.7	6.8	6.3	3.7	3.6	3.8	3.7	4.4	11.0	13.6	12.8	10.2	10.6	5.3	4.5	4.0	6.2	6.4	13.6
4	4.2	4.2	4.3	4.4	4.7	4.3	9.7	7.9	7.2	7.1	7.5	7.4	7.4	6.6	5.7	6.1	3.0	1.9	1.6	1.1	1.1	1.3	1.4	1.6	4.7	9.7
5	2.2	2.1	1.8	1.8	1.8	1.8	3.3	5.6	11.3	6.4	30.9	14.3	15.1	28.2	36.1	24.6	20.5	4.7	4.1	5.2	3.5	5.1	3.7	3.0	9.9	36.1
6	3.7	2.4	3.4	3.9	3.5	6.1	9.7	13.2	11.7	18.1	13.4	14.3	12.0	10.9	11.1	10.8	9.5	6.7	10.9	9.5	6.8	7.8	6.7	9.8	9.0	18.1
7	7.3	5.8	5.9	6.3	6.7	8.0	10.2	12.9	15.0	14.1	11.4	10.9	10.7	10.7	10.7	11.0	10.4	8.8	7.6	8.4	10.8	10.4	9.7	12.4	9.8	15.0
8	9.5	12.3	13.5	14.4	14.3	12.4	13.7	14.0	18.2	20.1	17.5	10.5	11.1	9.3	9.2	9.1	9.3	9.4	9.2	9.2	10.6	12.1	10.5	9.3	12.0	20.1
9	8.6	11.8	12.1	14.4	13.8	13.4	12.9	13.3	12.1	14.0	7.9	18.2	14.9	8.0	6.9	7.0	7.3	5.5	6.8	8.2	8.8	5.8	4.9	4.2	10.0	18.2
10	4.7	4.2	3.7	3.9	3.9	4.0	7.3	10.6	13.2	13.6	6.3	7.1	4.7	5.2	3.2	3.8	5.8	8.5	6.9	3.7	2.2	3.4	3.1	7.2	5.8	13.6
11	6.4	7.0	6.0	2.4	3.8	3.3	2.3	2.1	2.9	2.9	2.5	1.5	2.2	1.4	2.7	6.6	5.0	5.0	3.6	3.3	2.6	3.2	3.5	3.8	3.6	7.0
12	3.6	3.4	3.6	4.4	4.3	6.1	4.7	10.7	7.2	6.3	8.5	7.7	5.1	11.1	22.6	38.9	19.3	12.7	13.4	14.3	8.9	10.5	11.7	13.3	10.5	38.9
13	24.0	31.6	35.7	36.3	34.9	34.6	36.7	34.8	35.4	35.1	35.1	34.5	45.3	46.3	50.4	44.0	44.1	40.6	34.3	30.0	32.9	33.4	23.7	24.7	35.8	50.4
14	31.2	27.4	24.9	23.8	20.5	19.8	19.4	19.6	21.2	22.0	28.4	22.0	23.8	19.4	15.1	14.7	15.4	15.9	14.8	24.3	21.1	19.0	18.9	20.3	21.0	31.2
15	21.2	28.8	28.2	38.0	38.2	37.6	51.7	59.8	59.5	61.1	50.6	55.3	74.9	63.8	67.8	42.3	24.8	19.7	29.9	28.6	33.7	29.9	25.7	24.4	41.5	74.9
16	26.5	22.4	21.1	20.3	22.0	23.5	34.4	34.5	35.1	31.6	23.6	19.4	18.4	22.2	20.9	19.5	16.5	13.2	14.3	15.7	17.7	26.2	28.9	26.4	23.1	35.1
17	20.6	20.1	17.8	19.9	18.6	18.8	16.8	12.0	15.9	21.1	20.9	16.8	22.0	7.9	8.5	2.2	1.8	2.7	2.8	2.0	1.5	2.5	2.7	4.0	11.7	22.0
18	6.7	6.5	4.8	5.3	3.5	3.4	4.5	6.5	15.3	26.7	26.2	27.3	35.4	29.0	41.8	49.9	48.4	42.7	46.3	35.5	19.0	21.2	16.1	18.1	22.5	49.9
19	15.6	14.7	14.3	16.3	19.9	19.8	22.2	18.3	16.6	24.3	18.5	12.2	12.0	10.4	9.8	9.4	8.5	8.0	8.6	9.4	12.0	14.1	12.7	13.5	14.2	24.3
20	13.1	11.5	12.0	10.4	15.0	11.6	23.0	18.9	19.5	20.8	14.0	11.8	10.6	10.4	10.2	9.6	9.8	10.4	8.6	8.4	7.5	10.5	10.8	9.5	12.4	23.0
21	13.3	13.8	10.5	9.0	18.2	22.4	21.0	20.9	15.4	25.8	16.2	16.5	40.4	25.1	16.9	12.1	7.3	6.4	6.1	5.4	5.1	6.3	6.1	7.9	14.5	40.4
22	9.4	8.4	8.1	8.4	6.7	6.3	9.1	8.2	12.1	12.1	12.5	11.5	13.2	10.0	17.6	26.1	11.0	8.9	6.1	4.6	4.6	5.2	6.4	8.8	9.8	26.1
23	8.5	11.1	16.9	14.0	17.0	20.0	21.5	19.3	19.8	14.8	14.1	12.2	10.6	9.3	8.1	8.2	8.7	10.1	10.8	11.2	12.7	13.4	12.5	15.7	13.4	21.5
24	14.1	15.3	12.7	12.8	10.9	10.8	13.6	14.4	16.2	15.5	16.4	15.3	27.5	42.8	52.4	38.3	22.3	22.5	13.2	20.0	13.1	43.8	72.2	59.9	24.8	72.2
25	54.9	48.9	51.6	44.2	31.1	54.9	40.8	20.2	21.1	30.0	C	37.3	35.9	37.9	47.4	38.3	28.1	16.8	27.8	28.0	15.1	31.6	34.9	18.9	34.6	54.9
26	22.1	28.9	38.8	29.3	26.8	55.6	35.3	37.6	39.5	50.3	40.8	71.3	60.6	53.9	75.4	79.0	55.3	21.3	27.7	38.7	15.2	23.9	23.7	6.6	39.9	79.0
27	3.0	2.2	2.3	2.4	2.0	2.8	3.0	2.6	4.4	5.8	4.0	3.8	4.0	4.2	5.2	2.5	1.8	1.7	0.8	0.6	0.8	1.3	2.4	1.1	2.7	5.8
28	0.9	0.9	0.8	0.6	0.7	1.0	1.3	2.1	0.5	1.8	1.1	1.7	1.8	1.0	1.6	1.9	2.3	2.0	1.8	1.6	1.6	1.8	2.6	4.0	1.6	4.0
29	6.9	8.4	7.2	11.3	6.8	4.9	8.5	12.1	13.3	10.6	9.7	6.4	6.7	5.8	4.7	3.1	2.4	2.3	2.4	2.6	3.1	3.3	3.4	3.0	6.2	13.3
30	3.1	3.1	4.4	4.1	7.8	6.6	5.6	6.4	7.3	7.9	12.0	13.9	15.9	12.6	17.3	7.0	3.8	36.8	11.5	7.8	6.1	6.0	5.5	5.5	9.1	36.8
31	5.8	5.7	5.1	4.4	5.4	6.3	6.2	5.1	6.9	6.3	8.9	13.2	19.0	16.6	19.2	25.9	40.2	28.4	20.2	21.3	23.9	23.6	16.0	12.3	14.4	40.2
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%
MEAN	11.7	12.0	12.3	12.1	12.0	13.9	14.9	14.8	15.8	17.7	16.2	16.9	19.3	17.8	20.7	19.0	15.5	13.2	12.1	12.3	10.3	12.6	12.7	11.6		
MAX	54.9	48.9	51.6	44.2	38.2	55.6	51.7	59.8	59.5	61.1	50.6	71.3	74.9	63.8	75.4	79.0	55.3	42.7	46.3	38.7	33.7	43.8	72.2	59.9		



Number of 24HR Exceedences	4	Proposed Guideline
Number of Non-Zero Readings	743	
Maximum 1-HR Average	79.0 UG/M3	
Maximum 24-HR Average	41.5 UG/M3	
Monthly Calibration	1	Operational Time
Standard Deviation	13.5	Operational Uptime
		Monthly Average
		744 HRS
		100.0 %
		14.5 UG/M3

# Berm PM<sub>10</sub> (µg/m<sup>3</sup>) – July 2023

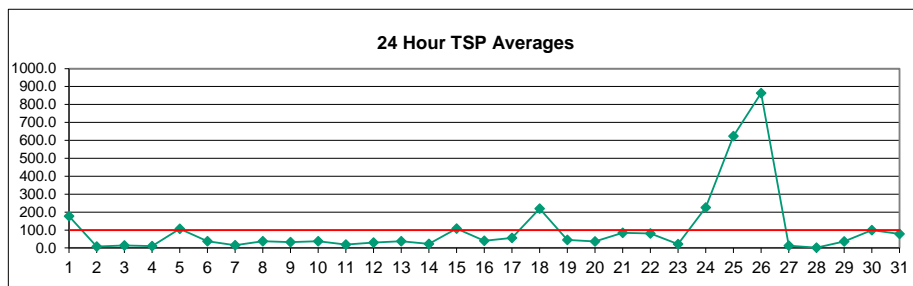
DAY	HOUR																								MEAN	MAX
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	3.4	2.8	2.9	7.4	7.4	5.5	23.9	21.1	44.3	108.9	160.6	156.4	196.0	180.9	240.2	144.0	153.2	159.3	18.1	11.7	11.9	8.5	6.6	4.8	70.0	240.2
2	3.5	2.1	2.0	1.4	2.0	1.2	0.7	4.2	2.8	4.7	5.1	3.0	3.3	4.8	5.8	14.6	7.2	6.3	5.7	5.7	5.2	3.9	6.2	2.9	4.4	14.6
3	6.8	4.9	6.0	4.0	4.0	4.7	11.9	30.4	16.5	19.3	7.2	6.0	5.6	6.4	9.3	22.8	15.0	14.7	10.2	10.8	5.3	4.5	4.0	7.2	9.9	30.4
4	4.2	4.2	4.3	4.4	4.7	4.3	29.1	14.1	9.0	9.0	11.3	12.5	15.0	12.0	7.9	15.2	9.1	2.1	1.6	1.1	1.1	1.3	1.4	1.6	7.5	29.1
5	2.2	2.1	1.8	1.8	1.8	1.8	4.2	14.1	62.1	28.5	217.5	82.2	100.6	172.0	188.6	159.4	120.8	10.7	7.2	16.0	4.0	17.6	5.5	3.0	51.1	217.5
6	4.1	2.4	3.4	4.1	3.5	13.5	40.0	61.9	58.0	119.0	30.3	26.6	16.6	14.8	17.7	27.1	10.0	6.7	11.1	9.5	6.8	7.8	6.7	10.7	21.3	119.0
7	7.3	5.8	5.9	6.3	6.7	8.0	10.2	18.6	39.0	33.8	14.5	14.8	12.7	15.3	15.8	18.6	17.8	11.9	9.5	8.5	11.9	10.4	9.7	13.1	13.6	39.0
8	9.5	12.3	15.8	20.2	14.4	12.4	20.5	30.1	65.3	87.4	67.4	26.6	15.5	11.4	11.4	12.7	11.7	11.1	12.2	12.6	13.4	12.1	10.5	9.3	21.9	87.4
9	8.6	12.5	12.1	17.3	19.3	18.3	16.9	22.8	16.6	55.0	13.9	105.2	82.6	26.5	10.6	10.3	11.5	7.3	7.0	8.5	10.9	5.8	4.9	4.2	21.2	105.2
10	4.7	4.2	3.7	3.9	3.9	4.0	13.3	30.6	69.9	81.6	22.2	29.0	14.0	19.4	6.0	9.5	14.2	31.7	7.5	3.7	2.2	3.4	3.1	7.6	16.4	81.6
11	6.4	7.9	7.2	2.4	3.8	3.3	2.3	2.1	2.9	3.0	2.7	1.5	2.5	1.5	5.5	29.5	27.7	21.0	10.9	4.3	2.6	3.2	3.5	3.8	6.7	29.5
12	3.6	3.4	3.6	4.4	4.3	6.1	4.7	14.3	7.5	6.3	10.0	8.3	5.1	43.8	71.5	127.3	19.9	14.3	17.9	17.1	8.9	10.5	11.7	13.3	18.2	127.3
13	24.0	31.6	35.7	36.3	34.9	34.6	36.7	34.8	35.4	35.1	35.1	34.5	45.3	58.1	59.8	44.0	44.1	40.6	34.3	30.0	32.9	33.4	23.7	24.7	36.6	59.8
14	31.2	27.4	24.9	23.8	20.5	19.8	19.4	19.6	21.2	22.0	33.9	22.0	28.3	19.4	15.1	14.7	15.4	15.9	14.8	27.4	21.1	19.0	18.9	20.3	21.5	33.9
15	21.2	28.8	28.2	38.0	38.2	37.6	51.7	78.4	73.8	79.3	50.6	74.2	197.9	170.4	206.3	144.4	109.8	83.3	37.8	28.6	33.7	29.9	25.7	24.4	70.5	206.3
16	26.5	22.4	21.1	20.3	22.0	23.5	42.9	52.3	70.1	73.6	47.7	24.9	18.4	25.6	21.1	21.7	19.1	16.7	14.6	18.3	17.7	26.2	28.9	26.4	29.3	73.6
17	20.6	20.1	17.8	19.9	26.0	39.8	35.6	23.8	29.6	29.5	28.4	24.0	136.2	50.1	65.0	6.6	5.0	9.5	5.8	5.6	2.6	7.1	8.9	16.2	26.4	136.2
18	31.2	30.7	16.9	16.9	7.6	7.0	11.8	19.9	69.2	157.1	152.2	135.4	155.1	124.8	202.0	222.8	215.4	139.1	198.9	127.4	19.0	24.0	16.1	21.6	88.4	222.8
19	15.6	14.7	14.3	21.8	43.9	52.1	59.8	41.4	35.9	82.3	53.4	16.5	18.9	15.3	16.5	16.1	14.8	11.9	12.7	14.0	18.9	23.7	16.5	17.0	27.0	82.3
20	13.6	11.5	12.0	10.4	15.0	11.6	39.0	56.9	71.8	68.8	35.7	23.7	22.6	26.2	24.0	25.3	17.2	11.3	12.9	10.8	7.5	10.5	11.0	9.5	23.3	71.8
21	16.8	18.3	10.5	9.0	21.3	32.1	56.9	75.2	40.8	136.8	68.9	72.4	218.2	128.0	85.9	72.5	18.9	9.7	9.4	6.5	5.1	8.4	6.6	18.8	47.8	218.2
22	12.0	9.8	8.1	9.1	6.7	6.3	18.0	16.5	69.3	58.0	70.3	55.8	84.4	63.6	124.4	182.6	60.4	41.3	20.5	8.4	4.7	8.5	7.3	16.4	40.1	182.6
23	9.1	11.1	23.5	14.0	17.0	30.2	38.5	24.9	33.8	19.4	20.7	17.0	16.0	14.1	13.2	13.3	16.0	18.6	17.9	14.7	13.4	13.4	12.5	19.3	18.4	38.5
24	14.8	26.1	15.8	23.8	10.9	10.8	33.6	30.6	21.3	18.1	34.2	30.8	121.6	276.6	321.3	213.2	122.8	118.3	67.5	107.7	55.9	255.5	348.2	240.7	105.0	348.2
25	189.4	295.8	318.0	281.6	182.3	338.8	256.6	94.2	102.1	190.6	C	259.2	249.7	212.6	329.1	280.6	210.2	119.0	204.2	192.1	106.1	252.8	260.8	116.9	219.3	338.8
26	107.1	168.0	254.0	222.3	208.3	474.1	327.7	305.6	293.6	373.4	314.8	492.8	420.2	370.2	478.4	483.2	356.3	137.3	191.3	290.0	99.5	186.6	185.4	28.0	282.0	492.8
27	9.9	4.7	4.6	5.0	2.3	6.5	10.4	5.3	21.0	26.1	12.2	12.8	12.8	15.5	17.0	7.0	3.4	5.2	0.8	0.6	0.8	1.3	2.7	1.1	7.9	26.1
28	0.9	0.9	0.8	0.6	0.7	1.0	1.3	2.7	0.5	2.1	1.1	1.7	2.2	1.0	1.6	1.9	2.3	2.0	1.8	1.6	1.6	1.8	2.6	4.0	1.6	4.0
29	6.9	8.4	7.2	11.3	6.8	4.9	9.9	17.8	49.5	38.6	37.1	12.4	10.7	9.8	12.7	11.7	4.7	4.9	5.0	5.3	4.5	3.7	5.3	3.0	12.2	49.5
30	3.1	3.1	4.5	4.1	9.5	7.2	5.6	9.5	14.4	16.6	66.2	81.4	102.9	69.6	104.4	27.6	14.1	345.6	62.1	28.4	9.6	9.5	7.1	6.7	42.2	345.6
31	7.0	6.6	5.1	4.4	6.7	14.6	10.8	7.3	22.4	15.7	39.2	81.6	115.4	84.8	89.6	86.1	110.6	65.7	29.4	22.3	27.7	31.6	18.3	14.0	38.2	115.4
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%
MEAN	20.2	26.0	28.8	27.4	24.4	39.9	40.1	38.1	47.4	64.5	55.5	62.7	78.9	72.4	89.6	79.6	57.4	48.2	34.2	33.9	18.3	33.4	34.9	22.9		
MAX	189.4	295.8	318.0	281.6	208.3	474.1	327.7	305.6	293.6	373.4	314.8	492.8	420.2	370.2	478.4	483.2	356.3	345.6	204.2	290.0	106.1	255.5	348.2	240.7		



Number of Non-Zero Readings	743
Maximum 1-HR Average	492.8 UG/M3
Maximum 24-HR Average	282.0 UG/M3
Operational Time	744 HRS
Operational Uptime	100.0 %
Monthly Calibration	1
Standard Deviation	75.9
Monthly Average	44.9 UG/M3

# Berm TSP ( $\mu\text{g}/\text{m}^3$ ) – July 2023

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	3.4	2.8	2.9	7.7	8.3	5.5	35.0	34.3	100.9	252.8	403.0	383.6	485.6	483.0	616.7	361.3	424.0	522.1	52.2	19.2	18.6	8.5	9.5	4.9	176.9	616.7
2	4.5	2.1	3.5	1.4	2.0	3.4	0.7	11.7	5.9	18.3	20.8	5.5	5.5	15.9	12.6	39.2	11.6	7.2	6.4	6.2	5.2	3.9	6.2	2.9	8.5	39.2
3	6.8	4.9	6.0	4.0	4.0	4.7	27.9	58.5	27.8	26.2	14.0	7.4	5.6	7.0	11.2	36.4	15.0	14.7	10.2	10.8	5.3	4.5	4.0	7.9	13.5	58.5
4	4.2	4.2	4.3	4.4	4.7	4.3	35.1	14.4	12.0	9.2	11.3	13.8	20.5	17.1	9.3	32.2	25.1	2.1	1.6	1.1	1.1	1.3	1.4	1.6	9.8	35.1
5	2.2	2.1	1.8	1.8	1.8	1.8	4.2	25.4	150.4	68.3	556.2	145.1	236.4	290.3	348.2	366.1	237.7	14.5	8.9	38.1	4.7	45.2	6.3	3.0	106.7	556.2
6	4.1	2.4	3.4	4.1	3.5	23.9	95.3	132.6	126.3	270.7	36.2	31.1	16.6	14.8	18.0	49.5	10.0	6.7	11.1	9.5	6.8	7.8	6.7	10.7	37.6	270.7
7	7.3	5.8	5.9	6.3	6.7	8.0	10.2	18.6	57.0	44.3	16.5	15.5	12.7	18.0	17.3	24.7	19.6	14.7	9.5	8.5	11.9	10.4	9.7	13.1	15.5	57.0
8	9.5	12.3	15.8	21.2	14.4	12.4	39.7	77.4	157.6	214.6	147.2	37.6	16.5	11.4	11.4	14.8	11.7	11.1	15.7	13.8	13.4	12.1	10.5	9.3	38.0	214.6
9	8.6	12.5	12.1	17.3	21.5	23.0	20.7	40.4	21.6	107.1	16.5	167.4	153.4	51.7	14.2	11.9	15.6	8.7	7.0	8.5	14.9	5.8	4.9	4.2	32.1	167.4
10	4.7	4.2	3.7	3.9	3.9	4.0	23.2	74.1	217.4	222.6	39.3	48.2	21.8	48.5	8.0	13.9	19.3	99.2	7.5	3.7	2.2	3.4	3.1	7.6	37.0	222.6
11	6.4	7.9	7.2	2.4	3.8	3.3	2.3	2.1	2.9	3.0	2.7	1.5	2.5	1.5	7.2	173.1	95.6	68.2	51.4	4.3	2.6	3.2	3.5	3.8	19.3	173.1
12	3.6	3.4	3.6	4.4	4.3	6.1	4.7	14.3	7.5	6.3	10.0	8.3	5.1	181.8	144.7	176.5	19.9	17.8	41.5	19.0	8.9	10.5	11.7	13.3	30.3	181.8
13	24.0	31.6	35.7	36.3	34.9	34.6	36.7	34.8	35.4	35.1	35.1	34.5	45.3	70.9	63.6	44.0	44.1	40.6	34.3	30.0	32.9	33.4	23.7	24.7	37.3	70.9
14	31.2	27.4	24.9	23.8	20.5	19.8	19.4	19.6	21.2	22.0	38.9	22.0	41.4	19.4	15.1	14.7	15.4	15.9	14.8	27.4	21.1	19.0	18.9	20.3	22.3	41.4
15	21.2	28.8	28.2	38.0	38.2	37.6	51.7	102.0	89.0	87.4	50.6	79.1	388.0	288.4	289.6	275.1	321.8	197.2	39.5	28.6	33.7	29.9	25.7	24.4	108.1	388.0
16	26.5	22.4	21.1	20.3	22.0	23.5	44.4	88.9	161.9	161.2	89.9	29.5	18.4	28.9	21.1	21.7	19.1	18.4	14.6	18.3	17.7	26.2	28.9	26.4	40.5	161.9
17	20.6	20.1	17.8	19.9	28.7	73.1	64.3	36.6	30.7	33.7	39.3	24.8	451.8	131.4	211.6	7.4	6.0	38.1	8.9	11.4	2.9	20.3	24.4	25.0	56.2	451.8
18	93.4	97.4	22.1	26.0	12.5	14.9	27.8	32.7	169.0	450.7	409.1	398.8	368.2	357.4	549.1	624.3	560.2	247.8	426.7	277.5	19.0	24.0	16.1	26.9	218.8	624.3
19	15.6	14.7	14.3	23.5	76.3	144.8	138.4	91.4	66.1	148.4	79.3	16.5	21.9	19.8	27.3	20.3	14.8	16.6	17.5	14.1	26.0	29.2	17.8	17.0	44.7	148.4
20	13.6	11.5	12.0	10.4	15.0	11.6	48.2	124.2	175.3	118.7	46.6	27.2	30.8	42.8	33.3	42.1	22.9	11.3	16.6	13.8	7.5	10.5	11.0	9.5	36.1	175.3
21	16.8	18.3	10.5	9.0	21.3	32.1	141.0	187.5	83.2	378.0	152.1	91.5	295.2	180.3	138.8	148.5	45.4	10.7	10.1	6.5	5.1	8.4	6.6	39.9	84.9	378.0
22	12.0	9.8	8.1	9.1	6.7	6.3	48.2	27.4	194.4	151.3	149.4	86.8	166.3	133.0	267.2	397.3	117.6	60.5	41.5	13.3	4.7	15.9	7.3	19.6	81.4	397.3
23	9.1	11.1	28.6	14.0	17.0	44.5	69.9	24.9	39.9	21.5	22.3	18.1	18.7	15.0	13.6	16.2	22.2	23.6	20.6	14.7	13.4	13.4	12.5	19.3	21.8	69.9
24	14.8	28.3	15.8	34.0	10.9	10.8	45.3	35.3	21.3	18.1	44.4	39.2	240.7	671.7	781.1	581.9	415.1	297.0	185.4	296.7	118.5	605.7	527.1	375.5	225.6	781.1
25	437.1	783.8	928.4	732.2	472.3	937.6	613.6	211.8	295.7	579.4	C	835.1	738.3	500.8	924.7	810.1	608.5	362.3	630.1	621.8	362.0	850.3	824.6	281.4	623.6	937.6
26	183.5	402.0	679.1	812.2	714.0	1698.6	1152.9	1166.1	1016.1	1209.2	1017.7	1566.5	1324.5	1092.6	1359.9	1274.1	1118.5	410.9	473.9	731.8	241.3	547.0	497.8	40.3	863.8	1698.6
27	14.3	10.0	8.2	7.9	4.0	10.8	13.2	8.6	36.8	43.4	21.7	19.9	19.7	25.9	30.7	9.9	6.0	10.3	0.8	0.6	0.8	1.3	2.7	1.1	12.9	43.4
28	0.9	0.9	0.8	0.6	0.7	1.0	1.3	2.7	0.5	2.1	1.1	1.7	2.2	1.0	1.6	1.9	2.3	2.0	1.8	1.6	1.6	1.8	2.6	4.0	1.6	4.0
29	6.9	8.4	7.2	11.3	6.8	4.9	9.9	18.0	128.1	177.4	138.3	28.2	41.5	53.7	89.9	83.1	5.5	6.7	8.6	6.8	4.5	3.7	5.3	3.0	35.7	177.4
30	3.1	3.1	4.5	4.1	9.5	7.2	5.6	15.3	28.7	25.5	215.1	255.5	241.3	170.4	245.2	38.7	29.2	801.2	181.9	66.7	13.6	15.3	9.3	9.8	100.0	801.2
31	8.8	6.6	5.1	4.4	10.0	43.0	17.3	8.2	51.6	53.0	131.8	186.1	253.9	208.2	239.6	179.6	219.5	113.9	37.8	22.3	28.7	32.0	18.3	14.0	78.9	253.9
NO.	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	743	100%
MEAN	32.9	51.6	62.7	61.8	51.6	105.1	91.9	88.4	113.9	160.0	131.9	149.2	183.6	166.2	210.4	190.0	145.2	112.0	77.0	75.7	33.9	77.5	69.6	34.3		
MAX	437.1	783.8	928.4	812.2	714.0	1698.6	1152.9	1166.1	1016.1	1209.2	1017.7	1566.5	1324.5	1092.6	1359.9	1274.1	1118.5	801.2	630.1	731.8	362.0	850.3	824.6	375.5		



Number of 24HR Exceedences	7	Proposed Guideline
Number of Non-Zero Readings	743	
Maximum 1-HR Average	1698.6 UG/M3	
Maximum 24-HR Average	863.8 UG/M3	
IZS Calibration Time		Operational Time 744 HRS
Monthly Calibration	1	Operational Uptime 100.0 %
Standard Deviation	220.6	Monthly Average 103.1 UG/M3