

REPORT N° 171-00556-00

AMBIENT AIR QUALITY MONTHLY REPORT

NOVEMBER 2017

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Lafarge Canada Inc.

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

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Project Number: 171-00556-00

December 20, 2017

Janet Brygger
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Dear Ms. Brygger,

Subject: Ambient Air Quality Monthly Report – November 2017

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The operational uptime for the meteorological systems and all analyzers at the Lagoon station was over 99% in November. There were no contraventions of the 24-hour TSP and PM_{2.5} Alberta Ambient Air Quality Objectives (AAAQOs) in November at the Lagoon monitoring location.

All analyzers at the Windridge station had over 99% operational uptime in November. There were 6 days exceeding the 24-hour TSP AAAQO while there were no 24-hour PM_{2.5} AAAQO exceedances.

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 West and Entrance monitors had 100% operational time, Berm monitor had 98.9% operational time due to 8 hours of power outage. The Entrance GRIMM monitor exceeded the 24-hour TSP AAAQO for 13 days and did not exceed the 24-hour PM_{2.5} AAAQO in November while the Berm GRIMM had 15 exceedances of the TSP Objective and 3 exceedances of the PM_{2.5} Objective. The West GRIMM monitor did not record any exceedances of the 24-hour TSP and PM_{2.5} Objective, as well as the 1-hour PM_{2.5} AAAQG. Only the Berm monitor recorded exceedances of the 1-hour PM_{2.5} AAAQG.

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

Sincerely,

Tyler Abel, M.Sc.
Group Manager, Air Quality
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SIGNATURES

PREPARED BY



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1

INTRODUCTION

This report summarizes the ambient air quality and meteorological data collected at the Lagoon, Windridge, 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 November 1, 2017 and November 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

NOVEMBER 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).

2.1

LAGOON STATION

Table 2-1 Lagoon station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
NO ₂ (ppb)	100.0	29.3	0	19.9	-
SO ₂ (ppb)	99.7	9.1	0	2.5	0
PM _{2.5} (µg/m ³)	99.2	25.2	0*	12.9	0
PM ₁₀ (µg/m ³)	100.0	269.7	-	53.0	-
TSP (µg/m ³)	100.0	452.2	-	88.3	0
Temperature (°C)	99.2	13.1	-	9.9	-
Wind Speed (km/hr) /Direction (Degrees)	99.2	54.8/W	-	36.1/WSW	-
Precipitation (mm) ²	99.7	0.8	-	0.1	-

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

² Maximum 24-hour Total Accumulation of Precipitation (mm)

Data Quality Notes:

- There was no exceedance of the 24-hour PM_{2.5} AAAQO or the 1-hour PM_{2.5} AAAQG.
- There was no exceedance of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- WSP technician found that the precipitation analyzer needed GIC reset on the power on November 3rd. The pulse test in the precipitation analyzer indicated that the instrument was working properly.
- PM_{2.5} BAM analyzer's temperature and barometric pressure sensors were replaced on November 14th.
- All Lagoon analyzers were audited by AEP on November 24th. Please note that the audit passed, with the only finding to be an issue with the temperature sensor on the PM_{2.5} BAM. The BP/Temp cable was replaced following the audit results to resolve the identified issue.
- A 72-hour zero sequence was performed on the PM_{2.5} analyzer on November 29th and 30th.

2.2**WINDRIDGE STATION****Table 2-2 Windridge station data summary**

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of AAAQO or AAAQG	Maximum Concentration	Exceedances of AAAQO
PM _{2.5} (µg/m ³)	99.6	37.6	0*	18.9	0
PM ₁₀ (µg/m ³)	99.6	474.3	-	168.2	-
TSP (µg/m ³)	99.6	504.0	-	225.2	6

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

Data Quality Notes:

- There was no exceedance of the 24-hour PM_{2.5} AAAQO or the 1-hour PM_{2.5} AAAQG.
- There were 6 exceedances of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- All Windridge analyzers were audited by AEP on November 24th. Please note that the audit passed with no findings.
- A 72-hour zero sequence was performed on the PM_{2.5} analyzer on November 29th and 30th.

2.3 WEST GRIMM

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

Table 2-3 West station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} (µg/m ³)	100.0	52.0	0*	17.8	0
PM ₁₀ (µg/m ³)	100.0	200.1	-	38.1	-
TSP (µg/m ³)	100.0	340.2	-	55.5	0

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

Data Quality Notes:

- There were no exceedances of the 24-hour PM_{2.5} AAAQO or the 1-hour PM_{2.5} AAAQG.
- There was no exceedance of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

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

2.4 BERM GRIMM

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

Table 2-4 Berm station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} (µg/m ³)	98.9	131.9	10*	47.6	3
PM ₁₀ (µg/m ³)	98.9	1097.0	-	400.4	-
TSP (µg/m ³)	98.9	3000.1	-	1177.1	15

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

Data Quality Notes:

- There were 3 and 15 exceedances of the 24-hour PM_{2.5} and TSP AAAQO, respectively.
- There were 10 exceedances of the 1-hour PM_{2.5} AAAQG.

Calibration/Maintenance Notes:

- The monitor had 98.9% uptime for the month of November due an 8-hour power outage on November 12th.

2.5**ENTRANCE GRIMM**

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

Table 2-5 Entrance station data summary

Parameter	Data Completeness (%)	1-Hour Average		24-hour Average	
		Maximum Concentration	Exceedances of Guidelines	Maximum Concentration	Exceedances of Guidelines
PM _{2.5} (µg/m ³)	100.0	53.7	0*	21.6	0
PM ₁₀ (µg/m ³)	100.0	387.0	-	82.1	-
TSP (µg/m ³)	100.0	2033.8	-	402.2	13

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

Data Quality Notes:

- There were 0 and 13 exceedances of the 24-hour PM_{2.5} and TSP AAAQO, respectively.
- There was no exceedance of the 1-hour PM_{2.5} AAAQG.

Calibration/Maintenance Notes:

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

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 November 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 was calibrated on November 9th and audited on November 24th. The monitor had 100% uptime in November.

3.1.2 SO₂ MONITORING

The SO₂ monitor was calibrated on November 9th and audited on November 24th. The monitor had 99.7% uptime.

3.1.3 PM MONITORING

All BAM monitors were calibrated on November 14th and audited on November 24th. The PM_{2.5} monitor had 99.2% operation time due to the removal installation of the temperature / BP sensor on November 14th as well as the maintenance work on November 23rd to prepare for the audit. Also, a 72-hour zero sequence was performed on the PM_{2.5} analyzer on November 29th and 30th. The operation time for the PM₁₀ and TSP monitors was 100%.

3.1.4 METEOROLOGICAL MONITORING

All meteorological sensors had over 99% uptime for the month of November due to 6 hours of maintenance work on November 23th to prepare for the audit. WSP field technician was sent out to inspect the precipitation gauge on November 3rd. Pulse tests confirmed that the gauge was working properly. The technician was sent out again to verify if the precipitation monitor was in working

condition as it had previously been noted that precipitation recorded at a nearby Environment Canada site was not recorded. The instrument was found to be functioning properly, and no damage was found.

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 November 2017. Table 3-2 summarizes the hourly and daily concentrations recorded in November 2017. Figure 3-4 graphically illustrates the time series for hourly concentrations as well as wind speed and direction, while Figure 3-5 shows daily average concentrations recorded during November 2017 for the pollutants listed in Table 3-2.

There was no exceedance of both the 24-hour TSP ($100 \mu\text{g}/\text{m}^3$) and $\text{PM}_{2.5}$ ($30 \mu\text{g}/\text{m}^3$) AAAQO. Historically in November, there were 2 exceedances of the 24-hour TSP AAQO in 2010 and no exceedances of the 24-hour $\text{PM}_{2.5}$ AAQO.

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 November 12, 2016.

The wind rose (Figure 3-3) indicates that the winds predominantly came from the west, following 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. Similar to October, the frequency of high wind speeds over 20 km/h in November was very high. These high wind speeds accounted for roughly 44% of all hourly wind speed records this month. The substantial increase in the wind intensity was responsible for the peak concentrations of particulate matter.

Table 3-2 Summary of November 2017 data at Lagoon

Parameter	Guideline / Objectives		Station	Exceedances		Monthly Average	1-hour					24-hour		Operational Time (Percent)
	1-hr	24-hr		1-hr	24-hr		Maximum Concentration/ Meteorological Variable	Day	Hour	Wind Speed (km/hr)	Wind Direction (degrees)	Maximum Concentration/ Meteorological Variable	Day	
NO ₂ (ppb)	159	-	Lagoon	0	-	6.1	29.3	8	7	5.7	233.4	19.9	8	100.0
SO ₂ (ppb)	172	48	Lagoon	0	0	1.1	9.1	6	12	26.7	284.3	2.5	17	99.7
PM _{2.5} (µg/m ³)	80	30	Lagoon	0	0	3.8	25.2	17	9	15.2	60.7	12.9	8	99.2
PM ₁₀ (µg/m ³)	-	-	Lagoon	-	-	25.4	269.7	29	19	36.1	259.9	53.0	29	100.0
TSP (µg/m ³)	-	100	Lagoon	-	0	30.4	452.2	29	19	36.1	259.9	88.3	29	100.0
Temperature (°C)	-	-	Lagoon	-	-	-1.6	13.1	26	13	27.3	265.6	9.9	22	99.2
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	20.5	54.8/W	19	4	54.8	254.0	36.1/WSW	28	99.2
Precipitation (mm)	-	-	Lagoon	-	-	0.0	0.8	26	19	3.8	72.0	0.1	26	99.7

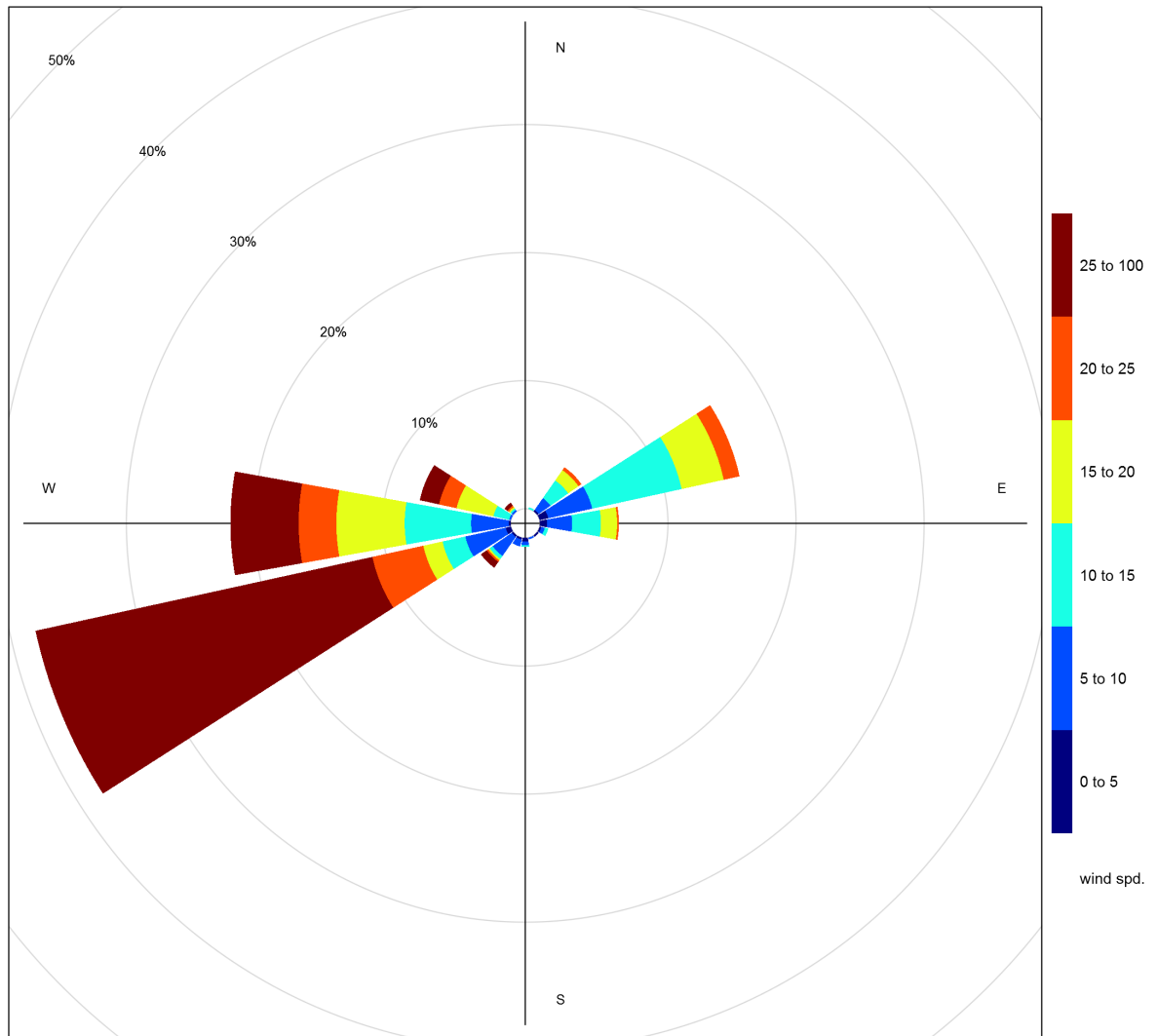


Figure 3-3 November 2017 wind rose from the Lagoon Station

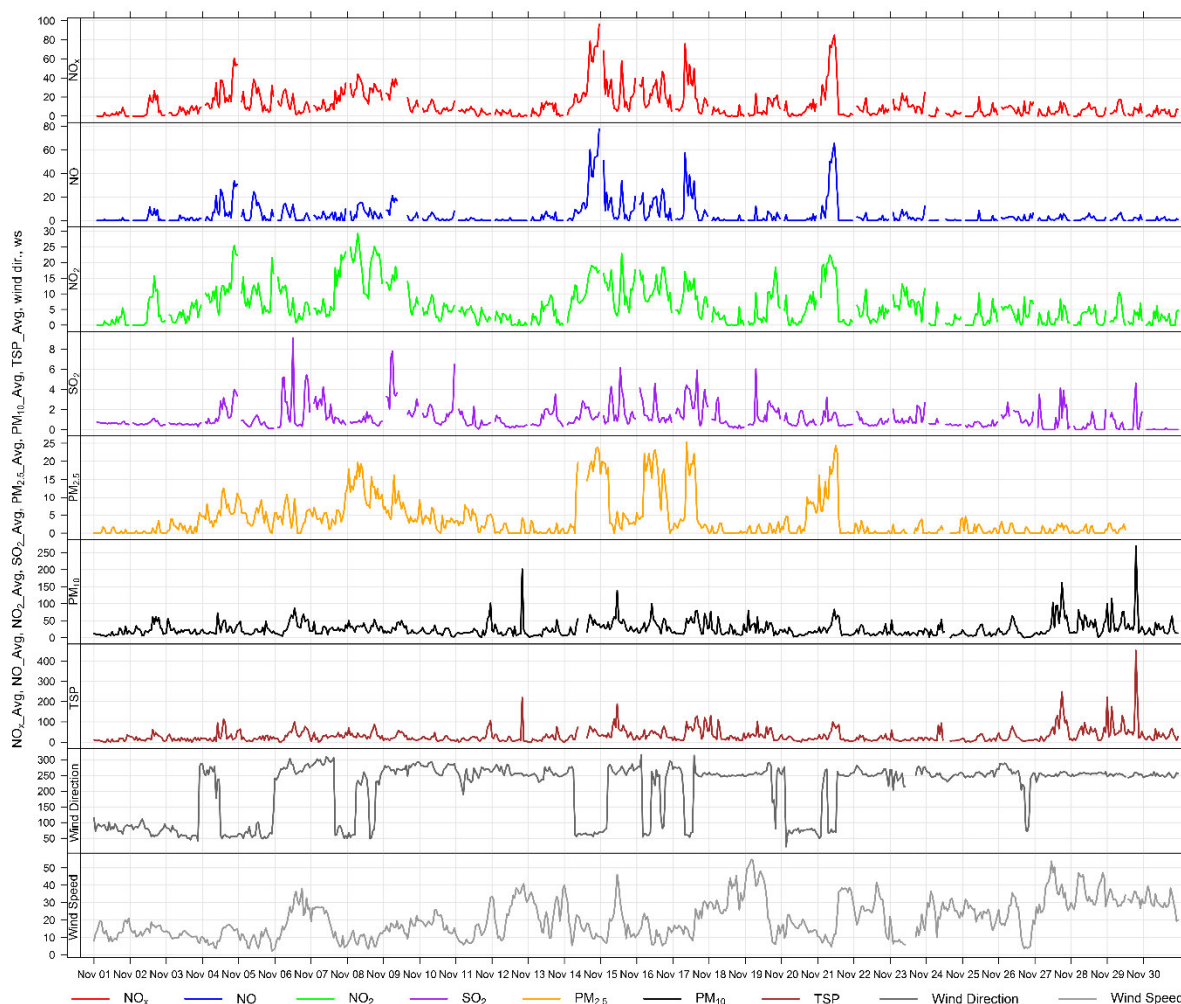


Figure 3-4 1-hour concentrations of NO_x, SO₂, particulate matter, wind direction and wind speed at the Lagoon monitor

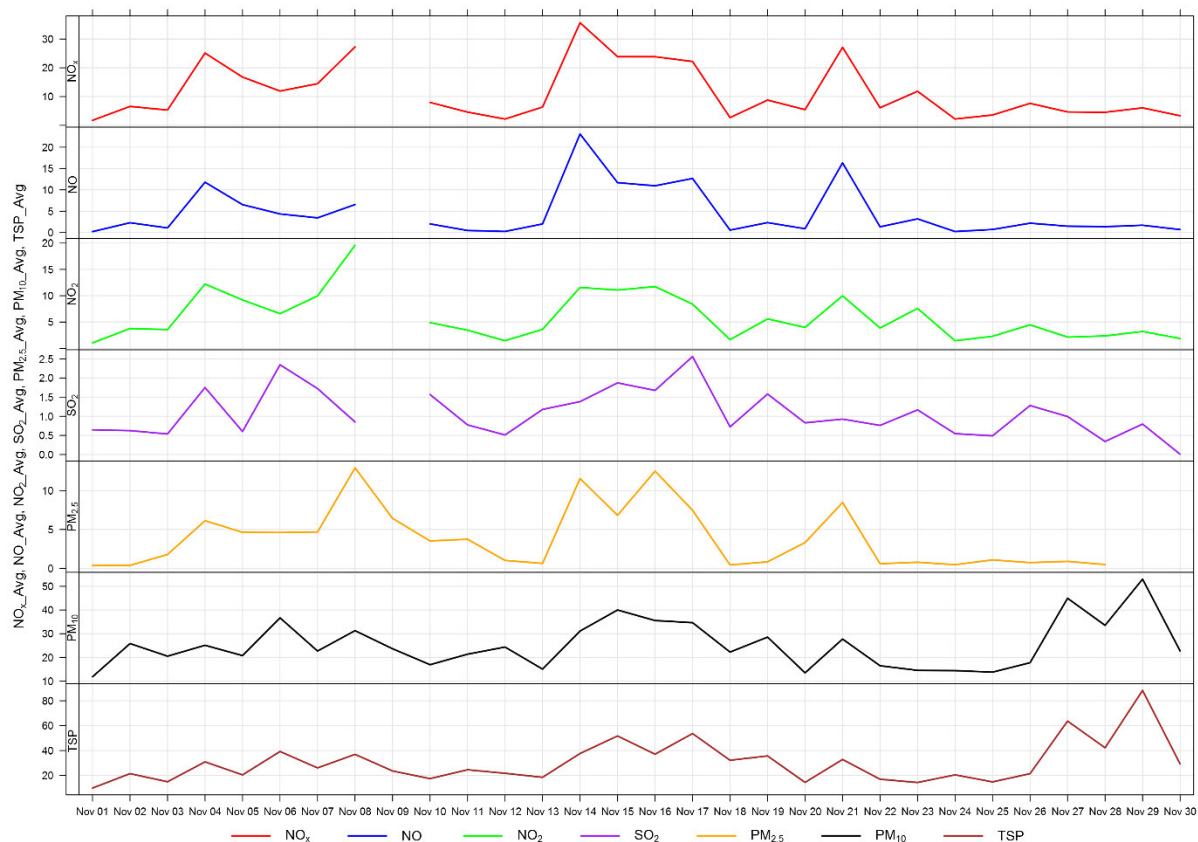


Figure 3-5 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

Figure 3-6 through Figure 3-8 show the variation in concentrations over various time averaging periods for PM, SO₂ and NO_x. The particulate matter plot in Figure 3-6 shows that PM₁₀ and TSP concentrations tended to show less of a diurnal pattern as other months and may have been more impacted by the wind speed patterns during this month. PM₁₀ and TSP are generally associated with dust from fugitive sources.

Figure 3-7 shows the variation of SO₂ over various time periods. SO₂ concentrations were very low in November. Figure 3-8 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.

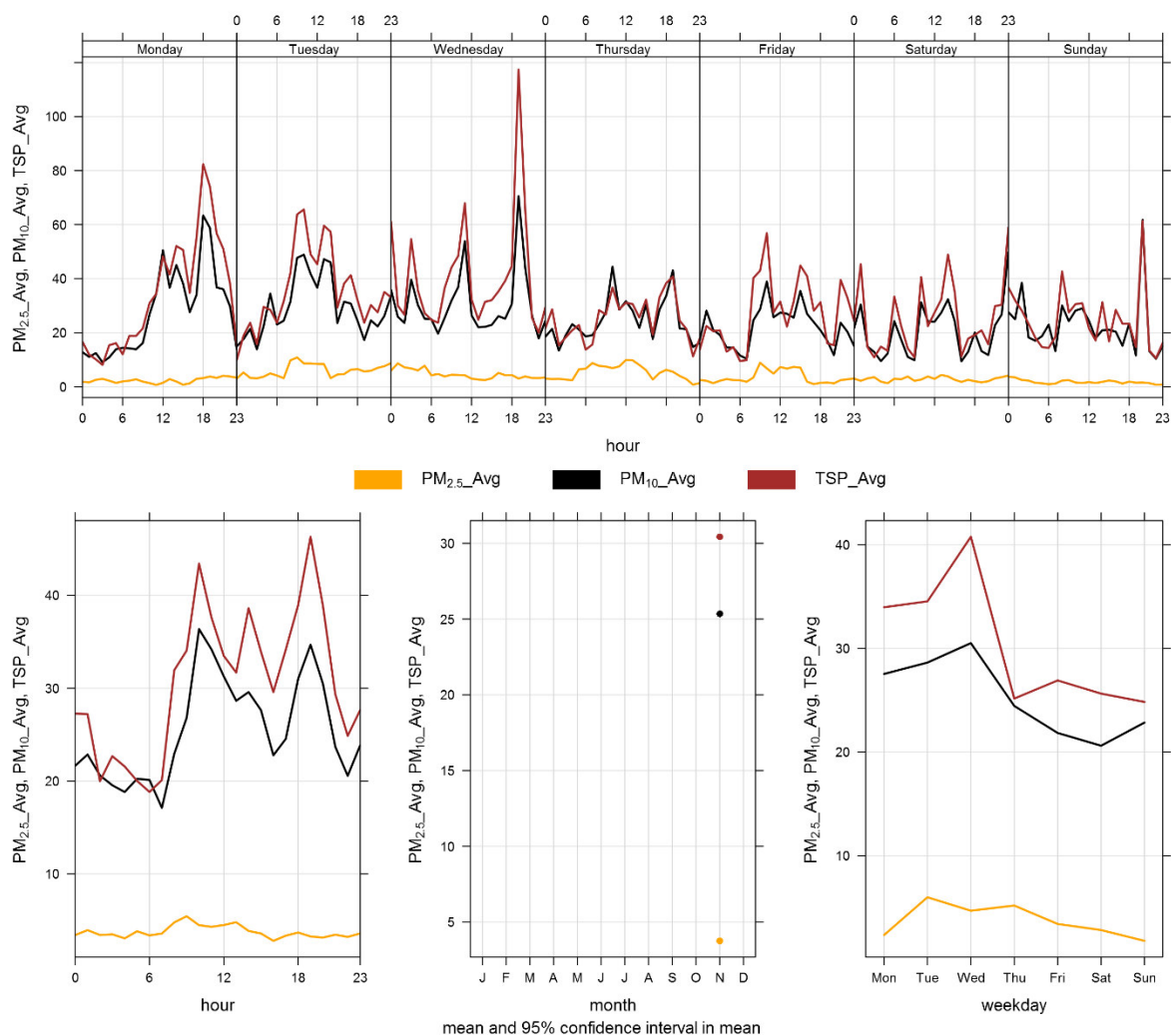


Figure 3-6 Lagoon Monitor particulate matter time variation

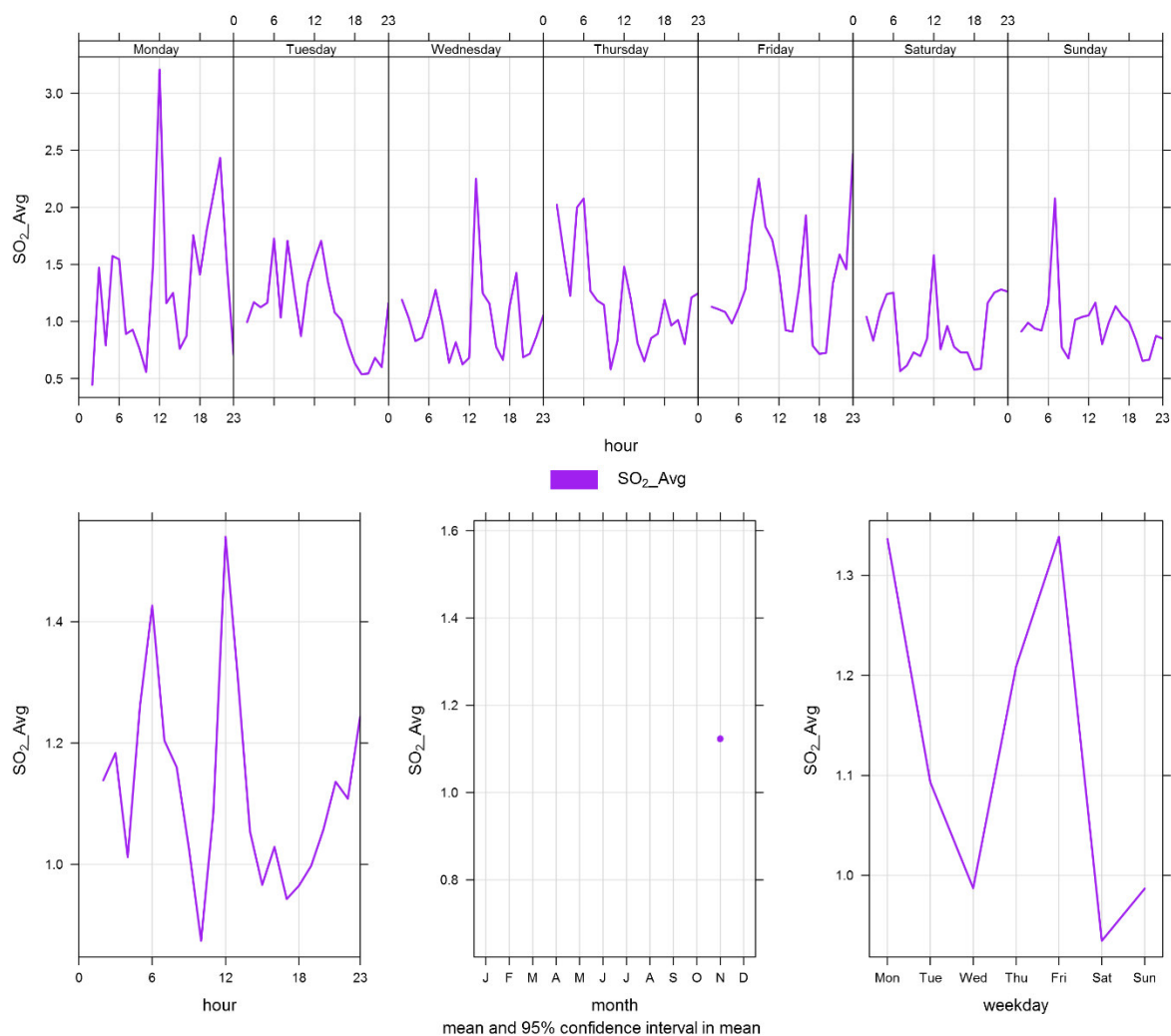


Figure 3-7 Lagoon Monitor SO₂ time variation

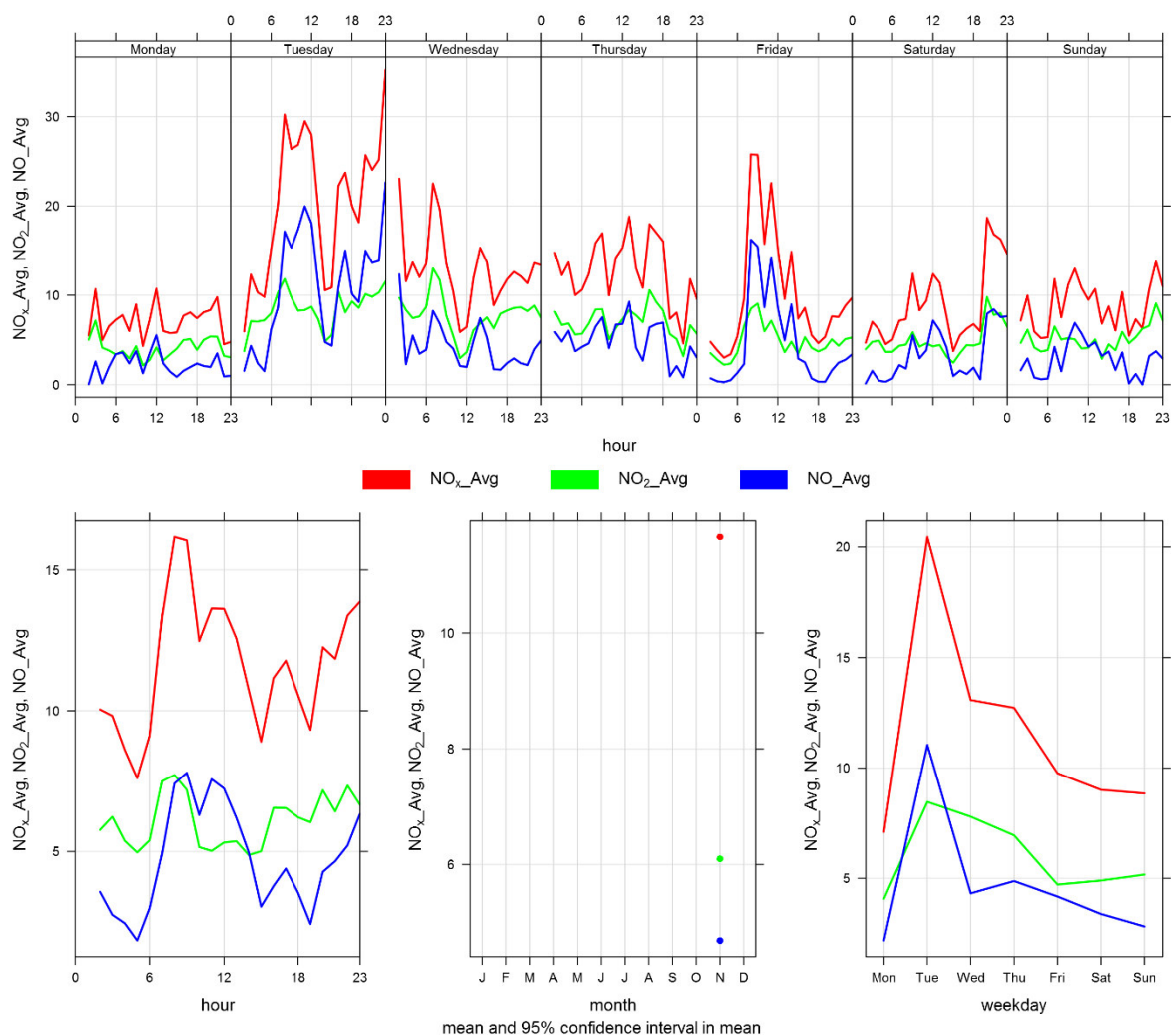


Figure 3-8 Lagoon Monitor NO_x time variation

4 WINDRIDGE STATION

4.1 SITE VISIT NOTES

The Windridge station contains TSP, PM₁₀, and PM_{2.5} analyzers only. This section provides a summary of the monitoring activities for the Windridge ambient air quality station, including: a table of instrumentation (Table 4-1), site visit notes, wind rose (Figure 4-3) and tables and graphs illustrating the monitoring results for November 2017.

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

Table 4-1 Equipment at the Windridge monitoring location

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

4.2 SITE VISIT NOTES

All BAM monitors were calibrated on November 14th and audited on November 24th. Also, a 72-hour zero sequence was performed on the PM_{2.5} analyzer on November 29th and 30th. The operation time for the all BAM monitors was 99.6% due to 3 hours of instrument error on November 15th.

4.3 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 4-3) illustrates the frequency of wind speed by wind direction for the month of November 2017. Table 4-2 summarizes the hourly and daily concentrations recorded in November 2017. Figure 4-4 illustrates the time series for hourly PM.

There were 6 exceedances of the 24-hour TSP (100 µg/m³) and no exceedance of the PM_{2.5} (30 µg/m³) AAAQO.

Based on the limited data record at this station, it appears that PM concentrations at this station are highest during high wind speed events from the WSW. Historically, November wind speeds tend to be amongst the highest wind speeds recorded over the year. The wind rose (Figure 4-3) shows the 6 days exceeding the 24-hour TSP Objective. During the exceedance days, the winds were predominantly from the WSW and over 30 km/hr.

Table 4-2 Summary of November 2017 data at the Windridge Station

Parameter	Guideline / Objective		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	Windridge	0	0	10.5	37.6	21	12	12.0	69.5	18.9	14	99.6
PM ₁₀ (µg/m ³)	-	-	Windridge	-	-	50.7	474.3	27	18	40.5	257.9	168.2	27	99.6
TSP (µg/m ³)	-	100	Windridge	-	6	71.3	504.0	27	23	26.9	249.4	225.2	27	99.6

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

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Windridge						
11/17/2017	104.3	-	263.4	18.4	59.9	
11/18/2017	168.3	-	250.5	31.8	40.0	High wind event
11/19/2017	167.4	-	256.7	33.4	51.7	High wind event
11/27/2017	225.2	-	251.6	34.6	34.8	High wind event
11/28/2017	193.0	-	255.6	36.1	47.7	High wind event
11/29/2017	191.2	-	251.6	32.0	37.6	High wind event
Total # of Exceedances	6	0				

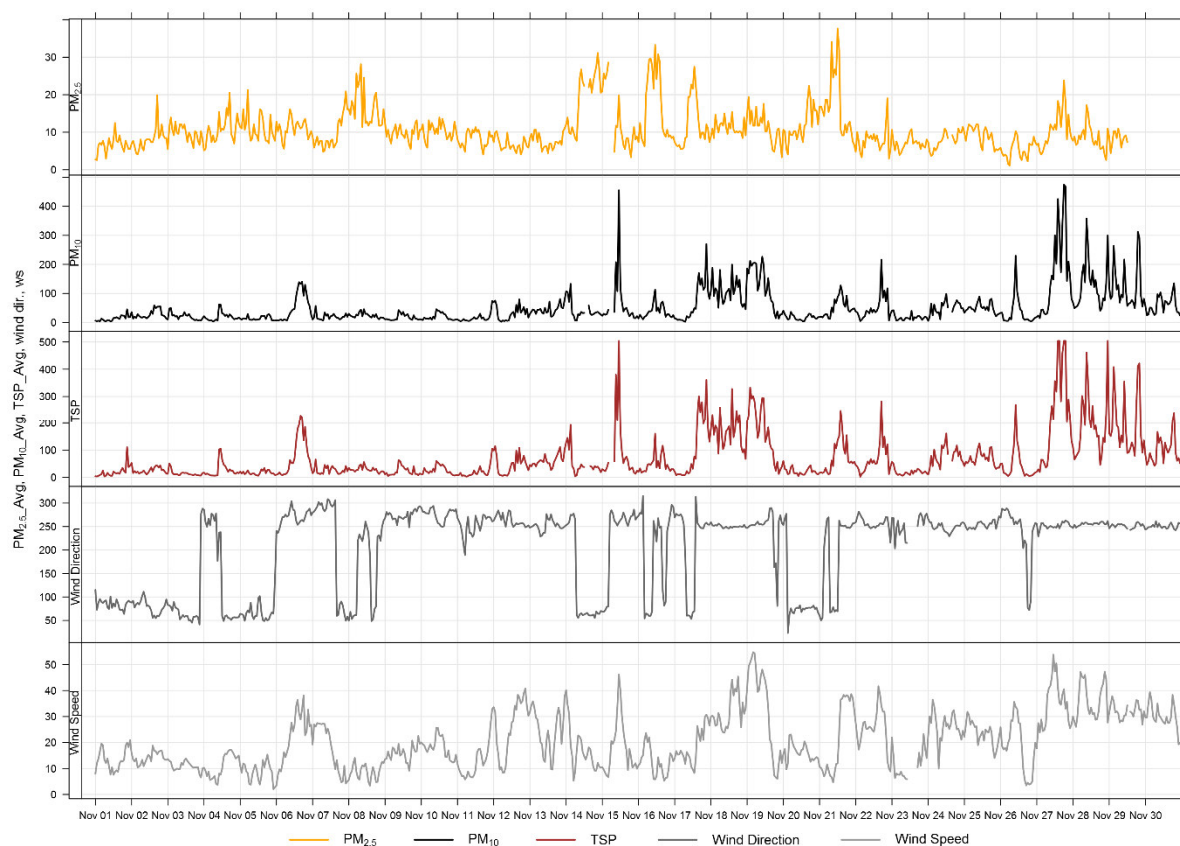


Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

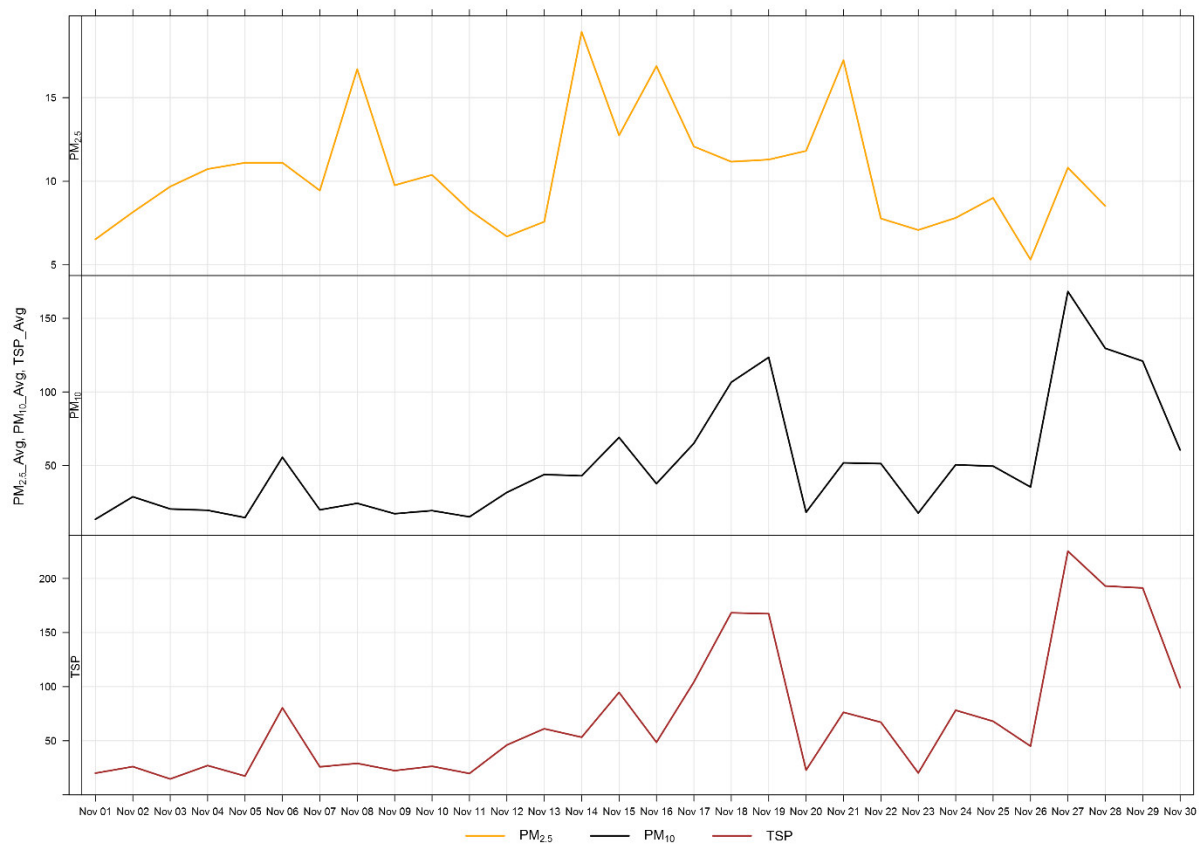


Figure 4-2 24-hour particulate matter concentrations at the Windridge monitor

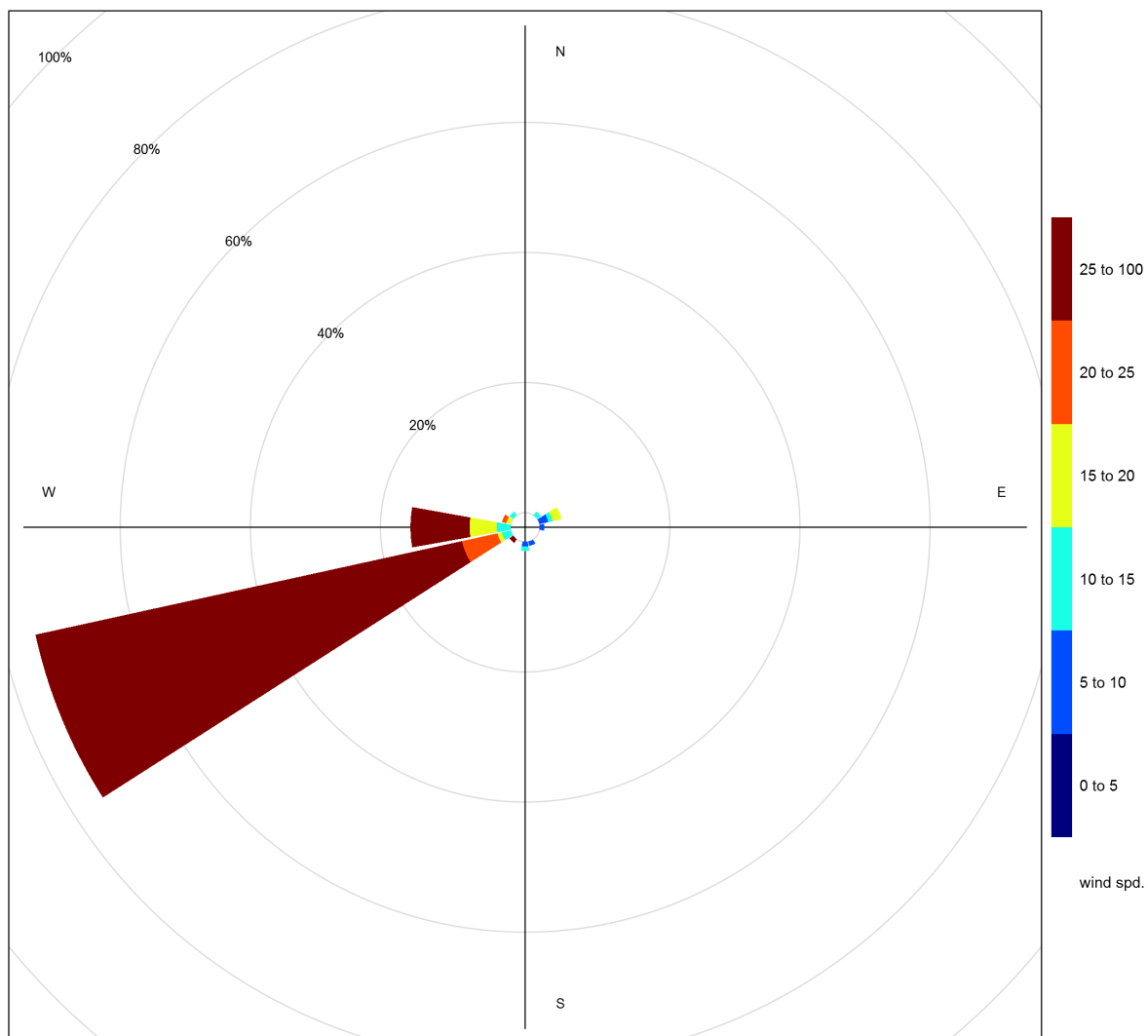


Figure 4-3 Wind rose for TSP exceedance days recorded at the Windridge Station

Figure 4-4 Figure 7-4 illustrates the hourly PM concentrations recorded at the Windridge monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 4-4 is based on data collected during November 2017 and indicates a diurnal pattern that is similar to the Lagoon station and will be analyzed as the data record is added to at this station.

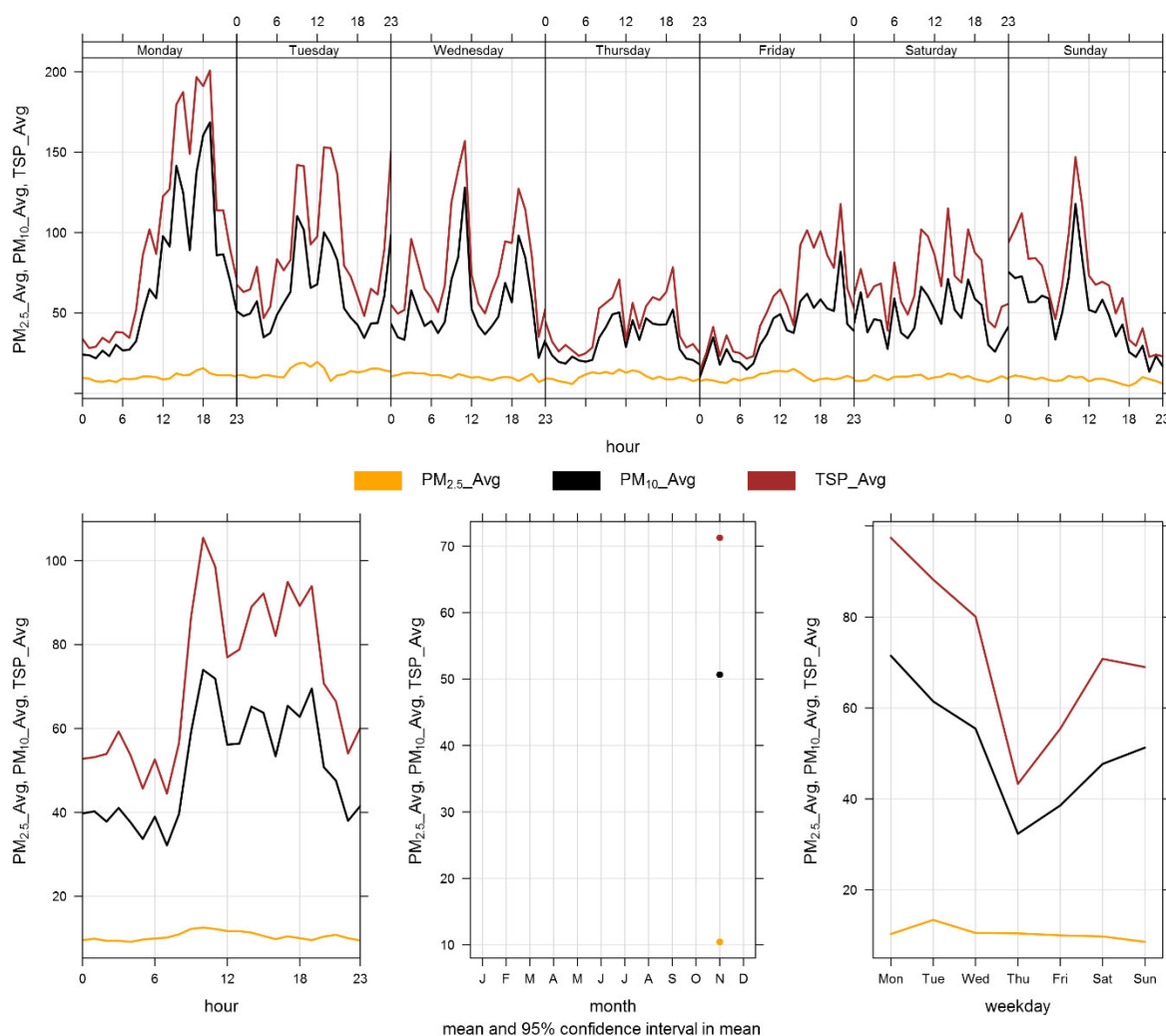


Figure 4-4 Windridge particulate matter time variation

5

WEST GRIMM

5.1 SITE VISIT NOTES

Table 5-1 indicates the equipment that is installed at the West monitoring location. During the month of November, the West GRIMM had 100% uptime.

Table 5-1 Equipment at the West 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 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 November. Table 5-2 summarizes the maximum 1-hour and 24-hour concentrations recorded over the course of the month.

Figure 5-1 and Figure 5-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. There was no exceedance of both the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) guidelines. Exceedances of the TSP guideline at the West monitor in November are rare, with an average of 1 day exceeding the guideline. In 2012, a maximum of 5 TSP exceedance days and 1 PM_{2.5} exceedance day were observed.

Table 5-2 Summary of November 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} (µg/m ³)	80	30	West	0	0	5.0	52.0	21	11	11.7	72.2	17.8	14	100.0
PM ₁₀ (µg/m ³)	-	-	West	-	-	12.3	200.1	21	11	11.7	72.2	38.1	14	100.0
TSP (µg/m ³)	-	100	West	-	0	23.3	340.2	21	11	11.7	72.2	55.5	21	100.0

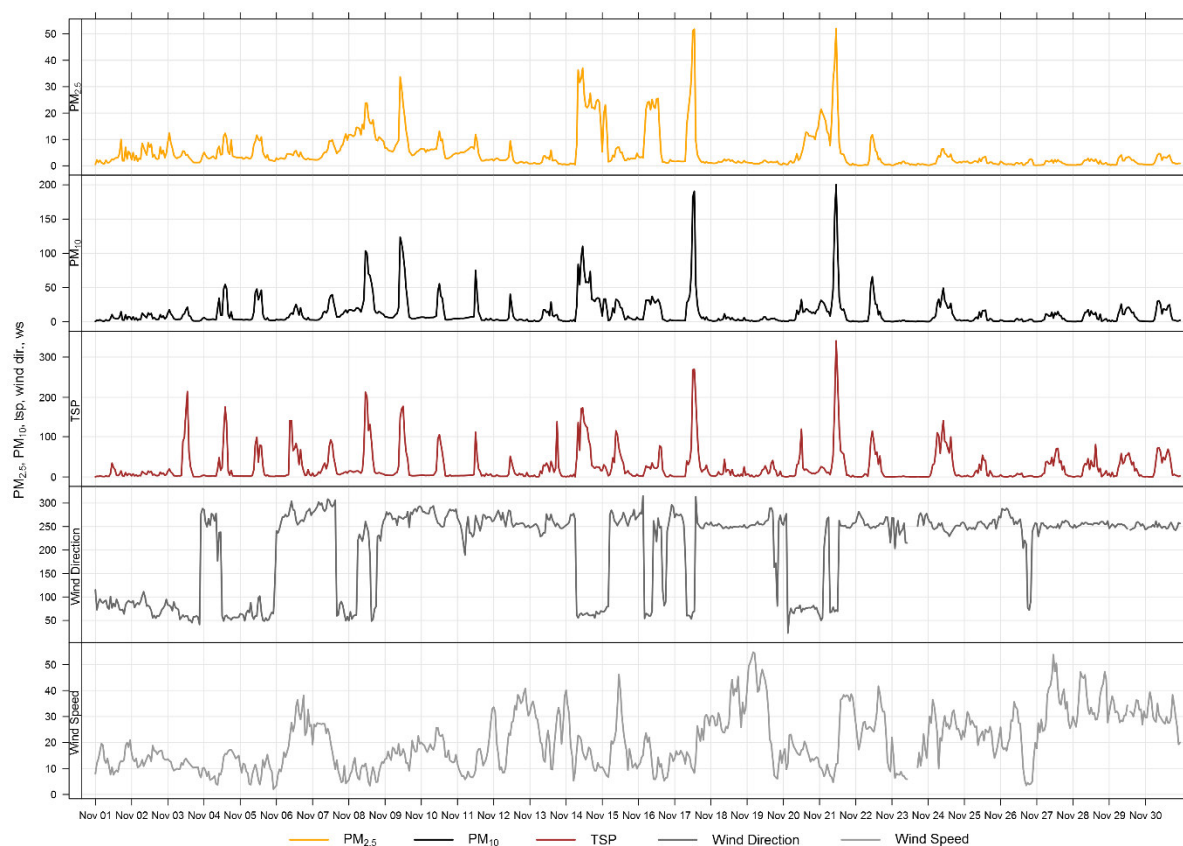


Figure 5-1 1-hour particulate matter concentrations at the West monitor

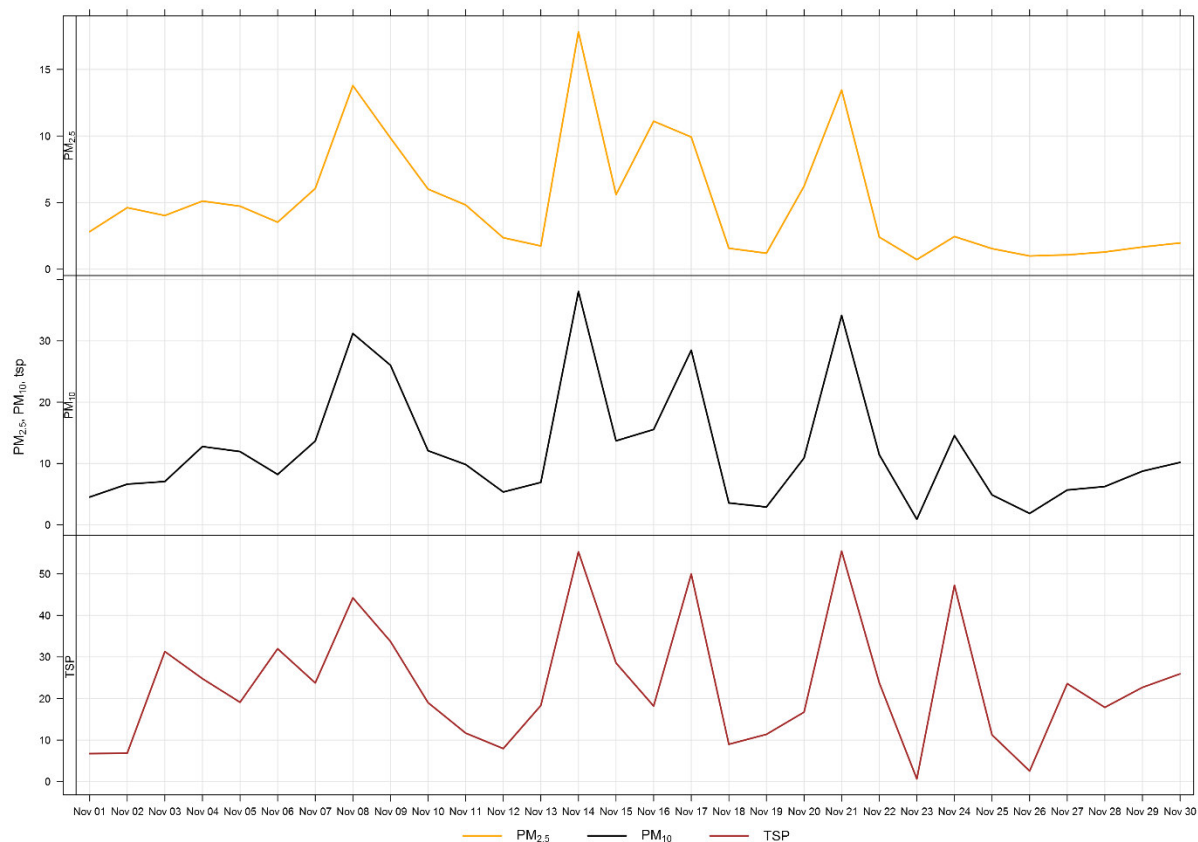


Figure 5-2 24-hour particulate matter concentrations at the West monitor

Figure 5-3 illustrates the hourly PM concentrations recorded at the West monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 5-3 is based on data collected during November 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.

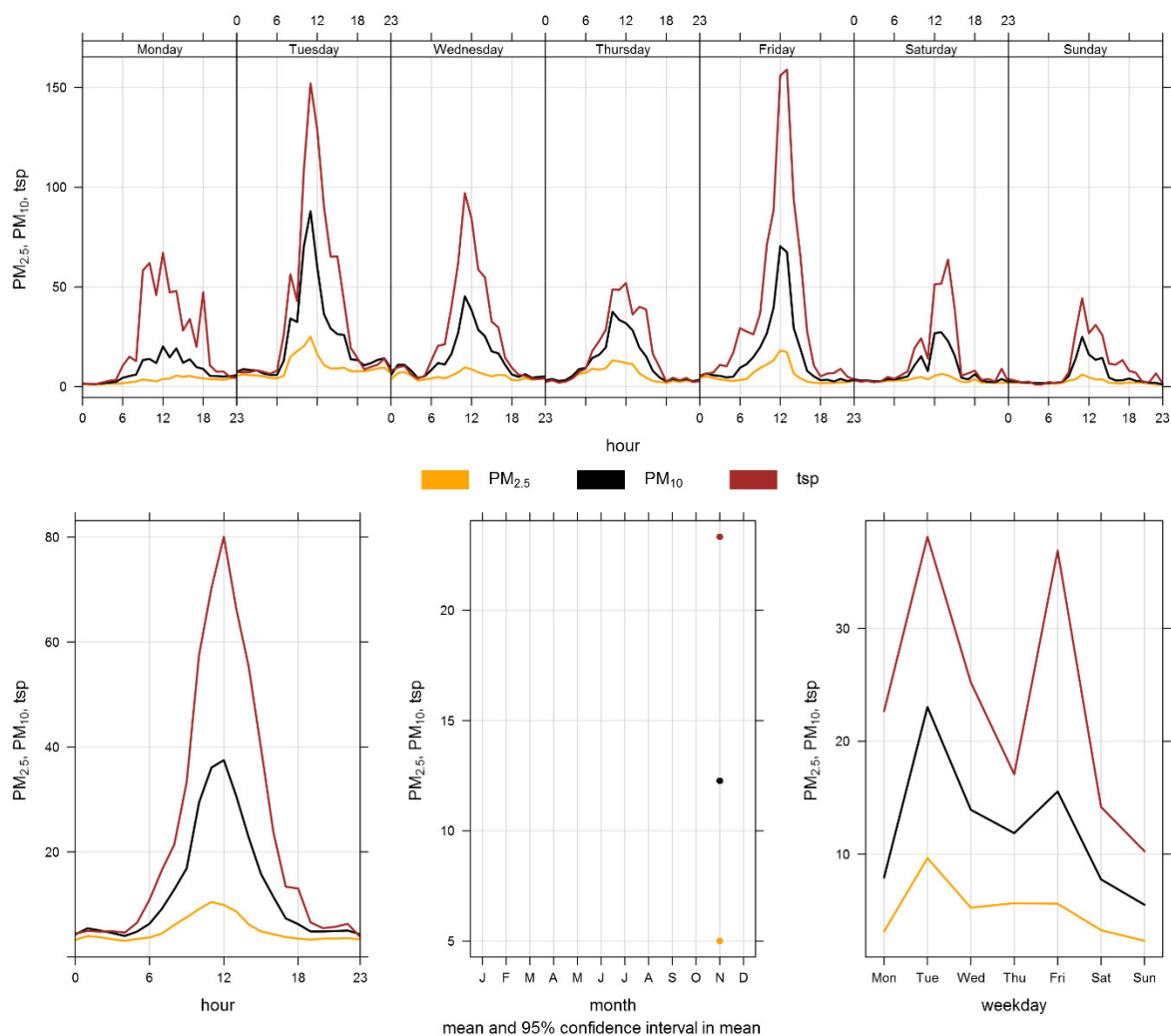


Figure 5-3 West particulate matter time variation

6

BERM GRIMM

6.1

SITE VISIT NOTES

This station was found to be in good operating condition and no repairs were required during the month. During the month of November, the Berm GRIMM had 98.9% uptime due to 8 hours of power outage.

Table 6-1 Equipment at the Berm 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 Berm monitor was placed at its current location as a result of the dispersion modelling conducted for the facility in 2009. Figure 6-1 and Figure 6-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. Table 6-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month, and Table 6-3 summarizes the recorded exceedances.

In November, there were 15 and 3 exceedances of the 24-hour TSP (30 µg/m³) and PM_{2.5} (100 µg/m³) guidelines, respectively. Historically, the Berm monitor records an average of 17 and 0 exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively, during the month of November. The largest number of TSP exceedances recorded during November occurred in 2011, which had 23 days that exceeded the guideline. The fewest number of TSP exceedances was recorded during November 2015, which had 12 days that exceeded the guideline. The largest number of PM_{2.5} exceedances recorded during November occurred in 2011, 2012, 2014, and 2015, which had 1 day that exceeded the guideline.

As mentioned previously, in November, the frequency of high wind speeds over 20 km/h was high. These high wind speeds accounted for roughly 44% of all hourly wind speed records this month. The substantial increase in the wind intensity was responsible for the high concentrations of particulate recorded in November.

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 November.

Table 6-2 Summary of November 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} (µg/m ³)	80	30	Berm	10	3	13.1	131.9	27	18	40.5	257.9	47.6	27	98.9
PM ₁₀ (µg/m ³)	-	-	Berm	-	-	79.9	1097.0	27	14	41.1	255.1	400.4	27	98.9
TSP (µg/m ³)	-	100	Berm	-	15	233.8	3000.1	27	14	41.1	255.1	1177.1	27	98.9

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

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Berm						
11/6/2017	335.3	-	271.7	22.6	65.8	High wind event
11/13/2017	169.8	-	251.4	24.6	47.9	High wind event
11/15/2017	252.7	-	268.0	18.2	59.5	
11/17/2017	394.3	-	263.4	18.4	59.9	
11/18/2017	707.4	34	250.5	31.8	40.0	High wind event
11/19/2017	686.5	-	256.7	33.4	51.7	High wind event
11/21/2017	209.8	-	253.5	21.3	70.2	High wind event
11/22/2017	144.6	-	256.8	25.5	53.4	High wind event
11/24/2017	175.2	-	248.0	26.3	43.5	High wind event
11/25/2017	176.4	-	252.7	23.6	43.1	High wind event
11/26/2017	118.7	-	264.5	18.4	63.7	
11/27/2017	1177.1	48	251.6	34.6	34.8	High wind event
11/28/2017	818.2	33	255.6	36.1	47.7	High wind event
11/29/2017	709.8	-	251.6	32.0	37.6	High wind event
11/30/2017	401.1	-	250.1	30.0	42.3	High wind event
Total # of Exceedances	15	3				
Maximum # of Exceedances (November)	23 (2011)	1 (2011, 2012, 2014, 2015)				
Average # of Exceedances (November)	17	1				
Minimum # of Exceedances (November)	12 (2015)	0 (2010, 2013, 2016)				

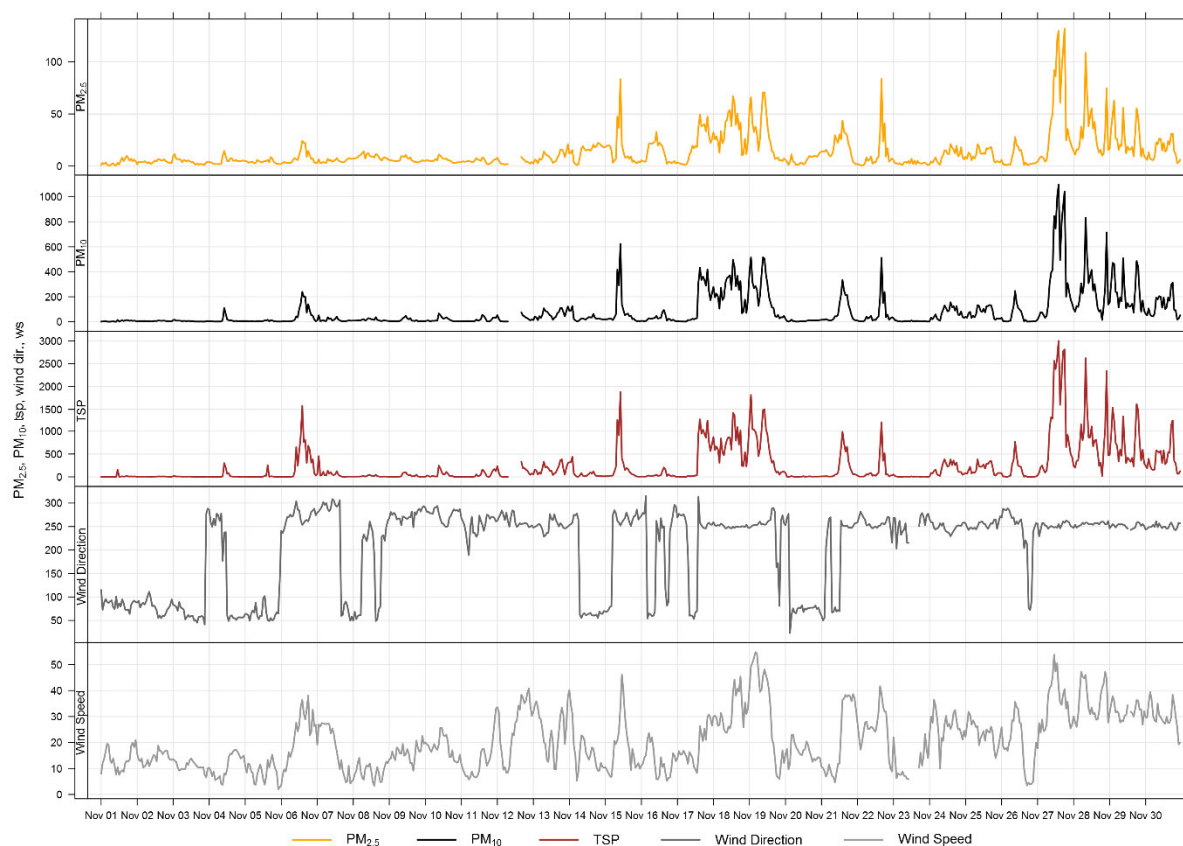


Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

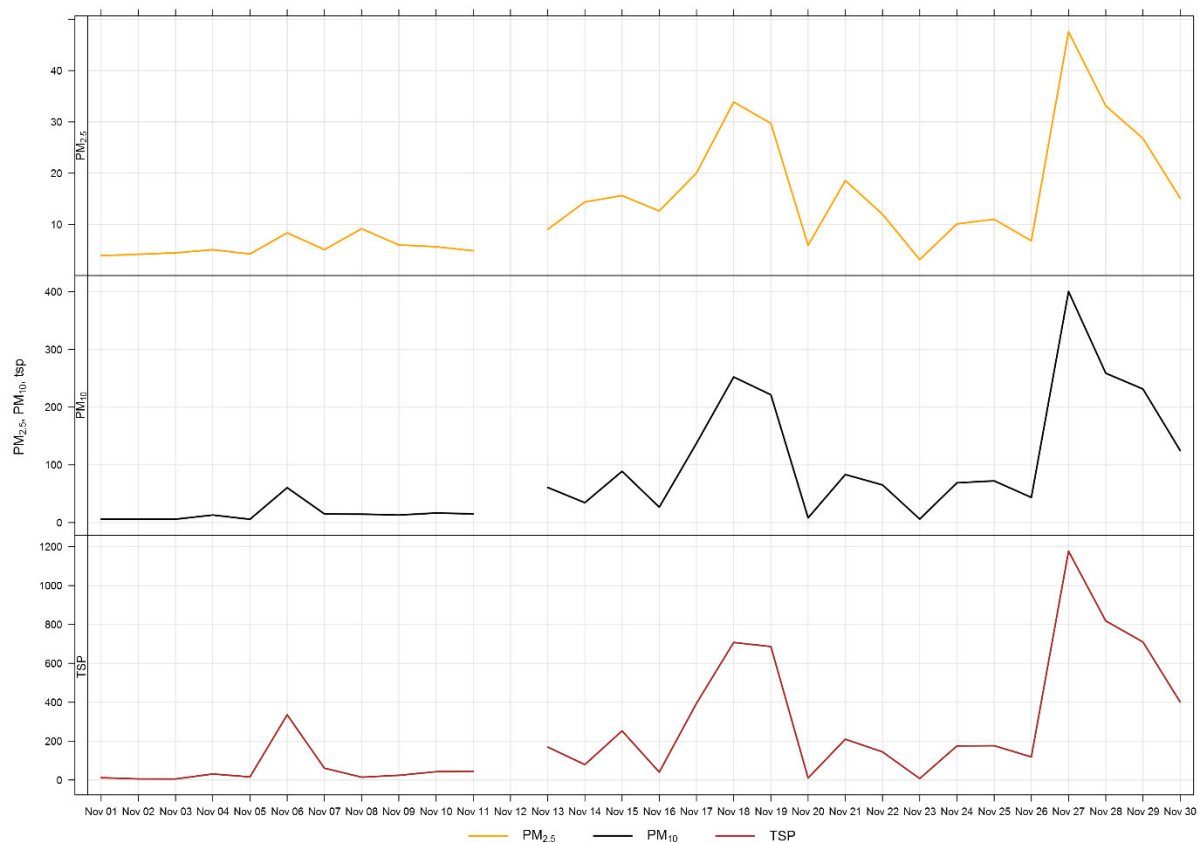


Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 and Figure 6-4 show the wind roses for the 15 days of TSP exceedances and 3 days of PM_{2.5} exceedances. Both wind roses show that the winds predominantly come from the WSW and over 25 km/hr.

Figure 6-5 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.

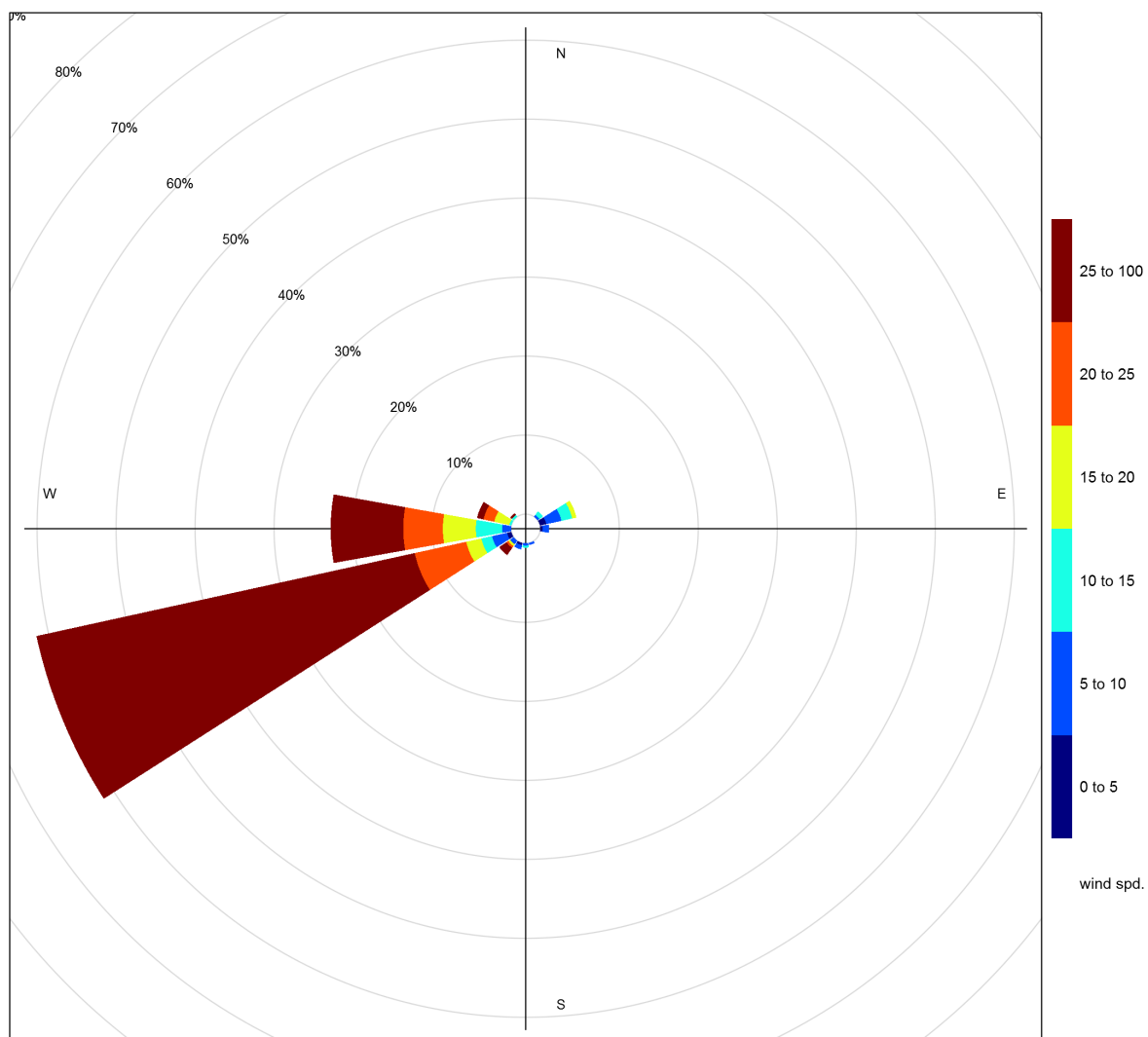


Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

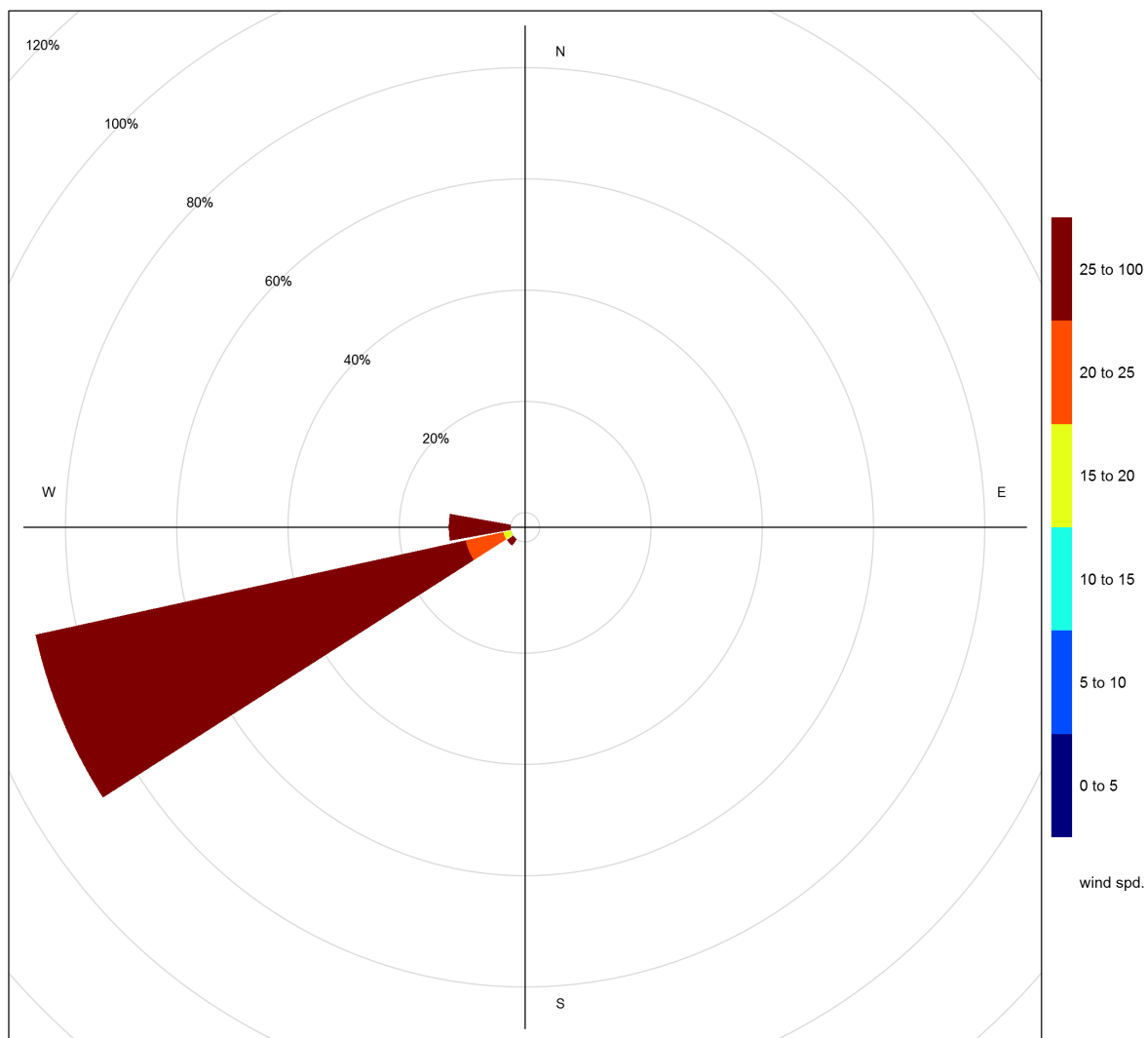


Figure 6-4 Wind rose for PM_{2.5} exceedance days recorded at the Berm GRIMM

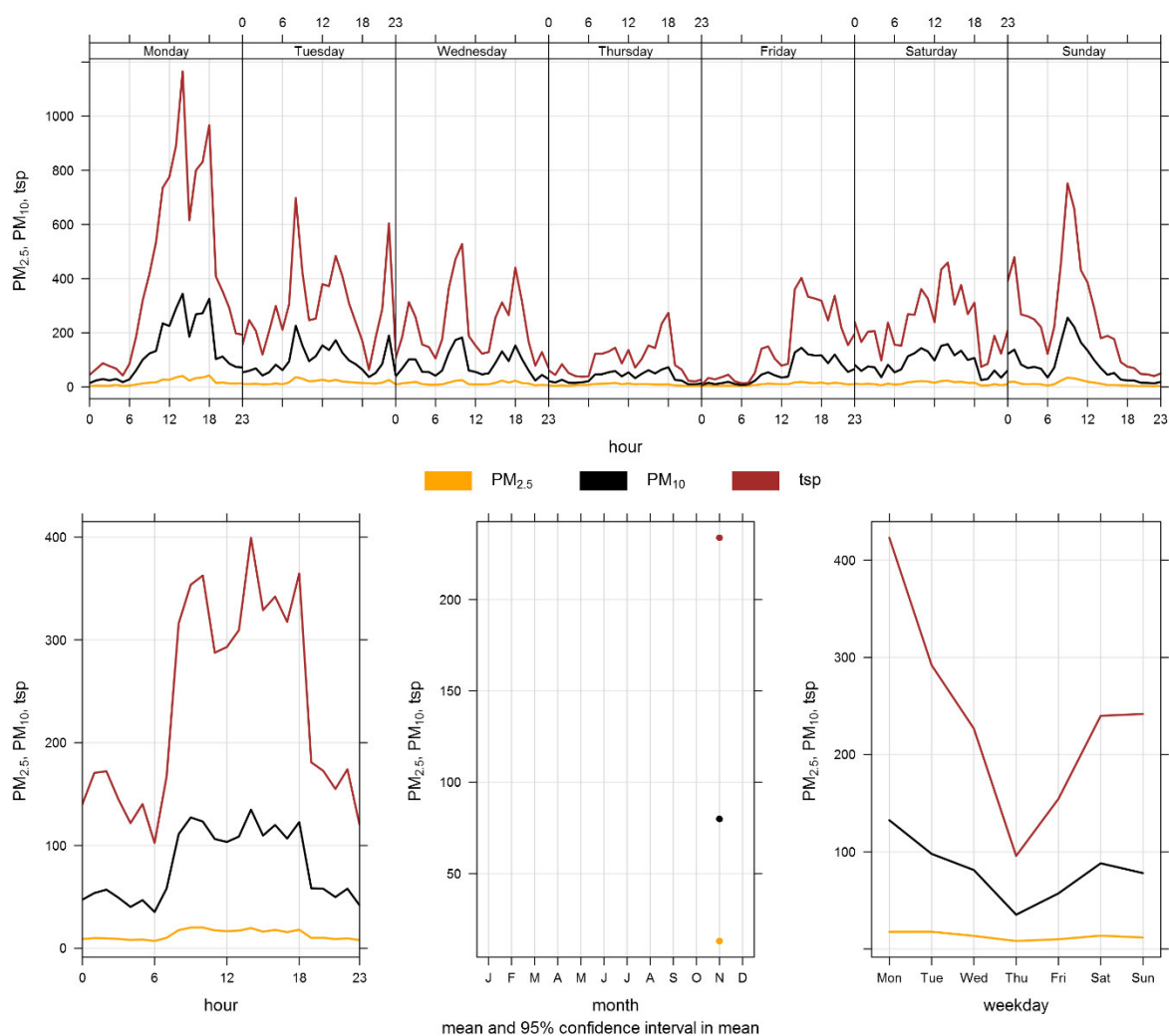


Figure 6-5 Berm particulate matter time variation

7 ENTRANCE GRIMM

7.1 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 November, the Entrance GRIMM had 100% uptime.

Table 7-1 Equipment at the Entrance monitoring location

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

7.2 MONITORING RESULTS AND TRENDS

The Entrance monitor was placed at its current location as a result of dispersion modelling conducted in 2009. This area was indicated as being the area where the maximum PM concentrations were expected. Figure 7-1 and Figure 7-2 show the hourly and daily PM_{2.5}, PM₁₀ and TSP concentrations recorded over the month. Table 6-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month. Table 6-3 summarizes the recorded exceedances.

During November, there were 13 and 0 exceedances of the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) guidelines, respectively. Historically, the Entrance monitor records an average of 15 and 1 exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively, during the month of November. The largest number of TSP exceedances recorded during November occurred in 2014, which had 25 days that exceeded the guideline. The fewest number of TSP exceedances recorded during November occurred in 2012, which had 1 day that exceeded the guideline. The largest number of PM_{2.5} exceedances recorded during November occurred in 2013 and 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 7-3 shows the wind roses for the days that exceeded the TSP Guideline at the Entrance GRIMM. During the 13 TSP exceedance days, winds were predominantly from the WSW and above 25 km/hr.

Table 7-2 Summary of November 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	0	0	9.7	53.7	11	17	11.1	275.2	21.6	14	100.0
PM ₁₀ (µg/m ³)	-	-	Entrance	-	-	34.9	387.0	29	18	36.3	258.2	82.1	7	100.0
TSP (µg/m ³)	-	100	Entrance	-	13	126.3	2033.8	29	18	36.3	258.2	402.2	29	100.0

Table 7-3 Days exceeding the Guideline for TSP at the Entrance Monitor

Date	TSP (ug/m ³)	PM _{2.5} (ug/m ³)	Average Wind Direction (degrees)	Average Wind Speed (km/hr)	Average RH (%)	Root Cause (Provided by Lafarge)
Entrance						
11/6/2017	333.1	-	271.7	22.6	65.8	High wind event
11/7/2017	285.0	-	300.9	17.8	64.9	
11/9/2017	135.5	-	274.7	16.0	73.3	
11/13/2017	100.2	-	251.4	24.6	47.9	High wind event
11/14/2017	120.8	-	38.8	17.0	71.7	
11/15/2017	276.0	-	268.0	18.2	59.5	
11/17/2017	177.9	-	263.4	18.4	59.9	
11/18/2017	181.6	-	250.5	31.8	40.0	High wind event
11/19/2017	262.8	-	256.7	33.4	51.7	High wind event
11/27/2017	340.6	-	251.6	34.6	34.8	High wind event
11/28/2017	301.4	-	255.6	36.1	47.7	High wind event
11/29/2017	402.2	-	251.6	32.0	37.6	High wind event
11/30/2017	118.8	-	250.1	30.0	42.3	High wind event
Total # of Exceedances	13	0				
Maximum # of Exceedances (November)	25 (2014)	2 (2013, 2014)				
Average # of Exceedances (November)	15	1				
Minimum # of Exceedances (November)	1 (2012)	0 (2010, 2011, 2015, 2016)				

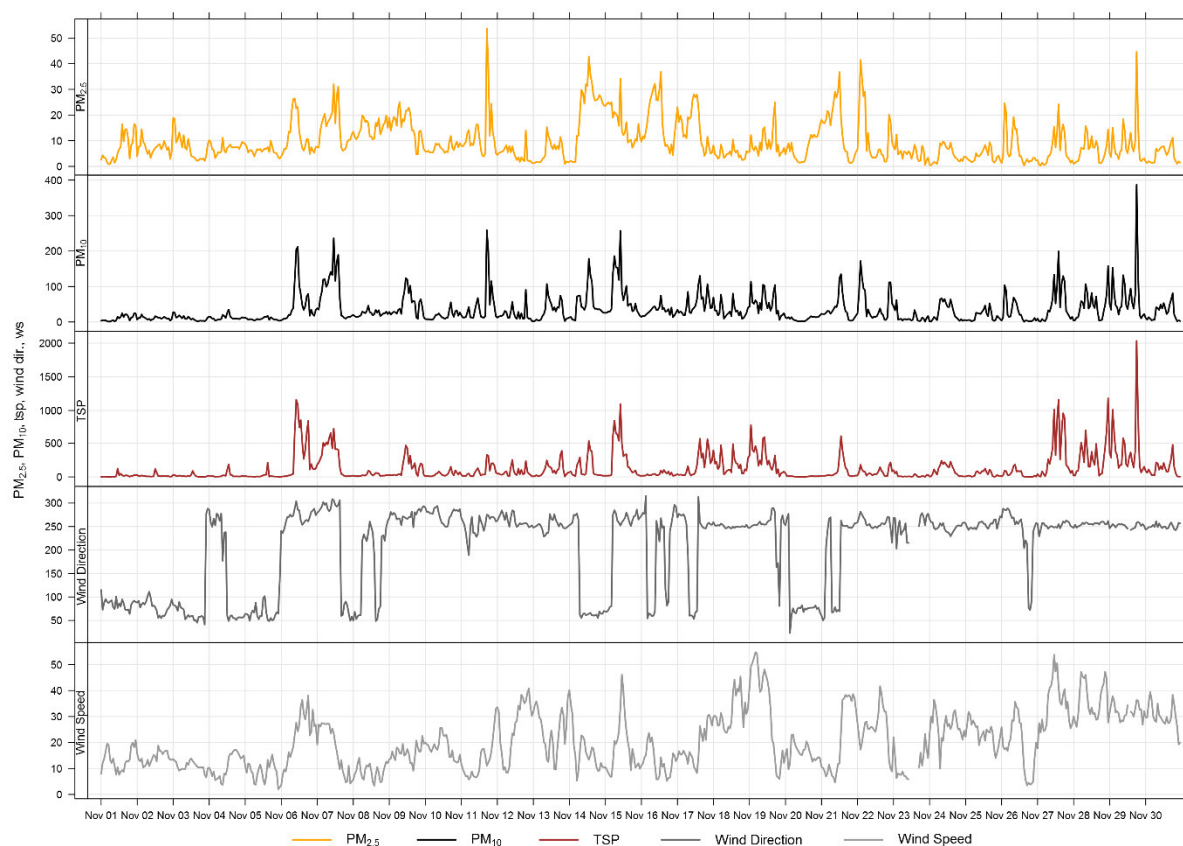


Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor

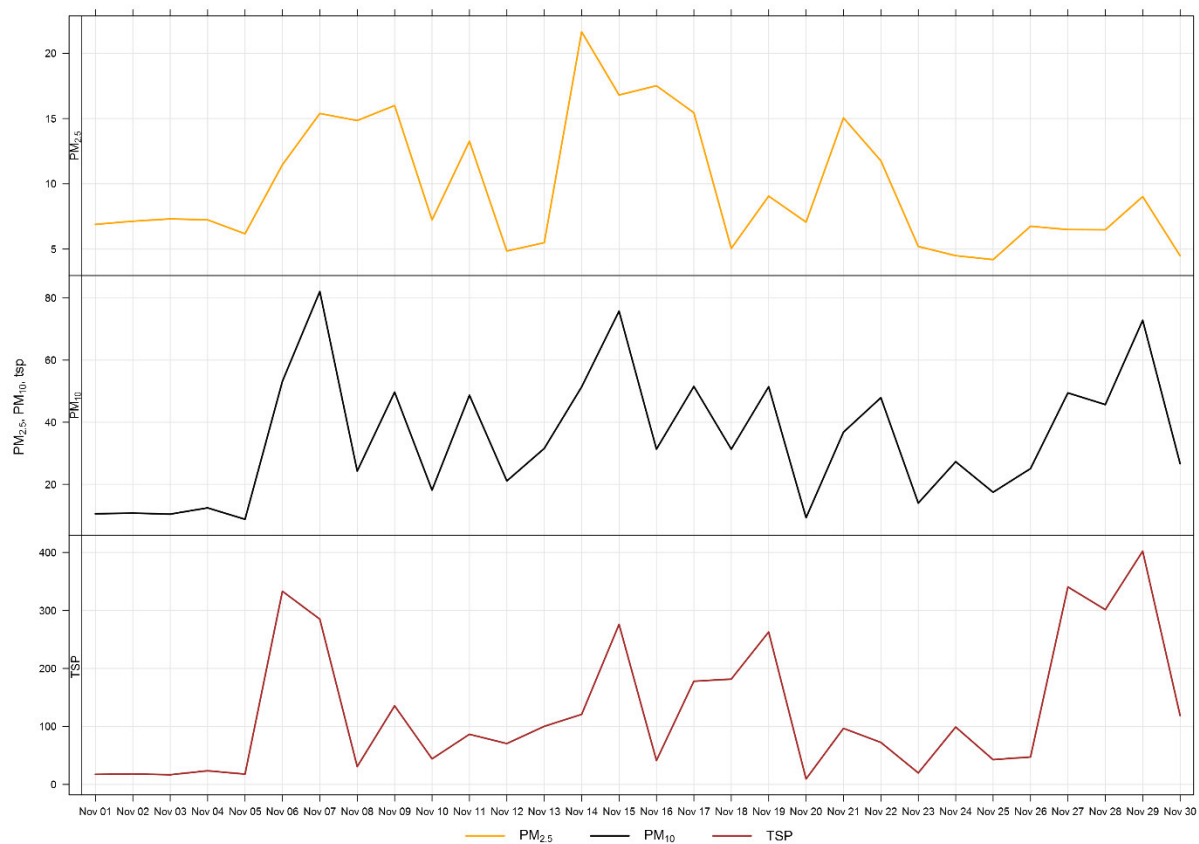


Figure 7-2 24-hour particulate matter concentrations at the Entrance monitor

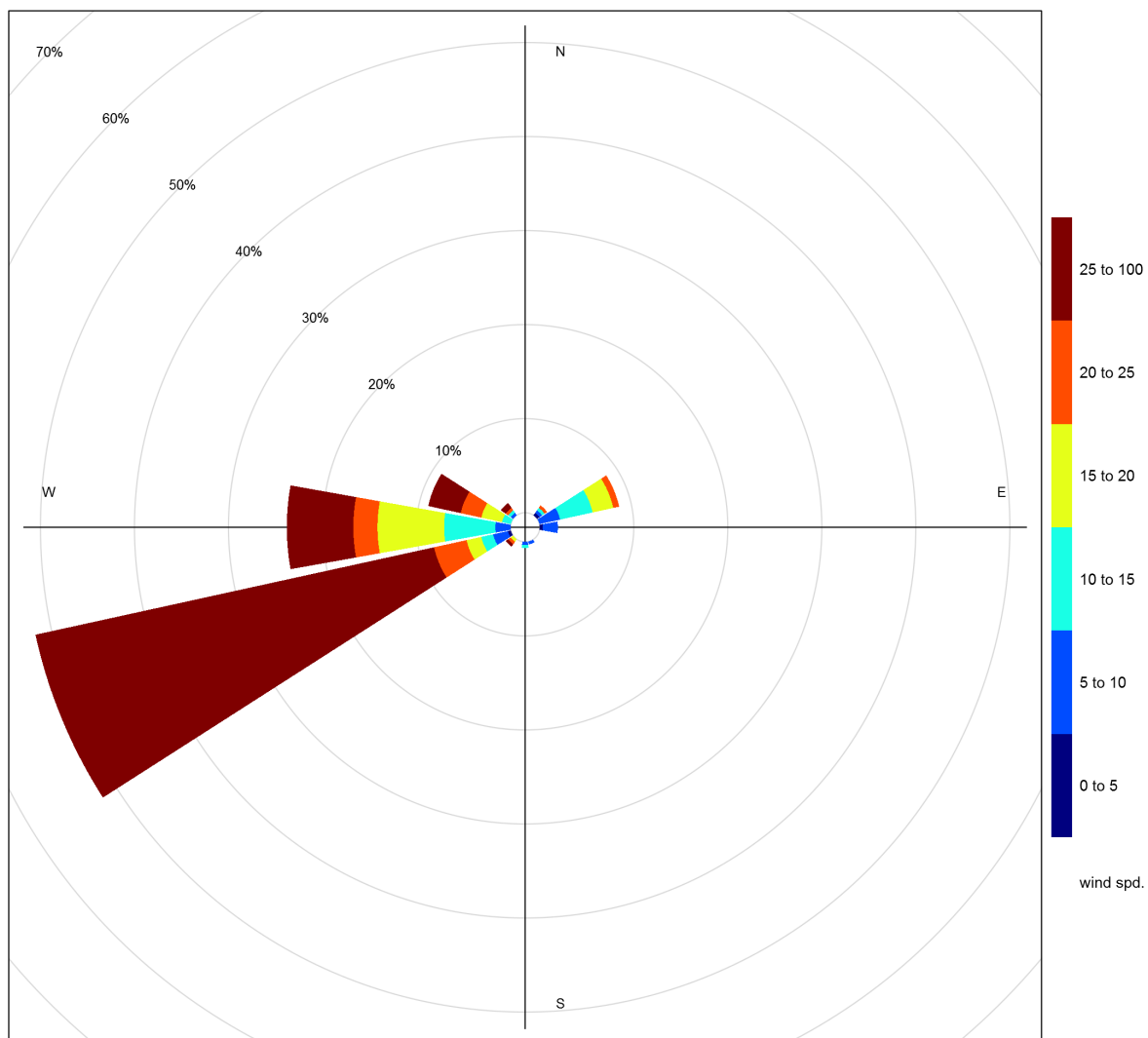


Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

Figure 7-4 illustrates the hourly PM concentrations recorded at the Entrance monitor, averaged over different time periods. The plot across the top shows the variation of PM over the course of a week, while the bottom three plots show the changes in PM over the course of a day, month and weekday, respectively. Figure 7-4 is based on data collected during November 2017 and indicates a strong diurnal pattern at this station.

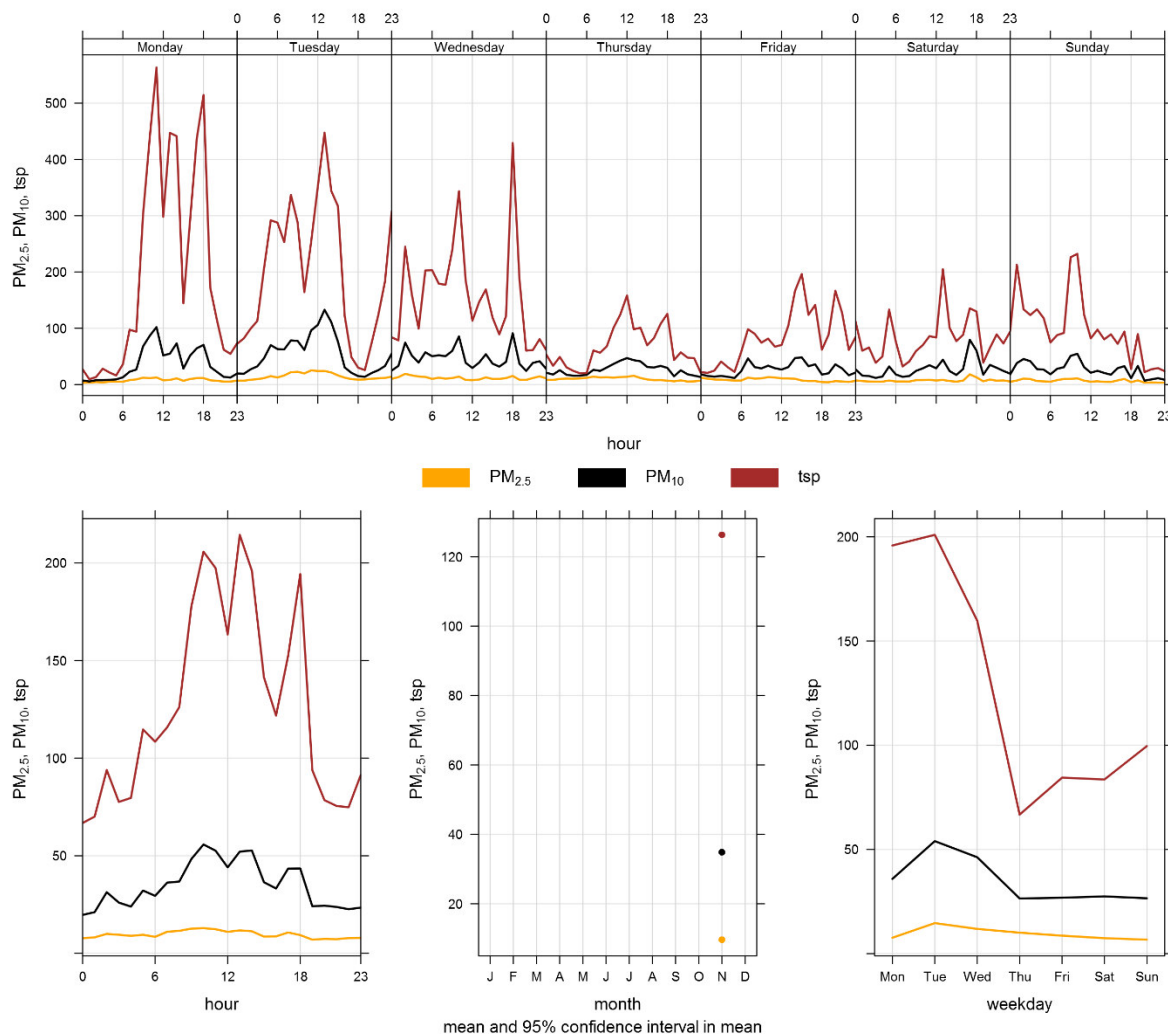


Figure 7-4 Entrance particulate matter time variation

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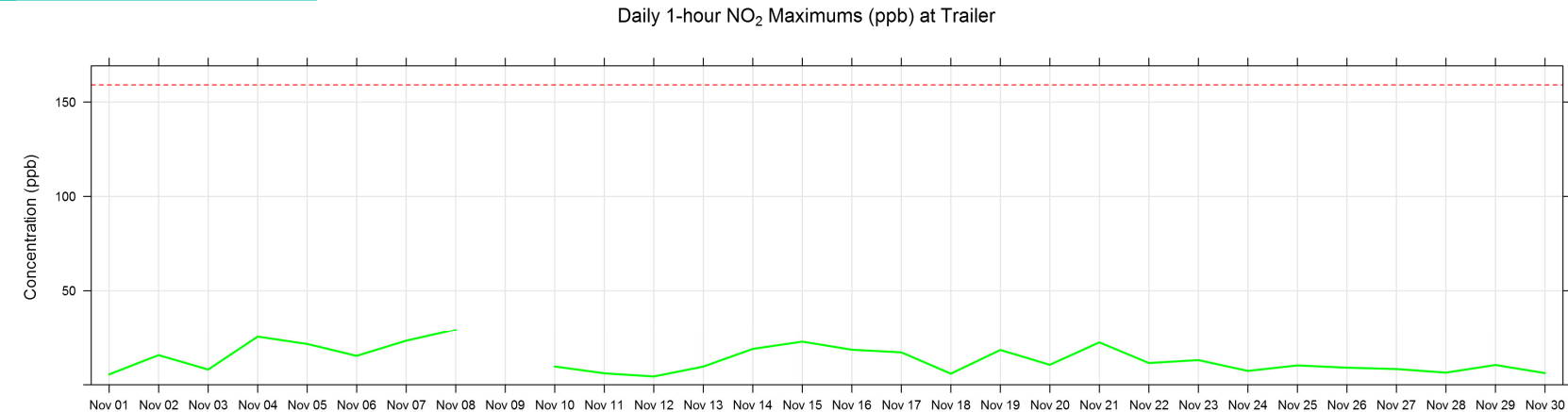
Appendix A

DATA & CALIBRATION REPORTS

Lagoon NO₂ (ppb) – November 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	8.7	S	0.0	0.0	0.0	0.0	0.0	1.3	0.5	0.4	0.0	0.2	1.8	0.6	0.3	2.7	0.8	2.6	2.4	5.5	3.4	0.0	0.0	0.0	8.7	1.4
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	7.1	9.0	9.0	9.1	15.7	10.9	11.3	2.7	3.1	1.1	1.1	1.3	15.7	3.6
3	1.8	S	3.2	3.1	1.1	0.8	0.8	1.5	3.1	4.3	2.4	4.8	2.4	0.4	2.9	1.6	5.0	7.2	5.4	6.6	8.0	2.4	4.8	6.3	8.0	3.5
4	16.0	S	10.2	9.2	10.0	7.1	7.7	10.9	8.6	12.3	4.6	3.2	10.1	12.5	12.4	9.6	11.5	10.5	13.4	11.6	23.0	25.5	22.7	22.3	25.5	12.4
5	19.1	S	10.3	15.4	7.4	6.0	8.5	5.6	8.0	11.2	12.7	11.6	9.6	13.4	9.8	7.4	3.5	6.3	4.3	4.8	3.9	4.5	21.6	16.4	21.6	9.6
6	17.6	S	15.3	11.5	10.0	12.4	11.7	12.7	9.6	4.5	3.1	4.7	8.7	3.7	0.7	1.4	3.6	2.1	1.7	3.3	6.9	7.4	6.6	3.3	17.6	7.1
7	4.0	S	5.4	5.3	3.3	4.8	3.9	4.7	8.5	6.0	2.8	3.3	2.8	5.9	5.1	4.8	18.3	12.4	17.5	15.2	22.5	20.9	22.0	23.3	23.3	9.7
8	26.2	S	24.9	21.6	19.9	21.7	25.3	29.3	24.9	20.4	16.6	10.2	9.9	9.6	8.4	17.7	21.3	22.3	25.1	23.7	22.3	22.9	19.9	13.4	29.3	19.9
9	14.5	S	13.6	12.9	11.1	12.8	16.0	14.2	18.7	15.0	C	C	C	C	C	C	13.9	10.0	4.5	3.2	5.8	6.1	8.9	6.8	-	-
10	8.1	S	5.5	3.2	4.2	3.6	6.4	7.4	9.7	8.7	4.7	2.5	2.7	1.2	1.2	3.3	6.9	5.8	6.5	4.3	4.4	4.1	5.0	6.3	9.7	5.0
11	6.4	S	4.6	4.2	5.8	4.3	2.9	4.8	5.1	5.1	6.1	4.3	3.8	2.6	0.1	0.0	1.8	5.7	3.6	3.1	1.9	1.1	2.6	2.3	6.4	3.6
12	1.6	S	1.4	4.4	2.8	2.6	0.6	3.7	3.4	3.1	1.7	1.8	3.3	0.0	0.0	0.2	0.1	0.0	1.7	0.0	0.0	0.0	0.8	0.1	4.4	1.5
13	0.1	S	0.1	3.7	2.2	2.7	1.0	0.0	1.4	7.5	4.4	5.9	6.3	6.4	8.1	9.6	8.7	3.0	5.0	0.7	1.7	0.0	0.6	0.2	9.6	3.4
14	0.0	S	0.8	4.2	5.5	9.2	8.2	12.7	12.5	7.4	7.0	7.6	7.8	8.7	9.6	12.1	15.7	17.2	18.9	18.8	18.1	18.4	16.6	17.3	18.9	11.1
15	15.9	S	16.4	13.4	13.6	11.1	12.5	17.7	11.1	5.6	3.7	2.9	4.9	12.1	22.8	16.1	6.6	9.1	6.2	4.0	11.5	11.2	13.5	17.6	22.8	11.3
16	10.3	S	17.5	14.4	15.9	8.9	7.7	7.5	8.1	9.5	9.4	10.8	12.1	16.1	11.3	9.6	14.5	18.5	18.5	14.8	10.9	7.8	10.4	4.0	18.5	11.7
17	4.0	S	4.8	4.9	3.6	5.0	7.2	10.1	17.1	14.2	10.8	14.2	11.2	12.3	14.9	8.2	9.3	3.4	2.3	1.9	5.7	8.8	8.9	5.8	17.1	8.2
18	8.1	S	1.1	5.8	4.0	3.2	4.1	1.8	1.9	2.3	3.1	0.7	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	5.9	0.6	1.5	0.0	8.1	1.9
19	0.0	S	1.2	0.0	0.6	0.3	1.0	10.4	2.6	1.9	2.1	0.8	2.6	1.9	1.0	10.4	10.7	8.3	9.7	13.8	18.4	13.9	6.1	5.4	18.4	5.3
20	1.9	S	4.8	9.6	2.2	0.0	0.0	2.3	0.7	0.7	0.0	0.3	1.2	0.7	2.7	3.3	4.5	7.0	7.3	9.6	7.0	10.6	5.0	7.9	10.6	3.9
21	17.6	S	8.8	18.8	19.4	13.8	19.6	20.1	22.4	21.5	19.2	18.0	18.3	11.1	1.0	1.0	1.1	1.8	0.6	0.2	0.0	0.0	1.8	1.0	22.4	10.3
22	2.8	S	6.3	5.4	2.6	2.9	3.6	8.2	11.5	3.0	2.2	0.5	1.6	2.0	1.4	0.8	2.1	5.6	3.2	6.3	2.0	5.3	3.7	4.9	11.5	3.8
23	8.6	S	9.7	5.8	6.2	6.2	4.8	7.9	13.0	11.6	9.2	12.1	6.7	5.7	8.0	8.1	7.2	3.2	7.0	7.5	5.7	0.9	8.7	11.6	13.0	7.6
24	4.0	S	0.5	0.0	0.0	0.0	0.0	7.3	4.1	C	C	C	C	0.6	0.1	0.6	0.0	0.0	0.6	3.5	2.1	2.1	1.7	2.6	7.3	1.6
25	2.5	S	0.0	0.0	0.0	0.0	0.0	0.0	2.3	3.7	3.2	10.2	3.2	2.6	0.0	0.0	0.7	1.5	0.5	3.6	8.5	4.0	5.2	1.2	10.2	2.3
26	1.0	S	5.8	4.8	5.8	5.9	5.4	6.4	6.2	4.6	3.7	2.1	0.9	5.0	0.8	0.0	1.0	9.0	2.8	2.6	2.7	7.9	7.9	6.8	9.0	4.3
27	5.5	S	0.0	3.9	2.1	0.1	0.7	0.0	0.1	4.5	1.0	0.1	0.4	0.1	2.0	1.7	3.1	8.3	1.5	6.3	5.9	3.5	0.7	0.7	8.3	2.3
28	1.9	S	0.0	0.0	0.0	1.0	0.2	3.6	3.9	4.2	4.1	4.4	5.9	3.5	3.7	4.2	6.4	0.9	0.2	0.1	0.0	0.0	0.9	4.6	6.4	2.3
29	0.0	S	1.0	1.4	1.1	2.5	2.2	8.6	10.5	9.1	4.9	1.1	0.0	0.0	1.2	0.3	0.8	0.1	4.7	3.3	4.1	1.8	7.0	1.5	10.5	2.9
30	0.0	S	0.0	0.3	1.1	0.0	0.0	4.5	2.1	6.2	1.2	1.5	3.5	2.5	2.7	1.2	1.7	3.7	0.0	0.0	0.0	0.0	4.3	4.7	6.2	1.8
Hourly Max	26.2	-	24.9	21.6	19.9	21.7	25.3	29.3	24.9	21.5	19.2	18.0	18.3	16.1	22.8	17.7	21.3	22.3	25.1	23.7	23.0	25.5	22.7	23.3		
Hourly Average	6.9	-	5.8	6.2	5.4	5.0	5.4	7.5	7.7	7.2	5.2	5.0	5.3	5.2	4.9	5.0	6.6	6.5	6.2	6.0	7.2	6.4	7.3	6.7		

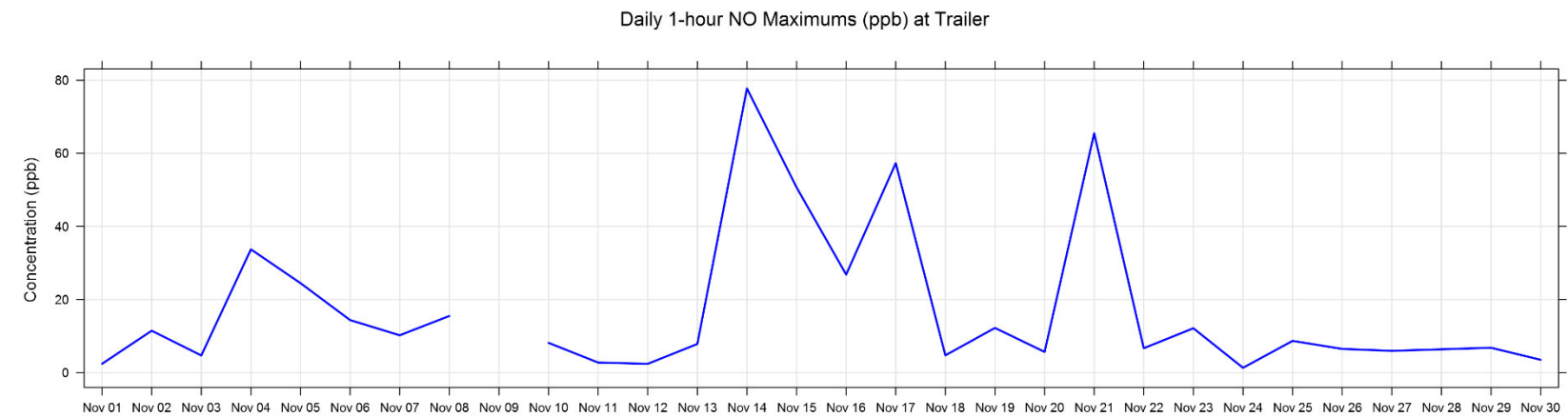
S = SPAN C = CALIBRATION



Number of 1HR Exceedances	0	Objective	159	PPB
Number of Non-Zero Readings	608			
Maximum 1-HR Average	29.3	PPB		
Maximum 24-HR Average	19.9	PPB		
IZS Calibration Time	30	HRS	Operational Time	720 HRS
Monthly Calibration Time	10	HRS	Operational Uptime	100 %
Standard Deviation	6.0		Monthly Average	6.1 PPB

Lagoon NO (ppb) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	0.0	S	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.8	0.0	2.4	0.2	0.0	0.0	0.0	2.4	0.2
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	11.4	5.2	4.4	9.9	4.7	9.3	0.0	1.0	0.0	0.0	0.0	11.4	2.2
3	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	1.6	2.9	2.0	0.0	1.9	0.0	2.2	2.5	0.0	0.2	1.6	0.0	2.1	1.8	4.7	1.0
4	5.9	S	0.2	3.5	1.5	0.0	0.2	7.2	7.1	21.4	7.2	4.9	26.5	23.4	16.7	3.8	6.3	3.6	7.6	2.3	22.7	33.7	28.9	30.6	33.7	11.5
5	14.4	S	3.6	9.1	1.2	0.0	0.0	0.0	2.9	16.1	24.5	21.5	12.6	15.3	11.4	6.8	0.1	4.0	0.4	1.3	0.0	0.3	9.1	3.6	24.5	6.9
6	1.3	S	0.0	0.0	0.0	7.7	13.7	14.4	9.5	5.9	2.6	8.3	13.5	5.1	0.0	0.0	0.5	0.0	0.8	0.0	3.6	6.5	3.7	0.0	14.4	4.2
7	0.8	S	4.4	3.2	1.2	3.3	1.9	2.5	7.9	5.0	1.0	3.0	2.1	4.9	6.8	0.8	7.2	0.0	2.9	0.0	6.6	0.4	0.1	10.2	10.2	3.3
8	11.2	S	7.8	0.2	0.0	4.7	2.6	13.3	14.7	15.5	15.0	9.5	7.1	6.0	3.2	10.6	6.4	1.4	7.7	5.7	2.8	1.5	6.1	2.3	15.5	6.8
9	7.7	S	8.8	8.8	4.5	15.5	21.0	15.5	19.0	16.9	C	C	C	C	C	C	4.3	1.0	0.0	0.0	2.6	3.4	6.8	2.2	-	-
10	3.8	S	1.6	0.0	0.4	0.6	3.6	4.0	7.0	5.6	3.3	1.1	1.9	0.0	0.0	1.5	0.4	0.0	1.3	0.0	0.8	0.9	2.5	8.1	8.1	2.1
11	3.7	S	0.2	0.0	0.3	0.0	0.0	1.5	0.0	0.8	2.7	1.7	1.9	0.3	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.6
12	0.0	S	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.4	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.4	0.2
13	0.0	S	0.0	3.1	0.0	0.1	0.0	0.0	0.0	5.1	1.1	5.1	7.8	4.0	4.3	2.0	3.5	0.7	7.3	0.0	0.0	0.0	0.0	0.0	7.8	1.9
14	0.0	S	0.0	1.5	2.0	0.0	2.6	9.1	8.7	6.0	7.0	8.0	14.6	15.3	10.1	12.8	34.9	60.1	37.7	36.9	53.3	54.2	55.3	77.8	77.8	22.1
15	65.6	S	50.7	8.4	23.9	8.8	16.1	19.7	7.3	1.3	2.6	1.0	2.8	13.6	34.0	15.5	1.7	4.6	0.7	0.0	7.0	7.9	9.0	20.5	65.6	14.0
16	4.4	S	13.9	15.3	23.6	2.8	0.0	2.4	3.6	13.1	10.9	19.2	19.1	20.7	7.1	3.2	16.9	26.8	23.2	3.1	5.2	0.5	10.4	0.0	26.8	10.7
17	0.0	S	1.3	1.5	0.7	1.4	1.6	5.0	57.3	36.1	21.1	38.7	21.8	18.5	33.6	9.5	7.3	0.3	0.0	0.0	4.0	8.9	6.5	3.6	57.3	12.1
18	6.9	S	0.0	2.7	0.0	1.3	2.6	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	6.9	0.8
19	0.0	S	0.4	0.0	0.0	0.0	0.1	12.2	0.0	0.3	0.6	0.0	1.8	0.5	0.0	8.0	6.5	5.2	0.0	3.4	0.0	6.9	3.7	1.6	12.2	2.2
20	0.0	S	0.2	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6	0.6	2.4	0.0	5.7	0.0	3.9	5.7	0.9
21	14.1	S	1.7	12.6	6.4	2.2	20.3	21.5	50.1	49.2	58.6	65.5	49.1	21.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.5	16.2
22	1.7	S	3.0	2.8	2.3	1.6	0.0	3.2	6.7	0.2	0.0	0.0	0.0	0.0	0.0	0.5	1.6	0.8	4.4	0.0	1.5	0.0	0.9	6.7	1.4	
23	7.1	S	6.7	0.0	2.1	0.3	0.1	5.1	9.6	4.2	5.4	7.4	1.7	2.9	1.0	2.9	0.9	0.0	2.1	1.5	1.6	0.1	2.6	12.1	12.1	3.4
24	1.3	S	0.0	0.0	0.0	0.0	0.0	0.3	0.6	C	C	C	C	1.3	0.4	0.6	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.3	0.3
25	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	8.7	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.1	4.3	0.0	1.3	0.0	8.7	0.7
26	0.0	S	2.4	1.3	2.0	2.4	2.6	3.4	3.1	3.5	2.6	1.0	0.2	3.1	1.4	0.0	0.0	5.1	0.0	0.0	0.0	5.6	2.1	6.5	6.5	2.1
27	1.5	S	0.0	2.3	0.5	0.0	0.0	0.0	0.0	3.9	1.4	0.5	0.8	0.3	1.5	1.4	2.0	5.5	0.7	5.9	4.3	1.8	0.0	0.0	5.9	1.5
28	0.0	S	0.0	0.0	0.0	0.4	0.0	1.2	1.8	1.2	2.9	3.3	6.4	2.8	2.2	3.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.7	6.4	1.3
29	0.0	S	0.2	0.0	1.2	2.2	0.8	4.2	5.5	6.8	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.2	2.0	0.0	4.6	0.9	6.8	1.6
30	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.2	3.5	0.0	0.2	1.8	2.0	3.3	0.2	0.0	1.4	0.0	0.0	0.0	0.0	1.6	0.7	3.5	0.7
Hourly Max	65.6	-	50.7	15.3	23.9	15.5	21.0	21.5	57.3	49.2	58.6	65.5	49.1	23.4	34.0	15.5	34.9	60.1	37.7	36.9	53.3	54.2	55.3	77.8		
Hourly Average	5.0	-	3.6	2.8	2.5	1.8	3.0	4.9	7.4	7.8	6.3	7.6	7.2	6.0	5.0	3.0	3.8	4.4	3.5	2.4	4.3	4.7	5.2	6.3		
S = SPAN C = CALIBRATION																										

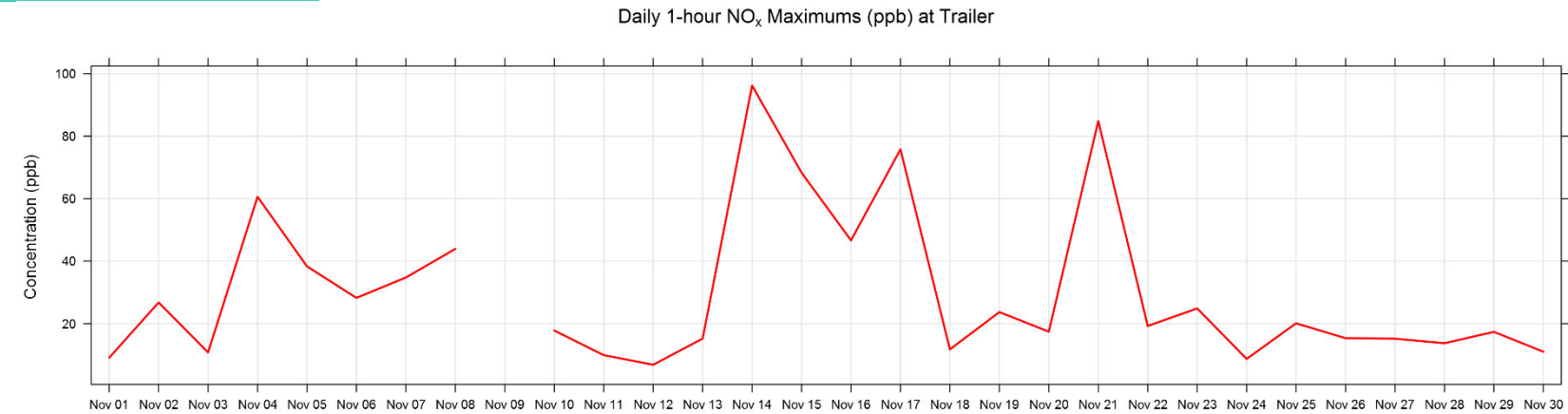


Number of 1HR Exceedances	n/a	Objective	n/a	PPB
Number of Non-Zero Readings	429			
Maximum 1-HR Average	77.8	PPB		
Maximum 24-HR Average	22.1	PPB		
IZS Calibration Time	30	HRS	Operational Time	720 HRS
Monthly Calibration Time	10	HRS	Operational Uptime	100.0 %
Standard Deviation	9.8		Monthly Average	4.7 PPB

Lagoon NO_x (ppb) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	9.6	S	0.0	0.0	0.0	0.0	0.0	3.4	1.1	0.8	0.1	0.8	2.8	1.2	1.4	4.2	1.0	4.5	3.1	9.1	4.8	0.0	0.0	0.0	9.6	2.1
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.8	12.7	21.6	15.4	14.6	26.8	16.8	21.9	3.9	5.4	1.0	0.9	1.1	26.8	6.3
3	1.6	S	3.1	3.7	0.9	0.8	0.6	1.4	3.8	10.1	5.1	8.7	5.5	1.1	5.9	2.6	8.3	10.8	6.1	7.8	10.6	2.6	8.1	9.2	10.8	5.1
4	23.0	S	11.4	13.6	12.5	7.7	8.9	19.1	16.8	34.8	12.9	9.2	37.8	37.2	30.3	14.5	18.9	15.2	22.1	15.0	47.1	60.6	52.9	54.3	60.6	25.0
5	34.8	S	14.9	25.6	9.6	7.0	9.5	6.3	11.9	28.4	38.3	34.2	23.4	29.9	22.4	15.3	4.7	11.4	5.8	7.3	4.0	5.9	31.9	21.1	38.3	17.6
6	20.0	S	15.9	11.6	10.6	21.2	26.5	28.2	20.2	11.5	6.8	14.1	23.4	10.0	1.5	2.3	5.2	2.6	3.6	4.4	11.6	15.0	11.3	4.5	28.2	12.3
7	6.0	S	10.9	9.7	5.6	9.3	7.0	8.4	17.5	12.1	4.9	7.5	6.1	12.0	13.1	6.7	26.7	13.1	21.5	15.6	30.3	22.5	23.2	34.8	34.8	14.1
8	38.6	S	33.9	22.9	19.9	27.6	29.1	43.9	41.0	37.2	32.9	20.8	18.0	16.6	12.8	29.5	28.8	24.8	34.1	30.6	26.2	25.7	27.2	16.9	43.9	27.8
9	23.4	S	23.6	22.9	16.8	29.6	38.4	30.9	39.0	33.2	C	C	C	C	C	C	19.2	11.9	5.1	3.8	9.4	10.4	16.7	9.9	-	-
10	12.9	S	8.2	4.1	5.8	5.3	11.1	12.3	17.8	15.4	9.1	4.7	5.7	2.2	2.2	5.9	8.4	6.6	8.9	5.2	6.3	6.0	8.6	15.6	17.8	8.2
11	11.2	S	5.8	4.9	7.1	4.8	3.5	7.4	6.1	7.0	9.9	7.1	6.9	4.0	0.2	0.0	2.3	7.8	4.2	3.9	1.9	1.2	2.6	2.6	11.2	4.9
12	2.0	S	1.6	6.8	4.0	3.6	0.5	6.2	4.3	3.7	2.5	3.3	6.8	0.2	0.0	0.3	0.1	0.0	2.9	0.0	0.0	0.0	1.1	0.2	6.8	2.2
13	0.0	S	0.0	8.0	2.8	4.0	1.1	0.0	2.3	13.8	6.6	12.1	15.2	11.4	13.4	12.7	13.3	4.8	13.5	1.1	2.7	0.0	0.8	0.4	15.2	6.1
14	0.0	S	1.3	6.9	8.6	9.9	11.9	23.0	22.4	14.5	14.9	16.5	23.2	24.9	20.6	25.9	51.8	78.4	57.8	56.9	72.5	73.7	73.1	96.2	96.2	34.1
15	82.6	S	68.3	22.9	38.8	20.9	29.7	38.5	19.5	8.0	7.5	5.0	8.8	26.9	58.0	32.8	9.4	14.8	7.9	4.9	19.6	20.2	23.7	39.3	82.6	26.4
16	15.7	S	32.6	30.9	40.6	12.8	8.7	11.0	12.7	23.6	21.5	31.2	32.4	38.1	19.5	14.0	32.6	46.6	43.1	19.1	17.2	9.4	21.9	5.2	46.6	23.5
17	4.7	S	7.2	7.5	5.4	7.5	9.9	16.2	75.8	51.7	33.2	54.3	34.3	32.1	49.9	18.7	17.7	4.8	3.0	2.6	10.8	18.9	16.5	10.6	75.8	21.4
18	16.2	S	1.5	9.6	5.1	5.6	7.8	2.1	3.0	3.1	5.4	1.0	0.2	0.0	0.0	0.5	0.0	0.0	0.0	0.1	11.8	0.9	1.8	0.0	16.2	3.3
19	0.0	S	2.6	0.1	1.2	0.6	2.1	23.7	3.4	3.4	3.8	1.6	5.6	3.5	1.5	19.5	18.2	14.6	9.9	18.3	18.6	21.9	10.9	8.2	23.7	8.4
20	1.9	S	6.1	15.8	2.7	0.0	0.1	2.9	0.7	0.8	0.1	0.7	1.8	0.8	3.2	3.9	5.9	9.8	9.1	13.2	7.5	17.4	4.9	13.0	17.4	5.3
21	33.0	S	11.6	32.7	27.1	17.2	41.2	42.9	73.9	72.1	79.2	84.8	68.8	33.9	1.3	1.4	1.3	2.2	0.6	0.2	0.0	0.0	2.8	1.3	84.8	27.4
22	5.7	S	10.5	9.3	6.1	5.6	4.6	12.5	19.2	4.2	3.1	0.6	2.1	3.0	2.0	1.2	3.6	8.3	5.0	11.8	2.6	7.9	4.3	7.0	19.2	6.1
23	16.9	S	17.6	6.6	9.4	7.7	6.0	14.1	23.8	17.0	15.8	20.7	9.5	9.7	10.0	11.9	9.2	3.3	10.2	10.1	8.3	2.1	12.3	24.9	24.9	12.1
24	6.4	S	0.6	0.0	0.0	0.0	0.0	8.7	5.8	C	C	C	C	2.9	1.6	2.3	0.0	0.0	0.6	5.7	2.8	2.9	2.1	3.6	8.7	2.4
25	3.6	S	0.0	0.0	0.0	0.0	0.0	0.0	3.4	4.9	5.0	20.1	4.7	4.3	0.2	0.0	0.9	2.0	0.8	4.9	14.0	4.6	7.8	1.7	20.1	3.6
26	1.2	S	9.5	7.4	9.0	9.6	9.2	11.0	10.5	9.3	7.4	4.2	2.2	9.2	3.4	0.0	1.1	15.3	3.3	3.6	2.6	14.7	11.1	14.5	15.3	7.4
27	8.2	S	0.0	7.4	3.8	0.9	1.3	0.0	0.8	9.7	3.7	1.9	2.5	1.7	5.0	4.5	6.5	15.2	3.5	13.7	11.6	6.7	1.1	1.2	15.2	4.8
28	2.7	S	0.0	0.0	0.0	2.9	0.7	6.2	7.1	6.7	8.4	9.1	13.7	7.7	7.2	9.3	9.3	1.2	0.1	0.0	0.0	0.0	1.5	8.6	13.7	4.5
29	0.0	S	2.6	2.8	3.7	6.1	4.4	14.2	17.4	17.3	8.7	2.3	0.5	0.0	2.4	0.8	1.6	0.1	8.8	6.8	7.4	3.0	13.0	3.8	17.4	5.6
30	0.3	S	0.0	0.9	1.6	0.0	0.0	5.9	3.7	11.0	1.8	3.1	6.7	5.9	7.3	2.8	2.1	6.4	0.0	0.0	0.0	0.0	7.3	6.8	11.0	3.2
Hourly Max	82.6	-	68.3	32.7	40.6	29.6	41.2	43.9	75.8	72.1	79.2	84.8	68.8	38.1	58.0	32.8	51.8	78.4	57.8	56.9	72.5	73.7	73.1	96.2		
Hourly Average	12.7	-	10.0	9.8	8.6	7.6	9.1	13.4	16.2	16.0	12.5	13.6	13.6	12.1	10.7	8.9	11.2	11.8	10.5	9.3	12.3	11.8	13.4	13.9		

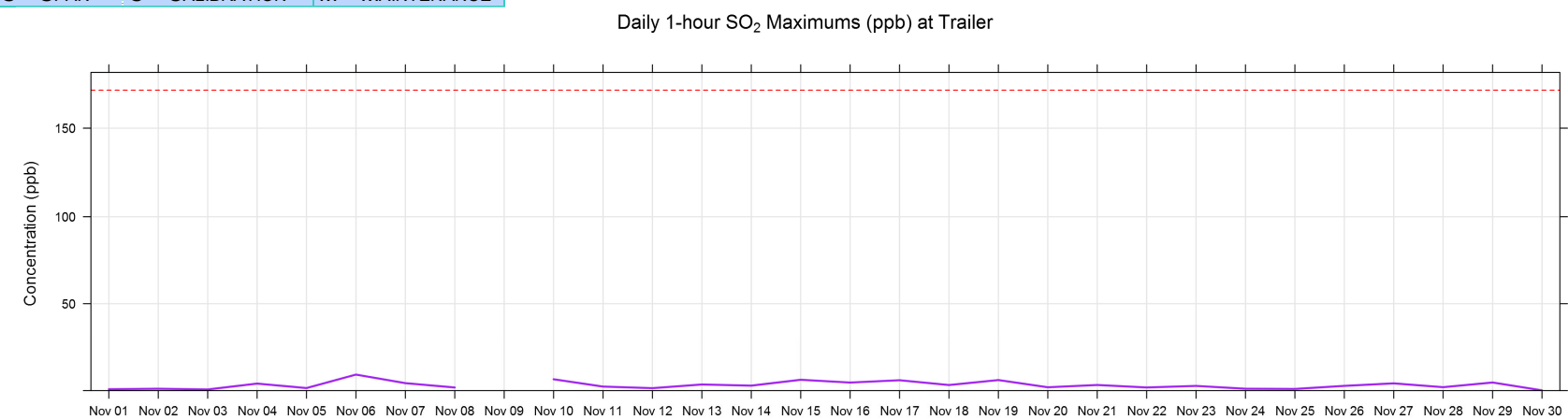
S = SPAN C = CALIBRATION



Number of 1HR Exceedances	n/a	Objective	n/a	PPB
Number of Non-Zero Readings	614			
Maximum 1-HR Average	96.2	PPB		
Maximum 24-HR Average	34.1	PPB		
IZS Calibration Time	30	HRS	Operational Time	720 HRS
Monthly Calibration Time	10	HRS	Operational Uptime	100.0 %
Standard Deviation	14.6		Monthly Average	11.7 PPB

Lagoon SO₂ (ppb) – November 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	0.8	S	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.8	0.8	0.6	0.6	0.5	0.8	0.7
2	0.4	S	0.7	0.6	0.5	0.4	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.7	0.8	1.1	1.1	0.8	0.9	0.6	0.4	0.4	0.5	0.5	1.1	0.6
3	0.5	S	0.7	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.5	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.3	0.6	0.7	0.7	0.5
4	1.4	S	0.7	0.6	1.1	0.6	0.6	0.7	0.7	1.1	0.8	1.3	2.8	2.0	3.2	2.4	2.2	1.2	1.2	1.4	2.8	4.0	3.8	3.4	4.0	1.7
5	2.8	S	0.9	0.9	0.6	0.5	0.4	0.3	0.4	0.7	1.0	1.2	1.5	1.2	0.7	0.5	0.6	0.8	0.4	0.2	0.1	0.1	0.2	0.1	2.8	0.7
6	0.0	S	0.2	0.2	0.5	5.1	5.2	2.8	2.8	1.1	0.8	3.2	9.1	0.7	0.5	0.4	0.5	0.5	0.3	1.2	4.6	5.4	4.8	1.8	9.1	2.2
7	1.9	S	2.6	3.3	2.0	2.7	3.0	2.4	4.2	3.0	1.0	1.2	1.2	2.5	1.2	0.6	1.2	1.1	1.1	0.8	0.6	0.9	0.7	0.5	4.2	1.7
8	0.6	S	0.8	0.6	0.7	0.7	0.7	0.8	0.9	0.7	0.9	1.3	0.8	1.8	1.1	1.4	1.2	0.6	0.7	0.5	0.4	0.4	0.7	0.8	1.8	0.8
9	3.0	S	3.3	3.2	2.1	7.2	7.8	3.6	3.3	3.7	C	C	C	C	C	C	1.5	1.9	1.5	1.2	1.6	1.9	3.0	2.4	-	-
10	2.2	S	1.6	1.2	1.3	1.4	2.2	2.5	2.3	1.7	0.8	0.7	0.6	0.6	0.4	0.7	0.8	0.8	1.6	1.3	1.7	1.7	2.0	6.5	6.5	1.6
11	5.5	S	2.0	1.5	1.8	1.1	0.9	0.4	0.4	0.4	0.5	0.6	2.3	0.3	0.2	0.1	0.3	0.9	0.5	0.5	0.4	0.5	0.6	0.7	5.5	1.0
12	0.6	S	0.8	1.4	1.2	1.2	0.7	0.6	0.6	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	1.4	0.5
13	0.3	S	0.5	0.6	0.5	0.5	0.4	0.4	0.5	1.5	1.1	2.0	2.1	2.0	1.6	1.5	1.6	2.0	3.5	1.3	0.9	0.8	0.6	0.3	3.5	1.1
14	0.3	S	0.5	0.7	0.6	0.7	0.6	0.9	1.3	1.1	1.0	1.8	2.8	2.6	2.1	2.2	2.2	1.6	1.1	1.0	1.1	1.3	1.2	1.7	2.8	1.3
15	1.4	S	1.4	0.6	0.8	0.8	3.1	4.3	2.8	0.9	1.4	0.8	1.5	6.2	4.0	3.3	1.5	1.1	0.6	0.6	1.5	1.8	1.2	1.1	6.2	1.9
16	0.6	S	4.1	3.3	2.8	1.4	1.4	1.4	0.9	1.0	0.9	1.9	4.6	2.7	1.3	0.7	0.9	1.2	1.2	0.7	1.1	1.0	1.5	0.7	4.6	1.6
17	0.8	S	1.6	2.1	2.0	1.4	1.2	1.0	3.8	4.4	4.1	4.0	3.1	2.1	2.1	3.4	5.9	1.4	0.4	0.6	2.6	4.0	2.7	2.3	5.9	2.5
18	4.2	S	1.0	1.0	0.9	2.8	3.2	0.8	0.6	0.6	0.7	0.8	0.6	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.4	0.1	0.2	0.2	4.2	0.9
19	0.2	S	0.4	0.5	0.5	0.5	0.8	6.0	1.4	1.0	0.9	0.9	0.8	1.4	0.8	2.6	2.8	2.3	2.4	2.0	1.8	1.7	2.1	1.1	6.0	1.5
20	0.7	S	0.9	1.7	0.8	0.6	0.6	0.4	0.4	0.4	0.4	0.7	1.7	1.9	1.8	1.0	0.5	0.4	0.7	0.8	0.7	1.0	0.5	0.4	1.9	0.8
21	0.8	S	0.5	0.7	1.8	1.3	3.2	0.8	1.0	0.9	1.4	1.7	1.6	1.0	0.4	0.4	0.4	0.5	0.3	0.4	0.5	0.5	0.5	0.5	3.2	0.9
22	0.4	S	1.8	1.6	0.9	1.2	0.6	0.6	0.6	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.6	0.9	1.1	0.6	0.6	0.8	0.7	1.1	1.8	0.7
23	3.7	S	2.0	1.0	0.7	0.9	0.7	0.8	1.1	0.6	0.9	0.9	0.7	1.3	1.1	0.7	0.7	0.6	2.4	2.3	2.0	0.7	1.1	2.7	3.7	1.3
24	0.9	S	0.6	0.6	0.5	0.6	0.6	1.1	0.7	C	C	C	C	0.5	0.5	0.5	0.6	0.4	0.4	0.4	0.5	0.4	0.5	0.5	1.1	0.6
25	0.5	S	0.4	0.2	0.5	0.4	0.3	0.3	0.8	0.8	0.8	0.8	0.6	0.3	0.2	0.4	0.3	0.4	0.4	0.4	1.0	0.4	0.5	0.7	1.0	0.5
26	0.6	S	1.5	1.1	1.4	1.5	2.7	1.4	M	M	1.9	1.8	1.8	1.8	1.4	0.7	0.7	0.8	1.0	0.8	0.4	0.6	0.8	1.7	2.7	1.2
27	1.3	S	0.2	3.5	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.2	0.9	4.1	1.2	3.9	2.2	2.5	0.1	0.3	4.1	1.0
28	0.2	S	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.6	0.4	0.6	1.8	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.3
29	0.2	S	1.3	1.7	1.0	0.9	0.2	0.1	0.0	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	4.6	0.2	0.0	1.1	1.7	4.6	0.7
30	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Hourly Max	5.5	-	4.1	3.5	2.8	7.2	7.8	6.0	4.2	4.4	4.1	4.0	9.1	6.2	4.0	3.4	5.9	4.1	3.5	4.6	4.6	5.4	4.8	6.5		
Hourly Average	1.2	-	1.1	1.2	1.0	1.3	1.4	1.2	1.2	1.0	0.9	1.1	1.5	1.3	1.1	1.0	1.0	0.9	1.0	1.0	1.1	1.1	1.1	1.2		
S = SPAN C = CALIBRATION M = MAINTENANCE																										

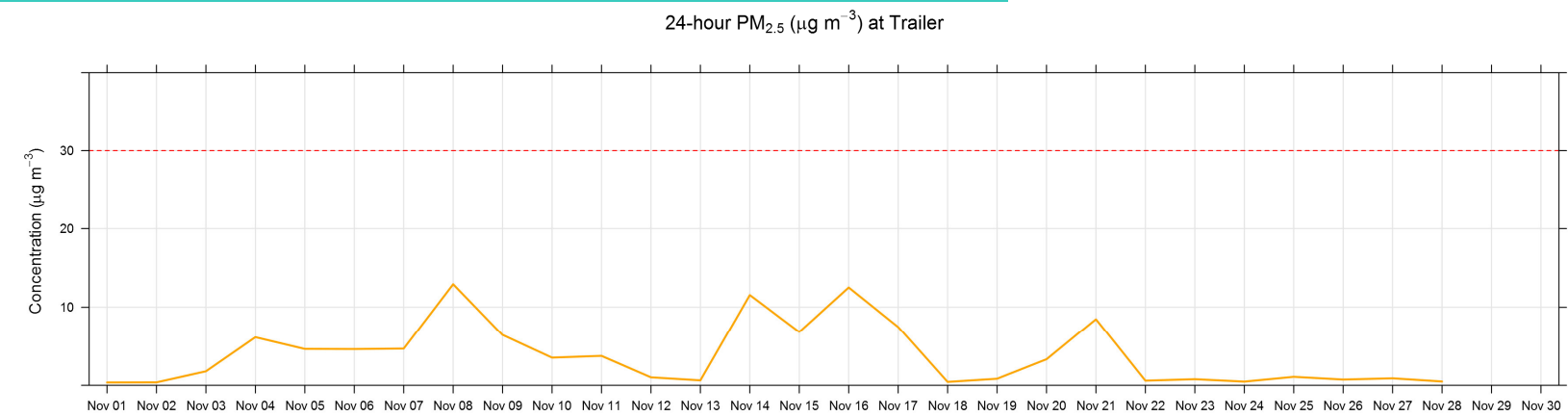


Number of 1HR Exceedances	0	Objective	172	PPB
Number of 24HR Exceedances	0	Objective	48	PPB
Number of Non-Zero Readings	628			
Maximum 1-HR Average	9.1	PPB		
Maximum 24-HR Average	2.5	PPB		
IZS Calibration Time	30	HRS	Operational Time	718 HRS
Monthly Calibration Time	10	HRS	Operational Uptime	99.7 %
Standard Deviation	1.2		Monthly Average	1.1 PPB

Lagoon PM_{2.5} (µg/m³) – November 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	0.0	0.0	0.0	0.0	0.3	1.7	1.3	0.0	0.0	0.0	0.0	1.3	1.7	0.7	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0	1.7	0.4
2	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	1.4	0.3	0.0	2.0	3.5	0.3	0.0	0.0	0.0	3.5	0.4
3	0.0	0.6	0.6	3.8	3.8	2.0	2.0	1.4	1.0	2.8	2.4	1.0	2.0	0.6	0.0	1.0	2.0	0.0	0.0	1.7	0.3	3.1	5.6	4.9	5.6	1.8
4	4.5	4.5	3.8	8.0	4.9	2.8	3.3	1.7	3.5	3.1	5.2	6.3	4.9	11.6	12.6	10.2	7.0	8.0	5.9	5.2	5.2	5.7	8.0	11.2	12.6	6.1
5	10.2	9.1	5.6	5.6	5.6	5.2	2.8	2.7	2.0	2.0	3.1	5.6	7.0	5.6	7.3	9.1	5.2	2.8	5.9	3.8	1.7	0.3	0.0	3.1	10.2	4.6
6	5.6	5.6	3.8	4.5	4.5	2.4	6.6	9.1	10.9	7.7	4.2	1.4	3.8	9.7	4.9	0.0	0.0	0.0	1.3	2.8	3.1	5.9	6.3	6.6	10.9	4.6
7	5.6	4.5	7.0	5.6	3.8	3.8	4.2	2.7	4.5	5.6	5.7	3.8	1.0	1.3	3.8	3.1	2.4	6.3	6.3	5.6	3.1	4.5	6.6	11.6	11.6	4.7
8	12.6	17.9	11.6	13.3	12.3	16.0	15.1	19.7	15.8	19.3	17.9	13.0	9.4	7.7	7.7	7.0	15.8	13.0	13.0	9.8	12.6	9.4	9.8	10.9	19.7	12.9
9	6.6	7.3	5.6	6.3	4.5	3.8	9.4	16.1	8.2	9.4	11.9	8.4	6.6	8.4	7.0	5.2	4.2	2.8	4.5	3.5	3.1	3.8	3.1	4.5	16.1	6.4
10	9.1	5.6	2.4	3.8	4.9	4.2	4.2	2.6	7.0	6.6	3.8	1.3	0.6	0.3	0.0	4.9	1.7	1.3	3.5	3.3	3.1	4.2	3.5	2.8	9.1	3.5
11	3.5	3.5	2.0	3.1	2.8	2.6	7.7	6.6	6.6	4.9	3.5	6.6	5.2	5.2	2.8	0.3	0.3	2.0	1.7	1.3	2.8	4.9	4.9	5.2	7.7	3.7
12	4.5	2.8	0.0	0.3	0.3	0.0	1.0	1.0	2.8	2.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	3.5	0.0	0.1	4.5	1.0
13	0.1	0.0	3.5	2.8	0.0	0.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.7	1.3	0.0	0.0	0.0	0.7	2.8	0.0	0.0	1.0	1.3	3.5	0.6
14	0.0	0.0	0.0	1.0	2.4	1.7	1.7	0.0	15.4	19.7	R	I	C	C	C	14.7	16.5	19.0	20.0	17.2	20.4	23.5	23.9	22.5	23.9	11.6
15	16.5	20.0	19.7	19.3	16.5	18.3	2.8	2.8	2.0	0.0	2.8	5.9	3.3	1.3	1.0	5.6	4.9	4.2	3.8	2.4	2.8	2.6	3.1	2.4	20.0	6.8
16	5.6	4.2	3.8	4.5	4.5	22.1	17.3	19.0	22.1	19.0	15.4	21.8	23.2	21.1	17.3	11.9	6.3	16.3	17.9	13.0	9.4	3.8	0.0	1.0	23.2	12.5
17	1.0	2.8	2.0	1.3	2.8	3.8	3.5	3.5	4.9	25.2	19.0	16.1	19.3	19.3	22.1	15.4	3.8	2.6	2.4	1.4	1.7	2.4	2.0	1.0	25.2	7.5
18	0.0	0.3	2.0	0.0	0.0	0.0	1.0	2.8	2.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	2.8	0.4
19	0.3	0.0	1.5	2.0	0.0	0.0	0.0	0.0	1.7	2.4	1.0	0.0	0.0	0.0	0.0	0.3	2.8	2.0	0.0	1.0	0.0	1.7	3.1	0.3	3.1	0.8
20	1.7	1.0	3.1	4.5	4.5	0.6	0.0	0.0	0.0	0.0	0.0	1.4	2.0	0.0	1.0	0.6	3.1	10.2	8.0	8.7	8.0	8.4	7.0	5.6	10.2	3.3
21	6.6	16.1	6.2	5.9	8.7	14.4	10.2	9.4	18.6	16.5	17.9	22.1	24.4	22.1	3.8	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	24.4	8.5
22	0.0	2.8	2.0	0.0	1.0	3.5	1.7	0.0	0.3	1.7	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	0.6	3.5	0.6
23	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.0	0.0	M	M	M	M	0.0	1.4	0.6	2.4	3.3	3.8	0.0	0.0	3.8	0.8
24	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	1.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.3	0.0	3.8	3.8	0.5
25	4.2	0.6	4.5	3.1	0.0	0.0	0.0	0.0	2.4	0.3	2.0	2.4	1.7	0.8	0.0	0.0	0.0	0.3	0.6	0.0	0.3	1.3	1.3	0.0	4.5	1.1
26	0.0	2.0	3.1	1.3	0.0	0.0	0.0	1.0	2.8	2.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.3	0.6	0.0	0.0	0.0	3.1	0.7
27	0.0	0.0	0.0	0.0	0.0	2.1	1.3	0.0	0.0	0.0	1.3	0.0	0.0	1.0	0.6	2.4	2.1	1.7	2.8	1.0	2.0	2.1	1.0	0.0	2.8	0.9
28	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.7	2.4	0.0	0.0	1.7	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.4	0.5
29	1.0	2.8	2.8	1.3	0.6	1.0	0.0	0.0	1.0	1.3	1.4	2.4	1.0	C	C	C	C	C	C	C	C	C	C	C	2.8	1.3
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	0.0	
Hourly Max	16.5	20.0	19.7	19.3	16.5	22.1	17.3	19.7	22.1	25.2	19.0	22.1	24.4	22.1	22.1	15.4	16.5	19.0	20.0	17.2	20.4	23.5	23.9	22.5		
Hourly Average	3.4	3.9	3.4	3.5	3.1	3.8	3.4	3.6	4.8	5.4	4.5	4.3	4.5	4.8	3.9	3.6	2.8	3.4	3.7	3.3	3.1	3.5	3.2	3.6		

C = CALIBRATION R = INSTRUMENT REMOVAL I = INSTRUMENT INSTALLATION M = MAINTENANCE

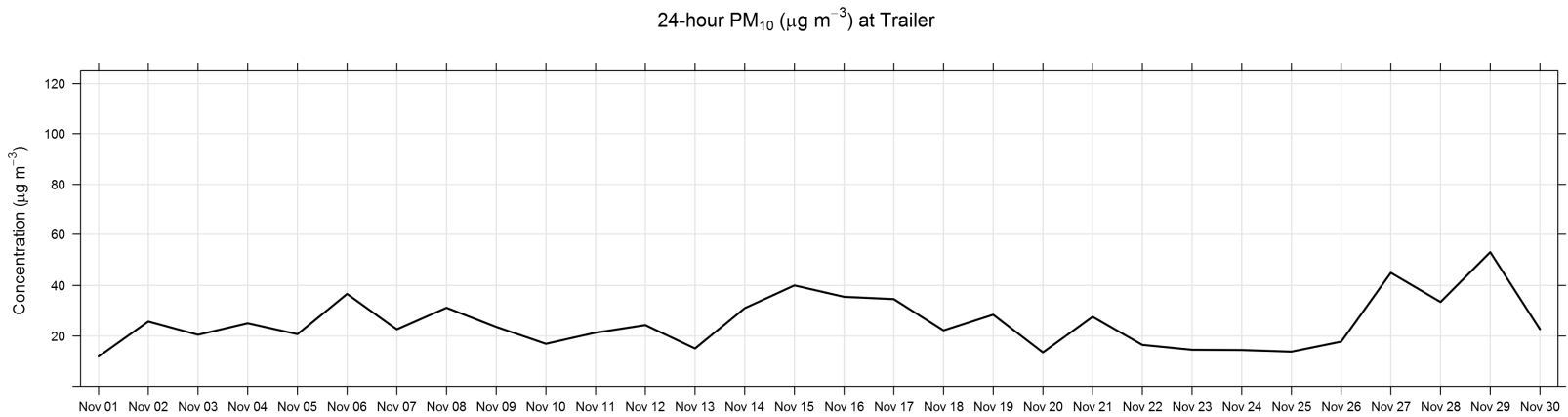


Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Objective	30	UG/M3
Number of Non-Zero Readings	470			
Maximum 1-HR Average	25.2	UG/M3		
Maximum 24-HR Average	12.9	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	714 HRS
Monthly Calibration Time	42	HRS	Operational Uptime	99.2 %
Standard Deviation	5.3		Monthly Average	3.8 UG/M3

Lagoon PM10 (µg/m³) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	12.5	10.4	9.0	10.4	9.0	6.1	6.8	5.4	3.3	7.5	9.0	6.8	17.4	6.8	8.3	9.0	9.0	28.2	23.8	10.4	10.4	33.6	11.1	19.5	33.6	11.8
2	17.4	11.1	11.1	18.1	34.3	25.9	25.2	19.5	6.1	6.8	19.5	18.1	15.3	22.3	22.3	61.1	40.0	61.8	47.7	59.0	29.4	25.7	10.4	11.8	61.8	25.8
3	13.9	56.2	41.4	21.6	22.3	28.0	16.7	10.4	18.8	14.7	23.4	16.0	21.6	23.0	20.9	23.8	11.8	12.5	17.9	24.5	9.0	11.8	11.1	20.9	56.2	20.5
4	23.8	14.6	13.2	11.1	11.8	17.4	14.6	14.6	11.8	10.4	72.4	39.3	15.3	37.9	50.5	51.2	16.0	19.5	33.6	30.1	13.2	16.2	27.3	37.1	72.4	25.1
5	40.7	48.4	17.9	16.7	10.4	12.5	13.2	9.0	8.3	11.1	13.2	25.9	25.9	16.7	16.7	18.1	30.8	9.0	49.1	28.0	25.2	18.1	13.9	19.5	49.1	20.7
6	12.5	12.5	10.4	8.1	7.5	4.7	19.5	19.5	25.2	38.6	55.5	66.0	58.3	86.5	63.2	34.3	30.8	28.7	57.5	68.9	47.7	51.2	53.4	20.2	86.5	36.7
7	18.8	18.8	47.0	11.8	11.8	12.5	13.2	11.8	32.2	32.2	26.6	9.0	23.8	26.6	30.8	22.3	21.6	22.3	29.4	19.5	25.7	21.6	18.1	37.1	47.0	22.7
8	28.0	49.8	30.1	33.6	26.6	16.7	32.2	34.3	32.9	34.3	32.2	42.8	29.4	19.5	13.9	18.8	35.7	32.2	53.4	41.4	28.0	20.2	33.6	30.9	53.4	31.3
9	13.2	20.2	13.2	18.8	15.3	14.6	29.4	27.3	21.6	42.8	46.3	37.1	49.8	38.6	28.7	34.3	11.8	13.2	13.9	23.1	14.6	13.6	12.5	13.9	49.8	23.7
10	18.8	20.9	29.4	18.1	13.2	12.5	12.5	13.2	21.6	20.2	36.4	21.1	11.1	13.2	12.3	5.4	16.0	27.3	28.0	27.3	18.1	4.0	2.6	2.6	36.4	16.9
11	9.7	13.9	13.9	11.8	11.1	13.9	15.3	15.3	13.9	13.2	17.9	16.4	26.6	21.6	19.5	8.3	3.8	0.5	21.6	7.5	17.4	55.5	62.5	101.3	101.3	21.3
12	21.6	17.4	39.3	26.6	11.8	11.1	16.0	6.1	8.3	8.3	18.8	28.0	27.9	21.6	4.7	32.2	6.1	8.3	11.1	11.1	202.0	24.5	11.8	10.4	202.0	24.4
13	4.7	1.2	4.0	4.7	6.8	7.5	5.4	8.3	9.0	2.6	24.7	23.1	30.8	21.6	17.4	16.7	27.3	17.4	18.2	52.6	29.4	13.9	8.3	5.4	52.6	15.0
14	7.5	6.8	7.5	10.4	31.5	17.4	9.0	9.7	40.7	55.5	C	C	C	C	C	17.4	45.6	67.4	56.9	36.8	52.6	41.4	37.1	40.0	67.4	31.1
15	29.4	33.6	37.8	26.6	28.7	45.1	24.5	30.1	48.4	61.8	56.2	138.6	51.2	44.9	41.4	54.1	44.2	25.9	18.8	21.0	33.6	23.8	17.4	23.1	138.6	40.0
16	28.0	14.6	13.2	26.6	28.7	44.2	18.0	30.1	37.1	54.1	99.8	54.1	48.4	40.0	34.3	29.3	11.1	40.0	56.9	49.8	19.5	31.5	28.0	16.0	99.8	35.5
17	13.2	18.1	11.8	13.2	12.5	11.1	11.1	10.4	20.9	56.2	42.1	50.5	60.4	44.9	43.5	77.3	80.1	49.8	28.7	10.4	12.2	70.8	56.9	25.9	80.1	34.7
18	30.1	77.3	23.5	21.1	10.4	11.8	61.1	35.7	11.8	8.3	10.4	13.9	16.7	11.1	39.3	32.2	10.4	23.6	9.0	11.1	8.3	7.5	9.7	40.0	77.3	22.2
19	20.2	17.4	80.1	21.6	35.0	39.3	41.9	13.2	60.4	13.9	24.5	25.8	13.2	20.2	47.7	23.8	42.1	43.5	32.9	6.1	18.8	8.3	11.8	23.8	80.1	28.6
20	22.3	16.0	24.5	15.3	11.8	30.8	21.6	16.7	2.6	4.0	2.6	6.1	9.7	8.3	6.1	6.8	11.1	10.4	16.7	17.4	13.9	13.9	19.5	15.3	30.8	13.5
21	18.2	31.5	13.6	20.2	30.1	26.6	13.9	25.2	30.8	37.1	61.8	82.9	54.1	65.3	63.2	25.9	5.4	9.7	10.4	8.3	9.0	6.8	6.8	9.0	82.9	27.7
22	10.4	16.4	24.5	12.5	31.5	37.9	33.6	10.4	11.1	13.9	11.8	5.4	8.3	11.1	6.1	8.3	11.8	16.7	16.0	10.4	22.3	40.7	7.8	16.7	40.7	16.5
23	11.8	51.9	17.4	13.2	9.0	7.5	11.1	11.1	6.2	9.7	16.0	9.7	18.2	6.8	9.7	13.9	13.4	9.7	5.4	20.9	19.5	20.2	9.7	26.6	51.9	14.5
24	23.1	17.4	1.9	23.8	10.4	6.3	6.1	7.5	37.1	23.8	54.1	15.3	16.7	C	C	C	0.0	6.1	9.0	6.1	7.5	8.3	11.1	11.1	54.1	14.4
25	23.0	16.0	9.0	7.5	4.7	6.1	6.1	4.7	6.8	7.5	24.5	27.2	37.8	39.3	20.2	5.4	7.5	8.3	16.0	4.0	8.3	11.8	7.5	20.9	39.3	13.8
26	28.0	16.7	16.7	8.2	11.1	12.1	20.9	24.6	43.5	63.9	56.4	36.4	30.9	13.4	14.6	10.4	2.6	0.0	0.5	1.2	1.2	1.9	4.0	6.8	63.9	17.7
27	11.8	14.6	11.1	8.3	17.4	12.5	11.1	12.5	18.8	19.5	24.5	42.8	103.4	30.1	93.5	94.9	41.4	79.4	161.2	96.3	56.2	65.3	37.8	14.6	161.2	44.9
28	15.3	13.2	17.4	13.2	16.0	81.5	56.2	51.2	22.3	66.1	58.3	33.6	32.2	49.8	44.2	28.7	53.3	23.8	1.2	4.7	11.1	19.5	42.8	49.1	81.5	33.5
29	99.1	19.5	16.7	115.3	55.5	20.2	28.0	18.1	32.2	41.8	75.4	75.9	25.9	28.0	41.4	24.5	30.1	23.1	41.4	269.7	125.2	13.9	19.5	32.2	269.7	53.0
30	22.3	9.3	12.1	18.2	28.7	13.6	9.7	7.5	44.3	24.7	40.7	23.8	26.6	32.9	13.9	13.2	12.5	18.1	44.2	63.0	25.2	15.3	13.2	13.2	63.0	22.7
Hourly Max Hourly Average	99.1	77.3	80.1	115.3	55.5	81.5	61.1	51.2	60.4	66.1	99.8	138.6	103.4	86.5	93.5	94.9	80.1	79.4	161.2	269.7	202.0	70.8	62.5	101.3		
	21.6	22.9	20.6	19.5	18.8	20.2	20.1	17.1	22.9	26.8	36.4	34.2	31.3	28.6	29.6	27.6	22.8	24.5	31.0	34.7	30.5	23.7	20.6	23.8		

C = CALIBRATION

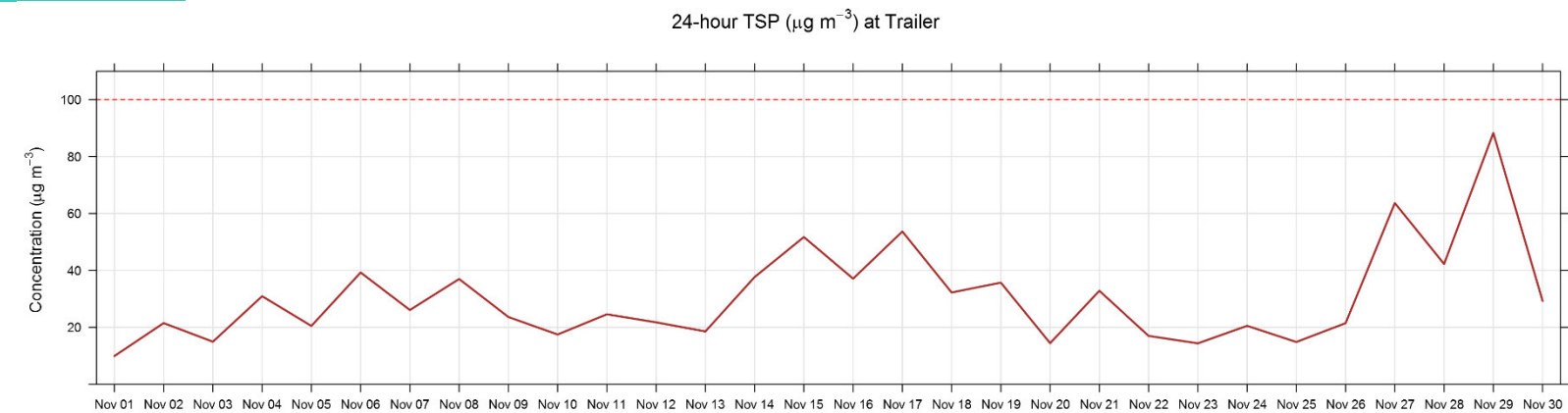


Number of 1HR Exceedances	n/a	Objective	n/a	UG/M3
Number of Non-Zero Readings	710			
Maximum 1-HR Average	269.7	UG/M3		
Maximum 24-HR Average	53.0	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	8	HRS	Operational Uptime	100.0 %
Standard Deviation	22.9		Monthly Average	25.4 UG/M3

Lagoon TSP (µg/m³) – November 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	11.5	8.5	7.1	9.9	7.1	4.3	3.0	0.2	1.6	15.4	4.3	1.6	15.4	3.0	3.0	4.3	3.0	19.6	16.8	19.6	4.3	8.5	34.8	30.6	34.8	9.9
2	27.9	27.8	20.9	11.4	26.5	8.5	19.6	11.3	9.9	9.9	6.1	16.8	16.7	16.9	12.6	62.4	32.0	47.2	37.5	30.6	28.0	22.3	7.1	5.7	62.4	21.5
3	8.5	30.6	38.9	20.9	5.7	19.6	8.5	8.5	18.2	5.7	22.3	11.3	18.2	5.7	18.2	5.7	14.0	0.0	14.0	23.7	9.9	20.9	8.5	20.9	38.9	14.9
4	16.8	19.6	19.6	9.9	9.9	18.2	7.1	4.3	24.4	3.0	94.2	22.3	16.8	55.5	113.5	97.0	15.4	22.3	27.8	38.9	11.3	18.2	20.9	55.5	113.5	30.9
5	58.3	63.8	14.0	25.1	12.6	5.7	5.7	8.5	4.4	3.0	16.8	16.8	14.0	16.8	26.5	14.1	32.0	9.9	32.0	33.4	8.5	29.2	15.4	25.1	63.8	20.5
6	16.7	18.2	16.8	0.0	0.2	7.1	9.9	33.4	27.7	45.8	52.7	48.6	74.8	99.7	59.6	33.4	26.5	32.0	51.3	54.1	77.1	69.3	58.3	29.2	99.7	39.3
7	3.8	23.7	47.2	14.0	22.3	0.0	5.7	14.0	32.6	30.6	34.8	19.6	26.5	29.2	32.0	28.3	25.1	32.0	47.2	26.5	36.1	20.9	25.1	48.6	48.6	26.1
8	33.4	69.3	33.4	43.1	28.1	26.5	22.3	45.8	30.6	26.5	25.7	37.5	30.6	15.4	27.8	19.6	48.5	63.8	87.3	63.8	29.2	30.6	16.8	32.0	87.3	37.0
9	8.5	18.2	14.0	16.8	8.5	18.2	19.6	20.9	25.1	43.0	58.3	47.2	51.2	45.8	27.8	33.4	12.6	16.8	12.6	22.3	13.8	11.0	9.9	11.4	58.3	23.6
10	15.4	16.8	25.1	26.5	16.8	18.2	12.6	14.0	26.5	24.8	47.2	14.0	3.0	7.1	9.9	8.5	15.4	29.2	30.6	18.2	14.0	7.1	9.9	8.5	47.2	17.5
11	4.3	14.0	0.2	4.3	16.8	20.9	12.6	9.9	8.5	14.0	22.3	25.7	27.8	22.3	25.1	8.5	5.7	15.4	22.3	16.7	27.8	73.5	84.5	106.6	106.6	24.6
12	24.9	18.2	37.5	37.5	15.4	4.3	5.7	8.5	7.1	4.3	8.4	29.2	23.7	7.1	5.7	5.7	8.5	9.9	14.0	9.9	220.0	6.1	5.7	4.3	220.0	21.7
13	0.0	0.0	0.0	16.8	11.3	11.1	6.0	7.1	9.9	5.7	25.1	23.7	40.3	26.1	21.1	27.8	37.5	18.2	11.3	76.2	41.7	15.4	9.9	3.0	76.2	18.5
14	0.0	8.5	11.3	22.3	33.4	33.4	12.6	14.0	54.1	74.8	C	C	C	C	C	20.9	48.5	79.0	66.5	50.0	63.8	54.3	38.9	29.2	79.0	37.7
15	30.6	37.5	30.6	33.4	23.7	45.8	25.1	23.7	79.0	114.9	72.1	188.2	66.5	58.3	56.9	83.1	59.6	52.7	23.7	34.8	50.0	25.8	11.3	14.1	188.2	51.7
16	32.9	19.6	12.6	26.5	29.2	61.0	15.4	30.6	34.8	52.7	56.9	44.4	51.3	40.3	41.7	29.2	18.2	61.0	77.6	58.3	25.1	23.7	23.7	23.7	77.6	37.1
17	8.5	25.9	8.5	15.4	12.6	9.9	8.5	9.9	33.4	102.5	63.8	74.8	73.5	54.1	66.5	120.4	128.7	76.2	73.5	15.4	29.2	120.4	102.5	54.1	128.7	53.7
18	56.9	131.2	38.9	25.1	25.7	12.6	110.8	70.7	15.4	15.4	15.4	11.1	23.7	11.3	33.4	29.2	18.2	25.1	9.9	22.3	8.5	8.5	9.9	44.4	131.2	32.2
19	18.2	25.1	45.8	23.7	36.1	40.3	32.0	30.6	102.5	25.1	38.9	36.1	23.7	20.9	76.2	37.5	67.7	70.7	40.3	8.5	8.5	9.9	12.6	25.8	102.5	35.7
20	36.1	15.4	15.4	12.6	20.9	29.2	27.8	19.6	8.5	7.1	7.1	4.3	4.3	1.6	15.4	9.9	8.5	8.5	18.2	16.8	14.0	11.3	18.2	15.4	36.1	14.4
21	18.8	36.1	18.2	16.8	38.9	32.0	12.6	19.6	45.8	54.1	99.7	83.1	69.3	76.2	85.9	15.4	11.3	16.7	6.0	8.5	9.9	4.4	3.0	5.9	99.7	32.8
22	7.1	8.5	24.7	11.3	34.8	25.1	32.0	5.9	16.8	11.3	9.9	7.1	6.1	8.5	8.5	7.1	15.4	23.7	33.4	16.8	20.9	41.7	12.6	18.2	41.7	17.0
23	9.9	59.6	18.2	11.3	11.3	8.5	5.7	4.3	7.1	9.9	14.1	8.5	8.5	7.1	18.2	20.9	11.3	9.9	7.1	24.8	16.8	23.7	7.1	20.9	59.6	14.4
24	22.3	16.8	9.9	20.9	16.8	11.3	8.5	7.1	83.1	38.9	94.2	9.9	C	C	C	C	5.7	7.1	7.1	7.1	8.5	9.9	11.3	14.0	94.2	20.5
25	18.2	16.8	0.0	4.3	7.1	1.6	3.0	5.7	8.5	11.3	30.6	30.6	41.7	40.4	23.7	5.7	5.7	8.5	16.8	5.7	15.4	19.3	6.1	29.2	41.7	14.8
26	45.8	20.9	15.4	7.1	8.6	8.5	14.0	26.5	56.9	77.6	58.3	41.7	25.1	23.7	16.8	9.9	5.7	3.0	7.1	7.1	8.5	8.5	8.5	9.9	77.6	21.5
27	14.0	14.2	8.4	3.0	29.2	17.2	4.3	15.4	29.2	27.8	38.9	61.0	73.5	38.9	112.2	131.5	66.5	161.9	248.7	149.3	94.2	108.0	66.5	13.9	248.7	63.7
28	16.8	7.1	18.2	9.9	23.7	48.6	63.8	79.0	36.1	95.6	62.4	44.4	40.3	73.5	54.1	52.7	67.9	37.5	8.6	9.9	11.3	30.6	73.5	48.6	95.6	42.2
29	222.7	26.5	37.5	175.7	84.5	34.8	41.7	43.1	55.5	52.7	130.1	105.2	43.1	38.9	61.0	46.2	50.0	36.1	62.4	452.2	221.3	20.9	25.1	52.3	452.2	88.3
30	29.2	18.2	11.3	25.1	29.2	18.2	8.5	11.1	65.2	18.2	48.6	26.5	27.9	43.0	27.9	15.4	22.3	30.6	56.9	67.9	38.9	26.5	8.5	27.9	67.9	29.3
Hourly Max Hourly Average	222.7	131.2	47.2	175.7	84.5	61.0	110.8	79.0	102.5	114.9	130.1	188.2	74.8	99.7	113.5	131.5	128.7	161.9	248.7	452.2	221.3	120.4	102.5	106.6		
	27.3	27.2	20.0	22.7	21.6	20.0	18.8	20.1	31.9	34.1	43.4	37.6	33.5	31.7	38.6	33.9	29.6	34.1	39.0	46.3	38.9	29.3	24.9	27.6		

C = CALIBRATION

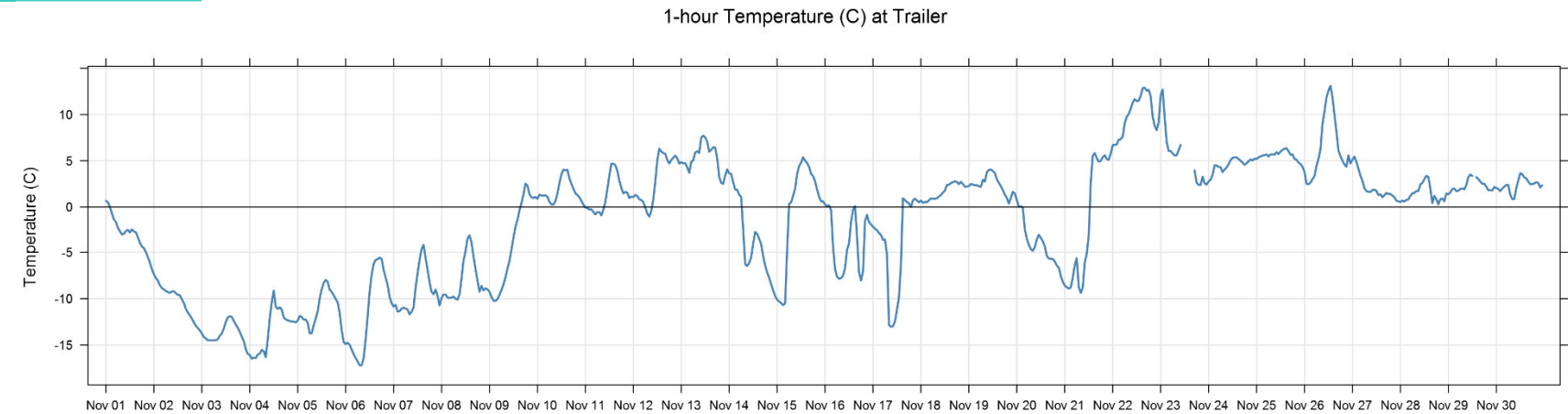


Number of 24HR Exceedances	0	Objective	100	UG/M3
Number of Non-Zero Readings	703			
Maximum 1-HR Average	452.2	UG/M3		
Maximum 24-HR Average	88.3	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	9	HRS	Operational Uptime	100.0 %
Standard Deviation	34.3		Monthly Average	30.4 UG/M3

Lagoon Temperature (°C) – November 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	0.7	0.5	0.0	-0.7	-1.4	-1.7	-2.4	-2.7	-3.1	-3.0	-2.7	-2.6	-2.8	-2.5	-2.7	-2.8	-3.4	-4.0	-4.4	-4.5	-5.0	-5.5	-6.1	-6.8	0.7	-2.9
2	-7.4	-7.8	-8.0	-8.6	-8.8	-9.0	-9.2	-9.3	-9.4	-9.2	-9.2	-9.4	-9.6	-9.6	-10.1	-10.5	-11.1	-11.5	-11.8	-12.2	-12.6	-12.9	-13.2	-13.4	-7.4	-10.1
3	-13.7	-14.1	-14.3	-14.5	-14.5	-14.5	-14.5	-14.5	-14.4	-14.0	-13.8	-13.2	-12.5	-12.0	-11.9	-12.0	-12.4	-12.8	-13.1	-13.6	-14.1	-14.6	-15.5	-16.0	-11.9	-13.8
4	-16.1	-16.5	-16.4	-16.4	-16.0	-15.9	-15.5	-15.7	-16.3	-14.4	-12.2	-10.4	-9.1	-10.9	-11.1	-10.9	-11.2	-12.0	-12.2	-12.3	-12.4	-12.5	-12.5	-12.6	-9.1	-13.4
5	-12.4	-11.9	-12.0	-12.3	-12.3	-12.6	-13.7	-13.7	-12.9	-12.2	-11.4	-10.0	-9.0	-8.3	-8.0	-8.2	-9.0	-9.2	-9.6	-10.0	-10.4	-11.5	-13.4	-14.7	-8.0	-11.2
6	-14.9	-14.8	-15.0	-15.5	-16.0	-16.4	-16.8	-17.2	-17.2	-16.4	-14.4	-11.9	-9.3	-7.4	-6.3	-5.8	-5.7	-5.6	-5.7	-6.9	-7.7	-8.5	-9.8	-10.5	-5.6	-11.5
7	-10.9	-10.7	-11.4	-11.3	-11.1	-11.0	-11.1	-11.2	-11.7	-11.4	-10.9	-8.8	-7.3	-5.8	-4.6	-4.2	-5.6	-6.9	-8.2	-9.3	-9.5	-9.0	-9.7	-10.7	-4.2	-9.3
8	-9.9	-9.5	-9.6	-9.9	-9.9	-9.9	-9.8	-10.0	-10.1	-9.6	-7.8	-5.9	-4.9	-3.5	-3.2	-3.9	-5.4	-6.8	-8.0	-9.2	-8.6	-9.1	-8.9	-9.0	-3.2	-8.0
9	-9.3	-9.8	-10.2	-10.3	-10.1	-9.6	-9.1	-8.5	-7.7	-6.8	-6.0	-4.7	-3.4	-2.2	-1.4	-0.4	0.4	1.4	2.5	2.3	1.4	1.1	1.0	1.1	2.5	-4.1
10	0.9	1.3	1.2	1.2	1.3	1.1	0.6	0.3	0.3	0.6	1.5	2.6	3.5	4.0	4.0	4.0	3.1	2.5	2.0	1.5	1.3	1.1	0.7	0.3	4.0	1.7
11	0.0	-0.1	-0.3	-0.2	-0.5	-0.8	-0.5	-0.5	-0.9	-0.3	0.5	1.9	3.4	4.7	4.7	4.5	3.9	2.9	2.1	1.5	1.6	1.6	1.0	1.1	4.7	1.3
12	1.1	1.3	1.2	0.8	0.8	0.5	-0.1	-0.7	-1.0	-0.4	0.8	2.7	5.0	6.3	6.0	5.8	5.7	5.1	4.7	5.1	5.3	5.6	5.3	4.7	6.3	3.0
13	4.9	4.7	4.8	4.3	3.7	4.9	5.0	5.9	6.0	5.8	7.5	7.7	7.5	7.1	6.0	6.2	6.4	6.4	5.3	3.3	2.6	2.5	3.4	4.1	7.7	5.2
14	3.6	3.6	2.7	1.9	1.9	1.3	1.1	-2.5	-6.3	-6.5	-6.2	-5.5	-4.0	-2.8	-3.0	-3.5	-4.1	-5.4	-6.4	-7.2	-7.7	-8.4	-9.1	-9.7	3.6	-3.4
15	-10.1	-10.3	-10.5	-10.7	-10.5	-4.8	0.4	0.5	1.2	2.0	3.6	4.4	4.8	5.4	5.0	4.8	4.3	3.6	3.3	2.8	1.9	1.1	0.6	0.6	5.4	-0.3
16	0.3	0.1	0.2	-0.3	-4.4	-6.8	-7.6	-7.9	-7.8	-7.5	-6.7	-4.7	-4.0	-1.7	-0.3	0.1	-3.2	-7.1	-8.0	-7.1	-1.6	-0.8	-1.7	-2.0	0.3	-3.8
17	-2.2	-2.4	-2.6	-2.9	-3.1	-3.6	-3.6	-5.3	-12.8	-13.0	-13.0	-12.4	-11.2	-9.8	-6.3	0.9	0.7	0.5	0.4	0.0	0.7	0.9	0.7	0.5	0.9	-4.1
18	0.7	0.5	0.5	0.5	0.7	0.9	0.9	0.9	1.0	1.1	1.3	1.6	1.8	2.4	2.4	2.6	2.7	2.8	2.7	2.5	2.7	2.5	2.2	2.2	2.8	1.7
19	2.3	2.5	2.4	2.3	2.4	2.2	2.2	3.0	2.7	3.8	4.0	4.1	3.9	3.7	3.0	2.6	2.2	1.8	1.3	1.0	0.4	1.0	1.6	1.5	4.1	2.4
20	0.8	0.0	0.1	-0.1	-2.5	-3.5	-4.2	-4.6	-4.8	-4.4	-3.6	-3.1	-3.4	-3.8	-4.3	-5.4	-5.7	-5.7	-5.7	-6.0	-6.4	-6.6	-7.5	-8.2	0.8	-4.1
21	-8.6	-8.8	-8.9	-8.8	-7.7	-6.4	-5.6	-8.7	-9.4	-8.8	-6.1	-5.2	-3.1	2.7	5.6	5.8	5.3	4.9	5.0	5.4	5.6	5.2	5.1	5.8	5.8	-1.7
22	6.7	6.7	6.8	7.3	7.3	7.6	9.1	9.7	10.1	10.6	11.3	11.7	11.4	11.5	12.0	12.8	12.9	12.6	12.7	12.0	9.8	8.8	8.3	9.2	12.9	9.9
23	12.0	12.7	9.7	7.0	6.1	6.1	5.8	5.6	5.6	6.1	6.7	M	M	M	M	M	M	3.9	2.6	2.4	2.4	3.3	2.6	2.4	12.7	5.7
24	2.8	2.9	3.5	4.5	4.5	4.3	4.3	3.8	4.1	4.3	4.6	5.1	5.3	5.4	5.4	5.2	5.0	4.8	4.6	4.7	5.0	5.1	5.0	5.2	5.4	4.6
25	5.2	5.4	5.4	5.6	5.6	5.7	5.5	5.7	5.7	5.7	5.9	5.7	6.0	6.2	6.3	6.4	6.0	5.6	5.7	5.2	5.1	4.8	4.6	4.4	6.4	5.6
26	3.8	2.5	2.5	2.6	3.0	3.3	4.4	5.2	6.2	9.0	10.3	11.8	12.6	13.1	11.9	10.0	8.2	6.1	5.5	5.0	4.6	4.4	5.6	4.7	13.1	6.5
27	5.1	5.5	4.9	4.2	3.4	2.8	2.0	1.7	1.7	1.6	1.8	1.9	1.8	1.3	1.4	1.1	1.3	1.5	1.4	1.4	1.2	1.1	0.7	0.6	5.5	2.1
28	0.5	0.7	0.6	0.8	0.8	1.2	1.5	1.5	1.7	1.7	2.4	2.6	3.0	3.4	3.3	2.0	0.4	1.2	0.8	0.3	0.8	0.9	0.6	1.4	3.4	1.4
29	1.4	1.6	1.9	2.0	1.7	1.7	2.0	2.0	1.9	2.4	3.2	3.5	3.4	3.2	3.2	3.0	2.8	2.5	2.5	2.2	1.8	1.8	1.8	2.2	3.5	2.3
30	2.1	2.0	1.7	2.0	2.2	2.4	2.4	1.3	0.9	0.9	2.0	2.8	3.7	3.6	3.2	3.1	2.7	2.5	2.5	2.6	2.7	2.6	2.1	2.3	3.7	2.3
Hourly Max	12.0	12.7	9.7	7.3	7.3	7.6	9.1	9.7	10.1	10.6	11.3	11.8	12.6	13.1	12.0	12.8	12.9	12.6	12.7	12.0	9.8	8.8	8.3	9.2		
Hourly Average	-2.0	-2.1	-2.3	-2.5	-2.8	-2.7	-2.5	-2.9	-3.2	-2.7	-1.9	-1.3	-0.6	0.1	0.3	0.5	-0.1	-0.5	-0.9	-1.2	-1.3	-1.5	-1.8	-2.0		

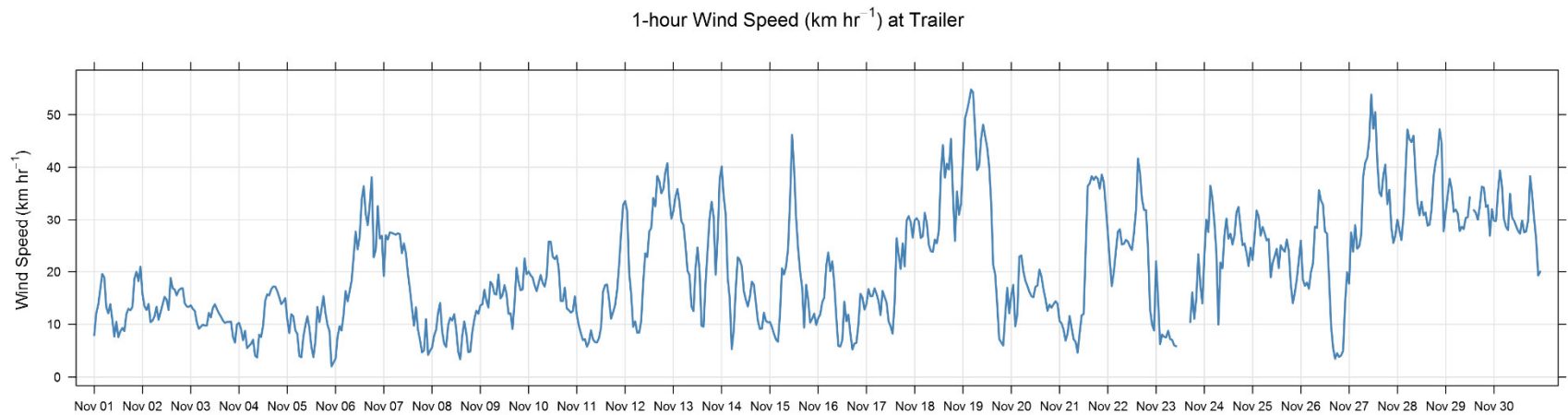
M = MAINTENANCE



Lagoon Wind Speed (km/hr) – November 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	7.9	12.1	13.7	16.6	19.6	18.9	13.3	12.1	13.8	10.9	7.7	10.5	7.6	8.7	9.3	8.7	12.0	13.0	12.7	13.3	18.7	20.0	18.2	21.0	21.0	13.3
2	15.8	13.4	12.8	13.9	10.4	10.7	11.6	13.4	10.9	12.3	13.8	15.2	14.7	12.7	18.8	16.9	16.6	15.5	16.5	16.8	16.9	14.0	13.4	13.3	18.8	14.2
3	13.6	13.0	12.6	10.4	9.2	9.5	9.9	9.8	9.8	12.2	11.3	13.2	13.8	12.9	12.1	11.5	10.8	10.3	10.5	10.5	10.5	7.6	6.5	10.0	13.8	10.9
4	10.3	9.1	7.0	8.8	5.5	5.9	6.3	7.1	4.1	3.7	8.0	7.6	9.8	14.4	15.7	15.5	16.7	17.2	17.2	16.4	15.2	13.9	14.3	15.0	17.2	11.0
5	11.0	8.4	11.9	11.5	8.9	8.2	4.0	3.8	7.6	9.8	11.5	9.3	5.7	3.8	6.9	13.3	10.4	12.9	15.4	12.1	9.9	8.7	2.0	2.8	15.4	8.8
6	3.5	7.7	9.7	8.8	11.9	16.3	14.4	16.3	18.4	22.9	27.6	24.3	26.7	33.8	36.4	31.2	28.9	32.9	38.1	22.8	24.2	32.6	26.3	26.8	38.1	22.6
7	19.2	26.9	26.2	27.5	27.4	27.2	27.0	27.3	27.1	23.5	25.4	23.5	19.6	16.6	13.1	9.8	13.3	9.0	7.0	4.7	5.1	11.0	4.2	5.0	27.5	17.8
8	5.6	7.9	9.0	12.2	14.1	8.7	6.4	5.7	9.9	11.3	10.8	11.9	9.1	4.8	3.4	7.8	10.6	8.4	4.7	4.9	8.6	10.9	12.6	12.0	14.1	8.8
9	13.6	13.8	16.6	14.5	13.2	18.1	17.6	15.8	15.7	19.5	14.9	15.5	17.5	15.8	12.0	12.1	9.1	14.1	20.7	18.1	16.5	16.6	22.5	19.6	22.5	16.0
10	20.0	19.3	18.9	17.4	16.3	17.9	19.4	17.9	17.2	19.2	25.7	25.7	22.8	22.4	23.1	20.5	14.5	14.4	17.0	13.0	12.7	12.2	12.6	15.3	25.7	18.1
11	11.8	9.7	8.3	7.0	7.2	5.8	6.6	8.9	7.2	6.7	6.6	7.4	9.4	16.2	17.4	17.6	14.8	11.1	12.3	13.6	16.5	21.3	27.3	32.9	32.9	12.7
12	33.6	31.7	19.8	15.7	9.5	10.6	8.4	8.4	10.7	18.0	23.5	22.8	27.7	28.3	34.2	32.6	38.4	37.4	35.1	35.9	39.1	40.8	34.1	30.3	40.8	26.1
13	31.7	34.4	35.9	33.4	29.5	28.9	25.1	20.2	19.4	13.4	12.5	20.7	24.6	20.1	9.7	9.6	18.0	24.1	30.3	33.5	30.6	19.4	26.5	37.8	37.8	24.6
14	40.2	34.6	31.0	18.9	15.0	5.3	8.9	16.7	22.7	22.3	21.0	16.3	14.7	13.4	15.2	18.1	17.5	14.1	10.7	9.1	9.2	12.2	10.7	10.4	40.2	17.0
15	10.5	9.5	8.2	7.1	6.7	12.0	20.6	19.5	21.0	24.3	33.8	46.2	39.9	30.4	24.5	20.1	17.0	9.4	17.5	14.7	10.4	11.1	12.0	9.9	46.2	18.2
16	11.2	11.9	14.2	15.1	21.2	23.7	20.1	22.0	17.7	11.4	5.9	5.8	7.1	14.3	10.6	11.8	8.3	5.2	6.4	6.5	10.1	15.8	15.1	12.8	23.7	12.7
17	13.9	16.7	15.3	15.4	16.9	15.8	14.4	11.8	16.4	15.2	14.1	10.6	9.6	8.2	14.1	26.4	23.2	20.5	25.4	21.0	29.9	30.7	29.4	26.5	30.7	18.4
18	30.0	30.3	29.6	26.4	26.7	31.4	29.2	25.1	23.9	23.8	26.1	25.4	27.8	39.1	44.2	38.0	40.7	39.6	45.4	34.9	25.8	35.4	31.0	33.1	45.4	31.8
19	41.2	49.3	50.7	52.6	54.8	54.3	47.2	39.5	40.2	45.4	48.1	45.9	43.8	40.2	33.3	21.3	19.5	13.8	7.2	6.6	6.0	11.7	17.0	12.1	54.8	33.4
20	15.6	17.5	9.6	11.9	22.9	23.1	20.1	18.3	17.3	16.2	15.4	15.1	17.1	17.4	20.4	19.1	16.7	14.9	12.6	13.8	13.2	13.8	14.4	13.9	23.1	16.3
21	10.7	10.2	9.0	6.9	8.3	11.6	9.4	7.2	6.7	4.6	8.4	11.7	12.0	24.1	36.4	36.9	38.3	37.6	38.2	37.8	35.9	38.6	37.2	32.5	38.6	21.3
22	27.5	22.1	17.3	20.0	23.9	27.6	28.1	25.2	25.3	26.1	25.7	24.8	24.1	27.3	31.8	41.7	38.9	34.0	31.9	31.9	24.3	12.9	10.0	8.9	41.7	25.5
23	22.0	14.8	6.3	8.1	7.7	7.5	8.8	7.2	7.1	6.0	5.9	M	M	M	M	M	M	10.4	16.1	11.1	14.9	23.3	17.6	14.0	23.3	11.6
24	22.8	30.1	27.5	36.5	34.1	29.4	23.6	10.0	21.7	20.7	26.9	30.3	26.3	27.2	25.2	27.0	31.5	32.5	28.5	25.1	25.4	23.5	21.1	24.6	36.5	26.3
25	22.2	26.8	31.8	30.7	26.9	28.5	27.3	26.0	26.2	18.9	21.7	23.0	24.4	20.7	25.0	24.2	23.8	26.1	24.0	17.6	14.0	16.0	18.7	22.2	31.8	23.6
26	25.9	18.5	17.3	17.9	16.8	19.9	21.5	28.6	28.3	35.7	33.7	32.9	27.6	27.3	19.0	9.9	5.6	3.5	4.5	3.8	4.1	5.0	14.2	19.9	35.7	18.4
27	17.7	27.5	23.8	28.9	24.4	24.8	27.0	38.3	40.9	41.9	45.2	53.8	47.3	50.5	41.1	35.3	34.5	38.5	40.5	33.0	35.7	28.4	25.5	26.9	53.8	34.6
28	30.1	27.9	26.0	30.4	38.8	47.2	45.4	44.8	46.0	38.8	33.1	30.9	33.5	30.9	31.4	28.8	29.0	32.1	38.3	41.0	42.7	47.2	44.4	27.7	47.2	36.1
29	31.4	34.7	37.8	35.9	31.6	32.0	31.2	27.7	28.5	28.1	30.4	30.5	34.3	35.0	31.9	31.4	30.0	32.8	36.3	36.1	32.5	32.8	26.9	32.1	37.8	32.2
30	29.7	29.6	35.3	39.4	36.5	30.1	28.5	27.9	35.0	30.6	29.7	28.7	27.7	27.2	29.9	27.5	27.6	29.8	38.3	34.8	30.0	26.1	19.3	20.0	39.4	30.0
Hourly Max	41.2	49.3	50.7	52.6	54.8	54.3	47.2	44.8	46.0	45.4	48.1	53.8	47.3	50.5	44.2	41.7	40.7	39.6	45.4	41.0	42.7	47.2	44.4	37.8		
Hourly Average	20.0	20.6	19.8	20.0	19.8	20.4	19.4	18.7	19.9	19.8	20.8	22.1	21.6	22.2	22.3	21.5	21.2	20.5	22.0	19.8	19.6	20.5	19.5	19.6		

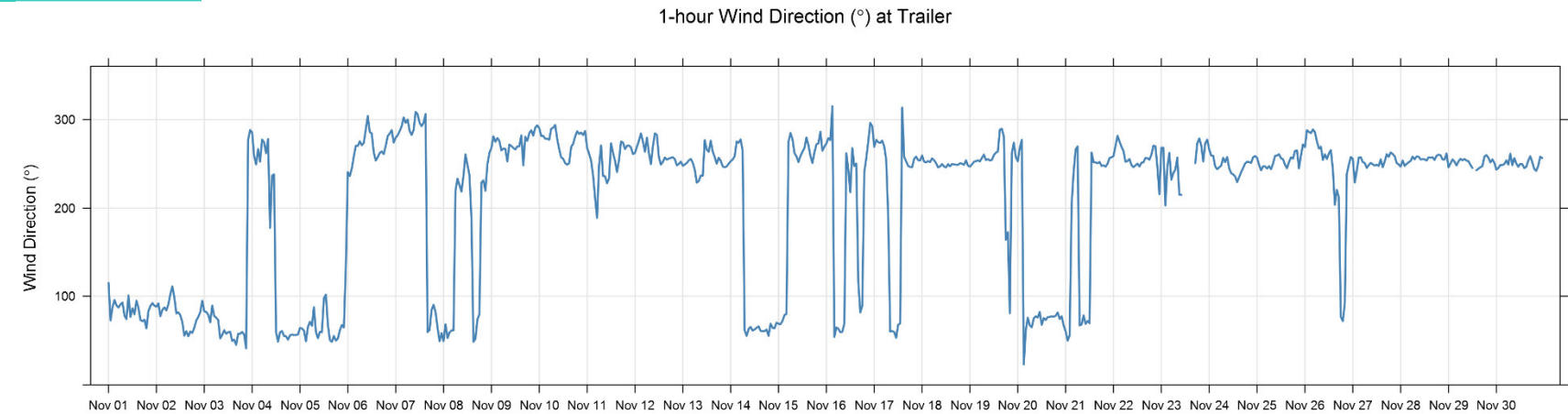
M = MAINTENANCE



Lagoon Wind Direction (°) – November 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	115.0	72.6	87.9	95.7	89.5	87.3	90.9	92.8	78.1	74.2	100.9	76.7	86.4	79.7	94.9	86.7	73.2	71.8	73.4	63.8	83.2	88.9	92.2	89.2	115.0	85.2
2	88.2	91.9	77.5	84.6	87.4	84.1	90.7	102.2	111.1	98.7	80.6	81.7	78.6	70.8	55.5	60.5	54.8	60.3	58.7	64.4	72.7	76.7	82.1	94.8	111.1	79.5
3	82.9	82.3	79.1	70.7	89.4	77.7	75.7	73.2	52.4	56.3	61.6	57.7	59.5	59.8	49.7	51.0	45.2	57.7	57.7	59.7	56.9	41.2	277.2	288.2	288.2	81.8
4	285.5	258.9	249.5	266.7	252.6	277.5	274.3	262.0	278.0	176.9	236.9	238.2	59.6	48.8	59.3	60.7	55.2	54.8	51.0	55.9	56.9	56.3	56.4	56.9	285.5	155.4
5	64.2	63.6	61.3	49.1	65.5	71.2	66.7	87.6	59.8	52.6	59.9	59.4	97.7	101.8	68.1	50.6	48.6	55.2	50.0	52.2	61.5	67.5	64.7	133.0	133.0	67.2
6	240.8	236.4	244.8	258.4	270.3	270.2	275.5	271.1	273.6	288.7	304.0	285.9	284.3	263.1	253.7	257.5	262.4	264.0	261.1	270.3	281.3	284.2	288.0	274.1	304.0	269.3
7	279.6	282.3	287.0	292.4	302.3	296.3	300.0	287.1	282.6	288.2	308.5	305.9	296.1	292.5	296.4	306.3	59.7	61.9	84.5	90.3	82.0	64.6	49.2	58.4	308.5	218.9
8	49.3	68.3	52.9	59.1	61.4	61.5	220.2	233.4	226.0	218.9	236.6	260.7	249.0	237.3	188.5	48.6	52.1	73.9	79.7	229.1	231.4	219.8	249.4	262.4	262.4	161.2
9	267.9	281.0	274.9	279.1	275.8	265.3	267.3	266.9	252.7	271.7	270.2	268.0	266.3	269.7	269.9	282.1	248.4	280.5	276.0	284.6	287.9	281.8	290.9	293.4	293.4	273.8
10	290.3	281.5	281.4	278.4	278.3	277.3	289.7	290.8	293.8	278.2	266.5	257.3	255.8	250.9	249.1	250.9	269.0	272.6	280.8	286.7	283.9	285.3	282.5	287.0	293.8	275.7
11	268.2	261.5	253.7	237.3	211.7	189.2	248.4	270.9	236.4	236.0	228.1	233.8	273.2	262.3	253.4	240.9	254.3	275.2	274.1	266.7	270.3	270.7	268.5	261.1	275.2	251.9
12	262.3	269.4	276.2	284.4	275.2	263.7	279.5	261.9	249.8	269.9	284.4	282.6	257.7	249.2	252.4	257.1	254.9	256.0	256.8	257.6	255.3	248.5	250.0	252.5	284.4	262.8
13	247.9	249.3	251.1	254.0	255.7	251.3	243.4	228.9	230.7	236.9	236.6	276.8	266.0	263.7	276.1	263.9	257.6	250.2	256.9	253.6	247.1	246.2	247.1	250.2	276.8	251.7
14	253.0	255.0	258.5	275.1	274.0	277.6	264.8	61.7	55.3	63.0	65.4	61.3	62.5	64.4	66.0	61.0	60.5	60.6	62.4	55.3	69.0	64.4	63.9	70.2	277.6	121.9
15	68.9	68.5	72.2	78.9	80.0	275.0	284.8	277.9	262.2	258.4	252.1	258.9	263.7	268.0	279.8	271.1	259.1	251.0	263.0	272.0	273.2	286.2	264.8	269.4	286.2	227.5
16	273.0	279.0	276.8	315.0	54.2	64.8	63.4	59.4	59.9	69.1	262.1	243.3	218.1	267.9	247.6	250.4	116.0	81.7	89.2	240.4	256.5	275.2	296.2	292.3	315.0	193.8
17	269.2	277.1	274.5	273.6	276.3	269.8	254.9	190.6	60.1	60.7	59.7	53.1	67.8	69.3	313.5	257.9	252.9	247.8	246.5	246.3	255.6	258.2	254.3	253.8	313.5	210.1
18	259.5	252.6	251.8	253.2	252.1	256.2	254.2	250.9	246.1	247.1	249.8	247.1	246.1	249.8	247.3	249.9	249.4	249.1	248.9	250.7	250.2	248.9	254.0	248.1	259.5	250.5
19	246.9	249.5	252.3	253.1	254.0	252.9	256.7	260.5	254.3	255.5	253.9	254.5	260.0	262.7	264.1	288.6	289.5	280.9	163.5	172.1	80.7	262.3	273.9	257.5	289.5	245.8
20	253.1	267.9	277.2	23.2	61.7	75.8	67.1	65.0	75.0	77.4	76.0	82.3	67.7	75.3	73.2	76.5	76.6	77.3	76.8	78.0	81.6	74.3	77.3	66.9	277.2	96.0
21	60.3	49.9	55.8	204.6	241.0	266.4	269.7	67.1	68.1	78.3	68.8	72.2	69.5	262.8	251.9	251.6	250.7	252.2	247.8	248.3	246.9	250.2	256.6	257.5	269.7	181.2
22	258.9	270.4	281.7	275.4	269.3	264.6	252.4	253.2	255.6	248.7	246.3	248.3	250.3	247.1	251.3	251.8	256.7	256.5	254.7	260.4	270.5	269.9	246.4	215.8	281.7	256.5
23	268.3	268.1	203.3	246.6	262.3	232.2	239.6	243.6	257.1	215.4	215.2	M	M	M	M	M	M	250.8	273.2	278.7	270.8	252.7	273.1	277.4	278.7	251.6
24	266.2	259.3	259.0	247.0	244.1	246.2	248.1	256.9	252.0	257.7	245.1	239.6	238.1	235.9	229.5	235.1	240.7	245.4	250.6	252.5	252.1	251.2	257.5	258.9	266.2	248.7
25	256.7	248.9	242.8	247.2	247.2	244.8	247.5	244.2	250.3	259.0	259.4	261.0	256.3	255.3	249.0	245.1	252.1	257.4	256.0	264.6	265.3	245.0	259.4	271.9	271.9	253.6
26	268.9	288.0	286.0	284.7	288.9	285.7	275.4	267.4	269.4	254.5	260.8	255.5	261.7	265.6	244.1	204.0	220.7	212.3	76.8	72.0	92.1	238.7	249.0	257.8	288.9	236.7
27	255.6	229.0	242.4	257.2	257.6	252.1	251.0	245.5	248.6	251.2	249.5	248.1	249.1	247.8	255.1	246.3	252.7	261.0	257.9	262.9	261.2	258.7	251.0	249.4	262.9	251.7
28	246.9	253.9	247.8	250.0	251.9	253.4	258.2	255.2	258.4	258.1	255.1	255.6	255.2	253.8	257.3	257.0	257.6	254.4	259.1	260.4	259.8	255.0	254.8	261.8	261.8	255.4
29	246.2	250.4	255.0	252.7	248.2	252.8	255.7	254.1	255.6	253.7	253.1	248.8	245.5	245.4	242.8	244.6	246.2	247.5	258.2	259.9	257.0	251.7	255.1	251.3	259.9	251.3
30	243.5	245.4	248.8	248.7	249.9	253.9	249.3	261.4	248.6	256.6	250.5	246.8	250.1	249.7	245.3	246.7	253.8	258.6	252.0	244.3	242.2	247.8	258.1	256.6	261.4	250.4
Hourly Max	290.3	288.0	287.0	315.0	302.3	296.3	300.0	290.8	293.8	288.7	308.5	305.9	296.1	292.5	313.5	306.3	289.5	280.9	280.8	286.7	287.9	286.2	296.2	293.4		
Hourly Average	217.9	217.1	215.4	216.5	210.9	216.6	223.8	208.1	200.1	197.1	206.6	205.6	199.7	205.9	209.8	201.9	188.6	192.6	186.6	198.5	198.5	207.4	218.1	220.6		

M = MAINTENANCE

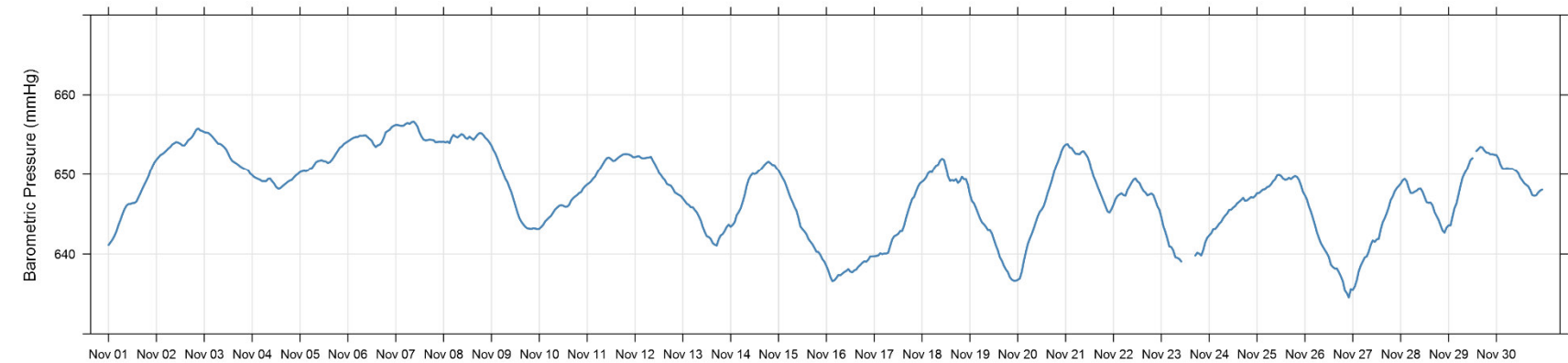


Lagoon Pressure (mmHg) – November 2017

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	641.1	641.5	641.8	642.3	642.9	643.6	644.3	645.0	645.6	646.0	646.3	646.3	646.4	646.4	646.6	647.1	647.6	648.2	648.7	649.2	649.7	650.4	651.0	651.5	651.5	646.2
2	651.9	652.2	652.5	652.6	652.8	653.0	653.3	653.5	653.8	654.0	654.1	654.0	653.9	653.7	653.7	654.0	654.3	654.5	654.8	655.2	655.7	655.8	655.6	655.5	655.8	653.9
3	655.3	655.3	655.2	655.0	654.8	654.5	654.2	653.9	653.9	653.7	653.5	653.2	652.7	652.1	651.8	651.6	651.4	651.3	651.0	650.9	650.7	650.6	650.5	650.1	655.3	652.8
4	649.9	649.6	649.5	649.4	649.3	649.1	649.1	649.1	649.4	649.5	649.1	648.8	648.4	648.2	648.2	648.4	648.6	648.8	649.1	649.2	649.3	649.6	649.9	650.0	650.0	649.1
5	650.3	650.4	650.4	650.4	650.5	650.8	650.8	651.2	651.6	651.7	651.8	651.8	651.7	651.7	651.5	651.6	651.9	652.2	652.6	653.0	653.4	653.6	653.9	654.0	654.0	651.8
6	654.2	654.3	654.5	654.7	654.7	654.7	654.9	654.9	654.9	654.9	654.7	654.5	654.3	653.8	653.5	653.7	653.8	654.1	654.6	655.3	655.5	655.6	656.0	656.1	656.1	654.7
7	656.2	656.2	656.2	656.1	656.2	656.4	656.5	656.4	656.6	656.7	656.4	656.0	655.3	654.8	654.4	654.3	654.4	654.4	654.4	654.3	654.1	654.1	654.1	654.1	656.7	655.4
8	654.1	654.1	654.2	654.0	654.6	655.0	654.8	654.7	654.9	655.1	655.0	654.6	654.5	654.8	654.6	654.4	654.7	655.0	655.2	655.2	655.0	654.6	654.4	654.1	655.2	654.6
9	653.7	653.1	652.7	652.1	651.4	650.7	650.0	649.4	649.0	648.4	647.7	646.9	646.1	645.2	644.5	644.0	643.7	643.4	643.2	643.2	643.1	643.2	643.2	643.1	653.7	647.1
10	643.1	643.4	643.6	644.1	644.3	644.6	644.8	645.2	645.6	645.8	646.0	646.1	646.0	645.9	645.9	646.1	646.7	647.0	647.2	647.4	647.6	647.7	648.2	648.5	648.5	645.9
11	648.7	648.9	649.1	649.4	649.7	650.2	650.6	651.0	651.4	651.8	652.1	652.2	652.0	651.7	651.8	652.0	652.2	652.4	652.6	652.6	652.6	652.5	652.4	652.2	652.6	651.3
12	652.2	652.3	652.3	652.1	652.1	652.1	652.2	652.2	652.3	651.8	651.3	650.8	650.2	649.9	649.5	649.3	648.8	648.6	648.5	648.2	647.7	647.5	647.4	647.3	652.3	650.3
13	646.9	646.6	646.3	646.1	645.9	645.9	645.5	645.2	644.7	644.2	643.4	642.8	642.2	642.1	641.9	641.4	641.2	641.1	641.8	642.3	642.5	642.9	643.4	643.7	646.9	643.7
14	643.4	643.6	644.0	644.8	645.2	645.7	646.5	647.4	648.5	649.3	649.8	650.1	650.0	650.1	650.4	650.6	650.9	651.2	651.5	651.7	651.4	651.2	651.2	650.8	651.7	648.7
15	650.5	650.0	649.5	649.1	648.5	647.7	647.0	646.5	645.9	645.4	644.5	643.4	643.1	642.8	642.5	641.9	641.5	641.2	640.8	640.3	640.2	639.9	639.4	639.0	650.5	644.2
16	638.5	637.9	637.1	636.6	636.7	637.0	637.4	637.3	637.5	637.7	637.9	638.1	637.8	637.7	638.0	638.1	638.4	638.6	638.9	639.1	639.0	639.3	639.7	639.7	639.7	638.1
17	639.7	639.7	639.8	640.1	640.0	640.1	640.0	640.2	641.0	641.8	642.2	642.3	642.5	642.9	642.9	643.6	644.5	645.4	646.1	646.9	647.1	647.8	648.5	648.9	648.9	643.1
18	649.1	649.3	649.6	650.1	650.3	650.3	650.8	651.1	651.2	651.8	652.0	651.9	650.9	649.7	649.2	649.3	649.2	649.4	648.9	649.1	649.7	649.3	649.4	648.7	652.0	650.0
19	647.5	646.6	646.3	645.8	645.1	644.5	644.0	643.7	643.4	643.0	643.0	642.6	641.8	641.1	640.5	639.6	639.2	638.5	638.1	637.7	637.1	636.8	636.7	636.7	647.5	641.6
20	636.8	636.9	637.8	639.1	640.2	641.2	641.9	642.5	643.2	644.0	644.7	645.3	645.6	646.0	646.7	647.6	648.4	649.2	650.1	650.9	651.5	652.2	653.0	653.5	653.5	645.3
21	653.8	653.8	653.4	653.4	653.0	652.6	652.6	652.6	652.9	652.9	652.6	652.2	651.5	650.5	649.7	649.1	648.5	647.8	647.2	646.6	646.0	645.3	645.2	645.6	653.8	650.4
22	646.2	646.9	647.3	647.4	647.6	647.4	647.3	648.0	648.4	648.9	649.3	649.5	649.1	648.9	648.3	647.9	647.7	647.3	647.4	647.6	647.4	646.7	646.0	645.5	649.5	647.7
23	644.6	643.5	642.8	641.9	640.9	640.9	640.4	639.6	639.5	639.4	639.1	M	M	M	M	M	M	639.8	640.2	640.0	639.8	640.5	641.5	642.0	644.6	640.9
24	642.3	642.6	643.1	643.1	643.4	643.8	644.0	644.5	644.8	645.1	645.5	645.5	645.8	646.0	646.3	646.5	646.8	647.0	646.6	646.7	646.9	647.1	647.0	647.2	647.2	645.3
25	647.6	647.6	647.9	648.1	648.1	648.4	648.4	648.7	649.1	649.3	649.8	649.9	649.8	649.4	649.3	649.3	649.5	649.4	649.6	649.8	649.7	649.3	648.6	647.8	649.9	648.9
26	647.3	646.8	646.0	645.3	644.5	643.6	642.7	642.0	641.3	640.9	640.5	640.1	639.6	638.7	638.4	638.2	638.2	637.7	637.2	636.6	635.5	635.1	634.6	635.6	647.3	640.3
27	635.5	635.9	636.7	637.9	638.6	639.1	639.6	639.7	640.3	641.1	641.7	641.5	641.8	641.9	643.1	644.0	644.5	645.1	645.8	646.7	647.2	647.8	648.2	648.5	648.5	642.2
28	648.8	649.2	649.4	649.1	648.3	647.6	647.6	647.8	647.9	648.1	648.2	647.8	647.1	646.5	646.4	646.4	646.1	645.2	644.8	644.3	643.6	642.9	642.7	643.3	649.4	646.6
29	643.6	643.6	644.7	645.7	646.3	647.4	648.5	649.5	650.1	650.5	651.2	651.8	652.1	652.5	653.0	653.2	653.5	653.4	653.0	652.8	652.8	652.6	652.6	652.5	653.5	650.3
30	652.5	652.1	651.3	650.8	650.7	650.8	650.8	650.7	650.7	650.6	650.4	650.1	649.5	649.2	648.8	648.6	648.4	648.0	647.4	647.3	647.3	647.7	647.9	648.1	652.5	649.6
Hourly Max Hourly Average	656.2	656.2	656.2	656.1	656.2	656.4	656.5	656.4	656.6	656.7	656.4	656.0	655.3	654.8	654.6	654.4	654.7	655.0	655.2	655.3	655.7	655.8	656.0	656.1		
	647.5	647.5	647.5	647.6	647.5	647.6	647.7	647.8	648.0	648.1	648.1	648.3	648.0	647.7	647.6	647.6	647.7	647.5	647.6	647.7	647.6	647.7	647.7	647.8		

M = MAINTENANCE

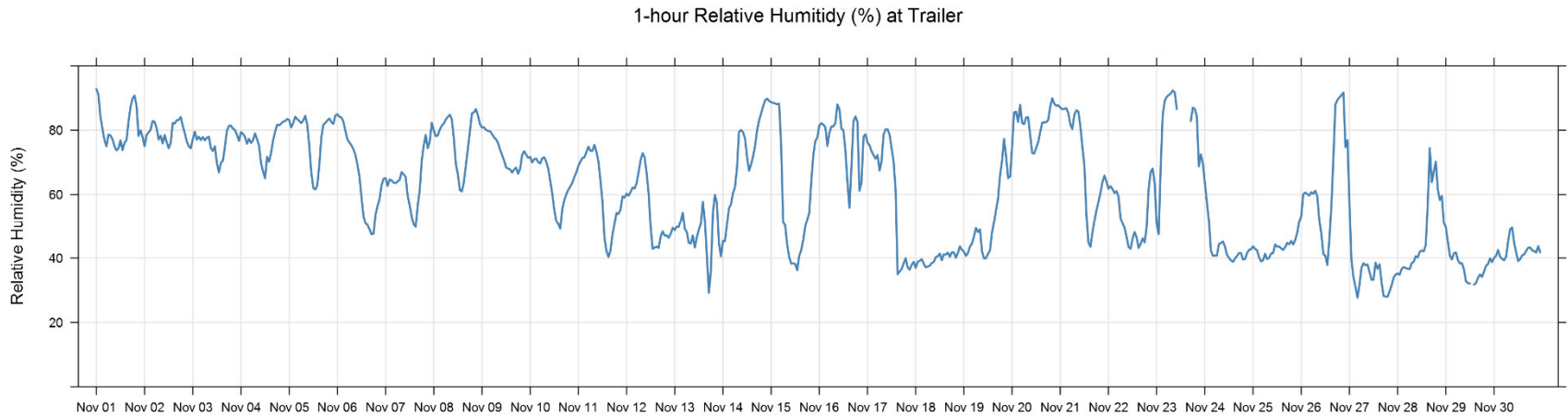
1-hour Barometric Pressures (mmHg) at Trailer



Lagoon Relative Humidity (%) – November 2017

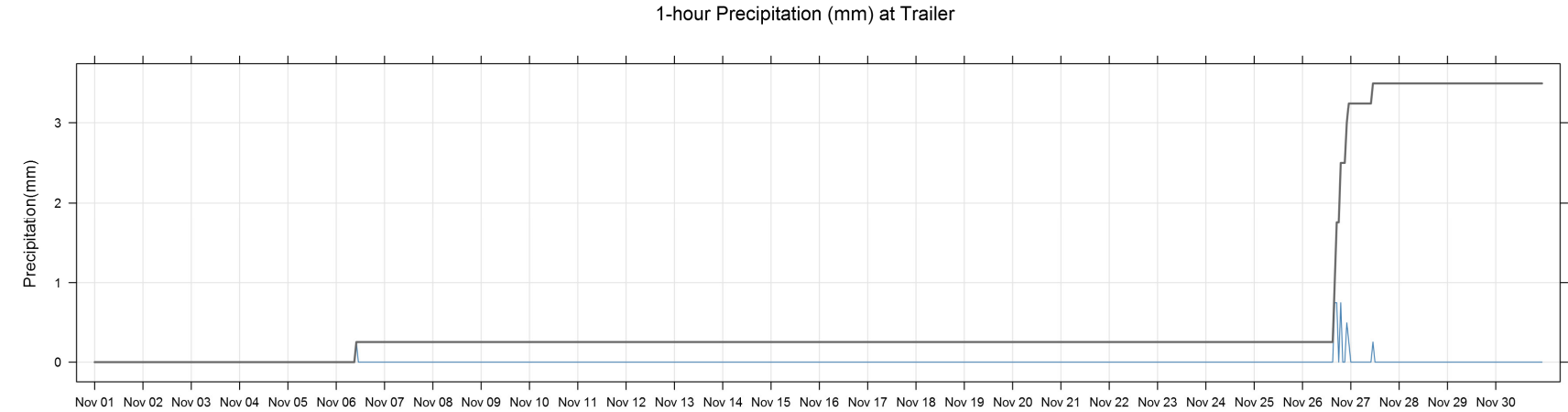
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	92.8	91.0	84.2	80.5	77.0	75.0	78.6	78.4	77.2	75.1	73.7	74.3	76.8	73.8	76.1	76.9	82.6	87.2	89.8	90.7	87.5	78.2	79.9	77.9	92.8	80.6
2	75.0	78.5	79.3	80.1	82.9	82.6	80.6	77.1	78.3	75.9	78.5	76.3	74.4	76.0	82.2	82.1	83.1	83.2	84.1	81.4	79.1	76.5	75.0	74.4	84.1	79.0
3	77.3	79.5	77.1	78.0	76.9	77.9	76.8	77.7	78.0	74.5	73.5	75.0	69.7	66.9	69.9	70.5	74.8	79.9	81.3	81.4	80.5	80.1	78.6	76.7	81.4	76.3
4	79.4	78.9	77.9	75.8	77.3	76.0	76.9	79.0	77.1	75.2	69.7	67.1	65.1	71.7	70.2	73.0	76.9	79.5	81.7	81.5	82.1	82.7	82.8	83.5	83.5	76.7
5	83.1	80.8	82.2	84.2	83.4	82.9	82.2	83.0	84.5	81.8	75.3	66.9	62.1	61.6	62.9	69.0	77.7	81.7	82.3	83.0	83.6	82.6	82.0	84.6	84.6	78.5
6	85.0	84.2	83.9	82.6	79.8	77.2	76.2	75.3	74.1	72.3	69.2	65.7	59.1	53.4	50.9	50.3	49.0	47.4	47.6	53.7	56.5	58.6	62.9	64.9	85.0	65.8
7	65.1	62.7	64.7	64.4	63.7	63.6	64.1	64.6	67.0	66.3	65.5	59.6	56.6	53.2	50.5	49.8	56.5	61.3	70.5	75.2	78.5	74.4	76.5	82.3	82.3	64.9
8	79.9	78.1	78.4	80.1	81.4	82.1	83.3	84.1	84.8	83.4	77.5	69.5	66.3	61.4	61.0	63.8	69.1	74.4	79.6	85.2	85.5	86.6	84.6	81.9	86.6	77.6
9	80.8	80.9	80.1	79.7	79.7	78.9	77.8	77.1	76.0	74.0	72.4	70.6	68.5	68.0	67.9	66.8	67.7	68.4	66.5	68.0	72.3	73.5	72.4	71.4	80.9	73.3
10	71.7	70.0	71.0	71.2	70.1	69.7	71.3	71.6	70.2	68.1	64.3	60.3	55.3	51.7	50.6	49.1	55.4	58.3	60.1	61.5	62.5	63.7	65.4	66.9	71.7	63.7
11	68.9	70.2	71.3	71.6	73.2	74.9	73.6	73.6	75.4	73.4	70.3	64.4	57.8	46.4	42.2	40.3	42.4	47.3	50.7	54.3	54.0	55.3	59.4	59.0	75.4	61.2
12	60.3	59.7	60.7	62.2	61.9	63.5	67.0	70.6	72.9	71.6	66.7	60.3	49.7	42.8	43.3	43.5	43.1	46.7	48.3	47.0	47.0	46.3	47.6	49.4	72.9	55.5
13	48.7	49.8	49.7	51.7	54.3	49.1	48.1	44.7	44.5	47.0	43.3	46.5	48.8	50.7	57.8	51.8	40.8	29.2	35.8	54.2	60.0	57.4	44.7	40.5	60.0	47.9
14	45.3	45.2	50.4	55.7	57.0	60.4	62.3	68.2	79.5	80.1	79.4	77.4	71.7	67.4	69.3	71.8	75.1	80.0	83.1	85.1	87.4	89.3	89.8	89.1	89.8	71.7
15	88.7	88.5	88.3	88.1	88.2	74.9	51.2	50.2	44.2	40.3	38.3	38.3	38.1	36.2	40.7	42.5	45.6	49.8	52.1	54.3	64.0	72.2	76.6	77.7	88.7	59.5
16	81.5	82.2	81.7	81.0	75.1	79.2	81.1	81.2	82.3	88.0	86.6	80.5	79.9	73.6	64.0	55.9	68.6	82.7	84.3	82.5	61.2	63.8	78.0	78.7	88.0	77.2
17	76.1	75.3	73.5	72.2	71.2	72.3	67.5	70.2	78.6	80.3	80.3	78.6	74.4	70.2	61.5	35.0	35.9	36.6	38.4	40.0	37.1	36.4	37.9	38.8	80.3	59.9
18	36.9	38.9	39.1	39.6	38.2	37.1	37.4	37.6	38.5	38.8	40.3	40.6	41.4	39.3	41.2	41.1	41.7	40.4	41.8	41.8	40.1	41.6	43.7	42.5	43.7	40.0
19	42.0	40.7	41.6	43.5	44.5	46.7	49.4	48.1	48.9	42.2	39.9	40.0	41.3	42.3	47.9	51.3	55.2	58.7	65.9	70.5	77.3	71.9	65.1	65.7	77.3	51.7
20	74.9	85.5	85.7	82.6	87.9	82.2	81.9	84.0	84.0	78.5	72.9	72.7	74.5	76.3	79.4	82.3	82.4	82.5	83.2	87.3	89.9	88.3	87.6	87.7	89.9	82.3
21	87.0	86.5	86.6	86.8	85.3	81.8	80.4	84.8	86.2	85.8	81.2	74.9	69.1	54.0	44.9	43.5	47.9	51.7	55.0	57.7	60.5	63.9	65.9	64.0	87.0	70.2
22	61.8	62.6	61.7	60.5	61.1	59.4	52.7	50.9	49.5	46.6	43.5	42.9	46.0	48.1	46.5	43.1	44.4	46.1	44.9	49.5	61.8	67.1	68.0	63.5	68.0	53.4
23	50.8	47.4	68.5	84.7	89.1	90.3	90.9	91.4	92.4	91.8	86.5	M	M	M	M	M	M	82.8	87.0	86.6	84.2	68.8	72.5	69.6	92.4	79.7
24	63.7	57.6	51.8	42.3	40.7	40.8	40.8	44.3	44.7	45.2	43.5	41.0	40.1	39.3	38.8	39.8	40.6	41.6	41.6	39.5	39.7	41.6	42.6	42.7	63.7	43.5
25	43.6	42.8	42.4	40.2	38.9	39.3	41.3	39.7	40.1	41.4	41.6	44.2	43.5	43.6	43.0	42.5	43.4	44.7	44.3	45.3	44.2	45.7	47.9	51.5	51.5	43.1
26	53.3	60.1	60.6	60.1	59.7	60.7	60.2	61.2	59.4	51.8	47.6	41.3	40.7	37.9	45.9	56.4	71.4	87.9	89.4	90.2	90.9	91.7	74.7	76.9	91.7	63.7
27	57.3	39.4	34.0	31.0	27.7	31.7	37.0	38.4	37.8	38.0	35.7	33.2	33.3	38.6	36.6	38.0	32.4	28.3	28.0	28.0	29.7	31.6	33.9	34.9	57.3	34.8
28	35.2	34.8	36.6	37.2	36.9	36.7	36.6	38.4	38.8	40.6	40.2	42.0	42.4	42.1	44.1	57.2	74.4	63.9	67.0	70.2	61.5	58.3	59.6	51.0	74.4	47.7
29	49.7	45.1	40.8	39.6	41.5	41.8	39.4	38.4	38.4	36.5	32.8	32.2	32.1	31.8	31.7	32.3	33.8	34.9	34.2	35.7	37.6	38.1	39.9	38.7	49.7	37.4
30	40.0	40.6	42.5	40.4	39.8	39.3	40.4	45.2	48.9	49.5	44.8	41.8	39.0	39.6	40.8	41.1	42.2	43.2	43.3	42.4	42.1	41.7	43.7	41.8	49.5	42.3
Hourly Max	92.8	91.0	88.3	88.1	89.1	90.3	90.9	91.4	92.4	91.8	86.6	80.5	79.9	76.3	82.2	82.3	83.1	87.9	89.8	90.7	90.9	91.7	89.8	89.1		
Hourly Average	65.2	64.6	64.9	64.9	64.8	64.3	63.6	64.3	65.1	63.8	61.2	57.9	55.8	53.7	53.9	53.8	57.0	60.0	62.1	64.1	64.6	64.2	64.6	64.3		

M = MAINTENANCE



Lagoon Precipitation (mm) – November 2017

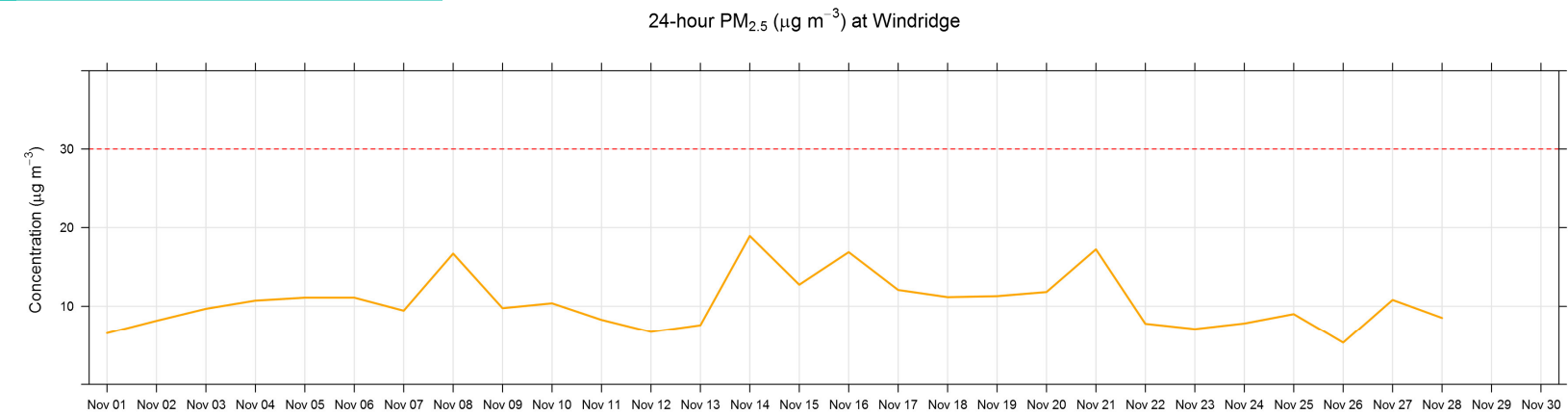
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Total
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	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	0.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	0.0	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	0.8	0.8	0.0	0.8	0.0	0.0	0.5	0.3	0.8	0.1
27	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	0.3
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	0.0	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	0.0	0.0	0.8	0.8	0.0	0.8	0.0	0.0	0.5	0.3		
Hourly Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
C = CALIBRATION		M = MAINTENANCE																								



Windridge PM_{2.5} (µg/m³) – November 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	2.7	2.6	6.6	7.1	6.6	7.7	6.2	2.9	5.9	8.4	6.6	5.5	8.1	12.5	7.7	7.3	9.2	7.2	5.9	4.8	7.7	6.6	5.5	5.5	12.5	6.5
2	7.0	7.7	6.2	4.4	4.0	5.5	8.1	5.9	5.1	7.7	8.1	8.1	8.1	7.3	7.3	8.8	10.7	19.9	8.4	9.2	12.1	9.2	8.4	8.4	19.9	8.2
3	5.5	11.4	13.9	10.6	9.2	12.8	9.9	9.5	12.1	12.1	11.0	12.1	9.9	7.3	9.9	9.2	7.3	5.8	10.3	9.9	7.7	6.6	10.3	8.1	13.9	9.7
4	5.1	5.5	9.2	11.7	10.3	7.3	9.2	7.3	7.7	9.5	15.4	10.3	11.0	10.6	12.1	16.5	14.4	20.5	9.5	8.5	7.0	11.4	15.0	12.5	20.5	10.7
5	11.4	11.0	16.1	10.6	12.5	21.3	10.3	7.7	8.4	12.1	9.5	9.2	7.7	16.1	15.8	13.6	9.5	7.7	7.7	7.0	14.7	10.3	8.8	7.7	21.3	11.1
6	12.8	10.3	12.1	10.3	6.6	5.6	10.3	9.9	13.2	16.1	14.7	11.4	9.2	12.1	12.8	11.7	11.0	11.3	12.8	13.6	11.4	8.1	9.2	10.3	16.1	11.1
7	8.8	5.9	7.3	8.8	6.6	7.7	7.7	4.8	5.1	7.7	7.7	5.9	7.7	8.1	5.9	6.6	7.4	12.8	13.6	11.7	15.0	16.9	20.9	16.1	20.9	9.4
8	16.1	14.7	18.3	16.9	13.6	25.7	22.0	23.8	28.1	11.4	24.6	12.5	12.8	11.7	12.8	12.5	15.8	19.4	20.5	16.1	11.7	11.7	12.0	16.1	28.1	16.7
9	12.5	8.8	10.6	8.4	7.0	9.9	10.7	12.1	8.4	10.6	12.1	9.5	9.2	8.4	10.6	8.8	6.6	5.5	10.6	9.5	12.5	13.2	8.1	10.6	13.2	9.8
10	10.7	12.1	8.5	6.6	5.9	13.2	10.6	12.5	11.4	9.5	11.0	9.5	13.9	10.8	13.6	12.1	10.3	8.1	8.8	9.9	7.7	9.2	12.8	10.6	13.9	10.4
11	8.1	7.0	5.9	7.1	6.2	4.8	9.9	11.0	10.3	8.4	10.6	9.9	11.4	10.1	10.6	9.2	6.2	4.0	6.6	6.2	7.0	10.3	8.8	9.2	11.4	8.3
12	7.3	9.9	10.3	8.4	7.0	5.1	5.5	5.9	5.9	9.9	7.0	5.5	6.2	6.6	5.2	4.4	6.2	6.6	4.0	5.1	8.8	7.7	6.2	5.9	10.3	6.7
13	8.4	9.5	7.7	10.6	10.6	7.3	9.9	8.1	4.8	5.9	6.2	6.2	4.4	7.0	7.0	5.1	5.9	7.5	7.3	7.0	7.7	6.6	10.3	11.0	11.0	7.6
14	12.1	13.9	9.9	9.5	11.4	9.9	8.4	7.7	15.4	24.2	26.7	23.4	22.3	C	C	22.0	24.2	20.5	23.5	25.7	27.5	31.1	26.7	20.5	31.1	18.9
15	20.9	25.7	24.2	25.7	28.6	E	E	E	4.8	11.7	11.4	19.8	11.4	9.3	6.6	5.5	8.4	8.4	5.9	3.3	8.1	11.4	8.1	8.8	28.6	12.7
16	7.3	12.5	8.4	7.3	6.2	20.2	24.2	29.3	29.7	27.8	21.6	33.3	24.2	30.8	28.9	18.3	11.0	9.5	8.8	10.6	8.8	9.2	8.4	8.8	33.3	16.9
17	7.3	6.6	6.2	6.6	5.5	5.5	5.9	8.4	8.8	19.4	19.4	22.7	21.6	27.5	22.3	17.2	12.1	8.4	9.9	9.9	8.1	12.1	11.0	7.3	27.5	12.1
18	8.8	11.0	8.4	14.7	11.7	9.9	12.1	12.5	11.7	15.0	11.4	9.5	12.5	11.0	15.4	10.6	9.9	10.3	9.9	10.3	10.1	8.4	13.9	9.2	15.4	11.2
19	15.0	19.4	12.2	15.8	11.7	11.7	16.9	11.7	11.7	13.9	12.5	17.6	10.3	10.3	13.0	10.3	7.7	5.1	4.8	7.4	10.6	11.0	7.3	3.3	19.4	11.3
20	10.7	10.3	5.5	4.0	10.3	9.2	9.2	10.3	10.3	8.1	9.9	12.2	9.2	7.3	11.7	12.1	18.3	22.4	19.1	11.4	18.7	15.8	15.8	12.1	22.4	11.8
21	16.9	16.9	15.8	14.3	18.7	18.7	15.4	16.9	34.1	24.5	26.7	25.3	37.6	31.9	10.6	9.2	9.2	12.1	9.9	12.1	12.8	10.4	7.5	6.6	37.6	17.2
22	4.8	10.1	7.4	4.4	3.3	7.7	5.9	10.3	8.8	8.4	9.2	8.1	9.5	7.6	9.2	7.3	5.1	6.2	7.0	7.0	12.2	19.1	2.9	5.2	19.1	7.8
23	10.6	7.3	5.1	7.5	6.2	3.9	4.4	5.5	6.2	7.3	7.0	8.8	10.3	10.8	7.0	7.3	7.7	7.0	7.3	5.5	7.0	6.2	5.9	8.1	10.8	7.1
24	7.3	4.8	3.7	4.0	5.9	5.1	5.9	7.3	7.3	7.8	8.8	11.0	10.3	8.4	C	C	9.2	8.1	7.0	7.7	11.0	9.9	9.9	11.5	11.5	7.8
25	9.9	7.7	10.4	12.1	11.7	11.4	10.3	11.0	12.1	12.1	9.2	6.2	5.1	10.3	11.4	10.4	8.1	8.8	9.9	7.3	4.8	5.5	5.2	5.5	12.1	9.0
26	5.9	4.4	3.7	4.0	3.7	1.5	1.1	5.5	7.0	8.1	10.3	9.4	5.9	3.3	2.6	4.8	4.8	3.3	2.2	7.0	6.6	6.6	8.8	7.3	10.3	5.3
27	6.6	7.0	4.8	4.0	4.8	6.2	7.7	7.0	8.8	12.1	11.4	10.6	12.1	10.6	18.3	16.5	11.4	16.1	23.8	18.3	8.1	14.7	10.3	8.4	23.8	10.8
28	7.7	8.8	6.6	7.0	9.2	8.1	9.9	10.6	8.1	17.2	15.3	11.7	10.6	7.7	6.6	7.7	6.6	10.4	5.5	5.7	6.2	3.8	2.6	11.0	17.2	8.5
29	8.8	4.4	7.0	10.3	10.3	8.4	11.0	9.2	5.9	7.7	8.8	9.2	7.3	C	C	C	C	C	C	C	C	C	C	C	11.0	8.3
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	0.0	
Hourly Max	20.9	25.7	24.2	25.7	28.6	25.7	24.2	29.3	34.1	27.8	26.7	33.3	37.6	31.9	28.9	22.0	24.2	22.4	23.8	25.7	27.5	31.1	26.7	20.5		
Hourly Average	9.5	9.9	9.4	9.4	9.1	9.7	9.9	10.2	10.9	12.2	12.5	12.2	11.7	11.7	11.3	10.6	9.8	10.5	10.0	9.6	10.4	10.8	10.0	9.5		

C = CALIBRATION E = INSTRUMENT ERROR

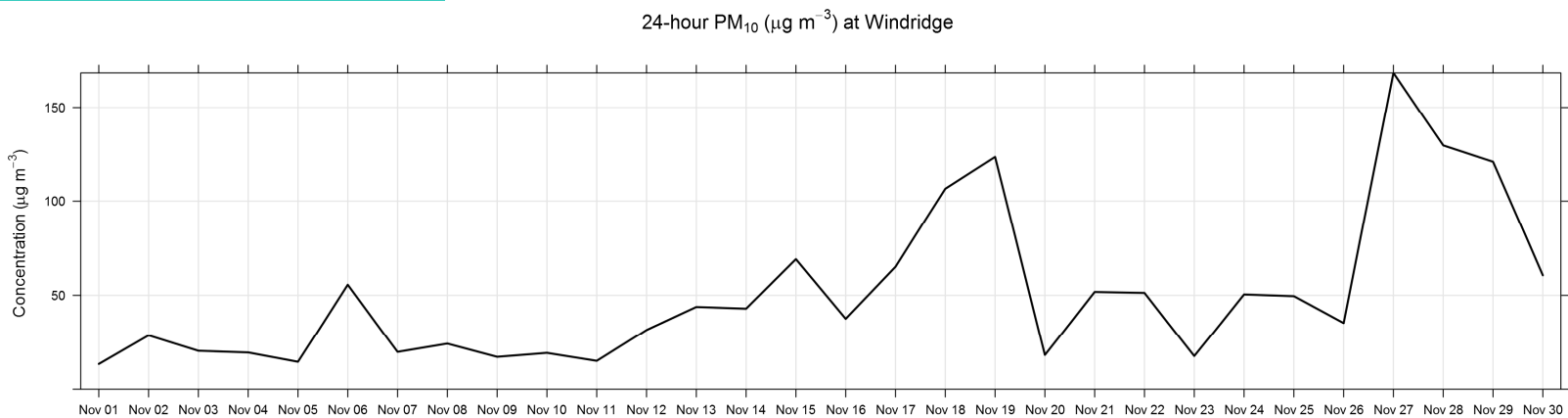


Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Objective	30	UG/M3
Number of Non-Zero Readings	678			
Maximum 1-HR Average	37.6	UG/M3		
Maximum 24-HR Average	18.9	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	717 HRS
Monthly Calibration Time	39	HRS	Operational Uptime	99.6 %
Standard Deviation	5.4		Monthly Average	10.5 UG/M3

Windridge PM₁₀ (µg/m³) – November 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	6.2	4.7	6.2	4.0	13.2	9.7	5.4	4.0	8.3	7.6	4.0	5.4	15.3	15.3	18.1	15.3	11.9	24.5	23.8	23.1	13.9	45.3	18.1	18.9	45.3	13.4
2	35.8	13.2	20.0	15.3	28.7	22.4	18.1	16.7	19.6	18.1	14.1	18.6	24.5	40.0	29.4	59.0	49.1	54.1	54.1	55.5	25.2	23.8	20.8	13.1	59.0	28.7
3	10.4	47.8	49.9	23.8	25.9	20.4	22.4	11.1	21.7	23.1	23.1	35.8	25.1	23.1	29.4	19.6	13.9	11.1	7.6	9.7	6.9	8.3	6.2	14.6	49.9	20.4
4	21.7	15.3	11.8	8.3	6.3	6.9	3.3	6.2	10.4	6.2	62.2	61.2	31.5	29.4	22.4	26.8	18.1	28.0	23.1	16.0	11.1	13.2	13.2	16.7	62.2	19.6
5	13.2	9.7	14.6	13.9	11.8	29.4	10.4	9.0	9.0	12.5	9.0	9.6	10.4	11.8	23.1	21.7	23.1	11.8	25.9	28.7	21.7	6.9	6.9	6.2	29.4	14.6
6	7.6	6.2	8.3	10.4	6.2	10.4	9.0	6.9	20.0	31.6	39.3	45.0	46.4	88.0	116.2	138.7	132.7	140.1	92.2	129.6	97.8	68.9	56.2	26.6	140.1	55.6
7	10.4	18.2	56.9	13.9	11.8	11.1	9.6	6.2	34.4	23.1	28.7	11.8	21.7	23.1	29.8	20.7	16.4	15.3	10.4	13.9	19.5	19.6	30.8	19.6	56.9	19.9
8	30.1	23.9	21.0	18.9	16.7	27.3	24.1	37.9	44.2	20.9	45.6	29.4	30.1	25.2	20.3	16.9	26.6	18.5	28.7	16.0	11.1	17.4	16.7	15.3	45.6	24.3
9	11.1	11.8	10.4	9.0	7.6	8.3	8.3	10.4	11.0	42.7	35.8	26.6	36.5	22.4	25.2	28.7	15.3	11.8	9.0	24.5	13.9	12.5	9.7	11.1	42.7	17.2
10	10.4	8.3	16.7	13.2	13.9	11.8	16.7	9.7	20.3	13.2	45.6	40.9	39.3	33.0	36.5	29.4	27.3	17.4	10.9	12.5	9.7	8.1	8.6	10.4	45.6	19.3
11	10.4	6.9	4.3	6.2	11.8	7.6	6.9	5.4	5.4	9.6	12.5	18.1	12.5	13.2	19.8	30.3	13.9	17.4	9.0	8.3	10.4	16.0	32.3	73.8	73.8	15.1
12	70.3	75.3	57.3	11.8	6.2	2.6	6.9	4.7	7.6	5.4	6.7	24.5	31.5	36.5	17.4	60.4	35.1	79.5	33.7	41.4	53.4	28.3	47.1	16.7	79.5	31.7
13	29.4	37.3	44.9	42.1	29.4	43.5	43.5	46.6	34.4	30.4	50.6	33.7	37.2	71.7	20.3	21.0	30.1	42.6	46.3	58.3	80.9	51.3	49.6	77.4	80.9	43.9
14	107.0	104.9	71.0	133.1	30.1	24.5	6.9	6.2	28.7	25.2	36.5	32.2	33.1	C	C	58.3	30.8	25.9	28.0	32.3	35.1	36.5	31.6	27.3	133.1	43.0
15	23.1	30.1	26.6	28.9	43.5	E	E	E	35.8	207.8	107.7	455.3	116.1	70.3	37.9	46.3	50.5	35.1	21.0	29.4	33.0	15.3	14.6	21.7	455.3	69.0
16	13.9	26.6	18.0	11.1	19.6	22.4	30.4	38.8	37.9	42.1	77.4	113.3	39.3	51.3	33.0	66.1	71.8	49.2	19.6	28.0	29.4	21.0	18.1	25.2	113.3	37.6
17	13.9	12.5	8.4	9.7	8.5	8.3	4.4	2.6	21.7	16.7	18.9	36.5	34.4	49.2	47.1	123.2	170.4	129.5	151.4	112.6	121.0	269.9	109.1	80.9	269.9	65.0
18	109.1	188.1	90.9	117.6	109.1	50.6	181.0	102.0	63.3	72.4	101.3	108.4	116.1	76.0	199.3	96.8	115.4	160.6	121.8	147.2	67.5	53.4	64.2	45.4	199.3	106.6
19	186.0	168.4	212.0	195.1	204.3	205.7	202.9	109.8	128.1	180.2	226.3	196.5	91.5	108.5	152.8	97.8	74.6	68.9	32.2	14.6	38.6	13.2	27.3	28.0	226.3	123.5
20	40.7	28.0	19.6	10.4	12.3	36.5	26.6	23.1	12.1	9.0	8.3	10.4	7.6	4.2	4.7	16.7	21.0	30.1	29.4	18.1	22.5	15.3	12.5	18.1	40.7	18.2
21	18.9	20.3	17.4	24.5	28.7	28.3	13.2	13.2	51.3	35.1	79.5	67.5	87.2	98.5	127.4	105.6	63.3	54.1	92.2	42.7	36.5	42.8	46.3	48.5	127.4	51.8
22	37.2	35.1	22.4	4.7	9.7	17.4	21.0	40.0	37.9	31.5	49.2	35.1	44.2	35.1	40.0	52.7	80.9	216.3	85.1	109.8	72.4	117.6	6.2	29.4	216.3	51.3
23	40.8	42.1	21.7	6.2	8.3	13.2	16.0	7.6	7.6	15.3	15.3	14.6	10.4	40.0	7.6	18.1	15.3	21.7	23.1	17.4	9.0	15.3	20.2	16.7	42.1	17.6
24	5.4	19.6	64.7	24.5	61.9	40.0	33.0	35.8	11.1	68.2	58.7	73.8	98.5	52.0	C	C	36.5	54.8	64.0	76.7	67.5	66.1	48.5	49.2	98.5	50.5
25	33.4	41.4	44.9	52.7	53.8	45.6	44.9	37.3	58.3	74.6	89.4	54.8	49.2	54.1	43.5	54.1	40.0	77.4	81.6	48.5	31.9	21.0	27.3	30.0	89.4	49.6
26	33.0	33.7	7.6	6.2	5.4	5.4	16.0	10.6	54.8	91.5	229.7	104.9	74.6	44.9	40.0	14.6	9.0	11.1	11.1	6.2	4.7	5.4	11.8	16.7	229.7	35.4
27	18.8	23.8	14.7	43.5	44.9	30.8	28.0	32.2	63.3	129.5	161.3	147.9	300.2	201.6	425.0	323.8	172.6	336.9	474.3	468.0	142.7	210.2	162.0	81.6	474.3	168.2
28	68.2	49.2	53.4	57.6	68.9	86.5	166.2	199.3	138.0	358.0	262.1	150.9	129.5	178.9	121.8	146.5	101.3	92.8	40.0	49.2	83.0	76.0	133.8	299.5	358.0	129.6
29	119.7	80.9	90.8	264.2	178.2	113.3	129.5	68.2	95.7	86.5	217.0	114.7	56.9	64.7	67.5	77.4	68.9	49.2	124.6	312.2	292.4	92.9	54.8	81.6	312.2	120.9
30	56.9	24.5	28.0	51.3	50.6	36.4	25.9	30.8	97.1	87.2	103.5	78.8	33.7	74.0	71.0	61.9	65.4	76.7	109.1	135.2	60.4	35.8	35.1	23.8	135.2	60.5
Hourly Max	186.0	188.1	212.0	264.2	204.3	205.7	202.9	199.3	138.0	358.0	262.1	455.3	300.2	201.6	425.0	323.8	172.6	336.9	474.3	468.0	292.4	269.9	162.0	299.5		
Hourly Average	39.8	40.2	37.8	41.1	37.6	33.7	39.0	32.1	39.6	59.2	74.0	71.9	56.1	56.4	65.2	63.7	53.4	65.4	62.8	69.5	50.8	47.6	38.0	41.5		

C = CALIBRATION
E = INSTRUMENT ERROR

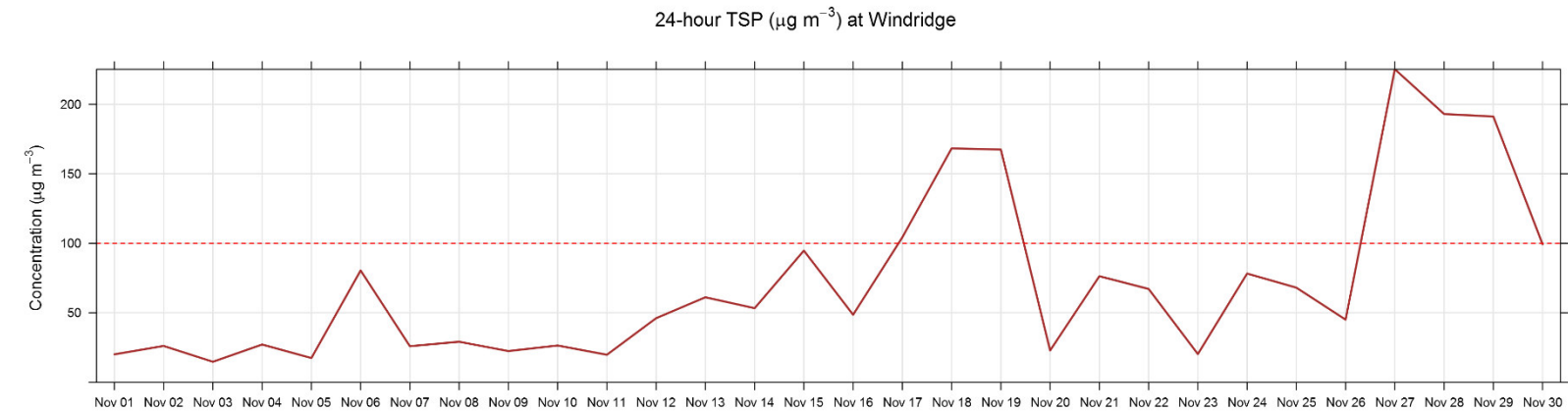


Number of 1HR Exceedances	n/a	Objective	n/a	UG/M3
Number of Non-Zero Readings	713			
Maximum 1-HR Average	474.3	UG/M3		
Maximum 24-HR Average	168.2	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	717 HRS
Monthly Calibration Time	4	HRS	Operational Uptime	99.6 %
Standard Deviation	61.7		Monthly Average	50.7 UG/M3

Windridge TSP (µg/m³) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	4.2	3.3	5.4	9.0	11.8	25.2	3.3	6.2	16.7	9.7	6.2	5.4	21.0	16.7	14.6	16.7	13.2	25.1	35.1	23.1	17.5	111.2	37.9	42.8	111.2	20.1
2	52.7	16.0	23.1	17.4	21.0	13.9	17.7	18.9	25.2	17.4	10.4	16.7	26.6	36.5	21.7	35.8	42.8	42.8	36.5	43.5	25.9	28.7	21.0	13.9	52.7	26.1
3	13.2	51.3	40.7	16.7	11.1	11.1	11.8	9.0	9.0	16.0	17.4	16.0	16.7	15.3	11.1	10.4	9.7	8.3	11.1	9.0	8.3	6.9	6.9	16.0	51.3	14.7
4	17.4	11.1	13.9	11.1	8.3	6.9	6.9	6.2	6.9	7.6	102.1	105.6	66.1	47.1	42.1	31.2	20.3	29.4	24.5	24.5	15.2	13.2	18.2	15.3	105.6	27.1
5	21.0	13.9	21.0	11.5	16.7	25.9	14.6	10.4	13.9	14.6	9.7	7.6	6.2	15.3	29.4	24.5	34.4	15.4	26.6	28.7	18.8	13.9	14.6	9.0	34.4	17.4
6	9.7	11.8	18.2	10.4	8.3	11.8	11.8	16.0	27.3	63.3	52.7	52.0	68.9	128.9	178.4	193.7	229.0	222.7	135.9	185.3	116.2	77.4	64.7	35.8	229.0	80.4
7	15.3	23.1	65.6	16.0	15.3	11.8	16.7	12.5	45.7	33.7	44.1	12.5	31.5	42.1	33.7	30.8	21.0	12.5	13.2	16.7	24.5	18.9	42.1	22.4	65.6	25.9
8	35.1	27.3	26.6	26.6	21.0	26.6	26.6	42.8	47.2	27.3	56.2	40.0	30.1	26.8	24.5	24.5	35.8	26.6	31.5	19.6	12.5	19.6	22.6	21.7	56.2	29.1
9	11.1	16.7	4.7	9.7	9.7	10.4	9.7	18.1	16.7	63.3	59.8	43.5	40.7	32.2	28.0	33.7	16.7	13.9	11.1	40.7	12.5	12.6	8.3	13.9	63.3	22.4
10	11.8	11.8	34.3	23.1	20.3	15.3	23.1	18.9	32.2	20.3	59.7	54.5	49.2	42.1	47.8	42.1	34.4	19.6	17.4	20.3	12.5	8.3	6.9	8.3	59.7	26.4
11	8.3	9.0	16.7	5.4	7.6	5.4	2.6	4.7	9.0	9.0	11.6	25.9	13.9	11.8	24.5	41.4	21.0	23.1	13.9	8.9	9.0	28.0	58.3	104.9	104.9	19.7
12	98.6	114.7	77.4	16.7	9.0	7.6	5.4	9.0	7.6	6.2	14.6	35.1	52.7	53.1	24.5	97.8	52.7	108.4	50.6	60.5	79.5	56.9	41.4	25.9	114.7	46.1
13	45.6	40.7	50.6	51.3	40.7	52.7	58.3	63.3	60.4	55.5	85.8	60.4	51.3	52.0	26.6	33.0	56.2	67.5	80.2	95.0	111.2	67.5	58.6	102.0	111.2	61.1
14	128.1	145.1	101.3	193.0	41.4	33.0	4.0	7.6	31.5	32.4	47.8	39.3	37.9	C	C	C	41.4	38.6	28.7	41.4	37.2	39.3	30.8	18.9	193.0	53.3
15	30.1	25.9	23.1	35.1	54.1	E	E	E	59.0	380.0	209.8	503.9	166.9	94.3	52.0	67.5	76.0	59.7	27.3	32.2	36.0	17.6	13.2	24.5	503.9	94.7
16	20.3	33.0	17.4	21.0	23.8	21.7	46.4	49.2	45.7	54.1	63.8	160.6	36.2	59.7	33.0	87.2	116.1	82.3	30.1	46.3	33.6	23.1	30.8	30.1	160.6	48.6
17	21.0	8.3	11.6	11.8	11.1	7.6	8.3	9.7	23.1	14.6	17.4	49.2	31.5	76.7	68.2	224.7	300.9	241.7	279.0	197.9	214.2	360.8	182.4	131.0	360.8	104.3
18	178.9	231.8	156.3	190.2	179.6	87.2	259.3	171.9	103.5	119.0	169.7	175.6	187.4	120.4	327.7	147.2	175.4	246.6	200.8	231.1	115.4	92.2	103.5	67.5	327.7	168.3
19	205.7	229.7	332.6	291.7	300.9	279.7	221.2	144.4	170.4	250.8	294.5	293.1	129.5	149.3	183.8	124.6	106.3	101.3	47.1	24.5	57.5	12.5	28.0	39.3	332.6	167.4
20	60.4	30.8	28.0	11.8	13.9	37.2	45.6	16.0	14.6	16.0	4.7	17.4	13.2	9.7	9.7	18.8	28.7	37.9	44.2	18.9	23.8	21.7	13.9	11.1	60.4	22.8
21	16.7	18.2	16.0	19.6	34.4	18.9	11.1	15.0	61.9	41.4	123.2	106.3	136.6	151.5	247.3	186.7	106.3	86.5	154.9	57.6	53.5	58.3	51.3	57.6	247.3	76.3
22	44.9	40.0	28.0	1.9	13.9	16.7	24.5	42.8	58.3	49.1	67.5	52.7	61.9	49.9	51.3	77.4	131.0	282.5	110.5	150.0	84.4	121.1	11.8	38.7	282.5	67.1
23	56.9	49.9	25.9	13.2	9.0	11.8	9.0	6.2	9.7	18.8	16.7	12.3	9.0	25.9	13.2	24.5	21.0	31.5	28.7	22.4	14.9	17.4	22.4	16.0	56.9	20.3
24	10.4	30.1	78.8	41.4	102.0	70.2	56.9	49.2	28.7	116.9	107.0	122.1	161.2	85.8	C	C	60.9	92.9	95.7	116.8	77.4	95.0	64.7	56.2	161.2	78.2
25	41.4	57.6	52.0	59.7	78.1	56.9	56.9	45.6	76.7	107.7	124.6	83.7	77.1	87.3	66.3	72.4	59.0	109.1	111.2	66.8	40.7	30.8	35.8	35.1	124.6	68.0
26	49.9	51.3	17.4	14.6	10.4	4.7	11.0	21.0	76.7	127.4	269.1	132.4	104.9	52.7	40.0	21.7	5.4	12.2	9.0	4.7	6.2	7.6	12.5	18.1	269.1	45.0
27	20.3	29.5	19.6	65.0	64.0	51.3	35.8	42.8	104.9	209.2	264.9	217.0	356.6	317.8	503.9	504.0	281.9	458.8	504.0	504.0	204.3	288.7	222.6	134.5	504.0	225.2
28	110.5	66.1	76.0	86.5	96.4	152.1	301.9	271.3	192.4	460.9	350.2	212.4	183.8	265.6	176.8	190.9	149.3	152.8	45.6	77.1	145.1	129.5	234.6	504.0	504.0	193.0
29	161.3	151.4	176.8	408.0	302.3	191.6	183.1	110.5	154.2	128.8	355.2	183.1	89.4	92.2	106.3	128.1	111.2	78.8	263.5	411.6	421.4	154.2	90.1	135.9	421.4	191.2
30	82.3	45.6	59.7	89.4	70.3	59.0	42.1	50.6	166.9	127.4	147.2	121.1	51.3	127.4	105.6	90.1	102.8	119.7	208.5	239.5	92.1	60.9	71.0	51.3	239.5	99.2
Hourly Max Hourly Average	205.7	231.8	332.6	408.0	302.3	279.7	301.9	271.3	192.4	460.9	355.2	503.9	356.6	317.8	503.9	504.0	300.9	458.8	504.0	504.0	421.4	360.8	234.6	504.0		
	52.8	53.2	54.0	59.3	53.5	45.7	52.6	44.5	56.5	86.6	105.5	98.6	77.0	78.8	89.0	92.2	82.0	94.9	89.2	93.9	70.7	66.5	54.0	60.1		

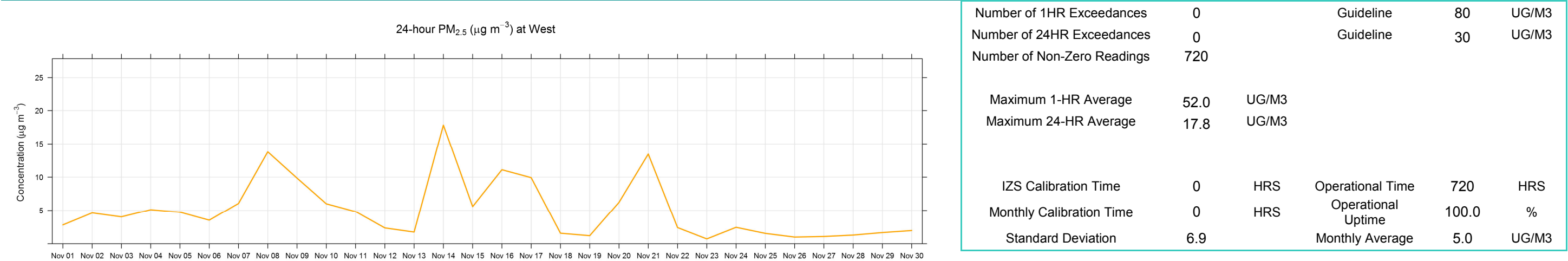
C = CALIBRATION E = INSTRUMENT ERROR



Number of 24HR Exceedances	6	Objective	100	UG/M3
Number of Non-Zero Readings	712			
Maximum 1-HR Average	504.0	UG/M3		
Maximum 24-HR Average	225.2	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	717 HRS
Monthly Calibration Time	5	HRS	Operational Uptime	99.6 %
Standard Deviation	87.4		Monthly Average	71.3 UG/M3

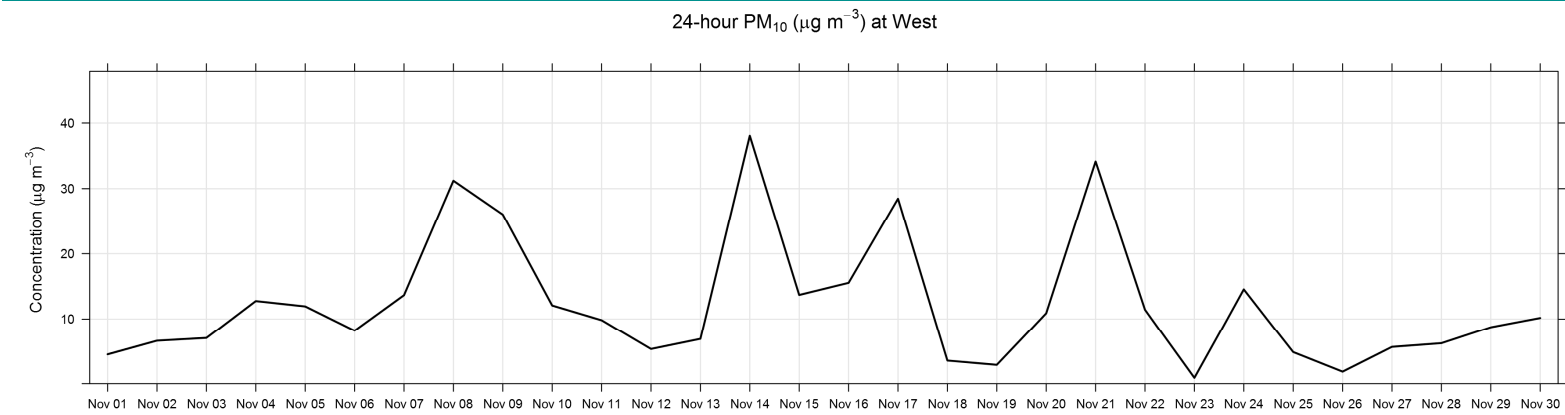
West PM_{2.5} (µg/m³) – November 2017

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	0.6	2.2	1.3	2.1	1.2	0.9	0.9	2.1	1.2	1.2	1.8	2.6	2.3	2.9	3.1	3.2	4.7	10.0	1.9	1.9	7.0	2.6	5.4	4.6	10.0	2.8
2	2.3	5.0	2.1	3.9	1.8	2.9	2.6	8.6	7.0	5.4	4.1	8.7	7.1	8.2	3.4	4.3	2.8	2.5	2.8	7.2	4.5	5.8	3.1	4.7	8.7	4.6
3	8.9	12.4	8.7	6.8	4.1	3.2	2.8	3.3	3.3	4.0	5.6	5.4	4.0	4.3	3.2	2.6	1.9	1.3	1.2	1.3	1.3	1.3	2.0	3.8	12.4	4.0
4	5.1	4.0	3.2	2.8	2.8	3.3	3.7	3.0	2.7	6.2	7.4	4.2	4.3	11.1	12.3	10.4	5.3	4.4	9.8	3.7	3.5	3.3	3.1	3.2	12.3	5.1
5	3.1	3.2	2.6	2.8	3.3	3.1	2.6	2.9	4.0	8.0	9.3	11.6	10.1	9.5	10.9	5.3	3.8	3.0	4.2	2.3	2.1	2.1	1.9	1.8	11.6	4.7
6	3.0	2.4	2.7	3.0	2.8	2.6	3.0	4.5	4.6	4.5	4.3	4.0	5.4	5.7	4.2	3.5	5.2	3.7	2.9	2.5	2.5	2.9	2.5	2.4	5.7	3.5
7	2.4	2.3	2.3	2.3	2.4	2.9	3.4	4.5	5.2	5.2	6.3	9.4	9.3	9.8	7.9	6.5	4.7	5.5	5.7	7.4	8.0	10.3	12.1	9.8	12.1	6.1
8	11.8	11.9	11.5	11.2	11.7	14.6	14.5	14.1	11.8	15.7	14.1	23.7	23.8	18.3	16.3	16.0	17.4	12.8	9.9	9.5	10.9	10.5	9.8	9.2	23.8	13.8
9	6.8	6.8	6.0	5.7	5.6	5.3	6.1	7.7	8.6	9.7	33.7	29.4	23.3	18.6	13.2	10.0	5.4	4.8	3.9	4.1	4.6	5.3	5.6	6.2	33.7	9.9
10	6.5	6.4	6.3	5.2	6.1	5.7	6.2	6.3	6.2	6.4	6.4	9.7	13.1	9.6	10.0	5.5	2.9	2.7	2.9	3.2	3.6	4.2	4.5	4.8	13.1	6.0
11	4.6	4.7	5.1	5.1	5.1	5.4	5.8	6.2	6.7	7.2	7.1	6.5	11.9	9.3	4.6	3.0	2.0	1.9	2.0	2.4	2.2	2.3	2.4	2.5	11.9	4.8
12	2.0	2.5	2.9	2.6	2.1	2.1	2.1	2.2	2.2	2.6	3.3	9.4	5.7	2.2	1.4	1.0	1.0	1.3	1.6	1.5	1.1	1.3	1.4	0.9	9.4	2.4
13	0.9	0.9	0.9	1.2	0.9	0.8	0.8	1.0	1.4	3.6	3.8	2.9	3.2	2.4	5.9	2.0	2.1	2.2	1.6	0.7	0.8	0.6	0.6	0.7	5.9	1.7
14	0.4	0.5	0.6	1.0	0.7	0.8	0.5	7.7	36.3	31.6	33.1	37.1	27.2	22.6	22.0	23.0	27.5	22.1	22.1	21.5	24.3	25.2	24.1	15.8	37.1	17.8
15	5.3	19.6	23.1	14.3	1.6	1.7	2.1	4.0	3.3	6.4	7.0	7.1	5.1	5.2	3.2	2.1	2.1	2.9	2.4	2.9	2.8	2.8	2.8	4.7	23.1	5.6
16	3.5	3.2	3.4	3.0	12.2	21.6	24.0	24.3	21.2	25.2	22.5	21.8	25.3	25.5	13.2	4.3	1.4	1.5	1.2	1.0	1.3	2.3	1.8	1.7	25.5	11.1
17	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	15.5	20.9	25.9	32.7	51.2	51.8	9.5	4.3	2.9	2.0	1.3	1.6	1.0	1.6	1.1	1.1	51.8	9.9
18	1.1	1.0	1.0	1.0	1.1	1.7	1.4	1.4	1.9	2.5	1.9	2.3	2.4	1.8	2.2	1.6	1.3	1.2	1.8	1.4	1.2	1.3	2.0	1.4	2.5	1.6
19	1.3	1.2	1.1	1.1	0.9	0.8	0.8	0.9	0.8	1.2	1.2	2.0	2.0	1.6	1.2	1.4	1.6	1.3	1.4	1.3	1.7	0.8	0.6	0.5	2.0	1.2
20	1.0	0.8	0.6	0.5	1.5	1.9	1.2	1.3	2.6	4.6	2.2	2.8	4.6	6.5	9.8	12.7	12.5	11.4	11.3	11.2	11.2	10.0	13.1	14.3	14.3	6.2
21	18.7	21.5	19.9	18.6	17.0	12.9	12.0	7.7	16.6	32.0	38.9	52.0	26.0	8.8	4.7	4.4	4.3	2.7	1.3	0.9	0.4	0.3	0.9	0.3	52.0	13.5
22	0.4	0.3	0.1	0.2	0.2	0.3	0.4	0.3	0.3	2.3	10.8	11.8	9.3	5.9	5.1	2.4	2.9	1.5	1.0	0.5	0.5	0.5	0.6	0.4	11.8	2.4
23	0.2	0.2	0.5	0.8	0.9	1.3	0.8	1.6	1.7	0.9	1.0	0.9	0.4	0.7	0.5	0.4	0.2	0.8	0.7	0.5	0.7	0.6	0.4	0.3	1.7	0.7
24	0.3	0.2	0.5	0.6	0.7	0.9	2.7	3.9	3.4	6.3	6.5	4.7	4.3	3.4	3.4	4.4	2.3	1.9	1.4	1.2	1.3	1.6	1.2	1.6	6.5	2.5
25	1.6	1.5	1.8	1.2	1.0	1.1	1.5	1.8	1.7	1.2	2.8	1.6	3.0	3.3	3.6	1.0	0.9	1.4	1.4	0.9	0.8	0.7	0.6	0.6	3.6	1.5
26	1.7	1.4	0.9	0.7	0.6	0.7	0.6	0.7	0.5	0.3	1.0	1.2	0.8	0.9	1.2	0.3	0.4	1.1	1.2	2.3	2.6	2.2	0.3	0.3	2.6	1.0
27	0.2	0.3	0.3	0.3	0.4	0.6	2.0	1.8	1.6	1.7	2.3	1.1	2.3	1.5	2.3	1.6	1.6	1.0	0.9	0.6	0.4	0.3	0.3	0.3	2.3	1.1
28	0.3	0.3	0.3	0.5	0.4	0.5	0.7	1.7	2.2	2.2	2.8	1.7	2.7	2.1	1.7	2.6	1.5	0.8	2.0	0.8	0.6	0.9	1.2	0.5	2.8	1.3
29	0.6	0.2	0.5	0.3	0.3	0.5	2.7	3.5	4.1	1.9	1.9	3.0	3.2	3.5	2.9	2.2	2.3	1.6	1.3	0.8	0.6	0.7	0.6	0.6	4.1	1.7
30	0.5	0.5	0.5	0.4	0.5	0.6	1.1	2.5	4.1	4.6	4.4	2.1	3.4	3.3	3.0	3.6	4.1	2.3	1.2	1.2	0.8	0.7	1.0	0.9	4.6	2.0
Hourly Max	18.7	21.5	23.1	18.6	17.0	21.6	24.0	24.3	36.3	32.0	38.9	52.0	51.2	51.8	22.0	23.0	27.5	22.1	22.1	21.5	24.3	25.2	24.1	15.8		
Hourly Average	3.2	4.0	3.7	3.4	3.1	3.4	3.7	4.4	6.1	7.5	9.1	10.5	9.9	8.7	6.2	4.9	4.3	3.8	3.5	3.3	3.5	3.5	3.6	3.3		



West PM₁₀ (µg/m³) – November 2017

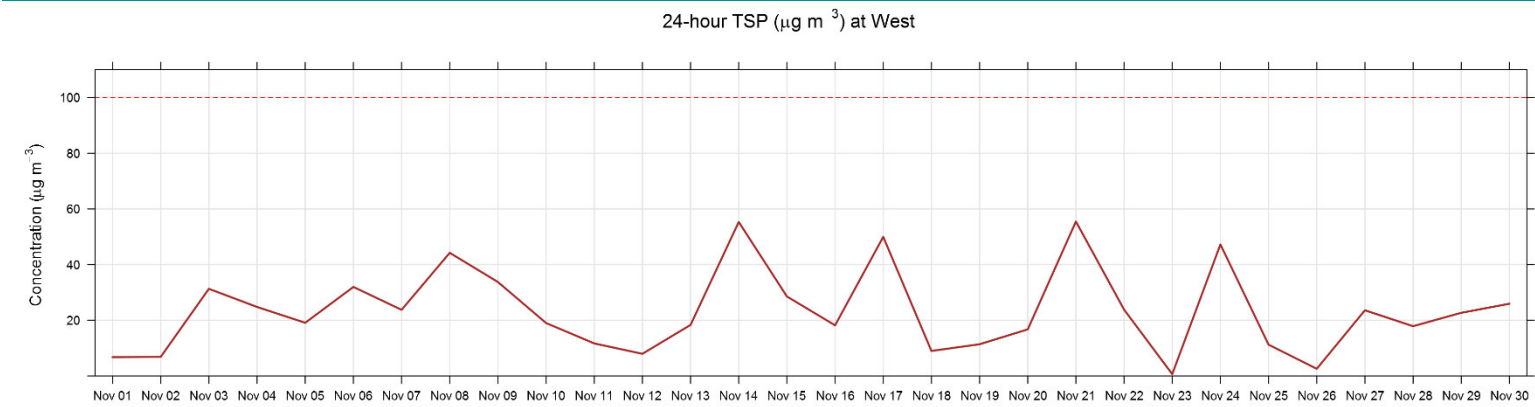
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	0.6	2.5	1.8	3.0	1.7	1.2	1.1	3.0	1.6	1.7	4.9	10.6	5.8	5.1	4.4	4.5	6.8	14.8	2.7	2.5	10.3	3.7	7.8	6.7	14.8	4.5
2	3.2	7.3	2.9	5.6	2.4	4.0	3.5	12.6	10.2	7.8	6.0	13.0	10.3	12.2	4.7	6.1	3.8	3.4	3.9	10.5	6.5	8.5	4.3	6.4	13.0	6.6
3	12.7	17.5	11.8	8.9	4.7	3.7	3.2	3.8	3.7	4.9	10.3	11.7	17.8	21.3	8.9	8.0	3.0	1.4	1.3	1.3	1.3	1.3	2.2	4.8	21.3	7.1
4	6.2	4.5	3.5	2.9	3.1	3.6	4.1	3.2	3.1	19.3	34.6	10.0	9.5	47.4	54.5	48.1	11.1	5.4	14.6	3.9	3.6	3.4	3.3	3.3	54.5	12.8
5	3.2	3.5	2.7	2.9	3.4	3.1	2.7	3.0	4.8	14.1	42.6	47.8	32.2	39.1	46.2	11.3	4.6	3.2	5.7	2.5	2.2	2.1	1.9	1.9	47.8	11.9
6	3.6	2.7	2.8	3.1	2.9	2.6	3.5	6.1	6.2	10.7	12.8	11.2	20.1	25.4	18.4	9.9	20.3	10.0	5.6	4.3	3.1	6.0	2.9	2.7	25.4	8.2
7	2.8	2.7	2.5	2.6	3.0	4.9	6.5	13.3	15.2	13.1	17.2	32.7	38.2	39.5	27.6	17.4	7.0	7.6	7.5	10.3	11.2	14.8	17.1	13.3	39.5	13.7
8	17.0	17.7	17.0	15.9	16.7	20.2	20.4	18.3	14.3	22.6	32.4	103.5	100.1	70.2	67.4	56.9	43.0	18.0	13.2	12.8	15.1	13.6	11.9	10.7	103.5	31.2
9	7.4	7.3	6.4	6.1	6.0	5.8	7.7	10.7	12.2	21.2	123.5	114.1	99.2	77.6	47.8	28.0	6.9	5.7	4.3	4.4	4.8	5.5	5.7	6.4	123.5	26.0
10	6.8	6.9	6.6	5.4	6.3	5.8	6.3	6.3	6.4	7.4	8.5	44.3	55.5	37.5	34.2	15.6	3.3	2.9	3.1	3.4	3.7	4.3	4.6	4.9	55.5	12.1
11	4.6	4.7	5.1	5.1	5.1	5.4	5.8	6.2	6.7	7.3	7.3	7.6	75.1	42.0	14.2	8.6	2.5	2.5	2.3	4.7	2.8	2.8	4.9	2.7	75.1	9.8
12	2.0	2.7	3.4	2.8	2.2	2.2	2.1	2.2	2.2	2.7	5.7	40.2	22.6	8.2	4.4	2.7	2.2	3.4	3.6	2.8	1.6	1.6	3.7	1.1	40.2	5.3
13	1.0	1.2	1.1	2.0	0.9	1.0	0.9	2.8	5.6	17.9	17.5	13.9	15.0	9.0	28.9	9.6	7.6	9.9	10.4	2.9	2.7	1.8	1.1	1.3	28.9	6.9
14	0.6	0.8	0.9	2.1	1.0	3.0	0.6	22.1	83.9	54.4	94.0	110.3	75.1	57.5	58.1	57.2	73.4	33.0	32.0	29.7	33.7	34.9	33.8	21.5	110.3	38.1
15	8.5	33.0	33.5	20.0	2.0	2.6	7.5	20.0	13.2	32.8	31.8	28.8	20.9	20.0	11.4	3.3	4.1	8.3	5.4	5.3	3.6	3.1	3.1	6.7	33.5	13.7
16	4.3	3.4	3.6	3.2	16.5	31.5	31.4	31.6	25.2	37.2	31.4	27.5	29.9	32.6	27.6	18.2	3.8	3.0	1.6	1.1	1.4	3.1	2.0	1.8	37.2	15.5
17	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.9	28.0	31.3	38.8	70.7	182.3	190.5	54.0	25.2	13.2	8.2	4.9	6.8	3.0	7.0	3.0	2.3	190.5	28.5
18	1.8	1.3	1.2	1.4	1.6	4.6	2.3	2.8	4.0	11.8	4.6	6.7	6.4	3.3	5.8	3.2	2.3	2.0	4.1	2.0	2.0	1.7	6.3	2.3	11.8	3.6
19	2.5	1.9	1.2	1.9	1.0	0.9	1.2	1.4	1.4	3.7	3.4	6.9	7.2	3.8	2.9	3.6	5.0	4.7	5.3	3.0	2.9	1.4	1.6	0.9	7.2	2.9
20	1.5	0.9	0.7	0.7	2.0	2.7	1.6	1.8	3.9	16.8	11.1	16.8	32.4	14.0	14.6	19.0	18.1	15.3	14.6	12.5	14.2	11.7	16.5	18.1	32.4	10.9
21	26.1	31.3	29.3	26.9	21.7	14.9	15.2	8.2	23.6	48.0	152.6	200.1	110.8	36.7	20.1	17.1	18.5	10.9	2.7	1.6	0.5	0.4	1.5	0.5	200.1	34.1
22	0.6	0.6	0.2	0.4	0.3	0.5	1.5	1.0	0.6	13.9	55.5	65.6	44.0	26.0	25.1	10.3	15.4	6.1	3.3	1.0	0.7	0.6	0.8	0.5	65.6	11.4
23	0.2	0.3	0.7	1.1	1.1	1.7	1.0	2.2	2.2	1.1	1.1	1.1	0.6	0.8	0.6	0.5	0.3	1.1	0.8	0.6	0.8	0.7	0.5	0.4	2.2	0.9
24	0.3	0.5	2.5	5.5	5.7	8.9	26.6	33.1	21.5	35.6	49.2	31.3	26.1	20.2	20.6	27.0	12.2	8.1	3.6	2.2	2.5	2.8	1.5	1.8	49.2	14.5
25	2.0	1.7	2.6	1.4	1.2	1.3	2.0	4.9	6.8	4.3	14.4	7.0	16.2	16.3	17.0	2.6	2.0	4.6	3.8	1.2	1.1	0.9	0.8	1.0	17.0	4.9
26	2.7	2.2	1.1	0.7	0.6	0.8	1.1	1.3	0.7	0.6	3.3	4.9	2.6	2.8	4.1	0.3	0.7	1.5	1.7	3.2	3.8	3.0	0.4	0.3	4.9	1.9
27	0.3	0.5	0.6	0.8	2.2	3.3	11.7	10.5	8.5	7.9	14.0	5.3	13.3	10.4	14.8	9.4	8.9	4.0	4.9	2.1	1.1	0.6	0.6	0.5	14.8	5.7
28	0.4	0.4	0.4	0.8	0.5	0.6	1.4	8.2	13.8	14.3	17.7	8.6	15.9	11.8	10.7	13.6	4.7	3.3	11.2	1.0	1.6	3.6	4.5	1.0	17.7	6.2
29	2.3	0.6	2.2	0.7	1.0	1.4	11.3	17.0	25.9	11.1	10.6	18.0	20.7	21.1	17.8	13.2	14.1	7.5	6.0	2.8	1.3	1.2	1.1	0.9	25.9	8.7
30	0.7	0.7	0.6	0.4	0.6	0.7	3.5	14.9	29.9	30.9	25.7	11.5	18.9	18.0	17.2	23.3	24.8	10.1	2.8	2.5	1.8	1.2	1.4	2.3	30.9	10.2
Hourly Max	26.1	33.0	33.5	26.9	21.7	31.5	31.4	33.1	83.9	54.4	152.6	200.1	182.3	190.5	67.4	57.2	73.4	33.0	32.0	29.7	33.7	34.9	33.8	21.5		
Hourly Average	4.3	5.4	5.0	4.5	4.0	4.8	6.3	9.2	12.8	16.9	29.4	36.1	37.5	30.7	22.8	15.8	11.4	7.3	6.2	4.8	4.8	4.9	5.0	4.3		



Number of 1HR Exceedances	n/a	Guideline	n/a	UG/M3
Number of Non-Zero Readings	720			
Maximum 1-HR Average	200.1	UG/M3		
Maximum 24-HR Average	38.1	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	100.0 %
Standard Deviation	21.0		Monthly Average	12.3 UG/M3

West TSP (µg/m³) – November 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	1.7	1.2	2.7	1.5	1.0	0.9	2.6	1.3	1.5	8.6	34.2	23.3	18.2	4.1	3.5	6.5	14.9	2.6	1.9	10.7	3.6	7.9	7.1	34.2	6.8
2	2.9	7.5	2.6	5.2	1.8	3.8	3.1	13.4	10.4	7.8	6.3	14.5	11.4	13.7	4.8	6.2	3.7	3.2	3.8	12.0	7.3	9.4	4.3	5.7	14.5	6.9
3	14.1	19.7	12.4	8.9	3.3	2.5	2.3	2.8	2.5	3.9	87.5	99.2	165.6	214.3	64.3	26.1	12.4	0.9	0.8	0.9	0.9	0.9	1.5	3.6	214.3	31.3
4	4.4	3.0	2.3	1.9	2.0	2.4	2.8	2.1	2.2	19.3	47.9	16.3	24.0	108.1	176.0	132.9	15.0	4.6	16.2	2.6	2.4	2.2	2.1	2.2	176.0	24.8
5	2.1	2.3	1.7	1.9	2.2	2.0	1.7	1.9	3.7	17.6	80.8	98.6	37.1	78.6	77.3	28.3	5.6	2.7	5.0	1.8	1.4	1.4	1.2	1.3	98.6	19.1
6	2.7	1.8	1.9	2.0	1.9	1.7	2.5	5.2	5.3	140.8	139.5	65.3	70.2	83.1	66.1	30.8	67.4	29.1	14.5	3.6	4.9	18.2	5.8	3.1	140.8	32.0
7	9.6	1.9	3.4	5.8	12.5	9.3	16.6	26.9	34.2	20.3	32.5	75.7	92.1	82.2	47.9	29.0	8.6	6.1	5.5	7.9	8.6	11.4	12.6	9.6	92.1	23.8
8	14.2	15.1	13.8	11.7	13.1	14.6	15.0	12.3	9.4	16.8	68.3	212.8	201.3	115.6	130.1	88.7	42.4	13.2	9.2	9.2	10.7	9.2	7.9	7.0	212.8	44.2
9	4.9	4.8	4.1	4.1	3.9	3.9	6.0	9.5	11.3	27.1	149.9	171.2	177.6	97.7	60.8	44.3	4.8	3.8	2.8	2.9	3.1	3.6	3.7	4.1	177.6	33.7
10	4.5	4.5	4.3	3.5	4.1	3.8	4.1	4.1	4.2	8.9	16.2	94.2	104.9	81.4	59.2	31.9	2.6	1.9	2.0	5.0	2.4	2.8	2.9	3.1	104.9	19.0
11	3.0	3.1	3.3	3.3	3.3	3.5	3.8	4.0	4.3	4.8	4.9	5.7	110.9	52.6	20.1	13.8	2.6	5.0	1.5	8.2	4.9	4.9	7.4	1.9	110.9	11.7
12	1.3	1.7	5.0	3.2	1.4	1.4	1.4	1.4	1.4	1.8	7.0	51.1	35.7	20.8	9.0	5.5	3.9	8.6	5.4	7.2	1.5	1.7	10.8	2.7	51.1	8.0
13	0.7	2.7	1.2	4.4	0.6	0.7	0.8	14.7	8.8	29.5	27.2	34.3	27.4	13.1	38.6	26.6	11.6	20.4	137.0	24.8	10.2	2.4	0.9	1.4	137.0	18.3
14	0.4	1.7	0.7	4.2	1.0	6.2	0.4	46.5	135.2	66.1	171.6	173.9	135.7	127.0	122.4	91.8	77.8	28.8	25.5	21.3	25.1	24.2	24.2	15.8	173.9	55.3
15	16.1	30.0	25.4	15.0	3.0	6.2	19.2	47.3	36.0	114.5	104.8	72.2	55.5	43.2	33.7	8.6	10.8	15.3	8.5	6.5	3.0	2.1	2.0	6.3	114.5	28.5
16	2.9	2.2	2.4	2.1	13.4	27.5	23.8	24.3	19.5	34.5	24.4	21.2	21.3	26.4	77.4	73.8	17.9	9.5	1.4	0.7	0.9	5.4	2.3	1.2	77.4	18.2
17	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.3	39.5	30.9	41.0	72.2	268.4	269.6	193.2	104.7	49.5	21.9	12.3	17.6	18.9	29.1	14.6	6.7	269.6	50.0
18	2.9	2.6	1.8	2.0	4.5	12.6	7.0	5.5	7.8	43.4	12.7	18.0	16.5	4.5	18.3	5.3	2.4	1.8	6.0	1.8	6.6	2.5	25.1	4.2	43.4	9.0
19	6.7	6.4	1.1	4.5	0.7	0.6	4.0	1.7	3.9	7.3	17.2	19.0	27.7	18.1	7.9	11.7	34.3	40.7	20.0	16.3	2.8	4.2	14.1	2.5	40.7	11.4
20	1.4	0.6	0.5	0.5	1.9	2.4	1.5	1.7	4.3	30.1	33.0	56.8	118.7	22.6	16.4	19.6	16.7	12.5	11.1	8.1	9.5	7.8	11.2	12.3	118.7	16.7
21	18.4	25.4	23.9	21.3	14.6	9.9	11.9	5.4	23.1	54.4	184.9	340.2	247.1	124.8	64.6	60.0	56.6	29.3	4.5	4.8	1.6	0.2	3.8	0.5	340.2	55.5
22	0.9	0.5	0.2	0.6	0.2	2.3	7.6	6.5	1.4	34.2	90.8	113.7	86.9	56.5	61.6	31.5	51.9	14.4	6.9	1.0	0.6	0.4	0.5	0.3	113.7	23.8
23	0.2	0.4	0.5	0.8	0.9	1.2	0.7	1.6	1.6	0.8	0.8	0.8	0.4	0.5	0.4	0.4	0.2	0.9	0.6	0.4	0.5	0.4	0.3	0.3	1.6	0.7
24	0.2	1.2	10.2	30.0	32.4	61.1	109.8	102.1	58.7	103.1	139.8	88.3	85.2	70.9	59.4	99.2	46.2	17.6	5.5	2.6	5.2	3.0	1.0	1.2	139.8	47.2
25	1.9	1.4	4.0	1.5	0.9	0.9	2.4	11.3	16.4	9.4	31.5	16.5	53.9	41.5	40.5	4.5	1.9	15.3	8.4	0.9	1.4	0.9	1.3	1.2	53.9	11.2
26	5.2	1.8	0.7	0.5	0.4	0.5	2.1	2.0	0.5	2.0	3.9	8.4	6.7	6.2	9.2	0.2	0.5	1.2	1.4	2.5	3.0	2.1	0.3	0.2	9.2	2.6
27	0.5	0.5	1.5	1.6	7.4	9.0	37.0	38.5	32.8	32.5	48.2	27.4	52.1	70.3	70.9	35.7	39.8	17.7	26.6	6.1	5.2	1.9	1.6	1.4	70.9	23.6
28	0.3	0.4	1.4	1.6	1.5	0.4	3.3	25.0	32.9	30.6	45.2	18.5	40.6	27.1	25.9	80.4	27.3	13.1	21.4	0.7	4.1	8.2	15.4	4.0	80.4	17.9
29	8.4	0.9	11.3	0.6	2.7	2.6	22.6	34.0	58.0	32.8	36.9	52.4	54.4	59.8	44.5	30.6	36.7	14.8	20.1	11.4	2.4	4.7	1.0	0.8	59.8	22.7
30	0.5	1.1	0.4	0.3	0.4	0.4	11.3	40.9	71.3	72.4	62.5	35.0	49.1	42.5	56.7	68.8	55.7	31.7	4.2	6.4	4.1	3.1	1.0	2.5	72.4	25.9
Hourly Max Hourly Average	18.4	30.0	25.4	30.0	32.4	61.1	109.8	102.1	135.2	140.8	184.9	340.2	268.4	269.6	193.2	132.9	77.8	40.7	137.0	24.8	25.1	29.1	25.1	15.8		
	4.4	4.9	4.8	4.9	4.6	6.5	10.9	16.5	21.4	33.3	57.5	70.3	80.0	66.4	55.4	39.8	23.8	13.4	13.0	6.6	5.5	5.7	6.3	3.8		

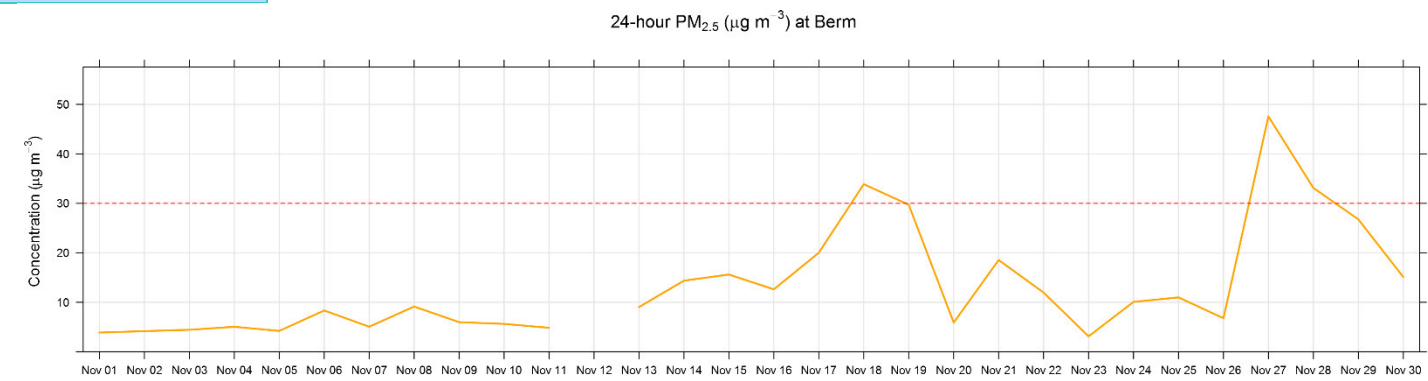


Number of 24HR Exceedances	0	Guideline	100	UG/M3
Number of Non-Zero Readings	720			
Maximum 1-HR Average	340.2	UG/M3		
Maximum 24-HR Average	55.5	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	100.0 %
Standard Deviation	40.0		Monthly Average	23.3 UG/M3

Berm PM_{2.5} (µg/m³) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	1.1	2.9	2.0	3.6	1.1	0.5	0.6	1.8	2.7	0.6	0.8	3.0	1.6	5.4	8.0	4.8	7.3	9.8	7.8	5.2	7.1	4.7	6.2	4.7	9.8	3.9
2	1.7	4.1	3.9	3.9	3.7	4.7	3.8	2.7	3.7	2.2	2.9	4.1	5.3	4.6	6.7	6.3	5.5	5.7	6.4	4.8	4.0	3.3	3.1	3.0	6.7	4.2
3	9.7	11.5	6.7	7.0	6.5	6.0	3.6	5.9	5.3	4.3	5.6	4.8	3.6	4.1	2.4	1.5	2.5	1.3	2.1	1.7	1.7	1.3	3.5	4.0	11.5	4.4
4	4.1	3.6	2.9	2.4	2.0	2.0	2.0	1.9	2.0	10.0	14.5	9.3	5.0	4.4	7.3	7.6	5.0	5.2	5.7	4.7	4.7	4.6	5.3	5.2	14.5	5.1
5	4.6	4.6	3.3	3.7	4.0	4.1	2.6	3.0	6.0	4.9	4.1	3.5	4.2	5.0	4.6	6.0	3.6	8.6	7.3	4.2	3.2	2.2	2.2	1.9	8.6	4.2
6	2.0	3.1	4.0	3.1	3.1	3.0	3.1	3.7	6.1	7.7	6.4	5.8	10.9	15.6	24.3	22.2	22.1	8.9	14.5	10.3	6.7	7.2	3.7	2.7	24.3	8.3
7	3.1	6.5	2.7	3.1	3.9	3.3	3.2	7.0	5.1	6.0	4.2	5.0	5.8	7.7	5.5	4.6	3.9	3.8	3.8	5.2	6.7	7.6	7.1	6.8	7.7	5.1
8	7.1	7.3	7.9	8.4	10.2	10.4	12.7	14.0	7.3	11.9	12.4	9.8	9.1	9.4	8.3	11.5	10.8	8.6	6.7	5.4	7.8	8.5	7.3	6.9	14.0	9.1
9	5.7	5.8	5.2	5.1	4.8	4.7	5.0	5.2	9.5	9.3	8.7	10.7	7.7	7.1	8.3	5.3	4.9	3.8	4.1	3.4	4.2	4.6	5.5	5.0	10.7	6.0
10	5.1	5.4	5.5	4.7	5.0	4.7	5.4	7.0	5.6	11.1	10.0	8.4	7.0	6.8	7.4	5.7	5.5	4.8	3.3	3.1	3.0	3.5	3.8	3.8	11.1	5.6
11	4.0	4.6	4.1	4.3	4.7	4.8	4.4	3.9	3.8	5.6	7.7	6.2	5.9	5.0	8.2	7.6	4.5	2.2	1.7	2.4	3.2	4.9	6.4	6.2	8.2	4.9
12	8.0	5.4	2.6	2.3	1.8	1.7	1.9	1.9	PO	PO	PO	PO	PO	PO	PO	PO	8.8	6.9	5.8	4.1	4.3	3.3	2.5	3.9	8.8	4.1
13	2.4	6.3	5.2	2.6	7.2	6.0	7.4	14.0	11.7	10.4	9.9	8.2	6.4	3.0	4.2	4.5	8.4	10.3	15.7	15.8	13.8	8.6	13.8	20.9	20.9	9.0
14	12.1	12.7	15.3	3.5	2.1	1.1	1.8	8.5	16.7	19.1	16.4	14.9	15.5	15.7	14.7	16.7	20.6	18.0	19.0	22.2	21.5	20.1	18.8	17.9	22.2	14.4
15	18.4	19.4	19.9	19.2	15.2	3.2	5.2	6.8	47.5	36.5	83.3	20.2	14.0	8.5	8.3	9.4	6.8	9.4	4.1	5.3	3.4	2.8	4.4	3.5	83.3	15.6
16	5.4	4.8	4.2	4.4	13.0	21.4	21.9	21.2	22.5	23.2	32.8	19.8	22.5	20.6	18.8	13.8	8.8	2.1	4.1	3.9	2.7	3.7	4.8	2.6	32.8	12.6
17	3.6	2.8	2.2	2.0	1.6	1.5	1.7	4.4	11.1	13.4	19.6	17.0	19.2	18.3	36.9	49.4	38.4	38.8	40.1	33.3	47.6	29.6	22.1	25.7	49.4	20.0
18	32.4	25.7	28.5	23.4	12.9	33.5	21.7	25.1	42.5	44.1	52.3	53.7	38.4	67.2	60.6	39.5	50.4	35.0	42.0	10.3	11.4	26.2	11.6	24.4	67.2	33.9
19	54.4	66.0	41.0	32.7	37.8	31.4	14.4	26.5	50.6	70.4	70.8	55.3	38.9	27.5	22.6	14.4	13.0	6.8	7.5	8.1	5.4	5.6	4.9	7.2	70.8	29.7
20	6.0	4.2	1.0	4.3	11.2	4.5	3.5	1.1	1.5	1.6	3.2	3.0	1.7	2.2	5.6	7.5	9.7	8.9	8.6	9.8	9.7	9.0	10.9	13.1	13.1	5.9
21	13.9	14.1	14.0	15.5	13.5	10.5	9.2	11.1	16.0	29.6	25.1	22.5	30.4	25.8	43.5	32.9	31.5	29.4	20.9	17.1	9.6	4.4	2.6	1.7	43.5	18.5
22	2.1	1.2	1.0	0.7	0.8	2.8	8.3	5.0	6.2	9.3	2.4	3.9	3.4	7.4	8.8	31.9	83.5	23.7	41.2	9.1	17.1	4.2	5.9	7.2	83.5	12.0
23	5.6	2.6	2.8	2.0	2.8	1.4	1.2	3.6	4.1	2.8	4.9	2.5	6.9	2.0	5.3	1.8	5.1	2.9	2.6	2.4	3.3	3.3	2.1	0.9	6.9	3.1
24	1.5	4.6	3.2	5.6	8.4	4.4	2.4	1.4	7.8	10.3	15.1	14.8	11.8	11.5	21.2	17.8	15.8	12.1	19.5	9.3	10.9	18.0	8.2	6.3	21.2	10.1
25	9.0	7.1	13.0	11.8	5.6	9.3	7.3	10.6	20.8	18.6	12.1	11.6	12.7	11.6	17.2	16.4	17.6	18.3	12.9	4.7	3.3	4.8	4.0	3.6	20.8	11.0
26	6.0	1.9	1.4	1.1	1.0	1.7	1.6	8.6	14.4	27.9	20.1	18.9	14.6	15.5	8.8	1.0	3.4	1.1	1.1	2.0	2.2	2.8	2.4	3.4	27.9	6.8
27	4.1	6.8	8.9	8.9	7.2	4.3	6.0	16.6	33.4	44.2	49.6	92.1	86.1	120.8	129.7	60.6	91.7	111.8	131.9	24.6	35.6	26.7	22.4	17.7	131.9	47.6
28	14.3	10.9	16.1	15.5	20.2	37.7	26.2	41.8	108.5	67.7	38.2	48.3	55.2	35.6	42.3	25.5	17.6	13.0	15.6	9.9	12.3	32.1	74.5	15.6	108.5	33.1
29	16.3	36.0	49.2	62.8	26.5	26.0	15.3	20.4	19.3	55.8	27.5	12.3	18.7	15.6	16.2	18.3	9.3	30.5	55.2	47.2	28.5	9.0	17.1	9.2	62.8	26.8
30	7.8	5.9	13.1	7.3	6.1	5.8	8.8	22.7	20.9	26.2	26.2	14.9	22.1	13.9	15.5	24.0	20.7	31.0	31.0	14.2	11.6	2.9	3.6	6.2	31.0	15.1
Hourly Max	54.4	66.0	49.2	62.8	37.8	37.7	26.2	41.8	108.5	70.4	83.3	92.1	86.1	120.8	129.7	60.6	91.7	111.8	131.9	47.2	47.6	32.1	74.5	25.7		
Hourly Average	9.0	9.9	9.7	9.2	8.1	8.5	7.1	10.3	17.7	20.2	20.2	17.4	16.7	17.2	19.7	16.2	17.9	15.8	18.1	10.1	10.2	9.0	9.7	8.0		

PO = POWER OUTAGE

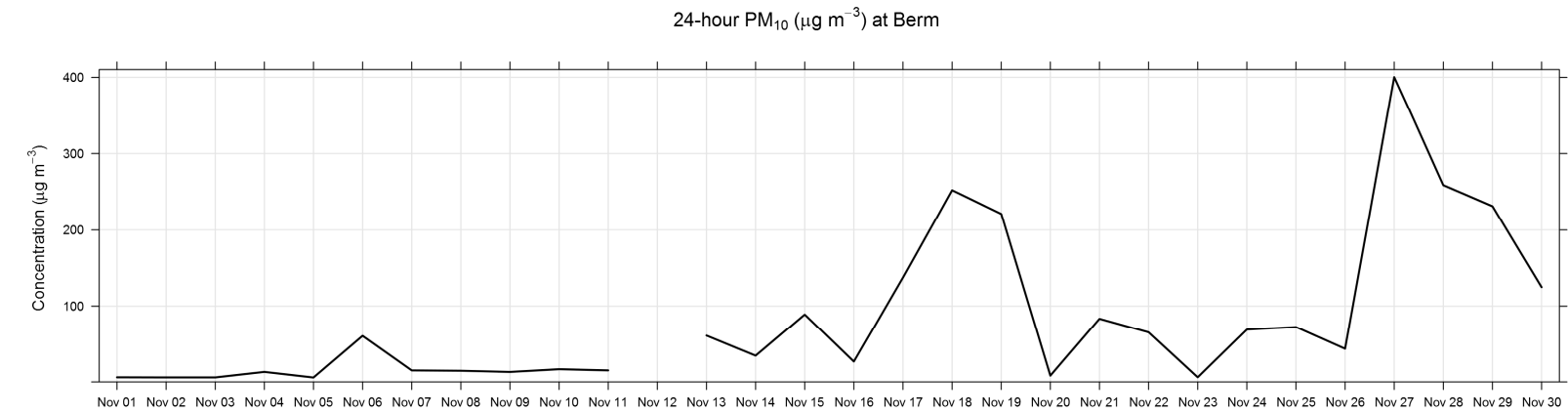


Number of 1HR Exceedances	10	Guideline	80	UG/M3
Number of 24HR Exceedances	3	Guideline	30	UG/M3
Number of Non-Zero Readings	712			
Maximum 1-HR Average	131.9	UG/M3		
Maximum 24-HR Average	47.6	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	712 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.9 %
Standard Deviation	16.7		Monthly Average	13.1 UG/M3

Berm PM10 (µg/m³) – November 2017

Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	1.2	3.4	2.9	5.3	1.5	0.7	0.8	2.6	3.9	0.8	1.0	14.8	1.8	7.5	11.6	6.6	10.7	14.4	11.5	7.4	10.4	7.0	9.2	7.0	14.8	6.0
2	2.4	5.9	5.6	5.7	5.3	6.6	5.0	3.7	5.3	2.9	4.0	5.5	7.5	6.4	9.7	9.0	7.9	8.2	9.3	6.9	5.7	4.5	3.7	3.8	9.7	5.9
3	13.9	16.0	8.4	9.2	8.7	8.3	4.5	8.0	6.9	5.6	7.5	6.6	4.8	5.4	3.0	1.7	2.7	1.4	2.5	1.8	1.7	1.3	4.8	5.3	16.0	5.8
4	5.0	4.3	3.5	2.6	2.0	2.2	2.1	2.0	2.2	14.7	110.0	63.9	17.9	13.4	10.1	10.7	6.1	6.5	7.1	5.4	5.3	5.1	6.0	5.9	110.0	13.1
5	5.2	5.6	3.7	4.0	4.5	4.7	2.6	3.1	6.2	5.2	4.2	3.7	6.6	10.5	9.1	16.2	4.2	12.1	10.3	5.4	3.8	2.3	2.2	1.9	16.2	5.7
6	2.2	3.9	4.4	3.5	3.3	3.6	3.8	4.8	8.9	16.4	43.4	35.5	104.1	145.7	239.5	199.9	199.9	74.2	140.0	89.0	52.2	49.6	18.1	5.6	239.5	60.5
7	9.6	51.6	6.0	8.1	12.6	6.6	6.5	36.0	22.1	28.4	8.3	14.6	23.5	41.2	18.4	11.7	5.9	4.8	4.2	5.7	7.7	10.3	8.9	8.5	51.6	15.1
8	9.1	9.0	9.5	10.0	11.9	12.5	17.6	20.3	9.3	17.1	29.2	27.2	19.4	19.8	14.6	36.6	15.0	12.2	7.4	6.3	10.1	10.3	8.5	7.5	36.6	14.6
9	6.0	6.0	5.7	5.5	5.0	5.2	5.9	6.6	13.8	27.7	36.4	47.6	27.5	19.8	29.9	8.2	8.4	6.3	14.0	5.3	4.8	4.9	6.8	5.7	47.6	13.0
10	5.5	8.9	9.9	5.2	6.7	8.3	7.4	9.8	8.0	66.2	54.1	35.5	25.6	28.8	35.8	26.6	18.9	11.7	7.1	3.9	3.2	3.9	3.9	4.0	66.2	16.6
11	4.1	4.8	4.2	4.6	5.3	5.1	4.5	3.9	3.9	6.8	17.4	9.9	12.7	19.8	56.0	46.9	28.4	5.5	2.3	4.7	14.4	31.5	34.3	30.7	56.0	15.1
12	53.0	23.5	5.3	4.0	2.1	1.9	2.1	2.2	PO	PO	PO	PO	PO	PO	PO	PO	75.1	49.2	45.5	32.1	29.2	19.1	11.9	18.8	75.1	23.4
13	13.3	42.7	33.8	13.2	44.8	30.5	55.6	108.0	86.9	82.2	68.5	52.5	45.3	16.5	31.7	39.9	69.1	78.3	110.5	109.8	76.8	42.8	86.3	122.6	122.6	60.9
14	87.5	90.2	125.5	21.1	11.1	3.1	5.7	16.1	28.2	26.5	21.6	18.1	30.0	37.2	35.8	34.7	63.8	32.6	24.2	27.6	25.5	21.7	20.2	19.1	125.5	34.5
15	19.9	20.6	22.5	27.2	22.8	13.7	34.4	59.5	418.4	292.2	623.6	138.7	94.3	52.9	61.3	65.2	44.4	48.1	21.7	24.2	10.1	5.6	6.8	4.8	623.6	88.9
16	7.9	6.7	5.7	6.4	17.2	29.1	26.2	24.5	29.0	30.6	46.8	26.1	29.9	30.9	78.0	94.3	58.1	8.3	24.4	20.2	9.7	16.3	11.0	3.5	94.3	26.7
17	5.1	3.9	2.9	2.7	2.2	1.6	2.6	14.0	13.4	15.7	24.6	19.5	26.1	28.8	314.6	434.0	334.9	362.7	333.8	288.2	419.4	247.7	173.3	225.8	434.0	137.4
18	279.2	195.8	225.9	202.3	105.6	273.2	173.9	194.5	312.9	350.9	359.0	371.9	256.9	497.9	440.1	284.0	367.1	254.5	325.4	68.8	81.8	177.8	70.7	183.4	497.9	252.2
19	395.9	516.6	317.1	269.1	287.1	256.4	126.9	207.0	367.8	515.5	505.7	377.4	301.0	201.7	155.3	114.3	112.0	46.6	38.8	55.1	27.2	36.1	35.3	47.2	516.6	221.4
20	23.2	6.2	1.4	6.2	16.7	6.6	5.1	1.4	1.9	2.1	4.6	4.3	5.2	2.9	7.6	9.8	13.3	10.8	9.3	11.4	10.5	9.8	11.8	14.2	23.2	8.2
21	15.3	16.4	16.7	21.2	16.1	11.4	10.5	14.1	21.8	44.4	42.8	55.8	145.1	216.0	335.0	251.3	212.2	216.7	135.1	98.8	51.9	23.1	14.7	10.9	335.0	83.2
22	9.6	4.7	4.0	2.8	3.3	14.5	41.0	26.3	34.5	47.9	10.7	16.2	13.8	30.3	42.2	189.2	512.7	150.1	238.8	36.0	57.1	16.4	27.6	36.0	512.7	65.2
23	29.1	11.9	9.6	3.1	4.1	1.9	1.7	5.4	6.0	4.1	6.9	3.5	10.3	2.9	7.9	3.4	7.6	4.3	3.8	3.5	4.9	4.8	3.1	1.3	29.1	6.1
24	3.7	32.8	21.3	39.1	59.0	25.5	14.8	8.0	63.5	95.3	130.2	109.9	83.3	89.2	155.9	116.1	125.7	89.7	125.1	56.8	54.8	82.3	39.7	31.7	155.9	68.9
25	40.1	32.2	69.9	79.4	30.8	48.4	36.1	60.6	134.1	126.0	87.1	78.5	104.5	75.8	125.3	125.9	134.8	132.4	93.0	23.2	16.6	28.6	26.2	24.4	134.8	72.2
26	32.3	5.8	5.4	2.9	2.2	7.2	8.1	74.8	126.0	247.1	154.4	111.9	97.1	85.0	43.6	3.8	15.5	1.4	1.4	2.3	2.8	3.8	3.8	6.9	247.1	43.6
27	18.6	44.0	76.4	74.3	52.9	31.4	47.9	131.2	305.6	393.5	415.9	846.6	746.6	992.6	1097.0	493.3	791.3	927.4	1042.4	201.3	309.7	243.7	179.9	145.0	1097.0	400.4
28	103.3	81.4	126.6	118.7	178.2	308.5	226.5	311.1	833.1	511.4	308.7	365.5	415.2	250.9	301.9	207.3	110.9	82.6	93.6	14.9	121.8	285.5	715.4	137.9	833.1	258.8
29	153.7	305.3	471.0	462.7	238.8	233.8	113.9	195.3	165.8	509.3	248.2	107.7	149.3	121.1	123.7	144.3	74.3	253.9	486.4	440.3	215.6	79.8	170.0	88.6	509.3	231.4
30	62.8	51.7	106.6	57.5	45.2	42.7	67.9	192.5	180.7	205.1	200.6	112.8	194.7	102.1	117.4	195.5	168.4	295.5	312.8	95.3	92.3	18.6	25.6	52.1	312.8	124.8
Hourly Max Hourly Average	395.9	516.6	471.0	462.7	287.1	308.5	226.5	311.1	833.1	515.5	623.6	846.6	746.6	992.6	1097.0	493.3	791.3	927.4	1042.4	440.3	419.4	285.5	715.4	225.8		
	47.3	53.7	57.1	49.3	40.2	46.8	35.4	58.2	111.0	127.3	123.3	106.3	103.5	108.7	134.9	109.7	120.0	106.7	122.7	58.4	57.9	49.8	58.0	42.0		

PO = POWER OUTAGE

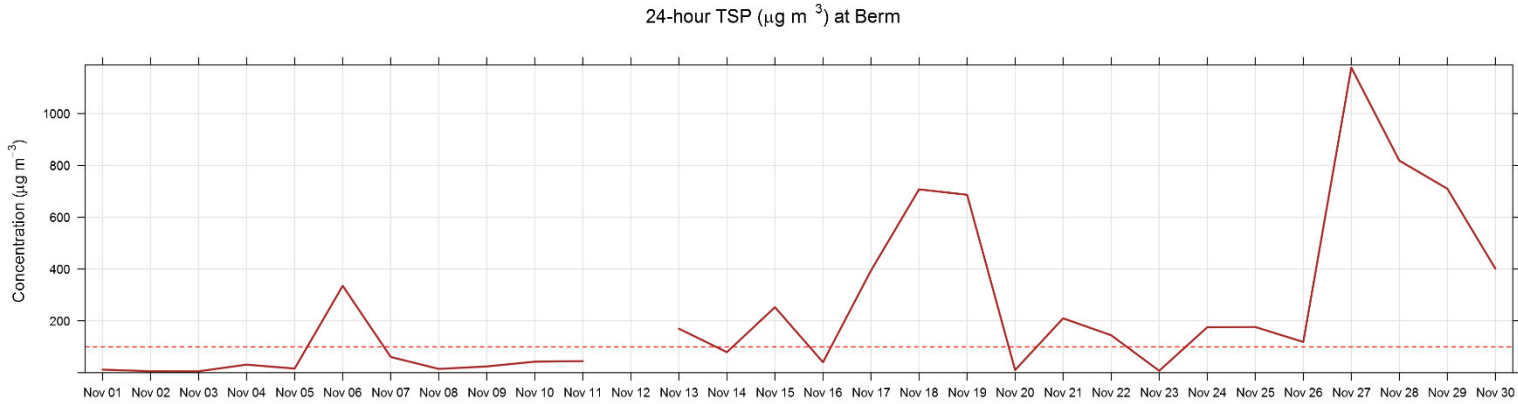


Number of 1HR Exceedances	n/a	Guideline	n/a	UG/M3
Number of Non-Zero Readings	712			
Maximum 1-HR Average	1097.0	UG/M3		
Maximum 24-HR Average	400.4	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	712 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.9 %
Standard Deviation	142.0		Monthly Average	79.9 UG/M3

Berm TSP (µg/m³) – November 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	0.8	2.2	2.1	4.8	1.0	0.5	0.5	2.6	3.1	0.5	0.9	155.1	1.4	7.4	11.4	5.8	10.7	15.7	12.2	6.4	10.7	7.6	10.2	7.7	155.1	11.7
2	2.2	5.9	5.3	5.3	4.9	6.2	4.7	3.6	4.9	2.4	3.5	5.0	7.7	6.3	10.1	9.1	8.3	8.6	9.9	7.0	5.7	4.3	2.9	3.1	10.1	5.7
3	15.0	17.3	7.2	9.0	7.8	8.3	3.8	7.3	6.0	5.1	7.4	6.4	4.3	4.8	2.5	1.2	1.8	0.9	1.7	1.2	1.1	0.8	4.6	4.4	17.3	5.4
4	3.7	3.2	2.5	1.7	1.3	1.5	1.4	1.4	1.6	16.5	301.8	203.3	65.7	80.6	12.9	10.3	4.7	5.6	6.1	3.8	3.7	3.4	4.4	4.4	301.8	31.1
5	3.8	4.2	2.6	2.7	3.1	3.4	1.7	2.0	4.1	3.7	2.8	2.4	6.4	24.5	24.9	253.4	3.4	12.7	10.5	4.6	3.0	1.5	1.4	1.2	253.4	16.0
6	1.6	3.0	3.0	2.3	2.2	2.7	3.1	4.4	9.6	115.6	651.3	241.1	566.7	902.1	1580.5	759.1	805.3	306.4	683.6	588.7	312.2	390.5	81.9	31.0	1580.5	335.3
7	55.0	454.0	29.2	39.0	111.0	34.1	35.4	134.4	68.7	105.6	49.5	41.0	56.8	124.0	53.5	20.5	10.0	3.9	2.7	3.8	5.2	8.1	6.3	6.1	454.0	60.7
8	6.5	6.3	6.6	6.8	8.2	8.7	14.4	16.8	7.1	17.0	39.1	44.7	25.0	20.6	15.8	48.0	15.5	8.6	5.5	4.5	7.4	7.3	6.0	4.9	48.0	14.6
9	4.0	3.9	3.8	3.7	3.3	3.6	4.4	5.4	14.8	84.8	94.8	102.0	51.8	38.7	43.7	11.5	16.8	11.7	49.3	11.0	3.4	3.4	5.6	4.2	102.0	24.1
10	3.9	26.4	25.3	3.8	11.5	20.0	11.4	8.6	8.3	246.3	184.9	100.4	54.7	58.9	108.2	72.6	27.4	14.9	21.2	3.2	2.3	3.1	2.7	2.6	246.3	42.6
11	3.0	3.1	2.8	3.3	4.4	3.4	2.9	2.5	2.5	7.8	53.6	16.8	24.3	48.3	160.1	127.3	77.0	11.0	3.1	6.1	72.8	141.5	171.2	124.8	171.2	44.7
12	234.3	89.8	14.5	5.4	2.4	1.8	2.4	1.4	PO	PO	PO	PO	PO	PO	PO	PO	331.8	194.0	191.9	158.5	139.9	81.0	45.8	73.5	331.8	98.0
13	56.1	162.6	136.5	51.7	94.9	68.5	190.0	332.5	206.2	224.3	187.2	133.8	136.5	41.5	73.9	95.6	171.1	238.0	366.2	381.8	173.6	48.7	201.5	301.2	381.8	169.8
14	320.4	320.4	439.0	67.4	32.7	4.7	3.8	34.5	83.0	25.6	19.4	13.7	37.8	63.8	97.6	68.9	119.8	50.4	18.7	20.7	18.2	14.5	13.5	12.6	439.0	79.2
15	13.3	13.7	15.2	24.1	24.2	31.1	115.8	219.3	1272.4	908.7	1878.5	401.2	296.5	152.4	193.0	174.4	110.6	81.0	52.2	47.2	21.7	7.6	6.5	4.3	1878.5	252.7
16	8.2	6.5	5.2	6.4	22.7	27.3	20.2	18.4	26.8	29.7	49.9	20.0	28.4	33.7	131.8	205.8	158.4	19.8	54.3	31.4	12.5	30.1	19.6	3.0	205.8	40.4
17	5.1	3.5	2.3	2.0	1.4	1.0	3.1	21.4	16.6	12.2	21.6	15.0	31.5	34.3	952.1	1280.5	947.4	1034.1	942.1	857.9	1238.9	763.3	564.9	712.1	1280.5	394.3
18	872.1	588.4	663.2	600.5	309.3	841.5	533.4	472.4	688.6	809.1	871.3	855.4	596.4	1423.4	1375.6	794.8	1090.1	708.4	1016.4	241.4	236.9	542.0	228.0	618.3	1423.4	707.4
19	1246.0	1817.2	1044.6	1034.0	988.2	865.7	453.5	615.1	991.4	1480.0	1503.5	1046.5	918.2	637.4	437.4	309.2	348.8	158.4	95.8	114.3	46.6	100.5	109.3	114.8	1817.2	686.5
20	89.4	5.1	1.1	6.4	18.7	6.7	4.4	1.1	1.7	1.9	4.8	4.7	15.2	2.4	7.1	8.4	11.7	8.1	6.2	7.6	6.9	6.5	7.8	9.4	89.4	10.1
21	10.0	10.9	11.1	15.1	11.0	7.6	7.1	10.6	16.6	48.5	54.1	88.9	318.4	634.0	988.2	736.2	556.7	662.1	347.2	211.1	125.1	58.7	59.4	47.1	988.2	209.8
22	29.5	10.4	5.1	8.8	6.7	24.1	57.2	46.5	77.9	86.4	25.3	38.8	25.8	54.8	92.7	636.1	1191.3	353.5	515.5	51.1	55.0	11.4	30.3	34.9	1191.3	144.6
23	52.8	16.7	8.8	3.1	4.2	1.7	1.5	5.7	6.0	4.1	6.9	3.3	11.5	3.0	8.8	4.0	8.3	4.5	3.8	3.7	5.1	5.3	3.1	1.3	52.8	7.4
24	7.7	87.1	77.1	130.0	159.9	53.3	36.7	22.2	176.7	302.1	385.4	294.3	224.2	244.1	381.1	256.8	356.2	257.2	309.2	120.2	105.1	106.8	46.2	65.9	385.4	175.2
25	82.2	70.4	148.2	219.2	76.3	103.8	88.1	132.6	383.2	233.5	219.1	228.4	270.5	182.1	288.9	284.1	334.7	351.1	219.2	46.0	28.9	68.9	86.5	87.3	383.2	176.4
26	79.5	6.9	9.3	2.6	3.8	13.6	30.2	270.3	375.0	771.8	468.9	244.2	232.7	212.0	77.7	3.5	22.9	1.1	1.1	1.6	2.2	3.5	4.4	9.8	771.8	118.7
27	31.4	93.1	209.7	247.2	154.8	92.2	142.1	404.5	1065.3	1326.1	1299.1	2563.2	2383.0	2616.0	3000.1	1598.9	2212.5	2772.2	2811.4	652.5	920.6	723.8	500.9	430.8	3000.1	1177.1
28	239.6	202.9	350.0	357.1	671.1	1150.0	799.9	1043.8	2622.6	1510.0	863.9	866.0	1105.3	667.8	795.9	813.1	549.0	239.3	310.7	17.2	580.4	1072.1	2338.6	470.2	2622.6	818.2
29	478.3	894.9	1539.6	1242.9	743.4	673.7	338.2	595.7	465.3	1345.3	696.1	299.4	419.4	379.4	331.2	413.6	232.8	868.1	1617.1	1472.1	737.8	360.7	590.4	299.4	1617.1	709.8
30	241.8	189.2	396.5	240.7	167.6	149.4	164.4	579.1	559.3	531.4	569.9	303.7	583.1	276.7	324.0	535.9	526.9	1124.8	1251.1	349.4	293.8	71.9	70.5	125.8	1251.1	401.1
Hourly Max	1246.0	1817.2	1539.6	1242.9	988.2	1150.0	799.9	1043.8	2622.6	1510.0	1878.5	2563.2	2383.0	2616.0	3000.1	1598.9	2212.5	2772.2	2811.4	1472.1	1238.9	1072.1	2338.6	712.1		
Hourly Average	139.9	170.6	172.2	144.9	121.7	140.3	102.5	167.2	316.0	353.7	362.6	287.5	293.1	309.5	399.3	328.9	342.1	317.5	364.5	180.9	172.6	155.0	174.1	120.5		

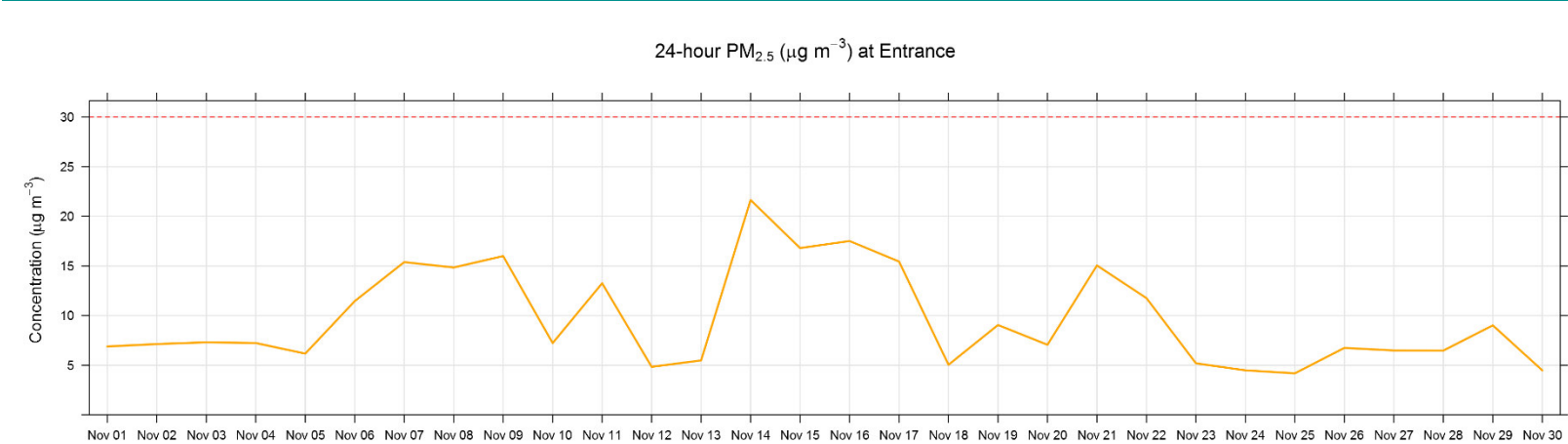
PO = POWER OUTAGE



Number of 24HR Exceedances	15		Guideline	100	UG/M3
Number of Non-Zero Readings	712				
Maximum 1-HR Average	3000.1	UG/M3			
Maximum 24-HR Average	1177.1	UG/M3			
IZS Calibration Time	0	HRS	Operational Time	712	HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.9	%
Standard Deviation	430.4		Monthly Average	233.8	UG/M3

Entrance PM_{2.5} (µg/m³) – November 2017

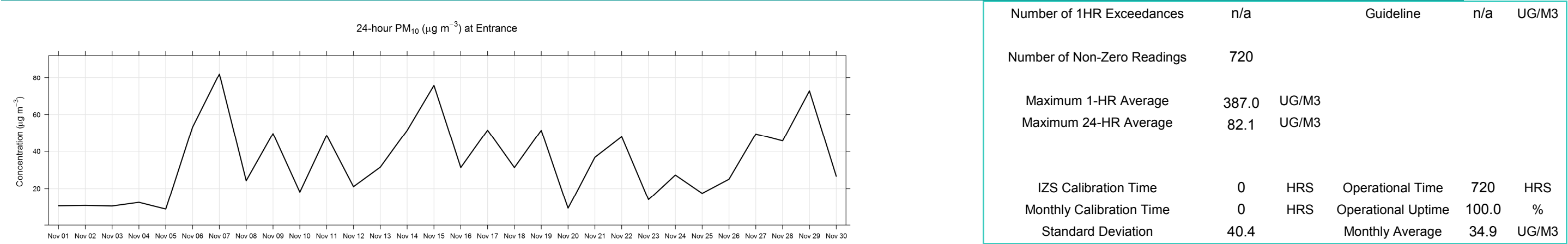
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Max	24-hour Average
1	2.6	4.3	3.4	3.2	1.5	0.9	1.0	2.5	3.6	1.5	2.7	5.3	6.7	7.6	16.4	9.8	14.4	14.4	10.7	3.0	8.3	9.2	16.5	15.9	16.5	6.9
2	3.9	7.7	7.8	14.4	9.5	8.7	6.6	4.8	6.2	3.3	5.2	6.2	7.2	7.7	8.3	8.6	6.7	7.7	9.9	8.1	6.4	7.5	2.9	5.7	14.4	7.1
3	19.0	18.4	9.3	10.5	13.2	10.4	7.4	12.2	7.2	6.6	10.8	7.8	4.1	3.8	3.5	2.8	2.2	2.5	3.1	2.7	3.1	2.2	4.1	8.6	19.0	7.3
4	10.2	9.4	6.7	6.4	3.2	4.2	5.6	5.3	5.7	11.2	6.2	5.4	7.2	7.7	8.5	7.4	7.4	7.4	7.4	7.5	6.9	8.1	9.5	9.1	11.2	7.2
5	8.7	7.5	5.4	6.3	6.3	5.5	3.9	5.4	6.7	6.4	6.8	5.7	6.3	7.0	6.8	7.5	5.6	10.0	7.8	5.5	5.3	5.0	3.6	3.1	10.0	6.2
6	3.8	5.1	6.8	6.7	8.3	13.5	13.2	21.6	26.2	26.5	22.6	23.2	13.5	10.2	7.1	6.2	7.8	10.7	10.5	4.8	7.5	6.3	5.3	7.7	26.5	11.5
7	7.5	7.3	13.9	16.8	18.8	20.5	15.5	17.2	18.2	19.4	21.2	32.0	16.8	27.6	31.0	15.7	7.4	6.1	6.4	7.2	9.6	10.4	10.4	12.5	32.0	15.4
8	13.5	11.6	10.6	11.4	13.2	14.4	19.8	19.2	17.3	17.9	16.8	11.7	11.6	10.5	10.9	17.0	15.6	18.8	12.5	14.1	16.2	17.0	19.8	15.1	19.8	14.8
9	19.0	13.9	16.9	19.3	18.5	15.8	22.9	25.0	15.4	18.5	17.7	21.6	21.8	22.8	20.7	14.1	14.1	12.2	4.7	4.7	13.7	13.9	10.0	6.6	25.0	16.0
10	5.9	5.7	6.1	5.5	5.4	5.3	6.8	8.9	8.5	8.8	7.4	6.9	6.3	5.3	5.8	5.5	9.6	11.8	7.3	6.3	8.4	9.6	7.4	9.0	11.8	7.2
11	8.1	7.8	8.7	9.5	12.9	14.1	8.1	9.0	8.2	11.7	16.3	16.3	11.5	6.6	4.2	3.9	5.1	53.7	37.6	11.9	24.4	13.1	10.2	5.2	53.7	13.3
12	4.4	5.2	5.5	5.7	6.1	7.2	8.2	5.5	8.0	5.5	7.8	5.4	3.7	2.5	3.6	1.8	3.5	2.5	2.1	14.0	2.4	2.1	2.2	1.4	14.0	4.8
13	1.2	1.4	1.8	1.6	1.6	1.8	2.8	3.3	4.6	15.3	11.9	10.4	7.9	6.7	8.5	6.6	8.0	6.7	11.5	9.0	4.4	1.0	1.9	1.6	15.3	5.5
14	1.8	2.2	1.7	1.8	1.6	11.9	11.9	20.3	29.8	28.6	24.5	32.0	31.4	42.8	35.7	32.7	27.8	25.7	25.8	26.3	27.8	26.9	24.9	23.7	42.8	21.6
15	23.5	24.5	24.9	24.3	25.0	19.0	21.1	20.4	19.5	15.8	34.2	14.0	12.2	13.2	17.2	9.3	10.1	10.4	7.3	8.6	10.7	10.0	16.6	11.6	34.2	16.8
16	9.6	11.8	10.9	13.8	17.6	22.8	26.1	28.2	30.5	32.2	25.8	25.7	29.9	36.8	16.6	11.0	7.9	8.4	7.3	5.0	8.6	4.4	11.8	17.5	36.8	17.5
17	23.1	17.3	19.8	17.5	11.6	12.2	11.0	19.2	18.5	19.4	25.7	28.1	26.9	27.9	23.1	14.0	8.6	7.6	4.1	5.5	11.6	7.7	5.1	5.4	28.1	15.4
18	8.2	4.7	4.3	3.0	3.5	8.5	6.2	3.3	3.9	4.9	4.9	5.9	4.2	10.5	6.3	5.3	6.2	3.5	4.3	2.5	2.6	3.0	6.0	5.6	10.5	5.0
19	5.7	12.2	7.2	6.2	7.8	6.6	4.1	9.3	6.1	14.4	15.3	9.1	6.8	10.4	6.8	9.1	19.0	24.9	5.7	8.4	4.0	5.3	5.7	7.2	24.9	9.1
20	4.8	7.1	9.0	5.9	9.2	5.3	3.5	2.9	1.9	1.5	1.5	1.8	1.6	2.2	4.8	8.1	10.2	12.3	11.2	12.4	11.5	11.4	13.2	16.2	16.2	7.1
21	18.1	17.1	16.8	18.2	21.6	20.5	16.0	20.7	24.4	29.1	26.9	29.1	36.7	18.8	12.1	7.1	5.9	5.7	1.9	1.3	1.3	2.0	4.0	5.7	36.7	15.0
22	6.6	22.4	41.5	34.3	27.4	29.1	6.0	13.1	6.3	4.3	3.3	3.6	3.3	4.3	6.5	6.7	4.7	4.4	1.9	1.8	3.6	20.1	17.6	9.6	41.5	11.8
23	7.6	6.5	12.4	4.7	5.4	6.1	2.9	5.8	5.5	4.7	5.9	5.2	3.0	5.1	8.4	6.8	3.0	2.0	2.3	8.1	6.9	0.6	2.4	3.4	12.4	5.2
24	0.6	0.4	1.1	1.7	1.4	1.0	3.8	9.0	8.3	9.7	9.1	7.6	6.9	6.9	9.2	6.7	4.5	3.5	3.1	2.4	1.9	2.9	2.1	3.9	9.7	4.5
25	3.7	3.2	2.5	2.2	1.6	1.9	2.4	5.2	4.0	3.9	4.6	5.6	6.7	8.3	6.5	4.4	9.4	8.0	2.4	1.5	2.1	3.7	4.2	2.5	9.4	4.2
26	1.3	3.9	24.5	21.2	5.2	3.8	4.4	11.5	19.3	14.4	14.6	8.0	3.9	4.0	1.9	0.4	1.8	2.8	1.6	2.2	2.0	3.3	3.3	2.3	24.5	6.7
27	2.4	0.6	0.3	1.4	0.7	0.7	1.4	4.0	4.2	5.7	9.5	15.4	7.4	13.9	24.2	6.2	13.6	16.3	13.2	4.4	3.5	2.9	1.5	2.3	24.2	6.5
28	1.0	1.4	2.0	2.0	4.0	7.3	6.9	6.8	15.7	13.9	6.7	7.7	11.8	7.3	7.3	9.9	8.0	1.3	1.3	1.8	3.2	5.4	8.2	14.3	15.7	6.5
29	5.0	3.7	15.1	8.4	4.9	4.6	2.8	5.7	6.3	18.4	14.1	6.6	5.2	8.9	13.2	7.4	5.8	9.7	44.6	15.2	2.9	2.0	2.7	3.2	44.6	9.0
30	1.8	1.4	2.0	1.7	1.4	1.5	1.6	7.0	6.0	6.4	7.4	7.7	7.8	6.1	4.4	5.4	7.4	9.6	11.2	3.3	2.0	1.0	1.9	1.5	11.2	4.5
Hourly Max	23.5	24.5	41.5	34.3	27.4	29.1	26.1	28.2	30.5	32.2	34.2	32.0	36.7	42.8	35.7	32.7	27.8	53.7	44.6	26.3	27.8	26.9	24.9	23.7		
Hourly Average	7.8	8.2	10.0	9.5	9.0	9.5	8.5	11.1	11.5	12.7	12.9	12.4	11.0	11.8	11.3	8.6	8.7	10.7	9.4	7.0	7.4	7.3	7.8	7.9		



Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Guideline	30	UG/M3
Number of Non-Zero Readings	720			
Maximum 1-HR Average	53.7	UG/M3		
Maximum 24-HR Average	21.6	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	100.0 %
Standard Deviation	7.9		Monthly Average	9.7 UG/M3

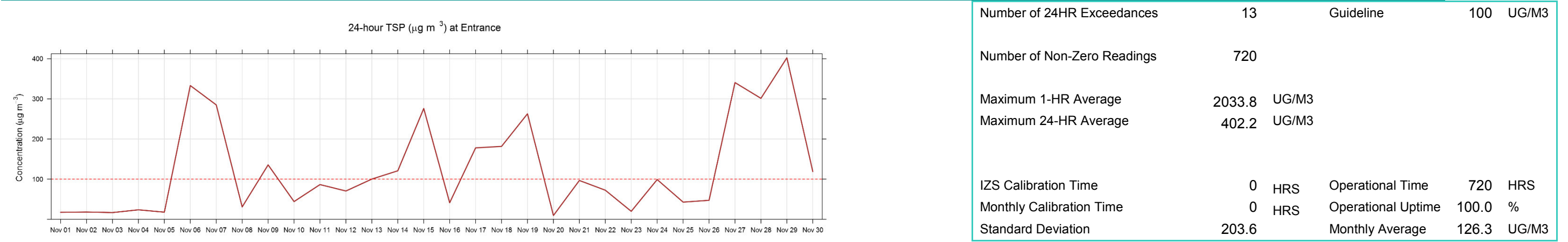
Entrance PM₁₀ (µg/m³) – November 2017

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	5.2	4.9	4.7	2.1	1.2	1.2	3.5	5.2	1.7	4.6	14.8	10.4	13.9	24.4	14.2	21.3	21.4	15.9	4.1	12.3	13.8	24.6	23.7	24.6	10.5
2	6.9	11.3	11.5	21.4	14.1	12.8	9.5	6.8	8.8	4.5	7.4	8.7	16.4	14.7	12.1	12.6	9.5	11.1	14.6	11.8	9.1	10.6	3.8	7.8	21.4	10.7
3	27.7	26.5	12.2	14.3	18.8	15.0	10.3	17.4	9.1	8.6	15.2	10.9	6.8	9.6	6.9	3.8	2.5	2.6	3.8	3.0	3.8	2.3	5.7	12.8	27.7	10.4
4	15.2	14.0	9.8	9.3	3.8	5.4	7.0	7.3	8.4	20.1	16.7	11.3	25.8	35.2	15.7	11.5	9.1	9.5	9.3	9.3	8.2	10.5	13.2	12.0	35.2	12.4
5	12.0	10.2	6.7	8.0	7.9	6.5	4.1	5.9	8.7	7.1	7.9	8.6	11.7	14.8	14.7	17.3	6.1	13.3	10.5	7.2	6.7	6.4	4.3	3.3	17.3	8.7
6	4.8	7.1	9.8	9.8	12.3	20.3	19.7	32.4	39.3	119.1	204.0	211.9	102.9	79.4	47.3	34.1	44.7	72.3	79.4	17.7	34.4	21.9	17.6	34.4	211.9	53.2
7	38.8	34.9	66.6	84.5	119.8	120.5	99.3	107.8	128.6	141.3	132.2	236.2	116.0	170.0	189.3	69.0	18.2	15.9	11.4	9.8	13.0	14.7	14.5	17.8	236.2	82.1
8	19.9	16.4	13.9	14.4	16.2	18.6	29.0	27.5	24.8	31.0	46.1	27.9	25.6	18.9	22.2	33.9	26.4	33.1	16.8	20.3	23.8	24.6	28.9	22.5	46.1	24.3
9	28.5	20.8	25.4	28.8	27.7	23.5	34.3	37.5	22.8	63.1	84.2	123.6	119.3	81.0	102.3	55.0	59.6	57.6	13.2	8.8	56.3	64.2	41.8	13.0	123.6	49.7
10	8.6	7.6	8.2	6.7	6.5	7.0	12.5	20.1	20.4	24.1	18.8	13.5	11.8	8.8	11.8	12.7	33.8	55.5	24.6	14.8	30.4	32.6	17.6	26.7	55.5	18.1
11	19.0	12.6	12.8	14.0	27.3	42.3	13.2	12.6	11.7	32.5	51.4	67.6	39.4	15.2	13.4	12.0	16.6	258.8	196.1	48.4	115.2	73.9	46.1	16.5	258.8	48.7
12	12.2	15.6	16.4	17.4	20.7	31.1	28.2	12.2	11.6	29.7	56.7	24.8	13.2	8.9	28.5	9.0	24.3	9.6	10.0	90.8	13.3	8.9	9.9	2.8	90.8	21.1
13	2.4	2.8	7.1	4.5	3.9	6.4	16.5	22.1	36.5	107.2	75.1	60.7	49.9	32.9	41.3	29.7	41.8	40.0	74.3	61.2	17.8	2.7	9.1	10.9	107.2	31.5
14	12.7	14.2	6.7	5.9	4.0	71.0	74.2	74.4	43.1	40.6	34.1	46.7	102.3	178.4	132.6	114.4	44.5	37.2	37.5	35.3	36.1	33.1	28.2	25.9	178.4	51.4
15	25.9	26.4	29.4	29.5	35.8	135.5	185.7	154.4	153.0	118.7	257.4	87.2	61.1	80.0	101.8	45.3	50.2	51.3	30.1	33.0	52.0	32.6	24.8	17.4	257.4	75.8
16	14.4	17.6	16.3	20.4	24.5	27.8	31.8	37.3	42.6	43.6	34.1	34.4	42.5	74.4	36.1	39.3	29.3	30.7	36.1	19.8	40.7	13.4	18.5	26.2	74.4	31.3
17	34.6	25.9	29.7	26.2	19.5	19.4	43.2	85.1	27.9	25.0	35.5	39.8	45.4	64.0	106.2	130.0	64.8	70.1	30.5	54.8	106.6	72.2	39.5	40.3	130.0	51.5
18	69.1	32.7	32.4	18.7	24.1	77.3	46.4	9.5	15.7	20.9	24.7	29.7	16.2	80.1	42.3	29.0	31.9	18.4	29.1	9.6	10.7	17.4	25.1	40.5	80.1	31.3
19	43.4	114.2	54.9	51.8	61.2	54.9	24.5	53.7	34.3	104.9	102.2	57.4	38.8	54.5	31.9	43.0	82.1	104.4	23.1	31.9	5.8	16.7	20.0	24.8	114.2	51.4
20	12.8	10.4	13.5	8.6	13.6	7.7	5.0	4.2	2.4	1.8	2.2	2.3	2.1	2.5	5.5	9.2	12.0	16.3	13.8	15.2	13.5	13.7	14.7	19.0	19.0	9.2
21	23.2	22.6	22.3	26.1	31.2	30.4	23.2	28.9	35.7	43.6	42.0	56.6	124.1	134.8	83.0	49.0	30.2	26.6	6.7	3.6	3.6	5.6	11.9	18.4	134.8	36.8
22	24.3	84.3	171.9	125.2	94.3	89.8	15.4	35.6	24.7	15.9	11.3	15.4	14.1	17.1	26.7	38.1	23.8	19.9	6.3	5.9	13.7	111.6	112.0	52.2	171.9	47.9
23	44.1	32.8	61.7	6.9	8.0	9.1	4.1	8.3	7.9	6.9	8.6	7.7	3.8	7.7	33.7	21.5	4.3	2.9	3.3	12.0	10.4	1.0	11.0	17.0	61.7	14.0
24	1.7	1.1	6.5	14.3	10.4	5.3	29.8	63.5	67.0	57.5	64.8	52.3	42.9	41.9	63.6	46.8	29.5	15.7	12.2	8.0	3.2	7.8	3.2	5.7	67.0	27.3
25	5.1	4.9	5.6	5.4	1.9	3.8	5.2	26.1	24.9	23.8	22.6	29.1	34.7	46.3	24.4	16.1	52.7	31.9	6.4	3.1	5.7	17.7	12.7	8.6	52.7	17.4
26	3.7	12.7	103.8	89.2	20.5	13.8	16.4	40.6	68.9	62.6	52.2	33.4	20.5	19.9	7.6	0.8	4.2	3.7	2.1	2.7	2.5	4.8	11.2	3.6	103.8	25.1
27	9.3	2.0	1.1	8.5	4.0	2.6	10.4	32.7	28.9	43.5	65.6	133.5	52.3	105.0	199.2	40.5	107.8	129.6	114.5	31.5	24.3	16.6	8.7	14.5	199.2	49.4
28	4.0	5.3	12.7	13.2	32.5	58.7	55.8	38.7	106.8	84.9	37.9	45.1	82.0	48.5	39.7	72.2	28.7	3.8	4.6	7.0	29.4	48.8	77.7	158.2	158.2	45.7
29	51.4	34.5	152.8	82.9	47.5	41.7	20.8	39.5	44.6	132.0	108.4	48.2	36.4	65.5	94.5	54.7	37.8	75.7	387.0	121.3	19.9	10.4	17.3	22.7	387.0	72.8
30	11.4	6.8	13.4	9.4	4.8	6.1	6.6	41.5	39.3	33.9	49.0	38.2	53.3	39.6	22.5	28.2	49.2	63.7	81.1	21.4	10.6	2.4	4.4	2.9	81.1	26.7
Hourly Max	69.1	114.2	171.9	125.2	119.8	135.5	185.7	154.4	153.0	141.3	257.4	236.2	124.1	178.4	199.2	130.0	107.8	258.8	387.0	121.3	115.2	111.6	112.0	158.2		
Hourly Average	19.7	21.1	31.3	26.0	24.0	32.2	29.5	36.2	36.8	48.3	55.8	52.6	44.0	52.1	52.7	36.4	33.2	43.4	43.5	24.1	24.4	23.8	22.6	23.4		



Entrance TSP (µg/m³) – November 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	2.5	3.4	3.7	3.8	1.8	1.0	0.9	2.7	4.8	1.2	9.8	123.7	24.8	47.2	25.8	12.5	21.8	23.0	16.1	3.3	13.6	15.1	27.1	26.4	123.7	17.3
2	29.9	11.2	12.0	21.6	15.0	13.6	9.9	6.5	8.9	4.3	6.9	8.3	119.2	64.2	12.4	13.2	9.4	11.0	15.6	12.3	9.6	10.3	3.0	6.9	119.2	18.1
3	30.9	29.7	11.5	13.4	20.0	15.7	9.6	16.6	7.6	7.3	16.0	10.5	31.8	89.7	41.8	13.9	5.7	1.8	3.0	2.1	2.9	1.5	5.5	13.2	89.7	16.7
4	16.1	15.0	10.3	9.3	2.7	4.0	5.1	6.3	8.6	23.4	22.5	17.3	108.1	185.5	31.9	30.6	7.1	7.9	7.9	7.4	6.0	8.6	11.9	11.0	185.5	23.5
5	10.3	8.5	5.2	6.3	5.8	4.8	2.8	4.0	7.2	4.9	5.8	13.8	23.4	31.9	31.9	210.4	4.2	13.2	9.8	6.6	5.5	4.9	3.2	2.2	210.4	17.8
6	3.6	6.1	9.2	9.7	13.3	23.3	22.3	37.3	45.6	667.6	1159.3	1087.1	734.7	857.6	507.3	266.6	397.9	657.2	832.5	109.8	190.5	119.7	112.7	124.4	1159.3	333.1
7	184.0	212.3	263.7	318.6	506.1	459.5	511.0	484.6	582.8	650.9	422.1	716.4	410.7	412.9	402.8	150.7	44.7	32.6	15.8	9.0	10.0	12.1	11.6	14.7	716.4	285.0
8	18.5	13.4	9.8	10.0	11.6	14.1	24.8	22.8	20.8	36.1	92.0	80.5	41.3	21.1	35.6	60.6	56.5	50.1	13.0	16.5	19.5	19.6	27.3	23.7	92.0	30.8
9	32.8	23.0	27.4	31.6	30.9	23.8	38.8	42.0	23.8	178.2	304.3	466.4	426.2	194.8	313.9	121.1	150.0	204.9	53.3	14.7	144.4	201.5	178.8	26.0	466.4	135.5
10	12.2	14.7	11.5	8.5	6.7	16.6	20.4	45.4	53.7	81.2	58.5	33.0	22.7	16.9	25.5	41.2	87.0	151.7	56.0	25.1	97.2	67.8	33.2	71.6	151.7	44.1
11	31.5	13.2	12.2	13.4	42.7	49.2	12.7	11.2	10.5	66.4	98.7	130.6	73.9	21.3	36.3	33.1	42.5	329.0	313.2	92.0	197.9	204.1	171.9	67.2	329.0	86.4
12	47.4	49.3	34.6	31.8	40.8	71.1	83.0	16.8	12.0	148.4	252.1	79.8	40.7	28.4	123.1	39.6	104.4	40.6	47.0	234.8	76.2	47.5	31.6	9.8	252.1	70.4
13	8.4	10.0	26.4	11.8	14.2	23.5	47.7	85.6	137.8	244.5	165.4	146.7	133.9	62.4	93.4	48.2	100.5	119.7	325.9	386.8	103.5	6.5	37.2	63.6	386.8	100.2
14	70.0	78.9	32.9	24.7	10.4	171.1	219.0	289.8	43.9	38.4	30.6	47.2	292.4	532.7	396.9	377.0	58.0	34.1	34.0	28.6	27.2	24.7	19.4	17.0	532.7	120.8
15	16.9	17.3	19.4	20.5	27.3	604.4	840.0	651.3	625.4	537.3	1094.7	492.3	307.0	329.2	335.2	149.5	138.0	97.6	66.4	73.3	97.9	37.2	27.7	17.8	1094.7	276.0
16	14.6	18.7	17.8	22.6	39.3	23.0	25.0	32.9	43.5	45.1	26.8	26.9	36.0	94.3	58.0	102.8	68.9	50.3	80.0	31.7	63.9	17.4	20.0	30.2	102.8	41.2
17	39.9	29.8	34.4	30.4	26.1	24.5	75.7	161.2	58.3	20.2	35.1	39.3	71.7	171.8	371.2	566.9	286.3	351.9	141.3	305.7	559.0	425.0	200.8	244.4	566.9	177.9
18	396.1	198.1	223.3	115.0	152.2	471.6	271.8	36.8	60.2	91.2	102.8	108.0	67.3	488.4	266.7	207.7	196.1	126.2	185.6	53.3	50.9	114.6	94.8	280.3	488.4	181.6
19	315.9	770.5	402.7	371.6	458.2	372.2	167.6	247.8	184.0	568.8	591.7	315.0	183.8	241.9	148.4	103.9	176.4	319.8	52.4	115.6	5.0	52.1	63.4	79.2	770.5	262.8
20	56.0	10.4	13.8	9.1	14.7	7.5	4.6	4.1	1.7	1.8	1.9	4.2	1.5	1.7	4.1	6.7	8.7	13.3	10.1	10.5	9.0	9.3	9.6	12.5	56.0	9.4
21	15.8	15.4	15.4	19.4	25.1	29.6	21.7	22.0	30.8	47.6	53.7	94.5	328.7	604.8	397.7	248.6	136.2	110.7	28.3	12.8	12.1	11.8	18.2	19.2	604.8	96.7
22	21.7	70.8	180.1	106.7	79.6	75.2	18.5	43.0	55.6	43.2	22.6	40.6	38.2	45.8	85.6	144.5	91.1	62.5	16.4	12.1	15.2	169.5	215.4	84.1	215.4	72.4
23	100.3	52.1	77.2	7.7	8.4	9.4	3.1	6.9	6.8	5.8	7.7	7.6	3.0	7.5	44.4	32.2	4.4	2.8	3.1	13.2	11.2	1.6	27.0	32.9	100.3	19.8
24	4.8	8.8	42.0	111.8	70.5	33.7	127.2	170.3	241.0	189.1	217.1	186.9	155.2	140.2	227.0	163.6	116.7	60.5	47.6	22.6	7.7	15.7	7.0	7.9	241.0	99.0
25	5.8	14.5	17.8	17.4	2.2	7.7	14.9	74.5	85.0	57.4	56.2	88.2	85.2	124.8	67.9	37.3	108.1	78.9	12.5	3.0	6.3	29.4	13.6	17.5	124.8	42.7
26	7.5	23.2	92.5	84.4	30.2	23.5	46.1	83.0	164.0	182.8	79.5	89.3	80.5	88.2	18.0	3.2	4.8	2.7	1.5	1.8	1.7	4.2	18.9	4.2	182.8	47.3
27	41.0	11.7	3.9	82.3	43.9	10.7	69.9	262.7	190.8	294.4	430.8	1015.4	322.3	867.0	1160.5	256.5	662.1	959.4	889.1	180.6	153.8	112.3	59.0	93.6	1160.5	340.6
28	20.0	21.9	85.1	89.6	284.4	507.2	399.1	216.0	690.2	414.6	150.7	152.0	373.8	239.4	179.3	491.3	250.0	17.4	42.1	52.8	244.9	445.8	684.6	1180.4	1180.4	301.4
29	359.8	287.7	1011.4	654.9	376.2	319.0	132.9	176.1	180.2	575.8	498.9	187.3	156.2	290.2	362.6	228.0	138.2	374.8	2033.8	830.3	155.2	65.9	106.3	151.9	2033.8	402.2
30	88.2	61.9	111.2	69.9	28.6	30.5	27.1	214.6	200.1	106.8	159.3	112.4	206.6	130.8	76.1	80.1	178.9	270.0	476.2	146.3	57.0	9.1	5.0	5.2	476.2	118.8
Hourly Max Hourly Average	396.1	770.5	1011.4	654.9	506.1	604.4	840.0	651.3	690.2	667.6	1159.3	1087.1	734.7	867.0	1160.5	566.9	662.1	959.4	2033.8	830.3	559.0	445.8	684.6	1180.4		
	66.7	70.1	93.9	77.6	79.6	114.7	108.4	115.8	126.2	177.8	205.8	197.4	163.4	214.4	196.0	141.4	121.8	152.5	194.3	93.8	78.5	75.5	74.9	91.3		



MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 10:30

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 10:45

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	PM2.5	Audit Device S/N	682
Serial Number	T19087	Certification Date	11-May-17

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)	-18.0	647	0.00	16.7	10:48
	MEASURED (AF)	-5.1	650	0.20	17.60	10:47
	AF Difference (AF-I)	12.9	3	0.20	0.90	0:00
Adjusted Data	MEASURED (M)	-18.0	650	0.20	17.60	10:47
	Adj Difference (M-I)	0.0	3	0.20	0.90	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: Half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Removal audit, Temp sensor is having issues, new one will be installed. Performed self-test, all passed.

MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 10:45

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 11:32

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	PM2.5	Audit Device S/N	682
Serial Number	T19087	Certification Date	11-May-17

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)	-17.5	663	0.00	16.7	11:32
	MEASURED (AF)	-17.1	663	0.20	16.66	11:31
	AF Difference (AF-I)	0.4	0	0.20	-0.04	0:00
Adjusted Data	MEASURED (M)	-17.5	663	0.20	16.66	11:32
	Adj Difference (M-I)	0.0	0	0.20	-0.04	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: Half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Installed new BP and temp sensor, calibrated parameters. Performed self-test, all passed.

MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 12:30

OPERATOR: Lenin Flores
DATE: November 29, 2017
END TIME (MST): 13:30

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
Configuration PM2.5
Serial Number T19087

Audit Device Model Delta Cal
Audit Device S/N 682
Certification Date 11-May-17

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)	3.6	652	0.00	16.7	14:10
	MEASURED (AF)	3.4	652	0.20	16.78	14:10
	AF Difference (AF-I)	-0.2	0	0.20	0.08	0:00
Adjusted Data	MEASURED (M)	3.6	652	0.20	16.69	14:10
	Adj Difference (M-I)	0.0	0	0.20	-0.01	0:00
	LIMITS	± 4.0 °C	5 mm Hg	1.0 L/min	± 1.0 L/min	±2 min

Sample Head Inspect/Cleaning: Inspected - cleaned

Status of sampling tape: Half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Calibration performed prior to the start of the 72-hr Zero test which is to be done to calculate a new Background coefficient.

MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 11:00

OPERATOR: Darrin Pike
DATE: November 24, 2017
END TIME (MST): 13:00

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	PM2.5	Audit Device S/N	682
Serial Number	T19087	Certification Date	11-May-17

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)	5.4	645	0.00	16.7	12:45
	MEASURED (AF)	11.2	644	0.30	16.66	12:45
	AF Difference (AF-I)	5.8	-1	0.30	-0.04	0:00
Adjusted Data	MEASURED (M)	5.4	645	0.30	16.66	12:45
	Adj Difference (M-I)	0.0	0	0.30	-0.04	0:00
	LIMITS	± 4.0 °C	5 mm Hg	1.0 L/min	± 1.0 L/min	±2 min

Sample Head Inspect/Cleaning: Inspected - it was found clean

Status of sampling tape: Half roll

Nozzle Inspection / cleanliness: Inspected, looks clean

COMMENTS:

Temperature found to be 6degC high during AEP audit, installed new BP/Temp cable, performed full calibration

MetOne BAM PM₁₀ Calibration



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

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 12:45

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	PM10	Audit Device S/N	682
Serial Number	A3315	Certification Date	11-May-17

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)	-4.2	647	0.00	16.7	12:42
	MEASURED (AF)	-3.6	647	0.40	16.98	12:41
	AF Difference (AF-I)	0.5	0	0.40	0.28	0:00
Adjusted Data	MEASURED (M)	-3.6	647	0.40	16.71	12:42
	Adj Difference (M-I)	0.6	0	0.40	0.01	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned

COMMENTS:

Performed self test, all passed.

MetOne BAM TSP Calibration



STATION: Lafarge
LOCATION: Exshaw - Lagoon
START TIME (MST): 12:30

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 12:58

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	TSP	Audit Device S/N	682
Serial Number	A3589	Certification Date	11-May-17

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)	-3.1	648	0.00	16.7	12:58
	MEASURED (AF)	-3.1	648	0.50	17.28	12:57
	AF Difference (AF-I)	0.0	0	0.50	0.58	0:00
Adjusted Data	MEASURED (M)	-3.1	648	0.50	16.67	12:58
	Adj Difference (M-I)	0.0	0	0.50	-0.03	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Performed self test, all passed.

Calibration Report

Parameter
Air Monitoring Network

NO_x-NO-NO₂
Lafarge - Exshaw



Station Information

Calibration Date	November 10, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	☒ Routine ☐ Installation ☐ Removal ☐ Other:		
Start Time (MST)	11:00	End Time (MST)	15:30
Barometric Pressure	651 mmHg	Station Temperature	23.0 Deg C
Calibrator	SABIO 2010	Serial Number	4090809
NO Cal Gas Conc	51.4 ppm	Cal Gas Expiry Date	July 26, 2019
NOx Cal Gas Conc	51.5 ppm	Cal Gas Serial #	cc27839

DACS Information

DACS make Campbell Scientific CR1000 DACS serial No. 67802

	Parameter	NO2	NOx	NO
Before	Data Slope	0.995179	0.991116	0.995311
	Data Offset	-0.629602	2.309463	2.544159
After	Data Slope	1.002564	0.999215	0.998163
	Data Offset	0.753843	1.727320	1.597178
	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	ppb
NO Slope	1.033		1.036	
NO Offset	0.2	mV	0.2	mV
NOX Slope	1.039		1.035	
NOX Offset	0.6	mV	0.6	mV
HVPS	771	V	771	V
Moly Temp	316.8	degC	316.0	degC
O3 Flow	80	ccm	81	ccm
RxCeII Press	6.4	inHg	6.4	inHg
Sample press	24.2	inHg	23.6	inHg
Sample flow	446	ccm	433	ccm

Notes:

Calibration Report

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



Station Information

Calibration Date: November 10, 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	-1.0	-1.1	-0.9	N/A	N/A
1	5000	39.00	398.6	397.8	0.8	397.8	397.4	-0.2	1.0019	1.0012
2	5000	20.00	205.2	204.8	0.4	202.5	202.9	-1.0	1.0134	1.0093
3	7000	14.00	102.8	102.6	0.2	100.9	100.9	-1.0	1.0189	1.0169
AFZ	5000	0.00	0.0	0.0	0.0	-1.0	-1.1	-0.9	0.0000	0.0000
AFS	5000	40.00	408.7	407.9	0.8	398.0	395.0	2.3	1.0270	1.0329
Average Correction Factor									1.0114	1.0091

As Found Concentrations: NO_x= 401.3 NO= 398.6 As Found Percent Change NO_x= -1.8% NO= -2.3%

GPT Calibration Data

Dilution Flow 5000 ccm Source Gas Flow 39.00 ccm

O3 Setpoint (V)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-1.1	-1.1	0.0	-1.0	-1.1	-0.9	N/A	N/A	N/A	N/A
NO point	396.8	396.8	0.0	395.9	396.8	-1.5	1.0021	1.0000	N/A	N/A
0.87V	396.8	104.0	292.8	395.8	104.0	291.0	1.0025	1.0000	1.0061	99.4%
0.50V	396.8	255.7	141.1	397.3	255.7	140.8	0.9987	1.0000	1.0027	99.7%
0.36V	396.8	315.3	81.5	396.5	315.3	80.2	1.0008	1.0000	1.0159	98.4%
Average Correction Factor							1.0007	1.0000	1.0082	99.2%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.8	-1.9	1.2	ppb	0.6	-0.2	0.4	ppb
Auto span	388.8	0.4	388.8	ppb	386.1	-1.9	387.8	ppb

Calibration Performed By: Darrin Pike

Calibration Summary

Parameter NO₂

Air Monitoring Network Lafarge - Exshaw



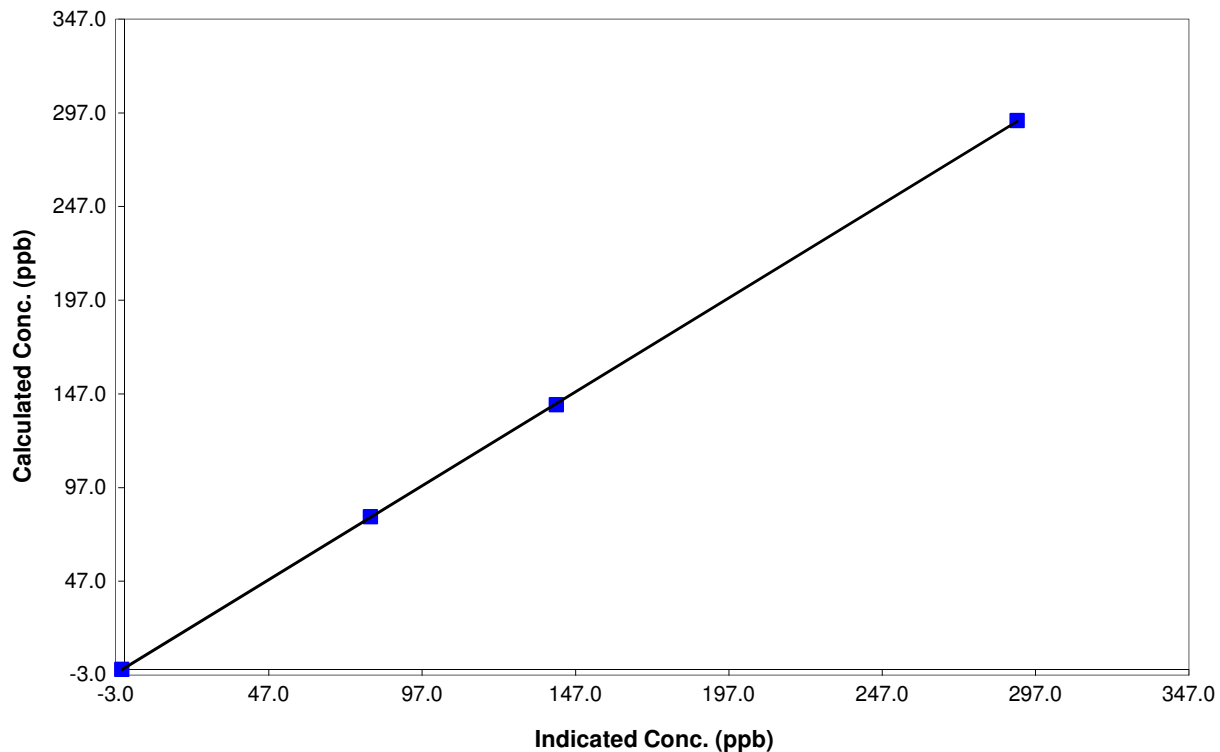
Station Information

Calibration Date	November 10, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	11:00	End Time (MST)	15:30
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.9	N/A	Correlation Coefficient	0.999984
292.8	291.0	1.0061		
141.1	140.8	1.0027		
81.5	80.2	1.0159	Slope	1.002564
			Intercept	0.753843

NO₂ Calibration Curve



Calibration Summary

Parameter NO_x

Air Monitoring Network Lafarge - Exshaw



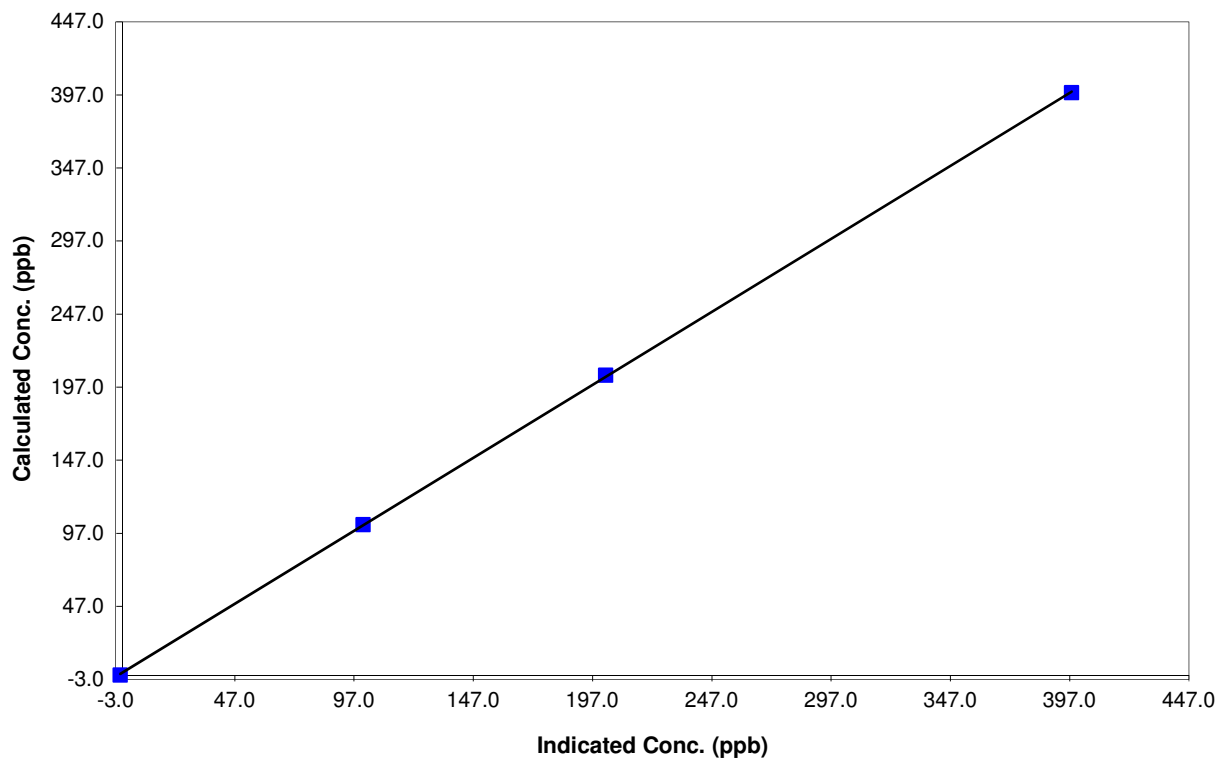
Station Information

Calibration Date	November 10, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	11:00	End Time (MST)	15:30
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.0	N/A	Correlation Coefficient	0.999973
398.6	397.8	1.0019		
205.2	202.5	1.0134		
102.8	100.9	1.0189	Slope	0.999215
			Intercept	1.727320

NO_x Calibration Curve



Calibration Summary

Parameter NO

Air Monitoring Network Lafarge - Exshaw



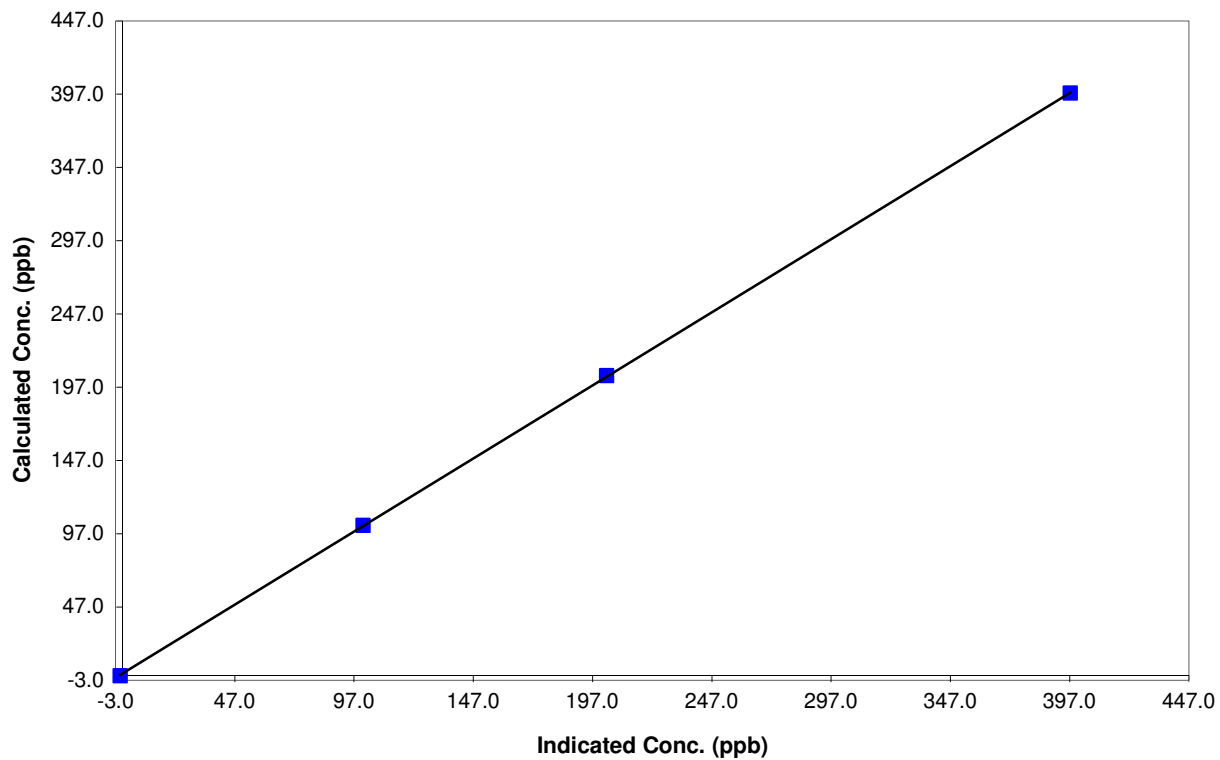
Station Information

Calibration Date	November 10, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	11:00	End Time (MST)	15:30
Analyzer make	T200	Analyzer serial #	642

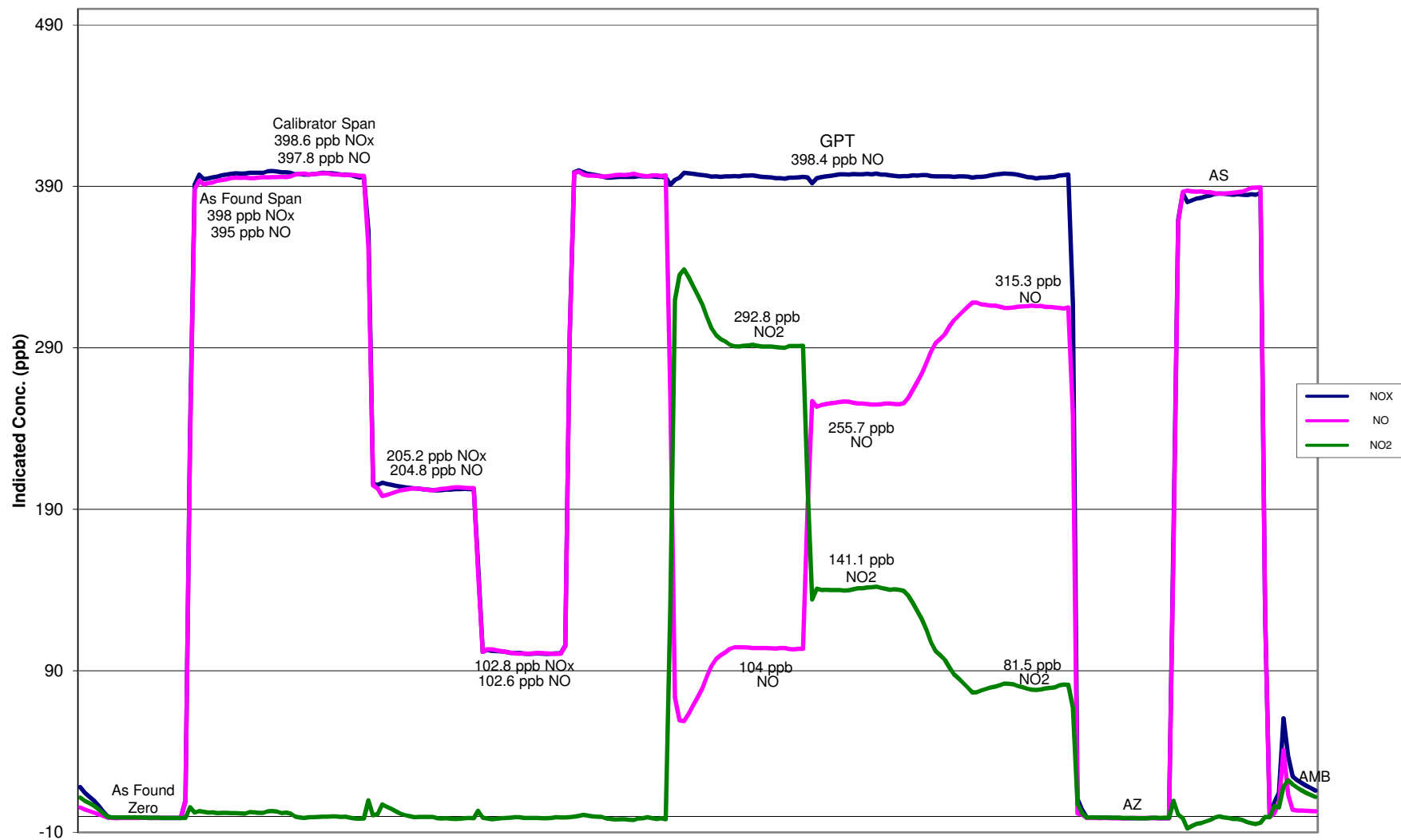
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.1	N/A	Correlation Coefficient	0.999989
397.8	397.4	1.0012		
204.8	202.9	1.0093		
102.6	100.9	1.0169	Slope	0.998163
			Intercept	1.597178

NO Calibration Curve



NOX Calibration



November 10, 2017

Calibration Report



Parameter SO2

Air Monitoring Network Lafarge - Exshaw

Station Information

Calibration Date	November 9, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine	Install	Removal
Start Time (MST)	11:05	End Time (MST)	15:30
Barometric Pressure	650 mmHg	Station Temperature	23.0 Deg C
Calibrator	SABIO 2010	Serial Number	4090809
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	0.992125	Calculated slope	0.999005
Calculated intercept	1.020080	Calculated intercept	0.269306
Analyzer make	API Model 102A	Analyzer serial #	393

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Slope	0.911		0.905	
Offset	45.4	mV	45.4	mV
Pressure	23.5	in Hg	23.4	in Hg
Sample Flow	482	ccm	476	ccm
UV Lamp	2772	mV	2753.9	mV
HVPS	690	V	690	V
PMT Temp	7.3	degC	7.3	degC

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
5000	0.00	0.0	0.3	N/A
5000	39.00	393.2	393.7	0.9986
5000	20.00	202.4	201.7	1.0036
7000	14.00	101.4	100.9	1.0054
5000	0.00	0.0	0.3	As found zero
5000	39.00	393.2	395.4	As found span
Average Correction Factor				1.0025

Calculated value of As Found Response: 393.0 ppb Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.6	ppb
Auto span	385.5	ppb	383.2	ppb

Notes: Adjusted Span.

Calibration Performed By: Darrin Pike

Calibration Summary

Parameter SO2

Air Monitoring Network Lafarge - Exshaw



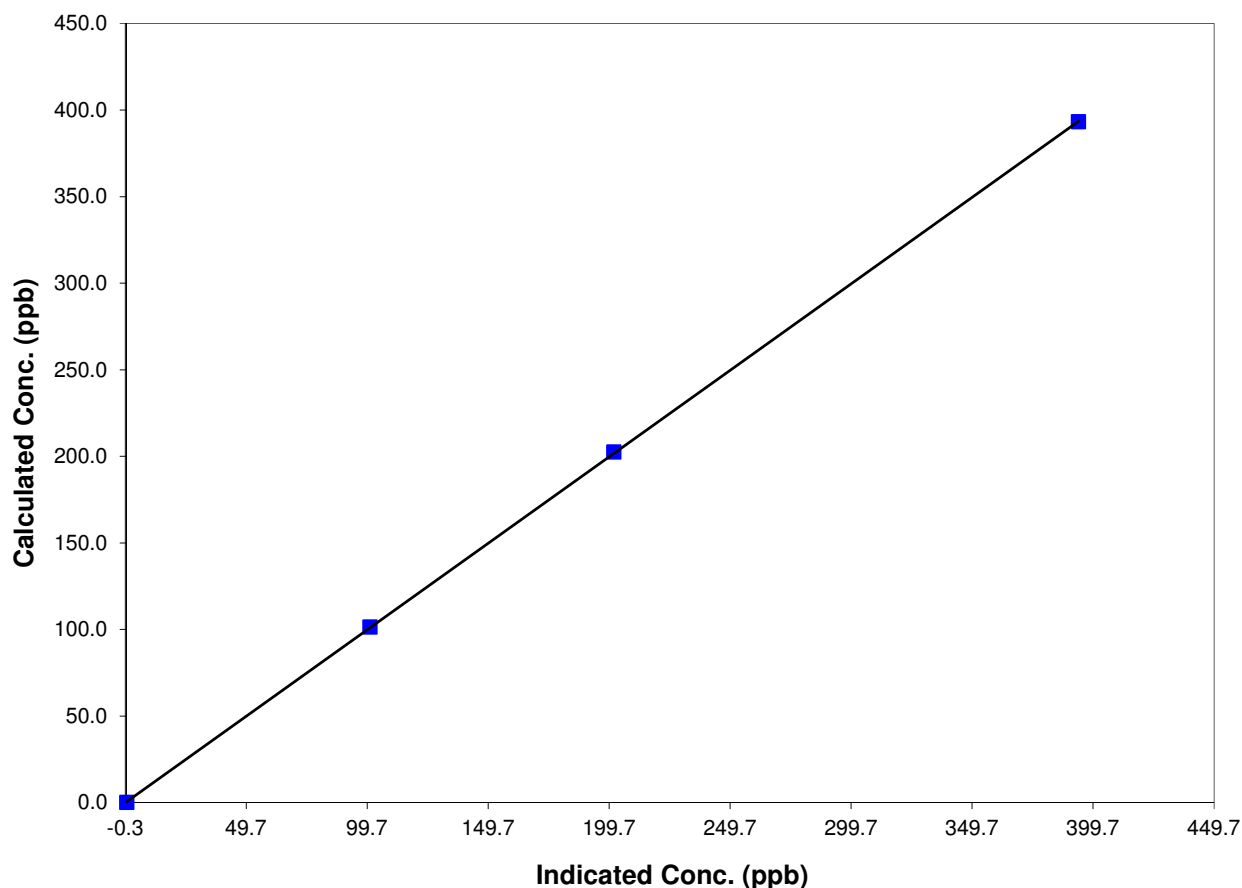
Station Information

Calibration Date	November 9, 2017	Previous Calibration	October 16, 2017
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	11:05	End Time (MST)	15:30
Analyzer make/model	API Model 102A	Analyzer serial #	393

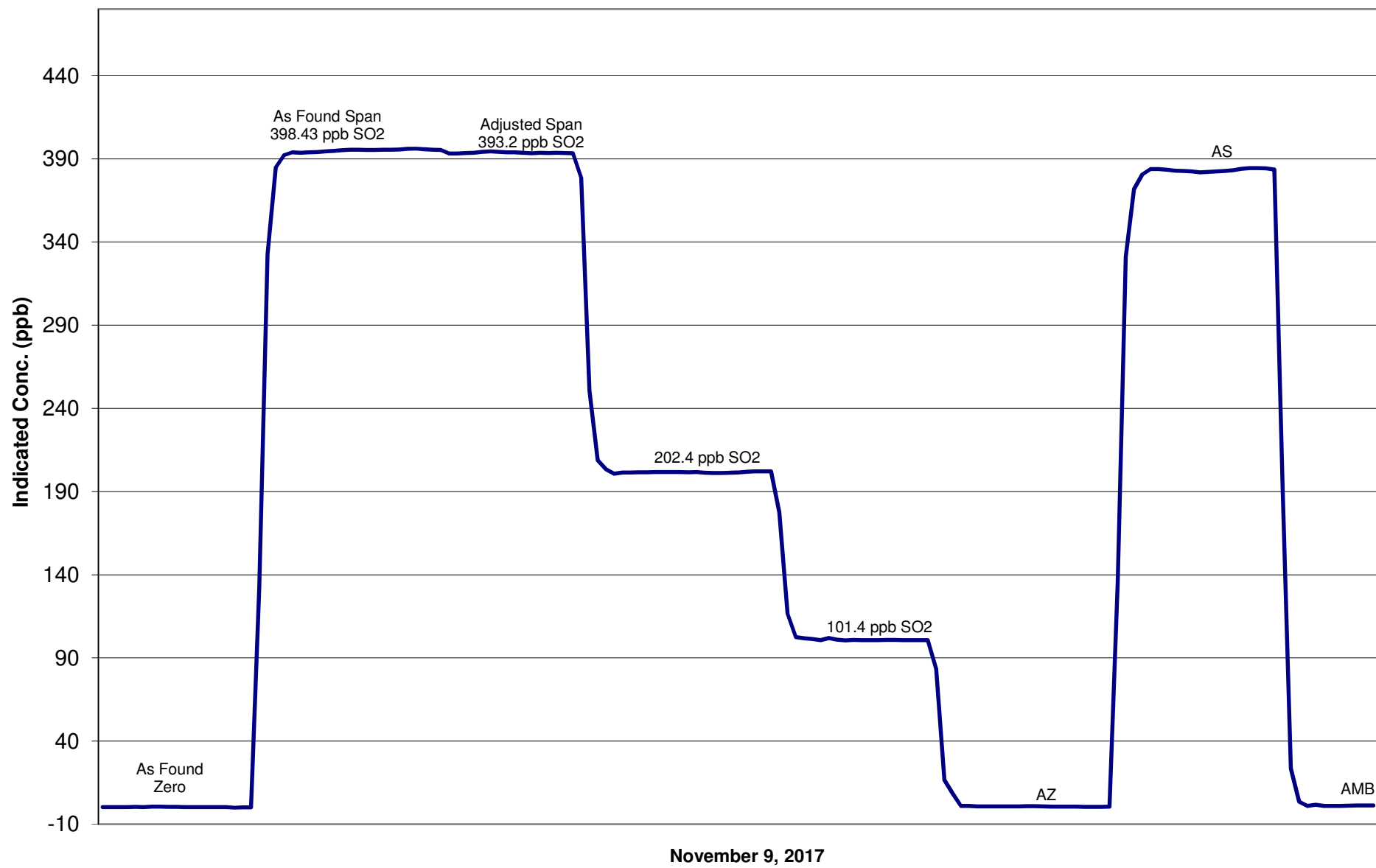
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A	Correlation Coefficient	0.999987
393.2	393.7	0.9986		
202.4	201.7	1.0036		
101.4	100.9	1.0054	Slope	0.999005
			Intercept	0.269306

SO2 Calibration Curve



SO2 Calibration



MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Windridge
START TIME (MST): 13:15

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 13:45

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
Configuration PM2.5
Serial Number U21074

Audit Device Model Delta Cal
Audit Device S/N 682
Certification Date 11-May-17

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)	-2.2	647	0.00	16.7	13:40
	MEASURED (AF)	-2.0	647	0.40	17.10	13:41
	AF Difference (AF-I)	0.2	0	0.40	0.40	0:01
Adjusted Data	MEASURED (M)	-2.0	647	0.40	16.70	13:40
	Adj Difference (M-I)	0.2	0	0.40	0.00	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Performed self-test, all passed.

MetOne BAM PM_{2.5} Calibration



STATION: Lafarge
LOCATION: Exshaw - Windridge
START TIME (MST): 12:50

OPERATOR: Lenin Flores
DATE: November 29, 2017
END TIME (MST): 15:15

MONITOR INFO / PARAMETER VALUES:

Make/Model	MetOne BAM	Audit Device Model	Delta Cal
Configuration	PM2.5	Audit Device S/N	682
Serial Number	U21074	Certification Date	11-May-17

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)	3.6	650	0.00	16.7	15:10
	MEASURED (AF)	3.3	650	0.50	16.75	15:11
	AF Difference (AF-I)	-0.3	0	0.50	0.05	0:01
Adjusted Data	MEASURED (M)	3.6	650	0.50	16.75	15:10
	Adj Difference (M-I)	0.0	0	0.50	0.05	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Calibration performed prior to the start of the 72-hr Zero test which is to be done to calculate a new Background coefficient.

MetOne BAM PM₁₀ Calibration



STATION: Lafarge
LOCATION: Exshaw - windridge
START TIME (MST): 13:35

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 13:50

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
Configuration PM10
Serial Number U21075

Audit Device Model Delta Cal
Audit Device S/N 682
Certification Date 11-May-17

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)	-2.4	648	0.00	16.7	13:48
	MEASURED (AF)	-2.0	647	0.30	17.10	13:49
	AF Difference (AF-I)	0.4	-1	0.30	0.40	0:01
Adjusted Data	MEASURED (M)	-2.0	647	0.30	16.71	13:48
	Adj Difference (M-I)	0.4	-1	0.30	0.01	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned

COMMENTS:

Performed self test, all passed.

MetOne BAM TSP Calibration



STATION: Lafarge
LOCATION: Exshaw - Windridge
START TIME (MST): 13:50

OPERATOR: Darrin Pike
DATE: November 14, 2017
END TIME (MST): 14:05

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
Configuration TSP
Serial Number U21073

Audit Device Model Delta Cal
Audit Device S/N 682
Certification Date 11-May-17

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)	-2.9	647	0.00	16.7	14:04
	MEASURED (AF)	-2.1	647	0.40	16.72	14:05
	AF Difference (AF-I)	0.8	0	0.40	0.02	0:01
Adjusted Data	MEASURED (M)	-2.1	647	0.40	16.72	14:04
	Adj Difference (M-I)	0.8	0	0.40	0.02	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: half roll

Nozzle Inspection / cleanliness: Inspected and cleaned.

COMMENTS:

Performed self test, all passed.