

REPORT N° 171-00556-00

AMBIENT AIR QUALITY MONTHLY REPORT

JUNE 2018

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Lafarge Canada Inc.

Project no: 171-00556-00
Date: June 2018

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Project Number: 171-00556-00

July 19, 2018

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Dear Ms. Brygger,

Subject: Ambient Air Quality Monthly Report – June 2018

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The operational uptime for the meteorological systems and all analyzers at the Lagoon station was over 98% in June. There were no contraventions of the 24-hour TSP and PM_{2.5} Alberta Ambient Air Quality Objectives (AAQOs) in June at the Lagoon monitoring location.

All analyzers at the Windridge station had over 99% operational uptime in June. There were 3 exceedances of the 24-hour TSP AAQO. There were no exceedances of the 24-hour PM_{2.5} AAQO and 1 exceedance of the 1-hour PM_{2.5} AAQG.

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 Berm and Entrance monitors had 100% operational time (outside of the annual factory calibration hours), West monitor had 81.5% operational time due to 5.5 days with power outage. The Entrance GRIMM monitor exceeded the 24-hour TSP AAQO for 15 days and did not exceed the 24-hour PM_{2.5} AAQO, while the Berm GRIMM had 10 exceedances of the TSP Objective and 0 exceedances of the PM_{2.5} Objective. The West GRIMM monitor did not record any exceedances of the 24-hour TSP or PM_{2.5} Objective, as well as the 1-hour PM_{2.5} AAQG.

During the month of June, there was construction taking place in a variety of areas in Exshaw. Power lines and poles in the Exshaw community were being modified with tree removal and wood chipping. Also, to the west of the Lagoon monitor, building construction has been going on in the Industrial Park.

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



Rowena Seto, B.Sc.
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REVIEWED 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 June 1, 2018 and June 30, 2018.

This monthly report was prepared by Rowena Seto, Junior 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 JUNE 2018 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)	98.8	20.7	0	8.7	-
SO ₂ (ppb)	98.8	8.0	0	3.5	0
PM _{2.5} (µg/m ³)	98.9	25.2	0	13.4	0
PM ₁₀ (µg/m ³)	98.9	144.2	-	46.8	-
TSP (µg/m ³)	98.9	248.9	-	63.3	0
Temperature (°C)	99.3	26.0	-	18.5	-
Wind Speed (km/hr) /Direction (Degrees)	99.3	44.0/W	-	36.3/WSW	-
Precipitation (mm) ²	99.3	30.3	-	129.75*	-

* Monthly Total Accumulation of Precipitation (mm)

Data Quality Notes:

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

Calibration/Maintenance Notes:

- The NO_x and SO₂ analyzers were replaced on June 20th, resulting in 98.8% uptime for the month of June.
- The PM_{2.5}, PM₁₀, and TSP analyzers had 98.9 % uptime for the month of June due to 4 hours of instrument maintenance on June 20th and 4 hours of instrument error on June 23rd.
- The meteorological analyzers had 99.3% uptime due to 5 hours of instrument maintenance on June 20th.

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)	99.2	139.5	1*	17.5	0
PM ₁₀ (µg/m ³)	99.6	257.9	-	111.3	-
TSP (µg/m ³)	99.0	368.6	-	164.7	3

* 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
- There was 1 exceedance of the 1-hour PM_{2.5} AAAQG.
- There were 3 exceedances of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- The PM_{2.5} analyzer had 99.2% uptime for the month of June due to 2 hours of power outage on June 5th and 4 hours of instrument maintenance on June 19th.
- The PM₁₀ analyzer had 99.6% uptime for the month of June due to 2 hours of power outage on June 5th and 1 hour of instrument error on June 12th.
- The TSP analyzer had 99.0% uptime for the month of June due to 2 hours of power outage on June 5th, 1 hour of instrument error on June 12th, and 4 hours of instrument maintenance on June 19th.

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)	81.5	14.0	0*	9.9	0
PM ₁₀ (µg/m ³)	81.5	60.3	-	22.5	-
TSP (µg/m ³)	81.5	124.6	-	38.4	0

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

Calibration/Maintenance Notes:

- During June, the West GRIMM underwent annual calibration. Due to the propriety of the GRIMM monitors, this requires they be shipped to GRIMM's office in Montreal for calibration.
- An extended period of power outage, which occurred between June 1st to June 6th, resulted in 81.5% uptime of the analyzer for the month.

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)	100.0	61.3	0*	24.0	0
PM ₁₀ (µg/m ³)	100.0	478.4	-	195.8	-
TSP (µg/m ³)	100.0	1428.7	-	638.5	10

* 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} AAAQG.
- There was no exceedance of the 1-hour PM_{2.5} AAAQG.
- There were 10 exceedances of the 24-hour TSP AAAQG.

Calibration/Maintenance Notes:

- During June, the Berm GRIMM underwent annual calibration. Due to the propriety of the GRIMM monitors, this requires they be shipped to GRIMM's office in Montreal for calibration.
- The monitor had 100% uptime for the month of June.

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	42.8	0*	20.1	0
PM ₁₀ (µg/m ³)	100.0	235.0	-	101.5	-
TSP (µg/m ³)	100.0	861.1	-	240.4	15

* 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
- There was no exceedance of the 1-hour PM_{2.5} AAAQG.
- There were 15 exceedances of the 24-hour TSP AAAQO.

Calibration/Maintenance Notes:

- During June, the Entrance GRIMM underwent annual calibration. Due to the propriety of the GRIMM monitors, this requires they be shipped to GRIMM's office in Montreal for calibration.
- The monitor had 100% uptime for the month of June.

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), a data summary table (Table 3-2), site visit notes, a wind rose (Figure 3-2) and tables and graphs illustrating the monitoring results for June 2018.

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

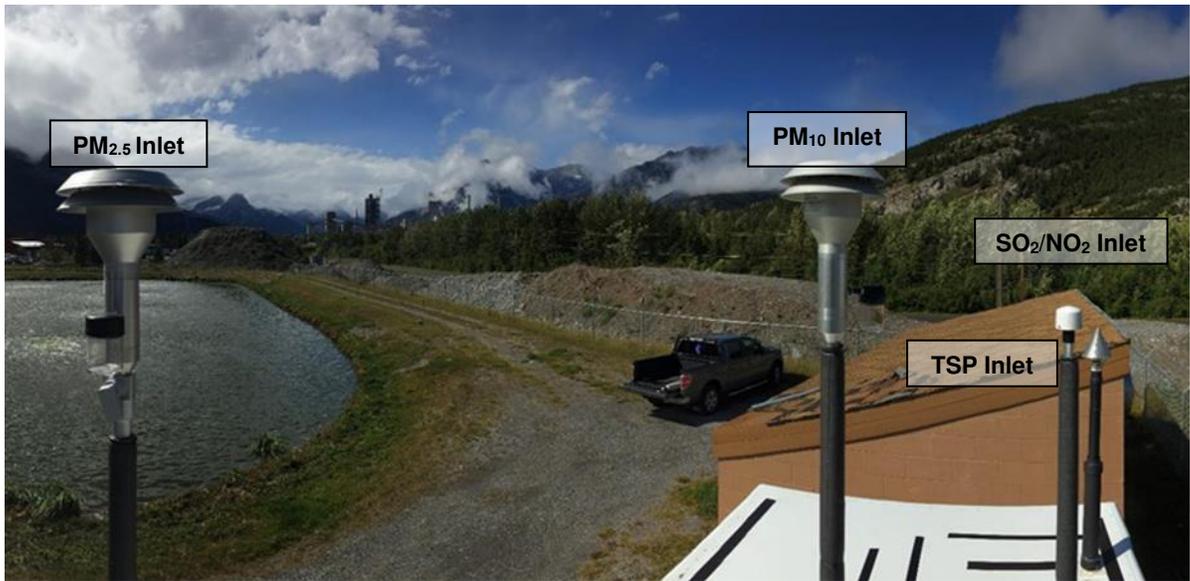


Figure 3-1 Inlets on the top of WSP's Lagoon monitor

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 replaced on June 20th. The monitor had 98.8% uptime in June.

3.1.2 SO₂ MONITORING

The SO₂ monitor was replaced on June 20th. The monitor had 98.8% uptime in June.

3.1.3 PM MONITORING

All BAM monitors were calibrated on June 22nd. For the month of June, the PM_{2.5}, PM₁₀, and TSP analyzers had 98.9% operation time due to 4 hours of instrument maintenance on June 20th and 4 hours of instrument error on June 23rd.

3.1.4 METEOROLOGICAL MONITORING

All meteorological sensors had 99.3% operation time due to 5 hours of instrument maintenance on June 20th.

3.2 MONITORING RESULTS AND TRENDS

The following wind rose (Figure 3-2) illustrates the frequency of wind speed by wind direction for the month of June 2018. Table 3-2 summarizes the hourly and daily concentrations recorded in June 2018. Figure 3-3 graphically illustrates the time series for hourly concentrations as well as wind speed

and direction, while Figure 3-4 shows daily average concentrations recorded during June 2018 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 June, the average number of 24-hour TSP AAQO exceedances and 24-hour $\text{PM}_{2.5}$ AAAQO exceedances are both zero. The maximum number of 24-hour TSP AAQO exceedances was 4 in 2013, while the 24-hour $\text{PM}_{2.5}$ AAQO has never been exceeded at this station.

The wind rose (Figure 3-2) indicates that the winds predominantly came from the west-southwest and west directions, following the general orientation of the valley. As typical of the wind characteristics at the Lagoon site, the westerly winds were more intense (more periods of winds higher than 20 km/hr) than the easterly winds.

Table 3-2 Summary of June 2018 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	-	4.0	20.7	7	7	14.6	270.0	8.7	7	98.8
SO ₂ (ppb)	172	48	Lagoon	0	0	0.5	8.0	12	12	31.6	262.8	3.5	12	98.8
PM _{2.5} (µg/m ³)	80	30	Lagoon	0	0	7.1	25.2	21	11	9.2	141.3	13.4	7	98.9
PM ₁₀ (µg/m ³)	-	-	Lagoon	-	-	20.4	144.2	3	22	13.8	214.5	46.8	26	98.9
TSP (µg/m ³)	-	100	Lagoon	-	0	28.6	248.9	7	14	11.2	339.0	63.3	26	98.9
Temperature (°C)	-	-	Lagoon	-	-	13.7	26.0	21	12	15.1	65.7	18.5	8	99.3
Wind Speed (km/hr)/Direction (degrees)	-	-	Lagoon	-	-	15.8	44.0/W	11	17	44.0	253.1	36.3/WSW	11	99.3
Precipitation (mm)	-	-	Lagoon	-	-	0.2	30.3	21	15	15.9	24.9	129.8		99.3

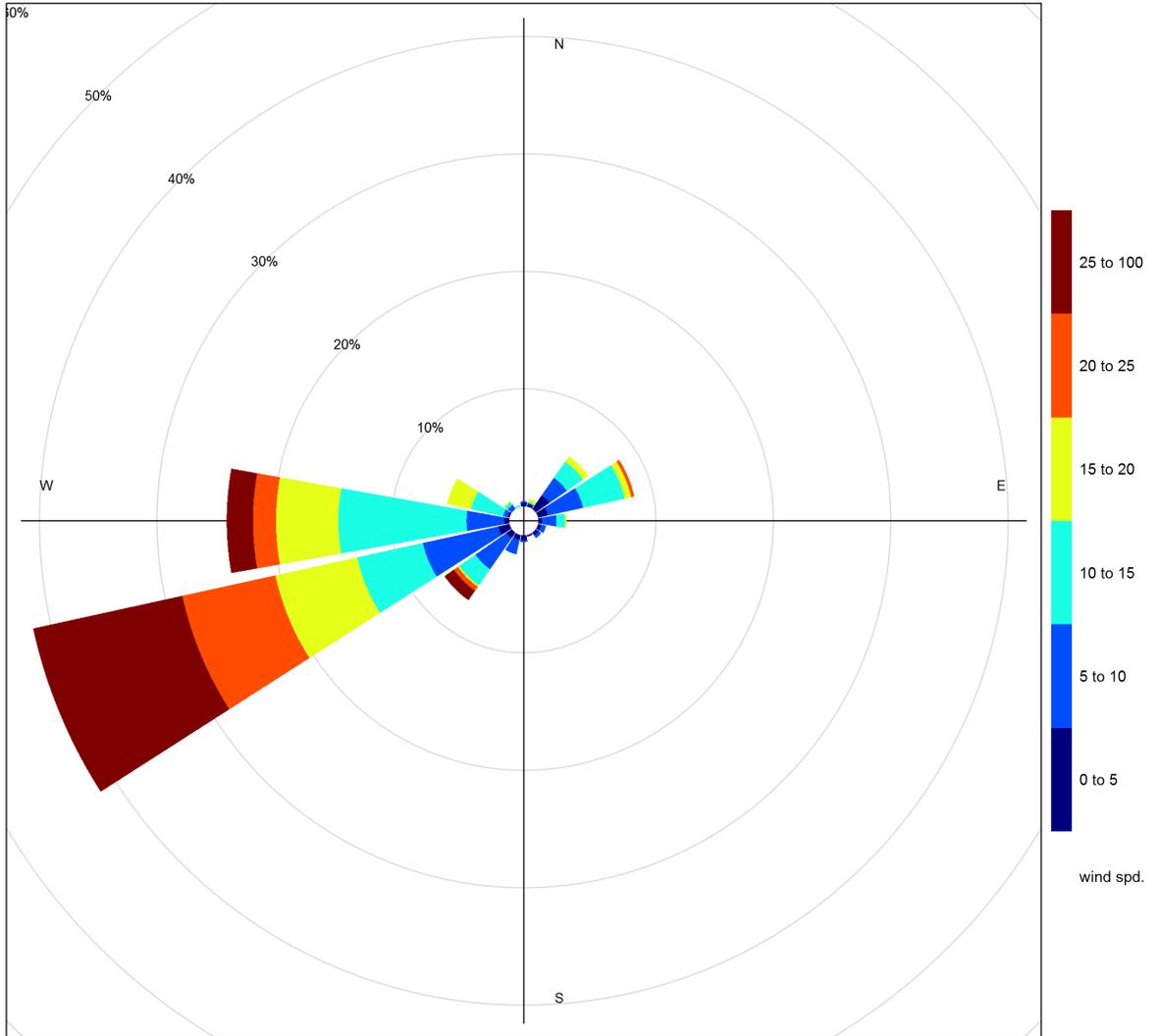


Figure 3-2 June 2018 wind rose from the Lagoon Station

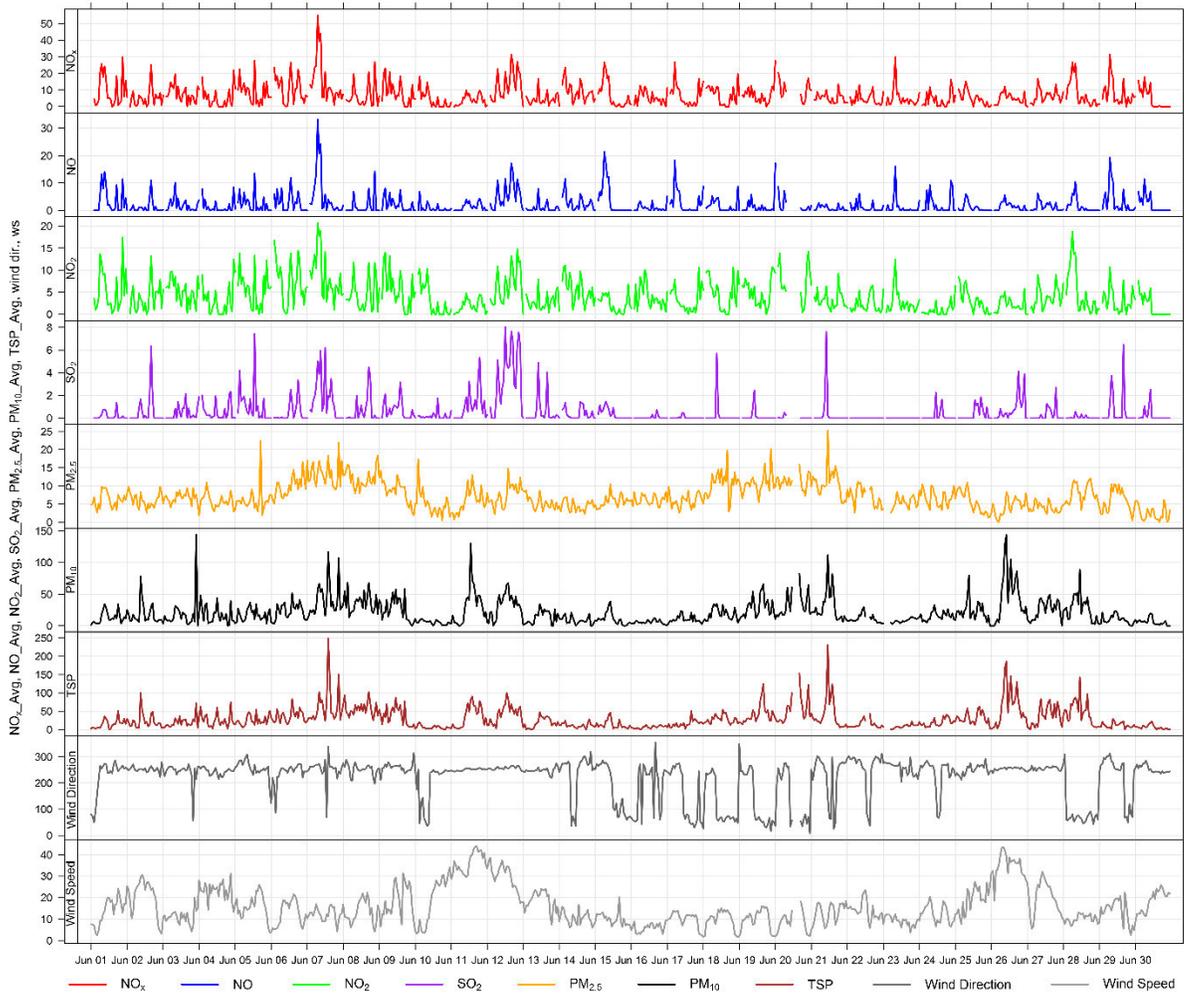


Figure 3-3 1-hour concentrations of NO_x, SO₂, particulate matter, wind direction and wind speed at the Lagoon monitor

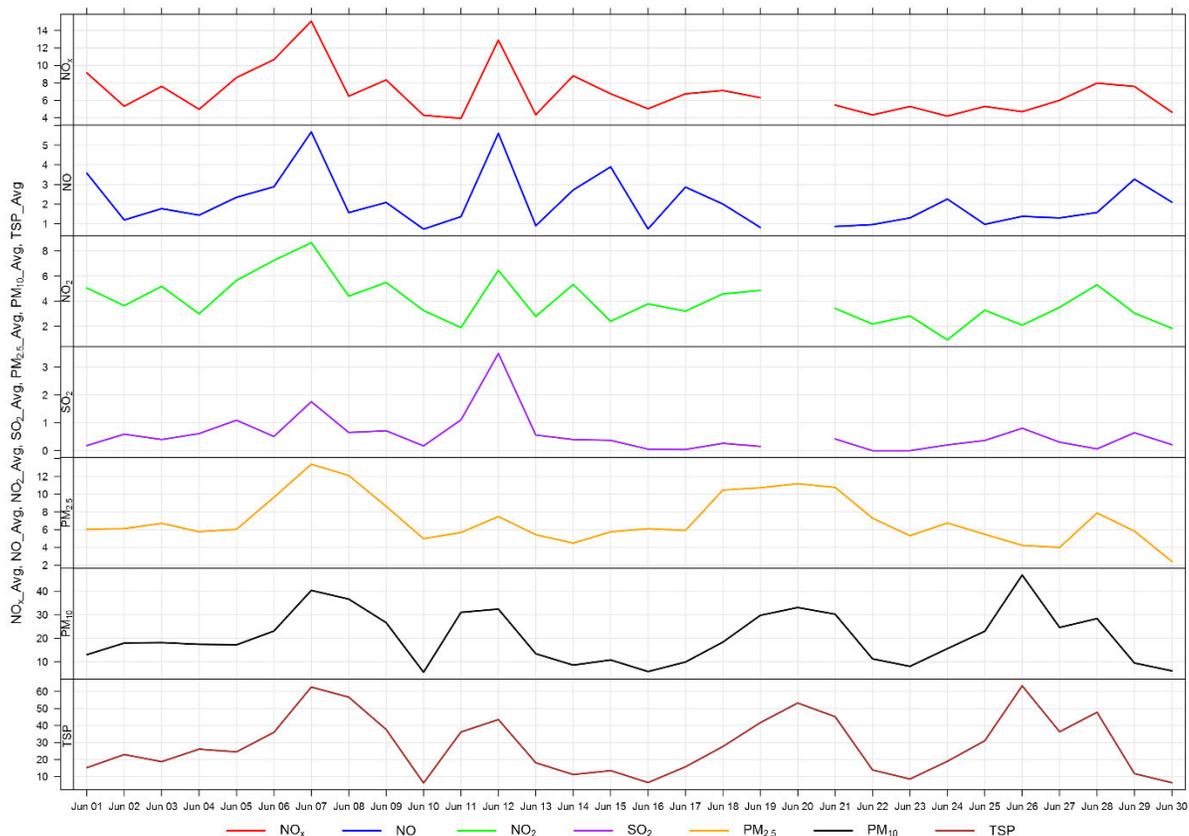


Figure 3-4 24-hour concentrations of NO_x, SO₂, and particulate matter at the Lagoon monitor

Figure 3-5 through Figure 3-7 show the variation in concentrations over various time averaging periods for PM, SO₂ and NO_x. The particulate matter plot in Figure 3-5 shows that PM₁₀ and TSP concentrations show a strong diurnal pattern associated with Lafarge operations and daytime activities from other industrial sources and impacts from traffic. PM₁₀ and TSP are generally associated with dust from fugitive sources.

Figure 3-6 shows the variation of SO₂ over various time periods. SO₂ concentrations were very low in June. Figure 3-7 shows the variation of NO_x, NO and NO₂, with the peak of all three pollutants occurring in the early morning. This may be indicative of a peak in traffic.

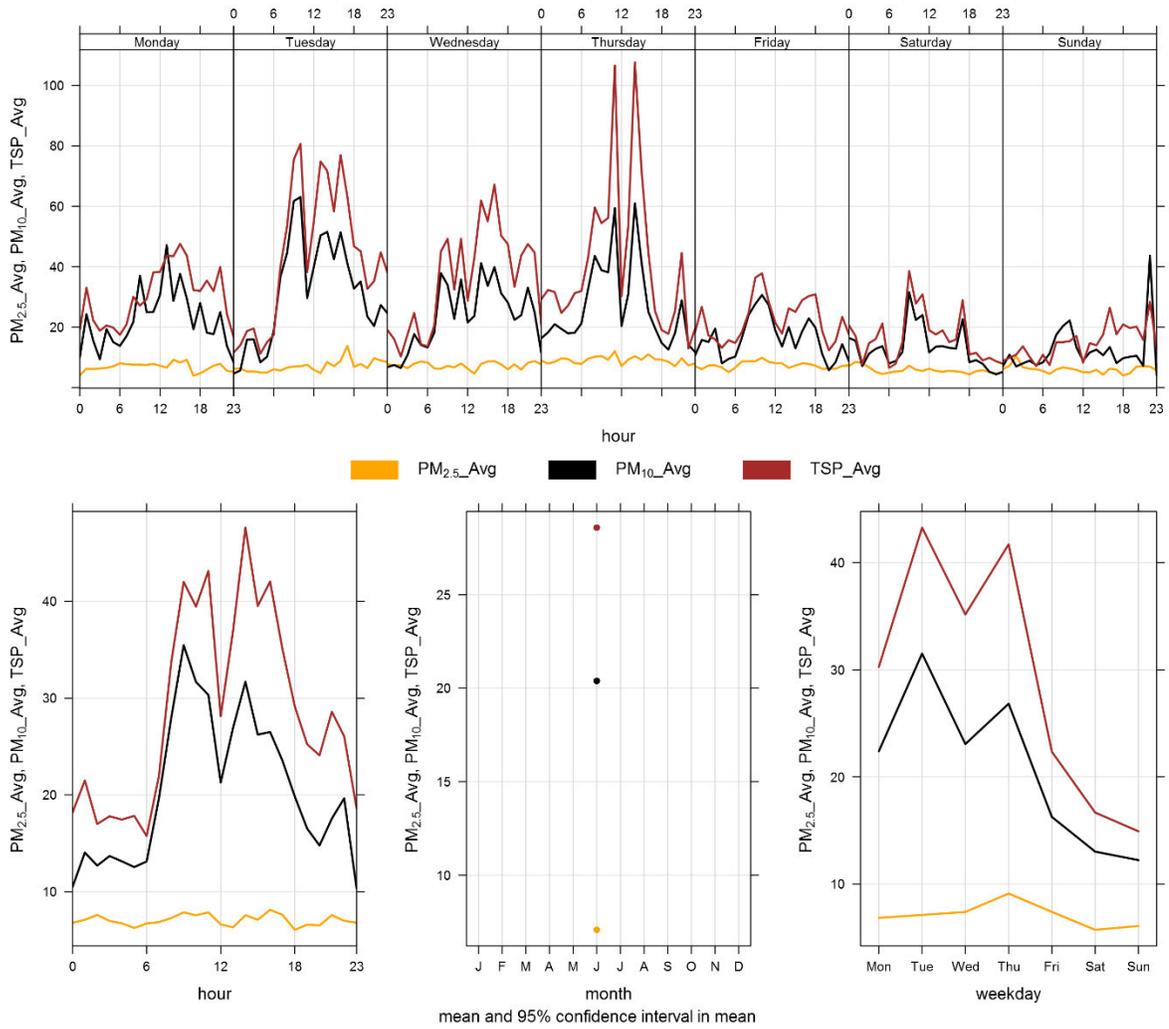


Figure 3-5 Lagoon Monitor particulate matter time variation

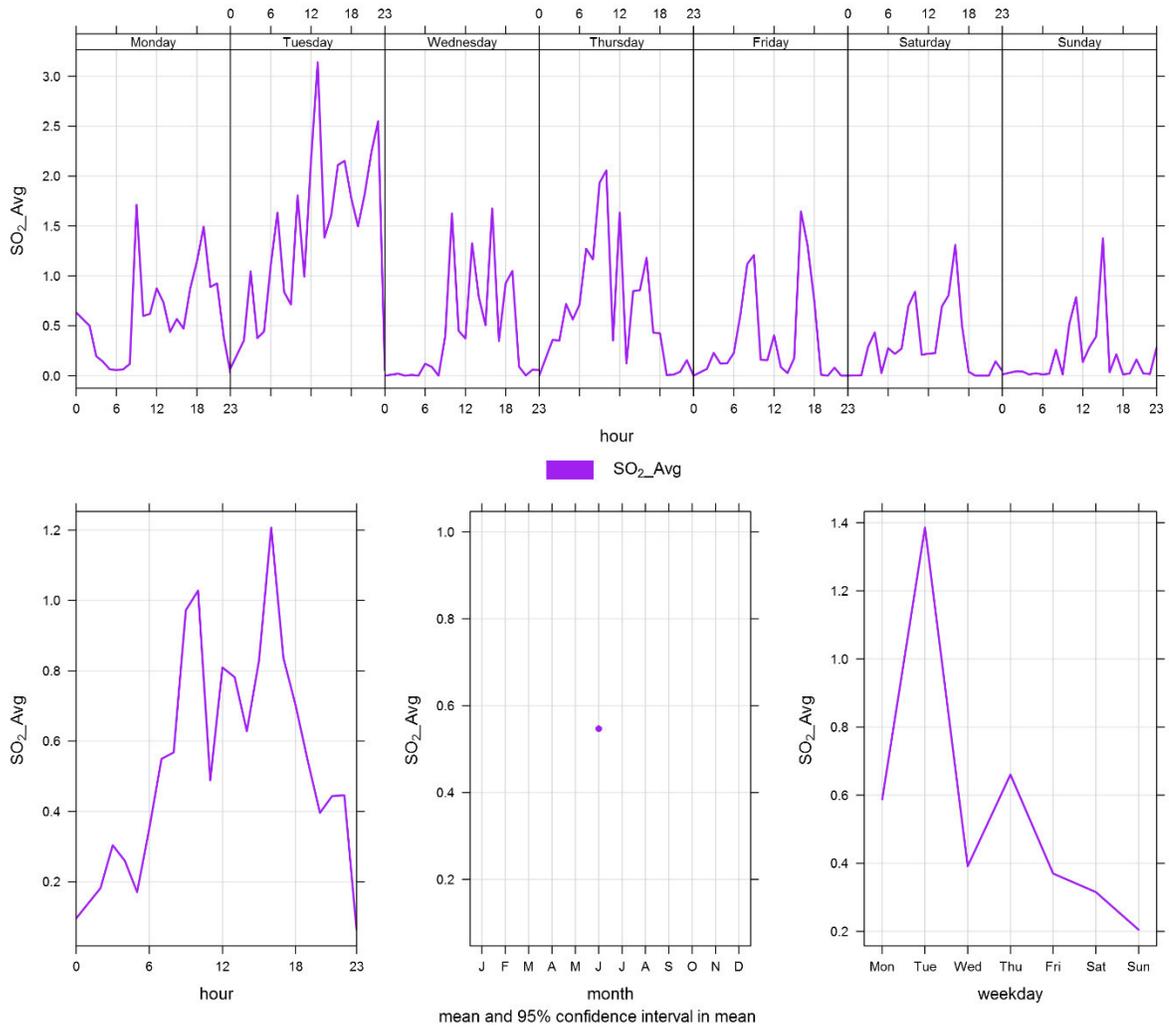


Figure 3-6 Lagoon Monitor SO₂ time variation

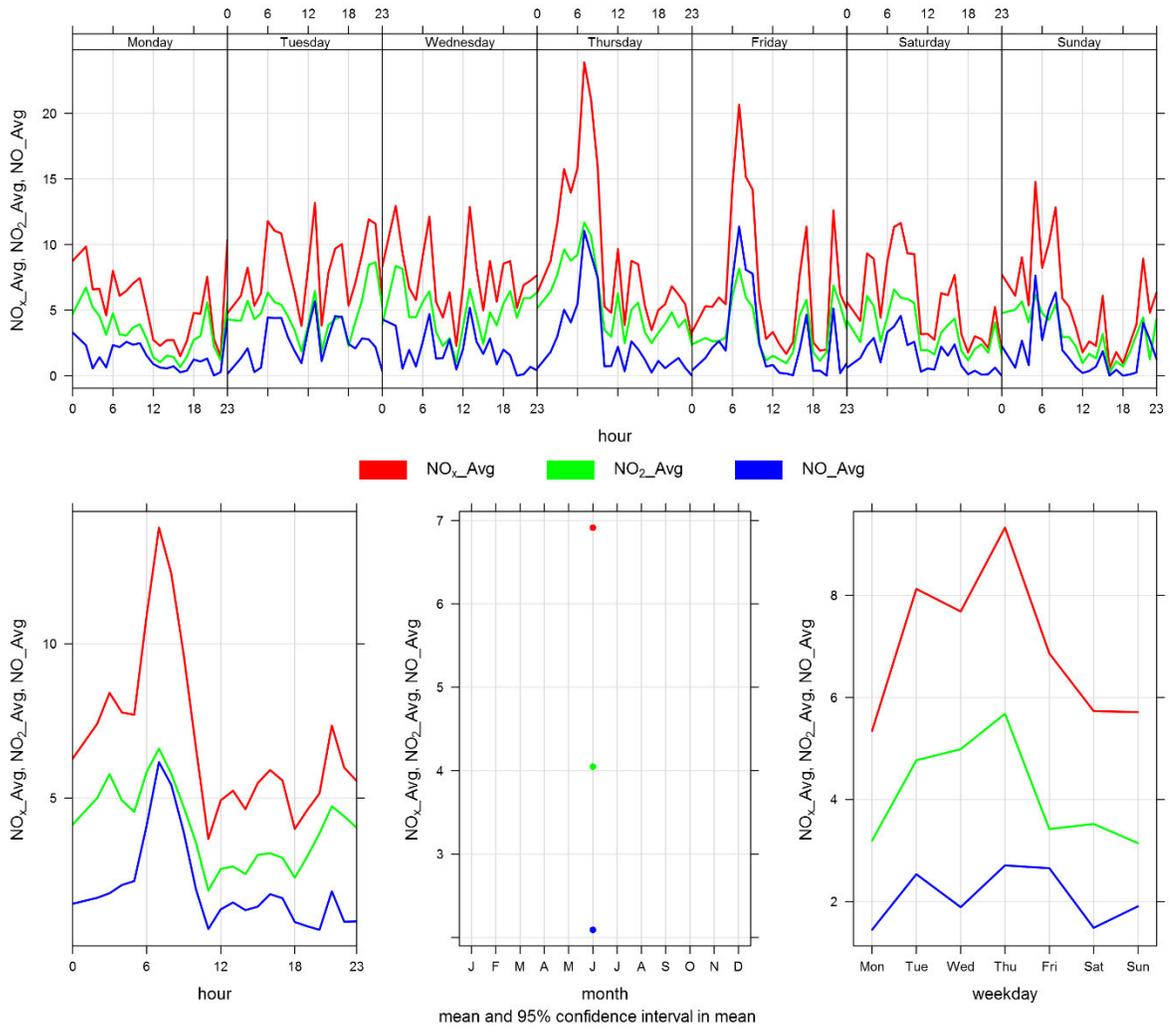


Figure 3-7 Lagoon Monitor NO_x time variation

4 WINDRIDGE STATION

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), a data summary table (Table 4-2), a table of recorded exceedances (Table 4-3), site visit notes, and graphs illustrating the monitoring results for June 2018.

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

4.1 SITE VISIT NOTES

All BAM monitors were calibrated on June 11th. The PM₁₀ analyzer was calibrated again on June 19th in order to investigate several hours where the station recorded higher PM₁₀ than TSP. No issues were identified. The operation time for each analyzer was as follows: 99.2% for the PM_{2.5} analyzer due to 2 hours of power outage (June 5th) and 4 hours of instrument maintenance (June 19th), 99.6% for the PM₁₀ analyzer due to 2 hours of power outage (June 5th) and 1 hour of instrument error (June 12th), and 99.0% for the TSP analyzer due to 2 hours of power outage (June 5th), 1 hour of instrument error (June 12th), and 4 hours of instrument maintenance (June 19th).

4.2 MONITORING RESULTS AND TRENDS

Table 4-2 summarizes the hourly and daily concentrations recorded in June 2018. Figure 4-4 illustrates the time series for hourly PM.

There were no exceedances of the 24-hour PM_{2.5} AAAQO and 1 exceedance of the 1-hour PM_{2.5} AAAQG. There were 3 exceedances of the 24-hour TSP AAAQO. The exceedance of the 1-hour PM_{2.5} AAAQG occurred on June 9th, and the 3 exceedances of the 24-hour TSP AAAQO occurred on June 11th, 12th, and 26th. The following windrose (Figure 4-3) shows the 3 days exceeding the 24-hour TSP Objective. During the exceedance days, the winds were predominantly from the west-southwest and over 20 km/hr.

Table 4-2 Summary of June 2018 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	1	0	6.9	139.5	9	15	7.4	249.5	17.5	9	99.2
PM ₁₀ (µg/m ³)	-	-	Windridge	-	-	33.4	257.9	11	20	42.1	254.7	111.3	11	99.6
TSP (µg/m ³)	-	100	Windridge	-	3	47.2	368.6	11	20	42.1	254.7	164.7	11	99.0

Table 4-3 Days exceeding the Objective 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						
6/11/2018	164.7	-	251.2	36.3	37.3	High wind event
6/12/2018	147.1	-	257.1	29.9	28.3	High wind event
6/26/2018	155.8	-	254.5	35.0	32.9	High wind event
Total # of Exceedances	3	0				

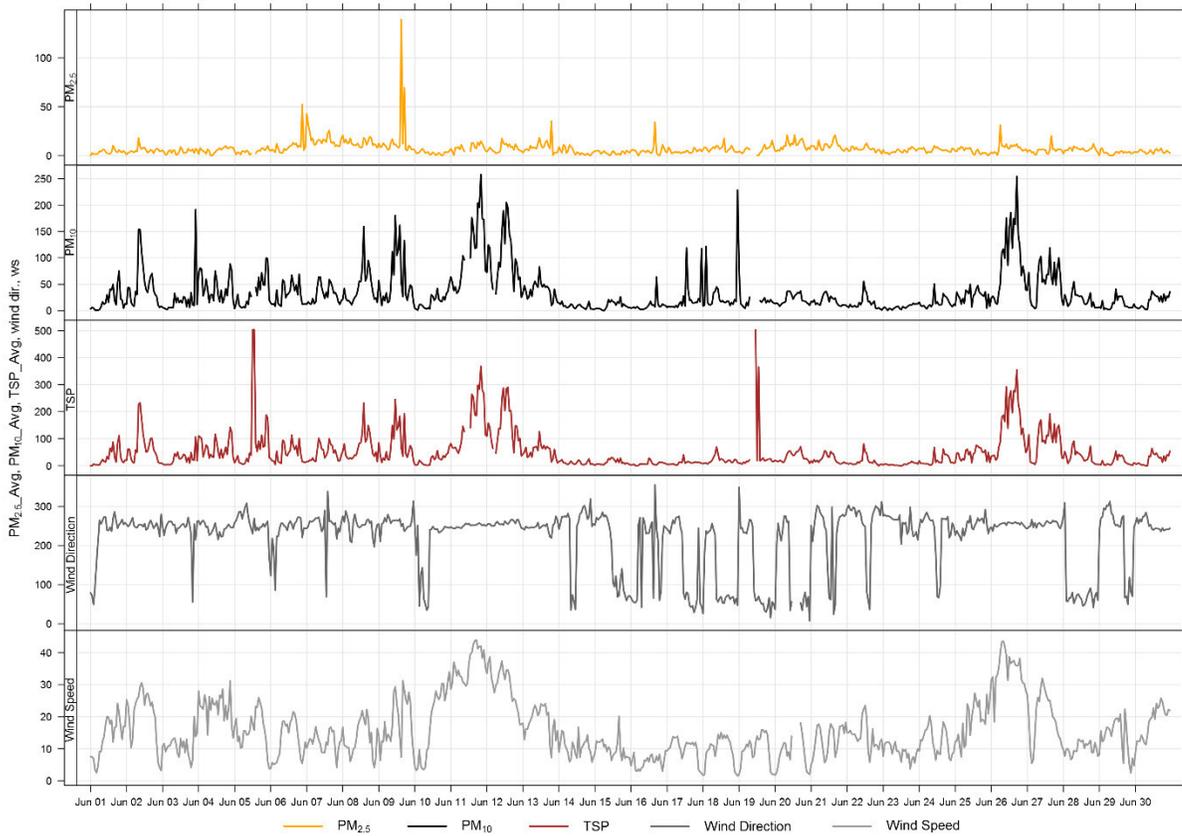


Figure 4-1 1-hour particulate matter concentrations recorded at the Windridge monitor

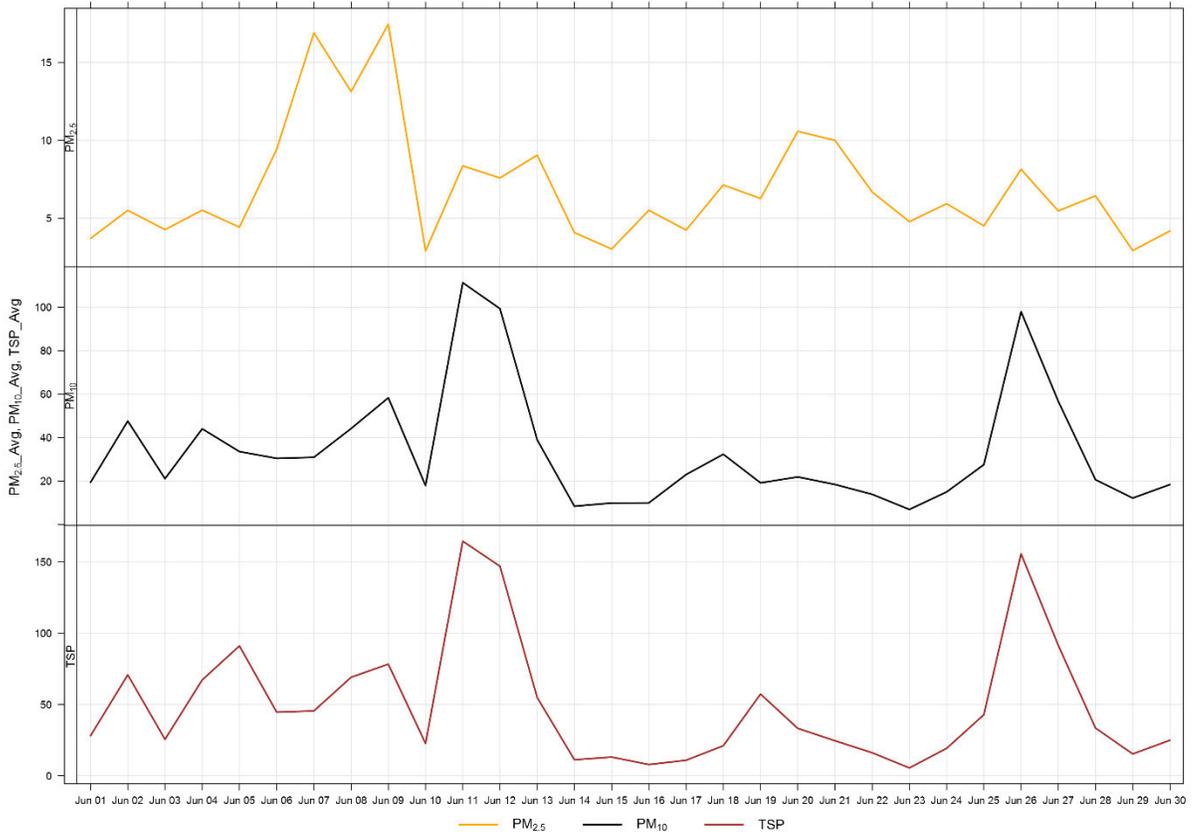


Figure 4-2 24-hour particulate matter concentrations at the Windridge monitor

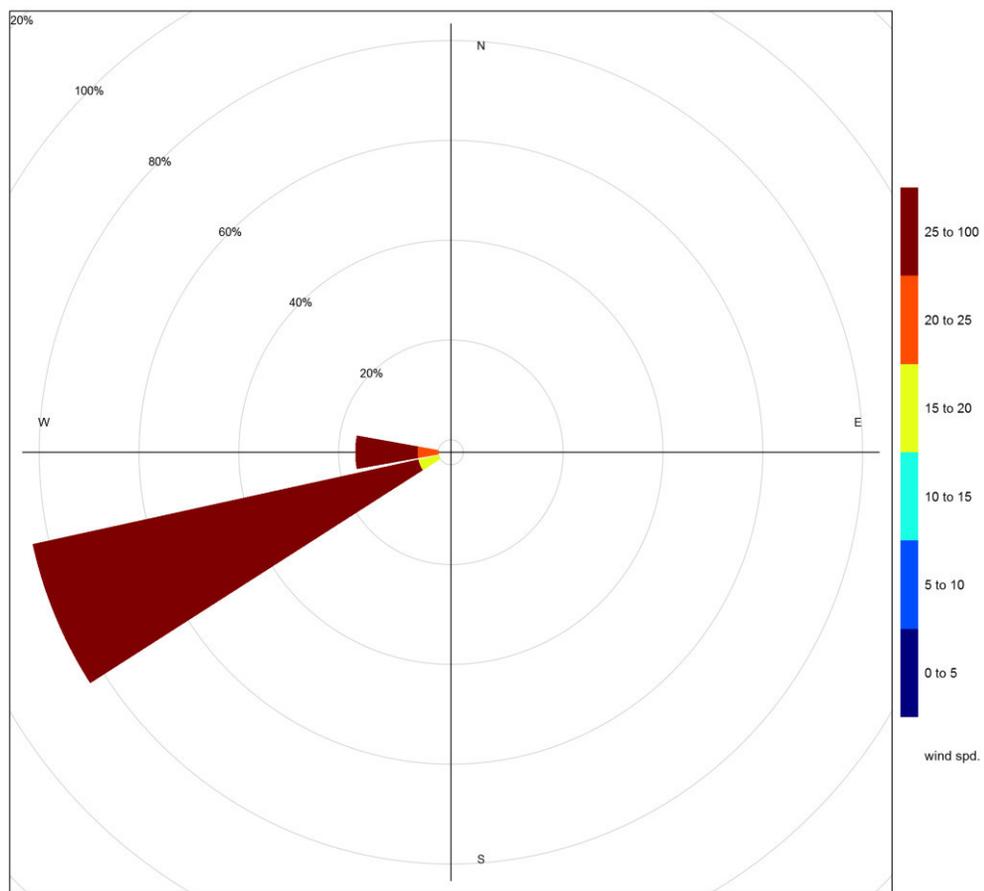


Figure 4-3 Wind Rose for TSP exceedance days recorded at the Windridge station

Figure 4-4 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- is based on data collected during June 2018 and indicates a diurnal pattern that is similar to the Lagoon station, but more consistent with the diurnal patterns associated with higher wind speeds.

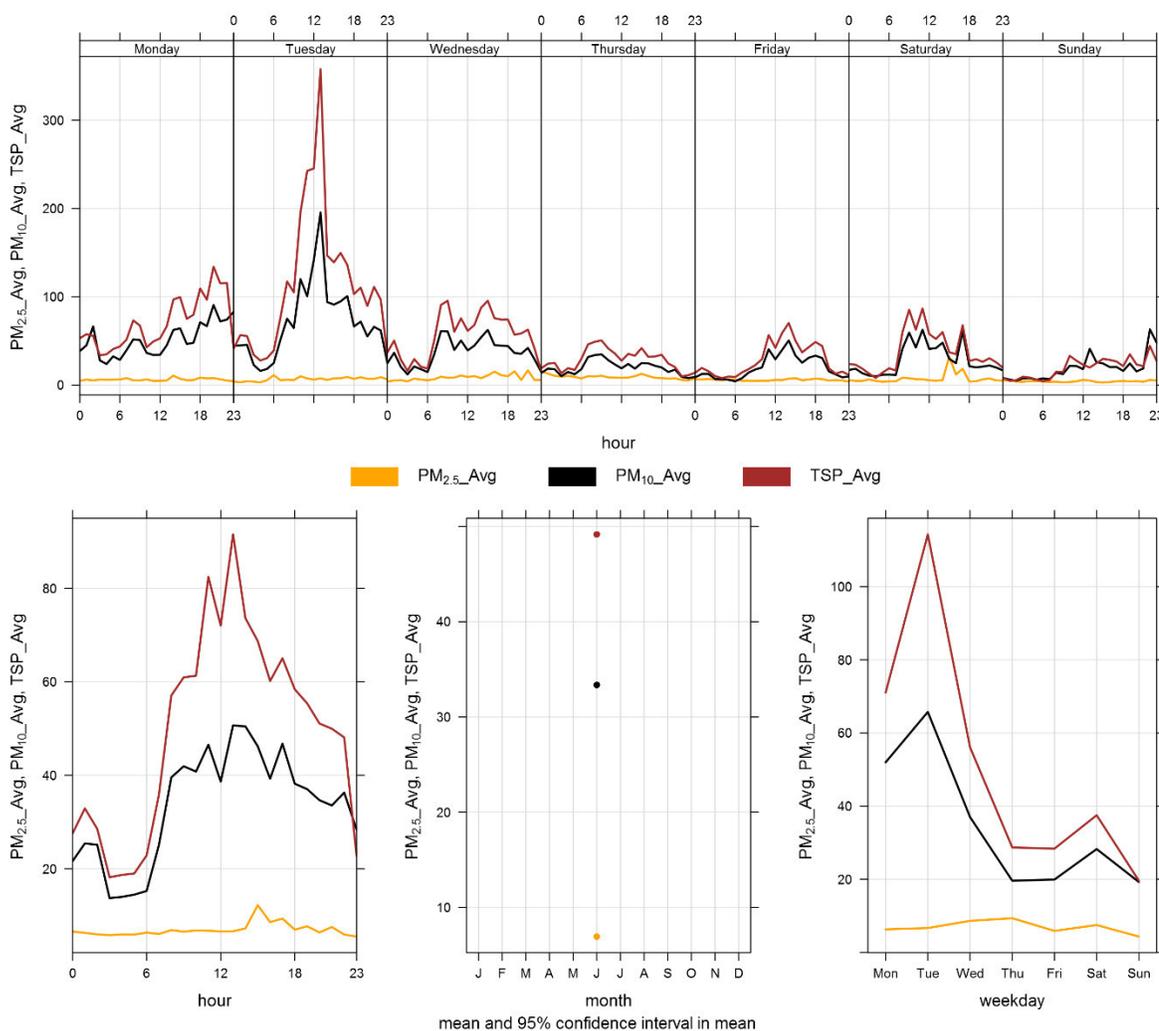


Figure 4-4 Windridge particulate matter time variation

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 June, the West GRIMM had 81.5% uptime due to an extended period of power outage that occurred from June 1st to mid-day, June 6th. Additionally, the West GRIMM underwent annual calibration, where the monitors were shipped to GRIMM's office in Montreal for calibration.

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 3-2, the majority of winds came from the west-southwest and west directions during June. 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. Historically in June, there have been no exceedances of both the 24-hour TSP (100 µg/m³) and PM_{2.5} (30 µg/m³) guidelines from 2010 – 2017.

Table 5-2 Summary of June 2018 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	3.2	14.0	7	7	14.6	270.0	9.9	7	81.5
PM ₁₀ (µg/m ³)	-	-	West	-	-	8.7	60.3	28	8	9.2	62.5	22.5	28	81.5
TSP (µg/m ³)	-	100	West	-	0	17.7	124.6	28	9	9.3	73.6	38.4	28	81.5

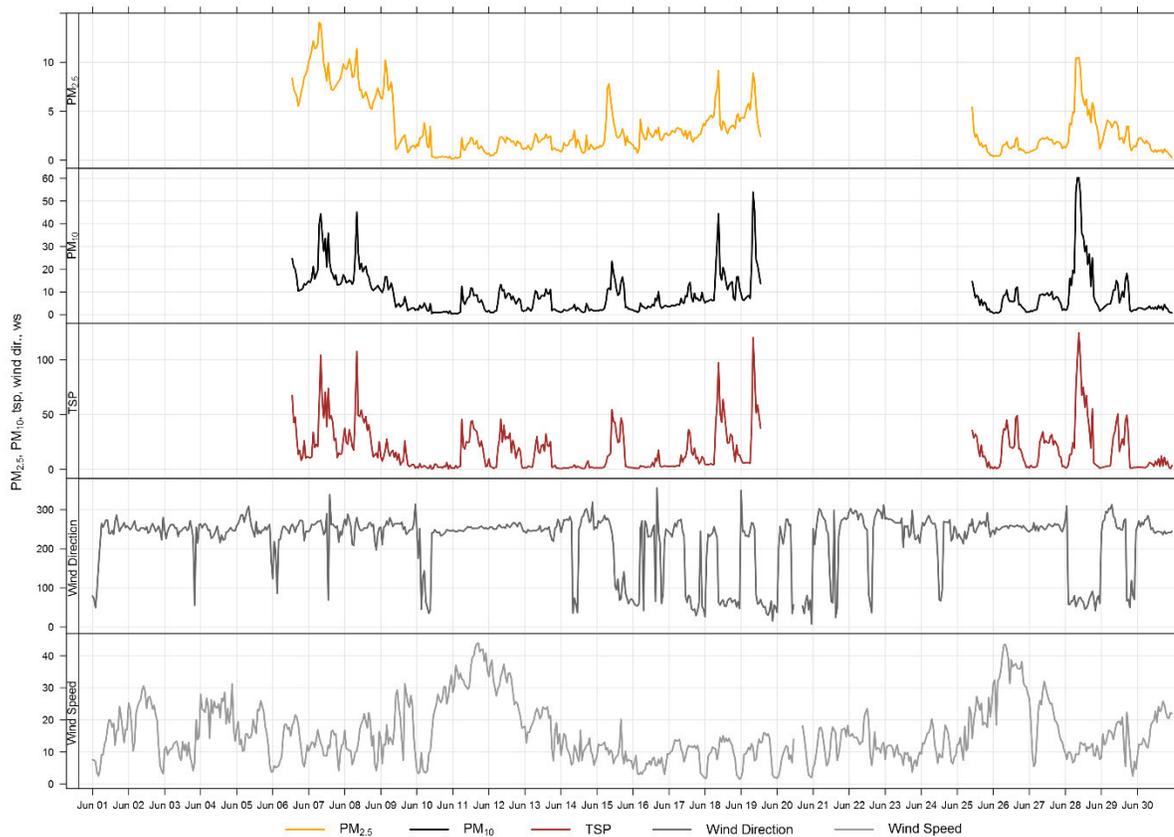


Figure 5-1 1-hour particulate matter concentrations at the West monitor

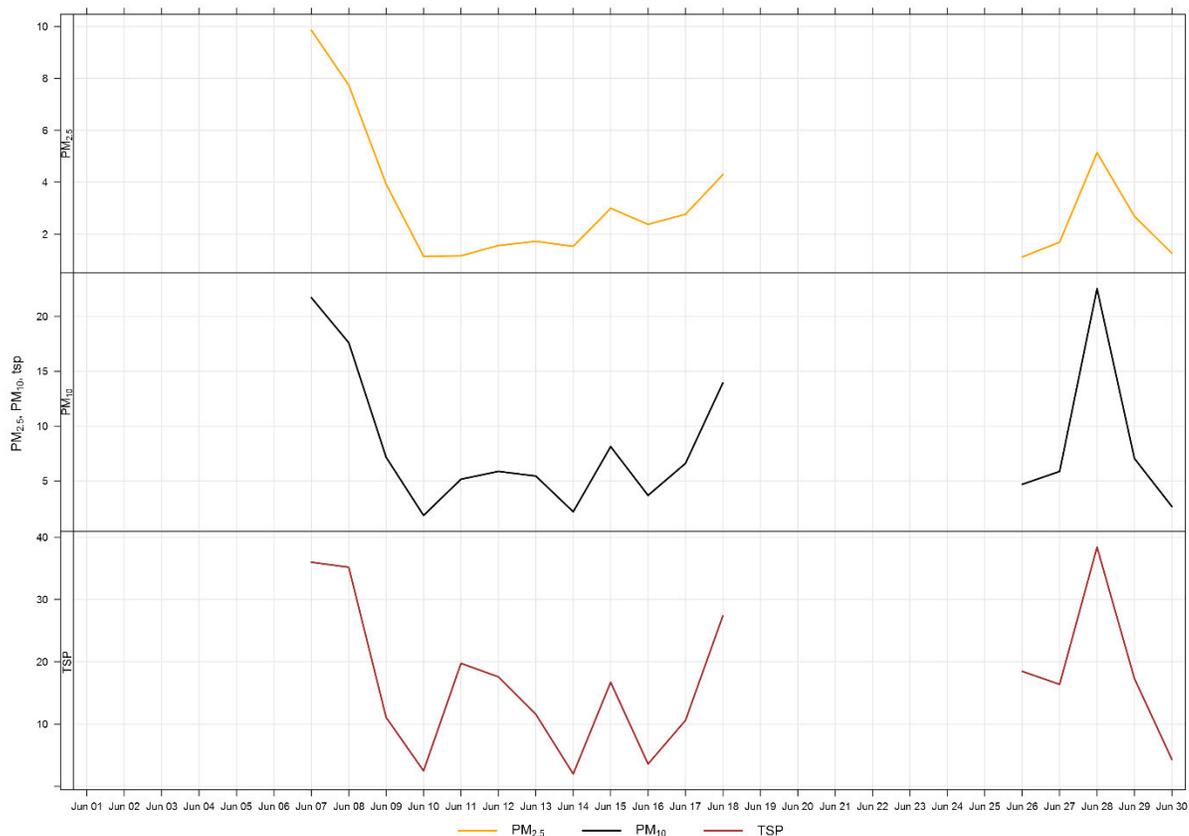


Figure 5-2 24-hour particulate matter concentrations at the West monitor

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 June 2018 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.

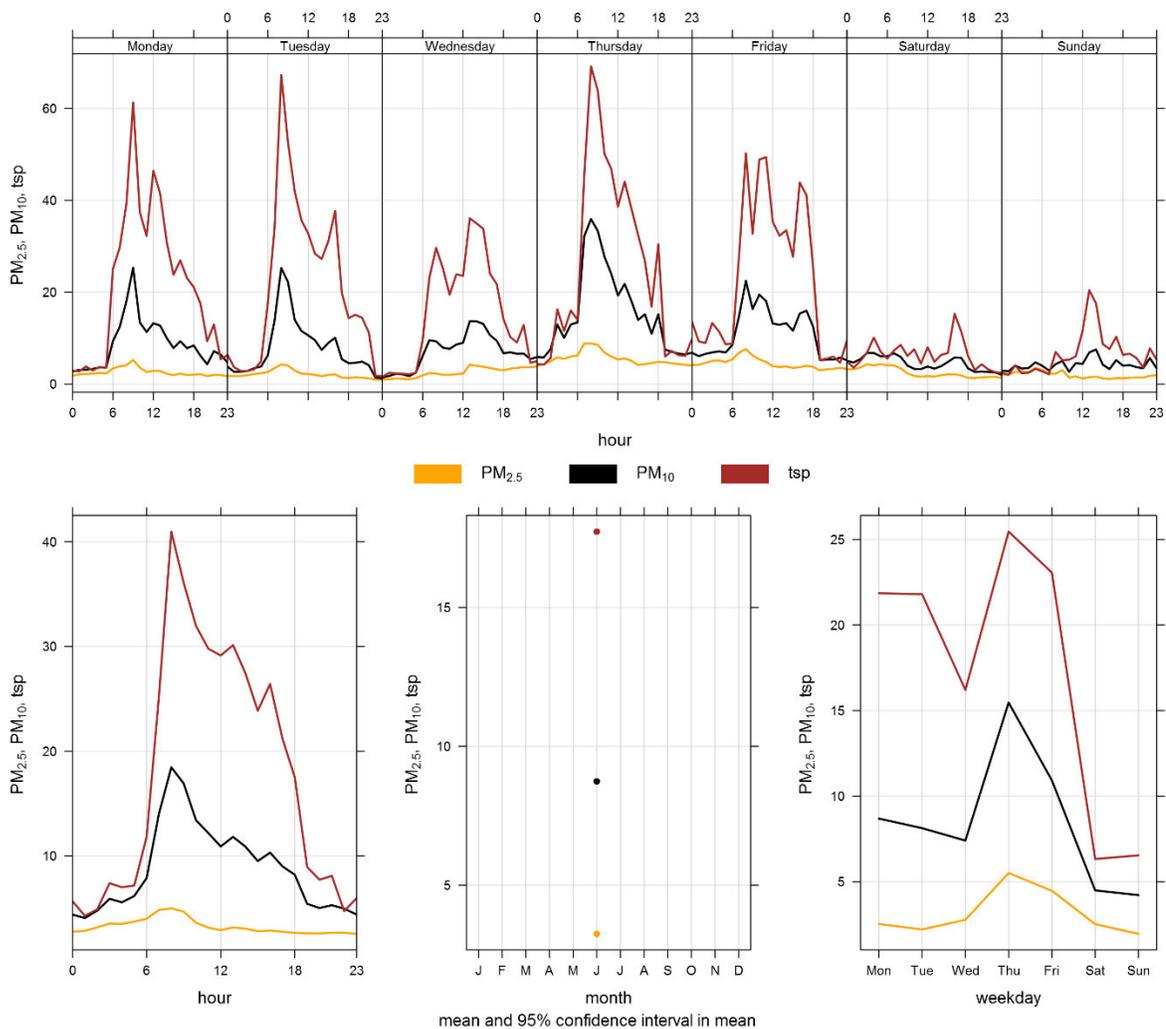


Figure 5-3 West particulate matter time variation

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 June, the Berm GRIMM had 100% uptime. Additionally, the Berm GRIMM underwent annual calibration, where the monitors were shipped to GRIMM's office in Montreal for calibration.

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 June, there were 10 and 0 exceedances of the 24-hour TSP (30 µg/m³) and PM_{2.5} (100 µg/m³) guidelines, respectively. Historically during the month of June, the Berm monitor records an average of 10 and 0 exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively. The maximum number of TSP exceedances recorded during June occurred in 2016 where there were 18 days that exceeded the guideline. The minimum number of TSP exceedances was recorded during June 2013 and June 2014, which had 0 days that exceeded the guideline. The maximum number of PM_{2.5} exceedances occurred in June 2011 where 3 days of exceedances was observed.

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.

Table 6-2 Summary of June 2018 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	0	0	9.1	61.3	26	14	37.2	256.3	24.0	26	100.0
PM ₁₀ (µg/m ³)	-	-	Berm	-	-	49.1	478.4	26	14	37.2	256.3	195.8	26	100.0
TSP (µg/m ³)	-	100	Berm	-	10	135.3	1428.7	26	16	36.2	261.0	638.5	26	100.0

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						
6/2/2018	115.8	-	252.0	20.6	36.4	High wind event
6/4/2018	150.6	-	243.9	23.2	40.3	High wind event
6/5/2018	113.8	-	258.9	16.2	38.5	
6/8/2018	117.9	-	256.4	13.5	32.5	
6/9/2018	145.3	-	258.0	18.4	42.5	
6/11/2018	543.6	-	251.2	36.3	37.3	High wind event
6/12/2018	464.0	-	257.1	29.9	28.3	High wind event
6/13/2018	109.0	-	248.8	18.7	43.3	
6/26/2018	638.5	-	254.5	35.0	32.9	High wind event
6/27/2018	303.9	-	254.9	20.2	31.0	High wind event
Total # of Exceedances	10	0				
Maximum # of Exceedances (June)	18 (2016)	3 (2011)				
Average # of Exceedances (June)	10	0				
Minimum # of Exceedances (June)	0 (2013, 2014)	0 (2010, 2012 ~ 2017)				

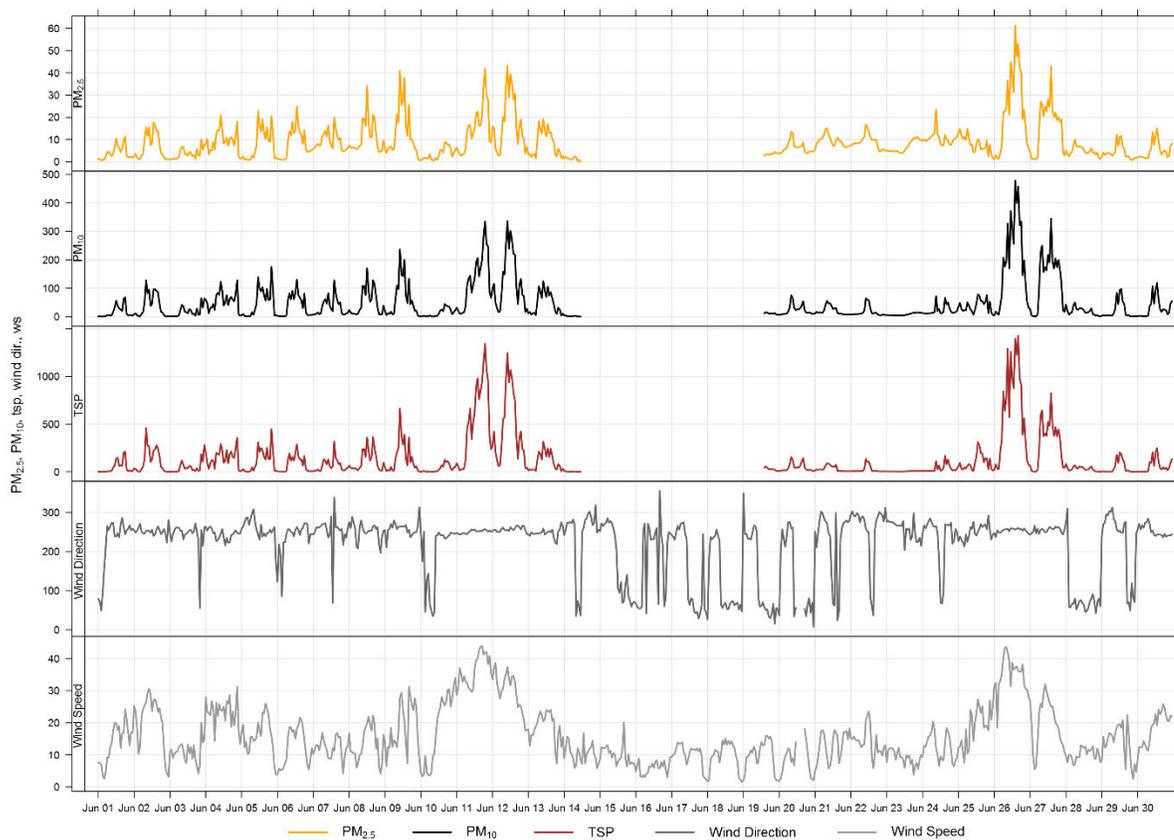


Figure 6-1 1-hour particulate matter concentrations recorded at the Berm monitor

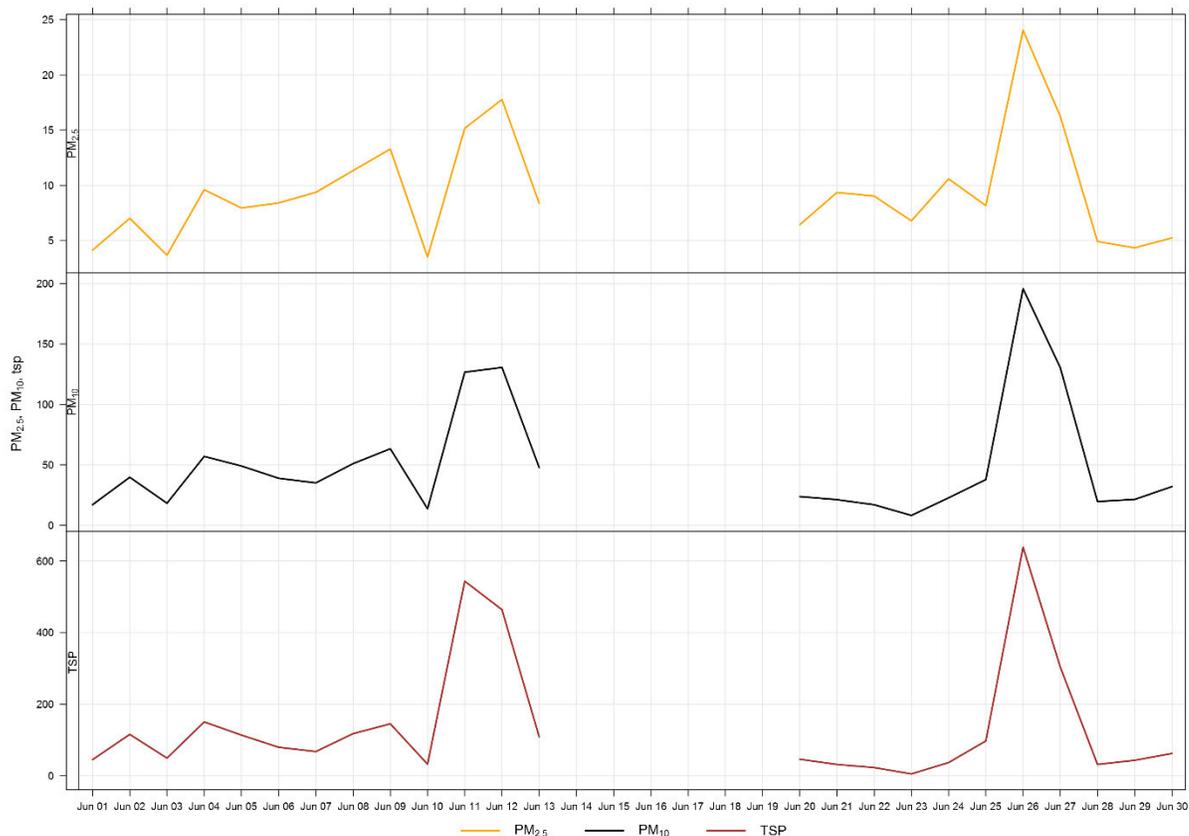


Figure 6-2 24-hour particulate matter concentrations recorded at the Berm monitor

Figure 6-3 shows the wind roses for the 10 days of TSP exceedances. The wind rose shows that the winds predominantly come from the west-southwest and were over 20 km/hr.

Figure 6-4 shows the variation of PM recorded at the Berm monitor over various time averaging periods. The Berm monitor, on average, recorded elevated PM concentrations during standard operating hours of Lafarge and consistent with the diurnal patterns associated with higher wind speeds.

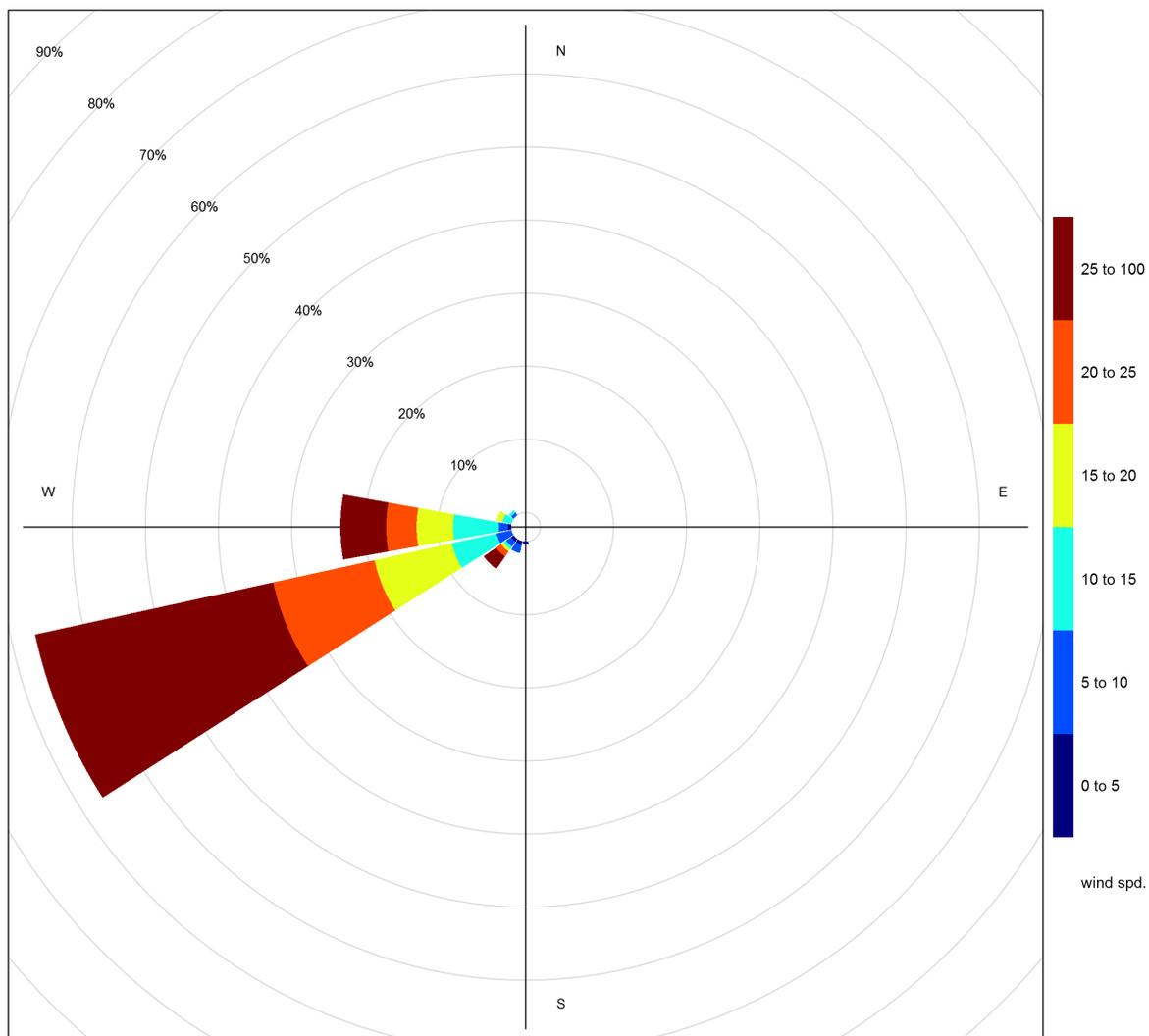


Figure 6-3 Wind rose for TSP exceedance days recorded at the Berm GRIMM

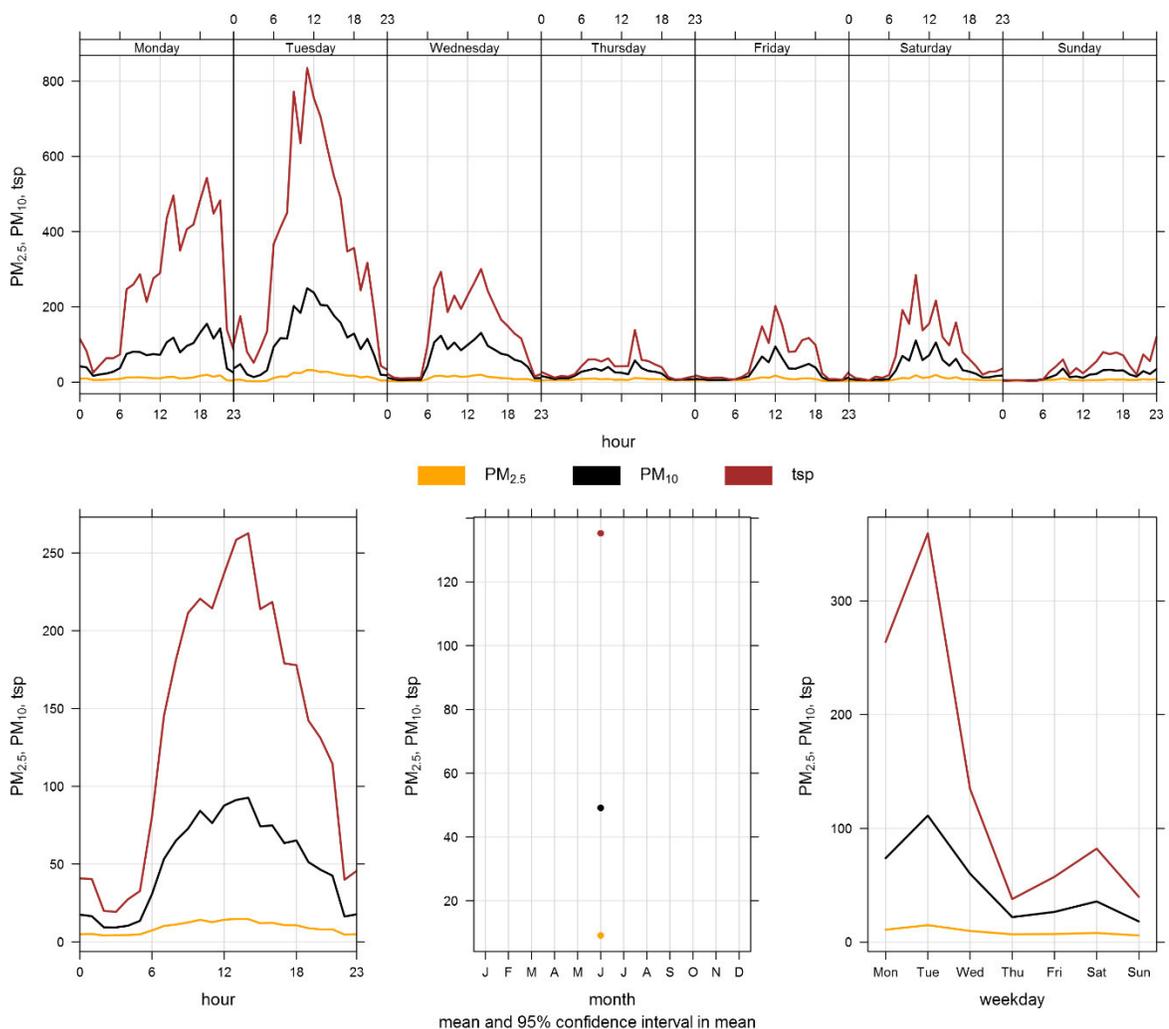


Figure 6-4 Berm particulate matter time variation

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 June, the Entrance GRIMM had 100% uptime. Additionally, the Entrance GRIMM underwent annual calibration, where the monitors were shipped to GRIMM's office in Montreal for calibration.

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 7-2 summarizes the maximum 1-hour and 24-hour PM concentrations recorded during the month. Table 7-3 summarizes the recorded exceedances.

During June, there were 15 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 14 and 0 exceedances of the 24-hour TSP and PM_{2.5} guidelines respectively, during the month of June. The maximum number of TSP exceedances recorded during June occurred in 2014, which had 20 days that exceeded the guideline. The minimum number of TSP exceedances recorded during June occurred in 2017, which had 8 days that exceeded the guideline. On the other hand, the maximum number of PM_{2.5} exceedances recorded during the month of June was 2 days of exceedance in 2011. The fewest number of PM_{2.5} exceedances for June was 0 days of exceedances occurring in 2010, 2012 – 2017.

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 high wind events. Trucks also pass near to the Entrance monitor as they enter the Lafarge facility for loading. 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 15 days that exceeded the TSP Guideline at the Entrance GRIMM. High wind speeds were not a primary factor in TSP exceedances in June at the Entrance station, which would suggest that some of the other sources, such as traffic and rail may have contributed to the exceedances.

Table 7-2 Summary of June 2018 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	10.3	42.8	7	3	12.9	260.8	20.1	7	100.0
PM ₁₀ (µg/m ³)	-	-	Entrance	-	-	43.4	235.0	8	7	9.9	262.3	101.5	8	100.0
TSP (µg/m ³)	-	100	Entrance	-	15	97.8	861.1	26	8	43.5	257.2	240.4	26	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						
6/4/2018	125.2	-	243.9	23.2	40.3	High wind event
6/5/2018	122.8	-	258.9	16.2	38.5	
6/6/2018	115.1	-	250.0	12.5	35.5	
6/7/2018	135.9	-	261.2	12.1	34.3	
6/8/2018	198.8	-	256.4	13.5	32.5	
6/9/2018	115.5	-	258.0	18.4	42.5	
6/15/2018	120.9	-	259.9	10.0	73.0	
6/18/2018	102.2	-	67.5	9.6	57.4	
6/19/2018	103.7	-	32.9	10.0	53.9	
6/20/2018	156.6	-	348.3	8.2	58.5	
6/21/2018	133.0	-	284.9	12.9	64.5	
6/25/2018	158.2	-	252.3	18.7	48.1	
6/26/2018	240.4	-	254.5	35.0	32.9	High wind event
6/27/2018	120.7	-	254.9	20.2	31.0	High wind event
6/28/2018	148.9	-	63.1	10.2	58.1	
Total # of Exceedances	15	0				
Maximum # of Exceedances (June)	20 (2014)	2 (2011)				
Average # of Exceedances (June)	14	0				
Minimum # of Exceedances (June)	8 (2017)	0 (2010, 2012 ~ 2017)				

Note: The rail crossing, on the 1A highway is in need of repair. Traffic hits the crossing and dust is dislodged from haul trucks as well as dust/dirt from the road, caught in the crossing, is lifted up and airborne. The particulate seems to be influencing the entrance monitor due to its proximity to the highway.

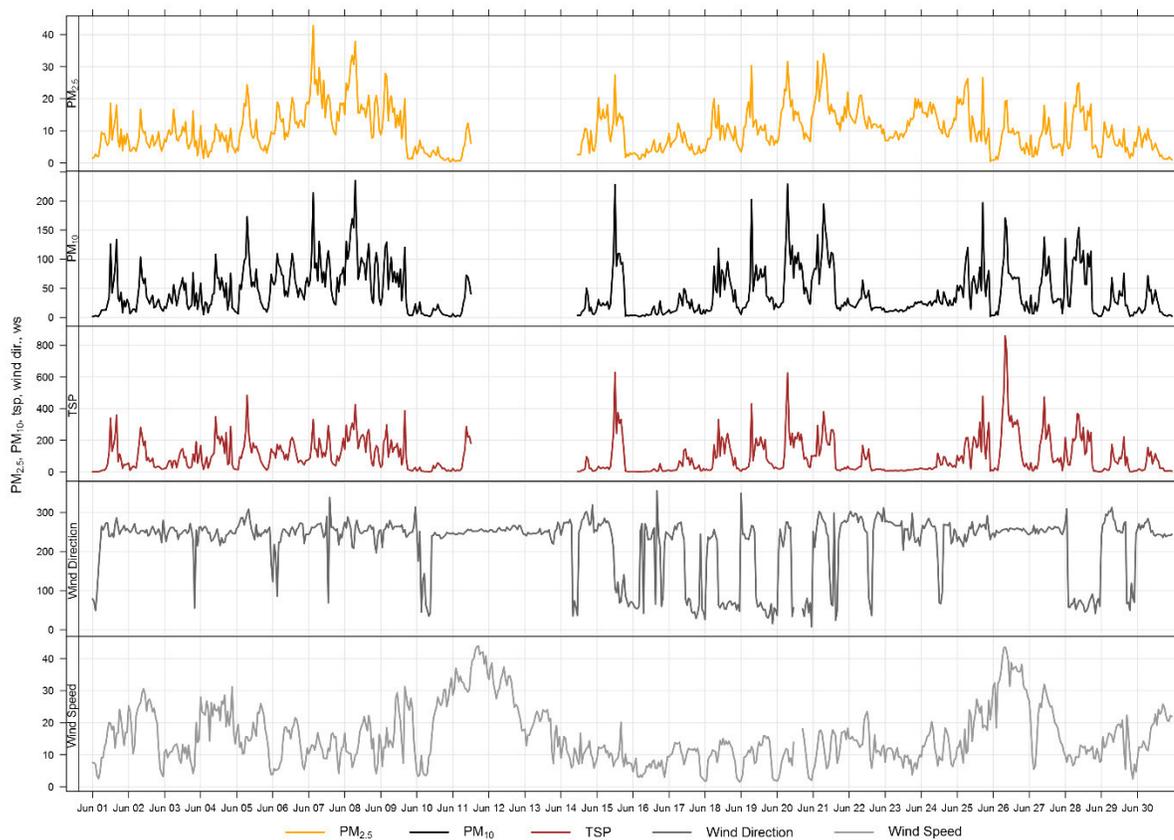


Figure 7-1 1-hour particulate matter concentrations recorded at the Entrance monitor



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

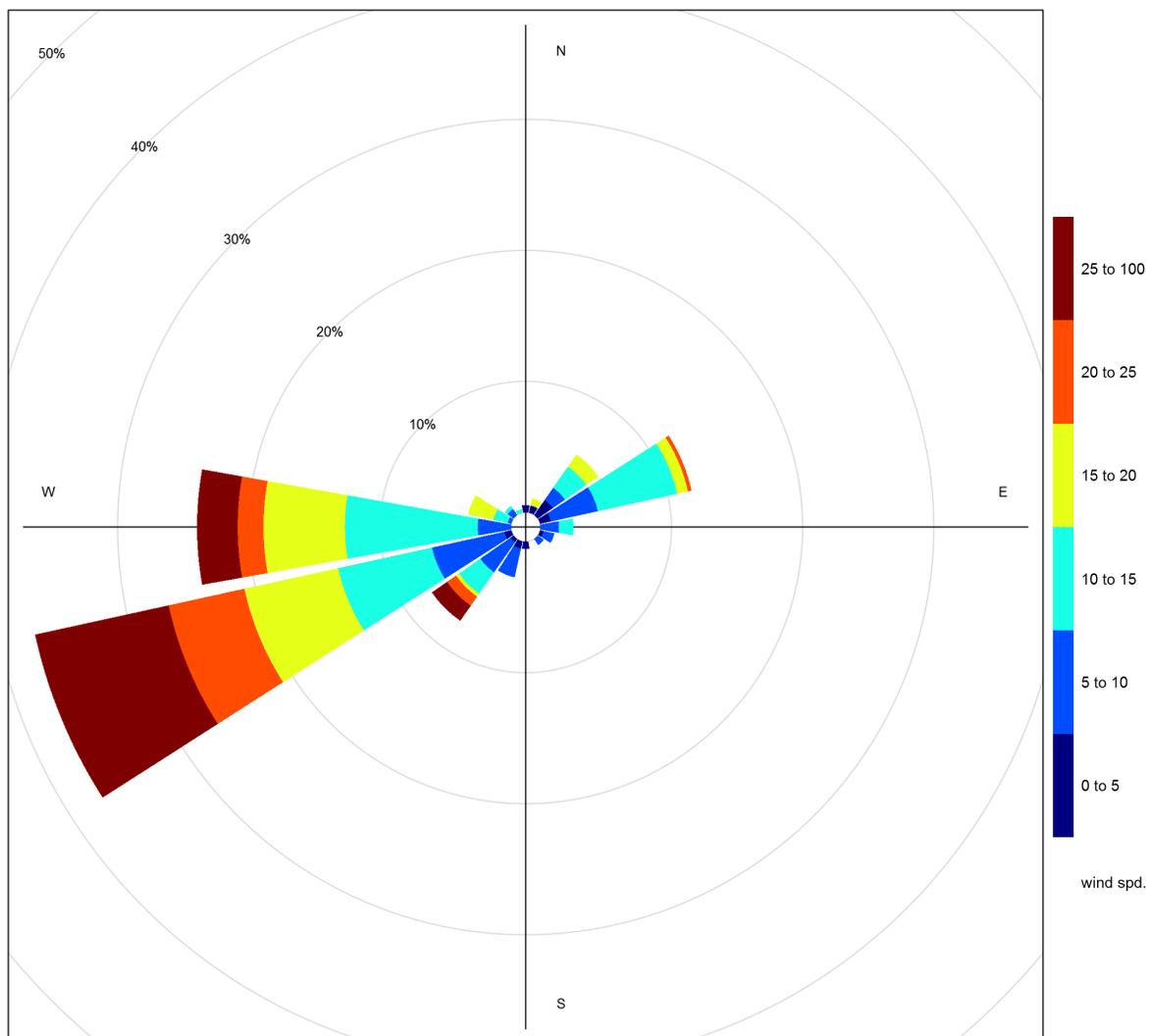


Figure 7-3 Wind rose for TSP exceedance days recorded at the Entrance GRIMM

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 June 2018 and indicates a diurnal pattern at this station that records higher concentrations during the week, suggesting increased traffic during the week is influencing this station.

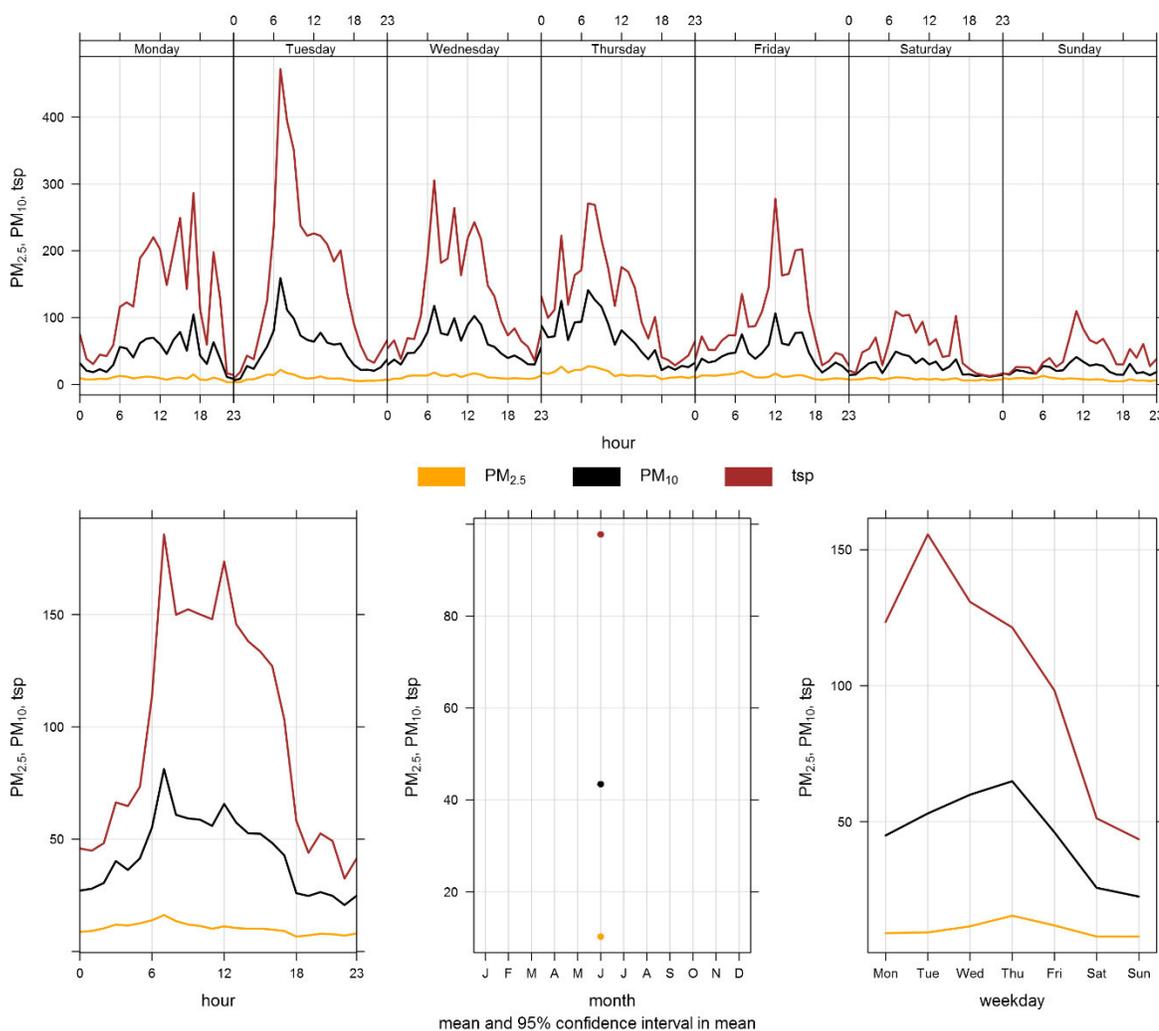


Figure 7-4 Entrance particulate matter time variation

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

Appendix A

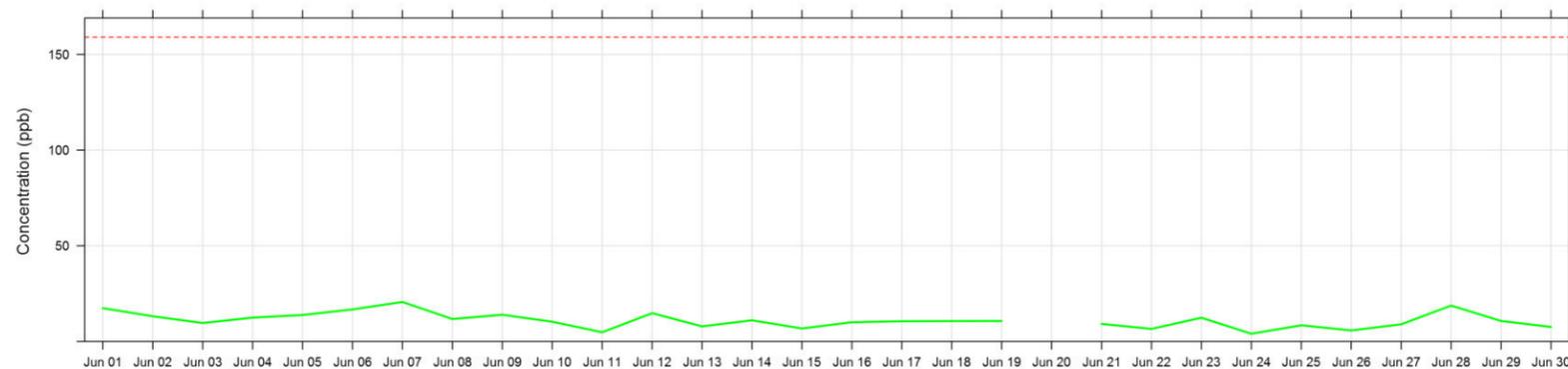
DATA & CALIBRATION REPORTS

Lagoon NO₂ (ppb) – June 2018

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	3.6	1.0	1.7	3.8	13.7	11.7	8.9	9.2	5.6	2.2	2.2	2.6	0.2	0.8	2.1	8.4	0.8	2.0	3.2	17.4	4.2	10.3	17.4	5.1
2	4.7	S	0.1	4.3	6.5	1.4	0.4	1.0	4.7	3.5	2.8	0.8	2.6	0.0	0.9	6.6	13.2	5.2	1.0	5.1	5.2	4.7	7.8	1.4	13.2	3.6
3	5.6	S	6.1	6.3	6.0	9.7	9.7	6.5	8.5	3.0	7.0	4.0	1.8	5.3	5.3	7.0	0.3	3.9	1.2	5.4	5.1	2.6	0.7	8.7	9.7	5.2
4	5.7	S	9.0	3.1	4.5	3.0	5.2	0.0	0.1	1.7	2.4	5.4	1.5	0.0	0.0	0.0	0.0	2.1	0.0	3.4	7.3	1.6	0.6	12.5	12.5	3.0
5	9.5	S	6.5	13.8	6.9	8.5	6.7	4.0	6.4	6.4	3.1	0.9	0.7	13.3	1.1	2.0	0.0	2.5	0.4	8.7	4.6	12.2	6.0	5.8	13.8	5.7
6	6.2	S	16.8	13.9	9.8	8.1	10.8	8.8	1.3	0.5	0.1	0.5	7.8	13.8	8.5	1.1	6.5	7.7	14.4	12.3	4.4	5.3	2.1	5.8	16.8	7.2
7	6.2	S	9.9	8.1	11.0	13.6	10.4	20.7	17.7	18.9	4.3	3.5	14.2	2.8	6.0	8.1	6.0	5.7	1.0	6.6	6.1	4.7	9.2	4.3	20.7	8.7
8	4.6	S	3.4	3.4	3.1	4.0	5.7	11.8	5.2	4.9	1.9	0.9	1.1	2.3	0.7	2.1	5.7	11.7	5.9	0.6	1.0	11.7	9.2	0.6	11.8	4.4
9	6.0	S	3.4	12.9	14.0	5.2	5.8	13.2	5.1	8.2	5.1	2.6	4.2	3.9	9.8	7.8	2.1	0.0	0.0	0.0	3.9	0.3	9.1	3.8	14.0	5.5
10	5.0	S	9.1	10.3	4.7	7.0	5.9	6.5	10.3	6.1	2.7	0.0	1.3	0.0	0.0	2.7	0.0	0.0	0.0	0.0	2.9	0.5	0.0	0.0	10.3	3.3
11	1.1	S	0.0	0.2	0.4	0.4	1.2	1.2	3.0	2.1	4.8	3.2	3.4	1.6	1.2	2.0	1.0	0.6	3.4	4.5	4.3	1.7	2.3	0.0	4.8	1.9
12	0.6	S	3.5	2.6	2.1	2.2	7.4	10.9	5.6	3.1	2.5	2.3	8.6	6.9	3.6	6.7	13.2	11.0	6.7	5.4	14.8	11.8	12.1	4.9	14.8	6.5
13	0.0	S	4.5	3.2	1.8	1.2	2.8	2.8	2.1	1.4	7.9	1.2	0.9	1.8	1.3	2.2	5.2	0.3	2.6	3.6	4.2	1.7	5.5	6.1	7.9	2.8
14	0.7	S	7.5	10.8	11.1	5.8	5.6	9.4	7.6	1.0	2.3	5.4	6.6	3.4	9.8	7.7	3.3	0.8	2.9	4.0	5.4	3.6	6.1	1.9	11.1	5.3
15	3.7	S	3.4	3.1	2.9	4.8	4.3	4.8	3.9	5.0	1.2	0.6	1.9	0.6	0.0	0.2	1.2	0.2	0.0	0.0	1.8	2.5	6.8	2.2	6.8	2.4
16	1.4	S	1.2	6.8	0.6	3.4	8.5	7.3	4.5	10.1	9.0	4.2	2.1	1.3	4.4	2.5	3.5	3.6	2.5	3.0	1.0	3.4	2.4	0.5	10.1	3.8
17	5.2	S	4.6	5.6	5.5	7.8	3.5	2.8	2.5	1.8	1.8	1.9	0.8	1.4	0.0	1.5	0.5	0.5	1.6	0.3	2.8	10.6	3.3	7.4	10.6	3.2
18	5.5	S	9.4	9.9	9.7	6.3	5.9	3.8	4.2	6.7	5.8	0.9	0.6	0.5	1.1	0.0	0.0	0.0	5.0	3.6	10.7	4.1	1.7	9.9	10.7	4.6
19	6.8	S	6.5	6.0	8.1	6.6	7.1	3.5	5.8	3.6	6.3	1.9	2.1	2.5	1.3	5.0	2.6	3.1	0.0	1.1	2.5	8.4	10.7	10.2	10.7	4.9
20	9.4	S	10.8	13.8	6.0	5.8	6.5	5.3	R	R	R	R	I	I	I	I	I	4.9	0.4	0.9	3.1	11.2	14.2	9.7	-	-
21	6.6	S	3.9	2.9	6.1	2.1	2.1	3.1	3.5	3.5	6.4	2.1	1.4	0.5	3.4	1.3	1.8	2.0	9.2	4.8	4.8	3.5	1.8	1.9	9.2	3.4
22	1.4	S	1.4	0.5	1.3	0.8	3.6	1.8	5.4	1.6	2.0	1.1	1.1	0.7	3.1	5.2	6.2	6.6	2.2	0.8	0.8	1.4	0.4	0.8	6.6	2.2
23	5.6	S	0.4	2.0	0.8	0.8	2.8	7.8	12.4	4.4	5.0	2.2	0.9	2.9	1.2	2.3	2.9	0.6	2.4	2.1	1.8	0.3	1.1	2.1	12.4	2.8
24	3.3	S	0.4	0.4	0.1	0.1	0.0	1.1	0.5	0.9	0.3	3.2	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.3	1.7	4.1	1.0	1.4	4.1	0.9
25	6.4	S	8.5	7.7	3.6	2.7	6.8	7.6	5.0	4.2	2.6	1.7	0.0	1.9	3.8	3.7	1.6	3.1	2.5	0.7	0.0	1.5	0.0	0.0	8.5	3.3
26	0.2	S	0.3	0.4	0.1	1.6	4.0	4.1	3.8	5.1	1.8	2.3	3.9	3.1	1.4	1.7	1.4	1.6	1.9	1.2	1.1	1.4	5.8	0.1	5.8	2.1
27	0.0	S	1.4	1.7	0.3	2.8	2.4	8.9	6.5	4.9	0.6	1.3	2.5	4.2	3.8	4.0	2.8	2.4	4.5	9.0	6.0	5.4	1.8	3.8	9.0	3.5
28	7.0	S	4.4	9.1	10.3	13.6	18.8	13.6	14.0	6.5	0.8	0.8	2.9	3.1	0.9	5.1	2.1	1.4	0.0	0.4	3.0	3.0	0.0	1.2	18.8	5.3
29	1.3	S	2.6	5.1	4.1	1.2	3.0	10.7	6.2	5.4	0.9	1.1	1.3	0.0	0.7	0.6	7.7	2.0	0.0	2.3	2.1	1.4	6.4	4.0	10.7	3.1
30	3.4	S	7.6	4.4	4.7	2.2	4.8	3.5	2.9	3.1	5.9	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	7.6	1.8
Hourly Max	9.5	-	16.8	13.9	14.0	13.6	18.8	20.7	17.7	18.9	9.0	5.4	14.2	13.8	9.8	8.1	13.2	11.7	14.4	12.3	14.8	17.4	14.2	12.5		
Hourly Average	4.1	-	5.0	5.8	4.9	4.6	5.8	6.6	5.8	4.7	3.6	2.0	2.7	2.8	2.5	3.2	3.2	3.1	2.4	3.1	3.9	4.7	4.4	4.0		

S = SPAN R = INSTRUMENT REMOVAL I = INSTRUMENT INSTALLATION

Daily 1-hour NO₂ Maximums (ppb) at Trailer



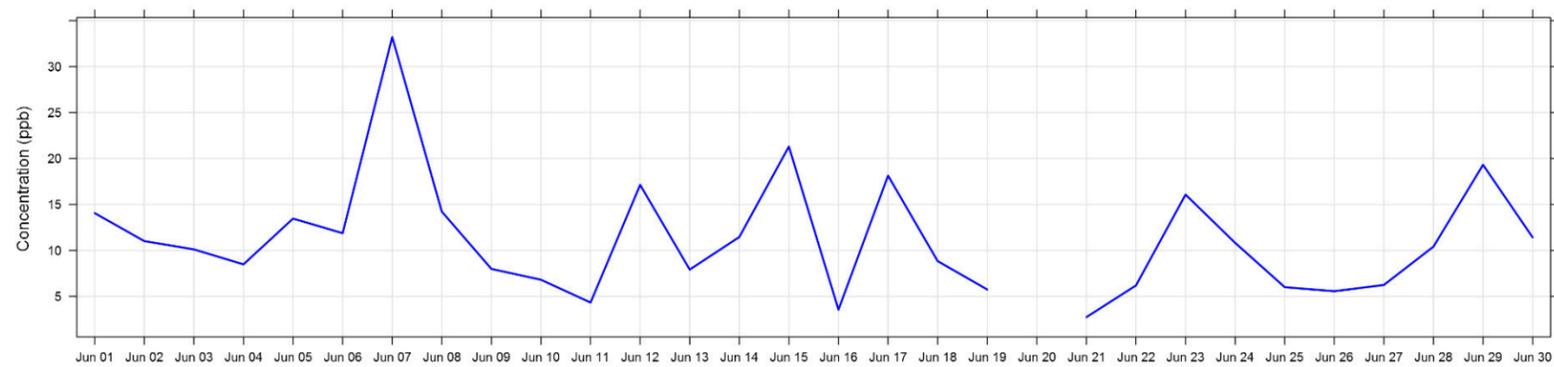
Number of 1HR Exceedances	0	Objective	159	PPB
Number of Non-Zero Readings	624			
Maximum 1-HR Average	20.7	PPB		
Maximum 24-HR Average	8.7	PPB		
IZS Calibration Time	30	HRS	Operational Time	711 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.75 %
Standard Deviation	3.7		Monthly Average	4.0 PPB

Lagoon NO (ppb) – June 2018

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	5.8	13.2	8.0	14.1	9.4	1.9	2.1	0.9	0.0	0.0	0.7	9.2	0.0	0.0	0.0	11.4	1.0	4.5	14.1	3.6
2	0.1	S	0.0	0.7	1.9	0.0	0.0	0.0	1.2	1.2	1.0	0.0	1.1	0.0	0.0	5.2	11.0	2.9	0.0	1.3	0.0	0.0	0.0	0.0	11.0	1.2
3	0.3	S	0.0	0.0	2.0	4.3	1.6	3.7	10.1	0.8	4.3	0.6	0.2	1.4	2.8	3.7	0.0	1.8	0.0	0.3	0.3	0.0	0.0	2.7	10.1	1.8
4	3.8	S	7.7	0.7	3.9	0.4	1.3	0.0	0.0	0.6	0.1	3.4	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.3	0.0	0.0	8.5	8.5	1.4
5	0.5	S	2.8	7.8	0.9	2.3	6.6	2.1	4.1	3.5	0.4	0.0	0.0	13.5	0.0	1.0	0.0	1.3	0.0	4.8	0.0	2.4	0.0	0.0	13.5	2.3
6	0.0	S	6.0	0.8	7.9	2.2	2.8	8.2	0.0	0.0	0.0	0.0	4.7	11.9	5.7	0.0	3.1	2.5	7.0	3.3	0.0	0.0	0.0	0.3	11.9	2.9
7	0.0	S	2.5	2.3	5.2	9.0	13.5	33.2	20.7	24.2	0.6	1.1	5.9	0.0	4.0	2.5	2.9	1.0	0.0	0.6	1.2	0.0	0.0	0.0	33.2	5.7
8	1.9	S	0.0	0.0	0.0	0.0	0.0	6.9	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8.0	1.9	0.0	0.0	14.2	0.0	0.0	14.2	1.6
9	0.0	S	0.0	5.8	8.0	0.5	1.6	6.5	1.6	4.3	2.4	0.7	1.7	1.4	7.6	2.4	0.0	0.0	0.0	0.0	0.4	0.0	3.1	0.0	8.0	2.1
10	0.0	S	0.0	6.8	0.0	0.8	0.0	0.0	3.3	2.1	0.3	0.0	0.6	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	6.8	0.7
11	0.6	S	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.9	4.0	2.5	3.5	1.5	0.7	1.6	1.0	0.8	3.5	4.3	2.6	0.1	1.1	0.0	4.3	1.4
12	0.0	S	2.5	0.5	0.0	0.0	5.0	11.0	4.7	1.7	3.1	1.8	11.5	5.8	3.5	7.1	17.1	14.5	8.0	3.3	11.4	8.7	6.3	1.4	17.1	5.6
13	0.0	S	0.6	0.1	0.0	0.0	0.0	1.3	0.2	0.5	7.9	0.5	0.0	0.9	0.0	2.0	4.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	7.9	0.9
14	0.0	S	4.8	7.4	11.5	2.6	1.1	3.3	4.2	0.0	0.0	0.9	1.6	0.3	6.0	4.8	2.0	0.0	1.8	1.5	2.3	4.1	2.4	0.0	11.5	2.7
15	0.1	S	3.6	6.8	5.4	9.1	21.3	17.2	12.1	12.3	1.4	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	21.3	3.9
16	0.0	S	0.0	0.0	0.0	2.6	3.4	1.2	0.7	1.3	0.8	0.7	0.0	0.0	3.5	0.0	0.6	0.9	0.1	0.6	0.0	0.6	0.0	0.0	3.5	0.7
17	5.2	S	2.4	3.9	1.2	18.1	9.0	7.3	7.2	1.5	0.3	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	5.3	1.7	2.3	18.1	2.9
18	8.8	S	0.8	1.5	1.7	2.1	5.3	2.7	3.5	4.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.4	0.0	0.0	8.7	8.8	2.0
19	0.0	S	0.0	0.0	0.2	0.2	3.7	1.3	5.7	0.9	2.1	0.0	0.0	1.0	0.0	1.9	0.0	1.1	0.0	0.0	0.0	0.0	0.6	0.0	5.7	0.8
20	17.2	S	8.6	1.2	0.0	0.0	7.2	3.1	R	R	R	R	I	I	I	I	I	0.8	0.0	0.0	0.0	0.5	1.4	0.0	-	-
21	1.8	S	0.0	0.0	1.4	2.7	1.0	2.1	1.5	1.2	2.2	0.9	0.0	0.0	0.4	0.0	0.0	0.0	2.7	0.3	0.4	1.3	0.0	0.0	2.7	0.9
22	0.0	S	2.8	0.0	1.2	0.0	4.4	0.3	6.2	1.1	1.0	0.3	0.3	0.1	0.0	0.2	0.6	3.8	0.0	0.0	0.0	0.0	0.0	0.0	6.2	1.0
23	1.8	S	0.0	2.0	0.0	0.0	0.1	5.1	16.1	1.4	1.7	0.2	0.0	0.9	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	16.1	1.3
24	3.6	S	0.0	0.0	0.0	7.3	0.3	9.2	4.8	3.4	0.5	1.9	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.1	0.0	10.8	9.2	0.0	10.8	2.3
25	0.0	S	0.7	0.0	0.0	0.0	2.7	6.0	5.0	2.5	1.2	0.2	0.0	1.0	1.5	1.2	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	6.0	1.0
26	0.0	S	0.0	0.0	0.0	0.0	2.4	3.2	3.1	5.6	1.9	2.0	2.7	2.4	1.0	1.8	1.0	1.0	1.6	0.2	0.0	0.0	1.8	0.0	5.6	1.4
27	0.0	S	0.0	0.0	0.0	0.6	0.2	6.2	3.7	3.5	0.3	0.9	1.4	2.8	2.1	2.9	1.3	0.1	0.9	2.9	0.0	0.0	0.0	0.0	6.2	1.3
28	0.4	S	0.0	2.2	2.0	2.0	6.3	5.6	10.4	4.4	0.0	0.0	1.3	1.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	1.6
29	0.0	S	0.3	3.8	6.6	0.4	5.2	19.3	12.8	10.7	0.5	1.2	1.4	0.0	0.8	0.0	7.6	2.2	0.0	1.9	0.0	0.0	0.0	0.3	19.3	3.3
30	1.1	S	6.7	3.0	4.5	2.1	11.4	5.9	3.1	3.5	6.9	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	11.4	2.1
Hourly Max	17.2	-	8.6	7.8	11.5	18.1	21.3	33.2	20.7	24.2	9.4	3.4	11.5	13.5	7.6	7.1	17.1	14.5	8.0	4.8	11.4	14.2	9.2	8.7	-	-
Hourly Average	1.6	-	1.8	1.9	2.2	2.3	4.1	6.2	5.4	3.9	2.0	0.8	1.4	1.6	1.4	1.5	1.9	1.8	1.0	0.8	0.7	2.0	1.0	1.0	-	-

S = SPAN R = INSTRUMENT REMOVAL I = INSTRUMENT INSTALLATION

Daily 1-hour NO Maximums (ppb) at Trailer



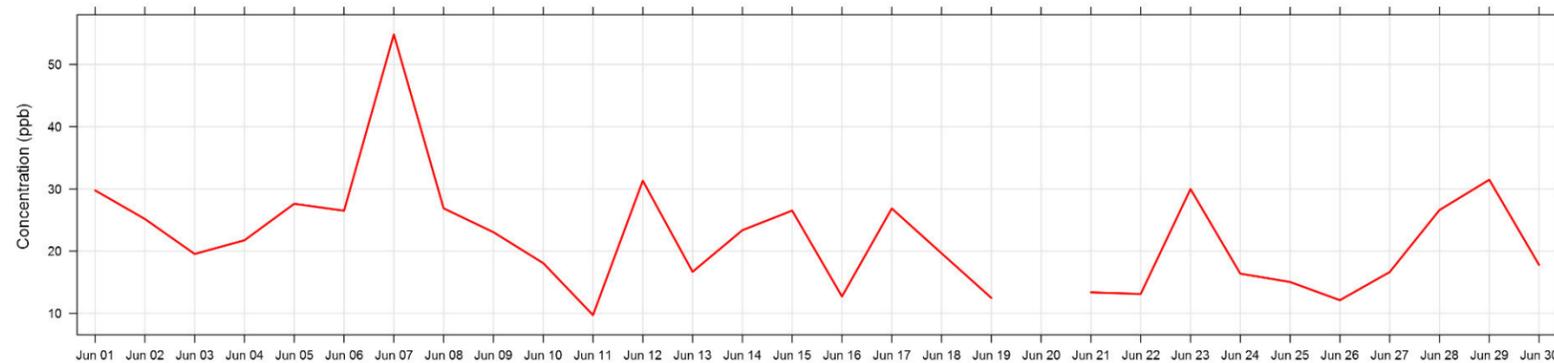
Number of 1HR Exceedances	n/a	Objective	n/a	PPB
Number of Non-Zero Readings	407			
Maximum 1-HR Average	33.2	PPB		
Maximum 24-HR Average	5.7	PPB		
IZS Calibration Time	30	HRS	Operational Time	711 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.8 %
Standard Deviation	3.7		Monthly Average	2.1 PPB

Lagoon NO_x (ppb) – June 2018

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	0.5	S	4.6	0.8	1.4	3.7	20.4	25.8	17.8	24.2	15.9	5.0	5.2	4.4	0.0	0.9	3.7	18.4	0.8	2.0	3.2	29.8	6.0	15.6	29.8	9.1
2	5.7	S	0.0	5.9	9.3	1.4	0.2	1.3	6.8	5.6	4.6	1.3	4.6	0.0	1.5	12.7	25.2	9.0	1.1	7.4	5.3	4.9	8.3	1.0	25.2	5.3
3	6.6	S	6.0	6.2	8.8	14.8	12.1	11.0	19.5	4.6	12.0	5.3	2.8	7.5	8.9	11.6	0.1	6.7	1.2	6.7	6.3	2.3	1.6	12.2	19.5	7.6
4	10.4	S	17.7	4.7	9.3	4.3	7.3	0.0	0.2	3.1	3.4	9.7	2.2	0.0	0.0	0.0	0.0	3.6	0.0	4.2	10.5	1.9	0.3	21.7	21.7	5.0
5	10.8	S	10.0	22.5	8.6	11.6	14.2	7.0	11.4	10.7	4.4	1.6	1.1	27.6	1.6	3.8	0.0	4.4	0.8	14.3	5.0	15.3	5.7	5.5	27.6	8.6
6	5.8	S	23.5	15.4	18.5	11.1	14.3	17.8	2.0	0.7	0.0	0.6	13.3	26.5	14.9	1.4	10.5	11.1	22.2	16.4	5.0	5.2	2.0	6.8	26.5	10.7
7	6.2	S	13.1	11.2	17.0	23.4	24.7	54.8	39.3	44.0	5.7	5.5	20.9	3.3	10.9	11.5	9.8	7.6	1.0	8.1	8.2	5.7	10.1	4.5	54.8	15.1
8	7.5	S	4.0	3.4	3.0	3.9	6.2	19.6	7.5	6.7	2.5	1.1	1.5	3.1	0.8	2.4	7.9	20.8	8.8	0.4	0.8	26.9	10.1	0.3	26.9	6.5
9	6.4	S	3.4	19.7	23.0	6.6	8.4	20.8	7.7	13.4	8.5	4.2	6.9	6.4	18.4	11.3	3.2	0.0	0.0	0.0	5.4	0.0	13.1	4.8	23.0	8.3
10	4.6	S	9.7	18.1	4.5	8.6	5.9	6.7	14.5	9.0	3.8	0.0	2.7	0.2	0.0	5.9	0.0	0.0	0.0	0.0	4.4	0.2	0.0	0.0	18.1	4.3
11	2.6	S	0.0	0.8	0.6	0.7	1.6	1.8	5.7	4.9	9.7	6.6	7.9	4.0	2.7	4.5	2.7	2.2	7.7	9.6	7.8	2.6	4.3	0.0	9.7	3.9
12	0.7	S	6.8	3.9	2.9	3.0	13.3	22.7	11.1	5.6	6.4	4.9	21.0	13.5	7.9	14.7	31.3	26.3	15.6	9.6	27.1	21.4	19.3	7.2	31.3	12.9
13	0.0	S	6.1	4.1	1.9	0.9	3.4	4.9	3.2	2.7	16.7	2.6	1.7	3.6	2.3	5.2	10.1	0.4	3.1	3.8	5.0	2.5	7.8	8.3	16.7	4.4
14	0.4	S	13.1	19.0	23.4	9.1	7.5	13.5	12.7	1.1	3.2	7.1	9.1	4.6	16.7	13.4	6.2	1.6	5.6	6.3	8.5	8.5	9.3	2.7	23.4	8.8
15	4.7	S	7.9	10.8	9.2	14.7	26.5	22.9	17.0	18.2	3.6	1.2	2.9	0.7	0.0	0.5	1.8	0.0	0.0	0.0	1.8	2.3	6.9	1.8	26.5	6.8
16	1.2	S	0.8	6.6	0.4	6.8	12.7	9.4	6.2	12.2	10.6	5.7	2.9	2.0	8.9	3.1	5.0	5.4	3.5	4.4	0.7	4.8	2.5	0.1	12.7	5.0
17	11.3	S	7.9	10.2	7.6	26.9	13.4	11.0	10.6	4.2	3.0	2.9	1.5	2.0	0.0	2.8	0.7	0.5	2.6	0.2	2.6	16.8	6.0	10.7	26.9	6.7
18	15.3	S	11.1	12.3	12.3	9.4	12.1	7.5	8.6	12.0	11.5	1.1	0.8	0.8	1.4	0.0	0.0	0.0	7.4	3.7	11.9	3.8	1.4	19.7	19.7	7.1
19	6.6	S	6.7	5.7	9.2	7.7	11.7	5.8	12.5	5.5	9.4	3.0	3.1	4.6	1.9	7.9	3.5	5.3	0.0	1.6	2.7	8.6	12.2	10.0	12.5	6.3
20	27.5	S	20.3	15.9	5.7	6.3	14.5	9.2	R	R	R	R	I	I	I	I	I	7.2	1.9	1.3	3.6	13.2	17.0	10.4	-	-
21	9.8	S	4.1	3.8	8.9	6.2	4.5	6.5	6.5	6.1	10.1	4.6	2.9	2.0	5.3	1.8	2.2	2.3	13.4	6.6	6.7	6.3	2.2	2.7	13.4	5.5
22	2.4	S	5.7	0.8	4.0	1.8	9.4	3.6	13.1	4.3	4.6	2.8	2.9	2.3	4.4	6.9	8.3	11.8	3.1	1.5	1.5	2.2	0.7	1.9	13.1	4.3
23	8.9	S	0.8	5.5	1.2	1.5	4.5	14.4	30.0	7.3	8.3	3.8	1.7	5.3	2.7	3.6	4.7	1.5	4.3	3.3	2.4	0.8	2.2	3.3	30.0	5.3
24	8.4	S	0.8	1.6	0.6	8.9	1.5	11.8	6.7	5.7	2.2	6.6	0.1	0.6	0.2	4.1	1.3	0.0	0.0	2.8	2.3	16.4	11.7	2.5	16.4	4.2
25	6.7	S	10.6	8.5	4.3	4.1	11.0	15.0	11.4	8.1	5.2	3.3	0.0	4.3	6.8	6.4	3.2	4.9	4.1	1.3	0.0	2.9	0.0	0.0	15.0	5.3
26	0.9	S	0.8	0.8	0.7	2.9	7.9	8.7	8.4	12.1	5.1	5.8	8.1	7.0	3.9	5.0	3.9	4.0	5.0	2.8	2.1	2.5	9.1	0.8	12.1	4.7
27	0.0	S	1.8	2.0	0.7	4.8	4.1	16.6	11.7	9.9	2.4	3.6	5.3	8.5	7.4	8.4	5.6	4.0	6.9	13.4	7.0	6.7	2.2	5.1	16.6	6.0
28	8.9	S	4.7	12.7	13.7	17.0	26.6	20.7	25.9	12.3	2.1	2.1	5.7	5.6	2.1	7.3	3.1	2.4	0.0	0.7	3.8	4.2	0.2	1.4	26.6	8.0
29	1.5	S	4.4	10.4	12.3	3.1	9.7	31.5	20.5	17.6	2.8	3.8	4.2	1.5	3.1	2.1	16.9	5.7	0.0	5.7	2.7	1.9	7.6	5.7	31.5	7.6
30	6.0	S	15.8	8.9	10.6	5.8	17.8	10.9	7.6	8.1	14.4	0.7	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8	4.7
Hourly Max	27.5	-	23.5	22.5	23.4	26.9	26.6	54.8	39.3	44.0	16.7	9.7	21.0	27.6	18.4	14.7	31.3	26.3	22.2	16.4	27.1	29.8	19.3	21.7		
Hourly Average	6.3	-	7.4	8.4	7.8	7.7	10.9	13.8	12.3	9.7	6.6	3.7	4.9	5.2	4.6	5.5	5.9	5.6	4.0	4.6	5.2	7.3	6.0	5.6		

S = SPAN R = INSTRUMENT REMOVAL I = INSTRUMENT INSTALLATION

Daily 1-hour NO_x Maximums (ppb) at Trailer



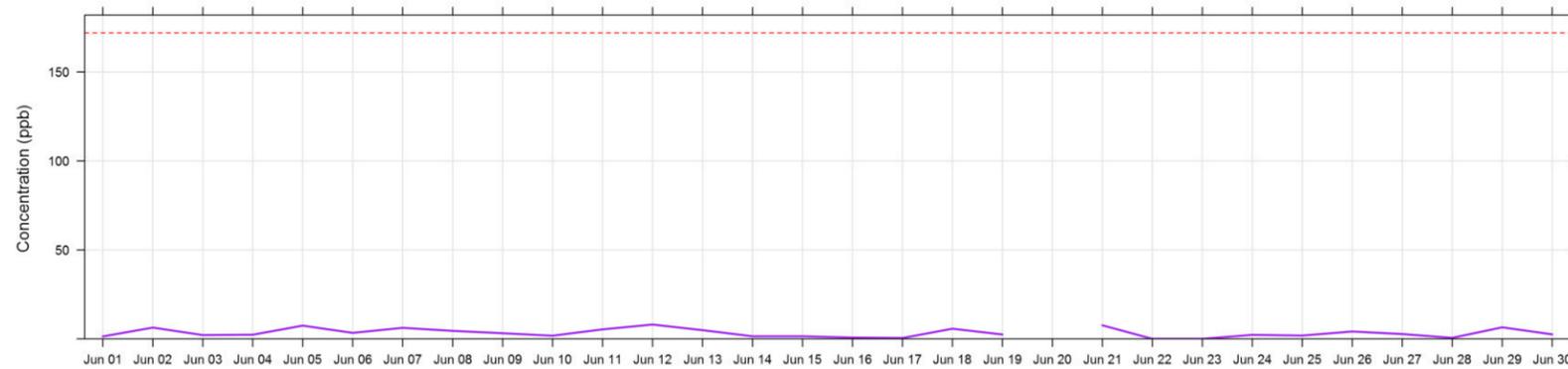
Number of 1HR Exceedances	n/a	Objective	n/a	PPB
Number of Non-Zero Readings	626			
Maximum 1-HR Average	54.8	PPB		
Maximum 24-HR Average	15.1	PPB		
IZS Calibration Time	30	HRS	Operational Time	711 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.8 %
Standard Deviation	6.8		Monthly Average	6.9 PPB

Lagoon SO₂ (ppb) – June 2018

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	0.1	0.3	0.7	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.2	1.4	0.0	0.0	0.0	0.2	0.0	0.0	1.4	0.2	
2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.6	0.6	0.0	0.2	0.0	0.0	2.1	6.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.6	
3	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.4	0.5	0.1	0.9	0.8	2.1	0.0	0.9	0.1	0.1	0.2	0.1	0.1	1.1	2.1	0.4	
4	1.9	S	2.0	0.8	0.6	0.3	0.2	0.3	0.0	0.1	0.2	1.9	0.3	0.0	0.0	0.0	0.0	0.8	0.0	0.3	2.1	2.3	0.0	0.0	2.3	0.6	
5	0.0	S	0.5	4.2	1.5	1.7	1.9	1.1	0.6	0.3	1.7	0.5	0.2	7.4	0.6	1.1	0.0	0.2	0.0	1.7	0.0	0.0	0.0	0.0	7.4	1.1	
6	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.9	2.5	1.3	0.0	0.5	1.3	3.4	1.5	0.2	0.0	0.0	0.0	3.4	0.5	
7	0.0	S	0.7	0.6	1.5	1.9	2.7	5.0	3.9	5.9	0.6	1.2	6.2	0.4	2.0	1.9	3.4	1.5	1.0	0.0	0.0	0.0	0.0	0.0	6.2	1.8	
8	0.0	S	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2.0	0.0	0.4	1.1	0.3	0.1	0.9	1.6	4.5	3.7	0.0	0.0	0.2	0.0	0.0	4.5	0.7	
9	0.0	S	0.0	1.4	2.1	0.1	0.3	0.9	0.3	0.8	1.1	1.0	0.9	1.1	3.2	1.9	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.2	3.2	0.7	
10	0.1	S	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.4	0.3	0.0	1.8	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.8	0.2	
11	0.7	S	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.8	0.5	3.2	1.3	0.6	0.9	1.6	0.8	3.6	5.3	1.4	0.4	1.5	0.1	5.3	1.1	
12	0.3	S	1.0	0.0	0.0	0.0	1.7	5.1	2.7	1.2	2.6	3.3	8.0	4.8	4.4	4.6	7.6	6.9	2.9	2.6	6.3	7.6	6.3	0.2	8.0	3.5	
13	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.9	1.3	0.2	0.2	0.0	0.6	4.0	0.1	0.0	0.0	0.2	0.0	0.2	0.2	4.9	0.6	
14	0.0	S	0.7	0.8	1.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.3	1.2	0.2	0.7	0.0	0.0	0.2	0.6	0.0	1.4	0.4	
15	0.0	S	0.3	1.1	0.5	0.6	1.0	1.5	1.1	0.8	0.2	0.3	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.4	
16	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	0.3	0.0	0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.1	
17	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	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	0.5	0.0	
18	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	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	5.7	0.3	
19	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.4	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	2.4	0.2	
20	0.0	S	0.0	0.0	0.0	0.0	0.5	0.3	R	R	R	R	I	I	I	I	I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	
21	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6	7.6	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	7.6	0.4	
22	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.7	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.2	
25	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	1.6	1.1	1.3	0.3	1.8	1.0	0.4	0.0	1.0	0.0	0.0	1.8	0.4	
26	0.0	S	0.0	0.0	0.0	0.1	0.8	0.3	0.1	0.4	0.4	0.0	0.4	0.4	0.5	0.7	0.8	1.6	4.1	1.6	1.0	1.4	3.9	0.0	4.1	0.8	
27	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.3	1.0	0.9	0.5	0.0	0.3	2.7	0.0	0.0	0.0	0.0	2.7	0.3	
28	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	
29	0.0	S	0.0	0.0	0.0	0.0	0.0	1.3	3.7	2.5	0.0	0.0	0.0	0.0	0.1	0.0	6.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.6	
30	0.0	S	0.0	0.0	0.1	0.0	1.0	0.2	0.1	1.0	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	2.5	0.2	
Hourly Max	1.9	-	2.0	4.2	2.1	1.9	2.7	5.1	3.9	5.9	7.6	3.3	8.0	7.4	4.4	4.6	7.6	6.9	4.1	5.3	6.3	7.6	6.3	1.1			
Hourly Average	0.1	-	0.2	0.3	0.3	0.2	0.4	0.5	0.6	1.0	1.0	0.5	0.8	0.8	0.6	0.8	1.2	0.8	0.7	0.5	0.4	0.4	0.4	0.1			

S = SPAN R = INSTRUMENT REMOVAL I = INSTRUMENT INSTALLATION

Daily 1-hour SO₂ Maximums (ppb) at Trailer



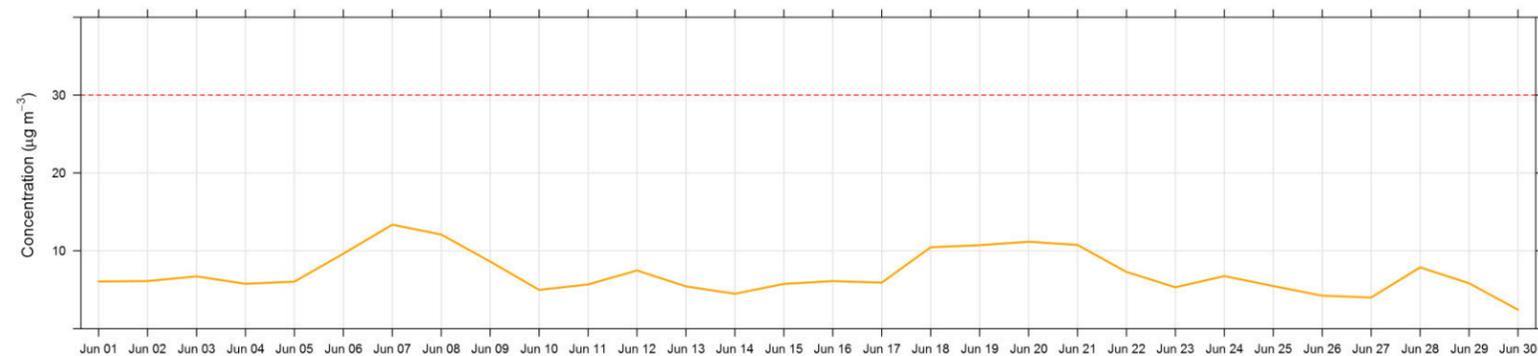
Number of 1HR Exceedances	0	Objective	172	PPB
Number of 24HR Exceedances	0	Objective	48	PPB
Number of Non-Zero Readings	293			
Maximum 1-HR Average	8.0	PPB		
Maximum 24-HR Average	3.5	PPB		
IZS Calibration Time	30	HRS	Operational Time	711 HRS
Monthly Calibration Time	0	HRS	Operational Uptime	98.8 %
Standard Deviation	1.2		Monthly Average	0.5 PPB

Lagoon PM_{2.5} (µg/m³) – June 2018

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	4.7	5.1	6.9	4.4	2.6	5.1	3.7	9.8	9.4	9.4	9.4	8.0	6.9	4.7	3.3	4.4	5.5	3.3	7.6	6.5	5.8	5.5	7.3	6.1	9.8	6.1
2	8.0	9.8	8.0	6.9	4.7	7.3	7.6	4.4	3.3	8.3	5.8	5.8	4.7	2.6	5.2	3.9	5.1	4.7	3.9	5.5	6.5	6.9	9.8	8.0	9.8	6.1
3	5.1	6.9	7.3	6.2	5.8	4.0	5.5	6.2	5.5	8.3	7.3	8.7	6.9	6.5	7.5	7.3	9.4	7.3	6.5	4.4	9.4	6.5	7.6	5.1	9.4	6.7
4	1.9	5.8	6.5	6.9	8.0	10.9	8.3	6.5	5.5	3.7	2.9	4.7	4.4	4.4	5.5	7.3	5.5	5.2	5.8	4.7	5.8	8.7	6.6	3.0	10.9	5.8
5	3.3	5.8	5.8	5.8	5.1	6.9	5.5	4.7	4.4	5.1	5.8	9.1	7.3	3.9	5.1	2.9	6.2	22.3	1.9	3.7	5.5	5.8	5.5	7.5	22.3	6.0
6	7.6	6.2	5.1	8.0	10.9	10.9	9.1	6.9	6.5	8.0	7.3	7.6	10.1	8.7	12.6	14.4	10.5	11.9	9.1	11.9	9.8	16.6	12.6	9.1	16.6	9.6
7	17.0	11.2	11.6	15.2	16.6	11.6	9.8	14.1	17.0	14.4	13.7	12.3	10.5	13.4	18.4	12.3	14.4	10.1	9.4	9.0	10.1	22.0	9.8	17.0	22.0	13.4
8	13.0	13.0	14.4	15.9	15.5	10.9	13.4	9.8	8.0	9.8	12.3	8.0	10.8	10.5	10.1	9.8	11.2	14.1	11.2	10.5	12.6	10.5	16.6	18.4	18.4	12.1
9	12.3	14.2	10.9	11.4	10.2	7.3	8.3	9.0	8.3	9.4	9.4	7.6	13.0	11.6	9.8	9.8	9.8	9.8	6.2	4.7	3.9	5.8	2.6	1.9	14.2	8.6
10	5.1	5.2	17.3	8.3	6.9	9.8	6.2	4.4	5.8	5.1	3.3	1.5	3.0	4.0	2.6	1.5	4.0	3.3	0.4	4.4	4.0	6.9	5.1	1.5	17.3	5.0
11	2.6	2.6	0.8	2.2	2.6	1.4	3.7	4.4	3.3	5.8	7.3	11.6	7.3	8.0	13.0	9.8	7.7	5.5	6.2	5.5	10.1	6.5	4.0	4.7	13.0	5.7
12	8.0	5.5	5.8	6.2	4.0	2.2	5.8	6.2	8.3	6.9	3.7	3.3	4.4	7.3	14.8	9.4	10.1	10.5	8.9	10.5	8.0	8.3	12.3	9.1	14.8	7.5
13	8.7	8.3	8.7	5.8	6.9	6.5	5.5	3.7	2.9	4.0	5.5	8.7	5.8	2.9	4.4	5.8	5.1	4.0	4.0	6.2	4.4	3.3	5.5	3.7	8.7	5.4
14	4.4	3.0	5.2	6.5	6.9	6.9	4.0	2.6	3.0	6.5	5.1	2.6	4.0	4.4	3.0	3.3	3.4	2.2	4.4	5.8	5.1	5.2	6.2	4.0	6.9	4.5
15	4.7	3.5	3.7	3.7	4.7	4.5	4.7	7.3	5.5	5.5	10.5	7.3	6.5	6.5	5.1	4.0	6.1	8.3	7.6	4.7	5.5	6.5	5.8	5.8	10.5	5.8
16	6.2	4.4	8.3	5.8	4.7	5.1	5.1	8.0	7.3	7.6	6.2	5.5	4.7	5.1	5.1	8.0	7.6	6.2	4.0	4.0	6.2	6.9	6.2	8.3	8.3	6.1
17	5.5	9.8	6.5	3.7	5.5	5.1	5.8	4.4	2.6	3.7	7.3	6.5	6.2	5.8	8.7	5.1	3.3	5.1	4.0	6.5	8.3	8.7	7.6	6.2	9.8	5.9
18	5.1	8.0	8.0	6.5	7.3	8.7	13.4	10.8	10.8	13.0	14.4	10.8	14.8	10.2	12.6	11.2	19.8	2.9	4.4	11.9	10.1	13.7	10.5	11.9	19.8	10.5
19	11.2	9.1	6.6	8.3	10.5	10.9	10.9	9.8	11.6	12.3	10.5	10.8	8.3	5.5	9.1	10.2	11.9	16.2	10.5	11.4	8.7	20.2	13.7	9.4	20.2	10.7
20	9.8	12.3	12.3	9.1	10.9	10.7	12.6	11.2	10.1	12.3	10.1	11.3	M	M	M	M	15.9	11.9	8.7	8.7	7.3	10.5	14.1	13.7	15.9	11.2
21	9.8	12.6	11.6	11.9	9.8	7.6	7.6	10.1	10.1	9.8	10.1	25.2	10.8	12.6	14.1	12.3	15.5	13.7	11.2	9.8	5.5	5.1	5.8	5.5	25.2	10.8
22	8.9	6.9	9.4	7.6	5.8	2.6	8.7	11.2	10.5	10.9	6.9	9.4	8.3	C	C	9.1	9.8	6.9	3.7	4.4	3.7	6.5	6.0	3.3	11.2	7.3
23	3.7	E	E	E	E	2.6	3.3	4.4	5.1	8.3	6.9	5.1	5.1	7.3	5.5	5.5	4.4	3.3	6.5	6.9	7.6	6.2	4.0	4.7	8.3	5.3
24	8.7	7.3	10.5	8.9	6.9	5.5	4.7	3.3	10.1	9.8	7.6	6.9	4.4	4.0	4.7	3.3	8.3	8.3	5.1	3.7	6.2	6.2	7.6	10.1	10.5	6.8
25	6.5	8.7	9.4	9.8	8.3	7.3	6.9	9.4	10.8	8.0	5.5	4.4	2.6	4.0	5.8	5.1	4.0	2.2	2.6	1.9	2.9	2.6	1.2	1.5	10.8	5.5
26	2.6	5.1	3.3	1.2	0.4	0.1	2.2	1.9	2.2	3.7	8.3	7.3	3.7	2.6	5.1	5.8	7.3	6.2	6.2	5.8	3.7	4.7	4.4	8.0	8.3	4.2
27	4.7	3.0	3.7	3.0	3.2	6.5	6.2	3.8	5.5	4.7	4.0	4.4	2.9	2.2	6.5	5.8	3.7	2.9	2.6	4.0	2.6	2.6	2.9	4.4	6.5	4.0
28	4.7	5.1	5.9	5.1	4.7	6.2	10.1	11.6	10.9	11.2	8.0	8.2	3.3	6.9	6.2	9.1	10.8	11.6	12.1	9.8	7.6	6.5	7.6	5.8	12.1	7.9
29	4.0	2.2	2.2	5.5	4.7	2.6	2.6	5.5	10.5	8.3	10.5	10.1	8.0	10.5	7.6	9.4	7.6	6.9	6.2	5.1	4.0	2.2	0.4	3.3	10.5	5.8
30	5.8	5.8	5.1	3.0	1.2	0.4	0.4	1.2	3.7	2.6	1.5	3.7	3.7	1.2	0.8	0.8	0.1	1.5	1.2	6.2	4.7	0.1	0.4	3.3	6.2	2.4
Hourly Max	17.0	14.2	17.3	15.9	16.6	11.6	13.4	14.1	17.0	14.4	14.4	25.2	14.8	13.4	18.4	14.4	19.8	22.3	12.1	11.9	12.6	22.0	16.6	18.4		
Hourly Average	6.8	7.1	7.6	7.0	6.7	6.3	6.7	6.9	7.3	7.9	7.6	7.9	6.6	6.3	7.6	7.1	8.1	7.6	6.1	6.6	6.5	7.6	7.0	6.8		

C = CALIBRATION M = MAINTENANCE E = INSTRUMENT ERROR

24-hour PM_{2.5} (µg m⁻³) at Trailer



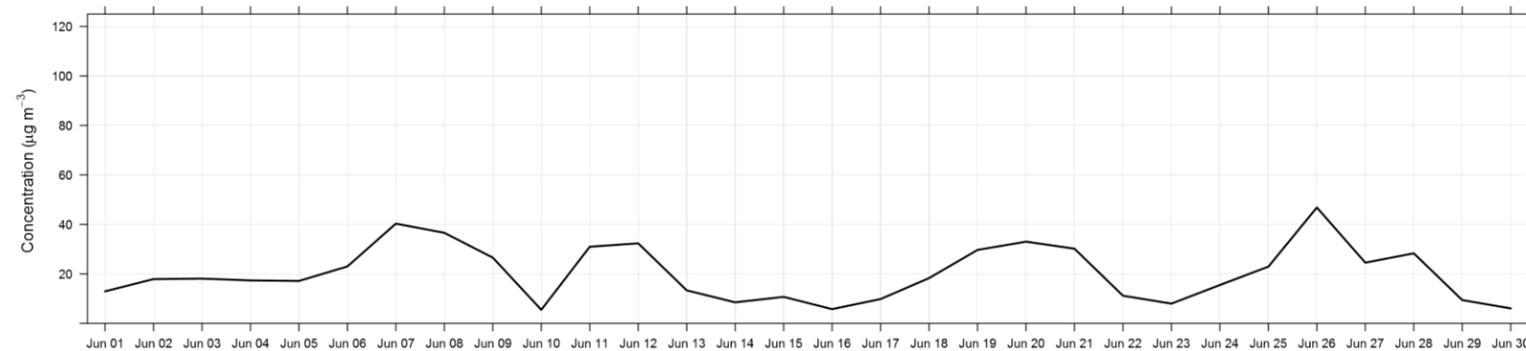
Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Objective	30	UG/M3
Number of Non-Zero Readings	710			
Maximum 1-HR Average	25.2	UG/M3		
Maximum 24-HR Average	13.4	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	712 HRS
Monthly Calibration Time	2	HRS	Operational Uptime	98.9 %
Standard Deviation	3.6		Monthly Average	7.1 UG/M3

Lagoon PM₁₀ (µg/m³) – June 2018

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	1.3	5.5	6.0	4.0	4.0	3.3	4.6	18.2	25.7	34.5	28.4	18.9	9.4	9.4	11.4	10.7	16.8	11.4	33.8	17.5	3.4	8.0	13.5	11.4	34.5	12.9
2	25.0	18.2	7.1	8.0	17.5	12.1	10.1	8.7	6.0	77.8	45.3	30.5	8.0	10.1	9.4	19.5	30.4	35.7	9.4	7.4	6.7	8.7	9.4	8.7	77.8	17.9
3	3.3	15.5	9.4	8.0	8.7	6.7	7.4	12.4	31.1	29.7	26.3	21.6	10.7	20.9	18.9	16.8	2.6	2.6	5.3	6.7	18.9	6.7	144.2	0.0	144.2	18.1
4	20.7	48.0	26.3	7.4	32.4	35.1	4.0	5.3	5.9	6.7	21.6	19.5	43.9	16.2	7.4	20.7	10.1	11.3	18.9	0.0	0.6	39.2	8.7	7.4	48.0	17.4
5	3.9	5.3	27.0	18.9	11.4	6.0	7.4	11.4	25.6	30.4	36.5	21.6	24.3	10.1	34.4	15.5	16.9	9.4	12.1	12.8	21.6	3.3	19.6	26.3	36.5	17.1
6	5.3	4.0	3.3	8.7	34.5	27.0	18.2	32.4	33.1	36.5	14.1	12.8	18.2	19.5	51.4	29.7	27.0	33.8	26.3	40.5	31.7	24.2	11.4	8.7	51.4	23.0
7	9.4	15.1	24.0	21.6	25.0	18.2	28.4	57.7	66.3	53.4	58.2	37.4	15.5	37.8	116.4	71.0	30.4	37.8	24.3	23.6	35.1	106.9	25.6	28.4	116.4	40.3
8	33.1	54.8	28.4	68.3	13.5	20.2	22.9	23.5	37.8	41.9	38.5	44.6	40.5	27.7	56.1	26.9	44.6	67.6	47.3	23.6	20.2	28.4	49.2	18.9	68.3	36.6
9	40.7	35.8	9.4	20.9	20.7	41.2	14.8	21.6	35.8	52.7	35.1	57.5	34.4	43.9	42.6	25.0	12.8	58.2	10.7	9.4	7.4	2.6	0.0	4.6	58.2	26.6
10	10.7	5.3	4.7	8.7	10.7	10.1	7.4	7.0	6.0	6.7	7.4	3.3	0.0	4.0	9.4	7.4	6.0	4.0	0.6	1.3	0.6	1.3	5.6	4.0	10.7	5.5
11	3.3	16.2	5.3	4.6	3.3	0.0	0.0	2.6	4.6	27.0	41.9	45.1	40.5	129.9	71.7	66.3	52.1	31.1	48.0	48.0	39.2	27.0	14.1	21.6	129.9	31.0
12	5.3	4.0	21.6	21.6	0.0	4.0	8.0	37.8	48.7	33.9	37.8	49.1	50.7	65.6	67.6	39.9	48.0	41.2	29.7	46.0	31.7	34.5	29.7	20.2	67.6	32.4
13	1.3	2.6	4.0	6.1	6.1	4.0	0.6	2.6	17.0	16.8	16.2	34.4	27.0	17.2	26.3	22.5	23.6	22.9	17.5	0.0	0.0	26.3	6.7	18.9	34.4	13.4
14	11.5	10.1	10.7	16.5	19.6	4.0	5.3	5.3	20.9	13.5	6.7	0.0	2.6	5.6	8.0	8.4	7.4	6.0	6.7	12.1	18.9	0.0	0.0	4.6	20.9	8.5
15	8.4	8.0	11.5	10.1	9.4	11.4	8.4	20.9	22.9	33.1	38.5	20.2	10.7	8.0	3.3	2.6	9.4	10.1	1.3	0.0	0.0	0.5	4.0	4.6	38.5	10.7
16	4.0	3.3	4.0	7.4	7.1	4.6	5.3	4.0	5.3	4.0	5.3	9.4	6.7	4.0	7.3	11.4	11.4	6.0	6.7	10.1	5.3	2.8	1.9	1.3	11.4	5.8
17	0.7	4.6	7.4	6.7	9.4	8.0	8.7	15.5	12.1	22.9	22.3	8.0	8.7	8.3	9.4	8.7	20.9	6.7	17.0	6.7	7.3	8.3	5.3	2.6	22.9	9.8
18	6.9	10.1	7.4	8.0	18.9	12.5	27.7	33.8	31.1	34.6	25.0	16.2	14.7	33.2	17.5	25.6	20.2	12.1	10.1	9.4	15.5	28.4	16.2	4.6	34.6	18.3
19	9.3	13.5	15.0	18.2	12.1	25.7	34.4	36.4	28.4	54.1	34.4	12.1	15.5	20.9	54.1	58.6	65.6	28.4	35.8	41.2	17.5	19.6	40.5	21.6	65.6	29.7
20	10.7	16.8	14.8	19.6	21.6	16.8	17.6	24.3	60.2	38.5	22.9	60.9	M	M	M	M	82.5	47.3	35.1	23.6	22.3	42.6	64.3	18.2	82.5	33.0
21	20.9	21.6	20.9	29.0	17.5	19.6	17.5	17.5	37.8	37.2	54.2	111.7	44.6	46.0	81.7	52.1	18.3	8.8	10.1	11.4	14.8	6.0	15.5	10.1	111.7	30.2
22	8.0	7.4	8.8	8.7	7.4	7.4	8.7	10.1	17.5	15.5	25.6	29.3	14.1	C	C	13.5	10.1	17.5	9.4	8.7	4.6	5.3	5.3	3.3	29.3	11.2
23	3.3	E	E	E	E	4.6	2.6	4.6	7.4	7.4	6.7	4.0	5.3	7.3	6.7	7.4	8.7	10.1	12.8	14.1	12.8	12.1	10.7	11.4	14.1	8.0
24	13.5	18.2	6.7	8.7	6.9	5.1	10.1	10.2	20.9	22.3	33.1	20.7	16.2	13.5	12.8	10.1	24.3	19.3	16.2	26.3	15.5	12.8	19.5	10.1	33.1	15.5
25	8.7	22.9	23.6	17.5	22.9	12.8	23.6	26.7	45.3	79.8	11.4	19.5	23.6	9.4	18.2	38.0	35.8	22.9	35.1	15.5	15.5	5.4	16.2	0.0	79.8	22.9
26	0.0	0.0	0.0	5.3	10.1	5.3	25.6	60.9	75.9	128.6	143.5	35.8	69.7	104.9	50.0	56.1	75.1	85.9	53.4	40.5	23.3	24.3	19.6	30.4	143.5	46.8
27	9.9	6.5	4.0	8.7	8.7	8.7	16.8	13.5	41.2	43.9	37.8	35.1	19.5	34.4	46.0	48.8	26.5	20.9	33.8	25.6	41.9	39.3	17.5	0.0	48.8	24.5
28	23.6	26.3	28.4	10.7	9.8	31.0	33.8	50.0	49.4	51.4	33.7	88.6	18.9	34.4	37.8	33.8	44.6	26.3	18.2	3.3	3.5	2.6	15.5	4.0	88.6	28.3
29	2.6	3.3	20.9	6.6	6.0	5.2	6.7	10.1	16.1	13.5	22.3	23.6	19.5	9.4	9.4	11.4	12.1	8.0	7.4	6.0	0.6	0.0	0.0	5.5	23.6	9.4
30	9.4	4.6	8.0	8.7	6.0	6.0	7.4	5.3	4.6	16.2	19.5	18.9	3.9	2.6	2.6	2.6	1.3	3.3	2.6	4.6	7.4	0.0	0.0	0.0	19.5	6.1
Hourly Max	40.7	54.8	28.4	68.3	34.5	41.2	34.4	60.9	75.9	128.6	143.5	111.7	69.7	129.9	116.4	71.0	82.5	85.9	53.4	48.0	41.9	106.9	144.2	30.4		
Hourly Average	10.5	14.0	12.7	13.7	13.1	12.6	13.1	19.7	28.0	35.5	31.7	30.3	21.3	26.9	31.7	26.2	26.5	23.5	19.8	16.5	14.8	17.6	19.7	10.4		

C = CALIBRATION M = MAINTENANCE E = INSTRUMENT ERROR

24-hour PM₁₀ (µg m⁻³) at Trailer



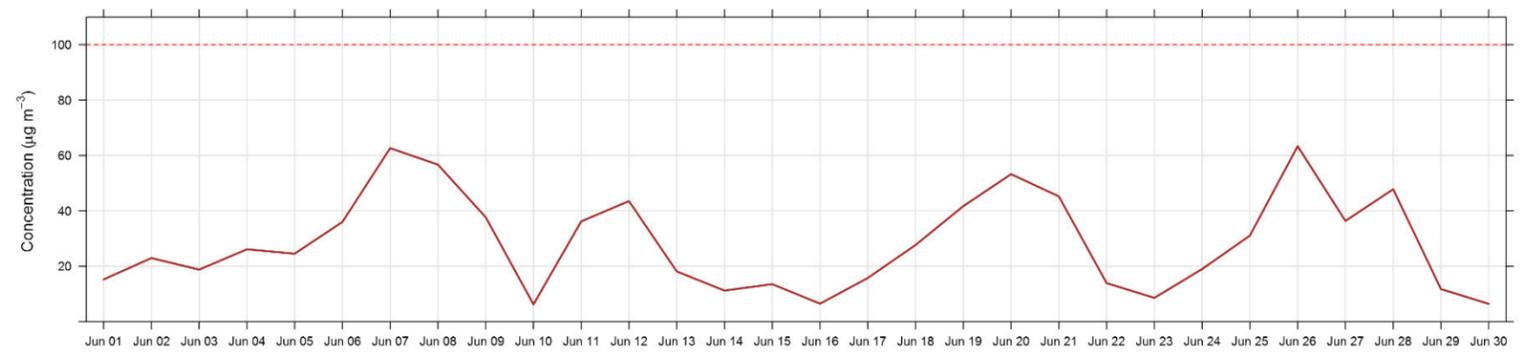
Number of 1HR Exceedances	n/a	Objective	n/a	UG/M3
Number of Non-Zero Readings	686			
Maximum 1-HR Average	144.2	UG/M3		
Maximum 24-HR Average	46.8	UG/M3		
Izs Calibration Time	0	HRS	Operational Time	712 HRS
Monthly Calibration Time	2	HRS	Operational Uptime	98.9 %
Standard Deviation	19.9		Monthly Average	20.4 UG/M3

Lagoon TSP ($\mu\text{g}/\text{m}^3$) – June 2018

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	3.0	5.7	4.0	3.0	4.3	5.7	4.0	12.6	20.9	36.1	29.2	22.3	0.0	1.6	11.5	14.0	14.0	23.7	51.3	18.2	18.2	16.9	29.2	15.4	51.3	15.2
2	29.2	19.6	8.5	9.9	25.1	22.3	4.3	5.7	4.3	99.7	52.6	34.7	16.8	20.9	8.5	12.6	44.4	48.6	18.2	12.6	12.6	18.2	16.8	4.3	99.7	22.9
3	5.7	5.7	11.3	12.6	8.5	7.1	12.6	12.6	30.6	23.7	15.4	36.1	12.6	25.1	26.5	27.8	9.9	15.4	11.3	14.0	27.8	22.3	71.3	4.3	71.3	18.8
4	34.8	62.4	29.2	20.9	37.5	41.7	9.9	7.1	11.2	3.0	20.9	30.6	59.6	26.2	11.3	21.1	15.4	29.2	15.4	3.0	20.9	74.8	25.1	15.4	74.8	26.1
5	14.0	22.3	25.1	16.9	11.3	5.7	8.5	14.0	37.5	47.2	44.4	22.3	20.9	12.6	54.3	15.4	28.1	16.8	19.4	18.2	36.1	14.0	32.0	51.3	54.3	24.5
6	32.8	25.1	19.6	22.3	55.5	36.1	16.8	40.3	45.8	33.4	19.5	14.0	22.3	36.1	83.1	48.6	34.7	48.6	30.6	59.6	49.9	45.8	23.7	19.6	83.1	36.0
7	22.3	32.0	32.0	29.2	37.5	26.5	34.7	55.5	102.4	73.4	79.0	48.6	23.7	73.4	248.9	149.4	44.4	44.4	29.2	36.1	56.9	150.0	26.5	47.2	248.9	62.6
8	67.9	94.2	47.2	43.0	32.0	51.3	48.6	40.2	66.5	52.7	63.8	51.3	69.3	49.9	69.3	44.4	67.9	102.4	72.0	44.4	25.1	45.8	73.4	37.5	102.4	56.7
9	54.1	37.5	14.0	43.0	33.4	69.3	19.6	23.7	49.9	61.0	47.2	87.2	58.2	52.7	66.5	36.1	11.3	76.2	16.8	9.9	7.1	8.5	7.1	14.0	87.2	37.7
10	3.0	5.7	16.8	19.6	12.6	5.7	5.7	3.0	3.0	3.0	3.0	3.0	7.1	11.3	5.7	9.9	8.5	3.8	3.0	0.2	0.0	7.1	4.3	4.3	19.6	6.2
11	3.0	14.3	5.7	4.3	3.0	1.6	4.3	5.8	8.5	33.4	50.0	72.1	48.6	81.7	90.0	65.1	65.1	41.7	45.8	77.6	66.5	36.1	12.6	32.0	90.0	36.2
12	11.3	11.2	28.7	18.2	9.9	13.9	3.0	43.2	54.5	33.2	47.2	62.6	69.3	99.7	84.5	48.6	69.3	54.8	43.0	55.5	37.5	56.9	62.4	26.0	99.7	43.5
13	5.7	14.0	0.2	3.9	3.0	0.2	0.2	3.0	14.0	16.8	21.3	47.2	36.1	33.4	27.8	34.7	36.1	33.4	27.8	11.3	15.4	18.2	9.9	20.9	47.2	18.1
14	11.3	11.3	18.2	16.8	23.7	7.1	9.9	8.5	11.3	12.6	7.1	4.3	3.0	8.5	7.1	9.9	13.8	5.7	0.2	16.8	27.8	14.0	11.3	8.5	27.8	11.2
15	7.1	18.2	7.1	11.3	12.6	8.5	5.8	25.1	23.7	40.3	46.0	20.9	3.0	6.0	6.1	4.3	27.8	12.6	5.7	8.5	5.7	3.8	3.0	11.3	46.0	13.5
16	5.7	4.0	3.0	1.6	4.3	3.0	0.2	1.6	7.1	8.5	12.6	5.8	4.3	1.6	8.5	11.3	7.1	5.7	8.5	12.6	11.3	8.5	8.5	9.9	12.6	6.5
17	5.7	15.4	4.3	5.7	14.0	8.5	18.2	7.1	7.1	15.4	11.3	18.2	1.6	12.6	12.6	15.4	49.9	22.3	29.2	26.5	20.9	17.0	19.6	19.3	49.9	15.7
18	15.4	19.6	21.0	26.5	18.2	14.0	34.7	29.2	43.0	36.1	30.6	29.2	23.7	54.1	44.4	45.8	32.0	19.5	12.6	18.2	18.2	32.0	29.2	16.8	54.1	27.7
19	19.6	18.2	14.0	23.7	20.9	29.2	30.6	27.8	29.2	52.7	45.8	22.3	32.0	41.7	80.3	98.0	124.5	51.3	45.8	52.7	25.1	23.7	51.3	40.3	124.5	41.7
20	30.6	22.3	21.1	25.9	25.1	16.8	22.3	32.0	65.1	63.8	49.9	99.7	M	M	M	M	153.6	88.6	62.3	29.2	33.4	66.5	121.8	34.8	153.6	53.2
21	44.4	32.0	25.1	29.2	22.3	22.3	16.7	26.5	37.5	55.5	90.0	230.9	69.3	87.2	123.2	74.8	24.8	15.4	14.0	5.7	8.5	7.1	8.5	14.0	230.9	45.2
22	5.7	8.5	7.1	8.5	7.1	7.1	9.9	8.5	11.3	23.7	26.5	36.1	23.7	C	C	43.0	12.6	12.6	16.8	11.3	5.7	4.3	4.3	11.3	43.0	13.9
23	7.1	E	E	E	E	0.2	0.2	3.0	5.7	8.5	8.5	4.3	4.3	7.1	11.3	11.3	13.9	8.5	9.9	22.3	11.3	11.3	11.3	11.3	22.3	8.6
24	20.9	12.6	11.3	16.8	5.7	7.1	7.1	7.1	19.5	18.2	32.0	11.3	11.6	9.9	11.3	17.2	37.5	29.2	40.3	38.2	32.0	16.8	18.2	23.7	40.3	19.0
25	22.3	36.1	33.4	23.7	23.7	22.3	20.9	41.7	57.5	36.1	15.4	20.9	21.3	12.6	28.4	58.2	62.3	38.9	54.1	43.0	22.3	16.8	30.6	3.0	62.3	31.1
26	1.5	4.3	7.1	19.6	3.0	11.3	27.8	74.8	92.8	168.8	185.3	45.8	98.3	145.3	67.9	71.2	85.9	130.1	79.0	54.1	32.0	46.3	33.4	34.8	185.3	63.3
27	7.1	3.0	0.2	18.2	15.4	4.3	15.4	7.1	55.5	83.1	38.9	36.1	27.8	59.6	74.8	81.7	44.4	30.6	69.3	33.4	76.2	59.6	23.6	7.1	83.1	36.3
28	38.9	54.1	51.3	23.7	25.1	69.3	66.5	81.7	87.3	76.2	48.6	142.6	25.1	44.4	51.3	52.7	96.9	36.1	32.8	12.6	8.5	7.1	5.7	8.5	142.6	47.8
29	8.5	7.1	20.9	14.0	9.9	5.8	5.7	5.7	1.6	29.2	23.7	11.6	11.3	14.0	18.2	19.5	22.3	0.2	8.5	11.4	7.1	5.7	7.1	12.6	29.2	11.7
30	7.1	7.1	5.7	4.3	1.6	11.3	8.5	5.7	8.5	15.4	18.2	22.3	11.3	5.7	0.0	4.1	3.0	5.7	1.6	0.2	3.0	3.0	0.0	0.2	22.3	6.4
Hourly Max	67.9	94.2	51.3	43.0	55.5	69.3	66.5	81.7	102.4	168.8	185.3	230.9	98.3	145.3	248.9	149.4	153.6	130.1	79.0	77.6	76.2	150.0	121.8	51.3		
Hourly Average	18.2	21.5	17.0	17.8	17.5	17.8	15.8	22.0	33.8	42.0	39.5	43.1	28.1	37.0	47.6	39.5	42.1	35.1	29.1	25.2	24.1	28.6	26.1	18.7		

C = CALIBRATION M = MAINTENANCE E = INSTRUMENT ERROR

24-hour TSP ($\mu\text{g m}^{-3}$) at Trailer



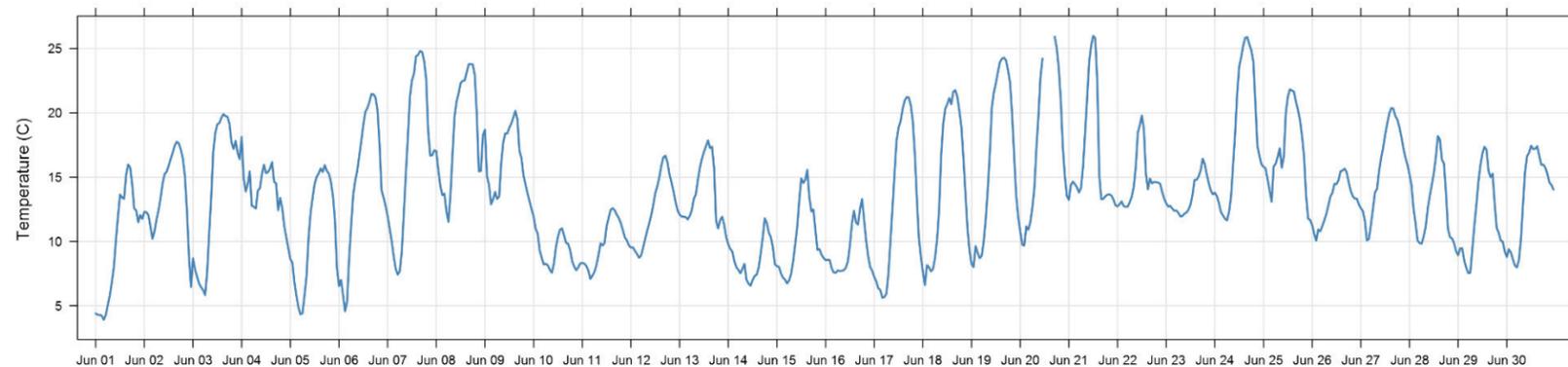
Number of 24HR Exceedances	0	Objective	100	UG/M3
Number of Non-Zero Readings	706			
Maximum 1-HR Average	248.9	UG/M3		
Maximum 24-HR Average	63.3	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	712 HRS
Monthly Calibration Time	2	HRS	Operational Uptime	98.9 %
Standard Deviation	29.0		Monthly Average	28.6 UG/M3

Lagoon Temperature (°C) – June 2018

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	4.4	4.3	4.3	4.2	3.9	4.3	5.1	5.8	6.9	8.0	10.1	12.0	13.6	13.4	13.3	15.2	16.0	15.8	14.5	12.6	12.4	11.5	12.1	11.8	16.0	9.8
2	12.3	12.3	12.0	11.2	10.2	10.8	11.7	12.4	13.3	14.5	15.2	15.4	15.9	16.4	16.9	17.5	17.8	17.6	17.1	16.5	15.1	12.4	8.8	6.5	17.8	13.7
3	8.7	7.8	7.3	6.7	6.4	6.2	5.8	7.7	10.7	13.4	17.0	18.4	19.1	19.2	19.6	19.9	19.8	19.7	19.1	17.7	17.2	17.8	16.9	16.4	19.9	14.1
4	18.1	14.9	13.9	14.5	15.4	12.8	12.7	12.6	14.0	14.1	15.2	16.0	15.3	15.4	15.7	16.2	14.6	14.5	12.4	13.4	12.6	11.2	10.4	9.5	18.1	14.0
5	8.6	8.4	6.9	5.8	4.9	4.3	4.4	5.8	7.3	10.3	12.2	13.4	14.5	15.0	15.3	15.7	15.4	15.9	15.5	15.3	14.7	13.6	11.7	7.9	15.9	11.0
6	6.5	7.0	5.8	4.6	5.3	8.7	11.2	13.6	14.7	15.5	16.6	17.8	19.0	20.1	20.4	20.8	21.5	21.4	21.2	20.2	17.6	14.0	13.4	12.7	21.5	14.6
7	12.0	11.0	10.0	8.8	7.9	7.4	7.7	9.2	12.2	15.3	18.2	21.3	22.5	23.1	24.4	24.5	24.8	24.7	24.0	22.6	18.6	16.7	16.7	17.1	24.8	16.7
8	17.0	15.6	14.3	13.6	13.7	12.4	11.5	13.7	16.8	19.7	20.9	21.5	22.3	22.5	22.5	23.1	23.8	23.8	23.8	22.9	19.9	15.5	15.5	18.3	23.8	18.5
9	18.7	15.1	14.4	12.9	13.3	13.9	13.3	13.5	16.1	17.7	18.4	18.4	18.8	19.2	19.6	20.2	19.5	17.1	16.5	15.1	14.4	13.7	13.1	12.5	20.2	16.1
10	11.9	11.0	10.6	9.3	8.7	8.2	8.3	8.1	7.8	7.6	8.3	9.5	10.4	10.9	11.0	10.5	9.9	9.8	9.3	8.5	8.0	7.8	8.0	8.3	11.9	9.2
11	8.3	8.3	8.1	7.7	7.1	7.3	7.6	8.2	8.9	9.8	9.7	9.9	11.2	11.8	12.5	12.6	12.4	12.1	11.8	11.4	10.9	10.3	10.1	9.7	12.6	9.9
12	9.5	9.5	9.3	9.0	8.7	8.9	9.5	10.2	10.8	11.4	12.0	12.8	13.8	14.3	15.0	15.9	16.5	16.7	16.2	15.2	14.6	13.9	13.1	12.4	16.7	12.5
13	12.1	11.9	11.9	11.9	11.7	12.0	12.4	13.3	13.7	14.8	15.7	16.4	17.0	17.4	17.9	17.3	17.4	15.7	11.6	11.0	11.7	11.9	11.3	10.3	17.9	13.7
14	9.8	9.4	9.2	8.5	8.0	7.8	7.5	7.9	8.3	7.0	6.7	6.6	7.0	7.3	7.4	8.0	9.1	10.3	11.8	11.5	10.7	10.3	9.5	8.2	11.8	8.7
15	8.1	8.0	7.5	7.2	7.0	6.7	7.0	7.5	8.5	9.8	11.1	13.2	14.9	14.5	14.8	15.6	13.4	12.3	12.5	10.9	9.3	9.4	9.0	8.7	15.6	10.3
16	8.5	8.6	8.6	7.9	7.6	7.6	7.7	7.7	7.7	7.8	8.0	8.4	9.7	11.4	12.4	11.5	11.3	12.5	13.3	11.7	10.1	8.9	8.0	7.7	13.3	9.4
17	7.2	6.9	6.4	6.2	5.6	5.7	5.9	7.5	10.0	12.6	15.2	17.8	18.9	19.4	20.3	20.9	21.2	21.2	20.6	19.4	16.9	13.4	10.3	8.8	21.2	13.3
18	7.6	6.6	8.1	8.0	7.7	7.9	8.7	10.1	12.5	16.7	19.1	20.3	20.7	21.1	20.7	21.6	21.8	21.2	20.2	18.9	16.5	13.7	11.0	9.3	21.8	14.6
19	8.2	8.0	9.6	9.1	8.7	8.9	10.0	11.7	14.0	16.9	20.4	21.6	22.3	23.2	23.9	24.2	24.3	24.1	23.3	22.3	19.9	16.6	13.6	11.9	24.3	16.5
20	10.8	9.8	9.7	11.2	10.9	11.5	12.6	14.2	17.3	19.7	22.8	24.2	M	M	M	M	M	25.9	25.1	23.5	21.0	17.4	15.1	13.5	25.9	16.6
21	13.2	14.4	14.7	14.5	14.2	13.8	14.2	15.8	18.5	21.2	24.0	25.2	26.0	25.8	22.4	15.1	13.3	13.3	13.5	13.6	13.7	13.6	13.3	12.8	26.0	16.7
22	12.7	12.9	13.1	12.8	12.7	12.7	13.0	13.5	14.2	15.8	18.5	19.1	19.8	18.7	15.3	14.1	14.9	14.5	14.6	14.6	14.6	14.5	13.9	13.3	19.8	14.7
23	13.0	12.7	12.8	12.6	12.4	12.4	12.2	11.9	12.0	12.2	12.3	12.5	12.9	13.6	14.8	14.8	15.1	15.5	16.4	16.0	15.2	14.5	14.0	13.7	16.4	13.6
24	13.8	13.5	13.0	12.3	12.0	11.8	11.6	12.3	13.5	16.0	18.4	21.5	23.6	24.3	25.2	25.9	25.9	25.3	24.9	24.0	20.7	17.4	16.7	16.0	25.9	18.3
25	15.8	15.7	14.9	13.9	13.1	15.8	16.0	16.6	17.2	15.7	16.6	20.0	21.3	21.8	21.7	21.6	20.9	20.2	19.4	18.2	16.6	13.6	11.8	11.7	21.8	17.1
26	11.3	10.6	10.1	10.9	10.8	11.2	11.6	12.1	12.8	13.5	13.8	14.5	14.5	14.8	15.5	15.5	15.7	15.4	14.6	13.9	13.5	13.3	13.3	12.9	15.7	13.2
27	12.6	12.4	11.6	10.1	10.2	11.3	12.6	13.8	14.1	15.5	16.5	17.3	18.3	19.1	19.9	20.4	20.3	19.8	19.5	18.9	18.1	17.3	16.5	16.0	20.4	15.9
28	15.2	14.4	12.6	11.4	10.1	9.9	9.8	10.4	11.1	12.6	13.5	14.4	15.3	16.5	18.2	17.9	16.4	16.1	13.8	11.0	10.3	10.2	9.8	9.2	18.2	12.9
29	8.9	9.5	9.5	8.5	7.9	7.5	7.6	9.4	11.2	12.8	14.6	15.9	16.8	17.4	17.1	15.5	15.0	15.3	13.0	11.1	10.7	10.1	10.0	9.2	17.4	11.9
30	8.8	9.4	9.1	8.6	8.1	8.0	8.6	10.2	12.9	15.4	16.6	16.9	17.4	17.2	17.2	17.4	16.7	16.0	16.0	15.7	15.3	14.6	14.4	14.0	17.4	13.5
Hourly Max	18.7	15.7	14.9	14.5	15.4	15.8	16.0	16.6	18.5	21.2	24.0	25.2	26.0	25.8	25.2	25.9	25.9	25.9	25.1	24.0	21.0	17.8	16.9	18.3		
Hourly Average	11.1	10.7	10.3	9.8	9.5	9.6	9.9	10.9	12.3	13.8	15.3	16.4	17.0	17.4	17.6	17.6	17.4	17.5	16.8	15.9	14.7	13.3	12.4	11.7		

M = MAINTENANCE

1-hour Temperature (C) at Trailer

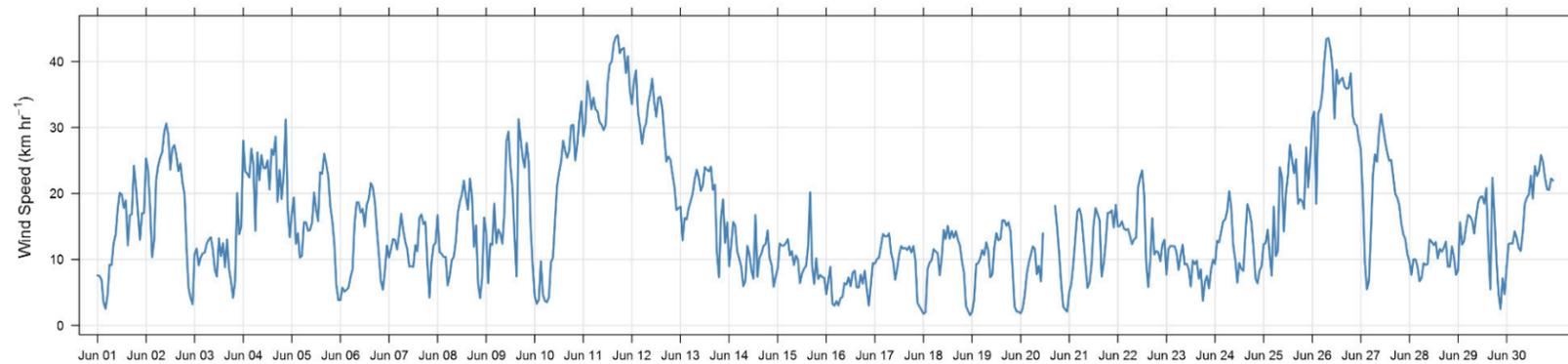


Lagoon Wind Speed (km/hr) – June 2018

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	7.6	7.5	6.9	3.5	2.5	4.6	9.2	9.2	12.5	13.8	17.6	20.1	19.9	17.8	18.9	12.2	16.7	16.9	24.2	21.1	17.1	13.0	17.0	17.0	24.2	13.6
2	25.3	23.6	18.1	10.3	12.9	22.1	24.2	25.5	26.3	29.4	30.6	28.9	23.6	26.8	27.3	25.8	23.4	24.5	21.7	19.9	11.8	5.7	4.2	3.2	30.6	20.6
3	10.8	11.6	9.1	10.3	10.9	11.0	12.5	13.0	13.4	11.5	8.4	7.4	13.2	10.5	12.4	8.8	13.0	8.6	6.6	4.2	6.7	20.1	13.8	15.0	20.1	11.0
4	28.0	23.3	23.0	22.4	26.8	24.5	14.3	26.2	22.0	25.8	23.9	23.8	25.0	20.6	26.7	25.8	28.6	18.7	23.6	19.2	23.0	31.2	17.4	13.4	31.2	23.2
5	17.1	19.4	12.4	14.0	10.3	10.6	15.6	15.6	14.3	14.5	15.6	20.1	17.6	15.8	23.2	23.0	26.0	24.4	22.6	18.1	15.8	12.3	6.1	3.8	26.0	16.2
6	3.8	5.7	5.1	5.4	5.7	7.3	8.5	15.4	18.7	18.6	17.1	17.7	15.0	18.2	19.2	21.6	20.9	18.7	14.5	10.8	6.7	5.4	8.3	12.1	21.6	12.5
7	10.3	11.6	13.1	12.9	11.5	13.8	16.9	14.6	12.7	11.6	8.9	9.0	8.9	12.1	11.2	16.3	16.8	15.4	15.7	9.2	4.2	9.6	12.1	12.5	16.9	12.1
8	16.7	11.1	10.9	10.4	10.4	6.1	7.5	9.9	10.4	12.8	17.1	18.8	19.8	21.9	19.5	17.6	22.3	19.5	11.9	15.2	6.3	4.1	7.2	16.3	22.3	13.5
9	14.1	6.4	12.4	12.2	18.5	12.5	14.5	13.9	12.4	17.2	27.8	29.4	24.2	20.7	13.6	7.4	31.3	28.3	25.4	23.9	27.7	24.9	14.8	8.9	31.3	18.4
10	4.4	3.3	3.9	9.7	4.7	3.7	3.5	4.3	9.6	10.3	15.9	21.1	23.2	24.8	28.0	26.5	25.4	26.5	30.3	30.4	25.0	27.4	31.2	34.0	34.0	17.8
11	28.7	30.6	37.0	35.2	32.8	34.5	32.7	32.5	30.8	30.4	29.6	30.4	36.7	39.5	40.0	42.7	43.7	44.0	41.3	41.9	42.1	38.3	40.8	35.5	44.0	36.3
12	33.5	37.0	38.7	32.3	30.2	27.5	29.8	30.7	33.6	35.2	37.4	33.9	31.6	34.5	34.6	32.8	28.7	24.8	25.6	25.1	23.0	21.0	17.5	17.8	38.7	29.9
13	18.0	12.9	16.3	16.1	17.8	18.9	20.0	22.2	23.6	22.5	20.4	21.2	24.0	23.6	23.4	24.1	20.6	21.3	11.0	7.3	16.4	19.1	12.5	15.6	24.1	18.7
14	9.0	12.1	15.7	15.1	11.2	10.1	8.9	6.0	6.7	12.1	10.8	8.4	7.1	16.7	7.4	10.2	10.9	12.1	12.3	14.4	10.2	9.1	5.9	7.4	16.7	10.4
15	8.7	12.4	12.1	12.1	12.5	13.1	10.6	11.3	9.2	10.6	9.9	6.4	7.9	8.6	9.0	11.9	20.2	8.9	6.3	10.2	7.0	7.7	7.3	7.2	20.2	10.0
16	4.7	6.8	8.9	3.3	3.0	3.7	3.0	4.1	4.3	6.4	6.2	7.3	5.9	8.0	8.3	5.8	5.8	7.7	6.3	8.3	5.5	3.0	6.2	9.4	9.4	5.9
17	9.4	10.0	10.3	12.0	13.9	13.5	13.5	13.9	11.0	9.7	6.9	8.6	10.8	12.0	11.6	11.8	11.4	12.0	11.1	12.0	9.9	3.4	2.9	2.3	13.9	10.2
18	1.8	2.0	8.5	9.5	9.9	11.5	11.2	10.9	7.6	10.3	14.5	13.1	15.1	13.1	14.3	13.3	14.3	13.0	12.1	9.7	8.0	2.9	2.2	1.6	15.1	9.6
19	2.1	3.9	9.3	9.4	10.2	11.4	10.7	12.6	11.4	7.3	7.7	11.9	14.0	12.9	13.1	16.0	15.9	15.1	15.6	14.2	8.5	2.9	2.1	2.1	16.0	10.0
20	1.8	2.6	4.6	7.8	9.5	10.7	12.0	11.6	7.8	9.0	6.7	14.0	M	M	M	M	M	18.1	14.9	11.0	6.4	2.9	2.4	2.1	18.1	8.2
21	5.1	6.3	9.3	13.1	17.3	17.7	16.5	13.0	9.4	5.7	6.5	9.2	15.1	17.8	16.9	15.9	7.4	9.4	12.6	17.1	17.1	17.4	14.9	18.3	18.3	12.9
22	15.0	15.1	15.8	14.7	14.4	14.6	13.5	12.3	13.0	13.3	20.9	22.4	23.5	19.8	9.4	5.8	9.8	16.2	10.7	11.3	11.1	9.7	12.3	13.0	23.5	14.1
23	7.7	11.6	12.1	12.0	12.0	11.1	8.4	10.6	12.2	9.3	9.4	8.5	5.9	9.8	9.3	9.8	7.1	8.5	3.7	6.6	7.5	5.6	8.5	10.0	12.2	9.0
24	9.3	12.8	12.6	14.1	15.8	16.1	17.4	20.3	17.8	12.1	10.0	6.5	9.5	8.6	8.3	13.7	18.4	17.2	15.6	11.7	7.1	6.4	8.3	9.0	20.3	12.4
25	12.3	12.5	14.5	10.7	7.5	18.0	10.5	11.2	24.0	22.6	14.2	20.0	22.7	27.4	25.2	23.1	25.2	18.4	19.2	18.9	17.7	27.0	20.9	25.3	27.4	18.7
26	31.5	32.4	18.4	32.2	33.0	35.3	40.1	43.4	43.5	42.0	39.1	31.3	38.7	36.6	37.2	37.6	36.2	35.9	36.0	38.2	31.8	30.6	30.3	28.1	43.5	35.0
27	26.7	19.6	9.7	5.5	6.7	14.2	22.9	25.9	24.8	29.3	32.0	29.9	28.0	26.3	25.0	25.1	22.6	19.9	19.4	18.2	15.4	13.8	13.1	10.8	32.0	20.2
28	9.7	7.7	10.0	10.0	8.9	6.7	7.2	9.4	9.2	9.3	13.0	12.7	12.2	12.6	10.2	11.6	11.2	11.7	12.7	8.9	8.9	12.0	10.3	7.7	13.0	10.2
29	8.3	15.6	12.2	12.8	15.0	16.8	16.5	15.9	13.9	16.6	18.7	19.4	19.6	18.5	20.8	12.0	5.5	22.4	16.8	10.0	4.8	2.5	7.1	4.7	22.4	13.6
30	8.7	12.4	12.4	12.4	14.3	13.2	11.7	11.3	14.2	18.4	19.3	19.9	22.7	19.2	24.2	22.6	23.4	25.8	24.7	22.3	20.6	20.5	22.3	22.0	25.8	18.3
Hourly Max	33.5	37.0	38.7	35.2	33.0	35.3	40.1	43.4	43.5	42.0	39.1	33.9	38.7	39.5	40.0	42.7	43.7	44.0	41.3	41.9	42.1	38.3	40.8	35.5		
Hourly Average	13.0	13.3	13.4	13.4	13.7	14.5	14.8	15.9	16.0	16.6	17.2	17.7	18.7	19.1	18.9	18.3	19.4	18.8	17.5	16.3	14.1	13.6	12.7	12.9		

M = MAINTENANCE

1-hour Wind Speed (km hr⁻¹) at Trailer

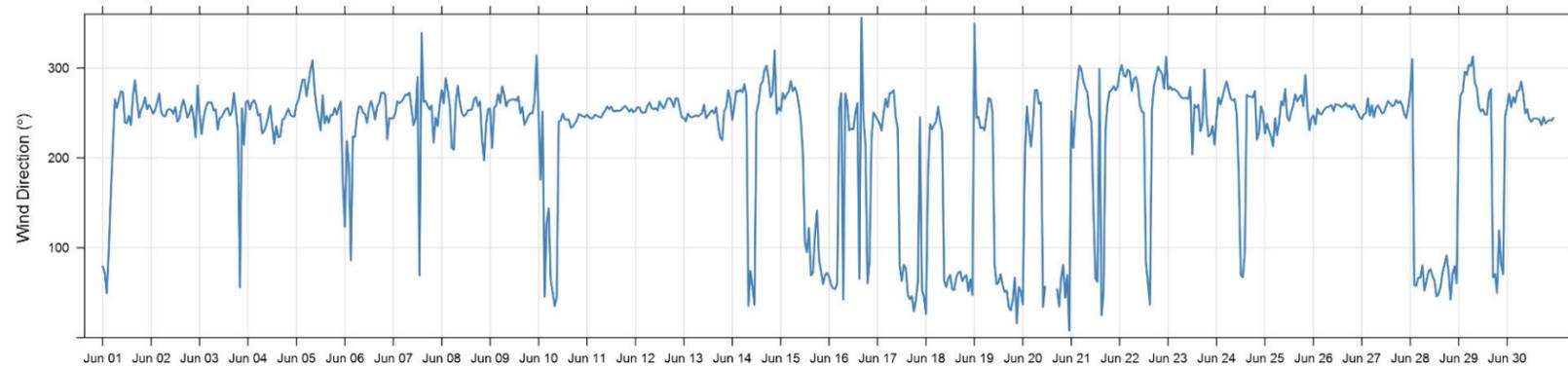


Lagoon Wind Direction (°) – June 2018

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	79.3	72.2	49.6	96.3	158.7	212.3	265.2	255.6	264.7	273.9	273.0	239.4	238.6	246.8	236.8	270.2	286.4	263.7	244.6	253.5	258.6	267.1	254.2	258.8	286.4	255.9
2	254.5	249.1	253.4	261.9	271.4	250.8	247.0	246.1	253.0	254.2	253.2	248.9	256.4	240.3	243.9	256.4	264.8	255.8	244.6	249.9	258.1	246.0	223.1	280.5	280.5	252.0
3	248.4	226.5	244.6	254.9	261.4	261.4	261.3	252.8	253.9	231.6	244.5	245.5	250.2	254.3	255.6	247.1	251.0	272.1	252.3	228.2	55.9	255.1	214.5	262.0	272.1	250.2
4	263.6	253.8	261.4	264.4	258.8	247.3	248.8	227.0	229.8	236.3	245.4	257.8	236.0	215.9	235.0	222.8	223.9	242.2	243.8	249.1	254.6	247.8	246.2	246.2	264.4	243.9
5	259.2	264.2	275.5	286.8	287.1	268.6	283.9	298.7	308.4	275.7	255.9	243.5	230.6	269.7	238.3	246.8	238.9	247.8	247.8	255.7	248.2	256.3	262.6	171.7	308.4	258.9
6	123.3	218.7	192.9	86.0	223.8	223.6	245.3	257.3	256.8	250.5	248.4	238.9	255.6	263.1	255.2	242.7	257.0	261.1	272.3	272.6	270.5	220.7	244.3	243.9	272.6	250.0
7	244.0	249.6	262.8	260.8	262.5	265.7	270.4	270.0	272.7	255.3	236.3	243.6	290.0	69.2	339.0	262.3	263.4	258.1	253.9	258.3	217.1	244.8	235.5	259.0	339.0	261.2
8	275.4	260.6	288.6	275.0	258.7	211.2	209.0	262.3	280.2	261.6	249.6	246.6	248.3	253.0	253.1	254.0	264.9	267.6	257.7	262.7	219.4	197.4	238.3	254.0	288.6	256.4
9	255.1	210.9	255.7	258.3	271.0	260.9	279.7	270.3	257.3	263.4	264.2	265.0	265.2	263.5	268.2	249.5	256.4	236.8	241.6	247.0	249.9	249.6	264.4	314.0	314.0	258.0
10	251.0	175.8	251.3	45.5	126.8	143.8	64.5	50.5	35.1	44.2	240.4	241.7	249.1	242.9	242.5	242.5	233.5	234.9	238.4	242.1	248.8	247.3	246.5	245.3	251.3	242.9
11	248.1	245.5	243.7	244.4	248.0	246.7	245.8	244.7	249.5	252.5	257.0	254.3	256.8	252.1	252.3	252.4	252.3	253.1	256.2	257.7	254.7	251.4	254.4	250.7	257.7	251.2
12	252.4	256.4	255.8	250.7	250.2	250.8	258.2	261.6	255.7	254.1	255.4	252.7	262.8	258.2	255.0	259.9	266.1	266.5	263.0	256.6	266.4	265.9	254.9	244.9	266.5	257.1
13	244.4	240.6	249.2	246.0	245.2	246.1	247.4	246.2	247.8	249.7	259.2	244.1	247.0	250.6	252.9	249.6	256.2	236.8	222.8	219.8	252.1	256.3	275.2	265.0	275.2	248.8
14	242.3	257.1	274.3	273.5	275.7	273.0	282.2	269.7	35.4	74.3	57.5	36.7	250.7	260.9	281.1	284.5	298.0	302.4	288.6	267.7	273.3	319.4	249.2	256.1	319.4	282.3
15	252.3	272.2	265.6	270.9	273.5	285.5	274.2	278.4	272.1	258.6	240.8	204.9	105.9	95.0	122.0	69.2	72.3	114.4	141.1	87.0	73.6	59.7	69.4	72.2	285.5	259.9
16	67.5	58.6	54.7	54.3	60.0	254.4	272.1	42.6	271.7	260.7	230.7	232.5	231.8	249.4	260.8	65.5	355.7	243.4	214.6	60.4	83.8	221.0	250.4	246.5	355.7	261.3
17	242.5	238.3	230.4	250.0	265.8	256.4	271.9	272.8	275.2	245.6	232.8	79.5	63.2	81.1	77.1	47.6	42.8	46.1	29.3	41.6	62.1	245.0	53.1	45.3	275.2	318.8
18	26.3	179.8	237.4	231.8	236.6	240.1	256.8	241.2	228.7	63.5	56.2	65.5	69.7	53.8	53.2	66.9	72.3	73.5	62.9	67.2	69.5	51.7	64.6	47.5	256.8	67.5
19	349.1	244.6	245.8	233.1	234.1	230.8	247.6	266.6	265.1	249.7	81.3	59.5	61.1	70.5	58.3	50.8	52.3	34.1	30.2	41.6	66.9	15.9	56.4	51.5	349.1	32.9
20	36.9	200.1	257.2	232.8	212.4	238.5	275.2	275.7	260.0	261.8	34.3	56.8	M	M	M	M	M	53.9	34.6	66.2	80.9	44.5	69.4	7.8	275.7	348.3
21	251.6	211.2	249.2	281.1	302.6	298.4	285.1	277.8	272.7	247.8	240.0	141.3	65.7	62.1	299.0	24.9	49.1	232.5	260.2	273.5	275.7	279.7	275.2	279.1	302.6	284.9
22	295.6	303.2	291.9	290.0	298.2	295.6	274.6	287.6	290.1	281.4	258.8	251.8	249.6	83.4	61.3	36.7	254.1	280.3	289.8	301.4	297.1	293.1	276.9	312.3	312.3	286.0
23	276.1	279.2	275.6	276.8	274.8	272.7	268.7	266.6	266.3	266.8	265.7	278.7	204.0	259.0	255.7	259.1	229.6	238.5	298.4	246.3	223.8	226.1	235.2	214.6	298.4	259.1
24	246.5	267.2	259.7	268.3	277.9	285.2	275.3	266.2	263.9	265.6	248.1	181.4	69.9	67.2	96.0	270.1	268.1	268.4	267.0	274.3	220.4	227.7	257.4	250.2	285.2	264.3
25	227.0	238.2	230.2	223.6	213.0	244.2	225.2	239.8	262.6	258.3	276.6	245.8	241.1	251.3	258.4	270.7	262.8	267.2	269.9	257.5	292.3	254.8	230.8	244.1	292.3	252.3
26	247.4	237.3	254.6	249.4	248.5	252.2	255.5	256.8	257.2	258.7	252.1	259.8	259.0	258.5	256.3	258.1	261.0	256.9	258.2	253.7	259.4	254.3	250.0	245.0	261.0	254.5
27	243.2	248.5	249.6	266.3	247.0	258.5	245.3	255.5	258.5	254.4	249.5	250.5	257.4	263.2	260.7	257.5	258.4	264.3	261.0	263.0	258.7	248.6	244.2	256.4	266.3	254.9
28	274.7	310.0	58.6	57.7	66.7	67.0	80.3	52.4	62.5	73.6	76.2	68.6	63.7	45.9	48.6	56.6	72.3	81.5	91.6	72.8	42.5	71.2	79.4	60.5	310.0	63.1
29	240.1	270.1	273.7	295.7	292.3	303.4	302.2	312.8	283.4	278.0	256.7	251.4	254.0	248.6	248.0	271.7	276.5	67.2	70.6	49.8	119.3	82.2	70.6	246.2	312.8	279.7
30	257.5	271.1	256.5	267.6	261.5	274.1	275.4	284.9	271.0	249.7	253.9	243.0	240.2	243.8	243.8	243.5	242.6	236.4	245.3	238.5	240.8	241.9	241.5	244.5	284.9	249.5
Hourly Max	349.1	310.0	291.9	295.7	302.6	303.4	302.2	312.8	308.4	281.4	276.6	278.7	290.0	269.7	339.0	284.5	355.7	302.4	298.4	301.4	297.1	319.4	276.9	314.0		
Hourly Average	225.8	233.7	235.0	228.5	238.8	247.3	249.8	243.0	242.0	231.7	219.8	204.3	206.0	195.6	214.1	199.6	220.1	211.9	211.7	203.9	199.8	211.4	206.3	212.5		

M = MAINTENANCE

1-hour Wind Direction (°) at Trailer

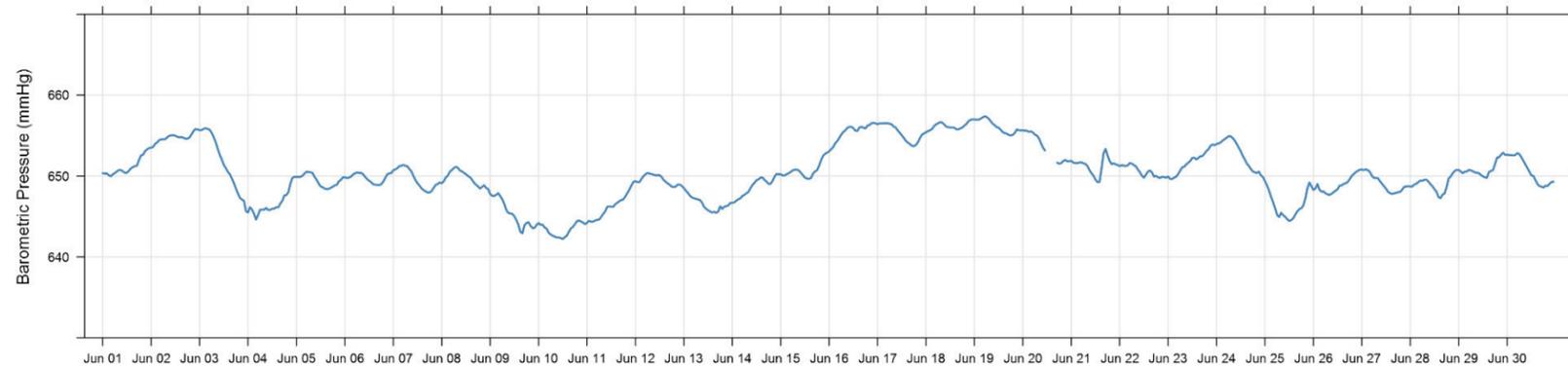


Lagoon Pressure (mmHg) – June 2018

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	650.3	650.3	650.3	650.1	650.0	650.2	650.4	650.6	650.7	650.8	650.6	650.4	650.4	650.7	651.0	651.1	651.2	651.3	652.0	652.6	652.6	653.1	653.3	653.5	653.5	651.1	
2	653.5	653.6	654.0	654.2	654.4	654.5	654.5	654.6	654.8	655.0	655.0	655.0	655.0	654.8	654.8	654.8	654.7	654.6	654.6	654.8	655.1	655.6	655.8	655.7	655.8	654.7	
3	655.7	655.7	655.8	655.9	655.8	655.7	655.3	654.8	654.2	653.4	652.6	652.1	651.4	651.0	650.5	650.2	649.7	649.1	648.5	647.8	647.3	647.1	646.9	645.7	655.9	651.8	
4	645.5	646.1	645.8	645.3	644.6	645.2	645.8	645.9	645.8	646.1	645.8	645.8	646.0	646.0	646.1	646.1	646.6	646.9	647.6	647.6	648.0	649.1	649.8	649.9	649.9	646.6	
5	649.9	649.9	649.9	650.0	650.3	650.5	650.5	650.5	650.4	649.9	649.5	649.1	648.7	648.6	648.4	648.4	648.4	648.6	648.7	648.8	648.9	649.3	649.5	649.8	650.5	649.4	
6	649.9	649.7	649.8	649.9	650.2	650.3	650.4	650.4	650.4	650.2	649.9	649.6	649.4	649.2	649.0	648.9	648.9	648.9	649.0	649.3	649.8	650.2	650.3	650.4	650.4	649.8	
7	650.7	650.8	651.0	651.2	651.3	651.4	651.3	651.2	650.9	650.6	650.0	649.5	649.1	648.8	648.5	648.3	648.1	648.0	648.0	648.1	648.5	648.9	649.0	649.2	651.4	649.7	
8	649.1	649.4	649.8	650.0	650.5	650.7	651.0	651.1	651.0	650.7	650.6	650.4	650.2	650.0	649.9	649.6	649.2	648.9	648.7	648.5	648.7	648.9	648.5	648.4	651.1	649.7	
9	647.8	647.6	647.5	647.7	647.9	647.5	647.1	646.6	645.8	645.4	645.4	645.3	645.0	644.6	644.0	643.1	642.9	643.9	644.2	644.3	643.9	643.6	643.6	644.0	647.9	645.4	
10	644.2	644.0	644.0	643.6	643.5	643.0	642.8	642.6	642.5	642.4	642.4	642.3	642.2	642.4	642.6	643.1	643.5	643.7	644.0	644.0	644.4	644.5	644.4	644.3	644.1	644.5	643.4
11	644.2	644.5	644.4	644.4	644.5	644.6	644.6	644.9	645.3	645.6	646.2	646.3	646.2	646.2	646.5	646.7	646.9	647.0	647.1	647.5	647.9	648.3	648.8	649.3	649.3	646.2	
12	649.4	649.3	649.3	649.7	650.0	650.2	650.4	650.3	650.2	650.2	650.1	650.1	650.1	649.9	649.5	649.3	649.1	648.9	648.7	648.6	648.7	649.0	648.9	648.8	650.4	649.5	
13	648.5	648.2	647.9	647.6	647.4	647.2	647.2	647.1	647.0	646.7	646.2	645.9	645.8	645.6	645.5	645.6	645.5	645.6	646.3	645.9	646.2	646.3	646.4	646.7	648.5	646.6	
14	646.7	646.7	646.9	647.1	647.2	647.5	647.7	647.9	648.0	648.5	648.9	649.2	649.5	649.6	649.8	649.8	649.5	649.3	649.0	649.0	649.4	649.9	650.3	650.2	650.3	648.7	
15	650.2	650.1	650.1	650.2	650.3	650.5	650.7	650.8	650.8	650.7	650.4	650.1	649.8	649.7	649.6	649.7	650.3	650.6	650.7	651.2	652.0	652.5	652.8	652.9	652.9	650.7	
16	653.1	653.3	653.6	654.0	654.3	654.7	655.1	655.4	655.6	655.9	656.1	656.1	655.9	655.6	655.6	656.0	656.1	656.0	655.9	656.2	656.3	656.5	656.6	656.5	656.6	655.4	
17	656.4	656.5	656.5	656.5	656.5	656.5	656.5	656.4	656.1	656.0	655.6	655.3	655.0	654.7	654.4	654.1	654.0	653.8	653.7	653.8	654.2	654.7	655.1	655.3	656.5	655.3	
18	655.4	655.6	655.7	655.8	656.2	656.4	656.5	656.7	656.6	656.4	656.1	656.0	656.0	656.0	656.0	655.8	655.8	655.9	656.0	656.2	656.4	656.8	656.9	657.0	657.0	656.2	
19	657.0	657.0	657.0	657.1	657.2	657.4	657.3	657.1	656.8	656.5	656.3	656.0	656.0	655.7	655.4	655.3	655.2	655.1	655.0	655.1	655.3	655.7	655.7	655.6	657.4	656.2	
20	655.7	655.6	655.6	655.5	655.5	655.4	655.1	655.0	654.6	654.1	653.5	653.2	M	M	M	M	M	651.7	651.5	651.6	651.9	652.0	651.8	651.8	655.7	653.7	
21	651.9	651.7	651.6	651.6	651.7	651.7	651.6	651.5	651.2	650.7	650.4	650.0	649.6	649.2	649.3	650.9	652.8	653.4	652.5	651.9	651.5	651.6	651.4	651.4	653.4	651.3	
22	651.2	651.3	651.3	651.2	651.3	651.6	651.5	651.4	651.2	650.8	650.5	650.0	649.8	650.2	650.5	650.7	650.4	649.9	650.0	649.8	649.8	649.9	649.8	649.8	651.6	650.6	
23	649.9	649.6	649.6	649.8	649.9	650.3	650.7	651.1	651.2	651.4	651.6	651.9	652.2	652.3	652.0	652.2	652.4	652.5	652.8	653.1	653.3	653.7	653.9	653.8	653.9	651.7	
24	654.0	654.0	654.2	654.4	654.6	654.7	654.9	654.9	654.7	654.4	654.0	653.5	653.1	652.5	652.1	651.5	651.3	650.9	650.6	650.4	650.4	650.5	650.1	649.9	654.9	652.7	
25	649.4	648.8	648.2	647.4	646.8	646.0	645.2	644.9	645.5	645.2	645.0	644.7	644.4	644.5	644.8	645.2	645.6	645.9	646.0	646.4	647.2	648.5	649.2	648.8	649.4	646.4	
26	648.3	648.5	649.0	648.3	648.1	648.1	647.9	647.7	647.7	647.8	648.0	648.2	648.4	648.8	648.8	649.0	649.1	649.3	649.6	650.0	650.2	650.5	650.6	650.8	650.8	648.9	
27	650.8	650.8	650.8	650.7	650.5	650.0	649.8	649.8	649.7	649.4	649.0	648.7	648.4	648.0	647.9	647.8	647.9	647.9	648.0	648.0	648.3	648.7	648.7	648.7	650.8	649.1	
28	648.7	648.7	649.0	649.0	649.3	649.4	649.4	649.5	649.6	649.3	649.0	648.7	648.4	648.1	647.4	647.3	647.7	647.8	648.6	649.7	649.9	650.3	650.6	650.8	650.8	649.0	
29	650.7	650.6	650.4	650.5	650.6	650.8	650.7	650.6	650.4	650.4	650.4	650.1	650.0	649.8	649.8	650.5	650.6	650.7	651.5	652.3	652.3	652.6	652.9	652.6	652.9	650.9	
30	652.6	652.6	652.6	652.6	652.6	652.8	652.7	652.4	651.9	651.5	651.0	650.6	650.1	650.0	649.5	649.0	648.8	648.7	648.6	648.8	648.8	649.0	649.3	649.3	652.8	650.7	
Hourly Max	657.0	657.0	657.0	657.1	657.2	657.4	657.3	657.1	656.8	656.5	656.3	656.1	656.0	656.0	656.0	656.0	656.1	656.0	656.0	656.2	656.4	656.8	656.9	657.0			
Hourly Average	650.7	650.7	650.7	650.7	650.8	650.8	650.8	650.8	650.7	650.5	650.3	650.1	649.9	649.7	649.6	649.7	649.7	649.8	649.9	650.1	650.2	650.6	650.7	650.7			

M = MAINTENANCE

1-hour Barometric Pressures (mmHg) at Trailer

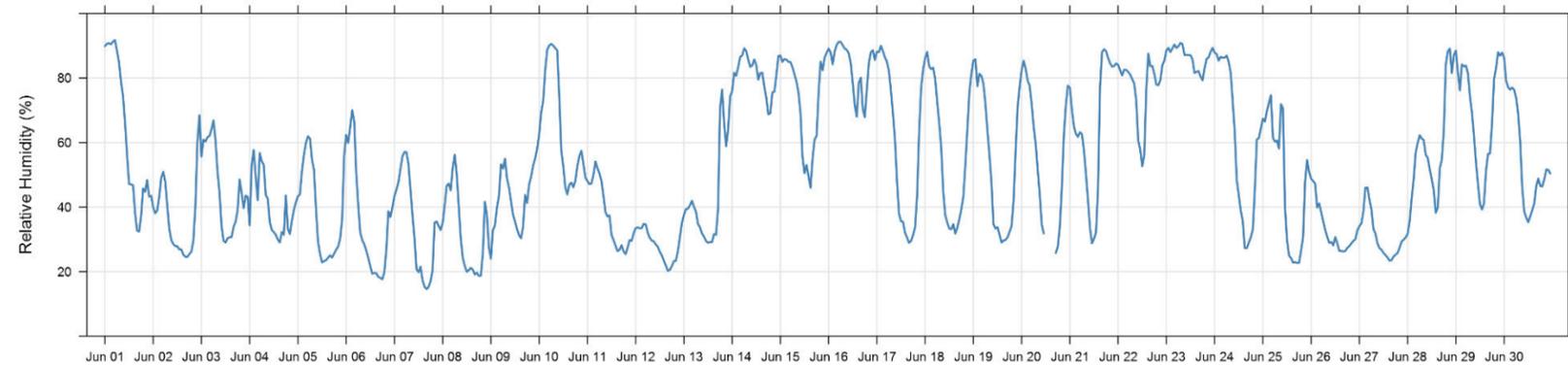


Lagoon Relative Humidity (%) – June 2018

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	89.9	90.6	90.8	90.5	91.3	91.7	88.4	84.9	78.8	74.4	66.2	56.2	47.2	47.0	46.8	38.2	32.7	32.4	37.2	45.8	44.7	48.4	43.2	43.5	91.7	62.5
2	39.9	38.1	38.9	43.1	49.0	50.9	47.9	40.6	33.3	29.8	28.5	27.9	27.9	26.9	26.9	25.3	24.6	24.6	25.4	26.2	29.6	40.2	60.1	68.4	68.4	36.4
3	55.6	60.9	60.3	61.6	62.0	64.1	66.8	60.7	51.1	44.6	34.3	29.6	29.0	30.3	30.6	30.7	33.9	35.5	39.0	48.5	44.4	39.7	43.5	43.2	66.8	45.8
4	34.3	52.8	57.7	49.6	42.2	56.8	54.2	53.1	43.7	42.7	35.4	32.9	32.2	31.4	30.0	29.0	32.3	31.4	43.6	33.2	31.7	35.8	39.1	41.5	57.7	40.3
5	43.3	43.9	51.1	56.2	59.9	61.9	61.2	54.7	51.5	39.3	29.3	25.5	22.9	23.3	23.6	24.3	25.0	24.4	25.6	26.8	27.7	30.2	36.2	55.9	61.9	38.5
6	62.3	59.9	64.8	70.0	66.6	50.6	40.7	32.1	29.8	28.5	26.5	24.2	21.7	19.4	19.6	19.5	18.4	18.1	17.6	19.8	26.9	38.7	37.0	39.9	70.0	35.5
7	43.4	45.4	47.7	51.9	55.7	57.1	57.0	53.3	45.3	37.4	30.3	20.7	19.8	21.6	17.3	15.3	14.6	15.2	17.1	20.5	35.2	35.5	34.1	32.9	57.1	34.3
8	35.1	40.5	46.6	47.3	45.2	52.0	56.2	50.1	40.4	30.3	24.2	21.8	19.9	20.5	21.2	20.6	19.1	19.7	18.7	18.8	25.9	41.6	37.7	27.5	56.2	32.5
9	24.0	32.8	34.4	39.8	43.4	53.2	51.9	55.0	48.8	46.0	41.8	37.6	35.5	33.2	31.3	30.4	33.9	43.7	41.3	47.0	49.4	52.8	55.0	58.1	58.1	42.5
10	62.4	69.2	72.9	82.5	88.7	90.1	90.6	90.0	89.2	88.6	74.4	57.6	52.6	46.1	43.9	46.9	47.6	46.1	48.1	52.7	55.8	57.4	53.4	49.2	90.6	64.8
11	48.1	47.1	47.3	49.9	54.1	52.1	50.4	48.1	43.4	38.4	37.1	37.4	31.4	29.8	28.0	26.3	26.8	28.2	26.3	25.4	27.4	29.8	29.5	31.9	54.1	37.3
12	33.5	33.7	33.5	33.5	34.8	34.6	32.1	30.5	29.7	29.4	28.5	27.7	26.2	25.0	23.4	21.9	20.2	20.6	21.7	23.2	23.4	26.3	30.7	35.0	35.0	28.3
13	37.5	39.4	39.5	40.6	41.9	40.1	38.6	34.8	33.7	31.8	30.8	29.5	28.9	29.2	29.2	31.7	31.4	39.6	70.6	76.4	66.3	58.9	64.1	74.3	76.4	43.3
14	75.9	81.6	80.7	83.3	86.5	87.0	89.2	88.3	85.7	83.5	83.9	85.7	84.0	79.5	81.5	81.6	77.4	73.8	68.7	69.1	75.5	75.7	80.8	86.8	89.2	81.1
15	87.0	85.0	85.8	85.7	85.0	84.9	83.3	81.1	78.9	75.4	69.2	55.7	50.5	53.0	49.6	46.0	55.0	60.9	62.1	75.4	85.1	82.4	86.3	87.8	87.8	73.0
16	89.1	87.9	84.2	88.2	90.3	91.2	91.2	90.2	89.1	88.7	87.6	84.6	78.4	71.5	68.0	78.5	80.1	70.3	67.9	76.4	84.6	88.0	88.6	85.6	91.2	83.3
17	88.1	88.0	90.0	88.3	86.4	85.0	82.1	76.0	69.0	60.8	48.1	37.9	35.6	35.4	32.1	30.6	28.9	29.5	31.3	33.8	43.4	63.3	76.9	82.6	90.0	59.3
18	86.2	88.1	83.6	82.7	83.2	79.7	72.6	66.0	58.5	44.8	37.5	35.3	33.3	33.2	34.7	31.8	33.6	36.2	39.3	43.3	53.0	64.0	75.6	81.3	88.1	57.4
19	85.4	85.8	77.5	81.3	80.6	78.2	71.9	63.6	56.2	47.7	34.7	33.4	33.8	31.4	29.0	29.6	29.8	30.7	32.3	34.1	42.1	57.3	70.9	77.4	85.8	53.9
20	82.5	85.3	82.9	79.2	77.6	71.9	64.9	59.6	51.5	44.0	34.6	31.9	M	M	M	M	M	25.8	27.7	34.0	46.0	62.4	71.6	77.6	85.3	58.5
21	77.0	70.2	65.0	62.7	61.8	63.2	62.6	57.5	50.3	42.2	33.4	28.8	30.1	32.2	45.8	77.2	88.0	88.9	88.3	86.2	84.6	83.5	83.7	84.5	88.9	64.5
22	84.1	82.4	80.8	82.6	82.5	81.9	81.1	79.7	78.3	73.2	60.6	57.8	52.6	56.1	76.5	87.5	83.7	83.7	81.4	78.0	77.8	79.3	84.0	85.4	87.5	77.1
23	88.5	89.3	88.0	89.2	90.4	89.3	89.8	90.9	90.4	87.2	87.1	87.0	87.1	85.7	81.6	81.9	82.1	80.5	79.3	83.0	85.9	86.4	88.1	89.3	90.9	86.6
24	87.9	87.4	85.4	86.5	86.3	86.3	87.0	85.0	81.6	72.7	63.2	48.5	43.7	38.9	35.7	27.3	27.3	29.0	30.7	33.0	45.5	60.9	61.4	64.4	87.9	60.6
25	67.4	66.5	69.8	72.3	74.7	61.5	60.3	60.6	58.1	71.9	70.5	40.0	29.9	25.0	24.2	22.8	22.9	22.7	22.7	26.5	30.6	47.9	54.5	50.8	74.7	48.1
26	48.8	48.1	47.2	39.9	41.2	38.5	35.6	32.9	30.8	28.9	29.2	28.1	30.7	28.8	26.4	26.5	26.2	26.4	27.3	27.9	28.7	29.5	30.0	32.8	48.8	32.9
27	34.1	34.9	38.6	46.0	46.1	42.4	39.3	33.2	31.8	28.7	27.3	26.8	25.8	25.1	24.4	23.4	23.5	24.7	25.2	25.8	27.4	29.3	29.9	30.6	46.1	31.0
28	31.6	35.5	42.6	48.6	56.9	59.9	62.3	61.3	60.7	56.2	55.3	51.8	48.6	45.2	38.2	39.8	52.0	54.6	63.8	84.1	88.3	89.1	81.5	87.0	89.1	58.1
29	88.5	81.7	76.2	84.2	83.6	83.8	81.5	74.4	69.3	62.1	53.9	47.1	40.9	39.3	41.2	51.2	56.5	56.6	66.0	79.7	83.1	87.9	86.9	87.9	88.5	69.3
30	86.3	79.2	77.1	76.4	77.0	76.3	73.8	68.8	60.2	46.0	38.7	36.8	35.3	37.1	39.1	41.1	46.5	48.8	46.5	46.4	48.6	51.7	51.5	50.4	86.3	55.8
Hourly Max	89.9	90.6	90.8	90.5	91.3	91.7	91.2	90.9	90.4	88.7	87.6	87.0	87.1	85.7	81.6	87.5	88.0	88.9	88.3	86.2	88.3	89.1	88.6	89.3		
Hourly Average	63.3	64.4	64.7	66.4	67.5	67.2	65.5	61.9	57.3	52.5	46.7	41.5	39.2	38.0	37.9	39.2	40.5	40.7	43.1	46.7	50.6	55.8	58.9	61.4		

M = MAINTENANCE

1-hour Relative Humidity (%) at Trailer

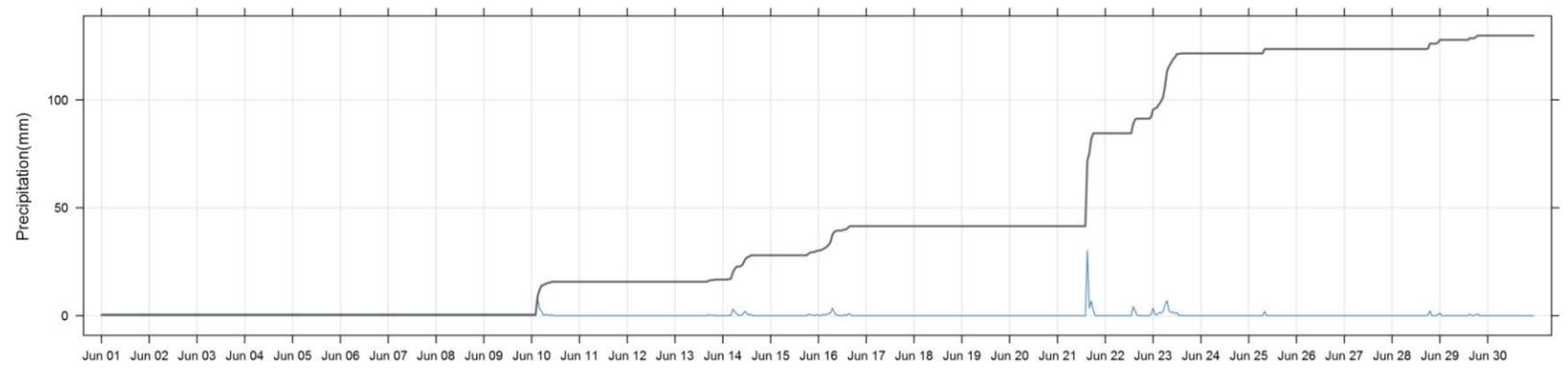


Lagoon Precipitation (mm) – June 2018

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	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	
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	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0
10	0.0	0.0	0.0	8.5	3.0	2.0	0.3	0.5	0.5	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	8.5	15.3
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	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	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	0.5	0.3	0.0	0.3	0.0	0.0	0.0	0.5	1.0
14	0.0	0.0	0.0	0.3	0.0	3.0	1.8	1.0	0.0	0.3	0.8	2.0	1.3	0.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	11.3
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	0.8	0.5	0.3	0.0	0.5	0.8	2.0	2.0
16	0.3	0.0	0.5	0.5	0.5	1.0	1.3	3.5	1.5	0.3	0.3	0.0	0.0	0.5	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	11.5
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	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	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	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	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	30.3	43.0
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	4.3	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.3	7.5
23	3.5	0.5	0.5	1.5	1.3	2.0	5.0	7.0	2.3	1.5	1.8	1.0	1.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	29.5
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	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	2.0	2.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.3	0.0	0.0	0.0	0.5	2.3	3.0
29	1.3	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	0.8	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0	0.0	1.3	3.3
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	0.0
Hourly Max	3.5	0.5	0.5	8.5	3.0	3.0	5.0	7.0	2.3	1.5	1.8	2.0	1.5	0.5	4.3	30.3	3.5	6.8	2.5	2.3	0.5	0.3	0.0	0.8	0.0	0.0	
Hourly Average	0.2	0.0	0.0	0.4	0.2	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.2	1.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	

M = MAINTENANCE

1-hour Precipitation (mm) at Trailer

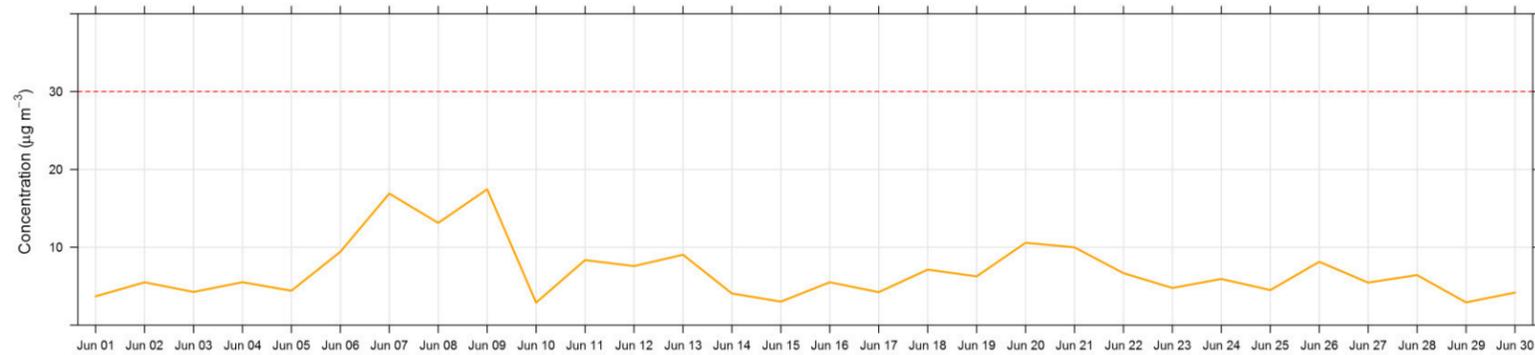


Windridge PM_{2.5} (µg/m³) – June 2018

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	2.6	1.5	1.5	1.5	2.2	4.4	4.0	5.9	6.2	4.1	2.2	2.2	1.8	3.7	10.2	6.6	4.0	3.3	5.9	4.0	3.4	4.8	2.9	10.2	3.7
2	1.1	2.9	3.3	4.8	4.0	3.3	4.8	4.4	18.0	8.8	6.6	8.1	8.1	5.5	2.9	4.0	5.9	5.1	2.3	5.5	7.0	6.6	4.4	4.8	18.0	5.5
3	5.5	3.4	0.7	1.5	4.8	5.5	2.6	5.5	5.1	0.7	1.1	3.7	8.8	6.2	2.6	2.8	3.3	7.0	5.1	4.8	6.7	2.6	7.0	5.5	8.8	4.3
4	1.5	7.7	5.9	4.6	3.7	1.8	6.5	4.4	0.0	0.0	1.8	3.3	5.5	6.2	7.6	5.9	7.3	8.4	9.9	7.7	7.3	8.8	8.4	8.1	9.9	5.5
5	4.4	1.1	3.3	2.9	1.1	4.8	4.4	3.3	5.1	4.0	0.7	2.2	PO	PO	2.3	4.4	5.1	4.8	7.7	7.3	5.5	7.0	9.9	5.9	9.9	4.4
6	4.8	6.2	4.8	3.3	12.1	7.6	3.3	2.6	2.9	7.0	5.5	6.6	8.4	9.9	10.6	13.2	11.4	12.5	8.4	10.3	8.6	52.4	5.5	8.4	52.4	9.4
7	42.9	31.9	24.5	15.4	17.6	11.0	11.4	15.0	16.1	15.4	12.5	16.5	15.8	13.8	22.7	25.6	13.9	12.8	13.9	9.5	10.6	9.9	9.5	17.6	42.9	16.9
8	20.5	13.2	16.5	12.8	12.8	17.6	12.1	11.0	10.6	10.8	12.5	9.2	8.1	8.8	18.3	15.8	11.0	15.4	19.4	18.0	10.6	11.7	10.6	8.0	20.5	13.1
9	12.5	8.4	9.2	12.8	10.6	8.8	5.9	6.6	13.2	16.9	11.4	11.7	9.5	8.1	9.5	139.5	12.1	69.6	6.2	5.1	10.3	8.4	6.2	6.6	139.5	17.5
10	5.5	2.2	2.6	3.3	5.2	7.0	5.1	2.6	3.3	3.3	0.7	1.5	3.3	2.2	0.4	1.1	2.9	1.5	0.0	0.7	3.7	3.3	3.3	4.8	7.0	2.9
11	7.0	4.4	0.4	8.1	7.7	8.8	6.2	11.0	7.3	4.0	C	C	C	4.4	13.2	12.8	8.4	7.3	13.6	10.6	14.7	12.1	8.4	5.1	14.7	8.4
12	3.9	5.9	8.4	6.6	4.8	4.0	2.2	2.9	3.3	4.8	17.6	12.8	11.4	12.5	9.2	11.7	8.4	9.2	5.9	11.7	8.8	6.2	5.1	4.8	17.6	7.6
13	2.9	5.1	6.6	6.2	5.1	10.3	7.6	8.4	8.1	7.0	12.5	18.3	11.4	8.1	8.8	13.6	15.4	9.9	7.3	35.2	0.4	2.9	2.9	3.3	35.2	9.1
14	8.8	5.5	2.8	11.0	9.5	2.6	4.8	10.6	9.2	7.3	3.3	0.7	3.3	2.8	0.7	2.6	1.8	0.7	0.7	2.2	0.7	0.0	2.2	3.7	11.0	4.1
15	4.8	4.8	5.1	4.4	1.8	2.9	4.8	2.9	2.2	1.1	0.0	2.2	4.6	3.3	1.1	1.5	1.8	0.7	4.4	4.0	1.8	5.1	4.0	2.9	5.1	3.0
16	4.8	6.2	5.1	5.1	2.4	0.0	2.9	4.8	5.1	4.4	3.3	5.1	4.4	2.6	2.9	8.1	34.1	2.9	0.7	0.0	4.0	11.0	7.7	4.4	34.1	5.5
17	2.9	8.4	6.2	2.2	2.9	3.3	4.0	2.9	3.7	2.6	2.6	3.7	3.3	5.1	4.4	2.6	2.6	3.7	8.1	6.7	4.0	5.5	6.2	4.0	8.4	4.2
18	6.2	8.4	8.1	5.5	3.7	5.9	7.3	8.8	7.3	10.3	9.5	6.6	7.7	9.2	17.6	3.7	4.0	6.2	7.0	10.3	7.0	4.0	3.7	3.3	17.6	7.1
19	4.4	3.7	2.2	3.3	6.5	8.1	7.3	6.2	M	M	M	M	0.4	0.0	2.9	4.0	7.7	11.4	6.6	7.7	8.1	10.3	15.4	9.2	15.4	6.3
20	4.8	4.4	5.9	4.8	8.4	6.2	10.3	9.5	20.9	13.2	9.9	12.8	11.4	20.9	10.6	11.0	13.9	16.5	17.6	12.8	8.1	5.5	8.1	6.6	20.9	10.6
21	10.3	9.5	9.5	6.2	6.8	15.8	9.5	5.4	5.9	11.7	12.1	10.6	7.7	9.5	11.7	18.3	20.9	14.0	9.9	10.3	7.3	5.4	4.6	7.0	20.9	10.0
22	7.0	4.7	4.8	9.5	9.2	6.2	8.4	6.2	5.9	5.9	6.2	7.0	11.0	12.5	8.7	7.0	5.9	7.3	6.6	2.9	5.1	6.2	4.4	1.8	12.5	6.7
23	5.9	2.9	2.4	2.9	1.2	2.9	3.2	4.0	3.3	5.5	6.6	4.8	3.7	2.9	5.9	4.4	3.1	7.3	6.6	9.2	8.1	6.6	4.8	6.6	9.2	4.8
24	7.3	7.3	6.6	8.1	5.1	2.2	4.0	3.7	3.3	6.2	9.9	8.1	8.8	7.0	6.7	5.5	5.1	5.5	5.9	4.4	4.1	3.7	7.3	6.6	9.9	5.9
25	4.8	4.4	7.3	6.6	9.2	8.1	5.1	7.7	7.3	7.0	8.0	4.4	1.5	0.7	4.8	6.2	2.6	1.1	2.9	2.2	2.9	1.5	0.0	1.8	9.2	4.5
26	3.3	2.2	3.7	3.0	0.4	5.1	31.1	9.9	9.9	8.4	11.6	7.7	7.0	10.6	9.2	10.6	9.9	11.7	8.1	8.8	6.2	4.8	5.5	6.6	31.1	8.1
27	3.7	5.5	5.1	2.9	3.7	1.1	1.1	5.9	6.2	5.9	6.2	5.9	5.9	2.2	1.5	6.2	20.2	6.6	6.6	4.4	6.2	6.2	6.6	5.4	20.2	5.5
28	1.8	5.1	5.5	5.5	8.0	7.7	4.7	9.5	8.4	8.1	7.0	6.2	6.2	7.7	5.5	4.4	4.8	5.5	7.3	7.3	12.1	8.1	5.1	2.9	12.1	6.4
29	0.0	7.3	7.0	2.9	2.9	2.9	1.1	0.0	0.0	0.0	1.8	3.7	4.0	2.2	4.4	4.8	2.6	4.0	2.9	3.3	4.1	2.2	2.2	3.7	7.3	2.9
30	3.7	3.3	4.0	6.2	5.9	4.0	4.0	1.8	2.2	3.3	5.9	3.3	1.7	5.5	7.0	4.8	5.1	7.3	4.4	2.2	3.3	5.1	3.7	2.6	7.3	4.2
Hourly Max	42.9	31.9	24.5	15.4	17.6	17.6	31.1	15.0	20.9	16.9	17.6	18.3	15.8	20.9	22.7	139.5	34.1	69.6	19.4	35.2	14.7	52.4	15.4	17.6		
Hourly Average	6.6	6.3	6.0	5.8	6.0	5.9	6.3	6.1	6.9	6.5	6.8	6.7	6.6	6.6	7.2	12.2	8.6	9.3	7.0	7.7	6.4	7.6	5.9	5.5		

C = CALIBRATION PO = POWER OUTAGE M = MAINTENANCE

24-hour PM_{2.5} (µg m⁻³) at Windridge

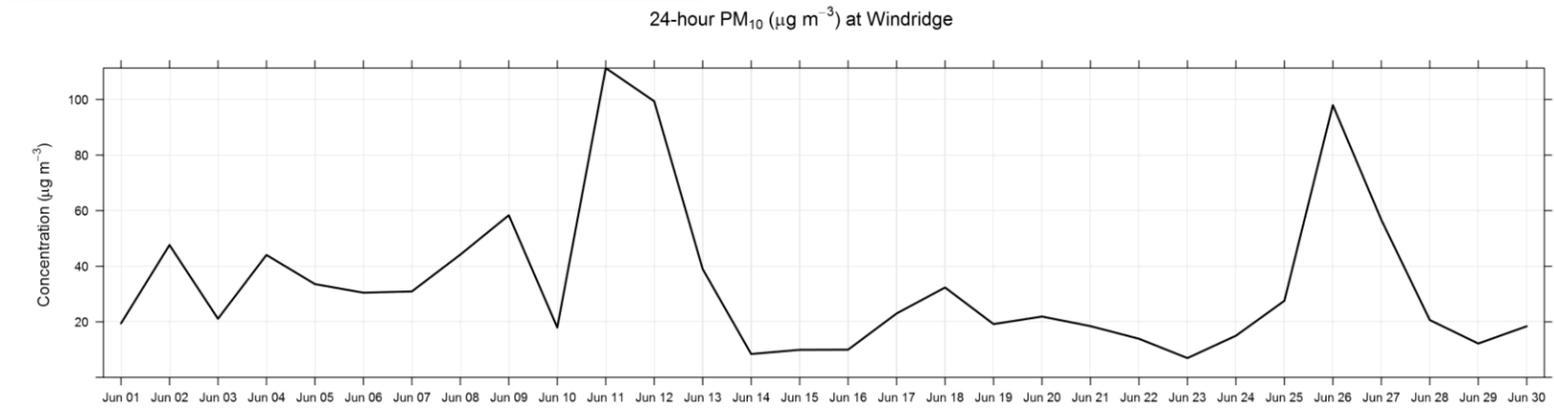


Number of 1HR Exceedances	1	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Objective	30	UG/M3
Number of Non-Zero Readings	702			
Maximum 1-HR Average	139.5	UG/M3		
Maximum 24-HR Average	17.5	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	714 HRS
Monthly Calibration Time	3	HRS	Operational Uptime	99.2 %
Standard Deviation	7.5		Monthly Average	6.9 UG/M3

Windridge PM₁₀ (µg/m³) – June 2018

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	6.2	4.7	1.2	1.2	1.2	1.9	7.6	16.7	12.5	14.0	30.1	16.0	40.7	39.3	49.9	19.7	11.1	53.4	75.3	22.4	20.3	4.7	13.2	75.3	19.4	
2	12.5	44.2	42.8	16.0	10.6	8.3	36.5	30.8	154.2	153.5	111.2	84.4	54.1	40.0	34.4	52.7	65.2	70.3	38.6	30.8	27.3	10.4	6.2	8.4	154.2	47.6	
3	6.2	4.7	3.3	1.9	6.2	5.3	6.2	5.7	33.0	15.3	24.5	15.3	19.6	14.6	26.6	24.5	7.6	21.7	6.2	34.4	11.2	9.7	191.6	11.8	191.6	21.1	
4	71.0	80.9	78.3	28.0	38.7	59.7	40.7	15.3	30.1	30.1	18.8	75.3	58.2	29.4	16.7	38.6	14.6	22.4	41.4	28.7	56.9	88.7	76.0	18.9	88.7	44.1	
5	4.0	14.7	30.8	10.4	6.5	5.5	7.6	5.5	17.4	11.8	35.3	26.6	PO	PO	44.2	28.7	63.3	39.3	71.7	49.2	48.5	99.9	97.8	20.3	99.9	33.6	
6	14.6	11.8	13.2	8.3	39.3	13.2	10.4	8.3	58.5	54.9	24.5	30.1	33.0	37.9	67.5	52.7	37.9	48.5	30.4	69.1	29.4	12.5	12.5	13.1	69.1	30.5	
7	12.5	16.7	13.3	12.5	23.1	13.2	16.7	44.2	64.0	64.0	43.5	33.0	23.1	35.1	25.3	59.0	54.1	45.6	33.0	34.4	28.7	17.1	11.8	18.8	64.0	30.9	
8	21.7	42.1	23.8	18.9	18.9	15.3	11.1	19.6	25.2	28.7	38.6	56.2	54.8	80.9	159.2	56.2	63.3	95.0	79.5	54.0	35.8	21.7	24.5	15.8	159.2	44.2	
9	56.9	30.8	9.7	27.3	19.1	33.7	15.3	17.4	40.0	111.9	67.5	180.3	104.9	114.7	162.0	53.4	26.8	133.1	29.4	19.6	36.5	48.5	44.9	16.7	180.3	58.3	
10	4.4	2.6	1.2	11.3	11.8	9.7	6.1	4.0	3.3	5.5	3.3	30.1	27.3	19.6	24.5	42.1	21.7	18.1	17.4	26.6	20.3	32.2	36.5	51.3	51.3	18.0	
11	64.3	53.9	37.9	44.9	33.0	36.5	46.4	70.3	104.2	96.4	C	C	C	C	100.0	176.4	155.6	118.3	119.0	204.3	195.8	257.9	174.0	172.6	76.0	257.9	111.3
12	72.4	124.6	118.3	60.5	40.6	E	31.5	64.0	91.5	83.0	149.3	189.5	126.7	205.0	194.7	145.1	132.4	85.1	36.5	97.8	89.4	59.0	63.3	25.2	205.0	99.4	
13	33.0	47.8	37.2	22.4	25.9	40.0	27.3	47.8	55.5	49.2	44.2	83.0	52.0	44.9	49.9	44.2	46.3	43.0	36.5	9.7	13.9	40.7	25.3	15.7	83.0	39.0	
14	14.6	12.0	18.1	8.3	9.6	6.2	6.2	8.3	12.5	10.4	5.4	4.0	8.3	11.1	11.8	7.6	6.2	4.0	2.6	8.3	17.4	3.3	3.3	2.6	18.1	8.4	
15	3.3	4.0	4.0	3.9	2.7	0.5	0.0	3.3	8.5	21.0	16.0	20.3	16.7	16.0	10.4	16.7	13.9	26.4	7.6	12.5	9.7	8.3	6.2	6.2	26.4	9.9	
16	4.7	5.4	6.9	4.7	7.6	5.4	2.6	2.6	2.6	3.3	4.7	7.6	11.1	17.7	10.4	11.1	6.9	64.0	11.8	7.6	8.3	12.5	10.4	9.7	64.0	10.0	
17	6.2	8.3	6.9	7.6	7.6	6.2	9.8	6.2	12.5	16.7	9.0	28.0	9.0	119.0	42.1	19.6	20.2	14.7	14.6	15.3	15.3	23.1	16.7	117.6	119.0	23.0	
18	9.0	10.4	121.8	15.3	11.3	11.1	13.2	34.4	36.5	44.9	40.7	20.3	16.7	18.8	16.0	15.3	18.1	18.1	9.7	15.3	12.2	21.3	17.4	228.6	228.6	32.4	
19	78.1	13.2	10.4	6.9	4.5	15.3	9.5	25.4	C	C	C	C	C	C	C	18.8	16.0	20.3	24.5	14.6	19.6	16.0	21.0	16.7	14.6	78.1	19.2
20	13.2	14.6	12.5	8.3	11.8	14.6	15.3	17.4	36.5	36.5	36.5	30.1	21.7	28.0	30.7	34.4	33.0	37.2	18.8	18.1	18.1	15.3	13.2	10.0	37.2	21.9	
21	17.4	16.1	20.3	11.8	14.9	11.8	10.4	20.2	30.1	35.1	36.5	29.4	16.7	27.3	24.5	21.7	23.8	14.9	10.9	9.0	8.3	11.1	10.4	10.4	36.5	18.4	
22	8.3	6.2	11.8	7.6	7.6	9.7	6.9	6.9	15.3	11.1	17.4	55.5	39.3	33.7	16.7	17.4	11.1	14.6	18.1	4.7	4.0	5.4	3.3	1.2	55.5	13.9	
23	4.7	6.9	4.0	0.5	4.0	3.3	1.2	4.0	6.2	7.6	8.3	4.0	1.9	7.6	6.0	4.7	7.6	9.7	11.1	10.9	13.9	12.5	13.2	13.0	13.9	7.0	
24	16.0	9.6	8.3	9.7	6.2	3.3	8.3	11.1	7.6	12.4	50.6	13.2	16.7	11.3	11.1	11.8	32.2	28.0	25.9	21.7	15.3	10.4	7.6	11.8	50.6	15.0	
25	9.7	35.1	28.0	23.8	12.5	23.1	13.9	38.6	36.5	32.2	49.9	6.9	28.0	31.5	40.7	47.8	35.1	32.2	29.4	27.3	35.8	4.7	30.8	8.3	49.9	27.6	
26	23.8	27.3	23.1	13.7	12.5	34.4	51.3	110.5	116.9	99.2	175.4	85.8	157.0	185.9	118.3	174.7	163.4	254.3	142.9	121.1	66.8	84.4	69.6	39.3	254.3	98.0	
27	38.8	72.4	20.3	9.7	7.6	4.0	6.2	66.1	94.3	102.7	54.1	59.0	50.6	68.2	68.2	119.0	64.2	49.9	91.5	48.5	80.5	100.1	65.4	20.1	119.0	56.7	
28	10.4	30.1	20.3	8.3	11.8	18.1	39.3	54.8	29.4	30.1	28.0	27.3	28.0	22.5	13.2	11.8	14.6	23.1	33.7	7.6	16.0	5.4	6.2	5.5	54.8	20.6	
29	6.9	4.7	18.9	2.6	4.0	3.3	1.9	1.9	5.4	15.3	13.9	40.7	19.6	27.7	27.3	27.3	18.8	8.3	8.3	6.9	5.4	5.4	5.4	12.5	40.7	12.2	
30	6.9	5.3	4.0	5.4	9.0	7.6	4.0	1.9	2.6	21.0	21.0	37.2	33.0	29.4	27.3	26.6	17.6	27.3	16.0	31.5	18.8	27.3	25.2	35.8	37.2	18.4	
Hourly Max	78.1	124.6	121.8	60.5	40.6	59.7	51.3	110.5	154.2	153.5	175.4	189.5	157.0	205.0	194.7	174.7	163.4	254.3	204.3	195.8	257.9	174.0	191.6	228.6			
Hourly Average	21.6	25.4	25.1	13.7	14.0	14.5	15.3	25.1	39.6	41.9	40.8	46.5	38.7	50.7	50.5	46.2	39.3	46.8	38.2	37.0	34.7	33.5	36.3	28.4			

C = CALIBRATION PO = POWER OUTAGE E = INSTRUMENT ERROR



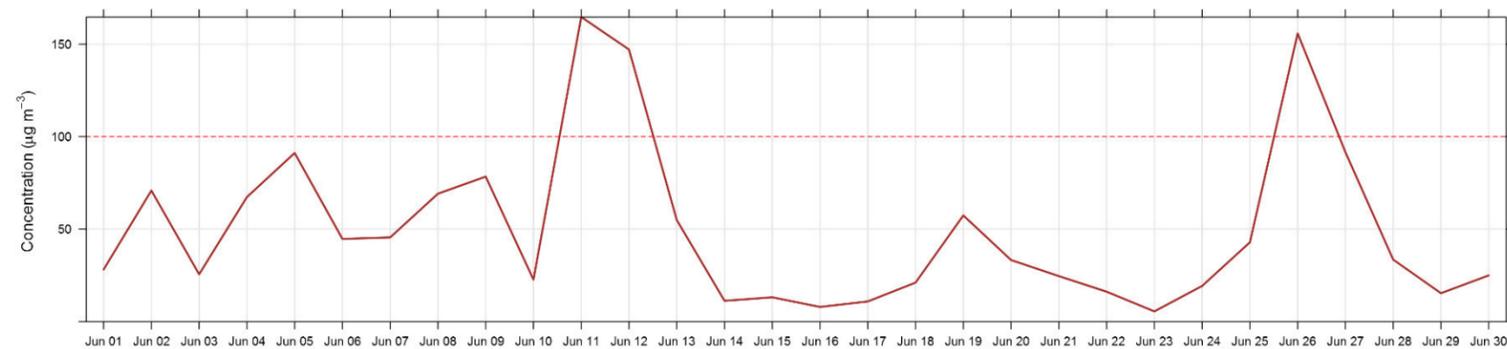
Number of 1HR Exceedances	n/a	Objective	n/a	UG/M3
Number of Non-Zero Readings	707			
Maximum 1-HR Average	257.9	UG/M3		
Maximum 24-HR Average	111.3	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	717 HRS
Monthly Calibration Time	9	HRS	Operational Uptime	99.6 %
Standard Deviation	39.2		Monthly Average	33.4 UG/M3

Windridge TSP ($\mu\text{g}/\text{m}^3$) – June 2018

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	6.2	4.0	4.0	2.6	3.3	13.9	23.1	16.0	13.9	34.4	24.2	64.7	52.0	87.9	33.7	13.9	83.0	111.9	33.0	16.7	11.7	21.0	111.9	28.1		
2	20.3	62.4	59.7	25.2	13.9	10.4	59.0	50.6	227.5	233.5	174.0	117.6	83.0	51.2	53.4	75.3	101.3	101.3	59.7	49.9	37.2	13.9	9.7	10.4	233.5	70.8		
3	6.9	4.0	4.0	4.6	4.7	4.0	6.2	15.2	44.2	34.4	50.6	26.5	25.9	30.8	42.1	38.6	13.9	30.1	9.7	49.2	21.7	20.4	107.0	18.8	107.0	25.6		
4	110.5	106.3	100.6	33.0	53.6	76.7	69.6	28.7	42.8	33.0	32.2	116.9	90.8	52.7	28.7	60.4	28.7	46.3	68.9	42.1	95.7	142.2	124.6	30.1	142.2	67.3		
5	11.1	22.4	37.2	11.7	9.7	6.2	5.5	10.4	27.3	14.6	47.3	39.3	PO	PO	80.9	52.7	91.5	61.1	113.3	69.6	73.1	188.1	176.8	30.1	188.1	53.6		
6	25.9	18.1	17.4	4.7	54.1	16.0	11.6	9.0	95.0	87.9	42.1	37.2	49.2	55.5	114.0	75.3	60.4	73.8	37.9	101.3	44.2	15.3	13.9	12.4	114.0	44.7		
7	15.3	15.3	21.0	20.3	28.7	17.8	16.0	58.3	102.0	85.8	61.9	59.7	29.4	38.6	52.0	99.9	78.8	74.6	47.1	57.6	37.9	17.6	18.1	38.6	102.0	45.5		
8	54.1	80.9	38.6	29.4	25.2	29.4	25.2	30.8	40.7	39.3	61.9	83.0	85.1	120.4	232.5	87.9	97.8	149.3	121.8	80.2	44.9	35.1	50.6	15.3	232.5	69.1		
9	85.1	36.5	11.8	28.7	21.0	51.3	23.8	22.4	64.0	149.3	99.2	245.9	133.1	145.1	183.8	66.1	35.8	193.0	44.2	30.8	52.7	74.6	63.3	19.6	245.9	78.4		
10	4.0	1.9	4.7	19.6	14.6	8.3	4.0	1.9	1.9	1.2	3.3	31.3	36.5	23.1	29.4	56.2	28.0	23.8	23.1	37.2	30.8	41.4	46.3	71.7	71.7	22.7		
11	82.3	66.8	65.4	68.2	56.9	46.4	63.3	90.1	146.5	126.7	C	C	C	140.8	264.9	253.6	188.8	185.2	298.0	284.0	368.6	279.7	266.4	115.4	368.6	164.7		
12	109.8	157.8	140.8	91.5	64.0	E	46.4	92.9	138.0	136.6	247.3	288.1	204.3	284.7	291.0	202.2	204.3	110.5	48.5	148.6	145.1	93.6	100.6	36.5	291.0	147.1		
13	42.8	51.3	68.2	30.8	35.8	49.4	32.2	67.5	68.9	71.0	56.2	126.7	76.0	63.3	75.3	61.9	71.0	66.1	63.3	13.9	25.9	60.5	29.7	10.4	126.7	54.9		
14	16.0	17.8	22.4	11.1	11.1	6.9	4.6	9.7	17.4	9.7	6.2	6.2	12.4	21.0	17.4	5.4	4.0	4.7	6.2	16.4	25.2	5.4	7.6	4.7	25.2	11.2		
15	1.9	6.2	6.2	6.2	4.5	4.7	4.0	10.4	12.5	26.6	23.1	30.8	28.7	21.0	13.2	25.2	11.8	28.0	9.0	11.8	6.9	9.7	8.3	4.7	30.8	13.1		
16	3.3	4.0	5.4	0.5	0.5	1.2	6.9	6.9	6.2	6.2	5.4	6.2	28.0	22.4	9.7	4.7	4.3	3.3	8.3	13.9	11.8	12.4	9.7	8.3	28.0	7.9		
17	5.5	4.7	5.5	5.5	7.6	4.7	2.0	3.3	12.5	13.9	11.2	40.7	9.7	12.5	16.0	13.2	10.4	11.1	11.8	14.6	11.8	12.5	11.6	9.0	40.7	10.9		
18	7.6	10.3	9.7	6.9	11.8	13.9	20.4	30.8	42.8	69.6	44.2	20.3	25.1	23.8	18.1	11.8	16.0	21.0	19.6	11.8	13.9	23.1	21.7	11.8	69.6	21.1		
19	9.7	9.0	6.2	13.2	9.7	16.6	16.0	21.7	M	M	M	M	19.6	365.7	18.1	23.1	28.7	18.1	20.3	23.8	24.5	25.2	16.0	16.0	365.7	35.1		
20	19.6	17.4	15.3	18.9	18.2	13.2	13.9	27.3	44.2	53.4	54.8	44.9	37.9	40.0	50.6	52.7	58.3	70.3	42.1	26.6	25.2	25.2	19.6	8.9	70.3	33.3		
21	18.1	11.1	22.4	14.6	20.3	12.5	21.0	25.2	35.8	55.5	52.0	34.4	31.5	52.7	46.3	42.1	22.4	13.9	11.1	7.6	7.6	9.7	13.9	8.3	55.5	24.6		
22	9.0	7.0	9.0	7.6	4.7	5.4	6.9	13.9	10.4	17.6	18.8	80.9	52.0	46.3	18.1	12.0	11.8	10.0	20.2	10.4	5.4	0.0	4.7	5.4	80.9	16.2		
23	3.3	6.2	6.2	4.0	1.9	4.2	4.0	2.6	1.2	1.7	1.2	0.0	0.4	1.2	6.0	4.7	5.4	10.4	11.1	16.3	12.3	10.4	10.4	6.9	16.3	5.5		
24	18.1	8.7	8.3	8.3	7.6	8.3	6.2	2.6	2.6	9.0	67.6	12.5	20.3	13.2	11.8	11.1	61.9	42.1	41.4	38.6	29.2	11.2	12.5	9.7	67.6	19.3		
25	11.8	47.1	47.1	26.6	17.4	26.6	21.7	56.9	61.2	40.0	52.0	11.1	42.8	48.5	76.0	72.9	66.8	66.1	51.0	49.2	58.3	16.0	49.9	11.8	76.0	42.9		
26	34.7	37.2	38.3	21.0	28.0	68.9	88.7	180.3	186.7	164.1	292.2	138.7	253.6	276.9	196.7	278.3	274.1	354.9	230.4	199.3	116.1	138.0	93.6	49.2	354.9	155.8		
27	59.7	114.6	14.9	10.4	9.7	4.7	17.6	99.2	154.9	169.7	88.6	93.6	83.0	113.3	110.5	192.3	113.3	86.5	154.2	86.5	138.7	150.2	102.0	29.4	192.3	91.6		
28	27.3	52.7	35.1	8.3	16.7	31.5	78.1	91.5	41.0	51.8	46.3	42.8	37.2	29.4	17.4	20.3	23.1	36.5	73.1	16.0	11.1	6.9	5.4	4.7	91.5	33.5		
29	4.7	3.3	18.9	4.0	1.2	6.2	6.2	2.6	4.0	13.7	29.4	54.1	21.0	42.1	35.8	38.6	30.1	13.9	10.4	6.9	5.3	3.3	1.2	11.1	54.1	15.3		
30	7.6	6.2	10.4	6.9	3.3	2.8	1.9	0.0	0.0	35.8	33.7	64.0	44.9	41.5	47.1	35.1	28.7	31.1	13.2	35.7	18.1	40.7	36.5	54.1	64.0	25.0		
Hourly Max	110.5	157.8	140.8	91.5	64.0	76.7	88.7	180.3	227.5	233.5	292.2	288.1	253.6	365.7	291.0	278.3	274.1	354.9	298.0	284.0	368.6	279.7	266.4	115.4				
Hourly Average	27.5	32.9	28.5	18.2	18.7	19.0	22.9	35.9	57.1	60.9	61.3	67.4	56.6	77.3	73.6	68.7	60.2	65.0	58.4	55.4	51.1	50.0	48.1	22.8				

C = CALIBRATION PO = POWER OUTAGE E = INSTRUMENT ERROR M = MAINTENANCE

24-hour TSP ($\mu\text{g m}^{-3}$) at Windridge



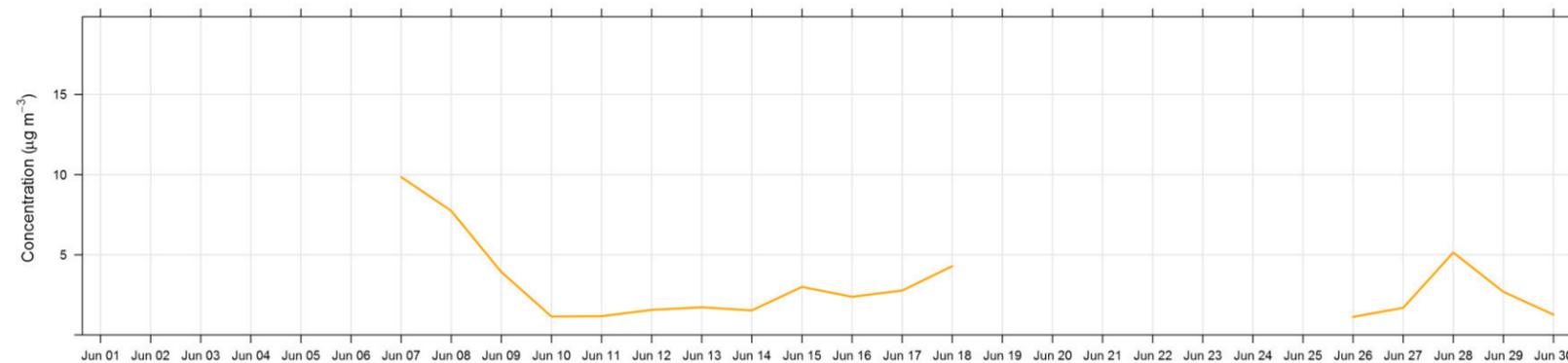
Number of 24HR Exceedances	3	Objective	100	UG/M3
Number of Non-Zero Readings	704			
Maximum 1-HR Average	368.6	UG/M3		
Maximum 24-HR Average	164.7	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	713 HRS
Monthly Calibration Time	3	HRS	Operational Uptime	99.0 %
Standard Deviation	59.1		Monthly Average	47.2 UG/M3

West PM_{2.5} (µg/m³) – June 2018

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	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-										
2	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-									
3	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-									
4	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-									
5	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-									
6	PO	PO	PO	PO	PO	8.4	7.3	6.9	6.6	5.5	6.1	7.0	7.6	8.5	8.8	9.2	-	-									
7	10.1	10.5	11.3	12.2	11.4	11.5	11.9	14.0	13.9	12.1	9.9	9.1	8.1	9.9	8.2	7.2	7.2	7.3	7.6	7.9	8.1	8.3	8.9	9.8	14.0	9.9	
8	9.5	9.3	9.6	10.3	9.8	8.5	8.5	9.9	11.4	8.4	7.1	7.2	6.4	6.6	7.0	6.5	5.9	5.4	5.2	6.0	6.3	6.8	7.4	6.9	11.4	7.7	
9	6.4	6.3	7.4	10.2	9.2	7.1	7.4	8.0	6.5	3.8	1.1	1.2	1.6	1.8	2.2	2.4	2.6	1.6	0.8	1.0	1.3	1.4	1.5	1.3	10.2	3.9	
10	1.7	1.4	2.3	2.3	2.5	3.8	2.8	1.4	1.3	3.5	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.4	0.2	3.8	1.1
11	0.2	0.2	0.3	0.2	0.3	0.4	2.3	1.1	1.0	1.4	1.7	1.8	2.3	2.2	1.7	1.6	2.0	1.2	1.2	1.5	1.2	0.9	0.7	0.6	2.3	1.2	
12	0.7	0.5	0.5	0.5	0.7	0.8	1.4	2.2	2.4	2.3	2.1	1.8	2.4	2.2	2.1	1.9	1.9	1.8	1.5	2.0	1.8	1.7	1.2	1.1	2.4	1.6	
13	1.2	1.2	1.5	1.2	1.1	1.4	2.0	2.7	2.4	1.8	1.9	2.1	2.2	2.2	2.7	2.3	2.3	2.5	1.1	1.2	1.2	1.0	1.1	1.0	2.7	1.7	
14	0.8	1.0	1.7	1.5	1.5	1.6	2.0	2.1	2.3	3.1	1.3	2.1	1.9	1.3	0.9	0.7	0.8	2.6	1.1	1.2	1.6	1.4	1.1	1.1	3.1	1.5	
15	1.4	1.3	1.5	1.4	1.6	2.0	3.9	7.4	7.8	6.4	5.2	3.9	3.2	2.5	2.3	2.4	2.7	3.2	2.6	1.5	2.4	1.9	1.8	1.6	7.8	3.0	
16	1.6	1.2	1.3	0.7	1.1	4.2	2.9	2.5	2.1	2.2	3.3	2.8	2.6	2.3	2.6	3.1	2.7	3.3	2.2	2.0	2.2	2.7	2.8	2.6	4.2	2.4	
17	2.6	2.7	3.0	2.9	2.8	3.3	3.3	3.2	3.2	2.7	2.5	3.1	2.2	2.8	3.0	2.2	1.9	2.3	2.3	2.4	2.6	2.7	3.3	3.7	3.7	2.8	
18	3.5	4.1	4.1	4.4	4.6	4.3	4.6	6.6	7.2	9.1	3.7	3.1	4.0	3.7	3.0	2.7	3.2	3.4	3.5	3.5	3.2	4.5	4.7	4.0	9.1	4.3	
19	4.3	4.4	4.3	4.9	5.4	5.8	5.1	6.8	8.9	7.9	5.4	3.8	3.0	2.4	C	C	C	C	C	C	C	C	C	C	-	-	
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
25	C	C	C	C	C	C	C	C	C	C	5.4	3.0	2.4	2.7	2.1	1.5	1.8	1.3	1.5	1.6	0.9	0.7	0.5	0.5	-	-	
26	0.4	0.4	0.5	0.4	0.5	0.6	1.4	1.6	1.6	1.9	1.4	1.2	1.2	1.4	1.4	2.2	2.3	1.0	1.2	1.0	1.0	0.8	0.7	0.8	2.3	1.1	
27	0.8	0.9	1.0	1.1	1.1	1.2	1.8	2.1	2.2	2.3	2.2	2.3	2.4	2.1	2.1	2.1	1.7	1.7	1.9	1.9	1.8	1.6	1.2	1.4	2.4	1.7	
28	1.3	1.5	1.9	3.8	3.6	4.9	4.9	10.4	10.4	10.5	9.4	6.8	6.1	5.6	6.2	4.6	5.1	3.8	5.9	5.4	3.9	3.4	2.6	1.2	10.5	5.1	
29	1.7	2.1	2.9	3.4	4.1	3.9	3.8	3.3	3.7	4.0	3.8	3.5	2.1	2.3	2.3	1.7	2.4	3.5	3.5	1.4	1.0	1.3	1.5	1.4	4.1	2.7	
30	1.9	2.2	2.3	2.1	1.9	1.7	2.0	1.8	1.7	1.0	0.9	0.8	1.1	0.8	1.0	0.9	1.1	0.7	1.2	0.9	0.9	0.6	0.5	0.3	2.3	1.3	
Hourly Max	10.1	10.5	11.3	12.2	11.4	11.5	11.9	14.0	13.9	12.1	9.9	9.1	8.1	9.9	8.2	7.2	7.2	7.3	7.6	7.9	8.1	8.5	8.9	9.8			
Hourly Average	2.8	2.8	3.2	3.5	3.5	3.7	4.0	4.8	5.0	4.7	3.6	3.2	2.9	3.2	3.1	2.8	2.9	2.8	2.7	2.6	2.6	2.7	2.7	2.6			

C = CALIBRATION PO = POWER OUTAGE

24-hour PM_{2.5} (µg m⁻³) at West



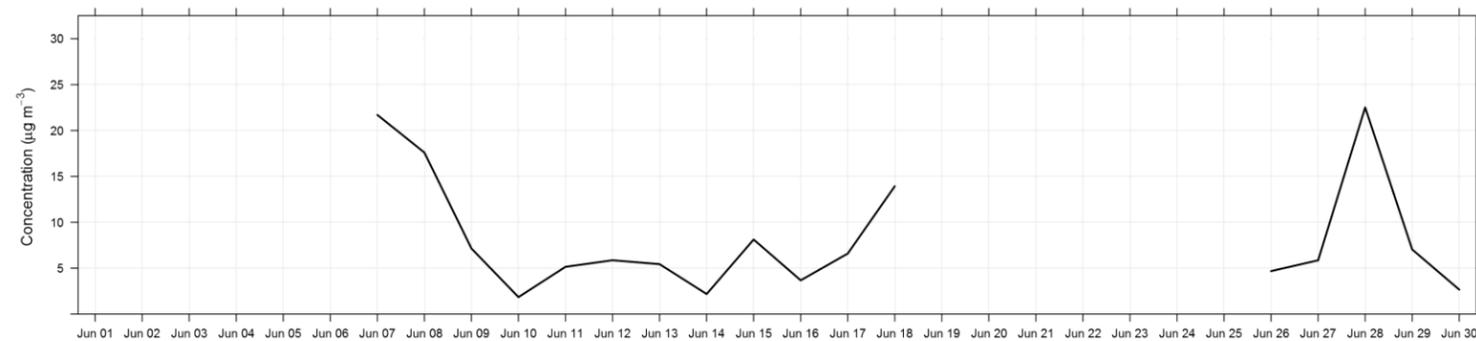
Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Guideline	30	UG/M3
Number of Non-Zero Readings	447			
Maximum 1-HR Average	14.0	UG/M3		
Maximum 24-HR Average	9.9	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	587 HRS
Monthly Calibration Time	140	HRS	Operational Uptime	81.5 %
Standard Deviation	2.8		Monthly Average	3.2 UG/M3

West PM₁₀ (µg/m³) – June 2018

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	PO	-	-																								
2	PO	-	-																								
3	PO	-	-																								
4	PO	-	-																								
5	PO	-	-																								
6	PO	24.6	21.0	20.0	16.2	10.3	10.7	10.9	11.5	13.5	13.1	14.0	-	-													
7	14.8	14.1	16.1	21.1	15.7	17.6	19.4	40.0	44.4	35.4	27.9	33.4	21.0	35.9	22.8	18.9	17.7	15.6	17.5	13.1	13.2	13.4	14.5	17.5	44.4	21.7	
8	16.4	14.1	14.4	15.1	14.7	13.3	15.2	26.5	45.1	27.3	20.0	22.6	18.9	20.3	21.3	17.8	16.5	13.3	11.4	10.6	11.4	11.8	12.8	11.6	45.1	17.6	
9	10.6	9.8	11.8	16.7	16.6	11.0	11.9	13.8	11.2	7.0	3.3	4.2	4.8	3.4	4.1	4.6	7.8	5.0	1.7	2.2	2.5	3.0	2.9	1.8	16.7	7.1	
10	2.5	2.0	4.0	2.9	3.3	5.0	3.5	1.7	1.6	4.8	0.5	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.2	1.1	1.3	0.6	1.6	0.3	5.0	1.8	
11	0.4	0.4	0.5	0.3	0.7	1.1	12.4	5.9	4.5	6.2	7.5	7.8	11.6	11.5	8.3	8.5	8.7	5.6	5.3	6.5	4.8	2.5	1.4	1.2	12.4	5.1	
12	1.8	0.9	0.9	0.9	1.6	1.6	5.4	11.1	13.3	10.5	10.9	7.2	8.3	9.4	9.0	6.5	8.1	6.5	4.7	5.8	7.1	6.2	1.8	1.4	13.3	5.9	
13	1.8	1.9	3.1	2.4	1.6	2.8	6.7	10.4	9.9	6.8	7.0	8.3	8.4	8.1	11.3	9.3	9.1	11.0	1.7	2.3	2.3	1.6	1.5	1.2	11.3	5.4	
14	1.0	1.2	2.2	1.9	1.8	1.9	2.6	2.6	3.1	4.4	1.8	3.1	2.6	1.8	1.1	1.0	1.2	4.9	3.2	1.7	2.3	1.9	1.6	1.6	4.9	2.2	
15	1.9	1.6	2.0	1.8	2.1	2.8	5.7	11.0	11.7	11.0	23.4	18.3	15.4	11.2	8.4	9.4	14.4	16.5	12.7	3.2	3.4	2.4	2.4	2.1	23.4	8.1	
16	2.0	1.4	1.6	1.0	1.5	5.0	3.6	3.4	2.9	2.6	3.7	3.3	3.3	4.4	3.8	7.2	6.1	10.1	4.1	2.8	3.1	3.8	3.9	3.6	10.1	3.7	
17	3.4	3.6	4.1	3.9	3.8	4.5	4.6	4.2	7.1	5.3	4.9	8.3	7.9	12.9	14.2	7.7	5.6	9.4	6.8	7.2	6.1	6.4	9.8	6.6	14.2	6.6	
18	5.1	5.8	5.8	6.3	6.6	6.1	6.3	18.9	31.6	44.5	18.2	15.2	20.7	18.3	14.0	11.0	12.8	13.8	14.5	7.2	6.4	16.4	16.8	11.8	44.5	13.9	
19	9.1	6.5	6.3	7.2	7.9	8.4	7.1	21.9	54.0	45.4	24.2	21.8	17.7	13.7	C	C	C	C	C	C	C	C	C	C	-	-	
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
25	C	C	C	C	C	C	C	C	C	C	14.6	11.0	7.4	8.5	7.7	4.1	6.6	4.0	5.5	4.8	1.9	2.6	1.1	1.2	-	-	
26	0.6	0.7	0.9	0.6	1.0	1.6	6.3	8.4	8.6	10.8	6.9	5.7	5.9	5.6	5.9	11.5	12.1	4.4	4.5	3.4	2.7	2.1	1.0	1.1	12.1	4.7	
27	1.1	1.7	1.4	1.9	1.9	2.3	5.5	8.7	8.7	9.1	8.4	8.9	9.6	8.3	8.7	10.1	6.7	7.1	7.8	7.6	6.0	4.8	1.9	2.5	10.1	5.9	
28	1.9	2.2	4.6	16.0	12.8	19.4	18.3	54.0	60.3	60.3	53.5	35.7	34.3	27.8	30.3	22.0	26.7	12.4	25.0	7.8	5.6	4.7	3.3	1.5	60.3	22.5	
29	2.2	2.6	3.4	3.9	4.6	4.6	4.7	7.2	10.7	10.8	15.0	13.3	5.2	7.3	10.1	7.7	15.2	18.1	13.3	2.0	1.3	1.8	2.1	1.9	18.1	7.0	
30	2.6	3.0	2.9	2.7	2.4	2.2	2.7	2.9	3.8	2.6	3.0	2.4	3.4	2.3	3.9	2.7	3.6	2.0	4.5	2.9	2.6	1.2	0.9	0.7	4.5	2.7	
Hourly Max	16.4	14.1	16.1	21.1	16.6	19.4	19.4	54.0	60.3	60.3	53.5	35.7	34.3	35.9	30.3	22.0	26.7	18.1	25.0	13.1	13.2	16.4	16.8	17.5			
Hourly Average	4.4	4.1	4.8	5.9	5.6	6.2	7.9	14.0	18.5	16.9	13.4	12.2	10.9	11.8	10.9	9.5	10.3	9.0	8.2	5.4	5.0	5.3	5.0	4.4			

C = CALIBRATION PO = POWER OUTAGE

24-hour PM₁₀ (µg m⁻³) at West



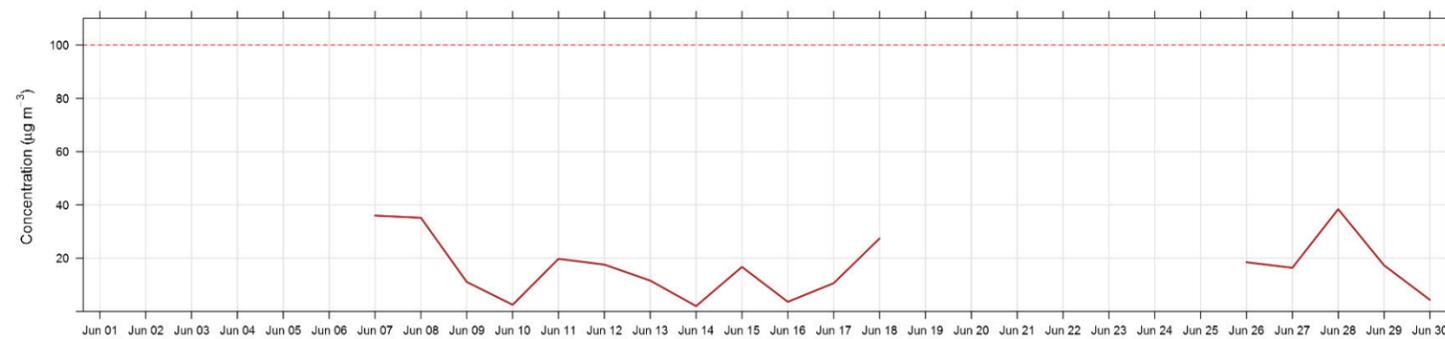
Number of 1HR Exceedances	n/a	Guideline	n/a	UG/M3
Number of Non-Zero Readings	447			
Maximum 1-HR Average	60.3	UG/M3		
Maximum 24-HR Average	22.5	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	587 HRS
Monthly Calibration Time	140	HRS	Operational Uptime	81.5 %
Standard Deviation	9.3		Monthly Average	8.7 UG/M3

West TSP ($\mu\text{g}/\text{m}^3$) – June 2018

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	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-									
2	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-								
3	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-								
4	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-								
5	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-								
6	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	-	-								
7	11.1	10.3	11.5	34.0	20.0	22.7	20.9	61.8	104.1	63.1	47.0	70.4	38.9	73.9	46.4	48.7	42.9	26.3	28.2	10.8	14.9	13.7	14.6	27.1	104.1	36.0	
8	37.5	24.9	22.9	36.1	29.8	20.7	17.6	54.9	107.8	49.3	48.3	54.1	46.7	42.5	48.3	35.6	40.7	31.9	19.7	11.4	13.2	14.7	10.6	25.1	107.8	35.2	
9	11.4	7.6	11.9	18.1	27.7	16.5	12.2	15.9	17.2	11.0	15.6	8.5	14.1	4.0	6.9	7.3	26.1	13.5	4.2	2.7	3.2	4.6	4.2	1.2	27.7	11.1	
10	2.4	1.4	5.1	2.0	2.3	3.4	2.3	1.2	1.1	3.7	0.4	0.9	4.8	4.6	1.9	1.8	2.2	1.3	2.9	2.2	6.3	0.5	3.9	0.9	6.3	2.5	
11	1.4	1.0	3.3	1.3	2.5	2.8	45.6	20.6	18.6	25.4	24.3	25.1	43.4	44.4	37.1	35.8	34.2	25.7	20.8	20.8	25.9	19.0	9.9	2.4	3.4	45.6	19.7
12	9.6	2.4	2.3	0.9	1.7	1.8	19.4	27.0	45.8	24.9	40.3	27.4	30.0	28.2	33.1	15.3	26.4	20.8	10.1	15.6	19.8	16.2	1.8	1.1	45.8	17.6	
13	1.8	1.3	2.6	2.6	2.2	2.2	10.1	21.4	29.9	16.2	14.8	21.7	22.7	16.7	32.4	22.0	21.0	25.3	2.0	2.2	3.7	1.2	1.1	0.8	32.4	11.6	
14	0.7	0.8	1.5	1.3	1.2	1.3	1.8	1.9	2.4	4.1	1.5	2.7	2.1	1.5	0.9	0.7	1.0	4.7	7.7	1.4	2.2	1.8	1.5	1.4	7.7	2.0	
15	1.6	1.2	1.6	1.3	1.7	2.3	5.6	11.7	12.8	14.5	54.5	43.6	42.9	32.0	24.5	25.4	46.9	42.0	24.6	2.8	2.5	1.7	1.7	1.5	54.5	16.7	
16	1.5	1.0	1.1	0.7	1.1	3.3	2.5	2.6	2.1	1.8	2.5	2.2	2.5	6.3	2.7	10.4	7.7	17.5	3.3	2.2	2.5	3.2	3.0	2.7	17.5	3.6	
17	2.5	2.7	3.0	2.7	2.7	3.2	3.3	3.1	12.9	6.7	10.2	11.2	18.3	36.3	33.2	15.6	13.1	19.4	9.9	11.1	5.1	6.8	11.6	9.7	36.3	10.6	
18	4.5	4.5	4.4	4.7	5.0	4.4	4.5	38.7	59.8	97.2	52.1	42.9	63.8	50.2	36.5	23.8	24.4	32.0	30.4	17.6	7.0	22.3	13.0	13.1	97.2	27.4	
19	9.1	6.2	5.6	6.2	6.1	6.2	5.5	37.5	120.2	88.0	51.5	58.8	48.3	37.7	C	C	C	C	C	C	C	C	C	C	-	-	
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
25	C	C	C	C	C	C	C	C	C	C	35.7	28.6	32.1	30.0	19.0	11.8	22.3	11.5	12.2	9.1	1.9	6.8	1.0	2.4	-	-	
26	0.6	2.4	0.7	1.5	1.9	6.8	27.9	37.0	35.9	44.9	34.0	20.8	20.1	19.2	21.4	47.0	49.0	18.9	18.6	14.6	9.1	6.3	1.7	2.5	49.0	18.5	
27	1.3	3.6	2.1	2.0	2.1	2.8	9.0	25.0	29.4	34.3	24.1	26.2	24.5	24.2	29.8	31.7	22.2	26.0	23.5	20.4	12.2	11.1	2.7	2.8	34.3	16.4	
28	1.4	1.6	4.1	13.6	13.6	24.2	19.3	72.9	100.9	124.6	101.8	67.5	74.8	56.8	67.5	47.8	36.8	19.5	55.4	5.9	4.6	3.4	2.4	1.1	124.6	38.4	
29	1.7	1.8	2.3	2.5	3.0	3.0	3.3	17.8	30.1	34.3	43.9	50.5	16.4	22.3	27.7	22.2	44.1	49.4	31.1	1.6	1.0	1.6	1.7	1.7	50.5	17.3	
30	2.1	2.1	2.0	1.9	1.7	1.5	2.1	3.5	6.4	5.5	4.7	2.7	7.4	4.3	9.6	2.7	12.2	3.1	10.9	4.3	7.3	1.8	0.7	3.5	12.2	4.3	
Hourly Max	37.5	24.9	22.9	36.1	29.8	24.2	45.6	72.9	120.2	124.6	101.8	70.4	74.8	73.9	67.5	48.7	49.0	49.4	55.4	25.9	19.8	26.2	14.6	27.1			
Hourly Average	5.7	4.3	4.9	7.4	7.0	7.2	11.8	25.3	41.0	36.1	32.0	29.8	29.1	30.1	27.4	23.9	26.4	21.2	17.5	8.9	7.7	8.1	4.7	6.0			

C = CALIBRATION PO = POWER OUTAGE

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



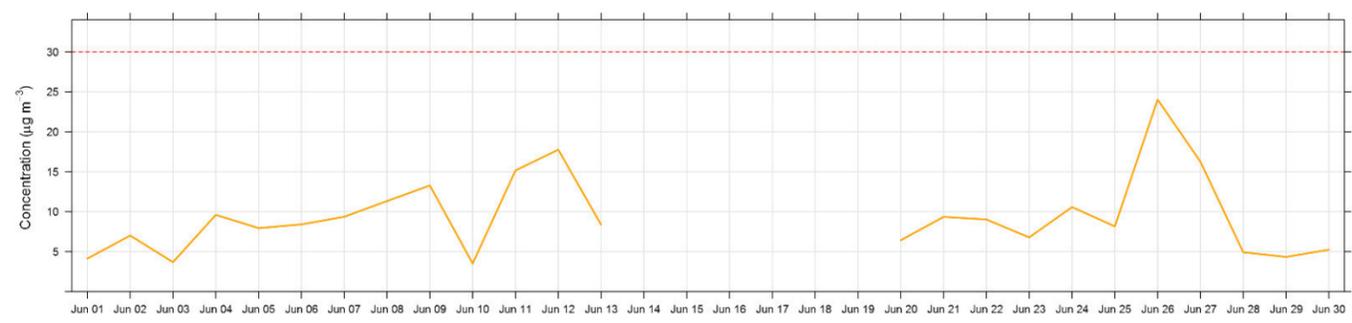
Number of 24HR Exceedances	0	Guideline	100	UG/M3
Number of Non-Zero Readings	447			
Maximum 1-HR Average	124.6	UG/M3		
Maximum 24-HR Average	38.4	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	587 HRS
Monthly Calibration Time	140	HRS	Operational Uptime	81.5 %
Standard Deviation	20.5		Monthly Average	17.7 UG/M3

Berm PM_{2.5} (µg/m³) – June 2018

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	1.3	1.2	0.6	0.9	1.0	2.4	4.2	4.6	3.5	2.6	3.7	6.8	10.6	7.2	6.4	4.4	5.8	9.6	11.4	3.0	1.9	2.1	2.2	1.8	11.4	4.1		
2	2.6	3.6	1.8	1.3	1.3	2.9	3.6	10.0	15.5	11.7	15.5	7.6	8.4	17.7	16.6	13.8	14.0	7.8	3.9	3.3	2.0	1.3	1.1	1.1	17.7	7.0		
3	1.1	1.2	1.3	1.5	1.2	1.6	2.1	5.2	6.7	6.6	3.3	3.7	2.8	4.4	4.3	2.5	3.0	1.3	5.7	2.7	2.9	10.1	5.5	7.7	10.1	3.7		
4	8.1	10.2	3.4	5.2	5.2	8.9	5.6	12.5	14.2	14.2	20.9	14.5	8.1	9.0	10.9	7.3	10.3	11.0	9.9	7.4	11.8	18.0	2.3	1.5	20.9	9.6		
5	1.6	2.3	1.1	1.3	0.9	0.9	1.1	2.7	1.8	4.5	7.3	22.7	16.0	13.5	19.1	13.0	10.3	15.5	9.5	9.0	20.6	12.5	1.5	1.9	22.7	7.9		
6	1.3	1.3	1.1	1.1	1.1	1.1	1.6	9.2	13.6	11.9	17.9	12.8	14.2	24.8	16.0	13.4	12.2	8.0	14.2	5.7	4.5	4.6	4.9	5.3	24.8	8.4		
7	5.8	6.4	7.5	8.1	7.3	7.6	11.5	12.3	14.0	11.5	16.3	9.8	7.3	6.0	20.0	15.1	11.5	9.7	10.8	5.2	4.7	4.9	5.6	6.1	20.0	9.4		
8	7.4	6.6	6.2	6.5	6.2	5.7	6.1	7.2	7.7	19.6	19.3	16.2	34.1	17.4	10.9	11.1	21.1	19.9	12.6	7.1	4.4	4.7	4.9	9.5	34.1	11.3		
9	5.9	4.0	6.0	6.3	7.0	5.3	5.7	13.1	21.4	17.7	40.8	25.6	27.0	37.7	16.0	11.7	25.6	10.0	10.1	8.2	6.0	5.3	1.6	0.7	40.8	13.3		
10	0.8	1.0	1.8	1.7	1.5	1.6	3.5	1.1	0.7	0.7	1.7	0.9	2.5	5.3	5.3	4.2	8.7	8.7	7.5	7.8	5.8	2.3	3.9	5.3	8.7	3.5		
11	6.4	4.8	3.3	2.8	3.4	3.7	5.8	13.8	16.3	16.6	10.4	12.7	14.8	21.7	22.6	16.2	16.4	20.5	34.6	41.9	29.2	28.2	9.1	8.8	41.9	15.2		
12	15.8	15.0	6.1	4.3	2.8	2.9	10.1	20.2	18.2	34.4	43.1	29.0	39.4	35.9	28.1	30.7	15.5	8.0	15.7	19.1	11.5	10.4	3.7	6.6	43.1	17.8		
13	3.3	3.4	2.2	3.2	3.5	1.6	9.6	18.3	14.7	12.8	19.2	14.1	11.5	17.0	13.0	13.4	10.4	8.9	3.6	2.4	5.8	4.7	1.6	2.7	19.2	8.4		
14	1.4	2.3	1.6	1.5	1.2	1.0	1.5	2.5	2.1	0.3	1.0	0.1	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.8	3.4	3.5	3.1	3.3	3.6	3.7	4.4	3.9	3.9	-	-	
20	3.8	3.9	4.3	5.3	5.7	6.3	8.2	9.9	13.6	13.0	7.1	6.6	6.5	6.7	6.6	7.0	8.7	4.8	3.9	3.9	4.6	4.7	4.6	4.7	13.6	6.4		
21	5.5	8.3	9.0	10.2	10.2	10.7	12.1	14.7	15.1	12.5	10.6	8.9	7.2	7.4	9.5	10.9	9.4	9.4	8.6	7.1	6.7	6.6	7.0	7.0	15.1	9.4		
22	7.3	7.8	8.2	8.4	8.2	8.5	8.5	9.2	10.4	11.4	16.7	15.6	13.6	11.2	9.7	9.9	10.0	9.8	6.6	4.7	4.8	5.7	5.6	4.9	16.7	9.0		
23	5.1	4.8	4.9	4.9	4.8	4.6	4.8	4.9	4.2	4.2	3.9	4.3	5.1	6.2	6.5	8.1	9.1	9.7	10.6	10.5	11.2	10.8	10.0	9.7	11.2	6.8		
24	9.6	10.0	9.3	9.5	10.2	10.9	11.4	12.1	13.1	23.5	12.4	11.1	7.9	7.4	7.4	12.1	10.2	9.6	7.8	7.5	9.1	10.2	10.4	11.1	23.5	10.6		
25	13.2	14.7	11.9	10.3	11.3	9.7	14.8	10.8	7.6	7.8	4.2	4.4	8.1	10.1	9.0	5.6	6.0	5.7	6.2	9.5	2.4	7.7	3.4	1.6	14.8	8.2		
26	1.1	3.1	1.6	1.4	3.8	7.3	22.3	22.5	24.2	36.5	21.3	45.0	39.3	31.3	61.3	47.3	52.9	42.6	40.1	19.2	23.3	15.5	8.2	5.9	61.3	24.0		
27	4.3	1.4	1.3	1.2	1.2	2.0	13.9	27.0	26.0	20.5	24.9	22.5	28.0	24.7	42.9	22.9	20.2	22.2	18.7	20.1	18.1	18.9	4.2	3.0	42.9	16.3		
28	5.2	3.5	2.4	3.9	4.4	7.4	10.0	7.1	6.7	7.1	6.7	6.4	5.4	4.0	3.9	4.2	4.9	6.0	4.0	4.4	3.2	4.1	1.8	1.3	10.0	4.9		
29	2.3	4.1	3.0	3.7	4.0	3.9	3.4	2.7	3.5	4.4	12.1	7.3	11.3	11.6	6.9	5.9	2.4	2.4	2.4	1.3	0.8	1.1	1.8	1.7	12.1	4.3		
30	2.1	2.2	2.5	2.1	1.9	1.8	1.7	1.7	4.4	5.9	13.4	7.6	11.8	15.0	9.4	5.0	3.3	4.4	5.1	4.5	2.1	2.6	7.2	8.2	15.0	5.2		
Hourly Max	15.8	15.0	11.9	10.3	11.3	10.9	22.3	27.0	26.0	36.5	43.1	45.0	39.4	37.7	61.3	47.3	52.9	42.6	40.1	41.9	29.2	28.2	10.4	11.1				
Hourly Average	4.9	5.1	4.1	4.3	4.4	4.8	7.3	10.2	11.2	12.5	14.2	12.6	14.2	14.7	14.6	12.0	12.2	10.7	10.7	8.8	8.0	8.1	4.7	4.9				

C = CALIBRATION

24-hour PM_{2.5} (µg m⁻³) at Berm

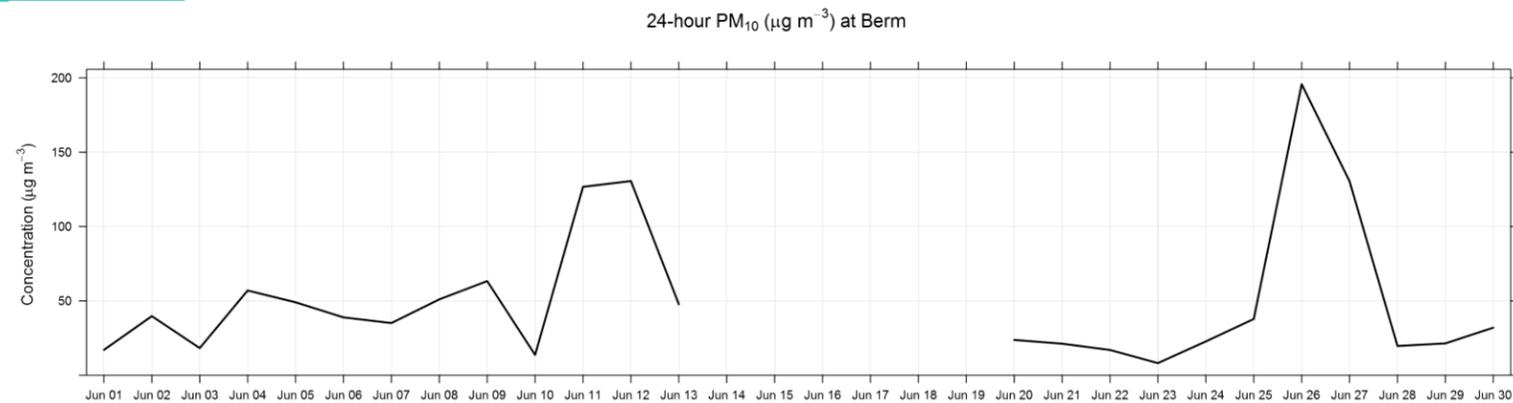


Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Guideline	30	UG/M3
Number of Non-Zero Readings	598			
Maximum 1-HR Average	61.3	UG/M3		
Maximum 24-HR Average	24.0	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	122	HRS	Operational Uptime	100.0 %
Standard Deviation	8.4		Monthly Average	9.1 UG/M3

Berm PM₁₀ (µg/m³) – June 2018

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	1.5	1.3	0.7	1.1	1.1	2.7	5.2	6.2	4.7	5.6	16.9	32.3	56.2	38.2	28.8	25.6	19.9	62.7	68.0	9.5	4.8	5.9	5.6	4.3	68.0	17.0	
2	8.7	12.0	5.3	2.1	2.3	10.1	16.0	50.5	128.2	82.2	95.4	38.2	45.5	96.1	96.0	91.2	86.1	46.1	17.1	14.9	5.6	1.8	1.3	1.4	128.2	39.7	
3	1.3	1.4	1.7	1.9	1.4	2.1	5.3	23.4	41.6	35.5	16.9	15.9	12.0	26.8	22.8	9.1	10.4	3.5	28.4	6.8	8.1	65.0	33.0	63.7	65.0	18.3	
4	59.2	47.6	11.9	31.3	32.5	44.2	24.0	74.7	83.6	76.6	123.0	91.1	39.4	49.5	74.9	40.4	62.7	69.0	59.2	54.4	79.7	127.8	7.5	3.7	127.8	57.0	
5	5.2	9.5	2.5	2.7	1.3	1.3	2.9	16.2	6.7	25.7	45.8	138.7	98.9	88.7	103.6	75.4	57.0	97.7	58.0	59.9	175.8	93.8	4.4	5.6	175.8	49.1	
6	3.1	2.8	1.5	1.5	1.6	1.5	4.5	57.9	81.8	61.4	90.8	61.4	83.1	130.3	75.2	67.4	56.8	30.1	81.2	15.5	6.2	5.6	6.1	6.4	130.3	38.9	
7	7.1	8.0	10.3	14.8	8.9	11.4	37.5	53.9	61.7	46.0	82.8	38.8	25.9	19.5	128.1	83.0	58.4	43.2	50.5	13.0	6.9	8.0	11.1	13.4	128.1	35.1	
8	23.7	14.9	10.7	10.1	9.7	8.1	11.7	23.7	30.8	108.1	107.5	76.3	171.0	92.2	52.3	61.6	128.3	113.5	73.4	32.6	8.5	9.0	8.5	38.7	171.0	51.0	
9	18.4	5.6	12.1	9.7	17.3	8.8	9.7	62.8	109.8	97.0	236.5	146.8	142.7	200.2	73.9	48.2	134.2	43.6	56.5	38.4	20.5	21.6	4.6	1.1	236.5	63.3	
10	1.5	1.4	3.7	2.2	1.7	1.7	4.6	1.2	0.8	0.8	3.3	2.9	10.7	21.5	25.2	19.5	44.4	39.1	36.4	35.5	23.3	8.9	16.1	21.8	44.4	13.7	
11	32.0	21.4	11.1	10.3	13.5	16.0	37.8	112.3	133.7	144.2	84.5	109.8	133.2	189.9	206.5	142.0	171.1	199.0	283.7	334.8	255.2	247.1	86.1	66.5	334.8	126.7	
12	99.2	115.4	49.4	30.0	15.9	18.3	72.0	158.1	148.8	254.2	336.3	238.7	302.6	270.9	221.7	218.1	103.3	44.2	112.6	132.7	76.8	71.8	15.9	28.0	336.3	130.6	
13	11.8	16.4	7.7	12.3	13.2	5.7	54.2	106.9	87.5	65.8	125.2	91.8	69.7	105.8	74.2	86.1	65.2	44.5	18.1	10.3	32.2	25.6	4.3	11.2	125.2	47.7	
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	11.6	15.7	14.1	11.0	10.8	12.4	10.0	13.0	7.4	7.0	-	-	
20	6.5	6.9	9.0	9.4	9.7	10.6	18.3	32.8	75.0	65.8	31.7	23.0	26.0	25.5	30.0	38.3	54.1	23.0	14.2	13.4	14.7	13.0	10.0	9.6	75.0	23.8	
21	11.6	17.0	13.8	15.3	14.2	13.7	21.7	42.5	56.0	46.5	47.4	38.1	26.8	29.8	30.5	13.2	10.6	10.7	9.6	8.4	8.2	7.7	7.8	7.9	56.0	21.2	
22	7.9	8.4	8.9	9.2	9.1	9.3	9.9	11.1	13.4	21.4	65.2	58.4	58.1	28.7	12.0	11.4	14.0	12.9	7.9	5.6	5.5	6.8	7.0	5.7	65.2	17.0	
23	6.3	5.5	5.5	5.4	5.3	4.9	5.1	5.1	4.5	4.4	4.2	4.6	5.4	6.8	7.1	9.2	11.1	12.3	13.7	12.7	15.0	14.8	13.7	13.2	15.0	8.2	
24	12.4	12.1	11.4	11.4	11.6	12.2	12.9	13.6	15.9	72.6	19.5	26.9	12.0	12.2	17.9	66.6	43.4	50.0	29.6	18.4	13.0	14.2	16.1	19.5	72.6	22.7	
25	35.5	48.9	27.3	20.2	23.0	22.7	50.2	38.7	25.8	19.2	7.4	23.1	45.5	78.1	73.6	55.3	54.7	43.8	51.5	76.4	12.6	52.8	15.7	5.7	78.1	37.8	
26	4.9	18.4	10.2	7.9	39.6	74.8	207.4	176.5	192.7	327.3	170.3	371.6	312.3	256.2	478.4	398.5	457.3	321.6	334.9	145.9	197.6	111.3	51.4	31.8	478.4	195.8	
27	26.4	3.6	2.5	2.0	1.9	8.1	97.3	226.1	249.9	156.8	173.9	162.9	217.3	191.8	344.9	194.5	169.8	204.8	174.0	199.3	165.5	117.3	22.6	17.1	344.9	130.4	
28	42.9	20.7	7.2	12.3	15.3	40.4	49.9	26.7	24.2	29.9	29.9	28.0	22.1	14.1	14.0	16.0	20.4	29.2	9.6	6.7	3.8	5.2	2.3	1.6	49.9	19.7	
29	3.2	5.7	3.5	4.1	4.3	4.3	3.9	3.8	12.1	27.6	83.4	44.1	93.3	97.8	52.8	44.6	5.8	5.4	5.7	1.7	1.0	1.4	2.4	2.3	97.8	21.4	
30	2.9	2.9	3.3	2.6	2.4	2.2	2.4	3.4	36.4	44.9	107.4	45.5	93.0	118.2	60.6	26.2	17.0	25.9	24.8	22.9	8.6	13.8	46.2	54.7	118.2	32.0	
Hourly Max	99.2	115.4	49.4	31.3	39.6	74.8	207.4	226.1	249.9	327.3	336.3	371.6	312.3	270.9	478.4	398.5	457.3	321.6	334.9	334.8	255.2	247.1	86.1	66.5			
Hourly Average	17.5	16.5	9.3	9.3	10.3	13.5	30.7	53.3	65.1	72.8	84.3	76.4	87.6	91.2	92.7	74.3	74.8	63.5	65.2	51.3	46.4	42.5	16.3	17.7			

C = CALIBRATION

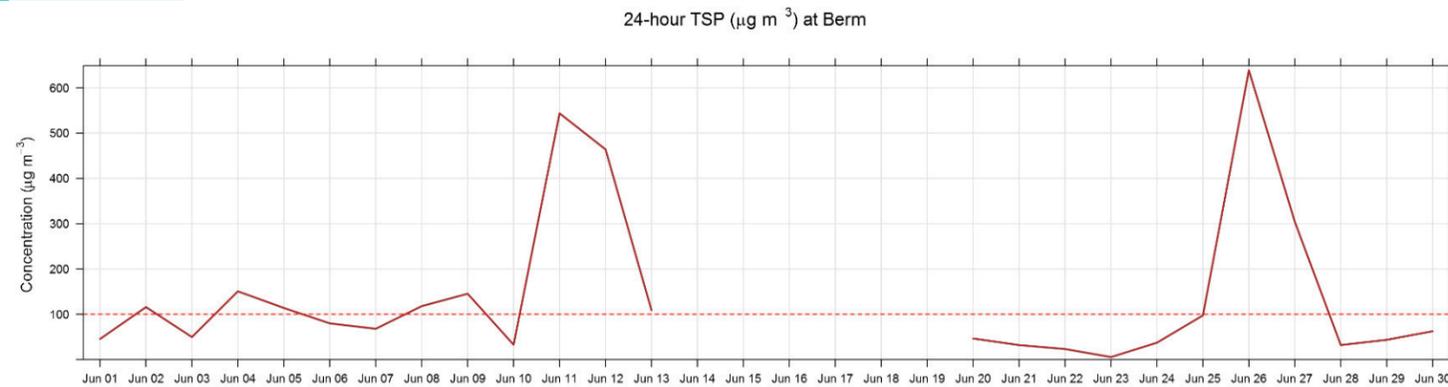


Number of 1HR Exceedances	n/a	Guideline	n/a	UG/M3
Number of Non-Zero Readings	598			
Maximum 1-HR Average	478.4	UG/M3		
Maximum 24-HR Average	195.8	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	122	HRS	Operational Uptime	100.0 %
Standard Deviation	70.0		Monthly Average	49.1 UG/M3

Berm TSP ($\mu\text{g}/\text{m}^3$) – June 2018

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	1.0	0.9	0.4	0.8	0.7	1.8	3.8	5.4	3.8	12.3	42.6	64.0	139.6	147.1	62.5	69.6	61.3	201.8	210.2	25.3	5.7	14.6	5.4	7.6	210.2	45.4	
2	34.6	30.0	10.6	2.2	2.2	28.7	56.8	132.6	460.3	274.9	269.7	103.2	130.3	222.5	232.4	278.9	241.4	163.5	49.7	37.1	11.8	2.8	1.0	1.4	460.3	115.8	
3	1.0	1.5	1.2	2.8	0.9	1.4	8.8	74.5	117.2	69.6	29.8	43.7	38.1	61.2	57.6	16.7	20.0	7.0	36.6	10.0	15.6	186.7	109.1	280.3	280.3	49.6	
4	200.7	94.9	30.5	88.4	122.4	120.6	31.0	199.2	187.3	177.2	291.2	227.8	95.2	111.0	228.7	88.0	184.4	212.2	155.4	146.2	248.2	354.4	12.6	6.8	354.4	150.6	
5	11.1	26.6	7.2	2.5	1.3	1.3	7.5	45.8	11.2	52.8	87.0	307.8	207.2	250.3	222.8	158.4	127.5	252.5	133.6	131.9	448.6	215.8	10.1	11.4	448.6	113.8	
6	5.2	3.0	2.5	1.9	3.4	1.1	7.5	123.5	191.7	115.6	154.3	115.6	193.7	287.3	161.8	129.6	129.3	65.4	164.4	32.2	10.8	6.9	4.4	4.4	287.3	79.8	
7	5.4	9.2	12.9	24.1	9.9	8.9	65.4	132.0	115.6	77.8	130.0	59.3	37.9	56.8	318.6	145.6	120.3	80.1	92.0	25.2	13.8	15.6	30.7	41.6	318.6	67.9	
8	64.2	42.9	34.4	38.2	38.6	22.0	17.9	40.3	58.3	238.8	237.1	157.2	361.4	219.5	117.4	153.5	365.2	245.8	167.0	64.2	23.3	13.7	11.6	96.1	365.2	117.9	
9	45.8	7.3	17.1	11.9	51.5	13.0	12.9	136.4	203.6	249.0	664.2	381.5	285.8	391.0	133.9	67.2	362.4	100.5	156.1	82.0	42.1	58.3	11.5	1.5	664.2	145.3	
10	1.1	2.9	7.1	3.4	1.1	1.1	3.3	0.8	0.5	0.6	5.9	3.8	20.7	38.5	70.0	54.5	125.8	101.4	111.5	85.8	32.9	16.0	45.3	49.2	125.8	32.6	
11	88.6	61.0	15.0	24.6	23.5	34.8	128.6	461.2	522.1	663.9	341.2	509.4	618.5	883.1	982.4	762.1	845.5	944.8	1154.5	1343.7	1070.4	956.4	373.8	237.4	1343.7	543.6	
12	273.1	420.7	204.4	123.3	59.2	69.1	251.0	545.6	575.1	970.8	1246.9	936.5	1071.4	989.3	831.6	752.1	361.6	133.7	356.7	424.8	237.8	221.7	37.5	42.2	1246.9	464.0	
13	13.5	24.9	19.6	23.9	22.7	10.1	124.2	211.3	183.7	128.0	316.6	246.5	158.5	246.3	156.2	242.2	165.2	84.0	35.8	22.4	79.5	64.1	5.2	32.2	316.6	109.0	
14	8.9	4.6	1.7	1.6	1.1	0.9	1.5	3.2	2.1	0.2	0.9	0.1	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	41.3	55.5	39.8	27.3	24.3	31.6	22.8	23.6	7.6	7.3	-	-	
20	6.4	10.9	14.6	14.7	15.5	15.4	35.9	79.2	154.2	127.6	49.0	40.1	47.9	43.0	61.7	106.6	143.2	46.8	23.2	18.7	20.9	20.9	10.0	8.6	154.2	46.5	
21	12.3	24.3	21.1	23.4	23.4	20.1	33.5	65.5	89.6	85.7	74.0	57.3	54.4	50.8	74.2	8.9	6.9	6.9	6.2	5.8	5.5	5.1	5.1	5.1	89.6	31.9	
22	5.2	5.4	5.8	5.9	5.9	6.1	6.6	7.5	9.6	30.1	135.8	103.1	105.7	60.5	10.2	7.5	10.4	9.2	5.6	3.8	3.6	4.5	4.8	3.7	135.8	23.2	
23	4.2	3.6	3.6	3.5	3.4	3.2	3.3	3.3	2.9	2.9	2.7	3.0	3.5	4.4	4.6	6.0	7.4	8.3	9.4	8.4	10.1	9.9	9.0	8.7	10.1	5.4	
24	8.1	7.9	7.4	7.4	7.5	8.0	8.4	8.9	10.5	110.6	25.7	64.1	12.3	16.9	37.6	168.2	77.8	128.3	65.5	32.1	14.0	18.1	14.1	33.0	168.2	37.2	
25	57.7	92.8	30.1	22.4	46.5	35.7	60.6	80.9	68.9	19.9	8.0	90.8	155.5	311.8	277.6	199.4	189.1	99.5	142.2	139.4	26.3	139.1	32.1	12.9	311.8	97.5	
26	20.3	78.5	30.6	29.0	212.1	332.9	844.8	640.7	764.0	1292.7	572.0	1261.0	985.9	877.6	1397.9	1224.8	1428.7	976.8	912.0	388.0	560.3	305.7	118.4	70.1	1428.7	638.5	
27	63.6	8.7	3.4	2.6	1.5	19.9	224.8	592.9	644.1	373.6	400.0	377.3	523.4	481.7	823.7	492.3	377.0	467.8	372.2	443.8	353.4	163.1	42.6	41.2	823.7	303.9	
28	81.7	40.3	12.0	17.6	24.3	55.1	68.3	39.0	35.4	56.0	48.5	51.2	34.2	20.2	23.0	23.6	41.0	54.5	21.2	10.4	2.6	3.5	1.6	1.2	81.7	31.9	
29	2.8	4.9	2.3	2.7	2.8	2.8	2.6	3.1	28.4	64.6	177.9	92.2	203.2	183.9	131.4	97.8	9.1	12.9	12.7	1.2	0.7	1.0	1.6	1.6	203.2	43.5	
30	2.2	2.1	2.3	1.8	1.7	1.5	2.5	4.6	100.4	92.7	203.7	62.7	202.4	249.4	108.0	38.4	23.2	45.7	29.4	42.8	16.1	40.0	93.1	133.4	249.4	62.5	
Hourly Max	273.1	420.7	204.4	123.3	212.1	332.9	844.8	640.7	764.0	1292.7	1246.9	1261.0	1071.4	989.3	1397.9	1224.8	1428.7	976.8	1154.5	1343.7	1070.4	956.4	373.8	280.3			
Hourly Average	40.8	40.4	19.9	19.2	27.3	32.6	80.5	145.5	181.6	211.5	220.6	214.4	237.0	258.5	262.7	213.9	218.5	179.1	177.9	142.3	131.1	114.5	39.9	45.6			

C = CALIBRATION

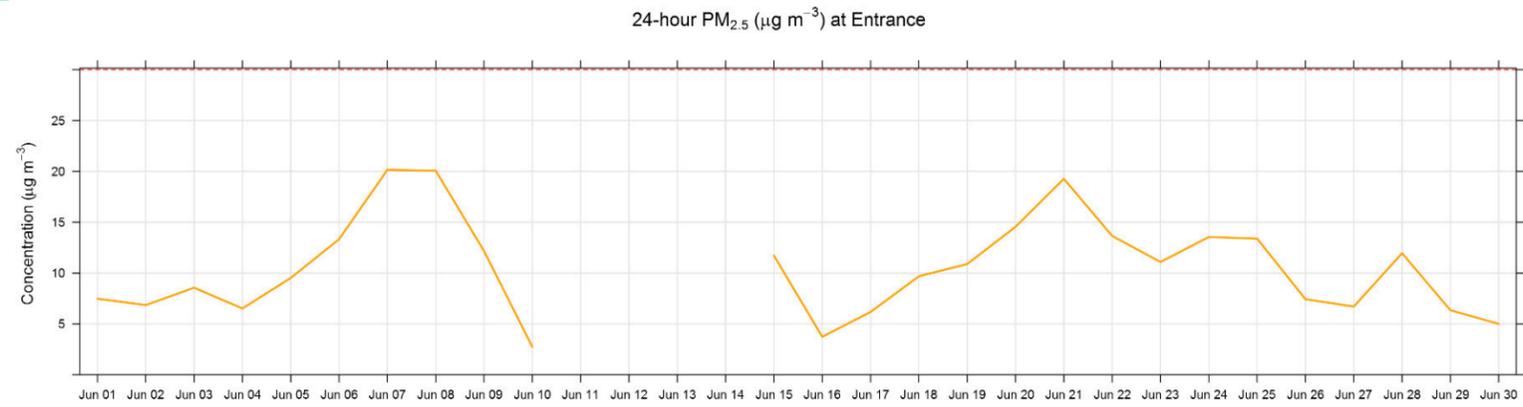


Number of 24HR Exceedances	10	Guideline	100	UG/M3
Number of Non-Zero Readings	598			
Maximum 1-HR Average	1428.7	UG/M3		
Maximum 24-HR Average	638.5	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	122	HRS	Operational Uptime	100.0 %
Standard Deviation	236.2		Monthly Average	135.3 UG/M3

Entrance PM_{2.5} (µg/m³) – June 2018

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	1.6	1.8	2.8	2.1	2.0	5.2	9.6	9.0	9.1	6.5	5.5	6.7	18.6	7.1	10.8	13.1	18.0	7.2	5.0	10.5	3.8	8.5	5.9	9.1	18.6	7.5	
2	7.0	3.7	3.9	4.8	4.7	3.6	5.8	8.1	16.7	10.6	9.4	9.8	6.5	5.7	4.8	7.1	8.6	5.4	6.3	7.5	9.8	5.5	3.8	5.2	16.7	6.9	
3	7.5	6.6	8.9	10.3	8.8	9.5	16.7	11.9	7.4	6.9	8.3	8.7	11.3	9.8	12.9	6.2	4.4	6.0	6.9	16.2	5.2	6.9	2.3	6.0	16.7	8.6	
4	11.6	4.3	1.5	7.0	3.9	1.8	3.6	3.6	6.3	6.7	12.1	10.1	10.1	6.7	9.5	8.1	6.8	8.6	3.4	6.8	10.8	5.2	4.6	3.2	12.1	6.5	
5	4.5	3.8	8.9	10.5	12.3	18.5	17.8	24.3	20.1	12.1	8.7	7.7	8.6	13.5	7.4	6.6	4.7	4.3	3.8	5.5	3.1	5.2	6.6	9.7	24.3	9.5	
6	9.2	9.0	11.2	18.9	18.1	14.0	12.8	13.8	7.3	9.4	8.3	10.6	16.0	20.4	18.3	12.4	12.8	11.0	13.1	13.4	11.9	11.2	17.8	19.0	20.4	13.3	
7	18.4	21.4	30.8	42.8	24.7	25.9	21.2	29.7	23.3	17.0	25.7	14.2	19.6	21.3	19.6	13.9	10.8	9.6	8.8	16.0	13.1	18.7	18.2	18.7	42.8	20.1	
8	15.1	24.9	22.7	25.2	31.2	33.6	30.7	37.9	25.7	15.5	15.7	18.3	16.7	17.1	14.3	17.8	21.1	14.5	7.8	8.1	18.7	21.0	17.7	10.4	37.9	20.1	
9	8.8	10.9	17.3	27.9	26.8	13.2	19.7	20.9	15.8	17.1	11.0	14.9	11.7	16.4	7.5	12.9	20.0	5.0	1.5	1.3	1.6	1.3	3.5	5.2	27.9	12.2	
10	2.7	4.0	7.1	4.7	5.0	3.3	3.0	2.8	2.1	1.9	3.2	4.0	3.1	2.4	5.0	2.6	1.7	1.6	0.9	0.9	1.2	1.6	0.5	0.6	7.1	2.7	
11	1.4	0.8	0.5	0.8	0.7	0.7	1.9	4.8	5.7	10.5	12.4	9.7	6.2	C	C	C	C	C	C	C	C	C	C	C	-	-	
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-	
14	C	C	C	C	C	C	C	C	C	C	C	2.7	2.6	2.6	6.7	7.9	10.7	10.5	7.5	3.0	10.1	4.2	3.6	5.7	-	-	
15	11.0	20.3	14.2	13.6	16.7	14.0	14.5	18.2	9.7	6.7	9.9	13.1	27.5	11.7	14.1	15.5	13.8	14.5	9.8	1.7	2.8	2.2	3.1	2.7	27.5	11.7	
16	3.0	3.2	2.6	2.5	1.2	1.3	2.7	2.7	1.9	4.4	3.1	3.6	3.6	5.4	7.2	3.8	3.4	4.0	6.2	3.6	3.2	4.5	5.5	6.7	7.2	3.7	
17	9.3	5.0	6.3	6.8	7.2	8.3	12.4	11.2	8.7	6.3	9.7	8.2	5.7	4.9	3.9	6.0	3.6	2.7	2.9	3.2	5.3	3.1	3.3	4.3	12.4	6.2	
18	3.7	5.4	7.7	7.4	8.4	16.4	20.1	11.6	10.8	18.0	7.1	11.7	11.5	7.3	10.0	12.3	10.9	9.4	8.3	7.0	11.4	6.4	5.4	4.4	20.1	9.7	
19	3.5	5.4	11.1	11.5	16.8	19.1	14.2	30.4	11.2	12.8	13.5	8.8	10.2	11.5	10.2	10.2	12.0	7.2	6.9	5.6	8.5	8.0	5.6	7.1	30.4	10.9	
20	6.3	7.7	12.6	16.5	17.3	23.0	22.5	31.6	23.6	17.6	19.6	13.2	16.3	15.1	15.9	13.0	12.4	11.1	7.5	9.4	8.4	7.8	6.7	14.2	31.6	14.5	
21	15.7	18.7	21.2	31.8	19.3	23.4	26.3	34.1	30.5	26.6	18.2	15.3	18.3	16.0	16.5	14.9	12.0	12.6	10.0	14.5	13.0	17.6	14.1	22.0	34.1	19.3	
22	15.9	14.5	13.6	12.9	12.3	14.7	17.7	20.9	21.2	18.1	14.1	12.1	10.7	14.5	13.4	10.9	12.1	12.1	12.0	11.1	11.2	11.9	9.1	10.6	21.2	13.6	
23	7.1	7.1	7.1	8.0	8.0	7.8	8.5	10.0	8.9	7.2	9.0	9.1	8.0	9.4	9.8	13.1	11.6	14.0	13.6	14.4	20.1	17.1	19.9	17.3	20.1	11.1	
24	19.0	15.7	15.5	15.7	14.2	17.2	18.9	15.4	18.4	16.9	14.9	13.2	10.8	10.3	9.1	13.2	9.7	8.4	8.1	10.5	10.8	11.9	14.0	13.4	19.0	13.5	
25	20.7	18.5	20.0	18.2	18.5	23.7	25.1	26.3	12.7	6.6	14.6	11.9	8.9	6.6	9.4	10.1	6.8	26.6	9.3	6.0	8.3	10.8	0.5	0.9	26.6	13.4	
26	0.9	0.9	2.1	1.1	3.5	6.3	9.7	10.6	19.3	19.5	9.6	9.8	9.4	10.8	8.9	9.1	9.7	9.5	5.2	3.9	4.8	2.8	6.3	4.6	19.5	7.4	
27	2.6	8.7	2.0	2.0	5.0	2.5	4.6	7.9	8.7	10.4	18.0	9.0	10.2	14.2	9.2	5.7	4.5	5.2	4.8	5.4	6.0	5.4	2.4	6.5	18.0	6.7	
28	18.8	7.1	4.4	4.9	8.9	14.9	18.1	17.4	24.2	25.0	15.9	16.5	17.6	10.4	10.3	16.3	14.6	18.3	4.5	4.9	5.6	4.3	1.8	2.0	25.0	12.0	
29	1.8	6.0	12.8	10.7	8.2	8.0	9.2	11.8	7.9	6.0	5.4	5.4	7.4	5.7	5.1	10.7	3.4	4.9	3.3	1.6	3.1	2.2	6.6	5.1	12.8	6.3	
30	7.8	11.4	9.0	4.9	7.7	9.1	7.1	10.7	7.6	7.1	4.0	4.9	6.1	4.7	3.5	2.0	2.6	1.5	1.2	1.3	1.2	1.9	1.4	1.1	11.4	5.0	
Hourly Max																											
Hourly Average																											

C = CALIBRATION



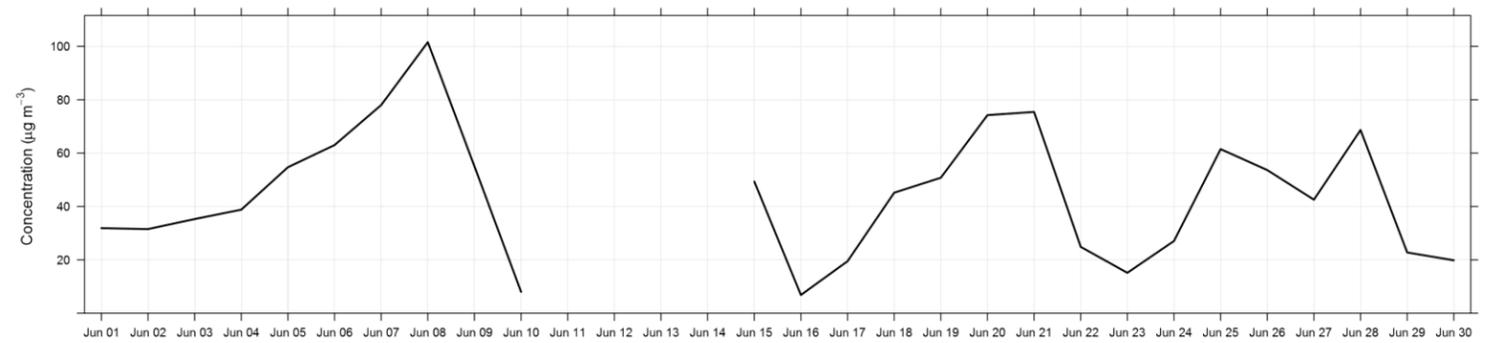
Number of 1HR Exceedances	0	Guideline	80	UG/M3
Number of 24HR Exceedances	0	Guideline	30	UG/M3
Number of Non-Zero Readings	650			
Maximum 1-HR Average	42.8	UG/M3		
Maximum 24-HR Average	20.1	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	70	HRS	Operational Uptime	100.0 %
Standard Deviation	6.8		Monthly Average	10.3 UG/M3

Entrance PM₁₀ (µg/m³) – June 2018

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	1.7	1.9	3.3	2.5	2.4	6.2	12.6	12.8	13.3	13.0	23.6	33.8	125.9	42.1	60.6	84.1	133.8	34.2	27.7	43.2	8.2	28.9	18.5	30.8	133.8	31.9	
2	23.8	6.3	10.1	14.2	14.3	9.5	31.4	53.3	103.5	69.5	58.9	67.2	35.1	29.9	23.3	31.7	37.8	16.8	18.4	26.1	31.3	19.6	14.0	10.7	103.5	31.5	
3	18.6	15.8	27.0	40.5	31.2	23.8	56.4	40.2	20.3	32.8	47.9	55.9	68.0	47.2	59.0	22.5	13.8	18.5	20.8	76.7	20.0	42.0	13.8	33.8	76.7	35.3	
4	58.8	20.4	5.2	26.3	24.2	8.1	20.9	22.0	39.8	41.2	108.3	67.9	67.9	47.6	68.2	52.9	34.2	59.0	12.9	28.5	76.0	16.5	14.1	10.3	108.3	38.8	
5	8.7	6.2	55.8	48.4	72.6	96.9	102.3	173.0	117.3	79.3	53.0	60.8	53.0	83.1	48.7	41.1	26.6	21.3	14.7	14.7	9.2	16.7	35.2	74.0	173.0	54.7	
6	60.9	56.2	63.8	109.3	90.7	86.4	74.1	71.5	36.8	45.7	35.6	56.3	85.1	109.7	90.6	62.0	50.8	34.8	50.3	45.7	37.8	30.6	59.0	68.5	109.7	63.0	
7	53.4	64.6	112.9	214.2	85.0	93.1	62.6	130.7	92.6	59.9	78.3	52.5	93.7	114.5	92.0	47.7	32.2	24.1	21.8	68.7	44.0	72.8	74.9	85.5	214.2	78.0	
8	55.6	130.6	100.0	117.2	152.7	169.7	154.4	235.0	135.8	65.4	81.4	102.6	94.7	92.3	64.7	103.2	126.7	72.8	32.0	24.6	90.3	111.3	92.0	32.1	235.0	101.5	
9	20.9	36.0	79.0	121.9	129.4	48.2	81.4	103.3	61.2	78.7	59.5	76.1	52.4	82.9	28.5	66.1	120.2	24.0	6.6	3.6	3.6	3.0	11.1	23.0	129.4	55.0	
10	6.7	12.0	26.3	6.5	6.5	3.9	3.5	3.3	2.4	2.2	6.4	15.6	12.5	13.7	22.6	14.0	9.5	6.0	4.6	4.2	3.4	2.9	1.7	1.5	26.3	8.0	
11	6.4	2.7	1.4	3.4	2.8	2.5	9.4	24.9	34.5	72.5	69.4	58.3	40.3	C	C	C	C	C	C	C	C	C	C	C	-	-	
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
14	C	C	C	C	C	C	C	C	C	C	C	3.7	3.6	3.8	10.0	11.8	16.1	50.5	37.8	10.7	17.3	6.2	5.4	8.6	-	-	
15	16.5	30.5	21.3	20.3	25.0	20.9	21.8	27.3	14.4	22.4	61.6	104.4	228.2	87.9	109.3	109.6	91.6	94.4	60.6	2.5	3.9	2.7	4.0	3.4	228.2	49.4	
16	3.9	4.0	3.2	3.0	1.5	1.7	3.4	3.4	2.4	5.7	3.8	4.6	4.7	14.3	19.4	6.8	4.4	8.0	28.4	9.6	4.3	5.9	8.1	9.9	28.4	6.8	
17	13.5	7.3	9.2	10.1	10.8	12.3	21.7	41.0	32.3	20.1	49.4	44.8	26.1	26.8	15.3	30.5	15.8	8.3	11.8	12.1	22.3	7.0	5.9	13.2	49.4	19.5	
18	6.8	13.3	11.3	10.9	12.5	24.5	88.0	48.2	42.7	119.0	35.6	81.9	76.6	47.6	74.3	95.9	71.0	57.6	47.3	26.9	47.2	16.8	17.7	10.2	119.0	45.2	
19	5.4	15.3	16.6	17.2	25.2	28.6	59.5	202.6	45.1	65.6	90.0	63.7	67.8	83.5	69.3	70.7	87.9	36.8	34.3	27.3	34.8	33.2	14.1	23.7	202.6	50.8	
20	18.4	17.1	18.8	24.7	25.8	80.2	138.5	229.1	133.7	91.4	123.6	67.8	105.6	92.8	111.5	81.9	93.0	76.6	40.4	51.6	44.2	28.1	23.0	63.6	229.1	74.2	
21	75.4	83.8	83.2	142.0	57.4	87.3	114.6	194.6	152.7	134.2	100.5	86.0	111.4	109.5	88.2	24.8	15.2	17.1	11.9	21.1	19.1	26.2	20.7	33.0	194.6	75.4	
22	23.1	21.0	19.7	18.3	16.7	21.5	26.2	31.2	31.8	64.1	42.7	33.0	36.3	46.5	22.6	12.2	16.0	16.5	17.8	16.7	16.8	17.7	13.0	15.6	64.1	24.9	
23	9.4	10.1	9.8	11.4	11.4	10.9	11.9	13.9	11.5	10.0	12.9	13.2	10.0	11.7	12.8	18.4	15.3	18.9	18.3	19.6	26.1	23.7	26.9	25.4	26.9	15.1	
24	27.8	23.2	22.6	22.9	20.1	25.1	27.7	20.3	25.6	29.0	25.8	47.2	29.8	24.3	22.8	43.8	35.0	25.9	19.9	29.9	21.2	21.0	33.6	25.4	47.2	27.1	
25	55.0	46.0	54.9	49.9	34.5	80.5	105.5	119.9	44.1	13.7	60.6	70.8	55.9	41.2	56.2	86.4	46.1	197.1	68.3	36.3	66.3	80.5	1.7	4.2	197.1	61.5	
26	3.3	3.8	9.6	4.2	22.2	43.5	79.2	101.8	171.1	150.5	76.4	75.4	71.0	65.5	69.3	66.7	68.7	68.1	38.1	23.0	21.9	11.0	27.4	15.2	171.1	53.6	
27	7.5	38.1	6.5	6.2	25.4	11.0	22.4	51.9	59.2	84.8	137.8	71.5	75.9	104.7	65.8	35.4	24.7	27.5	27.6	32.3	30.7	31.7	6.9	35.1	137.8	42.5	
28	135.8	63.0	19.8	18.2	56.2	98.3	103.6	97.9	134.3	154.3	93.8	95.4	114.9	57.2	56.5	109.8	87.3	113.7	13.5	6.8	7.3	5.3	2.1	2.7	154.3	68.7	
29	2.4	8.5	19.2	16.0	12.1	11.9	21.7	68.4	38.7	26.8	24.8	22.5	45.9	37.7	37.0	75.9	20.0	21.2	10.7	2.0	3.8	2.7	9.3	7.4	75.9	22.8	
30	11.1	17.1	13.6	7.2	11.5	13.7	34.9	71.7	45.3	47.9	23.3	33.1	47.1	31.6	21.7	9.3	9.5	5.9	3.8	3.0	2.6	4.4	4.1	2.5	71.7	19.8	
Hourly Max	135.8	130.6	112.9	214.2	152.7	169.7	154.4	235.0	171.1	154.3	137.8	104.4	228.2	114.5	111.5	109.8	133.8	197.1	68.3	76.7	90.3	111.3	92.0	85.5			
Hourly Average	27.1	27.9	30.5	40.3	36.3	41.5	55.2	81.2	60.8	59.2	58.7	55.9	65.7	57.4	52.6	52.4	48.3	42.8	25.9	24.7	26.4	24.8	20.7	24.8			

C = CALIBRATION

24-hour PM₁₀ (µg m⁻³) at Entrance



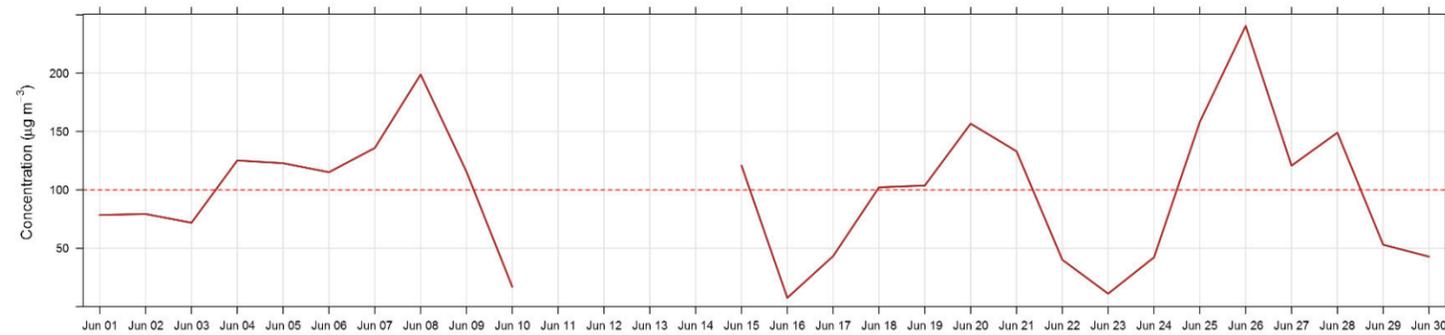
Number of 1HR Exceedances	n/a	Guideline	n/a	UG/M ₃
Number of Non-Zero Readings	650			
Maximum 1-HR Average	235.0	UG/M3		
Maximum 24-HR Average	101.5	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720 HRS
Monthly Calibration Time	70	HRS	Operational Uptime	100.0 %
Standard Deviation	40.2		Monthly Average	43.4 UG/M ₃

Entrance TSP ($\mu\text{g}/\text{m}^3$) – June 2018

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	1.2	2.2	1.7	1.6	4.1	8.5	10.8	11.6	22.2	49.4	122.2	339.7	130.2	170.1	221.7	359.1	64.5	113.9	80.9	23.1	47.9	44.8	50.6	359.1	78.5	
2	55.2	9.8	22.7	36.2	31.9	24.8	94.6	176.6	280.8	228.2	167.6	194.5	72.9	91.4	65.7	69.5	87.1	31.6	28.7	33.2	35.7	27.0	18.2	19.0	280.8	79.3	
3	21.8	23.7	47.9	70.0	70.6	25.2	70.2	70.4	27.1	66.8	109.5	136.9	146.9	89.9	96.8	41.2	25.1	26.6	32.2	113.3	67.3	191.3	54.7	97.4	191.3	71.8	
4	167.2	55.9	16.2	53.0	94.2	24.5	54.0	94.1	106.5	119.8	348.1	212.2	224.3	177.7	224.7	191.6	116.5	248.0	46.6	55.0	287.5	48.1	20.6	17.6	348.1	125.2	
5	14.5	14.5	94.3	84.8	128.6	163.1	254.4	484.1	250.4	170.7	120.1	182.5	151.4	162.5	132.6	108.3	69.6	50.9	34.4	23.6	10.7	24.7	71.9	144.7	484.1	122.8	
6	124.3	120.3	86.9	173.4	140.1	168.9	132.9	125.1	79.3	111.5	75.0	128.8	199.3	217.5	189.3	144.1	98.4	59.4	70.5	71.4	56.6	45.1	70.5	73.7	217.5	115.1	
7	78.9	91.1	193.3	331.7	147.3	143.7	93.2	212.8	162.5	91.8	122.5	98.0	154.2	292.7	203.8	73.1	52.2	45.4	38.9	100.5	69.0	104.9	146.8	212.4	331.7	135.9	
8	143.1	295.2	193.3	200.5	272.1	307.6	268.7	426.7	261.4	147.4	199.7	224.9	235.8	214.9	123.7	243.8	267.7	145.5	54.6	37.0	127.5	165.2	151.6	63.1	426.7	198.8	
9	29.3	46.5	192.8	212.2	296.9	93.2	146.8	201.9	125.5	153.6	156.0	180.4	95.6	147.1	43.6	98.3	386.2	78.0	15.5	13.6	9.3	5.7	17.3	27.7	386.2	115.5	
10	6.2	13.9	29.0	5.0	4.6	2.6	2.3	2.2	1.6	1.5	5.2	39.6	23.1	39.4	58.1	47.8	37.6	20.1	25.0	14.5	5.3	11.3	6.1	4.2	58.1	16.9	
11	21.7	9.6	6.5	12.4	7.6	11.2	24.2	93.0	140.4	286.5	220.1	225.7	180.6	C	C	C	C	C	C	C	C	C	C	C	-	-	
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	-
14	C	C	C	C	C	C	C	C	C	C	C	2.9	3.0	3.4	11.0	12.6	18.5	96.7	79.3	20.7	22.6	6.9	5.8	9.1	-	-	
15	18.5	35.3	24.6	23.2	28.4	23.9	24.7	30.7	15.7	33.0	128.2	250.8	629.8	243.4	373.9	308.1	333.0	234.5	125.5	5.2	3.1	1.8	2.8	2.4	629.8	120.9	
16	2.7	2.8	2.1	2.0	1.0	1.3	2.4	2.4	1.8	4.3	2.5	3.5	3.8	11.5	19.9	9.7	3.3	9.7	52.8	15.6	3.1	4.4	7.5	9.6	52.8	7.5	
17	11.4	6.4	8.3	9.5	10.4	12.2	32.0	69.8	55.4	35.0	137.7	144.6	81.1	93.0	42.7	87.0	51.7	18.7	23.6	26.5	43.2	8.2	8.3	21.1	144.6	43.2	
18	9.7	16.8	10.9	10.2	12.1	27.4	170.2	86.4	93.5	330.4	100.4	221.6	203.8	115.1	199.1	242.7	184.5	133.7	96.5	40.4	89.8	21.4	23.8	11.4	330.4	102.2	
19	4.3	16.9	17.5	18.1	27.3	32.2	91.4	429.6	70.3	137.9	212.8	166.5	170.3	221.0	180.3	143.1	204.2	81.3	65.9	53.8	53.8	39.9	21.8	29.3	429.6	103.7	
20	23.0	19.1	18.6	24.5	26.2	119.5	382.7	625.5	257.3	171.7	244.2	153.5	221.9	210.6	250.2	199.0	238.8	156.9	80.4	93.2	77.6	33.9	28.3	102.6	625.5	156.6	
21	99.3	104.4	97.9	293.0	102.2	138.4	222.0	380.3	274.6	199.2	172.2	170.9	264.7	266.7	236.4	23.6	10.1	12.2	7.8	18.5	17.1	27.3	19.4	35.0	380.3	133.0	
22	21.8	19.0	17.5	15.2	13.8	20.2	26.6	33.7	34.6	166.7	106.6	77.0	91.9	145.4	40.4	8.0	11.0	12.2	17.9	17.7	17.6	18.5	12.2	15.9	166.7	40.1	
23	6.7	7.4	7.2	8.3	8.3	7.9	8.4	10.0	7.7	6.8	9.9	10.0	7.4	7.9	8.9	13.9	11.3	14.3	13.9	14.6	18.0	17.1	17.9	21.6	21.6	11.1	
24	24.1	19.2	18.8	17.9	14.9	22.7	24.9	15.1	20.8	30.8	29.2	118.1	83.3	43.3	47.7	97.0	90.4	54.4	38.2	57.6	43.7	30.9	40.0	29.1	118.1	42.2	
25	103.4	70.6	87.8	102.5	55.3	171.3	215.9	217.2	126.2	18.5	142.6	222.1	200.3	153.2	169.8	313.4	127.0	478.1	192.9	82.9	215.9	312.2	5.1	13.1	478.1	158.2	
26	7.0	24.0	17.3	10.1	83.4	178.9	355.6	502.3	861.1	743.7	380.0	318.4	356.3	283.4	316.0	300.5	328.0	275.7	170.3	97.0	47.7	32.3	54.3	26.0	861.1	240.4	
27	13.7	58.4	8.2	9.6	36.9	19.3	55.1	165.6	209.3	281.7	473.0	207.9	235.3	300.4	211.9	101.2	58.1	68.5	69.2	86.7	60.7	89.7	8.8	68.2	473.0	120.7	
28	217.5	102.9	44.4	42.3	108.5	208.6	198.1	219.8	368.9	358.7	228.8	197.7	280.5	111.1	126.0	262.7	194.2	249.2	36.6	5.2	5.1	3.6	1.5	2.1	368.9	148.9	
29	1.9	8.2	21.4	17.4	11.6	11.6	37.8	174.1	106.7	68.0	60.6	51.0	91.6	81.5	119.1	221.3	40.8	96.0	30.7	1.7	2.7	1.9	8.4	6.0	221.3	53.0	
30	10.5	18.3	15.0	7.2	12.5	15.3	66.7	154.9	97.1	127.7	50.4	80.5	114.8	80.6	67.3	23.1	24.5	23.9	6.2	6.3	4.9	7.6	7.5	4.0	154.9	42.8	
Hourly Max	217.5	295.2	193.3	331.7	296.9	307.6	382.7	625.5	861.1	743.7	473.0	318.4	629.8	300.4	373.9	313.4	386.2	478.1	192.9	113.3	287.5	312.2	151.6	212.4			
Hourly Average	45.9	44.9	48.2	66.4	64.8	73.3	113.5	185.7	149.9	152.4	150.1	148.0	173.7	145.7	138.1	133.6	127.0	103.2	58.1	43.9	52.5	49.2	32.5	41.4			

C = CALIBRATION

24-hour TSP ($\mu\text{g m}^{-3}$) at Entrance



Number of 24HR Exceedances	15	Guideline	100	UG/M3
Number of Non-Zero Readings	650			
Maximum 1-HR Average	861.1	UG/M3		
Maximum 24-HR Average	240.4	UG/M3		
IZS Calibration Time	0	HRS	Operational Time	720
Monthly Calibration Time	70	HRS	Operational Uptime	100.0
Standard Deviation	109.5		Monthly Average	97.8
				UG/M3

MetOne BAM PM_{2.5} Calibration



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

OPERATOR: Darrin Pike
 DATE: June 22, 2018
 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	03-May-18

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	19.0	649	0.00	16.7	12:56
As Found Data					
MEASURED (AF)	19.0	649	0.40	16.50	12:56
AF Difference (AF-I)	0.0	0	0.40	-0.20	0:00
Adjusted Data					
MEASURED (M)	19.0	649	0.40	16.68	12:56
Adj Difference (M-I)	0.0	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: inspected and cleaned

Status of sampling tape: half roll

Nozzle Inspection / cleanliness: clean

COMMENTS:



AIR QUALITY MONITORING

MetOne BAM PM₁₀ Calibration

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

OPERATOR: Darrin Pike
 DATE: June 22, 2018
 END TIME (MST): 13:00

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
 Configuration PM10
 Serial Number A3315

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-17

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
<i>Audit values (I)</i>	19.0	649	0.00	16.7	12:55
As Found Data					
MEASURED (AF)	19.0	649	0.40	16.68	12:55
AF Difference (AF-I)	0.5	0	0.40	-0.02	0:00
Adjusted Data					
MEASURED (M)	19.0	649	0.40	16.68	12:55
Adj Difference (M-I)	0.0	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: inspected and cleaned

Status of sampling tape: half roll

Nozzle Inspection / cleanliness: clean

COMMENTS:



AIR QUALITY MONITORING

MetOne BAM TSP Calibration

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

OPERATOR: Darrin Pike
 DATE: June 22, 2018
 END TIME (MST): 14:00

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
 Configuration TSP
 Serial Number A3589

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-17

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (^o C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	17.3	649	0.00	16.7	13:55
As Found Data					
MEASURED (AF)	17.3	649	0.70	16.80	13:55
AF Difference (AF-I)	0.0	0	0.70	0.10	0:00
Adjusted Data					
MEASURED (M)	17.3	649	0.70	16.64	13:55
Adj Difference (M-I)	0.0	0	0.70	-0.06	0:00
LIMITS	± 4.0 ^oC	5 mm Hg	1.0 L/min	± 1.0 L/min	±2 min

Sample Head Inspect/Cleaning: inspected and cleaned

Status of sampling tape: half roll

Nozzle Inspection / cleanliness: clean

COMMENTS:

Calibration Report



AIR QUALITY MONITORING

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

Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine	Installation	Removal Other: _____
Start Time (MST)	8:40	End Time (MST)	11:55
Barometric Pressure	656 mmHg	Station Temperature	22.0 Deg C
Calibrator	SABIO	Serial Number	103951108
NO Cal Gas Conc	51.4 ppm	Cal Gas Expiry Date	February 14, 2020
NO _x Cal Gas Conc	51.5 ppm	Cal Gas Serial #	cc27839

DACS Information

DACS make	Campbell Scientific CR1000	DACS serial No.	67802
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	Parameter	NO ₂	NO _x	NO
Before	Data Slope	0.996061	1.000008	0.994490
	Data Offset	1.645716	2.355678	2.818515
After	Data Slope	1.002758	1.005648	1.003530
	Data Offset	0.988921	2.095450	2.121805
	Channel #	3	1	2
	Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	T200	Analyzer serial #	642
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO Slope	1.045		1.057	
NO Offset	0.0	mV	0.7	mV
NOX Slope	1.043		1.053	
NOX Offset	0.6	mV	1.2	mV
HVPS	771	v	771	v
Moly Temp	314.6	degC	316.8	degC
O3 Flow	82	ccm	81	ccm
RxCeII Press	6.7	inHg	6.7	inHg
Sample press	24.4	inHg	24.0	inHg
Sample flow	448	ccm	441	ccm

Notes: removal calibration to replace sample pump

Calibration Report

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

Station Information

Calibration Date: June 20, 2018 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	-1.2	-1.5	-0.6	N/A	N/A
1	5000	39.00	398.6	397.8	0.8	394.7	394.4	-0.3	1.0098	1.0086
2	5000	20.00	205.2	204.8	0.4	201.5	202.2	-1.1	1.0180	1.0127
3	7000	14.00	102.8	102.6	0.2	99.2	99.1	-0.8	1.0367	1.0358
AFZ	5000	0.00	0.0	0.0	0.0	-1.2	-1.5	-0.6	0.0000	0.0000
AFS	5000	40.00	408.7	407.9	0.8	394.7	394.4	-0.3	1.0355	1.0342
Average Correction Factor									1.0215	1.0190

As Found Concentrations: NO_x= 398.2 NO= 398.7 As Found Percent Change NO_x= -2.6% 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	-1.5	-1.5	0.0	-1.2	-1.5	-0.6	N/A	N/A	N/A	N/A
NO point	397.7	397.7	0.0	396.8	397.7	-1.5	1.0022	1.0000	N/A	N/A
0.77V	397.7	126.2	271.5	396.4	126.2	269.5	1.0033	1.0000	1.0072	99.3%
0.5V	397.7	235.3	162.4	397.7	235.3	161.7	0.9999	1.0000	1.0043	99.6%
0.3V	397.7	322.7	75.0	396.4	322.7	72.9	1.0032	1.0000	1.0283	97.2%
Average Correction Factor							1.0021	1.0000	1.0133	98.7%

AIC Data

Parameter	Previous calibration				Current calibration			
	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.9	0.2	1.5	ppb	NA	NA	NA	ppb
Auto span	389.9	0.5	388.4	ppb	NA	NA	NA	ppb

Calibration Performed By: Darrin Pike

Calibration Summary

Parameter NO₂
 Air Monitoring Network Lafarge - Exshaw



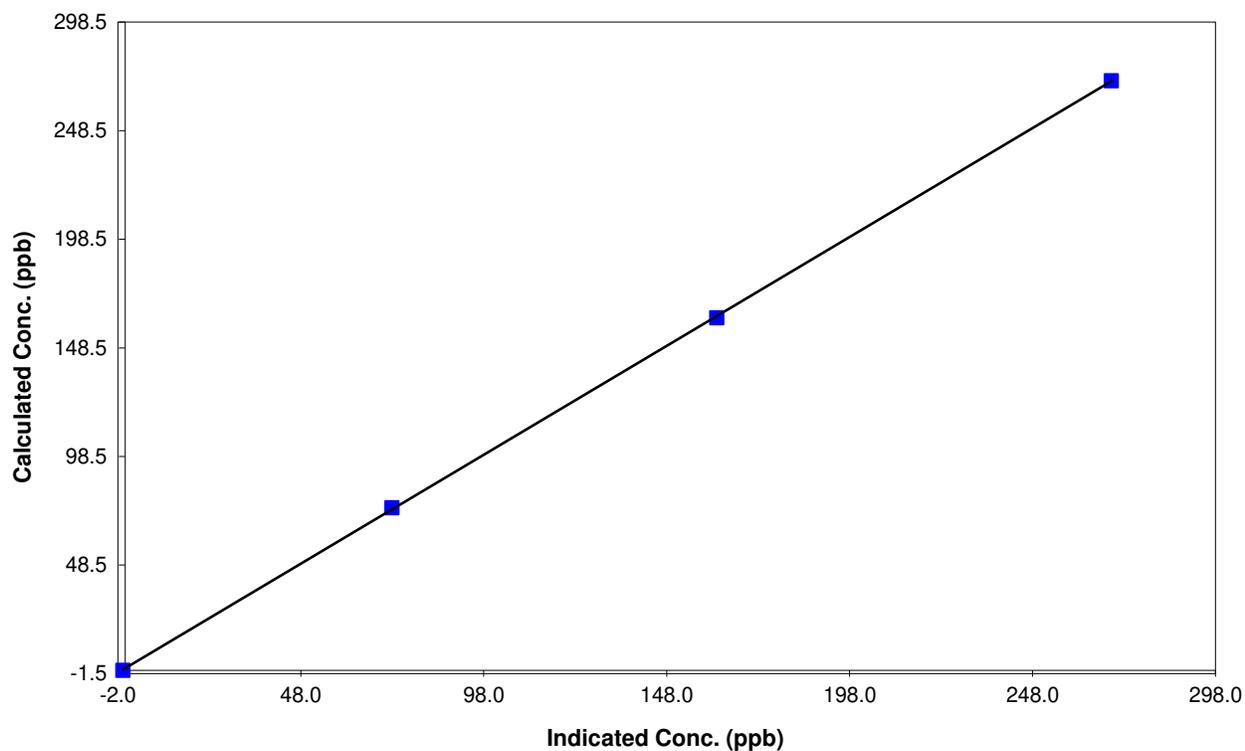
Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	8:40	End Time (MST)	11:55
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.6	N/A	Correlation Coefficient	0.999964
271.5	269.5	1.0072		
162.4	161.7	1.0043	Slope	1.002758
75.0	72.9	1.0283		
			Intercept	0.988921

NO₂ Calibration Curve



Calibration Summary



AIR QUALITY MONITORING

Parameter NO_x

Air Monitoring Network Lafarge - Exshaw

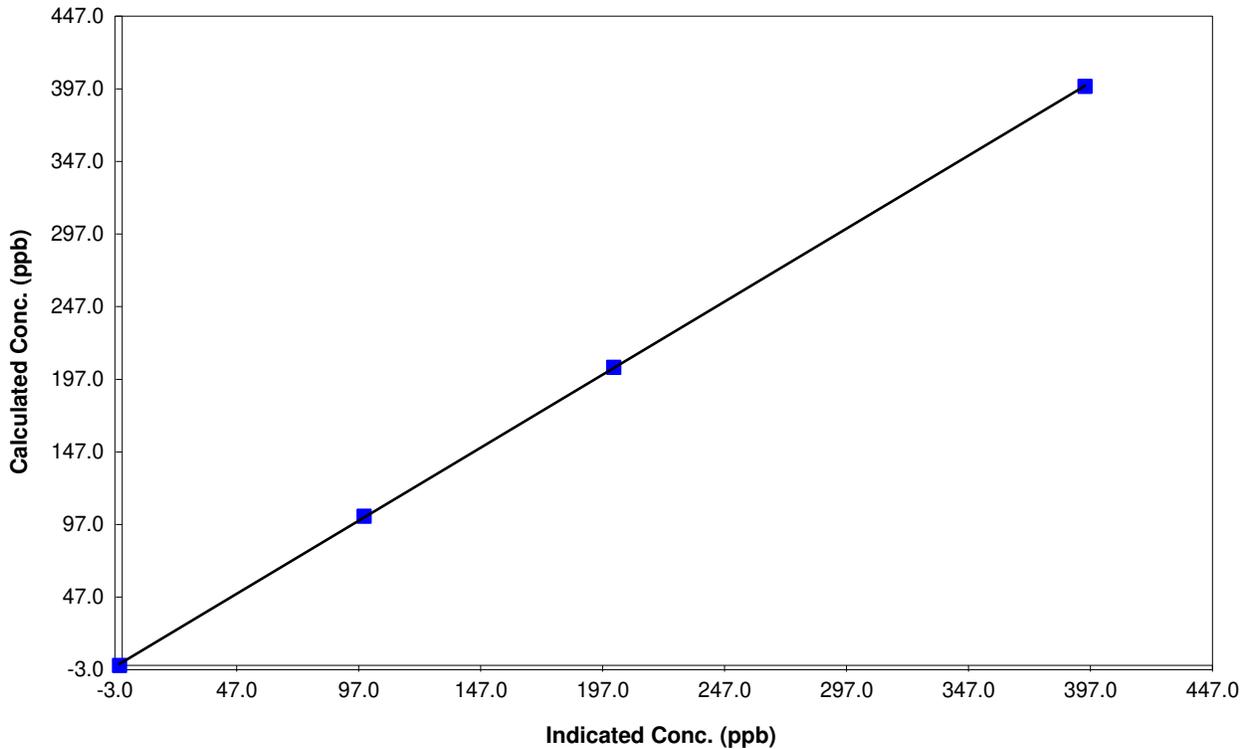
Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	8:40	End Time (MST)	11:55
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.2	N/A	Correlation Coefficient	0.999975
398.6	394.7	1.0098		
205.2	201.5	1.0180	Slope	1.005648
102.8	99.2	1.0367		
			Intercept	2.095450

NO_x Calibration Curve



Calibration Summary



AIR QUALITY MONITORING

Parameter NO

Air Monitoring Network Lafarge - Exshaw

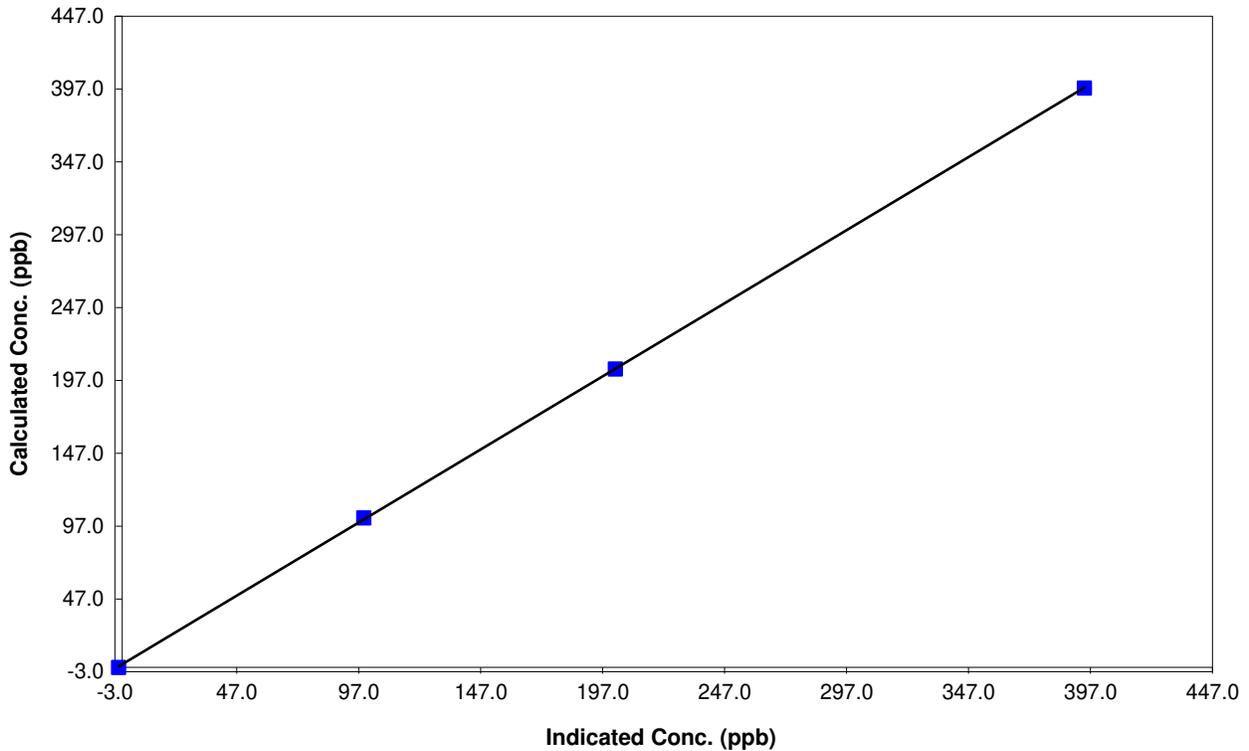
Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	8:40	End Time (MST)	11:55
Analyzer make	T200	Analyzer serial #	642

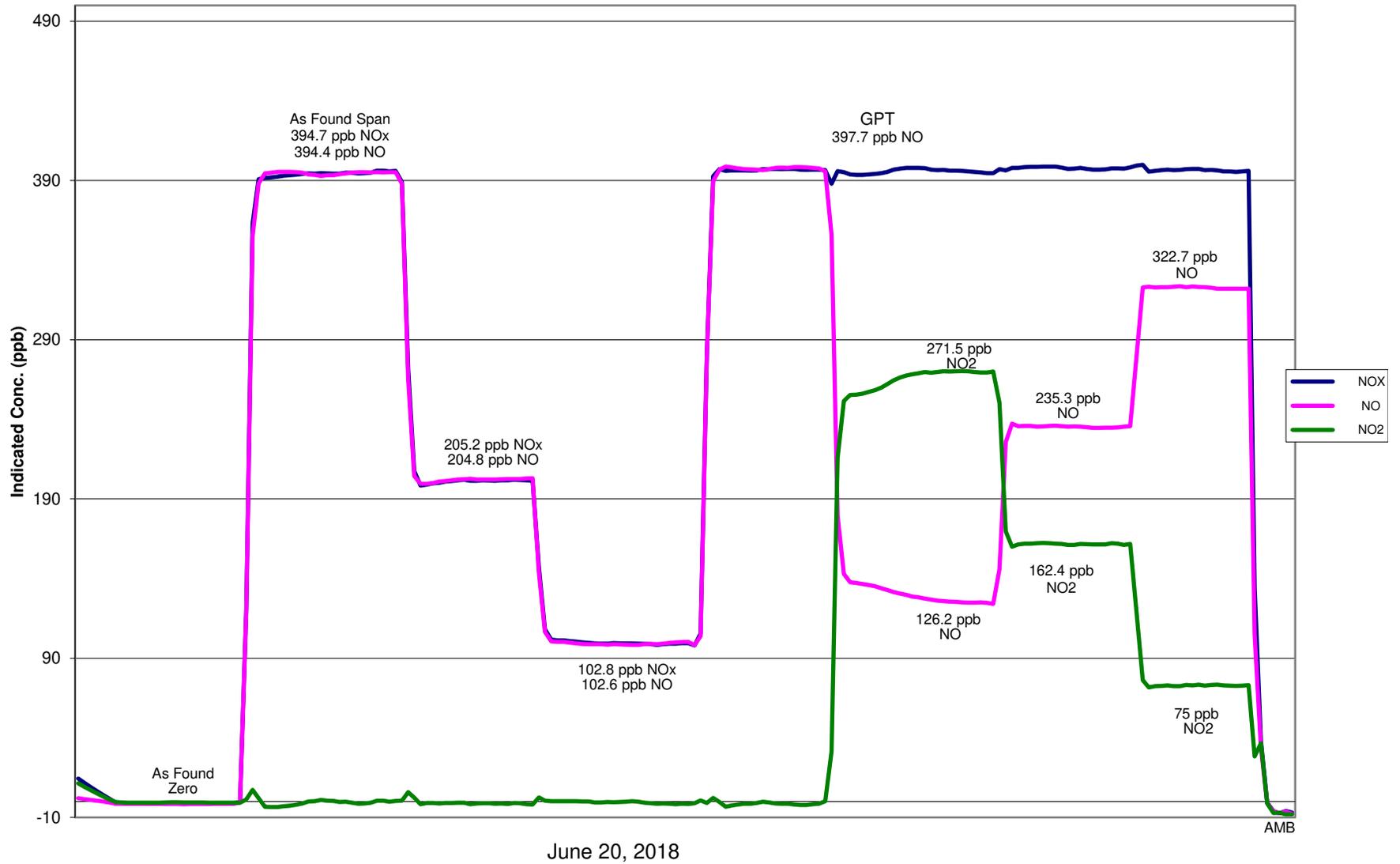
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.5	N/A	Correlation Coefficient	0.999981
397.8	394.4	1.0086		
204.8	202.2	1.0127	Slope	1.003530
102.6	99.1	1.0358		
			Intercept	2.121805

NO Calibration Curve



NOX Calibration



Calibration Report



AIR QUALITY MONITORING

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

Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	Routine <input type="checkbox"/> Installation <input checked="" type="checkbox"/> Removal <input type="checkbox"/> Other: _____		
Start Time (MST)	12:40	End Time (MST)	16:30
Barometric Pressure	656 mmHg	Station Temperature	22.0 Deg C
Calibrator	Sabio 2010	Serial Number	103951108
NO Cal Gas Conc	51.4 ppm	Cal Gas Expiry Date	February 14, 2020
NO _x Cal Gas Conc	51.5 ppm	Cal Gas Serial #	cc27839

DACS Information

DACS make	Campbell Scientific CR1000	DACS serial No.	67802
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	Parameter	NO ₂	NO _x	NO
Before	Data Slope	N/A	N/A	N/A
	Data Offset	N/A	N/A	N/A
After	Data Slope	0.993336	0.996712	0.996303
	Data Offset	0.122430	2.677736	2.642271
	Channel #	3	1	2
	Voltage Range	0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	T200	Analyzer serial #	642
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Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO Slope	N/A		0.962	
NO Offset	N/A	mV	-0.6	mV
NOX Slope	N/A		0.964	
NOX Offset	N/A	mV	0.6	mV
HVPS	N/A	v	771	v
Moly Temp	N/A	degC	316.8	degC
O3 Flow	N/A	ccm	81	ccm
RxCeII Press	N/A	inHg	4.5	inHg
Sample press	N/A	inHg	23.8	inHg
Sample flow	N/A	ccm	438	ccm

Notes: instalation calibration after sample pump was replaced. High point was adjusted

Calibration Report



AIR QUALITY MONITORING

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

Station Information

Calibration Date: June 20, 2018 Station Location: Exshaw - Lagoon

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NO _x conc (ppb)	Calculated NO conc (ppb)	Calculated NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor	
zero	5000	0.00	0.0	0.0	0.0	-1.8	-1.6	-1.7	N/A	N/A	
1	5000	39.00	398.6	397.8	0.8	397.6	397.2	-0.8	1.0024	1.0017	
2	5000	20.00	205.2	204.8	0.4	202.8	202.4	-0.7	1.0116	1.0117	
3	7000	14.00	102.8	102.6	0.2	99.5	99.2	-1.3	1.0333	1.0337	
AFZ											
AFS											
									Average Correction Factor	1.0158	1.0157

As Found Concentrations: NO_x= NA NO= NA As Found Percent Change NO_x= NA NO= NA

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 NO ₂ conc (ppb)	Indicated NO _x conc (ppb)	Indicated NO conc (ppb)	Indicated NO ₂ conc (ppb)	NO _x Correction factor	NO Correction factor	NO ₂ Correction factor	Converter Efficiency	
0	-1.6	-1.6	0.0	-1.8	-1.6	-1.7	N/A	N/A	N/A	N/A	
NO point	397.6	397.6	0.0	399.2	397.6	0.3	0.9959	1.0000	N/A	N/A	
0.77V	397.6	126.1	271.5	399.9	126.1	272.5	0.9942	1.0000	0.9964	100.4%	
0.5V	397.6	236.2	161.4	400.2	236.2	162.6	0.9934	1.0000	0.9927	100.7%	
0.3V	397.6	324.9	72.7	401.5	324.9	75.2	0.9902	1.0000	0.9674	103.4%	
							Average Correction Factor	0.9926	1.0000	0.9855	101.5%

AIC Data

Parameter	Previous calibration				Current calibration			
	NO _x	NO ₂	NO		NO _x	NO ₂	NO	
Auto zero	N/A	N/A	N/A	ppb	1.4	-1.5	1.5	ppb
Auto span	N/A	N/A	N/A	ppb	391.6	-1.4	391.9	ppb

Calibration Performed By: Darrin Pike

Calibration Summary



AIR QUALITY MONITORING

Parameter NO₂

Air Monitoring Network Lafarge - Exshaw

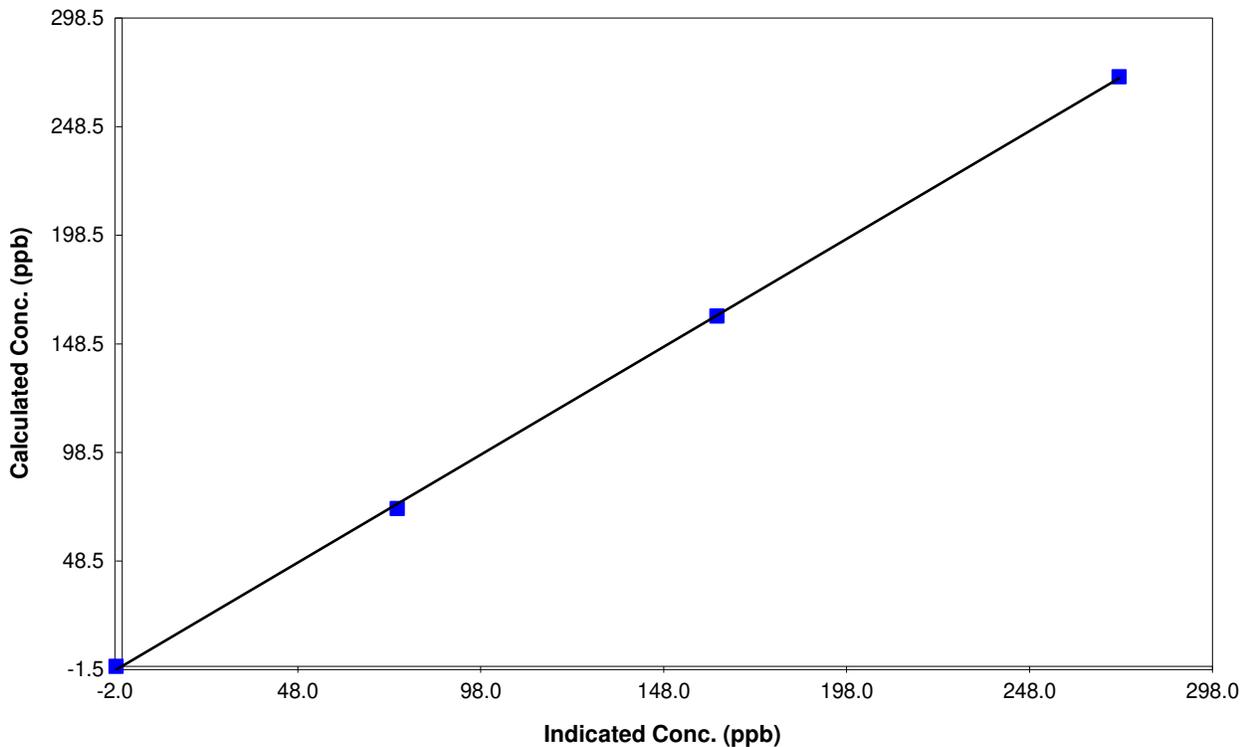
Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:40	End Time (MST)	16:30
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.7	N/A	Correlation Coefficient	0.999821
271.5	272.5	0.9964		
161.4	162.6	0.9927	Slope	0.993336
72.7	75.2	0.9674		
			Intercept	0.122430

NO₂ Calibration Curve



Calibration Summary



Parameter NO_x
 Air Monitoring Network Lafarge - Exshaw

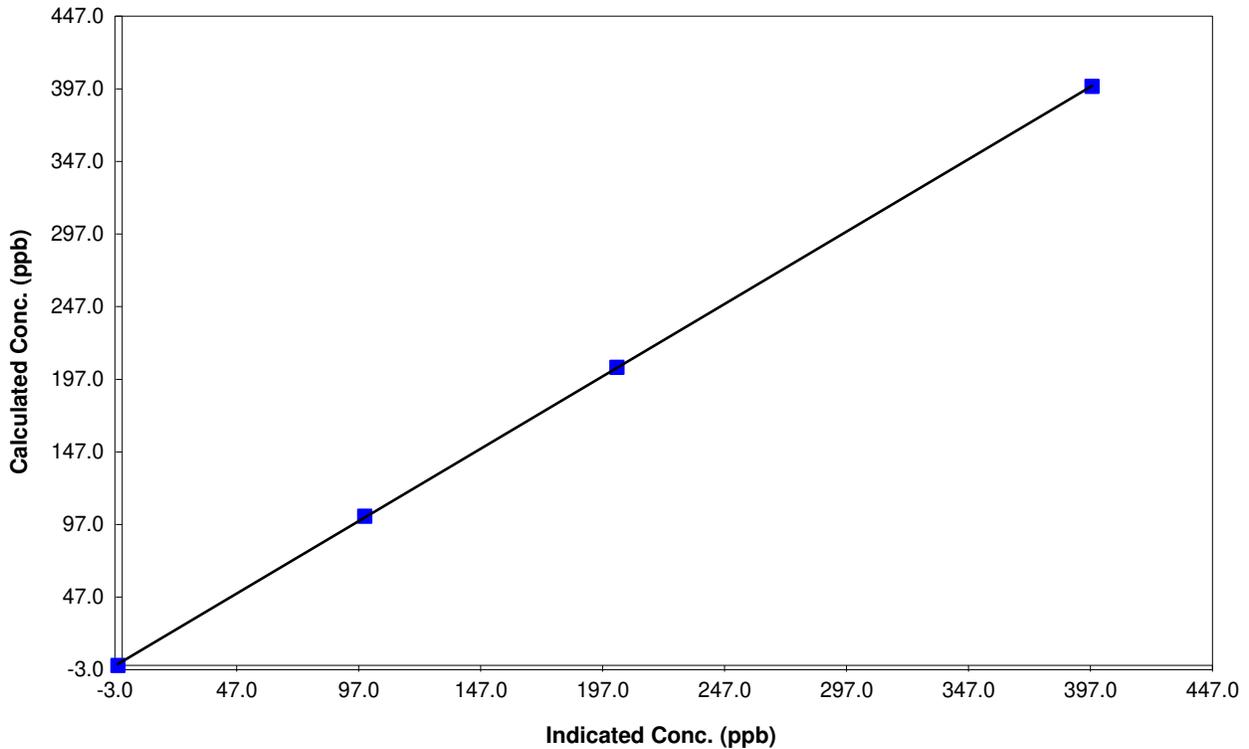
Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:40	End Time (MST)	16:30
Analyzer make	T200	Analyzer serial #	642

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.8	N/A	Correlation Coefficient	0.999977
398.6	397.6	1.0024		
205.2	202.8	1.0116	Slope	0.996712
102.8	99.5	1.0333		
			Intercept	2.677736

NO_x Calibration Curve



Calibration Summary

Parameter NO
 Air Monitoring Network Lafarge - Exshaw



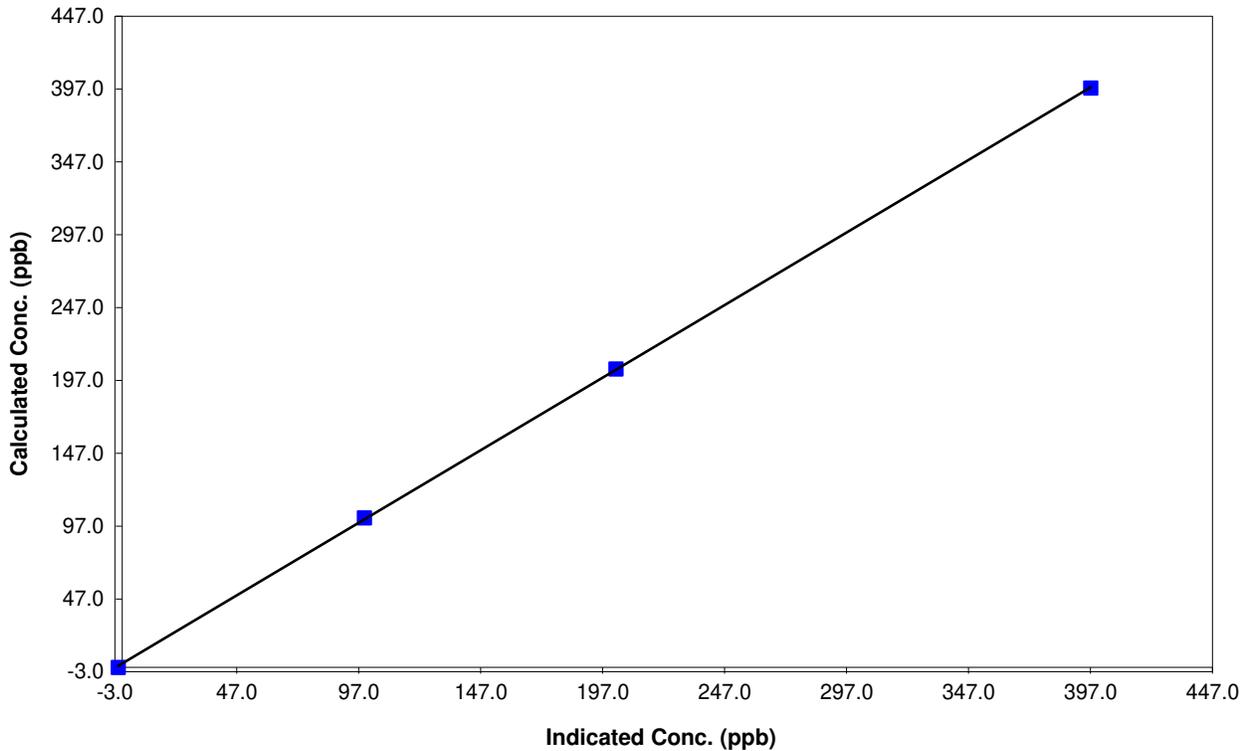
Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:40	End Time (MST)	16:30
Analyzer make	T200	Analyzer serial #	642

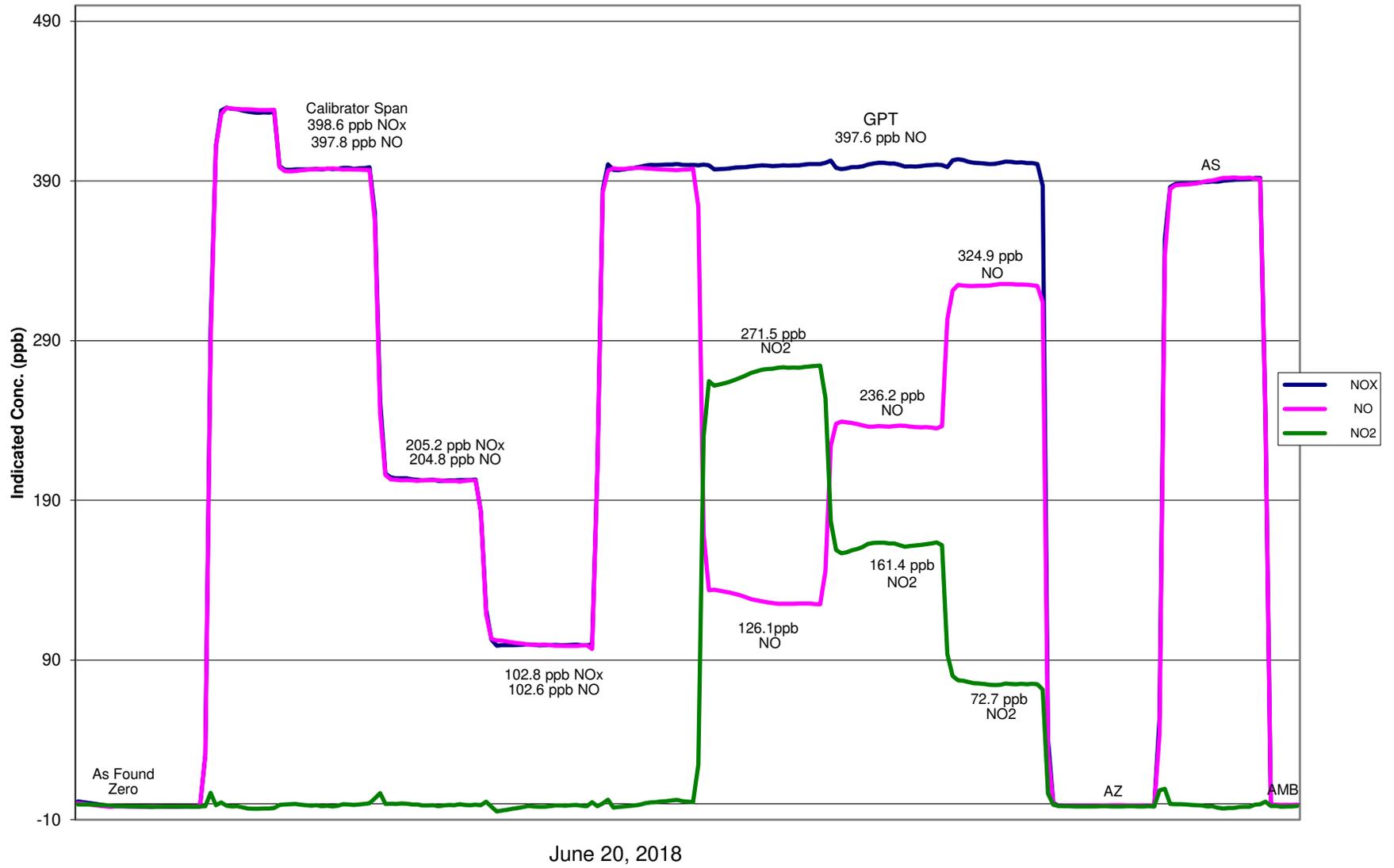
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.6	N/A	Correlation Coefficient	0.999968
397.8	397.2	1.0017		
204.8	202.4	1.0117	Slope	0.996303
102.6	99.2	1.0337		
			Intercept	2.642271

NO Calibration Curve



NOX Calibration



Calibration Report



AIR QUALITY MONITORING

Parameter SO2
 Air Monitoring Network Lafarge - Exshaw

Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	<input type="checkbox"/> Routine	<input type="checkbox"/> Install	<input checked="" type="checkbox"/> Removal
Other:	<input type="text"/>		
Start Time (MST)	8:40	End Time (MST)	10:25
Barometric Pressure	656 mmHg	Station Temperature	22.0 Deg C
Calibrator	SABIO 2010	Serial Number	103951108
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	0.998021	Calculated slope	1.013735
Calculated intercept	0.458463	Calculated intercept	1.266297
Analyzer make	API Model 102A	Analyzer serial #	393

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Slope	0.912		0.908	
Offset	44.4	mV	47.2	mV
Pressure	24.0	in Hg	24.2	in Hg
Sample Flow	495	ccm	397	ccm
UV Lamp	2594	mV	2579	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	-0.6	N/A
5000	39.00	393.2	386.3	1.0179
5000	20.00	202.4	199.9	1.0125
7000	14.00	101.4	97.0	1.0453
5000	0	0.0	-0.6	As found zero
5000	39	393.2	386.3	As found span
Average Correction Factor				1.0252

Calculated value of As Found Response: 386.6 ppb Percent Change of As Found: 1.7%

	before calibration		after calibration	
Auto zero	1.1	ppb	N/A	ppb
Auto span	386.5	ppb	N/A	ppb

Notes: removal calibration to replace sample pump

Calibration Performed By: Darrin Pike

Calibration Summary



AIR QUALITY MONITORING

Parameter SO2
 Air Monitoring Network Lafarge - Exshaw

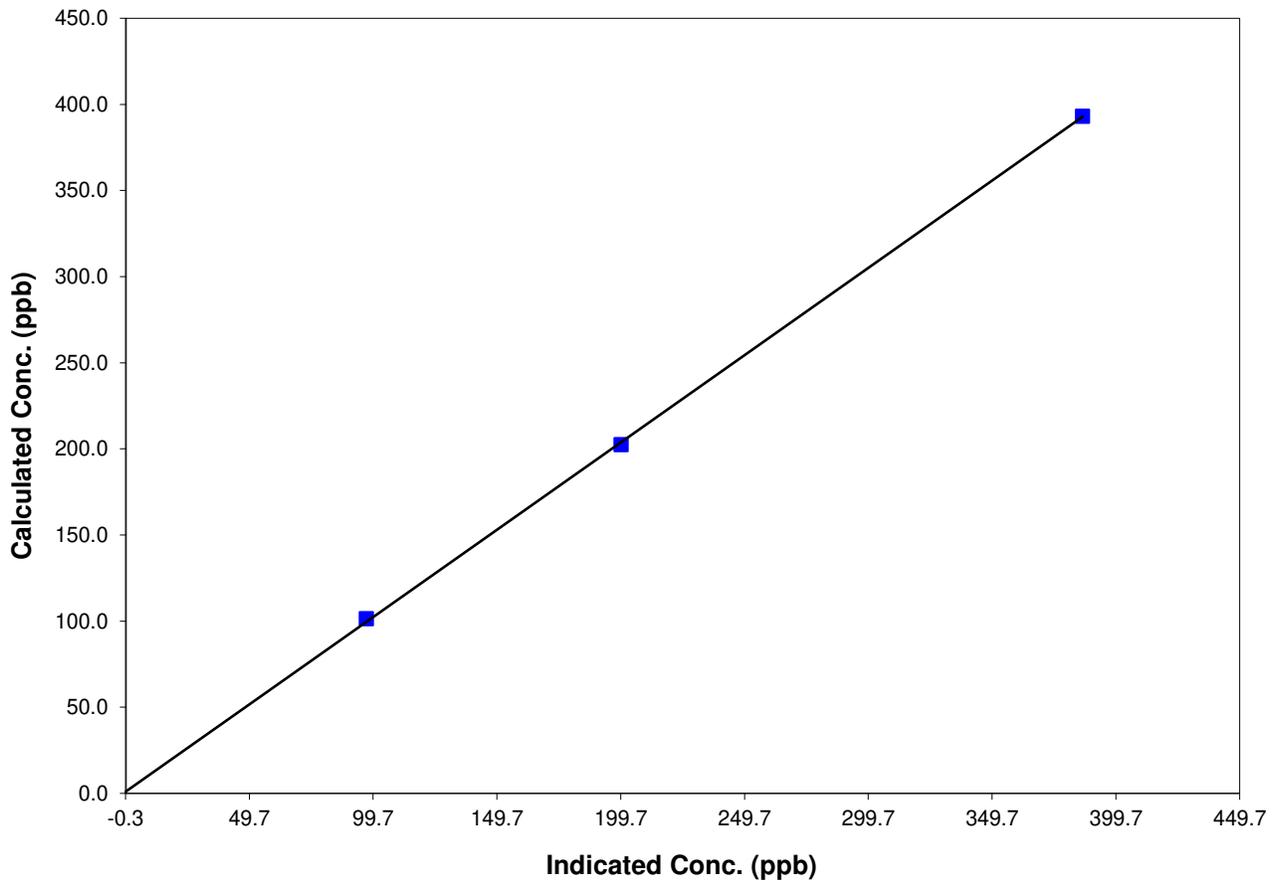
Station Information

Calibration Date	June 20, 2018	Previous Calibration	May 17, 2018
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	8:40	End Time (MST)	10:25
Analyzer make/model	API Model 102A	Analyzer serial #	393

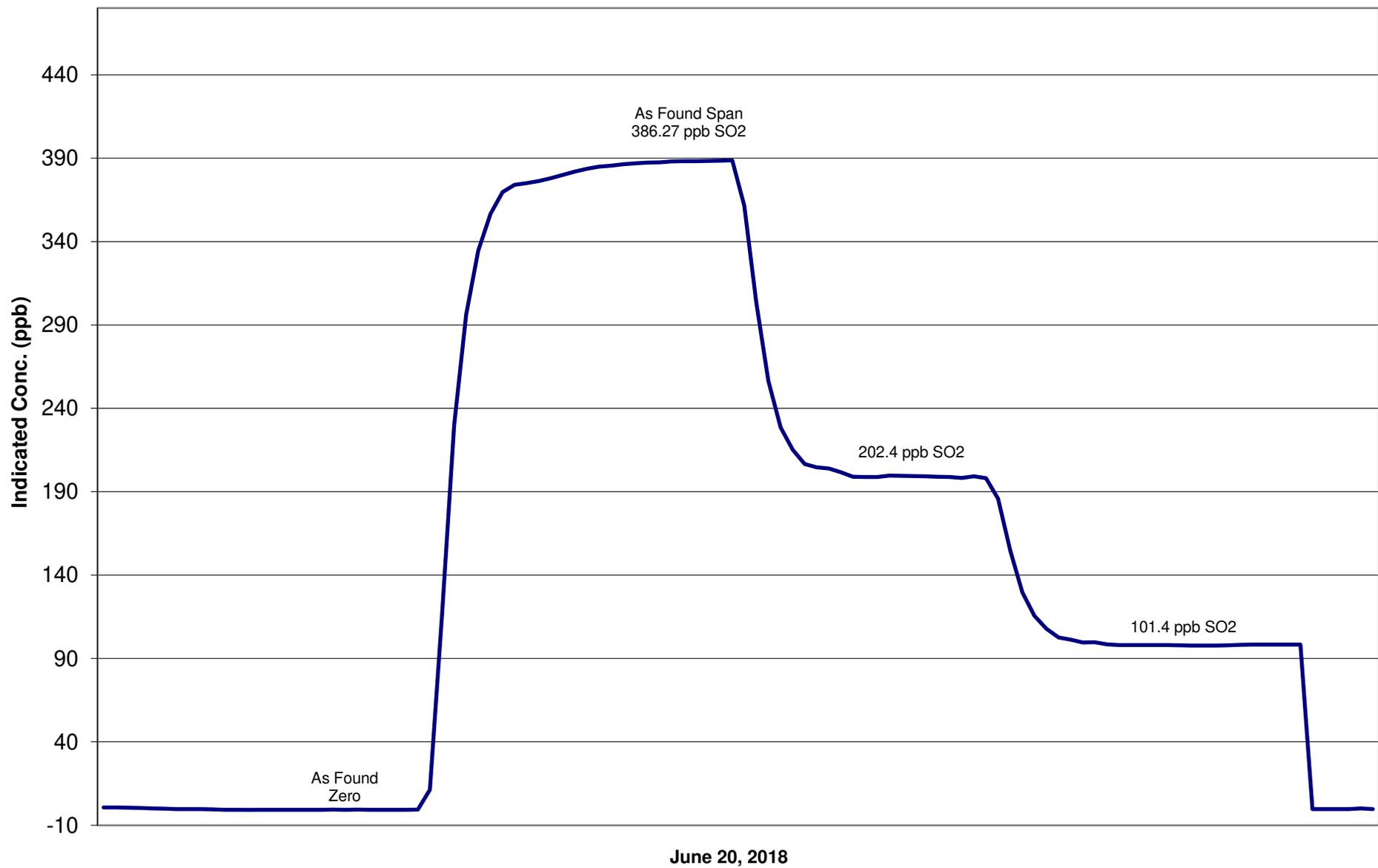
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.6	N/A		
393.2	386.3	1.0179	Correlation Coefficient	0.999928
202.4	199.9	1.0125		
101.4	97.0	1.0453	Slope	1.013735
			Intercept	1.266297

SO2 Calibration Curve



SO2 Calibration



Calibration Report



AIR QUALITY MONITORING

Parameter SO2
 Air Monitoring Network Lafarge - Exshaw

Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Reason:	<input type="checkbox"/> Routine	<input checked="" type="checkbox"/> Install	<input type="checkbox"/> Removal
		Other:	
Start Time (MST)	12:40	End Time (MST)	16:30
Barometric Pressure	656 mmHg	Station Temperature	22.0 Deg C
Calibrator	SABIO 2010	Serial Number	103951108
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	N/A	Calculated slope	0.995214
Calculated intercept	N/A	Calculated intercept	1.601082
Analyzer make	API Model 102A	Analyzer serial #	393

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Slope	N/A		0.921	
Offset	N/A	mV	53.8	mV
Pressure	N/A	in Hg	23.7	in Hg
Sample Flow	N/A	ccm	481	ccm
UV Lamp	N/A	mV	2022.4	mV
HVPS	N/A	v	690	v
PMT Temp	N/A	degC	7.4	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	0.1	N/A
5000	39.00	393.2	393.9	0.9981
5000	20.00	202.4	202.0	1.0020
7000	14.00	101.4	97.9	1.0357
				As found zero
				As found span
Average Correction Factor				1.0119

Calculated value of As Found Response: NA Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	N/A	ppb	-1.4	ppb
Auto span	N/A	ppb	387.0	ppb

Notes: instalation calibration after sample pump was replaced. High point was adjusted

Calibration Performed By: Darrin Pike

Calibration Summary



AIR QUALITY MONITORING

Parameter SO2
 Air Monitoring Network Lafarge - Exshaw

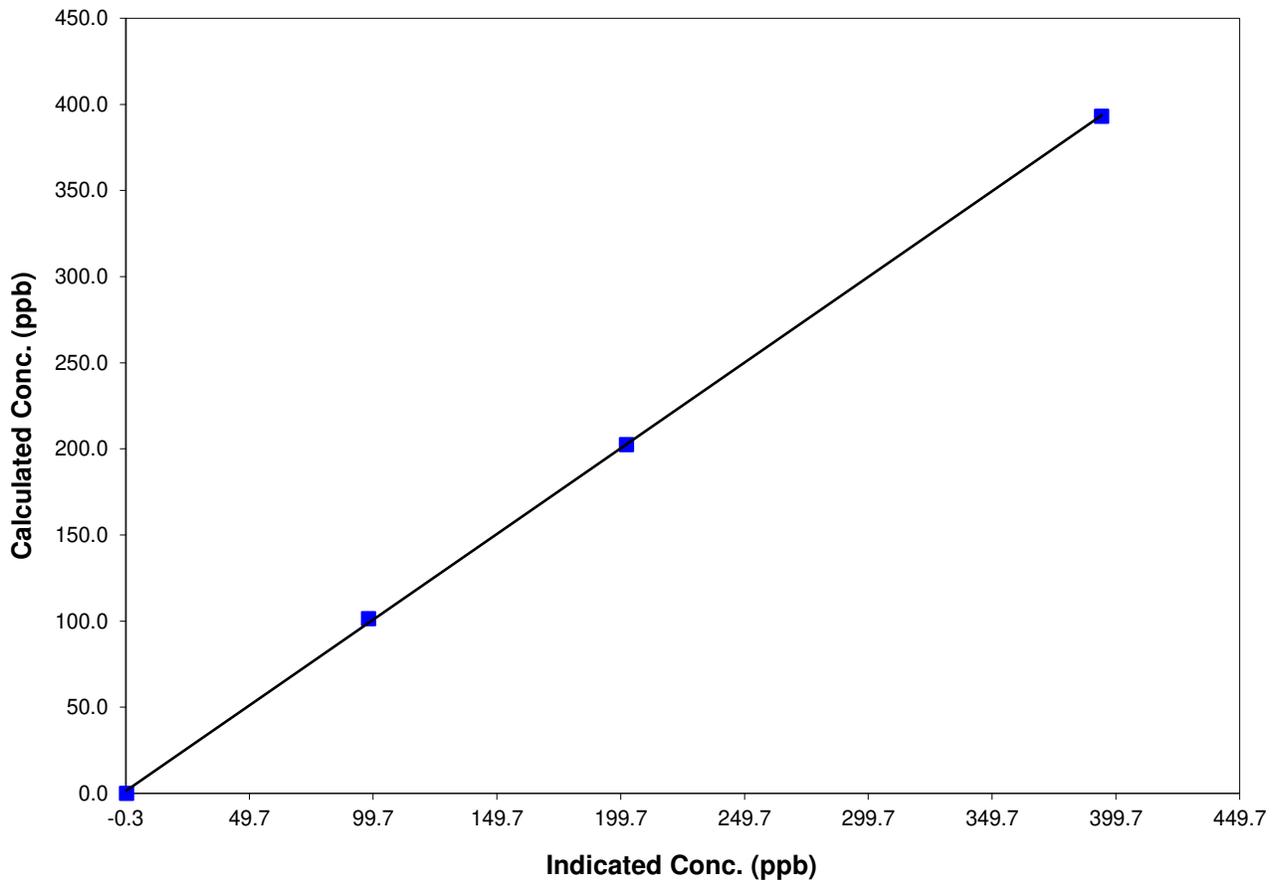
Station Information

Calibration Date	June 20, 2018	Previous Calibration	N/A
Station Number	N/A	Station Location	Exshaw - Lagoon
Start Time (MST)	12:40	End Time (MST)	16:30
Analyzer make/model	API Model 102A	Analyzer serial #	393

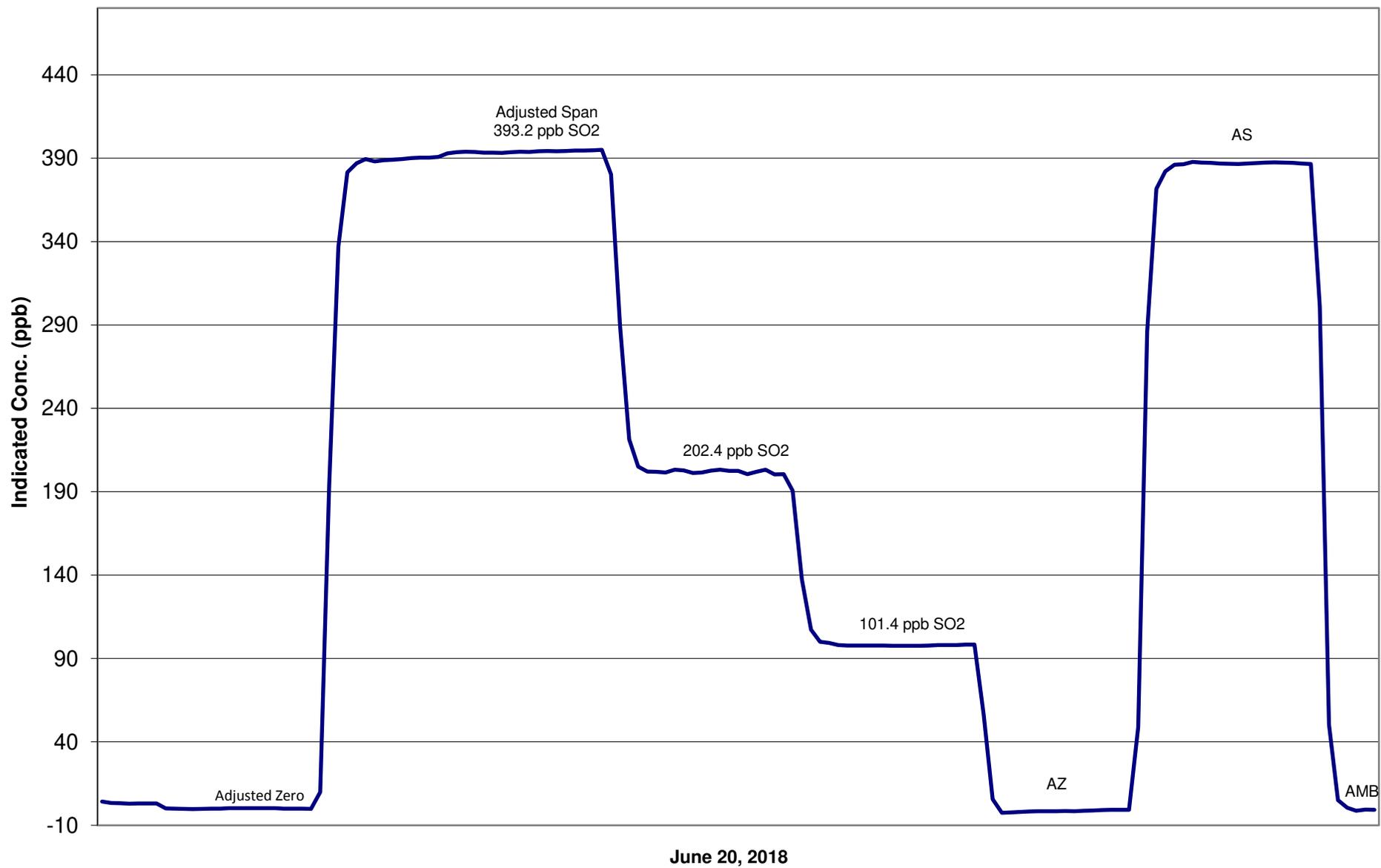
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
			Correlation Coefficient	
0.0	0.1	N/A	0.999898	Slope
393.2	393.9	0.9981		
202.4	202.0	1.0020	0.995214	Intercept
101.4	97.9	1.0357		

SO2 Calibration Curve



SO2 Calibration





AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 14, 2018	Project Number: 151-09626-00
Station Location: Exshaw	Station Name: Lafarge – Exshaw
Reason for Visit: Grimm install and removal	
Arrival Time: 09:00 MST	Departure Time: 12:00 MST
Weather Conditions: light rain	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	TRA	3		
DP	CAL	3		

Station Information

Time (MST) Comments

09:00	Signed in at Lafarge Plant
09:15	installed Grimm unit at the entrance site
Entrance Sharp:	Measured Sample flow = 0.8 LPM Sharp AmbT = 12 degC Audit AmbT = 12 degC
10:30	proceeded to the Berm grimm site to remove unit
Removal Berm Sharp:	Measured Sample flow = 1.12 LPM Sharp AmbT = 11 degC Audit AmbT = 10.2 degC
12:00	Left plant after signing out.
NOTES:	
- All analyzers in sample mode → OK	
- Confirmed operation of manifold intake fan → OK	
- All sample lines connected properly → OK	

Technicians – Darrin Pike



AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 19, 2018	Project Number: 151-09626-00
Station Location: Exshaw	Station Name: Lafarge – Exshaw
Reason for Visit: Grimm install and removal. PM10 issue at windridge	
Arrival Time: 11:00 MST	Departure Time: 12:00 MST
Weather Conditions: clear	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	TRA	3		
DP	CAL	4		

Station Information

Time (MST) Comments

11:00	Signed in at Lafarge Plant
11:45	installed Grimm unit at the berm site
Berm Sharp:	Measured Sample flow = 0.9 LPM Sharp AmbT = 23 degC Audit AmbT = 23 degC
13:00	proceeded to the Windridge site. <ul style="list-style-type: none"> - Issue with PM10 reading higher than TSP intermittently. - Inspected unit, cleaned nozzle - Completed a calibration - No issues were found
14:00	proceeded to the west grimm site
Removal West Sharp:	Measured Sample flow = 1.11 LPM Sharp AmbT = 26 degC Audit AmbT = 25.4 degC
15:00	Left plant after signing out.
NOTES:	<ul style="list-style-type: none"> - All analyzers in sample mode → OK - Confirmed operation of manifold intake fan → OK - All sample lines connected properly → OK



AIR QUALITY MONITORING
Field Service Report

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Technicians – Darrin Pike



AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 20, 2018	Project Number: 151-09626-00
Station Location: Exshaw – Lagoon	Station Name: Lafarge – Exshaw
Reason for Visit: Routine monthly calibrations	
Arrival Time: 08:00 MST	Departure Time: 17:00 MST
Weather Conditions: clear	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	TRA	3	2	47mm filters
DP	CAL	6.5		

Station Information

Time (MST) Comments

08:00	Signed in at Lafarge Plant
08:15	Arrived at station. Started unloading and setting up gear
08:40	Started AF calibrator Zero on NOx and SO2 for removal calibration
09:15	AF Zero was good. Started AF calibrator Span. Continued with calibration.
10:18	SO2 calibration completed, no issues noted. NOx GPT reference point started, no issues noted in the first portion of the calibration.
10:40	Started introducing O3 for GPT portion of calibration.
11:50	GPT portion of calibration went well, no issues noted. Started AIC on NOx and SO2.
11:55	replaced the sample pumps for both NOx and SO2 analyzers
12:40	Started install calibrations for NOx and SO2
12:40	Started AF calibrator Zero on NOx and SO2
13:05	AF Zero was good. Started AF calibrator Span.
13:20	NOx/SO2 spans adjusted
14:16	SO2 calibration completed, no issues noted. NOx GPT reference point started, no issues noted in the first portion of the calibration.
14:37	Started introducing O3 for GPT portion of calibration.



AIR QUALITY MONITORING
Field Service Report

15:41 - GPT portion of calibration went well, no issues noted. Started AIC on NOx and SO2.

16:30 – Calibrations complete.

17:00 Left plant after signing out.

NOTES:

- All analyzers in sample mode → OK
- Confirmed operation of manifold intake fan → OK
- All sample lines connected properly → OK

Technicians – Darrin Pike



AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 22, 2018	Project Number: 151-09626-00
Station Location: Exshaw – Lagoon	Station Name: Lafarge – Exshaw
Reason for Visit: Routine monthly calibrations	
Arrival Time: 12:30 MST	Departure Time: 14:30 MST
Weather Conditions: rain	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	TRA	3		
DP	CAL	2		

Station Information

Time (MST) Comments

12:30	Signed in at Lafarge Plant
11:05	Flagged all PM channels at Lagoon site. Proceeded with Bam 1020 calibrations
13:00	BAM PM2.5 calibration completed with no issues.
13:00	BAM PM10 calibration completed with no issues.
14:00	BAM TSP calibration completed with no issues.
14:00	proceeded to west grimm site. Was unable to install today due to weather
14:30	Left plant after signing out.
NOTES:	
- All analyzers in sample mode → OK	
- Confirmed operation of manifold intake fan → OK	
- All sample lines connected properly → OK	

Technicians – Darrin Pike



AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 25, 2018	Project Number: 151-09626-00
Station Location: Exshaw	Station Name: Lafarge – Exshaw
Reason for Visit: Grimm install	
Arrival Time: 08:30 MST	Departure Time: 10:00 MST
Weather Conditions: light rain	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	TRA	3		
DP	CAL	1.5		

Station Information

Time (MST) Comments

08:30	Signed in at Lafarge Plant
09:00	installed Grimm unit at the west site
	West Sharp: Measured Sample flow = 1.1 LPM Sharp AmbT = 16 degC Audit AmbT = 16 degC
10:00	Left plant after signing out.
	NOTES: - All analyzers in sample mode → OK - Confirmed operation of manifold intake fan → OK - All sample lines connected properly → OK

Technicians – Darrin Pike



AIR QUALITY MONITORING

MetOne BAM PM_{2.5} Calibration

STATION: Lafarge
 LOCATION: Exshaw - Windridge
 START TIME (MST): 9:55

OPERATOR: Darrin Pike
 DATE: June 11, 2018
 END TIME (MST): 10:25

MONITOR INFO / PARAMETER VALUES:

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

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-17

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	9.2	643	0.00	16.7	10:21
As Found Data					
MEASURED (AF)	8.6	643	0.40	16.36	10:22
AF Difference (AF-I)	-0.6	0	0.40	-0.34	0:01
Adjusted Data					
MEASURED (M)	9.2	643	0.40	16.72	10:21
Adj Difference (M-I)	0.0	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: inspected and cleaned

Status of sampling tape: 1/2 roll

Nozzle Inspection / cleanliness: clean

COMMENTS:



AIR QUALITY MONITORING

MetOne BAM PM₁₀ Calibration

STATION: Lafarge
 LOCATION: Exshaw - Windridge
 START TIME (MST): 10:40

OPERATOR: Darrin Pike
 DATE: June 11, 2018
 END TIME (MST): 11:10

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
PM10
 Serial Number U21075

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-17

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	9.1	643	0.00	16.7	11:04
As Found Data					
MEASURED (AF)	9.1	643	0.10	16.40	11:05
AF Difference (AF-I)	0.0	0	0.10	-0.30	0:01
Adjusted Data					
MEASURED (M)	9.1	643	0.10	16.65	11:04
Adj Difference (M-I)	0.0	0	0.10	-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: inspected and cleaned

Status of sampling tape: 1/2 roll

Nozzle Inspection / cleanliness: clean

COMMENTS:



AIR QUALITY MONITORING

MetOne BAM PM₁₀ Calibration

STATION: Lafarge
 LOCATION: Exshaw - Windridge
 START TIME (MST): 11:25

OPERATOR: _____
 DATE: _____
 END TIME (MST): 12:30

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
PM10
 Serial Number U21075

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-18

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	23.0	654	0.00	16.7	12:18
As Found Data					
MEASURED (AF)	23.0	654	0.40	16.68	12:18
AF Difference (AF-I)	0.0	0	0.40	-0.02	0:00
Adjusted Data					
MEASURED (M)	23.0	654	0.40	16.68	12:18
Adj Difference (M-I)	0.0	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: inspected and cleaned

Status of sampling tape: 1/2 roll

Nozzle Inspection / cleanliness: clean

COMMENTS: issue with reading higher than TSP. verified operation, no issue were found



AIR QUALITY MONITORING

MetOne BAM TSP Calibration

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

OPERATOR: Darrin Pike
 DATE: June 11, 2018
 END TIME (MST): 11:35

MONITOR INFO / PARAMETER VALUES:

Make/Model MetOne BAM
 Configuration TSP
 Serial Number U21073

Audit Device Model Delta Cal
 Audit Device S/N 624
 Certification Date 30-Nov-17

AUDIT / CALIBRATION RESULTS:

	Ambient Temp. (°C)	Ambient Pres. (mmHg)	Leak Check (L/min)	Flow Rate (lpm)	Time settings (hh:mm)
Audit values (I)	9.0	644	0.00	16.7	11:31
As Found Data					
MEASURED (AF)	9.2	644	0.50	16.50	11:32
AF Difference (AF-I)	0.2	0	0.50	-0.20	0:01
Adjusted Data					
MEASURED (M)	9.0	644	0.50	16.67	11:31
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: inspected and cleaned

Status of sampling tape: 1/2 roll

Nozzle Inspection / cleanliness: clean

COMMENTS:



AIR QUALITY MONITORING
Field Service Report

Air Monitoring Network / Client: Lafarge – Exshaw

Station Information

Visit Date: June 11, 2018	Project Number: 151-09626-00
Station Location: Exshaw – Windridge	Station Name: Lafarge – Windridge
Reason for Visit: Routine monthly calibrations	
Arrival Time: 9:30 MST	Departure Time: 12:30 MST
Weather Conditions: clear and 12 degC.	

Record of Hours

Parts Used

Employee	Category	Hours	Qty	Parts Description
DP	CAL	3		
DP	TRV	3		

Station Information

Time (MST) Comments

09:30	Arrived at LaFarge plant, signed in at the Plant
09:35	preformed removal audit on Grimm unit at the entrance site. Entrance Sharp: Measured Sample flow = 1.12 LPM Sharp AmbT = 11.2 degC Audit AmbT = 9.1 degC
-	removed Grimm from the Entrance site.
09:50	Flagged all PM channels at windridge site for BAM 1020 calibrations.
10:25	BAM PM2.5 calibration completed with no issues.
11:10	BAM PM10 calibration completed with no issues.
11:35	BAM TSP calibration completed with no issues.
12:30	left site.
NOTES:	
- All analyzers in sample mode → OK	
- Confirmed operation of manifold intake fan → OK	
- All sample lines connected properly → OK	

Technician: Darrin Pike