

REPORT N° 171-00556-00

AMBIENT AIR QUALITY MONTHLY REPORT

AUGUST 2017

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AUGUST 2017

Lafarge Canada Inc.

Project no: 171-00556-00
Date: August 2017

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Project Number: 171-00556-00

September 8, 2017

Janet Brygger
Lafarge Canada Inc.
Highway 1A
Exshaw, AB T0L 2C0

Dear Ms. Brygger,

Subject: Ambient Air Quality Monthly Report – August 2017

The operational uptime for the meteorological systems and all analyzers at the Lagoon station was 100% in August. There were 6 contraventions of the 24-hour PM_{2.5} Alberta Ambient Air Quality Objectives (AAAQOs) in August at the Lagoon monitoring location due to smoke from the wildfire activity in British Columbia and Alberta.

Data collected at all of the GRIMM monitors are considered Industrial Ambient Monitors and are meant for assessing the performance of Lafarge Exshaw's Fugitive Dust Control Best Management Practices – Program. While the Entrance and Berm GRIMM monitors had 100% operational time, the West GRIMM monitor's operational time in August was 88.4 % due to annual maintenance and calibration and the data server migration. The Entrance GRIMM monitor exceeded the TSP AAAQG for 20 days and the PM_{2.5} AAAQG for 8 days while the Berm GRIMM had 18 exceedances of the TSP guideline and 8 days above the PM_{2.5} guideline. The West GRIMM monitor had 4 days exceeding the PM_{2.5} guideline. The PM_{2.5} guideline exceedances, and the exceedances of the TSP guideline to a lesser extent, at the fugitive dust GRIMM monitors are due to smoke from the wildfire activity in British Columbia and Alberta.

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.
Group Manager, Air Quality
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SIGNATURES

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1

INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon monitoring location and the GRIMM monitors in Exshaw, AB. The station is operated by WSP on behalf of Lafarge Canada Inc. (Lafarge) and is a requirement of Lafarge's Approval 1702-02-04. This report contains data collected between August 1, 2017 and August 31, 2017.

This monthly report was prepared by Byeong Kim, an Air Quality Specialist with WSP, on behalf of Lafarge and was reviewed by Tyler Abel, Manager of Air Quality and Air Quality Specialist at WSP.

2

AUGUST 2017 REPORT SUMMARY

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

2.1

LAGOON STATION

Table 2-1 Lagoon station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
NO ₂ (ppb)	100.0	26.2	0	10.5	-
SO ₂ (ppb)	100.0	12.2	0	3.3	0
PM _{2.5} (µg/m ³)	100.0	225.7	9*	57.7	6
PM ₁₀ (µg/m ³)	100.0	284.4	-	102.0	-
TSP (µg/m ³)	100.0	472.0	-	119.5	2
Temperature (°C)	100.0	30.2	-	21.1	-
Wind Speed (km/hr) /Direction	100.0	35.0/W	-	19.1/WSW	-
Precipitation (mm)	100.0	0.8	-	0.1	-

* The exceedances reported for 1-hour PM_{2.5} are over the guideline level (AAAQG) of 80 µg/m³. The guideline level differs from the objectives (AAAQO) in that they are not used to assess compliance.

Data Quality Notes:

- There were 6 exceedances of the 24-hour PM_{2.5} AAAQO and 9 exceedances of the PM_{2.5} 1-hour AAAQG. Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} exceedances at the Lagoon.
- There were 2 exceedances of the 24-hour TSP AAAQO. Smoke from the forest fires in BC and Alberta were a large contributor to the TSP exceedances at the Lagoon.

Calibration/Maintenance Notes:

- The monitors had 100% uptime for the month of August.

2.2 WEST GRIMM

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

Table 2-2 West station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	88.4	114.9	16*	55.2	4
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	88.4	132.6	-	59.6	-
TSP ($\mu\text{g}/\text{m}^3$)	88.4	235.9	-	54.3	0

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 4 exceedances of the PM_{2.5} 24-hour AAAQG and 16 exceedances of the PM_{2.5} 1-hour AAAQG. Smoke from the forest fires in BC were the cause of the PM_{2.5} guideline exceedances.

Calibration/Maintenance Notes:

- The monitor had 88.4% uptime for this month due to annual maintenance and calibration and the data server migration from August 28th to 31st.

2.3

BERM GRIMM

The GRIMM monitors are Industrial Ambient Monitors meant to aid Lafarge in assessing the performance of their FDCBMP-P. The AAAQO are used as Guidelines to evaluate the performance of the FDCBMP-P.

Table 2-3 Berm station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	100.0	121.7	26*	70.6	8
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	100.0	752.9	-	170.5	-
TSP ($\mu\text{g}/\text{m}^3$)	100.0	2216.7	-	491.4	18

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 8 and 18 exceedances of the 24-hour PM_{2.5} and TSP AAAQG, respectively.
- There were 26 exceedances of the 1-hour PM_{2.5} AAAQG.
- Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} guideline exceedances and were a contributor to the TSP exceedances.

Calibration/Maintenance Notes:

- The monitor had 100% uptime for the month of August.

2.4

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.

Table 2-4 Entrance station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	100.0	138.6	40*	77.9	8
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	100.0	496.2	-	163.4	-
TSP ($\mu\text{g}/\text{m}^3$)	100.0	1185.3	-	278.9	20

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 8 and 20 exceedances of the 24-hour PM_{2.5} and TSP AAAQG, respectively.

- There were 40 exceedances of the 1-hour PM_{2.5} AAAQG.
- Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} guideline exceedances and were a contributor to the TSP exceedances.

Calibration/Maintenance Notes:

- The monitor had 100% uptime for the month of August.

3 LAGOON STATION

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

This section provides a summary of the monitoring activities for the Lagoon ambient air quality station, including: a table of instrumentation (Table 3-1), site visit notes, wind roses (Figure 3-3, 3-4, 3-5) and tables and graphs illustrating the monitoring results for August 2017.

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

Table 3-1 Instrumentation List at the Lagoon Station

Equipment Description	Parameter Measured
MetOne BAM-1020 FRM Continuous Particulate Monitor	PM _{2.5} Concentrations
MetOne BAM-1020 Continuous Particulate Monitor	PM ₁₀ Concentrations
MetOne BAM-1020 Continuous Particulate Monitor	TSP Concentrations
TEI 42C	Oxides of Nitrogen
Teledyne API 102A	Sulphur Dioxide
MetOne 130 Rain/Snow Gauge	Precipitation
MetOne Wind Sensor	Wind Speed
	Wind Direction
MetOne Ambient Temperature Sensor	Ambient Temperature



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

3.1 SITE VISIT NOTES

A summary of site visit notes for each of the monitors is provided in this section.

3.1.1 NO_x MONITORING

The NO_x monitor underwent monthly calibration on August 15th and had 100% uptime.

3.1.2 SO₂ MONITORING

The SO₂ monitor underwent monthly calibration on August 15th and had 100% uptime.

3.1.3 PM MONITORING

All BAM monitors underwent monthly calibration on August 15th and had 100% uptime.

3.1.4 METEOROLOGICAL MONITORING

All meteorological sensors had 100% uptime for the month of August.

3.2 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 3-3) illustrates the frequency of wind speed by wind direction for the month of August 2017. Figure 3-4 and Figure 3-5 show the wind roses for the days which exceeded the TSP and PM2.5 Guidelines at the Lagoon station. Table 3-2 summarizes the hourly and daily concentrations recorded in August 2017. Figure 3-6 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-7 shows daily average concentrations recorded during August 2017 for the pollutants listed in Table 3-2.

There were 2 and 6 recorded exceedances of the 24-hour TSP ($100 \mu\text{g}/\text{m}^3$) and PM_{2.5} ($30 \mu\text{g}/\text{m}^3$) AAQO respectively, marking this year as the most PM_{2.5} exceedance days in August since monitoring at the Lagoon Station began. Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} exceedances at the Lagoon monitor. Historically, the Lagoon monitor records an average of 1 exceedance of the 24-hour TSP and PM_{2.5} AAQO respectively, during the month of August. Typically, exceedances in August are associated with forest fires.

Since flooding in 2013, the Municipal District has built up stockpiles of dirt on the far western edge of the wastewater treatment facility. During the summer of 2016, the Municipal District has planted grass seed on these stockpiles in an effort to reduce the amount of fugitive dust generated. Figure 3-2 shows the extent of the grass planted by the MD.



Figure 3-2 Grass planted on the stockpiles near the Lagoon monitor. Photo taken August 12, 2016.

The wind rose (Figure 3-3) indicates that the winds predominantly came from the west with an increased frequency of easterly winds. The wind rose for August 2017 follows the general orientation of the valley. As typical of the wind characteristics at the Lagoon site, the westerly winds were more intense than the easterly winds. The August wind conditions were comparable to the July conditions in that there was a lower percentage of high wind speeds ($> 20 \text{ km/h}$) in the valley. This likely lead to periods of stagnant air and the buildup of particulate matter from the wildfires in BC and Alberta.

Figure 3-4 and Figure 3-5 show the wind roses for the TSP and PM_{2.5} exceedances, respectively. These wind roses generally show lower wind speeds recorded in August during exceedance days. The stagnant wind condition was a major contributor to the build-up of pollutants from the wildfires in BC and Alberta, leading to TSP and PM_{2.5} exceedances during the month.

Table 3-2 Summary of August 2017 data at Lagoon

Parameter	Objectives		Station	Exceedances		Monthly Average	1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr		Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/Meteorological Variable	Day	Day	
NO ₂ (ppb)	159	-	Lagoon	0	-	5.9	26.2	29	3	10.9	77.2	10.5	29	100.0
SO ₂ (ppb)	172	48	Lagoon	0	0	1.0	12.2	13	5	11.4	221.8	3.3	27	100.0
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	80	30	Lagoon	9	6	16.7	225.7	3	16	14.7	267.7	57.7	31	100.0
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	Lagoon	-	-	43.5	284.4	3	17	14.2	253.6	102.0	31	100.0
TSP ($\mu\text{g}/\text{m}^3$)	-	100	Lagoon	-	2	54.8	472.0	17	13	22.9	266.6	119.5	31	100.0
Temperature (°C)	-	-	Lagoon	-	-	17.5	30.2	30	13	18.6	236.0	21.1	23	100.0
Wind Speed/Direction	-	-	Lagoon	-	-	12.7	35.0/W	14	12	35.0	243.6	19.1/WSW	18	100.0
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.8					0.1	7	100.0

* The exceedances reported for 1-hour PM_{2.5} are over the guideline level (AAAQG) of 80 $\mu\text{g}/\text{m}^3$. The guideline level differs from the objectives (AAAQO) in that they are not used to assess compliance.

Table 3-3 Days exceeding the Guideline for TSP at the Lagoon Monitor

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction	Average Wind Speed	Average RH	Root Cause (Provided by Lafarge)
Lagoon						
8/3/2017	-	47	262.9	11.5	48.8	Forest Fires
8/15/2017	-	44	247.4	12.4	46.5	Forest Fires
8/16/2017	-	40	258.3	12.8	39.7	Forest Fires
8/17/2017	-	35	259.3	12.7	44.4	Forest Fires
8/30/2017	100.9	49	248.0	14.0	39.4	Forest Fires
8/31/2017	119.5	58	230.9	13.2	38.0	Forest Fires
Total # of Exceedances	2	6				
Maximum # of Exceedances (August)	5 (2015)	5 (2015)				
Average # of Exceedances (August)	1	1				
Minimum # of Exceedances (August)	0 (2012 ~ 2014, 2016)	0 (2011 ~ 2014, 2016)				

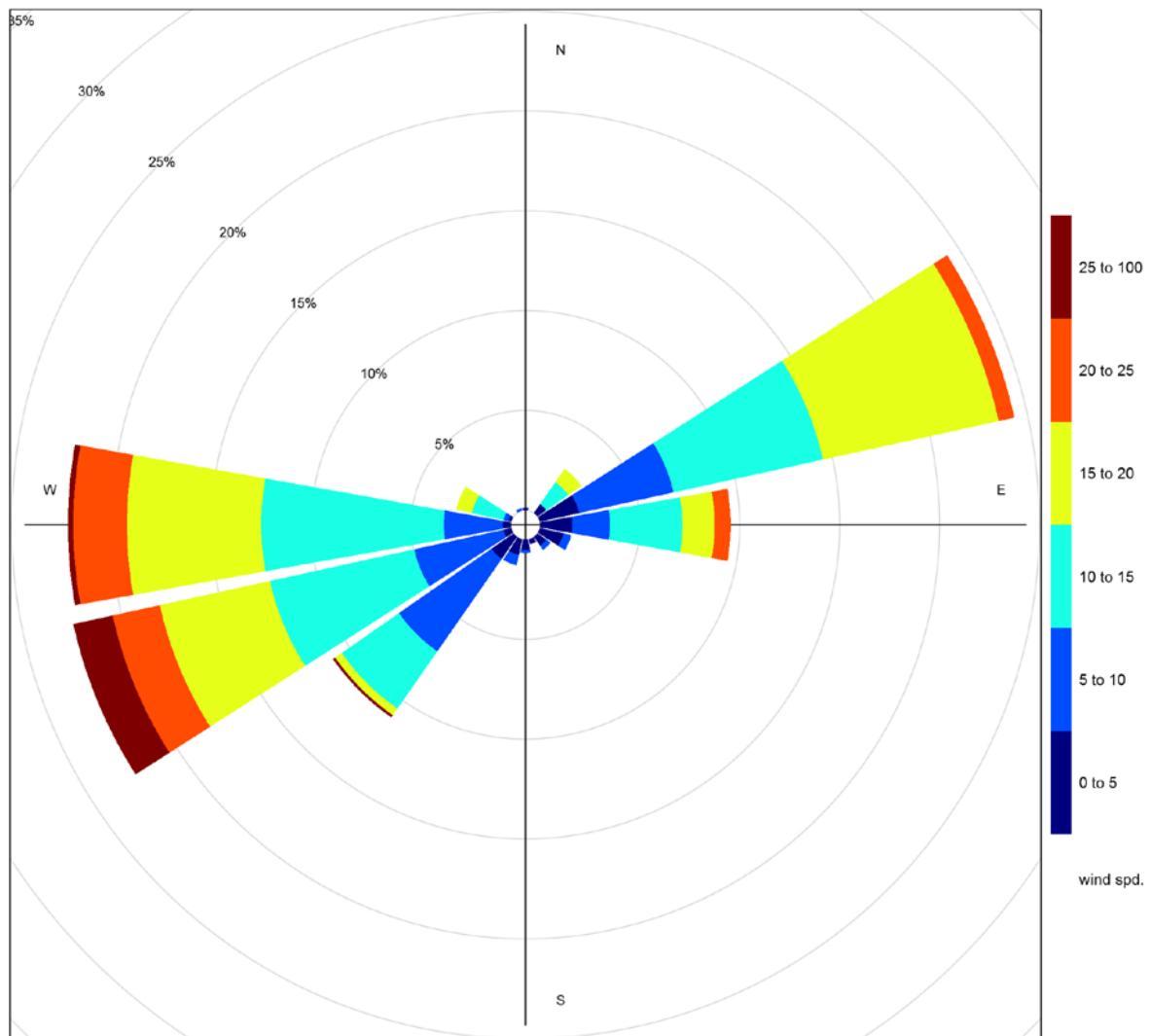


Figure 3-3 August 2017 wind rose from the Lagoon Station

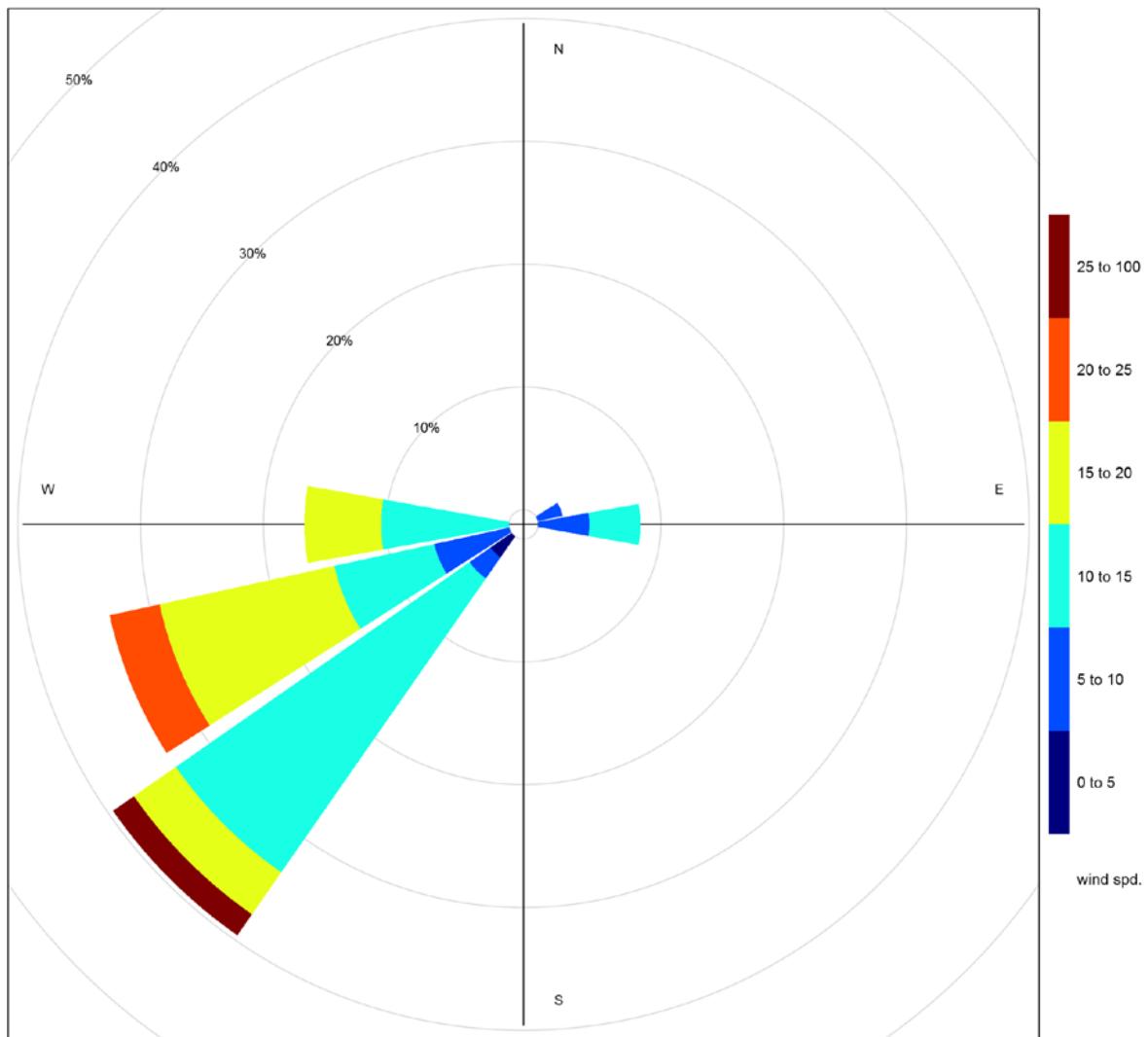


Figure 3-4 Wind rose for TSP exceedance days recorded at the Lagoon Station

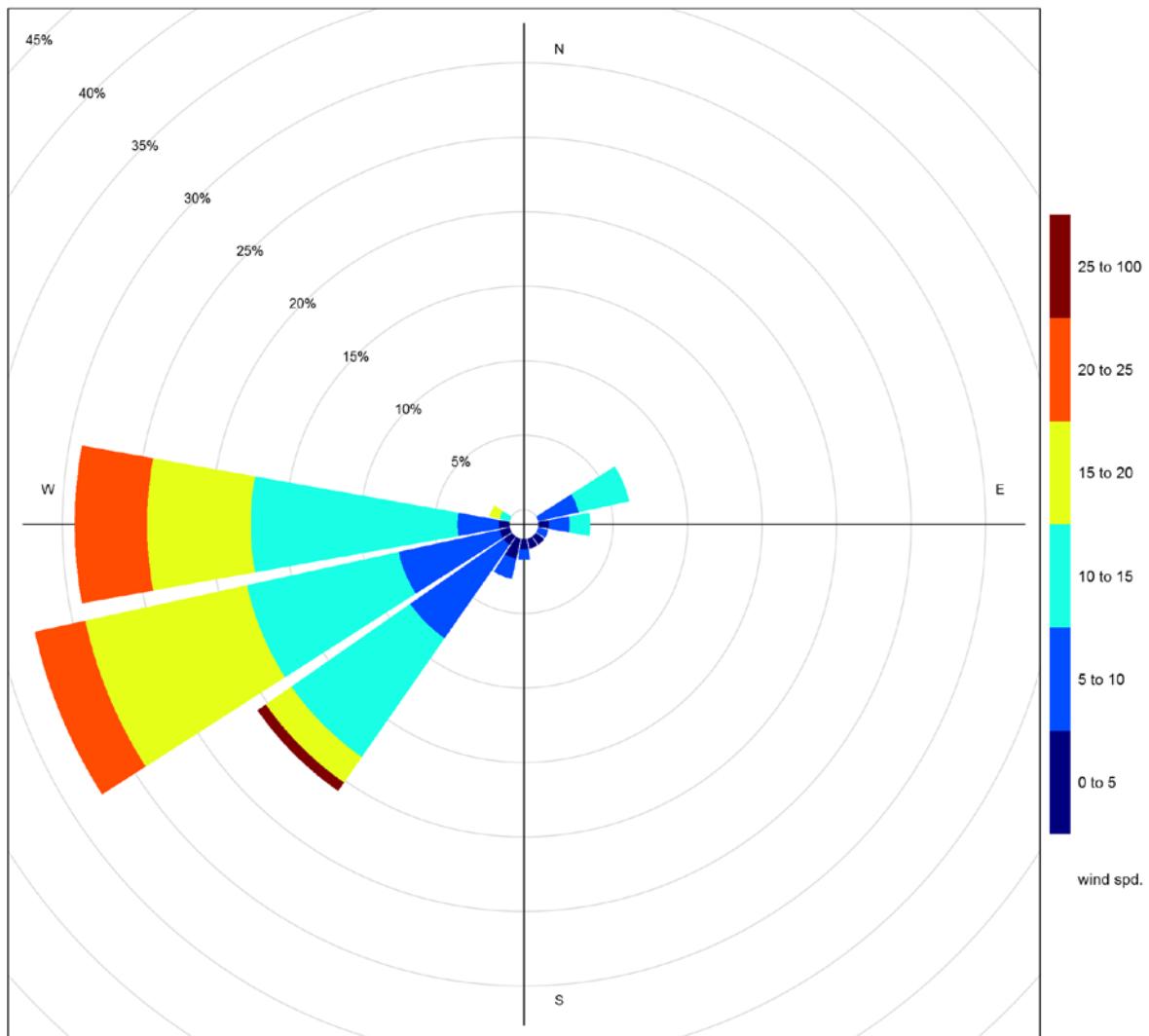


Figure 3-5 Wind rose for PM2.5 exceedance days recorded at the Lagoon Station

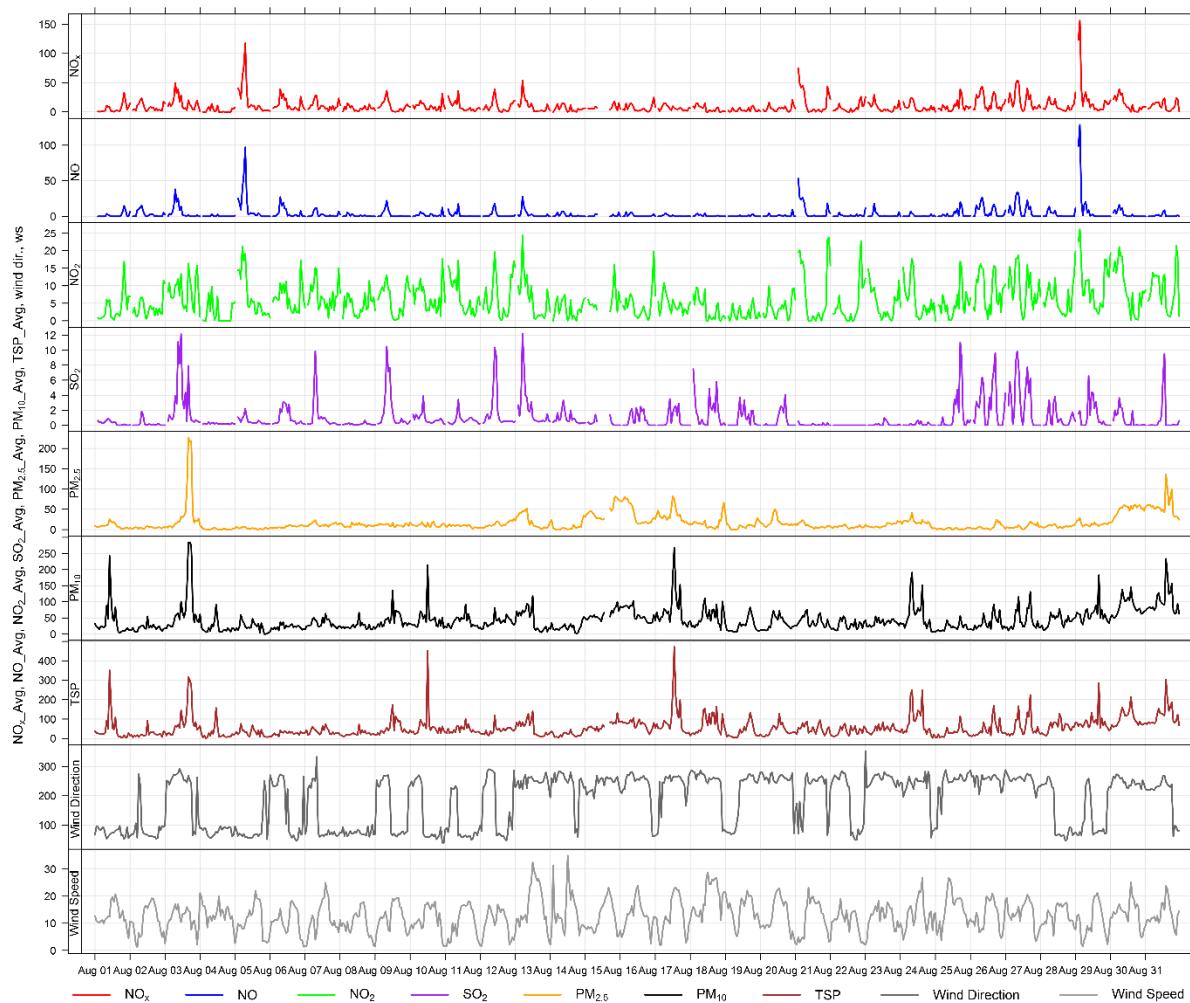


Figure 3-6 1-hour concentrations of NO_x, SO₂, particulate matter, wind direction and wind speed at the Lagoon monitor

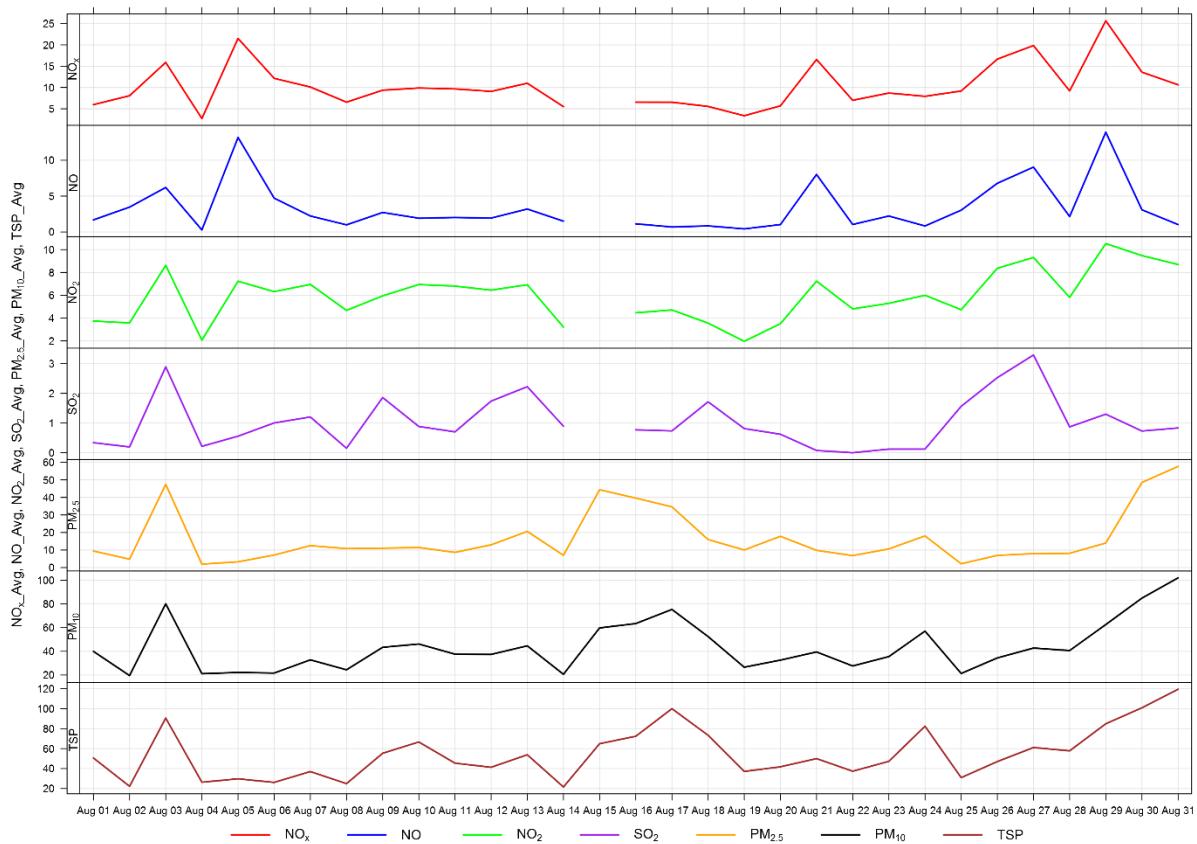


Figure 3-7 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

Figure 3-8 through Figure 3-10 show the variation in concentrations over various time averaging periods for PM, SO₂ and NO_x. The particulate matter plot in Figure 3-6 shows that PM₁₀ and TSP concentrations tended to rise through the morning before peaking mid-day and decreasing during the afternoon and evening. PM₁₀ and TSP are generally associated with dust from fugitive sources. PM_{2.5} levels associated with the wildfires do not show the same strong diurnal pattern as these emissions are not tied to operations at the Lafarge or other industrial facilities in the area.

Figure 3-9 shows the variation of SO₂ over various time periods. SO₂ concentrations were very low in August. Figure 3-10 shows the variation of NO_x, NO and NO₂, with the peak of all three pollutants occurring in the morning between 6 am and noon. This may be indicative of a peak in traffic, but could also be tied to wildfire smoke experienced this August.

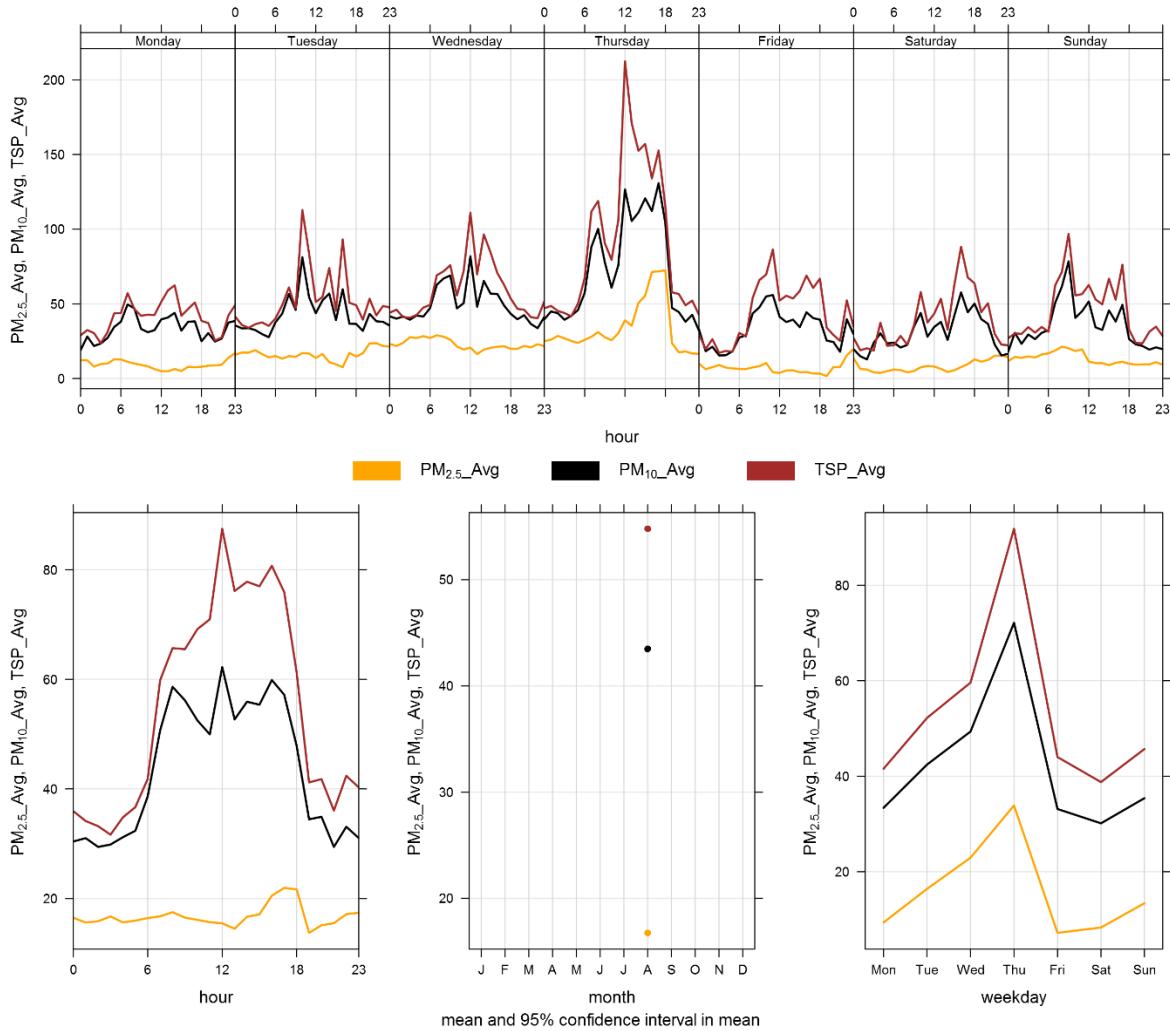


Figure 3-8 Lagoon Monitor particulate matter time variation

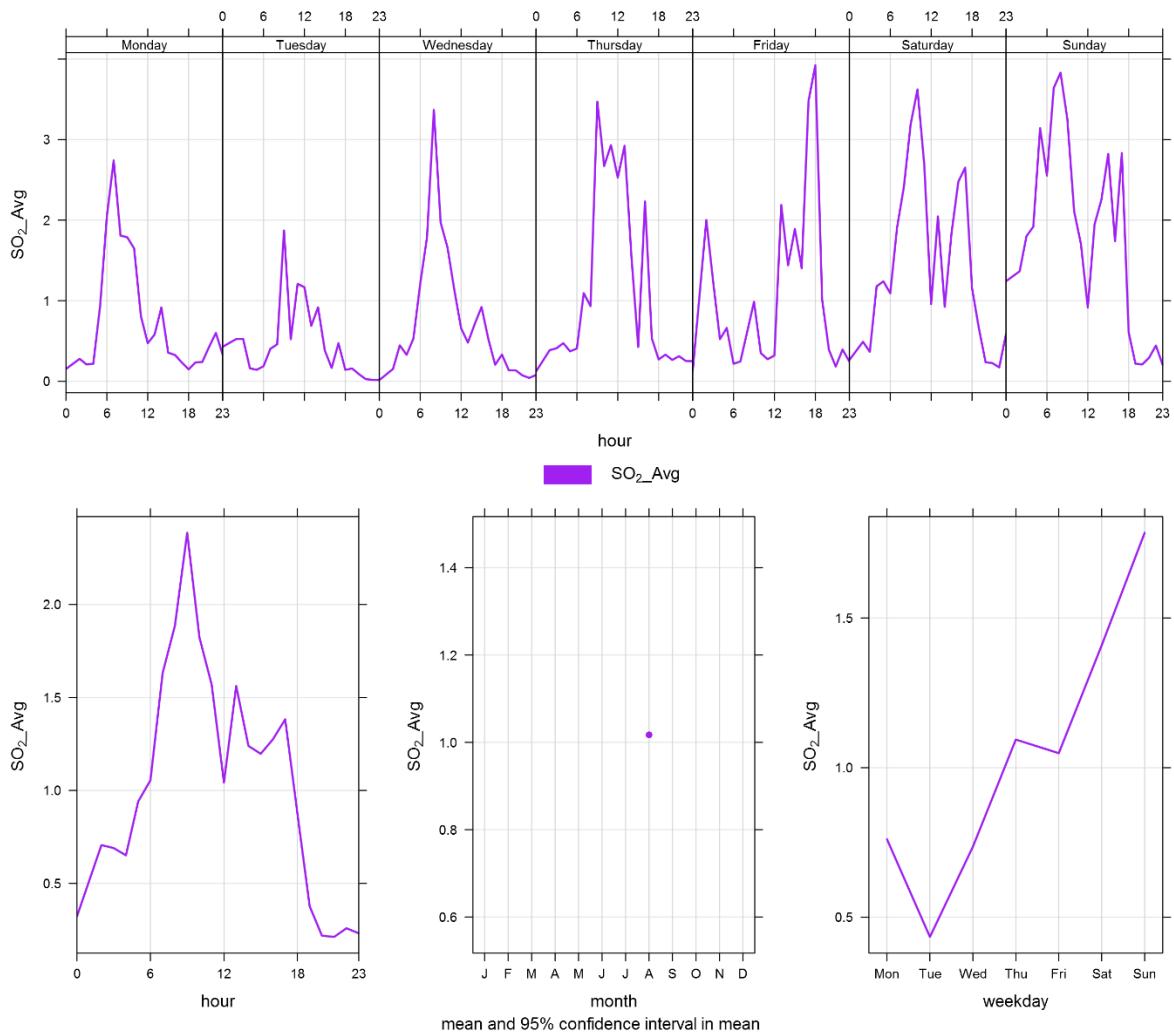


Figure 3-9 Lagoon Monitor SO_2 time variation

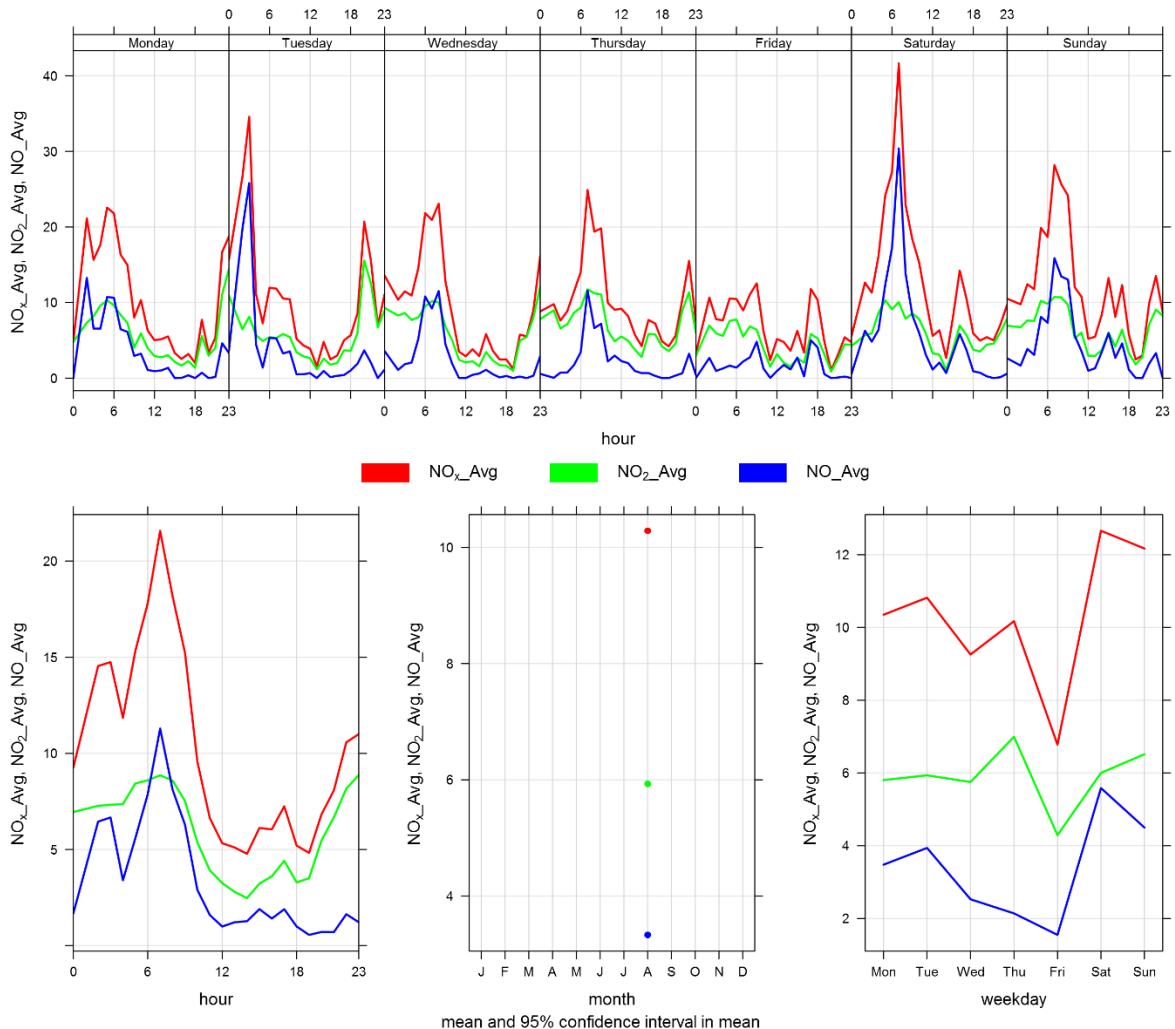


Figure 3-10 Lagoon Monitor NO_x time variation

4 WEST GRIMM

4.1 SITE VISIT NOTES

Table 4-1 indicates the equipment that is installed at the West monitoring location. During the month of August, the West GRIMM had 88.4% uptime due to annual maintenance and calibration and the data server migration from August 28th to 31st.

Table 4-1 Equipment at the West monitoring location

Equipment Description	Parameter Measured
GRIMM 365 Continuous Particulate Monitor	PM _{2.5} , PM ₁₀ , TSP Concentrations

4.2 MONITORING RESULTS AND TRENDS

The West GRIMM was installed in its current location in order to monitor “background” PM concentrations since the predominant wind pattern is from west to east in the valley. As indicated in Figure 3-3, the majority of winds came from the west during August. Table 4-2 summarizes the maximum 1-hour and 24-hour concentrations recorded over the course of the month.

Figure 4-1 and Figure 4-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. There were 0 and 4 recorded exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) Guidelines, respectively. Historically, the West monitor records an average of zero and 1 exceedance of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of August. Exceedances of the TSP Guideline at the West monitor are rare, with a maximum of 2 days exceeding the Guideline in 2015, and all other years reporting zero exceedances. The largest number of PM_{2.5} exceedances recorded during August occurred in 2015, which had 6 days that exceeded the Guideline. Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} exceedances at the West monitor.

Table 4-2 Summary of August 2017 data at the West GRIMM

Parameter	Guideline		Station	Exceedances		Monthly Average	Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr		Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	80	30	West	16	4	18.7	114.9	3	16	14.7	267.7	55.2	15	88.4
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	West	-	-	27.8	132.6	3	16	14.7	267.7	59.6	15	88.4
TSP ($\mu\text{g}/\text{m}^3$)	-	100	West	-	0	33.1	235.9	11	13	16.8	62.8	54.3	3	88.4

Table 4-3 Days exceeding the Guideline for TSP at the West Monitor

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction	Average Wind Speed	Average RH	Root Cause (Provided by Lafarge)
West						
8/3/2017	-	41	262.9	11.5	48.8	Forest Fires
8/15/2017	-	55	247.4	12.4	46.5	Forest Fires
8/16/2017	-	50	258.3	12.8	39.7	Forest Fires
8/17/2017	-	38	259.3	12.7	44.4	Forest Fires
Total # of Exceedances	0	4				
Maximum # of Exceedances (August)	2 (2015)	6 (2015)				
Average # of Exceedances (August)	0	1				
Minimum # of Exceedances (August)	0 (2011 ~ 2014, 2016)	0 (2011 ~ 2013, 2016)				

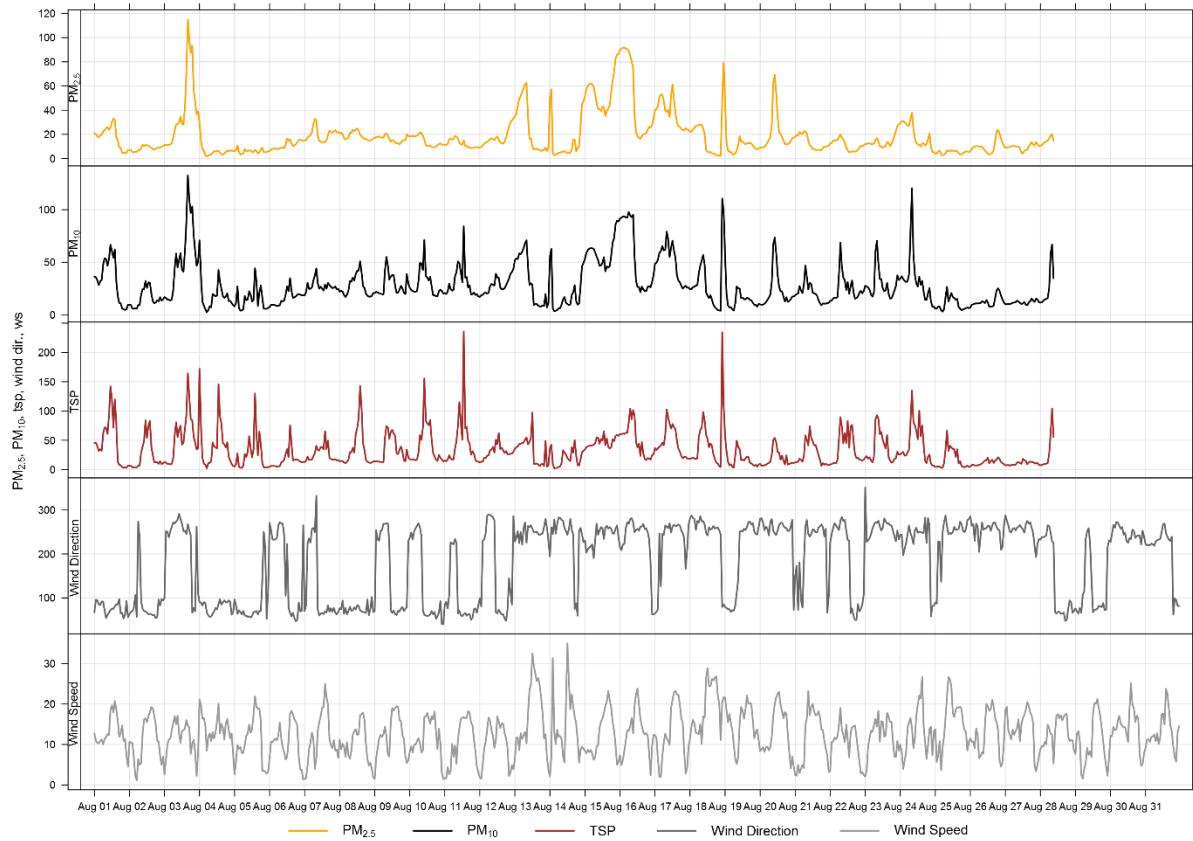


Figure 4-1 1-hour particulate matter concentrations at the West monitor

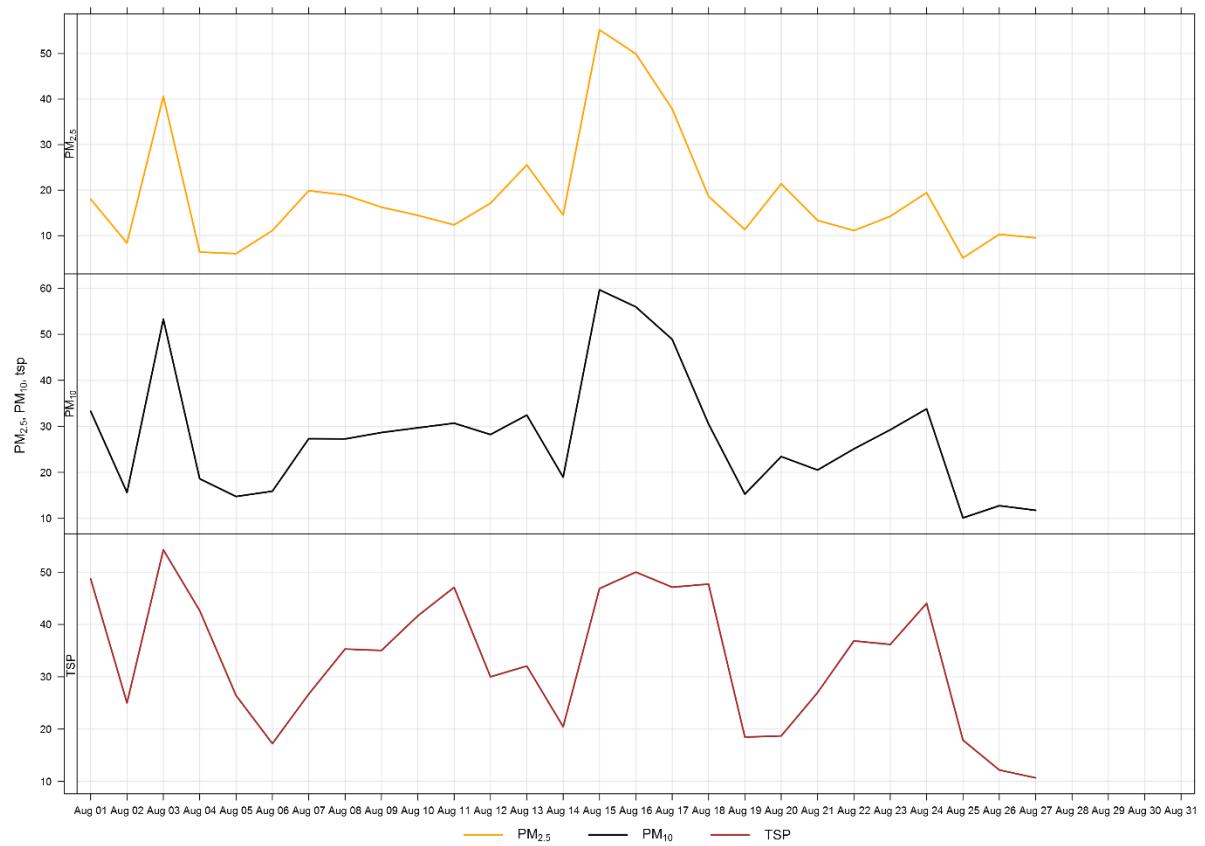


Figure 4-2 24-hour particulate matter concentrations at the West monitor

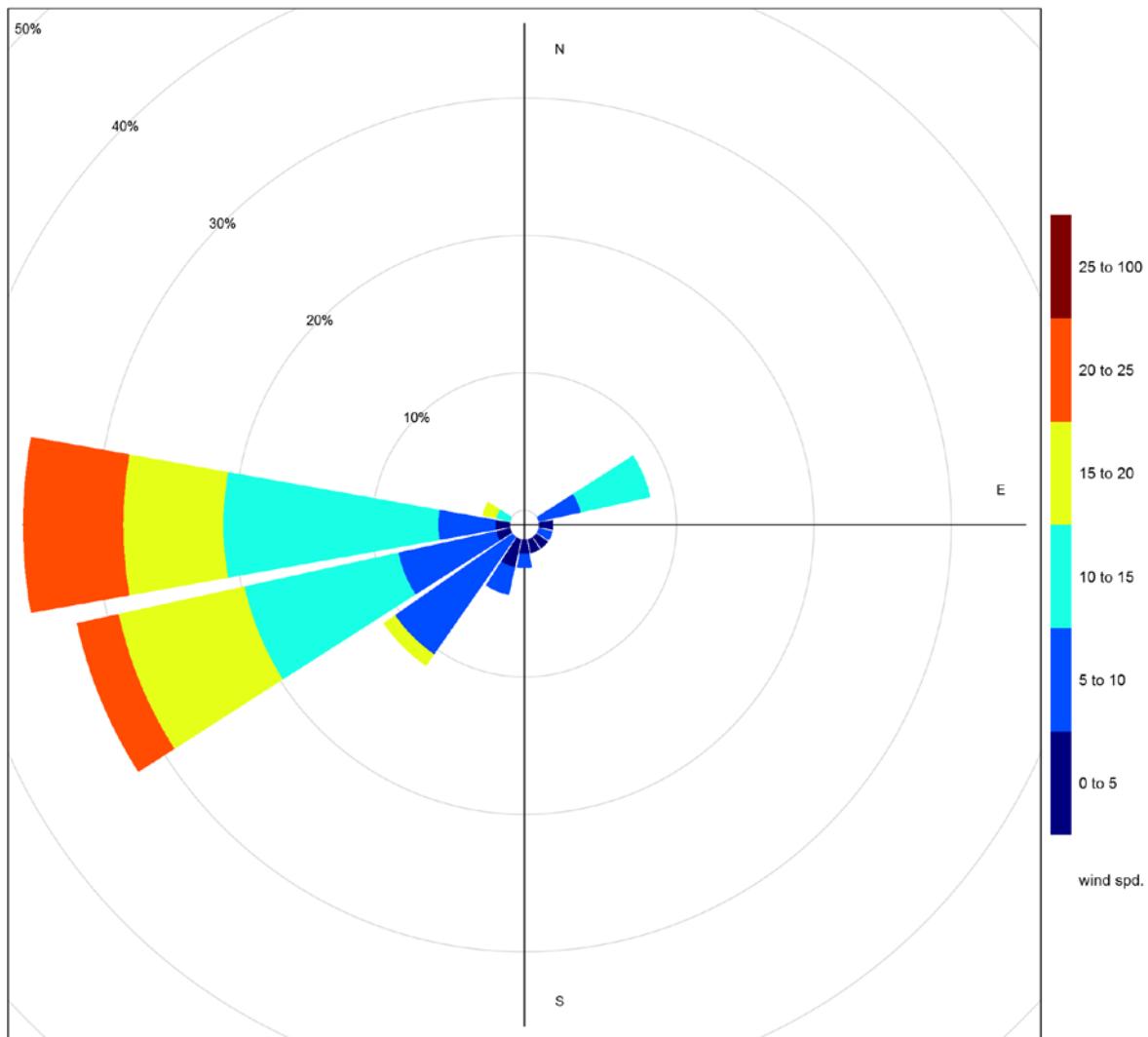


Figure 4-3 Wind rose for PM_{2.5} exceedance days recorded at the West GRIMM

Figure 4-4 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 4-4 is based on data collected during August 2017 and indicates a strong relationship between TSP and hours which Lafarge is typically operational. Due to the proximity of the West monitor to the highway, the daily variations in PM may also be a result of higher traffic volume during daylight hours. The diurnal variation in PM_{2.5} concentrations is indicative of the build-up of particulate from the wildfires in BC and Alberta during more stagnant conditions from evening until morning, with lower concentrations recorded during the day when winds would typically mix some of the stagnant air.

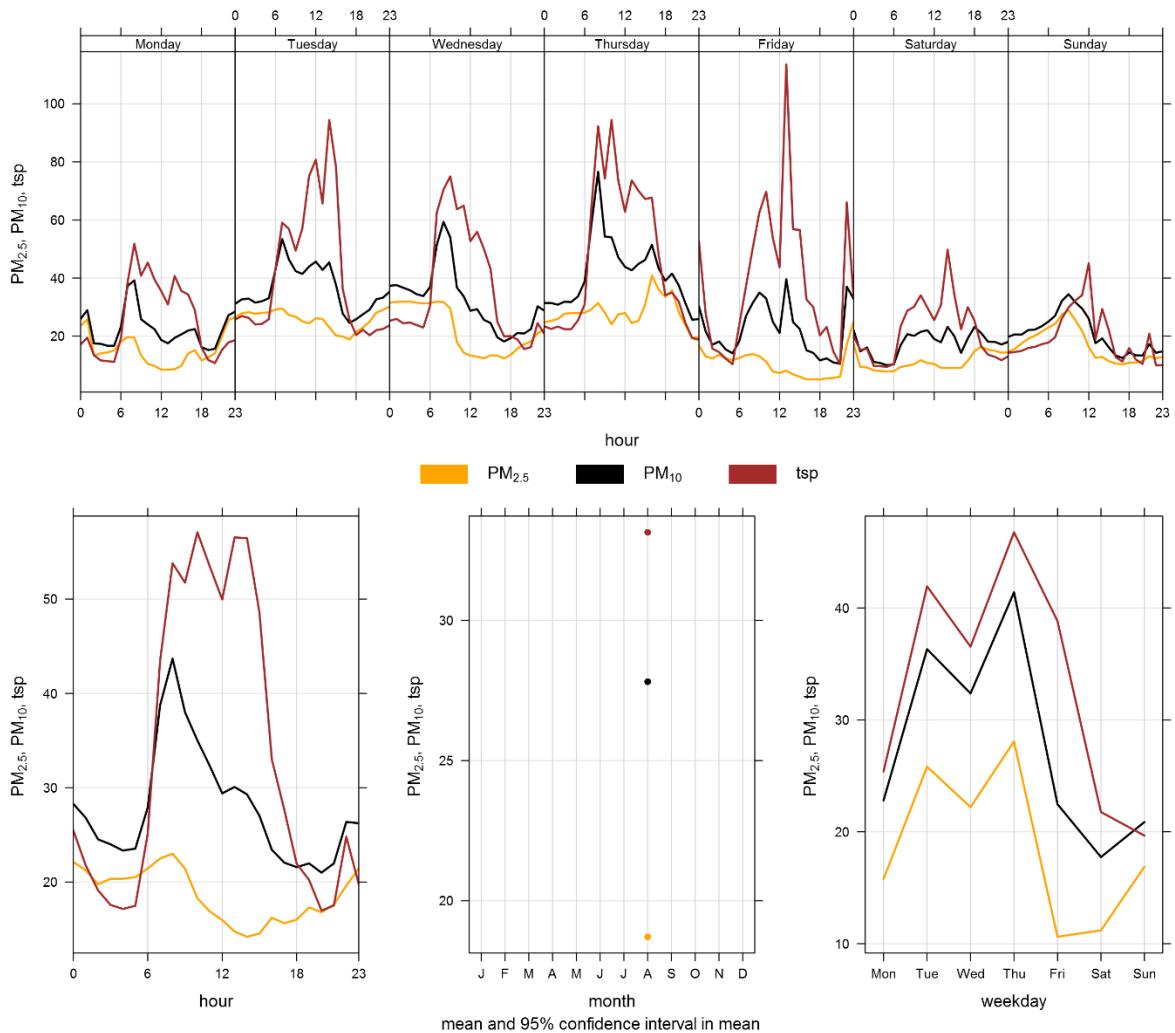


Figure 4-4 West particulate matter time variation

5 BERM GRIMM

5.1 SITE VISIT NOTES

This station was found to be in good operating condition and no repairs were required during the month. During the month of August, the Berm GRIMM had 100% uptime.

Table 5-1 Equipment at the Berm monitoring location

Equipment Description	Parameter Measured
GRIMM 365 Continuous Particulate Monitor	PM _{2.5} , PM ₁₀ , TSP Concentrations

5.2 MONITORING RESULTS AND TRENDS

The Berm monitor was placed at its current location as a result of the dispersion modelling conducted for the facility in 2009. Figure 5-1 and Figure 5-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. Table 5-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month, and Table 5-3 summarizes the recorded exceedances.

During August, there were 18 and 8 exceedances of the 24-hour TSP (30 µg/m³) and PM_{2.5} (100 µg/m³) Guidelines, marking this year as the most TSP and PM_{2.5} exceedance days recorded in August since monitoring began at this location. Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} exceedances at the Berm monitor. The smoke would also impact the TSP concentrations recorded.

Historically, the Berm monitor records an average of 11 and 1 exceedances of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of August. Prior to August 2017, the largest number of TSP exceedances recorded during August occurred in 2011, which had 17 days that exceeded the Guideline. The fewest number of TSP exceedances was recorded during August 2016, which had 6 days that exceeded the Guideline. Prior to August 2017, the largest number of PM_{2.5} exceedances recorded during August occurred in 2015, which had 6 days that exceeded the Guideline.

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

The Berm monitor is located along a ridge at the edge of the Lafarge property and is in an area where on-site trucks drive through site, which can create fugitive dust. Quarry blasting also has the potential to impact short term PM immediately following a blast. High TSP concentrations in the month generally corresponded to the high wind speed events recorded in August.

Table 5-2 Summary of August 2017 data at the Berm GRIMM

Parameter	Guideline		Station	Exceedances		Monthly Average	Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr		Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	80	30	Berm	26	8	24.3	121.7	31	7	10.8	228.6	70.6	31	100.0
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	Berm	-	-	73.1	752.9	24	14	21.4	249.4	170.5	18	100.0
TSP ($\mu\text{g}/\text{m}^3$)	-	100	Berm	-	18	172.2	2216.7	26	13	18.3	264.0	491.4	18	100.0

Table 5-3 Days exceeding the Guideline for TSP at the Berm Monitor

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction	Average Wind Speed	Average RH	Root Cause (Provided by Lafarge)
Berm						
8/3/2017	244.3	41	262.9	11.5	48.8	Forest Fires
8/10/2017	102.5	-	56.0	11.7	49.0	Influenced by forest fires
8/13/2017	211.4	-	251.3	16.8	49.4	Influenced by forest fires
8/14/2017	121.0	-	257.5	14.2	69.2	Influenced by forest fires
8/15/2017	201.7	58	247.4	12.4	46.5	Forest Fires
8/16/2017	242.1	53	258.3	12.8	39.7	Forest Fires
8/17/2017	389.0	48	259.3	12.7	44.4	Forest Fires
8/18/2017	491.4	38	263.0	19.1	30.9	Forest Fires
8/19/2017	244.7	-	259.3	15.2	37.2	Influenced by forest fires
8/20/2017	208.6	-	261.2	13.1	37.6	Influenced by forest fires
8/21/2017	205.9	-	251.5	11.8	49.0	Influenced by forest fires
8/23/2017	121.7	-	260.5	12.2	40.2	Influenced by forest fires
8/24/2017	363.1	35	248.9	13.1	46.9	Forest Fires
8/25/2017	316.4	-	255.9	15.4	37.9	Influenced by forest fires
8/26/2017	395.8	-	260.0	12.6	29.8	Influenced by forest fires
8/27/2017	302.4	-	261.1	13.9	32.4	Influenced by forest fires
8/30/2017	263.2	58	248.0	14.0	39.4	Forest Fires
8/31/2017	351.2	71	230.9	13.2	38.0	Forest Fires
Total # of Exceedances	18	8				
Maximum # of Exceedances (August)	17 (2011)	6 (2015)				
Average # of Exceedances (August)	11	1				
Minimum # of Exceedances (August)	6 (2016)	0 (2011, 2013, 2016)				

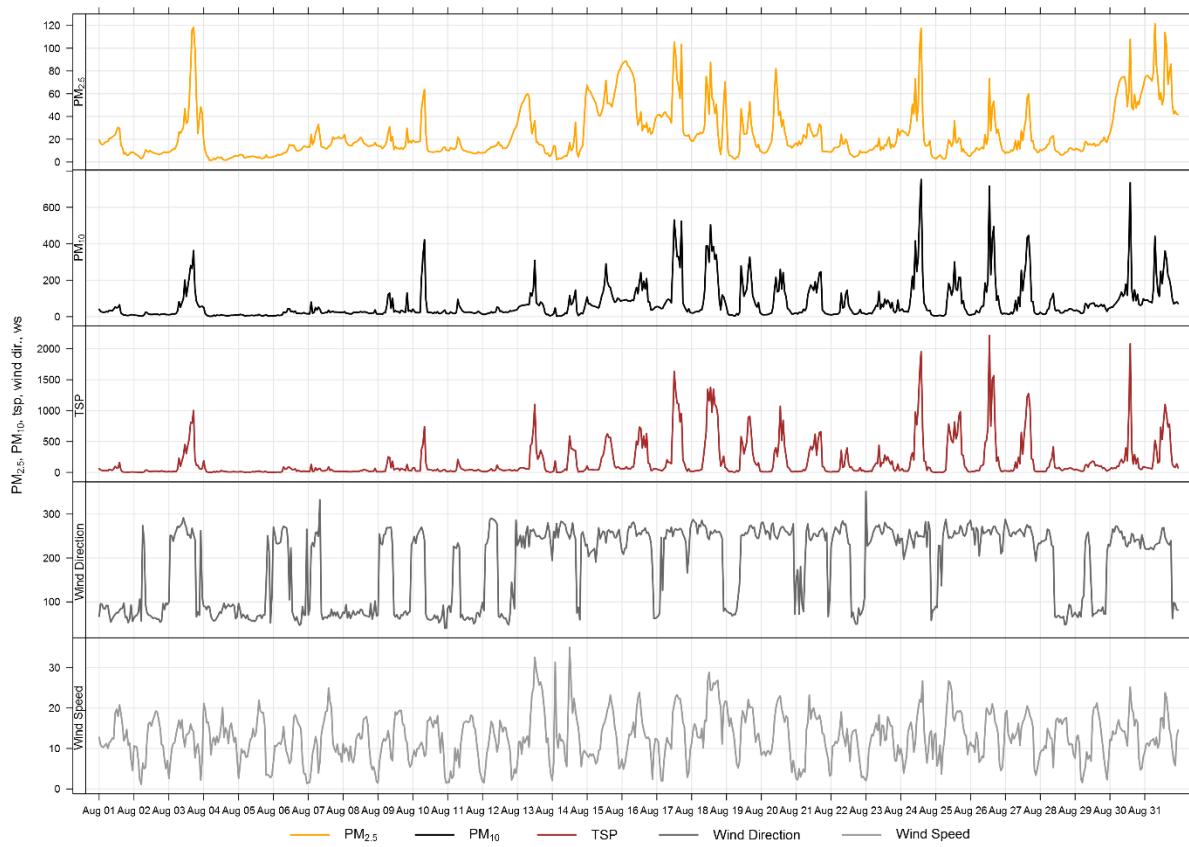


Figure 5-1 1-hour particulate matter concentrations recorded at the Berm monitor

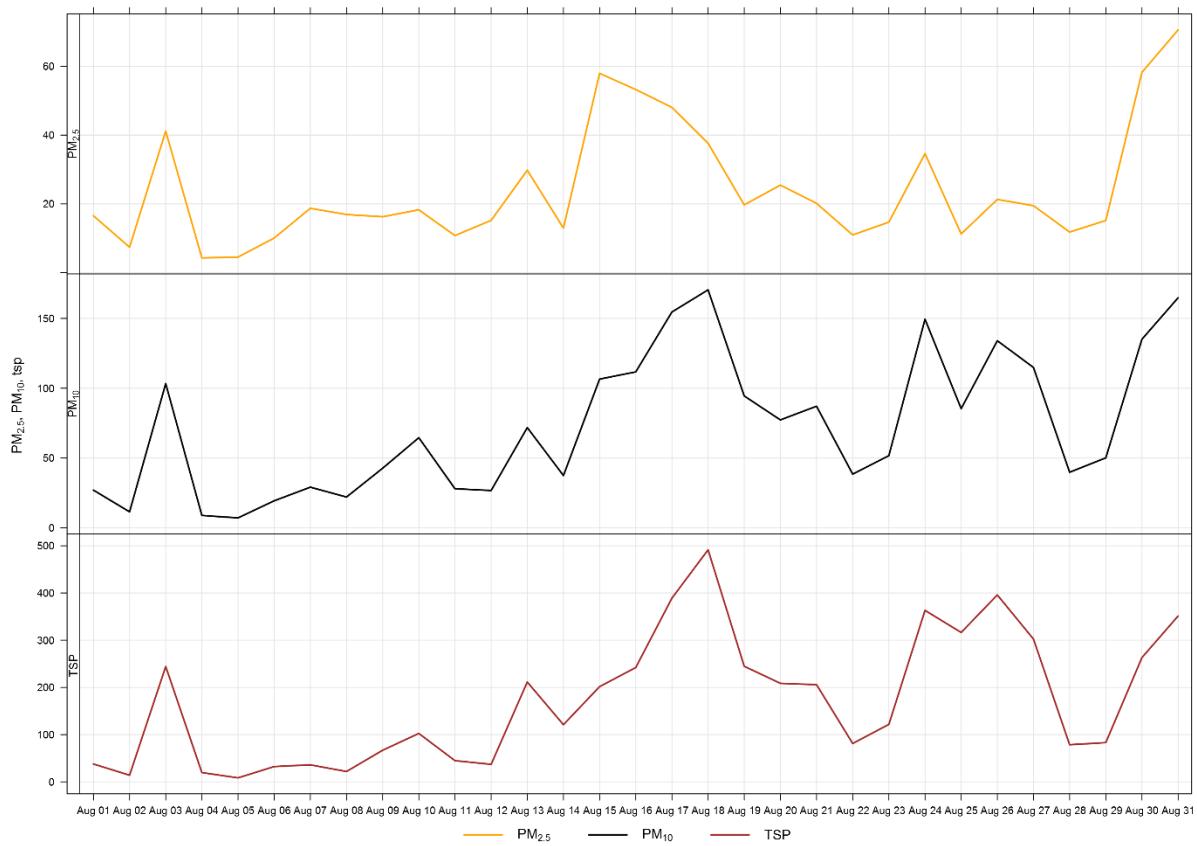


Figure 5-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 5-3 and Figure 5-4 show the wind roses for the TSP and $\text{PM}_{2.5}$ exceedances, respectively. These wind roses show that exceedances were recorded despite lower wind speeds recorded in August. This indicates that PM from wildfires in BC and Alberta during a variety of wind conditions was the primary cause of $\text{PM}_{2.5}$ exceedances, and a contributor to TSP exceedances, during the month.

Figure 5-5 shows the variation of PM recorded at the Berm monitor over various time averaging periods. Similar to the Entrance monitor, the Berm, on average, records elevated PM concentrations during standard operating hours of Lafarge.

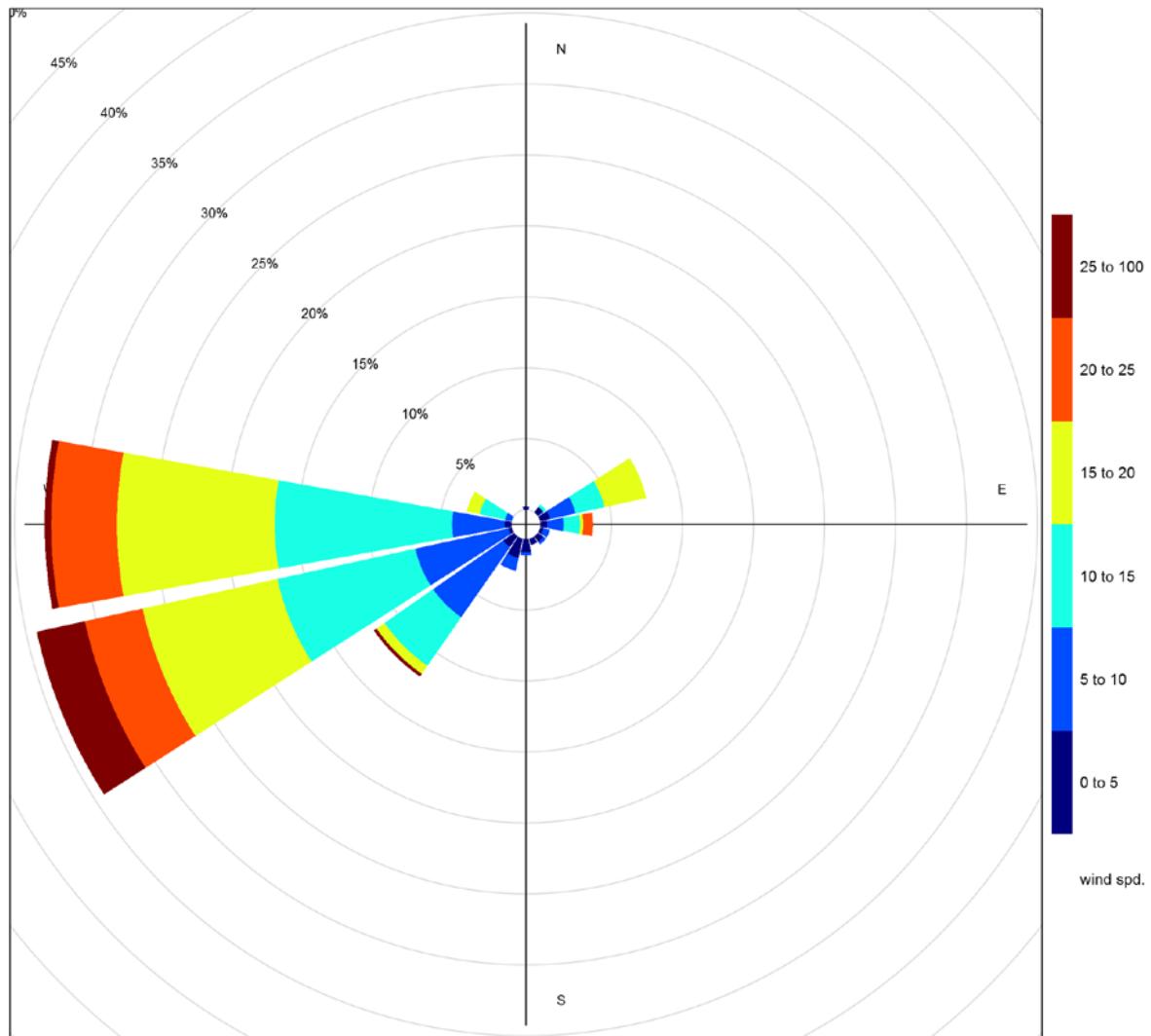


Figure 5-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

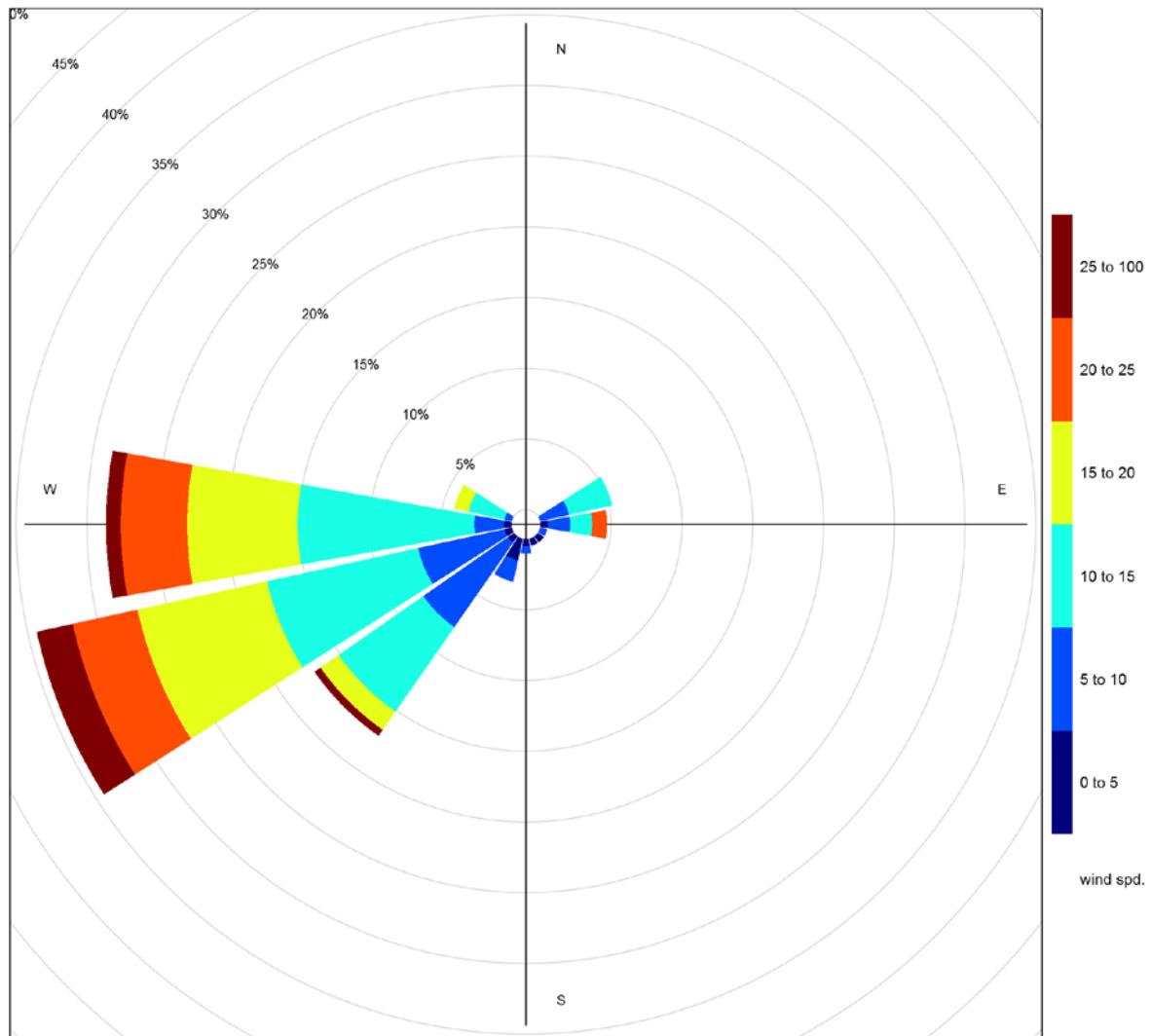


Figure 5-4 Wind rose for PM_{2.5} exceedance days recorded at the Berm GRIMM

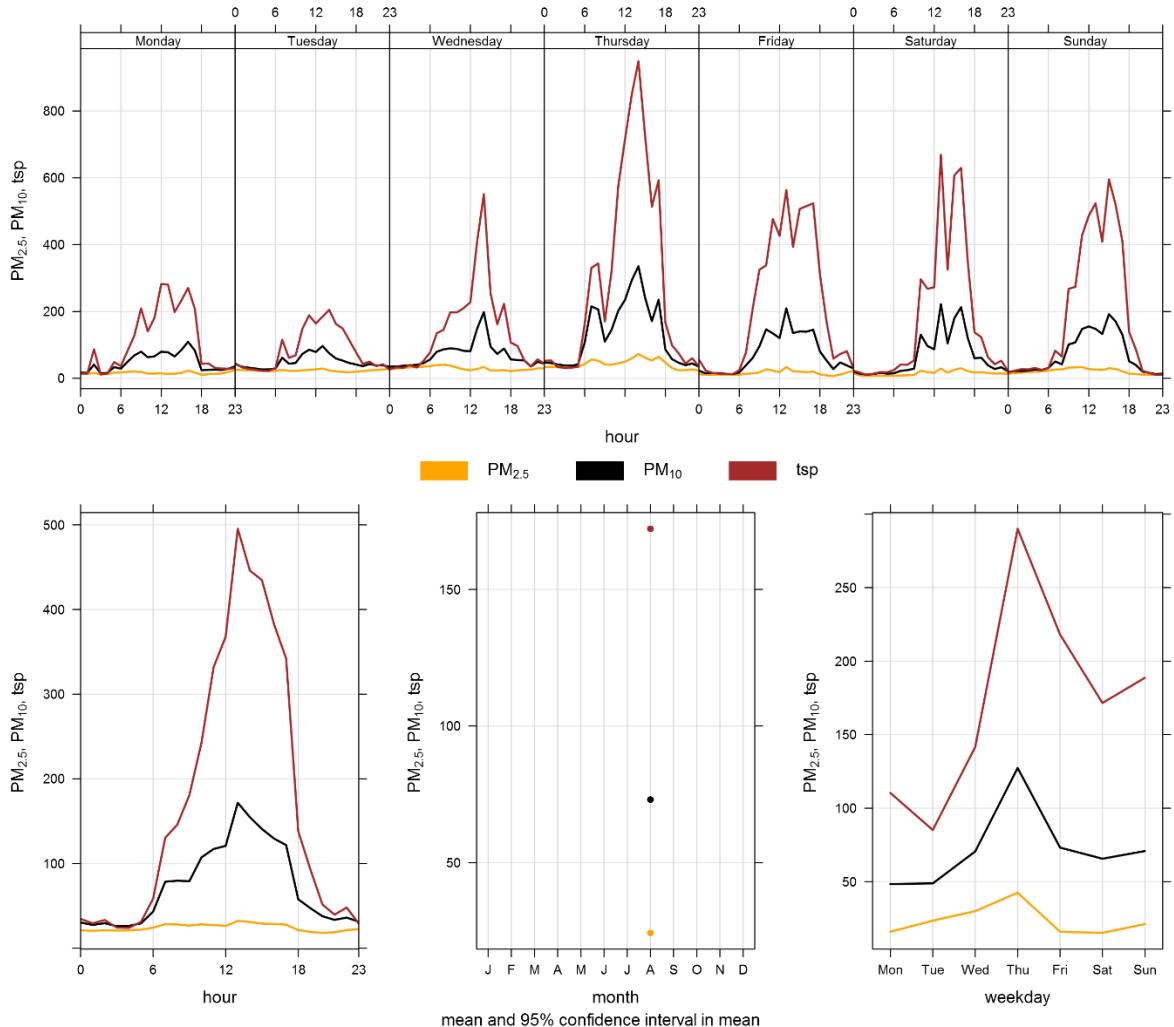


Figure 5-5 Berm particulate matter time variation

6 ENTRANCE GRIMM

6.1 SITE VISIT NOTES

This station was found to be in good operating condition and no repairs were required during the month. During the month of August, the Entrance GRIMM had 100% uptime.

Table 6-1 Equipment at the Entrance monitoring location

Equipment Description	Parameter Measured
GRIMM 365 Continuous Particulate Monitor	PM _{2.5} , PM ₁₀ , TSP Concentrations

6.2 MONITORING RESULTS AND TRENDS

The Entrance monitor was placed at its current location as a result of dispersion modelling conducted in 2009. This area was indicated as being the area where the maximum PM concentrations were expected. Figure 6-1 and Figure 6-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. Table 6-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month. Table 6-3 summarizes the recorded exceedances.

During August, there were 20 and 8 exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) Guideline, respectively. Smoke from the forest fires in BC and Alberta are the likely cause of the PM_{2.5} exceedances at the Entrance monitor. The smoke would also impact the TSP concentrations recorded.

Historically, the Entrance monitor records an average of 15 and 3 exceedances of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of August. The largest number of TSP exceedances recorded during August occurred in 2013, which had 23 days that exceeded the Guideline. The fewest number of TSP exceedances recorded during August occurred in 2016, which had 7 days that exceeded the Guideline. Prior to August 2017, the largest number of PM_{2.5} exceedances recorded during August occurred in 2014, which also had 8 days that exceeded the Guideline.

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

The Entrance monitor is impacted by fugitive dust from plant activities, and the high wind events described under the Berm monitor section. Trucks also queue nearby the Entrance monitor while waiting to be loaded with material. Additionally, the monitor is closely located to Highway 1A. Traffic, particularly large trucks, can create dust while crossing over the railway tracks. This can all lead to the monitor recording high TSP concentrations, which are typically associated with fugitive dust sources.

Figure 6-3 and Figure 6-4 show the wind roses for the days that exceeded the TSP and PM_{2.5} Guidelines at the Entrance GRIMM. Despite lower wind speeds recorded in August, exceedances

were recorded. This indicates that PM from wildfires in BC and Alberta during a variety of wind conditions was the primary cause of PM_{2.5} exceedances, and a contributor to TSP exceedances, during the month.

Table 6-2 Summary of August 2017 data at the Entrance GRIMM

Parameter	Guideline		Station	Exceedances		Monthly Average	Maximum 1-hour					Maximum 24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr		Maximum Concentration	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration	Day	
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	80	30	Entrance	40	8	29.0	138.6	3	18	7.7	242.1	77.9	31	100.0
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	Entrance	-	-	77.3	496.2	31	7	10.8	228.6	163.4	31	100.0
TSP ($\mu\text{g}/\text{m}^3$)	-	100	Entrance	-	20	142.0	1185.3	30	14	25.2	234.2	278.9	24	100.0

Table 6-3 Days exceeding the Guideline for TSP at the Entrance Monitor

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction	Average Wind Speed	Average RH	Root Cause (Provided by Lafarge)
Entrance						
8/3/2017	227.2	58	262.9	11.5	48.8	Forest Fires
8/9/2017	124.6	-	64.0	12.1	58.3	Influenced by forest fires
8/10/2017	139.4	-	56.0	11.7	49.0	Influenced by forest fires
8/11/2017	101.6	-	67.3	10.3	54.4	Influenced by forest fires
8/13/2017	230.4	37	251.3	16.8	49.4	Forest Fires
8/15/2017	163.4	63	247.4	12.4	46.5	Forest Fires
8/16/2017	184.8	59	258.3	12.8	39.7	Forest Fires
8/17/2017	180.1	47	259.3	12.7	44.4	Forest Fires
8/18/2017	229.0	-	263.0	19.1	30.9	Influenced by forest fires
8/20/2017	128.6	-	261.2	13.1	37.6	Influenced by forest fires
8/21/2017	145.2	-	251.5	11.8	49.0	Influenced by forest fires
8/22/2017	127.8	-	279.9	10.6	46.2	Influenced by forest fires
8/23/2017	168.2	-	260.5	12.2	40.2	Influenced by forest fires
8/24/2017	278.9	37	248.9	13.1	46.9	Forest Fires
8/26/2017	210.1	-	260.0	12.6	29.8	Influenced by forest fires
8/27/2017	188.5	-	261.1	13.9	32.4	Influenced by forest fires
8/28/2017	150.1	-	68.1	12.9	39.7	Influenced by forest fires
8/29/2017	146.5	-	81.5	10.4	60.9	Influenced by forest fires
8/30/2017	263.2	69	248.0	14.0	39.4	Forest Fires
8/31/2017	277.1	78	230.9	13.2	38.0	Forest Fires
Total # of Exceedances	20	8				
Maximum # of Exceedances (August)	23 (2013)	8 (2014)				
Average # of Exceedances (August)	15	3				
Minimum # of Exceedances (August)	7 (2016)	0 (2011, 2016)				

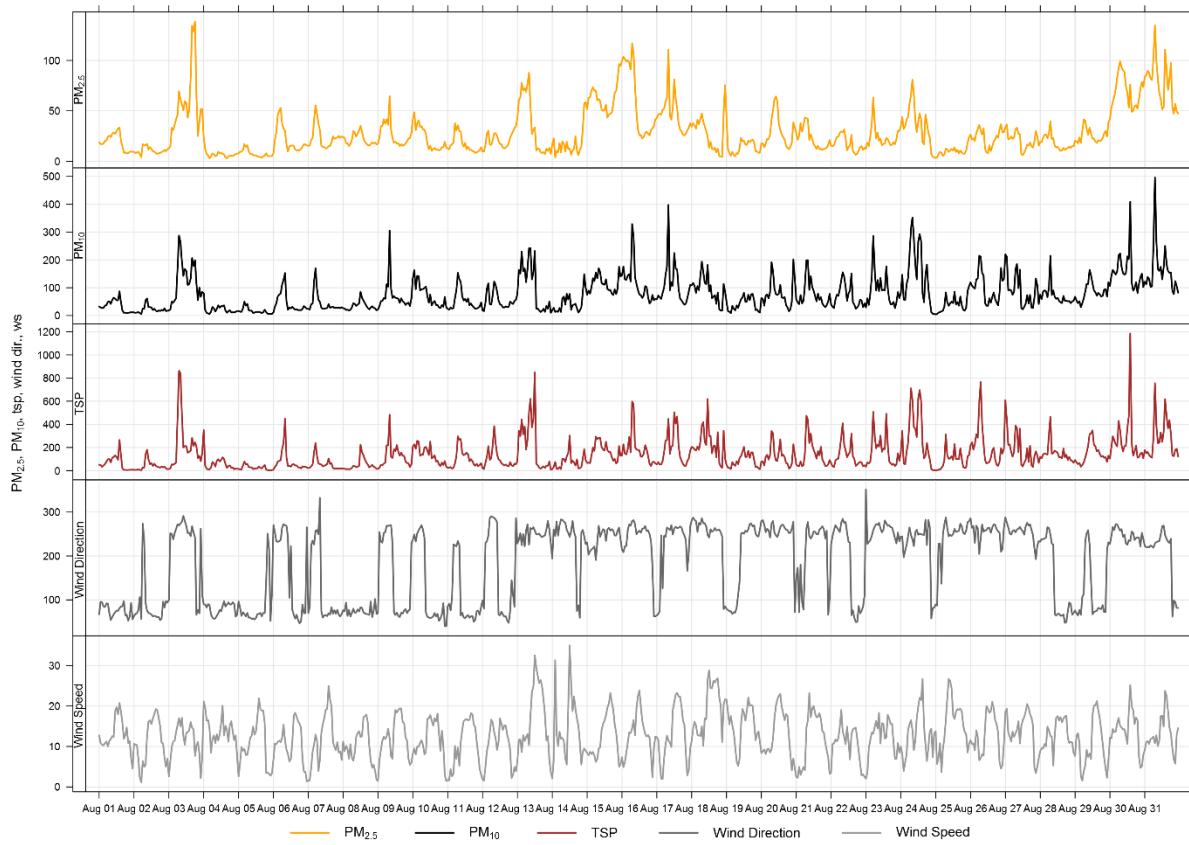


Figure 6-1 1-hour particulate matter concentrations recorded at the Entrance monitor

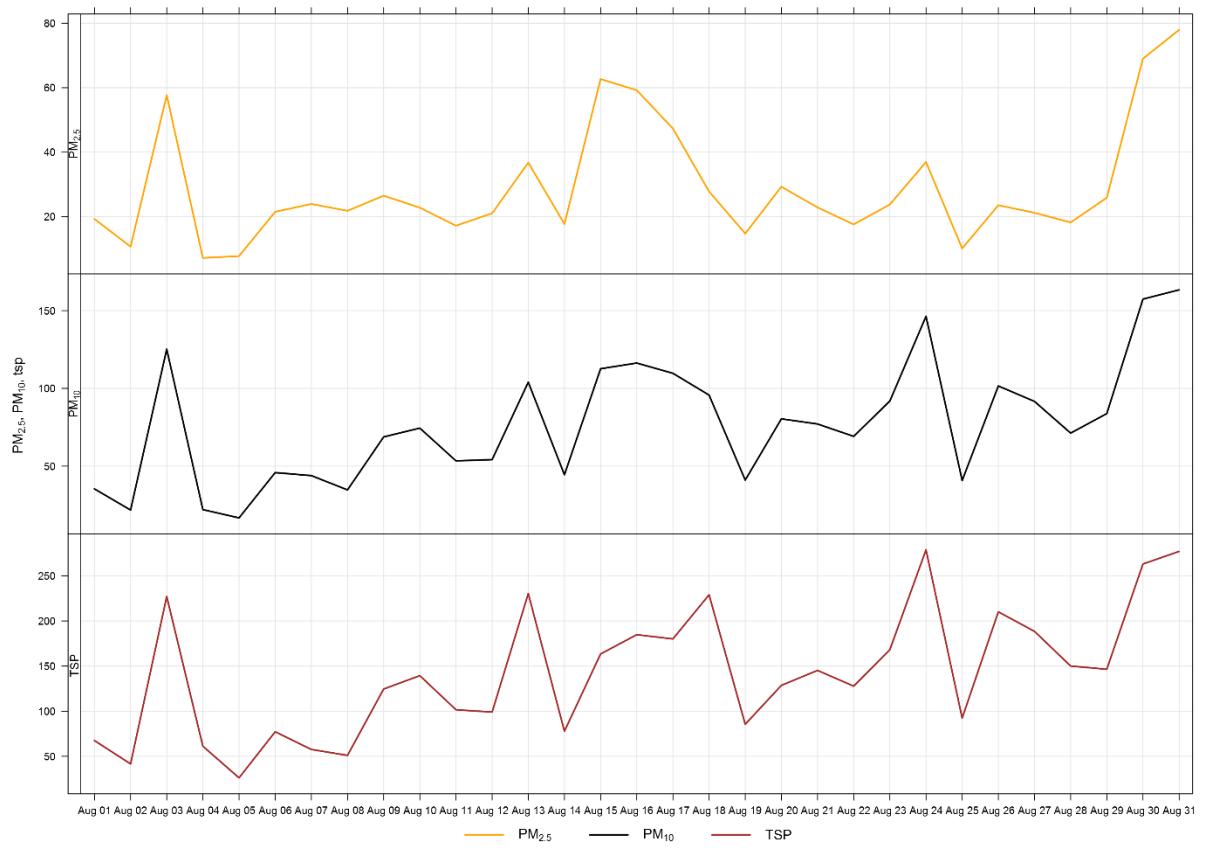


Figure 6-2 24-hour particulate matter concentrations at the Entrance monitor

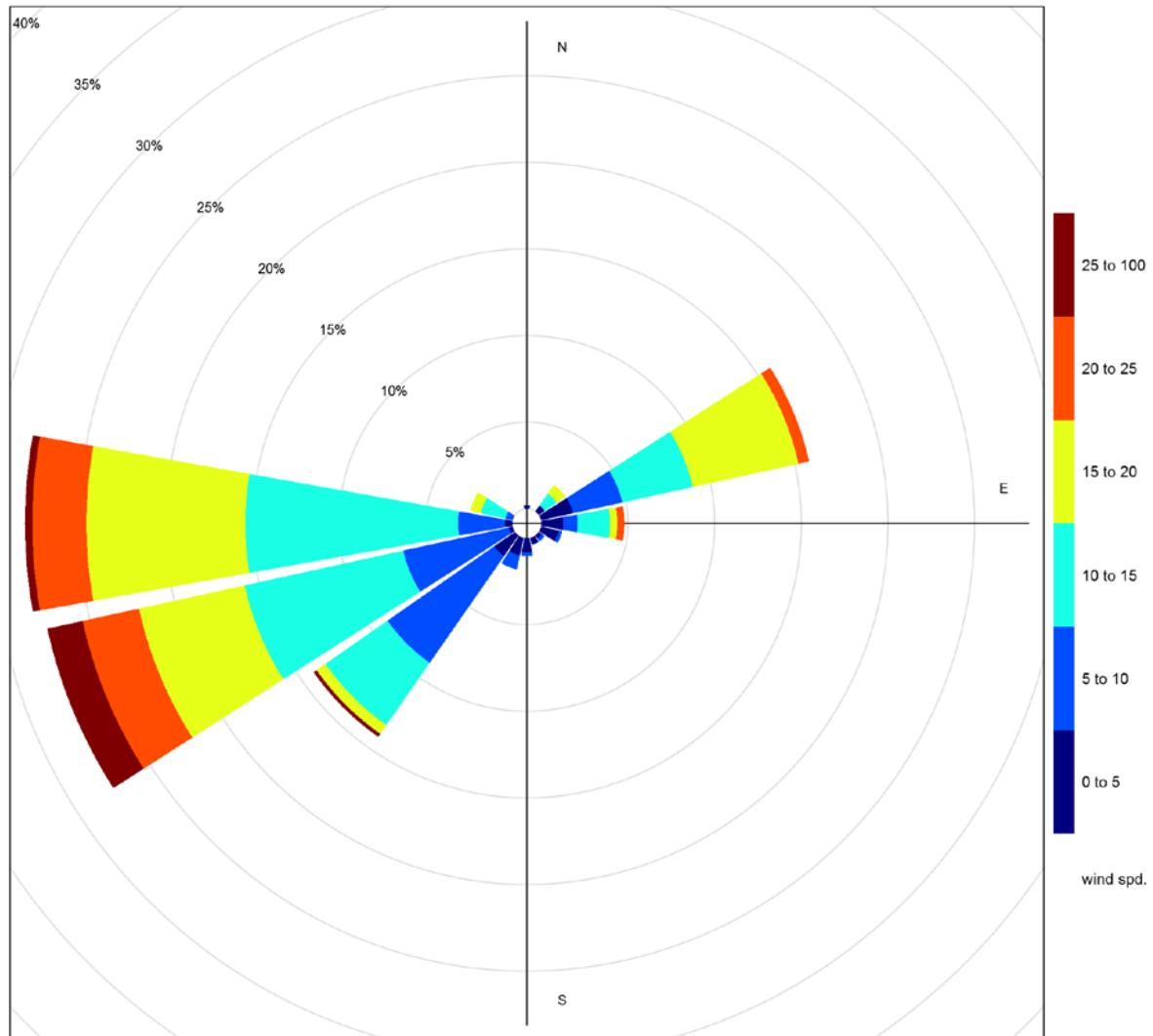


Figure 6-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

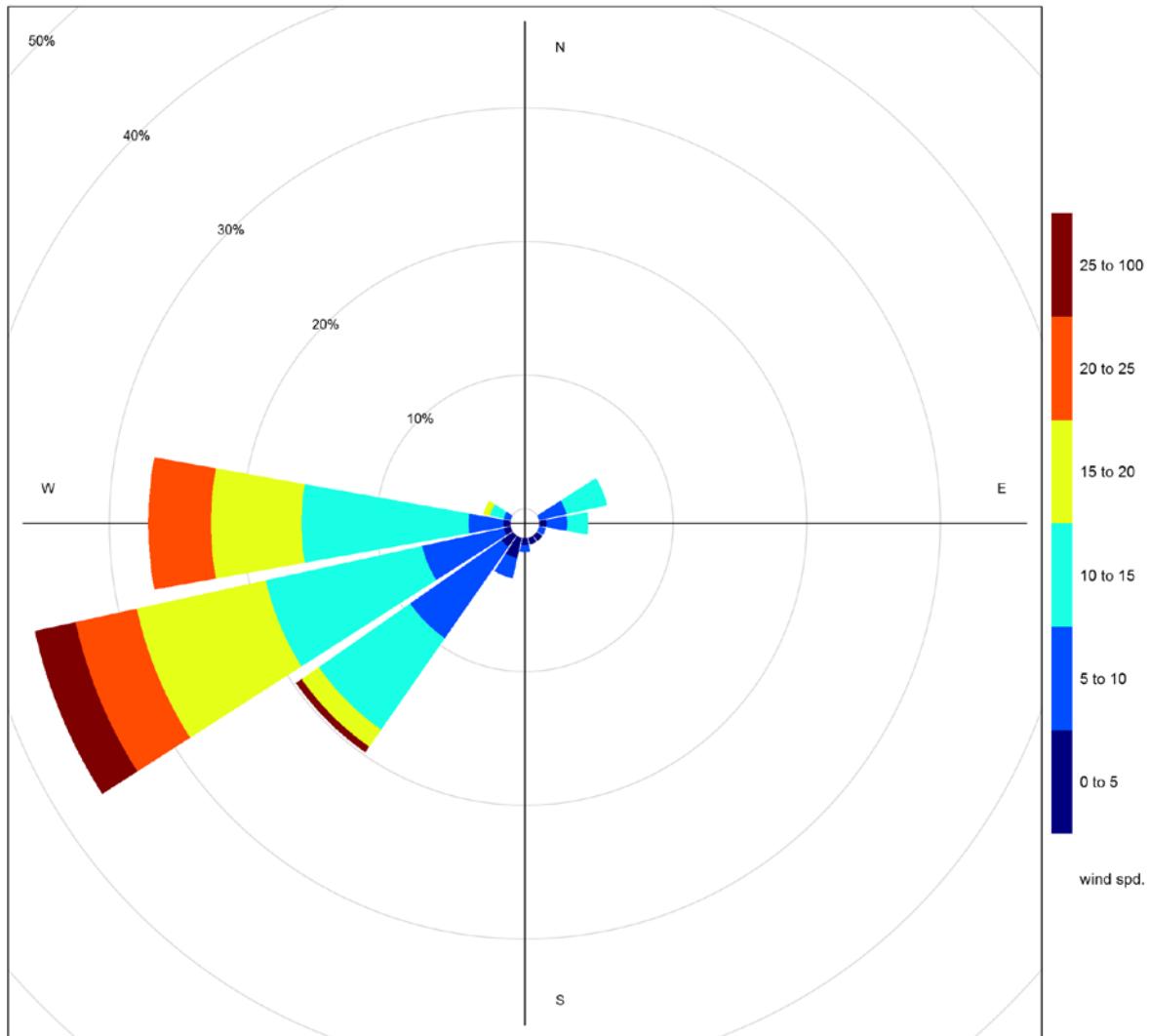


Figure 6-4 Wind rose for PM2.5 exceedance days recorded at the Entrance GRIMM

Figure 6-5 illustrates the hourly PM concentrations recorded at the Entrance monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 6-5 is based on data collected during August 2017 and indicates a strong weekday (Monday – Friday) diurnal pattern that is typical at this station, however the influence of built-up PM from the wildfires through the evening in to morning may be pronounced in the spike of PM mid-morning.

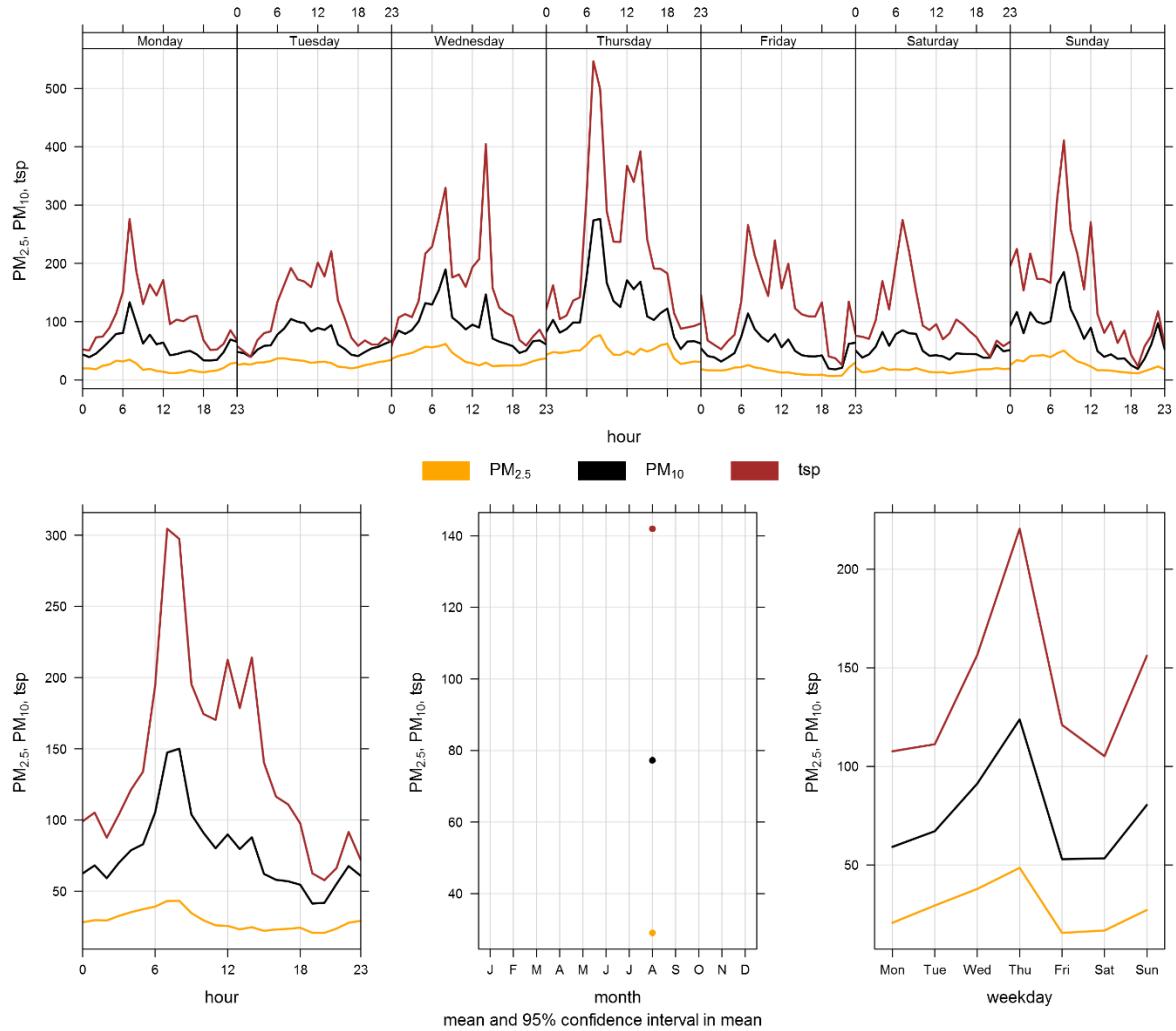


Figure 6-5 Entrance particulate matter time variation

BIBLIOGRAPHY

- Alberta Environment and Parks. (2016, June). Alberta Ambient Air Quality Objectives and Guidelines Summary. Alberta, Canada.
- Alberta Environment and Parks. (2016, August). Air Monitoring Directive. Alberta, Canada.
- Carslaw, D.C. and K. Ropkins, (2012). Openair — an R package for air quality data analysis. Environmental Modelling & Software. Volume 27–28, 52–61.
- Levelton Consultants Ltd. (2015, June 15). Comparison of GRIMM and E-BAM Data. Alberta, Canada.

Appendix A

DATA & CALIBRATION REPORTS

Lagoon NO₂ (ppb) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average		
1	4.6	S	0.8	0.6	0.7	1.0	1.2	2.0	6.0	5.3	5.9	1.2	0.7	0.2	1.6	2.1	1.9	1.3	3.8	9.4	17.0	8.4	3.1	7.1	17.0	3.7		
2	6.9	S	2.3	3.7	1.4	1.2	2.4	6.3	6.8	6.0	2.8	0.5	1.2	3.4	4.3	3.3	3.8	1.5	3.6	1.7	3.5	2.1	1.9	11.5	11.5	3.6		
3	10.7	S	8.3	10.8	6.7	6.5	6.8	10.3	10.3	11.9	7.1	13.5	4.8	3.5	4.4	2.6	16.4	12.2	9.1	3.8	2.3	12.7	15.8	7.9	16.4	8.6		
4	1.1	S	0.2	0.0	0.0	3.8	8.0	2.6	9.8	3.4	0.3	1.3	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	4.8	9.8	2.1	
5	5.4	S	14.4	14.6	11.9	21.3	17.1	19.1	10.4	3.9	4.0	6.3	5.4	5.5	1.9	2.0	5.2	4.9	3.5	1.5	2.2	1.8	1.8	2.1	21.3	7.2	17.2	6.3
6	0.8	S	5.5	6.8	6.7	6.1	5.9	10.8	7.9	10.6	7.9	11.3	3.5	6.5	3.5	2.5	2.1	4.6	2.3	2.7	2.2	17.2	11.7	6.0	15.2	6.9		
7	3.8	S	4.5	6.3	10.4	8.3	10.6	15.2	14.7	3.2	3.8	7.0	6.4	6.1	3.7	4.9	0.8	6.4	3.6	8.4	2.9	7.0	6.9	15.0	11.4	4.7	13.0	5.9
8	7.9	S	0.6	7.0	3.6	7.9	7.6	5.2	6.4	2.8	1.2	1.6	0.7	0.9	3.2	2.6	4.1	8.0	3.2	3.6	11.4	5.8	5.5	6.7	17.7	6.9		
9	2.9	S	6.0	7.2	8.7	9.7	8.5	11.7	13.0	8.9	8.7	3.1	0.8	0.3	0.2	0.4	0.5	3.6	2.9	1.3	5.6	10.1	12.9	9.6	17.3	6.8		
10	8.3	S	10.2	4.8	8.9	9.4	9.0	12.1	8.5	9.7	7.1	2.8	3.2	3.0	6.2	4.6	3.6	6.2	2.1	3.1	6.7	1.3	17.7	11.4	19.7	6.4		
11	5.3	S	15.7	14.9	10.9	9.7	11.4	11.7	8.6	17.3	5.6	4.4	4.2	2.1	1.8	2.7	3.6	5.9	1.8	3.6	1.1	1.9	5.5	7.0	24.4	6.9		
12	4.4	S	3.3	6.3	9.6	3.8	2.1	3.9	5.8	12.8	19.7	13.2	6.6	1.2	0.3	0.2	3.7	1.8	1.2	1.3	4.5	13.3	12.4	17.1	7.6	3.2		
13	15.3	S	10.0	7.4	10.1	24.4	14.6	10.0	13.2	7.0	5.5	9.9	5.5	0.6	0.5	1.1	1.7	1.4	1.8	1.4	0.6	2.4	9.0	5.9	-	-		
14	2.5	S	0.0	2.3	5.3	6.9	2.0	3.5	6.0	6.5	7.6	2.4	0.0	0.9	5.9	0.5	1.5	0.7	0.0	2.9	3.4	2.4	4.6	6.1	19.8	4.5		
15	6.5	S	6.1	4.7	4.5	4.8	3.8	4.6	3.1	C	C	C	C	C	C	C	C	2.6	4.7	9.0	16.0	7.9	2.6	8.2	10.9	4.7		
16	5.2	S	4.3	3.2	6.5	3.7	5.8	7.7	7.0	5.0	1.5	1.3	0.8	1.1	2.0	2.9	4.1	2.5	1.3	0.2	0.8	4.8	11.1	19.8	6.4	2.0		
17	7.2	S	5.5	1.5	3.4	7.9	10.9	8.7	6.9	5.5	3.4	2.1	6.1	4.7	3.7	3.3	3.5	5.3	4.7	1.5	3.3	3.1	1.9	4.3	23.9	7.2		
18	5.2	S	7.6	4.6	9.5	9.4	6.1	5.0	4.5	4.6	9.1	0.0	0.0	1.7	0.8	0.3	1.1	0.4	4.3	5.1	0.1	0.0	1.1	1.5	9.5	3.6		
19	0.7	S	1.3	0.0	1.2	5.0	2.3	0.9	0.3	2.9	4.3	0.9	0.8	1.0	0.4	1.3	3.3	0.6	4.6	6.4	3.0	0.7	0.8	2.4	6.4	2.0		
20	1.1	S	2.1	0.8	1.3	4.4	9.9	4.5	3.8	2.4	0.8	0.4	2.5	3.5	3.4	4.6	3.5	5.8	2.8	0.0	0.5	3.8	9.0	9.4	9.9	3.5		
21	6.0	S	19.5	20.2	16.3	17.1	14.9	7.4	2.4	0.0	0.0	0.1	1.4	0.8	0.0	1.4	2.2	0.7	0.0	2.2	2.8	4.1	23.0	23.9	22.7	4.8		
22	15.7	S	2.0	2.1	3.6	3.6	7.3	3.3	2.2	1.8	1.3	0.1	0.0	0.0	1.9	0.0	0.0	1.4	2.4	3.8	15.9	22.7	9.3	10.2	14.7	5.3		
23	12.1	S	14.7	11.9	8.1	8.7	9.6	6.5	4.9	2.2	2.0	0.2	1.0	2.6	1.2	2.6	1.4	0.5	0.0	1.3	6.9	6.0	5.7	11.6	17.8	6.0		
24	3.9	S	15.2	8.9	7.0	5.8	7.3	14.6	17.8	15.4	6.4	1.2	1.1	0.3	0.7	1.8	4.5	4.1	1.7	3.6	2.3	6.1	3.1	5.1	17.0	4.7		
25	0.0	S	4.4	4.2	2.0	7.4	5.5	2.7	4.5	0.3	0.3	0.3	1.5	4.4	3.5	7.5	3.5	17.0	15.0	3.9	2.1	8.2	6.3	4.3	16.3	8.4		
26	6.5	S	3.7	2.8	11.9	11.0	15.0	16.3	15.0	14.6	3.3	3.1	0.3	4.6	1.8	11.6	15.7	15.5	5.8	4.8	8.0	2.4	9.2	9.7	18.7	9.3		
27	10.4	S	9.3	15.5	12.1	6.0	8.9	17.6	17.9	18.7	7.0	2.4	0.3	1.2	7.4	16.0	9.3	13.8	6.1	3.1	7.7	5.0	6.5	11.9	12.7	5.8		
28	6.9	S	5.2	3.9	6.4	8.8	11.0	7.3	6.1	6.4	12.3	6.3	3.9	3.2	2.5	1.7	2.0	1.2	1.9	8.9	2.8	2.5	9.8	12.7	26.2	10.5		
29	19.8	S	22.7	26.2	16.1	7.2	7.2	11.4	11.8	5.2	8.8	9.1	3.5	3.6	2.4	1.9	5.1	4.0	3.9	17.6	17.5	13.0	12.5	21.1	9.5			
30	19.4	S	14.1	17.0	13.7	16.8	21.1	18.6	18.3	11.8	9.9	7.1	6.6	3.9	0.2	8.0	1.8	0.6	0.4	0.3	7.9	4.1	8.5	7.9	21.4	8.7		
31	8.8	S	5.7	6.9	9.6	13.8	12.7	13.0	12.7	12.8	7.3	4.8	12.3	13.2	3.8	1.7	1.2	1.2	3.3	5.9	8.2	21.4	18.4	1.3	21.4	8.7		
Hourly Max	19.8	-	22.7	26.2	16.3	24.4	21.1	19.1	18.3	18.7	19.7	13.5	12.3	13.2	7.4	16.0	16.4	17.0	15.0	9.4	17.6	22.7	23.0	23.9				
Hourly Average	6.																											

Lagoon NO (ppb) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	0.0	S	0.0	0.0	0.0	0.0	0.0	3.6	2.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	6.8	14.7	8.6	0.0	0.0	14.7	1.7
2	6.4	S	0.0	0.1	0.0	9.0	10.1	12.4	15.5	7.4	2.5	0.0	0.0	1.8	3.0	2.7	2.5	0.0	1.2	0.0	0.0	0.0	0.0	0.0	5.2	
3	2.8	S	0.0	3.6	2.2	5.7	13.3	38.1	20.4	25.2	8.6	13.9	2.2	1.1	1.1	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	6.2
4	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	2.9	1.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.3
5	1.1	S	25.1	19.3	9.3	37.8	59.3	97.0	25.2	2.6	3.7	5.0	3.6	4.3	1.3	1.3	4.4	2.6	0.2	0.0	0.0	0.0	0.0	0.0	97.0	13.2
6	0.0	S	0.0	0.4	0.7	2.4	5.1	27.0	14.7	19.5	11.0	10.5	0.8	2.6	0.9	0.1	0.1	2.3	1.9	0.1	0.0	7.7	0.6	0.0	27.0	4.7
7	0.0	S	0.0	0.0	0.2	1.6	8.4	11.6	11.5	0.0	0.7	2.8	2.9	1.9	0.2	0.0	0.0	1.5	0.0	1.1	0.0	0.0	0.1	0.0	11.6	2.2
8	2.5	S	0.0	0.3	0.0	5.6	3.8	0.4	3.0	2.2	0.0	0.0	0.0	0.0	1.6	0.5	0.7	1.5	0.0	0.0	0.6	0.0	0.0	0.0	5.6	1.0
9	0.0	S	0.0	0.0	0.2	5.2	7.1	13.0	22.0	9.8	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	22.0	2.7
10	0.0	S	0.0	0.0	1.4	1.4	1.6	6.3	4.5	3.9	2.2	0.0	0.5	0.0	3.6	3.3	0.0	1.3	0.0	0.0	1.7	0.0	12.4	0.0	12.4	1.9
11	0.0	S	10.4	3.8	1.9	0.0	2.0	6.2	3.4	17.5	0.7	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	17.5	2.0
12	0.0	S	0.0	0.0	0.5	0.6	0.0	3.0	3.3	13.0	17.7	5.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	1.9
13	2.0	S	1.8	0.0	4.3	27.6	14.2	8.2	5.2	0.9	1.4	3.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.6	3.2
14	0.0	S	0.0	0.0	1.7	5.8	0.5	2.4	6.8	7.2	3.9	0.3	0.0	0.0	4.7	0.0	0.0	0.0	0.0	1.3	0.0	0.2	0.0	0.0	7.2	1.5
15	0.0	S	0.0	0.0	0.0	0.0	0.4	3.4	3.0	C	C	C	C	C	C	C	C	0.0	0.0	2.7	0.7	0.0	0.0	5.6	-	-
16	0.0	S	0.0	0.0	6.2	0.0	2.5	5.6	5.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	6.2	1.1	
17	0.0	S	0.0	0.0	0.1	1.5	2.1	4.7	2.7	1.8	0.0	0.0	1.9	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.7
18	0.0	S	0.2	0.0	3.2	3.9	1.7	2.5	0.9	0.7	4.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.8	1.2	0.0	0.0	0.0	0.0	4.3	0.8
19	0.0	S	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.4	2.8	1.0	0.0	0.0	2.8	0.4
20	0.0	S	0.0	0.0	0.0	1.2	4.7	0.4	0.0	0.0	0.0	0.0	1.2	2.1	1.0	1.0	0.1	2.2	0.1	0.0	0.0	0.0	0.0	0.0	9.6	1.0
21	0.0	S	53.1	26.2	23.5	26.1	20.0	6.6	1.4	0.0	0.0	0.0	0.7	1.3	0.0	0.0	0.1	0.0	0.4	0.0	0.4	18.3	6.4	53.1	8.0	
22	4.1	S	0.0	0.0	0.0	0.0	5.7	2.0	1.5	0.8	0.1	0.0	0.0	0.0	2.0	0.0	0.5	0.5	3.2	0.0	2.2	1.5	0.0	0.0	5.7	1.0
23	11.5	S	0.0	0.0	0.0	2.4	18.1	6.3	3.9	1.1	0.3	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	18.1	2.2
24	0.0	S	0.2	0.0	0.0	0.0	0.2	7.0	4.3	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.8	
25	0.0	S	0.0	0.0	0.0	2.7	1.9	0.1	3.8	0.0	0.0	0.0	0.9	6.9	4.6	10.9	0.9	19.8	15.5	0.9	0.0	0.3	0.8	0.0	19.8	3.0
26	1.0	S	0.0	0.0	15.7	11.0	9.7	21.5	26.8	17.3	1.2	2.4	0.0	4.0	1.4	11.6	16.9	12.3	1.1	0.0	0.0	0.0	0.2	0.0	26.8	6.8
27	8.5	S	4.8	15.0	7.3	1.1	5.2	27.9	34.0	31.7	10.1	0.5	0.0	0.5	12.0	22.6	10.5	13.8	2.4	0.0	0.0	0.0	0.0	0.0	34.0	9.0
28	0.0	S	0.0	0.0	0.7	9.5	13.6	5.3	4.7	4.6	8.4	1.2	0.1	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	2.2
29	11.7	S	98.9	128.8	22.3	1.3	16.7	20.5	5.3	9.0	0.8	2.0	2.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	128.8	13.9
30	0.0	S	5.4	9.1	3.8	9.6	16.2	8.8	11.3	1.8	2.2	0.1	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	3.1
31	0.0	S	0.0	0.0	0.0	0.0	0.0	1.8	1.2	2.4	0.3	0.9	6.6	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	0.0	8.5	1.0
Hourly Max	11.7	-	98.9	128.8	23.5	37.8	59.3	97.0	34.0	31.7	17.7	13.9	6.6	8.5	12.0	22.6	16.9	19.8	15.5	6.8	14.7	8.6	18.3	6.9		
Hourly Average	1.7	-	6.4	6.7	3.4	5.6	7.9	11.3	8.1	6.3	2.9	1.6	1.0	1.2	1.3	1.9	1.4	1.9	1							

Lagoon NO_x (ppb) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average	
1	5.2	S	0.8	0.4	0.6	1.1	1.3	2.3	10.8	8.6	8.2	1.5	1.0	0.3	2.0	2.2	1.9	1.3	7.0	17.5	33.1	18.3	3.8	8.2	33.1	6.0	
2	14.5	S	3.4	5.0	2.2	11.4	13.7	20.0	23.6	14.7	6.5	1.2	2.3	6.4	8.6	7.3	7.6	2.3	6.0	2.9	3.9	2.2	2.0	17.9	23.6	8.1	
3	14.7	S	9.4	15.7	10.1	13.4	21.3	49.7	31.9	38.6	16.9	28.7	8.3	5.8	6.7	2.9	20.1	12.9	9.5	3.8	3.5	13.3	19.1	8.9	49.7	15.9	
4	1.1	S	0.1	0.0	0.0	4.9	8.6	2.9	13.9	5.6	0.5	2.4	11.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	5.7	5.0	13.9	2.7
5	7.8	S	40.9	35.2	22.5	60.5	77.8	117.4	36.9	7.7	8.9	12.5	10.2	11.0	4.4	4.6	10.9	8.7	4.9	1.7	2.8	2.4	2.3	3.1	117.4	21.5	
6	1.5	S	6.4	8.3	8.6	9.7	12.2	39.1	23.8	31.4	20.2	23.1	5.6	10.3	5.6	3.8	3.5	8.2	5.5	4.0	2.1	26.2	13.5	6.6	39.1	12.1	
7	3.8	S	4.7	6.5	11.8	11.1	20.2	28.1	27.6	4.3	5.6	11.0	10.5	9.2	5.2	6.1	0.9	9.1	4.2	10.7	3.1	7.5	8.2	23.2	28.1	10.1	
8	11.7	S	0.7	8.5	4.3	14.8	12.6	6.9	10.6	6.2	1.7	2.4	1.2	1.7	6.0	4.3	6.0	10.7	3.9	3.8	13.2	7.0	5.5	6.8	14.8	6.6	
9	3.0	S	7.0	8.1	10.1	16.1	16.8	26.0	36.3	20.0	14.4	4.2	1.1	0.5	0.3	0.7	0.6	5.3	4.4	1.3	6.3	10.4	13.1	9.6	36.3	9.4	
10	8.7	S	11.1	5.1	11.5	12.0	11.8	19.7	14.2	14.9	10.5	4.0	4.9	4.2	11.0	9.1	4.8	8.8	2.5	4.1	9.6	1.3	31.3	12.0	31.3	9.9	
11	5.2	S	27.4	19.9	14.0	10.4	14.6	19.1	13.2	36.1	7.6	5.7	5.6	2.7	2.8	3.3	4.4	7.4	2.3	4.7	1.0	2.0	5.7	7.3	36.1	9.7	
12	4.8	S	3.4	6.2	11.4	5.6	2.3	8.1	10.3	27.1	38.7	19.5	8.7	1.4	0.3	0.1	4.6	2.6	1.5	1.2	4.5	14.2	13.8	18.6	38.7	9.1	
13	18.5	S	13.0	8.1	15.6	53.6	30.2	19.6	19.7	9.2	8.1	14.5	8.7	0.8	0.7	1.4	1.9	1.9	2.5	1.7	0.6	3.5	13.3	5.7	53.6	11.0	
14	2.3	S	0.0	3.3	8.3	14.0	3.9	7.1	14.2	15.0	12.7	3.9	0.0	1.8	11.9	1.2	2.6	0.8	0.0	5.5	3.4	3.9	4.8	6.2	15.0	5.5	
15	6.4	S	6.2	4.9	5.3	5.4	5.5	9.3	7.4	C	C	C	C	C	C	C	4.1	6.0	13.4	18.4	8.1	2.5	15.5	-	-		
16	5.1	S	4.1	3.2	14.4	4.4	10.0	15.0	13.7	8.8	2.4	2.6	1.7	2.2	3.1	4.2	5.9	3.5	1.5	0.1	0.8	4.9	14.4	24.7	24.7	6.6	
17	7.9	S	5.5	1.5	5.2	11.0	14.7	15.1	11.3	9.0	5.0	3.0	9.7	6.8	5.1	4.6	5.0	7.2	5.9	1.9	3.3	3.0	1.8	6.9	15.1	6.5	
18	6.6	S	9.5	6.1	14.4	15.0	9.5	9.2	7.1	7.0	15.1	0.0	0.0	3.5	1.9	1.5	2.4	1.1	6.8	8.0	0.2	0.0	1.3	1.5	15.1	5.6	
19	0.5	S	2.2	0.0	1.4	6.8	2.6	1.4	0.9	4.9	7.5	2.2	1.9	2.5	1.1	2.5	7.0	1.0	8.7	11.1	5.7	1.0	0.9	3.6	11.1	3.4	
20	1.3	S	3.9	0.9	1.7	7.4	16.4	6.6	5.4	3.7	0.9	0.9	5.5	7.3	6.1	7.3	5.4	9.8	4.7	0.2	0.5	4.2	20.5	10.4	20.5	5.7	
21	6.0	S	74.4	48.3	41.7	45.1	36.7	15.7	5.6	0.0	0.5	1.0	3.9	3.8	0.2	2.8	4.1	1.6	0.1	4.3	3.6	6.3	43.3	32.1	74.4	16.6	
22	21.6	S	2.1	2.3	5.2	4.8	14.7	7.0	5.5	4.3	3.2	0.9	0.0	0.0	5.7	0.0	1.9	3.6	7.3	4.2	19.9	26.0	9.6	10.8	26.0	7.0	
23	25.4	S	16.1	13.2	8.6	12.8	29.4	14.4	10.5	5.1	4.0	0.7	1.6	4.6	2.4	4.4	2.1	0.7	0.0	1.4	9.6	6.2	7.0	19.5	29.4	8.7	
24	4.1	S	17.1	9.0	7.2	6.5	9.3	23.4	23.8	19.7	8.0	2.1	2.3	0.8	1.5	2.7	7.1	5.6	1.8	4.9	2.9	10.7	3.6	8.1	23.8	7.9	
25	0.2	S	5.6	5.2	2.2	11.9	9.1	4.5	10.0	1.4	1.6	1.3	4.1	13.0	9.8	20.2	6.1	38.7	32.2	6.5	2.9	10.3	8.9	5.2	38.7	9.2	
26	9.1	S	4.1	3.8	29.3	23.8	26.4	39.7	43.6	33.8	6.2	7.2	1.6	10.4	4.9	25.0	34.4	29.7	8.6	5.9	8.7	2.4	11.2	13.4	43.6	16.7	
27	20.7	S	15.7	32.3	21.1	8.8	15.8	47.5	53.8	52.3	18.9	4.6	1.1	3.4	21.3	40.4	21.6	29.4	10.4	3.9	8.9	5.7	6.8	12.2	53.8	19.8	
28	7.0	S	5.4	4.6	8.7	20.0	26.4	14.3	12.6	12.8	22.5	9.2	5.7	5.8	4.8	3.2	2.6	1.3	3.7	10.4	3.3	3.7	10.4	13.4	26.4	9.2	
29	33.4	S	123.4	156.7	40.5	10.2	25.7	33.8	18.4	22.6	7.7	12.5	13.4	4.3	5.4	3.4	2.0	5.2	4.1	3.9	19.0	18.0	13.2	14.0	156.7	25.7	
30	20.0	S	21.3	27.9	19.2	28.2	39.2	29.3	31.4	15.4	13.8	8.8	7.7	5.3	0.2	12.4	2.0	0.5	0.3	8.0	4.0	8.5	8.9	39.2	13.6		
31	8.7	S	5.7	6.8	10.2	14.3	13.2	16.5	15.6	16.9	9.2	7.4	20.7	23.4	4.3	1.9	1.5	1.7	4.7	6.1	8.7	23.5	21.8	1.4	23.5	10.6	
Hourly Max	33.4	-	123.4	156.7	41.7	60.5	77.8	117.4	53.8	52.3	38.7	28.7	20.7	23.4	21.3	40.4	34										

Lagoon SO₂ (ppb) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average	
1	1.2	S	0.6	0.4	0.5	0.3	0.3	0.5	0.7	0.9	0.7	0.4	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.2	0.3	
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.2	1.8	1.3	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	1.8	0.2	
3	0.0	S	0.5	1.3	0.9	0.7	1.2	3.9	2.8	11.1	8.2	12.1	3.5	2.2	4.4	0.5	7.9	1.8	0.7	0.6	0.4	0.7	0.6	0.4	12.1	2.9	
4	0.4	S	0.1	0.2	0.2	0.2	0.4	0.2	0.3	0.4	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.4	0.2	
5	0.2	S	1.1	0.8	0.4	0.9	1.2	2.2	1.1	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.6	0.5	0.3	0.2	0.3	0.2	0.2	0.2	2.2	0.6	
6	0.2	S	0.2	0.2	0.3	0.2	0.5	2.2	1.8	3.1	3.0	2.8	1.7	2.8	0.6	0.6	0.5	0.5	0.2	0.2	0.3	0.6	0.3	0.2	0.2	3.1	1.0
7	0.1	S	0.2	0.1	0.2	0.3	4.2	9.9	5.1	0.8	0.9	1.1	0.8	1.0	0.8	0.5	0.4	0.2	0.2	0.3	0.3	0.2	0.1	0.1	9.9	1.2	
8	0.1	S	0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.6	0.2	0.1	0.2	0.1	0.1	0.1	0.6	0.2	
9	0.1	S	0.2	0.2	0.3	1.1	1.6	4.4	10.5	7.1	7.7	3.4	1.7	0.7	0.3	0.2	0.2	0.4	0.9	0.4	0.5	0.4	0.1	0.2	10.5	1.9	
10	0.6	S	1.4	0.7	1.4	1.1	0.8	1.3	1.5	3.9	1.0	0.5	0.4	0.4	0.3	0.3	0.4	0.6	0.6	0.6	0.7	0.9	0.6	0.2	3.9	0.9	
11	0.1	S	0.4	0.3	0.1	0.1	0.3	0.5	1.4	3.4	1.1	0.8	0.6	0.4	0.5	0.7	0.8	1.0	1.0	0.7	0.6	0.6	0.5	0.1	3.4	0.7	
12	0.2	S	0.2	0.4	1.1	1.5	0.8	1.0	2.1	5.3	10.3	9.2	1.9	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.4	10.3	1.7	
13	0.5	S	2.7	1.2	3.4	12.2	8.2	4.0	3.7	1.9	1.8	3.1	1.0	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.5	0.6	1.5	0.6	12.2	2.2	
14	0.5	S	0.4	0.6	0.6	1.6	0.6	0.8	2.2	3.3	1.9	0.8	0.5	0.5	2.0	0.7	0.9	0.8	0.4	0.3	0.2	0.3	0.3	0.3	3.3	0.9	
15	0.3	S	0.4	0.2	0.2	0.3	0.4	1.4	0.5	C	C	C	C	C	C	C	C	1.3	0.3	0.1	0.0	0.0	0.0	-	-		
16	0.0	S	0.0	0.0	0.0	0.0	0.8	1.8	2.2	0.4	0.3	2.3	1.5	0.5	2.5	1.9	2.2	0.6	0.7	0.1	0.0	0.0	0.0	0.0	2.5	0.8	
17	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9	3.5	0.3	1.6	2.3	2.6	1.3	2.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.7	
18	0.0	S	7.5	4.5	1.8	1.3	0.1	0.2	0.8	0.2	0.1	0.0	0.0	4.8	2.3	2.0	2.9	1.7	5.8	2.1	0.8	0.0	0.1	0.3	7.5	1.7	
19	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.7	1.2	1.5	3.3	0.9	0.7	1.5	0.0	2.0	1.9	0.2	0.0	0.0	0.0	3.7	0.8	
20	0.0	S	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.7	2.5	2.4	1.6	4.1	0.8	0.0	0.0	0.0	0.0	0.0	4.1	0.6	
21	0.0	S	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.5	0.1	
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
23	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	1.0	0.7	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	
24	0.0	S	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.4	0.7	0.1	0.6	0.1	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.7	0.1	
25	0.0	S	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.4	2.7	4.8	1.7	11.0	8.7	1.0	0.0	0.0	0.7	0.3	11.0	1.6	
26	0.7	S	0.6	0.2	3.2	2.6	2.3	4.4	6.4	5.4	0.0	0.0	0.1	3.7	2.0	5.9	7.3	9.6	1.9	0.0	0.0	0.0	0.0	0.0	9.6	2.5	
27	4.3	S	2.6	5.8	3.8	0.1	1.5	8.3	9.8	8.0	3.6	0.9	0.0	2.6	5.3	7.7	4.3	6.2	0.9	0.0	0.0	0.0	0.0	0.0	9.8	3.3	
28	0.0	S	0.0	0.0	0.1	1.7	3.3	0.3	0.0	3.0	3.8	1.4	0.4	0.7	0.9	0.3	0.0	0.0	0.0	0.0	0.5	1.2	0.9	3.8	0.9		
29	0.5	S	1.6	1.9	0.0	0.0	0.0	0.9	6.5	1.3	4.4	4.3	2.3	3.1	1.4	0.4	0.4	0.1	0.5	0.1	0.0	0.0	0.0	0.0	6.5	1.3	
30	0.0	S	0.6	2.0	1.3	1.6	3.6	2.4	2.2	0.8	0.2	0.0	0.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.6	0.7		
31	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	1.3	6.5	9.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.6	0.5	0.8		
Hourly Max	4.3	-	7.5	5.8	3.8	12.2	8.2	9.9	10.5	11.1	10.3	12.1	6.5	9.5	5.3	7.7	7.9	11.0	8.7	2.1	0.8	1.2	1.7	1.7			
Hourly Average	0.3	-	0.7	0.7	0.9	1.1	1.6	1.9	2.4	1.8	1.6	1.0	1.6	1.2	1.2	1.3	1.4	0.9	0.4	0.2	0.2	0.3	0.2				

Lagoon PM_{2.5} ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	9.5	6.7	7.3	7.0	8.9	9.3	9.8	9.4	10.9	11.9	25.6	20.4	16.8	19.0	14.4	8.4	6.3	5.6	2.5	2.0	2.8	5.2	4.8	2.8	25.6	9.5
2	3.8	3.1	2.8	4.9	5.9	4.9	2.0	5.6	3.8	2.4	2.7	7.3	8.7	5.9	7.3	6.7	4.2	3.4	3.8	5.2	6.3	3.8	3.1	6.7	8.7	4.8
3	4.9	6.3	5.1	8.7	7.7	4.9	9.1	14.7	15.1	19.7	19.3	32.0	30.6	33.4	42.5	99.5	225.7	216.5	218.6	37.3	16.5	23.2	21.5	27.1	225.7	47.5
4	10.9	6.7	2.7	1.3	1.0	0.0	0.0	2.0	3.1	5.6	2.0	0.6	1.0	0.0	0.0	2.0	2.4	0.0	0.0	0.0	0.0	1.0	1.0	3.2	10.9	1.9
5	3.5	6.6	4.5	3.1	4.2	5.9	7.0	6.6	3.5	2.0	2.7	2.7	3.8	2.7	3.5	0.6	0.0	2.0	1.3	0.3	2.7	5.0	2.7	1.6	7.0	3.3
6	4.9	4.9	3.1	5.2	5.2	4.9	5.6	5.6	4.3	3.8	4.2	9.1	8.4	11.6	11.6	8.1	8.7	8.4	7.3	7.7	9.1	10.9	10.9	8.6	11.6	7.2
7	8.0	8.4	8.4	13.3	12.9	17.2	20.4	23.5	15.1	10.0	8.4	8.4	10.9	9.1	12.6	9.4	7.0	11.6	11.9	14.6	15.9	17.5	12.6	13.4	23.5	12.5
8	15.8	15.1	10.5	6.6	5.6	8.0	7.3	5.2	17.2	13.0	10.9	14.7	11.5	17.0	11.6	13.7	11.2	10.5	6.6	10.1	10.9	9.4	9.4	7.7	17.2	10.8
9	11.6	9.8	10.5	14.7	12.3	12.3	11.9	11.9	14.8	13.0	9.5	8.0	16.8	7.0	6.6	11.6	9.8	9.8	6.6	9.5	16.1	12.8	8.7	16.8	11.1	
10	17.2	12.3	11.2	9.8	9.5	9.3	11.7	12.6	18.2	12.6	9.4	6.3	17.2	8.0	6.3	16.8	19.7	10.5	7.3	5.6	6.3	8.4	13.0	15.1	19.7	11.4
11	11.2	5.9	9.8	13.3	8.0	11.2	10.1	8.7	11.2	11.6	9.1	7.7	10.0	11.2	11.2	8.0	12.2	9.8	4.7	1.7	5.2	5.9	4.9	5.2	13.3	8.7
12	5.2	4.2	4.2	5.2	8.4	9.1	10.5	9.8	9.4	11.9	12.3	19.0	19.7	16.5	10.1	8.4	12.3	10.9	15.1	17.9	20.8	23.5	20.4	26.7	26.7	13.0
13	21.8	32.0	34.3	41.2	40.5	46.1	44.3	47.8	52.4	23.2	11.6	22.5	14.0	8.6	8.0	7.0	6.6	3.8	1.0	3.1	5.9	4.2	4.5	10.8	52.4	20.6
14	19.0	23.5	3.5	2.0	0.3	1.0	1.1	0.3	3.5	3.8	3.5	1.8	0.6	1.3	1.3	2.7	11.9	6.6	3.5	6.6	5.9	6.3	23.5	34.3	34.3	7.0
15	30.9	38.3	40.4	44.3	46.1	41.2	38.0	30.9	28.1	28.1	28.5	25.6	24.6	27.1	C	C	52.4	46.1	52.4	78.1	81.3	77.4	72.9	81.3	44.4	
16	70.7	69.3	72.6	79.9	75.3	76.7	65.8	65.4	60.5	49.2	30.9	18.3	14.0	14.4	14.4	17.5	16.2	19.0	18.6	14.4	17.2	17.7	24.9	28.1	79.9	39.6
17	26.4	37.3	46.7	32.3	30.6	28.1	34.1	32.3	23.5	30.6	28.1	53.1	81.6	75.7	54.2	35.9	33.4	37.3	22.1	22.1	17.5	20.0	16.2	12.6	81.6	34.6
18	14.7	11.9	16.1	19.3	17.9	15.4	15.8	15.1	13.0	14.4	22.1	6.0	4.3	7.0	6.6	5.2	3.5	1.3	7.0	4.9	24.2	20.7	51.4	66.1	66.1	16.0
19	41.9	12.6	11.9	5.9	0.0	0.0	0.0	0.0	3.8	11.9	8.7	6.3	5.6	3.8	9.4	12.3	10.1	10.5	9.3	6.3	19.7	28.5	22.5	41.9	10.0	
20	17.9	15.1	13.3	8.1	5.9	9.8	12.9	15.4	23.2	42.9	50.3	43.3	22.8	19.0	16.5	12.2	12.6	13.0	14.7	12.3	10.2	13.7	11.2	12.3	50.3	17.8
21	14.0	10.5	15.4	17.6	19.3	23.2	19.7	9.8	12.3	10.1	7.4	7.0	4.5	2.0	5.9	4.9	5.2	7.0	6.3	4.5	5.9	9.8	9.4	23.2	9.8	
22	8.0	5.2	4.9	8.0	7.2	5.2	9.5	8.4	8.0	10.9	13.0	8.1	3.8	1.8	4.9	4.5	4.5	5.6	6.3	6.7	10.5	7.7	4.5	7.0	13.0	6.8
23	11.6	8.7	8.0	7.0	6.3	5.6	5.2	8.0	7.0	6.3	4.5	6.6	7.7	8.1	9.4	16.5	16.1	15.1	13.0	14.7	15.4	14.9	21.1	18.6	21.1	10.6
24	20.7	14.0	19.7	22.5	22.1	19.0	22.3	27.8	41.8	21.1	18.6	14.7	16.5	17.2	13.7	23.5	18.6	17.5	14.4	19.3	15.8	6.3	3.1	3.6	41.8	18.1
25	3.2	0.6	1.7	2.4	2.4	0.4	0.0	1.7	3.6	4.2	4.9	1.0	0.3	2.4	4.2	3.5	0.0	0.0	1.7	0.0	1.3	3.1	4.9	4.5	4.9	2.2
26	4.2	2.4	3.5	2.4	2.8	4.9	6.6	6.3	3.8	2.5	3.2	3.5	2.4	1.0	0.3	3.8	6.3	15.4	24.6	17.8	20.0	12.8	10.2	24.6	6.9	
27	2.0	5.9	4.9	4.9	4.9	3.6	4.9	6.3	5.6	11.2	7.7	3.1	0.3	2.4	5.2	8.7	14.0	19.7	16.8	14.0	13.0	9.4	17.2	5.5	19.7	8.0
28	8.1	6.6	4.9	5.9	7.7	10.1	10.2	11.2	9.4	12.6	13.7	8.0	3.8	7.0	5.4	3.5	7.7	7.0	9.1	7.0	8.7	7.3	9.8	10.9	13.7	8.1
29	15.1	21.8	23.5	28.8	14.1	7.3	10.5	12.6	10.9	8.8	7.4	14.7	12.3	17.5	13.0	11.6	8.4	11.9	12.3	13.3	15.6	14.7	12.9	16.8	28.8	14.0
30	18.2	18.2	25.6	32.0	35.9	42.6	51.0	53.8	54.0	59.5	59.5	57.0	56.3	46.4	59.1	50.7	60.0	60.9	54.5	58.4	60.9	52.1	53.1	46.1	60.9	48.6
31	56.3	60.2	60.2	61.2	55.9	58.0	52.4	52.4	56.7	54.2	52.8	45.7	48.9	42.5	136.6	101.4	59.									

Lagoon PM₁₀ ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	31.5	23.0	19.5	15.3	23.1	22.9	20.2	24.5	87.8	47.7	242.8	118.4	49.8	40.7	82.9	29.6	6.1	4.0	6.9	9.7	9.0	11.8	18.8	13.2	242.8	40.0
2	13.1	12.5	19.5	8.3	7.5	6.1	20.2	22.3	25.9	26.6	18.7	16.0	54.7	19.1	25.9	20.9	29.4	21.6	15.4	20.9	24.5	14.6	9.0	16.1	54.7	19.5
3	17.4	18.1	28.0	27.3	23.1	22.3	35.4	56.1	61.1	64.6	45.6	100.5	68.8	51.2	70.2	137.1	283.9	284.4	275.2	79.4	35.7	60.4	40.7	36.4	284.4	80.1
4	61.1	20.9	13.2	10.4	5.8	6.1	19.5	8.5	29.9	22.3	42.8	91.3	47.0	8.2	6.1	11.8	12.5	10.4	18.7	12.5	6.8	18.1	17.4	91.3	21.1	
5	11.1	18.1	12.5	22.3	59.7	42.1	34.9	23.2	18.1	20.2	18.8	20.9	47.0	35.7	28.1	23.0	32.2	4.0	33.6	20.2	0.0	0.0	1.2	4.6	59.7	22.2
6	6.8	18.8	13.9	20.9	13.9	21.6	11.1	36.4	28.7	36.3	16.7	26.6	22.3	22.3	28.0	30.7	20.9	24.2	21.6	25.9	24.3	18.8	13.2	16.1	36.4	21.7
7	13.9	24.5	25.2	27.3	27.3	44.9	50.5	42.8	39.9	22.3	23.7	25.9	51.2	33.9	63.2	43.9	46.3	40.1	22.3	30.8	24.5	21.7	16.7	24.5	63.2	32.8
8	24.5	18.8	22.3	17.4	21.6	21.6	19.5	17.4	23.8	28.6	19.5	28.0	30.7	66.1	24.7	34.3	27.3	28.7	13.9	17.4	29.4	13.9	13.9	22.3	66.1	24.4
9	16.0	21.8	30.8	23.8	37.1	23.1	26.6	44.9	45.6	50.5	34.0	49.1	135.0	32.9	73.5	69.5	69.3	62.5	45.6	21.8	33.6	34.3	26.6	33.6	135.0	43.4
10	30.9	30.1	27.3	28.0	22.3	21.6	39.3	70.9	64.6	46.9	58.4	36.4	213.2	47.0	41.2	44.2	45.6	51.9	25.9	23.7	44.2	25.9	50.5	18.2	213.2	46.2
11	23.8	19.6	32.9	23.8	18.2	28.7	39.2	44.9	51.9	51.2	38.5	51.0	47.0	48.4	92.1	41.6	61.8	42.8	22.3	28.7	25.9	24.5	25.8	18.1	92.1	37.6
12	20.2	14.6	16.7	35.7	34.3	23.1	26.9	29.4	34.0	31.5	81.5	41.4	41.4	49.6	33.4	37.8	42.1	35.7	61.0	54.0	46.3	44.9	33.7	28.1	81.5	37.4
13	33.6	71.0	56.2	67.7	56.9	73.8	66.8	72.3	93.5	90.0	52.6	66.7	118.1	19.5	11.8	18.1	13.9	6.8	5.4	11.1	17.4	23.2	7.3	17.5	118.1	44.6
14	16.0	34.3	16.0	12.5	16.0	15.3	11.9	18.8	20.2	25.2	30.8	17.4	13.2	23.7	30.8	20.7	26.6	4.0	1.9	3.3	16.0	23.8	43.5	52.7	52.7	20.6
15	49.8	44.2	47.0	54.8	55.5	52.6	59.5	51.9	54.0	49.5	46.3	39.3	58.2	66.0	C	C	54.0	72.9	65.3	79.0	84.3	99.8	71.0	99.8	59.8	
16	85.2	82.9	83.9	86.5	87.9	86.5	79.9	89.3	87.8	101.9	47.7	46.3	60.0	56.9	49.7	49.1	54.0	49.1	39.2	33.6	35.0	33.4	36.4	59.7	101.9	63.4
17	42.8	67.6	49.1	40.0	51.9	54.0	78.0	74.4	64.5	70.9	37.1	80.1	178.1	267.5	134.9	87.1	77.5	152.6	45.6	29.4	36.3	29.6	21.7	37.2	267.5	75.3
18	40.7	22.3	26.6	19.5	28.7	26.6	41.4	38.0	49.1	89.2	110.4	61.8	48.4	74.5	40.7	74.5	76.6	50.5	92.1	35.0	30.8	11.8	101.0	69.5	110.4	52.5
19	32.9	13.2	10.4	10.4	11.1	8.2	6.8	6.8	6.8	23.7	35.7	24.4	30.1	28.0	26.5	43.5	64.5	82.9	63.9	47.7	25.2	15.3	11.1	9.0	82.9	26.6
20	11.8	11.9	11.8	11.1	12.5	23.8	19.6	53.3	72.3	56.9	50.5	43.7	71.7	51.2	52.1	39.2	35.5	29.4	25.2	22.3	16.7	23.1	24.5	72.3	32.6	
21	25.9	26.6	33.6	40.7	47.0	56.2	52.6	70.2	75.2	28.0	21.9	30.8	41.4	28.7	24.4	34.3	59.0	65.7	37.8	31.5	19.5	23.0	44.9	28.7	75.2	39.5
22	20.2	15.3	17.4	12.5	11.1	11.8	37.1	51.2	39.9	55.4	49.1	22.3	13.9	16.7	30.8	30.8	23.0	46.3	13.9	19.5	36.7	32.9	18.1	37.1	55.4	27.6
23	42.8	24.5	22.3	28.0	21.6	25.2	27.6	54.7	37.1	51.4	33.4	36.4	45.6	26.6	32.9	39.2	42.1	32.9	44.9	47.0	39.8	37.8	32.9	26.6	54.7	35.5
24	35.0	30.9	32.9	18.8	33.2	47.7	59.5	158.3	190.7	78.7	59.7	64.6	80.1	70.9	75.9	151.2	30.2	36.4	17.6	30.8	44.2	8.3	7.1	6.1	190.7	57.0
25	6.8	10.4	12.5	8.3	9.7	11.8	9.8	24.5	43.5	28.2	28.1	19.7	23.0	20.2	18.8	15.4	27.3	56.1	32.9	19.3	28.7	28.7	13.9	13.9	56.1	21.3
26	14.6	13.9	11.8	27.3	16.0	20.9	27.3	23.8	31.1	63.8	39.9	25.4	19.6	38.5	15.3	64.6	91.9	54.7	42.1	37.1	75.2	30.8	16.0	24.5	91.9	34.4
27	18.8	20.9	11.1	17.7	23.8	14.6	28.1	74.5	70.9	115.4	36.4	36.4	22.3	23.7	39.2	81.5	78.7	130.8	49.1	29.4	23.0	18.8	40.0	20.6	130.8	42.7
28	20.1	27.3	12.5	13.2	18.1	21.6	37.1	66.7	52.6	57.6	47.7	55.4	52.6	77.3	57.6	29.4	20.2	43.5	37.9	56.1	39.2	38.5	44.9	77.3	40.7	
29	51.9	66.7	62.5	62.2	37.5	29.5	51.9	72.1	77.5	48.4	48.4	63.9	66.1	72.3	89.2	61.8	182.7	50.5	75.2	47.7	62.5	49.1	39.2	33.6	182.7	62.6
30	51.2	59.0																								

Lagoon TSP ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	37.51	27.84	26.46	24.84	23.7	25.08	22.31	29.22	91.4	49.38	351.1	177	54.08	47.17	107.9	28.72	11.26	11.17	5.729	5.73	16.79	4.348	7.114	28.68	351.1	50.6
2	15.41	18.17	5.729	14.02	11.26	17.2	7.11	16.78	20.92	16.78	12.63	18.16	91.4	19.54	30.59	33.36	33.36	22.3	20.92	18.16	22.31	22.32	7.113	37.52	91.4	22.2
3	30.97	15.4	26.19	26.46	19.55	17.48	37.51	65.14	59.61	70.66	54.04	145.3	95.7	58.23	80.3	146.7	315.2	301.4	275.1	88.7	62.37	84.4	44.56	52.72	315.2	90.6
4	65.15	21.85	5.727	14.3	0.202	5.729	27.79	13.89	38.89	23.69	62.88	157.2	62.37	9.87	8.49	14.01	18.16	8.49	7.106	8.49	8.49	8.49	22.31	18.17	157.2	26.3
5	23.7	33.74	20.88	28.58	76.07	43.05	41.67	30.61	31.98	14.01	8.49	40.22	67.9	43.03	36.12	19.54	43.03	9.87	44.41	23.69	8.45	8.5	7.114	8.5	76.1	29.7
6	11.12	9.88	19.55	26.46	18.17	19.55	9.87	41.65	33.36	29.21	37.5	33.36	26.45	36.12	29.21	33.36	23.69	25.07	27.83	26.45	19.31	36.13	27.84	26.46	41.7	26.2
7	29.22	43.55	18.17	22.32	42.96	61.01	49.26	45.79	34.74	29.21	19.91	28.52	63.75	43.03	74.99	54.08	44.55	22.3	20.92	33.36	22.49	27.79	27.75	27.84	75.0	37.0
8	16.79	16.78	11.26	11.26	18.17	19.27	16.79	19.55	23.69	27.84	22.31	20.93	18.16	72.32	24.88	41.92	30.59	40.27	25.07	26.36	29.22	19.55	22.32	22.32	72.3	24.9
9	18.17	18.17	29.22	18.17	40.28	34.76	28.58	41.79	55.46	41.65	52.7	118.9	174.3	41	113.5	101.3	85.9	91.4	45.79	33.36	48.56	36.14	30.6	27.84	174.3	55.3
10	41.67	30.61	36.13	22.31	25.08	27.84	49.95	96.9	81.7	65.14	76.19	51.32	450.6	69.42	43.03	58.23	60.99	55.46	40.27	27.83	56.85	27.83	62.39	41.66	450.6	66.6
11	31.99	27.84	51.34	27.84	31.99	28.49	44.41	31.98	63.75	65.69	32.8	63.75	51.32	47.17	100.6	52.7	73.43	47.17	33.36	44.55	34.74	33.77	34.75	34.74	100.6	45.4
12	27.84	20.93	24.71	20.93	40.65	18.17	15.4	37.51	25.07	30.59	119.2	48.56	44.41	51.32	37.5	40.27	51.32	40.68	48.56	55.46	55.97	54.08	43.05	38.9	119.2	41.3
13	47.37	81.7	65.06	88.7	62.96	84.5	62.61	72.04	103.8	125.9	67.9	98.3	139.5	20.92	22.3	16.73	14.48	9.87	9.96	11.76	12.63	30.6	19.55	22.36	139.5	53.8
14	31.99	36.13	26.46	7.112	8.5	7.114	5.73	18.16	8.49	26.45	30.59	27.83	22.3	24.88	45.84	22.3	19.54	11.07	9.87	14.02	14.02	16.78	30.61	51.12	51.1	21.5
15	49.31	40.28	56.87	59.63	62.4	52.77	52.72	40.27	60.99	34.83	49.48	49.94	70.66	60.99	C	C	C	83.1	85.9	74.81	84.5	77.57	131.5	84.5	131.5	64.9
16	85.9	88.6	81.7	84.3	78.05	77.6	80.4	96	83.1	105.2	54.91	58.5	81.7	98.3	73.43	81.7	77.57	71.31	54.08	34.97	20.88	34.74	52.89	80.3	105.2	72.3
17	52.71	75.05	52.85	52.72	51.33	58.43	92.8	83.1	77.57	70.66	48.56	98.3	247.5	472	219.9	132.1	106.6	197.6	54.08	37.5	33.36	26.55	27.84	30.6	472.0	100.0
18	15.4	25.07	26.64	20.93	33.37	29.22	43.04	37.5	56.85	146.7	153.6	95.5	66.52	128.7	73.43	134.4	132.8	72.04	164.6	51.32	36.12	19.54	125.7	72.05	164.6	73.4
19	43.04	9.87	17.29	12.59	11.76	7.111	4.347	7.11	4.344	15.4	47.17	29.3	34.74	60.99	41.65	73.43	90	132.8	105.2	66.7	30.6	16.78	14.07	13.93	132.8	37.1
20	21.34	12.64	11.26	8.49	18.17	14.62	19.55	39.03	51.32	66.52	59.61	47.36	63.75	127.3	72.32	83.1	59.61	45.79	34.74	27.83	25.07	29.22	30.61	32.73	41.7	
21	31.99	20.93	55.48	48.57	56.77	80.4	59.62	80.3	87.3	29.21	36.12	36.12	59.61	40.82	22.3	51.32	77.57	94.2	50.21	31.98	15.44	25.07	49.94	58.24	94.2	50.0
22	22.45	14.02	11.26	11.26	14.48	19.55	34.75	62.37	43.03	66.52	77.57	37.5	21.66	12.63	65.64	40.27	45.79	63.75	25.07	22.3	49.34	45.8	26.46	62.39	77.6	37.3
23	54	34.75	30.6	23.55	19.55	30.6	38.89	63.75	40.27	74.81	41.65	48.56	84.5	40.27	50.31	62.88	48.56	37.5	63.8	77.57	49.94	40.27	40.82	36.44	84.5	47.2
24	31.98	48.56	26.46	38.9	31.99	65.15	78.97	227.8	248.9	93	88.6	105.2	143.9	137	116.3	247.8	44.55	47.17	20.92	44.41	50.22	16.55	2.966	20.93	248.9	82.4
25	5.73	4.35	21.67	5.732	8.4	8.49	7.109	29.22	56.85	27.83	29.21	29.21	28.84	36.12	31.98	33.36	51.32	114.9	62.37	31.98	37.51	38.9	26.55	14.02	114.9	30.9
26	14.34	11.26	18.17	12.69	20.93	19.28	27.84	38.89	29.21	83.1	56.85	31.98	26.45	58.23	15.4	117.6	168.3	87.2	56.85	31.98	106.6	40.28	26.46	27.84	168.3	47.0
27	27.84	16.74	23.7	14.03	23.7	19.55	33.37	96.9	96.9	165.8	57.58	47.17	20.92	27.83	74.81	134.2	113.5	224	58.23	29.21	37.5	29.22	61	31.99		

Lagoon Temperature (°C) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	15.6	15.1	14.8	14.4	14.0	13.9	14.0	14.5	15.8	17.5	18.6	19.6	19.2	19.3	17.5	14.5	13.0	12.3	11.3	10.5	10.4	10.4	10.5	10.7	19.6	14.5
2	10.6	10.6	10.7	10.6	9.9	9.0	10.3	11.4	13.1	14.5	15.8	17.6	19.3	20.4	21.3	21.6	21.6	21.1	20.0	18.9	17.2	15.5	13.3	12.2	21.6	15.3
3	11.2	11.1	12.2	12.2	11.8	11.5	12.0	13.1	15.5	18.5	21.8	25.1	27.7	28.4	29.2	29.3	28.8	27.8	26.0	23.6	22.0	19.5	16.0	14.7	29.3	19.5
4	17.7	16.8	16.0	15.3	14.7	14.6	14.5	14.2	14.8	16.1	17.3	18.5	19.5	18.4	17.9	18.8	18.8	18.2	17.9	17.3	16.5	15.6	14.4	12.6	19.5	16.5
5	10.6	10.4	11.1	11.6	12.3	12.5	12.4	13.2	14.0	15.2	16.6	17.3	18.6	19.0	19.0	19.1	19.7	19.1	18.2	15.0	13.8	12.3	10.9	10.0	19.7	14.7
6	9.7	10.5	9.9	9.6	9.5	9.4	10.1	11.4	13.8	16.8	19.0	21.8	24.7	25.5	25.6	25.5	25.2	24.7	23.6	22.5	20.2	16.6	14.0	12.6	25.6	17.2
7	11.2	9.9	10.3	12.1	11.6	11.8	12.6	15.0	17.4	18.8	20.3	21.9	23.2	23.9	23.4	21.3	18.6	15.9	16.6	16.2	15.6	15.0	15.0	14.7	23.9	16.3
8	14.2	14.1	13.7	13.5	13.3	13.1	13.0	13.3	13.8	14.4	14.6	15.2	16.2	18.7	20.5	21.5	21.8	21.1	19.7	17.7	15.1	13.5	12.1	10.9	21.8	15.6
9	9.7	10.3	11.5	11.2	11.2	11.1	11.5	12.7	14.8	18.2	20.1	22.9	24.1	24.9	24.6	24.4	23.8	22.9	21.6	19.1	17.0	15.1	14.3	14.7	24.9	17.2
10	15.8	15.8	15.2	15.2	14.6	14.0	13.3	14.7	17.2	19.7	21.9	23.1	24.5	24.7	24.9	24.9	24.5	24.0	23.5	22.6	21.3	19.4	16.2	13.8	24.9	19.4
11	12.3	11.3	10.9	10.3	9.4	11.6	12.9	14.5	17.2	19.1	21.6	23.1	24.3	24.9	25.4	25.7	25.6	25.1	23.9	22.4	20.4	18.4	15.4	13.1	25.7	18.3
12	12.0	10.7	11.3	12.9	13.0	13.0	13.5	14.6	16.7	19.9	23.3	25.1	26.5	27.7	28.6	29.1	28.9	28.1	27.0	24.6	19.9	17.1	15.2	14.4	29.1	19.7
13	14.2	16.5	16.6	15.0	15.0	14.7	15.2	16.3	18.1	22.7	25.1	25.2	20.7	19.7	18.8	18.9	18.6	19.1	19.4	19.3	18.1	17.0	15.3	13.1	25.2	18.0
14	10.6	11.0	12.0	10.6	10.4	9.9	9.9	11.2	12.8	13.5	14.4	14.9	12.9	12.9	14.0	15.5	15.9	13.6	12.3	11.3	10.2	10.2	10.0	9.5	15.9	12.1
15	9.5	8.7	8.6	8.4	8.0	7.3	7.3	9.2	11.5	14.7	16.9	17.9	18.5	18.8	20.9	21.1	21.0	20.8	19.9	19.0	17.9	17.2	16.2	14.7	21.1	14.8
16	13.2	11.5	11.2	10.8	10.5	10.4	10.9	12.2	14.1	18.3	21.1	22.5	23.4	23.2	23.4	23.6	23.6	23.3	22.9	22.1	20.2	16.6	16.8	16.7	23.6	17.6
17	15.4	13.7	11.9	9.9	8.3	9.4	10.7	12.3	14.4	17.3	20.3	22.1	23.5	24.2	24.9	25.4	25.3	24.5	24.2	22.7	20.9	16.4	14.4	17.7	25.4	17.9
18	18.8	18.2	17.2	15.8	14.5	13.3	13.5	14.6	17.6	20.8	21.6	25.0	25.7	26.8	26.5	26.7	26.6	25.8	24.4	23.5	22.8	21.7	17.7	15.1	26.8	20.6
19	13.6	12.0	11.8	11.4	10.8	10.5	10.5	10.6	12.2	14.8	18.0	18.9	19.6	20.0	20.0	20.6	20.6	20.2	19.3	18.6	17.6	16.8	15.9	15.1	20.6	15.8
20	13.9	13.4	12.7	11.4	10.7	10.2	9.7	11.0	13.3	16.4	16.2	17.4	19.2	19.1	19.1	18.5	18.1	17.8	17.5	16.7	15.5	13.5	14.2	12.1	19.2	14.9
21	10.6	8.7	8.3	7.2	6.7	5.9	6.8	12.1	14.9	17.8	17.9	19.4	21.5	21.9	22.6	22.7	22.8	22.4	22.1	21.4	20.3	19.8	16.9	14.0	22.8	16.0
22	11.7	15.0	15.3	14.2	12.8	12.1	12.3	13.1	15.3	18.1	22.0	24.6	26.3	28.0	28.2	28.5	27.9	26.8	25.9	23.5	21.0	17.3	14.7	13.4	28.5	19.5
23	12.2	11.1	13.2	13.4	13.5	13.0	13.0	14.3	16.6	19.7	24.1	27.4	28.2	28.9	29.4	30.0	29.5	28.7	28.0	26.3	23.9	20.7	20.4	20.5	30.0	21.1
24	19.4	18.1	15.7	14.9	15.1	16.1	16.4	17.3	17.2	18.4	21.3	24.2	24.4	24.9	25.3	21.4	19.6	20.1	19.3	18.8	16.4	12.7	11.1	10.6	25.3	18.3
25	10.3	9.3	8.2	7.9	5.6	6.1	8.0	9.5	12.7	14.7	16.4	18.0	19.6	21.0	21.4	21.5	21.2	20.9	20.3	18.5	17.2	16.2	15.2	14.4	21.5	14.8
26	13.4	12.0	11.2	10.3	9.4	8.8	8.2	10.1	12.7	16.1	19.4	21.5	23.5	24.9	25.6	26.2	26.2	25.8	24.7	22.5	20.2	17.2	15.9	17.9	26.2	17.7
27	17.0	16.2	14.6	14.1	13.2	12.2	11.8	13.4	15.8	18.8	22.5	26.1	27.9	28.8	30.0	30.2	29.8	29.1	28.1	25.8	21.7	17.7	16.6	16.7	30.2	20.8
28	17.2	16.7	16.1	15.3	14.1	13.6	12.9	14.1	15.5	19.2	22.7	24.5	26.1	27.4	28.4	29.3	28.8	27.6	26.3	24.4	22.7	21.8	19.4	17.5	29.3	20.9
29	15.7	14.5	14.0	13.2	11.2	9.5	9.5	11.5	14.8	17.4	19.5	22.4	23.7	24.5	25.2	25.4	25.2	24.2	22.8	21.1	18.3	15.8	14.2	14.4	25.4	17.8
30	15.6	15.4	15.2	14.6																						

Lagoon Wind Speed (km/hr) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	12.7	10.9	10.4	10.3	10.8	11.2	10.0	11.4	11.8	12.6	12.4	18.7	19.7	17.9	20.7	18.7	15.9	11.9	12.8	14.7	10.9	11.3	7.1	4.5	20.7	12.9
2	10.6	10.5	10.3	6.9	2.3	1.2	6.4	5.0	5.4	12.7	16.2	16.4	15.5	17.0	18.0	19.2	19.0	17.1	15.0	11.0	10.7	7.2	5.0	7.0	19.2	11.1
3	2.6	6.3	10.0	11.2	11.4	13.6	15.3	17.0	15.0	17.1	12.6	10.4	13.4	13.5	14.0	16.0	14.7	14.2	7.7	10.2	11.1	8.2	2.2	7.8	17.1	11.5
4	21.1	19.7	16.4	16.5	14.6	8.5	11.9	12.7	10.9	13.0	11.5	13.0	15.8	20.1	12.7	15.1	14.1	11.2	15.3	16.2	13.7	11.5	12.7	7.6	21.1	14.0
5	2.6	5.8	9.9	8.9	9.4	7.9	7.9	9.8	12.1	12.7	14.9	12.9	13.8	17.4	21.9	19.3	18.9	18.8	15.8	3.4	3.6	3.3	2.8	3.4	21.9	10.7
6	6.8	10.7	10.6	11.1	11.4	11.1	12.3	15.4	11.4	9.2	8.1	6.3	6.9	10.9	17.6	18.3	17.3	16.2	15.6	14.6	6.9	3.8	3.7	1.4	18.3	10.7
7	1.6	1.6	4.8	8.8	10.5	12.9	11.5	4.0	6.7	13.4	15.5	17.0	19.1	19.3	25.0	21.6	19.9	11.2	9.9	9.1	11.0	8.5	8.7	6.6	25.0	11.6
8	11.2	8.9	10.2	9.4	7.0	10.6	7.3	6.5	8.4	12.4	13.3	13.8	12.3	12.5	17.2	17.5	17.9	15.9	10.1	6.4	4.8	5.4	4.0	1.8	17.9	10.2
9	1.5	6.6	9.1	11.4	12.4	11.8	12.5	14.4	12.0	7.6	7.0	15.7	19.0	18.4	19.0	19.4	19.4	16.0	15.7	12.3	11.4	7.0	5.4	6.1	19.4	12.1
10	8.2	9.5	8.0	9.9	10.0	10.9	11.5	10.3	8.1	8.5	16.8	17.0	17.8	16.4	15.2	17.0	16.2	18.1	13.2	8.9	13.9	10.3	3.0	1.5	18.1	11.7
11	1.8	1.6	4.4	2.7	3.3	10.1	7.0	9.7	5.3	11.1	14.1	16.3	16.6	16.8	16.4	16.6	18.2	17.9	15.4	14.7	11.1	8.3	4.5	3.0	18.2	10.3
12	1.8	1.5	5.1	8.9	10.6	13.6	16.7	15.9	13.5	12.0	9.2	11.0	16.9	15.6	14.1	15.2	15.1	12.8	11.5	9.1	2.2	3.0	4.9	3.9	16.9	10.2
13	6.3	11.7	11.7	8.6	12.8	11.4	12.3	13.1	10.3	17.7	23.4	24.8	32.5	29.4	27.5	25.7	26.4	24.7	21.6	17.7	11.5	12.5	6.7	3.7	32.5	16.8
14	2.1	6.7	31.3	13.1	10.1	13.6	11.9	12.1	11.3	7.0	5.5	19.7	35.0	25.5	18.7	22.3	19.3	16.9	15.1	11.1	5.5	8.7	9.5	9.0	35.0	14.2
15	8.4	7.8	8.7	8.1	8.6	7.7	6.2	6.9	9.5	9.8	14.1	15.6	16.4	17.7	19.6	20.6	23.2	20.9	19.1	15.5	13.5	9.7	5.0	5.6	23.2	12.4
16	7.3	4.9	6.2	8.4	10.9	13.5	13.3	14.5	16.5	12.8	19.5	22.4	23.8	19.9	16.3	14.6	13.1	12.5	12.8	12.2	7.9	2.4	9.6	12.4	23.8	12.8
17	12.3	11.6	6.3	2.0	2.0	7.1	10.5	12.7	11.5	11.0	9.9	19.0	21.0	22.9	23.3	22.3	22.3	19.9	16.5	15.3	8.2	2.9	4.1	9.6	23.3	12.7
18	11.4	14.5	16.1	15.2	12.9	12.7	12.6	15.0	10.2	17.0	16.7	26.5	28.8	24.4	24.4	26.2	25.8	26.6	26.8	22.1	20.1	11.1	20.4	21.7	28.8	19.1
19	21.6	18.5	15.5	17.5	15.2	13.4	9.8	6.3	5.2	7.0	15.4	19.3	18.4	16.4	18.8	22.1	20.0	20.2	20.0	16.0	11.5	13.0	13.7	11.1	22.1	15.2
20	8.3	8.9	9.3	8.1	9.3	9.4	8.5	9.3	11.9	17.0	20.1	21.6	22.5	23.0	19.8	18.2	16.5	18.0	17.5	12.3	8.0	4.1	7.0	4.6	23.0	13.1
21	2.5	2.3	5.0	3.0	4.0	4.9	4.2	14.6	16.5	23.2	17.2	19.3	20.0	18.2	17.2	17.4	18.2	16.7	13.7	13.5	10.9	9.0	7.3	3.2	23.2	11.8
22	3.6	10.6	10.8	11.7	11.3	12.0	14.8	19.0	13.7	12.4	10.5	14.9	11.2	6.8	13.0	14.2	14.5	14.7	11.9	8.8	5.8	2.8	3.1	2.5	19.0	10.6
23	2.1	3.6	9.7	11.6	13.4	13.2	14.8	16.3	14.5	18.3	10.7	15.8	15.6	12.0	12.2	17.8	16.9	15.6	15.6	10.8	7.0	6.9	10.8	8.5	18.3	12.2
24	10.0	8.2	3.9	6.1	8.1	14.1	15.5	16.5	14.2	9.1	11.5	17.1	19.8	22.1	21.4	26.7	14.7	10.6	6.4	9.8	13.8	14.4	7.4	13.3	26.7	13.1
25	13.8	5.7	7.4	10.8	3.7	9.3	12.0	16.7	21.8	26.7	26.2	24.4	17.8	16.8	18.6	19.2	19.1	19.3	18.7	15.2	13.6	13.1	8.5	10.7	26.7	15.4
26	11.5	10.6	10.8	9.1	14.0	12.4	6.6	7.1	8.1	7.8	14.6	20.0	19.3	18.3	18.8	21.0	19.4	16.5	15.5	13.5	6.1	4.5	5.4	10.7	21.0	12.6
27	18.6	19.3	13.4	12.5	11.3	13.7	12.4	13.3	14.1	16.2	10.7	15.0	16.6	17.2	18.6	20.5	19.6	18.0	17.1	15.3	4.8	3.4	5.0	7.1	20.5	13.9
28	8.9	9.6	9.5	10.6	10.0	14.9	14.0	12.6	12.4	5.3	13.0	17.1	17.5	16.4	17.2	16.0	16.9	17.4	17.6	12.0	10.9	11.1	11.0	17.6	12.9	
29	7.6	12.7	13.3	10.9	2.5	1.6	3.9	5.3	9.2	7.4	8.3	6.9	17.7	20.1	20.1	21.2	18.9	17.1	14.0	10.8	7.3	4.7	2.3	6.7	21.2	10.4
30	12.2	12.0	14.3	13.5	13.7	15.8	17.1	15.2	14.7	14.2	14.3	12.6	10.7	18.6	25.2	19.9	18.9	15.5	17.1	16.4	7.5	4.7	5.1	8.0	25.2	1

Lagoon Wind Direction (°) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
b	67.0	95.6	94.3	84.8	83.7	91.8	91.3	70.1	53.8	60.8	66.7	71.8	75.4	74.9	80.7	85.1	85.2	97.3	64.7	65.7	52.6	61.9	93.1	55.6	97.3	76.1
2	62.9	67.8	69.3	76.9	106.2	56.7	273.6	236.2	93.0	74.9	70.0	69.0	66.5	62.4	63.6	62.7	60.3	60.9	53.6	56.8	95.9	82.7	97.2	94.0	273.6	68.2
3	99.2	251.7	250.2	238.1	252.3	261.9	272.2	269.8	274.1	278.4	291.3	279.2	268.7	252.3	252.9	245.1	267.7	253.6	242.1	65.9	77.5	69.2	262.2	110.3	291.3	262.9
4	89.8	89.3	82.6	90.2	87.7	66.6	59.8	56.6	57.8	63.6	69.1	77.2	73.7	85.5	96.8	84.7	89.5	94.0	89.6	89.6	94.2	90.7	61.6	66.4	96.8	81.0
5	96.4	82.7	63.4	71.7	67.5	62.3	70.1	59.3	59.5	56.5	57.8	55.3	58.8	67.6	67.8	70.0	62.5	70.3	69.9	140.5	250.9	216.1	52.1	118.1	250.9	66.8
6	270.8	254.3	233.4	232.4	233.7	236.6	264.9	272.6	269.8	268.8	242.3	104.8	222.9	77.6	65.8	57.3	65.9	53.7	46.5	50.6	89.3	69.6	69.9	265.4	272.6	358.6
7	69.8	83.6	224.5	235.2	226.2	257.3	259.2	249.8	332.6	73.5	59.5	64.4	65.3	62.9	69.4	66.7	82.8	68.5	76.3	68.2	77.2	66.0	62.4	67.4	332.6	67.9
8	76.3	73.8	93.6	63.3	76.8	62.2	69.6	79.6	70.9	71.4	78.0	73.6	83.1	81.6	71.6	68.8	67.7	67.4	65.6	96.0	60.7	74.5	101.9	67.8	101.9	73.8
9	69.5	254.4	233.1	230.4	252.7	254.4	268.9	268.8	269.2	270.2	228.0	71.3	65.6	70.6	63.1	60.9	70.4	68.7	75.8	79.0	69.9	75.2	78.1	229.4	270.2	64.0
10	237.0	248.9	233.2	251.3	258.5	264.6	270.2	260.1	240.5	71.1	61.3	59.8	58.4	59.5	62.3	69.9	62.4	67.8	52.1	57.7	66.8	92.3	40.4	39.7	270.2	56.0
11	84.7	90.9	76.0	105.6	226.5	224.1	222.1	234.0	225.1	64.4	70.4	59.9	58.3	62.8	65.3	59.3	62.7	63.3	50.0	54.5	74.3	75.5	65.8	83.6	234.0	67.3
12	98.7	80.3	230.0	233.4	246.7	286.9	290.6	288.7	286.8	283.5	276.6	66.8	64.8	73.0	66.7	61.8	62.4	52.8	47.5	74.7	144.7	111.9	84.4	286.5	290.6	16.1
13	228.4	237.1	251.8	224.8	249.9	221.8	258.6	272.0	225.6	263.7	261.2	265.6	257.5	249.3	249.3	251.1	245.6	243.2	245.5	247.0	261.3	279.8	260.3	229.2	279.8	251.3
14	194.5	260.3	245.5	278.5	246.4	269.6	283.2	282.1	277.8	275.7	259.3	252.7	243.6	256.5	279.8	254.9	243.6	74.4	87.6	59.2	253.1	259.3	244.7	227.1	283.2	257.5
15	231.0	203.1	211.2	214.8	217.7	221.6	190.8	231.0	269.0	243.7	253.4	261.1	258.6	234.5	260.4	264.2	258.0	261.2	257.6	246.7	246.6	257.7	264.8	237.9	269.0	247.4
16	214.8	208.7	221.9	223.0	259.1	272.1	269.3	279.5	281.6	272.7	249.8	254.8	257.4	253.2	262.1	262.9	268.4	256.8	258.1	249.5	234.1	176.9	62.3	281.6	258.3	
17	64.5	68.0	74.0	247.0	126.3	245.7	243.6	264.9	262.4	258.9	270.1	249.0	262.6	266.6	263.7	264.4	267.3	264.9	254.0	246.9	236.1	166.2	208.5	267.0	270.1	259.3
18	281.4	287.3	282.2	279.6	254.9	275.1	271.8	285.9	274.6	274.8	267.3	247.8	242.2	260.9	255.8	257.6	263.7	258.3	259.5	260.0	254.3	244.3	78.9	85.2	287.3	263.0
19	79.3	76.8	74.0	73.8	67.8	71.9	71.0	82.8	111.6	142.6	250.7	253.1	250.8	257.5	254.7	261.2	272.9	273.7	267.4	270.2	251.4	245.3	244.6	261.4	273.7	259.3
20	279.9	281.5	271.3	254.4	261.9	258.2	242.2	273.7	279.6	253.2	247.0	243.2	253.5	265.4	271.0	271.0	264.3	260.1	259.0	252.2	253.1	262.7	277.7	72.3	281.5	261.2
21	149.1	173.1	71.7	180.4	95.3	77.6	181.9	262.0	277.5	245.7	239.6	245.5	255.7	255.1	249.7	249.2	260.4	263.0	267.6	261.4	240.2	257.4	66.1	103.1	277.5	251.5
22	225.7	245.6	258.9	270.0	265.2	259.8	254.7	276.0	284.6	275.3	277.4	253.1	232.1	230.8	64.9	76.1	59.4	49.4	49.7	85.9	69.0	74.7	84.3	109.3	284.6	279.9
23	351.7	227.4	231.9	236.2	245.6	258.6	266.5	272.7	270.7	275.6	263.0	254.0	259.1	281.0	274.7	269.0	270.0	265.8	264.8	253.4	240.2	228.9	253.4	233.3	351.7	260.5
24	244.2	244.1	196.9	212.1	225.1	244.9	265.0	247.8	238.0	222.6	254.0	259.7	248.4	251.0	249.4	248.7	247.9	282.7	225.0	282.0	265.2	57.6	81.3	82.1	282.7	248.9
25	89.5	87.0	228.4	227.9	136.9	249.2	272.3	287.7	263.4	245.0	247.9	245.8	250.0	261.7	254.8	256.4	257.0	273.6	267.5	252.6	250.0	257.1	277.1	287.7	255.9	
26	285.8	264.4	268.2	230.2	269.1	263.2	204.7	240.7	271.9	255.6	258.0	259.2	264.2	264.0	252.8	265.1	272.2	271.0	260.9	256.2	253.3	210.0	215.6	264.3	285.8	260.0
27	287.8	276.2	265.5	251.5	249.0	257.2	259.1	254.0	260.3	262.1	266.2	260.2	256.5	248.7	267.8	275.6	269.3	272.3	259.6	248.1	218.0	192.8	223.9	233.8	287.8	261.1
28	232.6	238.8	238.1	240.1	241.9																					

Lagoon Pressure (mmHg) – August 2017

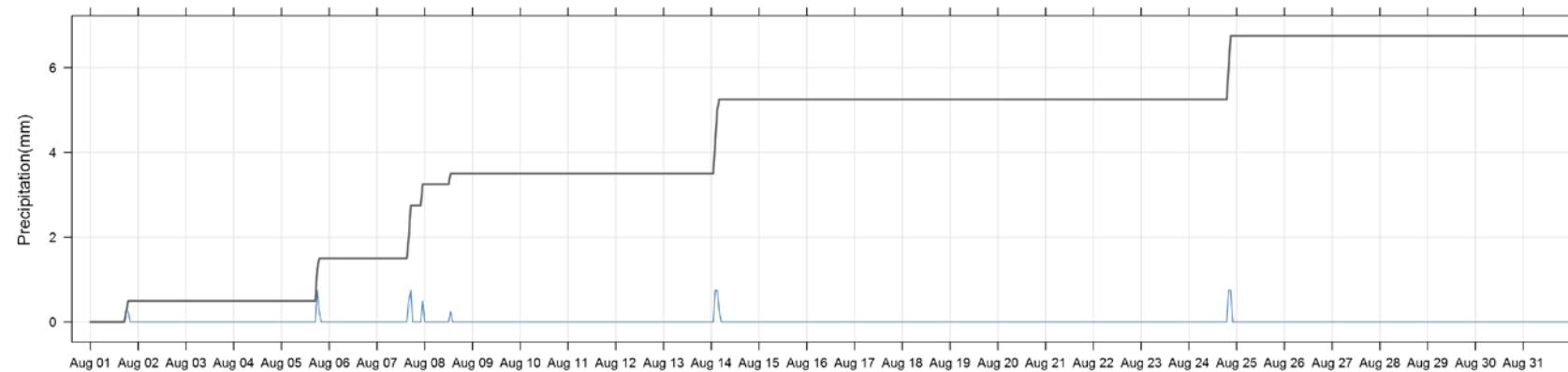
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average		
1	661.5	661.2	661.1	661.0	660.6	660.6	660.5	660.5	660.3	660.0	659.6	659.6	659.9	660.2	660.7	661.8	662.2	662.5	662.8	663.0	663.2	663.3	663.2	663.1	663.3	661.4		
2	663.0	663.0	662.9	662.8	662.7	662.6	662.6	662.4	662.3	662.0	661.5	661.1	660.6	660.3	659.9	659.5	659.4	659.2	659.1	659.2	659.5	659.7	659.7	659.7	659.7	659.7	663.0	661.0
3	659.6	659.1	658.9	658.8	658.8	658.8	658.6	658.6	657.7	657.1	656.4	655.6	654.8	654.2	653.6	653.1	652.7	652.3	652.1	651.9	652.0	652.2	652.1	652.2	652.2	652.2	659.6	655.5
4	653.5	654.3	654.6	654.7	654.9	654.8	654.8	655.0	655.1	655.0	654.8	654.7	654.6	654.8	655.0	654.8	654.7	654.8	655.0	655.4	655.8	656.1	656.1	656.1	656.1	656.1	656.1	655.0
5	656.0	655.8	655.7	655.7	655.7	655.7	655.7	655.7	655.7	655.6	655.5	655.3	655.2	655.1	655.1	655.1	655.1	655.1	655.3	655.9	656.0	656.3	656.3	656.2	656.2	656.3	655.6	
6	656.2	656.2	656.2	656.2	656.4	656.6	656.5	656.2	656.1	655.7	655.2	654.8	654.5	654.3	654.3	654.2	654.2	654.5	654.8	655.3	655.6	655.8	655.9	655.9	655.9	655.9	655.6	
7	656.1	656.1	656.1	656.1	656.1	656.3	656.4	656.9	656.7	656.3	655.9	655.6	655.5	655.6	656.0	656.7	657.3	657.6	657.8	658.2	658.3	658.6	658.5	658.6	656.7	658.6		
8	658.0	658.3	658.3	658.1	658.1	658.1	658.3	658.3	658.2	658.0	657.9	657.9	657.8	657.4	656.9	656.6	656.4	656.6	656.9	657.2	657.2	657.3	657.5	658.3	657.6	658.3		
9	657.4	657.2	657.1	657.0	657.0	657.1	657.2	657.1	656.9	656.8	656.4	656.0	655.6	655.4	655.4	655.6	655.8	656.1	656.7	657.3	657.6	657.9	657.2	657.9	656.7	656.7		
10	657.0	656.8	656.9	656.9	657.0	657.1	657.3	657.4	657.3	657.0	656.6	656.2	655.9	655.7	655.5	655.5	655.5	655.6	655.6	655.6	655.6	656.1	656.4	656.4	657.4	656.4		
11	656.5	656.3	656.3	656.4	656.5	656.4	656.5	656.4	656.0	655.5	655.1	654.9	654.7	654.4	654.2	654.1	654.0	654.0	654.2	654.6	654.6	654.7	654.5	656.5	655.3	655.3		
12	654.3	654.2	654.1	653.9	653.6	653.5	653.4	653.1	652.9	652.6	652.2	651.7	651.2	650.8	650.4	649.9	649.5	649.1	648.9	648.9	649.0	649.1	649.0	649.0	649.0	649.0	651.4	
13	648.8	648.5	648.1	648.1	647.8	647.6	647.3	646.9	646.7	646.2	646.0	645.8	647.3	647.6	647.8	647.5	647.2	647.2	647.4	647.6	648.0	648.2	648.8	648.8	647.5	648.8		
14	649.0	649.0	649.5	650.0	649.5	649.2	649.4	649.7	649.6	649.7	649.5	649.0	649.3	649.6	649.2	649.0	649.1	649.6	650.1	650.3	650.3	650.2	650.1	650.3	649.6	649.6		
15	650.3	650.3	650.4	650.6	650.7	650.8	650.8	650.9	650.7	650.6	650.2	650.0	649.8	649.8	649.7	649.8	650.0	649.9	650.2	650.3	650.7	651.1	651.2	651.2	651.2	650.4		
16	651.4	651.6	651.7	651.9	652.0	652.0	652.0	652.1	651.8	651.6	651.2	650.9	650.6	650.5	650.5	650.5	650.4	650.2	650.2	650.4	650.9	651.2	651.7	652.0	652.1	651.2		
17	652.4	653.0	653.4	653.4	653.5	653.6	653.9	654.1	653.8	653.7	653.3	652.8	652.6	652.5	652.5	652.4	652.3	652.2	652.2	652.4	652.7	652.9	652.9	652.9	653.0	653.0		
18	652.7	652.5	652.4	652.4	652.4	652.3	652.2	652.0	651.5	650.5	650.0	649.2	648.8	648.6	648.4	648.1	648.0	648.0	647.8	647.6	648.0	648.5	649.4	650.5	652.7	650.1		
19	650.9	651.4	651.7	652.1	652.5	652.6	652.8	653.0	653.0	652.6	652.4	652.3	652.1	652.1	652.0	652.1	652.0	652.1	652.4	652.8	653.1	653.2	653.4	653.4	652.4	652.4		
20	653.8	653.6	653.5	653.6	653.6	653.6	653.5	653.5	653.3	653.1	653.0	652.8	652.4	652.5	652.5	652.6	653.0	653.4	653.9	654.2	654.6	655.2	655.6	655.9	655.9	653.6		
21	656.1	656.0	656.3	656.4	656.5	656.8	657.0	656.9	656.5	656.4	656.3	656.1	656.0	655.9	655.6	655.5	655.6	655.5	655.5	655.8	656.0	656.2	656.5	657.0	656.1	656.1		
22	656.5	656.5	656.6	656.8	657.0	657.2	657.4	657.3	657.0	656.6	655.9	655.2	654.6	654.1	653.7	653.4	653.2	653.1	653.0	653.1	653.3	653.5	653.3	653.3	653.3	653.3		
23	653.4	653.4	653.4	653.3	653.3	653.4	653.4	653.5	653.3	652.9	652.3	651.8	651.2	650.8	650.4	650.0	649.8	649.4	649.2	649.3	649.2	649.2	649.3	649.2	649.3	653.5		
24	649.3	649.2	649.2	649.1	648.9	648.6	648.5	648.3	648.0	647.9	647.4	646.8	646.1	645.5	645.0	645.6	646.3	645.9	645.9	646.5	647.9	649.0	649.6	650.4	650.4	647.7		
25	651.2	651.5	651.7	651.9	652.2	652.4	652.6	652.6	652.4	652.3	652.3	651.7	651.5	651.4	651.4	651.5	651.6	651.9	652.1	652.4	653.0	653.3	653.8	654.2	652.2	652.2		
26	654.6	655.1	655.4	655.8	655.9	656.2	656.8	657.0	657.2	657.0	656.6	656.1	655.9	655.5	655.3	655.2	655.1	655.1	655.2	655.7	656.2	656.6	656.8					

Lagoon Relative Humidity (%) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	62.0	64.7	65.2	64.8	65.9	66.8	67.1	64.8	61.1	55.8	52.8	51.3	53.3	52.2	60.5	69.7	78.0	81.2	87.1	91.5	92.4	91.9	92.0	91.8	92.4	70.2
2	91.3	90.0	88.8	89.5	91.1	91.9	88.4	83.7	78.6	72.4	68.0	57.3	46.7	43.1	41.2	42.6	44.6	46.7	50.2	55.2	62.3	69.2	78.4	82.2	91.9	68.9
3	85.4	85.4	80.7	78.5	78.1	76.6	72.8	68.1	61.3	53.2	44.0	33.4	21.7	18.2	16.2	14.2	15.4	18.3	24.3	32.3	33.2	40.9	56.8	61.2	85.4	48.8
4	55.4	62.6	65.8	66.6	63.1	60.0	58.9	60.4	58.0	52.2	48.4	44.7	41.9	44.8	48.7	47.1	46.4	48.7	48.4	48.2	50.8	57.6	63.8	70.1	70.1	54.7
5	79.4	80.3	75.8	74.2	70.5	70.6	72.7	69.8	67.0	61.8	56.8	51.8	46.9	42.9	44.9	43.2	41.7	44.1	48.2	80.5	84.4	86.7	90.1	91.5	91.5	65.7
6	90.0	83.4	85.2	86.0	83.3	81.3	74.6	69.0	62.0	53.0	46.4	36.9	24.8	22.5	25.8	27.9	29.4	31.4	33.3	34.7	42.0	58.0	67.2	73.0	90.0	55.0
7	78.7	82.7	82.6	74.1	74.7	69.6	63.9	58.3	52.9	48.5	45.2	41.5	39.7	38.8	42.6	50.7	65.1	85.1	80.5	85.1	84.7	85.9	85.1	87.4	87.4	66.8
8	88.2	88.6	90.0	89.8	90.1	90.8	90.6	89.4	86.5	82.4	81.2	79.2	73.8	60.1	50.2	44.5	43.9	45.2	50.3	59.2	72.1	77.0	82.8	86.6	90.8	74.7
9	88.8	86.3	81.4	81.6	77.6	74.4	71.7	66.5	60.3	51.3	45.1	31.3	35.7	31.3	32.4	32.7	33.2	34.6	41.5	49.5	61.5	73.6	80.1	76.5	88.8	58.3
10	62.4	59.3	59.6	57.8	59.4	60.9	63.2	58.8	51.4	45.2	39.8	35.0	32.6	33.3	33.4	34.4	35.8	37.5	38.2	41.7	45.4	51.6	65.0	74.6	74.6	49.0
11	79.4	83.4	83.4	85.8	88.5	81.1	74.0	67.4	57.1	50.8	40.9	38.1	35.7	32.9	30.4	28.9	28.9	30.1	31.6	34.8	41.4	47.6	61.3	71.0	88.5	54.4
12	75.4	80.0	78.4	70.6	68.0	64.5	62.2	59.0	53.5	45.8	37.1	32.5	31.0	28.0	25.4	21.9	23.1	25.3	27.5	33.8	53.5	64.0	68.6	71.1	80.0	50.0
13	71.2	55.3	50.1	54.4	51.4	52.2	49.7	47.1	45.6	33.7	27.3	27.5	45.2	52.4	54.7	53.3	54.0	48.0	43.4	42.0	47.2	51.8	58.1	69.6	71.2	49.4
14	78.9	79.8	77.0	84.6	85.8	86.0	85.0	77.2	71.4	66.9	61.8	59.2	58.2	60.2	55.7	51.1	45.6	59.5	64.3	65.5	71.8	70.8	71.1	74.1	86.0	69.2
15	74.7	77.4	77.8	76.4	75.6	75.4	73.9	63.5	54.9	43.0	31.9	29.7	28.9	27.8	23.7	23.7	24.8	25.1	26.5	29.6	32.2	34.7	39.6	44.9	77.8	46.5
16	49.9	58.1	57.0	58.0	57.8	56.4	54.4	50.0	45.6	35.7	28.2	24.6	23.3	23.6	23.2	23.7	23.6	25.4	25.2	27.8	33.3	50.4	49.2	48.7	58.1	39.7
17	54.6	61.3	69.5	77.7	83.9	79.2	70.9	60.3	52.9	44.7	35.4	30.3	24.6	22.4	20.9	20.3	20.3	21.3	22.7	25.9	29.7	45.9	54.5	36.1	83.9	44.4
18	31.1	32.1	34.9	39.7	44.8	48.5	48.3	45.0	38.8	32.8	31.2	18.3	16.8	15.5	16.8	16.9	16.2	16.9	18.6	20.9	22.4	24.9	47.8	63.4	63.4	30.9
19	63.2	66.8	67.2	68.8	71.8	64.0	60.4	60.8	57.8	46.8	20.1	15.7	15.1	14.9	15.5	15.0	14.7	15.7	17.5	19.0	22.6	25.0	27.3	28.1	71.8	37.2
20	30.0	31.1	33.2	38.5	41.2	43.6	47.1	41.8	37.8	32.8	33.6	31.8	29.0	29.4	30.2	31.8	33.3	34.0	34.9	38.4	43.4	52.1	46.8	57.1	57.1	37.6
21	65.4	73.9	73.7	79.6	80.8	82.2	80.8	57.9	48.1	38.4	38.6	34.4	29.5	29.1	28.5	29.0	29.4	30.3	30.9	33.1	36.8	37.9	48.0	60.7	82.2	49.0
22	70.3	54.2	52.3	55.6	60.5	63.0	62.6	59.4	53.4	46.2	36.4	30.5	27.0	23.6	25.0	25.4	26.5	28.0	28.9	35.6	43.0	59.9	68.6	72.7	72.7	46.2
23	76.1	79.7	70.8	67.7	63.3	63.2	61.4	56.2	49.7	41.8	31.9	22.8	20.5	18.6	18.1	17.0	17.4	17.8	18.8	22.4	27.1	34.7	34.7	33.2	79.7	40.2
24	37.4	39.9	51.0	55.5	54.4	51.3	49.2	46.6	47.5	46.7	36.6	27.6	25.2	23.1	20.8	34.1	46.8	41.4	45.4	43.9	56.7	75.2	85.7	85.7	46.9	
25	85.3	87.8	88.7	84.6	84.8	69.9	48.7	42.8	33.2	28.1	23.6	20.6	16.7	14.2	13.6	13.2	13.5	14.1	14.7	18.5	21.1	23.2	23.7	25.5	88.7	37.9
26	28.4	32.9	35.9	39.5	42.9	45.2	48.6	43.9	38.0	32.3	25.9	22.5	19.6	17.8	16.5	15.8	15.7	16.3	18.8	23.4	27.7	36.6	39.7	48.6	29.8	
27	32.5	34.8	39.8	41.9	44.8	48.3	49.6	46.0	40.2	34.0	28.4	22.9	19.7	17.8	15.7	14.7	15.0	16.1	18.5	23.1	33.2	46.6	48.6	49.6	32.4	
28	43.2	44.4	45.3	48.1	52.3	52.3	54.9	51.9	48.9	38.6	31.6	29.9	29.4	28.8	26.1	24.7	26.1	27.8	29.6	33.5	37.6	40.9	49.6	58.1	39.7	
29	64.7	68.5	71.3	75.1	81.6	86.0	86.8	82.8	67.2	58.0	52.0	43.5	42.4	41.2	39.7	40.4	42.5	46.4	49.8	59.9	69.8	77.0	75.2	86.8	60.9	
30	69.3	68.3	62.8	61.5	5																					

Lagoon Precipitation (mm) – August 2017

1-hour Precipitation (mm) at Trailer

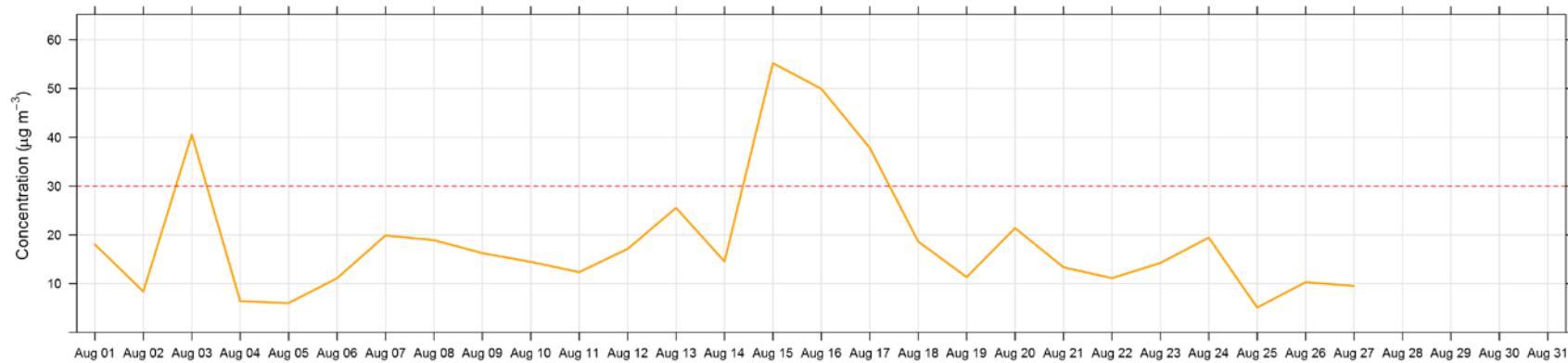


West PM_{2.5} ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	Daily & Hourly Data Summary																							Daily Max	24-hour Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
1	21.1	20.0	18.2	17.6	19.1	19.7	22.3	23.5	25.1	26.0	23.7	25.6	30.0	33.0	31.9	17.4	15.2	9.1	8.8	4.7	4.8	4.3	4.6	7.2	33.0	18.0		
2	7.2	6.9	5.2	5.2	5.7	5.4	6.8	7.0	8.8	11.3	10.1	11.5	10.9	10.8	9.5	9.2	7.6	7.2	8.2	8.9	8.6	9.4	9.4	10.3	11.5	8.4		
3	11.4	11.1	10.8	11.4	11.7	12.7	17.2	23.3	28.2	28.6	29.8	34.8	28.5	28.1	41.9	71.3	114.9	98.1	87.5	93.3	56.6	47.3	36.5	38.8	114.9	40.6		
4	29.9	14.2	7.8	6.5	2.5	1.8	2.3	3.1	3.0	4.7	6.0	5.8	6.3	6.3	5.0	3.4	3.1	4.2	5.4	6.6	5.9	6.7	6.6	6.3	29.9	6.4		
5	6.0	7.0	10.7	5.2	3.4	3.7	4.0	7.9	6.2	6.1	6.8	6.5	5.5	5.2	7.2	6.3	4.0	5.2	7.3	9.0	5.2	5.2	5.4	5.9	10.7	6.0		
6	6.3	7.5	7.8	8.2	8.2	7.8	8.0	8.1	9.1	9.2	8.5	11.4	16.5	14.8	15.9	12.3	10.3	10.9	11.8	13.6	15.3	15.6	14.9	14.8	16.5	11.1		
7	14.7	15.3	17.5	18.3	19.4	21.7	28.5	32.8	31.7	18.6	14.5	14.1	13.2	13.1	13.7	15.0	19.2	23.1	22.0	21.4	22.3	23.4	21.8	21.8	32.8	19.9		
8	20.7	21.3	20.2	16.7	15.9	16.5	17.5	21.3	21.1	23.8	22.6	23.8	24.8	23.0	19.6	18.3	17.0	16.3	16.3	15.5	14.9	15.0	15.4	16.6	24.8	18.9		
9	17.0	17.8	17.9	18.3	17.4	17.5	17.1	20.2	20.7	19.0	16.3	14.0	15.2	14.7	13.1	12.4	12.7	11.7	13.1	14.9	15.2	15.3	19.9	18.7	20.7	16.2		
10	18.3	18.2	18.5	18.4	18.5	19.0	19.9	21.5	21.2	18.8	15.6	11.0	10.3	10.3	10.9	9.6	9.3	9.4	10.1	10.8	12.1	12.4	11.6	11.3	21.5	14.5		
11	11.4	11.3	12.2	15.8	16.4	15.6	16.4	18.5	18.0	16.7	12.8	11.8	11.3	15.0	10.4	10.4	9.1	9.5	8.5	8.7	9.1	9.4	9.3	8.9	18.5	12.4		
12	9.2	9.6	10.5	12.3	13.2	13.7	14.6	16.0	16.7	16.1	15.1	17.3	18.2	15.5	13.2	12.6	12.2	13.9	17.4	22.1	26.7	30.0	31.6	33.1	33.1	17.1	62.6	25.5
13	34.6	37.2	43.7	49.1	51.6	54.9	58.3	61.2	62.6	34.4	16.2	16.7	9.7	7.4	8.0	8.1	7.3	7.0	6.3	6.7	7.1	9.0	6.2	9.2	57.2	14.5		
14	50.6	57.2	4.4	2.7	3.4	3.8	4.7	4.7	5.5	5.5	6.1	5.2	4.4	4.5	5.0	7.2	15.8	15.4	5.9	8.1	10.3	26.3	44.8	47.6	86.2	55.2		
15	51.4	57.3	60.0	61.5	62.0	61.4	59.2	53.3	45.7	41.2	40.9	39.4	42.9	42.6	35.2	39.4	41.5	44.3	54.7	64.5	71.4	82.8	86.0	86.2	91.8	49.9		
16	89.7	90.6	91.8	91.6	91.0	90.4	89.1	85.0	80.7	73.9	34.9	22.2	18.3	17.0	16.3	18.5	19.9	20.3	21.0	24.0	26.2	25.5	27.8	32.8	61.4	37.8		
17	40.0	41.1	43.4	51.2	52.8	52.9	47.6	39.5	38.5	40.2	34.4	51.2	61.4	48.5	38.2	30.0	26.6	26.1	24.7	23.3	23.6	25.0	24.1	23.5	79.0	18.6		
18	22.2	22.2	23.9	25.6	26.9	26.9	28.1	28.0	27.7	24.9	20.0	6.9	5.6	5.1	5.4	4.4	4.1	3.5	2.9	2.4	2.4	2.2	47.1	79.0	48.2	11.3		
19	48.2	12.8	6.7	5.4	5.2	3.9	3.1	4.0	6.9	11.0	18.4	13.9	14.1	12.6	11.9	12.6	12.8	12.6	12.4	10.8	8.8	8.1	7.4	8.4	69.1	21.4		
20	8.9	9.0	9.0	9.6	11.1	13.2	15.4	17.7	28.0	62.2	69.1	54.4	34.6	21.6	20.4	17.8	14.7	11.8	11.9	11.8	12.6	14.4	16.7	17.1	22.5	13.3		
21	18.1	19.4	18.9	21.9	20.7	20.2	22.5	22.3	20.6	14.8	10.9	10.0	7.9	7.9	7.1	7.1	7.2	6.9	7.2	8.6	9.7	9.6	10.1	10.6	20.0	11.1		
22	12.3	12.8	14.7	15.0	15.1	15.3	17.8	20.0	17.4	15.8	13.2	9.0	6.9	5.1	5.5	5.7	6.1	5.6	6.0	7.2	9.0	10.4	10.1	11.0	28.4	14.2		
23	12.1	12.1	12.5	12.5	12.0	11.8	12.5	15.4	16.9	14.2	10.3	9.8	8.9	9.4	10.5	13.6	13.0	10.3	12.1	15.1	18.8	22.5	26.9	28.4	37.9	19.4		
24	29.2	30.8	30.9	30.0	28.9	27.1	27.5	32.7	37.9	24.7	16.5	13.0	11.7	11.2	10.0	12.4	12.6	10.7	11.8	15.8	20.8	10.0	5.1	5.2	6.8	5.1		
25	4.0	4.3	5.6	6.5	3.8	2.7	3.0	4.3	6.8	5.9	6.2	6.7	6.2	6.2	6.5	6.0	4.4	3.4	3.5	4.4	5.1	5.9	5.6	5.5	-	-		
26	5.9	8.1	9.3	10.0	10.3	10.1	10.0	9.7	9.6	8.3	6.5	5.3	4.1	3.3	3.8	4.7	7.2	14.3	22.3	23.7	20.6	16.7	12.9	10.3	23.7	10.3		
27	8.8	9.0	9.4	9.5	9.9	10.4	10.3	10.1	9.9	9.8	8.2	4.8	4.1	6.5	7.1	7.2	10.1	11.6	13.6	11.6	10.8	13.5	12.1	10.2	13.6	9.5		
28	10.4	11.2	12.5	13.5	14.2	14.8	16.6	18.9	20.1	14.7	SM	SM	SM	SM	SM	SM	SM	SM	-	-								
29	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-		
30	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-		
31	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-		
Hourly Max	89.7	90.6	91.8	91.6	91.0	90.4	89.1	85.0	80.7	73.9	69.1	54.4	61.4	48.5	41.9	71.3	114.9	98.1	87.5	93.3	71.4	82.8	86.0	86.2				
Hourly Average	22.1	21.3	19.8	20.3	20.4	20.5	21.4	22.5	23.0	21.4	18.3	16.9	16.0	14.8	14.2	14.6	16.2	15.6	16.0	17.3	16.8	17.6	19.6	21.4				

SM = SERVER MIGRATION AND ANNUAL CALIBRATION / MAINTENANCE

24-hour PM_{2.5} ($\mu\text{g m}^{-3}$) at West



Number of 1HR Exceedances	16		Guideline	80	UG/M3
Number of 24HR Exceedances	4		Guideline	30	UG/M3
Number of Non-Zero Readings	658				
Maximum 1-HR Average	114.9		UG/M3		
Maximum 24-HR Average	55.2		UG/M3		
IZS Calibration Time	0	HRS	Operational Time	658	HRS
Monthly Calibration Time	0	HRS	Operational Uptime	88.4	%
Standard Deviation	17.5		Monthly Average	18.7	UG/M3

West PM₁₀ ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	36.2	35.8	32.7	28.2	31.9	33.2	47.9	53.8	52.9	46.7	53.4	66.6	60.4	54.3	62.1	31.9	17.8	11.3	10.9	5.9	5.2	4.6	5.2	9.6	66.6	33.3
2	9.6	9.3	5.9	5.6	6.2	5.8	9.2	9.3	19.1	24.4	24.4	32.2	25.6	30.7	30.5	20.3	13.0	10.8	11.7	13.8	12.8	16.6	13.6	14.6	32.2	15.6
3	16.7	16.0	14.4	14.3	13.6	14.5	23.5	44.4	58.3	45.0	52.3	58.6	42.7	40.9	60.4	88.0	132.6	109.5	97.0	103.1	75.7	60.8	46.7	49.9	132.6	53.3
4	70.7	36.4	12.3	8.7	5.3	2.3	4.4	8.1	7.1	19.7	18.7	17.6	18.2	42.6	31.3	24.5	17.8	16.1	17.4	20.2	13.1	13.2	11.2	9.2	70.7	18.6
5	8.0	11.2	27.0	6.4	3.9	4.1	5.3	17.9	13.9	14.5	22.3	19.4	12.7	14.2	44.3	31.6	8.4	21.1	27.9	16.3	5.9	5.6	5.7	6.5	44.3	14.7
6	7.2	9.4	9.4	9.4	8.9	8.3	8.6	9.1	13.3	12.8	13.5	19.3	26.9	22.5	34.9	22.9	16.0	16.6	17.5	19.1	19.7	19.2	18.4	18.7	34.9	15.9
7	18.5	21.6	30.4	24.6	24.8	26.1	32.7	37.4	44.0	30.0	24.8	26.6	24.8	23.1	28.7	24.9	30.3	28.3	26.7	25.4	25.8	26.8	24.3	24.7	44.0	27.3
8	22.0	22.8	22.1	18.8	16.9	18.9	22.9	32.0	31.6	35.4	32.7	38.7	41.8	42.2	50.9	40.4	27.3	25.5	20.1	18.0	17.3	17.2	17.9	20.7	50.9	27.3
9	20.6	21.9	21.1	20.6	19.9	19.7	19.3	41.7	55.0	47.3	33.5	36.3	37.9	37.6	27.3	20.8	21.1	23.9	27.5	25.0	21.0	19.7	38.9	29.8	55.0	28.6
10	25.8	23.6	22.6	22.1	21.9	22.7	32.2	49.3	48.6	42.5	71.2	36.8	35.5	32.6	36.1	27.0	18.6	18.7	17.6	17.7	22.5	23.9	22.6	20.2	71.2	29.7
11	20.7	19.8	22.0	29.6	24.5	22.9	23.8	36.4	40.5	50.7	49.1	40.1	31.0	84.2	35.3	35.9	25.8	28.0	19.2	19.8	21.1	18.8	19.6	17.5	84.2	30.7
12	17.0	18.6	19.0	20.6	21.0	20.1	21.0	27.2	29.3	28.5	27.8	39.0	35.6	35.2	26.0	24.3	24.3	25.3	28.1	31.3	34.4	39.0	40.7	43.6	43.6	28.2
13	52.0	53.6	53.0	58.3	57.6	60.0	63.5	68.1	70.9	45.5	28.4	29.9	28.3	9.2	10.1	10.1	8.7	8.0	7.9	8.9	8.3	19.8	7.0	11.3	70.9	32.4
14	55.3	62.6	6.1	3.2	3.9	4.4	6.1	6.3	9.7	14.6	16.8	11.6	10.1	9.4	9.8	18.8	21.6	28.1	13.0	9.6	10.7	27.3	46.1	49.2	62.6	18.9
15	53.2	58.7	61.5	63.0	63.4	63.2	62.8	59.4	55.4	52.1	46.6	46.9	49.3	54.8	41.3	45.9	45.0	46.2	56.5	68.8	73.0	86.2	89.5	88.8	89.5	59.6
16	91.5	92.3	93.6	93.4	92.8	92.5	97.7	94.6	92.9	95.2	55.0	32.4	26.4	26.5	21.4	26.7	24.2	22.5	22.4	26.6	27.1	26.2	31.2	37.6	97.7	55.9
17	48.7	49.5	52.4	58.9	60.4	65.5	61.3	61.6	79.1	71.9	54.9	63.6	70.5	60.9	54.5	37.7	32.7	31.0	27.6	25.0	26.4	27.6	25.8	25.8	79.1	48.9
18	24.3	24.4	26.2	26.7	27.8	28.3	39.6	46.7	51.6	56.8	47.6	21.2	18.3	15.8	18.5	14.4	9.6	7.2	5.8	4.4	4.1	3.8	110.6	98.6	110.6	30.5
19	56.9	19.5	8.8	7.1	7.2	5.1	4.0	11.2	26.9	25.2	24.8	15.8	16.3	14.8	14.7	16.2	15.6	14.3	13.5	11.6	9.4	9.4	7.7	10.3	56.9	15.3
20	9.8	9.6	9.6	10.5	12.0	14.0	16.4	19.2	31.2	66.9	73.5	58.8	38.2	26.6	22.3	17.2	12.6	16.6	12.3	13.2	14.8	17.2	17.4	73.5	23.4	
21	18.4	19.7	19.9	27.3	23.0	20.6	28.6	46.8	36.2	24.1	30.5	29.1	21.2	20.2	19.8	18.2	13.9	10.9	9.0	10.6	10.6	10.5	11.2	11.4	46.8	20.5
22	13.1	13.5	15.4	16.3	16.0	16.9	37.9	68.6	45.6	35.4	32.9	23.6	31.1	20.0	27.1	32.6	21.1	15.3	15.8	17.3	20.9	22.8	20.4	22.5	68.6	25.1
23	27.6	26.9	26.1	23.6	19.0	17.3	21.5	60.0	70.4	49.3	33.9	34.0	25.2	22.3	23.3	30.3	20.3	15.5	15.6	19.0	23.0	27.2	37.5	33.1	70.4	29.2
24	34.5	36.6	34.0	32.3	31.1	32.0	38.4	78.1	120.5	57.7	37.8	29.7	26.9	36.2	28.6	32.3	22.0	14.2	14.1	20.3	25.4	12.8	7.6	7.7	120.5	33.8
25	5.7	6.0	7.7	7.6	4.2	3.0	5.3	16.6	26.6	12.7	16.6	20.7	16.9	15.9	14.3	15.1	7.4	5.7	4.3	5.0	5.6	6.3	6.8	6.3	26.6	10.1
26	6.8	9.7	9.9	10.6	10.8	10.7	10.9	11.2	12.8	12.2	11.2	14.0	11.6	7.4	7.8	7.9	8.7	16.3	23.3	25.1	22.7	18.2	14.5	11.8	25.1	12.7
27	10.0	9.9	10.2	10.1	10.6	11.4	11.6	11.9	13.4	12.6	11.3	10.2	10.8	12.1	9.6	9.0	11.6	12.8	15.5	13.4	12.3	15.3	14.5	11.9	15.5	11.7
28	11.4	11.9	13.5	14.4	15.1	15.9	25.5	58.7	66.8	34.6	SM	SM	SM	SM	SM	SM	SM	SM	-	-						
29	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-								
30	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-								
31	SM	SM	SM	SM	SM																					

West TSP ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	45.4	45.8	40.3	31.7	34.7	32.2	61.9	72.1	71.0	61.0	93.4	142.1	119.7	71.5	119.9	77.4	13.7	7.9	7.4	4.0	3.4	3.0	3.4	6.5	142.1	48.7
2	6.6	6.3	3.9	3.7	4.0	3.7	6.7	6.9	29.1	38.9	48.4	84.1	54.1	75.1	82.9	39.3	24.6	12.7	12.7	12.3	9.8	14.3	9.2	10.7	84.1	25.0
3	12.8	11.7	9.9	9.5	8.9	9.6	19.7	58.9	80.8	55.4	68.1	74.9	42.7	45.8	69.7	92.9	164.5	124.2	85.7	84.0	55.7	46.3	34.4	36.2	164.5	54.3
4	172.2	73.4	19.9	10.0	8.3	2.1	11.0	11.5	14.4	46.3	39.3	38.1	36.0	145.5	90.7	78.5	45.4	42.9	38.0	46.5	21.9	15.6	9.6	6.0	172.2	42.6
5	5.2	9.3	27.6	4.8	3.0	2.6	6.4	26.4	21.3	30.4	57.0	36.3	20.9	34.4	130.0	60.8	24.4	64.7	42.4	10.9	3.8	3.6	3.7	4.2	130.0	26.4
6	4.7	6.2	6.1	6.1	5.8	5.4	5.6	5.9	12.1	13.8	16.7	26.7	34.9	21.4	75.8	44.4	15.7	16.8	17.3	17.1	15.6	13.6	12.6	13.2	75.8	17.2
7	12.8	14.9	22.2	16.4	16.5	17.2	22.6	28.4	40.5	33.5	32.5	38.6	37.8	35.0	65.6	34.7	49.5	19.9	18.0	16.9	17.1	17.8	15.8	16.2	65.6	26.7
8	14.2	14.7	14.3	12.2	10.9	12.9	16.7	29.7	29.6	37.2	29.0	60.7	70.7	88.3	142.8	106.3	45.0	33.3	16.4	13.1	12.0	11.3	12.0	13.9	142.8	35.3
9	13.7	14.4	13.8	13.4	13.0	13.2	12.8	53.9	73.9	72.4	52.9	64.2	67.6	61.5	57.9	27.4	26.5	34.0	39.3	30.4	15.6	14.2	34.0	20.6	73.9	35.0
10	18.0	17.1	17.1	17.4	15.8	17.2	29.1	58.7	50.7	71.2	155.5	83.5	79.1	75.8	84.4	50.9	28.1	22.4	16.7	14.7	24.9	19.9	17.2	13.8	155.5	41.6
11	15.6	14.1	16.9	24.5	19.2	17.1	17.5	35.7	48.6	74.4	115.1	80.2	51.1	235.9	70.6	72.6	49.0	44.8	25.3	31.4	27.0	16.3	13.5	13.7	235.9	47.1
12	12.0	13.5	13.2	20.3	19.4	23.4	24.4	32.9	34.1	38.6	28.9	51.0	43.7	62.5	35.1	37.4	32.7	28.3	31.5	26.1	26.0	27.2	27.3	30.2	62.5	30.0
13	35.4	38.3	39.4	43.5	44.0	45.3	46.3	51.1	54.7	43.0	47.4	53.0	97.3	9.7	9.9	10.5	8.5	6.0	9.0	9.5	6.0	48.8	4.9	7.6	97.3	32.0
14	36.3	42.4	9.2	2.2	2.6	2.9	4.6	5.3	11.0	32.8	29.3	25.8	19.9	16.4	14.5	38.2	29.0	50.4	23.8	7.8	6.9	17.6	29.8	31.9	50.4	20.4
15	34.4	38.0	39.8	40.7	40.9	41.4	42.4	45.0	54.3	54.7	44.1	52.2	49.6	65.3	41.6	53.0	38.4	35.9	38.4	51.5	48.8	57.6	59.1	57.6	65.3	46.9
16	60.5	60.2	61.5	60.9	62.8	62.7	80.2	104.1	86.0	101.5	92.8	47.1	37.9	44.1	23.3	46.7	27.3	17.8	16.4	19.7	18.6	17.0	24.7	26.1	104.1	50.0
17	36.8	33.2	36.3	38.9	40.9	45.6	41.5	58.9	102.7	89.2	78.4	70.0	77.7	72.4	69.3	49.4	35.6	30.7	23.1	19.4	21.5	21.7	18.9	18.8	102.7	47.1
18	18.3	19.2	20.5	18.5	18.5	18.9	56.3	67.2	71.5	98.1	83.7	58.9	52.4	38.0	44.3	40.5	25.7	18.1	12.0	10.1	5.9	4.4	234.5	109.1	234.5	47.7
19	57.8	30.7	13.6	7.2	9.2	4.5	3.4	25.2	49.2	38.4	34.9	16.1	17.0	15.3	19.4	22.0	21.3	11.5	10.5	8.0	6.5	7.9	5.0	8.5	57.8	18.5
20	9.9	6.4	6.3	7.6	7.8	10.2	11.2	13.6	25.5	50.4	54.0	46.8	29.9	29.1	16.9	23.9	14.9	8.7	24.1	8.5	9.5	10.7	11.2	11.5	54.0	18.7
21	12.0	12.9	13.3	18.5	16.5	13.3	22.9	58.4	51.5	41.4	74.1	54.2	48.8	41.4	42.0	33.8	24.6	16.6	6.5	10.8	8.2	10.0	7.9	7.7	74.1	27.0
22	8.8	9.2	10.9	11.6	10.5	16.8	52.0	89.5	72.6	44.9	62.1	45.4	83.1	37.4	73.2	76.3	48.4	26.3	19.4	20.2	17.2	16.4	15.5	17.0	89.5	36.9
23	20.5	22.8	18.6	20.9	15.6	12.4	22.1	85.2	92.9	87.2	60.6	64.3	51.2	42.9	36.3	58.9	21.6	15.4	11.8	13.1	18.3	19.5	30.3	25.7	92.9	36.2
24	26.0	28.0	30.0	23.8	24.0	29.3	33.6	80.2	134.9	81.2	75.6	65.9	51.7	100.4	56.9	75.5	42.6	15.0	11.1	21.9	25.5	10.1	7.0	6.4	134.9	44.0
25	4.5	4.6	5.5	5.0	2.9	3.2	11.0	34.2	66.5	31.7	40.7	37.8	35.4	34.8	21.6	34.6	10.3	14.5	5.8	4.6	4.0	5.1	6.5	4.4	66.5	17.9
26	4.8	7.7	8.3	7.0	7.0	7.3	7.8	8.9	10.4	13.1	15.5	15.8	20.4	10.8	14.6	16.8	11.3	15.4	17.0	20.9	18.2	13.0	11.0	9.3	20.9	12.2
27	7.2	7.3	7.9	6.6	7.7	8.1	8.1	8.1	12.2	12.5	11.0	9.9	18.3	15.9	14.8	8.9	12.2	13.7	13.0	12.8	10.7	10.4	11.2	7.8	18.3	10.7
28	7.4	7.7	9.0	9.4	10.0	11.2	26.9	62.2	104.3	55.6	SM	SM	SM	SM	SM	SM	SM	-	-							
29	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-
30	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	-	-
31	SM	SM	SM	SM	SM																					

Berm PM_{2.5} ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	19.2	16.5	15.3	15.6	17.2	17.9	18.2	20.6	20.9	22.1	22.8	23.9	27.3	30.5	29.6	14.8	13.0	7.1	8.2	6.0	6.0	7.3	8.7	8.5	30.5	16.6
2	8.2	6.8	6.4	5.3	4.0	3.0	3.8	6.8	10.7	9.4	8.7	10.0	9.1	8.2	7.9	7.3	7.2	6.5	7.0	7.5	8.2	8.9	8.2	8.5	10.7	7.4
3	8.7	9.1	10.2	11.4	11.0	13.8	17.3	26.5	25.3	27.7	30.4	46.9	33.9	35.5	51.9	83.5	116.0	118.3	99.4	56.5	25.2	38.1	48.4	42.5	118.3	41.1
4	18.3	10.1	5.8	4.3	1.5	1.8	1.7	3.1	2.3	3.7	4.2	3.8	4.2	2.6	1.8	1.7	1.9	2.7	3.2	3.9	4.2	5.2	5.5	5.5	18.3	4.3
5	5.5	6.5	6.4	5.9	3.6	3.8	4.4	4.6	4.6	5.0	5.1	4.6	4.6	3.5	4.4	3.4	3.2	3.3	3.7	6.1	4.1	4.0	4.1	4.2	6.5	4.5
6	4.7	5.2	5.4	6.6	5.9	6.4	6.7	8.1	8.0	8.8	11.3	15.2	14.5	14.6	14.6	12.2	9.8	9.8	10.2	10.7	12.3	14.0	13.5	13.2	15.2	10.1
7	13.0	13.2	24.3	15.2	18.3	25.3	28.9	33.0	22.8	13.5	12.9	12.8	11.7	11.8	13.6	14.2	16.7	21.9	20.2	20.9	21.2	22.2	20.5	21.1	33.0	18.7
8	21.3	24.1	17.5	16.0	14.6	14.4	14.2	16.7	17.2	17.8	18.4	19.9	21.7	20.4	16.9	16.0	15.2	14.2	13.7	14.4	14.7	14.9	17.0	14.7	24.1	16.9
9	14.4	13.8	13.9	11.8	13.1	14.9	18.1	25.9	30.9	18.3	22.2	11.1	13.6	11.9	12.2	11.3	12.7	11.1	12.5	14.3	29.7	17.0	18.6	30.9	16.3	
10	19.1	18.1	17.5	17.8	17.8	18.2	46.3	56.5	63.7	24.7	10.9	9.1	9.0	8.7	8.6	8.9	8.8	9.6	8.8	9.3	10.6	12.5	13.3	10.5	63.7	18.3
11	10.3	10.1	12.6	12.0	11.3	11.4	13.5	21.8	19.5	14.9	11.2	10.0	9.9	9.2	8.7	8.9	8.4	7.9	7.3	7.4	7.5	8.9	8.1	8.0	21.8	10.8
12	8.0	8.2	8.5	10.1	11.2	11.7	13.4	12.9	14.0	13.9	15.4	17.7	14.7	14.7	12.0	12.0	12.1	13.1	15.7	18.8	21.9	25.5	28.6	30.8	30.8	15.2
13	34.3	40.7	46.5	51.2	52.9	55.8	58.7	59.9	57.4	38.9	24.8	30.3	36.3	17.4	17.4	15.2	15.3	14.6	13.9	8.0	7.2	7.6	4.9	5.6	59.9	29.8
14	8.4	14.3	13.8	2.2	2.6	3.4	2.9	3.7	4.4	5.6	5.1	9.2	16.9	10.0	11.4	18.7	34.9	8.5	4.4	9.8	12.3	14.6	35.7	58.2	58.2	13.0
15	67.4	63.1	62.5	59.8	56.9	54.2	51.7	45.8	41.0	40.4	44.1	48.5	59.3	71.6	51.5	51.9	50.8	48.4	54.4	61.0	67.3	76.2	80.1	82.4	82.4	57.9
16	85.6	87.2	88.7	88.5	84.6	83.7	80.9	78.6	74.9	67.9	43.8	32.5	36.7	44.1	27.4	32.1	30.2	34.4	26.1	29.9	24.6	25.8	31.3	37.9	88.7	53.2
17	40.4	41.4	41.8	39.4	41.0	43.4	43.9	40.5	39.4	38.3	34.2	71.3	105.3	94.2	72.1	66.6	55.9	103.4	27.4	23.6	23.1	23.1	23.9	19.9	105.3	48.1
18	18.5	18.2	20.7	23.1	24.9	24.3	26.0	25.0	26.2	32.8	75.1	65.7	42.1	87.6	56.6	53.3	42.6	50.7	27.2	13.2	6.6	21.6	50.5	70.5	87.6	37.6
19	40.7	10.5	5.6	5.5	4.4	3.1	2.5	4.5	4.3	9.8	46.7	37.0	24.5	24.7	25.0	37.7	53.0	33.6	25.1	21.1	15.2	13.0	15.5	10.1	53.0	19.7
20	9.1	8.0	8.2	9.4	12.0	14.9	18.0	30.2	62.0	81.9	62.3	40.9	44.4	30.9	37.1	27.0	21.9	14.7	14.0	14.0	12.4	13.7	15.8	81.9	25.4	
21	16.5	14.3	18.3	15.4	17.2	23.8	22.8	20.9	33.4	33.6	28.1	25.5	22.1	23.4	23.1	26.3	33.3	31.4	9.2	9.5	9.1	9.3	8.8	8.9	33.6	20.2
22	8.7	9.6	12.3	12.7	12.7	13.1	14.2	24.3	16.0	15.9	20.0	17.8	11.5	7.2	6.2	4.9	4.4	4.9	5.3	6.3	9.9	8.1	8.7	8.6	24.3	11.0
23	8.4	8.7	10.2	10.6	10.4	11.3	12.9	14.5	13.6	20.8	10.2	13.2	11.3	15.1	14.3	18.8	21.9	12.1	15.6	13.1	14.7	18.6	29.1	29.1	14.7	
24	26.3	27.7	26.5	26.2	24.2	23.1	27.0	36.6	50.7	42.3	73.2	35.9	50.3	101.5	117.6	46.4	18.6	14.1	14.5	14.9	18.7	6.5	4.2	3.7	117.6	34.6
25	2.7	3.8	4.8	6.1	4.5	2.8	2.6	3.6	12.0	19.4	17.5	13.8	17.1	36.1	17.0	17.3	21.0	19.9	9.1	11.4	8.4	8.1	6.1	5.2	36.1	11.3
26	5.4	7.7	8.8	9.4	12.6	11.5	10.7	11.9	13.0	11.7	24.0	15.5	21.3	73.3	27.3	48.7	53.5	35.0	25.3	28.4	21.8	14.9	10.3	9.3	73.3	21.3
27	7.6	8.8	8.4	8.6	10.6	9.5	12.3	18.9	10.6	18.5	11.6	27.4	18.8	29.4	36.4	56.6	59.7	37.0	18.2	18.6	11.3	11.1	8.5	8.7	59.7	19.5
28	10.9	10.1	10.8	11.7	12.5	15.4	15.7	21.3	21.9	23.0	11.3	9.5	9.1	8.1	6.3	6.4	6.5	8.5	8.6	9.4	11.9	12.3	11.5	10.7	23.0	11.8
29	10.8	12.0	11.0	10.8	9.4	9.5	11.2	18.1	17.0	14.9	16.0	15.1	15.0	16.5	14.0	15.1	14.6	16.1	18.2	18.7	21.8	18.2	17.5	22.5	22.5	15.2
30	24.9	30.2	36.5	46.5	56.6	61.2	68.3	72.0	74.1	74.7	75.0	68.8	48.7	61.2	107.9	48.4	46.0	59.1	47.5	53.2	50.4	57.				

Berm PM₁₀ ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	40.6	29.3	25.6	23.5	24.8	28.2	25.9	34.8	33.4	32.5	40.4	53.2	48.0	50.7	65.2	20.1	14.1	7.7	8.9	6.5	6.4	7.8	10.9	10.7	65.2	27.1
2	9.3	7.7	7.1	5.9	4.3	3.1	4.4	9.5	24.7	21.6	14.2	12.5	11.9	12.2	14.0	12.6	14.1	10.5	11.3	13.8	13.6	15.4	11.3	11.1	24.7	11.5
3	10.4	11.4	13.7	15.7	14.1	18.1	31.4	82.0	52.3	75.8	98.0	200.5	111.2	161.4	216.7	281.0	264.0	362.6	145.0	84.9	65.2	53.5	54.9	56.7	362.6	103.3
4	50.1	18.6	7.7	5.1	1.9	2.6	2.2	8.8	3.4	8.6	7.3	6.7	10.8	8.2	7.2	6.2	5.4	5.5	6.4	7.6	7.1	8.8	8.6	9.0	50.1	8.9
5	8.1	12.4	10.7	10.1	5.2	4.4	6.6	6.1	6.4	7.6	6.7	5.9	8.3	6.4	12.2	7.9	5.0	5.3	7.4	10.7	4.9	4.5	4.4	4.5	12.4	7.2
6	5.2	5.7	6.0	8.4	6.5	7.3	9.4	25.3	21.2	24.8	43.5	44.2	27.5	29.7	25.0	30.9	17.0	18.6	17.9	16.5	18.6	22.3	17.5	16.2	44.2	19.4
7	15.9	15.7	80.1	19.2	23.1	50.0	36.5	52.1	40.7	20.8	19.4	20.7	22.4	22.3	35.1	23.5	27.0	29.1	24.6	25.7	24.1	24.9	22.5	24.2	80.1	29.1
8	23.0	27.2	19.2	19.1	16.1	15.5	15.5	22.4	23.4	22.7	23.4	24.2	27.7	24.7	25.7	26.4	23.9	20.8	17.2	18.8	19.7	20.6	36.7	15.7	36.7	22.1
9	15.3	15.0	15.7	12.8	21.4	21.7	55.8	121.2	129.2	45.4	100.5	25.7	32.9	26.9	28.0	20.1	34.9	31.4	25.3	24.4	130.1	30.1	35.1	26.3	130.1	42.7
10	41.3	30.4	22.1	21.2	23.7	217.1	335.8	421.9	94.6	24.7	22.4	22.9	21.6	17.8	23.9	19.8	27.2	17.4	16.9	22.5	28.6	36.2	17.4	421.9	64.6	
11	17.0	16.5	25.8	20.9	17.7	16.9	24.3	94.4	59.4	46.1	33.1	26.2	23.8	24.9	24.0	25.6	23.1	21.8	18.9	19.1	22.5	29.8	23.1	17.8	94.4	28.0
12	13.0	12.5	13.0	16.1	19.1	20.2	26.7	20.3	24.3	25.5	53.1	49.4	29.4	31.6	23.6	24.3	25.7	24.1	25.8	32.6	30.0	31.8	35.2	35.4	53.1	26.8
13	40.6	53.8	58.1	61.3	63.0	63.8	64.8	66.8	65.0	130.3	114.5	156.1	309.2	78.3	67.1	61.0	80.3	74.0	58.1	22.3	10.9	12.7	5.8	6.0	309.2	71.8
14	9.2	17.2	48.6	2.7	3.1	4.2	3.2	7.0	10.7	21.4	16.6	52.5	115.3	65.3	75.0	105.5	145.5	25.0	5.6	13.2	20.9	16.0	41.1	74.3	145.5	37.5
15	107.8	69.8	70.5	62.3	59.0	56.6	54.3	50.6	47.9	75.4	111.5	134.8	179.3	289.8	191.5	167.6	159.1	125.3	98.4	78.7	83.6	101.4	96.4	85.6	289.8	106.5
16	88.0	89.6	90.9	93.6	86.5	86.8	84.6	92.4	88.2	130.4	160.2	125.9	191.0	241.7	144.1	194.5	151.8	209.1	81.9	80.1	36.5	37.3	44.0	51.8	241.7	111.7
17	55.3	54.6	50.5	44.3	45.3	62.4	75.8	91.3	95.9	90.3	75.8	292.0	530.3	431.2	328.7	329.7	269.5	524.6	76.0	55.4	39.5	26.3	43.3	22.5	530.3	154.6
18	20.9	19.7	24.5	27.3	29.5	27.0	37.1	37.9	75.3	146.5	388.2	387.4	298.9	504.1	360.5	384.5	314.7	339.2	224.1	97.2	37.4	118.7	108.3	82.2	504.1	170.5
19	52.0	15.7	8.4	10.0	8.7	5.1	4.3	16.8	9.2	23.2	278.4	197.4	111.8	132.3	153.0	261.6	326.8	224.9	116.4	90.5	66.0	53.3	77.7	24.0	326.8	94.5
20	15.1	10.4	10.1	10.7	11.3	13.2	17.5	20.3	50.4	142.4	215.7	136.0	141.8	259.4	152.3	241.6	137.0	109.9	45.0	39.0	27.3	15.2	14.9	19.1	259.4	77.3
21	20.6	14.6	22.7	21.9	23.1	40.9	33.2	48.3	118.8	149.5	173.7	158.9	144.7	191.1	131.1	189.9	241.0	246.0	36.1	28.2	16.6	16.2	12.1	11.6	246.0	87.1
22	9.6	10.9	13.3	13.4	13.9	15.9	26.2	128.8	47.5	52.4	121.4	145.6	65.9	44.1	34.4	20.0	13.0	15.0	15.7	20.8	39.4	19.1	21.0	16.8	145.6	38.5
23	13.8	14.4	19.2	18.8	16.1	30.2	42.3	61.6	56.2	138.2	41.8	68.7	53.9	95.0	70.4	90.8	77.5	47.2	77.9	31.8	21.6	31.9	90.4	31.3	138.2	51.7
24	36.3	42.1	29.4	29.0	27.3	25.9	55.3	126.0	222.3	150.6	415.8	246.9	326.3	583.5	752.9	255.0	75.3	58.2	35.3	33.6	35.1	12.0	6.8	5.2	752.9	149.4
25	3.5	5.3	6.3	7.5	5.1	3.4	6.7	15.2	105.9	182.1	157.9	116.9	148.0	300.4	150.6	144.4	215.1	215.6	72.2	87.4	44.1	32.4	14.6	9.0	300.4	85.4
26	7.5	11.8	12.0	14.9	33.4	25.9	22.3	45.8	58.5	58.4	184.7	133.7	198.7	716.9	230.3	426.0	494.0	228.1	89.5	113.8	54.9	22.3	14.4	18.5	716.9	134.0
27	16.0	17.1	13.0	13.5	24.2	15.6	33.6	88.7	32.2	107.6	56.4	254.4	142.2	225.0	285.7	434.0	445.3	319.0	84.1	82.2	23.5	15.8	12.5	15.2	445.3	114.9
28	23.4	17.7	13.2	13.4	16.8	38.4	43.9	91.8	103.7	127.5	42.9	31.1	36.2	33.3	20.5	20.5	23.5	32.9	32.2	34.8	42.5	43.2	39.1	33.8	127.5	39.8
29	32.6	36.2	30.8	29.1	18.3	18.4	24.5	72.1	66.3	47.1	67.9	70.9	73.8	74.4	57.3	62.7	54.5									

Berm TSP ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	59.6	39.6	32.9	27.5	29.0	29.5	26.1	48.7	40.4	33.4	57.0	96.6	69.8	70.0	159.8	37.8	10.7	5.1	5.8	4.2	4.2	5.1	7.3	7.1	159.8	37.8
2	6.0	5.0	4.6	3.8	2.8	2.0	3.1	8.8	36.8	36.9	18.7	12.8	12.2	17.8	21.8	17.1	20.7	14.5	15.8	25.8	17.0	15.6	8.9	9.5	36.9	14.1
3	14.8	9.3	10.8	12.3	13.5	13.7	51.2	231.2	98.9	184.2	268.4	451.4	305.3	434.5	542.7	808.3	799.2	1001.1	204.0	115.3	112.6	64.2	51.1	64.3	1001.1	244.3
4	187.9	58.3	9.9	4.1	1.7	2.8	1.6	14.8	3.9	15.4	7.0	10.7	31.2	20.0	20.0	12.2	10.0	8.1	7.3	8.4	9.4	11.8	7.7	8.5	187.9	19.7
5	7.0	12.5	8.6	9.3	3.8	3.0	6.2	4.5	4.8	7.8	11.5	6.0	15.6	16.4	22.8	11.4	10.0	5.9	13.5	10.3	3.3	3.0	2.9	2.9	22.8	8.5
6	3.5	3.8	3.9	6.5	4.3	4.8	12.6	87.3	53.9	54.6	82.7	82.3	64.4	44.7	47.0	58.3	19.6	34.7	21.6	15.4	15.8	23.7	15.3	15.7	87.3	32.4
7	17.0	12.4	129.3	15.3	19.7	73.7	34.2	59.0	64.0	28.0	23.3	23.9	34.7	38.6	90.2	32.7	44.2	26.2	16.9	17.9	16.0	16.8	14.8	16.1	129.3	36.0
8	14.9	18.1	12.6	12.6	10.5	10.1	10.2	16.6	17.8	16.7	17.1	17.1	29.2	23.8	48.0	45.2	34.0	25.3	14.7	16.1	19.0	20.6	64.8	10.2	64.8	21.9
9	10.0	9.7	10.8	8.6	17.5	18.8	113.7	251.3	242.2	75.1	180.9	41.6	55.0	63.6	65.4	29.7	64.7	51.8	44.6	30.6	128.1	35.6	29.2	27.5	251.3	66.9
10	71.3	76.3	22.8	23.1	22.6	24.0	375.2	457.4	739.7	152.5	47.9	46.5	38.9	38.9	25.8	40.5	31.7	54.7	23.7	17.2	26.9	38.7	45.7	17.8	739.7	102.5
11	15.6	17.6	27.5	17.2	14.5	16.0	39.5	210.0	125.5	72.0	53.0	42.6	31.3	39.6	35.4	45.5	40.1	41.6	26.4	34.1	30.1	47.0	31.9	22.4	210.0	44.9
12	14.2	11.4	11.4	13.8	26.1	37.3	57.6	31.0	32.9	36.6	117.1	68.5	50.4	43.3	30.7	32.6	34.4	37.3	37.1	43.7	26.0	29.9	41.9	25.1	117.1	37.1
13	31.3	56.4	74.8	76.2	75.8	68.1	53.6	58.2	52.4	430.6	472.5	723.6	1100.4	360.9	214.7	258.8	357.8	294.2	217.8	57.5	14.1	15.6	4.1	4.9	1100.4	211.4
14	9.0	22.2	186.4	1.9	2.2	3.0	2.1	13.2	28.2	54.5	34.2	270.7	589.3	385.2	378.8	357.4	352.2	89.6	5.9	13.0	14.0	10.5	31.2	49.1	589.3	121.0
15	104.6	45.4	47.1	45.7	41.4	38.8	38.2	40.5	41.1	115.5	240.4	274.6	386.4	575.3	623.6	563.2	568.3	408.5	241.8	101.1	72.6	87.8	78.5	60.1	623.6	201.7
16	60.0	59.0	62.6	90.7	59.7	63.1	58.7	90.5	90.2	281.6	504.9	446.1	733.6	709.4	395.0	589.5	404.2	629.6	154.9	141.4	33.0	34.9	61.7	56.9	733.6	242.1
17	53.8	43.2	38.5	29.9	32.7	57.8	88.5	204.6	164.5	160.2	140.8	877.8	1636.0	1307.2	1121.7	1106.7	816.4	951.1	199.0	146.3	63.5	19.6	58.5	17.8	1636.0	389.0
18	17.4	14.5	22.7	28.8	32.1	27.3	40.9	48.3	219.7	429.7	660.9	1344.3	1160.7	1376.0	974.2	1347.4	1099.0	1061.6	921.0	357.9	102.4	163.3	262.8	81.4	1376.0	491.4
19	62.6	29.6	9.9	17.4	11.3	4.6	5.4	29.3	12.4	40.5	577.7	478.8	300.2	398.6	499.2	888.8	907.1	649.3	320.8	190.3	140.2	115.4	153.5	30.6	907.1	244.7
20	11.8	10.6	8.1	10.0	8.2	9.9	12.2	18.6	86.8	342.3	399.9	256.5	485.2	1070.0	517.4	843.4	421.8	266.7	89.7	70.6	32.4	10.1	10.5	14.0	1070.0	208.6
21	15.1	9.5	17.8	18.2	17.2	42.8	29.8	76.2	191.9	341.0	421.6	363.0	440.3	618.2	276.7	510.5	645.3	657.1	96.5	87.3	27.3	18.4	9.6	9.1	657.1	205.9
22	7.4	10.3	11.6	10.5	10.5	13.4	51.9	354.0	81.7	96.0	279.1	395.9	153.4	79.3	87.0	44.8	25.1	25.7	24.3	31.3	79.2	22.7	37.7	16.0	395.9	81.2
23	12.5	12.5	16.7	25.9	16.1	76.1	114.1	151.1	144.4	437.8	92.6	154.5	152.2	281.1	191.5	252.7	184.2	132.7	184.8	56.4	21.5	42.8	133.6	32.3	437.8	121.7
24	37.3	60.2	21.4	23.9	20.4	23.4	79.0	239.4	315.7	200.3	975.2	770.6	1062.2	1617.1	1953.7	732.8	185.8	174.6	33.8	82.6	76.0	18.2	6.6	4.1	1953.7	363.1
25	2.5	4.1	4.6	5.1	3.6	2.8	14.1	36.7	485.4	782.5	630.6	509.4	481.7	817.2	542.8	622.4	912.2	982.3	290.8	270.9	94.4	68.2	21.9	7.4	982.3	316.4
26	8.3	13.4	11.4	15.9	34.0	28.6	27.7	100.0	111.9	129.4	479.0	517.9	723.7	2216.7	747.4	1497.4	1566.1	701.9	178.7	248.2	83.0	20.6	12.6	26.6	2216.7	395.8
27	26.3	21.3	23.1	14.1	36.5	18.1	43.6	166.5	67.7	243.4	139.3	647.3	296.0	619.7	856.4	1221.2	1274.9	1045.5	224.4	204.5	27.8	16.0	11.4	11.3	1274.9	302.4
28	17.3	13.1	13.8	12.0	18.8	75.0	81.3	180.8	226.2	413.2	83.8	67.8	63.8	81.0	48.2	31.4	40.6	59.4	53.1	60.0	68.2	71.0	58.8	47.3	413.2	78.6
29	39.4	50.9	36.9	33.1	2																					

Entrance PM_{2.5} ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	19.0	17.2	17.1	17.7	20.1	20.8	24.3	25.4	24.0	27.5	28.6	27.4	30.2	32.6	33.4	20.4	15.1	8.6	8.9	7.9	8.1	9.4	9.8	9.4	33.4	19.3
2	9.6	8.3	8.8	9.5	7.1	4.2	16.9	16.0	16.1	17.3	11.8	14.1	12.3	9.9	9.6	8.3	7.4	8.3	8.1	9.4	9.8	11.5	10.1	12.0	17.3	10.7
3	13.0	14.8	33.2	31.1	36.1	41.9	46.5	69.4	61.4	56.7	50.8	59.5	57.9	43.4	50.5	83.1	134.5	128.8	138.6	65.4	25.0	39.3	51.8	51.9	138.6	57.7
4	23.5	12.5	7.4	5.8	3.0	5.0	7.9	7.0	5.0	6.0	9.6	7.9	8.4	7.3	7.0	3.7	3.0	4.7	5.8	5.6	5.2	6.4	7.1	7.6	23.5	7.2
5	8.0	9.4	9.7	11.2	17.1	14.4	16.0	9.9	7.5	7.4	6.2	5.9	5.9	4.9	4.5	4.3	3.8	4.9	5.8	8.0	5.4	5.1	5.2	5.4	17.1	7.8
6	7.9	21.4	29.0	46.0	50.2	53.0	37.5	32.2	30.3	16.6	9.8	15.0	15.5	15.8	15.4	11.5	11.1	10.8	11.2	12.2	14.4	17.0	16.7	15.8	53.0	21.5
7	15.5	15.6	21.2	23.4	41.1	55.5	47.3	37.3	31.2	15.5	14.3	14.1	13.0	13.1	15.1	15.1	18.9	24.7	22.4	23.2	23.6	25.3	23.4	24.7	55.5	23.9
8	23.9	23.4	18.1	17.9	15.3	17.2	21.1	30.1	28.3	24.5	27.6	30.5	35.3	29.6	22.5	19.5	17.6	16.1	15.6	17.2	18.7	17.9	18.5	16.8	35.3	21.8
9	17.7	23.2	34.9	35.2	41.7	37.4	41.7	36.3	64.5	31.4	23.0	18.5	19.4	17.8	17.8	15.3	16.9	15.4	16.3	17.7	19.7	22.6	22.9	28.3	64.5	26.5
10	41.5	48.7	31.0	37.7	40.7	34.1	34.9	31.6	31.2	27.5	17.2	12.1	15.6	10.5	12.3	13.2	11.7	11.8	10.9	11.6	14.0	14.0	19.3	13.8	48.7	22.8
11	12.7	11.9	15.8	17.0	18.4	37.9	30.9	35.7	30.1	29.5	17.8	14.6	18.4	12.0	14.7	11.2	11.5	10.2	9.8	8.5	9.0	9.8	11.1	14.0	37.9	17.2
12	9.6	9.6	16.7	27.5	30.4	16.7	16.4	21.3	27.6	27.9	25.2	20.3	17.2	16.9	13.6	12.9	13.8	15.1	17.8	23.7	26.5	29.9	33.0	35.0	35.0	21.0
13	42.4	60.9	63.3	77.8	70.2	72.7	69.0	77.1	87.9	55.7	27.1	31.2	33.7	10.7	12.6	12.3	9.2	8.4	9.1	7.4	12.4	10.3	13.3	7.4	87.9	36.8
14	16.8	22.8	4.0	10.1	9.2	18.1	8.9	19.6	17.5	9.7	19.4	12.2	12.6	6.6	10.9	12.3	24.8	10.2	6.2	11.5	14.4	31.1	57.5	58.7	58.7	17.7
15	51.7	63.0	63.7	70.2	73.4	70.1	70.2	60.5	61.7	59.7	51.3	50.1	51.1	56.1	43.4	46.3	47.4	48.2	56.6	68.0	69.6	81.2	96.4	96.4	62.7	
16	99.7	103.8	101.4	99.1	100.3	97.7	91.1	116.8	106.6	74.8	47.9	31.5	25.9	26.2	22.7	24.2	28.5	29.5	27.3	25.8	30.9	32.9	35.1	41.6	116.8	59.2
17	43.1	46.5	47.2	46.2	51.1	52.3	59.0	63.5	110.8	45.2	41.4	53.0	81.2	62.6	52.5	37.5	31.6	29.8	26.5	25.8	27.5	30.6	33.4	37.8	110.8	47.3
18	34.5	37.8	35.5	32.6	41.2	36.9	42.2	47.3	39.5	34.5	30.1	24.6	13.3	19.2	12.5	11.9	13.6	8.9	12.4	5.3	4.9	4.5	48.3	75.4	75.4	27.8
19	43.4	12.0	8.2	5.5	9.4	6.5	5.1	8.2	7.6	13.5	23.3	20.0	20.4	16.8	16.3	20.6	19.0	20.6	21.7	19.0	10.1	9.7	8.5	8.7	43.4	14.8
20	18.1	17.7	13.9	17.6	22.2	22.2	26.3	41.9	50.4	61.6	64.3	59.5	37.4	31.2	26.9	24.0	21.7	15.3	13.2	12.2	14.3	18.8	38.5	33.6	64.3	29.3
21	28.2	21.4	25.6	38.0	29.5	35.6	43.5	42.6	42.2	21.2	26.9	22.3	17.0	15.0	12.3	15.4	12.0	12.5	11.3	12.3	12.7	13.6	16.4	21.1	43.5	22.9
22	15.6	15.1	15.9	20.6	24.3	24.4	28.3	29.6	29.1	31.5	22.9	11.0	14.4	15.5	26.3	10.1	8.2	6.6	7.8	10.9	14.3	15.0	11.3	13.5	31.5	17.6
23	12.5	18.5	15.2	25.0	37.4	63.3	38.6	22.7	28.5	20.2	22.4	16.0	17.2	17.6	23.3	22.0	18.9	15.8	16.7	19.1	17.0	22.3	30.3	30.1	63.3	23.8
24	35.0	43.9	32.1	34.7	41.2	44.0	56.9	65.5	80.9	66.8	40.7	29.0	39.7	47.3	41.8	18.9	17.0	46.3	38.1	27.9	23.5	7.1	4.6	4.0	80.9	37.0
25	3.4	4.1	7.3	9.3	8.5	5.3	6.8	12.7	11.9	9.5	10.8	12.3	10.8	13.8	9.3	11.3	8.0	10.7	8.8	7.6	7.7	10.7	18.3	24.0	24.0	10.1
26	26.6	21.7	23.1	20.1	28.4	31.7	36.1	30.8	26.6	32.5	12.5	9.1	8.1	15.9	10.3	14.9	19.8	21.7	25.5	23.5	31.9	36.8	28.6	36.8	23.5	
27	33.8	36.5	21.8	22.6	24.6	22.4	23.7	32.1	33.4	27.5	26.8	7.2	6.2	8.8	11.9	16.6	15.7	18.6	14.9	13.6	19.5	30.1	24.6	36.5	21.2	
28	19.1	19.3	23.5	26.4	26.6	23.0	27.9	39.9	22.1	22.9	15.6	13.9	14.3	12.2	10.4	10.7	13.3	11.5	12.8	13.2	14.7	13.2	15.2	39.9	18.2	
29	20.6	19.7	18.0	23.6	18.3	29.9	41.5	40.4	32.2	26.4	33.3	27.6	22.6	22.6	19.6	18.4	21.0	20.0	20.8	23.3	27.5	30.2	24.7	41.5	25.9	
30	42.1	53.0	58.8	63.9	72.0	82.8	92.5	99.0	93.5	90.4	88.6	74.7	68.1													

Entrance PM₁₀ ($\mu\text{g}/\text{m}^3$) – August 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	32.9	28.7	27.0	27.9	35.4	37.8	49.3	51.0	41.9	55.8	64.3	60.7	54.9	54.8	87.0	48.1	18.6	9.9	10.3	8.9	9.6	10.8	11.8	11.7	87.0	35.4
2	11.3	9.8	10.9	12.3	9.0	5.2	25.3	23.7	55.4	61.0	30.1	30.6	28.8	20.1	24.4	17.7	14.9	18.2	16.3	20.4	17.8	26.0	16.0	17.4	61.0	21.8
3	18.0	21.7	49.8	46.7	54.2	62.8	172.7	287.5	264.2	193.5	142.7	167.6	159.9	110.0	113.2	132.8	206.7	178.7	199.0	115.5	55.2	100.5	67.7	84.9	287.5	125.2
4	79.9	20.4	9.6	7.7	5.7	13.6	30.9	26.0	14.4	23.6	36.8	28.6	33.6	34.1	36.4	17.5	10.3	16.1	18.9	11.7	11.5	11.4	13.3	16.9	79.9	22.0
5	16.1	14.1	13.5	25.5	49.6	36.0	42.1	19.5	17.0	17.6	9.3	10.6	13.1	12.7	13.3	11.9	8.3	12.3	20.6	12.5	6.9	6.1	5.9	6.3	49.6	16.7
6	11.3	31.9	43.5	69.0	75.3	79.4	112.1	128.7	152.8	50.4	21.1	28.3	26.0	31.3	25.8	21.1	22.7	19.2	19.9	19.2	23.6	34.2	29.6	24.1	152.8	45.8
7	24.2	21.7	40.8	43.4	123.5	169.7	95.1	56.9	49.1	28.3	23.6	24.8	25.9	27.1	41.1	27.9	30.2	31.6	27.4	28.7	27.4	29.1	26.6	29.6	169.7	43.9
8	26.2	25.6	20.1	21.1	18.2	20.9	29.1	44.1	41.9	34.6	39.2	44.1	85.4	64.3	54.0	44.6	34.9	27.0	22.4	28.8	33.6	27.9	25.9	19.2	85.4	34.7
9	21.6	33.4	51.9	52.1	62.6	60.5	112.8	104.1	305.1	96.1	63.3	69.4	63.9	62.8	60.0	45.6	61.9	51.6	47.1	38.3	44.0	46.4	34.1	62.2	305.1	68.8
10	134.6	162.9	94.8	142.8	141.8	90.6	94.7	95.0	98.6	104.1	70.2	46.1	75.4	36.5	47.5	52.3	38.1	38.0	29.4	27.2	37.9	31.7	67.0	29.8	162.9	74.5
11	24.2	21.4	28.9	24.9	27.3	62.8	91.5	153.7	130.4	120.5	68.6	54.2	59.6	49.7	61.5	37.3	43.2	35.0	29.8	23.7	25.8	27.6	32.4	47.2	153.7	53.4
12	18.5	16.0	47.0	97.4	115.7	41.1	39.3	73.7	122.4	110.2	86.8	54.7	40.6	37.8	29.5	29.3	33.1	30.6	31.4	49.8	45.0	41.6	52.1	57.2	122.4	54.2
13	77.1	163.6	151.0	229.8	159.2	169.3	119.9	169.9	242.2	242.4	130.1	153.6	232.1	25.0	25.1	18.3	13.0	17.2	24.4	13.6	35.2	24.4	49.8	9.8	242.4	104.0
14	18.6	27.9	13.4	15.0	13.6	27.2	13.2	63.0	68.0	39.2	78.1	57.9	77.9	20.5	37.6	39.5	42.4	25.7	10.8	18.7	28.8	80.5	148.6	100.9	148.6	44.5
15	74.7	89.4	78.8	101.4	134.1	123.9	154.4	133.7	170.1	155.5	117.2	112.8	110.8	130.0	95.4	91.6	92.1	79.0	73.8	93.9	77.2	97.2	175.4	140.8	175.4	112.6
16	144.2	175.8	130.3	128.4	143.6	149.0	122.7	328.8	284.0	138.2	113.7	91.6	76.0	73.0	63.3	72.5	105.7	102.2	65.8	43.6	50.0	74.0	54.9	59.8	328.8	116.3
17	58.4	71.9	65.6	60.2	81.2	100.2	145.3	177.5	397.5	91.0	119.8	107.1	224.8	168.3	165.5	95.7	62.0	54.6	46.0	39.0	42.5	62.3	86.2	110.2	397.5	109.7
18	108.7	117.4	106.5	81.5	105.6	91.4	142.6	193.6	156.0	117.5	113.0	181.7	86.4	109.1	62.5	67.2	73.4	42.0	82.7	22.2	17.9	17.7	113.6	86.5	193.6	95.7
19	49.8	16.1	13.4	8.5	35.1	23.9	18.7	36.5	27.8	44.6	58.9	65.3	81.5	49.2	50.5	74.6	55.0	76.5	77.8	54.4	19.8	21.5	14.3	10.8	81.5	41.0
20	63.2	59.4	35.6	72.7	75.4	62.1	84.9	191.7	160.8	96.3	77.1	74.1	78.4	110.5	65.7	63.0	66.3	37.8	28.8	15.6	22.9	51.4	201.8	134.4	201.8	80.4
21	58.0	47.5	41.1	73.6	44.0	53.1	112.4	198.9	198.8	92.3	142.1	102.5	89.0	69.5	51.2	78.8	56.5	65.7	43.5	35.2	30.0	37.5	51.3	78.1	198.9	77.1
22	40.0	31.9	27.0	57.8	74.5	70.6	95.0	127.2	155.5	140.3	102.9	53.1	79.1	90.4	150.8	48.3	39.4	24.3	29.6	37.3	57.7	53.8	30.0	43.4	155.5	69.2
23	29.4	62.1	38.5	79.4	138.9	286.2	169.5	90.0	127.7	88.1	135.2	90.4	92.8	90.4	177.0	100.5	57.0	40.8	40.8	49.0	26.8	47.3	84.4	62.7	286.2	91.9
24	80.1	146.5	57.6	55.8	113.1	133.9	216.5	312.1	352.3	275.6	183.4	130.0	264.7	292.6	266.6	79.8	47.8	148.6	183.1	95.6	52.6	12.3	6.7	5.4	352.3	146.4
25	4.5	5.6	10.5	12.4	15.4	17.3	32.4	83.0	48.1	35.2	44.3	49.7	45.0	85.5	39.3	48.6	35.6	68.5	37.3	20.6	17.8	27.4	88.8	105.2	105.2	40.7
26	119.2	107.3	102.0	97.0	130.0	133.5	215.0	211.2	152.7	144.5	44.8	35.8	34.6	62.2	46.4	67.3	82.9	58.8	46.6	36.6	81.8	170.9	125.1	131.1	215.0	101.6
27	219.7	211.8	90.6	92.9	90.3	74.6	85.7	167.0	185.4	98.8	164.9	26.3	22.7	31.4	42.7	73.6	43.5	74.2	28.7	27.5	63.3	133.0	108.9	41.5	219.7	91.6
28	74.8	59.6	86.1	90.4	87.0	66.1	101.4	214.8	73.8	90.1	67.4	60.1	63.7	52.8	47.3	45.0	70.8	52.8	53.3	51.4	52.0	44.8	51.1	53.3	214.8	71.2
29	67.5	54.2	44.7	51.3	29.8																					

Entrance TSP ($\mu\text{g}/\text{m}^3$) – August 2017

Day/ Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	51.2	48.8	33.1	44.8	56.7	77.4	98.5	99.4	71.6	111.7	117.5	131.3	118.4	94.2	265.7	132.5	18.6	7.0	6.9	5.8	6.2	7.0	7.7	7.6	265.7	67.5
2	7.3	6.4	7.4	9.3	6.9	4.3	27.2	24.4	142.2	180.6	97.1	56.1	65.0	40.5	60.2	42.0	34.7	29.9	26.2	34.7	28.8	34.3	18.5	13.7	180.6	41.6
3	14.6	18.2	54.4	51.1	59.8	70.7	465.7	863.0	839.8	479.3	200.4	212.5	211.1	155.3	162.6	171.8	282.7	214.9	245.1	208.7	109.1	125.8	81.6	153.6	863.0	227.2
4	350.4	42.7	18.7	10.2	11.5	25.0	75.1	63.7	35.7	84.2	98.8	79.5	92.6	115.0	99.7	56.9	23.0	43.1	44.5	24.5	27.7	12.6	18.5	15.2	350.4	61.2
5	15.1	11.6	10.4	43.1	78.1	55.3	58.8	31.7	28.6	27.8	13.9	19.6	20.5	20.4	36.0	23.9	19.8	35.7	48.8	10.3	4.7	4.2	4.0	4.5	78.1	26.1
6	8.9	32.2	47.0	77.9	84.4	91.3	186.4	241.4	448.9	112.9	40.6	40.5	35.4	53.1	56.4	44.2	44.8	29.0	27.2	19.9	36.3	33.6	33.7	26.8	448.9	77.2
7	21.5	23.9	37.0	54.6	161.5	237.5	126.8	63.0	56.7	52.9	36.8	42.6	48.3	57.6	104.5	58.2	63.0	21.8	18.9	19.7	18.4	19.2	17.6	20.1	237.5	57.6
8	17.2	16.7	13.3	14.2	12.2	14.9	23.0	41.2	38.4	29.5	35.2	41.5	224.2	159.6	131.4	97.0	70.0	51.9	27.8	37.7	49.4	34.6	28.1	15.6	224.2	51.0
9	15.6	25.3	49.8	47.4	60.5	70.2	218.2	219.1	483.0	120.3	110.3	185.0	168.4	220.4	162.8	130.0	155.4	128.4	128.2	77.3	67.3	61.7	30.4	54.9	483.0	124.6
10	206.8	227.0	189.0	257.9	250.5	128.5	137.9	137.8	198.4	204.8	174.2	135.0	251.2	106.9	114.8	132.5	79.6	85.2	54.3	38.7	69.1	48.4	83.1	33.6	257.9	139.4
11	24.4	24.3	30.9	18.6	23.5	63.4	123.5	296.4	267.4	272.8	150.6	133.8	141.7	154.2	141.1	81.4	99.0	83.0	54.7	42.5	59.0	38.2	49.3	64.7	296.4	101.6
12	21.6	14.4	67.7	121.2	211.5	93.0	108.7	219.2	385.0	238.1	141.0	98.3	88.8	64.8	54.9	44.3	52.7	42.5	37.2	72.8	45.9	38.4	60.3	54.8	385.0	99.0
13	82.6	346.0	299.3	441.4	313.8	383.0	181.8	272.0	506.4	620.6	374.7	445.9	849.2	60.5	46.5	26.2	17.0	28.5	36.9	23.7	43.8	41.6	78.2	9.0	849.2	230.4
14	12.9	31.0	75.0	16.2	14.6	30.7	13.6	101.8	102.9	75.4	124.0	152.9	303.1	64.9	86.3	70.2	44.7	97.5	20.0	21.8	30.6	100.6	184.5	91.9	303.1	77.8
15	66.2	69.0	64.5	128.0	199.5	171.1	294.1	272.5	283.0	283.0	201.7	182.8	174.4	249.6	177.4	161.0	160.7	117.0	85.6	101.2	61.7	77.2	212.5	128.4	294.1	163.4
16	131.1	227.5	148.2	140.8	186.7	292.1	158.9	597.0	573.9	203.8	182.9	179.2	175.3	120.1	122.8	147.7	219.5	186.8	125.7	59.2	40.8	74.9	76.4	63.3	597.0	184.8
17	54.5	73.9	53.7	53.3	83.5	159.7	260.3	264.6	447.5	144.5	209.1	215.8	504.3	406.7	467.5	215.0	119.4	86.0	59.0	42.3	41.5	83.7	104.5	172.5	504.3	180.1
18	205.3	199.8	182.9	173.2	208.0	180.6	250.0	390.4	419.0	247.5	221.4	619.1	300.4	299.5	149.9	212.0	214.2	116.5	331.7	64.9	36.9	23.8	345.4	103.5	619.1	229.0
19	50.1	25.7	22.5	14.5	73.6	51.8	41.8	81.7	56.4	109.6	127.2	163.0	205.5	118.2	119.3	171.8	110.9	158.0	157.5	93.4	31.6	33.9	19.9	13.3	205.5	85.5
20	79.6	78.8	45.4	121.4	136.3	95.4	135.5	341.9	321.3	141.4	87.8	84.2	161.5	270.5	128.0	137.1	117.5	66.2	60.8	18.9	28.2	62.1	227.4	139.6	341.9	128.6
21	55.3	39.8	39.6	78.7	37.7	49.7	153.3	475.0	440.3	238.2	321.5	220.6	180.1	147.2	104.1	168.8	133.1	206.1	96.6	72.1	40.6	40.8	54.3	91.2	475.0	145.2
22	64.5	39.0	31.4	87.9	98.7	104.7	184.8	291.0	409.1	223.6	174.7	116.9	142.5	160.7	319.7	123.6	101.1	41.4	52.3	67.2	76.4	70.4	38.7	46.1	409.1	127.8
23	34.0	70.4	63.1	78.1	194.7	507.7	309.0	193.0	225.9	208.8	303.0	163.3	191.0	186.6	491.8	229.6	81.4	64.5	51.2	59.3	40.3	54.4	149.9	85.0	507.7	168.2
24	156.9	343.0	63.4	55.1	166.9	237.7	434.4	711.4	612.9	377.5	360.5	290.6	622.2	696.3	598.1	218.3	106.8	131.3	238.6	152.8	94.9	13.7	5.2	3.9	711.4	278.9
25	3.1	4.1	8.3	9.0	23.4	41.3	89.5	312.7	132.0	102.6	105.6	125.3	93.6	228.9	100.7	100.4	100.4	192.8	101.6	30.3	25.5	27.3	124.3	133.6	312.7	92.3
26	216.8	244.9	181.9	230.7	315.0	284.3	587.2	765.2	404.3	234.0	91.5	62.2	68.1	76.2	110.3	174.9	197.2	96.7	50.4	41.6	77.2	193.8	148.4	765.2	210.1	
27	609.6	441.8	221.9	226.7	160.0	121.1	163.2	388.1	367.1	159.9	362.9	51.0	36.6	68.4	92.9	194.0	74.7	215.7	47.4	32.6	122.2	166.4	131.3	609.6	188.5	
28	119.9	108.0	140.5	148.7	144.3	138.8	310.3	464.3	145.2	153.9	173.3	163.5	154.5	113.6	119.2	1										

MetOne BAM PM_{2.5} Calibration



AIR QUALITY MONITORING

STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 14:30

OPERATOR: Darrin Pike
DATE: August 15, 2017
END TIME (MST): 16:40

MONITOR INFO / PARAMETER VALUES:

Make/Model	<u>MetOne BAM</u>	Audit Device Model	<u>Delta Cal</u>
Configuration	<u>PM2.5</u>	Audit Device S/N	<u>620</u>
Serial Number	<u>T19087</u>	Certification Date	<u>14-Jun-17</u>

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
As Found Data	Audit values (l)	21.5	647	0.00	16.7
	MEASURED (AF)	<u>20.6</u>	<u>648</u>	<u>0.20</u>	<u>16.56</u>
Adjusted Data	AF Difference (AF-l)	-0.9	1	0.20	-0.14
	MEASURED (M)	<u>20.6</u>	<u>648</u>	<u>0.20</u>	<u>16.67</u>
	Adj Difference (M-l)	-0.9	1	0.20	-0.03
	LIMITS	± 4.0 °C	5 mm Hg	1.0 L/min	± 1.0 L/min
					±2 min

Sample Head Inspect/Cleaning: Cleaned.

Status of sampling tape: New tape roll installed

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Performed self-test, all passed.

MetOne BAM PM₁₀ Calibration



AIR QUALITY MONITORING

STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 14:34

OPERATOR: Darrin Pike
DATE: August 15, 2017
END TIME (MST): 16:40

MONITOR INFO / PARAMETER VALUES:

Make/Model	<u>MetOne BAM</u>	Audit Device Model	<u>Delta Cal</u>
Configuration	<u>PM10</u>	Audit Device S/N	<u>620</u>
Serial Number	<u>A3315</u>	Certification Date	<u>14-Jun-17</u>

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
As Found Data	Audit values (l)	20.6	648	0.00	16.7
	MEASURED (AF)	<u>20.8</u>	<u>648</u>	<u>0.30</u>	<u>16.61</u>
Adjusted Data	AF Difference (AF-l)	0.5	0	0.30	-0.09
	MEASURED (M)	<u>20.8</u>	<u>648</u>	<u>0.30</u>	<u>16.65</u>
	Adj Difference (M-l)	0.2	0	0.30	-0.05
	LIMITS	± 4.0 °C	5 mm Hg	1.0 L/min	± 1.0 L/min
					±2 min

Sample Head Inspect/Cleaning: Cleaned

Status of sampling tape: Half roll left

Nozzle Inspection / cleanliness: Inspected and cleaned

COMMENTS:

Performed self test, all passed.

MetOne BAM TSP Calibration



AIR QUALITY MONITORING

STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 14:34

OPERATOR: Darrin Pike
DATE: August 15, 2017
END TIME (MST): 16:40

MONITOR INFO / PARAMETER VALUES:

Make/Model	<u>MetOne BAM</u>	Audit Device Model	<u>Delta Cal</u>
Configuration	<u>TSP</u>	Audit Device S/N	<u>620</u>
Serial Number	<u>A3589</u>	Certification Date	<u>14-Jun-17</u>

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
As Found Data	Audit values (l)	20.3	649	0.00	16.6
	MEASURED (AF)	<u>20.2</u>	<u>648</u>	<u>0.60</u>	<u>16.64</u>
Adjusted Data	AF Difference (AF-l)	-0.1	-1	0.60	0.04
	MEASURED (M)	<u>20.2</u>	<u>648</u>	<u>0.60</u>	<u>16.68</u>
	Adj Difference (M-l)	-0.1	-1	0.60	0.08
	LIMITS	± 4.0 °C	5 mm Hg	1.0 L/min	± 1.0 L/min
					±2 min

Sample Head Inspect/Cleaning: Cleaned

Status of sampling tape: New tape roll installed

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Performed self test, all passed.

Calibration Report



Parameter
Air Monitoring Network

NO_x-NO-NO₂
Lafarge - Exshaw

AIR QUALITY MONITORING

Station Information

Calibration Date	August 15, 2017		Previous Calibration	July 17, 2017
Station Number	N/A		Station Location	Exshaw - Lagoon
Reason:	Routine	Installation	Removal	Other:
Start Time (MST)	12:10		End Time (MST)	17:00
Barometric Pressure	651	mmHg	Station Temperature	23.0 Deg C
Calibrator	SABIO 2010		Serial Number	7201211
NO Cal Gas Conc	51.4	ppm	Cal Gas Expiry Date	July 26, 2019
NOx Cal Gas Conc	51.5	ppm	Cal Gas Serial #	cc27839

DACS Information

DACS make	Campbell Scientific CR1000	DACS serial No.	67802
	Parameter	NO2	NOx
Before	Data Slope	1.003662	0.995307
	Data Offset	-0.228641	1.888096
After	Data Slope	1.007510	0.999680
	Data Offset	1.470581	2.860663
	Channel #	3	1
	Voltage Range	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	T200	Analyzer serial #	642
Test Point	before	after	
Concentration range	0 - 500	ppb	0 - 500
NO Slope	1.042		1.025
NO Offset	-0.1	mV	-0.2
NOX Slope	1.045		1.025
NOX Offset	0.2	mV	0.2
HVPS	771	v	771
Moly Temp	315.0	degC	315.6
O3 Flow	80	ccm	80
RxCell Press	5.6	inHg	6.0
Sample press	24.0	inHg	24.0
Sample flow	440	ccm	441

Notes:

Calibration Report

Parameter **NOx-NO-NO₂**
 Air Monitoring Network **Lafarge - Exshaw**



AIR QUALITY MONITORING

Station Information

Calibration Date: **August 15, 2017** Station Location: **Exshaw - Lagoon**

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	-1.6	-1.5	-1.8	N/A	N/A
1	5000	39.00	398.6	397.8	0.8	396.6	397.8	-2.6	1.0050	1.0000
2	5000	20.00	205.2	204.8	0.4	201.5	201.1	-0.9	1.0184	1.0184
3	7000	14.00	102.8	102.6	0.2	98.8	99.1	-2.9	1.0402	1.0350
AFZ	5000	0.00	0.0	0.0	0.0	-2.0	-0.5	-3.3	0.0000	0.0000
AFS	5000	40.00	408.7	407.9	0.8	381.7	377.2	3.0	1.0709	1.0814
									Average Correction Factor	1.0212
										1.0178

As Found Concentrations: NO_x= 385.5 NO= 379.8 As Found Percent Change NO_x= -5.7% NO= -6.9%

GPT Calibration Data

Dilution Flow **5000** ccm Source Gas Flow **39.00** ccm

O ₃ Setpoint (V)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NOx Correction factor	NO Correction factor	NO ₂ Correction factor	Converter Efficiency
0	-1.5	-1.5	0.0	-1.6	-1.5	-1.8	N/A	N/A	N/A	N/A
NO point	398.9	398.9	0.0	397.4	398.9	-2.8	1.0037	1.0000	N/A	N/A
0.68V	398.9	101.1	297.8	396.2	101.1	293.5	1.0067	1.0000	1.0145	98.6%
0.45V	398.9	224.8	174.0	398.9	224.8	172.3	1.0001	1.0000	1.0099	99.0%
0.30V	398.9	309.7	89.2	398.3	309.7	86.9	1.0015	1.0000	1.0260	97.5%
							Average Correction Factor	1.0028	1.0000	1.0168
										98.4%

AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO ₂	NO	ppb	NOx	NO ₂	NO	ppb
Auto zero	0.6	-1.4	0.8	ppb	1.6	-0.1	1.7	ppb
Auto span	398.2	-2.4	399.2	ppb	382.9	-0.3	381.9	ppb

Calibration Performed By: **Darrin Pike**

Calibration Summary

Parameter NO₂
Air Monitoring Network Lafarge - Exshaw

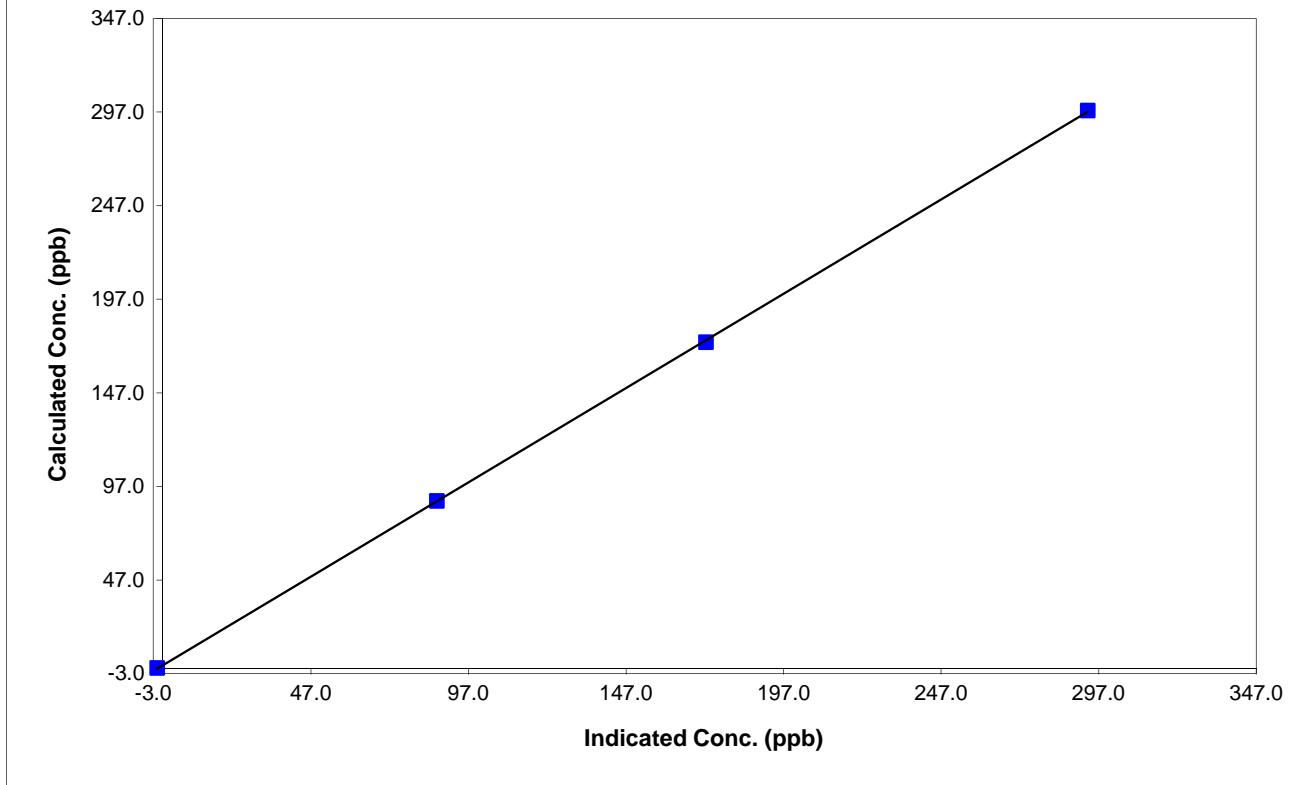


Station Information			
Calibration Date	August 15, 2017	Previous Calibration	July 17, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:10	End Time (MST)	17:00
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.8	N/A		
297.8	293.5	1.0145	Correlation Coefficient	0.999967
174.0	172.3	1.0099		
89.2	86.9	1.0260	Slope	1.007510
			Intercept	1.470581

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x
Air Monitoring Network Lafarge - Exshaw

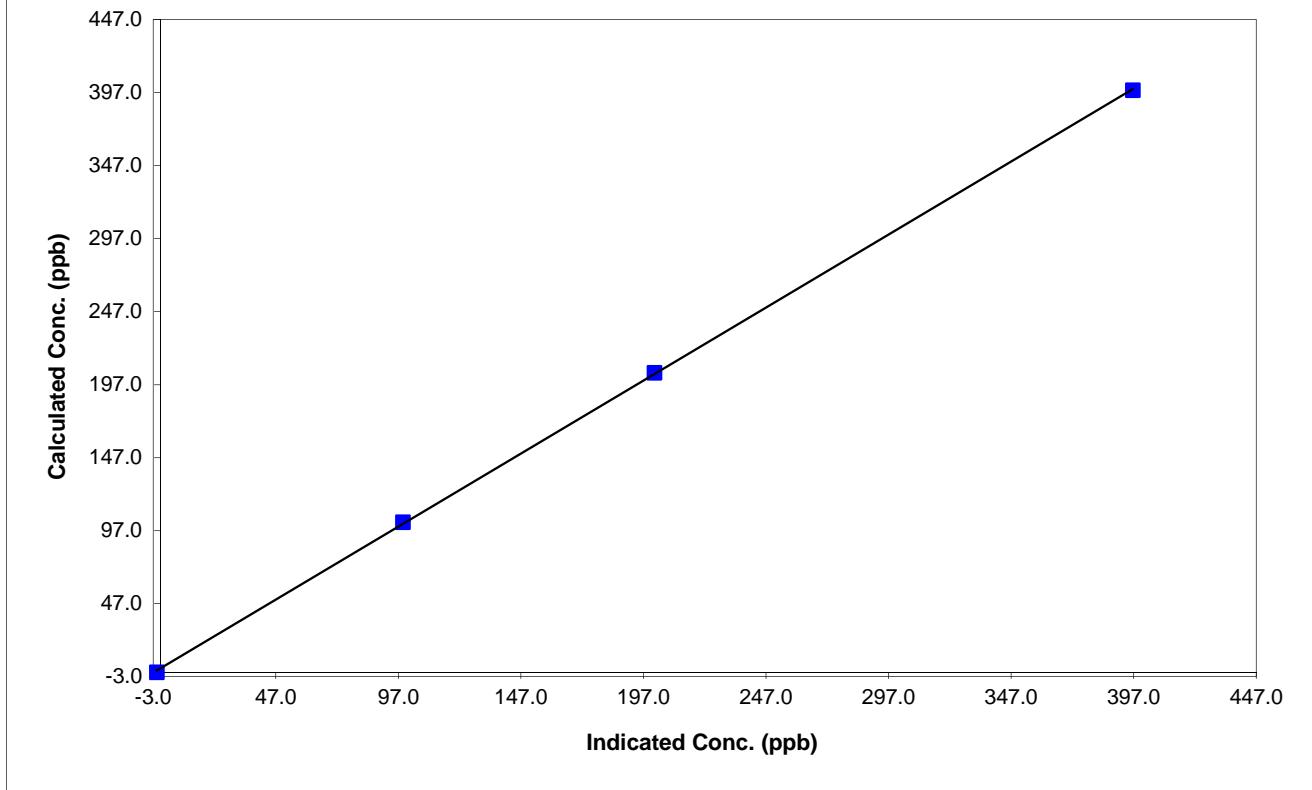


Station Information			
Calibration Date	August 15, 2017	Previous Calibration	July 17, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:10	End Time (MST)	17:00
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.6	N/A		
398.6	396.6	1.0050	Correlation Coefficient	0.999950
205.2	201.5	1.0184		
102.8	98.8	1.0402	Slope	0.999680
			Intercept	2.860663

NOx Calibration Curve



Calibration Summary



AIR QUALITY MONITORING

Parameter NO
 Air Monitoring Network Lafarge - Exshaw

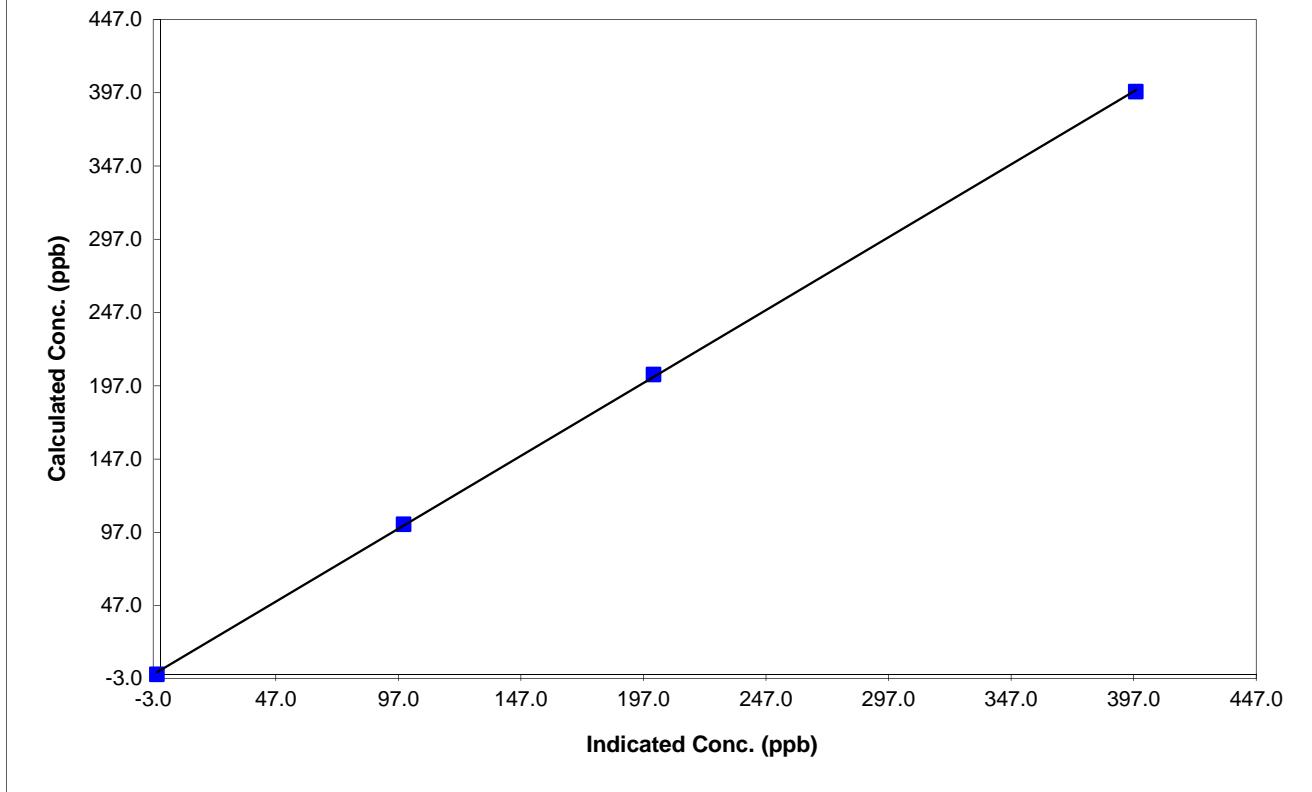
Station Information

Calibration Date	August 15, 2017	Previous Calibration	July 17, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:10	End Time (MST)	17:00
Analyzer make	T200	Analyzer serial #	642

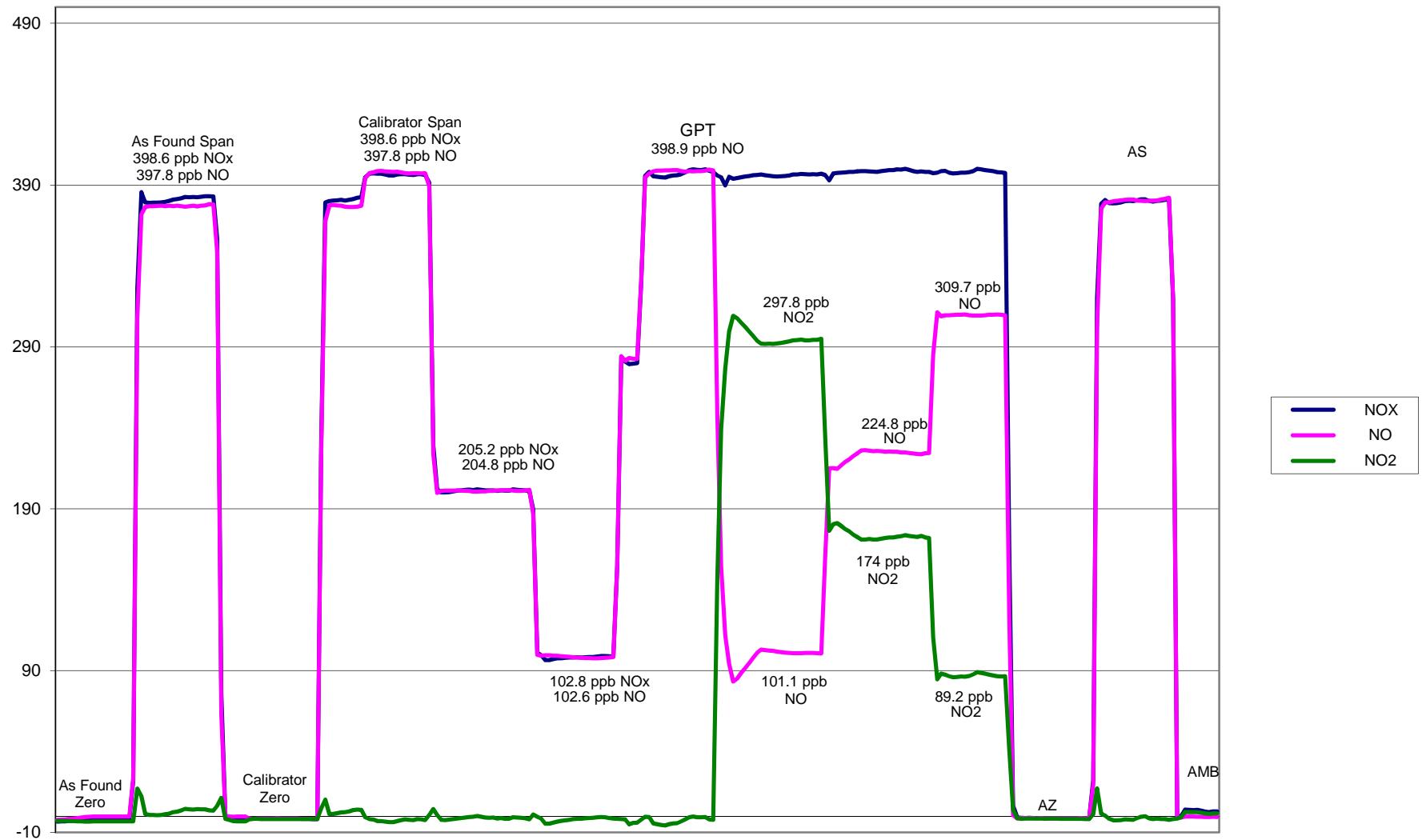
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.5	N/A		
397.8	397.8	1.0000	Correlation Coefficient	0.999917
204.8	201.1	1.0184		
102.6	99.1	1.0350	Slope	0.995055
			Intercept	3.032303

NO Calibration Curve



NOX Calibration



Calibration Report



Parameter SO2
Air Monitoring Network Lafarge - Exshaw

AIR QUALITY MONITORING

Station Information

Calibration Date	August 15, 2017	Previous Calibration	July 17, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	12:10	End Time (MST)	17:00
Barometric Pressure	651 mmHg	Station Temperature	23.0 Deg C
Calibrator	SABIO 2010	Serial Number	7201211
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	July 14, 2020
Gas Cert Reference	cc27839		
DACS make	Campbell Scientific CR1000	DACS serial No.	67802
DACS voltage range	0 - 5 VDC	DACS channel #	4
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.998781	Calculated slope	0.996757
Calculated intercept	0.270957	Calculated intercept	1.503008
Analyzer make	API Model 102A	Analyzer serial #	393
Concentration range	before	after	
Slope	0-500 ppb	0-500 ppb	
Offset	0.953	0.942	
Pressure	46.4 mV	47.2 mV	
Sample Flow	23.4 in Hg	23.6 in Hg	
UV Lamp	476 ccm	481 ccm	
HVPS	2841 mV	2840 mV	
PMT Temp	690 V	690 V	
	7.5 degC	7.4 degC	

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5000	0.00	0.0	0.0	N/A
5000	39.00	393.2	393.8	0.9984
5000	20.00	202.4	200.5	1.0097
7000	14.00	101.4	99.0	1.0246
5000	0.00	0.0	0.4	As found zero
5000	39.00	393.2	393.2	As found span
Average Correction Factor				1.0109

Calculated value of As Found Response: 392.6 ppm Percent Change of As Found: 0.1%

Auto zero Auto span	before calibration		after calibration	
	0.1	ppm	-0.2	ppm
	393.6	ppm	376.7	ppm

Notes: Span adjustment made.

Calibration Performed By: Darrin Pike

Calibration Summary



AIR QUALITY MONITORING

Parameter SO₂
Air Monitoring Network Lafarge - Exshaw

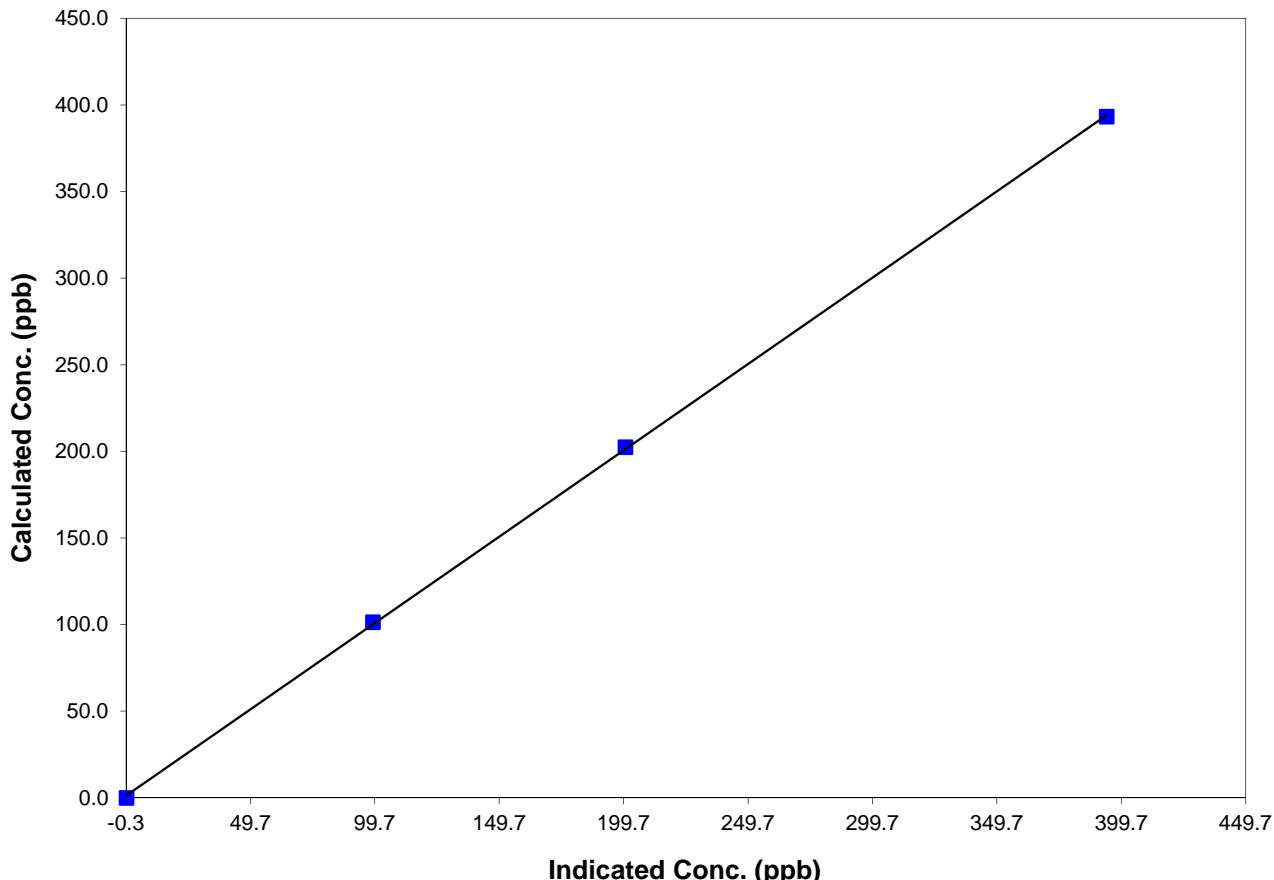
Station Information

Calibration Date	August 15, 2017	Previous Calibration	July 17, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:10	End Time (MST)	17:00
Analyzer make/model	API Model 102A	Analyzer serial #	393

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
393.2	393.8	0.9984	Correlation Coefficient	0.999933
202.4	200.5	1.0097	Slope	0.996757
101.4	99.0	1.0246	Intercept	1.503008

SO₂ Calibration Curve



SO2 Calibration

