

REPORT N° 171-00556-00

AMBIENT AIR QUALITY MONTHLY REPORT

SEPTEMBER 2017

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SEPTEMBER 2017

Lafarge Canada Inc.

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

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Project Number: 171-00556-00

October 26, 2017

Janet Brygger
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Dear Ms. Brygger,

Subject: Ambient Air Quality Monthly Report – September 2017

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The operational uptime for the meteorological systems and all analyzers at the Lagoon station was over 99% in September. There were 5 contraventions of both the 24-hour TSP and PM_{2.5} Alberta Ambient Air Quality Objectives (AAAQOs) in September at the Lagoon monitoring location due to smoke from 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 Berm GRIMM monitors had 100% operational time, the Entrance and West GRIMM monitor's operational times in September were 89.6% and 78.8% due to instrument error. The Entrance GRIMM monitor exceeded the TSP AAAQG for 19 days and the PM_{2.5} AAAQG for 7 days while the Berm GRIMM had 16 exceedances of the TSP guideline and 7 days above the PM_{2.5} guideline. The West GRIMM monitor had 1 and 2 days exceeding the TSP and PM_{2.5} guidelines. All PM_{2.5} exceedances occurred at the beginning of the month due to smoke from the forest fires in BC 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
Environment

SIGNATURES

PREPARED BY



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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 September 1, 2017 and September 30, 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

SEPTEMBER 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)	99.9	31.0	0	16.4	-
SO ₂ (ppb)	99.9	18.4	0	4.1	0
PM _{2.5} (µg/m ³)	99.9	168.3	20*	71.9	5
PM ₁₀ (µg/m ³)	99.9	344.9	-	125.1	-
TSP (µg/m ³)	99.6	496.2	-	143.2	5
Temperature (°C)	99.4	32.5	-	20.5	-
Wind Speed (km/hr) /Direction	99.4	37.7/W	-	26.3/WSW	-
Precipitation (mm)	100.0	4.5	-	10.5**	-

* 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.

** Maximum 24-hour Total Accumulation of Precipitation (mm)

Data Quality Notes:

- There were 5 exceedances of the 24-hour PM_{2.5} AAAQO and 20 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 5 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 over 99% uptime for the month of September.

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} ($\mu\text{g}/\text{m}^3$)	78.8	94.0	17*	77.3	2
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	78.8	135.5	-	103.8	-
TSP ($\mu\text{g}/\text{m}^3$)	78.8	202.2	-	102.2	1

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 2 exceedances of the PM_{2.5} 24-hour AAAQG and 17 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.
- There was 1 exceedance 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 West station.

Calibration/Maintenance Notes:

- The monitor had 78.8% uptime for this month due to issues with the flow controller that resulted in the monitor being returned to the manufacturer for repair.

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	122.3	24*	78.9	7
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	100.0	649.0	-	180.7	-
TSP ($\mu\text{g}/\text{m}^3$)	100.0	1972.5	-	504.6	16

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 7 and 16 exceedances of the 24-hour PM_{2.5} and TSP AAAQG, respectively.
- There were 24 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 September.

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} ($\mu\text{g}/\text{m}^3$)	89.6	144.8	46*	100.8	7
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	89.6	571.8	-	257.8	-
TSP ($\mu\text{g}/\text{m}^3$)	89.6	1628.6	-	515.0	19

*Exceedance of 1-hour AAAQG

Data Quality Notes:

- There were 7 and 19 exceedances of the 24-hour PM_{2.5} and TSP AAAQG, respectively.

- There were 46 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 89.6% uptime for the month of September due to equipment malfunction mid-month.

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 September 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 September 11th and had 99.9% uptime.

3.1.2 SO₂ MONITORING

The SO₂ monitor underwent monthly calibration on September 11th and had 99.9% uptime.

3.1.3 PM MONITORING

All BAM monitors underwent monthly calibration on September 11th and had over 99% uptime.

3.1.4 METEOROLOGICAL MONITORING

The precipitation sensor had 100% uptime for the month of September. All the other meteorological sensors had 99.4% uptime due to the meteorological tower replacement.

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 September 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 September 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 September 2017 for the pollutants listed in Table 3-2.

There were 5 recorded exceedances of both 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 TSP and PM_{2.5} exceedance days in September since monitoring at the Lagoon Station began. Smoke from the forest fires in BC and Alberta were the cause of the exceedances at the Lagoon monitor. Historically, the Lagoon monitor has never recorded any exceedance of the 24-hour TSP and PM_{2.5} AAQO respectively, during the month of September.

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 September 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 September 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.

Figure 3-4 and Figure 3-5 show the wind roses for the TSP and PM_{2.5} exceedances, respectively. In September, the frequency of high wind speeds ($> 20\text{km}/\text{h}$) increased as compared to August. However, Figure 3-5 indicates that there was a lower percentage of high wind speeds at the time of PM_{2.5} exceedances. This lead to periods of stagnant air and the buildup of particulate matter from the wildfires in BC and Alberta and this is the primary contributor to PM_{2.5} and TSP exceedances in September.

Table 3-2 Summary of September 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		
NO ₂ (ppb)	159	-	Lagoon	0	-	5.8	31.0	8	8	17.8	248.7	16.4	8	99.9
SO ₂ (ppb)	172	48	Lagoon	0	0	0.8	18.4	28	10	M	M	4.1	8	99.9
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	80	30	Lagoon	20	5	13.5	168.3	2	13	26.5	253.6	71.9	8	99.9
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	Lagoon	-	-	36.4	344.9	11	10	32.7	245.6	125.1	8	99.9
TSP ($\mu\text{g}/\text{m}^3$)	-	100	Lagoon	-	5	44.5	496.2	11	10	32.7	245.6	143.2	8	99.6
Temperature (°C)	-	-	Lagoon	-	-	12.0	32.5	7	15	4.5	167.9	20.5	7	99.4
Wind Speed/Direction	-	-	Lagoon	-	-	13.8	37.7/W	11	11	37.7	238.8	26.3/WSW	11	99.4
Precipitation (mm)	-	-	Lagoon	-	-	0.0	4.5	12	20	12.4	68.5	10.5	12	100.0

M = Maintenance

* 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						
9/2/2017	106.0	47	242.1	15.1	40.9	Forest Fires
9/5/2017	-	32	271.9	11.6	47.2	Forest Fires
9/6/2017	101.4	46	262.6	11.2	37.0	Forest Fires
9/7/2017	124.8	69	256.1	12.2	37.6	Forest Fires
9/8/2017	143.2	72	243.8	14.7	49.1	Forest Fires
9/11/2017	102.3	-	255.9	26.3	25.5	High wind event, Influenced by forest fires and high wind events
Total # of Exceedances	5	5				
Maximum # of Exceedances (September)	0 (2010 ~ 2016)	0 (2010 ~ 2016)				
Average # of Exceedances (September)	0	0				
Minimum # of Exceedances (September)	0 (2010 ~ 2016)	0 (2010 ~ 2016)				

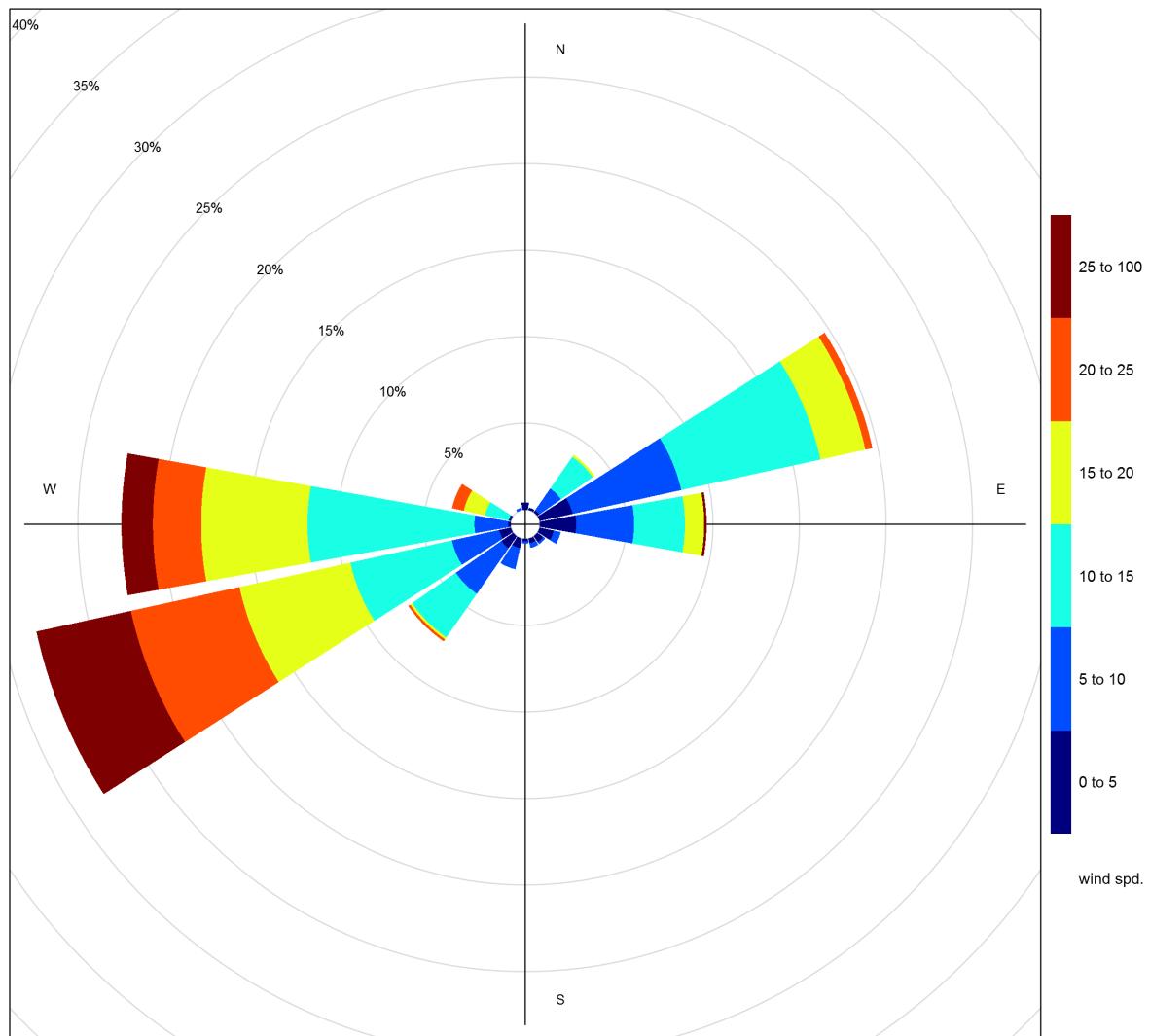


Figure 3-3 September 2017 wind rose from the Lagoon Station

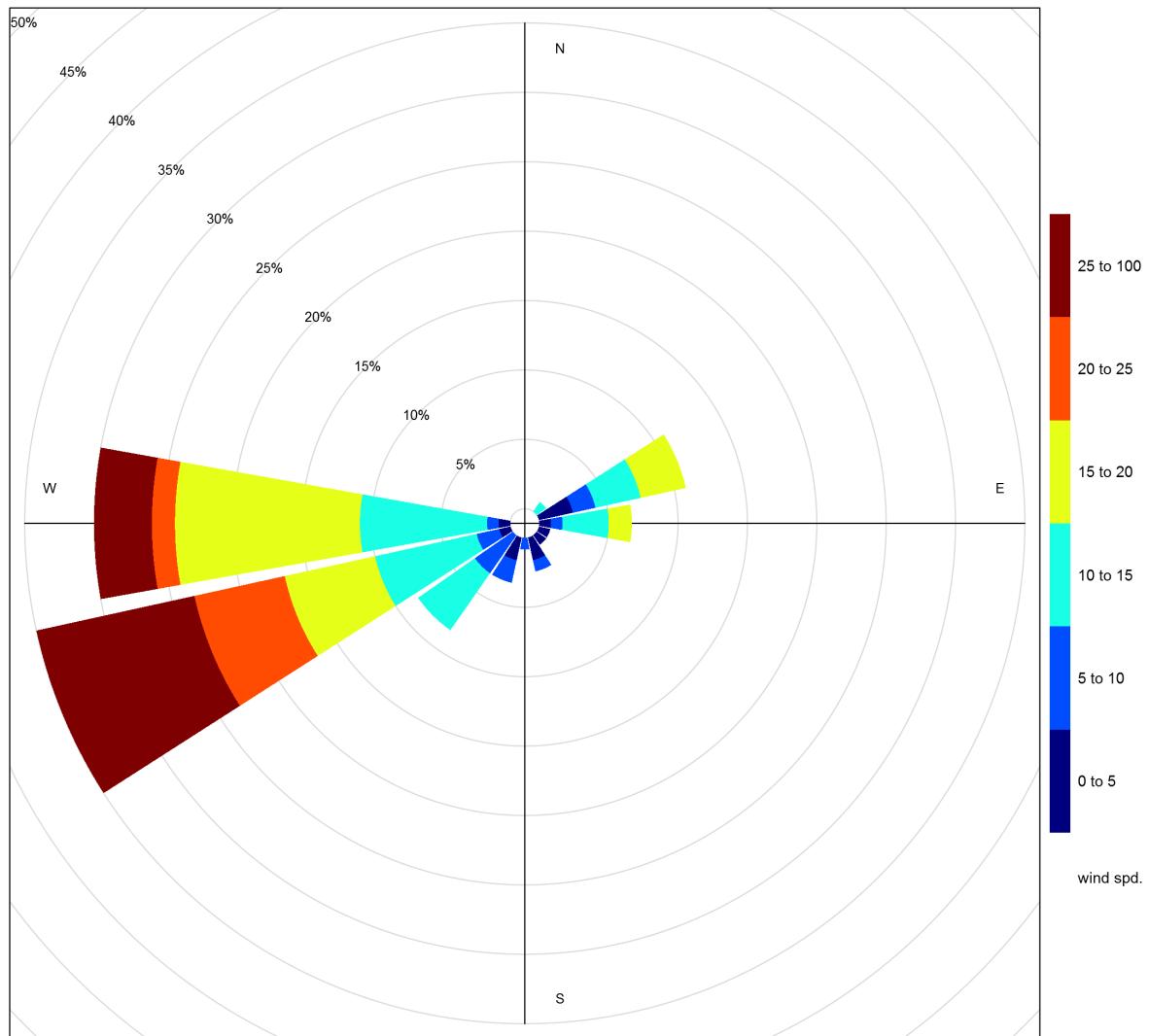


Figure 3-4 Wind rose for TSP exceedance days recorded at the Lagoon Station

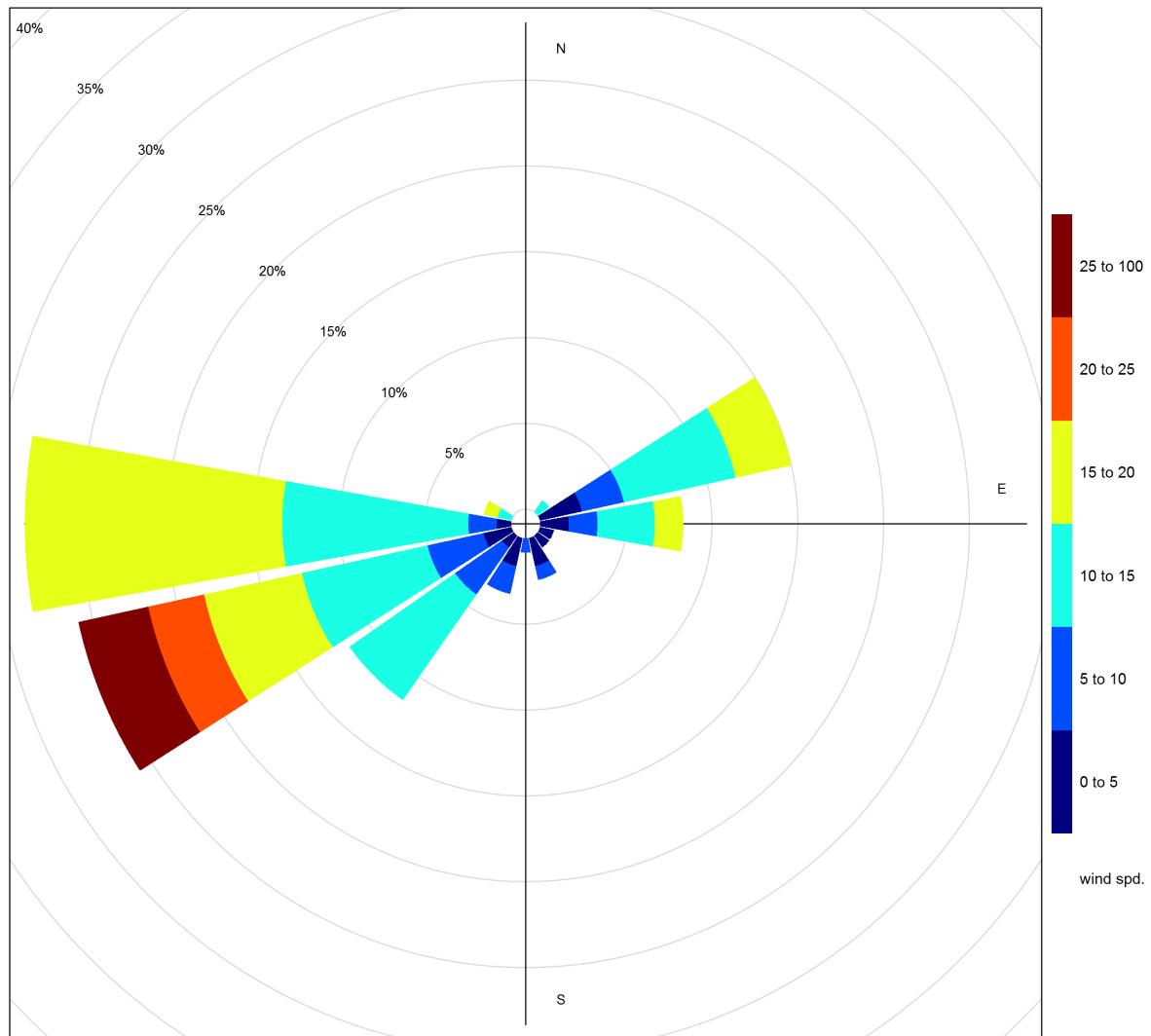


Figure 3-5 Wind rose for PM_{2.5} exceedance days recorded at the Lagoon Station

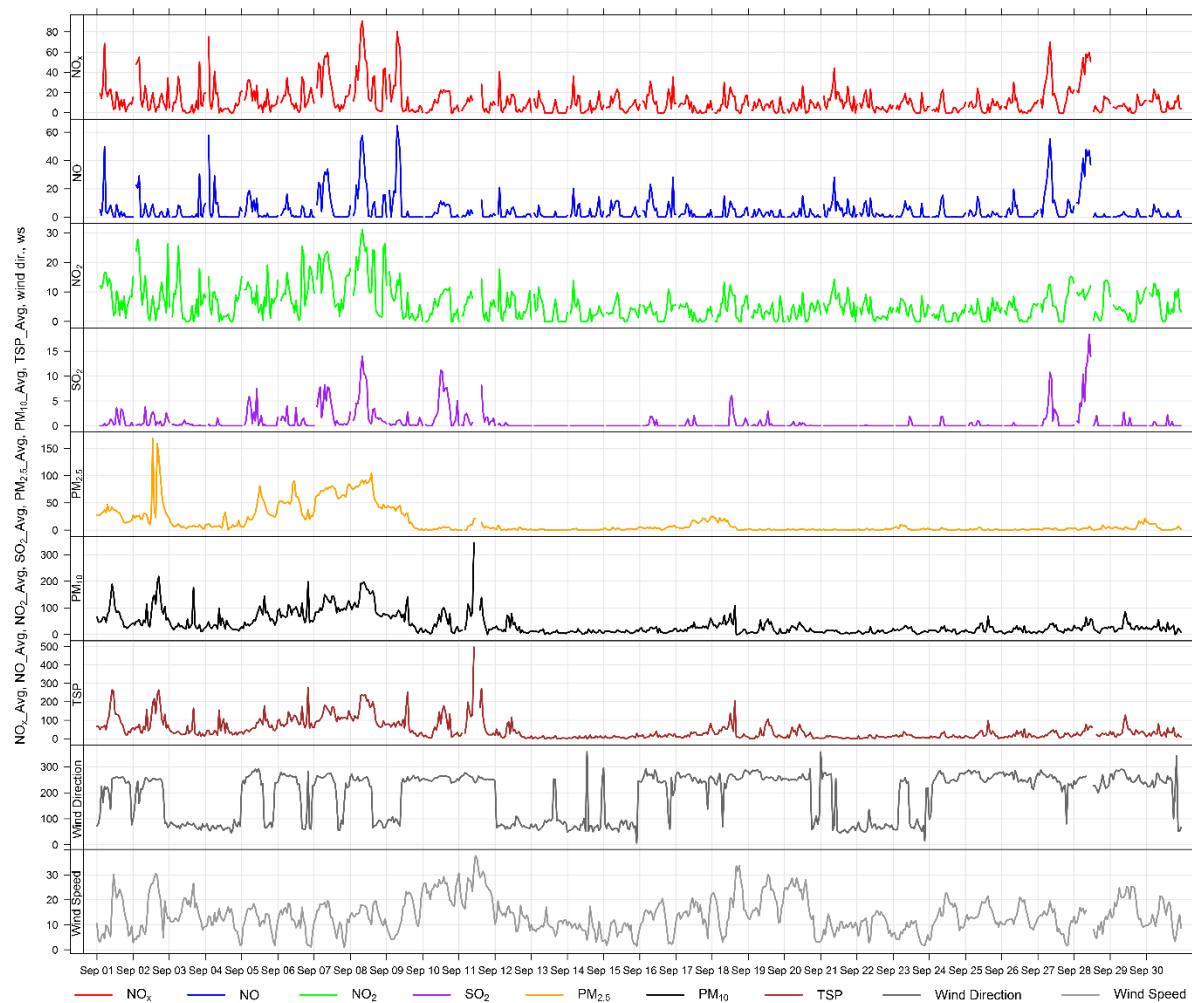


Figure 3-6 1-hour concentrations of NO_x, SO₂, particulate matter, wind direction and wind speed at the Lagoon monitor

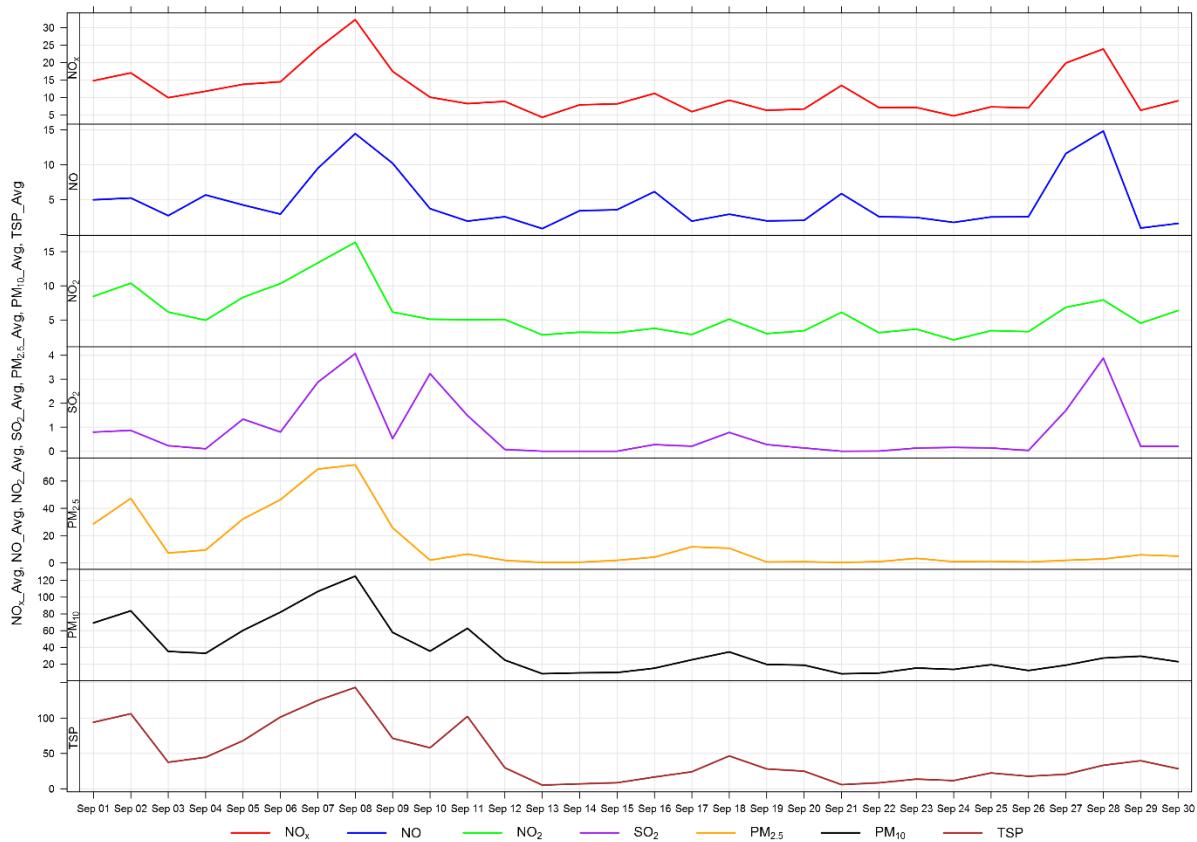


Figure 3-7 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

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 3-8 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 September. 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 September.

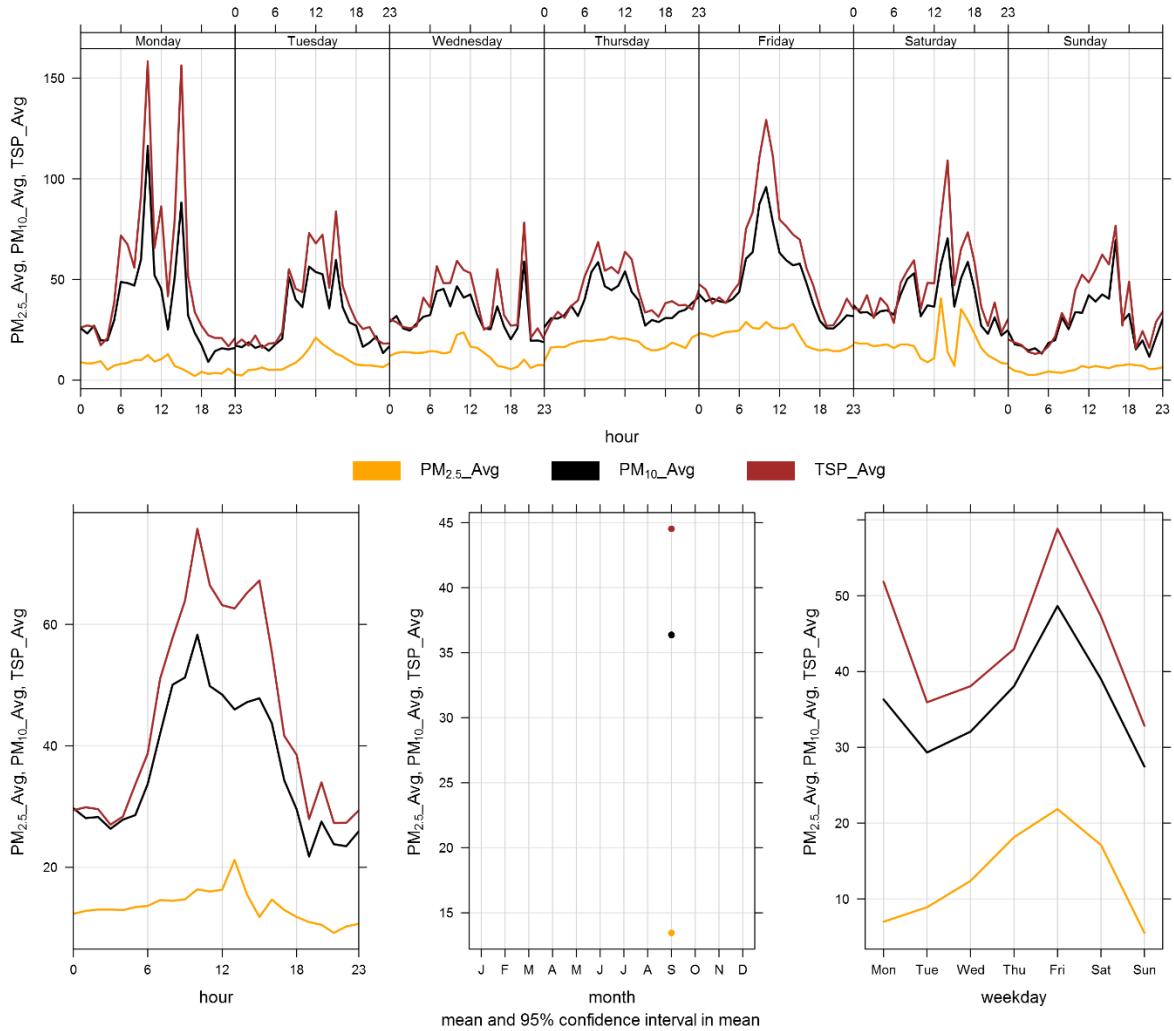


Figure 3-8 Lagoon Monitor particulate matter time variation

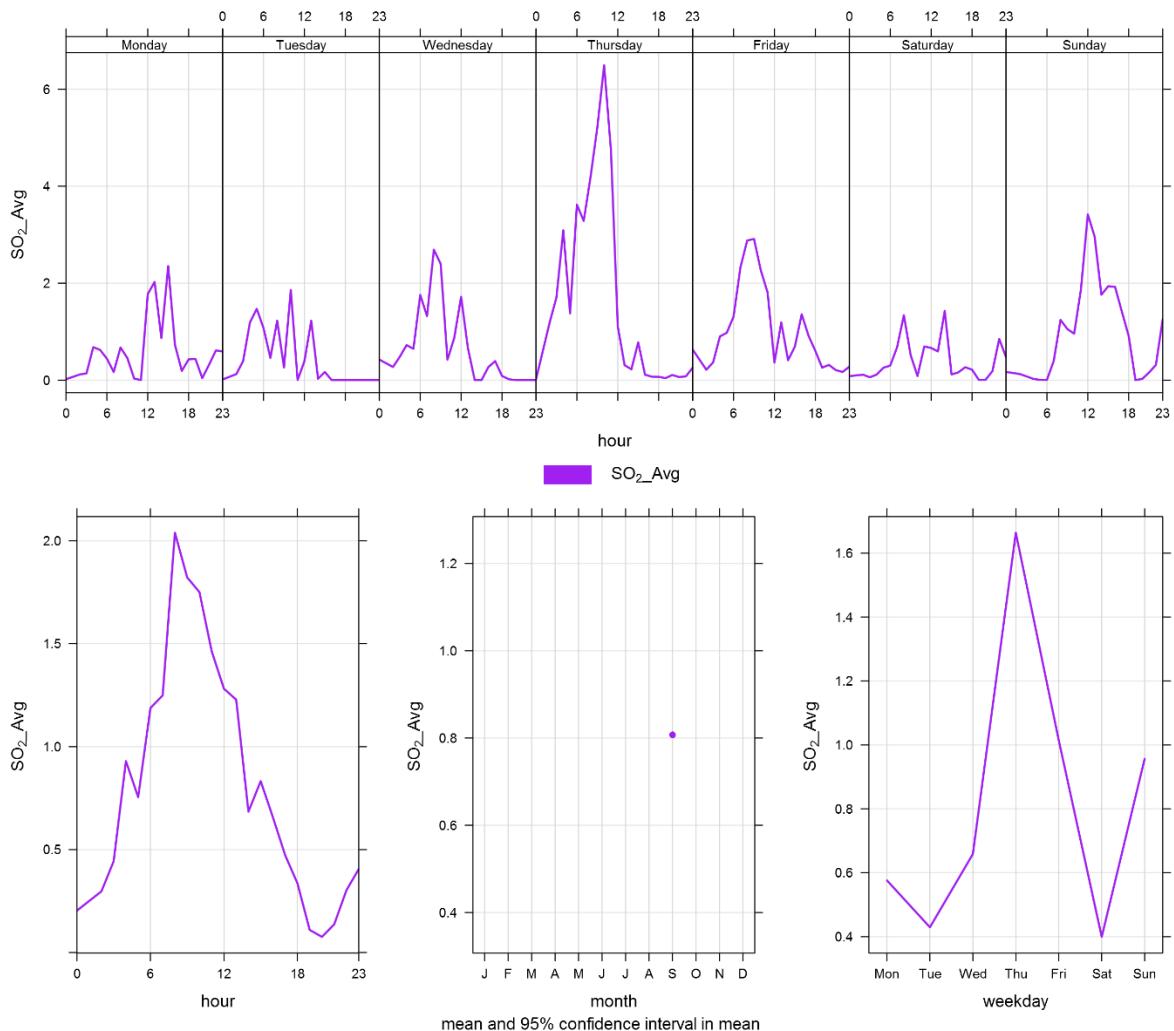


Figure 3-9 Lagoon Monitor SO_2 time variation

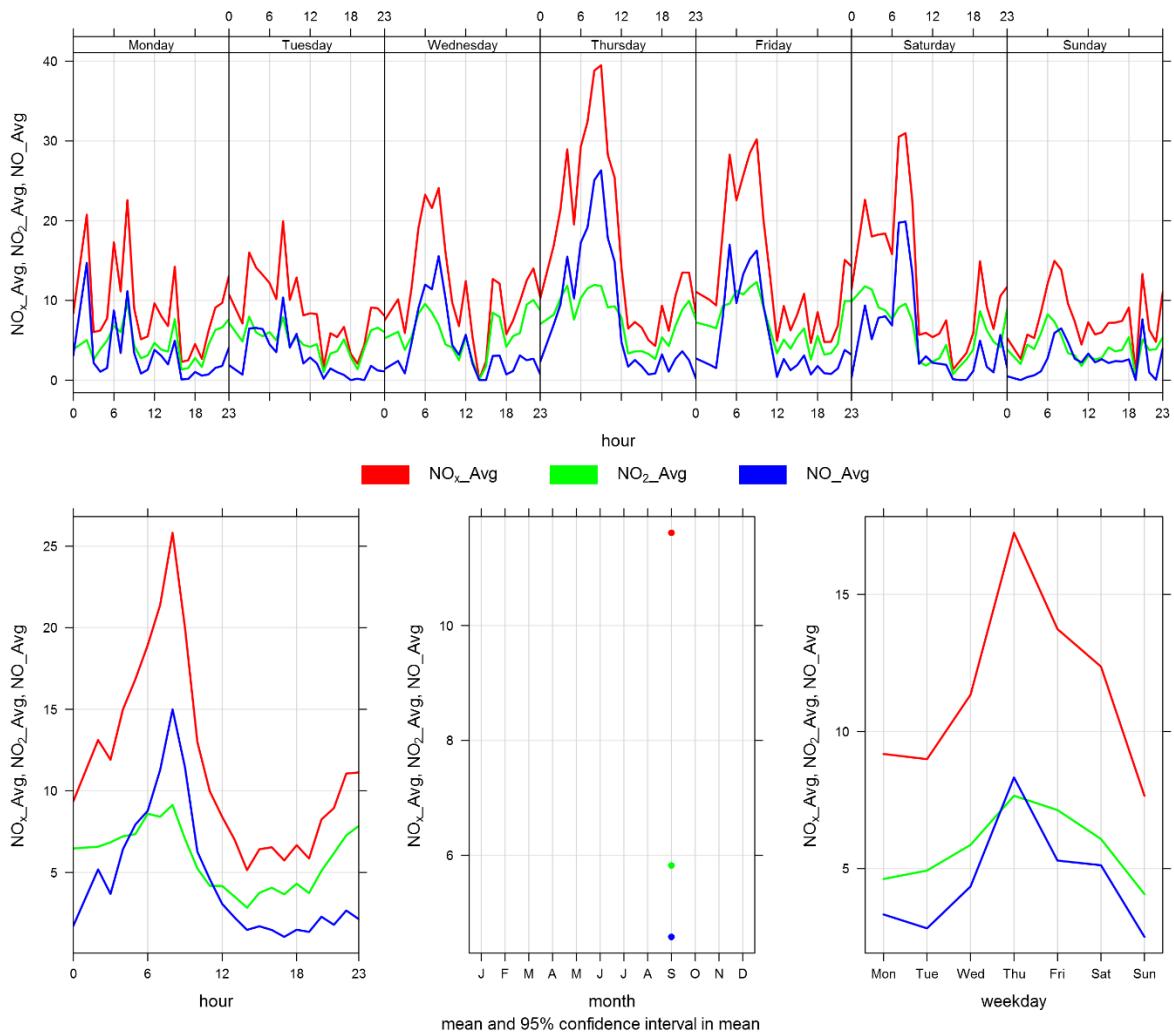


Figure 3-10 Lagoon Monitor NO_x time variation

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 September, the West GRIMM had 78.8% uptime to issues with the flow controller that resulted in the monitor being returned to the manufacturer for repair.

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 September. 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 1 and 2 recorded exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) Guidelines, marking this year as the most TSP and PM_{2.5} exceedance days in September since monitoring at the West Station began. Historically, the West monitor has never recorded any exceedance of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of September. Smoke from the forest fires in BC and Alberta were the cause of the PM_{2.5} and TSP exceedances at the West monitor.

Table 4-2 Summary of September 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	17	2	10.8	94.0	8	12	12.6	249.1	77.3	8	78.8
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	West	-	-	17.3	135.5	8	13	11.9	223.6	103.8	8	78.8
TSP ($\mu\text{g}/\text{m}^3$)	-	100	West	-	1	23.2	202.2	8	16	19.3	72.1	102.2	8	78.8

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						
9/8/2017	102.2	77	243.8	14.7	49.1	Forest Fires
9/9/2017	-	32	246.1	12.9	63.7	Forest Fires
Total # of Exceedances	1	2				
Maximum # of Exceedances (September)	0 (2010 ~ 2016)	0 (2010 ~ 2016)				
Average # of Exceedances (September)	0	0				
Minimum # of Exceedances (September)	0 (2010 ~ 2016)	0 (2010 ~ 2016)				

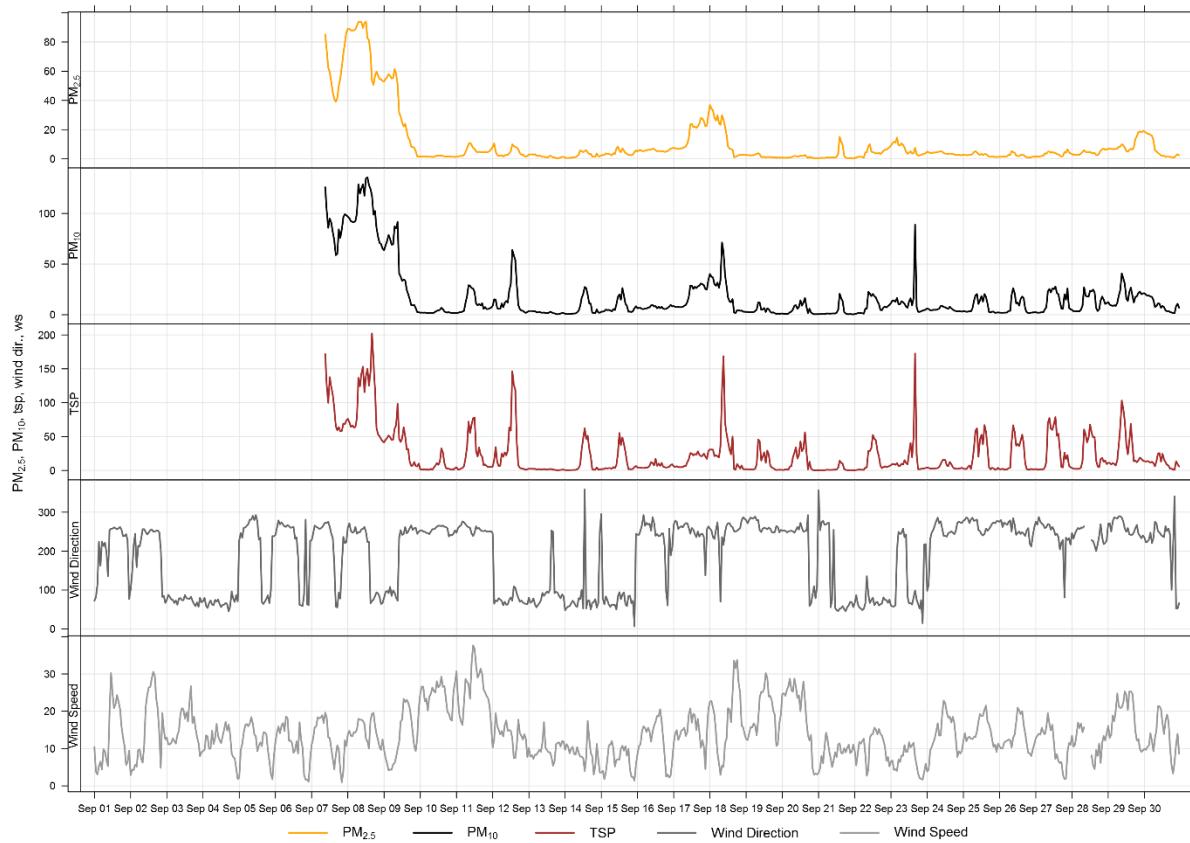


Figure 4-1 1-hour particulate matter concentrations at the West monitor



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

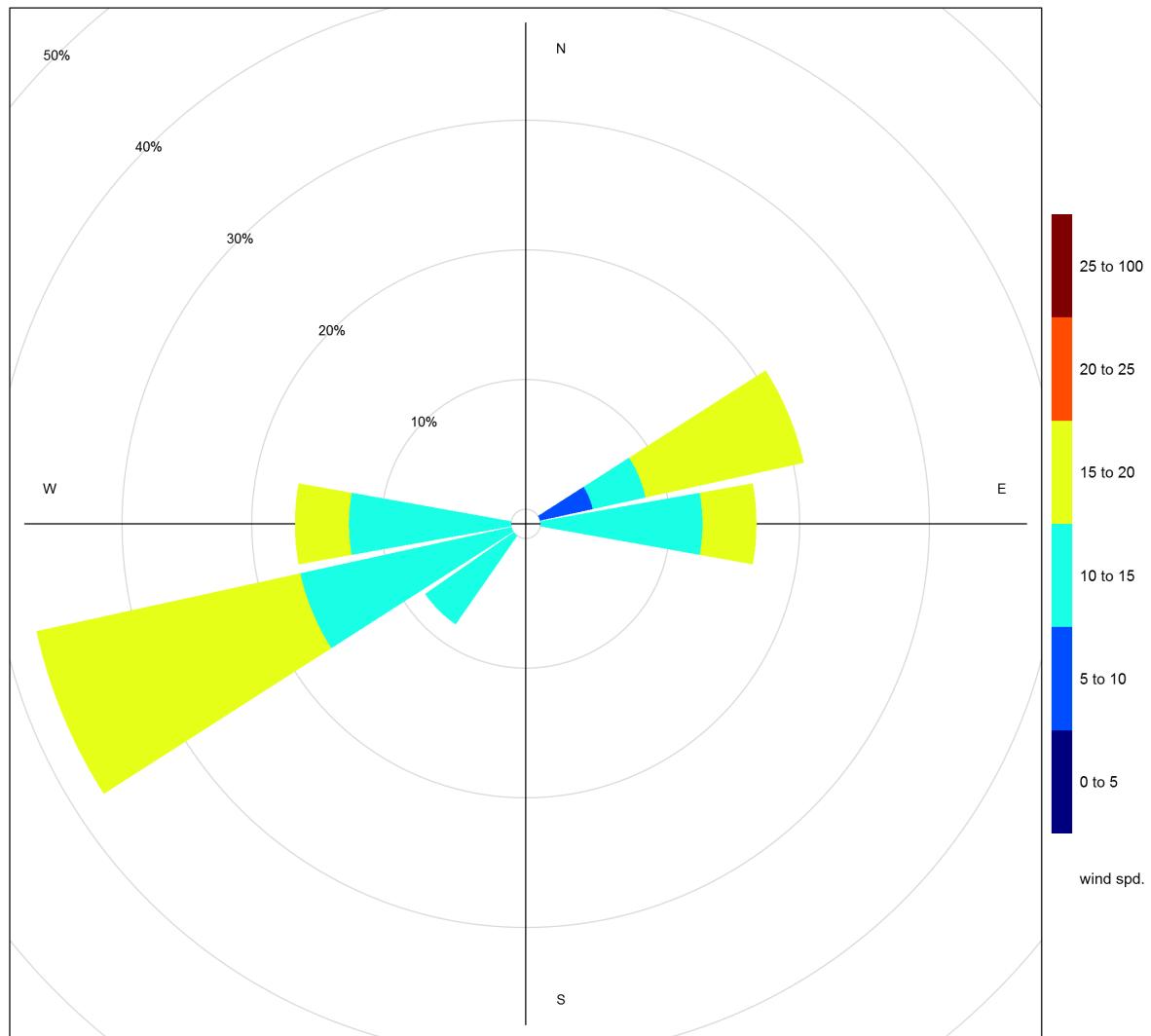


Figure 4-3 Wind rose for TSP exceedance days recorded at the West GRIMM

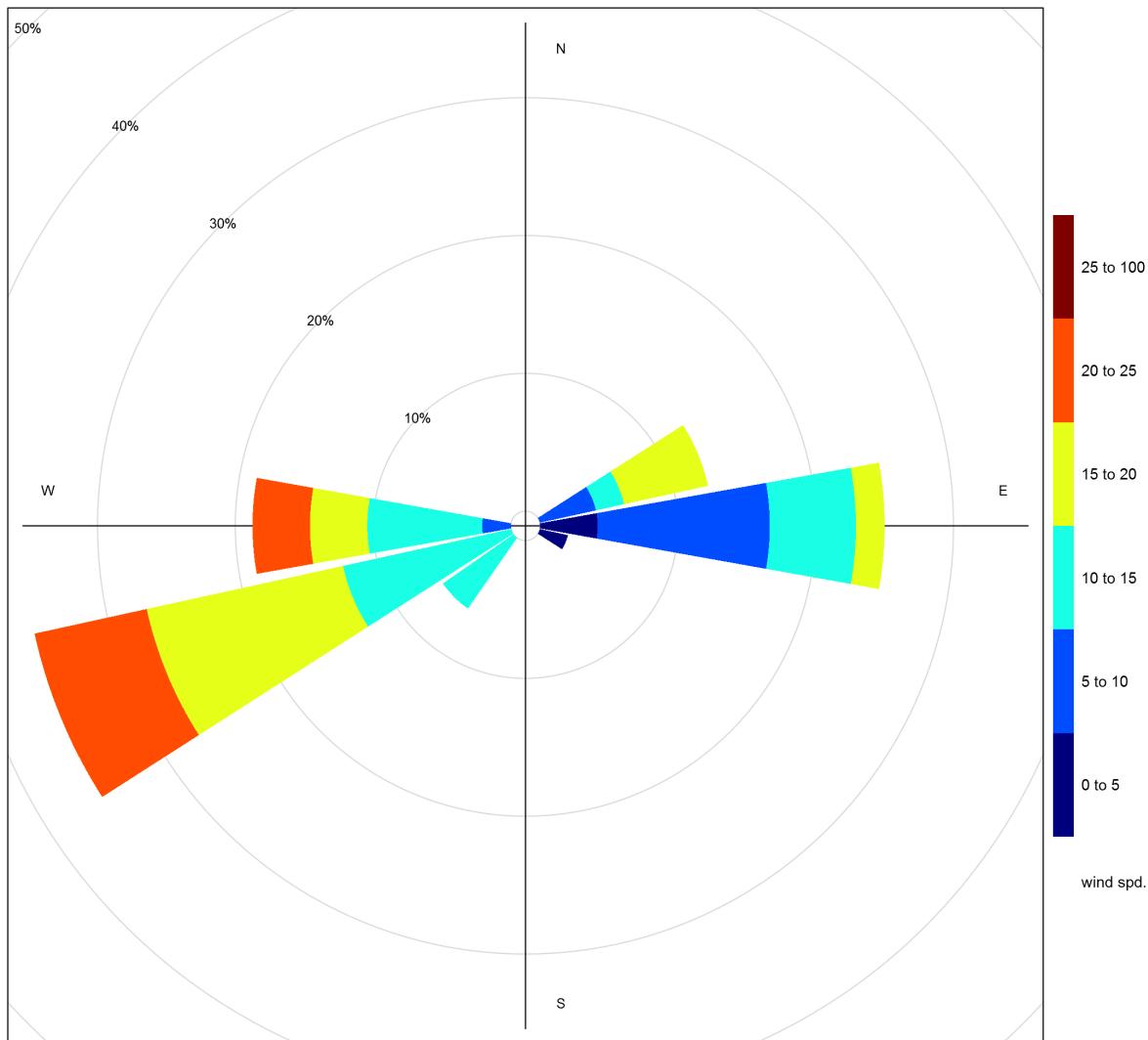


Figure 4-4 Wind rose for PM_{2.5} exceedance days recorded at the West GRIMM

Figure 4-5 illustrates the hourly PM concentrations recorded at the West monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-5 is based on data collected during September 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.

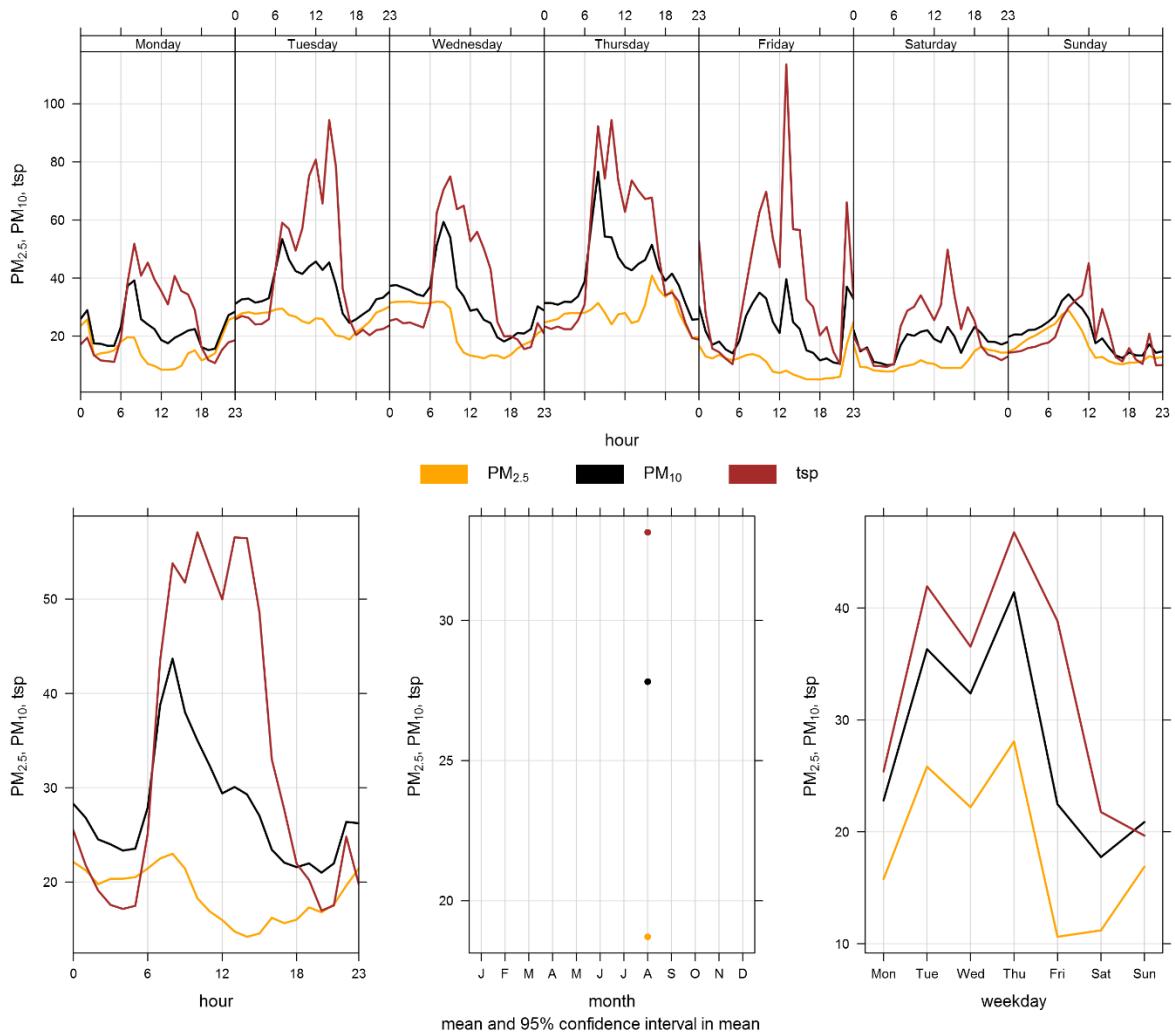


Figure 4-5 West particulate matter time variation

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 September, 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 September, there were 16 and 7 exceedances of the 24-hour TSP (30 µg/m³) and PM_{2.5} (100 µg/m³) Guidelines, marking this year as the most PM_{2.5} exceedance days recorded in September 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 0 exceedances of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of September. Prior to September 2017, the largest number of TSP exceedances recorded during September occurred in 2011, which had 19 days that exceeded the Guideline. The fewest number of TSP exceedances was recorded during September 2013, which had 7 days that exceeded the Guideline. Prior to September 2017, the largest number of PM_{2.5} exceedances recorded during September occurred in 2016, which had 2 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 September.

Table 5-2 Summary of September 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	24	7	18.9	122.3	2	13	26.5	253.6	78.9	8	100.0
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	-	-	Berm	-	-	60.2	649.0	2	13	26.5	253.6	180.7	2	100.0
TSP ($\mu\text{g}/\text{m}^3$)	-	100	Berm	-	16	154.8	1972.5	1	11	30.3	257.8	504.6	10	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						
9/1/2017	354.7	42	246.2	12.9	46.5	Forest Fires
9/2/2017	462.2	50	242.1	15.1	40.9	Forest Fires
9/5/2017	-	35	271.9	11.6	47.2	Forest Fires
9/6/2017	128.1	46	262.6	11.2	37.0	Forest Fires
9/7/2017	190.1	68	256.1	12.2	37.6	Forest Fires
9/8/2017	162.3	79	243.8	14.7	49.1	Forest Fires
9/9/2017	338.6	41	246.1	12.9	63.7	Forest Fires
9/10/2017	504.6	-	254.5	24.3	29.4	High wind event, Influenced by forest fires
9/11/2017	465.2	-	255.9	26.3	25.5	High wind event, Influenced by forest fires
9/17/2017	108.0	-	256.2	14.8	44.0	Possible influence by forest fires
9/18/2017	315.0	-	257.2	18.0	49.3	Possible influence by forest fires
9/19/2017	301.6	-	262.8	19.2	51.8	
9/20/2017	158.3	-	254.8	19.8	55.3	
9/24/2017	137.5	-	254.3	13.8	56.2	
9/25/2017	123.8	-	265.7	14.6	51.4	
9/29/2017	189.3	-	263.5	18.5	42.5	
9/30/2017	230.0	-	247.9	13.0	51.1	
Total # of Exceedances	16	7				
Maximum # of Exceedances (September)	19 (2011)	2 (2016)				
Average # of Exceedances (September)	11	0				
Minimum # of Exceedances (September)	7 (2013)	0 (2010 ~ 2016)				

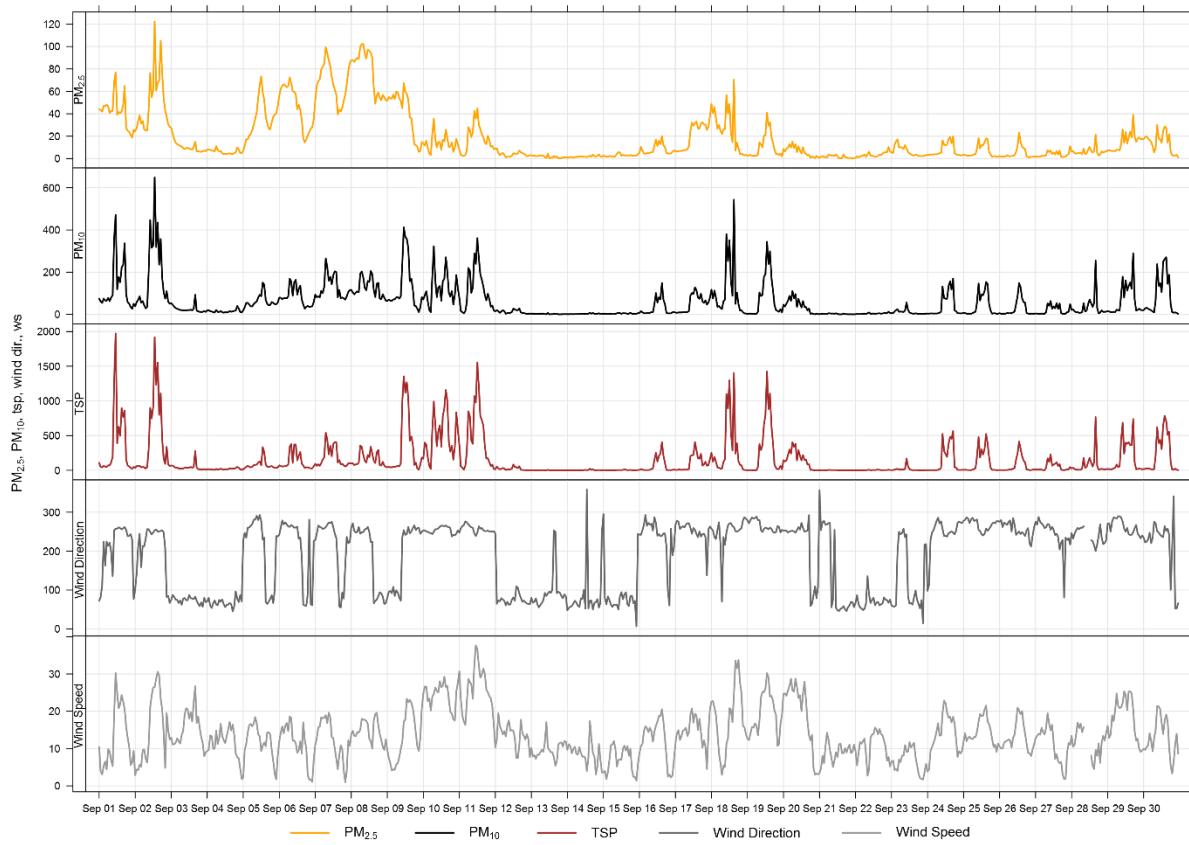


Figure 5-1 1-hour particulate matter concentrations recorded at the Berm monitor

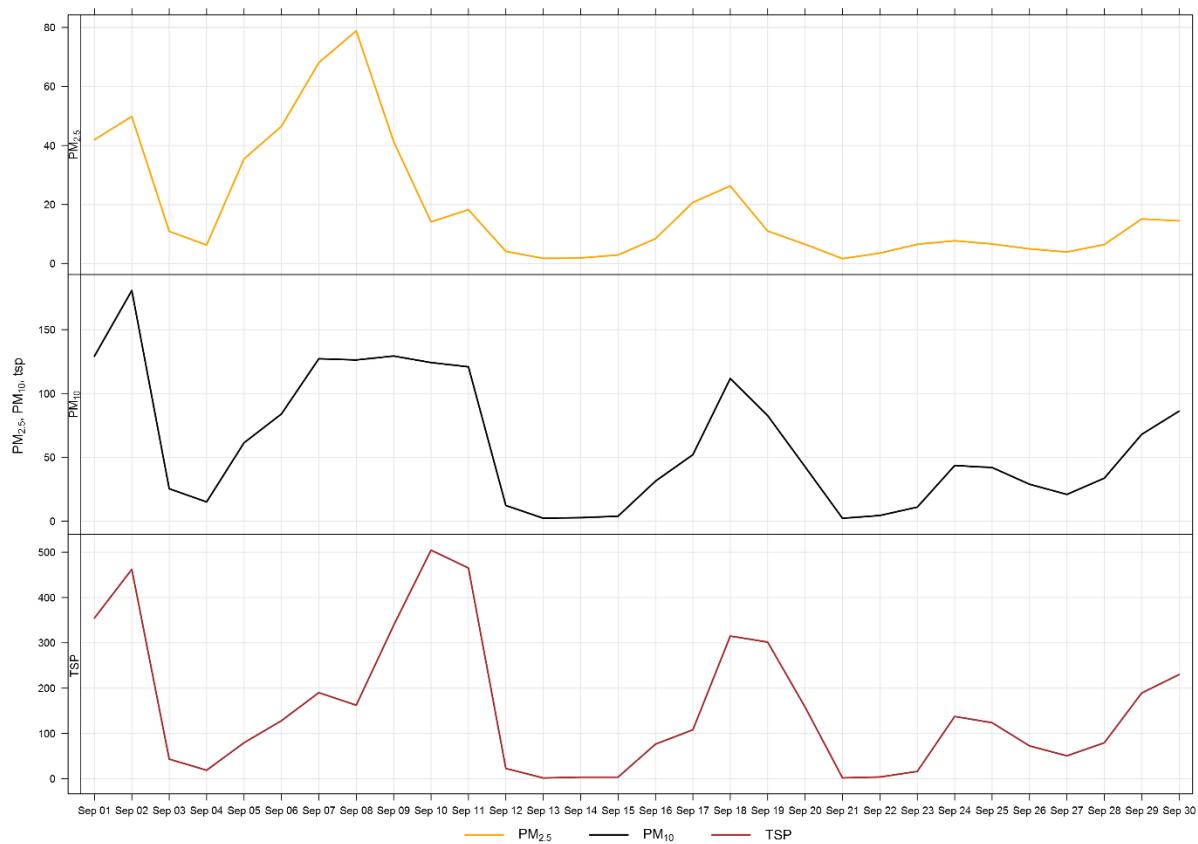


Figure 5-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 5-3 and Figure 5-4 show the wind roses for the TSP and $\text{PM}_{2.5}$ exceedances, respectively. High wind speeds ($> 20\text{km/h}$) from the West were a contributing cause of TSP exceedance days. But wild-fire smoke was also a contributor to TSP exceedances in September (Figure 5-3). During $\text{PM}_{2.5}$ exceedance days, there was a lower percentage of high wind speeds than there was in August. This likely lead to periods of stagnant air and the buildup of particulate matter from the wildfires in BC and Alberta.

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.

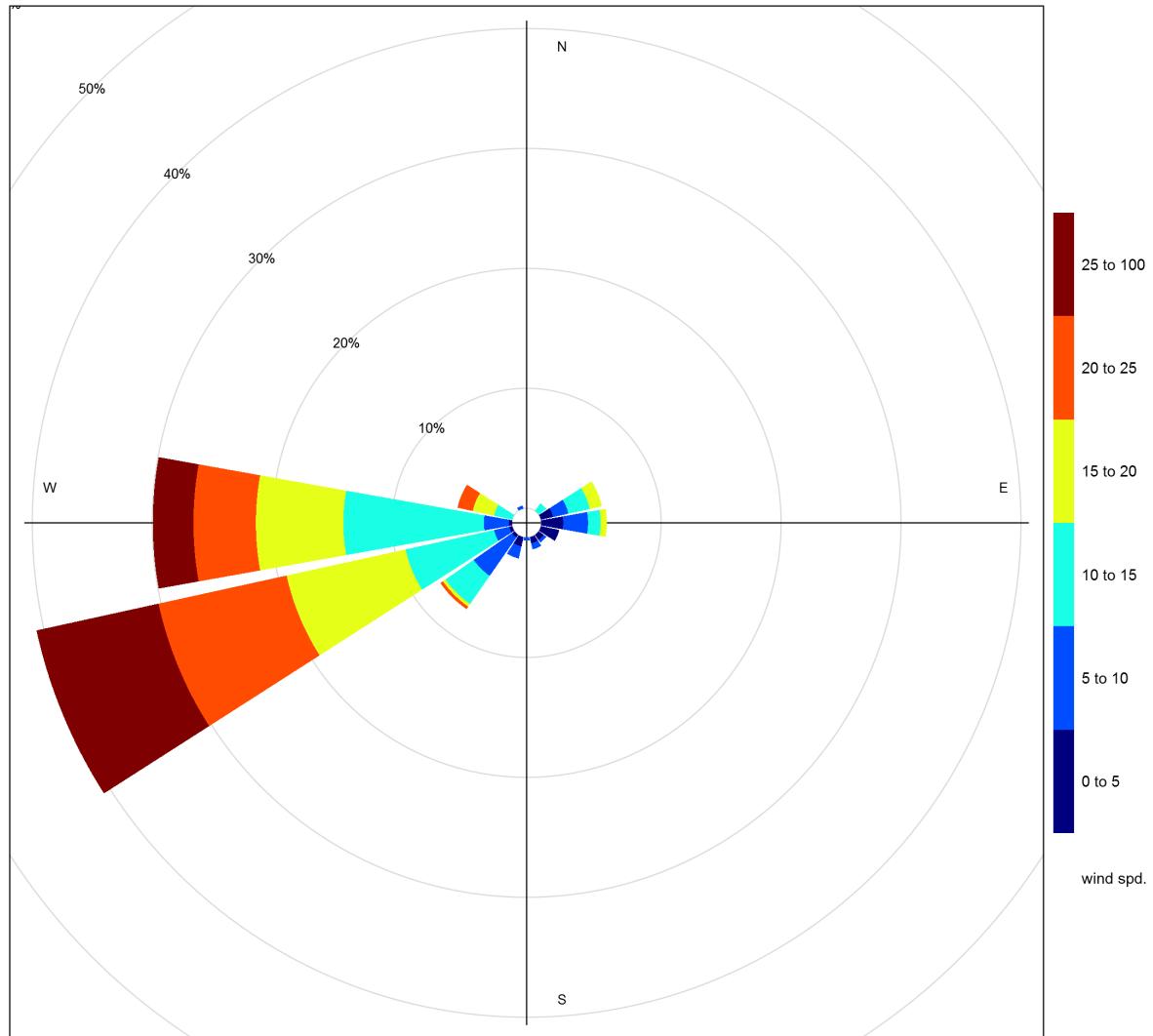


Figure 5-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

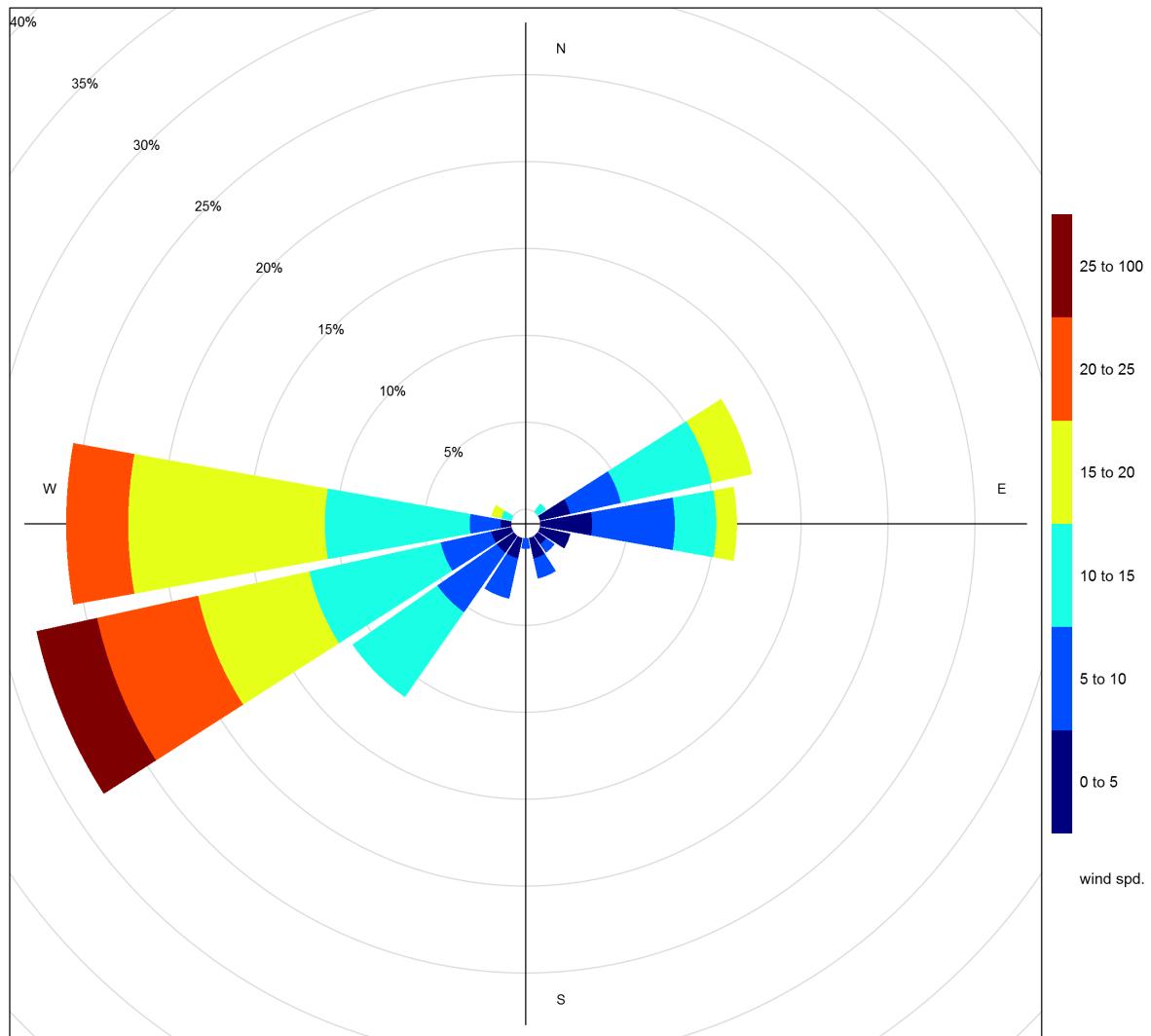


Figure 5-4 Wind rose for PM_{2.5} exceedance days recorded at the Berm GRIMM

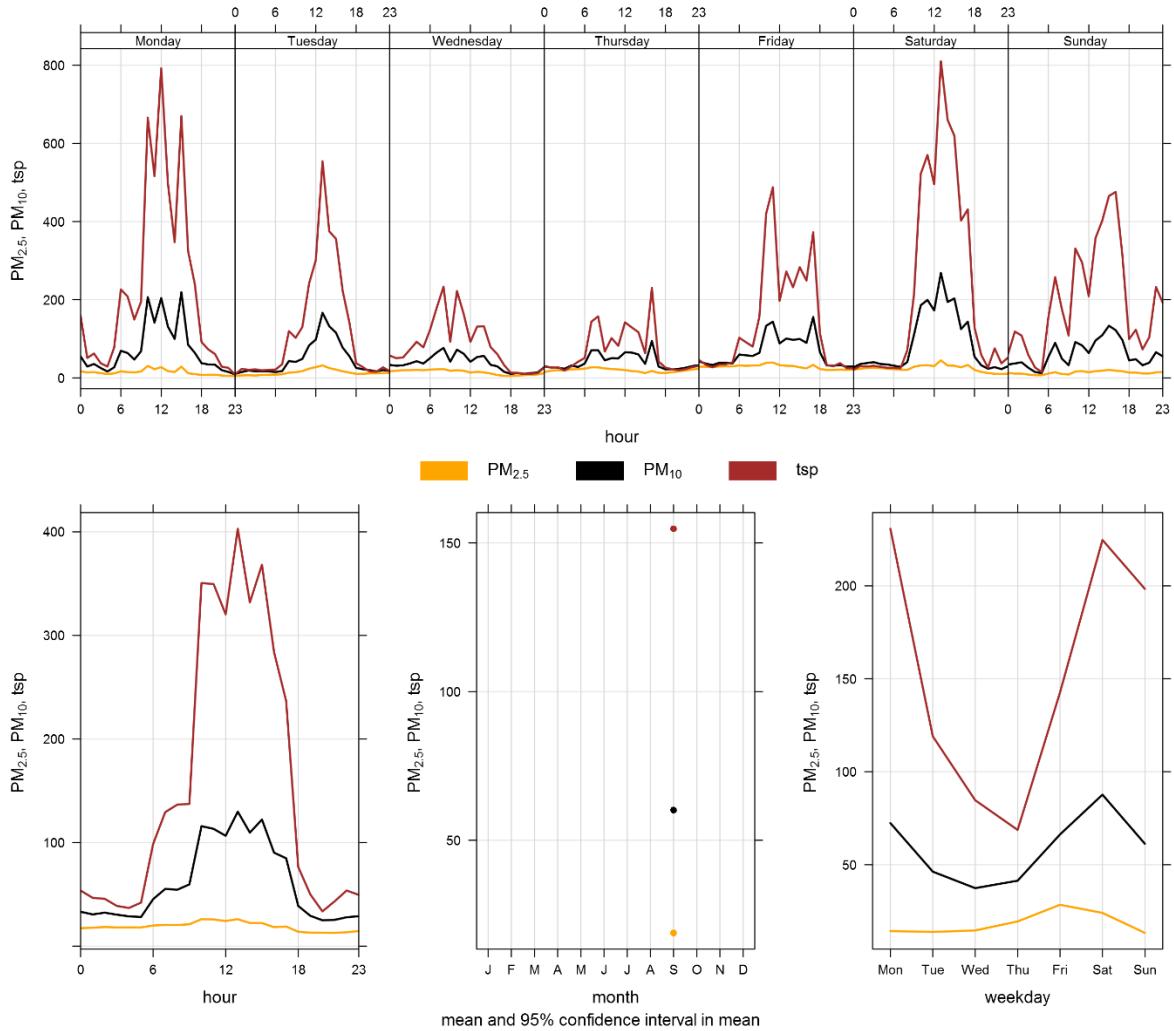


Figure 5-5 Berm particulate matter time variation

6 ENTRANCE GRIMM

6.1 SITE VISIT NOTES

Table 6-1 indicates the equipment that is installed at the Entrance monitoring location. During the month of September, the West GRIMM had 89.6% uptime due to equipment malfunction mid-month from September 19th to 22nd.

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 September, there were 19 and 7 exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) Guideline, marking this year as the most PM_{2.5} exceedance days recorded in September since monitoring began at this location. 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 14 and 0 exceedances of the 24-hour TSP and PM_{2.5} Guidelines respectively, during the month of September. The largest number of TSP exceedances recorded during September occurred in 2013, which had 22 days that exceeded the Guideline. The fewest number of TSP exceedances recorded during September occurred in 2016, which had 9 days that exceeded the Guideline. Prior to September 2017, the largest number of PM_{2.5} exceedances recorded during September occurred in 2014, which had 2 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. In September, there were more high wind speeds (> 20km/h) than in August, a contributor to TSP exceedance days. But wild-fire smoke was also a contributor to TSP exceedances in September (Figure 6-3). During PM_{2.5} exceedance days, there was a lower percentage of high wind speeds than there was in August. This likely lead to periods of stagnant air and the buildup of particulate matter from the wildfires in BC and Alberta.

Table 6-2 Summary of September 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} (µg/m ³)	80	30	Entrance	46	7	26.3	144.8	8	9	17.7	255.9	100.8	8	89.6
PM ₁₀ (µg/m ³)	-	-	Entrance	-	-	82.3	571.8	28	15	4.5	214.7	257.8	8	89.6
TSP (µg/m ³)	-	100	Entrance	-	19	180.6	1628.6	5	3	14.3	260.1	515.0	8	89.6

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						
9/1/2017	239.7	48	246.2	12.9	46.5	Forest Fires
9/2/2017	215.1	41	242.1	15.1	40.9	Forest Fires
9/5/2017	354.3	51	271.9	11.6	47.2	Forest Fires
9/6/2017	262.0	60	262.6	11.2	37.0	Forest Fires
9/7/2017	369.3	85	256.1	12.2	37.6	Forest Fires
9/8/2017	515.0	101	243.8	14.7	49.1	Forest Fires
9/9/2017	147.9	39	246.1	12.9	63.7	Forest Fires
9/10/2017	132.0	-	254.5	24.3	29.4	High wind events, Influenced by forest fires
9/11/2017	204.8	-	255.9	26.3	25.5	High wind events, Influenced by forest fires
9/16/2017	121.7	-	254.5	12.3	63.7	
9/17/2017	132.6	-	256.2	14.8	44.0	Possible influence by forest fires
9/18/2017	176.4	-	257.2	18.0	49.3	Possible influence by forest fires
9/24/2017	107.7	-	254.3	13.8	56.2	
9/25/2017	225.7	-	265.7	14.6	51.4	
9/26/2017	163.5	-	255.7	13.1	54.6	
9/27/2017	193.5	-	257.4	11.1	60.3	
9/28/2017	336.4	-	241.8	11.6	53.5	
9/29/2017	382.4	-	263.5	18.5	42.5	
9/30/2017	141.0	-	247.9	13.0	51.1	
Total # of Exceedances	19	7				
Maximum # of Exceedances (September)	22 (2013)	2 (2014)				
Average # of Exceedances (September)	14	0				
Minimum # of Exceedances (September)	9 (2016)	0 (2011, 2015, 2016)				

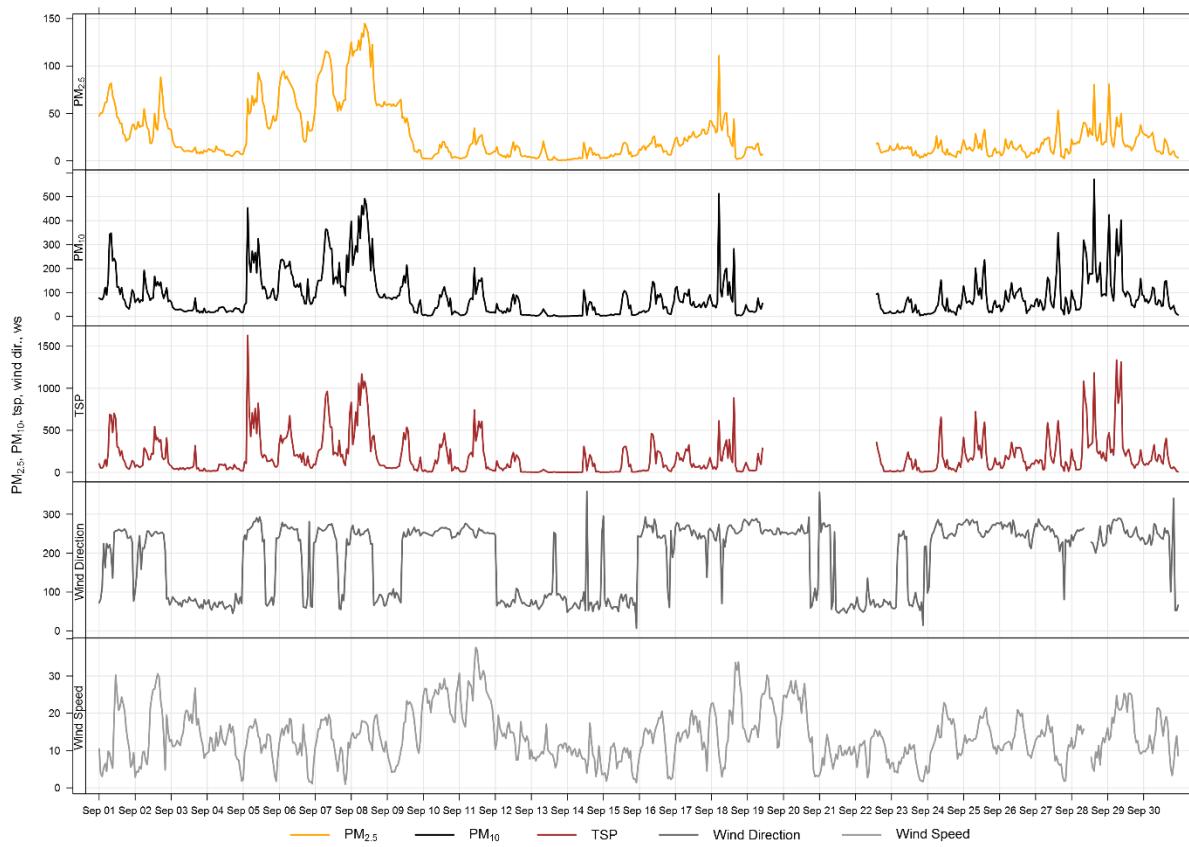


Figure 6-1 1-hour particulate matter concentrations recorded at the Entrance monitor

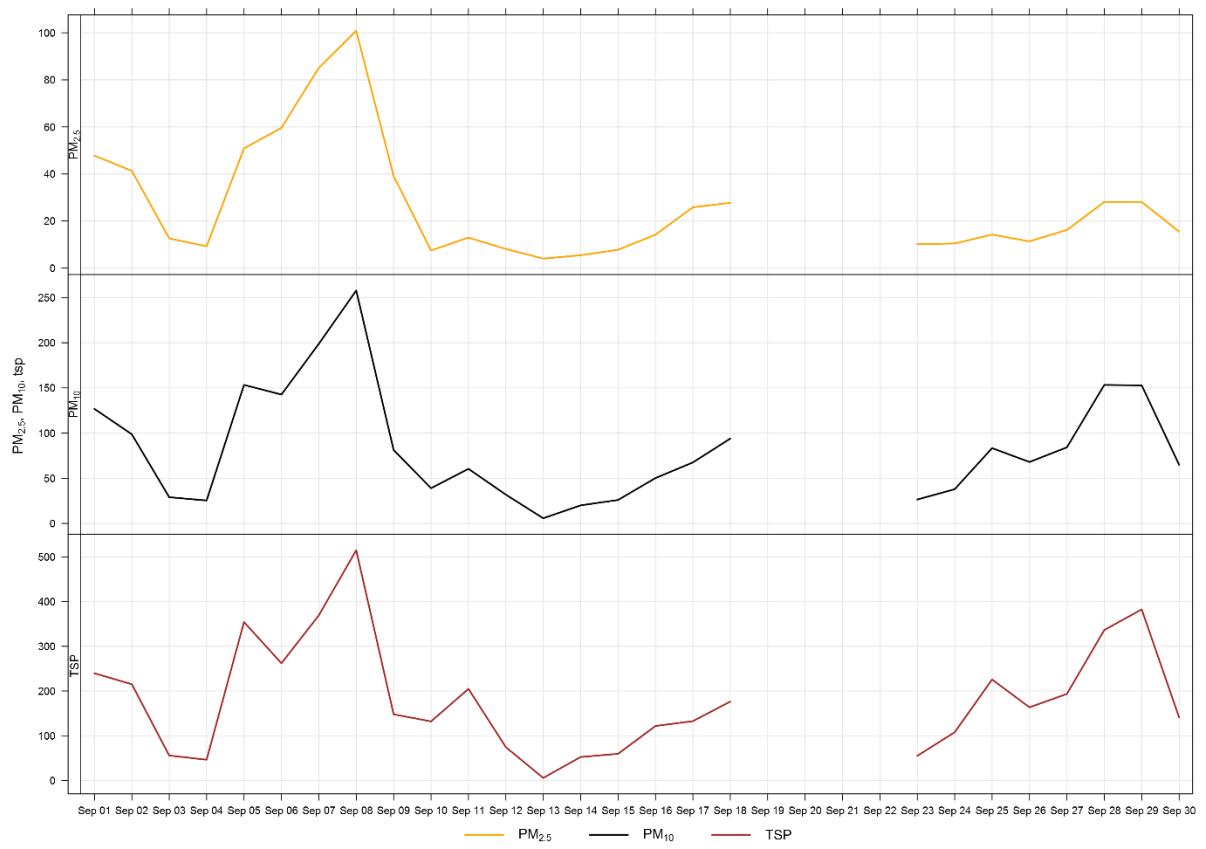


Figure 6-2 24-hour particulate matter concentrations at the Entrance monitor

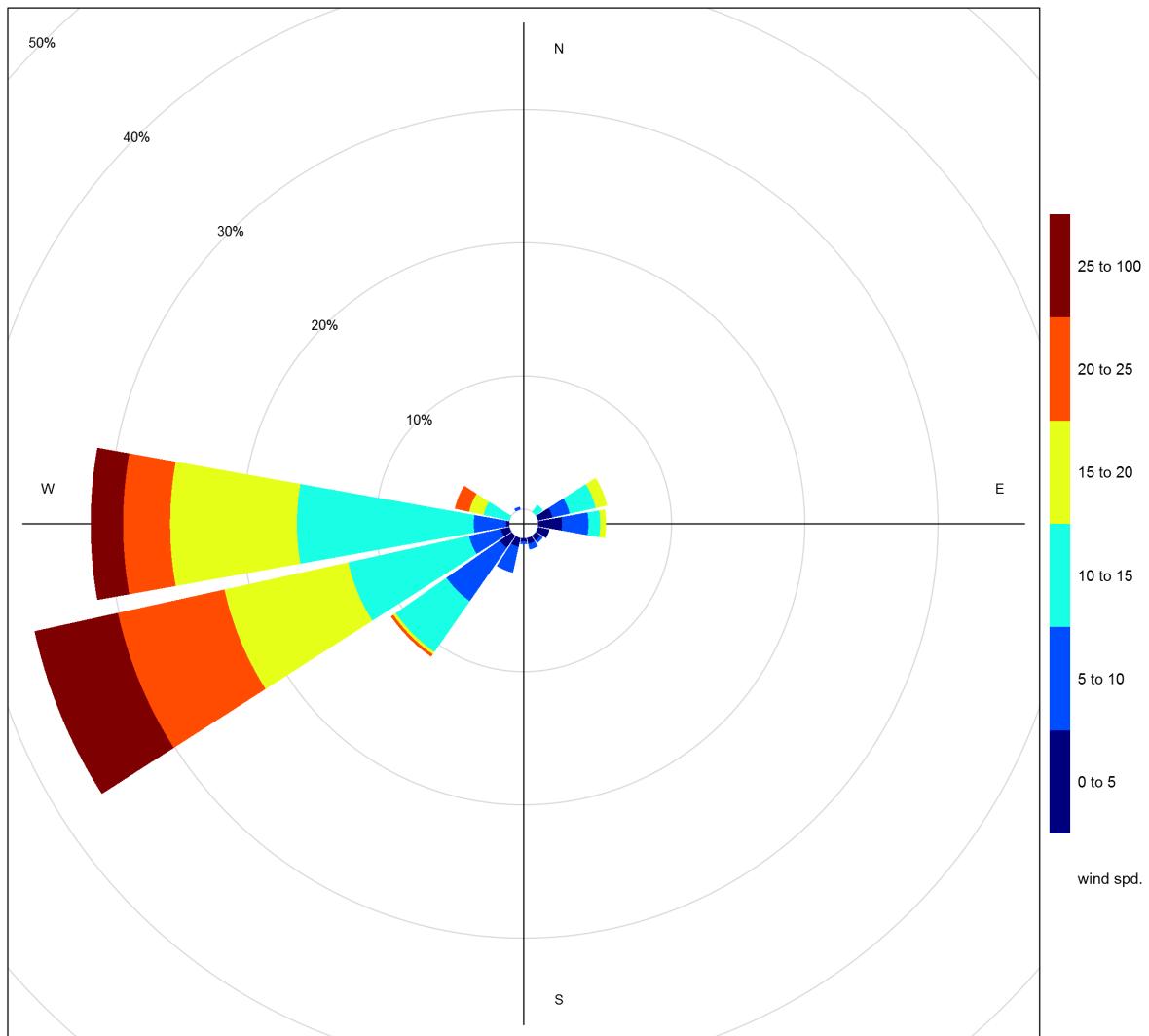


Figure 6-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

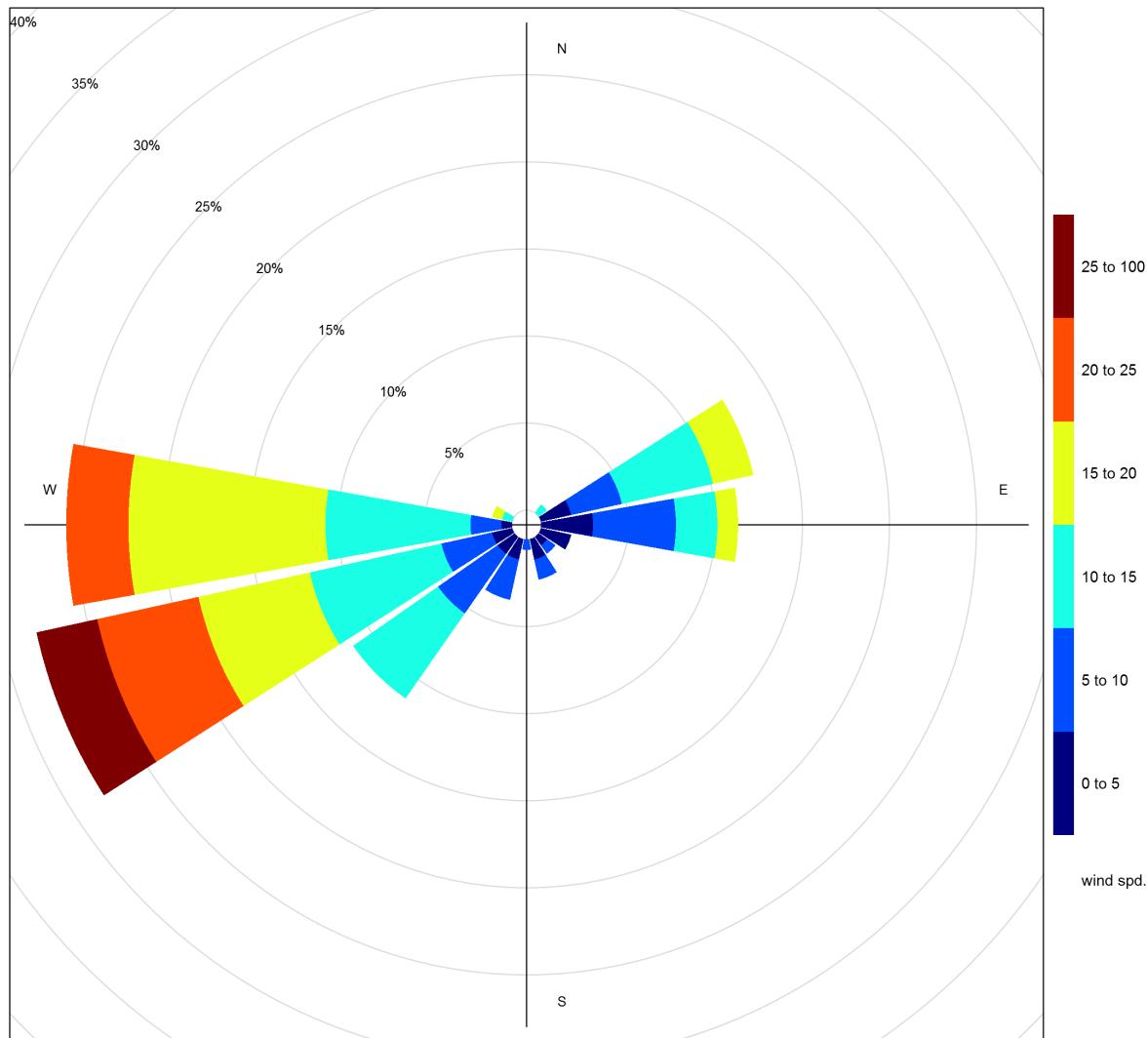


Figure 6-4 Wind rose for PM_{2.5} exceedance days recorded at the Entrance GRIMM

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 September 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.

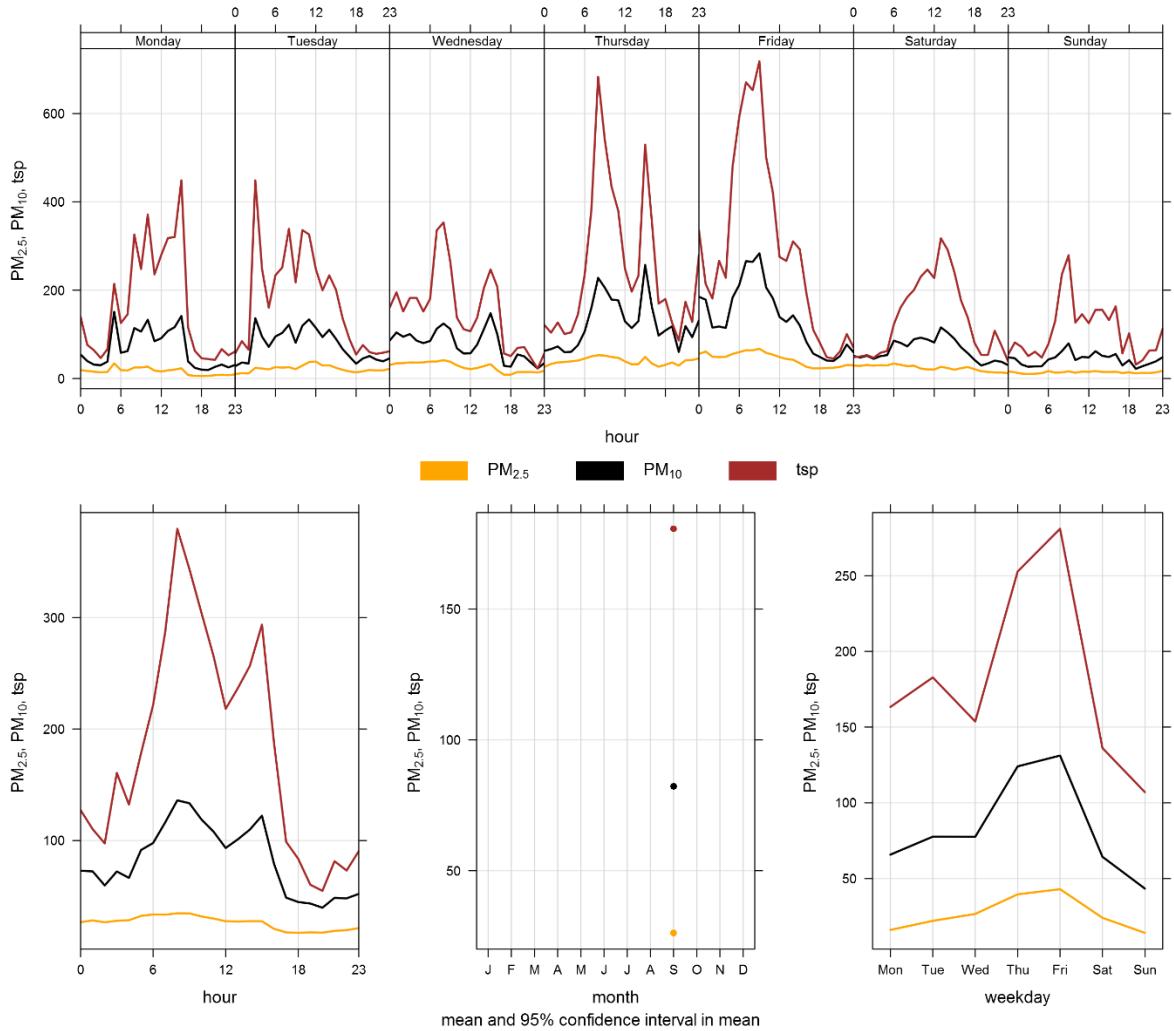


Figure 6-5 Entrance particulate matter time variation

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- Alberta Environment and Parks. (2016, September). 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 I

DATA & CALIBRATION REPORTS

Lagoon NO₂ (ppb) – September 2017

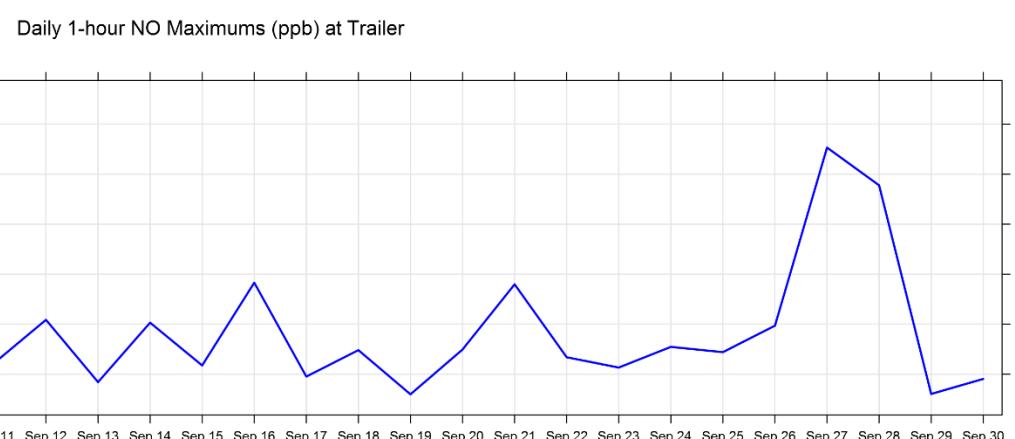
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	3.2	S	12.1	11.1	12.9	16.6	16.4	11.9	14.5	13.2	8.3	2.1	2.9	10.2	8.3	2.0	7.1	3.8	8.5	1.1	4.6	7.0	8.6	8.3	16.6	8.5
2	15.2	S	23.8	27.9	23.6	11.8	5.6	9.7	15.4	10.0	1.2	0.3	4.6	8.7	4.6	0.3	4.5	4.2	10.3	13.3	8.1	6.7	2.9	26.2	27.9	10.4
3	4.9	S	1.6	9.5	9.1	13.6	25.5	15.2	4.9	0.8	1.1	0.0	0.0	0.1	0.7	5.3	0.0	1.6	7.6	1.6	17.9	5.5	6.1	9.3	25.5	6.2
4	8.1	S	15.1	4.7	2.3	9.9	10.0	7.5	7.6	0.0	2.6	0.4	1.7	1.6	1.8	2.5	0.8	0.0	0.0	2.3	8.9	6.7	8.2	11.5	15.1	5.0
5	15.2	S	10.7	10.9	13.4	12.0	11.6	6.2	8.1	5.7	12.2	3.0	3.9	5.7	0.4	8.2	4.9	19.1	9.2	1.1	7.7	6.2	7.8	8.2	19.1	8.3
6	14.0	S	7.1	8.4	9.5	9.1	16.6	12.3	9.6	6.2	5.6	2.9	7.1	2.4	0.3	2.6	25.4	22.7	5.2	8.5	11.0	18.7	17.7	14.5	25.4	10.3
7	9.7	S	14.3	22.9	21.4	9.6	19.3	22.2	23.2	23.6	18.1	16.9	14.1	8.2	4.8	5.6	6.1	1.6	7.4	4.1	8.1	14.7	15.8	15.4	23.6	13.4
8	17.9	S	8.8	11.5	21.8	17.4	22.6	28.0	31.0	26.4	23.7	25.0	12.4	9.6	10.0	24.1	23.8	3.4	2.7	1.9	1.7	1.5	24.9	26.3	31.0	16.4
9	12.2	S	16.8	10.0	8.0	6.9	7.9	13.8	12.1	16.3	5.0	0.8	1.4	1.8	9.8	0.8	1.5	2.7	1.2	0.3	1.4	1.5	5.6	3.7	16.8	6.2
10	0.3	S	0.0	0.0	0.5	2.6	2.2	4.6	7.8	5.7	5.1	7.1	9.2	9.2	10.5	11.1	10.7	10.6	11.5	0.0	0.0	2.8	2.1	4.2	11.5	5.1
11	0.1	S	1.9	2.0	5.4	5.9	8.4	7.8	10.2	7.9	C	C	C	C	C	14.4	3.2	0.5	3.1	0.4	0.0	6.6	5.3	7.4	14.4	5.0
12	4.8	S	3.4	17.6	1.4	0.2	3.3	3.0	9.8	5.9	4.6	10.2	9.1	8.6	1.4	0.7	3.2	0.8	0.8	3.2	2.9	4.1	7.0	10.5	17.6	5.1
13	0.9	S	9.2	3.6	4.0	11.7	8.1	7.2	4.8	0.0	0.0	0.0	0.0	0.0	0.0	4.3	7.4	3.9	0.0	0.0	0.0	0.0	0.0	0.0	11.7	2.8
14	3.0	S	2.7	4.9	13.8	5.7	4.8	7.5	5.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	4.3	0.0	2.2	2.0	2.3	2.9	5.2	3.6	13.8	3.2
15	1.7	S	3.0	2.7	2.4	3.0	2.9	5.4	6.7	9.6	7.7	1.1	1.2	1.1	0.0	0.0	0.5	2.5	4.7	4.2	4.3	3.9	2.4	1.3	9.6	3.1
16	5.8	S	5.5	4.9	2.7	4.6	4.6	6.5	3.9	2.3	2.3	3.3	0.0	0.0	0.0	0.0	0.0	1.7	4.7	10.9	9.0	3.5	5.5	5.4	10.9	3.8
17	5.7	S	4.4	5.8	5.0	5.0	4.8	6.3	5.0	1.3	4.1	0.0	3.0	1.1	0.0	0.0	0.9	0.0	0.0	0.3	0.7	4.3	3.5	5.1	6.3	2.9
18	1.7	S	0.0	0.0	2.5	1.7	6.1	6.3	13.3	4.2	3.5	8.8	12.3	9.9	8.9	8.8	1.3	1.1	0.0	0.0	5.2	5.3	8.3	8.8	13.3	5.1
19	4.1	S	1.6	1.1	4.0	2.8	3.1	6.0	5.1	1.9	0.7	3.1	3.7	3.1	2.3	4.3	6.4	0.6	0.0	0.0	1.0	8.7	5.7	0.1	8.7	3.0
20	0.0	S	1.9	0.0	1.1	4.6	5.6	2.3	0.7	2.4	5.5	1.9	9.9	4.0	0.0	0.0	1.0	5.1	6.4	5.4	3.2	4.8	7.2	5.7	9.9	3.4
21	2.4	S	6.1	4.5	2.8	5.6	6.1	8.9	10.9	14.2	7.6	8.1	9.6	4.8	5.1	2.2	5.7	6.6	11.5	7.3	3.0	1.5	6.5	0.0	14.2	6.1
22	4.9	S	4.5	2.1	5.6	6.8	9.1	3.9	2.6	8.3	2.8	0.6	0.0	1.5	1.4	1.1	0.8	1.9	1.5	1.5	0.5	3.3	4.8	2.9	9.1	3.2
23	4.5	S	3.2	4.9	2.8	7.7	7.4	6.9	5.8	2.6	1.8	4.7	5.7	2.5	1.0	0.0	0.0	0.0	0.0	8.7	4.5	1.4	2.4	5.7	8.7	3.7
24	4.5	S	2.1	2.5	1.0	2.3	0.5	3.2	4.8	5.6	2.2	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.9	2.5	0.0	1.8	2.6	3.8	5.6	2.1
25	5.6	S	3.1	3.5	5.3	2.3	2.9	2.5	7.7	5.2	2.2	0.0	0.0	0.0	0.0	4.8	0.1	4.5	8.0	3.8	3.8	6.6	4.6	2.9	8.0	3.4
26	4.6	S	3.6	2.2	5.2	6.9	6.0	4.7	8.6	3.8	4.2	1.4	0.0	0.6	0.0	0.0	0.0	0.0	1.6	1.1	4.2	5.9	5.3	8.6	3.3	
27	6.1	S	6.0	3.2	7.2	7.8	8.0	12.0	12.6	9.3	5.2	5.2	4.9	3.3	0.0	0.0	0.0	0.0	5.2	8.2	9.3	14.3	15.3	6.9		
28	13.0	S	9.8	8.7	9.5	9.5	10.9	7.3	8.4	9.4	10.8	12.1	E	0.4	3.3	2.5	1.4	0.2	0.5	3.3	13.3	13.9	13.9	12.5	13.9	7.9
29	8.5	S	5.6	5.1	4.0	4.2	5.0	4.4	3.4	4.0	3.0	2.4	0.3	2.9	0.0	0.0	0.0	1.2	10.4	7.3	5.9	6.9	8.9	10.8	10.8	4.5
30	11.5	S	9.6	9.2	8.4	12.8	12.6	8.7	10.8	5.9	1.2	0.0	0.0	0.8	6.6	2.5	2.5	4.3	3.0	10.0	8.2	11.0	4.2	3.3	12.8	6.4
Hourly Max	17.9	-	23.8	27.9	23.6	17.4	25.5	28.0	31.0	26.4	23.7	25.0	14.1	10.2	10.5	24.1	25.4	22.7	11.5	13.3	17.9	18.7	24.9	26.3		
Hourly Average	6.5	-	6.6	6.8	7.2	7.3	8.6	8.4	9.1	7.1	5.2	4.2	4.2	3.5	2.8	3.8	4.1	3.7	4.3	3.7	5.1	6.2	7.3	7.8		

S = SPAN C = CALIBRATION E = INSTRUMENT ERROR

Lagoon NO (ppb) – September 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	5.4	1.4	13.3	49.8	3.8	2.7	5.3	8.5	3.8	0.0	0.0	8.9	4.0	0.0	4.0	0.6	2.8	0.0	0.0	0.0	0.0	49.8	5.0		
2	0.0	S	22.4	20.6	29.2	0.3	0.0	2.1	9.4	4.0	0.0	0.8	5.9	9.2	2.4	0.0	0.0	0.0	3.3	3.9	0.3	0.0	0.0	6.1	29.2	5.2	
3	0.0	S	0.0	0.0	0.0	1.6	8.3	7.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	2.4	0.0	30.5	1.3	0.0	8.0	30.5	2.7	
4	9.6	S	57.9	2.5	0.0	3.6	29.1	9.3	10.3	0.0	0.4	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.9	5.7		
5	4.4	S	0.3	5.1	16.5	18.8	13.6	3.9	12.0	4.5	13.1	0.0	0.7	0.5	0.0	1.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0	18.8	4.2		
6	0.9	S	1.3	2.8	5.8	5.9	16.2	5.0	6.4	0.8	1.2	0.0	0.7	0.0	0.0	0.0	8.0	6.5	0.0	0.0	0.0	0.0	0.0	16.2	2.9		
7	0.0	S	8.6	24.4	22.6	4.1	22.5	32.0	30.0	33.9	20.0	11.4	6.3	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0	33.9	9.5		
8	7.9	S	1.1	3.8	22.5	13.0	27.9	53.8	57.5	43.7	26.6	22.5	0.8	0.6	0.2	8.5	10.8	0.0	0.0	0.0	0.0	0.0	0.0	57.5	14.5		
9	0.0	S	18.9	0.0	9.0	18.5	17.3	64.7	55.8	46.0	0.6	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.7	10.2		
10	0.0	S	0.0	0.0	0.0	0.0	0.0	1.4	3.3	2.8	2.8	8.9	11.2	8.6	10.5	7.8	9.1	8.9	8.0	0.0	0.0	0.1	0.2	11.2	3.7		
11	0.0	S	0.0	1.2	0.4	1.5	5.0	1.3	5.1	2.7	C	C	C	C	12.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.5	2.4	12.2	1.9
12	1.4	S	2.0	20.9	0.0	0.0	0.0	0.3	5.2	2.8	1.7	6.2	7.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.8	2.2	20.9	2.5	
13	0.0	S	2.6	0.5	0.0	8.4	1.8	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.8		
14	1.2	S	0.2	3.3	20.3	1.5	0.6	8.2	9.4	0.0	0.0	0.0	0.0	0.0	0.8	0.7	6.1	0.0	0.9	0.0	1.2	7.2	14.4	2.1	20.3	3.4	
15	4.0	S	0.3	1.6	1.1	11.8	5.0	7.4	10.9	11.7	10.8	0.8	1.2	0.0	0.0	0.0	0.0	0.5	0.0	1.5	3.9	7.3	1.7	0.0	11.8	3.5	
16	0.8	S	4.5	3.9	0.0	11.9	10.8	23.1	17.1	8.1	4.7	6.2	0.0	0.0	0.0	0.0	0.0	0.0	2.3	11.0	6.5	0.0	28.3	1.9			
17	1.8	S	0.0	1.5	2.4	1.9	2.8	9.5	8.2	0.8	4.9	0.0	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	9.5	1.9	
18	0.0	S	0.0	0.0	0.0	0.0	0.0	0.7	14.8	0.3	0.0	3.9	11.3	8.6	5.7	5.7	0.0	0.0	0.0	0.0	1.3	1.6	5.9	7.0	14.8	2.9	
19	1.2	S	0.0	0.0	5.2	0.5	2.4	6.0	4.5	1.7	0.0	1.5	3.6	3.6	0.7	4.6	4.0	0.0	0.0	0.0	0.0	5.3	0.1	0.0	6.0	1.9	
20	0.0	S	0.0	0.0	0.0	2.1	3.2	0.3	0.0	1.3	6.2	0.9	14.9	5.8	0.0	0.0	5.8	2.3	2.1	0.0	0.0	1.5	0.0	14.9	2.0		
21	0.0	S	8.8	0.6	0.0	6.2	4.5	7.8	13.2	28.0	4.2	11.0	8.2	4.7	6.6	0.5	2.6	2.4	12.9	3.1	1.4	0.0	7.9	0.0	28.0	5.9	
22	1.7	S	3.0	0.8	3.1	9.7	11.3	1.1	0.5	13.4	3.4	0.6	0.0	2.8	2.0	1.0	0.7	2.3	0.0	0.0	0.0	0.0	1.6	0.0	13.4	2.6	
23	0.7	S	0.0	0.8	0.0	0.2	2.4	5.4	11.3	6.3	4.9	7.9	5.0	1.0	0.0	0.0	0.0	0.0	0.0	9.7	0.5	0.0	0.0	0.0	11.3	2.4	
24	0.1	S	0.0	0.0	0.0	1.0	0.0	5.1	12.9	15.5	3.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	15.5	1.7		
25	2.8	S	1.0	4.9	3.8	1.0	0.9	2.4	14.4	10.5	2.0	0.0	0.0	0.0	1.9	0.0	0.6	4.1	2.2	1.6	2.9	0.7	0.0	14.4	2.5		
26	0.5	S	0.5	0.0	4.6	6.3	1.9	3.8	19.7	7.4	8.4	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7	2.6		
27	4.6	S	5.7	0.0	13.2	19.6	26.7	39.1	55.3	39.1	10.2	11.8	7.1	2.5	0.0	0.0	0.0	0.0	0.5	2.4	12.4	10.0	3.8	3.0	55.3	11.6	
28	7.9	S	10.2	9.6	19.1	29.2	41.4	28.7	47.8	43.3	47.0	37.0	E	0.0	2.8	0.3	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	47.8	14.8	
29	0.0	S	0.0	0.0	0.0	0.8	0.5	1.4	1.7	3.9	2.0	1.1	0.0	0.9	0.0	0.0	0.0	6.1	2.8	0.0	0.0	0.0	0.0	6.1	0.9		
30	0.0	S	1.0	0.3	0.9	9.1	3.9	3.4	5.8	2.5	0.0	0.0	0.0	3.0	0.6	0.0	0.0	0.0	0.1	0.9	4.9	0.0	0.0	9.1	1.6		
Hourly Max	9.6	-	57.9	24.4	29.2	49.8	41.4	64.7	57.5	46.0	47.0	37.0	14.9	9.2	10.5	12.2	10.8	8.9	12.9	11.0	30.5	14.4	28.3	15.9			
Hourly Average	1.7	-	5.2	3.7	6.4	7.9	8.8	11.3	15.0	11.4	6.3	4.6	3.1	2.2	1.5	1.7	1.5	1.1	1.5	1.4	2.3	1.8	2.7	2.1			

S = SPAN C = CALIBRATION E = INSTRUMENT ERROR



Lagoon NO_x (ppb) – September 2017

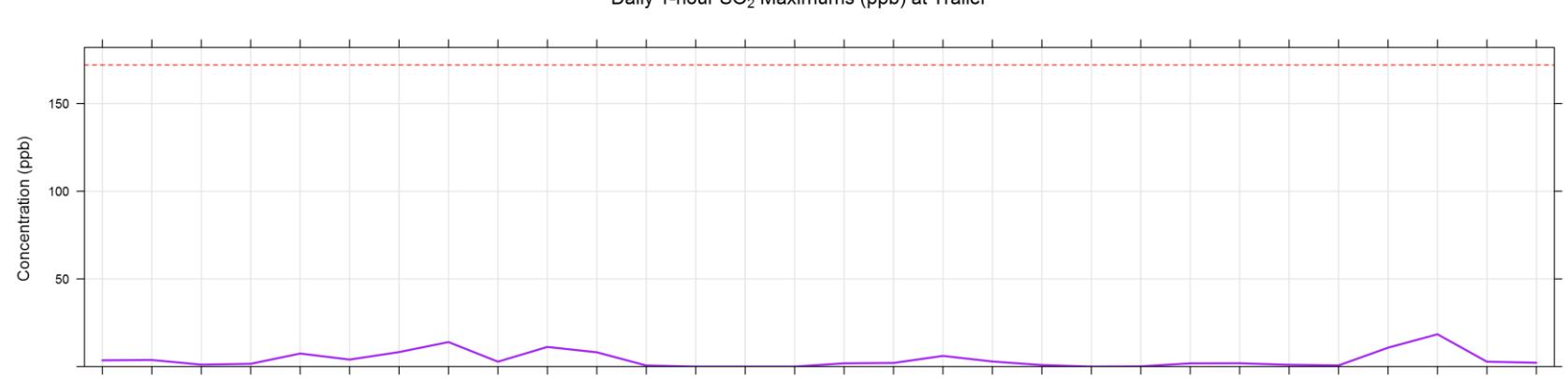
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	3.3	S	19.1	14.2	27.9	68.3	22.0	16.3	21.6	23.4	13.9	3.5	4.5	20.9	14.1	3.1	12.9	6.2	13.0	1.2	4.8	7.9	9.9	8.5	68.3	14.8
2	15.6	S	48.2	50.5	54.8	13.8	5.8	13.5	26.6	15.7	2.4	2.9	12.2	19.7	8.8	1.0	6.2	5.3	15.3	18.9	10.2	7.6	2.8	34.1	54.8	17.0
3	5.2	S	1.7	10.6	9.8	16.9	35.6	24.6	8.1	1.5	2.2	0.1	0.1	0.2	1.2	7.9	0.0	3.3	11.7	3.4	50.2	8.6	6.3	19.2	50.2	9.9
4	19.4	S	74.8	8.9	3.6	15.2	40.8	18.5	19.6	0.0	4.7	1.1	3.5	3.9	3.8	4.2	1.4	0.0	0.0	2.4	9.5	6.8	8.5	20.0	74.8	11.8
5	21.3	S	12.7	17.6	31.7	32.6	27.1	11.8	21.9	11.9	27.1	4.4	6.4	8.0	0.4	11.2	6.0	23.4	9.8	1.0	7.8	6.3	7.7	8.5	32.6	13.8
6	16.6	S	10.1	13.0	17.0	16.8	34.6	19.1	17.8	8.7	8.5	3.9	9.5	2.8	0.3	3.7	35.3	31.0	5.4	8.4	11.2	19.0	24.9	15.5	35.3	14.5
7	9.6	S	24.6	49.2	45.8	15.3	43.6	56.1	55.0	59.5	39.9	30.1	22.1	11.1	5.2	6.2	8.1	1.6	7.5	4.1	8.0	16.5	16.3	18.0	59.5	24.1
8	27.6	S	11.6	17.0	46.2	32.2	52.3	83.7	90.3	72.0	52.2	49.4	14.9	11.9	11.8	34.4	36.5	4.8	2.8	1.9	1.7	1.5	42.3	44.1	90.3	32.3
9	13.9	S	37.5	11.0	18.7	27.0	26.8	80.3	68.9	64.1	7.4	1.1	2.0	2.6	15.7	1.1	2.0	3.6	1.6	0.4	1.6	1.6	7.0	5.4	80.3	17.5
10	0.5	S	0.2	0.1	0.9	3.6	2.7	7.7	12.9	10.2	9.6	17.8	22.1	19.6	22.7	20.6	21.5	21.4	21.3	0.0	0.0	4.6	4.1	7.4	22.7	10.1
11	1.2	S	2.4	5.0	7.4	9.1	15.0	10.8	17.0	12.3	C	C	C	C	28.3	5.1	1.0	4.3	0.6	0.0	9.9	7.4	11.4	28.3	8.2	
12	7.9	S	7.1	40.3	2.6	0.3	4.8	5.0	16.6	10.3	7.9	18.1	17.8	14.3	1.7	0.9	3.6	1.1	1.1	5.6	3.9	7.6	10.8	14.2	40.3	8.9
13	1.0	S	13.5	5.7	4.9	21.8	11.6	9.9	6.9	0.0	0.0	0.0	0.0	0.0	5.5	13.1	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	4.3
14	5.9	S	4.5	9.9	35.9	8.8	7.0	17.4	16.4	0.0	0.0	0.0	1.3	2.3	3.5	12.1	0.0	4.7	3.3	5.2	11.7	21.3	7.3	35.9	7.9	
15	7.4	S	4.9	5.9	5.1	16.4	9.5	14.4	19.3	23.0	20.2	3.6	4.1	2.6	0.2	0.0	1.6	4.7	6.0	7.3	9.8	12.9	5.8	23.0	8.1	
16	8.2	S	11.6	10.5	4.2	18.2	17.1	31.3	22.7	12.0	8.7	11.2	0.0	0.0	0.0	0.0	0.0	3.0	8.7	23.5	17.2	3.9	35.6	9.0	35.6	11.2
17	9.2	S	6.1	9.0	9.1	8.5	9.2	17.5	15.0	3.7	10.7	0.0	6.7	3.1	0.0	0.0	2.4	0.0	0.0	0.4	0.8	8.4	4.4	11.9	17.5	5.9
18	2.8	S	0.0	0.0	3.0	1.7	7.8	8.6	29.8	6.2	4.8	14.5	25.4	20.2	16.3	16.2	2.2	2.3	0.0	0.0	8.2	8.5	15.9	17.4	29.8	9.2
19	7.0	S	2.9	2.4	10.8	5.0	7.2	13.7	11.3	5.2	2.1	6.3	8.9	8.3	4.6	10.6	12.0	2.2	0.0	0.0	1.1	15.7	7.4	0.3	15.7	6.3
20	0.0	S	3.6	0.1	2.4	8.3	10.4	4.3	2.0	5.3	13.4	4.4	26.5	11.5	0.0	0.2	2.3	12.6	10.4	9.2	4.8	4.9	10.3	7.0	26.5	6.7
21	2.8	S	16.6	6.7	3.8	13.5	12.3	18.4	25.8	44.1	13.5	20.8	19.4	11.2	13.4	4.3	9.9	10.6	26.0	12.1	6.1	1.8	16.1	0.0	44.1	13.4
22	8.2	S	9.2	4.5	10.3	18.2	22.1	6.6	4.8	23.3	7.8	2.9	0.0	5.9	5.0	3.7	3.2	5.9	2.9	1.9	0.6	4.2	8.1	3.9	23.3	7.1
23	6.9	S	3.8	7.3	3.0	9.5	11.4	13.9	18.8	10.6	8.3	14.3	12.3	5.2	1.9	0.0	0.0	0.0	0.0	20.1	6.7	1.7	2.6	5.9	20.1	7.1
24	6.3	S	2.6	3.2	1.4	4.9	1.0	10.0	19.4	22.8	6.9	0.0	0.0	0.0	0.1	0.2	4.9	5.0	3.4	0.0	2.2	3.6	4.4	5.7	22.8	4.7
25	10.1	S	5.8	10.2	10.8	5.0	5.5	6.6	23.8	17.4	5.9	0.9	0.0	0.0	0.2	8.3	0.5	6.7	13.7	7.8	7.1	11.2	6.9	3.4	23.8	7.3
26	6.8	S	5.8	3.7	11.4	14.9	9.6	10.2	30.0	12.8	14.3	3.7	0.4	2.4	0.0	0.8	0.0	0.0	2.3	1.7	4.7	6.8	10.1	9.2	30.0	7.0
27	12.4	S	13.4	4.8	22.1	29.2	36.4	53.0	69.8	50.3	17.1	18.7	13.7	7.5	0.0	0.0	0.0	0.0	7.3	12.3	23.4	26.0	20.8	19.4	69.8	19.9
28	22.6	S	21.7	20.0	30.3	40.5	54.2	37.8	58.0	54.4	59.5	50.7	E	1.3	7.1	3.8	2.1	0.2	0.5	3.5	16.5	14.4	14.2	12.7	59.5	23.9
29	8.9	S	5.6	5.2	4.2	6.3	6.8	7.2	6.6	9.3	6.4	4.9	1.2	5.2	0.0	0.0	0.0	1.7	18.0	11.5	7.2	7.7	9.3	12.2	18.0	6.3
30	12.3	S	11.9	10.9	10.6	23.3	17.8	13.5	17.9	9.8	1.6	0.3	0.4	1.6	11.0	4.5	3.5	5.1	3.8	11.5	10.6	17.3	4.7	4.0	23.3	9.0
Hourly Max	27.6	-	74.8	50.5	54.8	68.3	54.2	83.7	90.3	72.0	59.5	50.7	26.5	20.9	22.7	34.4	36.5	31.0	26.0	23.5	50.2	26.0	42.3	44.1		
Hourly Average	9.4	-	13.1	11.9	15.0	16.8	18.9	21.4	25.8	20.0	13.0	10.0														

Lagoon SO₂ (ppb) – September 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	0.4	S	0.0	0.0	0.0	0.5	0.0	0.2	0.4	1.4	1.0	0.2	0.3	3.6	1.6	0.2	3.4	3.0	1.4	0.0	0.0	0.0	0.0	0.6	3.6	0.8
2	0.0	S	0.2	0.2	0.3	0.0	0.3	0.5	3.8	0.3	0.0	0.4	2.1	2.8	2.2	0.1	0.7	0.4	0.9	0.0	0.0	0.7	2.6	1.4	3.8	0.9
3	0.7	S	0.3	0.3	0.1	0.0	0.0	0.3	0.1	0.5	1.1	0.4	0.4	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.1	0.2
4	0.0	S	0.3	0.0	0.0	0.0	0.0	0.0	1.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.1
5	0.0	S	0.2	1.1	4.5	5.9	4.3	0.5	2.8	1.0	7.4	0.0	0.7	2.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	1.3
6	1.7	S	1.1	1.9	1.5	0.9	4.0	0.3	0.0	0.0	0.1	0.0	3.6	0.2	0.0	0.0	1.1	1.6	0.3	0.1	0.0	0.0	0.0	0.0	4.0	0.8
7	0.0	S	3.8	6.2	7.8	1.6	4.1	8.3	5.0	7.8	7.6	5.1	3.3	1.2	0.1	1.0	0.4	0.3	0.3	0.2	0.4	0.3	0.3	1.0	8.3	2.9
8	2.8	S	1.1	1.8	4.5	4.4	6.4	11.4	14.0	10.4	10.1	8.8	1.5	0.7	0.4	3.2	3.4	1.6	1.6	1.3	1.6	1.0	0.8	0.7	14.0	4.1
9	0.4	S	0.4	0.1	0.2	0.3	0.3	1.0	1.1	1.1	0.4	0.1	0.1	2.8	0.3	0.1	0.2	0.2	0.0	0.0	0.3	1.6	0.9	2.8	0.5	
10	0.0	S	0.2	0.0	0.0	0.0	0.0	0.5	1.5	2.0	2.7	7.1	11.2	10.9	6.9	7.4	7.7	5.7	3.7	0.0	0.0	0.6	1.2	5.0	11.2	3.2
11	0.1	S	0.1	0.1	2.1	2.5	1.8	0.7	0.1	0.7	C	C	C	C	8.1	2.9	0.8	1.7	1.7	0.2	0.9	0.9	1.6	8.1	1.5	
12	0.1	S	0.3	0.4	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	
13	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
14	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
15	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
16	0.0	S	0.0	0.0	0.0	0.1	0.3	1.8	1.9	1.1	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.3
17	0.0	S	0.0	0.0	0.0	0.0	0.0	0.7	1.4	0.0	0.0	0.0	2.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.2
18	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	6.1	2.6	1.2	0.0	0.0	0.0	0.0	0.4	1.6	0.8	6.1	0.8	
19	0.0	S	0.0	0.0	0.2	0.0	0.0	0.8	1.2	0.0	0.0	0.0	0.8	2.9	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.3
20	0.0	S	0.0	0.0	0.0	0.3	0.9	0.0	0.0	0.0	0.7	0.1	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1
21	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
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
23	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.1
24	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.2
25	0.0	S	0.0	0.5	0.6	0.0	0.0	0.0	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1
26	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
27	0.0	S	0.0	0.0	1.3	1.4	2.2	4.9	10.7	9.6	0.9	3.4	2.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	1.7
28	0.1	S	0.9	0.6	4.6	3.9	10.4	4.9	11.8	13.1	18.4	13.9	E	0.0	0.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	3.9
29	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.2	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.2
30	0.0	S	0.0	0.0	0.0	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.2
Hourly Max	2.8	-	3.8	6.2	7.8	5.9	10.4	11.4	14.0	13.1	18.4	13.9	11.2	10.9	6.9	8.1	7.7	5.7	3.7	1.7	1.6	1.0	2.6	5.0		
Hourly Average	0.2	-	0.3	0.4	0.9	0.8	1.2	1.2	2.0	1.8	1.8	1.5	1.3	1.2	0.7	0.8	0.7	0.5	0.3	0.1	0.1	0.3	0.4			

S = SPAN C = CALIBRATION E = INSTRUMENT ERROR

Daily 1-hour SO₂ Maximums (ppb) at Trailer



Lagoon PM_{2.5} ($\mu\text{g}/\text{m}^3$) – September 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	27.8	28.1	27.4	31.3	32.7	36.9	32.0	47.1	34.8	36.6	42.2	37.3	37.3	34.4	33.0	31.6	25.3	19.7	14.0	13.3	14.7	15.1	16.1	17.5	47.1	28.6
2	27.4	21.8	26.7	25.3	27.1	19.7	20.9	29.9	30.9	28.1	16.1	9.8	24.6	168.3	36.9	23.0	158.8	133.8	101.4	66.5	45.4	36.9	29.9	25.6	168.3	47.3
3	20.7	13.0	9.5	6.3	6.6	9.1	11.2	8.4	4.2	6.6	4.9	3.5	4.2	6.6	6.3	6.6	8.4	6.3	5.9	6.3	9.8	6.3	2.8	2.0	20.7	7.3
4	9.8	9.5	11.9	8.7	5.6	5.6	6.6	7.0	6.3	8.4	5.5	3.8	23.9	32.7	15.8	0.6	4.2	4.3	9.8	6.3	7.7	7.7	17.9	7.0	32.7	9.4
5	6.3	5.2	9.4	14.4	24.9	19.6	19.3	20.0	26.4	31.3	45.0	61.2	81.3	64.7	56.3	50.7	41.1	32.7	29.5	27.8	26.7	25.6	23.9	30.2	81.3	32.2
6	45.7	52.8	53.4	52.8	49.6	49.2	51.4	51.7	47.5	54.1	87.6	90.1	61.9	61.6	54.6	44.7	27.4	25.6	19.0	21.4	38.0	20.0	26.0	26.0	90.1	46.3
7	34.5	59.5	63.9	64.4	70.0	72.5	71.5	74.3	77.7	75.0	78.8	77.8	81.3	79.2	75.7	63.3	57.7	59.1	61.9	64.7	64.0	60.7	77.8	84.5	84.5	68.7
8	81.3	77.1	74.6	77.8	80.9	79.2	81.7	88.2	92.2	85.2	91.5	86.2	88.0	92.2	104.5	75.7	57.0	52.4	48.1	41.1	41.8	39.0	47.0	41.9	104.5	71.9
9	41.5	44.7	42.2	40.8	41.9	41.9	34.8	40.4	42.2	45.8	30.2	29.2	26.0	30.2	31.3	12.4	15.1	10.5	5.6	3.8	3.1	1.3	0.3	2.0	45.8	25.7
10	0.0	0.0	1.7	0.6	0.0	0.0	0.3	1.3	1.7	1.4	2.0	4.5	3.1	5.2	5.9	4.5	4.5	5.6	4.2	0.0	0.0	0.6	1.7	0.0	5.9	2.0
11	0.0	0.0	0.0	E	0.0	0.3	6.3	8.1	9.8	10.1	21.4	20.4	C	C	C	14.0	7.7	3.8	6.6	5.6	4.2	3.5	3.8	4.5	21.4	6.5
12	2.4	1.3	8.6	5.9	0.3	0.0	1.3	0.0	0.0	2.0	0.6	1.8	2.4	2.7	1.3	0.3	5.5	4.2	1.3	1.0	1.3	1.0	0.0	1.1	8.6	1.9
13	1.3	0.0	0.0	0.0	0.0	1.0	1.3	1.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	2.4	0.3
14	0.0	1.0	0.3	1.3	1.3	2.4	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	0.0	0.0	1.3	0.5	2.8	0.5
15	2.8	3.5	2.0	0.0	0.0	1.3	4.9	3.1	1.0	3.0	3.1	1.0	0.3	0.3	0.6	2.0	1.0	2.4	2.4	1.3	1.8	2.0	4.2	4.9	1.9	
16	5.9	5.2	3.8	3.5	3.1	4.9	3.6	4.5	3.1	3.0	5.1	3.5	3.5	4.2	1.1	0.0	1.7	3.5	4.5	5.8	7.4	5.6	7.0	8.8	8.8	4.3
17	4.5	4.2	4.2	2.8	3.5	3.5	5.2	5.2	4.2	6.6	12.3	17.5	17.5	16.5	13.6	12.6	15.4	17.5	21.7	21.7	17.1	15.1	17.9	23.5	23.5	11.8
18	26.0	23.5	22.1	17.6	13.7	22.8	17.6	17.6	21.4	15.7	18.6	11.9	7.3	5.9	5.2	6.3	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	10.8
19	2.4	2.4	1.1	0.6	0.0	0.0	0.0	1.0	1.3	0.0	0.0	0.0	1.0	2.4	2.5	0.3	0.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.7
20	0.0	0.0	2.0	1.7	0.5	1.0	2.0	0.0	0.0	0.0	2.0	1.3	1.7	1.3	0.0	0.0	1.3	0.3	1.9	2.0	0.3	0.0	0.3	1.3	2.0	0.9
21	0.3	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.3	0.0	0.3	0.3	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.4
22	0.6	2.4	0.0	0.0	0.0	0.0	2.4	2.8	0.3	0.6	1.7	1.1	0.0	0.0	0.0	0.0	0.3	0.3	1.0	3.1	1.3	1.0	1.7	2.4	3.1	1.0
23	3.8	4.3	6.3	3.8	3.5	10.5	8.4	8.0	8.7	4.5	1.9	2.0	0.3	0.3	0.0	1.0	0.6	1.3	1.3	3.1	2.0	1.7	3.1	10.5	3.4	
24	1.7	1.3	0.6	0.6	0.3	1.0	0.6	0.6	4.5	3.5	1.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	0.0	0.3	0.0	4.5	0.9	
25	0.0	0.0	0.0	2.0	1.3	0.3	1.9	1.7	2.4	5.6	4.2	1.0	0.0	0.0	0.0	2.0	0.6	0.0	0.3	0.6	2.4	1.9	0.0	5.6	1.2	
26	0.0	0.3	1.0	0.0	0.0	0.6	0.0	0.0	0.6	1.3	0.6	0.0	0.0	1.7	2.4	1.3	0.3	0.0	1.1	1.0	1.3	2.0	1.7	2.4	0.7	
27	1.0	1.3	0.6	0.6	3.8	3.5	2.7	3.3	3.1	1.7	0.6	3.5	3.1	1.3	0.0	0.0	0.0	0.6	3.1	2.4	4.2	3.8	2.4	4.2	1.9	
28	3.1	3.8	0.6	0.0	1.0	1.1	4.2	3.1	2.7	3.5	6.3	4.5	1.3	0.0	0.0	0.9	1.3	1.3	2.4	8.9	5.6	3.1	4.9	6.2	8.9	2.9
29	4.2	3.1	3.8	4.5	5.9	3.5	2.4	3.1	1.3	2.4	5.9	4.9	2.4	2.7	1.3	1.0	1.0	3.2	8.4	16.2	13.0	15.4	11.0	21.7	21.7	5.9
30	15.1	14.7	11.9	10.9	10.9	11.9	11.9	5.9	3.8	3.1	0.0	0.0	0.0	0.0	0.3	0.0	0.6	2.0	2.4	2.8	6.6	3.8	1.3	15.1	5.0	
Hourly Max	81.3	77.1	74.6	77.8	80.9	79.2	81.7	88.2	92.2	85.2	91.5	90.1	254.9	168.3	104.5	75.7	158.8	133.8	101.4	66.5	64.0	60.7	77.8	84.5		
Hourly Average	12.3	12.8	13.0	13.0	12.9	13.4	13.6	14.6	14.5	14.7</td																

Lagoon PM₁₀ ($\mu\text{g}/\text{m}^3$) – September 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	65.8	46.3	46.3	50.5	64.6	64.6	45.6	75.2	87.0	133.6	188.6	154.0	98.7	82.9	86.7	80.1	59.0	51.2	28.2	28.9	23.0	28.0	33.6	39.2	188.6	69.2
2	42.8	35.7	49.5	49.1	55.5	37.1	32.9	53.3	45.6	113.9	37.1	28.0	78.0	136.4	147.7	114.2	194.1	218.1	149.1	93.1	76.6	104.7	54.0	61.1	218.1	83.7
3	49.7	34.3	23.7	17.4	27.3	28.0	41.4	29.4	32.2	25.9	23.1	20.9	57.6	23.7	29.4	40.7	176.7	35.7	23.0	23.0	36.4	11.9	12.5	22.3	176.7	35.3
4	26.7	33.4	47.1	28.0	22.3	30.1	36.4	35.0	20.2	98.4	34.3	61.1	43.5	20.9	52.6	37.1	30.1	23.7	18.8	17.7	19.5	18.1	13.2	22.3	98.4	32.9
5	28.0	23.1	45.6	32.9	38.6	32.2	37.9	42.1	54.7	51.5	72.3	89.2	106.2	89.2	74.5	144.2	80.8	86.4	71.6	51.3	59.5	50.5	35.5	49.1	144.2	60.3
6	88.5	96.3	63.9	73.0	68.8	63.9	67.9	111.8	105.4	74.5	92.8	95.6	103.3	89.2	67.4	69.5	117.4	61.8	43.7	70.9	198.3	45.6	51.9	47.7	198.3	82.0
7	56.9	82.9	82.9	84.4	99.8	90.0	108.3	149.2	142.8	132.2	123.1	118.8	144.9	143.5	118.8	81.5	101.2	87.1	93.5	91.4	99.1	92.1	111.8	126.6	149.2	106.8
8	109.7	93.5	107.6	119.5	104.5	102.7	132.2	192.1	190.7	197.7	185.0	168.8	168.1	152.6	155.5	163.5	139.6	81.8	75.9	72.3	68.1	67.4	78.0	75.2	197.7	125.1
9	73.8	72.6	66.8	59.0	70.5	70.4	66.0	78.7	90.7	82.2	63.0	75.2	47.7	106.9	140.3	36.4	32.9	40.7	32.2	25.9	10.9	5.4	16.7	23.8	140.3	57.9
10	9.2	9.7	18.1	9.6	7.5	2.6	4.7	25.9	40.0	28.7	48.4	75.9	48.7	94.8	100.5	87.1	57.6	37.6	77.3	10.4	6.1	3.3	20.2	29.3	100.5	35.5
11	11.8	13.2	16.0	E	17.2	41.4	113.2	98.4	68.8	82.2	344.9	C	C	92.1	138.6	71.6	41.4	20.9	0.0	18.8	19.5	19.5	25.9	344.9	62.8	
12	25.2	30.8	18.8	16.7	17.4	10.4	18.8	11.1	72.4	66.7	25.1	77.7	37.1	44.9	23.7	14.6	29.4	5.4	16.0	6.8	7.6	4.7	4.7	10.3	77.7	24.8
13	13.2	12.5	10.4	10.8	10.3	9.0	16.7	13.9	20.2	0.0	4.6	6.8	1.9	3.3	6.8	9.0	9.7	16.0	4.7	6.1	6.1	4.7	3.3	20.2	8.6	
14	6.8	8.3	11.1	11.0	10.3	9.0	7.5	20.9	11.8	8.8	1.2	0.5	7.5	5.4	20.2	11.1	6.1	16.0	9.0	6.1	7.3	16.0	13.2	5.4	20.9	9.6
15	4.7	11.8	11.1	11.8	11.8	9.0	9.7	6.8	7.5	16.7	13.2	10.4	9.0	10.4	6.8	16.0	11.8	8.3	4.0	4.0	6.8	9.7	16.7	11.8	16.7	10.0
16	20.5	25.2	13.2	12.5	7.5	16.7	13.9	26.6	26.6	20.9	23.8	28.7	5.4	22.3	9.0	7.7	4.0	5.4	6.1	8.3	12.5	11.8	13.9	21.6	28.7	15.2
17	21.7	11.8	12.5	17.4	13.2	11.8	19.5	11.8	25.2	24.5	32.2	25.9	45.1	23.0	27.3	24.4	25.2	24.4	31.5	25.9	30.8	20.9	40.0	60.4	60.4	25.3
18	47.7	32.9	35.7	23.8	32.2	43.5	39.3	40.7	72.4	36.4	44.2	53.3	79.4	46.3	36.4	108.3	0.0	0.0	0.9	6.8	11.1	18.8	17.4	2.6	108.3	34.6
19	4.7	6.8	8.3	8.3	4.0	4.7	6.8	18.8	53.9	21.6	15.3	41.4	47.0	57.6	37.8	47.7	28.7	13.9	9.0	1.2	4.0	21.7	5.4	4.7	57.6	19.7
20	4.7	6.1	19.5	8.3	23.1	32.8	26.6	26.6	16.7	34.3	46.3	35.0	30.1	23.1	15.3	10.4	10.4	23.8	13.9	11.8	8.3	8.3	9.0	7.5	46.3	18.8
21	8.3	8.3	5.4	8.9	16.7	14.6	13.9	13.9	15.3	11.8	16.0	10.4	8.3	3.3	3.3	3.3	4.0	7.5	4.7	2.6	5.4	6.1	6.8	5.4	16.7	8.5
22	8.3	13.9	10.3	4.7	0.5	5.4	8.9	6.8	10.4	28.7	7.9	3.3	3.3	8.3	16.0	9.0	12.5	16.7	6.8	5.4	5.4	9.0	11.0	11.8	28.7	9.3
23	21.6	13.9	16.0	18.8	14.7	18.1	21.6	24.5	33.6	29.4	21.6	25.9	28.0	11.1	11.1	5.4	0.0	0.9	4.0	7.7	10.4	11.1	10.4	9.0	33.6	15.4
24	16.7	15.3	13.9	14.6	15.3	10.4	8.3	12.5	27.3	22.3	31.5	11.1	17.4	14.6	13.2	9.7	18.8	18.1	0.0	1.9	5.4	10.4	11.9	9.7	31.5	13.7
25	17.4	13.2	9.2	7.5	7.4	4.0	6.1	18.8	26.6	23.0	42.1	42.1	13.2	8.2	22.3	68.8	26.6	28.7	28.7	11.6	8.3	6.8	11.1	13.2	68.8	19.4
26	11.1	4.7	2.6	6.1	9.0	11.1	7.8	10.4	23.7	20.2	32.2	17.4	24.4	18.8	6.8	32.2	6.1	9.0	11.8	6.8	3.5	10.4	8.3	3.5	32.2	12.4
27	9.7	12.5	9.0	6.3	10.4	20.2	18.1	24.4	38.9	37.8	42.8	26.6	35.0	15.3	13.2	12.5	9.4	5.4	18.8	13.9	23.1	18.1	13.4	16.7	42.8	18.8
28	33.5	23.8	23.1	25.2	21.0	13.9	30.8	30.8	64.6	33.6	38.5	57.7	55.4	23.0	16.7	12.5	8.2	4.7	16.2	23.0	23.8	25.9	21.6	28.0	64.6	27.3
29	25.2	30.1	27.3	9.7	11.1	19.4	23.1	20.8	22.3	61.1	85.0	56.1	37.1	43.5	20.2	20.9	18.1	31.5	32.2	18.1	24.8	28.7	21.6	20.9	85.0	29.5
30	28.0	20.2	23.8	18.1	23.1	30.8	28.0	29.4	54.8	18.8	13.															

Lagoon TSP ($\mu\text{g}/\text{m}^3$) – September 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	67.9	65.2	50.0	63.8	63.8	72.1	48.6	95.6	121.8	200.5	264.3	255.8	135.6	131.5	130.1	113.5	84.5	76.2	45.8	22.3	19.5	40.3	34.7	52.7	264.3	94.0
2	59.6	48.6	62.4	59.6	77.6	34.8	30.6	67.9	49.9	157.7	43.6	52.7	116.3	195.0	217.1	135.6	239.2	264.1	186.7	105.2	76.2	131.5	58.2	74.8	264.1	106.0
3	51.3	38.9	34.8	27.9	30.6	36.3	40.3	30.6	22.3	22.3	25.1	26.5	70.7	27.8	40.3	48.6	164.6	29.2	22.3	18.2	37.5	14.0	27.9	14.0	164.6	37.6
4	22.3	43.1	45.8	22.3	22.3	26.5	43.3	37.5	18.2	155.1	41.7	80.3	108.0	30.6	84.5	49.9	30.6	36.1	21.3	25.1	36.1	20.9	33.4	34.8	155.1	44.6
5	37.5	24.9	38.9	46.7	45.8	37.5	48.6	54.8	59.6	55.5	88.6	87.2	108.0	95.5	74.7	178.5	95.6	103.8	67.9	61.0	74.8	47.2	44.4	55.0	178.5	68.0
6	98.3	103.5	70.7	77.5	66.5	77.6	81.7	145.3	125.9	92.8	109.3	126.5	121.8	95.5	77.6	79.0	174.3	84.5	59.6	84.5	277.9	56.9	84.5	61.0	277.9	101.4
7	61.0	90.0	96.9	94.2	105.2	114.9	142.0	182.6	172.9	159.1	148.0	128.7	171.5	172.9	124.5	92.8	120.4	103.8	116.3	110.7	116.3	112.1	106.6	150.8	182.6	124.8
8	125.9	108.2	96.9	124.5	113.5	110.8	157.7	235.1	236.5	233.7	237.8	204.7	208.8	171.0	177.0	199.2	159.1	92.8	76.2	66.5	62.4	65.1	95.2	77.6	237.8	143.2
9	76.2	80.4	77.6	63.8	76.2	85.9	63.8	85.9	94.1	74.8	72.0	103.8	58.2	166.0	253.0	51.3	33.4	44.4	30.6	30.6	15.4	14.0	27.8	33.4	253.0	71.4
10	16.8	11.7	18.2	9.9	6.1	4.3	7.1	38.9	62.4	45.8	80.3	145.3	80.3	149.4	178.4	150.0	99.7	49.9	134.2	11.3	11.3	20.9	25.1	33.4	178.4	57.9
11	15.4	15.4	29.2	E	29.2	77.6	197.8	149.9	119.1	128.7	496.2	C	C	168.8	272.4	122.1	63.8	38.9	26.5	20.9	22.3	20.9	30.6	496.2	102.3	
12	19.6	51.3	18.2	33.4	11.3	5.7	7.1	15.4	79.0	91.4	26.5	114.9	41.7	48.6	30.6	30.6	37.5	17.2	9.9	9.9	3.0	3.0	5.7	4.0	114.9	29.8
13	15.4	0.2	5.7	8.5	1.6	3.0	7.1	8.5	17.1	0.2	1.6	6.2	5.7	1.6	5.7	5.7	16.8	1.6	3.0	1.6	1.6	4.2	3.0	3.0	17.1	5.4
14	1.6	4.3	3.0	3.0	8.6	9.9	5.7	1.6	14.0	4.0	5.7	5.7	15.4	0.0	5.7	19.3	3.0	4.3	5.7	14.0	7.1	8.5	14.2	4.4	19.3	7.0
15	4.3	14.0	7.1	4.3	3.0	5.7	8.5	16.7	9.9	8.5	9.9	7.1	4.2	8.5	3.0	0.0	3.0	8.5	11.5	14.0	11.3	5.8	27.8	11.3	27.8	8.7
16	15.4	13.9	20.9	4.3	7.1	8.5	8.5	23.7	15.4	15.4	25.1	40.3	8.5	19.5	8.5	11.3	14.4	20.9	9.9	23.7	24.6	18.2	15.4	26.5	40.3	16.7
17	9.9	9.9	9.9	8.6	5.7	7.1	14.0	11.3	21.1	11.3	36.1	27.8	36.1	34.7	20.9	21.4	20.9	18.2	29.2	28.6	34.8	25.1	55.5	81.7	81.7	24.2
18	51.3	37.5	22.3	23.7	27.8	47.2	40.3	63.8	65.1	51.3	54.1	73.4	137.0	79.0	40.3	204.7	11.3	9.9	6.1	7.1	11.3	25.1	12.6	204.7	46.5	
19	7.1	0.2	1.6	0.0	0.0	14.0	7.1	14.2	56.9	19.5	16.8	65.2	90.0	106.6	69.3	72.1	45.8	19.6	11.3	7.1	19.6	15.4	9.9	7.1	106.6	28.2
20	4.3	4.3	19.6	3.0	29.2	62.4	38.9	43.4	16.8	58.3	79.0	51.3	41.7	33.1	9.9	16.8	20.9	33.4	16.6	1.6	3.0	4.0	4.3	3.0	79.0	24.9
21	3.0	3.0	3.0	4.3	16.7	9.9	16.8	12.6	9.9	8.5	8.5	8.5	7.1	7.1	3.0	0.0	0.2	5.7	5.7	3.0	1.6	0.2	1.6	3.0	16.8	6.0
22	0.0	15.4	0.0	0.2	3.0	4.4	7.1	4.3	18.2	20.9	7.1	4.3	0.2	19.6	12.6	11.3	9.9	11.3	8.5	5.7	8.5	11.3	9.9	11.4	20.9	8.5
23	15.4	14.0	20.9	12.6	11.3	18.2	12.6	37.5	32.0	20.9	22.3	20.9	21.5	11.6	8.7	4.3	4.3	5.7	4.3	7.1	8.5	4.4	4.3	6.1	37.5	13.7
24	3.0	14.3	7.1	9.9	9.9	7.1	5.7	6.1	27.8	27.8	37.5	9.9	7.1	7.1	9.9	9.9	21.6	11.3	9.9	5.7	14.0	4.3	7.1	37.5	11.7	
25	15.4	12.6	8.5	6.1	4.3	3.0	6.0	18.2	20.9	32.0	41.7	43.0	14.0	15.4	23.6	98.3	41.7	25.1	41.7	30.6	15.4	15.4	0.2	98.3	22.4	
26	5.7	4.3	9.9	8.6	7.1	15.4	11.3	11.3	25.1	15.4	43.0	25.1	32.0	38.2	8.8	54.1	8.5	7.1	28.7	23.7	8.3	15.4	12.6	54.1	17.8	
27	3.0	7.1	9.9	14.0	9.9	20.9	16.8	29.2	32.9	41.7	47.2	34.7	43.5	26.5	7.1	5.7	8.5	9.9	29.2	22.3	30.6	19.4	11.3	12.6	47.2	20.6
28	23.7	19.6	33.0	22.3	16.8	23.7	41.7	40.3	77.6	45.7	62.4	69.3	61.0	E	E	22.3	15.4	11.8	25.1	29.2	23.7	28.6	18.2	77.6	33.3	
29	40.3	22.3	36.1	12.6	8.5	26.5	19.6	23.7	30.6	89.5	127.3	84.4	49.9	51.3	38.9	25.1	21.5	47.2	38.2	26.3	34.8	40.6	34.8	127.3	39.7	
30	11.3	18.2	29.2	14.0	32.0	38.9	26.5	26.5	80.4	28.8	14.0	23.7	36.1	9.9	58.2	33.4	3									

Lagoon Temperature (°C) – September 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	13.6	11.3	9.7	9.5	9.9	8.3	9.9	11.7	12.9	16.5	20.3	22.2	23.3	24.1	23.5	24.1	24.3	24.5	23.3	21.7	20.5	19.3	18.2	16.6	24.5	17.5
2	13.6	11.6	11.0	11.6	9.9	11.0	12.7	13.9	17.4	20.4	25.5	26.9	27.9	28.5	29.0	29.1	28.8	28.1	27.3	25.9	21.9	19.2	18.2	16.4	29.1	20.2
3	15.1	14.4	13.7	13.3	12.6	11.7	11.0	12.1	14.1	15.2	16.4	17.4	18.6	18.9	19.5	19.6	16.7	14.6	13.2	12.5	12.3	12.2	12.1	11.8	19.6	14.6
4	11.6	11.4	11.2	11.3	11.6	11.5	10.9	11.8	14.1	15.0	15.7	16.7	18.7	20.0	21.2	21.8	21.9	20.8	19.7	17.6	15.2	12.9	11.9	9.3	21.9	15.2
5	7.9	10.2	10.4	10.3	10.3	9.8	9.6	9.6	11.5	14.0	17.9	20.9	24.3	27.0	27.9	28.5	27.6	26.8	24.7	21.9	17.9	15.8	13.8	14.0	28.5	17.2
6	15.9	16.8	16.2	15.2	14.5	13.6	13.0	13.0	14.3	17.5	20.8	23.9	27.3	29.0	30.3	30.9	29.7	28.3	26.4	21.7	17.0	14.4	12.6	13.4	30.9	19.8
7	15.3	15.2	15.1	14.4	13.9	13.0	12.7	13.0	14.0	16.5	19.8	23.2	26.4	28.9	30.9	32.5	31.6	30.1	27.4	23.5	18.8	17.0	19.1	18.6	32.5	20.5
8	19.7	19.2	17.8	17.0	16.4	15.6	15.2	15.2	16.3	18.5	20.0	20.0	20.4	22.4	23.4	24.1	24.1	22.7	20.6	19.2	17.9	16.8	15.4	14.7	24.1	18.9
9	13.6	12.1	10.8	10.0	9.1	8.3	8.2	9.0	10.5	15.0	22.0	23.7	24.9	24.8	23.2	20.3	18.7	17.9	17.3	16.5	16.1	15.7	15.5	15.1	24.9	15.8
10	16.2	15.9	15.7	14.9	14.1	13.2	13.2	13.7	14.4	14.8	16.4	17.7	18.9	19.8	20.2	20.4	20.3	19.9	19.0	17.5	17.0	16.8	16.8	17.1	20.4	16.8
11	16.8	16.2	15.0	13.7	12.8	12.4	13.3	14.4	15.4	16.9	20.8	22.9	24.4	25.8	26.4	26.5	26.1	25.4	24.3	23.4	22.9	22.6	22.2	22.0	26.5	20.1
12	20.0	17.6	15.8	14.2	13.5	13.2	13.0	13.4	13.0	12.6	12.5	12.9	13.4	14.2	14.4	14.8	14.4	9.5	7.8	7.3	6.9	6.4	6.3	6.4	20.0	12.2
13	6.5	6.4	6.1	6.2	6.3	6.5	6.5	6.8	6.9	7.2	6.5	5.7	6.3	6.3	6.2	5.6	5.3	5.5	5.4	5.2	5.0	4.6	4.1	3.9	7.2	5.9
14	3.4	3.2	3.4	3.5	3.5	3.5	3.6	3.9	3.9	4.5	5.2	6.3	6.6	7.4	8.5	7.1	6.3	6.9	6.2	3.9	2.5	3.4	4.0	3.7	8.5	4.8
15	3.5	3.3	3.3	2.9	2.9	2.9	2.9	1.2	1.9	3.7	5.4	7.5	7.1	8.0	8.7	8.3	7.9	6.3	4.3	2.4	1.0	0.2	0.6	8.7	4.1	
16	1.2	0.9	1.0	0.7	0.3	0.3	0.4	0.9	2.8	5.3	8.4	11.1	12.5	13.7	13.8	14.2	14.1	13.7	10.6	6.6	4.0	2.8	1.7	3.8	14.2	6.0
17	6.1	6.0	5.2	4.6	4.1	3.5	3.3	3.7	6.3	9.0	12.8	14.1	16.1	16.7	16.6	17.2	17.2	15.8	14.9	14.2	12.8	9.6	12.6	13.2	17.2	10.6
18	13.0	12.5	12.3	12.1	11.7	10.2	8.6	5.9	9.5	12.1	12.6	13.8	15.4	15.5	15.6	14.1	7.3	6.8	6.8	6.6	6.7	6.0	4.8	4.1	15.6	10.2
19	3.5	3.0	2.6	2.0	1.7	1.5	1.5	2.7	5.8	7.6	8.8	9.4	10.2	9.9	9.6	10.4	9.7	8.3	8.0	7.8	6.7	6.5	6.7	6.4	10.4	6.3
20	6.0	6.0	6.2	6.8	7.3	7.4	7.0	6.7	6.6	6.6	6.8	7.3	7.3	6.5	7.1	7.5	8.4	7.9	6.2	4.8	3.6	3.7	3.4	8.4	6.3	
21	3.4	3.4	3.5	3.6	3.7	3.7	2.8	2.5	1.8	1.2	2.6	2.1	1.5	1.8	2.1	2.4	2.9	1.9	1.4	1.6	1.8	1.8	1.8	3.7	2.4	
22	1.7	1.6	1.7	1.7	1.5	1.1	0.9	1.0	1.6	3.2	3.5	4.0	4.7	5.3	5.7	6.5	6.6	6.2	5.1	4.4	4.0	3.3	2.5	2.1	6.6	3.3
23	2.3	2.4	2.3	2.1	2.3	2.8	2.8	3.2	3.9	5.3	8.5	10.1	11.0	11.2	11.4	10.7	9.9	9.1	7.3	6.3	5.6	5.3	5.3	6.0	11.4	6.1
24	5.0	3.9	5.0	4.8	4.5	3.9	3.4	3.4	5.0	7.5	10.8	12.3	13.9	14.5	16.0	16.3	15.9	14.7	13.9	13.3	12.2	11.3	10.9	10.6	16.3	9.7
25	10.0	9.5	9.2	9.1	8.7	8.5	7.9	8.0	9.6	11.4	14.5	15.7	16.8	17.6	18.0	17.2	16.7	15.9	15.1	14.1	13.3	12.8	12.6	12.3	18.0	12.7
26	11.7	11.1	10.3	9.4	8.5	8.2	8.2	7.9	9.3	12.8	13.7	15.0	16.4	16.6	16.4	17.1	16.2	16.3	15.0	13.1	11.5	10.9	10.6	9.9	17.1	12.3
27	8.8	8.1	7.2	6.9	6.2	5.3	5.3	5.4	6.9	9.0	12.1	14.8	17.5	19.5	20.8	21.9	21.2	18.9	14.1	10.4	8.5	9.7	9.3	8.9	21.9	11.5
28	9.2	8.5	7.9	7.6	7.2	6.7	6.2	6.4	8.0	M	M	M	M	21.6	23.0	24.9	22.6	20.6	16.7	12.6	12.0	11.8	10.7	10.0	24.9	12.7
29	10.4	9.5	8.8	8.8	8.3	8.0	7.3	7.8	9.1	12.3	15.6	18.2	20.3	21.7	21.7	22.0	21.7	20.7	18.5	17.1	15.1	13.6	12.3	10.7	22.0	14.2
30	9.3	8.3	8.0	7.2	7.5	7.9	9.6	12.4	13.1	14.3	14.6	14.5	13.7	14.9	15.6	16.1	15.5	14.4	12.3	8.2	8.2	7.4	7.2	6.2	16.1	11.1
Hourly Max	20.0	19.2	17.8	17.0	16.4	15.6	15.2	15.2	17.4	20.4	25.5	26.9	27.9</td													

Lagoon Wind Speed (km/hr) – September 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	10.4	3.8	3.1	5.3	6.5	4.4	9.8	9.2	6.9	5.3	19.3	30.3	24.9	20.8	21.9	24.3	22.6	20.6	15.8	12.9	10.6	5.6	6.4	9.4	30.3	12.9
2	2.9	4.4	4.2	5.6	5.2	9.5	9.8	7.3	6.2	11.0	21.1	24.3	26.4	26.5	28.8	30.6	29.6	23.4	20.5	14.2	4.8	19.5	15.0	12.5	30.6	15.1
3	13.0	11.1	11.1	11.6	12.7	12.0	11.3	13.6	14.8	19.2	20.8	20.5	18.1	19.7	17.3	22.3	26.7	16.9	18.5	15.5	13.1	11.5	7.9	9.0	26.7	15.3
4	9.4	9.7	13.5	13.3	9.9	10.0	14.8	11.2	12.8	16.6	13.4	12.2	11.5	13.3	15.1	17.2	14.9	16.4	13.7	8.7	7.7	7.4	4.6	1.8	17.2	11.6
5	2.2	9.7	11.2	14.3	16.3	16.6	16.0	16.7	18.4	16.7	13.8	13.2	9.3	10.7	11.6	10.6	14.3	14.3	13.8	9.6	6.6	3.2	1.7	8.1	18.4	11.6
6	11.9	14.3	15.9	14.1	16.1	16.8	14.7	18.6	18.1	12.1	12.1	11.5	8.9	9.5	12.0	8.7	17.0	12.4	10.2	2.9	1.7	1.7	1.1	7.1	18.6	11.2
7	11.0	12.7	15.7	15.9	18.4	18.1	18.3	18.9	16.8	19.6	18.3	13.1	12.8	10.0	7.3	4.5	8.2	10.9	9.8	4.1	1.0	4.1	12.2	10.7	19.6	12.2
8	13.8	14.8	13.4	13.3	14.4	14.3	15.0	18.0	17.8	17.7	17.4	16.6	12.6	11.9	10.0	17.6	19.3	19.6	16.3	13.9	12.3	10.4	9.6	12.5	19.6	14.7
9	9.6	7.5	6.0	4.2	4.4	4.3	5.7	6.1	7.7	9.9	11.8	17.2	17.8	23.3	22.4	23.1	22.3	20.9	18.0	14.2	10.6	9.4	12.8	20.8	23.3	12.9
10	24.7	26.6	26.6	22.7	23.4	20.2	23.9	24.7	26.4	25.4	25.0	28.0	26.4	26.9	29.3	26.5	26.8	23.3	19.8	19.4	17.9	17.5	25.3	27.6	29.3	24.3
11	30.7	23.3	18.8	17.3	16.3	22.4	28.7	27.9	27.2	23.3	32.7	37.7	36.7	32.2	29.0	29.9	31.4	30.1	25.9	25.0	24.1	23.4	21.2	16.1	37.7	26.3
12	10.2	12.5	19.5	16.0	15.0	13.8	14.7	13.2	16.3	17.5	14.8	15.0	14.8	12.8	7.4	7.5	11.0	17.7	14.1	13.4	12.4	13.9	12.5	7.7	19.5	13.5
13	10.1	7.9	8.2	7.3	8.4	8.3	9.0	9.7	9.1	11.7	17.1	10.3	9.6	9.0	9.0	7.7	5.4	6.5	11.1	11.5	11.7	10.5	12.0	11.9	17.1	9.7
14	9.7	11.2	10.5	8.7	9.9	10.5	8.5	8.4	10.4	8.9	7.8	7.9	7.4	4.0	7.6	17.4	12.6	8.8	7.9	3.1	5.3	11.2	7.2	17.4	8.7	
15	3.6	4.0	1.8	3.7	7.0	10.9	11.1	12.0	10.0	5.2	6.9	7.1	7.0	9.9	10.7	9.5	10.6	8.1	10.0	4.3	2.4	1.4	5.9	12.0	6.9	
16	8.6	10.6	11.2	14.7	16.0	15.5	14.4	15.6	14.6	11.9	14.5	16.1	17.2	18.7	18.7	20.5	17.3	12.8	8.0	2.5	3.0	2.2	2.8	6.8	20.5	12.3
17	11.4	14.1	14.9	12.3	13.3	14.8	15.0	15.6	13.4	14.4	19.1	20.7	16.9	19.3	18.9	14.9	18.0	14.5	10.2	12.2	10.5	4.5	14.4	20.7	20.7	14.8
18	22.6	22.7	21.0	19.0	14.2	8.8	6.1	3.0	5.4	5.1	11.3	12.7	20.8	20.3	17.1	24.8	33.6	31.6	33.7	27.8	24.9	16.1	15.7	13.9	33.7	18.0
19	12.6	12.3	14.1	15.8	15.6	16.8	16.1	13.6	17.6	23.8	25.2	25.1	26.2	30.2	29.1	23.9	24.1	22.9	20.1	19.1	10.7	11.1	16.6	19.1	30.2	19.2
20	24.7	24.8	24.2	25.6	26.8	28.7	25.6	25.3	28.7	26.5	23.6	24.2	20.0	24.7	28.0	23.0	17.3	13.5	12.2	13.7	4.9	3.0	3.1	3.1	28.7	19.8
21	3.4	4.7	8.0	6.1	10.6	14.3	12.4	9.5	7.4	5.0	6.8	9.0	7.7	11.1	11.4	8.8	8.7	10.1	9.0	10.2	11.0	8.8	9.1	11.0	14.3	8.9
22	9.3	5.5	8.7	11.7	11.3	12.0	12.6	8.5	2.7	4.3	12.9	13.7	13.9	15.6	15.1	13.8	15.2	13.9	13.5	12.2	10.5	6.7	7.8	5.2	15.6	10.7
23	6.6	6.8	4.3	4.4	4.0	7.1	6.4	8.1	8.1	10.9	9.1	9.2	11.7	10.3	10.9	11.5	7.7	5.6	3.3	2.1	1.9	1.7	3.6	5.9	11.7	6.7
24	3.8	4.4	9.5	10.4	11.5	12.7	14.6	16.8	13.5	13.5	19.6	22.9	22.1	19.7	18.3	18.5	17.0	18.5	16.8	12.6	7.8	9.3	8.7	9.4	22.9	13.8
25	12.0	14.1	12.0	12.9	13.2	12.6	12.6	13.1	13.1	14.6	17.2	19.2	18.7	18.8	20.5	21.5	17.3	16.5	15.0	12.6	10.4	11.0	9.1	11.3	21.5	14.6
26	10.6	10.0	10.1	11.5	12.0	12.1	12.4	12.2	10.3	12.9	13.8	17.1	21.0	20.2	19.2	20.0	16.4	14.0	11.3	8.8	8.7	8.0	9.8	11.1	21.0	13.1
27	12.8	13.4	14.0	13.7	15.6	14.4	13.8	15.6	19.5	16.7	14.9	16.4	11.7	7.2	8.5	6.6	6.1	6.4	3.0	1.8	1.9	9.0	11.5	11.0	19.5	11.1
28	13.4	10.5	11.1	13.8	17.0	15.5	16.7	14.4	15.7	M	M	M	M	8.2	5.5	4.5	9.6	8.0	11.3	6.2	11.5	13.4	12.1	14.1	17.0	11.6
29	16.1	12.8	13.8	18.9	17.4	20.2	24.7	21.4	20.8	21.0	22.3	25.3	24.4	20.3	25.2	25.3	24.8	20.6	14.7	12.2	12.6	9.9	9.1	9.5	25.3	18.5
30	9.9	9.7	10.4	10.8	14.1	12.0	9.3	12.8	15.0	21.4	21.3	20.6	16.8	13.9	17.5	19.1	17.2	10.4	5.4	3.3	6.4	11.1	14.0	8.6	21.4	13.0
Hourly Max</																										

Lagoon Wind Direction (°) – September 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	72.5	81.8	113.1	224.3	162.7	224.4	213.4	221.7	197.8	135.8	253.3	257.8	257.8	261.1	258.9	256.0	259.0	261.9	254.7	238.2	239.1	243.5	228.7	76.5	261.9	246.2
2	101.3	144.1	212.9	244.4	158.9	213.6	212.2	231.7	256.5	256.3	249.2	242.9	247.7	253.6	255.6	250.6	250.6	252.1	253.2	248.1	205.8	82.4	85.1	66.9	256.5	242.1
3	74.4	87.7	82.3	75.6	74.6	66.8	73.1	62.3	78.0	79.4	74.0	74.0	87.3	79.1	78.3	76.8	83.1	72.5	64.6	58.5	68.1	57.2	80.0	68.8	87.7	74.5
4	71.3	80.0	60.0	53.9	66.1	73.4	63.0	60.9	74.7	70.4	75.6	63.8	56.2	61.8	62.7	66.7	63.6	45.2	58.8	96.4	78.3	69.4	86.8	71.0	96.4	66.0
5	228.0	246.7	234.6	260.1	260.8	265.1	269.4	280.7	280.9	290.7	279.9	292.7	276.6	229.4	234.4	69.2	64.3	70.3	77.8	86.5	66.4	100.1	238.6	238.1	292.7	271.9
6	241.8	260.1	278.9	268.9	274.1	268.6	263.5	262.4	267.3	264.2	260.2	260.7	262.8	231.8	235.3	186.1	62.3	60.6	59.1	89.8	280.9	63.6	61.0	226.5	280.9	262.6
7	228.2	244.6	265.7	262.5	260.4	257.3	258.5	261.4	268.0	273.6	272.3	275.1	262.0	245.1	234.1	167.9	57.9	55.3	93.3	78.4	163.1	236.5	220.5	223.5	275.1	256.1
8	261.0	271.4	252.2	247.7	249.3	262.3	244.7	248.9	248.7	255.9	257.5	262.1	249.1	223.6	223.8	65.6	72.1	75.5	84.2	94.2	91.3	82.9	64.3	66.5	271.4	243.8
9	80.1	95.2	97.6	92.0	108.2	84.9	99.1	93.5	80.3	72.4	235.0	253.9	241.8	244.2	261.9	246.0	250.4	259.0	266.1	254.3	259.0	260.1	244.5	249.9	266.1	246.1
10	253.3	253.4	250.6	249.7	247.1	246.2	244.1	250.0	256.3	256.2	258.7	263.0	265.1	265.3	264.1	265.8	262.5	262.2	258.7	237.8	241.6	240.7	244.9	253.3	265.8	254.5
11	247.4	258.7	263.8	266.7	276.4	273.9	269.2	264.1	261.5	259.7	245.6	238.8	247.3	263.6	257.9	259.2	253.8	251.6	251.4	252.6	250.6	251.4	249.8	251.5	276.4	255.9
12	245.5	64.9	73.0	71.3	79.0	75.7	71.9	60.6	69.8	62.2	63.3	75.3	80.9	72.6	109.4	105.7	90.5	79.8	69.8	73.2	68.5	65.5	64.7	63.6	245.5	73.3
13	80.2	67.3	70.3	78.5	63.3	55.5	61.4	66.6	74.3	92.6	85.2	91.2	96.2	92.6	101.4	253.0	249.9	92.1	95.4	93.1	85.0	79.0	88.7	83.7	253.0	83.2
14	47.9	54.3	57.5	58.8	65.6	72.5	67.8	59.6	56.5	78.9	77.0	100.7	52.5	358.5	52.8	72.3	72.7	50.2	67.1	68.8	76.6	54.9	67.0	248.8	358.5	63.6
15	295.3	79.0	63.4	83.6	74.4	62.3	56.8	62.7	62.0	61.9	50.0	83.3	94.6	76.4	88.4	94.1	63.3	58.9	84.6	85.5	66.4	72.3	6.9	244.2	295.3	70.9
16	242.5	241.8	253.3	267.6	292.7	265.3	272.4	268.1	270.4	252.7	287.3	272.2	239.6	243.8	238.4	245.4	245.3	212.7	95.7	60.5	257.6	188.8	209.0	292.7	254.5	
17	267.3	278.3	275.4	257.1	261.2	263.8	261.0	268.2	271.8	271.6	259.8	244.8	259.3	254.7	244.1	235.9	250.6	237.6	243.6	244.7	236.3	137.9	256.0	263.4	278.3	256.2
18	257.7	253.2	236.1	231.4	254.5	274.2	218.9	70.3	236.1	216.0	248.4	265.8	271.5	272.0	264.1	261.7	251.1	250.3	252.3	255.9	258.9	279.1	287.0	283.1	287.0	257.2
19	279.4	271.5	280.3	286.3	283.5	285.1	288.7	279.5	279.9	253.6	249.1	257.5	260.2	258.8	256.1	260.4	257.6	249.1	247.4	248.9	264.2	262.2	248.1	254.6	288.7	262.8
20	252.3	253.4	252.1	248.0	250.6	251.7	252.2	250.8	247.5	254.2	261.8	255.6	272.7	259.7	249.9	251.6	252.8	292.4	59.3	64.7	86.2	109.7	78.8	109.9	292.4	254.8
21	356.5	253.9	274.3	277.8	267.7	268.6	272.3	272.6	55.7	75.8	254.7	54.1	48.2	46.1	51.7	53.7	58.6	50.7	45.9	56.0	60.8	69.6	68.7	56.1	356.5	28.0
22	67.1	86.8	64.0	55.4	52.7	48.7	51.9	65.6	135.4	88.7	66.7	74.6	80.3	60.8	67.9	69.6	60.4	63.2	65.7	81.0	75.3	74.1	67.3	75.3	135.4	67.1
23	60.2	58.2	57.5	61.1	202.0	249.6	243.8	246.3	257.6	235.9	242.6	82.9	65.2	66.7	62.8	81.0	99.0	75.6	64.0	52.7	74.1	14.9	216.8	218.2	257.6	87.9
24	98.1	113.7	230.0	247.7	254.0	265.5	277.4	285.9	271.5	276.4	256.9	238.8	239.1	237.4	246.1	248.1	251.0	247.5	243.5	252.3	272.8	275.7	273.6	285.9	254.3	
25	277.8	280.6	286.7	283.6	272.0	281.3	285.7	277.9	279.1	281.0	254.4	251.7	243.2	240.3	244.5	257.8	252.3	256.9	263.1	270.3	273.8	271.6	276.9	277.2	286.7	265.7
26	275.4	279.8	262.1	273.3	270.7	267.3	275.0	278.9	250.6	284.9	267.8	241.8	246.5	250.4	244.2	248.7	244.5	239.1	253.4	259.0	219.5	212.2	239.3	261.3	284.9	255.7
27	275.3	268.0	287.6	275.7	271.0	267.3	259.0	261.8	269.5	268.8	255.1	262.6	254.8	241.3	244.7	236.2	204.5	222.0	228.9	80.8	234.6	228.6	233.3	216.9	287.6	257.4
28	246.5	232.4	245.0	253.5	259.6</td																					

Lagoon Pressure (mmHg) – September 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	654.4	654.5	654.5	654.6	654.8	655.0	654.8	654.7	654.7	654.1	653.4	652.9	652.6	652.6	652.7	652.7	652.8	653.0	653.3	653.5	654.0	654.2	654.3	654.8	655.0	653.9	
2	654.7	654.9	654.8	654.6	654.4	654.2	654.0	653.8	653.3	652.6	652.0	651.3	650.8	650.5	650.1	649.4	649.3	649.5	649.8	650.3	651.2	652.8	654.1	654.3	654.9	652.4	
3	654.2	654.6	654.7	655.2	655.7	655.9	656.4	656.9	656.8	656.6	656.4	656.2	656.0	655.9	655.5	655.9	657.6	658.8	659.3	659.5	659.9	660.5	660.8	661.2	661.2	657.1	
4	661.5	661.8	662.1	662.3	662.3	662.4	662.9	663.0	662.9	662.8	662.6	662.0	661.4	660.9	660.6	660.4	660.3	660.1	660.2	660.5	660.7	660.7	660.7	660.7	660.7	663.0	661.6
5	660.8	660.8	660.6	660.5	660.4	660.2	660.1	659.9	659.4	659.2	658.7	658.1	657.5	656.9	656.4	656.1	655.9	655.7	655.7	656.1	656.6	656.8	656.9	657.0	660.8	658.2	
6	657.1	657.1	657.0	657.0	657.2	657.1	657.0	657.1	657.1	656.8	656.4	655.7	655.2	654.7	654.2	654.0	653.9	653.9	654.0	654.3	654.7	654.7	654.9	655.0	657.2	655.7	
7	655.0	655.0	654.9	654.8	654.8	654.7	654.8	654.7	654.4	654.0	653.4	652.8	652.1	651.4	650.8	650.3	650.1	649.9	650.1	650.3	650.6	650.6	650.7	650.7	655.0	652.5	
8	650.6	650.6	650.6	650.6	650.5	650.4	650.4	650.3	650.2	649.9	649.8	649.6	649.3	649.3	649.4	649.4	649.3	649.6	650.0	650.2	650.1	650.0	650.0	650.6	650.0	650.0	
9	650.0	649.9	650.0	649.9	649.9	649.9	649.7	649.4	648.9	648.1	647.5	647.0	646.5	646.3	646.9	647.5	648.1	648.2	648.1	648.5	648.5	648.6	649.0	649.5	650.0	648.6	
10	649.7	650.1	650.9	651.6	652.3	652.8	653.3	653.8	654.1	654.4	654.4	654.2	654.0	653.8	654.0	654.1	654.3	654.5	654.8	655.3	655.5	655.5	655.0	655.0	655.5	653.6	
11	655.4	655.9	655.9	655.7	655.2	654.3	653.8	653.8	653.6	653.2	652.3	651.4	651.0	650.6	650.4	650.2	650.1	650.0	650.1	650.3	650.4	650.4	650.8	655.9	652.3		
12	651.2	651.7	652.9	653.4	653.6	653.8	653.8	654.0	654.1	654.1	653.8	653.2	652.6	652.0	651.6	651.1	651.0	652.1	652.6	652.7	652.9	652.4	651.9	651.6	654.1	652.7	
13	651.3	650.8	650.6	650.6	650.8	650.8	651.0	651.0	651.1	651.4	651.7	651.9	652.2	652.7	653.1	653.4	653.5	653.9	654.2	654.4	654.5	654.7	654.9	654.9	652.3		
14	654.9	654.9	654.8	655.0	655.1	655.2	655.3	655.6	655.7	655.8	655.8	655.7	655.7	655.6	655.2	655.3	655.6	655.7	655.7	656.0	656.4	656.6	656.8	656.8	655.6		
15	656.8	656.8	656.8	657.0	657.2	657.4	657.6	657.8	658.2	658.4	658.4	658.3	658.1	657.9	657.7	657.5	657.4	657.5	657.5	657.7	657.5	657.4	657.2	656.9	658.4	657.5	
16	656.7	656.2	656.1	655.7	655.4	655.2	655.2	655.0	654.8	654.3	653.9	653.4	652.9	652.4	651.9	651.6	651.4	651.3	651.3	651.3	651.5	651.5	651.3	656.7	653.4		
17	651.1	650.9	650.8	650.6	650.4	650.3	650.1	649.9	649.4	648.9	648.3	647.9	647.4	646.8	646.5	646.2	645.9	645.6	645.4	645.2	644.8	644.3	644.0	651.1	647.8		
18	643.9	643.9	643.8	643.6	643.4	643.2	643.2	643.0	642.7	642.7	642.6	642.0	641.2	640.7	640.5	640.5	642.6	643.0	642.8	642.9	643.1	643.2	643.3	643.9	642.7		
19	643.5	643.5	643.4	643.3	643.3	643.0	643.0	642.9	642.7	642.6	642.4	642.3	642.0	641.7	641.7	641.5	641.6	642.0	641.6	641.5	641.3	641.1	640.7	640.3	643.5	642.2	
20	639.8	639.3	639.1	638.8	638.6	638.4	638.4	638.4	638.4	638.5	638.6	638.6	639.0	639.3	639.5	640.0	640.4	641.0	641.8	642.7	643.5	644.0	644.4	644.6	640.2		
21	644.9	645.2	645.5	645.9	646.4	646.8	647.3	647.8	648.4	648.7	649.1	649.7	650.0	650.3	650.8	651.2	651.7	652.2	652.8	653.2	653.6	653.8	654.1	654.2	649.7		
22	654.2	654.1	654.2	654.6	654.9	655.0	655.0	654.8	654.4	654.4	654.4	654.3	653.9	653.6	653.2	652.9	652.9	653.0	653.2	653.4	653.2	652.9	652.6	655.0	653.8		
23	652.7	652.8	652.6	652.6	652.5	652.6	652.6	652.8	653.0	653.0	652.7	652.5	652.3	652.4	652.5	652.5	652.8	652.9	653.1	653.4	653.5	653.6	653.8	653.9	652.9		
24	653.9	654.0	654.1	654.0	654.1	654.2	654.3	654.3	654.1	653.7	653.2	652.7	652.3	652.1	651.7	651.5	651.5	651.7	651.9	651.9	652.2	652.3	652.3	654.3	652.9		
25	652.4	652.4	652.4	652.6	652.7	652.8	652.8	652.8	652.9	652.6	652.4	652.1	651.8	651.5	651.3	651.6	651.8	652.1	652.2	652.5	652.8	653.0	653.3	653.5	652.4		
26	653.7	654.0	654.2	654.6	655.0	655.4	655.7	656.0	656.3	656.2	656.1	656.2	656.0	655.8	655.7	655.6	655.7	656.0	656.2	656.3	656.7	657.0	657.4	657.5	657.5		
27	657.8	658.1	658.3	658.6	658.7	658.8	659.0	659.2	659.2	659.1	658.9	658.4	657.9	657.4	657.0	656.8	656.7										

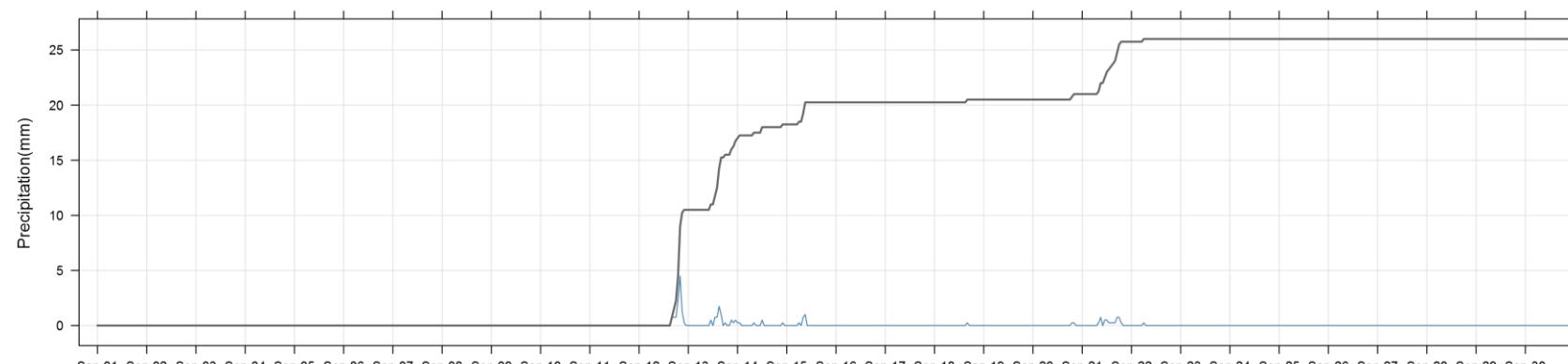
Lagoon Relative Humidity (%) – September 2017

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	71.6	80.3	84.9	85.5	81.2	87.8	79.6	59.4	53.6	41.3	30.6	26.0	24.4	22.7	23.2	22.8	22.1	22.0	24.3	28.3	30.7	33.5	36.3	43.5	87.8	46.5
2	60.7	65.9	69.1	70.6	73.4	67.0	55.0	52.3	42.1	37.4	27.2	23.9	21.7	20.0	18.4	17.6	17.4	18.9	20.3	23.0	33.4	45.1	47.9	54.2	73.4	40.9
3	58.0	60.1	62.6	64.1	67.2	70.8	74.4	70.5	65.1	62.3	60.6	56.1	50.9	50.0	48.9	49.2	52.4	57.8	67.0	70.1	71.3	72.0	73.1	73.9	74.4	62.9
4	75.9	76.2	77.0	76.3	74.7	75.7	78.8	75.2	61.3	55.5	50.3	44.8	38.6	35.2	32.2	31.1	31.6	33.0	35.2	41.6	50.0	57.8	61.4	73.2	78.8	55.9
5	78.8	69.2	66.8	65.0	63.9	65.2	65.3	64.6	58.5	52.1	42.1	35.1	27.7	22.3	19.7	19.5	22.0	21.9	24.6	30.2	44.1	53.6	61.7	57.8	78.8	47.2
6	46.6	41.0	41.5	44.6	45.4	48.0	50.0	50.2	46.0	38.4	32.4	26.8	21.0	16.8	14.1	12.7	14.0	15.8	19.4	32.7	50.1	58.2	64.4	57.6	64.4	37.0
7	46.5	45.6	43.9	45.9	47.9	51.4	51.8	51.1	48.3	42.1	35.1	29.9	24.8	22.2	19.2	16.9	17.6	17.8	21.4	32.2	50.7	55.8	42.5	42.4	55.8	37.6
8	36.8	37.9	42.5	45.4	47.0	49.0	50.7	50.7	47.6	42.4	39.1	39.7	40.3	38.5	37.6	40.7	46.2	49.4	54.6	59.3	64.3	68.4	73.6	76.0	76.0	49.1
9	80.1	84.8	88.3	90.1	91.4	91.9	92.8	93.8	93.7	75.8	37.9	29.4	26.2	24.8	31.1	44.0	50.5	54.7	55.6	60.4	60.6	61.4	57.7	52.0	93.8	63.7
10	33.3	31.3	31.7	35.0	39.1	42.7	40.0	35.4	32.1	31.6	28.7	24.1	21.0	18.8	18.5	19.9	21.1	22.4	24.7	29.3	30.2	31.3	31.9	30.8	42.7	29.4
11	32.3	33.5	36.5	40.0	42.1	42.7	39.4	35.5	32.4	29.4	22.5	18.8	16.4	14.3	14.1	13.4	13.7	14.6	16.1	17.7	19.6	21.5	23.0	23.5	42.7	25.5
12	29.0	35.3	48.2	56.2	61.5	64.0	64.7	59.2	60.0	59.5	59.2	58.4	57.2	53.7	53.9	53.0	57.3	83.9	86.3	88.3	89.3	90.2	90.2	89.4	90.2	64.5
13	89.3	89.4	89.8	89.1	89.1	88.0	88.3	85.2	85.0	78.6	76.3	82.7	80.4	81.4	80.7	85.2	87.6	86.5	81.4	80.5	80.3	83.4	85.0	85.2	89.8	84.5
14	88.0	89.0	88.9	89.5	89.5	90.1	89.6	87.3	87.7	83.2	75.3	67.4	66.8	66.1	57.9	69.4	70.6	66.7	70.4	83.1	89.5	87.7	84.6	88.8	90.1	80.3
15	90.0	91.4	91.8	92.4	92.7	91.5	91.0	90.0	92.5	92.9	89.4	78.9	65.4	63.9	56.1	51.3	55.7	58.6	69.1	78.5	85.9	89.4	91.3	92.4	92.9	80.9
16	91.9	90.8	88.3	86.6	85.2	84.9	83.4	80.7	73.2	63.6	52.2	41.0	34.2	29.5	27.5	26.3	26.5	29.2	41.9	66.8	77.8	84.1	87.4	74.8	91.9	63.7
17	58.7	57.2	61.0	64.3	66.4	68.7	69.3	67.0	57.5	49.7	39.1	33.0	28.0	25.8	25.3	24.1	24.3	26.4	30.0	29.9	34.0	48.6	34.5	32.9	69.3	44.0
18	35.4	38.4	40.1	41.2	42.9	49.2	56.9	70.3	55.7	43.4	39.6	31.1	28.1	27.3	25.3	29.9	68.7	66.6	63.3	61.9	59.8	63.6	70.5	73.9	73.9	49.3
19	75.2	76.5	76.8	79.5	80.2	80.1	79.1	73.3	59.4	50.2	41.9	32.0	29.1	28.9	28.7	27.7	30.9	42.1	39.1	38.4	41.8	42.5	42.6	46.6	80.2	51.8
20	51.8	50.2	44.9	38.5	34.0	34.0	37.8	42.9	46.3	47.7	47.3	47.4	47.8	57.5	56.5	51.3	47.0	52.0	66.5	75.3	87.0	87.4	86.5	88.8	88.8	55.3
21	88.0	86.4	83.8	81.2	78.0	77.1	84.3	87.6	89.9	92.5	89.8	88.4	92.2	92.0	91.2	90.2	89.2	90.6	91.6	91.0	90.2	90.4	90.7	88.9	92.5	88.1
22	90.0	91.8	90.9	89.3	91.5	91.8	93.3	93.4	92.1	86.7	80.2	77.8	74.9	74.0	72.0	66.6	65.5	68.2	73.5	78.2	80.7	84.5	86.4	88.2	93.4	82.6
23	88.0	87.2	88.7	90.3	90.8	88.1	87.1	85.7	82.0	76.4	63.1	56.5	52.8	51.4	46.9	50.4	56.7	64.8	73.0	80.1	84.5	85.6	85.5	79.3	90.8	74.8
24	83.8	87.2	73.9	72.6	71.7	73.4	73.7	73.0	66.8	59.1	47.3	41.3	36.8	35.7	32.9	33.3	35.5	40.9	44.8	47.0	51.5	53.8	55.6	56.8	87.2	56.2
25	59.6	61.1	61.9	61.9	63.7	64.6	67.0	66.5	60.2	54.9	44.0	39.3	35.6	33.5	32.4	35.2	38.1	42.0	45.7	49.2	52.4	54.1	54.3	56.2	67.0	51.4
26	58.8	61.7	65.0	67.8	70.8	71.4	71.1	71.0	67.0	55.7	53.5	44.7	37.4	37.1	38.3	36.1	38.4	37.8	42.6	49.8	55.9	58.4	59.2	61.7	71.4	54.6
27	65.2	67.5	70.1	71.1	73.4	76.8	76.2	75.2	68.9	63.1	54.2	46.5	38.3	32.5	29.9	28.1	30.7	37.7	60.3	75.5	81.2	73.6	76.2	74.7	81.2	60.3
28	71.2	73.0	74.2	74.5	75.0	76.0	77.2	75.8	69.6	M	M	M	M	30.7	25.1	21.1	23.8	25.7	31.0	46.2	48.1	46.9	51.2	53.3	77.2	53.5
29	49.4	53.2	57.2	57.5	59.9	61.8	64.5	63.0	59.3	50.6	41.6	34.4	26.8	22.9	22.3	21.7	21.3	23.3	27.1	29.7	35.4	40.5	45.5	52.2	64.5	42.5
30	57.7																									

Lagoon Precipitation (mm) – September 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 Total
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	2.3	4.5	1.3	0.3	0.0	4.5	10.5
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.8	0.8	1.8	1.0	0.0	0.3	0.0	0.0	0.5	0.3	0.5	1.8	6.3
14	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.5
15	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.3	0.5
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.0	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.8	0.8	0.3	0.0	0.0	0.0	0.0	0.8	4.8
22	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hourly Max	0.3	0.3	0.0	0.0	0.0	0.3	0.0	0.8	1.0	0.0	0.5	0.5	0.8	0.8	1.8	1.0	0.8	0.8	2.3	4.5	1.3	0.3	0.5			
Hourly Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0			

1-hour Precipitation (mm) at Trailer

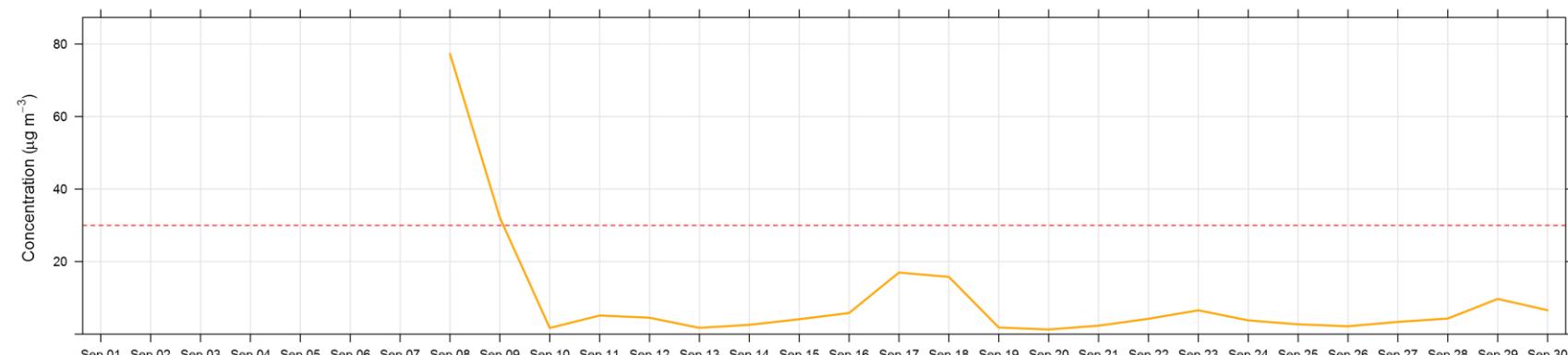


West PM_{2.5} ($\mu\text{g}/\text{m}^3$) – September 2017

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	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-		
7	M	M	M	M	M	M	M	M	85.2	74.3	62.5	59.4	52.6	45.5	41.1	39.0	41.8	50.0	55.2	62.9	71.9	79.2	86.7	-	-		
8	89.1	89.0	88.0	88.0	88.6	91.0	93.8	93.6	93.7	89.7	92.9	94.0	82.6	81.4	72.3	53.5	50.7	56.7	59.6	57.1	54.6	54.6	53.4	94.0	77.3		
9	53.0	54.7	56.1	58.0	56.8	55.1	55.4	61.5	58.2	50.8	31.4	29.1	24.8	22.3	24.1	19.2	14.4	13.0	8.4	8.2	7.6	5.3	1.6	1.8	61.5	32.1	
10	1.6	1.7	1.8	1.8	1.6	1.5	1.4	1.6	1.3	1.4	1.8	2.3	2.3	2.2	2.2	2.0	1.7	1.6	1.6	1.7	1.5	1.5	1.4	1.4	2.3	1.7	
11	1.4	1.5	1.9	1.9	2.2	2.7	4.6	7.3	10.1	11.0	9.6	7.6	6.8	5.2	4.5	5.0	4.6	4.9	4.4	4.9	4.4	4.8	5.4	6.6	11.0	5.1	
12	8.2	10.6	4.9	2.7	2.1	2.2	2.5	1.6	2.4	2.8	2.9	3.9	5.3	9.9	8.6	8.4	7.8	6.5	3.9	2.9	2.9	2.1	1.5	2.1	10.6	4.5	
13	3.0	3.1	3.2	2.9	3.2	2.2	2.1	2.4	1.8	1.5	1.5	1.1	1.2	1.2	2.1	1.8	1.1	1.1	0.5	0.4	0.6	1.0	1.4	1.3	3.2	1.7	
14	0.9	0.5	0.7	0.7	0.8	1.0	1.1	1.2	1.9	3.0	5.8	5.1	4.7	5.4	5.9	4.5	3.2	3.4	1.7	1.5	1.4	3.7	1.9	1.7	5.9	2.6	
15	2.6	2.6	2.8	3.8	3.5	3.6	3.0	2.5	3.8	3.3	7.0	8.3	5.7	4.5	7.2	5.7	4.0	3.5	2.6	2.7	2.5	3.1	4.6	5.8	8.3	4.1	
16	5.1	5.8	6.2	5.4	5.3	5.7	5.7	6.2	6.2	6.5	6.9	6.8	5.9	5.2	5.4	5.3	5.3	5.1	4.8	5.0	5.4	6.2	7.1	7.3	7.3	5.8	
17	7.6	7.2	7.0	7.1	7.2	7.4	8.0	8.5	10.4	14.3	23.5	24.0	21.7	22.1	21.2	22.4	24.1	27.9	27.6	25.8	22.4	22.7	30.6	30.6	17.0		
18	36.9	34.5	33.2	28.1	26.2	30.0	24.4	23.3	29.9	26.9	22.2	16.4	8.5	7.0	6.7	6.4	1.2	1.4	2.0	2.5	2.9	2.8	2.8	2.8	36.9	15.8	
19	2.6	2.6	2.4	2.4	2.5	2.5	3.1	3.4	3.9	3.1	1.3	1.2	1.5	1.0	1.3	1.3	1.2	1.0	1.2	1.0	0.8	0.9	0.7	0.8	3.9	1.8	
20	0.9	0.8	0.7	0.8	0.8	1.0	1.2	1.5	2.0	2.0	1.6	1.8	2.2	1.9	2.1	2.7	1.6	0.6	1.4	0.8	0.9	0.5	0.5	0.5	2.7	1.3	
21	0.5	0.6	0.7	0.7	0.6	0.9	0.9	0.9	0.9	1.0	1.0	0.9	1.5	3.5	15.1	12.0	9.3	2.0	0.9	0.5	0.4	0.7	0.4	0.4	15.1	2.3	
22	0.6	0.9	1.3	1.6	1.4	1.3	0.9	4.4	4.6	8.7	10.0	4.9	4.7	4.2	3.8	3.7	4.2	3.4	4.2	5.5	6.3	6.2	7.1	8.0	10.0	4.2	
23	9.1	10.7	11.8	11.2	14.6	9.2	9.2	10.6	9.5	7.7	4.8	3.5	4.3	5.2	3.7	3.8	7.5	3.2	2.3	2.4	2.8	3.2	3.4	3.9	14.6	6.6	
24	5.0	4.6	3.9	3.9	4.4	4.3	4.4	4.7	5.0	5.1	4.9	4.0	3.6	3.5	3.6	3.5	3.4	3.0	2.7	2.6	2.8	2.5	2.6	5.1	3.8		
25	2.8	2.7	2.5	2.5	2.7	2.7	3.3	4.7	5.3	4.5	3.2	2.8	3.4	3.3	3.3	2.5	1.5	1.5	1.6	1.6	1.3	1.3	1.4	5.3	2.7		
26	1.4	1.5	1.5	1.6	1.7	1.8	2.8	2.6	5.4	4.6	4.2	2.3	1.9	1.9	2.8	2.7	2.6	1.6	1.1	1.0	1.0	1.2	1.4	1.6	5.4	2.2	
27	1.7	1.6	1.6	1.8	2.0	2.0	3.8	3.5	4.9	5.0	4.2	4.8	4.1	4.0	3.4	3.0	2.3	1.7	1.9	4.7	4.2	6.5	4.6	3.8	6.5	3.4	
28	3.4	2.7	2.9	2.7	2.8	3.7	4.7	6.0	4.9	4.4	4.5	4.8	3.9	3.9	4.0	2.7	2.5	3.6	5.6	6.7	7.0	6.2	6.4	7.0	4.3		
29	7.0	6.9	6.9	6.6	6.8	6.7	7.2	8.2	8.4	10.0	9.3	7.7	5.4	4.9	6.2	6.8	6.4	8.1	13.6	15.5	18.3	18.7	18.2	19.0	19.0	9.7	
30	18.7	17.9	17.3	17.1	16.5	15.9	12.6	5.8	5.1	4.1	3.3	2.4	2.2	2.0	1.6	1.4	1.5	1.4	1.2	1.1	1.0	2.4	3.2	2.4	18.7	6.6	
Hourly Max	89.1	89.0	88.0	88.0	88.0	88.6	91.0	93.8	93.6	93.7	89.7	92.9	94.0	82.6	81.4	72.3	53.5	50.7	56.7	59.6	62.9	71.9	79.2	86.7			
Hourly Average	11.4	11.5	11.3	11.0	11.0	10.9	11.0	11.5	12.1	14.9	13.3	12.5	11.7	10.8	11.1	10.0	8.5	7.8	8.4	8.9	9.2	9.6	9.7	10.5			

M = MAINTENANCE

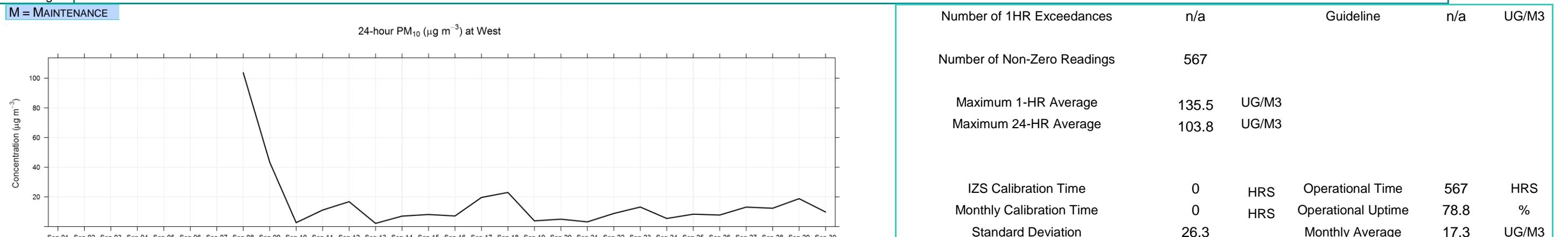
24-hour PM_{2.5} ($\mu\text{g m}^{-3}$) at West



Number of 1HR Exceedances	17	Guideline	80	UG/M3
</

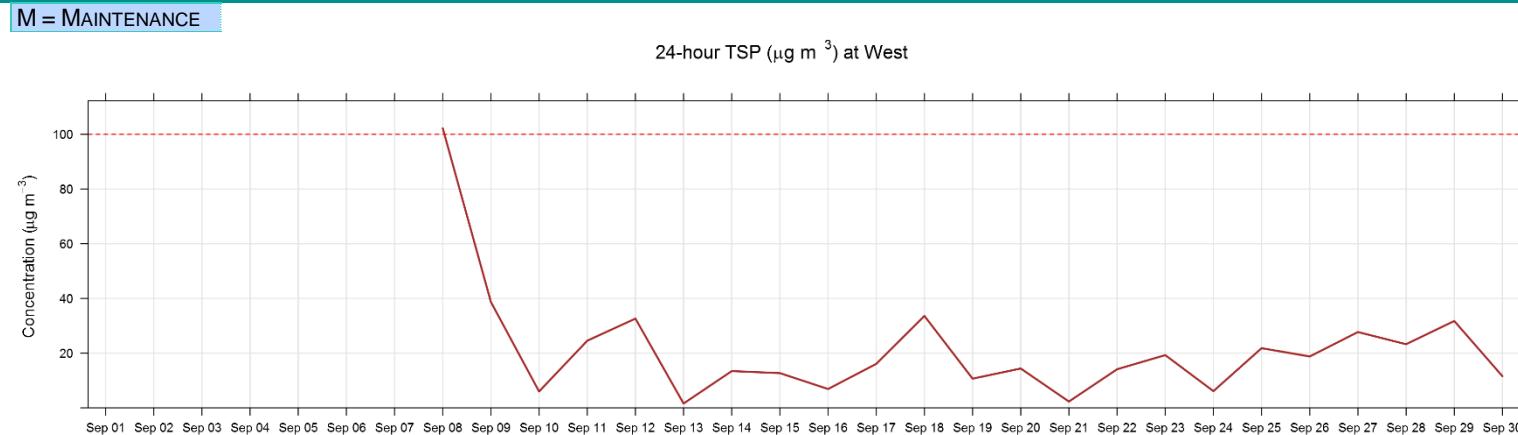
West PM₁₀ ($\mu\text{g}/\text{m}^3$) – September 2017

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	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
7	M	M	M	M	M	M	M	M	125.9	102.6	85.8	94.9	90.8	81.7	73.5	58.9	60.2	84.2	76.1	84.1	96.3	99.3	98.3	-	-	
8	96.8	95.3	92.3	91.7	91.6	92.5	100.0	128.7	119.6	124.7	128.9	117.5	134.7	135.5	128.1	124.2	117.5	98.9	102.4	85.7	77.1	71.0	69.8	65.4	135.5	103.8
9	63.7	68.4	72.8	78.8	74.9	69.2	69.6	87.2	85.4	91.6	40.6	37.6	33.3	34.7	34.0	24.7	20.3	15.4	9.5	9.3	9.6	6.5	2.6	2.5	91.6	43.4
10	1.9	2.1	1.9	2.1	1.8	1.6	1.5	1.9	1.6	1.9	2.9	3.9	4.2	4.8	6.8	5.5	3.2	2.4	2.2	2.5	1.9	1.8	1.6	1.6	6.8	2.7
11	1.8	1.8	2.5	2.5	3.1	3.8	11.8	18.3	29.1	28.5	26.4	25.9	22.5	11.0	9.3	10.6	9.2	11.3	5.7	7.5	5.5	5.6	6.3	7.1	29.1	11.1
12	8.8	15.2	14.8	6.5	5.7	5.8	11.0	7.4	11.7	13.6	12.1	24.1	30.2	64.0	58.7	53.9	29.2	9.6	5.6	4.1	3.9	2.6	1.8	2.7	64.0	16.8
13	3.7	3.7	3.8	3.5	3.7	2.4	2.4	2.8	2.1	1.9	2.2	1.6	1.7	1.8	2.9	2.5	1.4	1.4	0.7	0.6	0.7	1.2	1.6	1.6	3.8	2.2
14	1.1	0.6	0.8	0.7	0.9	1.1	1.2	1.3	2.4	4.0	8.6	16.5	20.5	27.4	26.2	19.5	11.2	10.9	2.0	1.6	1.5	5.2	2.2	1.9	27.4	7.1
15	3.0	3.0	3.5	5.1	4.5	4.8	4.2	3.4	5.6	4.6	10.1	17.6	19.9	14.7	26.3	18.9	10.8	8.5	3.0	3.1	2.7	3.7	6.4	8.3	26.3	8.2
16	6.4	6.7	6.7	5.7	5.5	6.2	6.2	7.0	7.3	9.2	9.6	8.1	8.4	6.4	7.9	6.5	7.8	6.1	5.5	5.8	6.8	7.9	9.7	8.3	9.7	7.2
17	8.4	7.9	7.5	7.8	7.4	7.5	7.8	8.8	9.6	12.5	17.6	28.6	28.6	25.4	27.6	26.3	28.0	28.7	30.8	30.1	29.1	25.3	25.0	34.6	34.6	19.6
18	40.2	37.6	36.8	30.1	28.6	31.7	26.7	34.3	71.3	62.1	39.9	28.3	17.0	13.1	12.3	15.5	2.2	1.6	4.5	4.4	3.8	4.1	3.0	3.0	71.3	23.0
19	2.7	2.7	2.5	2.5	2.6	2.6	3.6	5.0	12.1	11.9	4.9	5.2	6.6	2.7	6.2	5.5	3.0	1.9	2.3	1.5	0.9	1.2	0.8	1.2	12.1	3.8
20	1.2	1.0	0.9	0.9	1.1	2.4	3.1	5.2	8.9	9.4	5.9	7.7	14.2	8.9	12.1	16.6	7.9	1.5	6.0	2.2	1.2	0.6	0.5	0.6	16.6	5.0
21	0.6	0.7	0.8	0.7	0.7	1.2	1.3	1.1	1.2	1.2	1.3	1.2	2.0	5.0	20.7	16.3	13.3	2.6	1.2	0.6	0.5	0.8	0.4	0.4	20.7	3.2
22	0.6	1.1	1.5	1.8	1.6	1.5	1.1	5.9	6.0	22.6	20.9	18.4	20.5	18.3	17.1	13.3	10.6	4.7	4.5	7.0	8.2	7.2	8.5	9.8	22.6	8.9
23	11.5	14.0	14.1	12.8	16.5	10.5	10.4	13.3	12.3	10.8	8.0	7.0	13.2	16.2	9.2	16.6	89.0	7.7	3.0	2.8	3.4	4.1	4.5	5.1	89.0	13.2
24	6.2	5.6	4.5	4.3	4.8	4.8	4.9	5.4	6.0	8.6	8.7	7.6	7.3	6.5	5.8	7.9	6.3	5.1	4.1	3.6	3.4	3.7	3.3	3.0	8.7	5.5
25	3.5	3.3	2.9	3.0	3.6	3.2	6.1	13.6	19.0	20.5	10.6	14.1	18.4	12.9	20.4	17.4	11.0	2.7	2.2	3.1	3.0	1.8	2.1	2.2	20.5	8.4
26	2.1	1.9	1.9	2.0	2.1	2.3	3.8	3.7	19.5	26.2	21.2	11.2	12.0	9.0	15.8	17.9	16.2	5.9	2.5	1.7	1.8	2.0	2.2	2.3	26.2	7.8
27	2.5	2.0	2.0	2.1	2.5	2.5	5.2	7.4	23.1	25.4	22.0	25.8	25.3	27.9	21.5	20.2	12.6	6.1	5.8	20.0	14.8	25.9	6.8	27.9	13.1	
28	4.8	3.5	3.7	3.3	3.6	3.4	5.1	9.1	27.2	18.9	18.0	17.9	23.7	22.9	24.8	22.0	6.8	3.6	5.2	14.0	17.9	14.9	10.6	27.2	12.4	
29	12.6	9.9	9.2	8.7	9.3	8.7	11.6	18.8	24.3	40.9	36.0	30.5	16.1	13.5	22.3	26.8	19.1	12.1	17.5	18.2	21.5	22.9	20.2	40.9	18.8	
30	21.2	19.9	18.6	18.9	17.9	17.6	14.4	7.6	8.6	11.1	10.9	6.8	8.7	7.5	4.2	3.5	3.8	2.6	2.2	1.5	1.5	8.5	10.8	6.8	21.2	9.8
Hourly Max	96.8	95.3	92.3	91.7	91.6	92.5	100.0	128.7	119.6	125.9	128.9	117.5	134.7	135.5	128.1	124.2	117.5	98.9	102.4	85.7	84.1	96.3	99.3	98.3		
Hourly Average	13.3	13.4	13.3	12.8	12.8	12.5	13.6	17.3	22.4	28.7	23.7	22.9	24.3	24.2	25.1	23.6	20.8	13.0	13.0	12.8	12.7	13.5	12.5	12.7		



West TSP ($\mu\text{g}/\text{m}^3$) – September 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	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	-	-	
7	M	M	M	M	M	M	M	M	171.7	125.4	99.9	137.8	123.1	111.8	91.9	65.5	59.3	64.0	57.7	58.4	69.1	68.1	73.9	-	-	
8	76.3	71.3	64.2	66.5	63.4	64.2	77.4	136.7	124.2	142.7	153.1	115.5	139.3	149.9	125.2	145.4	202.2	160.1	119.6	62.7	53.3	50.5	46.5	43.1	202.2	102.2
9	41.5	45.2	47.9	51.6	49.2	45.2	45.6	61.6	66.9	98.2	46.6	42.0	47.3	63.6	50.8	31.3	31.4	13.0	6.8	7.3	12.6	6.5	6.0	9.8.2	38.7	
10	1.6	1.4	1.3	1.6	1.2	1.2	1.0	2.4	1.1	4.2	7.2	11.0	8.5	13.1	32.5	26.6	11.2	3.4	2.9	2.5	1.5	1.7	1.1	3.4	32.5	6.0
11	4.7	1.4	1.7	2.9	3.7	6.4	18.0	35.2	72.1	55.1	67.6	76.8	78.2	28.2	20.6	33.8	23.2	20.6	7.6	8.8	6.5	5.0	5.3	5.1	78.2	24.5
12	5.9	15.9	34.4	12.4	6.4	7.0	24.8	20.1	26.6	22.5	29.6	63.5	58.9	146.3	126.8	118.8	40.6	7.7	3.9	2.9	2.8	1.8	1.2	1.8	146.3	32.6
13	2.5	2.5	2.3	2.4	1.6	1.6	2.0	1.5	1.5	2.1	1.5	1.7	1.6	2.1	1.9	1.1	1.1	0.5	0.4	0.5	0.8	1.1	1.1	2.5	1.6	
14	0.7	0.4	0.6	0.5	0.6	0.8	0.8	0.9	1.7	3.5	8.9	31.3	47.6	62.2	46.5	51.3	32.0	21.0	1.9	1.1	1.0	4.4	1.5	1.3	62.2	13.4
15	2.1	2.0	2.5	3.6	3.1	3.6	3.4	2.7	4.9	3.5	7.8	25.3	55.4	37.3	48.5	38.9	27.4	12.5	1.9	2.1	1.7	2.5	5.2	6.6	55.4	12.7
16	4.4	4.4	4.3	3.7	3.6	4.1	4.0	4.7	6.9	12.4	10.7	7.4	17.2	6.9	10.2	6.9	11.2	5.7	4.9	4.3	4.7	5.4	8.1	9.1	17.2	6.9
17	6.0	5.5	6.2	5.1	4.9	4.9	5.0	6.8	6.6	12.2	16.6	25.6	24.9	22.3	24.2	23.4	28.2	23.2	21.3	21.4	24.9	20.5	17.1	28.9	16.1	
18	31.1	30.7	30.6	21.2	22.6	20.7	19.4	36.3	118.5	168.6	71.7	54.3	42.5	30.6	23.8	50.1	2.3	1.1	9.5	6.4	3.0	7.4	2.1	1.9	168.6	33.6
19	1.8	1.8	1.6	1.6	1.7	1.7	2.5	9.0	45.6	42.9	14.6	20.2	26.8	11.3	29.4	23.6	7.2	4.3	3.3	1.7	0.7	0.8	1.0	0.9	45.6	10.7
20	0.8	0.7	1.6	1.4	1.2	5.6	6.5	19.2	26.4	34.1	17.7	22.9	42.7	28.6	32.2	56.3	27.7	1.6	12.9	2.9	0.9	0.4	0.4	0.4	56.3	14.4
21	0.4	0.4	0.6	0.5	0.5	0.9	1.0	0.8	0.8	0.9	1.1	1.0	1.6	4.0	14.2	11.4	9.9	2.1	1.0	0.4	0.3	0.6	0.3	0.3	14.2	2.3
22	0.4	0.7	1.0	1.2	1.0	1.0	0.8	4.4	4.5	28.6	28.6	33.3	52.4	46.9	44.6	29.4	20.8	7.1	3.4	4.9	6.1	4.8	5.7	6.7	52.4	14.1
23	7.7	9.7	9.4	8.4	10.9	6.8	6.8	10.0	8.7	15.1	11.2	9.2	25.9	40.4	19.4	49.9	172.6	24.4	2.0	1.9	2.4	2.9	3.2	3.6	172.6	19.3
24	4.3	3.7	2.9	2.8	3.2	3.2	3.2	3.6	5.2	9.7	14.4	16.2	15.4	7.6	6.3	12.6	9.3	4.9	2.9	2.8	2.4	2.8	3.2	4.0	16.2	6.1
25	2.6	2.3	2.1	5.0	7.4	2.2	14.0	32.4	58.3	62.2	20.3	45.7	52.7	38.5	66.9	56.8	33.4	4.5	1.7	4.0	3.1	1.2	1.8	3.9	66.9	21.8
26	1.7	2.0	2.5	1.3	1.4	1.6	3.4	3.7	42.2	66.6	56.6	36.5	39.2	35.9	44.4	52.8	38.4	10.3	2.0	1.2	2.3	1.6	1.8	1.8	66.6	18.8
27	2.2	1.3	1.3	1.6	1.8	1.7	4.3	12.9	70.0	77.4	61.9	59.9	68.4	78.8	51.3	54.1	29.2	5.0	4.6	26.3	16.7	22.7	7.0	4.8	78.8	27.7
28	3.7	2.4	2.6	2.3	2.5	2.4	4.4	14.5	60.5	53.3	41.5	48.3	67.8	55.4	48.8	49.5	14.7	6.1	4.7	16.9	18.5	12.8	14.7	9.6	67.8	23.3
29	11.2	11.2	8.9	11.1	9.6	7.4	14.9	37.7	64.5	103.2	91.0	72.6	39.1	23.8	42.5	68.7	39.1	13.6	14.6	12.2	14.9	18.9	17.1	14.2	103.2	31.7
30	13.9	13.2	14.0	13.0	11.7	12.8	10.9	6.2	13.6	24.9	25.6	13.0	24.6	16.3	12.1	8.3	7.1	2.5	2.8	1.1	1.1	13.6	9.3	5.9	25.6	11.6
Hourly Max	76.3	71.3	64.2	66.5	63.4	64.2	77.4	136.7	124.2	171.7	153.1	115.5	139.3	149.9	126.8	145.4	202.2	160.1	119.6	62.7	58.4	69.1	68.1	73.9		
Hourly Average	9.9	10.0	10.6	9.6	9.3	9.0	11.9	20.2	36.1	50.6	38.8	38.9	46.5	44.7	43.1	45.6	36.9	17.3	12.5	10.6	10.0	10.8	9.5	10.1		



Berm PM_{2.5} ($\mu\text{g}/\text{m}^3$) – September 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	44.1	43.3	41.9	47.0	46.8	48.1	46.4	40.8	42.5	42.7	68.5	76.8	39.1	41.7	40.4	42.4	47.8	64.9	27.1	25.1	23.8	21.2	18.6	25.8	76.8	41.9
2	24.4	27.4	33.6	38.6	31.3	33.6	26.4	25.0	25.3	43.3	76.4	54.6	61.2	122.3	60.7	67.6	69.8	105.2	76.4	53.8	42.7	37.2	30.7	28.5	122.3	49.8
3	27.5	22.3	17.5	14.1	12.8	12.2	11.2	10.9	9.2	8.7	9.3	9.8	8.7	8.4	8.0	10.4	15.0	6.4	6.4	6.2	6.1	6.5	7.2	6.7	27.5	10.9
4	7.8	8.3	7.7	7.6	6.9	6.4	11.1	7.6	6.6	6.9	4.9	3.9	4.3	4.3	4.4	4.8	4.0	4.3	4.9	5.6	10.0	8.0	5.1	5.0	11.1	6.3
5	6.9	11.6	17.3	17.1	20.6	21.8	25.6	30.1	35.6	41.5	54.4	65.5	73.3	59.0	52.4	37.7	31.5	26.7	26.2	32.5	37.4	39.1	40.3	46.6	73.3	35.4
6	56.0	62.3	65.1	66.4	65.1	63.7	64.8	72.4	67.3	60.1	59.5	57.8	44.0	47.9	43.7	35.1	18.3	14.5	17.1	20.8	23.8	26.7	28.0	35.2	72.4	46.5
7	52.2	64.8	69.0	70.7	79.5	82.0	84.5	99.3	94.1	87.8	82.8	72.7	66.1	61.5	57.4	39.5	43.7	42.0	45.2	51.7	57.2	66.3	77.9	85.2	99.3	68.0
8	87.9	87.9	86.3	88.5	89.8	88.9	99.9	102.1	102.2	93.7	89.3	97.2	96.2	94.4	90.0	63.8	49.0	56.4	59.0	54.1	52.1	56.9	54.7	52.1	102.2	78.9
9	51.9	54.8	54.0	53.3	57.1	53.3	59.7	59.1	53.8	51.4	45.0	67.3	59.7	57.8	52.5	36.7	36.0	25.0	13.0	11.9	10.6	6.0	6.9	14.8	67.3	41.3
10	13.7	11.7	15.9	9.6	4.2	3.4	22.1	35.6	17.2	10.0	14.6	14.8	7.7	16.9	15.4	25.8	18.1	10.3	10.8	14.4	6.0	9.7	17.7	12.8	35.6	14.1
11	8.1	3.3	2.6	2.3	3.2	7.1	28.1	25.8	19.3	23.4	42.6	35.8	44.9	30.1	26.4	21.6	19.2	14.0	12.9	20.3	16.1	10.6	11.4	8.5	44.9	18.2
12	8.8	9.2	5.0	3.0	4.5	5.1	3.4	1.1	1.7	1.7	1.8	2.6	4.7	4.6	3.9	4.7	7.2	5.6	5.0	4.3	3.5	2.1	2.4	3.0	9.2	4.1
13	2.9	2.7	2.1	2.3	2.6	2.7	2.8	2.8	1.3	0.5	4.5	0.3	0.8	0.8	2.4	1.1	1.9	0.3	0.3	0.5	1.2	1.0	1.3	4.5	1.7	
14	0.9	0.8	1.6	1.3	1.1	1.6	1.4	1.9	1.9	2.0	2.0	1.7	1.7	1.4	2.0	2.6	1.9	3.5	2.2	1.8	2.6	3.9	1.9	1.5	3.9	1.9
15	2.9	1.9	2.0	1.5	2.4	2.2	1.8	1.6	2.2	4.4	5.8	5.4	2.6	3.3	2.8	2.8	2.9	2.6	3.3	2.6	2.8	2.7	4.2	5.8	2.9	
16	5.1	10.4	7.0	4.9	4.2	5.0	4.8	5.2	5.6	6.0	11.5	16.9	11.3	15.9	12.9	20.1	12.0	10.3	5.1	4.5	4.5	4.6	6.1	7.3	20.1	8.4
17	6.5	6.3	6.6	6.7	6.9	7.2	7.6	7.7	8.6	11.1	24.7	32.1	29.4	31.7	33.2	27.1	26.9	31.6	32.4	30.4	30.3	25.6	28.6	38.1	38.1	20.7
18	48.8	40.5	46.0	36.0	26.7	29.8	25.0	21.9	25.8	26.4	56.8	40.4	48.7	22.8	14.7	70.4	7.2	14.3	9.5	4.1	4.5	3.8	2.9	3.3	70.4	26.3
19	2.5	3.0	3.2	2.3	2.6	2.5	2.6	3.7	14.5	12.6	10.2	20.3	21.0	40.9	29.5	32.4	19.3	14.1	8.1	4.2	4.4	3.2	4.4	2.1	40.9	11.0
20	8.6	6.5	9.1	9.5	12.9	9.9	15.1	9.4	12.8	5.7	10.9	7.1	4.6	10.2	5.0	4.4	2.9	3.3	0.8	1.9	1.4	0.6	2.4	1.2	15.1	6.5
21	0.7	1.7	2.4	1.2	1.8	1.1	3.6	3.3	2.6	3.0	2.3	3.8	2.3	0.4	0.3	0.5	3.8	1.4	1.2	0.5	0.6	0.6	0.3	0.4	3.8	1.7
22	0.7	2.0	1.3	1.8	2.6	2.6	3.7	1.6	3.8	6.2	2.7	2.5	2.3	1.6	1.9	2.4	3.4	3.3	4.4	5.4	5.7	5.8	10.3	6.2	10.3	3.5
23	5.7	5.0	12.0	15.4	17.1	9.9	10.2	9.7	8.6	12.0	9.0	5.9	4.5	4.0	2.9	2.8	3.5	3.2	2.4	2.3	2.3	2.2	2.6	3.0	17.1	6.5
24	3.5	3.4	3.7	3.8	3.7	4.0	3.8	4.1	4.8	5.2	16.3	12.5	11.9	12.4	17.4	19.3	13.8	19.8	4.8	4.0	3.3	3.2	2.9	3.0	19.8	7.7
25	3.4	3.3	2.8	2.6	2.7	2.8	3.1	3.9	4.0	9.2	18.3	9.2	11.8	12.0	14.7	18.0	17.5	6.2	3.6	1.8	2.2	2.3	1.5	18.3	6.6	
26	2.4	1.8	1.8	1.9	2.1	3.0	2.3	2.1	2.3	2.5	3.1	6.1	11.5	23.1	14.8	10.6	9.3	8.5	2.1	1.3	1.3	1.6	1.7	1.7	23.1	5.0
27	1.8	1.9	1.7	1.7	2.4	2.6	2.3	3.3	7.4	5.9	7.1	4.1	5.4	3.7	6.7	3.6	7.2	1.6	1.5	1.5	1.8	3.3	4.0	11.0	11.0	3.9
28	6.1	6.7	5.0	4.3	4.8	5.1	5.2	4.1	8.9	4.0	4.7	8.0	10.3	6.9	5.4	6.7	21.4	5.4	2.8	3.9	6.4	5.4	6.0	6.4	21.4	6.4
29	7.3	7.6	7.0	6.7	7.0	6.7	7.8	7.9	7.5	12.9	25.9	14.1	23.6	13.4	18.4	23.8	19.0	39.1	19.6	14.9	18.0	18.8	17.4	39.1	15.1	
30	17.4	19.3	19.7	17.8	16.6	14.9	10.9	5.4	9.8	30.0	17.9	17.3	14.1	24.8	28.7	27.6	14.3	21.7	6.2	2.9	2.6	2.8	3.3	1.2	30.0	14.5
Hourly Max	87.9	87.9	86.3	88.5	89.8	88.9	99.9	102.1	102.2	93.7	89.3	97.2	96.2	122.3	90.0	70.4	69.8	105.2</								

Berm PM₁₀ ($\mu\text{g}/\text{m}^3$) – September 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	74.4	61.6	54.3	74.8	66.3	64.9	78.6	62.5	80.0	90.2	362.8	471.7	118.9	177.8	152.4	222.2	235.6	337.1	94.7	57.9	50.4	35.1	26.3	50.3	471.7	129.2
2	38.6	57.8	69.3	85.5	54.9	63.0	43.7	28.5	36.1	200.7	447.1	315.5	326.1	649.0	319.3	435.1	235.7	357.2	173.3	104.7	75.1	110.0	59.8	50.6	649.0	180.7
3	53.0	45.5	37.1	29.8	27.0	23.8	20.8	20.1	18.3	19.8	18.6	20.3	20.1	22.1	19.1	26.2	92.8	16.9	14.4	11.9	11.5	12.1	15.3	12.0	92.8	25.4
4	18.6	19.8	15.0	13.5	10.4	8.8	20.9	12.2	11.2	15.9	10.2	8.2	10.1	9.2	10.9	15.3	12.5	14.4	16.7	17.9	39.7	27.9	11.3	9.2	39.7	15.0
5	18.5	33.9	54.1	54.6	46.4	38.1	37.6	49.0	55.8	61.2	80.1	92.8	86.2	150.6	140.6	68.2	49.7	43.8	45.1	58.5	54.6	48.5	48.2	55.8	150.6	61.3
6	79.2	79.0	71.8	76.8	76.9	76.0	85.5	169.2	155.5	88.4	151.3	163.7	93.9	121.0	136.2	70.2	47.0	27.0	35.5	40.6	35.2	36.9	38.7	58.6	169.2	83.9
7	93.9	81.6	85.2	81.0	111.8	101.3	131.9	265.4	224.5	159.8	178.0	143.0	185.5	204.1	200.7	81.2	115.1	76.9	79.9	75.9	69.9	85.5	106.1	115.0	265.4	127.2
8	116.1	103.8	95.0	103.8	108.6	105.3	192.8	203.5	174.3	126.1	114.6	158.7	153.4	205.2	190.2	114.9	82.3	144.7	149.8	74.7	72.7	95.1	79.4	65.0	205.2	126.3
9	63.4	70.1	65.5	63.8	70.9	71.7	80.4	82.5	75.0	85.9	241.6	412.2	366.9	357.6	314.9	157.4	168.5	122.0	41.7	39.5	26.8	10.9	33.0	81.8	412.2	129.3
10	70.9	91.4	109.3	60.8	20.1	10.9	180.6	322.8	159.5	81.8	127.2	134.2	64.9	157.7	168.3	270.6	204.1	102.7	84.1	109.8	46.2	92.0	186.4	124.9	322.8	124.2
11	78.2	15.7	10.9	4.7	15.3	57.2	219.8	207.6	102.0	127.2	288.3	239.5	361.4	265.9	189.2	164.1	132.3	90.9	66.4	97.4	71.6	36.2	41.6	18.1	361.4	120.9
12	14.7	19.7	14.7	7.4	14.0	19.6	14.6	3.1	6.3	6.6	7.1	11.3	27.3	23.6	19.9	19.6	28.4	9.0	7.0	5.9	4.4	2.5	3.0	3.9	28.4	12.2
13	3.6	3.3	3.3	2.5	2.7	3.1	3.0	3.5	3.5	1.8	0.7	6.7	0.4	1.0	1.0	3.5	1.5	2.8	0.3	0.4	0.5	1.5	1.1	1.6	6.7	2.2
14	1.0	0.9	1.7	1.4	1.2	1.7	1.5	2.0	2.1	2.2	2.3	2.8	3.2	1.7	3.5	7.3	3.4	7.0	2.7	2.4	3.2	5.3	2.3	1.8	7.3	2.7
15	3.9	2.4	2.5	1.8	2.9	2.4	2.0	1.6	2.6	5.2	6.6	6.1	3.3	5.5	5.7	4.9	3.2	3.7	8.0	3.3	3.0	2.9	3.0	5.7	8.0	3.8
16	6.7	15.4	9.7	5.9	4.8	6.2	5.7	7.2	10.9	10.0	48.4	101.0	55.9	80.4	71.7	149.0	69.9	48.9	7.1	4.9	4.8	4.9	9.9	11.4	149.0	31.3
17	8.8	7.1	9.1	9.0	9.2	10.4	11.0	10.0	11.1	16.1	89.1	101.0	96.3	128.0	115.5	79.9	74.1	97.8	62.0	54.4	66.5	46.2	56.5	78.9	128.0	52.0
18	117.1	75.2	112.8	79.8	35.9	39.1	30.8	25.0	62.1	69.9	380.7	252.7	351.6	157.9	87.8	543.9	50.0	103.1	49.3	19.0	18.6	10.1	4.8	4.1	543.9	111.7
19	2.8	3.6	4.0	2.5	3.1	2.8	2.9	12.4	103.7	86.8	93.2	179.4	190.6	344.2	239.1	298.8	173.2	113.5	44.4	20.3	16.6	12.6	24.3	9.1	344.2	82.7
20	46.2	37.5	51.5	65.1	87.6	64.2	110.7	77.0	96.1	35.2	73.4	51.1	32.9	62.8	35.1	34.4	18.8	27.4	2.1	5.2	1.8	0.7	3.5	1.6	110.7	42.6
21	1.0	2.4	3.5	1.6	2.6	1.5	5.3	4.8	3.8	4.4	3.3	5.2	2.7	0.4	0.3	0.5	4.0	1.4	1.3	0.6	0.7	0.6	0.3	0.4	5.3	2.2
22	0.7	2.5	1.3	1.8	2.6	2.7	3.7	2.1	5.3	9.0	3.3	3.3	4.5	2.4	4.1	4.6	5.3	3.5	4.5	5.9	6.3	6.3	12.5	6.7	12.5	4.4
23	6.0	5.2	13.9	20.1	24.1	12.5	13.2	12.9	11.2	18.0	56.2	21.2	8.7	5.7	3.7	3.7	5.0	3.8	2.8	2.5	2.5	2.4	3.1	3.7	56.2	10.9
24	4.1	3.8	4.5	4.7	4.0	4.4	4.1	5.3	7.8	12.8	131.9	77.0	74.2	74.3	133.5	156.8	117.4	169.9	18.7	15.4	5.4	5.3	4.7	5.0	169.9	43.5
25	6.5	6.0	3.8	3.2	3.7	3.4	5.7	9.9	12.8	59.4	146.4	65.8	93.8	91.2	111.0	153.6	144.3	48.1	18.5	3.4	5.1	5.3	2.9	3.4	153.6	42.0
26	5.6	3.4	3.4	3.2	3.9	6.1	5.5	5.3	6.7	8.7	14.1	49.3	87.7	148.3	128.6	76.0	57.9	55.6	6.1	4.1	2.9	3.7	3.4	28.9	148.3	28.9
27	4.3	4.0	2.8	3.3	3.9	3.4	2.9	10.8	51.8	40.6	63.3	25.9	37.8	28.7	53.1	26.0	51.4	6.0	3.2	3.0	3.8	10.4	12.4	48.6	63.3	20.9
28	20.9	22.9	14.6	9.8	10.8	7.1	7.5	10.7	53.0	13.6	18.4	48.6	70.2	53.0	35.6	54.3	255.3	30.9	4.5	8.8	18.7	12.3	12.1	13.1	255.3	33.6
29	14.7	13.7	10.8	10.6	11.7	11.1	22.1	19.2	19.0	90.7	178.7	79.6	161.4	112.7	134.4	151.1	121.4	289.7	71.8	18.0	20.9	26.9	21.2	19.5	289.7	68.0
30	20.1	28.4	31.8	26.1	23.3	19.3	13.																			

Berm TSP ($\mu\text{g}/\text{m}^3$) – September 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	108.2	47.7	43.0	64.5	53.3	49.5	71.3	69.5	113.2	196.1	1298.1	1972.5	390.1	628.7	496.9	896.8	767.5	859.9	152.4	70.2	55.1	35.2	23.7	49.2	1972.5	354.7
2	36.4	62.3	58.1	64.0	43.1	50.6	43.0	26.5	47.4	301.2	899.8	747.3	912.1	1918.8	1230.7	1551.9	798.2	1108.4	445.1	168.3	92.3	339.4	87.0	61.4	1918.8	462.2
3	70.2	66.8	52.3	35.1	39.1	27.2	27.3	24.8	27.8	35.3	35.2	36.2	39.2	48.2	36.8	47.7	276.8	36.9	17.2	13.6	9.4	12.7	16.9	8.1	276.8	43.4
4	15.4	15.1	13.3	12.1	8.3	6.2	19.9	8.7	14.6	24.4	13.9	10.3	16.8	13.9	17.4	28.5	21.6	26.3	26.4	32.0	48.4	37.8	12.8	7.1	48.4	18.8
5	15.6	32.4	47.9	66.3	50.9	42.4	50.0	73.0	78.1	83.8	111.7	129.2	72.4	333.8	262.3	83.4	52.6	47.9	56.1	61.5	45.3	35.2	34.1	41.1	333.8	79.5
6	71.1	62.1	55.4	58.0	59.8	65.8	83.7	340.3	378.5	106.1	371.7	371.9	143.0	208.8	263.3	95.6	70.4	32.6	43.9	42.1	33.7	29.3	29.6	57.9	378.5	128.1
7	93.9	64.6	86.8	64.3	104.7	155.6	190.0	542.4	447.1	230.0	352.9	203.1	380.5	404.4	406.4	113.5	146.7	86.1	95.0	70.2	55.4	67.5	99.3	101.4	542.4	190.1
8	100.1	99.3	76.5	85.7	89.7	109.4	356.2	338.0	223.0	140.0	111.5	221.2	186.9	340.1	237.7	140.3	104.9	259.0	293.8	73.1	70.2	122.7	67.3	49.7	356.2	162.3
9	43.4	47.9	44.4	43.2	51.3	49.4	57.5	62.6	57.7	100.8	994.5	1355.1	1119.5	1267.7	1044.8	425.5	485.8	384.6	78.4	109.3	26.4	9.6	81.5	185.1	1355.1	338.6
10	166.4	399.7	368.3	187.8	58.8	21.0	586.9	991.1	648.2	344.9	558.7	648.2	340.2	780.5	897.5	1157.7	1005.7	414.5	269.1	352.2	153.7	331.1	834.6	593.6	1157.7	504.6
11	365.5	56.4	38.9	9.7	64.0	264.9	850.0	782.5	428.5	381.7	1069.8	978.7	1554.1	1197.9	778.0	723.8	645.2	351.8	171.4	173.1	117.7	59.5	81.0	20.2	1554.1	465.2
12	15.6	53.8	27.1	15.9	20.0	34.0	24.8	4.3	13.2	8.6	13.8	23.5	83.4	45.9	45.7	30.5	58.3	8.1	4.9	3.9	2.9	1.7	2.0	2.7	83.4	22.7
13	2.5	2.3	2.3	1.7	1.8	2.2	2.1	2.6	2.7	1.4	0.6	7.6	0.3	0.7	0.8	3.3	1.3	2.9	0.2	0.2	0.4	1.0	0.7	1.1	7.6	1.8
14	0.6	0.6	1.1	0.9	0.8	1.1	0.9	1.3	1.4	1.5	1.6	3.0	7.1	1.8	6.1	22.1	5.8	13.0	2.3	1.7	2.3	4.4	1.8	1.2	22.1	3.5
15	3.7	1.7	2.1	1.2	2.2	1.5	1.3	1.1	1.8	3.5	4.4	4.1	4.0	5.5	12.2	7.9	3.2	3.0	6.5	2.3	2.0	1.9	2.1	5.0	12.2	3.5
16	5.4	16.3	9.2	4.8	3.6	4.9	4.2	7.9	17.4	27.0	150.4	252.1	125.9	209.0	237.1	405.3	212.6	106.7	5.8	3.2	4.9	3.2	6.8	9.1	405.3	76.4
17	6.2	4.9	9.6	9.3	6.2	8.1	8.8	6.8	12.6	17.4	205.8	216.8	221.9	407.3	292.5	175.9	167.3	238.1	67.6	86.0	122.7	65.7	74.6	159.9	407.3	108.0
18	251.2	124.7	191.8	123.4	40.1	37.3	26.0	23.1	121.7	159.7	1099.4	892.5	1296.3	548.4	285.9	1403.5	242.0	388.4	131.3	80.9	71.6	12.4	5.7	3.2	1403.5	315.0
19	1.9	2.7	3.3	1.7	2.3	2.0	2.1	51.1	376.1	292.0	364.2	659.3	802.8	1424.0	882.9	1106.2	638.0	394.8	79.7	35.6	15.1	22.3	63.6	15.6	1424.0	301.6
20	145.1	128.5	142.5	220.6	298.5	241.8	405.1	340.0	381.3	141.4	288.8	207.7	142.1	220.2	149.7	154.3	83.9	87.1	4.7	8.1	1.4	0.5	3.6	1.4	405.1	158.3
21	0.7	2.4	3.4	1.4	2.6	1.3	5.8	5.2	3.9	4.1	3.5	4.6	1.8	0.3	0.2	0.3	2.6	0.9	0.9	0.4	0.5	0.4	0.2	0.3	5.8	2.0
22	0.5	1.9	0.8	1.2	1.7	1.7	2.4	2.0	5.0	7.7	2.4	2.8	6.6	2.5	8.1	8.4	6.8	2.5	2.9	3.9	4.2	4.1	8.7	4.3	8.7	3.9
23	3.9	3.4	9.2	16.5	21.3	9.3	9.9	10.4	9.0	19.8	169.9	59.1	14.5	7.1	2.9	3.3	4.7	2.6	1.9	1.8	1.6	1.5	2.2	2.8	169.9	16.2
24	2.8	2.5	3.4	3.2	2.6	3.0	2.6	7.8	14.6	36.2	524.4	279.7	234.1	194.0	381.7	479.8	453.6	565.6	42.9	40.6	6.1	6.4	4.3	7.5	565.6	137.5
25	5.5	7.9	5.4	4.7	3.9	2.6	9.6	18.2	32.6	214.2	479.8	183.9	300.8	227.6	307.5	524.0	388.5	192.3	37.7	5.5	6.8	5.6	3.0	2.5	524.0	123.8
26	5.7	3.8	3.7	3.1	4.6	4.3	7.9	12.6	11.3	25.5	31.5	154.7	246.2	414.0	308.5	203.5	140.7	114.9	10.2	9.3	2.7	4.0	8.3	9.2	414.0	72.5
27	9.3	8.6	10.1	9.3	9.4	3.0	2.4	36.8	170.4	121.2	228.5	66.7	82.8	95.0	115.6	61.8	87.8	9.7	4.2	2.0	6.5	11.7	14.2	46.3	228.5	50.6
28	26.9	36.2	18.5	8.5	9.0	6.4	7.5	26.2	177.3	34.5	49.3	117.9	179.6	110.4	54.7	117.1	766.0	67.4	7.5	16.3	20.8	17.5	9.3	19.2	766.0	79.3
29	17.3	19.0	13.3	17.7	27.9	36.2	83.0	45.6	58.0	436.7	685.3	238.2	398.1	383.2	404.9	363.1	363.1	739.3	115.0	17.3	19.1					

Entrance PM_{2.5} ($\mu\text{g}/\text{m}^3$) – September 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	47.4	50.3	50.3	55.3	61.7	61.9	72.4	80.3	81.8	68.6	63.3	56.5	46.2	44.4	39.3	39.4	28.4	27.2	20.7	23.0	23.1	30.1	37.1	38.6	81.8	47.8	
2	33.3	34.0	41.3	35.5	36.8	36.9	54.7	42.6	35.3	32.4	18.7	18.4	25.4	49.8	34.6	32.6	59.4	88.1	73.5	54.2	44.9	41.6	34.0	33.7	88.1	41.3	
3	32.4	21.6	17.1	14.6	14.1	14.6	14.8	13.5	11.0	10.1	10.2	10.6	10.6	9.7	9.4	11.7	14.2	7.9	9.4	7.5	9.7	7.9	11.1	9.6	32.4	12.6	
4	10.4	12.7	11.6	11.4	9.4	9.6	15.4	12.2	11.6	11.2	10.0	10.6	6.7	5.9	6.7	6.2	5.0	5.2	7.3	9.6	9.7	9.7	7.5	6.7	15.4	9.3	
5	7.6	13.7	17.5	65.6	49.3	52.1	68.6	58.7	65.5	61.9	92.6	86.9	82.4	62.2	57.5	47.2	36.2	33.7	34.4	40.1	47.5	41.9	43.1	54.5	92.6	50.9	
6	77.3	87.6	92.7	94.8	86.7	89.2	85.5	82.3	79.5	76.7	71.3	62.3	56.0	53.2	51.0	40.3	22.6	19.8	21.4	41.5	31.5	31.7	32.8	43.0	94.8	59.6	
7	55.6	80.8	89.6	92.6	95.6	101.0	108.8	115.9	114.5	113.7	107.5	96.2	70.4	66.2	62.4	52.5	61.8	53.5	58.6	63.8	64.0	100.4	103.5	114.0	115.9	85.1	
8	125.2	110.6	115.5	116.3	117.0	127.2	117.0	134.4	130.6	144.8	140.9	135.9	123.8	99.0	122.6	82.3	63.9	58.2	59.6	59.1	57.2	57.4	62.4	58.9	144.8	100.8	
9	59.0	59.8	59.8	57.6	60.0	57.9	57.9	60.7	62.5	64.7	45.0	46.1	40.2	45.1	38.4	26.8	22.6	19.1	10.4	10.0	8.8	11.8	10.9	3.6	64.7	39.1	
10	2.2	2.5	2.4	2.3	2.2	1.9	2.7	5.2	6.9	7.4	8.3	17.1	13.7	20.3	19.8	14.3	14.2	9.3	9.3	2.8	3.6	4.3	3.6	3.6	20.3	7.5	
11	2.6	2.3	2.9	3.1	3.8	5.1	11.3	16.0	17.8	18.7	34.5	17.1	19.8	24.7	25.8	27.3	17.1	13.5	7.7	7.6	6.8	7.7	8.4	9.8	34.5	13.0	
12	10.0	14.7	8.0	6.4	6.1	4.3	5.4	3.2	6.7	3.8	4.7	13.5	19.9	10.9	16.2	15.0	13.5	5.9	4.7	4.8	5.3	3.9	4.6	4.3	19.9	8.2	
13	3.2	3.6	3.6	2.2	2.8	3.6	7.2	11.6	20.7	13.1	7.6	1.6	1.0	1.0	1.4	4.3	2.6	1.7	0.6	0.7	0.5	1.0	0.9	0.7	20.7	4.0	
14	1.4	1.0	1.6	1.9	2.3	2.3	2.0	3.8	2.6	2.8	19.4	11.6	2.5	8.6	14.0	12.5	6.2	8.3	5.8	6.7	6.5	2.5	3.0	19.4	5.5		
15	2.9	3.4	2.6	3.8	3.9	6.5	4.6	5.1	7.6	6.5	7.3	6.6	10.2	17.6	19.4	18.4	16.0	7.0	9.4	4.3	5.4	6.0	7.5	19.4	7.8		
16	12.2	11.2	14.5	15.9	11.4	15.0	15.3	18.1	18.5	24.8	26.0	14.3	17.6	15.2	17.6	14.4	9.1	10.4	10.1	6.8	6.4	6.5	12.7	17.2	26.0	14.2	
17	23.4	24.6	17.8	15.5	16.9	17.5	24.4	21.9	20.5	26.1	24.5	27.0	30.8	25.4	24.7	25.8	27.0	28.1	33.2	33.1	28.2	28.6	32.9	42.1	42.1	25.8	
18	41.6	37.1	36.2	29.6	31.9	110.9	39.1	32.0	42.0	50.0	50.4	26.1	25.4	18.1	15.4	44.1	3.7	1.7	2.4	2.6	2.8	4.1	6.3	12.7	110.9	27.8	
19	14.6	14.7	13.9	14.6	12.5	12.2	17.1	18.5	9.6	5.9	6.8	E	E	E	E	E	E	E	E	E	E	E	E	-	-		
20	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-		
21	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-		
22	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	17.8	18.8	13.4	8.5	9.1	9.6	9.9	11.0	10.8	15.8	-	-
23	12.1	11.0	11.7	13.0	17.9	12.4	11.9	14.9	12.8	13.5	13.1	15.0	12.2	14.7	5.4	6.3	10.5	5.4	6.0	2.9	4.7	3.8	7.1	5.2	17.9	10.1	
24	7.6	7.9	7.4	8.7	10.9	14.6	26.2	13.1	17.3	22.0	9.7	8.6	6.3	12.6	6.4	7.8	6.1	5.6	4.9	3.6	10.1	10.1	7.9	15.9	26.2	10.5	
25	22.1	17.0	11.8	12.5	14.5	11.9	10.3	12.9	28.6	20.5	13.0	18.5	11.7	26.0	33.0	15.6	6.0	4.4	4.9	5.0	11.0	13.3	8.1	9.2	33.0	14.2	
26	9.5	5.4	6.8	11.2	23.0	14.7	12.8	18.0	20.9	13.8	13.3	11.3	13.2	15.1	16.9	11.1	9.8	8.7	3.2	4.5	5.6	9.0	8.0	23.0	11.4		
27	11.2	13.0	8.7	12.9	19.2	17.4	22.9	22.5	24.5	24.6	10.9	8.6	7.2	17.4	32.0	53.2	30.7	4.7	4.5	2.4	12.6	12.1	7.3	8.7	53.2	16.2	
28	22.7	17.3	18.5	17.7	19.8	18.9	24.6	32.8	40.3	39.7	36.4	25.7	34.4	28.4	27.1	80.3	28.3	21.0	26.4	39.5	17.3	17.3	20.0	20.2	80.3	28.1	
29	46.7	80.8	29.5	18.3	14.6	27.8	46.0	36.4	36.1	49.8	21.5	17.6	14.7	16.6	14.6	15.1	10.8	14.4	17.2	24.2	25.9	28.5	37.9	30.3	80.8	28.1	
30	28.9	27.1	27.2	24.4	25.7	27.2	30.0	19.3	11.7	9.8	10.4	9.3	7.0	8.0	23.2	20.3	15.9	7.3	6.3	9.1	10.4	5.7	4.0	3.3	30.0	15.5	
Hourly Max	125.2	110.6	115.5	116.3	117.0	127.2	117.0	134.4	130.6	144.8	140.9	135.9	123.8	99.0	122.6	82.3	63.9	88.1	73.5	63.8	64.0	100.4	103.5	114.0			
Hourly Average	26.8	28.																									

Entrance PM₁₀ ($\mu\text{g}/\text{m}^3$) – September 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	76.3	72.3	70.3	82.9	120.7	89.7	151.8	341.7	347.7	232.1	242.1	225.9	122.4	123.8	92.3	119.9	75.4	67.9	43.1	37.3	30.9	67.4	110.9	98.9	347.7	126.8		
2	58.6	68.9	75.5	58.5	68.6	64.9	192.4	140.0	102.1	89.0	67.2	76.3	77.0	167.5	127.9	144.3	128.3	143.3	99.1	75.9	95.2	119.1	62.0	67.3	192.4	98.7		
3	61.2	39.1	31.9	28.2	29.0	28.4	30.7	27.3	23.3	20.0	21.1	23.3	25.2	25.4	24.1	31.9	76.7	21.0	25.4	15.1	21.9	15.3	33.9	17.6	76.7	29.0		
4	17.5	21.1	17.4	17.8	17.7	18.3	23.8	22.5	36.8	37.0	39.8	38.1	27.5	17.1	21.8	23.0	22.6	19.7	30.6	35.8	32.2	32.9	23.0	16.2	39.8	25.4		
5	18.4	49.3	56.6	453.2	230.2	184.1	272.3	223.6	266.8	182.2	324.7	232.2	148.7	114.7	124.6	108.7	73.9	77.5	81.2	104.9	117.0	75.9	67.6	91.6	453.2	153.3		
6	186.4	234.5	238.2	231.1	201.1	210.2	210.7	229.9	179.9	167.6	128.3	121.8	133.7	122.3	139.0	87.7	83.7	53.0	53.5	155.8	69.9	50.9	55.8	78.6	238.2	142.7		
7	77.7	122.9	150.4	150.2	150.2	196.0	280.3	364.6	361.1	323.4	283.9	283.0	135.0	159.9	166.0	138.7	224.3	123.0	127.2	122.5	87.1	256.0	184.1	304.4	364.6	198.8		
8	397.9	213.9	250.1	294.2	269.1	419.3	326.3	462.0	424.1	491.4	465.3	393.8	308.0	191.3	325.5	200.8	149.0	105.2	91.0	80.4	78.8	79.9	93.7	76.9	491.4	257.8		
9	77.1	78.1	76.4	70.7	78.2	80.0	76.0	86.3	87.7	122.1	124.8	169.2	140.0	214.5	138.4	58.3	50.9	43.7	17.6	19.0	13.5	50.4	68.4	9.3	214.5	81.3		
10	4.5	7.9	5.4	3.3	4.3	3.7	6.7	21.1	35.4	34.3	46.0	89.7	81.8	106.7	124.0	93.5	75.3	41.0	75.9	7.4	15.2	22.4	15.7	15.3	124.0	39.0		
11	9.0	4.0	5.5	6.4	9.0	17.7	49.6	70.3	76.1	70.9	203.2	92.7	120.6	151.5	146.5	160.7	84.9	57.9	21.8	22.2	17.5	17.1	16.8	18.1	203.2	60.4		
12	14.7	53.0	30.1	22.3	23.2	13.3	22.3	15.6	34.6	20.1	24.0	70.5	92.6	52.5	88.5	80.6	62.0	8.6	6.7	7.4	5.0	6.2	5.7	92.6	31.9			
13	4.1	4.5	4.4	2.7	3.6	4.6	10.0	17.3	31.0	19.5	11.3	2.3	1.3	1.5	2.0	6.3	3.7	2.5	0.7	0.8	0.6	1.1	0.9	0.8	31.0	5.7		
14	1.5	1.1	1.8	2.3	2.1	2.7	2.6	2.3	4.6	3.2	3.4	110.5	73.6	5.7	45.3	61.4	57.7	26.5	38.9	8.0	9.5	9.2	2.8	3.8	110.5	20.0		
15	3.7	4.1	3.3	4.8	4.6	8.8	5.3	6.4	10.2	8.6	8.9	8.2	43.9	94.1	107.4	101.2	82.7	33.3	47.2	5.8	6.8	6.2	7.8	10.6	107.4	26.0		
16	18.2	16.4	21.6	23.8	16.9	22.4	23.0	40.8	103.9	145.8	135.0	51.6	90.1	79.4	95.0	74.5	32.0	41.2	38.8	13.1	11.0	9.7	39.6	61.4	145.8	50.2		
17	116.8	124.9	78.7	62.3	60.5	58.2	96.6	95.1	86.2	113.3	52.2	45.5	61.6	39.2	38.7	42.7	51.6	37.1	49.5	59.9	37.5	47.5	74.9	89.9	124.9	67.5		
18	63.7	42.9	45.5	36.5	60.7	512.4	109.8	82.1	142.8	190.3	201.0	88.6	143.6	77.3	61.1	282.2	12.3	3.6	5.8	4.4	4.3	10.5	23.7	48.6	512.4	93.9		
19	31.2	22.0	20.8	21.9	18.7	18.4	25.6	76.4	45.3	30.7	53.9	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
20	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
21	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
22	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	92.9	96.4	58.6	31.2	25.8	13.5	13.3	15.2	15.0	21.5	-	-	-
23	14.9	12.5	13.6	15.3	24.6	16.5	15.7	21.6	18.7	40.3	66.8	81.0	59.1	71.6	17.1	24.0	49.2	14.6	25.8	3.3	6.6	4.6	10.4	7.5	81.0	26.5		
24	11.3	11.6	11.0	13.0	16.3	21.8	39.2	48.1	103.6	151.7	48.6	37.4	22.5	76.4	19.2	27.5	18.8	20.3	16.1	5.8	37.5	48.3	31.7	71.1	151.7	37.9		
25	127.0	90.7	57.3	60.6	65.8	56.1	50.6	74.0	201.8	127.1	88.8	118.6	73.6	185.5	236.1	100.8	35.2	16.4	22.4	15.6	51.7	66.4	37.8	41.0	236.1	83.4		
26	47.9	20.8	28.9	48.9	107.7	71.1	61.0	97.5	140.3	91.2	75.9	98.9	103.3	114.4	118.3	80.3	63.5	63.9	12.9	25.1	28.5	47.7	43.6	40.5	140.3	68.0		
27	68.4	73.9	41.7	68.2	52.9	26.1	34.4	91.6	162.7	149.8	65.5	46.1	36.4	106.4	193.9	349.7	213.5	31.5	26.5	7.3	80.7	56.5	11.7	26.3	349.7	84.2		
28	108.6	76.5	65.9	26.6	29.7	28.4	36.9	113.2	318.4	290.8	249.7	137.5	179.9	177.7	178.9	571.8	205.2	142.7	160.1	224.4	84.5	91.2	94.0	87.1	571.8	153.3		
29	263.1	424.2	138.7	89.1	64.8	215.3	364.9	253.2	275.5	401.9	108.7	99.3	83.0	103.9	97.4	84.3	47.6	45.4	37.3	67.7	68.5	86.4	158.0	90.3	424.2	152.9		
30	86.8	62.2	71.1	55.7	65.5	81.5	121.7	114.9	52.3	48.6	68.7	64.5	42.2	46.0	143.4	149.4	93.3	44.2	29.9	36.5								

Entrance TSP ($\mu\text{g}/\text{m}^3$) – September 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	100.9	51.9	49.4	75.5	151.8	75.0	231.6	685.3	680.8	473.7	701.8	641.2	307.0	291.8	199.1	255.1	158.1	127.2	67.4	49.8	36.6	77.8	139.6	125.0	701.8	239.7		
2	63.6	88.0	75.5	58.2	69.4	83.7	288.9	263.4	216.9	150.8	152.1	224.0	217.4	544.6	387.2	412.7	362.0	387.6	183.6	151.9	165.6	409.2	118.6	88.3	544.6	215.1		
3	75.7	50.2	38.1	39.4	46.5	30.5	53.2	40.5	52.8	33.1	45.4	55.0	44.1	57.9	55.4	81.3	318.2	41.8	53.2	18.4	26.1	16.4	47.9	17.0	318.2	55.8		
4	14.6	17.9	14.7	14.8	21.2	15.0	21.7	24.0	95.5	89.0	93.2	81.9	98.3	33.0	39.8	60.7	55.7	37.5	92.3	62.6	43.0	44.8	23.0	16.8	98.3	46.3		
5	19.1	128.2	106.5	1628.6	722.6	426.6	706.4	523.7	759.3	461.9	821.7	498.7	223.5	173.4	208.5	194.4	128.6	133.8	135.1	157.8	124.3	72.2	62.7	84.5	1628.6	354.3		
6	335.8	441.9	346.6	397.3	404.3	422.2	491.4	673.5	436.6	326.5	198.8	199.8	211.7	178.7	214.9	122.4	231.6	86.2	85.5	192.7	88.6	50.7	54.1	96.7	673.5	262.0		
7	88.5	164.4	248.9	270.9	279.2	402.4	660.7	914.2	963.2	736.8	541.0	537.0	210.8	237.1	225.2	198.2	380.6	186.7	213.4	120.5	82.4	277.1	221.1	702.8	963.2	369.3		
8	831.6	330.3	440.1	715.7	555.1	1059.2	799.6	1170.9	996.1	1081.9	994.0	797.4	536.3	248.7	418.1	439.8	282.2	166.6	118.1	85.6	78.4	80.2	80.0	53.9	1170.9	515.0		
9	52.6	53.2	52.0	47.2	54.2	56.1	52.9	65.8	75.0	180.3	287.4	469.2	388.6	536.4	481.6	148.9	102.4	86.2	30.0	34.2	13.9	73.7	180.4	27.6	536.4	147.9		
10	11.4	28.8	14.7	3.1	11.3	4.3	12.0	66.9	144.3	102.1	165.4	334.5	298.8	353.6	466.0	331.0	224.7	101.6	276.4	18.2	30.7	68.7	43.8	56.2	466.0	132.0		
11	26.2	8.2	6.0	10.3	14.4	62.2	183.8	219.0	236.1	187.9	741.9	371.5	459.1	606.8	526.6	606.2	255.0	171.1	42.8	62.9	36.7	34.2	24.4	21.7	741.9	204.8		
12	15.7	135.6	79.0	47.6	48.0	22.3	48.5	49.6	100.3	61.1	58.7	182.4	235.6	129.2	206.0	185.4	150.0	6.1	4.6	4.5	5.2	3.4	4.3	3.9	235.6	74.5		
13	2.8	2.9	1.9	2.8	3.4	9.5	18.0	34.6	21.5	12.4	2.3	1.2	1.3	1.8	5.7	3.3	2.2	0.5	0.6	0.4	0.8	0.6	0.5	34.6	5.6			
14	1.0	0.7	1.1	1.7	1.4	1.7	1.7	1.5	3.4	2.4	2.6	308.7	212.7	21.4	112.7	208.3	170.5	70.7	105.5	7.6	8.6	7.3	1.9	2.7	308.7	52.4		
15	2.7	2.8	2.4	3.4	3.2	7.0	3.6	4.7	7.2	6.2	6.1	281.0	306.1	307.9	221.2	68.8	93.7	4.8	5.6	4.6	6.1	9.0	307.9	59.6				
16	17.5	14.5	22.1	26.4	16.5	23.2	24.8	127.3	460.0	448.1	336.0	104.1	254.8	245.3	233.7	169.6	57.9	81.6	78.8	30.5	19.1	11.0	52.7	65.8	460.0	121.7		
17	119.3	236.4	223.1	148.0	168.5	131.3	203.6	276.8	254.6	325.9	110.5	62.4	102.9	61.0	63.9	62.7	79.7	41.4	53.9	81.9	43.6	52.9	104.3	174.4	325.9	132.6		
18	105.5	41.0	67.7	35.4	73.5	611.2	149.2	134.0	251.8	321.5	384.1	169.3	391.0	170.1	118.3	886.1	81.0	11.3	15.7	10.6	5.6	16.4	67.0	115.4	886.1	176.4		
19	72.6	25.0	22.8	24.5	20.7	20.2	28.7	222.8	139.6	94.8	287.3	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
20	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
21	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	-		
22	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	356.2	263.4	197.5	100.1	74.7	12.8	12.1	13.5	11.7	20.3	-	-	-
23	10.4	8.5	9.2	10.5	22.1	12.9	12.0	19.8	17.4	96.3	166.1	241.8	156.6	162.4	37.7	70.4	154.0	23.9	57.5	5.6	5.4	3.3	10.2	6.4	241.8	55.0		
24	10.5	11.5	10.5	13.0	17.1	24.1	45.1	136.9	492.1	656.1	186.1	130.8	55.9	149.4	37.5	54.5	31.3	43.5	25.9	7.5	65.5	115.6	59.8	205.0	656.1	107.7		
25	414.7	238.3	167.1	125.2	157.9	168.9	148.0	205.3	721.5	393.8	265.6	320.6	170.4	462.8	597.6	242.4	69.3	31.0	33.6	40.2	84.3	171.2	96.1	721.5	225.7			
26	120.2	50.0	52.9	94.2	200.4	173.1	153.0	209.3	356.9	253.2	177.4	297.4	284.9	297.2	286.3	223.5	129.2	129.0	23.1	65.3	49.7	92.3	108.7	97.2	356.9	163.5		
27	144.7	140.7	106.1	148.6	140.7	29.8	39.7	316.1	589.4	447.2	202.0	132.9	108.7	232.6	397.6	613.2	388.7	82.1	66.6	14.5	125.3	88.4	13.0	74.6	613.2	193.5		
28	274.5	146.9	131.1	30.0	33.8	31.9	42.7	229.8	1082.8	881.4	759.8	292.8	322.0	331.7	361.0	1182.9	513.4	251.7	221.6	251.8	167.7	236.9	161.4	134.5	1182.9	336.4		
29	408.6	471.7	233.2	272.4	202.9	776.2	1335.8	822.0	928.4	1312.4	301.2	241.8	192.2	244.0	273.8	197.8	101.4	88.9	49.0	90.1	92.6	132.3	266.5	143.5	1335.8	382.4		
30	97.3	85.4	106.7</																									

MetOne BAM PM_{2.5} Calibration



AIR QUALITY MONITORING

STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 11:30

OPERATOR: Darrin Pike
DATE: September 11, 2017
END TIME (MST): 13:12

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>624</u>
Serial Number	<u>T19087</u>	Certification Date	<u>02-Dec-16</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 (I)	24.3	647	0.00	16.7
	MEASURED (AF)	24.0	649	0.30	16.74
Adjusted Data	AF Difference (AF-I)	-0.3	2	0.30	0.04
	MEASURED (M)	24.0	649	0.30	16.74
	Adj Difference (M-I)	-0.3	2	0.30	0.04
	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: 1/2 roll left

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): 11:30

OPERATOR: Darrin Pike
DATE: September 11, 2017
END TIME (MST): 12:15

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>624</u>
Serial Number	<u>A3315</u>	Certification Date	<u>02-Dec-16</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 (I)	23.2	649	0.00	16.7
	MEASURED (AF)	<u>23.6</u>	<u>649</u>	<u>0.30</u>	<u>16.70</u>
Adjusted Data	AF Difference (AF-I)	0.5	0	0.30	0.00
	MEASURED (M)	<u>23.2</u>	<u>649</u>	<u>0.30</u>	<u>16.70</u>
	Adj Difference (M-I)	0.0	0	0.30	0.00
	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 roll installed

Nozzle Inspection / cleanliness: Inspected and cleaned

COMMENTS:

Performed self test, all passed.



AIR QUALITY MONITORING

MetOne BAM TSP Calibration

STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 11:30

OPERATOR: Darrin Pike
DATE: September 11, 2017
END TIME (MST): 12:50

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	TSP	Audit Device S/N	624
Serial Number	A3589	Certification Date	02-Dec-16

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 (I)	23.2	649	0.00	16.7
	MEASURED (AF)	23.2	649	0.40	16.64
Adjusted Data	AF Difference (AF-I)	0.0	0	0.40	-0.06
	MEASURED (M)	23.2	649	0.40	12:06
	Adj Difference (M-I)	0.0	0	0.40	0:01
	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: 1/2 roll left

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	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine	Installation	Removal
		Other:	
Start Time (MST)	10:15	End Time (MST)	14:20
Barometric Pressure	651	mmHg	23.0
Calibrator	SABIO 2010	Serial Number	7201211
NO Cal Gas Conc	51.4	ppm	Cal Gas Expiry Date
NOx Cal Gas Conc	51.5	ppm	July 26, 2019
			Cal Gas Serial #
			cc27839

DACS Information

DACS make	Campbell Scientific CR1000	DACS serial No.	67802
Parameter	NO2	NOx	NO
Before	1.007510	0.999680	0.995055
Data Offset	1.470581	2.860663	3.032303
After	0.998039	0.998368	0.999391
Data Offset	1.609560	3.366560	3.333772
Channel #	3	1	2
Voltage Range	0 - 5 VDC	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	1.025		1.010
NO Offset	-0.2	mV	0.2
NOX Slope	1.025		1.010
NOX Offset	0.2	mV	0.2
HVPS	771	V	771
Moly Temp	315.6	degC	316.9
O3 Flow	80	ccm	79
RxCell Press	6.0	inHg	6.0
Sample press	24.0	inHg	24.0
Sample flow	441	ccm	437

Notes: Small Span adjustment made. No issues noted.

Calibration Report



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

Station Information

Calibration Date: September 11, 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 NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	-1.9	-1.9	-1.8	N/A	N/A
1	5000	39.00	398.6	397.8	0.8	396.9	395.6	-0.1	1.0043	1.0055
2	5000	20.00	205.2	204.8	0.4	200.6	200.3	-1.0	1.0228	1.0224
3	7000	14.00	102.8	102.6	0.2	98.6	98.2	-1.3	1.0425	1.0445
AFZ	5000	0.00	0.0	0.0	0.0	-1.9	-1.9	-1.8	0.0000	0.0000
AFS	5000	40.00	408.7	407.9	0.8	400.6	399.6	-0.4	1.0204	1.0208
								Average Correction Factor	1.0232	1.0241

As Found Concentrations: NO_x= 405.3 NO= 404.5 As Found Percent Change NO_x= -0.8% NO= -0.8%

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	-1.9	-1.9	0.0	-1.9	-1.9	-1.8	N/A	N/A	N/A	N/A
NO point	396.6	396.6	0.0	396.9	396.6	-1.1	0.9992	1.0000	N/A	N/A
0.68V	396.6	95.7	300.9	397.1	95.7	299.9	0.9986	1.0000	1.0034	99.7%
0.45V	396.6	220.6	176.0	396.7	220.6	174.5	0.9996	1.0000	1.0084	99.2%
0.30V	396.6	305.3	91.3	397.1	305.3	90.2	0.9986	1.0000	1.0122	98.8%
						Average Correction Factor	0.9990	1.0000	1.0080	99.2%

AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO ₂	NO	ppb	NOx	NO ₂	NO	ppb
Auto zero	1.7	-0.1	2.2	ppb	1.6	-0.3	1.8	ppb
Auto span	383.0	-0.3	381.9	ppb	380.6	-0.2	381.5	ppb

Calibration Performed By: Darrin Pike

Calibration Summary



Parameter **NO₂**

NO₂

Air Monitoring Network

Lafarge - Exshaw

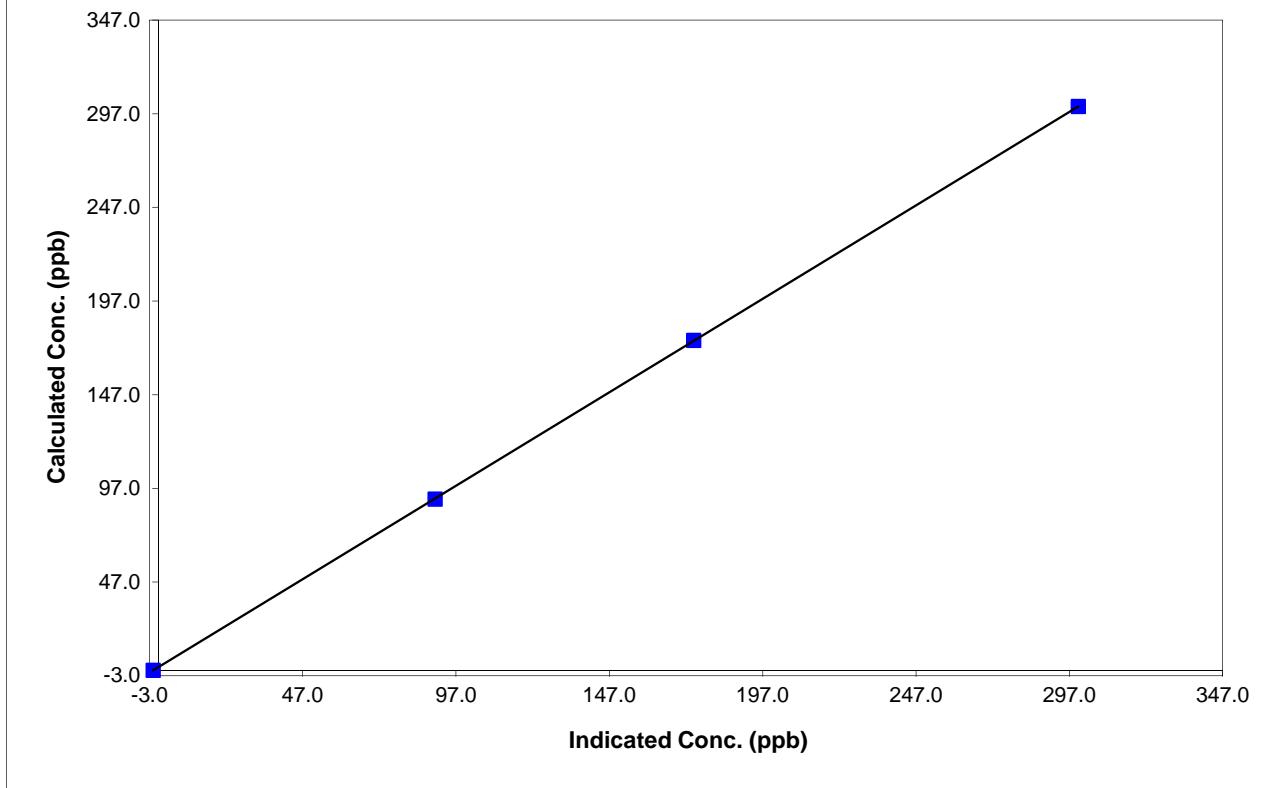
Station Information

Calibration Date	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	10:15	End Time (MST)	14:20
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		
300.9	299.9	1.0034	Correlation Coefficient	0.999997
176.0	174.5	1.0084		
91.3	90.2	1.0122	Slope	0.998039
			Intercept	1.609560

NO₂ Calibration Curve



Calibration Summary



Parameter **NO_x**
Air Monitoring Network L

Lafarge - Exshaw

AIR QUALITY MONITORING

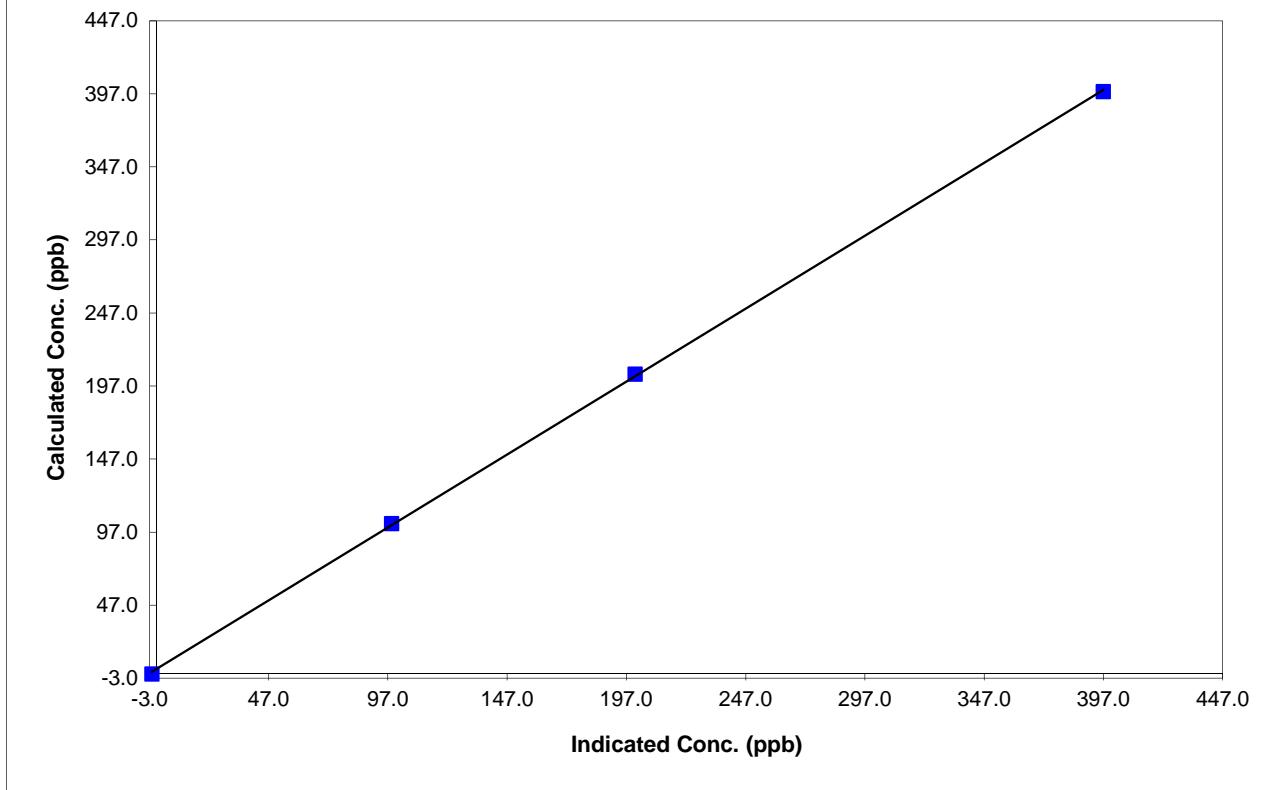
Station Information

Calibration Date	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	10:15	End Time (MST)	14:20
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.9	N/A		
398.6	396.9	1.0043	Correlation Coefficient	0.999924
205.2	200.6	1.0228		
102.8	98.6	1.0425	Slope	0.998368
			Intercept	3.366560

NOx Calibration Curve



Calibration Summary



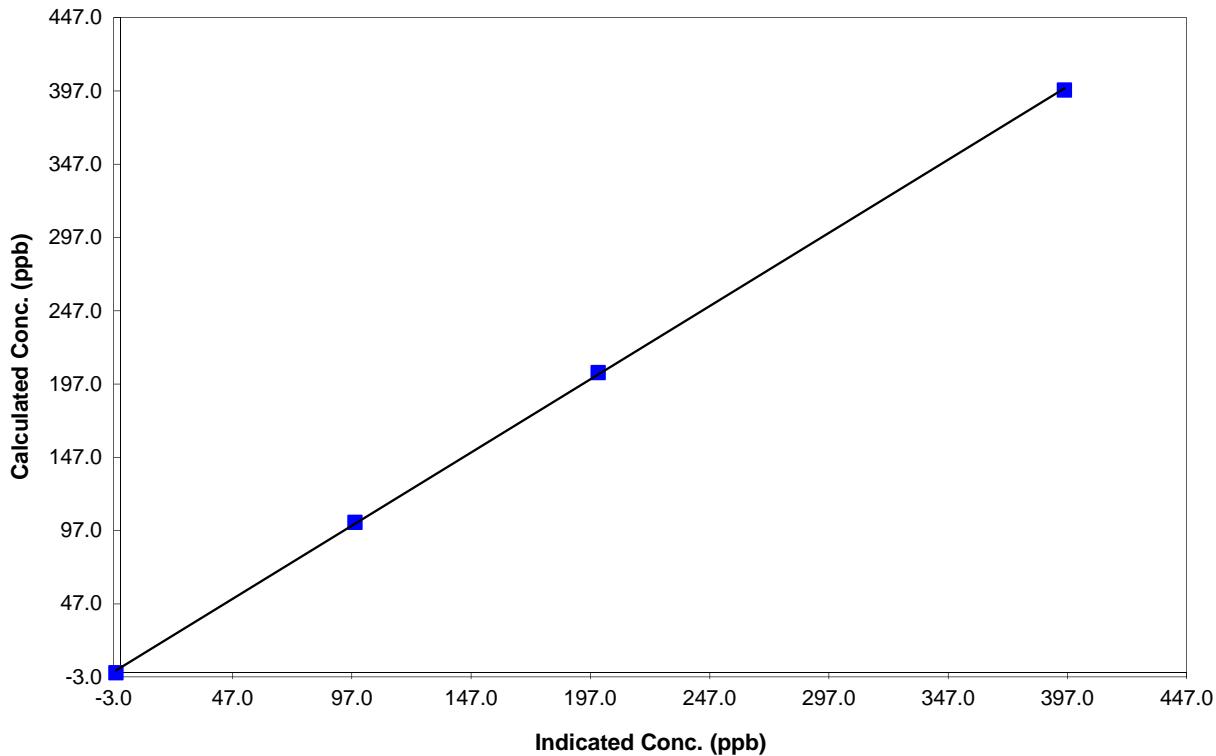
Parameter NO
 Air Monitoring Network Lafarge - Exshaw

Station Information			
Calibration Date	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	10:15	End Time (MST)	14:20
Analyzer make	T200	Analyzer serial #	642

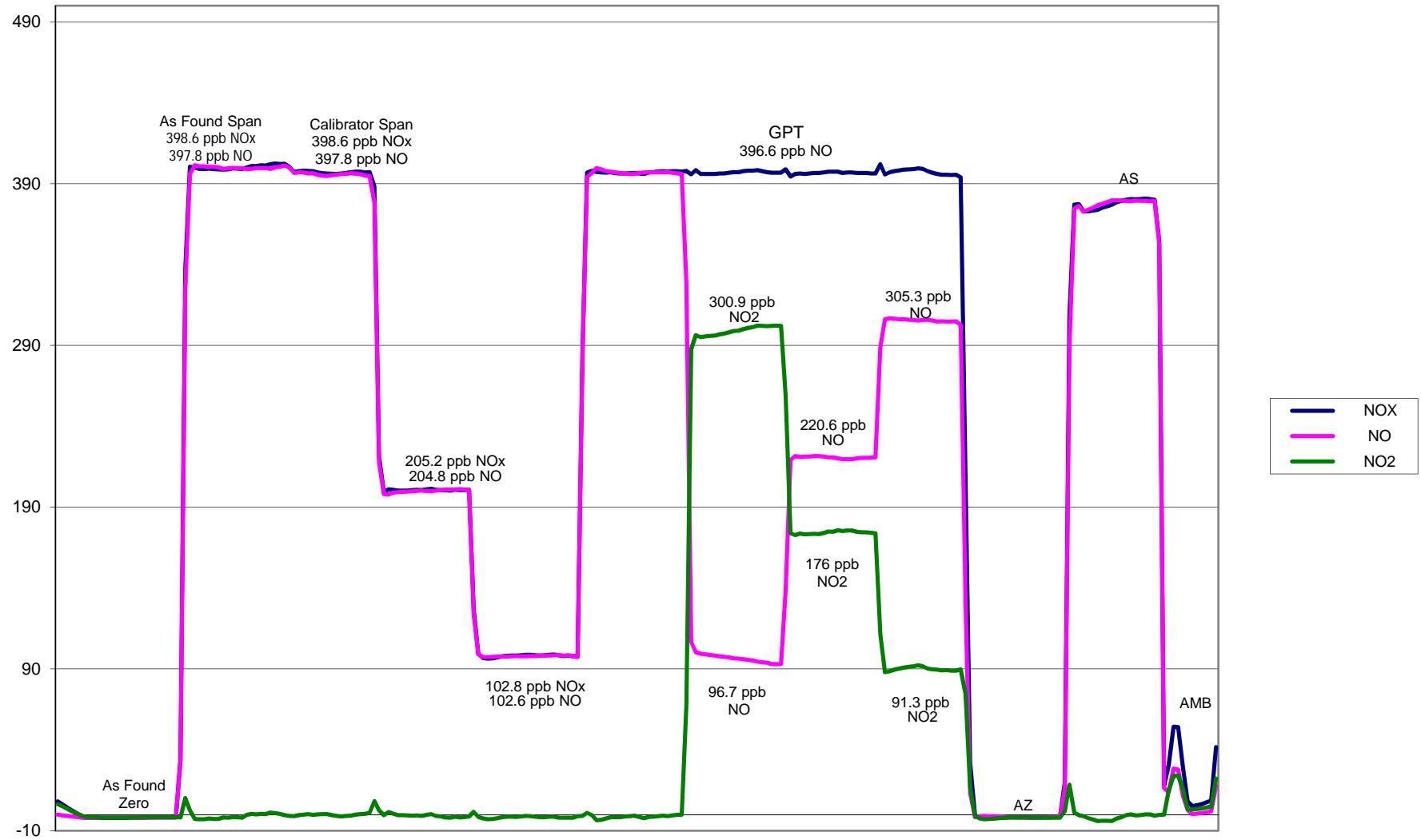
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.9	N/A		
397.8	395.6	1.0055	Correlation Coefficient	0.999933
204.8	200.3	1.0224		
102.6	98.2	1.0445	Slope	0.999391
			Intercept	3.333772

NO Calibration Curve



NOX Calibration



Calibration Report



Parameter **SO₂**
Air Monitoring Network Lafarge - Exshaw

AIR QUALITY MONITORING

Station Information

Calibration Date	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine	Install	Removal
			Other:
Start Time (MST)	10:10	End Time (MST)	14:20
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
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.996757	Calculated slope	0.994786
Calculated intercept	1.503008	Calculated intercept	1.579001

Analyzer make	API Model 102A	Analyzer serial #	393
before		after	
Concentration range	0-500	ppb	0-500 ppb
Slope	0.896		0.897
Offset	47.2	mV	47.2 mV
Pressure	23.6	in Hg	23.6 in Hg
Sample Flow	481	ccm	488 ccm
UV Lamp	2840	mV	2802 mV
HVPS	690	V	690 V
PMT Temp	7.4	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	-0.3	N/A
5000	39.00	393.2	394.4	0.9970
5000	20.00	202.4	201.0	1.0068
7000	14.00	101.4	99.2	1.0224
5000	0.00	0.0	-0.3	As found zero
5000	39.00	393.2	391.7	As found span
Average Correction Factor				1.0087

Calculated value of As Found Response: 392.2 ppm Percent Change of As Found: 0.2%

Auto zero	before calibration		after calibration	
	-0.2	ppm	-0.2	ppm
	376.7	ppm	379.2	ppm

Notes: Span adjustment made.

Calibration Performed By: Darrin Pike

Calibration Summary

Parameter SO₂
Air Monitoring Network Lafarge - Exshaw

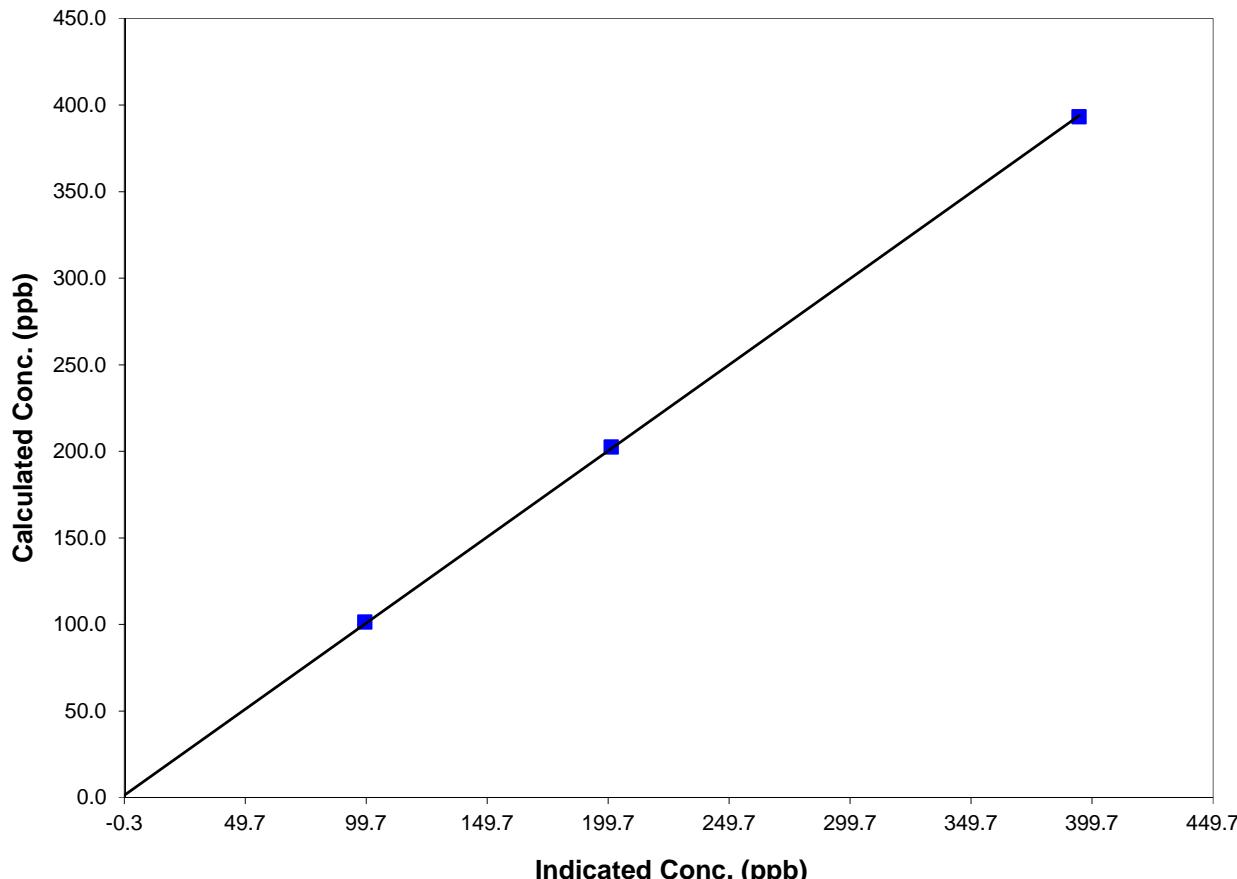


Station Information			
Calibration Date	September 11, 2017	Previous Calibration	August 15, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	10:10	End Time (MST)	14:20
Analyzer make/model	API Model 102A	Analyzer serial #	393

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
393.2	394.4	0.9970	Correlation Coefficient	0.999951
202.4	201.0	1.0068	Slope	0.994786
101.4	99.2	1.0224	Intercept	1.579001

SO₂ Calibration Curve



SO2 Calibration

