Peace River Area Monitoring Program

AUGUST 2019

- Monthly Ambient Air Quality Monitoring Report -

- Ambient Air Monthly Calibration Report -

September 30, 2019

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Peace River Area Monitoring Program

AUGUST 2019

Monthly Ambient Air Quality Monitoring Report

PRAMP-201908

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September 23, 2019

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LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH4	Methane
EPEA	Environmental Protection and Enhancement Act
H2S	Hydrogen Sulphide
kph	kilometers per hour
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
ppb	parts per billion
ppm	parts per million
PRAMP	Peace River Area Monitoring Program
RH	Relative Humidity
SO2	Sulphur Dioxide
ST	Station Temperature
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius

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September 23, 2019

RE: PRAMP – August 2019 Monthly Ambient Air Quality Monitoring Report

Enclosed is the August 2019 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Peace River Area Monitoring Program (PRAMP) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

PRAMP Airshed
Michael Bisaga / Lily Lin, Technical Program Managers
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This report has been prepared, reviewed and submitted by Michael Bisaga & Lily Lin of the PRAMP Airshed.

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986c Station
- 842b Station
- Reno Station

Station ID	Station Name	Latitude	Longitude
1562	986c	56.36980	-116.9250
1561	842b	56.27406	-116.98129
1563	Reno	55.86936	-117.05739

Listing of Intermittent Monitoring Stations

- VOC Canister Sampling Station
    - 986c Station
    - 842b Station
    - Reno Station

Monitoring Notes during the Month of August 2019

986c Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All parameters met the 90% operational uptime requirement.
- The air monitoring station was relocated to the coordinates of 56.36980, -116.9250 on August 1; station is now named 986c. All analyzers were put back online following an installation calibration between August 1 and August 2, with the exception of SO2. An alternative SO2 analyzer was installed on August 1.
- The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on August 4 for all gas parameters. The scheduled automated daily zero-span check did not execute on August 4 due to a datalogger programming error. AEP reference number: 357137.
- **All parameters:** No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Data collected on August 5 hour 6 for all gas parameters were discarded as data quality was affected by the datalogger programming issues as well. Twenty-four hours of data were invalid due to this event.
- **SO2:** The Thermo 43C, s/n: 43C-62339-335, was removed following a removal calibration on July 30. The API 100A, s/n: 1298, was installed following an installation calibration on August 1.
- **Precipitation:**
    - An EML ARG100 precipitation sensor, s/n: 190114, was installed on August 1. The sensor is designed to collect precipitation data when ambient temperature is above freezing. The sensor is programmed to collect precipitation data between April and October each year.

- Data collected on August 10 at hours 5 and 6 were invalidated due to a sensor malfunction, which was caused by low ambient air temperature.

842b Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **THC/CH4/NMHC:** An additional zero span check was initiated following the carrier gas bottle and span gas bottle replacement on August 2 hour 7. One hour of downtime was recorded as a result.
- **WS/WD:** The wind tower was extended by 1.25 meter following the annual wind system calibration on August 7 at hours 14 and 15.
- Datalogger updates were applied on all gas parameters on August 26 during hour 15. One hour of data was invalidated due to this event.

Reno Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **THC/CH4/NMHC:** The sample pump was rebuilt following a shut down calibration on August 21. A post-repair calibration was then performed. One hour of downtime was recorded due to this maintenance event.
- The communication program between the analyzers and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24, with an exception of SO2 and station temperature. Sixteen hours of data are missing due to this event.

VOCs Canister Sampling program:

- The canister sampling program collects a 1-hour sample of air when the continuously measured methane (CH4) and/or non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger points are 5.5 ppm for methane and 0.3 ppm for non-methane hydrocarbons and are in place at all stations in the PRAMP network. Both trigger points are based on real-time monitoring data that are averaged over a 5-minute period.
- No canister was collected in August as both the CH4 and NMHC concentrations were recorded below the trigger points.

Revisions to Alberta's Ambient Air Quality Data Warehouse

No revisions to historical data previously submitted to the Alberta's Ambient Air Quality Data Warehouse were made this month.

Deviations from Authorized Monitoring Methods

At the Reno station, nearby trees exceed the height allowed under section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

At the 986 station, nearby trees exceed the height allowed under section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

Disclaimer

Data verification/validation were performed on the 1-minute and 5-minute data. Hourly data that are included in this report are calculated based on the post- validation 1-minute data set.

Hourly instantaneous maximum data included in this report have not gone through data validation/verification steps and are considered raw data. The intention of including this data set in the report is for reference purposes and should not be used in published documents.

Equipment calibration / maintenance records were provided by Maxxam Analytics.

Certification

This report was prepared and submitted by Lily Lin in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

Lily Lin, Environmental Monitoring Program Manager, PRAMP Airshed

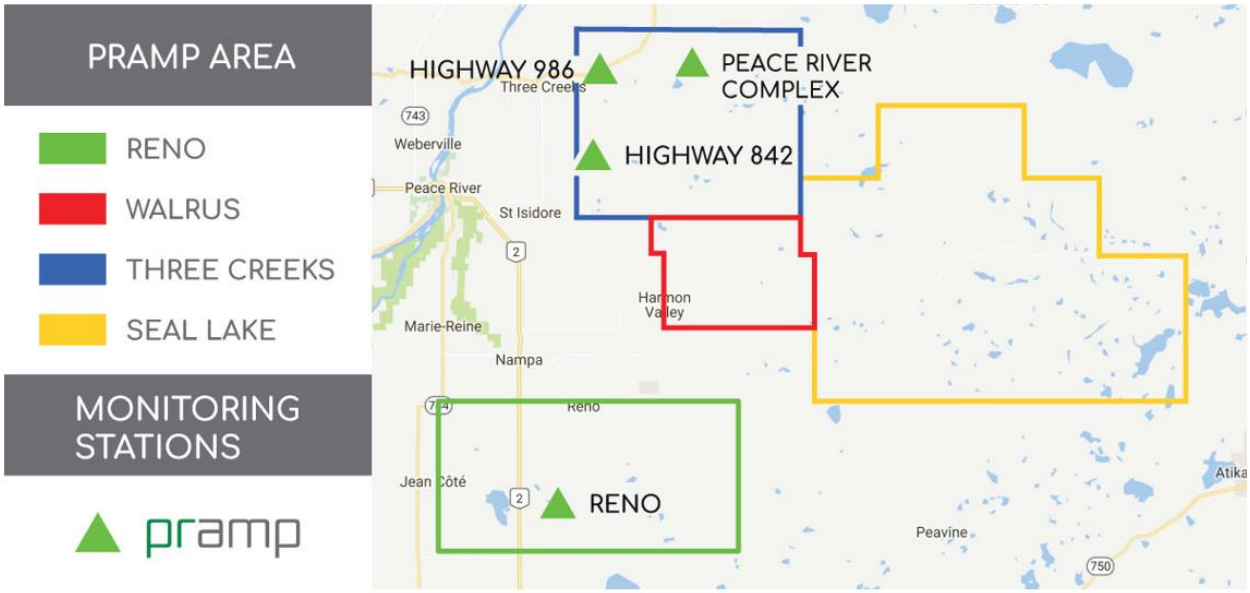
This report was reviewed by Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

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. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD. Uploading of VOC data from the canister sampling program was not required at the time of completing this report.

Michael Bisaga, Environmental Monitoring Program Manager, PRAMP Airshed

September 23, 2019

Map of PRAMP Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

986c Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**API 100A**	**1298**	
• A shut-down calibration was performed on July 30 for the air monitoring station relocation. The channel was put offline after the calibration was completed, and was back online following an installation calibration on August 1. Fourteen hours of downtime were recorded due to this event. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Data collected on August 5 hour 6 was discarded as data quality was affected by the datalogger programming issues as well. Twenty-four hours of data were invalid due to this event. • The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on August 4. The scheduled automated daily zero-span check did not execute on August 4 due to a datalogger programming error. AEP reference number: 357137.			
TRS	**Thermo / 43i-TLE**	**1152940011**	
• A shut-down calibration was performed on July 30 for the air monitoring station relocation. The channel was put offline after the calibration was completed, and was back online following an installation calibration on August 2. Thirty-four hours of downtime were recorded due to this event. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Data collected on August 5 hour 6 was discarded as data quality was affected by the datalogger programming issues as well. Twenty-four hours of data were invalid due to this event. • The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on August 4. The scheduled automated daily zero-span check did not execute on August 4 due to a datalogger programming error. AEP reference number: 357137.			
THC/CH4/NMHC	**Thermo / 55i**	**1022043392**	
• A shut-down calibration was performed on July 30 for the air monitoring station relocation. The channel was put offline after the calibration was completed, and was back online following an installation calibration on August 1. Fourteen hours of downtime were recorded due to this event. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Data collected on August 5 hour 6 was discarded as data quality was affected by the datalogger programming issues as well. Twenty-four hours of data were invalid due to this event. • The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on August 4. The scheduled automated daily zero-span check did not execute on August 4 due to a datalogger programming error. AEP reference number: 357137.			

Parameter	Make / Model	Serial Number	
Relative Humidity (RH)	**RM Young / 43182VC**	**030978**	
• The channel was put offline for the air monitoring station relocation on August 1 between hour 0 and hour 13. Fourteen hours of downtime were recorded due to this event. • The RH sensor was checked on August 1. The sensor passed the check requirements. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.			
Barometric Pressure (BP)	**MetOne / 090D**	**F3845**	
• The channel was put offline for the air monitoring station relocation on August 1 between hour 0 and hour 13. Fourteen hours of downtime were recorded due to this event. • The BP sensor was checked on August 1. The sensor passed the check requirements. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.			
Ambient Temperature (AT)	**RM Young 431872VC**	**030978**	
• The channel was put offline for the air monitoring station relocation on August 1 between hour 0 and hour 13. Fourteen hours of downtime were recorded due to this event. • The temperature sensor was checked on August 1. The sensor passed the check requirements. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• The channel was put offline on August 1 between hour 8 and hour 13 for datalogger configuration updates. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**129612**	
• Wind direction data contained in this report represents where the wind is coming from. • Both the wind speed and wind direction channels were put offline for the air monitoring station relocation on August 1 between hour 0 and hour 17. Eighteen hours of downtime were recorded due to this event. • The anemometer sensors were checked on August 1. The sensor passed the check requirements. • No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.			

Parameter	Make / Model	Serial Number	
Precipitation	**EML / ARG100**	**190114**	

- The precipitation sampler was installed following an installation sensor check on August 1. The sensor is designed to collect precipitation data when ambient temperature is above freezing. The sensor is programmed to collect precipitation data between April and October each year.
- The channel was put offline for the air monitoring station relocation on August 1 between hour 0 and hour 13. Fourteen hours of downtime were recorded due to this event.
- No data were recorded between August 4 hour 7 and August 5 hour 5 due to datalogger programming issues. Twenty-three hours of data were invalid due to this event.
- Data collected on August 10 at hours 5 and 6 were invalidated due to a sensor malfunction, which was caused by low ambient air temperature.

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	2	August 30 at hour 9	1.2	NE	0.1	August 2	95.0	90.3
TRS (ppb)	10	3	-	-	-	-	0.7	0.02	2.55	August 14 at hour 20	4.8	S	1.00	August 13	92.3	87.6
THC (ppm)	-	-	-	-	-	-	1.98	1.88	2.38	August 10 at hour 6	4.2	ESE	2.07	August 22	95.0	90.3
CH4 (ppm)	-	-	-	-	-	-	1.98	1.88	2.38	August 10 at hour 6	4.2	ESE	2.07	August 22	95.0	90.3
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	August 1 at hour 18	6.8	NE	0.00	August 2	95.0	90.3
RH (%)	-	-	-	-	-	-	81.2	37	100	August 1 at hour 22	5.6	ESE	97.1	August 21	95.0	95.0
BP (millibar)	-	-	-	-	-	-	944	934	951	August 6 at hour 6	7.3	N	950	August 24	95.0	95.0
Ext. Temp. (°C)	-	-	-	-	-	-	12.7	-0.4	25.4	August 21 at hour 14	8.4	SSW	18.9	August 17	95.0	95.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.0	21.6	24.4	August 17 at hour 15	1.6	SSE	23.3	August 10	96.1	96.1
Precipitation (mm)*	-	-	-	-	-	-	54.6	0.0	6.4	August 2 at hour	3.9	ESE	9.4	August 4	91.9	91.9
WSV (km/hr)	-	-	-	-	-	-	1.6	0.0	23.8	August 21 at hour 2	23.8	ESE	15.1	August 10	94.5	94.5
WDV (sector)	-	-	-	-	-	-	257 (WSW)	-	-	-	-	-	-	-	94.5	94.5

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

842b Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Thermo / 43i**	**835033373**	
• A successful monthly calibration was performed on August 8. • Datalogger updates were applied on all gas parameters on August 26 during hour 15. One hour of data was invalidated due to this event.			
TRS	**Thermo / 43i-TLE**	**1162460023**	
• A successful monthly calibration was performed on August 8. • Datalogger updates were applied on all gas parameters on August 26 during hour 15. One hour of data was invalidated due to this event.			
THC/CH4/NMHC	**Thermo / 55i**	**1505664392**	
• An additional zero span check was initiated following the carrier gas bottle and span gas bottle replacement on August 2 hour 7. One hour of downtime was recorded as a result. • A successful monthly calibration was performed on August 8. • Datalogger updates were applied on all gas parameters on August 26 during hour 15. One hour of data was invalidated due to this event.			
Relative Humidity (RH)	**Campbell Scientific / HMP45C**	**C2608**	
• No issue was identified this month. • The RH sensor was checked on August 8. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne / 92**	**K12864**	
• No issue was identified this month. • The BP sensor was checked on August 8. The sensor passed the check requirements.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• No issue was identified this month.			
Ambient Temperature (AT)	**Campbell Scientific / HMP45C**	**C2608**	
• No issue was identified this month. • The temperature sensor was checked on August 8. The sensor passed the check requirements.			

Parameter	Make / Model	Serial Number	
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**124638**	

- Wind direction data contained in this report represents where the wind is coming from.
- No issue was identified this month.
- A routine annual wind system audit/calibration was performed on August 7.
- The wind tower was extended by 1.25 meter following the annual wind system calibration.
- The anemometer sensors were checked on August 8. The sensor passed the check requirements.

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	August 2 at hour 9	3.9	NNW	0.1	August 1	99.9	95.1
TRS (ppb)	10	3	-	-	-	-	0.4	0.10	1.26	August 17 at hour 7	1.5	SE	0.58	August 8	99.9	94.9
THC (ppm)	-	-	-	-	-	-	1.98	1.89	2.57	August 12 at hour 6	1.7	ENE	2.14	August 5	99.7	94.9
CH4 (ppm)	-	-	-	-	-	-	1.98	1.89	2.57	August 12 at hour 6	1.7	ENE	2.14	August 5	99.7	94.9
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	August 1 at hour 0	3.7	ENE	0.00	August 1	99.7	94.9
RH (%)	-	-	-	-	-	-	74.5	34	96	August 10 at hour 5	2.6	ESE	88.7	August 21	100.0	100.0
BP (millibar)	-	-	-	-	-	-	943	932	950	August 6 at hour 0	5.3	N	949	August 24	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	13.0	0.1	25.1	August 21 at hour 14	8.9	SSW	18.9	August 17	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.0	21.6	23.8	August 1 at hour 13	2.1	SE	23.5	August 19	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.1	0.2	22.3	August 22 at hour 6	22.3	WSW	13.5	August 29	100.0	99.7
WDV (sector)	-	-	-	-	-	-	253 (WSW)	-	-	-	-	-	-	-	100.0	99.7

1- Date/ Time given is the first minimum and maximum value that was recorded

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

Reno Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**API / 100A**	**841**	
• No issue was identified this month. • A successful monthly calibration was performed on August 21.			
TRS	**Thermo / 43i-TLE**	**1162460022**	
• A successful monthly calibration was performed on August 21. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event.			
THC/CH4/NMHC	**Thermo / 55i**	**1314057759**	
• A successful shut-down calibration was performed before the sample pump was rebuilt on August 21. A post-repair calibration was performed after the maintenance. One hour of downtime was recorded due to this event. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event. • The canister system was tested and the canisters were replaced on August 21. • The span gas was replaced on August 21.			
Relative Humidity (RH)	**RM Young / 43172VC**	**60837897**	
• The RH sensor was checked on August 21. The sensor passed the check requirements. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event.			
Barometric Pressure (BP)	**MetOne / 92**	**R12877**	
• The BP sensor was checked on August 21. The sensor passed the check requirements. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event.			

Parameter	Make / Model	Serial Number	
Ambient Temperature (AT)	**RM Young / 43172VC**	**60837897**	
• The temperature sensor was checked on August 4. The sensor passed the check requirements. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• No issues were identified this month.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**149769**	
• Wind direction data contained in this report represents where the wind is coming from. • The anemometer sensors were checked on August 21. The sensor passed the check requirements. • The communication program between the analyzer and data logger was interfered during Windows updates on August 21. The issue was fixed on August 22. No data were collected between August 21 at 17:46 and August 22 at 09:24. Sixteen hours of data are missing due to this event.			

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	August 1 at hour 0	0.2	SW	0.4	August 2	100.0	95.1
TRS (ppb)	10	3	-	-	-	-	0.5	0.18	3.73	August 27 at hour 6	1.7	S	1.05	August 9	97.8	93.0
THC (ppm)	-	-	-	-	-	-	1.99	1.88	3.10	August 29 at hour 2	0.8	SW	2.18	August 5	97.7	93.0
CH4 (ppm)	-	-	-	-	-	-	1.99	1.88	3.10	August 29 at hour 2	0.8	SW	2.18	August 5	97.7	93.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	August 1 at hour 0	0.2	SW	0.00	August 1	97.7	93.0
RH (%)	-	-	-	-	-	-	73.2	30	97	August 1 at hour 5	0.8	SSW	89.0	August 21	97.8	97.8
BP (millibar)	-	-	-	-	-	-	939	928	945	August 6 at hour 4	3.6	NNE	944	August 24	97.8	97.8
Ext. Temp. (°C)	-	-	-	-	-	-	13.4	2.5	26.0	August 21 at hour 14	2.1	S	19.8	August 9	97.8	97.8
Stn. Temp. (°C)	-	-	-	-	-	-	22.6	21.1	23.5	August 21 at hour 9	4	S	23.2	August 19	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.3	0.0	13.9	August 16 at hour 11	13.9	N	8.1	August 29	97.8	97.8
WDV (sector)	-	-	-	-	-	-	270 (W)	-	-	-	-	-	-	-	97.8	97.8

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986c STATION

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

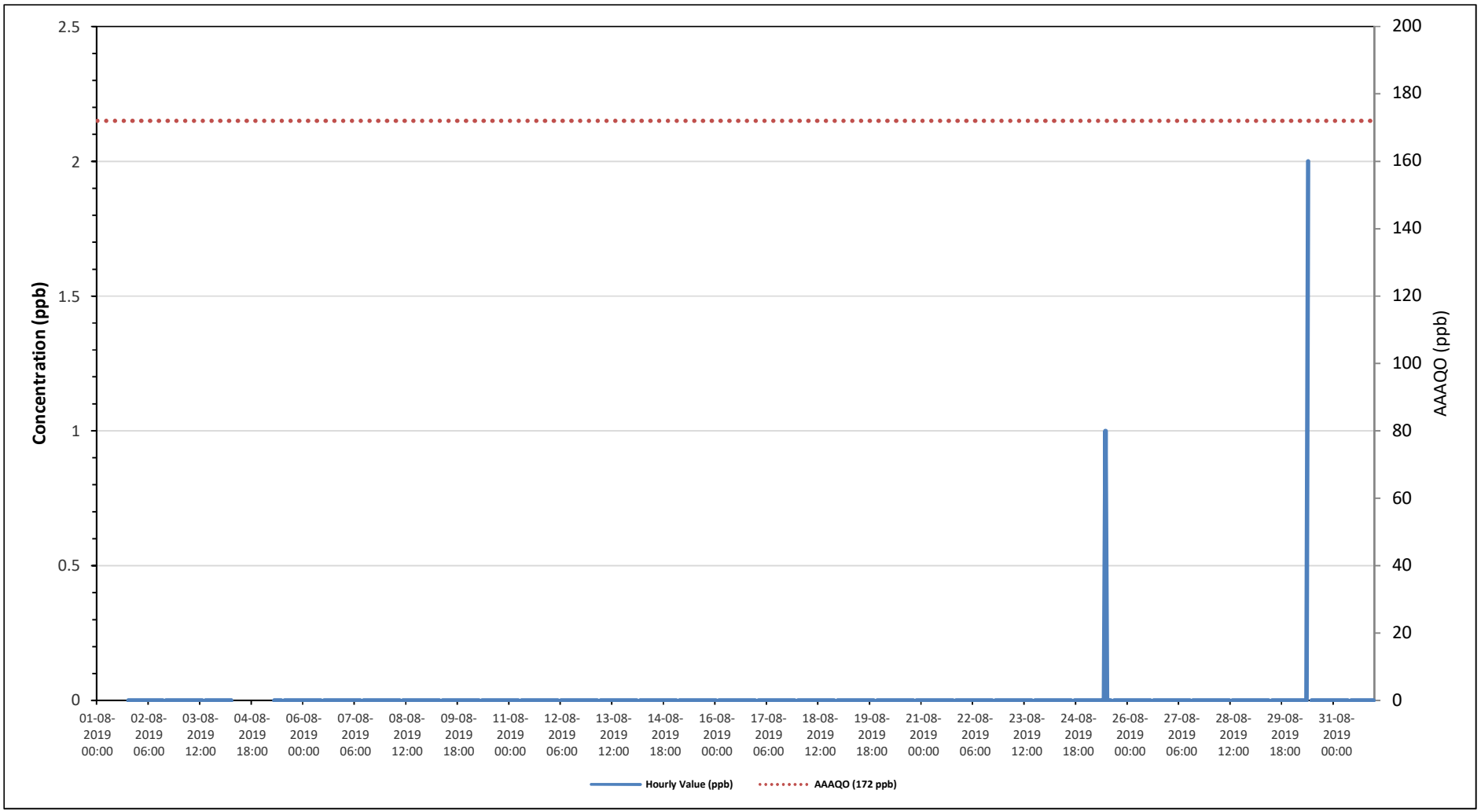
Maximum Hourly Value:	2	ppb	on August 30 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.1	ppb	on August 30	Hours of Data:	672
Minimum Hourly Value:	0	ppb	on August 1 at hour 18	Hours of Missing Data:	37
Minimum Daily Value:	0.0	ppb	on August 2	Hours of Calibration:	35
Monthly Average:	0.0	ppb		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0	0	0	0	0	0	0	0	-
Aug 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Aug 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 4	0	0	0	0	0	0	0	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0	0	-
Aug 5	K	K	K	K	K	K	Y	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Aug 6	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 7	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 8	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 10	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 11	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 12	0	0	0	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
Aug 13	0	0	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
Aug 14	0	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
Aug 15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 16	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
Aug 17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Aug 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Aug 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Aug 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Aug 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Aug 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Aug 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Aug 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 25	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Aug 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 27	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 28	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 29	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 30	0	0	0	0	0	0	0	0	0	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1
Aug 31	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

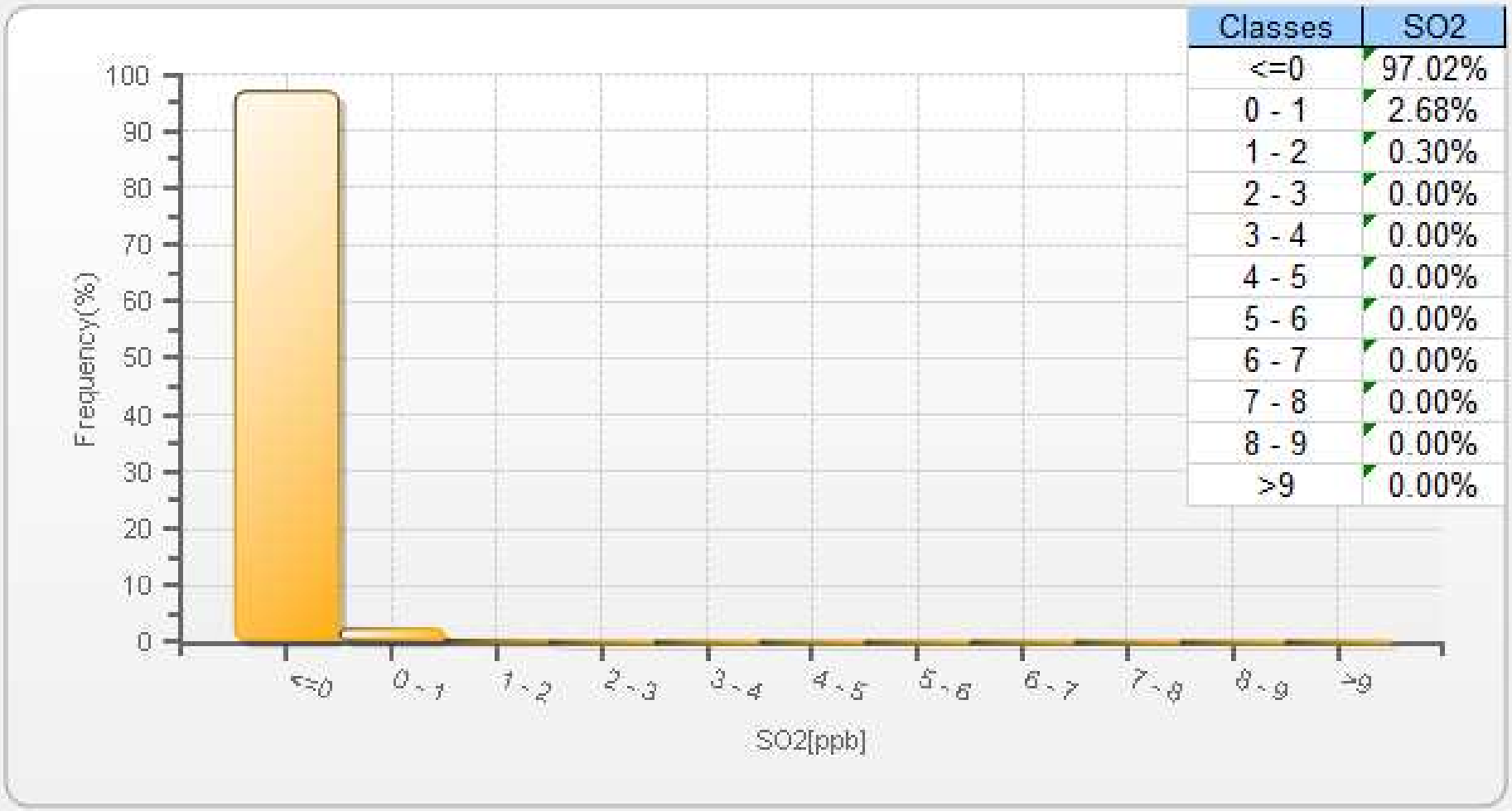
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for SO2 - 986c Station



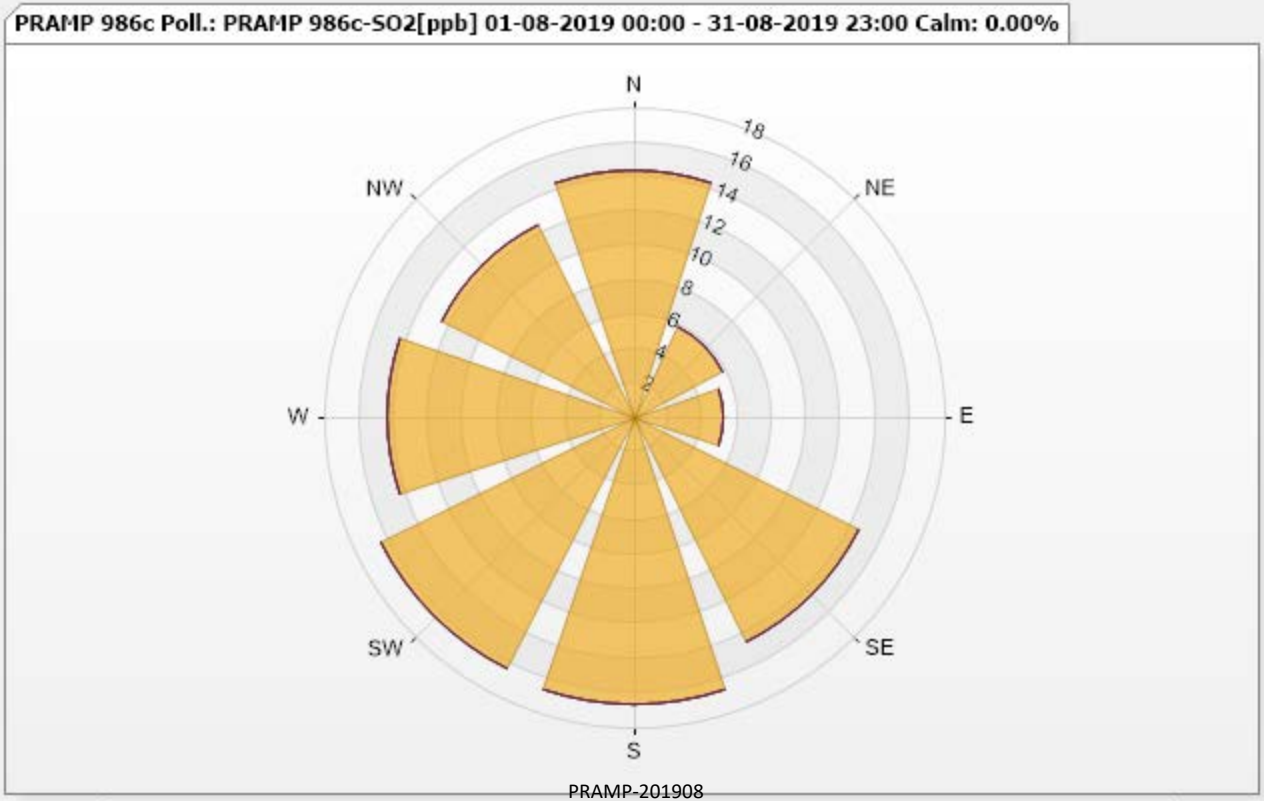
SO2[ppb] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.



Classes	SO2
<=0	97.02%
0 - 1	2.68%
1 - 2	0.30%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.41% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	14.33	0	0	0	0	14.33
NE	5.82	0	0	0	0	5.82
E	5.22	0	0	0	0	5.22
SE	14.63	0	0	0	0	14.63
S	16.72	0	0	0	0	16.72
SW	16.42	0	0	0	0	16.42
W	14.33	0	0	0	0	14.33
NW	12.54	0	0	0	0	12.54
Summary	100	0	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

Alberta Ambient Air Quality Objectives (AAAQO) for H2S: 1-Hour 10 ppb, 24-Hour 3 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0

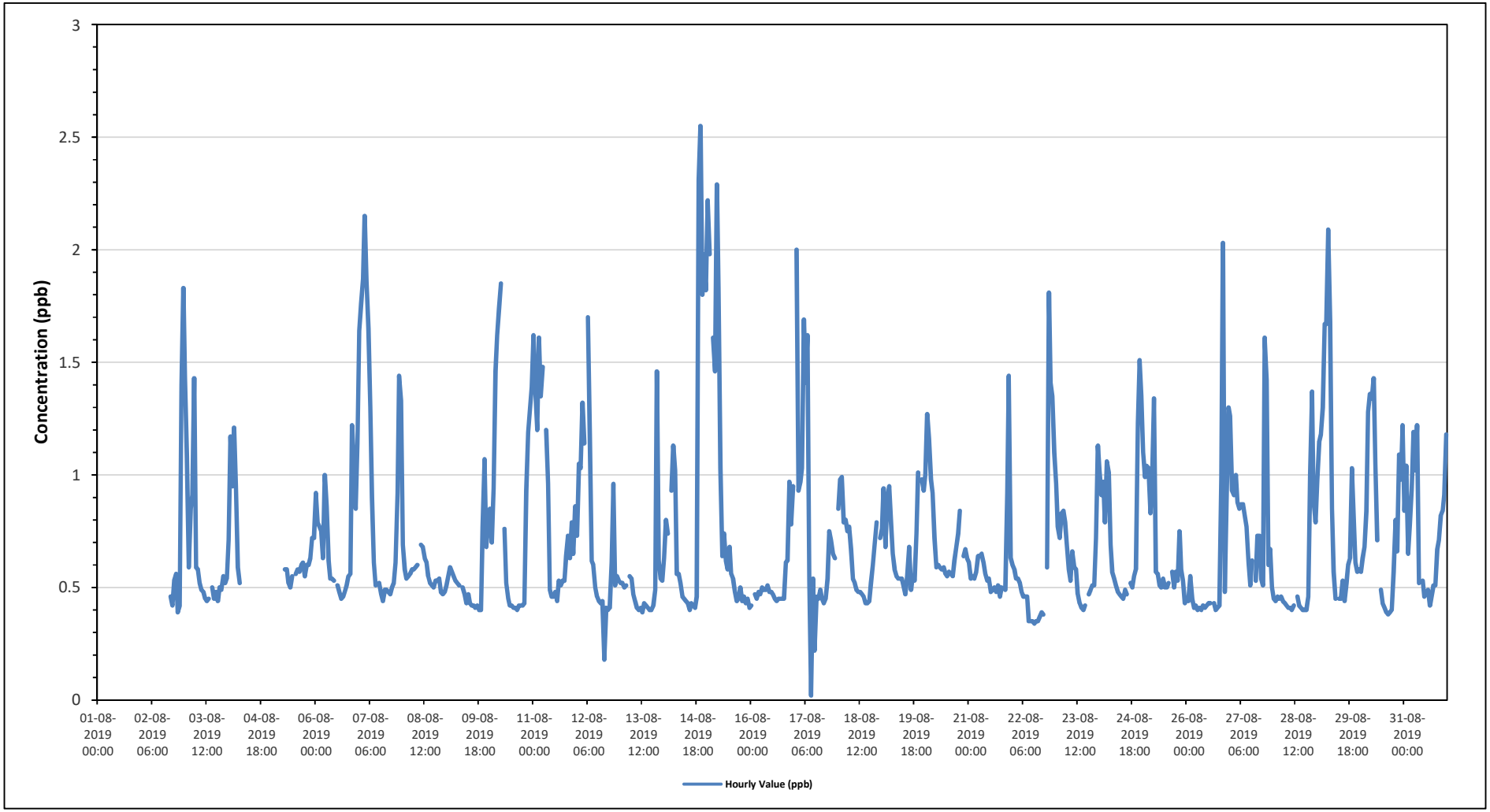
Maximum Hourly Value:	2.55	ppb	on August 14 at hour 20	Hours in Service:	744
Maximum Daily Value:	1.00	ppb	on August 7	Hours of Data:	652
Minimum Hourly Value:	0.02	ppb	on August 17 at hour 9	Hours of Missing Data:	57
Minimum Daily Value:	0.51	ppb	on August 13	Hours of Calibration:	35
Monthly Average:	0.71	ppb		Operational Uptime:	92.3

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Aug 2	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.38	S	0.46	0.42	0.53	0.56	0.39	0.42	1.4	1.83	0.38	1.83	-
Aug 3	1.43	1.08	0.59	0.85	0.91	1.43	0.59	0.58	0.52	0.49	0.48	0.45	0.44	0.45	S	0.5	0.45	0.48	0.44	0.5	0.49	0.55	0.52	0.54	0.44	1.43	0.64
Aug 4	0.71	1.17	0.95	1.21	0.95	0.59	0.52	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.52	1.21	-
Aug 5	K	K	K	K	K	K	Y	0.58	0.58	0.52	0.5	0.55	S	0.56	0.58	0.57	0.6	0.61	0.55	0.6	0.6	0.63	0.72	0.72	0.50	0.72	-
Aug 6	0.92	0.79	0.77	0.75	0.63	1	0.86	0.62	0.54	0.54	0.53	S	0.51	0.48	0.45	0.46	0.48	0.51	0.55	0.56	1.22	1.05	0.85	1.14	0.45	1.22	0.70
Aug 7	1.64	1.76	1.87	2.15	1.86	1.65	1.3	0.9	0.61	0.51	S	0.52	0.47	0.44	0.49	0.49	0.48	0.47	0.5	0.52	0.61	0.92	1.44	1.33	0.44	2.15	**1.00**
Aug 8	0.69	0.58	0.54	0.55	0.56	0.58	0.58	0.59	0.6	S	0.69	0.68	0.63	0.61	0.55	0.52	0.51	0.5	0.53	0.53	0.54	0.48	0.47	0.48	0.47	0.69	0.56
Aug 9	0.51	0.55	0.59	0.57	0.55	0.53	0.52	0.51	S	0.5	0.47	0.43	0.47	0.43	0.42	0.42	0.41	0.42	0.4	0.4	0.77	1.07	0.68	0.8	0.40	1.07	0.54
Aug 10	0.85	0.7	0.94	1.46	1.62	1.74	1.85	S	0.76	0.52	0.45	0.42	0.42	0.41	0.41	0.4	0.42	0.42	0.42	0.43	0.93	1.19	1.29	1.39	0.40	1.85	0.85
Aug 11	1.62	1.38	1.2	1.61	1.35	1.48	S	1.2	0.96	0.49	0.46	0.46	0.48	0.44	0.53	0.51	0.53	0.53	0.64	0.73	0.63	0.79	0.65	0.86	0.44	1.62	0.85
Aug 12	0.73	1.05	1.03	1.32	1.14	S	1.7	1.17	0.62	0.6	0.5	0.46	0.44	0.43	0.44	0.18	0.41	0.4	0.41	0.61	0.96	0.51	0.55	0.53	0.18	1.70	0.70
Aug 13	0.52	0.52	0.5	0.51	S	0.55	0.54	0.47	0.44	0.41	0.4	0.41	0.39	0.43	0.42	0.41	0.4	0.4	0.42	0.49	1.46	0.62	0.54	0.53	0.39	1.46	0.51
Aug 14	0.63	0.8	0.74	S	0.93	1.13	1.02	0.56	0.56	0.52	0.46	0.45	0.44	0.43	0.4	0.43	0.42	0.41	0.46	2.31	**2.55**	1.8	1.98	1.82	0.40	**2.55**	0.92
Aug 15	2.22	1.98	S	1.61	1.46	2.29	1.83	1.03	0.64	0.74	0.62	0.58	0.68	0.56	0.54	0.48	0.44	0.45	0.5	0.44	0.46	0.43	0.45	0.41	0.41	2.29	0.91
Aug 16	0.42	S	0.47	0.45	0.48	0.47	0.5	0.49	0.49	0.51	0.48	0.48	0.47	0.45	0.44	0.45	0.45	0.45	0.45	0.61	0.62	0.97	0.78	0.95	0.42	0.97	0.54
Aug 17	S	2	0.93	0.97	1.03	1.69	1.41	1.62	0.53	0.02	0.54	0.22	0.46	0.45	0.49	0.45	0.43	0.45	0.54	0.75	0.71	0.65	0.63	S	0.02	2.00	0.77
Aug 18	0.85	0.98	0.99	0.79	0.8	0.75	0.77	0.67	0.54	0.52	0.49	0.48	0.48	0.47	0.46	0.43	0.43	0.44	0.52	0.6	0.69	0.79	S	0.72	0.43	0.99	0.64
Aug 19	0.76	0.94	0.68	0.9	0.95	0.8	0.65	0.58	0.55	0.54	0.54	0.54	0.5	0.47	0.55	0.68	0.49	0.55	0.53	0.74	1.01	S	0.98	0.93	0.47	1.01	0.69
Aug 20	1	1.27	1.16	0.98	0.92	0.72	0.59	0.6	0.59	0.58	0.59	0.56	0.55	0.57	0.56	0.55	0.62	0.68	0.74	0.84	S	0.64	0.67	0.63	0.55	1.27	0.72
Aug 21	0.61	0.54	0.55	0.54	0.57	0.64	0.64	0.65	0.61	0.56	0.53	0.54	0.48	0.49	0.5	0.48	0.51	0.46	0.5	S	0.49	0.92	1.44	0.63	0.46	1.44	0.60
Aug 22	0.6	0.58	0.54	0.54	0.52	0.48	0.46	0.46	0.46	0.35	0.35	0.35	0.34	0.35	0.35	0.37	0.39	0.38	S	0.59	1.81	1.41	1.35	1.1	0.34	1.81	0.61
Aug 23	0.96	0.77	0.72	0.83	0.84	0.79	0.68	0.58	0.53	0.66	0.59	0.58	0.47	0.43	0.41	0.4	0.42	S	0.47	0.49	0.51	0.51	0.72	1.13	0.40	1.13	0.63
Aug 24	1.02	0.91	0.97	0.79	1.06	1.01	0.69	0.57	0.54	0.51	0.48	0.47	0.46	0.45	0.49	0.47	S	0.52	0.5	0.55	0.58	1.23	1.51	1.35	0.45	1.51	0.74
Aug 25	1.1	0.99	1.04	1.03	0.83	1.01	1.34	0.57	0.56	0.51	0.5	0.54	0.5	0.5	0.52	S	0.57	0.5	0.57	0.53	0.75	0.58	0.53	0.43	0.43	1.34	0.70
Aug 26	0.45	0.44	0.55	0.45	0.41	0.42	0.4	0.41	0.4	0.42	0.41	0.42	0.43	0.43	S	0.43	0.4	0.41	0.42	0.99	2.03	0.48	0.88	1.3	0.40	2.03	0.58
Aug 27	1.26	0.93	0.91	1	0.88	0.85	0.87	0.87	0.82	0.77	0.61	0.51	0.62	S	0.53	0.73	0.73	0.54	0.51	1.61	1.42	0.6	0.67	0.5	0.50	1.61	0.81
Aug 28	0.45	0.44	0.46	0.45	0.46	0.44	0.43	0.42	0.41	0.41	0.4	0.42	S	0.46	0.42	0.41	0.4	0.4	0.4	0.46	1	1.37	0.88	0.79	0.40	1.37	0.53
Aug 29	0.98	1.15	1.18	1.3	1.67	1.67	2.09	1.68	0.85	0.57	0.45	S	0.45	0.45	0.53	0.44	0.52	0.6	0.63	1.03	0.79	0.61	0.57	0.58	0.44	2.09	0.90
Aug 30	0.57	0.63	0.68	0.84	1.28	1.36	1.34	1.43	1.05	0.71	S	0.49	0.43	0.41	0.39	0.38	0.39	0.4	0.57	0.8	0.66	1.09	0.98	1.22	0.38	1.43	0.79
Aug 31	0.84	1.04	0.65	0.78	0.93	1.19	1.02	1.22	0.52	S	0.53	0.46	0.48	0.49	0.42	0.46	0.51	0.51	0.67	0.71	0.82	0.84	0.91	1.18	0.42	1.22	0.75
Diurnal Maximum	2.22	2.00	1.87	2.15	1.86	2.29	2.09	1.68	1.05	0.77	0.69	0.68	0.68	0.61	0.58	0.73	0.73	0.68	0.74	2.31	2.55	1.80	1.98	1.83			
Daiurnal Average	0.90	0.96	0.82	0.93	0.95	1.01	0.93	0.78	0.60	0.52	0.50	0.48	0.48	0.46	0.47	0.46	0.47	0.48	0.51	0.71	0.91	0.83	0.89	0.92			

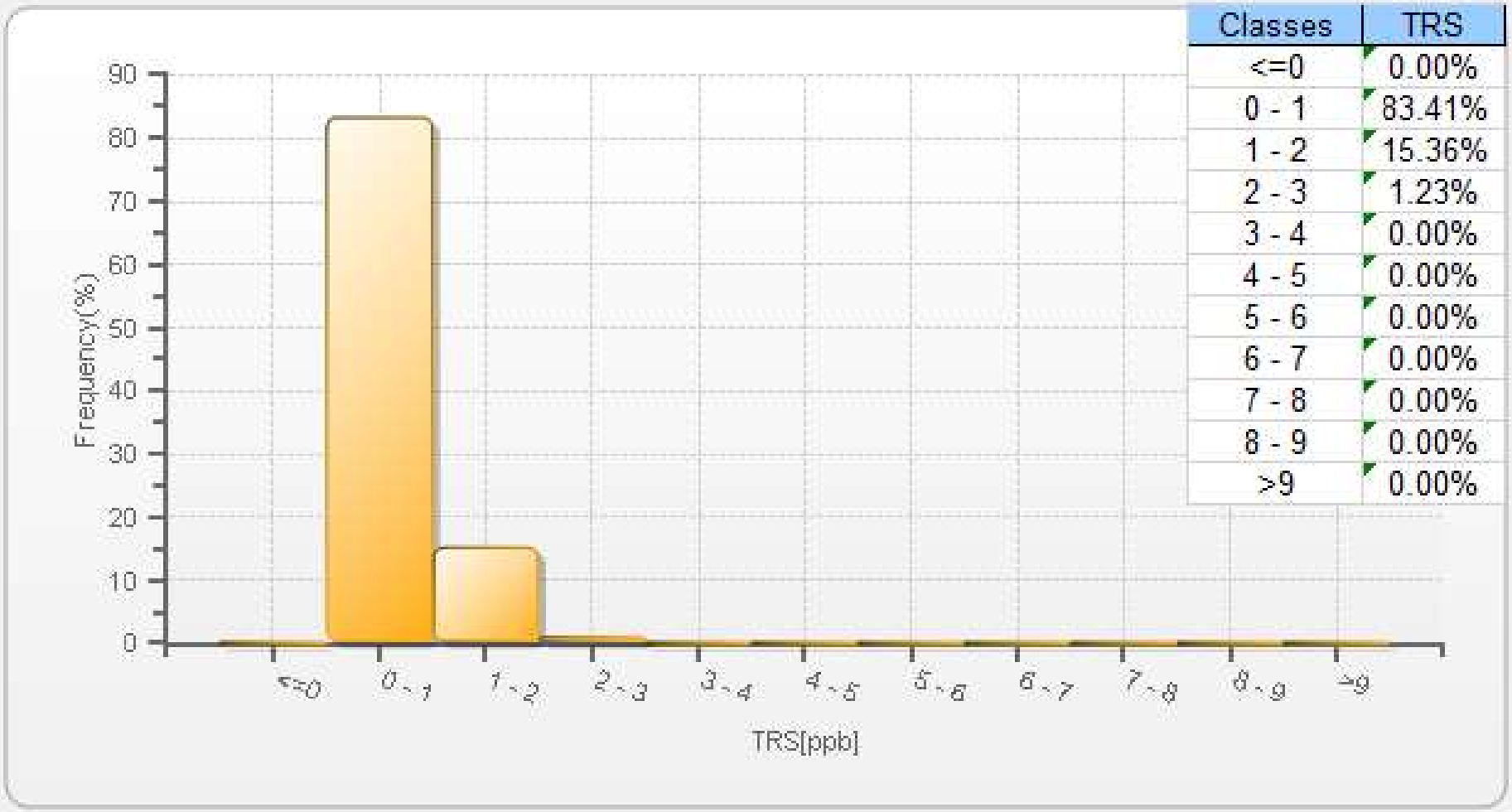
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for TRS - 986c Station

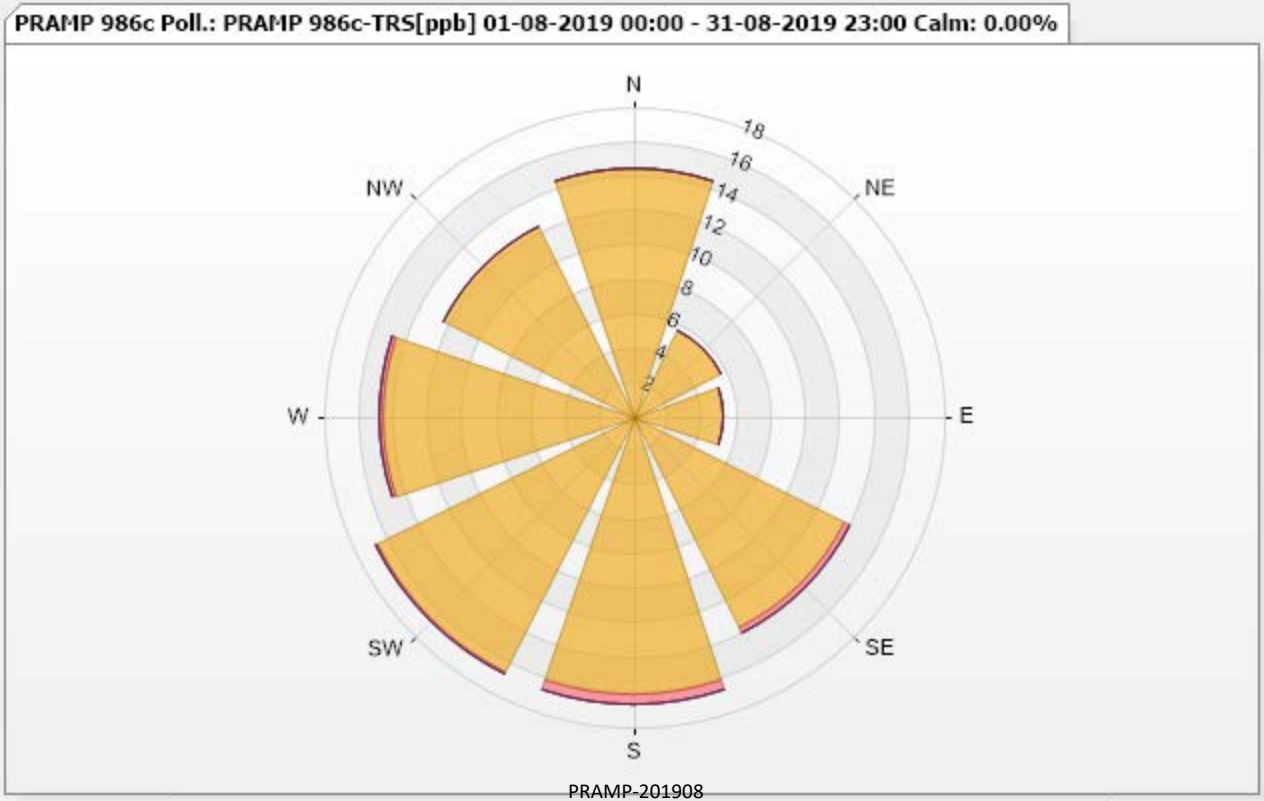


TRS[ppb] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 89.66% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	14.46	0	0	0	0	14.46
NE	5.69	0	0	0	0	5.69
E	5.23	0	0	0	0	5.23
SE	13.69	0.31	0	0	0	14
S	16.15	0.62	0	0	0	16.77
SW	16.62	0.15	0	0	0	16.77
W	14.62	0.15	0	0	0	14.77
NW	12.31	0	0	0	0	12.31
Summary	98.77	1.23	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
99 0-2
1 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

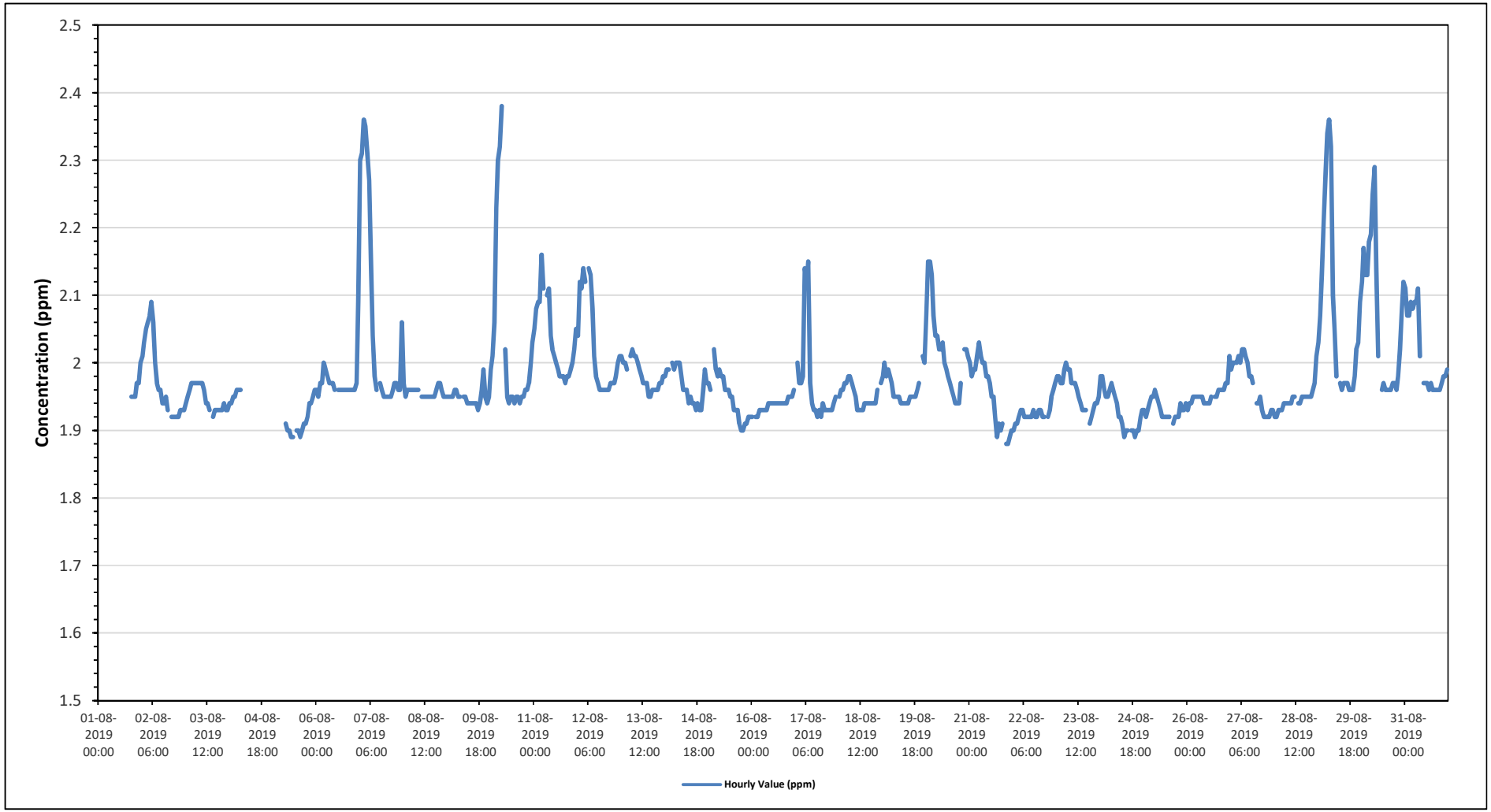
Maximum Hourly Value:	2.38	ppm	on August 10 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.07	ppm	on August 29	Hours of Data:	672
Minimum Hourly Value:	1.88	ppm	on August 21 at hour 20	Hours of Missing Data:	37
Minimum Daily Value:	1.93	ppm	on August 22	Hours of Calibration:	35
Monthly Average:	1.98	ppm		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	1.95	1.95	1.95	1.97	1.97	2.00	1.95	2.00	-
Aug 2	2.01	2.03	2.05	2.06	2.07	2.09	2.06	2.00	1.97	1.96	1.96	1.94	1.94	1.95	1.93	S	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	2.09	1.97
Aug 3	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.94	1.94	1.93	S	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.92	1.97	1.95
Aug 4	1.94	1.94	1.95	1.95	1.96	1.96	1.96	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.94	1.96	-
Aug 5	K	K	K	K	K	K	Y	1.91	1.90	1.90	1.89	1.89	S	1.90	1.90	1.89	1.90	1.91	1.91	1.92	1.94	1.94	1.95	1.96	1.89	1.96	-
Aug 6	1.96	1.95	1.97	1.97	2.00	1.99	1.98	1.97	1.97	1.97	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.09	1.95	2.09	1.97
Aug 7	2.30	2.31	2.36	2.35	2.31	2.27	2.14	2.04	1.98	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.96	2.06	1.95	2.36	2.07
Aug 8	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.95	1.95	1.95	1.97	1.96
Aug 9	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	S	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.96	1.99	1.95	1.94	1.95	1.93	1.99	1.95
Aug 10	1.99	2.01	2.06	2.23	2.30	2.32	**2.38**	S	2.02	1.95	1.94	1.95	1.95	1.94	1.95	1.95	1.94	1.95	1.95	1.96	1.96	1.97	2.00	2.03	1.94	**2.38**	2.03
Aug 11	2.05	2.08	2.09	2.09	2.16	2.11	S	2.10	2.11	2.04	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.00	2.02	2.05	1.97	2.16	2.03
Aug 12	2.04	2.12	2.11	2.14	2.12	S	2.14	2.13	2.08	2.01	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.98	2.00	2.01	1.96	2.14	2.02
Aug 13	2.01	2.00	2.00	1.99	S	2.01	2.02	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.97	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.95	2.02	1.98
Aug 14	1.98	1.99	1.99	S	2.00	1.99	2.00	2.00	2.00	1.98	1.96	1.96	1.96	1.94	1.95	1.94	1.94	1.93	1.94	1.93	1.93	1.96	1.99	1.97	1.93	2.00	1.97
Aug 15	1.97	1.96	S	2.02	1.99	1.98	1.99	1.98	1.98	1.96	1.96	1.96	1.95	1.95	1.93	1.93	1.93	1.91	1.90	1.90	1.91	1.91	1.92	1.92	1.90	2.02	1.95
Aug 16	1.92	S	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.92	1.96	1.94
Aug 17	S	2.00	1.97	1.97	1.98	2.14	2.12	2.15	1.97	1.94	1.93	1.93	1.92	1.93	1.92	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.92	2.15	1.97
Aug 18	1.95	1.96	1.96	1.97	1.97	1.98	1.98	1.97	1.96	1.95	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	S	1.97	1.93	1.98	1.95
Aug 19	1.98	2.00	1.98	1.99	1.98	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.97	S	2.01	2.00	1.94	2.01	1.96
Aug 20	2.07	2.15	2.15	2.13	2.07	2.04	2.04	2.02	2.02	2.03	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.94	1.94	1.97	S	2.02	2.02	2.01	1.94	2.15	2.02
Aug 21	2.00	1.98	1.99	1.99	2.01	2.03	2.01	2.00	2.00	1.98	1.98	1.97	1.95	1.95	1.92	1.89	1.91	1.90	1.91	S	1.88	1.88	1.89	1.90	1.88	2.03	1.95
Aug 22	1.90	1.91	1.91	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.92	1.93	1.93	1.92	1.92	S	1.92	1.93	1.95	1.96	1.97	1.90	1.97	1.93
Aug 23	1.98	1.98	1.97	1.97	1.99	2.00	1.99	1.99	1.97	1.97	1.97	1.96	1.95	1.94	1.93	1.93	1.93	S	1.91	1.92	1.93	1.94	1.94	1.95	1.91	2.00	1.96
Aug 24	1.98	1.98	1.96	1.95	1.95	1.96	1.97	1.96	1.95	1.94	1.92	1.92	1.91	1.89	1.90	1.90	S	1.90	1.90	1.89	1.90	1.90	1.92	1.93	1.89	1.98	1.93
Aug 25	1.93	1.92	1.93	1.94	1.95	1.95	1.96	1.95	1.94	1.93	1.92	1.92	1.92	1.92	1.92	S	1.91	1.92	1.92	1.92	1.94	1.93	1.93	1.94	1.91	1.96	1.93
Aug 26	1.93	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	2.01	1.93	2.01	1.95
Aug 27	1.99	2.00	2.00	2.00	2.01	2.00	2.02	2.02	2.01	2.00	1.98	1.98	1.97	S	1.94	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.92	2.02	1.97
Aug 28	1.92	1.92	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.95	S	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	2.01	1.92	2.01	1.95
Aug 29	2.03	2.07	2.13	2.21	2.28	2.34	2.36	2.32	2.10	2.05	1.98	S	1.97	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.98	2.02	2.03	2.09	1.96	2.36	**2.07**
Aug 30	2.12	2.17	2.13	2.13	2.18	2.19	2.25	2.29	2.14	2.01	S	1.96	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.98	2.02	2.08	2.12	1.96	2.29	2.06
Aug 31	2.11	2.07	2.07	2.09	2.08	2.09	2.09	2.11	2.01	S	1.97	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.98	1.99	1.96	2.11	2.01
Diurnal Maximum	2.30	2.31	2.36	2.35	2.31	2.34	2.38	2.32	2.14	2.05	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.02	2.08	2.12			
Daiurnal Average	2.00	2.01	2.01	2.03	2.04	2.04	2.04	2.02	1.99	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.99			

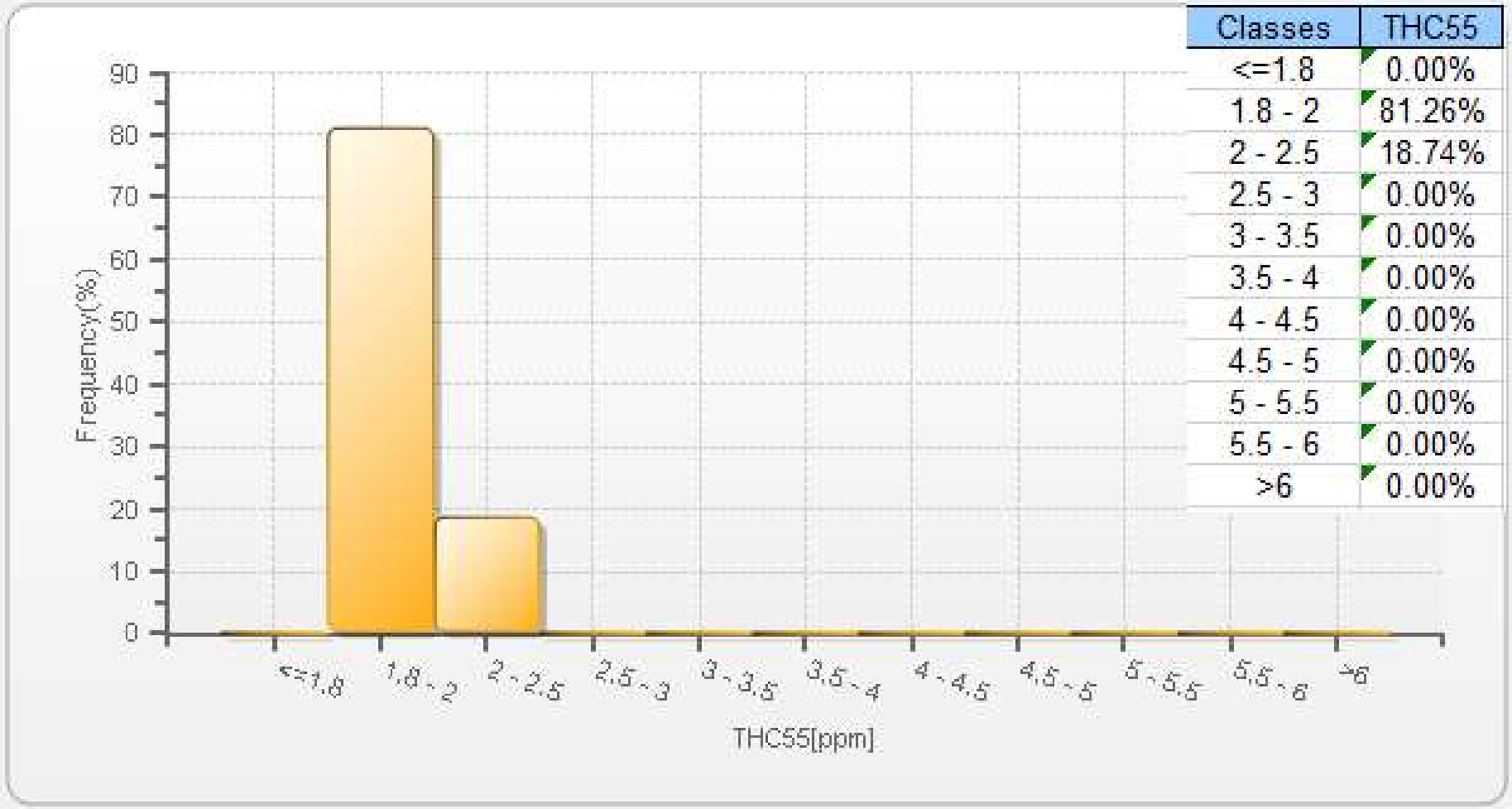
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for THC - 986c Station



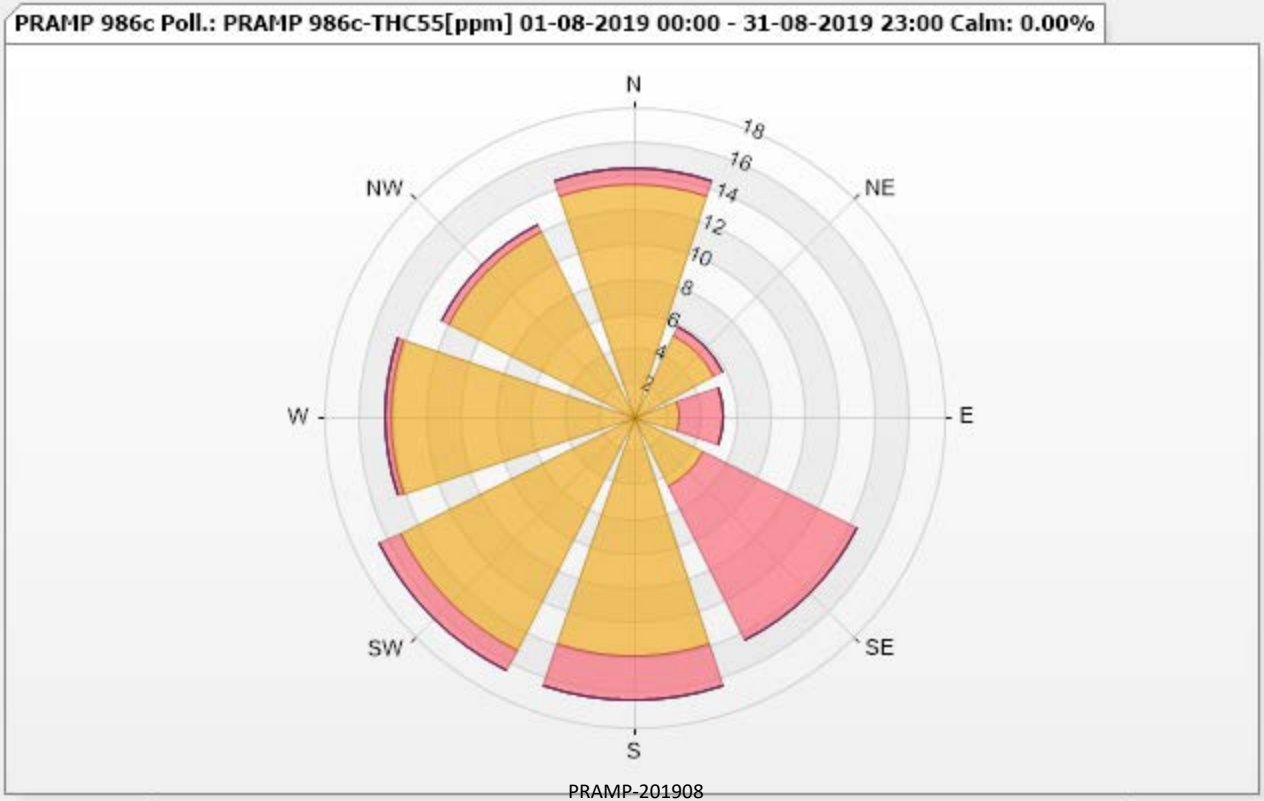
THC55[ppm] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	81.26%
2 - 2.5	18.74%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	13.51	0.9	0	0	0	14.41
NE	5.26	0.6	0	0	0	5.86
E	2.7	2.55	0	0	0	5.25
SE	4.5	10.06	0	0	0	14.56
S	13.96	2.55	0	0	0	16.51
SW	15.17	1.35	0	0	0	16.52
W	14.11	0.3	0	0	0	14.41
NW	12.01	0.45	0	0	0	12.46
Summary	81.22	18.76	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
81 0-2
19 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

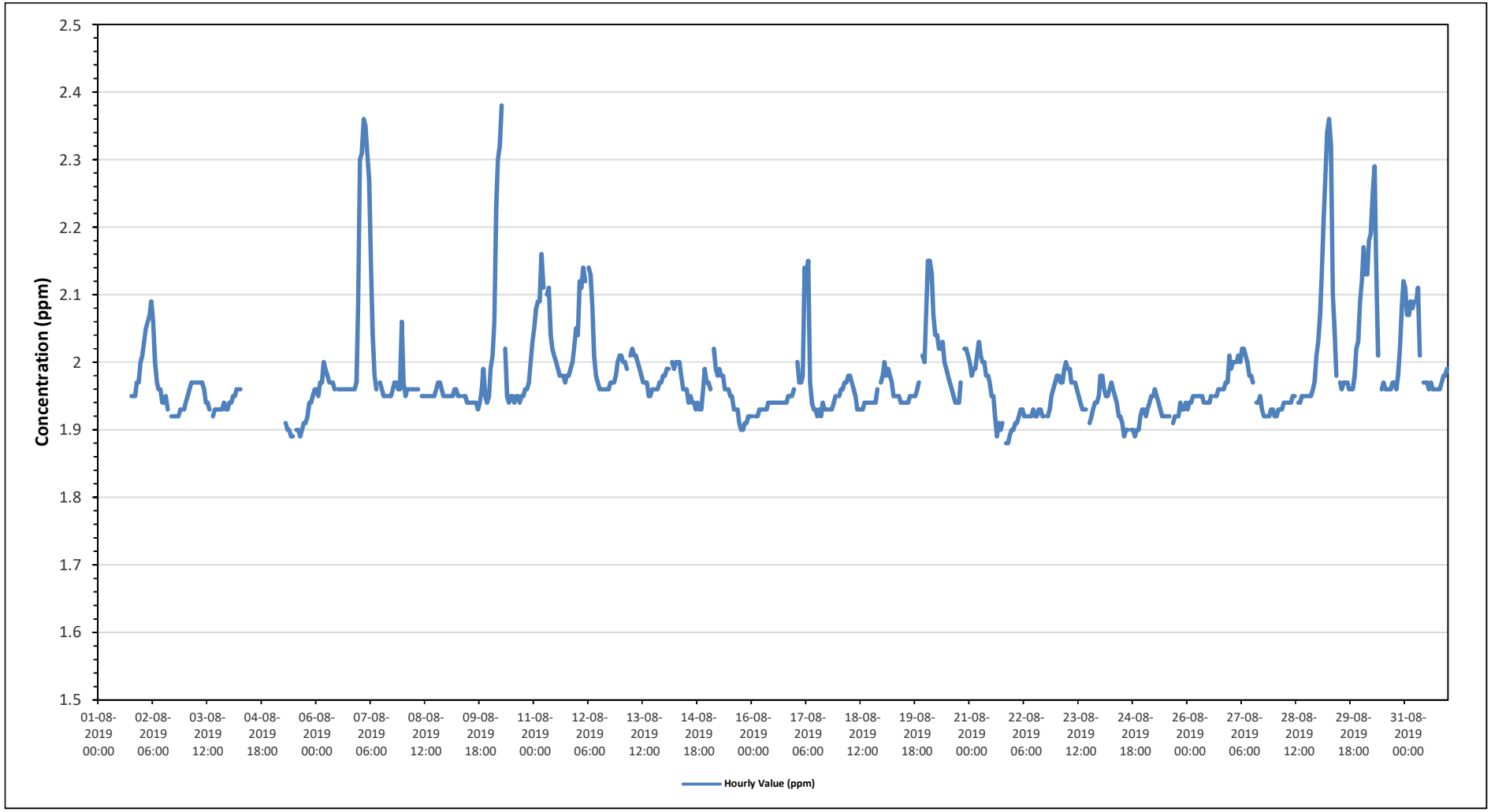
Maximum Hourly Value:	2.38	ppm	on August 10 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.07	ppm	on August 29	Hours of Data:	672
Minimum Hourly Value:	1.88	ppm	on August 21 at hour 20	Hours of Missing Data:	37
Minimum Daily Value:	1.93	ppm	on August 22	Hours of Calibration:	35
Monthly Average:	1.98	ppm		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	1.95	1.95	1.95	1.97	1.97	2.00	1.95	2.00	-
Aug 2	2.01	2.03	2.05	2.06	2.07	2.09	2.06	2.00	1.97	1.96	1.96	1.94	1.94	1.95	1.93	S	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	2.09	1.97
Aug 3	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.94	1.94	1.93	S	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.92	1.97	1.95
Aug 4	1.94	1.94	1.95	1.95	1.96	1.96	1.96	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.94	1.96	-
Aug 5	K	K	K	K	K	K	Y	1.91	1.90	1.90	1.89	1.89	S	1.90	1.90	1.89	1.90	1.91	1.91	1.92	1.94	1.94	1.95	1.96	1.89	1.96	-
Aug 6	1.96	1.95	1.97	1.97	2.00	1.99	1.98	1.97	1.97	1.97	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.09	1.95	2.09	1.97
Aug 7	2.30	2.31	2.36	2.35	2.31	2.27	2.14	2.04	1.98	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.96	2.06	1.95	2.36	2.07
Aug 8	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.95	1.95	1.95	1.97	1.96
Aug 9	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	S	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.96	1.99	1.95	1.94	1.95	1.93	1.99	1.95
Aug 10	1.99	2.01	2.06	2.23	2.30	2.32	**2.38**	S	2.02	1.95	1.94	1.95	1.95	1.94	1.95	1.95	1.94	1.95	1.95	1.96	1.96	1.97	2.00	2.03	1.94	**2.38**	2.03
Aug 11	2.05	2.08	2.09	2.09	2.16	2.11	S	2.10	2.11	2.04	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.00	2.02	2.05	1.97	2.16	2.03
Aug 12	2.04	2.12	2.11	2.14	2.12	S	2.14	2.13	2.08	2.01	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.98	2.00	2.01	1.96	2.14	2.02
Aug 13	2.01	2.00	2.00	1.99	S	2.01	2.02	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.97	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.95	2.02	1.98
Aug 14	1.98	1.99	1.99	S	2.00	1.99	2.00	2.00	2.00	1.98	1.96	1.96	1.96	1.94	1.95	1.94	1.94	1.93	1.94	1.93	1.93	1.96	1.99	1.97	1.93	2.00	1.97
Aug 15	1.97	1.96	S	2.02	1.99	1.98	1.99	1.98	1.98	1.96	1.96	1.96	1.95	1.95	1.93	1.93	1.93	1.91	1.90	1.90	1.91	1.91	1.92	1.92	1.90	2.02	1.95
Aug 16	1.92	S	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.92	1.96	1.94
Aug 17	S	2.00	1.97	1.97	1.98	2.14	2.12	2.15	1.97	1.94	1.93	1.93	1.92	1.93	1.92	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.92	2.15	1.97
Aug 18	1.95	1.96	1.96	1.97	1.97	1.98	1.98	1.97	1.96	1.95	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	S	1.97	1.93	1.98	1.95
Aug 19	1.98	2.00	1.98	1.99	1.98	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.97	S	2.01	2.00	1.94	2.01	1.96
Aug 20	2.07	2.15	2.15	2.13	2.07	2.04	2.04	2.02	2.02	2.03	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.94	1.94	1.97	S	2.02	2.02	2.01	1.94	2.15	2.02
Aug 21	2.00	1.98	1.99	1.99	2.01	2.03	2.01	2.00	2.00	1.98	1.98	1.97	1.95	1.95	1.92	1.89	1.91	1.90	1.91	S	1.88	1.88	1.89	1.90	1.88	2.03	1.95
Aug 22	1.90	1.91	1.91	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.92	1.93	1.93	1.92	1.92	S	1.92	1.93	1.95	1.96	1.97	1.90	1.97	1.93
Aug 23	1.98	1.98	1.97	1.97	1.99	2.00	1.99	1.99	1.97	1.97	1.97	1.96	1.95	1.94	1.93	1.93	1.93	S	1.91	1.92	1.93	1.94	1.94	1.95	1.91	2.00	1.96
Aug 24	1.98	1.98	1.96	1.95	1.95	1.96	1.97	1.96	1.95	1.94	1.92	1.92	1.91	1.89	1.90	1.90	S	1.90	1.90	1.89	1.90	1.90	1.92	1.93	1.89	1.98	1.93
Aug 25	1.93	1.92	1.93	1.94	1.95	1.95	1.96	1.95	1.94	1.93	1.92	1.92	1.92	1.92	1.92	S	1.91	1.92	1.92	1.92	1.94	1.93	1.93	1.94	1.91	1.96	1.93
Aug 26	1.93	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	2.01	1.93	2.01	1.95
Aug 27	1.99	2.00	2.00	2.00	2.01	2.00	2.02	2.02	2.01	2.00	1.98	1.98	1.97	S	1.94	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.92	2.02	1.97
Aug 28	1.92	1.92	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.95	S	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	2.01	1.92	2.01	1.95
Aug 29	2.03	2.07	2.13	2.21	2.28	2.34	2.36	2.32	2.10	2.05	1.98	S	1.97	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.98	2.02	2.03	2.09	1.96	2.36	**2.07**
Aug 30	2.12	2.17	2.13	2.13	2.18	2.19	2.25	2.29	2.14	2.01	S	1.96	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.98	2.02	2.08	2.12	1.96	2.29	2.06
Aug 31	2.11	2.07	2.07	2.09	2.08	2.09	2.09	2.11	2.01	S	1.97	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.98	1.99	1.96	2.11	2.01
Diurnal Maximum	2.30	2.31	2.36	2.35	2.31	2.34	2.38	2.32	2.14	2.05	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.02	2.08	2.12			
Daiurnal Average	2.00	2.01	2.01	2.03	2.04	2.04	2.04	2.02	1.99	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.99			

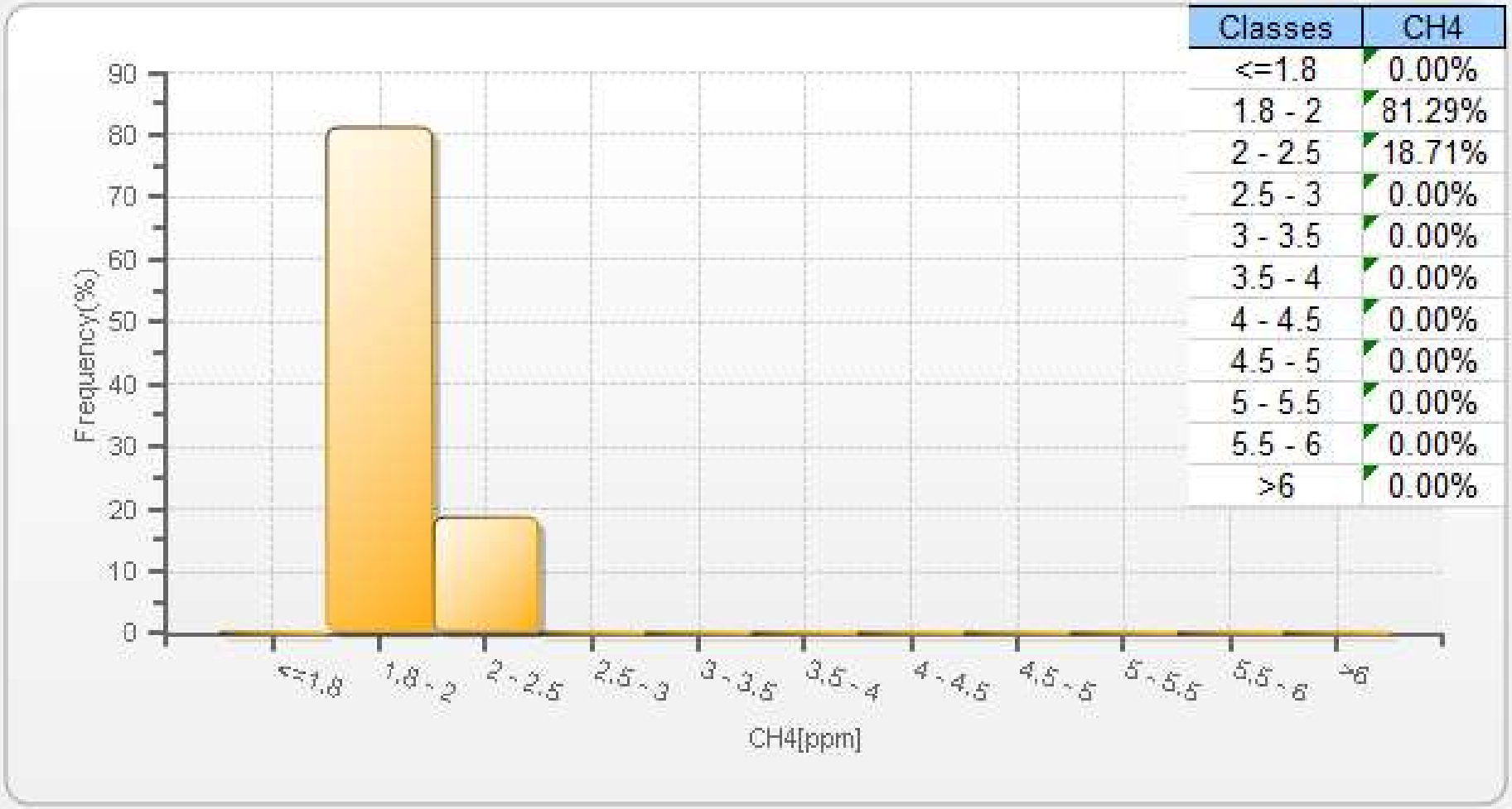
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for CH4 - 986c Station



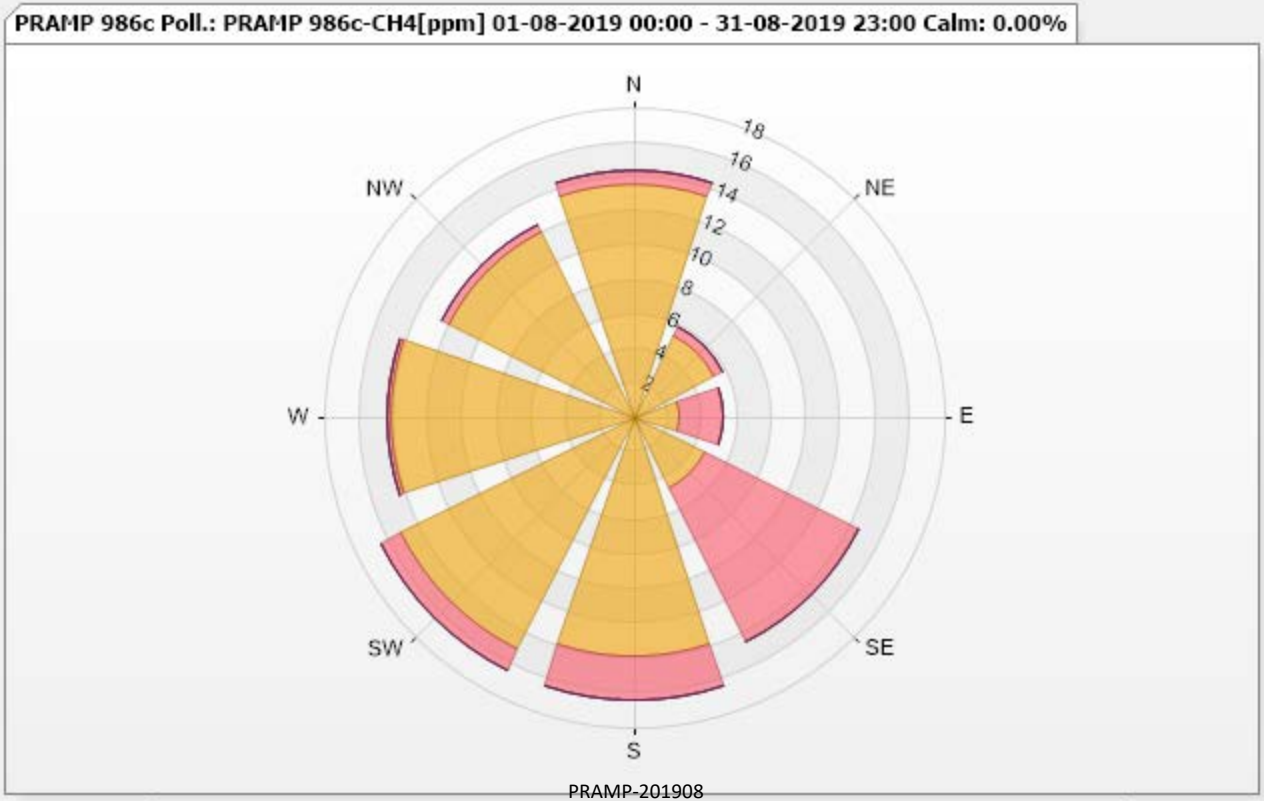
CH4[ppm] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	81.29%
2 - 2.5	18.71%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.00% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	13.49	0.9	0	0	0	14.39
NE	5.25	0.6	0	0	0	5.85
E	2.7	2.55	0	0	0	5.25
SE	4.65	10.04	0	0	0	14.69
S	13.94	2.55	0	0	0	16.49
SW	15.14	1.35	0	0	0	16.49
W	14.09	0.3	0	0	0	14.39
NW	11.99	0.45	0	0	0	12.44
Summary	81.25	18.74	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
81 0-2
19 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program
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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

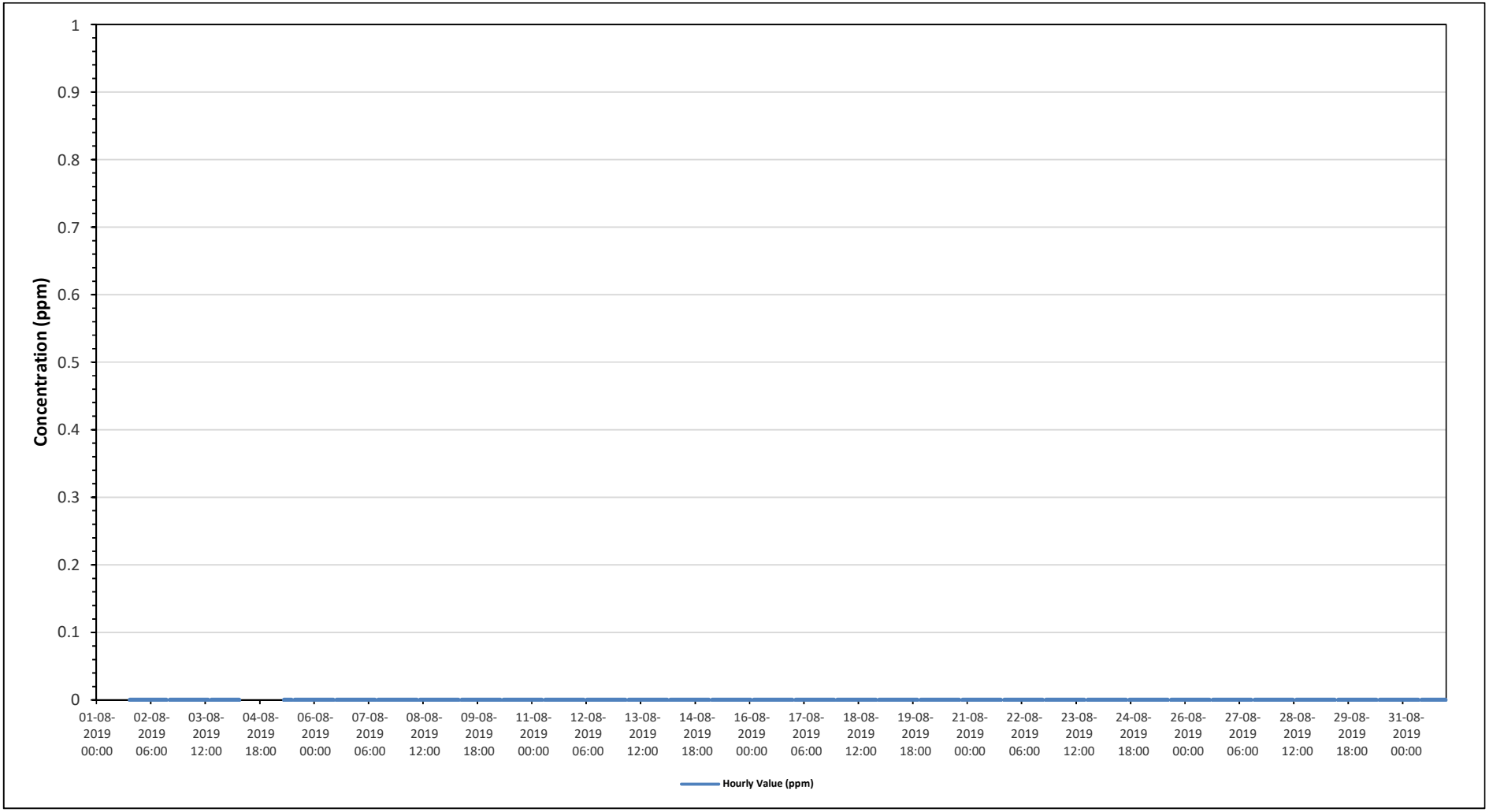
Maximum Hourly Value:	0.00	ppm	on August 1 at hour 18	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on August 2	Hours of Data:	672
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 18	Hours of Missing Data:	37
Minimum Daily Value:	0.00	ppm	on August 2	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.00	0.00	-
Aug 5	K	K	K	K	K	K	Y	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

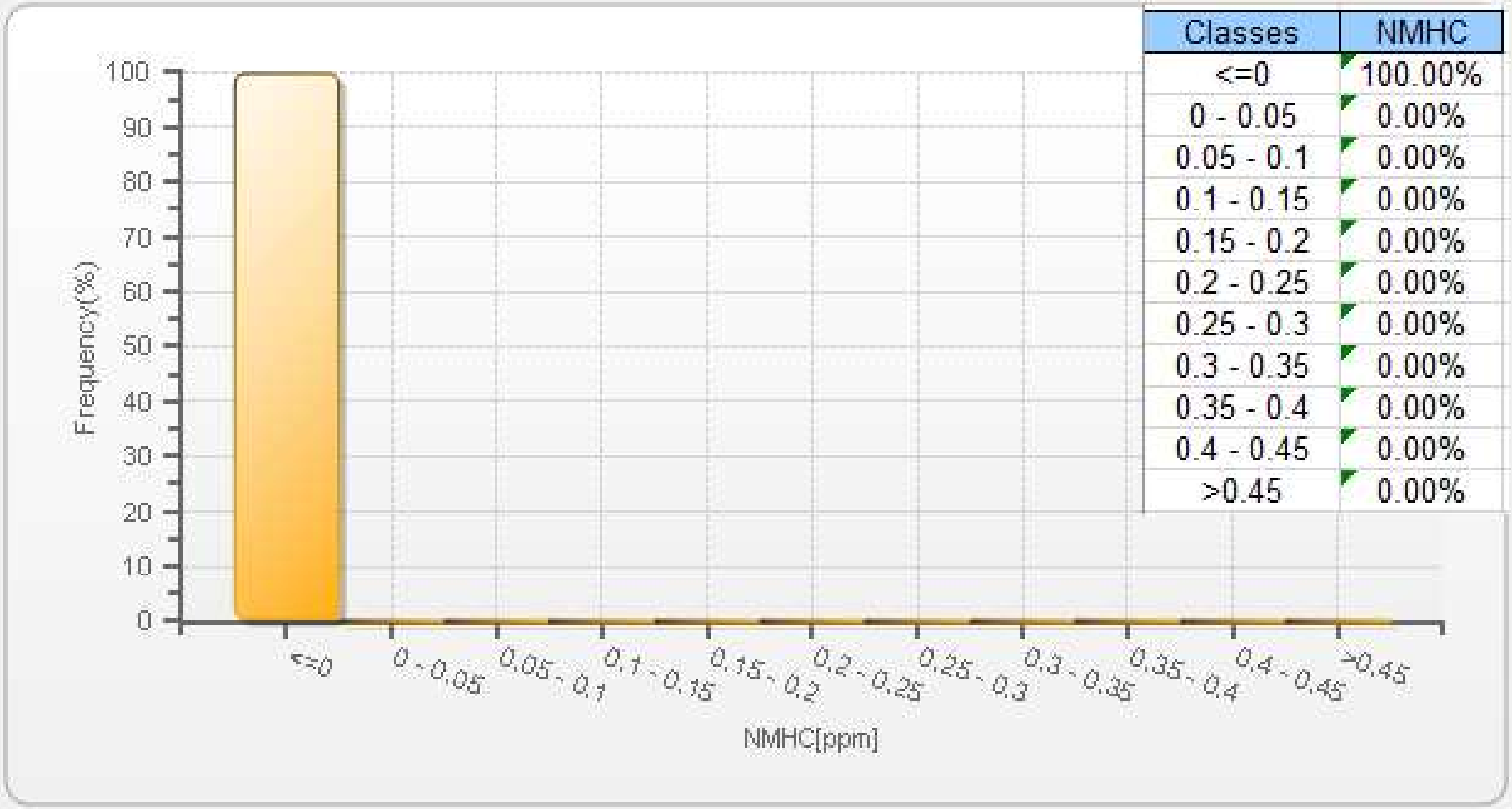
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for NMHC - 986c Station



NMHC[ppm] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.

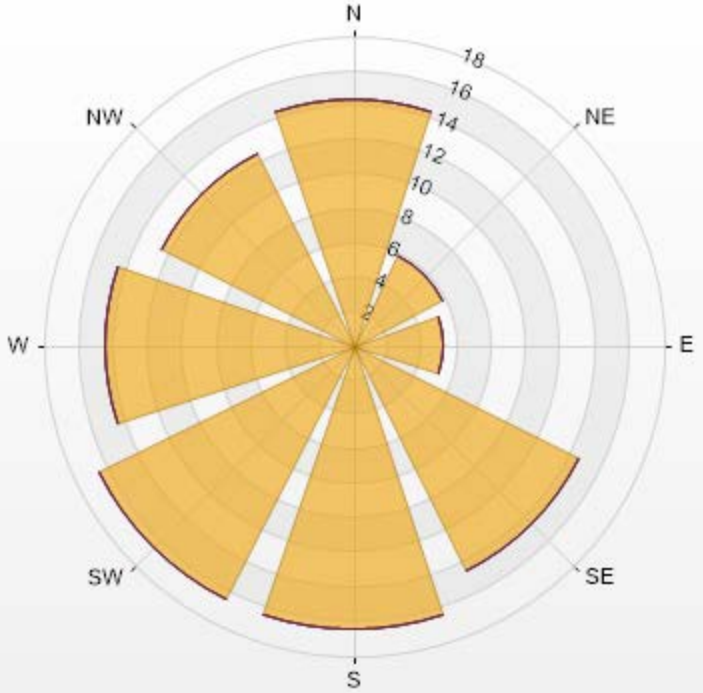


Classes	NMHC
<=0	100.00%
0 - 0.05	0.00%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.72% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	14.29	0	0	0	0	14.29
NE	5.86	0	0	0	0	5.86
E	5.26	0	0	0	0	5.26
SE	14.59	0	0	0	0	14.59
S	16.54	0	0	0	0	16.54
SW	16.54	0	0	0	0	16.54
W	14.44	0	0	0	0	14.44
NW	12.48	0	0	0	0	12.48
Summary	100	0	0	0	0	100

PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%



%	Icon	Classes (ppm)									
100		0-0.1	0		0.1-0.3	0		0.3-0.9	0		0.9-2	0		>2.0

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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

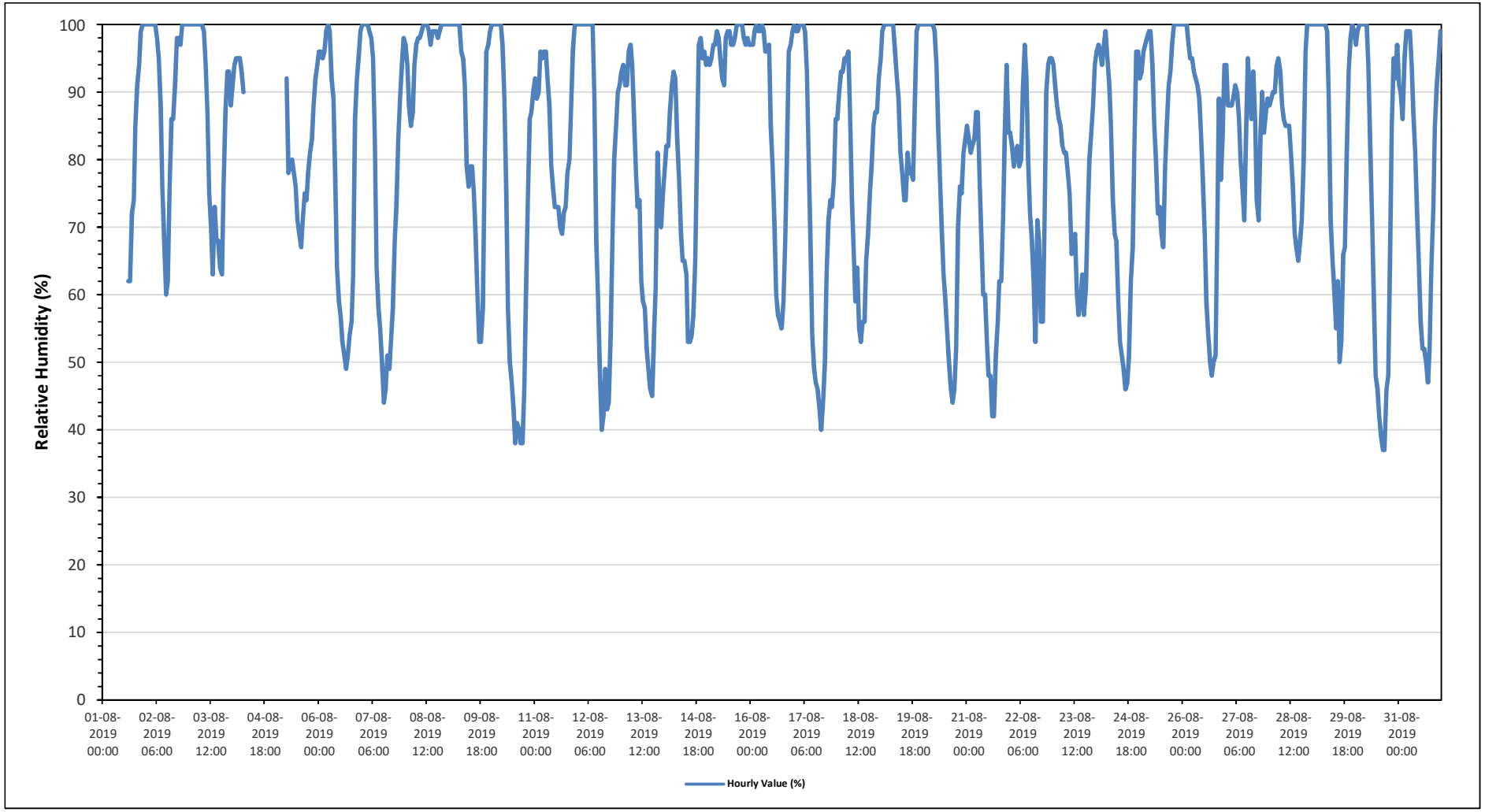
Maximum Hourly Value:	100	%	on August 1 at hour 22	Hours in Service:	744
Maximum Daily Value:	97.1	%	on August 15	Hours of Data:	707
Minimum Hourly Value:	37	%	on August 30 at hour 15	Hours of Missing Data:	37
Minimum Daily Value:	68.7	%	on August 21	Hours of Calibration:	0
Monthly Average:	81.2	%		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	62	62	72	74	85	91	94	99	100	100	62	100	-
Aug 2	100	100	100	100	100	100	98	95	88	76	68	60	62	76	86	86	91	98	98	97	100	100	100	100	60	100	91
Aug 3	100	100	100	100	100	100	100	100	99	94	87	75	70	63	73	68	68	64	63	76	87	93	93	88	63	100	86
Aug 4	91	94	95	95	95	93	90	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	90	95	-
Aug 5	K	K	K	K	K	K	92	78	79	80	78	76	71	69	67	71	75	74	78	81	83	88	92	94	67	94	79
Aug 6	96	96	95	96	99	100	99	92	89	78	64	59	57	53	51	49	51	54	56	63	86	92	95	99	49	100	78
Aug 7	100	100	100	100	99	98	95	83	64	58	55	50	44	46	51	49	53	58	68	73	83	89	94	98	44	100	75
Aug 8	97	94	88	85	87	94	97	98	98	99	100	100	100	99	97	99	99	99	98	99	100	100	100	100	85	100	97
Aug 9	100	100	100	100	100	100	100	96	95	91	79	76	79	79	75	69	60	53	53	58	80	96	97	99	53	100	85
Aug 10	100	100	100	100	100	100	97	89	75	58	50	47	43	38	41	40	38	38	46	60	74	86	87	90	38	100	71
Aug 11	92	89	90	96	95	96	96	92	88	79	76	73	73	73	70	69	72	73	78	80	87	96	100	100	69	100	85
Aug 12	100	100	100	100	100	100	100	100	100	89	68	60	49	40	42	49	43	44	54	69	80	85	90	91	40	100	77
Aug 13	93	94	91	91	96	97	94	86	78	73	74	62	59	58	52	49	46	45	53	61	81	75	70	75	45	97	73
Aug 14	78	82	82	87	91	93	92	83	77	69	65	65	63	53	53	54	57	65	82	97	98	95	96	94	53	98	78
Aug 15	95	94	95	97	97	99	98	95	92	91	98	99	99	97	97	98	100	100	100	100	98	97	98	97	91	100	97
Aug 16	97	97	99	100	99	99	100	99	96	96	97	85	79	70	60	57	56	55	59	68	80	96	97	99	55	100	85
Aug 17	100	99	99	100	100	100	99	93	80	69	54	49	47	46	43	40	44	50	63	71	74	73	77	86	40	100	73
Aug 18	86	90	93	93	95	95	96	87	74	66	59	64	55	53	56	56	65	69	75	79	85	87	87	92	53	96	77
Aug 19	95	99	100	100	100	100	100	100	96	92	89	81	78	74	74	81	78	78	77	89	99	100	100	100	74	100	91
Aug 20	100	100	100	100	100	100	99	94	85	77	69	63	59	54	50	46	44	46	52	70	76	75	81	83	44	100	76
Aug 21	85	83	81	82	83	87	87	77	68	60	60	53	48	48	42	42	51	56	62	62	71	83	94	84	42	94	69
Aug 22	84	82	79	81	82	79	80	90	97	92	80	72	68	62	53	71	68	56	56	69	90	94	95	95	53	97	78
Aug 23	94	91	88	86	85	82	81	81	78	75	66	68	69	60	57	59	63	57	61	72	80	84	88	94	57	94	76
Aug 24	96	97	96	94	97	99	95	91	85	74	69	68	59	53	51	49	46	47	51	62	67	82	96	96	46	99	76
Aug 25	92	93	96	97	98	99	99	94	85	80	72	73	69	67	79	85	91	93	97	100	100	100	100	100	67	100	90
Aug 26	100	100	100	97	95	95	93	92	91	89	84	77	69	59	54	50	48	50	51	68	89	77	83	94	48	100	79
Aug 27	94	88	88	88	89	91	90	86	80	76	71	83	95	90	86	93	86	74	71	84	90	84	87	89	71	95	86
Aug 28	88	89	90	90	94	95	93	88	86	85	85	85	81	76	69	67	65	68	71	80	96	100	100	100	65	100	85
Aug 29	100	100	100	100	100	100	100	100	99	89	71	65	61	55	62	50	53	66	67	81	93	98	100	99	50	100	84
Aug 30	97	99	100	100	100	100	100	94	82	71	60	48	46	42	39	37	37	46	48	64	85	95	92	97	37	100	74
Aug 31	91	90	86	95	99	99	99	94	87	81	72	65	56	52	52	50	47	52	64	73	85	91	95	99	47	99	78
Diurnal Maximum	100	100	100	100	100	100	100	100	100	99	100	100	100	99	97	99	100	100	100	100	100	100	100	100			
Daiurnal Average	94.5	94.5	94.2	94.8	95.7	96.2	95.3	91.3	85.9	79.6	73.1	69.0	65.8	62.2	61.5	61.5	62.2	63.4	67.9	76.6	86.4	90.3	92.8	94.4			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for RH - 986c Station



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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

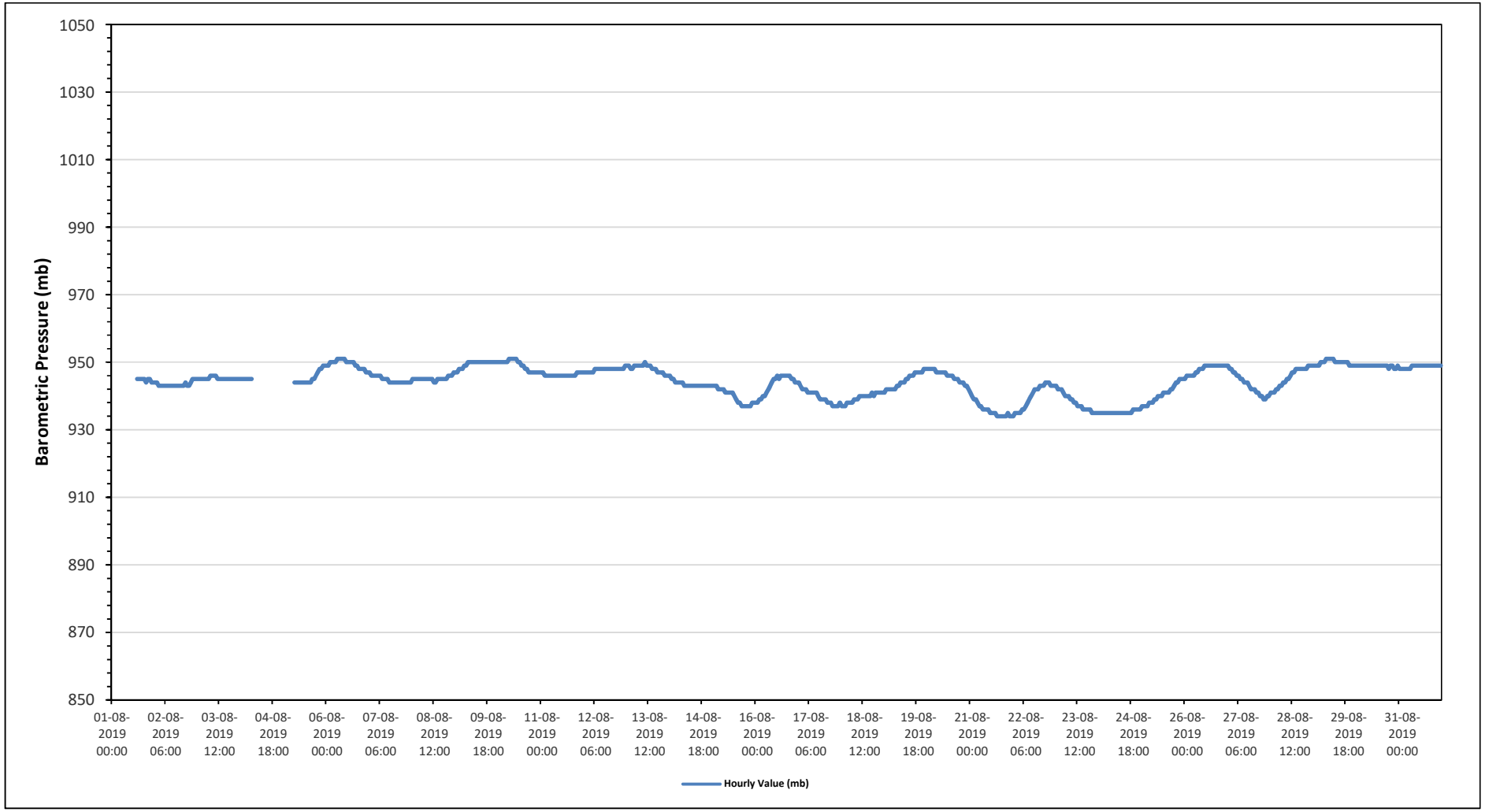
Maximum Hourly Value:	951	mb	on August 6 at hour 6	Hours in Service:	744
Maximum Daily Value:	950	mb	on August 29	Hours of Data:	707
Minimum Hourly Value:	934	mb	on August 21 at hour 15	Hours of Missing Data:	37
Minimum Daily Value:	935	mb	on August 24	Hours of Calibration:	0
Monthly Average:	944	mb		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	945	945	945	945	945	944	945	945	944	944	944	945	-
Aug 2	944	944	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	944	943	943	944	945	945	945	943	945	943
Aug 3	945	945	945	945	945	945	945	946	946	946	946	945	945	945	945	945	945	945	945	945	945	945	945	945	945	946	945
Aug 4	945	945	945	945	945	945	945	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	945	945	-
Aug 5	K	K	K	K	K	K	944	944	944	944	944	944	944	944	944	944	945	945	946	947	948	948	949	949	944	949	945
Aug 6	949	949	950	950	950	950	**951**	**951**	**951**	**951**	**951**	950	950	950	950	950	949	949	948	948	948	948	947	947	947	**951**	949
Aug 7	947	946	946	946	946	946	946	945	945	945	945	944	944	944	944	944	944	944	944	944	944	944	944	944	944	947	945
Aug 8	945	945	945	945	945	945	945	945	945	945	945	945	944	944	945	945	945	945	945	945	946	946	946	947	944	947	945
Aug 9	947	947	948	948	948	949	949	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	947	950	949
Aug 10	950	950	950	950	950	950	**951**	**951**	**951**	**951**	**951**	950	950	949	949	948	948	947	947	947	947	947	947	947	947	**951**	949
Aug 11	947	947	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	947	947	947	947	946	947	946
Aug 12	947	947	947	947	947	947	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	949	947	949	948
Aug 13	949	949	948	948	949	949	949	949	949	949	950	949	949	949	948	948	948	947	947	947	947	946	946	946	946	950	948
Aug 14	946	945	945	944	944	944	944	944	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	946	944
Aug 15	943	943	943	942	942	942	942	941	941	941	941	941	940	939	938	938	937	937	937	937	937	937	938	938	937	943	940
Aug 16	938	938	939	939	940	940	941	942	943	944	945	945	946	945	946	946	946	946	946	946	945	945	944	944	938	946	943
Aug 17	944	943	942	942	942	941	941	941	941	941	941	940	939	939	939	939	938	938	938	937	937	937	937	938	937	944	940
Aug 18	937	937	937	938	938	938	938	939	939	939	940	940	940	940	940	940	940	941	940	941	941	941	941	941	937	941	939
Aug 19	941	942	942	942	942	942	942	943	943	944	944	944	945	945	946	946	946	947	947	947	947	947	948	948	941	948	945
Aug 20	948	948	948	948	948	947	947	947	947	947	947	946	946	946	946	945	945	945	944	944	944	943	943	942	942	948	946
Aug 21	941	940	939	939	938	937	937	936	936	936	936	935	935	935	935	**934**	**934**	**934**	**934**	**934**	**934**	935	**934**	**934**	**934**	941	936
Aug 22	**934**	935	935	935	935	936	936	937	938	939	940	941	942	942	942	943	943	943	944	944	944	943	943	943	**934**	944	940
Aug 23	943	942	942	942	941	940	940	940	939	939	938	938	937	937	937	936	936	936	936	936	935	935	935	935	935	943	938
Aug 24	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	936	936	936	936	936	935	936	935
Aug 25	937	937	937	937	938	938	938	939	939	940	940	940	941	941	941	941	942	942	943	944	944	945	945	945	937	945	941
Aug 26	945	946	946	946	946	946	947	947	948	948	948	949	949	949	949	949	949	949	949	949	949	949	949	949	945	949	948
Aug 27	949	948	948	947	947	946	946	945	945	944	944	944	943	942	942	942	941	941	940	940	939	939	940	940	939	949	943
Aug 28	941	941	941	942	942	943	943	944	944	945	945	946	947	947	948	948	948	948	948	948	948	949	949	949	941	949	946
Aug 29	949	949	949	949	950	950	950	**951**	**951**	**951**	**951**	**951**	950	950	950	950	950	950	950	950	949	949	949	949	949	**951**	**950**
Aug 30	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	948	949	949	948	948	949	948	949	949
Aug 31	948	948	948	948	948	948	948	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	948	949	949
Diurnal Maximum	950	950	950	950	950	950	951	951	951	951	951	951	950	950	950	950	950	950	950	950	950	950	950	950			
Daiurnal Average	944	944	944	944	944	944	944	944	944	945	945	944	944	944	944	944	944	944	944	944	944	944	944	944			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for BP - 986c Station



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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

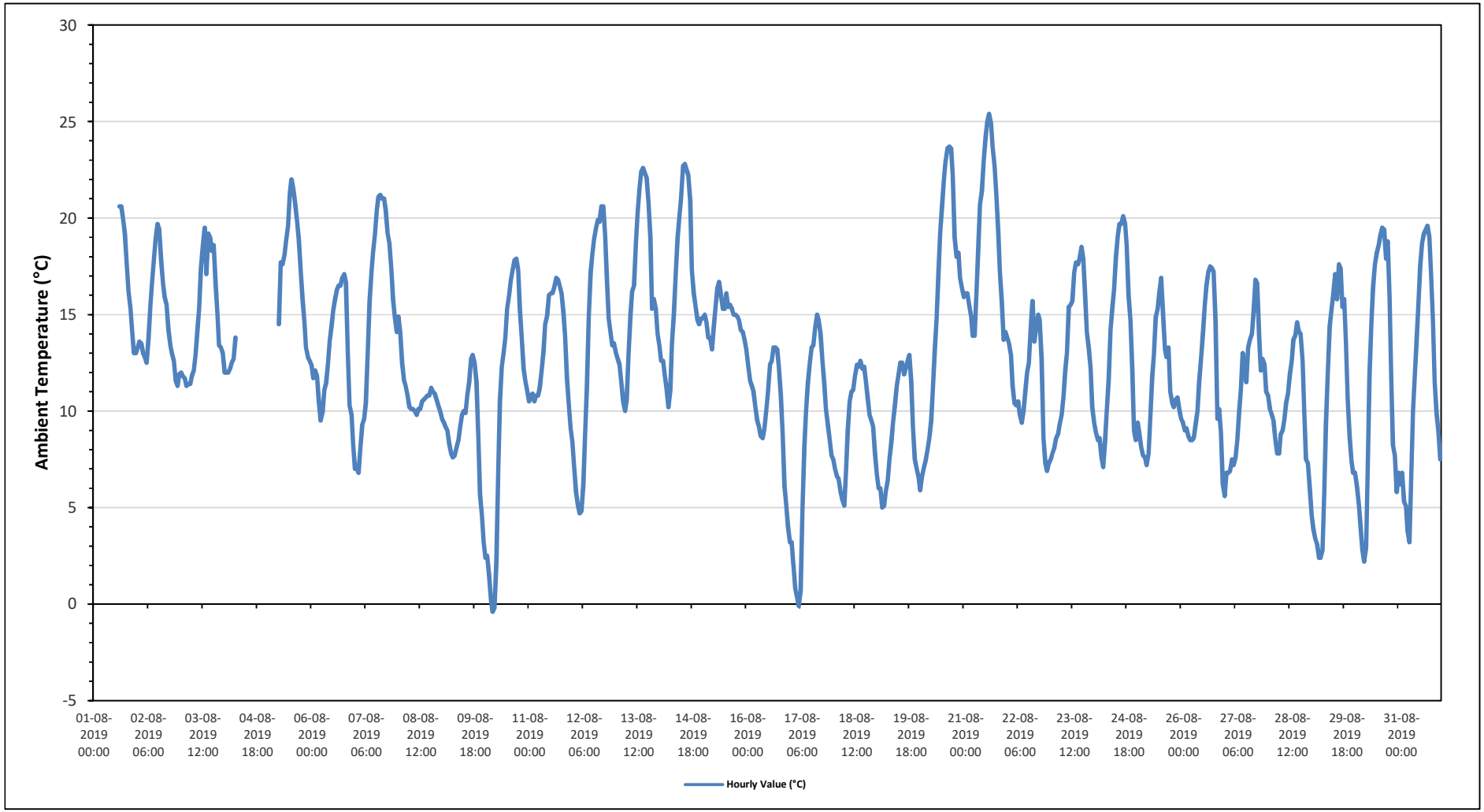
Maximum Hourly Value:	25.4	°C	on August 21 at hour 14	Hours in Service:	744
Maximum Daily Value:	18.9	°C	on August 21	Hours of Data:	707
Minimum Hourly Value:	-0.4	°C	on August 10 at hour 4	Hours of Missing Data:	37
Minimum Daily Value:	8.4	°C	on August 17	Hours of Calibration:	0
Monthly Average:	12.7	°C		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	20.6	20.6	19.9	19.2	17.6	16.2	15.3	14.2	13.0	13.0	13.0	20.6	-
Aug 2	13.3	13.6	13.5	13.0	12.8	12.5	13.8	15.5	16.6	17.9	19.0	19.7	19.4	17.8	16.6	15.9	15.5	14.2	13.4	13.0	12.6	11.6	11.3	11.9	11.3	19.7	14.8
Aug 3	12.0	11.8	11.7	11.3	11.4	11.4	11.8	12.1	12.9	14.2	15.3	17.4	18.6	19.5	17.1	19.2	19.0	18.3	18.6	16.6	15.0	13.4	13.3	13.0	11.3	19.5	14.8
Aug 4	12.0	12.0	12.0	12.2	12.5	12.7	13.8	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	12.0	13.8	-
Aug 5	K	K	K	K	K	K	14.5	17.7	17.6	18.1	18.8	19.6	21.3	22.0	21.5	20.7	19.8	18.9	17.3	15.8	14.6	13.3	12.8	12.6	12.6	22.0	17.6
Aug 6	12.4	11.7	12.1	11.8	10.6	9.5	9.9	11.1	11.4	12.4	13.6	14.4	15.2	15.8	16.3	16.5	16.5	16.9	17.1	16.7	13.0	10.3	9.8	8.3	8.3	17.1	13.1
Aug 7	7.0	7.0	6.8	8.1	9.3	9.6	10.4	13.0	15.7	17.2	18.2	19.2	20.4	21.1	21.2	21.0	21.0	20.4	19.2	18.7	17.3	15.8	14.8	14.1	6.8	21.2	15.3
Aug 8	14.9	14.1	12.5	11.6	11.3	10.8	10.2	10.1	10.1	10.0	9.8	10.1	10.1	10.5	10.6	10.7	10.8	10.8	11.2	11.0	10.9	10.6	10.3	10.0	9.8	14.9	11.0
Aug 9	9.6	9.4	9.2	9.0	8.3	7.8	7.6	7.7	8.1	8.5	9.1	9.8	10.0	9.9	10.8	11.5	12.7	12.9	12.5	11.5	8.6	5.7	4.6	3.2	3.2	12.9	9.1
Aug 10	2.4	2.5	1.5	0.2	**-0.4**	-0.2	2.2	7.0	10.5	12.3	13.0	13.8	15.3	16.0	16.8	17.3	17.8	17.9	17.3	15.3	13.8	12.2	11.6	11.1	**-0.4**	17.9	10.3
Aug 11	10.5	10.8	10.9	10.5	10.8	10.8	11.2	12.1	13.1	14.5	14.9	16.0	16.1	16.1	16.4	16.9	16.8	16.5	16.1	15.1	13.9	11.7	10.3	9.1	9.1	16.9	13.4
Aug 12	8.4	7.1	5.8	5.1	4.7	4.8	6.2	9.0	11.2	14.9	17.2	18.1	18.9	19.5	19.9	19.8	20.6	20.6	19.1	17.0	14.8	14.1	13.4	13.5	4.7	20.6	13.5
Aug 13	13.0	12.7	12.4	11.5	10.5	10.0	10.6	13.0	15.0	16.2	16.5	18.7	20.3	21.5	22.4	22.6	22.3	22.1	20.8	19.0	15.3	15.8	15.3	14.0	10.0	22.6	16.3
Aug 14	13.4	12.6	12.6	11.8	11.2	10.2	11.1	13.5	15.0	17.1	19.0	20.0	21.0	22.7	22.8	22.5	22.2	20.9	17.3	16.1	15.4	14.7	14.5	14.8	10.2	22.8	16.4
Aug 15	14.8	15.0	14.6	13.8	13.8	13.2	14.3	15.4	16.4	16.7	16.0	15.3	15.3	16.1	15.4	15.5	15.3	15.0	15.0	14.9	14.7	14.2	14.1	13.7	13.2	16.7	14.9
Aug 16	13.2	12.4	11.6	11.3	11.0	10.2	9.5	9.2	8.7	8.6	9.1	10.0	11.0	12.4	12.6	13.3	13.3	13.2	12.3	10.9	8.9	6.1	5.2	4.0	4.0	13.3	10.3
Aug 17	3.2	3.2	2.0	0.8	0.3	-0.1	0.7	5.0	8.2	10.0	11.5	12.5	13.3	13.4	14.3	15.0	14.7	14.0	12.6	11.4	10.1	9.3	8.5	7.7	-0.1	15.0	8.4
Aug 18	7.5	7.0	6.6	6.5	5.8	5.4	5.1	6.7	9.0	10.5	11.0	11.1	11.8	12.4	12.3	12.6	12.2	12.3	11.6	10.7	9.8	9.5	9.2	7.8	5.1	12.6	9.4
Aug 19	6.7	6.0	6.0	5.0	5.1	5.8	6.4	7.5	8.4	9.4	10.3	11.3	11.9	12.5	12.5	11.9	12.2	12.6	12.9	11.5	9.2	7.5	7.0	6.6	5.0	12.9	9.0
Aug 20	5.9	6.6	7.1	7.4	8.0	8.6	9.5	11.1	13.1	14.8	17.2	19.2	20.6	22.0	22.9	23.6	23.7	23.6	22.2	19.0	18.0	18.2	16.9	16.4	5.9	23.7	15.7
Aug 21	15.9	16.1	16.1	15.5	14.9	13.9	13.9	16.1	18.5	20.7	21.4	23.0	24.2	25.0	**25.4**	24.9	23.7	22.7	21.2	19.3	17.2	15.7	13.7	14.1	13.7	**25.4**	**18.9**
Aug 22	13.8	13.5	12.9	11.3	10.4	10.3	10.5	9.8	9.4	10.0	11.1	12.0	12.5	14.5	15.7	13.6	14.3	15.0	14.7	12.7	8.6	7.3	6.9	7.3	6.9	15.7	11.6
Aug 23	7.5	7.8	8.1	8.6	8.8	9.3	9.8	10.7	12.1	13.0	15.4	15.5	15.7	17.2	17.7	17.6	17.9	18.5	17.9	15.9	14.1	13.3	12.2	10.2	7.5	18.5	13.1
Aug 24	9.4	8.9	8.5	8.6	7.6	7.1	8.5	10.0	11.6	14.2	15.4	16.3	18.0	19.1	19.7	19.7	20.1	19.7	18.6	16.0	14.7	12.1	9.0	8.5	7.1	20.1	13.4
Aug 25	9.4	8.8	8.1	7.7	7.6	7.2	7.8	9.7	11.8	12.9	14.9	15.3	16.1	16.9	15.0	13.2	12.8	13.3	11.0	10.4	10.2	10.6	10.7	10.1	7.2	16.9	11.3
Aug 26	9.6	9.4	9.0	9.1	8.7	8.5	8.5	8.6	9.3	10.0	11.5	12.7	14.0	15.5	16.5	17.2	17.5	17.4	17.2	14.7	9.6	10.1	8.9	6.2	6.2	17.5	11.7
Aug 27	5.6	6.8	6.8	6.9	7.5	7.2	7.6	8.5	10.0	11.1	13.0	12.2	11.5	13.3	13.7	14.0	15.1	16.8	16.6	13.9	12.1	12.7	12.4	11.0	5.6	16.8	11.1
Aug 28	10.8	10.1	9.8	9.5	8.5	7.8	7.8	8.8	9.0	9.6	10.4	10.9	11.9	12.6	13.7	13.9	14.6	14.1	14.0	12.6	9.8	7.5	7.3	6.0	6.0	14.6	10.5
Aug 29	4.6	3.9	3.4	3.1	2.4	2.4	2.8	5.8	9.3	12.0	14.4	15.3	16.0	17.1	15.8	17.6	17.4	15.4	15.8	13.5	10.6	8.7	7.4	6.8	2.4	17.6	10.1
Aug 30	6.8	6.1	5.2	4.1	2.8	2.2	2.9	6.8	11.9	14.6	16.4	17.6	18.2	18.6	19.1	19.5	19.4	17.9	18.8	15.9	11.5	8.2	7.7	5.8	2.2	19.5	11.6
Aug 31	6.8	6.2	6.8	5.3	5.1	3.8	3.2	6.6	10.0	11.8	13.7	15.7	17.5	18.7	19.2	19.4	19.6	19.0	17.0	14.7	11.5	9.9	8.9	7.5	3.2	19.6	11.6
Diurnal Maximum	15.9	16.1	16.1	15.5	14.9	13.9	14.5	17.7	18.5	20.7	21.4	23.0	24.2	25.0	25.4	24.9	23.7	23.6	22.2	19.3	18.0	18.2	16.9	16.4			
Daiurnal Average	9.7	9.4	9.1	8.6	8.3	8.0	8.7	10.3	11.9	13.2	14.4	15.3	16.1	16.9	17.2	17.3	17.3	17.0	16.2	14.7	12.7	11.5	10.7	9.9			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for AT - 986c Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

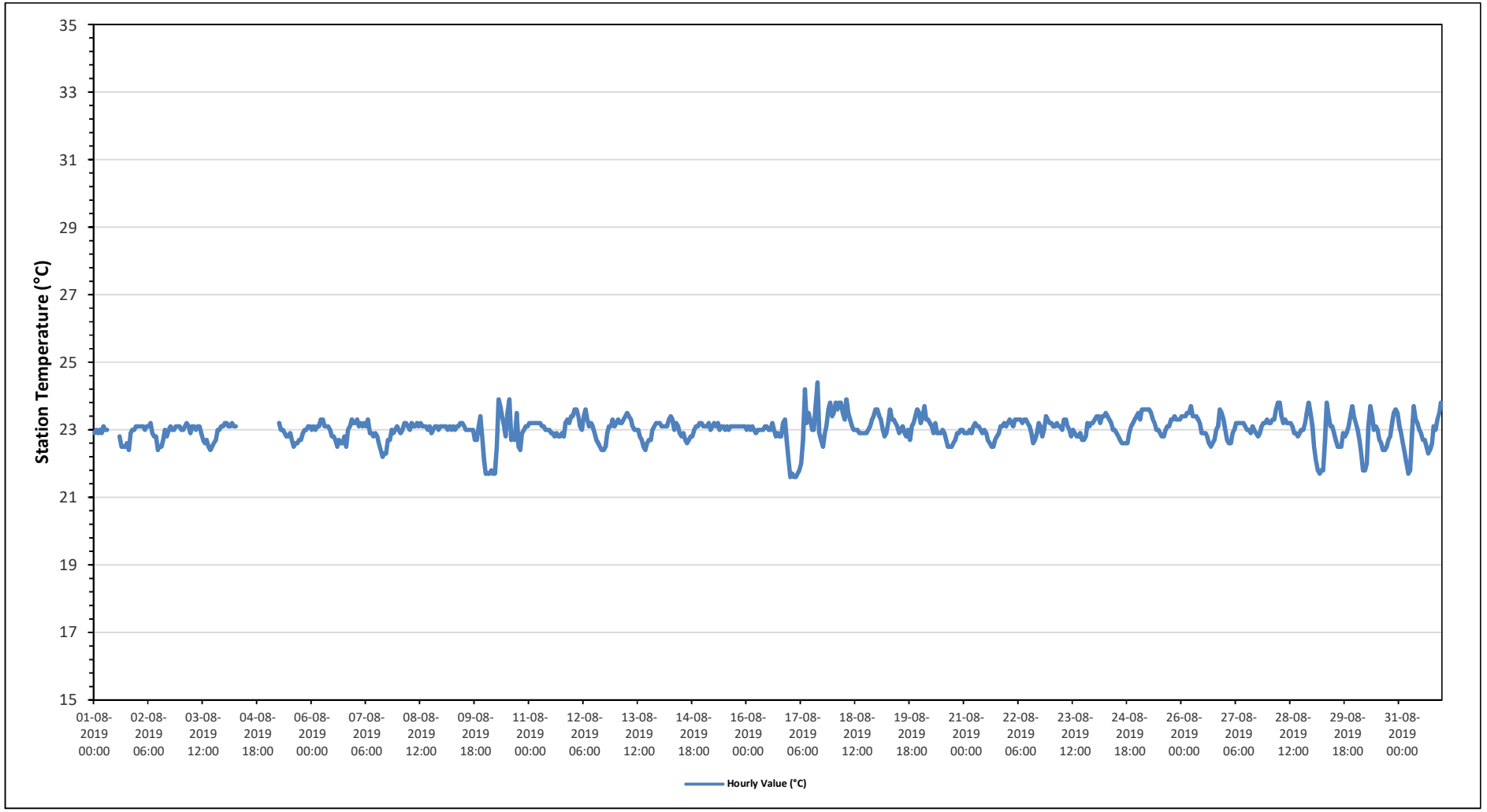
Maximum Hourly Value:	24.4	°C	on August 17 at hour 15	Hours in Service:	744
Maximum Daily Value:	23.3	°C	on August 18	Hours of Data:	715
Minimum Hourly Value:	21.6	°C	on August 17 at hour 0	Hours of Missing Data:	29
Minimum Daily Value:	22.7	°C	on August 10	Hours of Calibration:	0
Monthly Average:	23.0	°C		Operational Uptime:	96.1

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	22.9	23.0	22.9	23.0	22.9	23.1	23.0	23.0	Y	Y	Y	Y	Y	Y	22.8	22.5	22.5	22.5	22.6	22.4	22.9	23.0	23.0	23.1	22.4	23.1	22.8
Aug 2	23.1	23.1	23.1	23.1	23.0	23.1	23.1	23.2	22.9	22.8	22.8	22.4	22.5	22.5	22.7	23.0	22.8	23.0	23.1	23.0	23.0	23.1	23.1	23.1	22.4	23.2	22.9
Aug 3	23.0	23.0	23.1	23.2	23.1	22.9	23.1	23.1	23.0	23.1	23.1	22.9	22.7	22.6	22.7	22.5	22.4	22.5	22.6	22.7	23.0	23.0	23.1	23.1	22.4	23.2	22.9
Aug 4	23.2	23.2	23.1	23.1	23.2	23.1	23.1	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	23.1	23.2	-
Aug 5	K	K	K	K	K	K	23.2	23.0	23.0	22.9	22.8	22.8	22.9	22.7	22.5	22.6	22.6	22.7	22.7	22.9	23.0	23.0	23.1	23.1	22.5	23.2	22.9
Aug 6	23.0	23.1	23.0	23.1	23.1	23.3	23.3	23.1	23.1	23.1	23.0	22.8	22.8	22.7	22.5	22.7	22.6	22.6	22.8	22.5	23.0	23.1	23.3	23.2	22.5	23.3	23.0
Aug 7	23.2	23.3	23.1	23.2	23.1	23.2	23.1	23.3	22.9	22.9	22.8	22.9	22.8	22.6	22.4	22.2	22.3	22.3	22.7	22.7	23.0	22.9	23.0	23.1	22.2	23.3	22.9
Aug 8	23.0	22.9	23.0	23.2	23.2	23.1	23.0	23.2	23.1	23.1	23.2	23.1	23.2	23.1	23.1	23.1	23.0	23.1	22.9	23.0	23.1	23.1	23.0	23.1	22.9	23.2	23.1
Aug 9	23.1	23.1	23.1	23.0	23.1	23.0	23.1	23.0	23.1	23.1	23.2	23.2	23.1	23.0	23.0	23.0	23.0	23.0	22.7	22.7	23.1	23.4	22.8	22.1	22.1	23.4	23.0
Aug 10	21.7	21.7	21.7	21.8	21.7	21.7	22.5	23.9	23.7	23.4	23.1	22.8	23.5	23.9	22.7	22.8	22.7	23.5	22.5	22.4	22.9	23.0	23.1	23.1	21.7	23.9	22.7
Aug 11	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.1	23.0	23.0	23.0	22.9	22.9	22.8	22.9	22.8	22.8	22.9	22.8	23.2	23.3	23.2	23.4	22.8	23.4	23.1
Aug 12	23.4	23.6	23.6	23.4	23.1	23.0	23.4	23.6	23.3	23.1	23.2	23.1	22.9	22.7	22.6	22.5	22.4	22.4	22.5	22.9	23.1	23.1	23.3	23.1	22.4	23.6	23.1
Aug 13	23.2	23.3	23.2	23.2	23.3	23.4	23.5	23.4	23.3	23.1	23.0	23.0	23.0	22.8	22.7	22.5	22.4	22.6	22.7	22.7	23.0	23.1	23.2	23.2	22.4	23.5	23.0
Aug 14	23.2	23.1	23.1	23.1	23.1	23.3	23.4	23.3	23.0	23.2	23.1	22.9	22.8	22.9	22.7	22.6	22.7	22.8	22.8	23.0	23.1	23.1	23.2	23.2	22.6	23.4	23.0
Aug 15	23.1	23.1	23.1	23.2	23.0	23.1	23.2	23.1	23.2	23.0	23.1	23.1	23.0	23.1	23.0	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.0	23.2	23.1
Aug 16	23.0	23.1	23.0	23.1	23.0	22.9	23.0	23.0	23.0	23.0	23.1	23.1	23.0	23.0	23.2	23.0	22.8	22.9	22.8	22.8	23.2	23.3	22.7	22.1	22.1	23.3	23.0
Aug 17	**21.6**	21.7	**21.6**	**21.6**	21.7	21.8	22.0	22.7	24.2	23.2	23.5	23.3	23.0	23.0	23.7	**24.4**	22.9	22.7	22.5	22.9	23.1	23.6	23.8	23.4	**21.6**	**24.4**	22.8
Aug 18	23.5	23.8	23.6	23.8	23.8	23.5	23.3	23.9	23.5	23.3	23.1	23.0	23.0	23.0	22.9	22.9	22.9	22.9	22.9	23.0	23.1	23.3	23.4	23.6	22.9	23.9	**23.3**
Aug 19	23.6	23.4	23.3	23.0	22.8	22.9	23.2	23.6	23.3	23.3	23.2	23.1	22.9	23.0	23.1	22.9	22.8	23.0	22.7	23.1	23.2	23.4	23.6	23.5	22.7	23.6	23.2
Aug 20	23.2	23.4	23.7	23.3	23.3	23.2	23.1	22.9	23.2	22.9	22.9	22.9	23.0	22.9	22.7	22.5	22.5	22.5	22.6	22.7	22.9	22.9	23.0	23.0	22.5	23.7	23.0
Aug 21	22.9	22.9	22.9	23.0	22.9	23.1	23.2	23.1	23.1	23.0	22.9	23.0	22.9	22.7	22.6	22.5	22.5	22.7	22.8	22.9	23.1	23.1	23.2	23.1	22.5	23.2	22.9
Aug 22	23.2	23.3	23.2	23.1	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.2	23.1	22.9	22.6	22.7	22.9	23.2	23.1	22.8	23.0	23.4	23.3	23.2	22.6	23.4	23.1
Aug 23	23.2	23.1	23.1	23.2	23.1	23.1	23.0	23.3	23.3	23.1	23.0	22.8	23.0	22.9	22.8	22.8	22.9	22.7	22.7	22.8	23.2	23.1	23.2	23.2	22.7	23.3	23.0
Aug 24	23.3	23.4	23.4	23.2	23.4	23.4	23.5	23.4	23.3	23.2	23.0	23.0	22.9	22.8	22.7	22.6	22.6	22.6	22.6	22.9	23.1	23.2	23.3	23.4	22.6	23.5	23.1
Aug 25	23.5	23.3	23.6	23.6	23.6	23.6	23.6	23.5	23.3	23.2	23.0	23.0	22.9	22.8	22.8	23.0	23.1	23.1	23.3	23.3	23.4	23.3	23.3	23.3	22.8	23.6	23.3
Aug 26	23.4	23.4	23.4	23.5	23.5	23.7	23.4	23.4	23.4	23.3	23.2	22.9	22.9	22.9	22.8	22.6	22.5	22.6	22.7	23.0	23.1	23.6	23.5	23.3	22.5	23.7	23.2
Aug 27	23.0	22.7	22.6	22.6	22.9	23.0	23.2	23.2	23.2	23.2	23.2	23.1	23.0	23.0	22.9	23.1	23.0	22.9	22.8	22.9	23.1	23.2	23.2	23.3	22.6	23.3	23.0
Aug 28	23.2	23.2	23.3	23.3	23.6	23.8	23.8	23.4	23.2	23.3	23.2	23.2	23.2	23.1	22.9	22.9	22.8	22.9	23.0	23.0	23.2	23.5	23.8	23.5	22.8	23.8	23.3
Aug 29	23.1	22.5	22.1	21.8	21.7	21.8	21.8	22.7	23.8	23.4	23.1	23.1	22.9	22.7	22.5	22.5	22.5	22.9	22.8	22.9	23.1	23.4	23.7	23.4	21.7	23.8	22.8
Aug 30	23.2	23.0	22.7	22.3	21.8	21.8	22.0	23.1	23.7	23.4	23.0	23.1	23.0	22.7	22.6	22.4	22.4	22.5	22.7	22.8	23.2	23.5	23.6	23.5	21.8	23.7	22.8
Aug 31	23.1	22.9	22.6	22.3	22.0	21.7	21.8	22.9	23.7	23.3	23.2	23.0	22.9	22.7	22.7	22.5	22.3	22.4	22.6	23.1	23.0	23.3	23.5	23.8	21.7	23.8	22.8
Diurnal Maximum	23.6	23.8	23.7	23.8	23.8	23.8	23.8	23.9	24.2	23.4	23.5	23.3	23.5	23.9	23.7	24.4	23.1	23.5	23.3	23.3	23.4	23.6	23.8	23.8			
Daiurnal Average	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.2	23.3	23.1	23.1	23.0	23.0	22.9	22.8	22.8	22.7	22.8	22.8	22.9	23.1	23.2	23.3	23.2			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for ST - 986c Station



PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

PRECIPITATION in mm

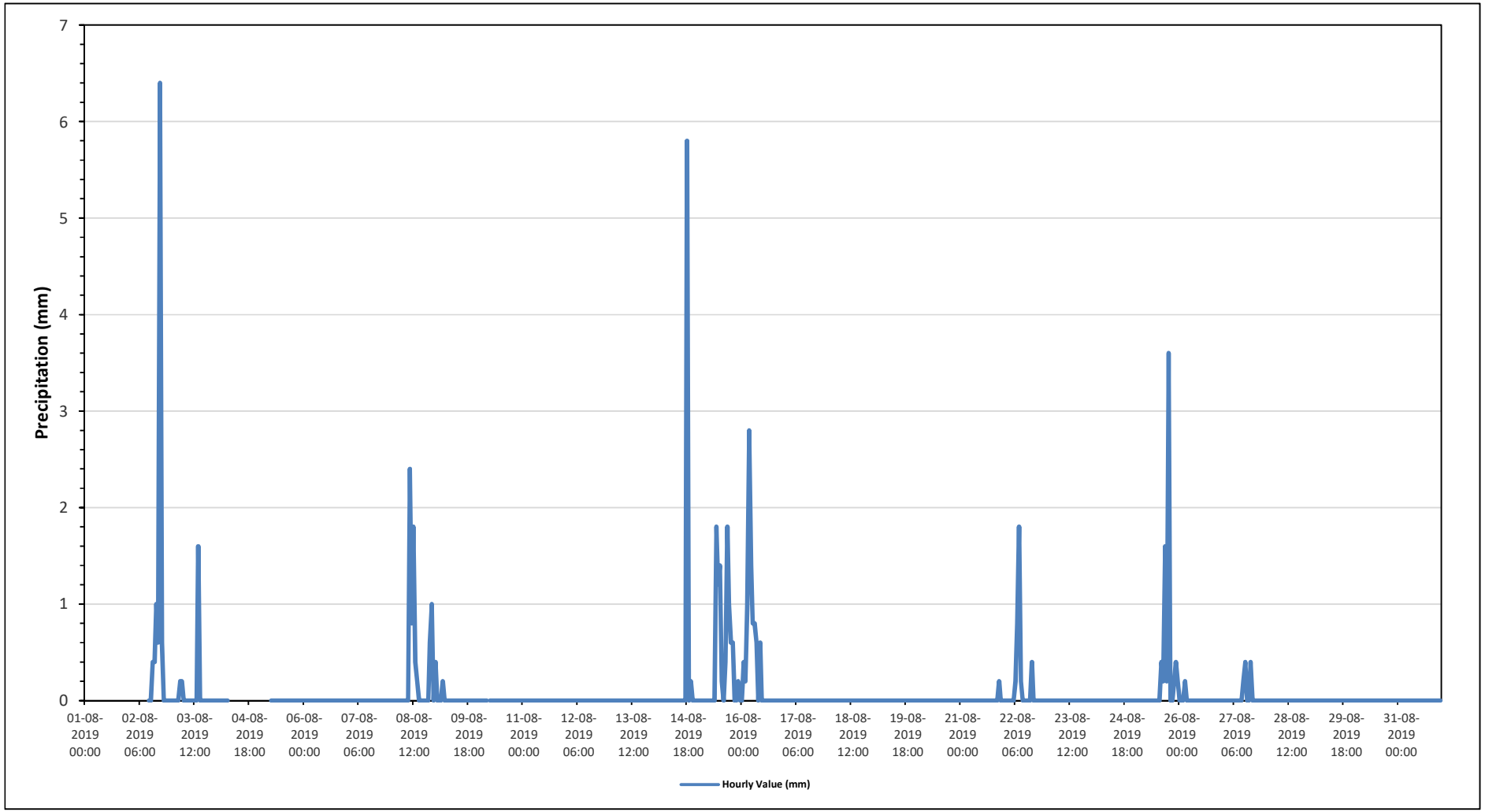
Maximum Hourly Value:	6.4	mm	on August 2 at hour	Hours in Service:	744
Maximum Daily Value:	9.4	mm	on August 2	Hours of Data:	684
Minimum Hourly Value:	0.0	mm	on August 2 at hour	Hours of Missing Data:	25
Minimum Daily Value:	0.0	mm	on August 4	Hours of Calibration:	0
Monthly Total:	54.6	mm		Operational Uptime:	91.9

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Total
Aug 1																											
Aug 2												0.0	0.0	0.4	0.4	1.0	0.6	**6.4**	0.6	0.0	0.0	0.0	0.0	0.0	0.0	**6.4**	**9.4**
Aug 3	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.0
Aug 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.0	0.0	0.0
Aug 5	K	K	K	K	K	K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 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
Aug 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
Aug 8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.8	1.8	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.0	0.0	2.4	7.2
Aug 9	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6
Aug 10	0.0	0.0	0.0	0.0	0.0	X	X	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 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
Aug 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
Aug 13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.2	0.0	0.0	0.0	0.0	5.8	6.0
Aug 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.2	1.4	0.2	0.0	0.4	1.8	1.0	0.6	0.6	0.0	0.0	0.2	0.0	0.0	1.8	9.2
Aug 16	0.0	0.4	0.2	1.0	2.8	1.4	0.8	0.8	0.6	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	2.8	8.6
Aug 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
Aug 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
Aug 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
Aug 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
Aug 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	0.2	0.0	0.0	0.0	0.2	0.2
Aug 22	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	1.8	0.2	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	1.8	3.4
Aug 23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 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
Aug 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	1.6	0.2	3.6	0.0	0.0	0.2	0.4	0.2	0.0	3.6	6.8
Aug 26	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Aug 27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0
Aug 28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug 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
Aug 31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diurnal Maximum	0.4	0.4	0.2	1.0	2.8	1.4	0.8	0.8	1.8	0.2	2.4	1.2	1.8	0.4	1.6	1.0	1.8	6.4	5.8	0.6	0.2	0.6	1.0	0.2			
Daiurnal Average	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.4	0.0	0.0	0.0	0.1	0.0			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for Precipitation - 986c Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

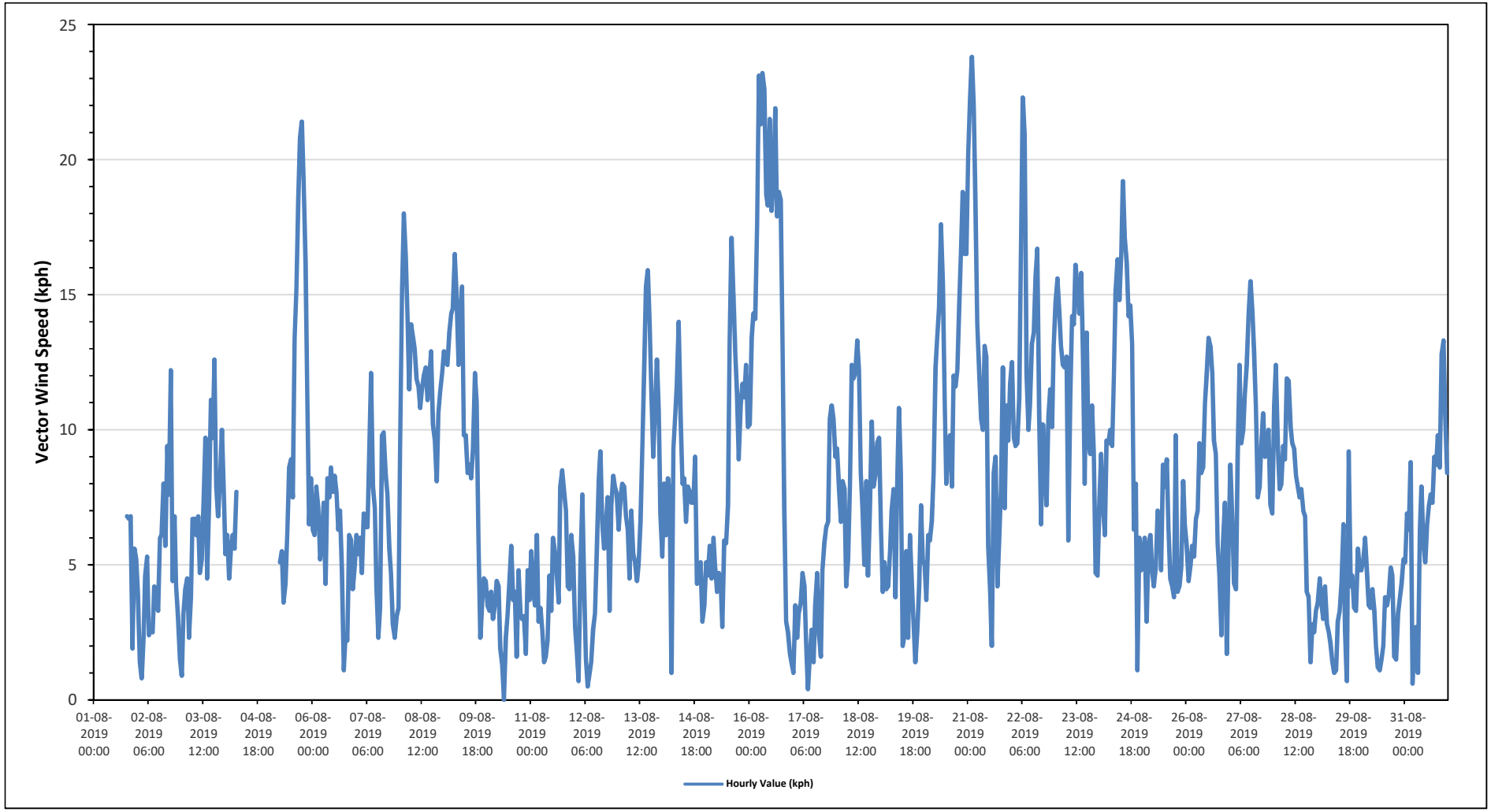
Maximum Hourly Value:	23.8	kph	on August 21 at hour 2	Hours in Service:	744
Maximum Daily Value:	15.1	kph	on August 16	Hours of Data:	703
Minimum Hourly Value:	0.0	kph	on August 10 at hour 9	Hours of Missing Data:	41
Minimum Daily Value:	3.3	kph	on August 10	Hours of Calibration:	0
Monthly Average:	1.6	kph		Operational Uptime:	94.5

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	6.8	6.7	6.8	1.9	5.6	5.2	1.9	6.8	-
Aug 2	3.9	1.4	0.8	2.3	4.6	5.3	2.4	2.6	2.5	4.2	3.6	3.3	6	6.1	8	5.7	9.4	7.6	12.2	4.4	6.8	4.2	3.1	1.5	0.8	12.2	4.7
Aug 3	0.9	3.2	4.1	4.5	2.3	3.8	6.7	6.7	6.1	6.8	4.7	5.2	7.4	9.7	4.5	7.3	11.1	9.7	12.6	7.9	6.8	8.1	10	8.1	0.9	12.6	6.6
Aug 4	5.4	6.1	4.5	5.5	6.1	5.6	7.7	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	4.5	7.7	-
Aug 5	K	K	K	K	K	K	5.1	5.5	3.6	4.3	6.2	8.6	8.9	7.5	13.4	15.2	18.5	20.8	21.4	19.1	16.1	11.4	6.5	8.2	3.6	21.4	11.1
Aug 6	6.3	6.1	7.9	7.1	5.2	5.8	7.3	4.3	8.2	7.5	8.6	7.7	8.3	7.7	6.3	7	4.8	1.1	2.4	2.2	6.1	5.9	4.1	4.9	1.1	8.6	6.0
Aug 7	6.1	5.4	6	4.7	6.9	6.4	6.4	8.9	12.1	7.9	7.1	4.2	2.3	3.4	9.8	9.9	8.4	7.6	5.6	4.7	2.8	2.3	3.1	3.4	2.3	12.1	6.1
Aug 8	9.2	15.2	18	16.4	14.4	11.5	13.9	13.4	13	11.9	11.6	10.8	11.5	12	12.3	11.1	11.9	12.9	10.2	9.6	8.1	10.6	11.4	12.1	8.1	18.0	12.2
Aug 9	12.9	12.5	12.4	13.6	14.3	14.5	16.5	14.9	12.4	14.1	15.3	9.8	9.8	8.4	8.7	8.2	9.3	12.1	11	5.9	2.3	3.6	4.5	4.4	2.3	16.5	10.5
Aug 10	3.5	3.3	4	3	3.5	4.4	4.2	1.9	1.3	**0**	2.3	3.1	4.3	5.7	3.7	4	1.6	4.8	3.2	3	3.1	1.7	4.8	3.7	**0.0**	5.7	**3.3**
Aug 11	5.5	4.1	3.5	6.1	2.9	3.4	2.6	1.4	1.6	2.2	4.6	3.3	6	5.5	4.7	3.6	7.9	8.5	7.7	7	4.2	4.1	6.1	5.3	1.4	8.5	4.7
Aug 12	2.7	1.9	0.7	4.9	7.6	4.4	1.5	0.5	1	1.4	2.6	3.2	5.6	8.2	9.2	6.5	5.6	6.6	7.5	3.3	7.2	8.3	7.9	7.6	0.5	9.2	4.8
Aug 13	6.3	7.5	8	7.9	6.8	6.3	4.5	7	5.4	5.1	4.4	5	6.6	9.4	12.4	15.3	15.9	13.9	11.2	9	10.6	12.6	10.7	6.9	4.4	15.9	8.7
Aug 14	5.3	8	6.1	8.2	7.6	1	9.3	10.5	11.6	14	10.5	8	8.2	6.6	7.9	7.7	7.3	7.3	9	4.3	4.8	5.1	2.9	3.5	1.0	14.0	7.3
Aug 15	5.1	4.6	5.7	4.5	6	5	4	4.7	4.4	2.7	5.9	5.8	7.2	13.3	17.1	15	12.9	11.3	8.9	10.9	11.7	11.2	12.4	10.1	2.7	17.1	8.4
Aug 16	10.2	13.4	14.3	14.1	17.6	23.1	21.3	23.2	22.6	18.7	18.3	21.5	18.1	19.4	21.9	17.9	18.8	18.5	13	7.2	2.9	2.5	1.7	1.4	1.4	23.2	**15.1**
Aug 17	1	3.5	2.3	3.2	3.6	4.7	4.2	1.9	0.4	1.6	2.6	1.4	3.5	4.7	2.4	1.6	4.8	5.8	6.4	6.6	10.4	10.9	10.4	9	0.4	10.9	4.5
Aug 18	9.3	7.9	6.6	8.1	7.8	4.2	5.2	7.9	12.4	11.9	12.1	13.3	12.2	8.4	7	5	8.1	4.6	6.9	10.3	7.9	8.4	9.5	9.7	4.2	13.3	8.5
Aug 19	6.4	4	5.1	4.1	4.2	5.5	7	7.8	3.8	8.3	10.8	8.4	2	2.4	5.5	2.3	6.1	4.3	2.7	1.4	2.5	4.2	7.2	5.2	1.4	10.8	5.1
Aug 20	5	3.7	6.1	5.9	6.6	8.4	12.3	13.4	14.5	17.6	15.4	11	8	9.5	9.8	7.9	12	11.6	12.2	14.6	16.5	18.8	16.5	16.5	3.7	18.8	11.4
Aug 21	20.2	22.2	**23.8**	22	18.5	13.9	12.2	10.4	10	13.1	12.7	5.7	4	2	8.4	9	4.2	5.9	7.8	12.3	7.1	10.9	9.6	11.7	2.0	**23.8**	11.6
Aug 22	12.5	9.7	9.4	9.5	11.2	17.3	22.3	20.9	12.1	10	10.9	13.2	13.6	15.7	16.7	10.6	6.5	10.2	8.8	7.2	10.5	11.5	10.1	13.1	6.5	22.3	12.2
Aug 23	14.7	15.6	14.3	13.1	12.4	12.3	12.7	5.9	11.2	14.2	13.9	16.1	15.3	14.3	15.8	12.7	8	13.6	9.5	9.1	10.9	9.2	4.7	4.6	4.6	16.1	11.8
Aug 24	7.1	9.1	7.2	6.1	9.6	9.5	10	9.4	12.1	15.1	16.3	14.8	16.5	19.2	17.1	16.2	14.2	14.6	13.2	6.3	8	1.1	6	4.8	1.1	19.2	11.0
Aug 25	5.5	6	2.9	5.7	6.1	4.7	4.2	4.9	7	6.6	4.8	8.7	7.9	8.9	6.4	4.5	4.2	3.8	9.8	4	4.2	4.9	8.1	6.5	2.9	9.8	5.8
Aug 26	5.7	4.4	5	5.7	5.3	6.7	7	9.5	8.4	8.6	11	12	13.4	13.1	12.1	9.6	9.1	5.8	4.6	2.4	5.8	7.3	1.7	5.8	1.7	13.4	7.5
Aug 27	8.7	6.8	4.3	4.1	9	12.4	9.5	10	11.3	12.4	14.3	15.5	14.4	12.9	10.8	7.5	7.9	9.4	10.6	9	9.5	10	7.2	6.9	4.1	15.5	9.8
Aug 28	10.9	12.4	9.5	7.8	8	9.4	8.9	11.9	11.8	10.1	9.5	9.3	8.3	7.9	7.5	7.8	7	6.8	4	3.8	1.4	2.8	2.5	3.3	1.4	12.4	7.6
Aug 29	3.6	4.5	3.5	3	4.2	2.8	2.5	2.1	1.4	1	1.1	2.9	3.3	4.3	6.5	2.6	0.7	9.2	4.2	4.6	3.4	3.3	5.6	4.8	0.7	9.2	3.5
Aug 30	4.8	5.2	6	4.7	3.5	3.4	4.1	3.3	2	1.2	1.1	1.5	2	3.8	3.5	3.9	4.9	4.6	1.6	1.5	3.2	3.7	4.3	5.2	1.1	6.0	3.5
Aug 31	5.1	6.9	6.3	8.8	0.6	2	2.7	1	6.3	7.9	5.8	5.1	6.5	7.2	7.6	7.3	9	8.7	9.8	8.6	12.8	13.3	10.6	8.4	0.6	13.3	7.0
Diurnal Maximum	20	22	24	22	19	23	22	23	23	19	18	22	18	19	22	18	19	21	21	19	17	19	17	17			
Daiurnal Average	7.0	7.4	7.2	7.4	7.5	7.5	7.9	7.8	7.9	8.3	8.6	8.2	8.3	8.9	9.6	8.4	8.6	9.0	8.5	6.9	7.1	7.1	7.0	6.7			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

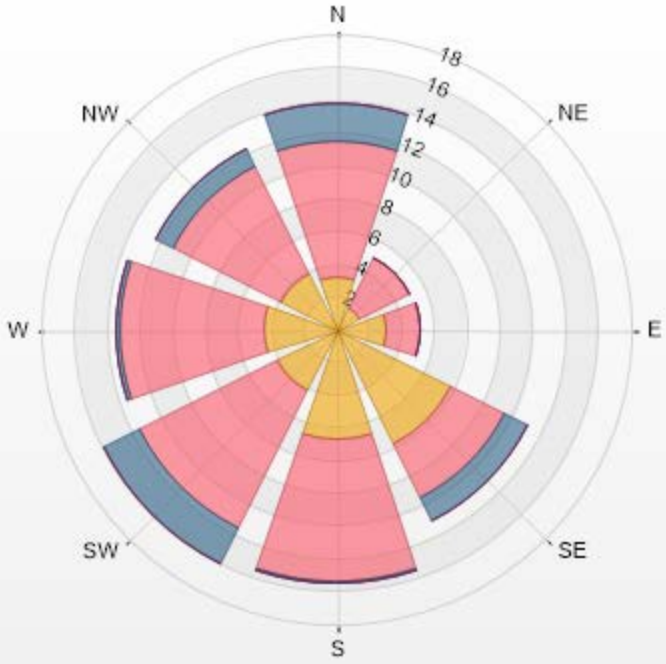
Timeseries Chart of Hourly Average for VWS - 986c Station



Wind: PRAMP 986c Poll.: PRAMP 986c-WDS[KPH] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 5.56% Valid Data: 96.83% Calm Avg: 1.20 [KPH]

Direction	0-6	6-15	15-29	29-39	>39.0	Total
N	3.28	8.26	2.28	0	0	13.82
NE	1.57	3.42	0	0	0	4.99
E	2.99	2.14	0	0	0	5.13
SE	7.83	3.7	1.57	0	0	13.1
S	6.7	8.69	0.14	0	0	15.53
SW	4.13	9.4	2.42	0	0	15.95
W	4.42	8.83	0.28	0	0	13.53
NW	3.85	7.26	1.28	0	0	12.39
Summary	34.77	51.7	7.97	0	0	94.44

PRAMP 986c Poll.: PRAMP 986c-WDS[KPH] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 5.56% Calm Poll Avg: 1.20[KPH]



%	Icon	Classes (KPH)											
35		0-6	52		6-15	8		15-29	0		29-39	0	>39.0

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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:	257 (WSW) degree	Hours in Service:	744
		Hours of Data:	703
		Hours of Missing Data:	41
		Hours of Calibration:	0
		Operational Uptime:	94.5

Day	Hourly Period Starting at (MST)																								Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NE	NE	E	ESE	ESE	ESE	-	E
Aug 2	ESE	SSE	SE	SSE	SE	SSE	SSE	SW	WNW	N	NNW	WNW	NNW	NW	NNW	N	NNW	W	NNE	ENE	WSW	WSW	SSE	S	323	NW
Aug 3	SSW	SW	SW	SSW	SSW	S	SW	SW	SW	W	WSW	W	W	W	W	WSW	WSW	W	SW	SW	SW	SW	SSW	SW	240	WSW
Aug 4	SSW	S	SSW	S	SSW	SSW	SSW	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	SSW
Aug 5	K	K	K	K	K	K	WSW	WNW	NW	WNW	WSW	WSW	W	W	NNW	NNW	N	N	N	N	N	N	N	N	336	NNW
Aug 6	N	N	N	N	NNW	N	N	NNE	NNW	NNW	NNE	NNW	NW	NNW	NW	NNW	N	NNE	SSE	SW	SSW	SSW	S	SE	342	NNW
Aug 7	ESE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SSE	S	SSE	S	WSW	SSW	SW	WSW	WSW	WSW	W	WSW	SW	SSE	N	174	S
Aug 8	N	N	NNW	N	N	N	N	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	349	NNW
Aug 9	NNW	N	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	N	NNW	NW	NW	NW	NNW	NNW	NW	WNW	SSW	S	SSE	340	NNW
Aug 10	S	S	SSE	SE	SE	ESE	ESE	SE	ESE	NE	NNW	NW	ESE	S	SSE	SSE	S	S	WSW	NW	ESE	ENE	ESE	E	145	SE
Aug 11	ESE	SE	SSE	SSE	ESE	ENE	ENE	ESE	ENE	NNW	NNW	N	N	NNW	NNE	NNE	NNE	NNE	NNE	NE	NNE	NE	E	E	47	NE
Aug 12	ESE	E	SE	ESE	ESE	ESE	ESE	W	NNW	NNW	NW	N	NNW	NW	NNW	WSW	W	W	WSW	SW	SW	SW	SW	SW	261	W
Aug 13	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	W	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	SW	SSW	S	SSW	SSW	SSW	223	SW
Aug 14	SSW	S	S	S	S	SW	S	SSW	SSW	SW	WSW	WSW	WSW	W	W	W	WSW	WSW	WNW	SSE	S	S	SSW	SSE	219	SW
Aug 15	S	S	SSE	S	S	S	S	SSW	SW	SW	WSW	SW	S	SSW	SW	SW	WSW	W	W	W	W	W	W	WNW	239	WSW
Aug 16	NW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	N	WNW	WSW	WSW	WSW	331	NNW
Aug 17	SW	W	SW	S	SSE	ESE	SSE	ESE	SSE	NNE	NE	SE	NW	NNW	ESE	SSE	NW	NW	NNW	N	NNE	NE	ENE	ENE	39	NE
Aug 18	ENE	ENE	ENE	ENE	ENE	NNE	NNE	NE	ENE	ENE	NE	N	NNE	NNE	N	NW	NW	NW	N	NNE	NNE	NNE	NE	NE	35	NE
Aug 19	NE	NE	NNE	NE	ENE	N	NNE	NE	NE	NNE	NE	NE	NNE	NW	S	ESE	NNW	N	NNW	N	ENE	ESE	E	SE	43	NE
Aug 20	SE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SE	SE	ESE	ESE	SE	ESE	ESE	131	SE
Aug 21	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	S	SSW	SSW	SW	W	SSW	SW	W	W	W	W	WSW	S	S	SSW	159	SSE
Aug 22	SSW	SW	SW	SW	SW	SW	SW	SW	W	WNW	W	W	WSW	WSW	WSW	WNW	W	WSW	WSW	SSW	S	S	SSE	SSE	236	SW
Aug 23	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	S	S	S	SSW	SSW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	S	S	191	S
Aug 24	S	S	SSE	SSE	S	S	SSW	SSW	SSW	SW	SW	SW	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	N	E	SSW	SSW	223	SW
Aug 25	SSW	S	S	SSW	SSW	SSW	SSW	SW	SW	WSW	WNW	WSW	W	W	W	NW	WNW	W	NW	WSW	SW	W	W	WNW	255	WSW
Aug 26	W	W	WSW	WNW	W	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	WNW	WNW	W	W	SW	SSW	SW	SSE	SE	289	WNW
Aug 27	S	SSE	SSE	SSE	S	S	S	S	S	S	SSW	SSW	S	S	SSW	S	S	SSW	SW	S	SSW	SSW	NNW	W	193	S
Aug 28	WNW	WNW	WNW	WNW	W	W	W	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	NW	NNW	SE	S	SSE	SSE	291	WNW
Aug 29	SSE	SSE	ESE	SE	SE	SE	SE	ESE	E	NW	W	N	NNW	ENE	ENE	ENE	NNE	S	S	ESE	ESE	ESE	ESE	SE	122	ESE
Aug 30	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	NE	NNE	SE	WSW	SW	WSW	W	W	WNW	W	SSW	SE	SE	SSE	SE	143	SE
Aug 31	SSE	SSE	SSE	SSE	SSW	S	ESE	NNW	NNW	N	N	NNW	N	N	NNW	NNW	NNE	N	E	E	E	E	E	ESE	62	ENE

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

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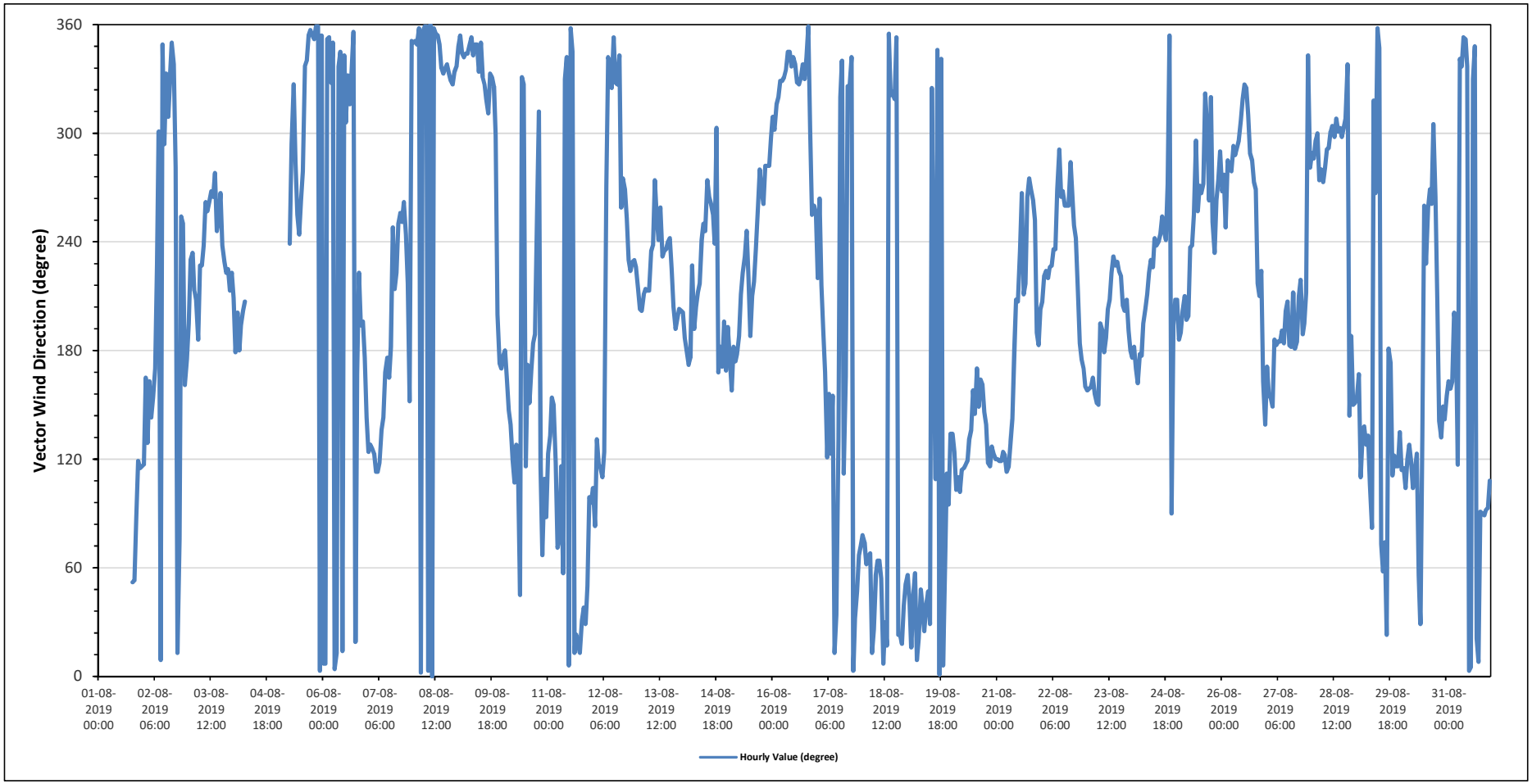
Timeseries Chart of Hourly Average for VWD - 986c Station



842b STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

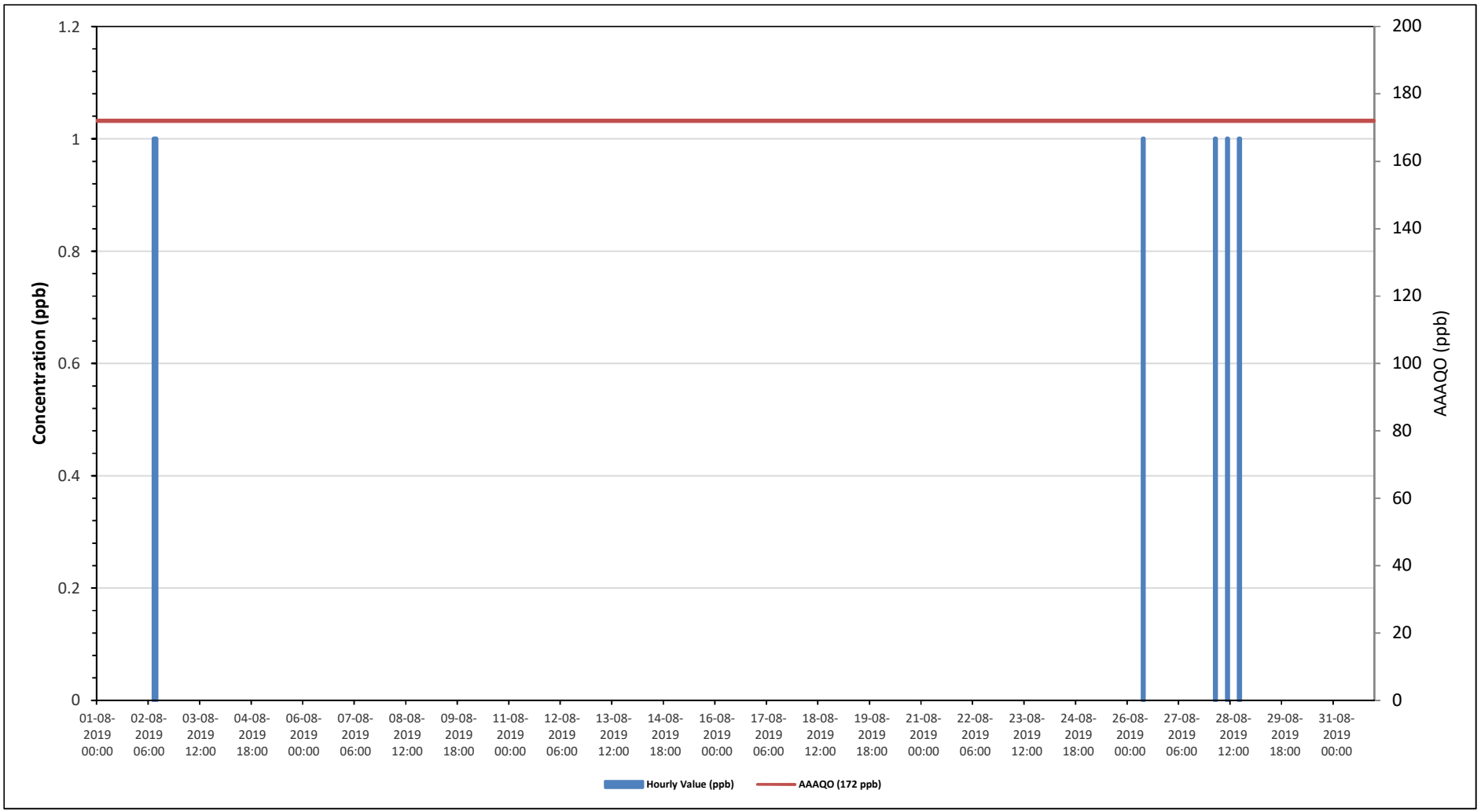
Maximum Hourly Value:	1	ppb	on August 2 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.1	ppb	on August 28	Hours of Data:	708
Minimum Hourly Value:	0	ppb	on August 1 at hour 0	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on August 1	Hours of Calibration:	35
Monthly Average:	0.0	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Aug 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 4	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 5	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 6	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 7	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 8	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0.0
Aug 9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 10	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 11	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 12	0	0	0	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
Aug 13	0	0	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
Aug 14	0	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
Aug 15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 16	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
Aug 17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Aug 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Aug 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Aug 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Aug 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Aug 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Aug 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Aug 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Aug 26	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	Y	0	0	0	0	0	0	0	0	0	1	0.0
Aug 27	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 28	0	0	0	1	0	0	0	0	0	0	1	0	S	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
Aug 29	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 30	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 31	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

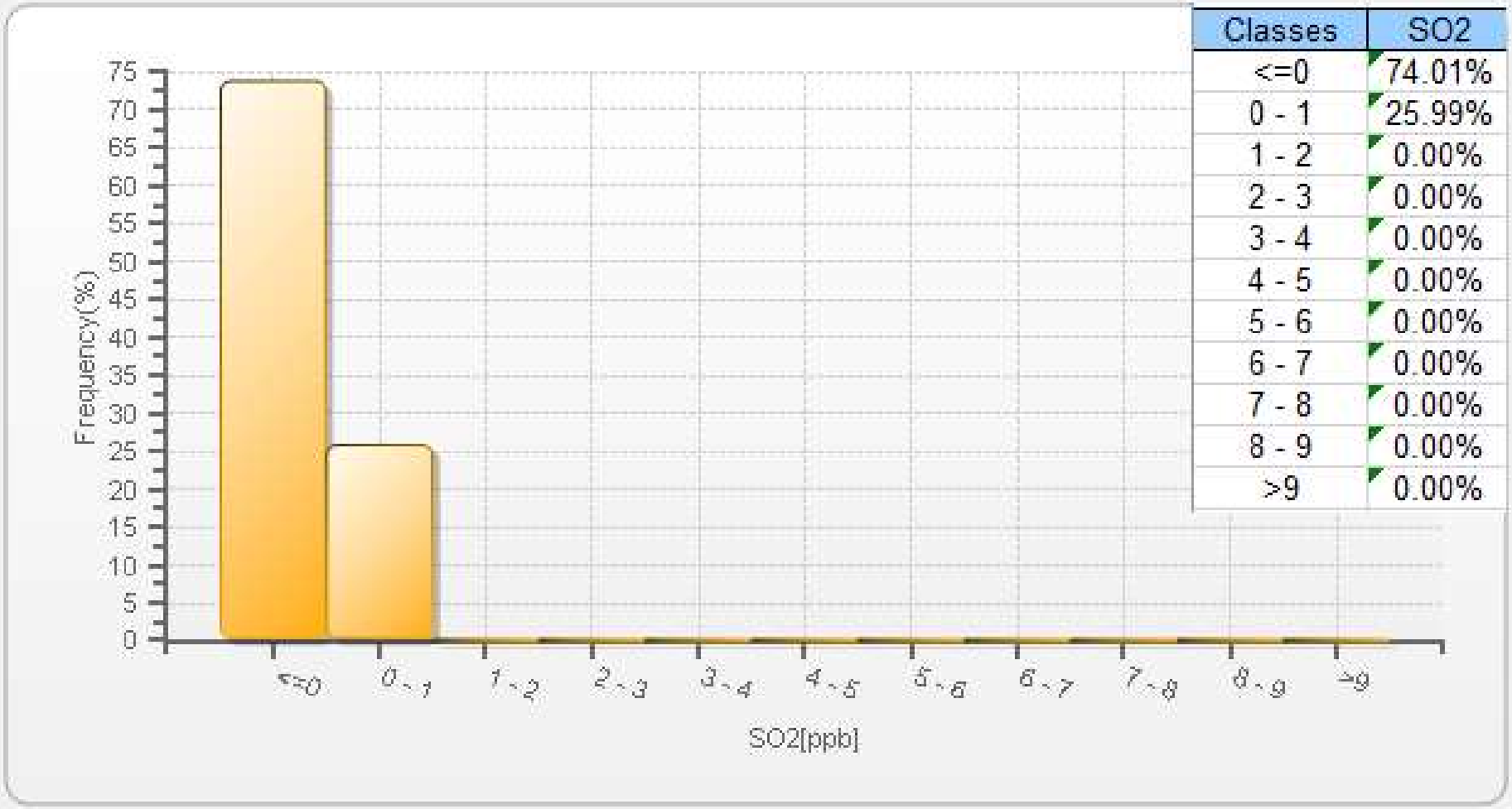
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for SO2 - 842b Station



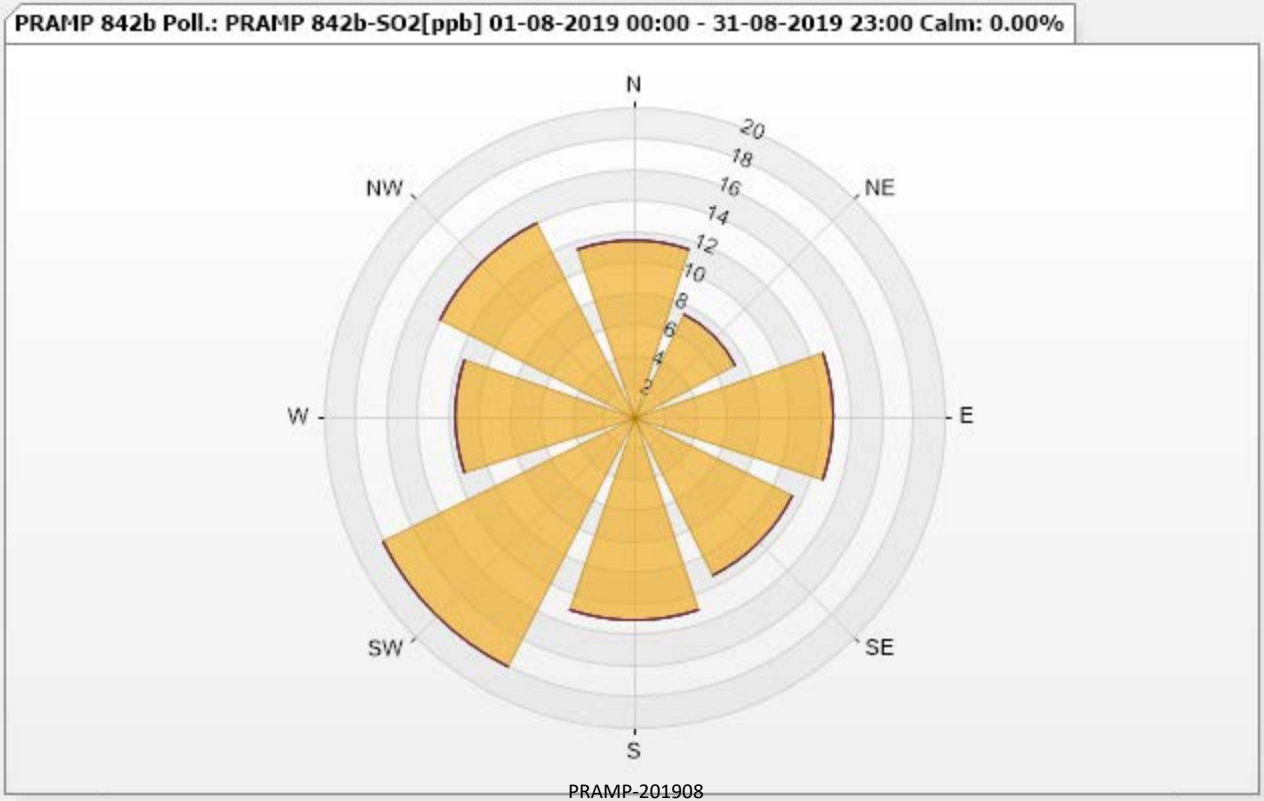
SO2[ppb] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.



Classes	SO2
<=0	74.01%
0 - 1	25.99%
1 - 2	0.00%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	11.4	0	0	0	0	11.4
NE	7.41	0	0	0	0	7.41
E	12.96	0	0	0	0	12.96
SE	11.54	0	0	0	0	11.54
S	13.11	0	0	0	0	13.11
SW	18.09	0	0	0	0	18.09
W	11.54	0	0	0	0	11.54
NW	13.96	0	0	0	0	13.96
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
6
% Icon Classes (ppb)
100 0-10
0 10-30
0 50-100
0 100-172
0 >172.0

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

Alberta Ambient Air Quality Objectives (AAAQO) for H2S: 1-Hour 10 ppb, 24-Hour 3 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0

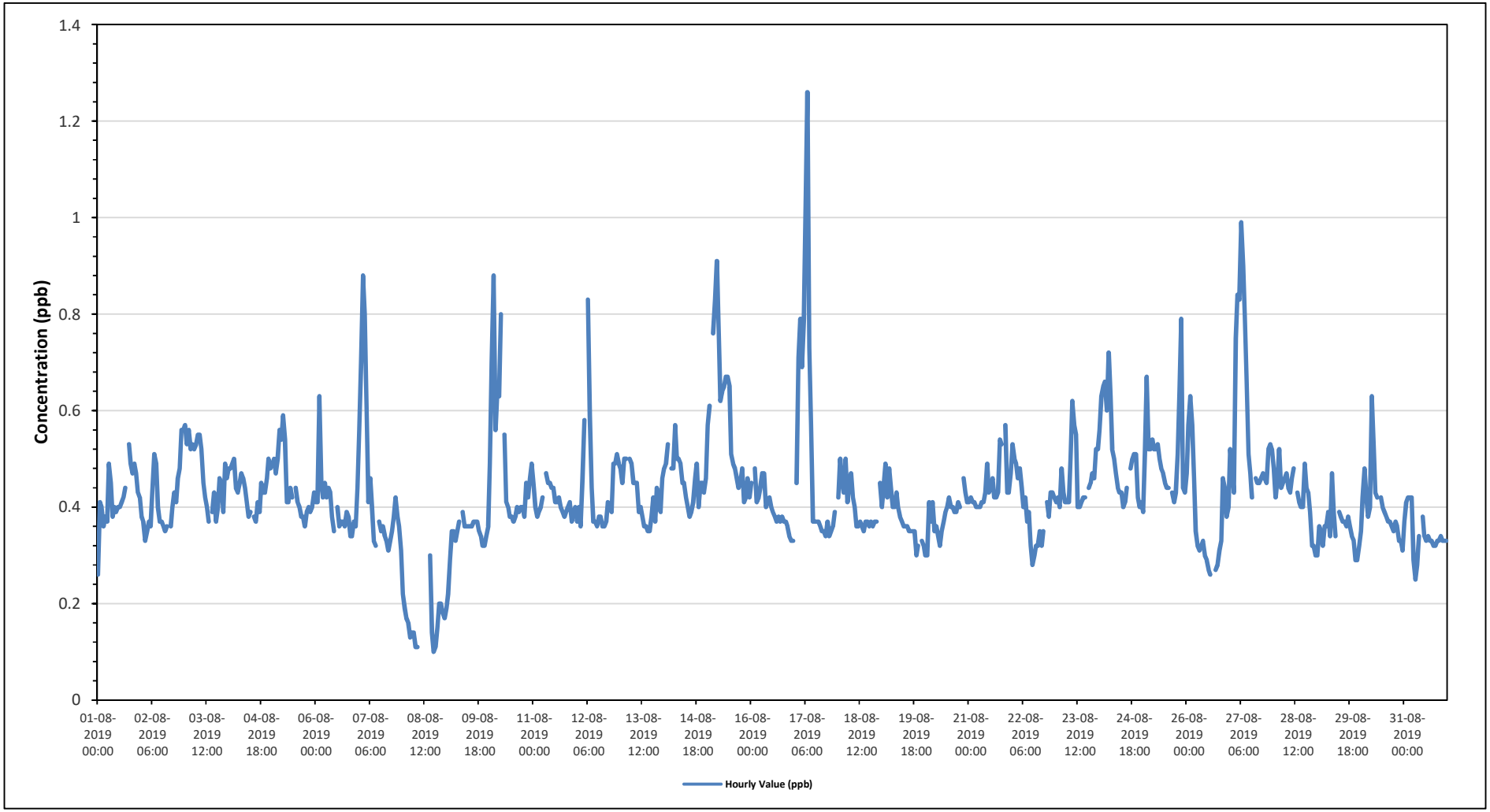
Maximum Hourly Value:	1.26	ppb	on August 17 at hour 7	Hours in Service:	744
Maximum Daily Value:	0.58	ppb	on August 15	Hours of Data:	706
Minimum Hourly Value:	0.10	ppb	on August 8 at hour 17	Hours of Missing Data:	1
Minimum Daily Value:	0.16	ppb	on August 8	Hours of Calibration:	37
Monthly Average:	0.43	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.26	0.41	0.4	0.36	0.38	0.37	0.49	0.45	0.38	0.4	0.39	0.4	0.4	0.41	0.42	0.44	S	0.53	0.49	0.47	0.49	0.47	0.43	0.42	0.26	0.53	0.42
Aug 2	0.38	0.37	0.33	0.35	0.37	0.36	0.44	0.51	0.49	0.4	0.37	0.37	0.36	0.35	0.36	S	0.36	0.4	0.43	0.41	0.46	0.48	0.56	0.56	0.33	0.56	0.41
Aug 3	0.57	0.53	0.56	0.52	0.53	0.52	0.53	0.55	0.55	0.52	0.45	0.42	0.4	0.37	S	0.39	0.43	0.37	0.4	0.46	0.45	0.39	0.49	0.46	0.37	0.57	0.47
Aug 4	0.48	0.48	0.49	0.5	0.44	0.43	0.45	0.47	0.46	0.44	0.41	0.38	0.39	S	0.38	0.37	0.41	0.39	0.45	0.43	0.43	0.46	0.5	0.48	0.37	0.50	0.44
Aug 5	0.49	0.5	0.47	0.5	0.56	0.54	0.59	0.54	0.41	0.41	0.44	0.42	S	0.44	0.41	0.4	0.38	0.38	0.36	0.39	0.4	0.39	0.4	0.43	0.36	0.59	0.45
Aug 6	0.41	0.41	0.63	0.45	0.42	0.45	0.42	0.44	0.43	0.38	0.35	S	0.4	0.36	0.37	0.37	0.36	0.39	0.38	0.34	0.34	0.37	0.36	0.44	0.34	0.63	0.40
Aug 7	0.56	0.7	0.88	0.8	0.61	0.41	0.46	0.4	0.33	0.32	S	0.37	0.35	0.36	0.34	0.33	0.31	0.33	0.35	0.38	0.42	0.38	0.36	0.31	0.31	0.88	0.44
Aug 8	0.22	0.19	0.17	0.16	0.13	0.14	0.14	0.11	0.11	C	C	C	C	C	C	0.3	0.14	0.1	0.11	0.15	0.2	0.2	0.18	0.17	0.10	0.30	0.16
Aug 9	0.19	0.22	0.29	0.35	0.35	0.33	0.35	0.37	S	0.39	0.36	0.36	0.36	0.36	0.36	0.37	0.37	0.37	0.35	0.34	0.32	0.32	0.34	0.36	0.19	0.39	0.34
Aug 10	0.49	0.7	0.88	0.56	0.63	0.63	0.8	S	0.55	0.41	0.4	0.38	0.38	0.37	0.38	0.4	0.39	0.4	0.4	0.38	0.45	0.42	0.46	0.49	0.37	0.88	0.49
Aug 11	0.45	0.4	0.38	0.39	0.4	0.42	S	0.47	0.45	0.45	0.44	0.44	0.41	0.41	0.42	0.4	0.39	0.38	0.39	0.4	0.41	0.37	0.39	0.4	0.37	0.47	0.41
Aug 12	0.37	0.4	0.36	0.46	0.58	S	0.83	0.59	0.44	0.37	0.37	0.36	0.38	0.38	0.36	0.36	0.37	0.41	0.4	0.39	0.49	0.49	0.51	0.49	0.36	0.83	0.44
Aug 13	0.48	0.45	0.5	0.5	S	0.5	0.49	0.45	0.45	0.45	0.39	0.4	0.38	0.36	0.36	0.35	0.35	0.38	0.42	0.37	0.44	0.42	0.39	0.46	0.35	0.50	0.42
Aug 14	0.48	0.49	0.53	S	0.48	0.48	0.57	0.5	0.5	0.49	0.45	0.45	0.42	0.4	0.38	0.39	0.41	0.46	0.49	0.4	0.45	0.45	0.43	0.46	0.38	0.57	0.46
Aug 15	0.57	0.61	S	0.76	0.83	0.91	0.78	0.62	0.64	0.65	0.67	0.67	0.65	0.51	0.49	0.48	0.46	0.44	0.45	0.48	0.41	0.42	0.46	0.42	0.41	0.91	**0.58**
Aug 16	0.45	S	0.48	0.41	0.42	0.44	0.47	0.47	0.4	0.41	0.42	0.4	0.39	0.38	0.37	0.38	0.37	0.38	0.37	0.37	0.36	0.34	0.33	0.33	0.33	0.48	0.40
Aug 17	S	0.45	0.71	0.79	0.69	0.79	1.05	**1.26**	0.73	0.57	0.37	0.37	0.37	0.37	0.36	0.35	0.35	0.34	0.37	0.34	0.35	0.36	0.39	S	0.34	**1.26**	0.53
Aug 18	0.42	0.5	0.46	0.43	0.5	0.41	0.45	0.47	0.42	0.4	0.36	0.36	0.37	0.36	0.35	0.37	0.37	0.36	0.37	0.36	0.37	0.37	S	0.45	0.35	0.50	0.40
Aug 19	0.4	0.44	0.49	0.42	0.48	0.44	0.4	0.4	0.43	0.4	0.38	0.37	0.36	0.36	0.36	0.35	0.35	0.35	0.35	0.3	0.32	S	0.33	0.32	0.30	0.49	0.38
Aug 20	0.3	0.3	0.41	0.37	0.41	0.35	0.36	0.34	0.32	0.35	0.37	0.39	0.4	0.42	0.4	0.4	0.39	0.39	0.41	0.4	S	0.46	0.43	0.41	0.30	0.46	0.38
Aug 21	0.41	0.42	0.41	0.41	0.4	0.4	0.4	0.41	0.41	0.43	0.49	0.43	0.44	0.46	0.42	0.42	0.43	0.54	0.53	S	0.57	0.43	0.43	0.47	0.40	0.57	0.44
Aug 22	0.53	0.5	0.49	0.46	0.48	0.44	0.4	0.42	0.37	0.39	0.32	0.28	0.3	0.32	0.32	0.35	0.32	0.35	S	0.41	0.38	0.43	0.43	0.42	0.28	0.53	0.40
Aug 23	0.41	0.42	0.4	0.48	0.43	0.41	0.41	0.41	0.5	0.62	0.57	0.55	0.4	0.4	0.41	0.42	0.42	S	0.44	0.45	0.47	0.46	0.52	0.52	0.40	0.62	0.46
Aug 24	0.56	0.63	0.65	0.66	0.6	0.72	0.63	0.52	0.5	0.47	0.44	0.43	0.43	0.4	0.41	0.44	S	0.48	0.5	0.51	0.51	0.42	0.4	0.41	0.40	0.72	0.51
Aug 25	0.39	0.52	0.67	0.52	0.52	0.54	0.52	0.52	0.53	0.5	0.48	0.47	0.45	0.44	0.44	S	0.43	0.41	0.43	0.51	0.64	0.79	0.44	0.43	0.39	0.79	0.50
Aug 26	0.47	0.57	0.63	0.57	0.46	0.35	0.32	0.31	0.32	0.33	0.3	0.29	0.27	0.26	S	Y	0.27	0.28	0.31	0.33	0.46	0.44	0.38	0.4	0.26	0.63	0.38
Aug 27	0.52	0.48	0.43	0.75	0.84	0.83	0.99	0.9	0.8	0.67	0.51	0.47	0.42	S	0.46	0.45	0.45	0.46	0.47	0.46	0.45	0.52	0.53	0.52	0.42	0.99	**0.58**
Aug 28	0.48	0.42	0.46	0.52	0.44	0.45	0.46	0.47	0.44	0.43	0.46	0.48	S	0.43	0.41	0.4	0.4	0.49	0.44	0.43	0.39	0.32	0.32	0.3	0.30	0.52	0.43
Aug 29	0.3	0.36	0.35	0.32	0.36	0.36	0.39	0.34	0.47	0.39	0.34	S	0.39	0.38	0.37	0.37	0.36	0.38	0.36	0.34	0.33	0.29	0.29	0.32	0.29	0.47	0.35
Aug 30	0.35	0.42	0.48	0.42	0.38	0.4	0.63	0.52	0.43	0.42	S	0.42	0.4	0.39	0.38	0.37	0.37	0.36	0.35	0.37	0.36	0.33	0.33	0.31	0.31	0.63	0.40
Aug 31	0.37	0.41	0.42	0.42	0.42	0.29	0.25	0.28	0.34	S	0.38	0.34	0.33	0.34	0.33	0.33	0.32	0.32	0.33	0.33	0.34	0.33	0.33	0.33	0.25	0.42	0.34
Diurnal Maximum	0.57	0.70	0.88	0.80	0.84	0.91	1.05	1.26	0.80	0.67	0.67	0.67	0.65	0.51	0.49	0.48	0.46	0.54	0.53	0.51	0.64	0.79	0.56	0.56			
Daiurnal Average	0.43	0.46	0.49	0.49	0.48	0.47	0.52	0.48	0.45	0.44	0.42	0.41	0.39	0.39	0.39	0.38	0.37	0.39	0.40	0.39	0.42	0.41	0.40	0.41			

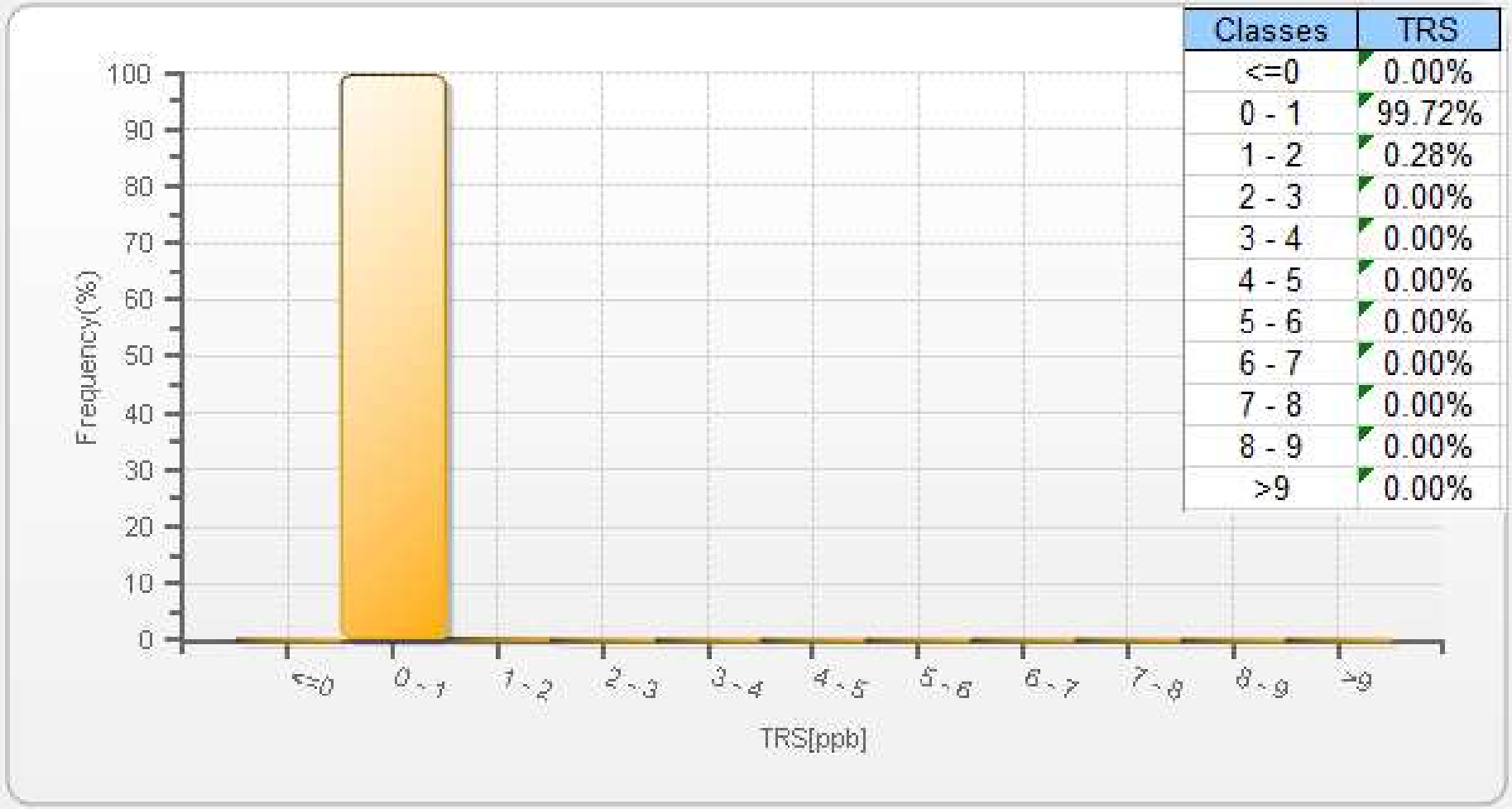
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for TRS - 842b Station



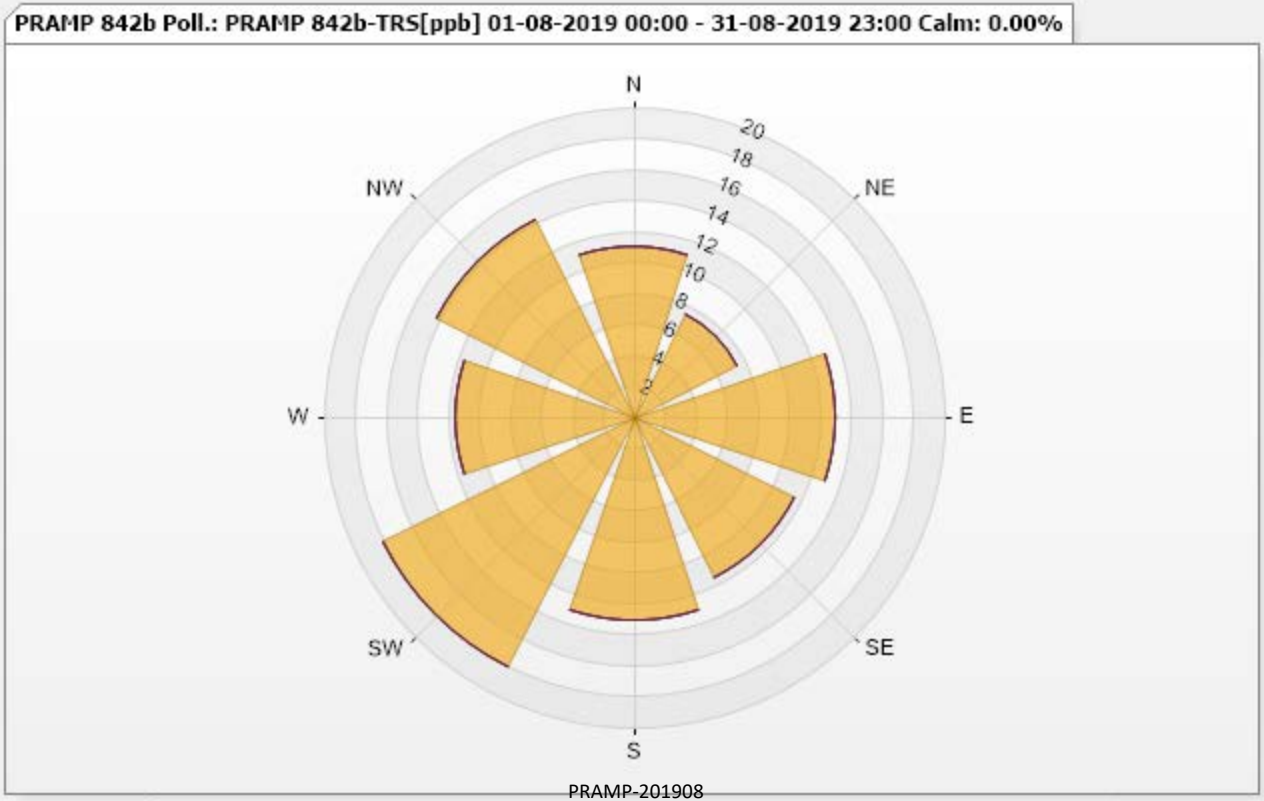
TRS[ppb] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.



Classes	TRS
<=0	0.00%
0 - 1	99.72%
1 - 2	0.28%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.22% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	10.98	0	0	0	0	10.98
NE	7.42	0	0	0	0	7.42
E	12.98	0	0	0	0	12.98
SE	11.55	0	0	0	0	11.55
S	13.12	0	0	0	0	13.12
SW	18.12	0	0	0	0	18.12
W	11.55	0	0	0	0	11.55
NW	14.27	0	0	0	0	14.27
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

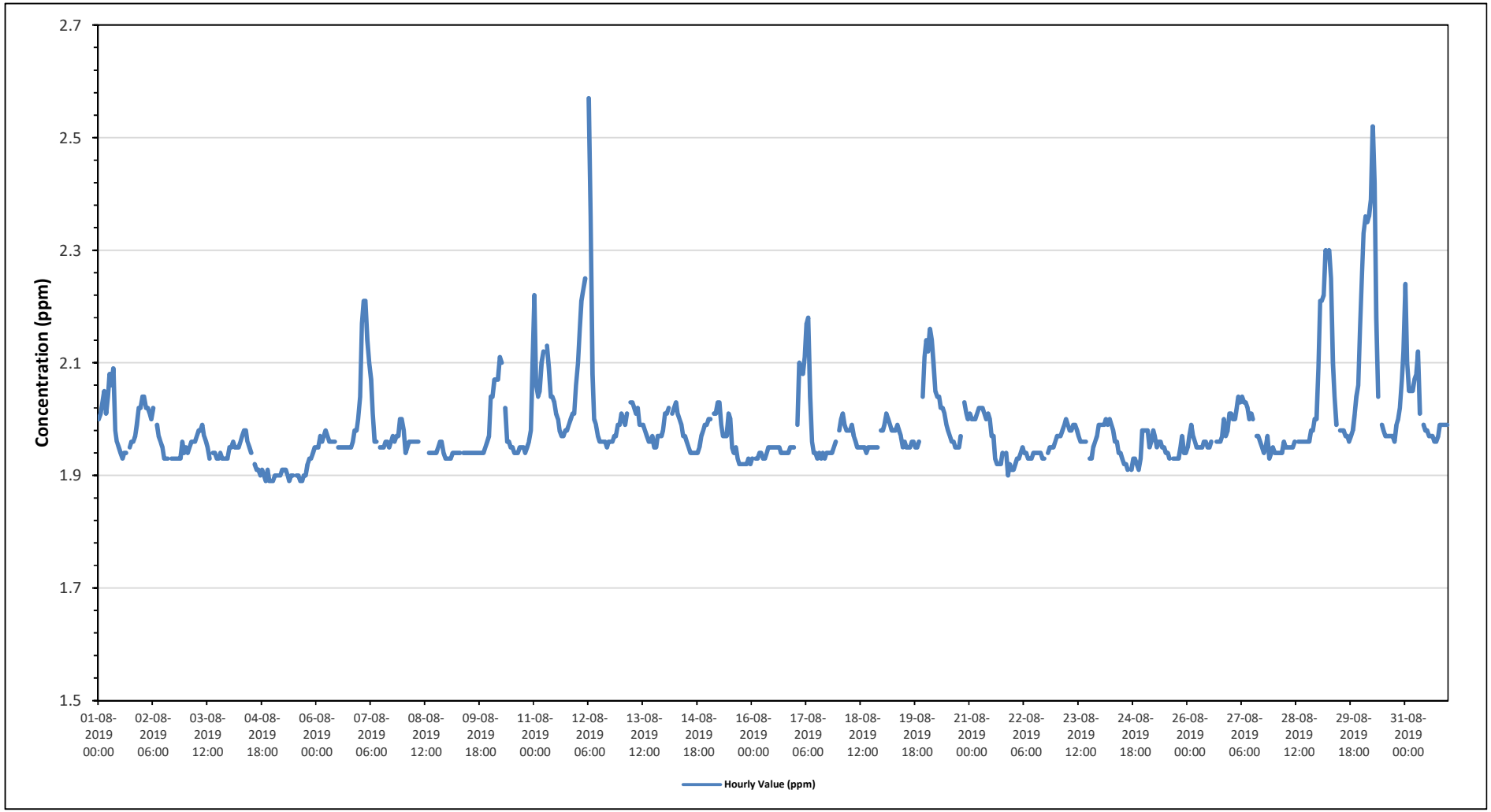
Maximum Hourly Value:	2.57	ppm	on August 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.14	ppm	on August 30	Hours of Data:	706
Minimum Hourly Value:	1.89	ppm	on August 4 at hour 20	Hours of Missing Data:	2
Minimum Daily Value:	1.91	ppm	on August 5	Hours of Calibration:	36
Monthly Average:	1.98	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	2.00	2.01	2.03	2.05	2.01	2.04	2.08	2.06	2.09	1.98	1.96	1.95	1.94	1.93	1.94	1.94	S	1.95	1.96	1.96	1.97	1.99	2.02	2.02	1.93	2.09	1.99
Aug 2	2.04	2.04	2.02	2.02	2.01	2.00	2.02	S1	1.99	1.97	1.96	1.95	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.93	1.96	1.94	1.93	2.04	1.97
Aug 3	1.95	1.94	1.95	1.96	1.96	1.96	1.97	1.98	1.98	1.99	1.97	1.96	1.95	1.93	S	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.99	1.95
Aug 4	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.97	1.98	1.98	1.96	1.95	1.94	S	1.92	1.91	1.91	1.90	1.91	1.90	1.89	1.91	1.89	1.89	1.89	1.98	1.93
Aug 5	1.89	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.90	1.89	1.90	1.90	S	1.90	1.90	1.89	1.89	1.90	1.90	1.92	1.93	1.93	1.94	1.95	1.89	1.95	1.91
Aug 6	1.95	1.95	1.97	1.96	1.97	1.98	1.97	1.96	1.96	1.96	1.96	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.98	1.98	2.00	1.95	2.00	1.96
Aug 7	2.04	2.17	2.21	2.21	2.14	2.10	2.07	2.01	1.96	1.96	S	1.95	1.95	1.95	1.96	1.96	1.95	1.96	1.97	1.96	1.97	1.97	2.00	2.00	1.95	2.21	2.02
Aug 8	1.98	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	C	C	C	C	C	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.94	1.93	1.93	1.98	1.95
Aug 9	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.93	1.97	1.94
Aug 10	2.04	2.04	2.07	2.07	2.07	2.11	2.10	S	2.02	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.94	1.95	1.96	1.98	2.09	1.94	2.11	2.00
Aug 11	2.22	2.06	2.04	2.05	2.10	2.12	S	2.13	2.09	2.04	2.04	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.98	1.99	2.00	2.01	2.01	2.06	1.97	2.22	2.04
Aug 12	2.10	2.16	2.21	2.23	2.25	S	2.57	2.36	2.08	2.00	1.99	1.97	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.97	1.97	1.99	1.99	1.95	2.57	2.07
Aug 13	2.01	2.00	1.99	2.01	S	2.03	2.03	2.02	2.01	2.02	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.97	1.95	1.95	1.97	1.97	1.97	1.98	1.95	2.03	1.99
Aug 14	2.01	2.01	2.02	S	2.01	2.02	2.03	2.01	2.00	1.99	1.97	1.97	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.98	1.99	1.99	1.94	2.03	1.98
Aug 15	2.00	2.00	S	2.01	2.01	2.03	2.03	1.99	1.97	1.97	1.97	2.01	2.00	1.95	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.92	2.03	1.97
Aug 16	1.93	S	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.93	1.95	1.94
Aug 17	S	1.99	2.10	2.09	2.08	2.11	2.17	2.18	2.04	1.96	1.94	1.94	1.93	1.94	1.93	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.96	S	1.93	2.18	2.00
Aug 18	1.98	2.00	2.01	1.99	1.98	1.98	1.98	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.95	S	1.98	1.94	2.01	1.97
Aug 19	1.98	1.99	2.01	2.00	1.99	1.98	1.98	1.98	1.99	1.98	1.97	1.95	1.96	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	S	2.04	2.11	1.95	2.11	1.98
Aug 20	2.14	2.12	2.16	2.14	2.10	2.05	2.04	2.04	2.02	2.02	2.01	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.97	S	2.03	2.01	2.00	1.95	2.16	2.02
Aug 21	2.01	2.00	2.00	2.00	2.01	2.02	2.02	2.02	2.01	2.00	2.01	2.00	1.97	1.97	1.93	1.92	1.92	1.92	1.94	S	1.94	1.90	1.92	1.91	1.90	2.02	1.97
Aug 22	1.91	1.92	1.93	1.93	1.94	1.95	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.93	S	1.94	1.95	1.95	1.95	1.96	1.91	1.96	1.94
Aug 23	1.97	1.97	1.97	1.98	1.99	2.00	1.99	1.98	1.98	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.96	S	1.93	1.93	1.95	1.96	1.97	1.99	1.93	2.00	1.97
Aug 24	1.99	1.99	1.99	2.00	1.99	2.00	1.99	1.98	1.96	1.96	1.94	1.94	1.93	1.92	1.92	1.91	S	1.91	1.93	1.93	1.92	1.91	1.93	1.98	1.91	2.00	1.95
Aug 25	1.98	1.98	1.98	1.95	1.96	1.98	1.97	1.95	1.96	1.96	1.95	1.95	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.95	1.97	1.94	1.94	1.93	1.98	1.95
Aug 26	1.95	1.97	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	S	Y	1.96	1.96	1.96	1.97	2.00	1.97	1.98	2.01	1.95	2.01	1.97
Aug 27	2.01	2.00	2.00	2.02	2.04	2.03	2.04	2.03	2.03	2.02	2.00	2.01	2.00	S	1.97	1.97	1.96	1.95	1.94	1.95	1.97	1.93	1.94	1.95	1.93	2.04	1.99
Aug 28	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.95	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.98	2.00	2.00	1.94	2.00	1.96
Aug 29	2.09	2.21	2.21	2.22	2.30	2.29	2.30	2.25	2.10	2.04	1.99	S	1.98	1.98	1.98	1.97	1.97	1.96	1.97	1.98	2.01	2.04	2.06	2.16	1.96	2.30	2.09
Aug 30	2.26	2.33	2.36	2.35	2.36	2.39	2.52	2.42	2.18	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.99	2.00	2.02	2.07	2.12	1.96	2.52	2.14
Aug 31	2.24	2.10	2.05	2.05	2.05	2.07	2.08	2.12	2.01	S	1.99	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.99	1.99	1.99	1.99	1.99	1.96	2.24	2.02
Diurnal Maximum	2.26	2.33	2.36	2.35	2.36	2.39	2.57	2.42	2.18	2.04	2.04	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.98	1.99	2.01	2.04	2.07	2.16			
Daiurnal Average	2.02	2.02	2.03	2.03	2.03	2.03	2.05	2.03	2.00	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.96	1.96	1.97	1.99			

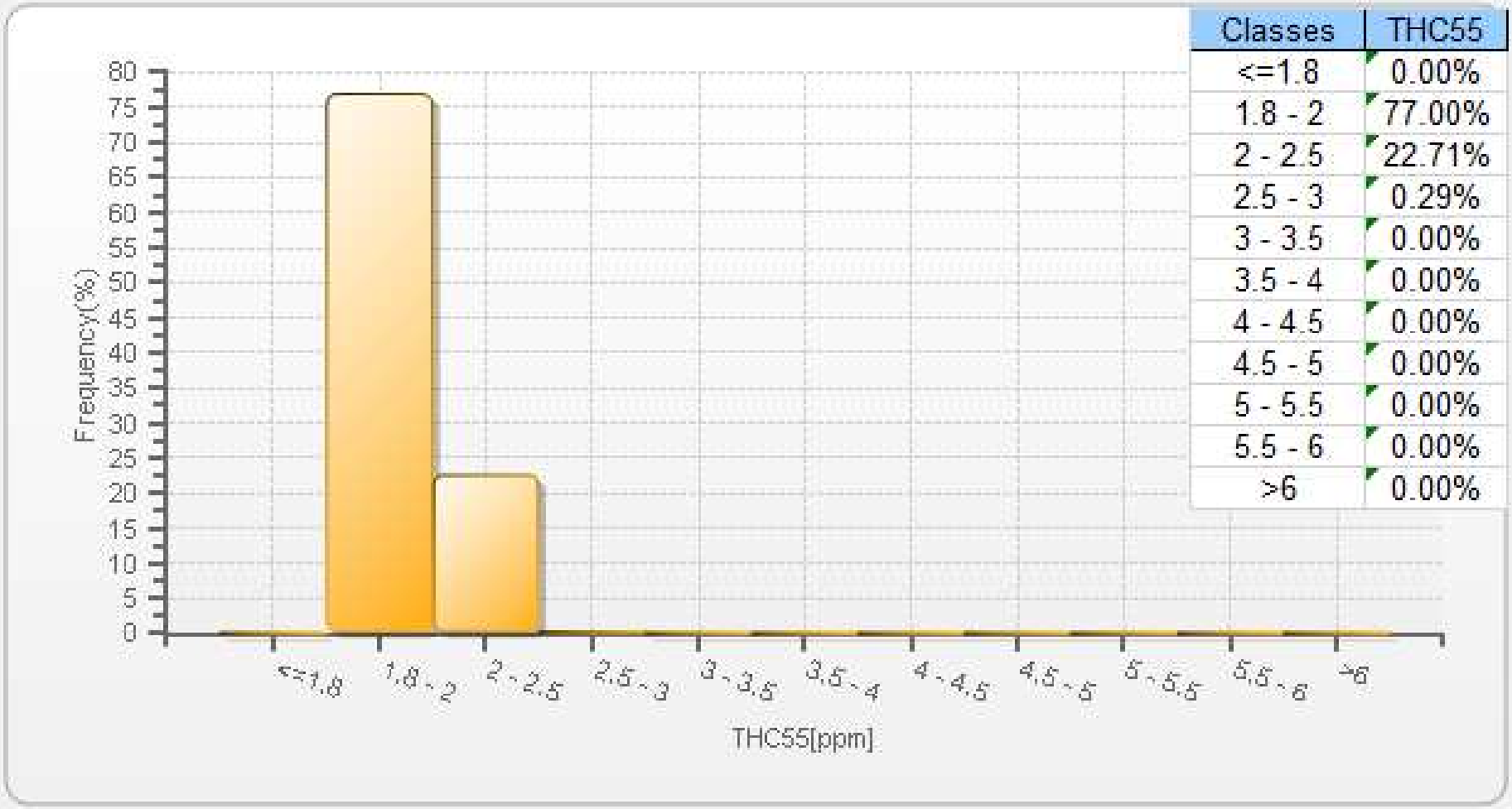
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for THC - 842b Station



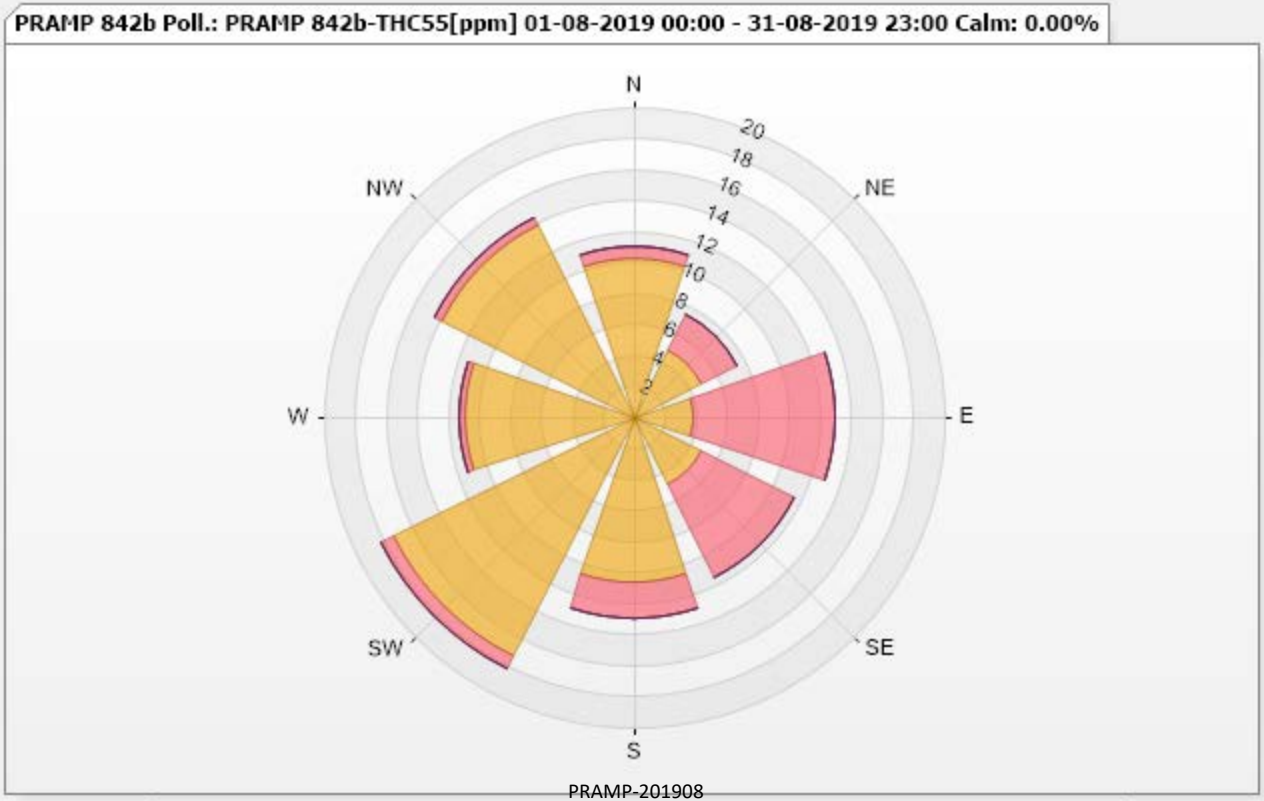
THC55[ppm] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	77.00%
2 - 2.5	22.71%
2.5 - 3	0.29%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.82% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	10.32	0.72	0	0	0	11.04
NE	4.87	2.58	0	0	0	7.45
E	3.87	9.17	0	0	0	13.04
SE	4.87	6.73	0	0	0	11.6
S	10.74	2.29	0	0	0	13.03
SW	17.34	0.86	0	0	0	18.2
W	10.89	0.43	0	0	0	11.32
NW	13.9	0.43	0	0	0	14.33
Summary	76.8	23.21	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
% Icon Classes (ppm)
77 0-2
23 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

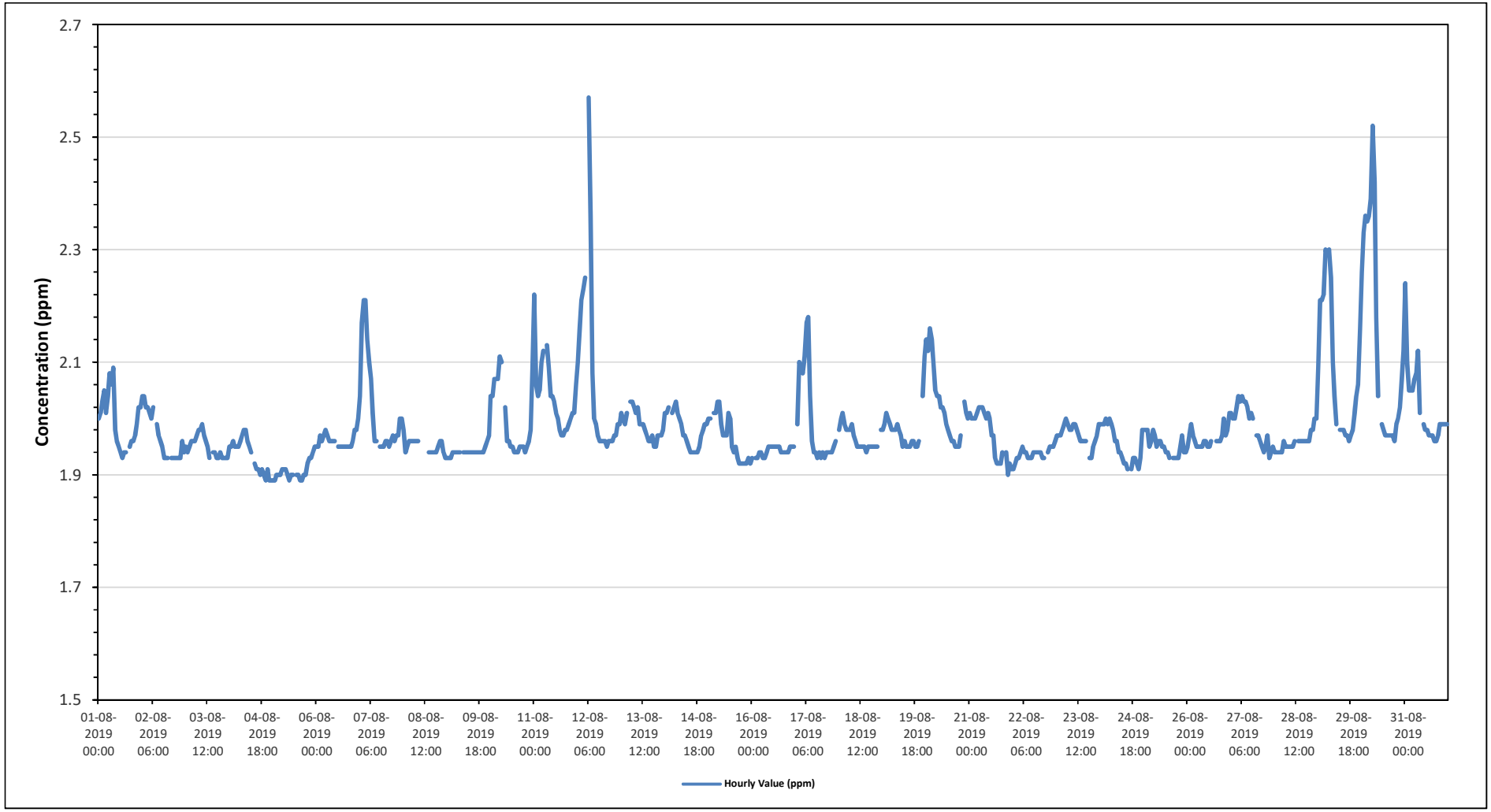
Maximum Hourly Value:	2.57	ppm	on August 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.14	ppm	on August 30	Hours of Data:	706
Minimum Hourly Value:	1.89	ppm	on August 4 at hour 20	Hours of Missing Data:	2
Minimum Daily Value:	1.91	ppm	on August 5	Hours of Calibration:	36
Monthly Average:	1.98	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	2.00	2.01	2.03	2.05	2.01	2.04	2.08	2.06	2.09	1.98	1.96	1.95	1.94	1.93	1.94	1.94	S	1.95	1.96	1.96	1.97	1.99	2.02	2.02	1.93	2.09	1.99
Aug 2	2.04	2.04	2.02	2.02	2.01	2.00	2.02	S1	1.99	1.97	1.96	1.95	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.93	1.96	1.94	1.93	2.04	1.97
Aug 3	1.95	1.94	1.95	1.96	1.96	1.96	1.97	1.98	1.98	1.99	1.97	1.96	1.95	1.93	S	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.99	1.95
Aug 4	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.97	1.98	1.98	1.96	1.95	1.94	S	1.92	1.91	1.91	1.90	1.91	1.90	1.89	1.91	1.89	1.89	1.89	1.98	1.93
Aug 5	1.89	1.89	1.90	1.90	1.90	1.91	1.91	1.91	1.90	1.89	1.90	1.90	S	1.90	1.90	1.89	1.89	1.90	1.90	1.92	1.93	1.93	1.94	1.95	1.89	1.95	1.91
Aug 6	1.95	1.95	1.97	1.96	1.97	1.98	1.97	1.96	1.96	1.96	1.96	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.98	1.98	2.00	1.95	2.00	1.96
Aug 7	2.04	2.17	2.21	2.21	2.14	2.10	2.07	2.01	1.96	1.96	S	1.95	1.95	1.95	1.96	1.96	1.95	1.96	1.97	1.96	1.97	1.97	2.00	2.00	1.95	2.21	2.02
Aug 8	1.98	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	C	C	C	C	C	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.94	1.93	1.93	1.98	1.95
Aug 9	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.93	1.97	1.94
Aug 10	2.04	2.04	2.07	2.07	2.07	2.11	2.10	S	2.02	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.94	1.95	1.96	1.98	1.94	2.11	2.00
Aug 11	2.22	2.06	2.04	2.05	2.10	2.12	S	2.13	2.09	2.04	2.04	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.98	1.99	2.00	2.01	2.01	2.06	1.97	2.22	2.04
Aug 12	2.10	2.16	2.21	2.23	2.25	S	2.57	2.36	2.08	2.00	1.99	1.97	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.97	1.97	1.99	1.99	1.95	2.57	2.07
Aug 13	2.01	2.00	1.99	2.01	S	2.03	2.03	2.02	2.01	2.02	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.97	1.95	1.95	1.97	1.97	1.97	1.98	1.95	2.03	1.99
Aug 14	2.01	2.01	2.02	S	2.01	2.02	2.03	2.01	2.00	1.99	1.97	1.97	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.98	1.99	1.99	1.94	2.03	1.98
Aug 15	2.00	2.00	S	2.01	2.01	2.03	2.03	1.99	1.97	1.97	1.97	2.01	2.00	1.95	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.92	2.03	1.97
Aug 16	1.93	S	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.93	1.95	1.94
Aug 17	S	1.99	2.10	2.09	2.08	2.11	2.17	2.18	2.04	1.96	1.94	1.94	1.93	1.94	1.93	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.96	S	1.93	2.18	2.00
Aug 18	1.98	2.00	2.01	1.99	1.98	1.98	1.98	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.95	S	1.98	1.94	2.01	1.97
Aug 19	1.98	1.99	2.01	2.00	1.99	1.98	1.98	1.98	1.99	1.98	1.97	1.95	1.96	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	S	2.04	2.11	1.95	2.11	1.98
Aug 20	2.14	2.12	2.16	2.14	2.10	2.05	2.04	2.04	2.02	2.02	2.01	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.97	S	2.03	2.01	2.00	1.95	2.16	2.02
Aug 21	2.01	2.00	2.00	2.00	2.01	2.02	2.02	2.02	2.01	2.00	2.01	2.00	1.97	1.97	1.93	1.92	1.92	1.92	1.94	S	1.94	1.90	1.92	1.91	1.90	2.02	1.97
Aug 22	1.91	1.92	1.93	1.93	1.94	1.95	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.93	S	1.94	1.95	1.95	1.95	1.96	1.91	1.96	1.94
Aug 23	1.97	1.97	1.97	1.98	1.99	2.00	1.99	1.98	1.98	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.96	S	1.93	1.93	1.95	1.96	1.97	1.99	1.93	2.00	1.97
Aug 24	1.99	1.99	1.99	2.00	1.99	2.00	1.99	1.98	1.96	1.96	1.94	1.94	1.93	1.92	1.92	1.91	S	1.91	1.93	1.93	1.92	1.91	1.93	1.98	1.91	2.00	1.95
Aug 25	1.98	1.98	1.98	1.95	1.96	1.98	1.97	1.95	1.96	1.96	1.95	1.95	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.95	1.97	1.94	1.94	1.93	1.98	1.95
Aug 26	1.95	1.97	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	S	Y	1.96	1.96	1.96	1.97	2.00	1.97	1.98	2.01	1.95	2.01	1.97
Aug 27	2.01	2.00	2.00	2.02	2.04	2.03	2.04	2.03	2.03	2.02	2.00	2.01	2.00	S	1.97	1.97	1.96	1.95	1.94	1.95	1.97	1.93	1.94	1.95	1.93	2.04	1.99
Aug 28	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.95	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.98	2.00	2.00	1.94	2.00	1.96
Aug 29	2.09	2.21	2.21	2.22	2.30	2.29	2.30	2.25	2.10	2.04	1.99	S	1.98	1.98	1.98	1.97	1.97	1.96	1.97	1.98	2.01	2.04	2.06	2.16	1.96	2.30	2.09
Aug 30	2.26	2.33	2.36	2.35	2.36	2.39	2.52	2.42	2.18	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.99	2.00	2.02	2.07	2.12	1.96	2.52	2.14
Aug 31	2.24	2.10	2.05	2.05	2.05	2.07	2.08	2.12	2.01	S	1.99	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.99	1.99	1.99	1.99	1.99	1.96	2.24	2.02
Diurnal Maximum	2.26	2.33	2.36	2.35	2.36	2.39	2.57	2.42	2.18	2.04	2.04	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.98	1.99	2.01	2.04	2.07	2.16			
Daiurnal Average	2.02	2.02	2.03	2.03	2.03	2.03	2.05	2.03	2.00	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.96	1.96	1.97	1.99			

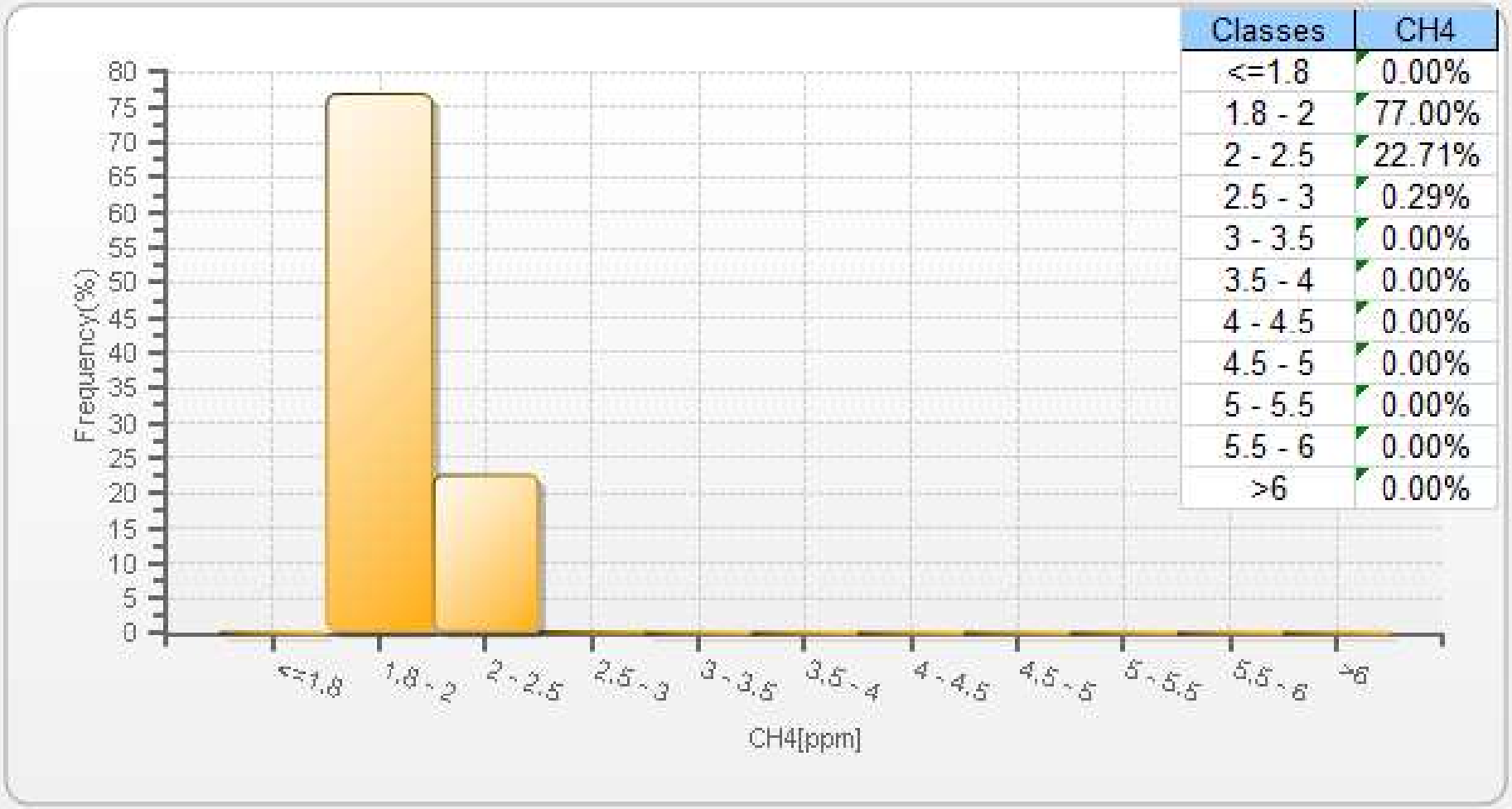
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for CH4 - 842b Station



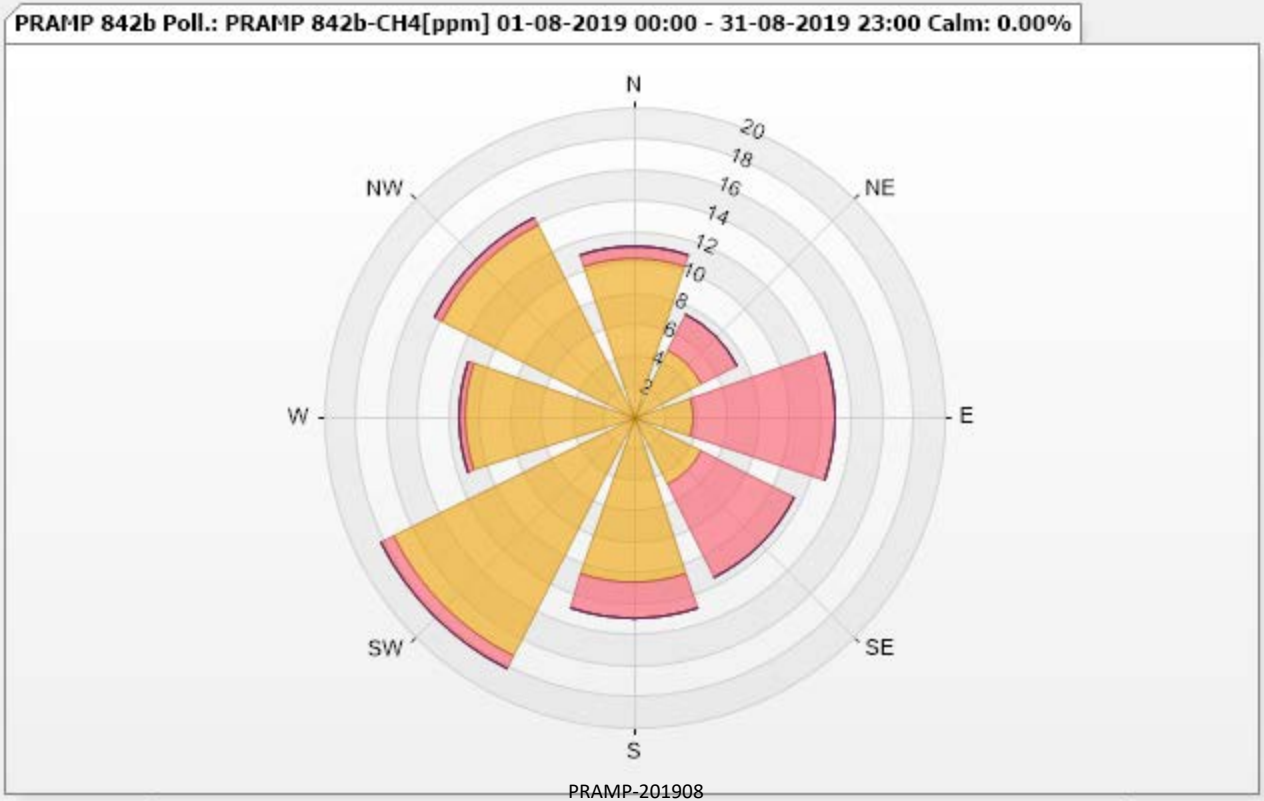
CH4[ppm] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	77.00%
2 - 2.5	22.71%
2.5 - 3	0.29%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.82% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	10.32	0.72	0	0	0	11.04
NE	4.87	2.58	0	0	0	7.45
E	3.87	9.17	0	0	0	13.04
SE	4.87	6.73	0	0	0	11.6
S	10.74	2.29	0	0	0	13.03
SW	17.34	0.86	0	0	0	18.2
W	10.89	0.43	0	0	0	11.32
NW	13.9	0.43	0	0	0	14.33
Summary	76.8	23.21	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
% Icon Classes (ppm)
77 0-2
23 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

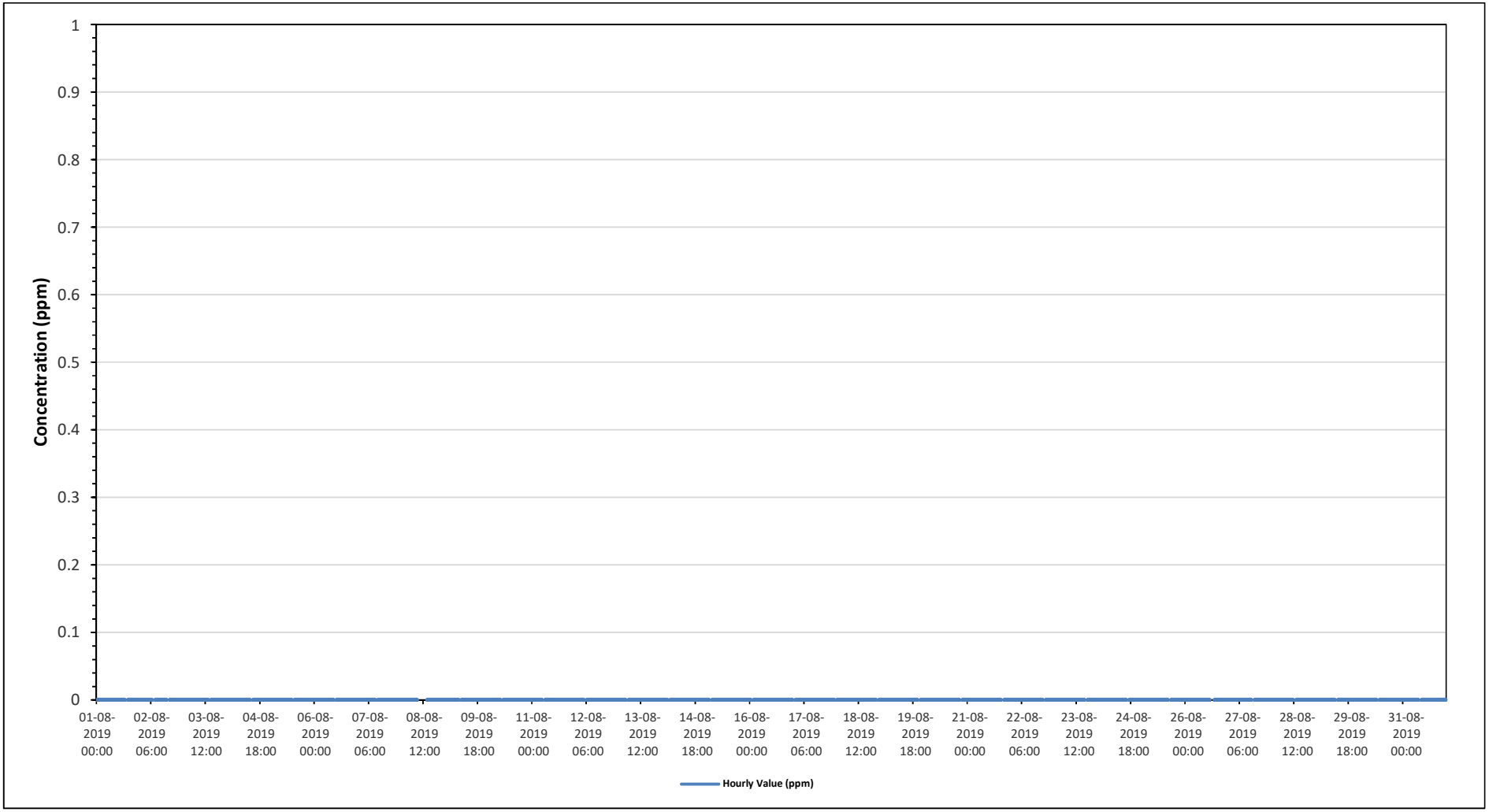
Maximum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on August 1	Hours of Data:	706
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.00	ppm	on August 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

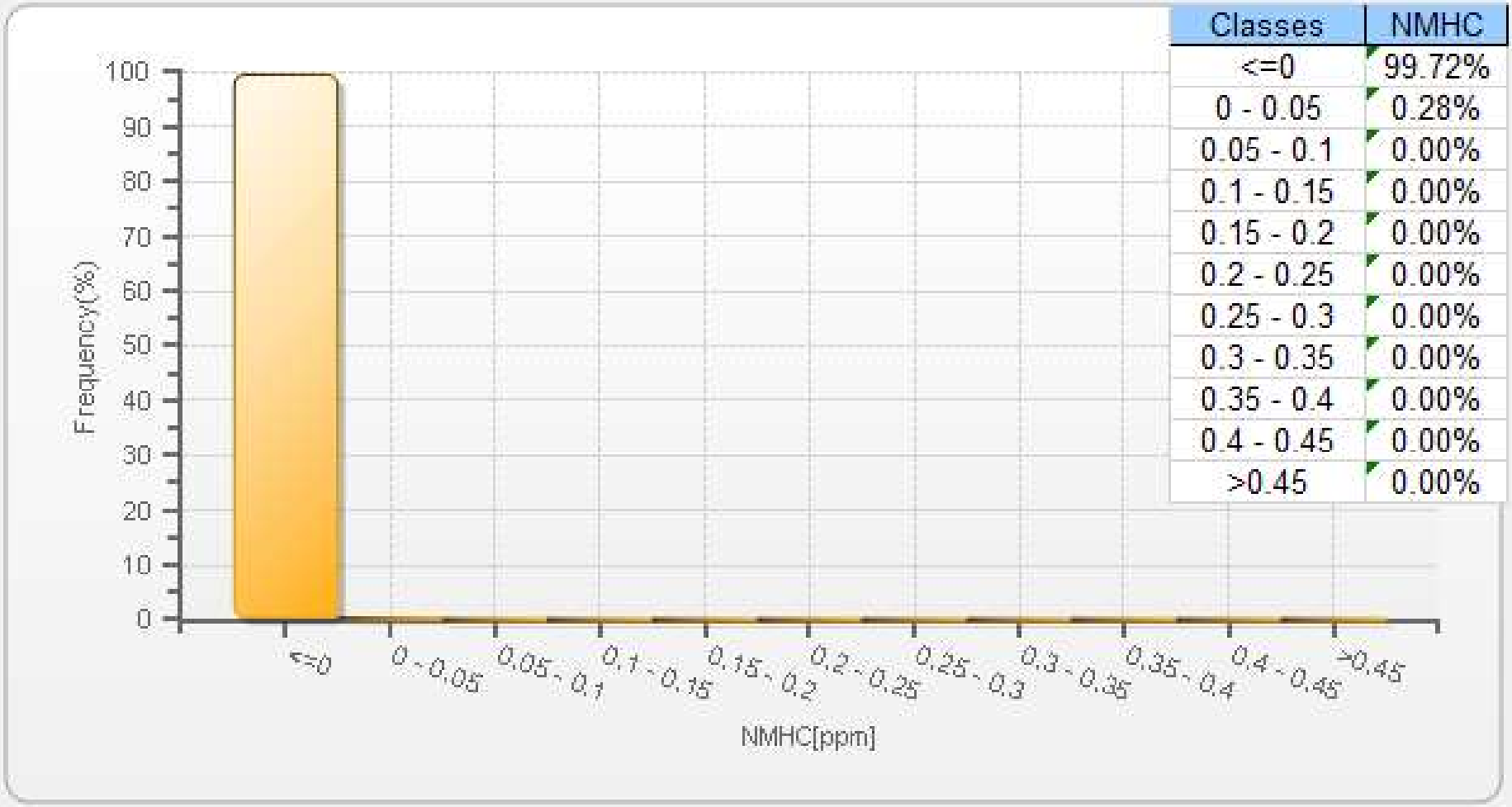
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for NMHC - 842b Station



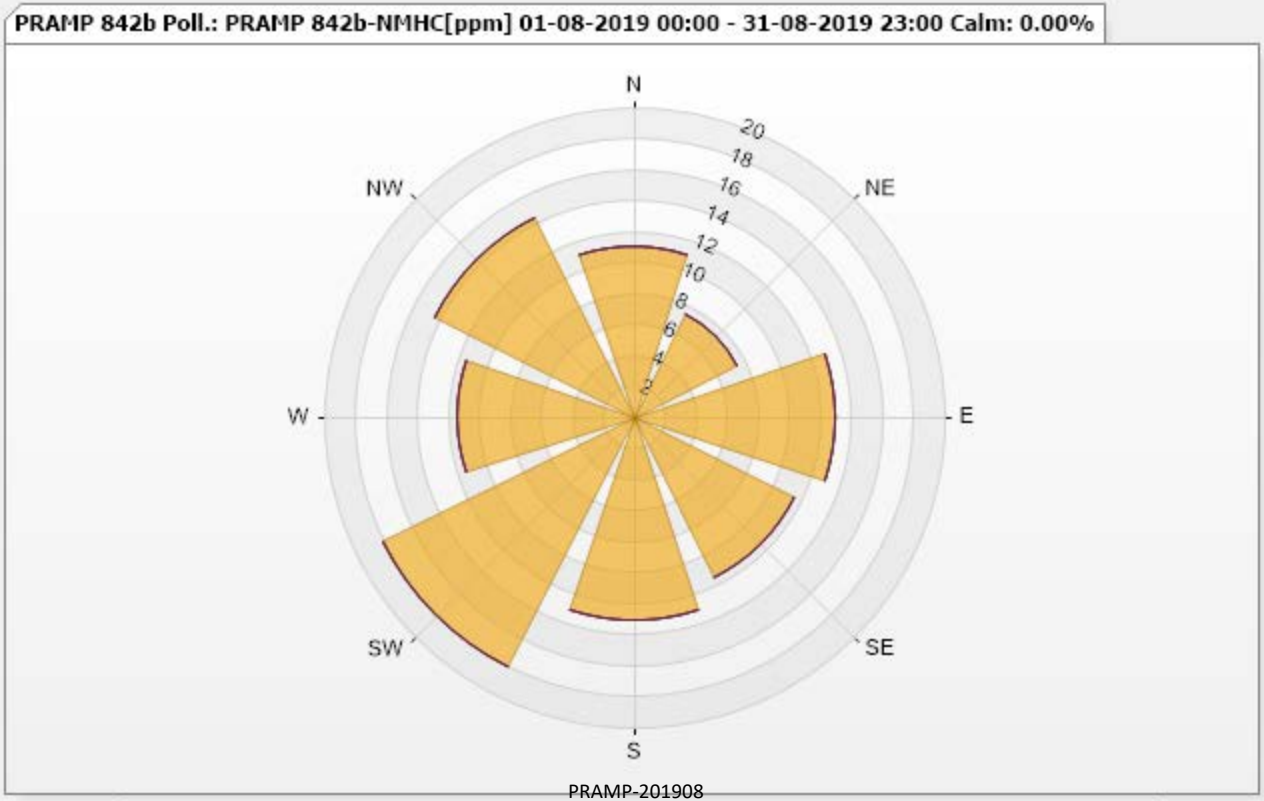
NMHC[ppm] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.



Classes	NMHC
<=0	99.72%
0 - 0.05	0.28%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.22% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	10.98	0	0	0	0	10.98
NE	7.42	0	0	0	0	7.42
E	12.98	0	0	0	0	12.98
SE	11.55	0	0	0	0	11.55
S	13.12	0	0	0	0	13.12
SW	18.12	0	0	0	0	18.12
W	11.41	0	0	0	0	11.41
NW	14.41	0	0	0	0	14.41
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

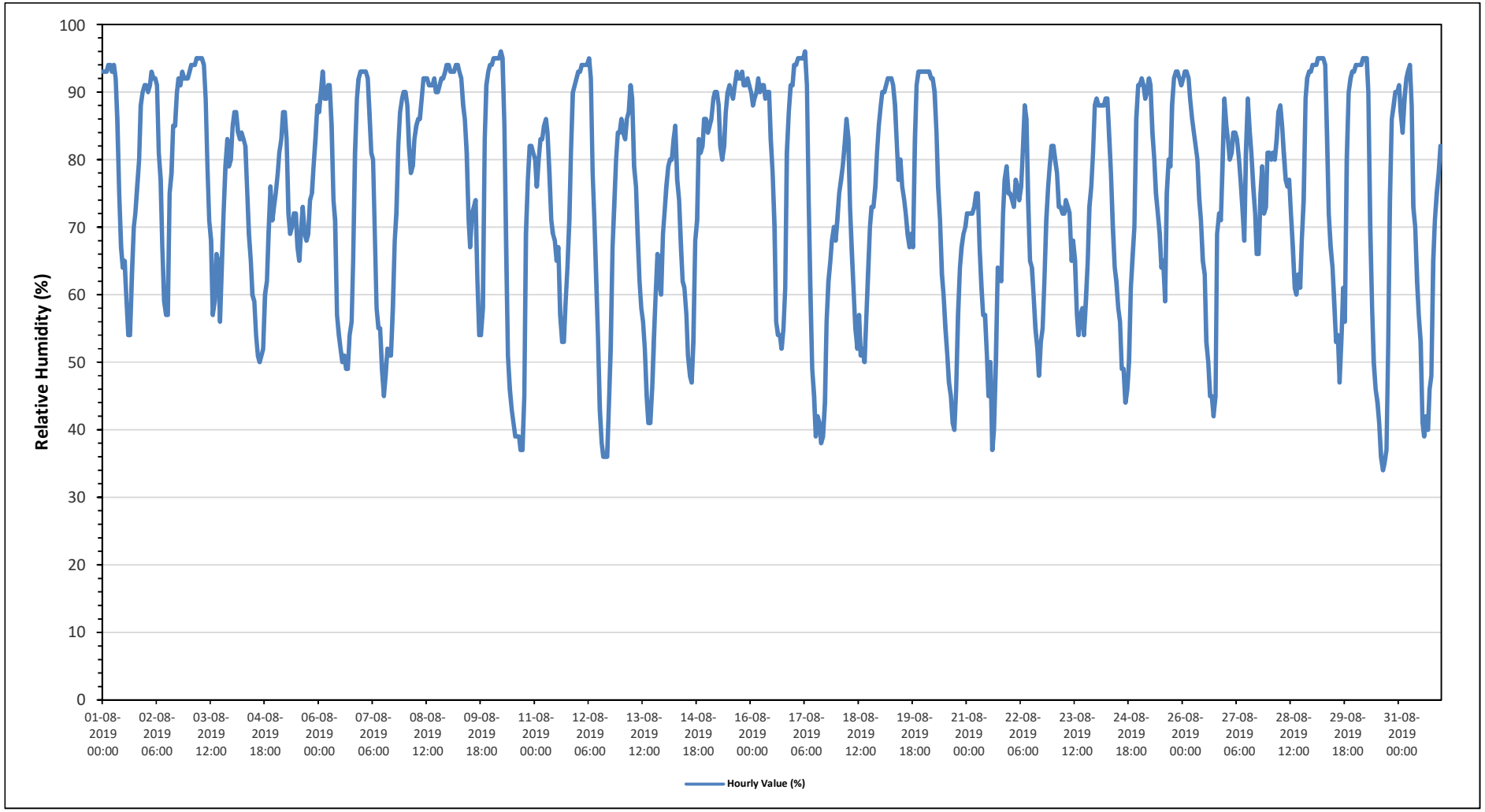
Maximum Hourly Value:	96	%	on August 10 at hour 5	Hours in Service:	744
Maximum Daily Value:	88.7	%	on August 8	Hours of Data:	744
Minimum Hourly Value:	34	%	on August 30 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	63.3	%	on August 21	Hours of Calibration:	0
Monthly Average:	74.5	%		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	93	93	93	94	94	93	94	92	86	75	67	64	65	59	54	54	63	70	72	76	80	88	90	91	54	94	79
Aug 2	91	90	91	93	92	92	91	81	77	67	59	57	57	75	78	85	85	90	92	91	93	92	92	92	57	93	83
Aug 3	93	94	94	94	95	95	95	95	94	89	79	71	68	57	59	66	65	56	65	72	79	83	79	80	56	95	80
Aug 4	85	87	87	84	83	84	83	82	76	69	65	60	59	54	51	50	51	52	60	62	69	76	71	73	50	87	70
Aug 5	75	78	81	83	87	87	83	72	69	70	72	72	67	65	70	73	69	68	69	74	75	79	83	88	65	88	75
Aug 6	87	90	93	89	89	91	91	85	74	71	57	54	52	50	51	49	49	54	56	65	81	89	92	93	49	93	73
Aug 7	93	93	93	92	87	81	80	69	58	55	55	49	45	48	52	51	51	58	68	72	82	87	89	90	45	93	71
Aug 8	90	88	82	78	79	83	85	86	86	89	92	92	92	91	91	91	92	90	90	91	92	92	93	94	78	94	**89**
Aug 9	94	93	93	93	94	94	93	92	88	86	81	71	67	72	73	74	62	54	54	58	83	91	93	94	54	94	81
Aug 10	94	95	95	95	95	**96**	95	85	66	51	46	43	41	39	39	39	37	37	45	69	77	82	82	81	37	**96**	68
Aug 11	80	76	80	83	83	85	86	84	78	71	69	68	65	67	57	53	53	59	64	71	81	90	91	92	53	92	74
Aug 12	93	93	94	94	94	94	95	92	78	71	62	54	43	38	36	36	36	43	52	67	73	80	84	84	36	95	70
Aug 13	86	84	83	86	87	91	89	79	76	69	62	58	56	52	45	41	41	46	53	60	66	62	60	69	41	91	67
Aug 14	72	76	79	80	80	83	85	77	74	67	62	61	57	51	48	47	53	68	71	83	81	82	86	86	47	86	71
Aug 15	84	85	86	89	90	90	88	82	80	82	87	90	91	90	89	91	93	92	92	93	91	91	92	91	80	93	**89**
Aug 16	90	88	89	90	92	90	91	91	89	90	90	83	78	70	56	54	54	52	55	61	81	87	91	91	52	92	79
Aug 17	94	94	95	95	95	95	**96**	91	74	61	49	45	39	42	41	38	39	44	56	62	65	68	70	68	38	**96**	67
Aug 18	71	75	77	79	82	86	83	73	66	60	55	52	57	51	52	50	56	63	70	73	73	76	81	85	50	86	69
Aug 19	88	90	90	91	92	92	92	91	88	82	77	80	76	74	72	69	67	69	67	83	91	93	93	93	67	93	83
Aug 20	93	93	93	93	92	92	90	84	76	71	63	60	55	51	47	45	41	40	46	57	64	67	69	70	40	93	69
Aug 21	72	72	72	72	73	75	75	67	61	57	57	51	45	50	37	40	50	64	63	62	72	77	79	75	37	79	63
Aug 22	75	74	73	77	76	74	76	81	88	86	74	65	64	60	55	52	48	53	55	62	71	76	79	82	48	88	70
Aug 23	82	80	78	73	73	72	72	74	73	72	65	68	65	57	54	57	58	54	59	65	73	76	81	88	54	88	70
Aug 24	89	88	88	88	88	89	89	83	78	70	64	62	58	56	49	49	44	46	50	61	66	70	86	91	44	91	71
Aug 25	91	92	91	89	90	92	91	84	80	75	72	69	64	65	59	75	80	79	88	92	93	93	92	91	59	93	83
Aug 26	92	93	93	92	89	86	84	82	80	74	71	65	63	53	50	45	45	42	45	69	72	71	79	89	42	93	72
Aug 27	85	83	80	81	84	84	83	80	77	73	68	81	89	84	81	76	72	66	66	75	79	72	73	81	66	89	78
Aug 28	81	80	81	80	83	87	88	85	81	77	76	77	72	67	61	60	63	61	68	74	89	92	93	93	60	93	78
Aug 29	94	94	94	95	95	95	95	94	83	72	67	64	59	53	54	47	53	61	56	80	90	92	93	93	47	95	78
Aug 30	94	94	94	94	95	95	95	90	70	58	50	46	44	41	36	**34**	35	37	53	74	86	88	90	90	**34**	95	70
Aug 31	91	87	84	89	92	93	94	88	73	70	62	57	53	41	39	42	40	46	48	65	71	75	78	82	39	94	69
Diurnal Maximum	94	95	95	95	95	96	96	95	94	90	92	92	92	91	91	91	93	92	92	93	93	93	93	94			
Daiurnal Average	86.8	86.8	87.0	87.3	87.7	88.3	88.0	83.6	77.3	71.9	66.9	64.2	61.5	58.8	56.0	55.9	56.3	58.5	62.8	71.6	78.7	81.8	84.0	85.8			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for RH - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

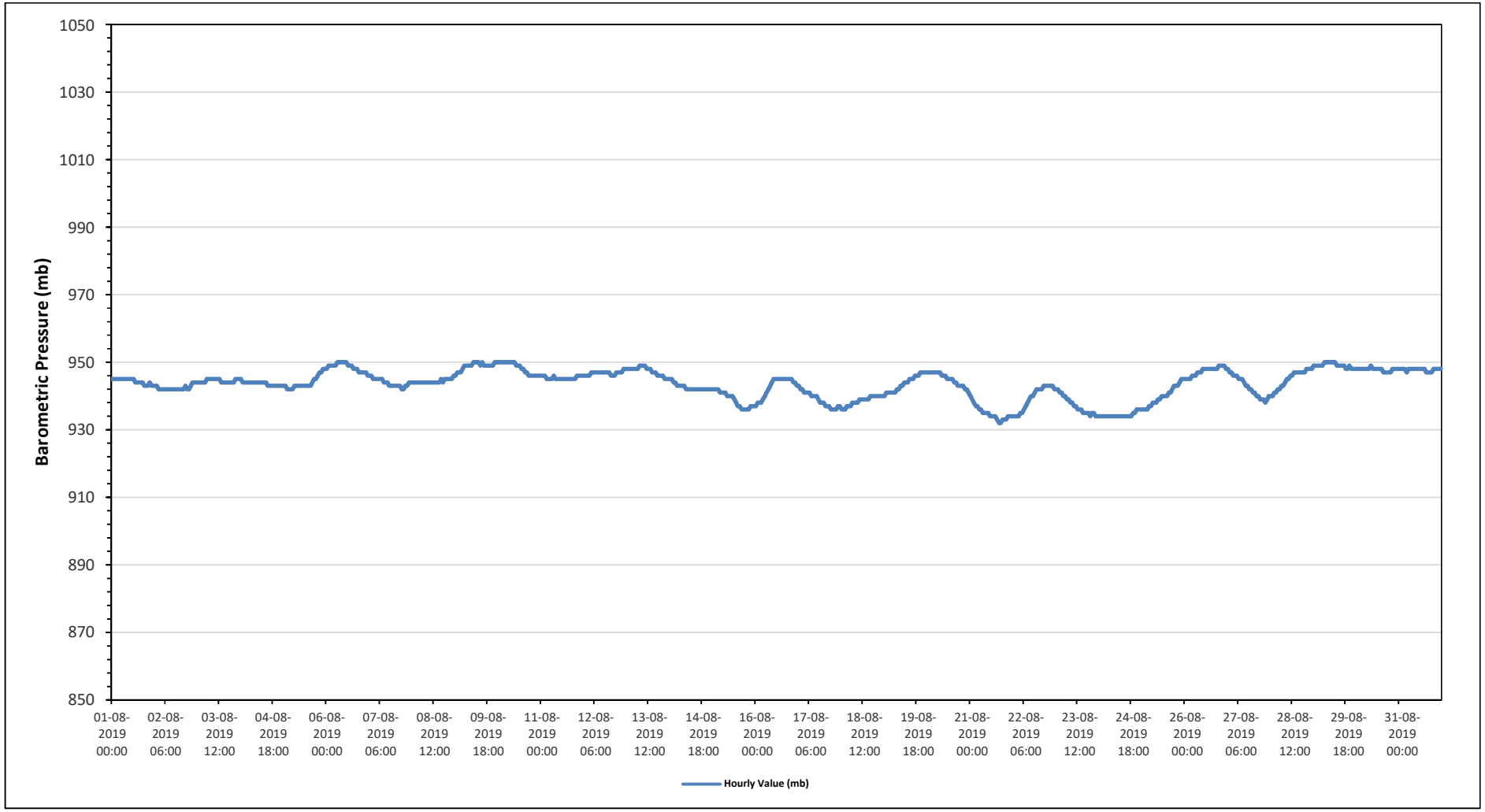
Maximum Hourly Value:	950	mb	on August 6 at hour 0	Hours in Service:	744
Maximum Daily Value:	949	mb	on August 29	Hours of Data:	744
Minimum Hourly Value:	932	mb	on August 21 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	934	mb	on August 24	Hours of Calibration:	0
Monthly Average:	943	mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	945	945	945	945	945	945	945	945	945	945	945	945	945	944	944	944	944	944	943	943	943	944	943	943	943	945	944
Aug 2	943	943	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	943	942	942	943	944	944	944	942	944	942
Aug 3	944	944	944	944	944	945	945	945	945	945	945	945	945	944	944	944	944	944	944	944	944	945	945	945	944	945	944
Aug 4	945	944	944	944	944	944	944	944	944	944	944	944	944	944	944	943	943	943	943	943	943	943	943	943	943	945	944
Aug 5	943	943	942	942	942	942	943	943	943	943	943	943	943	943	943	943	944	945	945	946	947	947	948	948	942	948	944
Aug 6	948	949	949	949	949	949	**950**	**950**	**950**	**950**	**950**	**950**	949	949	949	948	948	948	947	947	947	947	947	946	946	**950**	949
Aug 7	946	946	945	945	945	945	945	945	944	944	944	943	943	943	943	943	943	943	942	942	943	943	944	944	942	946	944
Aug 8	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944	945	944	945	945	945	945	945	946	944	946	944
Aug 9	946	947	947	947	948	949	949	949	949	949	**950**	**950**	**950**	**950**	949	**950**	949	949	949	949	949	949	**950**	**950**	946	**950**	949
Aug 10	**950**	**950**	**950**	**950**	**950**	**950**	**950**	**950**	**950**	**950**	949	949	949	948	948	947	947	946	946	946	946	946	946	946	946	**950**	948
Aug 11	946	946	946	945	945	945	945	946	945	945	945	945	945	945	945	945	945	945	945	945	946	946	946	946	945	946	945
Aug 12	946	946	946	946	947	947	947	947	947	947	947	947	947	947	947	946	946	946	947	947	947	947	948	948	946	948	947
Aug 13	948	948	948	948	948	948	948	949	949	949	949	948	948	948	947	947	947	946	946	946	946	945	945	945	945	949	947
Aug 14	945	945	944	944	943	943	943	943	943	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	945	943
Aug 15	942	942	942	942	941	941	941	941	940	940	940	940	939	938	937	937	936	936	936	936	936	937	937	937	936	942	939
Aug 16	937	938	938	938	939	940	941	942	943	944	945	945	945	945	945	945	945	945	945	945	945	944	944	943	937	945	943
Aug 17	943	942	942	941	941	941	941	940	940	940	940	939	938	938	938	937	937	937	936	936	936	936	937	937	936	943	939
Aug 18	936	936	936	937	937	937	938	938	938	938	939	939	939	939	939	939	940	940	940	940	940	940	940	940	936	940	939
Aug 19	940	941	941	941	941	941	941	942	942	943	943	944	944	944	945	945	945	946	946	946	947	947	947	947	940	947	944
Aug 20	947	947	947	947	947	947	947	947	946	946	946	945	945	945	945	944	944	943	943	943	943	942	942	941	941	947	945
Aug 21	940	939	938	937	937	936	936	935	935	935	935	934	934	934	934	933	**932**	**932**	933	933	933	934	934	934	**932**	940	935
Aug 22	934	934	934	934	935	935	936	937	938	939	940	940	941	942	942	942	942	943	943	943	943	943	943	942	934	943	939
Aug 23	942	942	941	941	940	940	939	939	938	938	937	937	936	936	936	935	935	935	935	934	935	935	934	934	934	942	937
Aug 24	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	935	935	936	936	936	934	936	934
Aug 25	936	936	936	936	937	937	938	938	938	939	939	940	940	940	940	941	941	942	943	943	943	944	945	945	936	945	940
Aug 26	945	945	945	945	946	946	946	947	947	947	948	948	948	948	948	948	948	948	948	949	949	949	949	948	945	949	947
Aug 27	948	947	947	946	946	946	945	945	945	944	943	943	942	942	941	941	940	940	939	939	939	938	939	940	938	948	943
Aug 28	940	940	941	941	942	942	943	943	944	945	945	946	946	947	947	947	947	947	947	947	948	948	948	948	940	948	945
Aug 29	949	949	949	949	949	949	**950**	**950**	**950**	**950**	**950**	**950**	**950**	949	949	949	949	949	948	948	949	948	948	948	948	**950**	**949**
Aug 30	948	948	948	948	948	948	948	948	949	948	948	948	948	948	948	947	947	947	947	947	948	948	948	948	947	949	948
Aug 31	948	948	948	948	947	948	948	948	948	948	948	948	948	948	948	947	947	947	947	948	948	948	948	948	947	948	948
Diurnal Maximum	950	950	950	950	950	950	950	950	950	950	950	950	950	950	949	950	949	949	949	949	949	949	950	950			
Daiurnal Average	943	943	943	943	943	943	944	944	944	944	944	944	944	944	943	943	943	943	943	943	943	944	944	944			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for BP - 842b Station



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

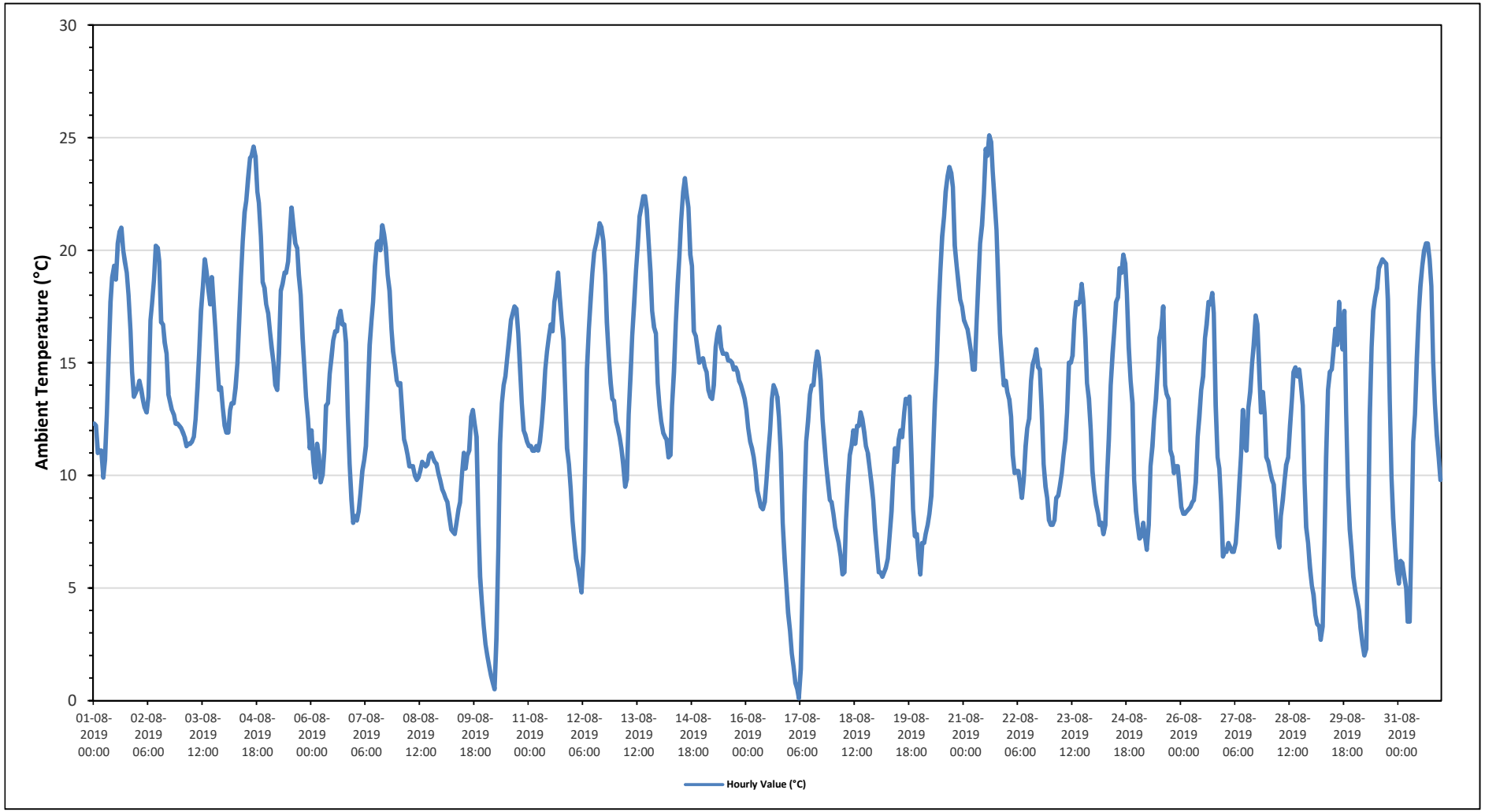
Maximum Hourly Value:	25.1	°C	on August 21 at hour 14	Hours in Service:	744
Maximum Daily Value:	18.9	°C	on August 21	Hours of Data:	744
Minimum Hourly Value:	0.1	°C	on August 17 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	8.8	°C	on August 17	Hours of Calibration:	0
Monthly Average:	13.0	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	12.3	12.2	11.0	11.1	11.1	9.9	10.7	12.7	15.2	17.7	18.8	19.3	18.7	20.3	20.8	21.0	20.0	19.5	19.0	18.0	16.4	14.6	13.5	13.7	9.9	21.0	15.7
Aug 2	13.9	14.2	13.8	13.3	13.0	12.8	13.5	16.9	17.6	18.7	20.2	20.1	19.5	16.8	16.7	15.9	15.4	13.6	13.2	12.9	12.7	12.3	12.3	12.2	12.2	20.2	15.1
Aug 3	12.1	11.9	11.7	11.3	11.4	11.4	11.5	11.7	12.5	13.9	15.4	17.3	18.4	19.6	19.1	18.3	17.6	18.8	17.6	16.4	14.8	13.8	13.9	13.0	11.3	19.6	14.7
Aug 4	12.2	11.9	11.9	12.9	13.2	13.2	13.9	15.0	16.8	18.8	20.4	21.7	22.2	23.2	24.1	24.2	24.6	24.2	22.6	22.1	20.6	18.6	18.3	17.6	11.9	24.6	18.5
Aug 5	17.2	16.4	15.7	15.0	14.0	13.8	15.4	18.2	18.5	19.0	19.0	19.5	20.8	21.9	21.1	20.3	20.1	18.9	18.0	16.1	14.7	13.5	12.5	11.2	11.2	21.9	17.1
Aug 6	12.0	10.6	9.9	11.4	10.9	9.7	10.0	11.1	13.1	13.2	14.5	15.3	16.0	16.4	16.4	17.0	17.3	16.7	16.7	15.9	12.6	10.5	8.9	7.9	7.9	17.3	13.1
Aug 7	8.2	8.0	8.4	9.2	10.2	10.7	11.3	13.6	15.8	16.9	17.7	19.3	20.3	20.4	20.0	21.1	20.7	20.1	18.9	18.2	16.5	15.5	14.9	14.2	8.0	21.1	15.4
Aug 8	14.0	14.1	12.8	11.6	11.3	10.9	10.4	10.4	10.4	10.0	9.8	9.9	10.2	10.6	10.5	10.4	10.5	10.9	11.0	10.8	10.6	10.5	10.1	9.8	9.8	14.1	10.9
Aug 9	9.4	9.2	9.0	8.8	8.2	7.6	7.5	7.4	7.9	8.5	8.8	10.1	11.0	10.3	10.9	11.1	12.6	12.9	12.3	11.7	7.9	5.5	4.3	3.3	3.3	12.9	9.0
Aug 10	2.5	2.0	1.5	1.1	0.8	0.5	2.8	6.8	11.4	13.2	14.0	14.4	15.2	16.0	16.9	17.2	17.5	17.4	16.3	14.9	13.2	12.0	11.8	11.5	0.5	17.5	10.5
Aug 11	11.3	11.3	11.1	11.1	11.3	11.1	11.5	12.3	13.4	14.7	15.5	16.2	16.7	16.4	17.7	18.2	19.0	17.9	16.9	16.0	13.8	11.2	10.5	9.4	9.4	19.0	13.9
Aug 12	8.0	7.1	6.3	5.9	5.4	4.8	6.6	10.9	14.7	16.5	17.9	19.0	19.9	20.3	20.7	21.2	21.0	20.4	18.9	16.8	15.3	14.1	13.4	13.3	4.8	21.2	14.1
Aug 13	12.4	12.1	11.7	11.2	10.5	9.5	9.8	12.7	14.5	16.2	17.6	19.1	20.2	21.5	21.9	22.4	22.4	21.8	20.4	19.0	17.3	16.6	16.3	14.1	9.5	22.4	16.3
Aug 14	13.1	12.4	11.9	11.7	11.6	10.8	10.9	13.1	14.6	16.8	18.5	19.7	21.3	22.6	23.2	22.5	21.9	19.8	19.3	16.4	16.2	15.6	15.0	15.1	10.8	23.2	16.4
Aug 15	15.2	14.8	14.6	13.8	13.5	13.4	14.0	15.7	16.3	16.6	15.7	15.4	15.4	15.4	15.1	15.1	15.0	14.7	14.8	14.6	14.2	14.0	13.7	13.4	13.4	16.6	14.8
Aug 16	12.9	12.1	11.5	11.2	10.8	10.2	9.3	9.0	8.6	8.5	8.8	9.7	10.9	12.0	13.4	14.0	13.8	13.5	12.6	11.0	7.9	6.3	5.2	3.9	3.9	14.0	10.3
Aug 17	3.1	2.1	1.5	0.8	0.5	**0.1**	1.4	5.2	9.1	11.5	12.4	13.6	14.0	14.0	14.9	15.5	15.2	14.2	12.5	11.4	10.5	9.7	8.9	8.8	**0.1**	15.5	8.8
Aug 18	8.3	7.7	7.3	7.0	6.4	5.6	5.7	8.0	9.6	10.9	11.3	12.0	11.4	12.2	12.2	12.8	12.5	11.9	11.3	11.0	10.3	9.6	8.9	7.6	5.6	12.8	9.6
Aug 19	6.6	5.7	5.7	5.5	5.7	5.9	6.3	7.3	8.4	9.9	11.2	10.6	11.6	12.0	11.7	12.8	13.4	13.2	13.5	10.9	8.5	7.3	7.4	6.3	5.5	13.5	9.1
Aug 20	5.6	7.0	7.0	7.4	7.8	8.3	9.1	10.9	13.2	14.9	17.4	19.0	20.6	21.5	22.6	23.3	23.7	23.4	22.8	20.2	19.3	18.5	17.8	17.5	5.6	23.7	15.8
Aug 21	16.9	16.7	16.5	16.0	15.4	14.7	14.7	16.8	18.7	20.3	21.1	22.5	24.5	24.2	**25.1**	24.8	23.5	22.2	20.9	18.4	16.3	15.1	14.0	14.2	14.0	**25.1**	**18.9**
Aug 22	13.7	13.4	12.6	10.9	10.1	10.2	10.2	9.7	9.0	9.8	11.3	12.1	12.5	14.2	14.9	15.2	15.6	14.8	14.7	12.9	10.5	9.5	9.0	8.0	8.0	15.6	11.9
Aug 23	7.8	7.8	8.0	9.0	9.1	9.5	10.1	10.9	11.6	12.8	15.0	15.0	15.3	16.9	17.7	17.6	17.7	18.5	17.7	16.1	14.1	13.4	12.0	10.2	7.8	18.5	13.1
Aug 24	9.3	8.7	8.3	7.8	7.9	7.4	7.8	9.8	11.6	14.0	15.4	16.4	17.7	17.9	19.2	19.0	19.8	19.4	18.1	15.7	14.2	13.2	9.8	8.4	7.4	19.8	13.2
Aug 25	7.7	7.2	7.3	7.9	7.2	6.7	7.8	10.4	11.3	12.5	13.4	14.8	16.1	16.5	17.5	14.0	13.6	13.4	11.1	10.8	10.1	10.4	10.4	9.6	6.7	17.5	11.2
Aug 26	8.6	8.3	8.3	8.4	8.5	8.6	8.8	8.9	9.7	11.7	12.6	13.8	14.4	16.1	16.7	17.7	17.6	18.1	17.2	13.1	10.8	10.3	8.8	6.4	6.4	18.1	11.8
Aug 27	6.7	6.6	7.0	6.8	6.6	6.6	7.0	8.1	9.6	10.9	12.9	11.3	11.1	13.0	13.7	15.0	15.8	17.1	16.7	14.6	12.8	13.7	12.7	10.8	6.6	17.1	11.1
Aug 28	10.6	10.2	9.8	9.6	8.5	7.3	6.8	8.2	8.9	9.8	10.5	10.8	12.2	13.4	14.6	14.8	14.4	14.7	14.1	13.1	9.7	7.7	7.0	5.9	5.9	14.8	10.5
Aug 29	5.1	4.7	3.8	3.4	3.3	2.7	3.3	7.0	10.8	13.8	14.6	14.7	15.5	16.5	15.8	17.7	16.5	15.6	17.3	12.8	9.5	7.6	6.6	5.5	2.7	17.7	10.2
Aug 30	4.9	4.5	4.0	3.2	2.5	2.0	2.3	6.4	12.6	15.7	17.3	17.9	18.3	19.2	19.4	19.6	19.5	19.4	17.8	13.3	9.9	8.1	6.8	5.8	2.0	19.6	11.3
Aug 31	5.2	6.2	6.1	5.5	5.0	3.5	3.5	7.2	11.5	12.7	15.2	17.2	18.4	19.3	20.0	20.3	20.3	19.6	18.4	15.1	13.2	11.8	10.8	9.8	3.5	20.3	12.3
Diurnal Maximum	17.2	16.7	16.5	16.0	15.4	14.7	15.4	18.2	18.7	20.3	21.1	22.5	24.5	24.2	25.1	24.8	24.6	24.2	22.8	22.1	20.6	18.6	18.3	17.6			
Daiurnal Average	9.9	9.6	9.2	9.0	8.8	8.4	8.8	10.7	12.5	13.9	15.0	15.7	16.5	17.1	17.6	17.7	17.7	17.3	16.5	14.8	13.0	12.0	11.1	10.3			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for AT - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

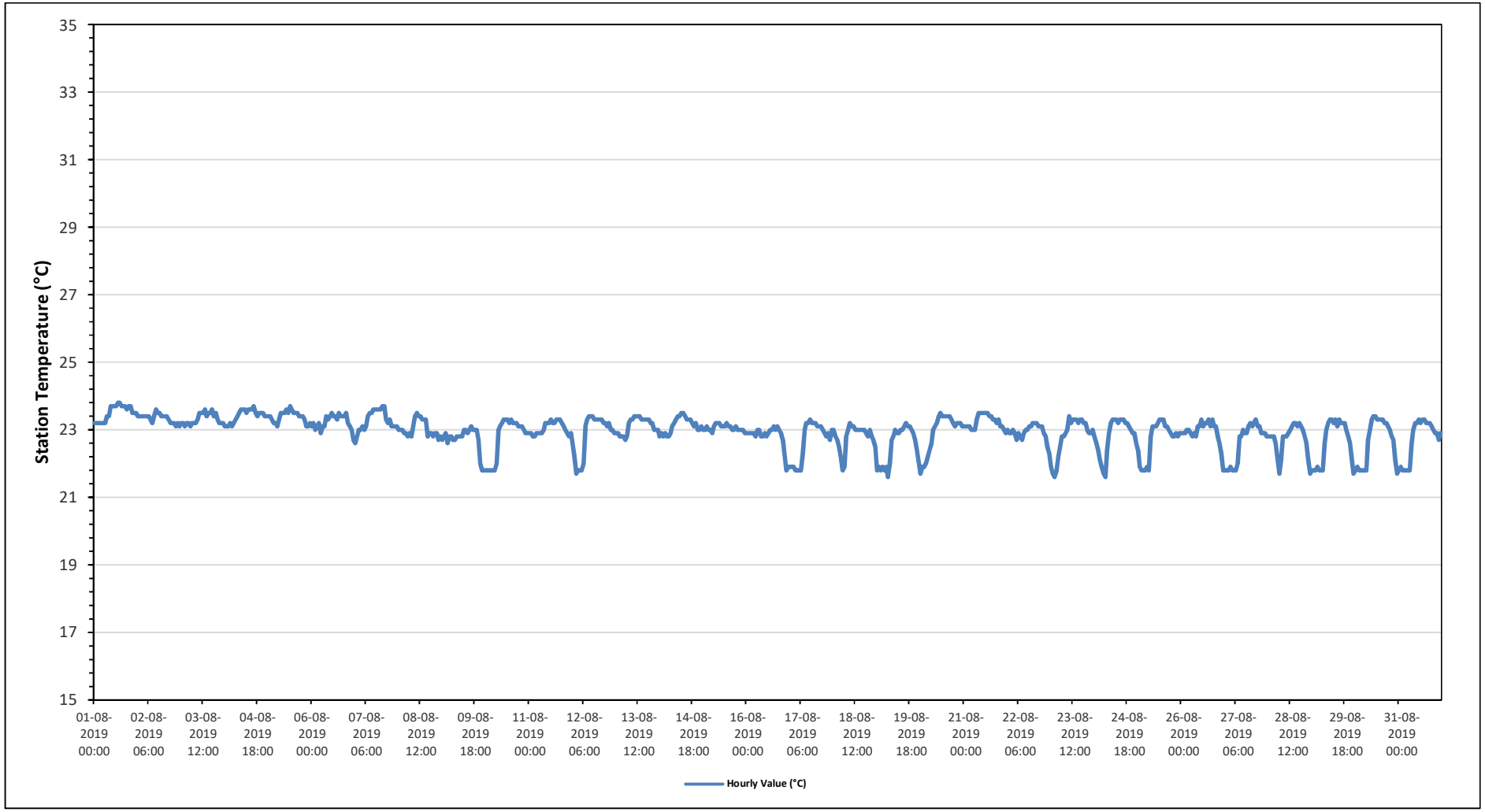
Maximum Hourly Value:	23.8	°C	on August 1 at hour 13	Hours in Service:	744
Maximum Daily Value:	23.5	°C	on August 1	Hours of Data:	744
Minimum Hourly Value:	21.6	°C	on August 19 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	22.5	°C	on August 19	Hours of Calibration:	0
Monthly Average:	23.0	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.4	23.4	23.7	23.7	23.7	23.7	**23.8**	**23.8**	23.7	23.7	23.7	23.6	23.7	23.7	23.5	23.5	23.5	23.2	**23.8**	**23.5**
Aug 2	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.3	23.2	23.4	23.6	23.5	23.5	23.4	23.4	23.4	23.4	23.3	23.2	23.2	23.2	23.1	23.2	23.1	23.1	23.6	23.3
Aug 3	23.2	23.2	23.1	23.2	23.2	23.1	23.2	23.2	23.2	23.3	23.5	23.5	23.5	23.6	23.4	23.5	23.5	23.6	23.4	23.5	23.3	23.2	23.2	23.2	23.1	23.6	23.3
Aug 4	23.1	23.1	23.1	23.2	23.1	23.2	23.3	23.4	23.5	23.6	23.6	23.6	23.5	23.6	23.6	23.6	23.7	23.5	23.4	23.5	23.5	23.5	23.4	23.4	23.1	23.7	23.4
Aug 5	23.4	23.4	23.3	23.2	23.2	23.1	23.3	23.5	23.5	23.5	23.6	23.5	23.7	23.6	23.5	23.5	23.5	23.4	23.4	23.4	23.3	23.1	23.1	23.2	23.1	23.7	23.4
Aug 6	23.1	23.2	23.0	23.1	23.2	22.9	23.1	23.1	23.4	23.3	23.4	23.5	23.4	23.4	23.3	23.5	23.4	23.4	23.4	23.5	23.2	23.1	23.0	22.7	22.7	23.5	23.2
Aug 7	22.6	22.8	23.0	23.0	23.1	23.0	23.1	23.4	23.5	23.5	23.6	23.6	23.6	23.6	23.6	23.7	23.7	23.3	23.2	23.3	23.1	23.1	23.1	23.1	22.6	23.7	23.3
Aug 8	23.0	23.0	23.0	22.9	22.9	22.8	22.9	22.8	23.1	23.4	23.5	23.4	23.4	23.3	23.3	23.3	22.8	22.9	22.9	22.8	22.9	22.9	22.7	22.8	22.7	23.5	23.0
Aug 9	22.7	22.8	22.9	22.6	22.8	22.8	22.7	22.7	22.8	22.8	22.8	22.8	23.0	23.0	22.9	23.0	23.1	23.0	23.0	23.0	22.7	22.0	21.8	21.8	21.8	23.1	22.7
Aug 10	21.8	21.8	21.8	21.8	21.8	21.8	22.0	23.0	23.1	23.2	23.3	23.3	23.3	23.2	23.3	23.2	23.2	23.2	23.1	23.1	23.1	23.0	22.9	22.9	21.8	23.3	22.8
Aug 11	22.9	22.9	22.8	22.8	22.9	22.9	22.9	22.9	23.0	23.2	23.2	23.2	23.3	23.2	23.2	23.3	23.3	23.3	23.2	23.1	23.0	22.9	22.8	22.9	22.8	23.3	23.0
Aug 12	22.6	22.2	21.7	21.8	21.8	21.8	22.0	23.1	23.3	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.1	23.2	23.0	23.0	22.9	21.7	23.4	22.9
Aug 13	22.9	22.9	22.8	22.8	22.8	22.7	22.8	23.2	23.3	23.3	23.4	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.0	23.0	23.0	22.7	23.4	23.1
Aug 14	22.8	22.9	22.8	22.9	22.8	22.8	22.9	23.1	23.2	23.3	23.4	23.4	23.5	23.5	23.4	23.3	23.3	23.3	23.2	23.1	23.2	23.0	23.0	23.1	22.8	23.5	23.1
Aug 15	23.0	23.0	23.1	23.0	23.0	22.9	23.1	23.2	23.2	23.2	23.1	23.1	23.1	23.2	23.1	23.1	23.0	23.0	23.1	23.0	23.0	23.0	23.0	22.9	22.9	23.2	23.1
Aug 16	22.9	22.9	22.9	22.9	22.9	22.8	23.0	23.0	22.8	22.8	22.9	22.8	22.9	23.0	23.0	23.1	23.0	23.1	23.0	22.9	22.7	22.2	21.8	21.9	21.8	23.1	22.8
Aug 17	21.9	21.9	21.9	21.8	21.8	21.8	21.8	22.3	23.0	23.2	23.2	23.3	23.2	23.2	23.2	23.1	23.1	23.1	23.0	22.9	22.8	22.9	22.7	23.0	21.8	23.3	22.7
Aug 18	23.0	22.8	22.7	22.5	22.2	21.8	21.9	22.8	23.0	23.2	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.8	23.0	22.8	22.7	22.5	21.8	23.2	22.8
Aug 19	21.8	21.9	21.8	21.9	21.8	21.9	**21.6**	22.0	22.7	22.8	23.0	22.9	22.9	23.0	23.0	23.1	23.2	23.1	23.1	23.0	22.9	22.7	22.4	22.0	**21.6**	23.2	22.5
Aug 20	21.7	21.9	21.9	22.0	22.2	22.4	22.6	23.0	23.1	23.2	23.4	23.5	23.4	23.4	23.4	23.4	23.4	23.3	23.2	23.1	23.2	23.2	23.2	23.1	21.7	23.5	22.9
Aug 21	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.3	23.5	23.5	23.5	23.5	23.5	23.5	23.4	23.4	23.3	23.3	23.2	23.3	23.1	23.1	23.0	22.9	22.9	23.5	23.2
Aug 22	23.0	22.9	22.9	23.0	22.9	22.7	22.9	22.8	22.7	22.9	23.0	23.0	23.1	23.1	23.2	23.2	23.2	23.1	23.1	23.1	22.9	22.8	22.5	22.3	22.3	23.2	22.9
Aug 23	21.9	21.7	**21.6**	21.8	22.2	22.5	22.8	22.8	22.9	23.0	23.4	23.2	23.3	23.3	23.3	23.2	23.3	23.3	23.2	23.2	23.0	22.9	22.9	23.0	**21.6**	23.4	22.8
Aug 24	22.8	22.6	22.4	22.1	21.9	21.7	**21.6**	22.4	22.9	23.2	23.3	23.3	23.3	23.2	23.3	23.3	23.3	23.2	23.2	23.1	23.0	22.9	22.9	22.6	**21.6**	23.3	22.8
Aug 25	22.4	21.9	21.8	21.8	21.8	21.9	21.8	22.8	23.1	23.1	23.1	23.2	23.3	23.3	23.3	23.1	23.1	23.0	22.9	22.8	22.8	22.9	22.8	22.9	21.8	23.3	22.7
Aug 26	22.9	22.9	22.9	23.0	23.0	22.9	22.8	22.9	22.8	23.1	23.1	23.3	23.1	23.2	23.2	23.3	23.1	23.3	23.1	23.1	22.8	22.6	22.3	21.8	21.8	23.3	22.9
Aug 27	21.8	21.8	21.8	21.9	21.8	21.8	21.8	22.0	22.8	22.8	23.0	22.9	22.9	23.1	23.2	23.1	23.2	23.3	23.1	23.1	22.9	22.9	22.9	22.8	21.8	23.3	22.6
Aug 28	22.8	22.8	22.8	22.8	22.6	22.1	21.7	22.1	22.8	22.8	22.8	22.9	23.0	23.1	23.2	23.2	23.1	23.2	23.1	23.0	22.8	22.6	22.1	21.7	21.7	23.2	22.7
Aug 29	21.8	21.8	21.8	21.9	21.8	21.8	21.8	22.6	23.0	23.2	23.3	23.3	23.2	23.3	23.1	23.3	23.2	23.2	23.2	23.0	22.8	22.6	22.1	21.7	21.7	23.3	22.6
Aug 30	21.8	21.9	21.8	21.8	21.8	21.8	21.8	22.7	23.0	23.3	23.4	23.4	23.3	23.3	23.3	23.3	23.2	23.2	23.1	23.0	22.8	22.7	22.1	21.7	21.7	23.4	22.6
Aug 31	21.8	21.9	21.8	21.8	21.8	21.8	21.8	22.6	23.0	23.2	23.2	23.3	23.2	23.3	23.3	23.2	23.2	23.2	23.1	23.0	22.9	22.9	22.7	22.9	21.8	23.3	22.7
Diurnal Maximum	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	23.5	23.7	23.7	23.7	23.7	23.8	23.8	23.7	23.7	23.7	23.6	23.7	23.7	23.5	23.5	23.5			
Daiurnal Average	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.9	23.1	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.1	23.0	22.9	22.8	22.7			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for ST - 842b Station



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

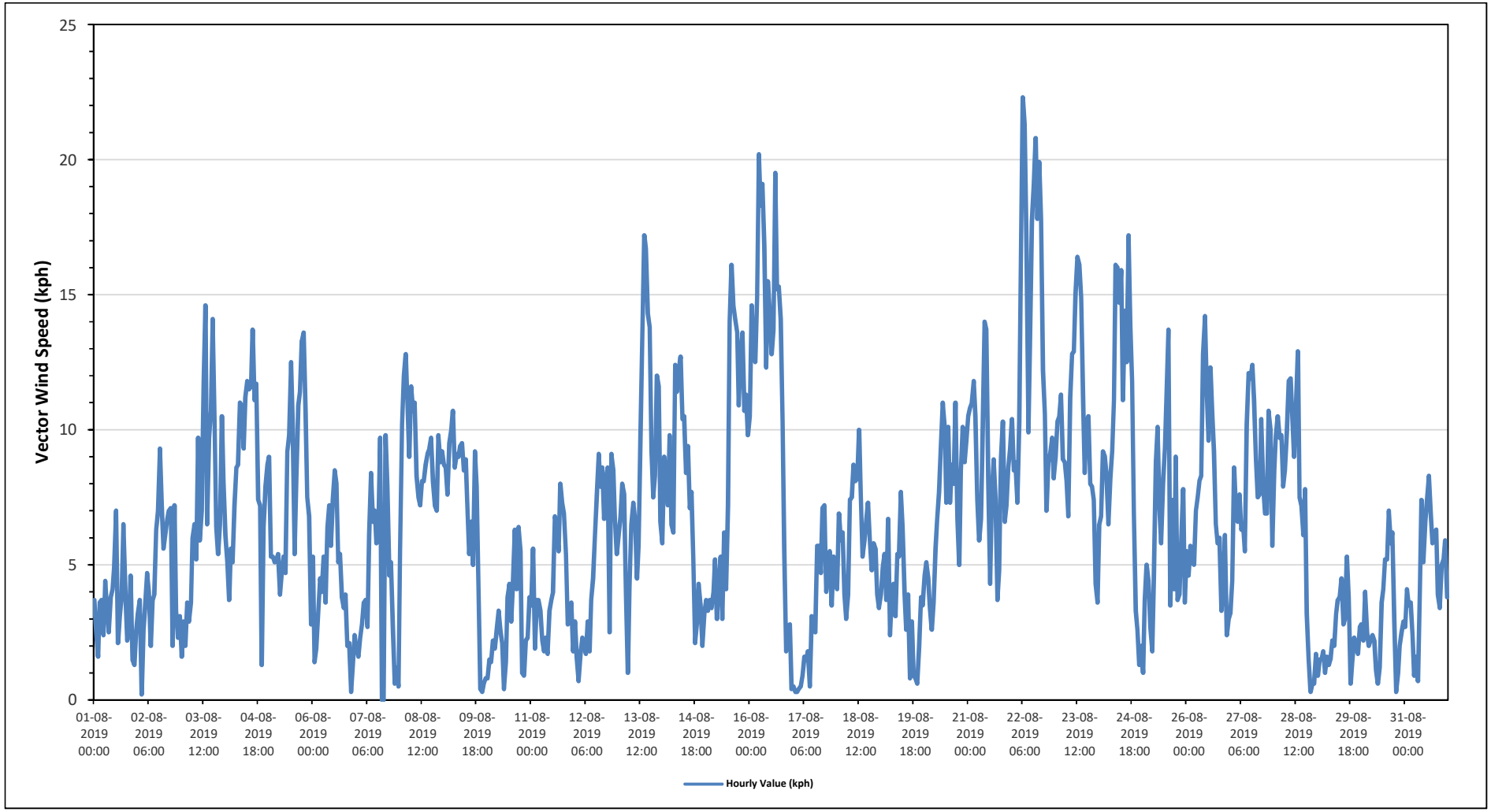
Maximum Hourly Value:	22.3	kph	on August 22 at hour 6	Hours in Service:	744
Maximum Daily Value:	13.5	kph	on August 22	Hours of Data:	742
Minimum Hourly Value:	0.2	kph	on August 2 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	2.3	kph	on August 29	Hours of Calibration:	2
Monthly Average:	2.1	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	3.7	2.5	1.6	3.6	3.7	2.4	4.4	3.4	2.5	3.8	4.1	4.9	7	2.1	3.1	3.9	6.5	4.1	2.2	2.5	4.6	1.5	1.3	2.6	1.3	7.0	3.4
Aug 2	3.2	3.7	**0.2**	2.6	3.5	4.7	4	2	3.7	3.9	6.3	7	9.3	7.3	5.6	6.1	6.7	7	7.1	2	7.2	3.3	2.3	3.1	**0.2**	9.3	4.7
Aug 3	1.6	2.9	2	3.6	2.9	3.6	6	6.5	5.2	9.7	5.9	7	11.7	14.6	6.5	9.7	10.7	14.1	10.6	6.4	5.4	6.5	10.5	8.1	1.6	14.6	7.2
Aug 4	6.1	5.1	3.7	5.6	5.1	7.2	8.6	8.7	11	10.9	9.3	11.2	11.8	11.5	11.6	13.7	11.1	11.7	7.4	7.2	1.3	6.4	7.9	8.7	1.3	13.7	8.5
Aug 5	9	5.3	5.3	5.1	5.2	5.4	3.9	4.8	5.3	4.7	9.2	9.8	12.5	10.1	5.4	8.2	10.9	11.4	13.3	13.6	10.6	7.5	6.8	2.8	2.8	13.6	7.8
Aug 6	5.3	1.4	1.9	3.3	4.5	4	5.3	3.6	6.4	7.2	5.7	7.4	8.5	8	5.1	5.4	3.8	3.4	3.9	2	2.1	0.3	1.3	2.4	0.3	8.5	4.3
Aug 7	1.9	1.6	2.3	2.8	3.6	3.7	2.7	6.1	8.4	6.6	7	5.8	6.4	9.7	**C**	**C**	9.8	7.9	4.6	5.1	2.7	0.6	1.2	0.5	0.5	9.8	4.6
Aug 8	5.5	10.2	12	12.8	11.1	9	11.6	10.7	11	8.3	7.5	7.2	8.1	8.1	8.7	9.1	9.3	9.7	8.1	7.2	7	9.8	8.8	9.2	5.5	12.8	9.2
Aug 9	8.7	8.6	7.6	9.5	10	10.7	8.6	9.1	9	9.4	9.5	8.5	8.9	6.9	5.4	6.6	5	9.2	7.9	4.2	0.4	0.3	0.6	0.8	0.3	10.7	6.9
Aug 10	0.8	1.5	1.4	2.2	1.9	2.6	3.3	2.6	2.1	0.4	1.4	3.8	4.3	2.9	4.5	6.3	4.1	6.4	5.5	1	0.9	2.2	2.3	3.8	0.4	6.4	2.8
Aug 11	3.5	5.6	1.9	3.7	3.7	3.3	2.2	1.8	2.3	1.7	3.3	3.7	4	6.8	6.4	5.5	8	7.3	6.9	5.4	2.8	3	3.6	1.8	1.7	8.0	4.1
Aug 12	2.9	1.6	0.7	1.7	2.3	2	1.7	2.9	1.8	3.7	4.5	6.1	7.6	9.1	7.9	8.6	6.7	8.2	8.6	2.5	9.1	8.5	6.7	5.4	0.7	9.1	5.0
Aug 13	6.1	6.8	8	7.6	3.8	1	4.2	6.5	7.3	6.7	4.5	5.7	9.8	13.6	17.2	16.7	14.3	13.8	9.2	7.5	8.3	12	11.6	6.6	1.0	17.2	8.7
Aug 14	5.8	9	8.3	7.2	9.8	6.5	6.2	12.4	11.4	12.2	12.7	10.4	10.5	8.4	9.4	7.1	7.7	5.2	2.1	2.9	4.3	3.5	2	3.2	2.0	12.7	7.4
Aug 15	3.7	3.3	3.7	3.4	4	5.2	3	4.4	5.3	3	6.2	4.1	7.2	14	16.1	14.6	14.1	13.6	10.9	12.8	13.6	10.7	11.3	9.8	3.0	16.1	8.3
Aug 16	10.5	14.6	12.7	12.5	14.9	20.2	18.3	19.1	16.8	12.3	15.5	14.4	12.8	13.7	19.5	15.2	15.3	14.1	10.3	5.6	1.8	2.7	2.8	0.4	0.4	20.2	12.3
Aug 17	0.5	0.3	0.3	0.4	0.5	0.9	1.6	1.5	1.8	0.5	3.1	2.6	2.5	5.7	5.7	4.7	7.1	7.2	4	4.8	5.5	3.5	5.3	5.2	0.3	7.2	3.1
Aug 18	4.1	6.9	5.9	6.2	3.9	3	3.9	7.4	7.5	8.7	8.1	8.2	10	7.6	5.3	5.9	6.7	7.3	5.9	4.8	5.8	5.6	3.9	3.4	3.0	10.0	6.1
Aug 19	3.9	4.9	5.4	3.7	6.7	2.4	3.8	4.3	3.1	5.4	5.3	7.7	6.4	4	2.6	3.9	0.8	2.9	0.9	0.8	0.6	2	3.8	3.5	0.6	7.7	3.7
Aug 20	4.6	5.1	4.5	3.4	2.6	3.6	5.6	6.7	7.7	9.5	11	10.1	7.3	10.1	7.3	8.7	8	11	6.7	5	8.5	10.1	8.8	9.6	2.6	11.0	7.3
Aug 21	10.5	10.8	11	11.8	10.5	7.4	5.9	6.7	10.5	14	13.7	8.2	4.3	7.6	8.9	7.4	3.7	4.8	9	10.3	6.6	7.2	8.6	9.3	3.7	14.0	8.7
Aug 22	10.4	8.5	8.8	7.3	10.3	17.2	**22.3**	21.3	16.6	9.9	13.1	17.7	19.1	20.8	17.8	19.9	17.8	12.2	10.6	7	8.8	9.1	9.7	8.2	7.0	**22.3**	**13.5**
Aug 23	9	10.3	10.5	11.3	8.9	8.8	8.1	6.8	11.2	12.8	12.9	15	16.4	16.1	14.9	11.2	8.4	10.3	10.5	8	7.9	7.4	4.3	3.6	3.6	16.4	10.2
Aug 24	6.5	6.8	9.2	9	8.3	6.5	8.2	9.2	11.1	16.1	16	14.7	15.9	11.1	14.4	12.5	17.2	13.9	11.8	6.9	3.3	2.6	1.3	2	1.3	17.2	9.8
Aug 25	1	3.7	5	4.4	2.7	1.8	4.7	8.8	10.1	7.1	5.8	8	9.3	11.5	13.7	3.5	7.4	4.1	9	3.7	3.9	6	7.8	3.6	1.0	13.7	6.1
Aug 26	5.5	4.6	5.7	5.1	5	7	7.5	8.1	8.3	12.8	14.2	11.6	9.6	12.3	10.6	9.2	6.5	5.8	6	3.3	4	6.1	2.4	3	2.4	14.2	7.3
Aug 27	3.2	4.4	8.6	7	6.6	7.6	6.3	6.5	5.5	10.2	12.1	11.9	12.4	11.1	8.9	7.5	7.6	10.4	8	6.9	6.9	10.7	10	5.7	3.2	12.4	8.2
Aug 28	8.5	9.8	10.5	9.7	9.8	7.9	8.5	9.9	11.8	11.9	10.5	9	11	12.9	7.5	7.2	6.1	7.8	3.2	1.5	0.3	0.6	0.6	1.7	0.3	12.9	7.4
Aug 29	0.9	1.5	1.5	1.8	1	1.6	1.3	1.5	2.2	2	3.2	3.7	3.8	4.5	2.8	3	5.3	3.8	0.6	1.4	2.3	1.9	1.7	2.7	0.6	5.3	**2.3**
Aug 30	2.8	2.2	4	2.5	2	2.2	2.4	2.2	1.1	0.6	1.2	3.6	4.1	5.2	5.2	7	5.8	6.2	3	0.3	1	2	2.5	2.9	0.3	7.0	3.0
Aug 31	2.7	4.1	3.5	3.6	2.4	0.9	1.6	0.7	4	7.4	5.1	6.6	7.5	8.3	7	5.8	6.2	6.3	3.9	3.4	5	5.2	5.9	3.8	0.7	8.3	4.6
Diurnal Maximum	11	15	13	13	15	20	22	21	17	16	16	18	19	21	20	20	18	14	13	14	14	12	12	10			
Daiurnal Average	4.9	5.4	5.4	5.6	5.5	5.5	6.0	6.7	7.2	7.5	8.0	8.2	9.0	9.5	8.8	8.5	8.3	8.4	6.8	5.0	4.9	5.1	5.1	4.4			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

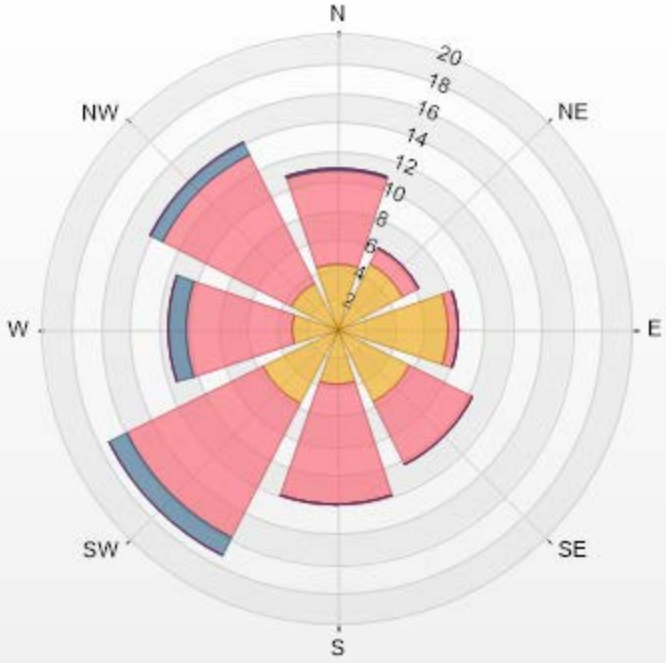
Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842b Poll.: PRAMP 842b-WDS[KPH] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 9.57% Valid Data: 99.73% Calm Avg: 1.04 [KPH]

Direction	0-6	6-15	15-29	29-39	>39.0	Total
N	4.45	6.33	0.13	0	0	10.91
NE	4.99	1.21	0	0	0	6.2
E	7.55	0.67	0	0	0	8.22
SE	5.53	4.72	0	0	0	10.25
S	3.77	8.22	0	0	0	11.99
SW	5.66	10.24	1.35	0	0	17.25
W	3.1	7.14	1.21	0	0	11.45
NW	3.5	9.7	0.94	0	0	14.14
Summary	38.55	48.23	3.63	0	0	90.41

PRAMP 842b Poll.: PRAMP 842b-WDS[KPH] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 9.57% Calm Poll Avg: 1.04[KPH]



% Icon Classes (KPH)	39	0-6	48	6-15	4	15-29	0	29-39	0	>39.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 253 (WSW) degree

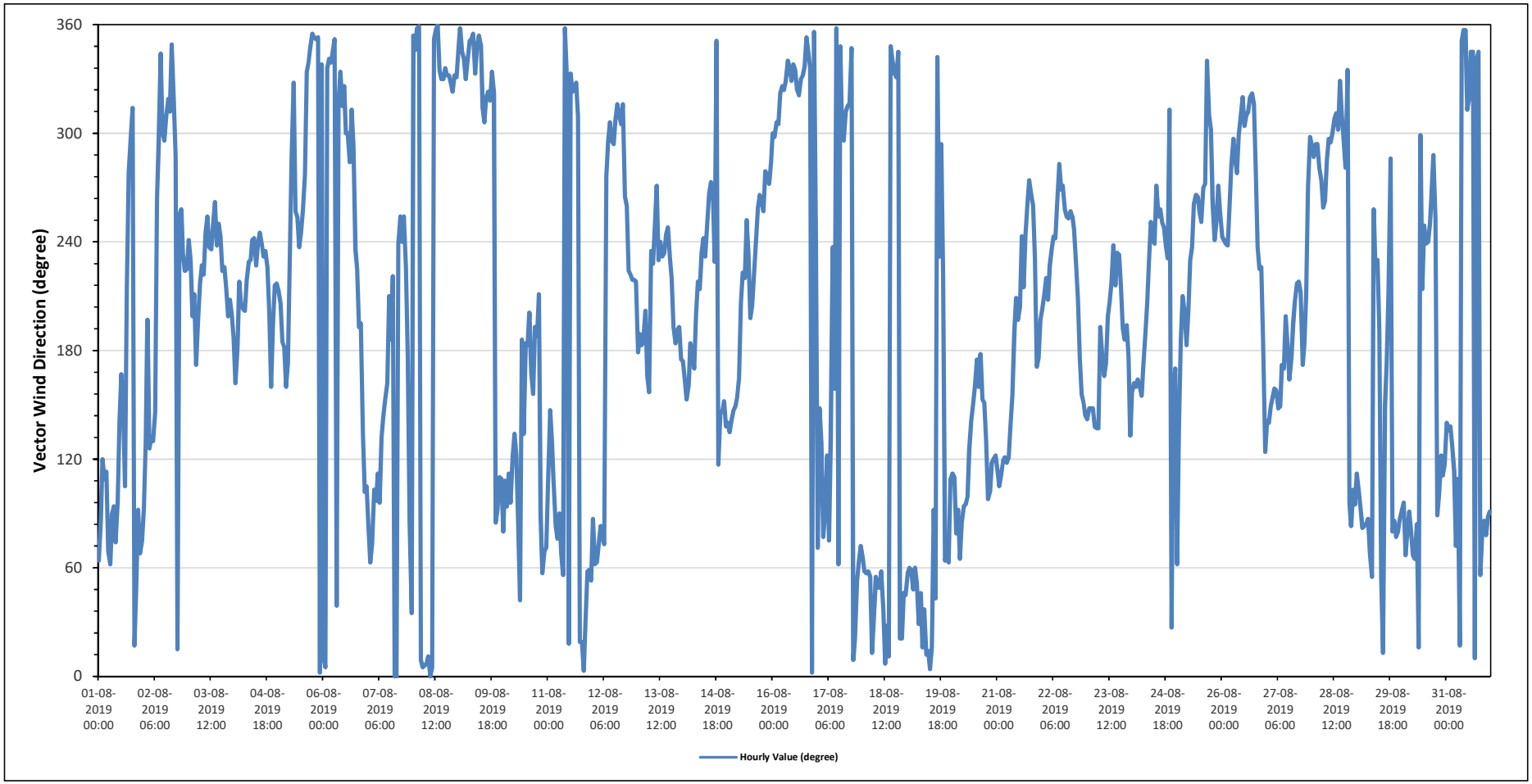
Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	0
Hours of Calibration:	2
Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Aug 1	ENE	E	ESE	ESE	ESE	ENE	ENE	E	E	ENE	E	SE	SSE	SE	ESE	SSW	W	WNW	NW	NNE	NE	E	ENE	ENE	96	E
Aug 2	E	SE	SSW	SE	SE	SE	SE	W	WNW	NNW	WNW	WNW	NW	NW	NW	NNW	NW	WNW	NNE	WSW	WSW	SW	SW	SW	300	WNW
Aug 3	WSW	SW	SSW	SSW	S	SSW	SW	SW	SW	WSW	WSW	SW	SW	WSW	W	SW	WSW	WSW	SW	SW	SSW	SSW	SSW	SSW	230	SW
Aug 4	S	SSE	S	SW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	SW	WSW	WSW	WSW	SW	SW	SW	SSW	SSE	SSW	SW	SW	222	SW
Aug 5	SSW	SSW	S	S	SSE	S	SW	WNW	NNW	WSW	WSW	SW	WSW	WSW	W	NNW	NNW	NNW	N	N	N	N	N	NNW	295	WNW
Aug 6	N	N	NNW	NNW	NNW	NNW	N	NE	NW	NNW	NW	NW	WNW	WNW	WNW	NW	WNW	SW	SW	S	SSW	SE	E	ESE	319	NW
Aug 7	E	ENE	ENE	ESE	E	ESE	E	SE	SE	SSE	SSE	SSW	S	SW	C	C	WSW	WSW	WSW	WSW	SW	S	E	NE	183	S
Aug 8	N	NNW	N	N	N	N	N	N	NNE	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	349	NNW
Aug 9	NNW	N	NNW	NNW	NNW	NNW	N	N	N	NNW	NNW	N	NNW	NW	NW	NW	NW	NW	NNW	NW	E	E	ESE	ESE	340	NNW
Aug 10	E	ESE	E	ESE	E	ESE	SE	ESE	E	NE	S	SE	S	S	SSW	SSE	SSE	S	S	SSW	E	ENE	ENE	ENE	147	SE
Aug 11	ESE	SE	SE	ESE	E	ENE	E	ENE	NE	N	NNW	NNE	NNW	NW	NW	NNW	NW	NNE	NNE	N	NNE	ENE	ENE	NE	19	NNE
Aug 12	E	ENE	ENE	ENE	E	ENE	ENE	W	WNW	NW	WNW	WNW	NW	NW	NW	WNW	NW	W	WSW	SW	SW	SW	SW	SW	278	W
Aug 13	S	S	S	S	SSW	SSE	SSE	SW	SW	WSW	W	SW	WSW	SW	SW	WSW	WSW	SW	SW	S	S	S	S	S	217	SW
Aug 14	S	SSE	SSE	SSE	S	S	SSE	SSW	SW	SSW	SW	WSW	SW	WSW	W	W	W	SW	N	ESE	SE	SE	SSE	SE	208	SSW
Aug 15	SE	SE	SE	SE	SSE	SSE	SSE	SSW	SW	SW	WSW	SW	SSW	SSW	SW	WSW	WSW	W	W	WSW	W	W	W	WNW	239	WSW
Aug 16	WNW	WNW	NW	WNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	N	NNW	NNW	N	N	WSW	327	NW
Aug 17	ENE	SE	SE	ENE	E	ESE	ENE	SE	SW	SSE	N	ENE	NNW	WNW	WNW	NW	NW	NW	NNW	N	NNE	NE	ENE	ENE	355	N
Aug 18	ENE	ENE	ENE	ENE	NE	NNE	NNE	NE	NE	NE	ENE	NE	N	NNE	NNE	NNW	NNW	NNW	NNW	NNW	NNE	NNE	NE	NE	28	NNE
Aug 19	ENE	ENE	ENE	NE	ENE	NE	NNE	NE	NNE	NE	NNE	NNE	N	NNE	E	NE	NNW	SW	WNW	SW	ENE	ENE	ENE	ESE	41	NE
Aug 20	ESE	ESE	ENE	E	ENE	E	E	E	E	SE	SE	SSE	SSE	S	SSE	S	SSE	SSE	SE	E	E	ESE	ESE	ESE	129	SE
Aug 21	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SSE	S	SSW	SSW	SSW	WSW	SSW	WSW	WSW	W	W	WSW	SW	S	S	SSW	178	S
Aug 22	SSW	SSW	SW	SSW	SW	SW	WSW	WSW	W	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSW	S	SSE	SSE	SE	239	WSW
Aug 23	SE	SE	SE	SE	SE	SE	SE	S	S	SSE	S	SSW	SSW	SW	SW	SW	SW	SW	SSW	S	S	SSW	S	SE	186	S
Aug 24	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	SW	NW	NNE	SSE	SSE	224	SW
Aug 25	ENE	SE	S	SSW	SSW	S	SSW	SW	SW	W	W	W	WSW	WSW	W	W	NNW	NW	WNW	W	WSW	WSW	W	WSW	255	WSW
Aug 26	WSW	WSW	WSW	SW	WSW	W	WNW	WNW	W	WNW	NW	NW	WNW	NW	NW	NW	NW	NW	W	SW	SW	SW	S	ESE	289	WNW
Aug 27	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	S	SSE	SSW	S	SSE	S	SSW	SSW	SW	SW	SSW	S	S	SSW	W	WNW	185	S
Aug 28	WNW	WNW	WNW	WNW	W	W	WSW	W	WNW	WNW	WNW	WNW	NW	NW	WNW	NNW	NW	WNW	W	NNW	E	E	ESE	E	294	WNW
Aug 29	ESE	E	E	E	E	E	E	ENE	NE	WSW	SW	SW	S	NE	NNE	SSE	S	SSW	WNW	E	E	ENE	E	E	121	ESE
Aug 30	E	E	ENE	E	E	E	ENE	ENE	E	NNE	WNW	SSW	WSW	WSW	WSW	WSW	W	WNW	WSW	E	E	ESE	ESE	ESE	221	SW
Aug 31	SE	SE	SE	SE	ESE	ENE	ESE	NNE	N	N	N	NW	NW	NNW	NNW	N	NNW	NNW	NE	ENE	E	ENE	E	E	24	NNE

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span			
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure			
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWD - 842b Station



RENO STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

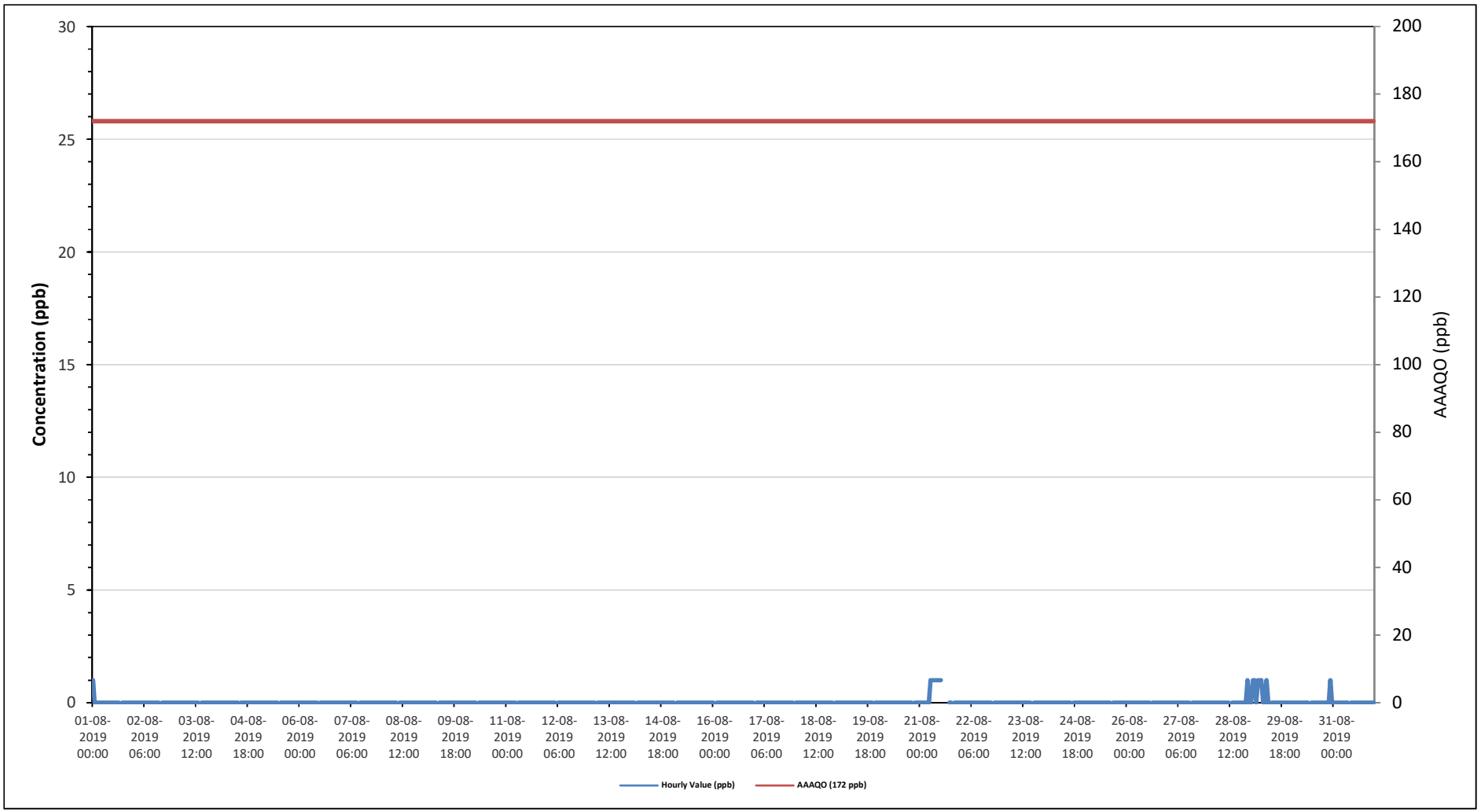
Maximum Hourly Value:	1	ppb	on August 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.4	ppb	on	Hours of Data:	708
Minimum Hourly Value:	0	ppb	on August 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on August 2	Hours of Calibration:	36
Monthly Average:	0.0	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0
Aug 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Aug 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 4	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 5	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 6	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 7	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 8	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 10	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 11	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 12	0	0	0	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
Aug 13	0	0	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
Aug 14	0	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
Aug 15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 16	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
Aug 17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Aug 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Aug 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Aug 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Aug 21	0	0	0	0	0	0	1	1	1	1	1	1	1	C	C	C	C	0	0	S	0	0	0	0	0	1	0.4
Aug 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Aug 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Aug 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Aug 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 27	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 28	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0
Aug 29	0	1	1	0	1	1	1	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Aug 30	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0
Aug 31	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0			

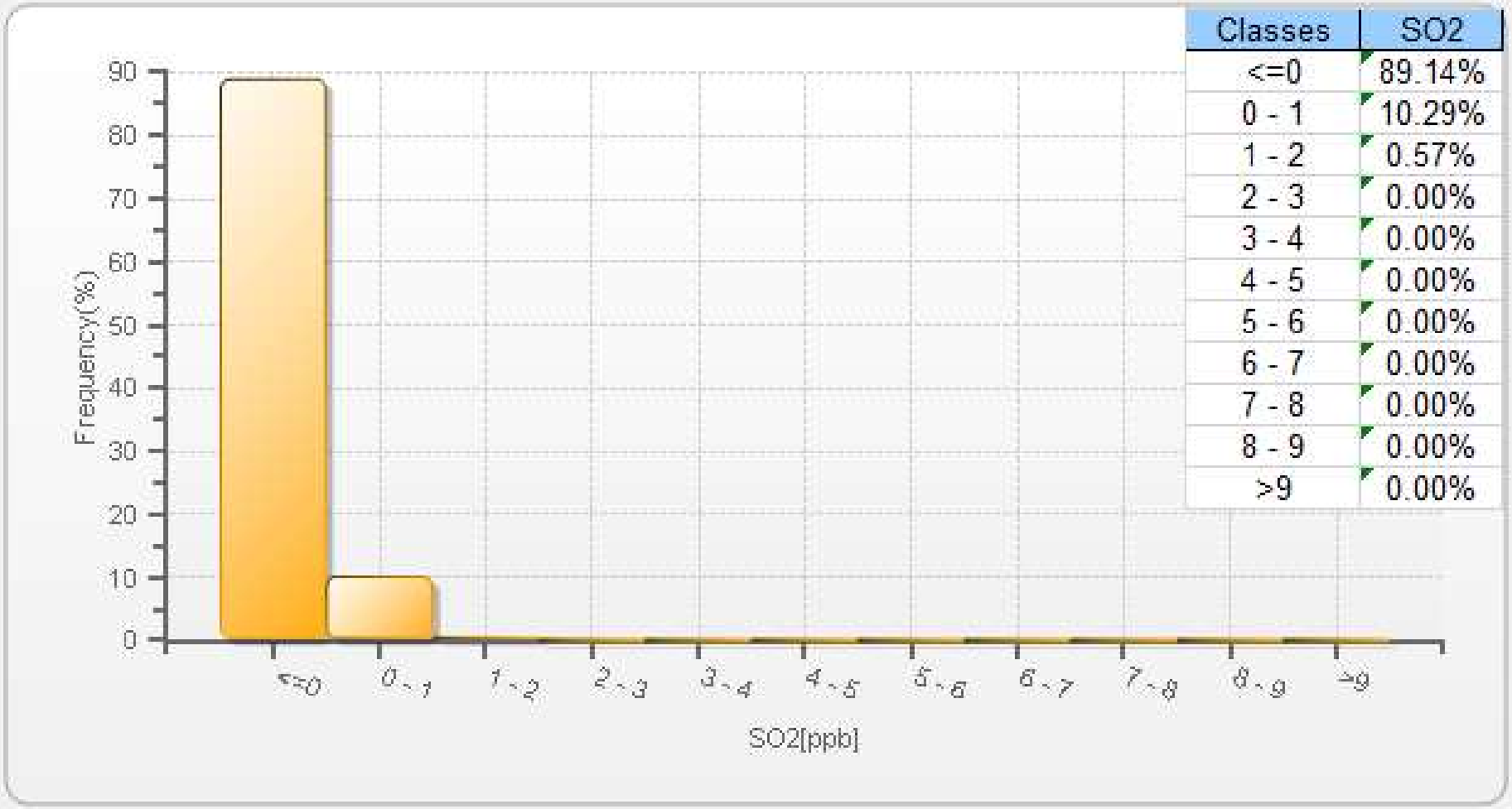
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for SO2 - Reno Station

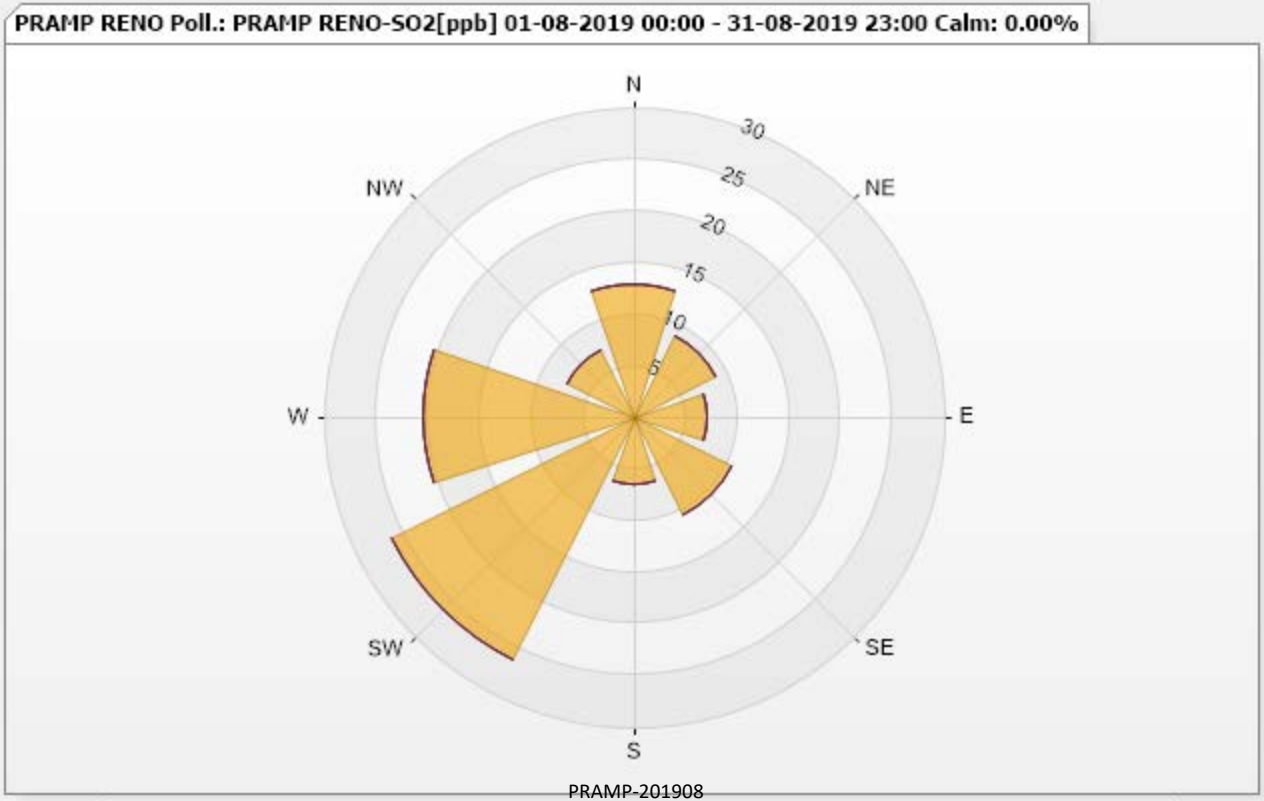


SO2[ppb] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.20% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	12.83	0	0	0	0	12.83
NE	8.89	0	0	0	0	8.89
E	7.14	0	0	0	0	7.14
SE	10.64	0	0	0	0	10.64
S	6.56	0	0	0	0	6.56
SW	26.24	0	0	0	0	26.24
W	20.41	0	0	0	0	20.41
NW	7.29	0	0	0	0	7.29
Summary	100	0	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
30
25
20
15
10
5
% Icon Classes (ppb)
100 0-10
0 10-30
0 50-100
0 100-172
0 >172.0

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

Alberta Ambient Air Quality Objectives (AAAQO) for H2S: 1-Hour 10 ppb, 24-Hour 3 ppb

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0

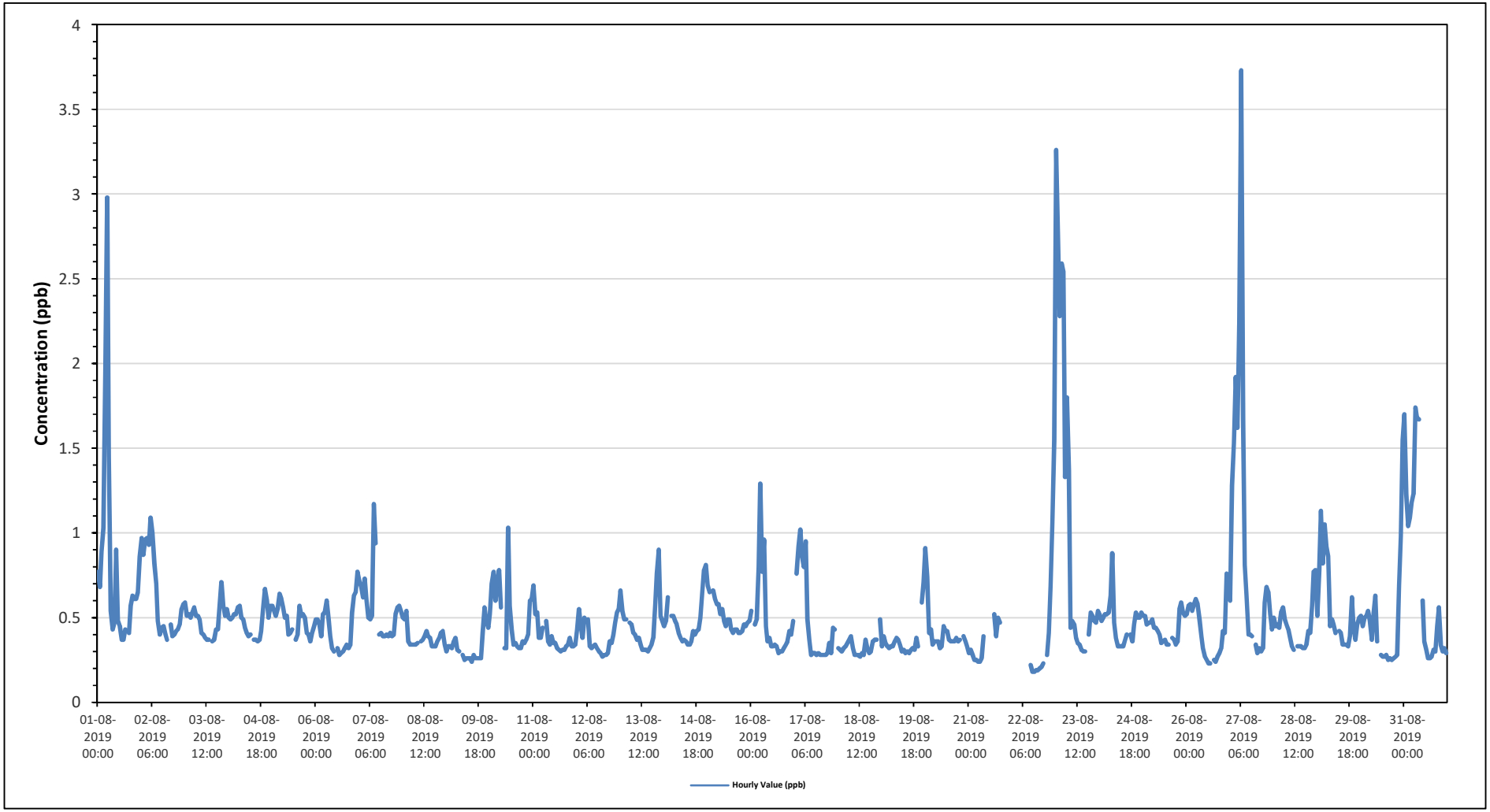
Maximum Hourly Value:	3.73	ppb	on August 27 at hour 6	Hours in Service:	744
Maximum Daily Value:	1.05	ppb	on	Hours of Data:	692
Minimum Hourly Value:	0.18	ppb	on August 22 at hour 11	Hours of Missing Data:	16
Minimum Daily Value:	0.32	ppb	on August 9	Hours of Calibration:	36
Monthly Average:	0.51	ppb		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	0.77	0.68	0.89	1.03	1.98	2.98	1.45	0.54	0.43	0.47	0.9	0.48	0.45	0.37	0.37	0.43	S	0.41	0.57	0.63	0.61	0.61	0.65	0.86	0.37	2.98	0.81
Aug 2	0.97	0.87	0.96	0.97	0.93	1.09	1	0.82	0.7	0.48	0.4	0.44	0.45	0.41	0.37	S	0.46	0.39	0.4	0.42	0.43	0.46	0.55	0.58	0.37	1.09	0.63
Aug 3	0.59	0.51	0.52	0.5	0.53	0.56	0.51	0.51	0.49	0.41	0.4	0.38	0.37	0.37	S	0.36	0.37	0.43	0.43	0.57	0.71	0.57	0.51	0.55	0.36	0.71	0.48
Aug 4	0.5	0.49	0.5	0.52	0.52	0.56	0.57	0.5	0.49	0.44	0.41	0.39	0.4	S	0.37	0.37	0.36	0.37	0.42	0.56	0.67	0.6	0.5	0.57	0.36	0.67	0.48
Aug 5	0.57	0.54	0.51	0.55	0.64	0.61	0.56	0.5	0.51	0.4	0.41	0.43	S	0.37	0.4	0.57	0.51	0.52	0.5	0.41	0.4	0.36	0.41	0.45	0.36	0.64	0.48
Aug 6	0.49	0.49	0.46	0.39	0.52	0.53	0.6	0.49	0.39	0.32	0.3	S	0.32	0.28	0.29	0.3	0.32	0.34	0.32	0.34	0.53	0.63	0.65	0.77	0.28	0.77	0.44
Aug 7	0.72	0.68	0.62	0.73	0.6	0.5	0.49	0.51	1.17	0.94	S	0.4	0.41	0.39	0.39	0.4	0.39	0.41	0.39	0.4	0.52	0.56	0.57	0.54	0.39	1.17	0.55
Aug 8	0.5	0.49	0.54	0.36	0.34	0.34	0.34	0.34	0.35	S	0.36	0.37	0.39	0.42	0.39	0.38	0.33	0.33	0.33	0.36	0.38	0.41	0.42	0.34	0.33	0.54	0.38
Aug 9	0.3	0.33	0.33	0.32	0.36	0.38	0.31	0.3	S	0.28	0.25	0.26	0.26	0.26	0.24	0.28	0.26	0.26	0.26	0.26	0.41	0.56	0.48	0.44	0.24	0.56	0.32
Aug 10	0.52	0.7	0.77	0.6	0.71	0.78	0.56	S	0.32	0.32	1.03	0.57	0.43	0.34	0.35	0.33	0.32	0.32	0.36	0.35	0.37	0.4	0.6	0.61	0.32	1.03	0.51
Aug 11	0.69	0.52	0.53	0.38	0.38	0.44	S	0.48	0.36	0.34	0.39	0.35	0.35	0.32	0.31	0.3	0.31	0.31	0.33	0.34	0.38	0.33	0.33	0.34	0.30	0.69	0.38
Aug 12	0.43	0.55	0.46	0.38	0.5	S	0.49	0.33	0.32	0.33	0.34	0.32	0.3	0.29	0.27	0.28	0.28	0.29	0.36	0.35	0.4	0.47	0.53	0.55	0.27	0.55	0.38
Aug 13	0.66	0.54	0.49	0.49	S	0.47	0.46	0.41	0.4	0.37	0.38	0.34	0.31	0.31	0.31	0.3	0.32	0.34	0.38	0.58	0.76	0.9	0.51	0.48	0.30	0.90	0.46
Aug 14	0.45	0.48	0.62	S	0.51	0.51	0.48	0.46	0.41	0.38	0.36	0.37	0.36	0.34	0.34	0.36	0.42	0.4	0.42	0.43	0.5	0.66	0.78	0.81	0.34	0.81	0.47
Aug 15	0.69	0.65	S	0.66	0.61	0.58	0.58	0.52	0.55	0.48	0.45	0.49	0.49	0.43	0.41	0.43	0.43	0.41	0.41	0.42	0.46	0.45	0.47	0.48	0.41	0.69	0.50
Aug 16	0.54	S	0.46	0.49	0.8	1.29	0.77	0.96	0.45	0.36	0.38	0.33	0.33	0.34	0.33	0.29	0.3	0.3	0.32	0.34	0.36	0.42	0.4	0.48	0.29	1.29	0.48
Aug 17	S	0.76	0.92	1.02	0.86	0.8	0.95	0.49	0.37	0.28	0.29	0.29	0.28	0.29	0.28	0.28	0.28	0.28	0.29	0.35	0.29	0.44	0.43	S	0.28	1.02	0.48
Aug 18	0.32	0.31	0.3	0.32	0.33	0.35	0.37	0.39	0.32	0.28	0.28	0.28	0.27	0.29	0.28	0.37	0.32	0.29	0.3	0.36	0.37	0.37	S	0.49	0.27	0.49	0.33
Aug 19	0.33	0.39	0.35	0.33	0.32	0.33	0.33	0.36	0.38	0.37	0.34	0.3	0.31	0.29	0.3	0.29	0.31	0.32	0.31	0.38	0.33	S	0.59	0.71	0.29	0.71	0.36
Aug 20	0.91	0.74	0.41	0.43	0.34	0.36	0.36	0.36	0.32	0.33	0.45	0.42	0.42	0.37	0.36	0.36	0.36	0.38	0.36	0.37	S	0.39	0.36	0.33	0.32	0.91	0.41
Aug 21	0.29	0.31	0.28	0.25	0.25	0.24	0.24	0.26	0.39	C	C	C	C	C	0.52	0.39	0.5	0.47	K	K	K	K	K	K	0.24	0.52	-
Aug 22	K	K	K	K	K	K	K	K	K	K	0.22	0.18	0.18	0.19	0.19	0.2	0.21	0.23	S	0.28	0.41	0.69	1.06	1.55	0.18	1.55	-
Aug 23	3.26	2.78	2.28	2.59	2.54	1.33	1.8	1.37	0.44	0.48	0.46	0.38	0.35	0.34	0.31	0.3	0.3	S	0.4	0.53	0.51	0.48	0.47	0.54	0.30	3.26	**1.05**
Aug 24	0.52	0.48	0.5	0.52	0.52	0.53	0.63	0.88	0.47	0.38	0.33	0.33	0.33	0.33	0.37	0.4	S	0.4	0.36	0.46	0.53	0.5	0.5	0.53	0.33	0.88	0.47
Aug 25	0.51	0.51	0.46	0.47	0.47	0.49	0.44	0.44	0.42	0.4	0.35	0.36	0.37	0.34	0.34	S	0.38	0.37	0.34	0.36	0.55	0.59	0.53	0.51	0.34	0.59	0.43
Aug 26	0.52	0.57	0.58	0.54	0.58	0.61	0.58	0.49	0.39	0.32	0.27	0.25	0.23	0.23	S	0.25	0.24	0.27	0.29	0.32	0.42	0.41	0.76	0.67	0.23	0.76	0.43
Aug 27	0.6	1.28	1.53	1.92	1.62	2.24	**3.73**	1.67	0.81	0.63	0.4	0.4	0.39	S	0.34	0.29	0.32	0.3	0.32	0.59	0.68	0.65	0.52	0.43	0.29	**3.73**	0.94
Aug 28	0.5	0.45	0.46	0.44	0.53	0.56	0.49	0.46	0.43	0.38	0.33	0.31	S	0.33	0.33	0.33	0.32	0.32	0.34	0.42	0.41	0.57	0.77	0.78	0.31	0.78	0.45
Aug 29	0.51	0.78	1.13	0.82	1.05	0.92	0.86	0.45	0.49	0.46	0.41	S	0.42	0.41	0.34	0.34	0.34	0.33	0.39	0.62	0.43	0.37	0.46	0.5	0.33	1.13	0.56
Aug 30	0.51	0.45	0.5	0.51	0.54	0.48	0.37	0.53	0.63	0.36	S	0.28	0.27	0.27	0.28	0.25	0.26	0.25	0.26	0.27	0.28	0.69	0.98	1.55	0.25	1.55	0.47
Aug 31	1.7	1.23	1.04	1.09	1.18	1.23	1.74	1.68	1.67	S	0.6	0.36	0.31	0.26	0.26	0.27	0.31	0.3	0.45	0.56	0.34	0.3	0.32	0.29	0.26	1.74	0.76
Diurnal Maximum	3.26	2.78	2.28	2.59	2.54	2.98	3.73	1.68	1.67	0.94	1.03	0.57	0.49	0.43	0.52	0.57	0.51	0.52	0.57	0.63	0.76	0.90	1.06	1.55			
Daiurnal Average	0.69	0.67	0.67	0.68	0.73	0.76	0.76	0.60	0.51	0.41	0.41	0.36	0.35	0.33	0.33	0.33	0.34	0.34	0.37	0.42	0.46	0.51	0.56	0.61			

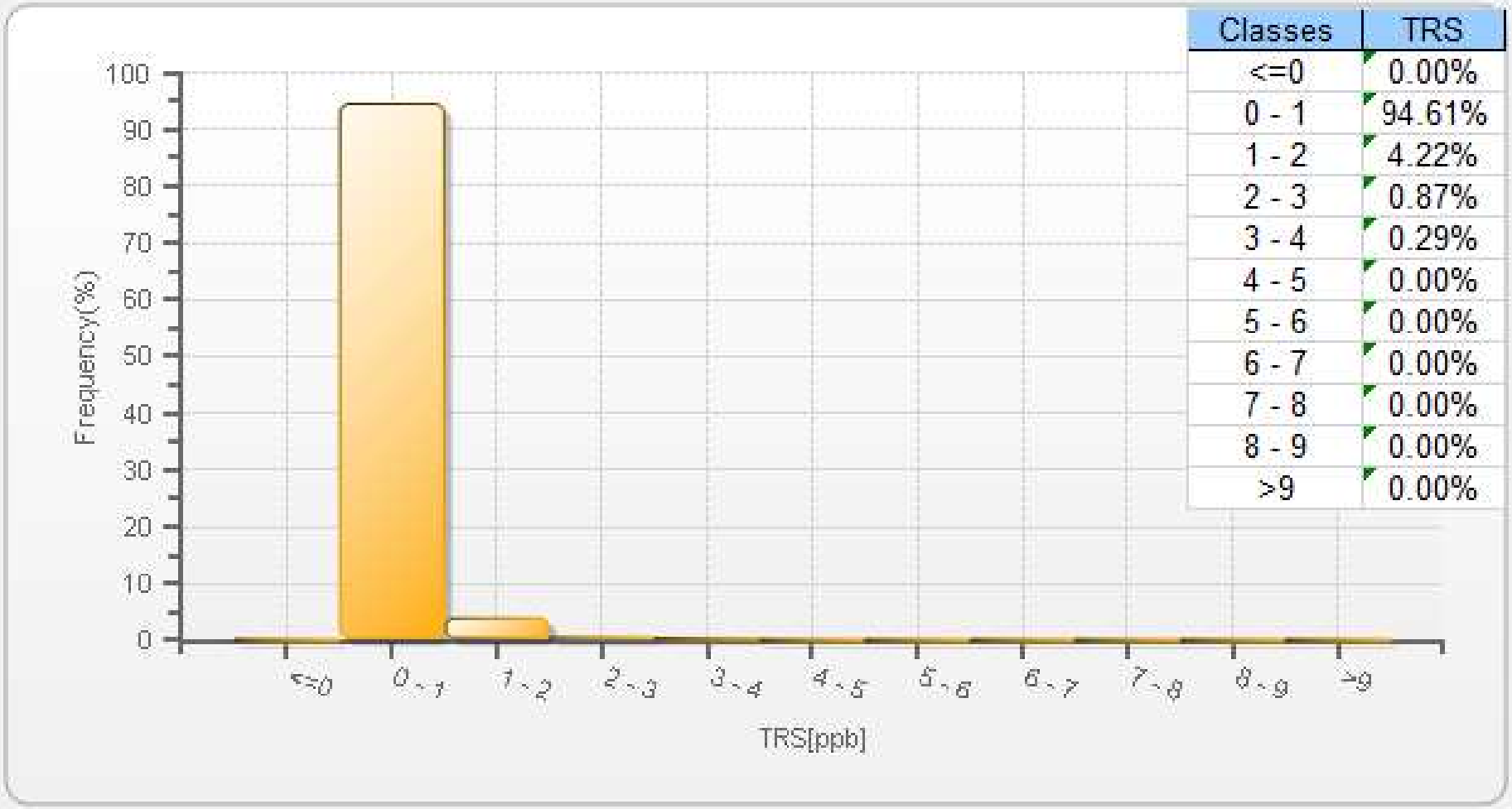
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for TRS - Reno Station

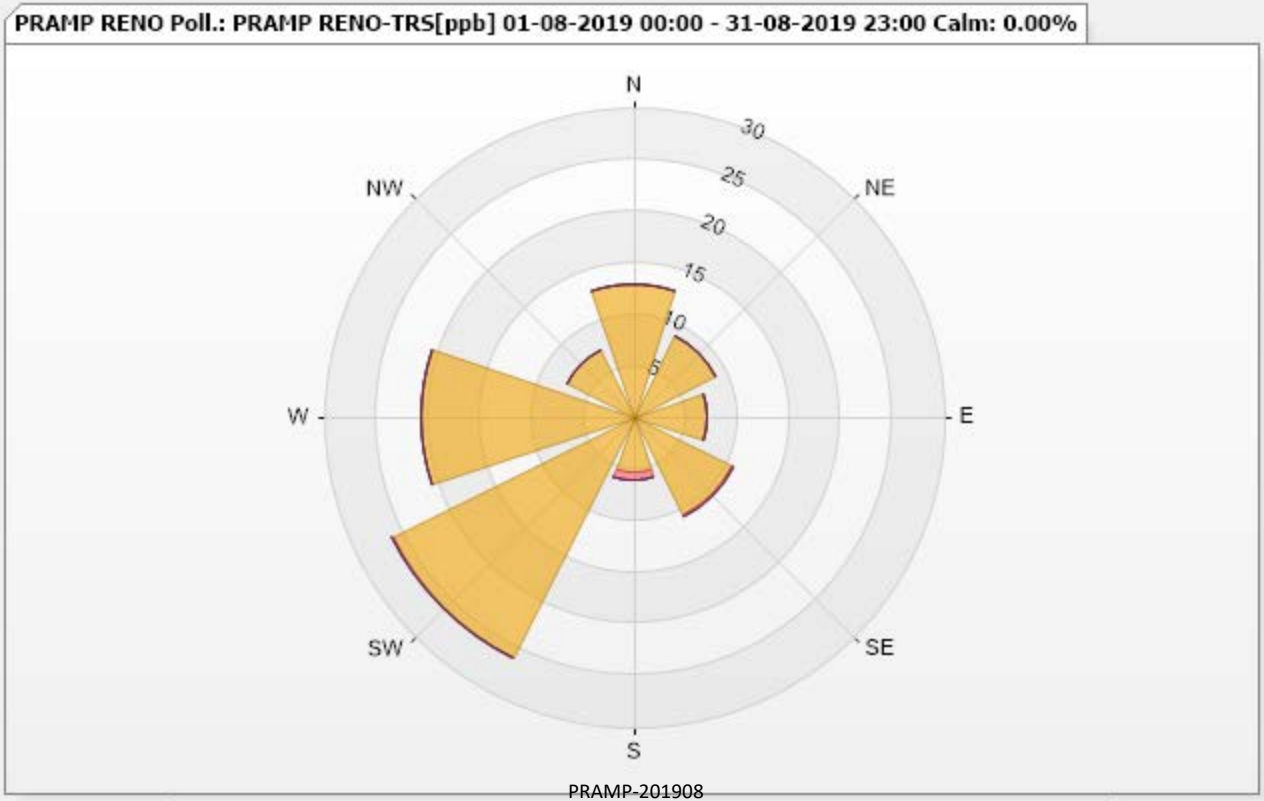


TRS[ppb] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	12.81	0	0	0	0	12.81
NE	8.88	0	0	0	0	8.88
E	7.13	0	0	0	0	7.13
SE	10.63	0.15	0	0	0	10.78
S	5.39	0.87	0	0	0	6.26
SW	26.06	0.15	0	0	0	26.21
W	20.67	0	0	0	0	20.67
NW	7.28	0	0	0	0	7.28
Summary	98.85	1.17	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
30
25
20
15
10
5
% Icon Classes (ppb)
99 0-2
1 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

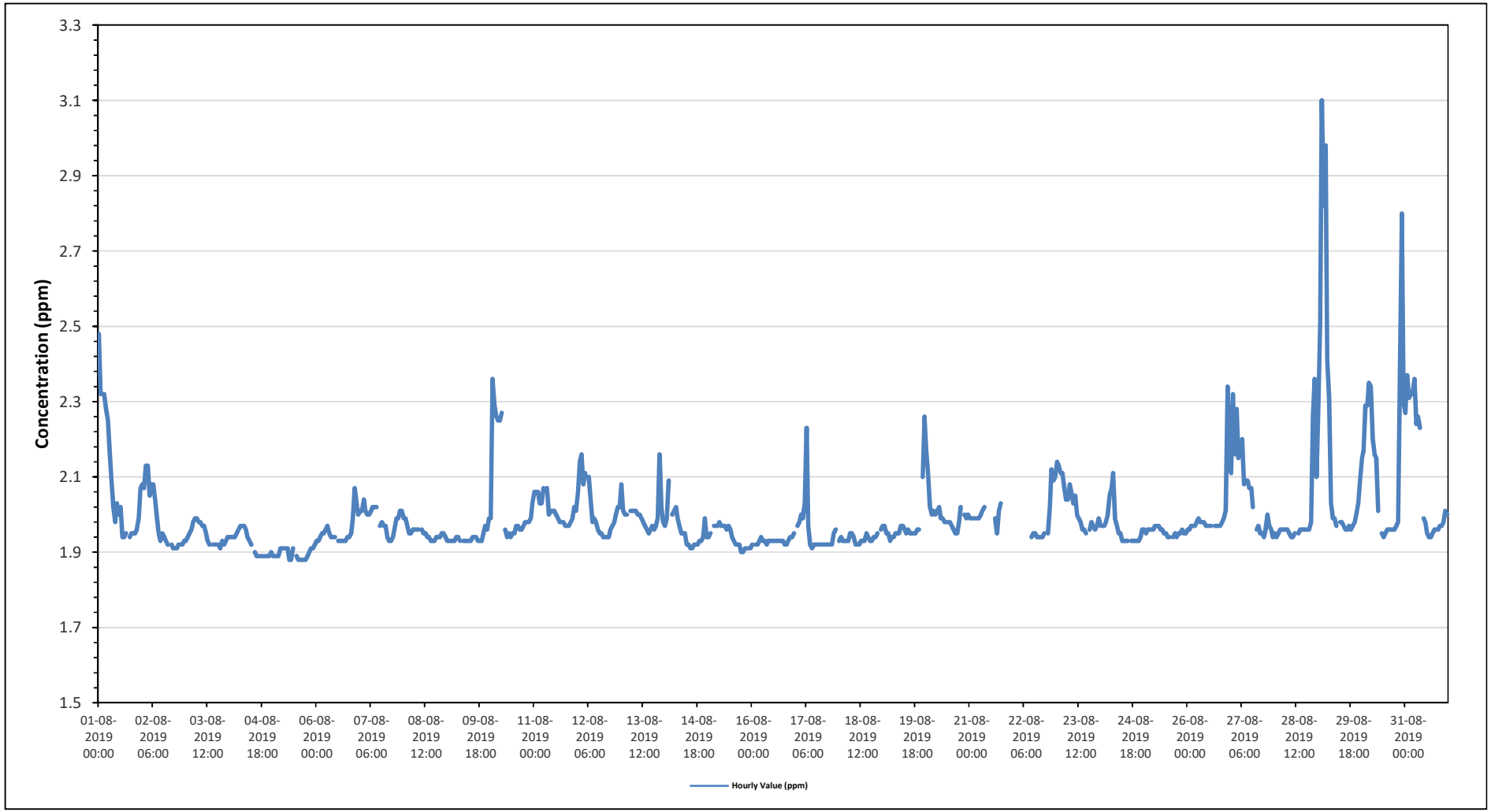
Maximum Hourly Value:	3.10	ppm	on August 29 at hour 2	Hours in Service:	744
Maximum Daily Value:	2.18	ppm	on	Hours of Data:	692
Minimum Hourly Value:	1.88	ppm	on August 5 at hour 9	Hours of Missing Data:	17
Minimum Daily Value:	1.90	ppm	on August 5	Hours of Calibration:	35
Monthly Average:	1.99	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	2.48	2.32	2.32	2.32	2.28	2.25	2.17	2.09	2.02	1.98	2.03	2.00	2.02	1.94	1.94	1.95	S	1.94	1.95	1.95	1.95	1.96	1.99	2.07	1.94	2.48	2.08
Aug 2	2.08	2.07	2.13	2.13	2.05	2.08	2.08	2.04	1.99	1.95	1.93	1.95	1.94	1.93	1.92	S	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.93	1.91	2.13	1.98
Aug 3	1.93	1.94	1.95	1.96	1.98	1.99	1.99	1.98	1.98	1.97	1.97	1.95	1.93	1.92	S	1.92	1.92	1.92	1.92	1.91	1.93	1.92	1.93	1.94	1.91	1.99	1.95
Aug 4	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.94	1.93	1.92	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.89	1.97	1.92
Aug 5	1.89	1.89	1.89	1.89	1.91	1.91	1.91	1.91	1.91	1.88	1.88	1.91	S	1.89	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.91	1.91	1.92	1.88	1.92	1.90
Aug 6	1.93	1.93	1.94	1.95	1.95	1.96	1.97	1.95	1.94	1.94	1.94	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.99	2.07	2.03	2.00	1.93	2.07	1.96
Aug 7	2.01	2.01	2.04	2.01	2.00	2.00	2.01	2.02	2.02	2.02	S	1.97	1.98	1.97	1.97	1.94	1.93	1.93	1.94	1.96	1.99	1.99	2.01	2.01	1.93	2.04	1.99
Aug 8	1.99	1.99	1.97	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.95	1.95	1.94	1.93	1.99	1.95
Aug 9	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	1.93	1.95	1.97	1.96	1.99	1.93	1.99	1.94
Aug 10	1.99	2.36	2.29	2.26	2.25	2.25	2.27	S	1.96	1.94	1.95	1.94	1.95	1.95	1.97	1.97	1.96	1.96	1.97	1.98	1.98	1.98	1.99	2.03	1.94	2.36	2.05
Aug 11	2.06	2.06	2.06	2.03	2.03	2.07	S	2.07	2.00	2.01	2.01	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.99	2.02	2.01	1.97	2.07	2.01
Aug 12	2.06	2.14	2.16	2.08	2.11	S	2.10	2.04	1.98	1.99	1.98	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.96	1.97	1.98	2.00	2.02	2.02	1.94	2.16	2.01
Aug 13	2.08	2.01	2.00	2.00	S	2.01	2.01	2.01	2.01	2.00	2.00	1.99	1.98	1.97	1.96	1.95	1.96	1.97	1.96	1.97	1.99	2.16	2.02	1.98	1.95	2.16	2.00
Aug 14	1.97	1.99	2.09	S	2.00	2.01	2.02	1.99	1.97	1.95	1.95	1.95	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.94	1.99	1.94	1.91	2.09	1.96
Aug 15	1.94	1.95	S	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.96	1.97	1.96	1.94	1.93	1.92	1.92	1.92	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.98	1.94
Aug 16	1.92	S	1.92	1.92	1.93	1.94	1.93	1.93	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.93	1.94	1.94	1.95	1.92	1.95	1.93
Aug 17	S	1.97	1.98	2.00	1.99	2.03	2.23	1.97	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.95	1.96	S	1.91	2.23	1.96
Aug 18	1.93	1.94	1.93	1.93	1.93	1.93	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.93	1.95	1.94	1.93	1.93	1.94	1.94	1.95	S	1.96	1.92	1.96	1.94
Aug 19	1.97	1.97	1.95	1.95	1.93	1.94	1.94	1.95	1.95	1.95	1.97	1.97	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.96	1.96	S	2.10	2.26	1.93	2.26	1.97
Aug 20	2.17	2.11	2.02	2.00	2.01	2.00	2.01	2.02	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.98	2.02	S	2.00	1.99	2.00	1.95	2.17	2.00
Aug 21	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.01	2.02	C	C	Y	C	C	1.99	1.95	2.01	2.03	K	K	K	K	K	K	1.95	2.03	-
Aug 22	K	K	K	K	K	K	K	K	K	K	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.95	2.02	2.12	2.09	2.10	1.94	2.12	-
Aug 23	2.14	2.13	2.11	2.11	2.07	2.04	2.04	2.08	2.06	2.03	2.05	2.00	1.99	1.98	1.96	1.96	1.95	S	1.96	1.98	1.97	1.96	1.97	1.99	1.95	2.14	2.02
Aug 24	1.97	1.97	1.97	1.98	2.00	2.05	2.07	2.11	1.99	1.97	1.95	1.95	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.96	1.93	2.11	1.97
Aug 25	1.96	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	S	1.94	1.95	1.94	1.95	1.95	1.96	1.95	1.95	1.94	1.97	1.95
Aug 26	1.96	1.96	1.97	1.97	1.97	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.98	1.99	2.01	2.34	2.21	1.96	2.34	2.00
Aug 27	2.11	2.32	2.16	2.28	2.15	2.18	2.20	2.08	2.09	2.09	2.07	2.07	2.02	S	1.96	1.97	1.95	1.95	1.94	1.96	2.00	1.97	1.96	1.94	1.94	2.32	2.06
Aug 28	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.94	1.94	1.95	S	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.98	2.26	2.36	2.10	1.94	2.36	1.99
Aug 29	2.29	2.51	**3.10**	2.82	2.98	2.41	2.31	2.03	1.99	1.99	1.97	S	1.98	1.98	1.97	1.96	1.96	1.97	1.96	1.97	1.98	2.00	2.03	2.09	1.96	**3.10**	**2.18**
Aug 30	2.15	2.17	2.29	2.29	2.35	2.34	2.20	2.16	2.15	2.01	S	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.38	2.80	2.30	1.94	2.80	2.14
Aug 31	2.27	2.37	2.31	2.32	2.32	2.36	2.24	2.26	2.23	S	1.99	1.98	1.95	1.94	1.94	1.95	1.96	1.96	1.96	1.97	1.97	1.98	2.01	2.00	1.94	2.37	2.10
Diurnal Maximum	2.48	2.51	3.10	2.82	2.98	2.41	2.31	2.26	2.23	2.09	2.07	2.07	2.02	1.99	1.99	1.98	2.01	2.03	1.98	2.02	2.02	2.38	2.80	2.30			
Daiurnal Average	2.04	2.06	2.08	2.07	2.07	2.05	2.05	2.01	1.99	1.97	1.96	1.96	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.96	2.00	2.03	2.01			

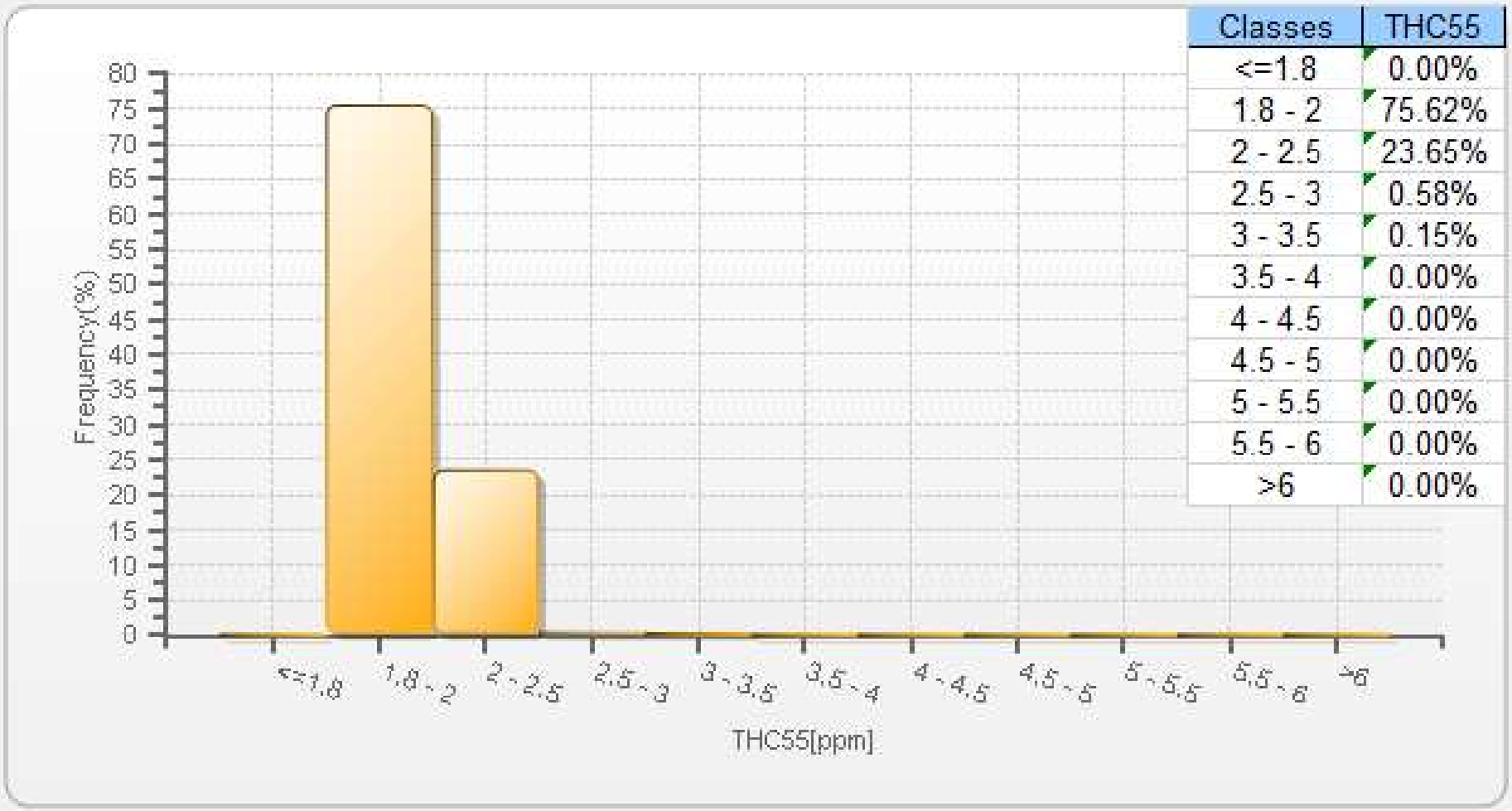
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for THC - Reno Station



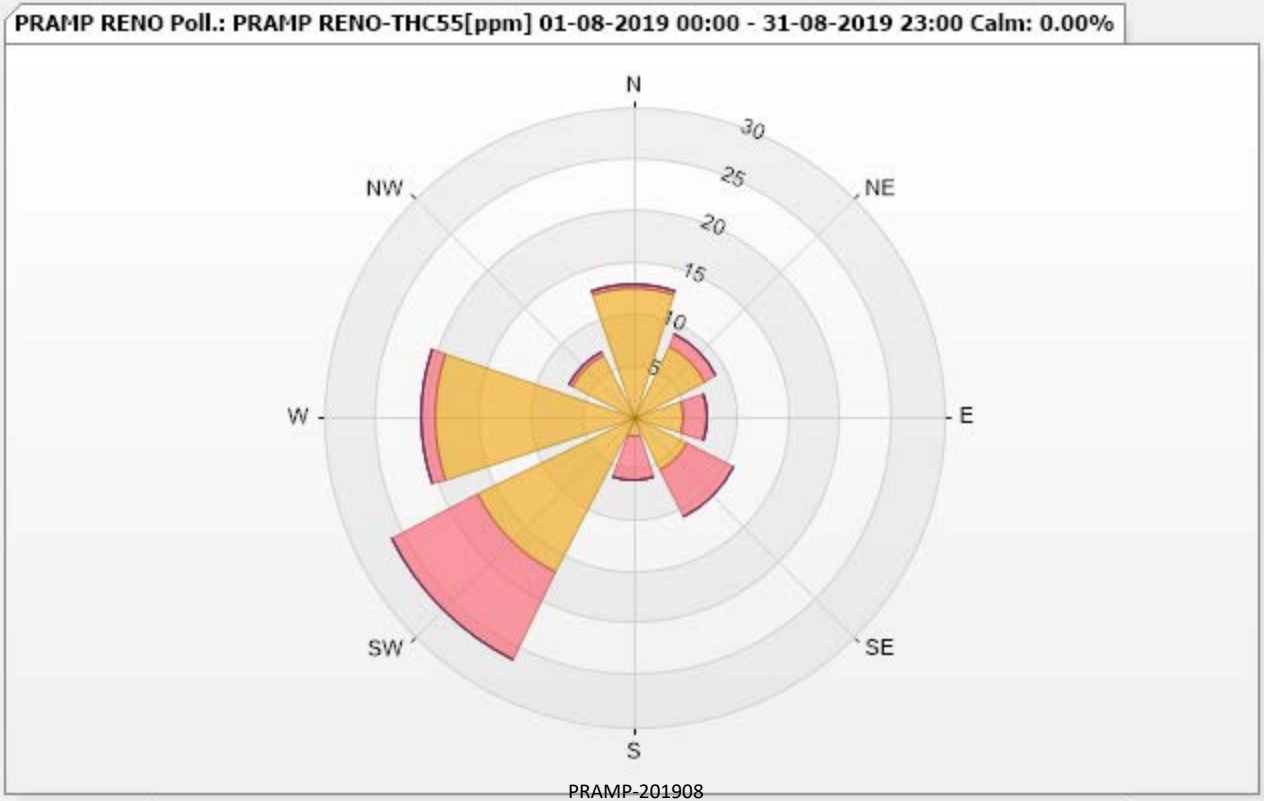
THC55[ppm] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	75.62%
2 - 2.5	23.65%
2.5 - 3	0.58%
3 - 3.5	0.15%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	12.41	0.44	0	0	0	12.85
NE	7.74	1.17	0	0	0	8.91
E	4.82	2.34	0	0	0	7.16
SE	5.84	4.96	0	0	0	10.8
S	1.9	4.38	0	0	0	6.28
SW	16.93	9.34	0	0	0	26.27
W	19.27	1.31	0	0	0	20.58
NW	6.72	0.44	0	0	0	7.16
Summary	75.63	24.38	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
30
25
20
15
10
5
% Icon Classes (ppm)
76 0-2
2-5
5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

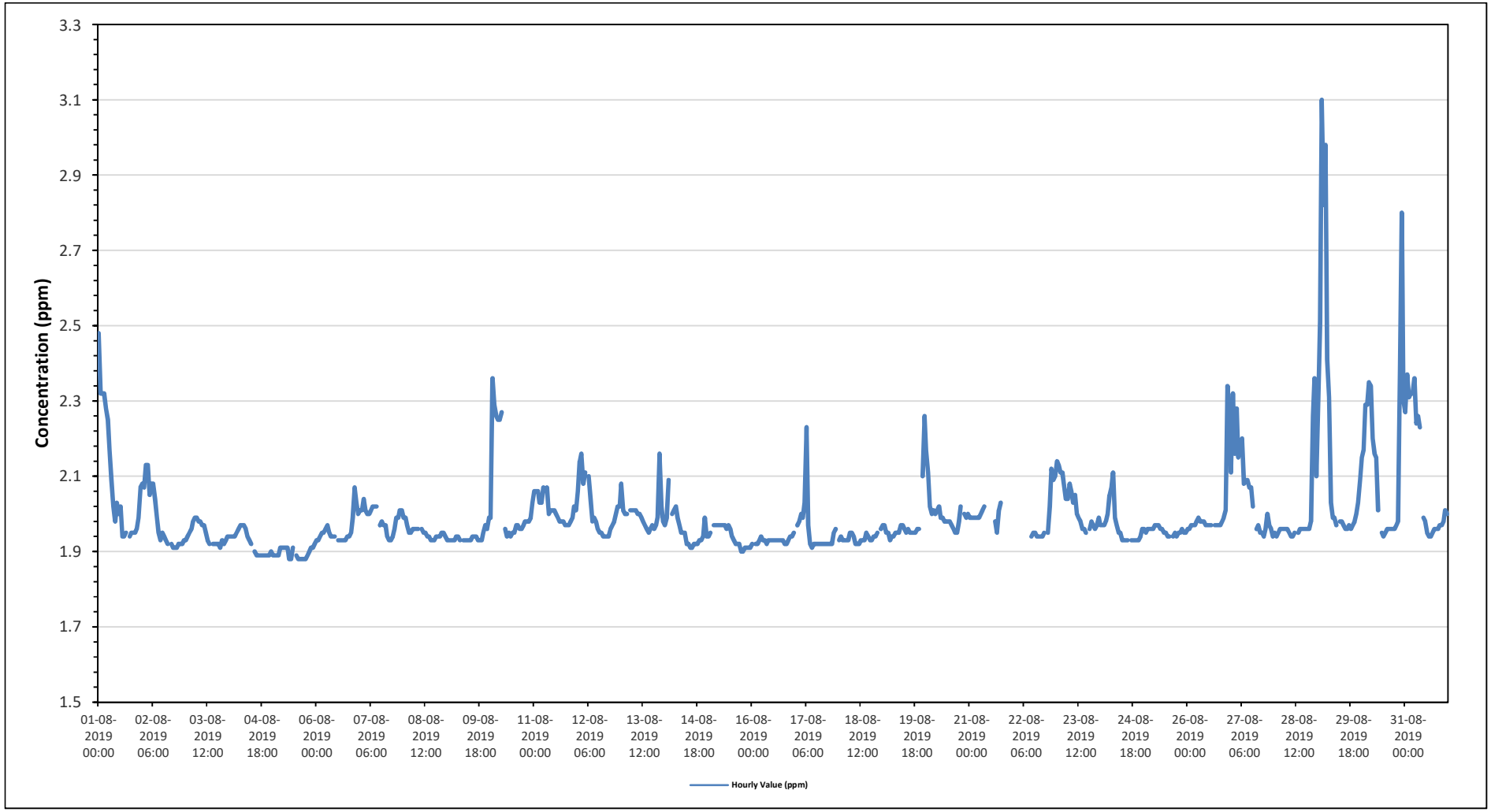
Maximum Hourly Value:	3.10	ppm	on August 29 at hour 2	Hours in Service:	744
Maximum Daily Value:	2.18	ppm	on	Hours of Data:	692
Minimum Hourly Value:	1.88	ppm	on August 5 at hour 9	Hours of Missing Data:	17
Minimum Daily Value:	1.90	ppm	on August 5	Hours of Calibration:	35
Monthly Average:	1.99	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	2.48	2.32	2.32	2.32	2.28	2.25	2.17	2.09	2.02	1.98	2.03	2.00	2.02	1.94	1.94	1.95	S	1.94	1.95	1.95	1.95	1.96	1.99	2.07	1.94	2.48	2.08
Aug 2	2.08	2.07	2.13	2.13	2.05	2.08	2.08	2.04	1.99	1.95	1.93	1.95	1.94	1.93	1.92	S	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.93	1.91	2.13	1.98
Aug 3	1.93	1.94	1.95	1.96	1.98	1.99	1.99	1.98	1.98	1.97	1.97	1.95	1.93	1.92	S	1.92	1.92	1.92	1.92	1.91	1.93	1.92	1.93	1.94	1.91	1.99	1.95
Aug 4	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.94	1.93	1.92	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.89	1.97	1.92
Aug 5	1.89	1.89	1.89	1.89	1.91	1.91	1.91	1.91	1.91	1.88	1.88	1.91	S	1.89	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.91	1.91	1.92	1.88	1.92	1.90
Aug 6	1.93	1.93	1.94	1.95	1.95	1.96	1.97	1.95	1.94	1.94	1.94	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.99	2.07	2.03	2.00	1.93	2.07	1.96
Aug 7	2.01	2.01	2.04	2.01	2.00	2.00	2.01	2.02	2.02	2.02	S	1.97	1.98	1.97	1.97	1.94	1.93	1.93	1.94	1.96	1.99	1.99	2.01	2.01	1.93	2.04	1.99
Aug 8	1.99	1.99	1.97	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.95	1.95	1.94	1.93	1.99	1.95
Aug 9	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	1.93	1.95	1.97	1.96	1.99	1.93	1.99	1.94
Aug 10	1.99	2.36	2.29	2.26	2.25	2.25	2.27	S	1.96	1.94	1.95	1.94	1.95	1.95	1.97	1.97	1.96	1.96	1.97	1.98	1.98	1.98	1.99	2.03	1.94	2.36	2.05
Aug 11	2.06	2.06	2.06	2.03	2.03	2.07	S	2.07	2.00	2.01	2.01	2.01	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.99	2.02	2.01	1.97	2.07	2.01
Aug 12	2.06	2.14	2.16	2.08	2.11	S	2.10	2.04	1.98	1.99	1.98	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.96	1.97	1.98	2.00	2.02	2.02	1.94	2.16	2.01
Aug 13	2.08	2.01	2.00	2.00	S	2.01	2.01	2.01	2.01	2.00	2.00	1.99	1.98	1.97	1.96	1.95	1.96	1.97	1.96	1.97	1.99	2.16	2.02	1.98	1.95	2.16	2.00
Aug 14	1.97	1.99	2.09	S	2.00	2.01	2.02	1.99	1.97	1.95	1.95	1.95	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.94	1.99	1.94	1.91	2.09	1.96
Aug 15	1.94	1.95	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.94	1.93	1.92	1.92	1.92	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.97	1.94
Aug 16	1.92	S	1.92	1.92	1.93	1.94	1.93	1.93	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.93	1.94	1.94	1.95	1.92	1.95	1.93
Aug 17	S	1.97	1.98	2.00	1.99	2.03	2.23	1.97	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.95	1.96	S	1.91	2.23	1.96
Aug 18	1.93	1.94	1.93	1.93	1.93	1.93	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.93	1.95	1.94	1.93	1.93	1.94	1.94	1.95	S	1.96	1.92	1.96	1.94
Aug 19	1.97	1.97	1.95	1.95	1.93	1.94	1.94	1.95	1.95	1.95	1.97	1.97	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.96	1.96	S	2.10	2.26	1.93	2.26	1.97
Aug 20	2.17	2.11	2.02	2.00	2.01	2.00	2.01	2.02	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.98	2.02	S	2.00	1.99	2.00	1.95	2.17	2.00
Aug 21	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.01	2.02	C	C	Y	C	C	1.98	1.95	2.01	2.03	K	K	K	K	K	K	1.95	2.03	-
Aug 22	K	K	K	K	K	K	K	K	K	K	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.95	2.02	2.12	2.09	2.10	1.94	2.12	-
Aug 23	2.14	2.13	2.11	2.11	2.07	2.04	2.04	2.08	2.06	2.03	2.05	2.00	1.99	1.98	1.96	1.96	1.95	S	1.96	1.98	1.97	1.96	1.97	1.99	1.95	2.14	2.02
Aug 24	1.97	1.97	1.97	1.98	2.00	2.05	2.07	2.11	1.99	1.97	1.95	1.95	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.96	1.93	2.11	1.97
Aug 25	1.96	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	S	1.94	1.95	1.94	1.95	1.95	1.96	1.95	1.95	1.94	1.97	1.95
Aug 26	1.96	1.96	1.97	1.97	1.97	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.98	1.99	2.01	2.34	2.21	1.96	2.34	2.00
Aug 27	2.11	2.32	2.16	2.28	2.15	2.18	2.20	2.08	2.09	2.09	2.07	2.07	2.02	S	1.96	1.97	1.95	1.95	1.94	1.96	2.00	1.97	1.96	1.94	1.94	2.32	2.06
Aug 28	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.94	1.94	1.95	S	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.98	2.26	2.36	2.10	1.94	2.36	1.99
Aug 29	2.29	2.51	**3.10**	2.82	2.98	2.41	2.31	2.03	1.99	1.99	1.97	S	1.98	1.98	1.97	1.96	1.96	1.97	1.96	1.97	1.98	2.00	2.03	2.09	1.96	**3.10**	**2.18**
Aug 30	2.15	2.17	2.29	2.29	2.35	2.34	2.20	2.16	2.15	2.01	S	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.38	2.80	2.30	1.94	2.80	2.14
Aug 31	2.27	2.37	2.31	2.32	2.32	2.36	2.24	2.26	2.23	S	1.99	1.98	1.95	1.94	1.94	1.95	1.96	1.96	1.96	1.97	1.97	1.98	2.01	2.00	1.94	2.37	2.10
Diurnal Maximum	2.48	2.51	3.10	2.82	2.98	2.41	2.31	2.26	2.23	2.09	2.07	2.07	2.02	1.99	1.98	1.98	2.01	2.03	1.98	2.02	2.02	2.38	2.80	2.30			
Daiurnal Average	2.04	2.06	2.08	2.07	2.07	2.05	2.05	2.01	1.99	1.97	1.96	1.96	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.96	2.00	2.03	2.01			

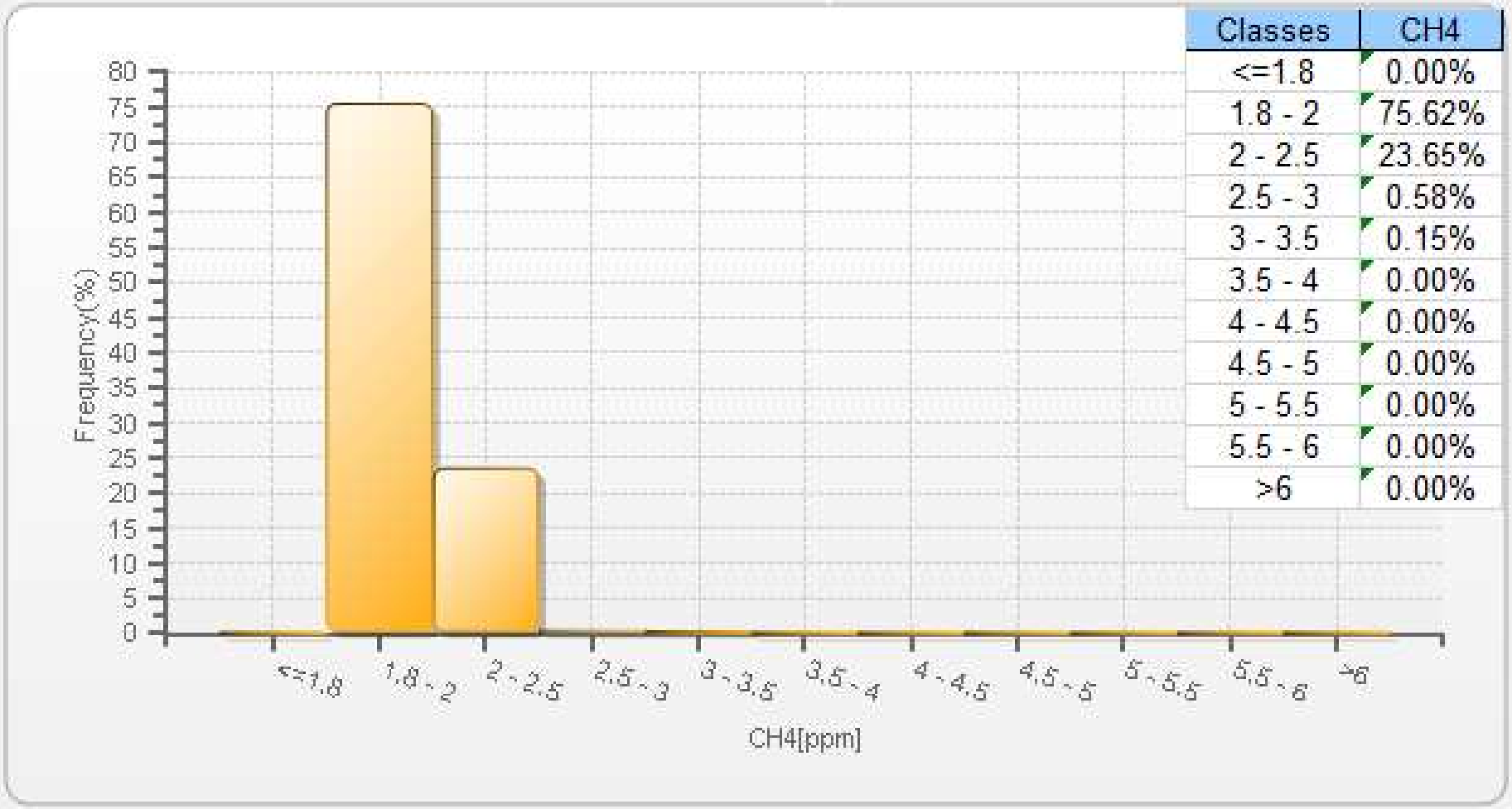
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for CH4 - Reno Station



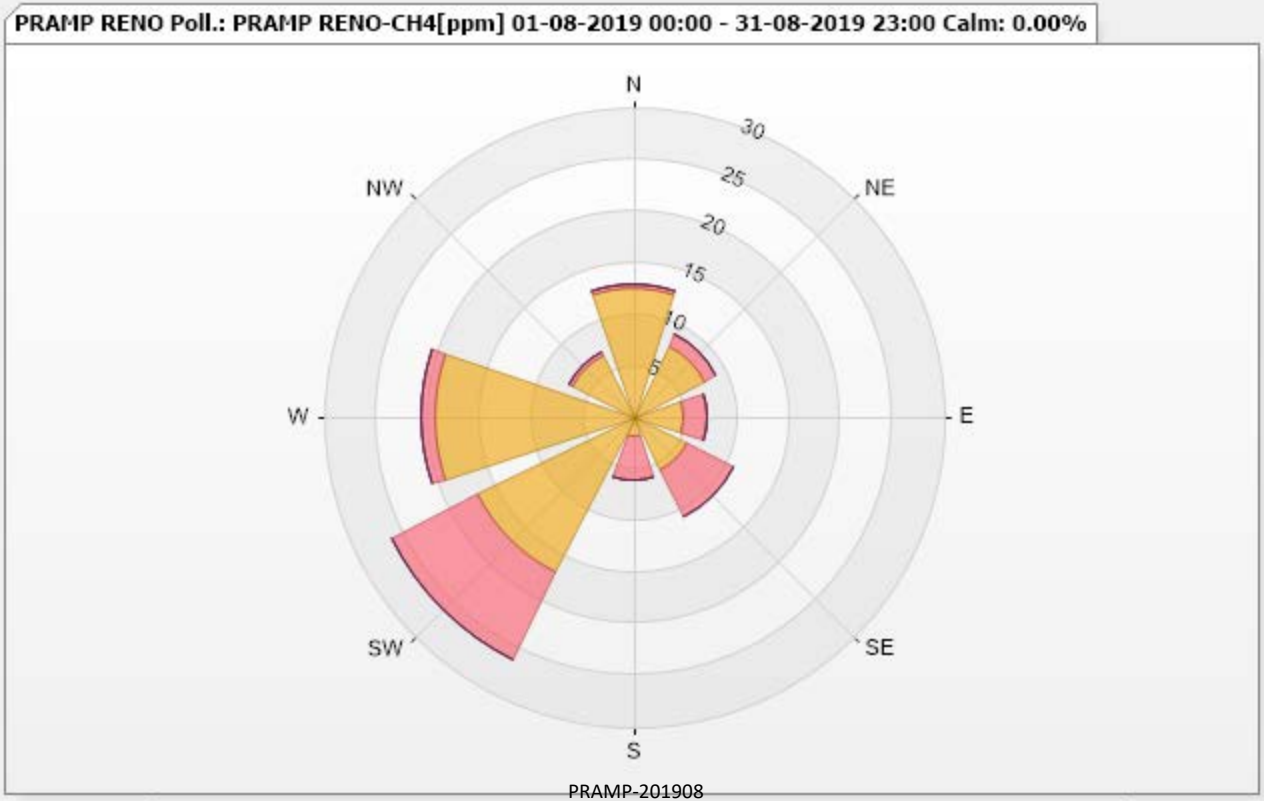
CH4[ppm] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	75.62%
2 - 2.5	23.65%
2.5 - 3	0.58%
3 - 3.5	0.15%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	12.41	0.44	0	0	0	12.85
NE	7.74	1.17	0	0	0	8.91
E	4.82	2.34	0	0	0	7.16
SE	5.84	4.96	0	0	0	10.8
S	1.9	4.38	0	0	0	6.28
SW	16.93	9.34	0	0	0	26.27
W	19.27	1.31	0	0	0	20.58
NW	6.72	0.44	0	0	0	7.16
Summary	75.63	24.38	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
30
25
20
15
10
5
% Icon Classes (ppm)
76 0-2
2 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

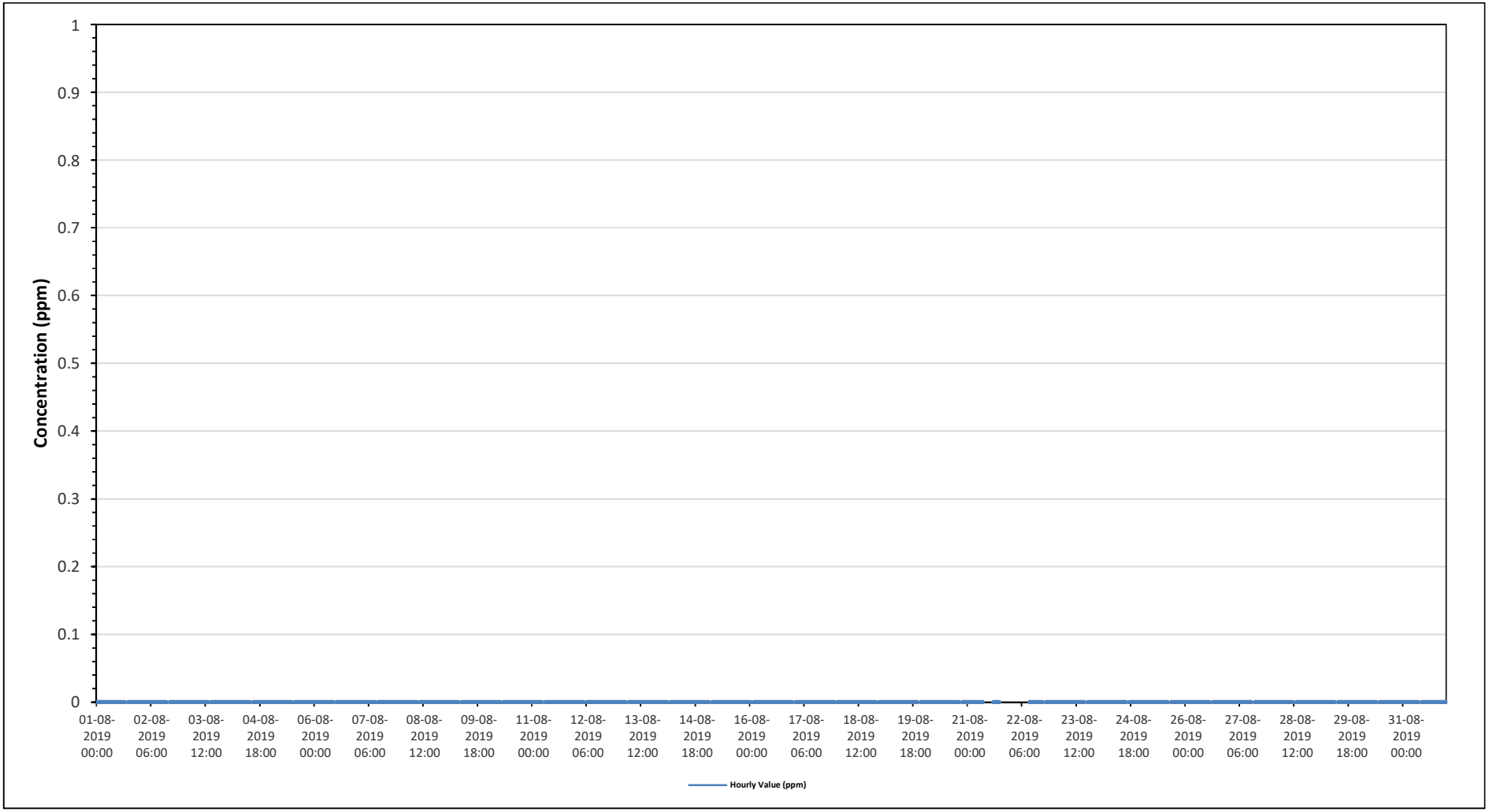
Maximum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on	Hours of Data:	692
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours of Missing Data:	17
Minimum Daily Value:	0.00	ppm	on August 1	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	Y	C	C	0.00	0.00	0.00	0.00	K	K	K	K	K	K	0.00	0.00	-
Aug 22	K	K	K	K	K	K	K	K	K	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

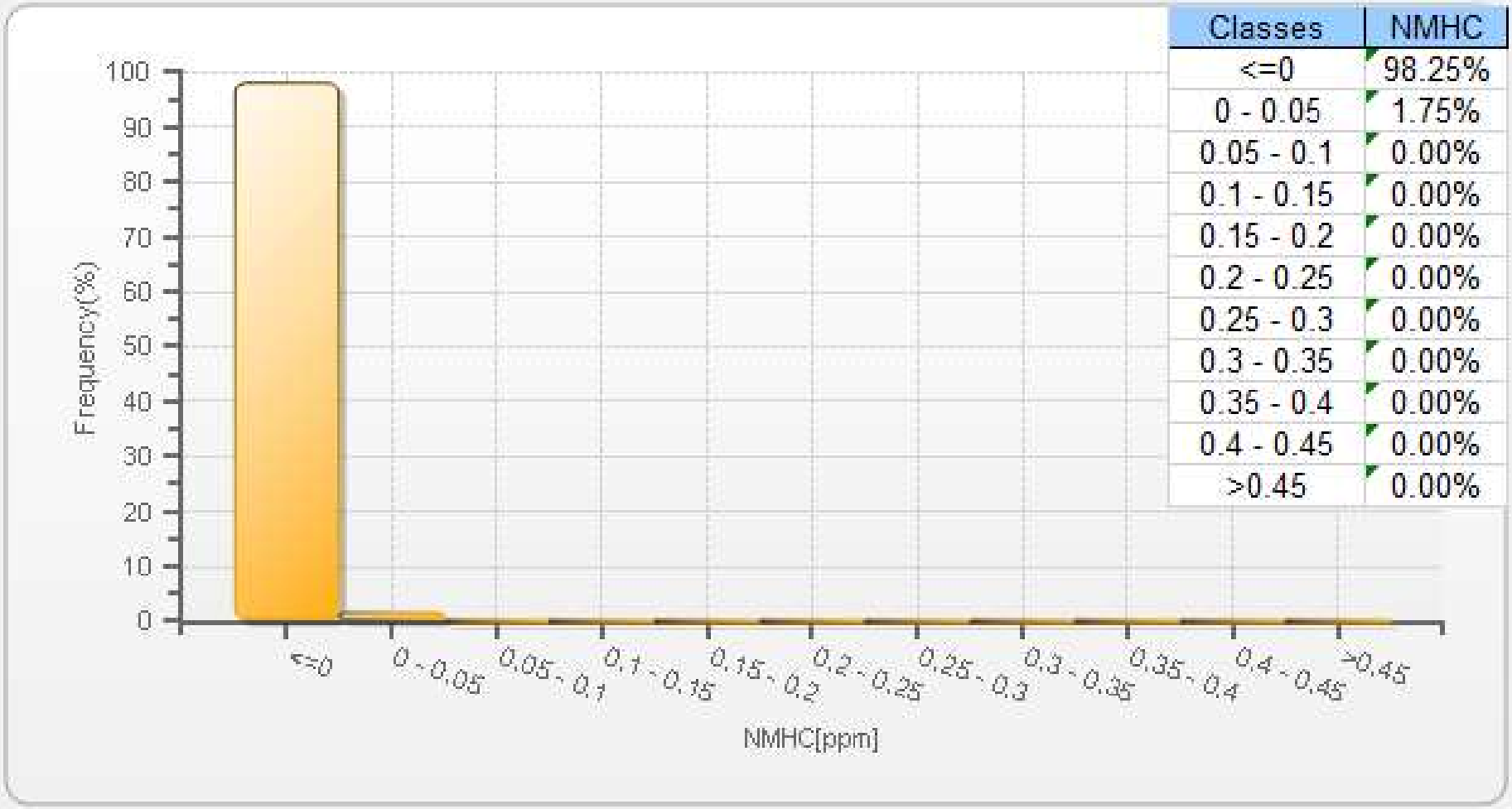
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for NMHC - Reno Station



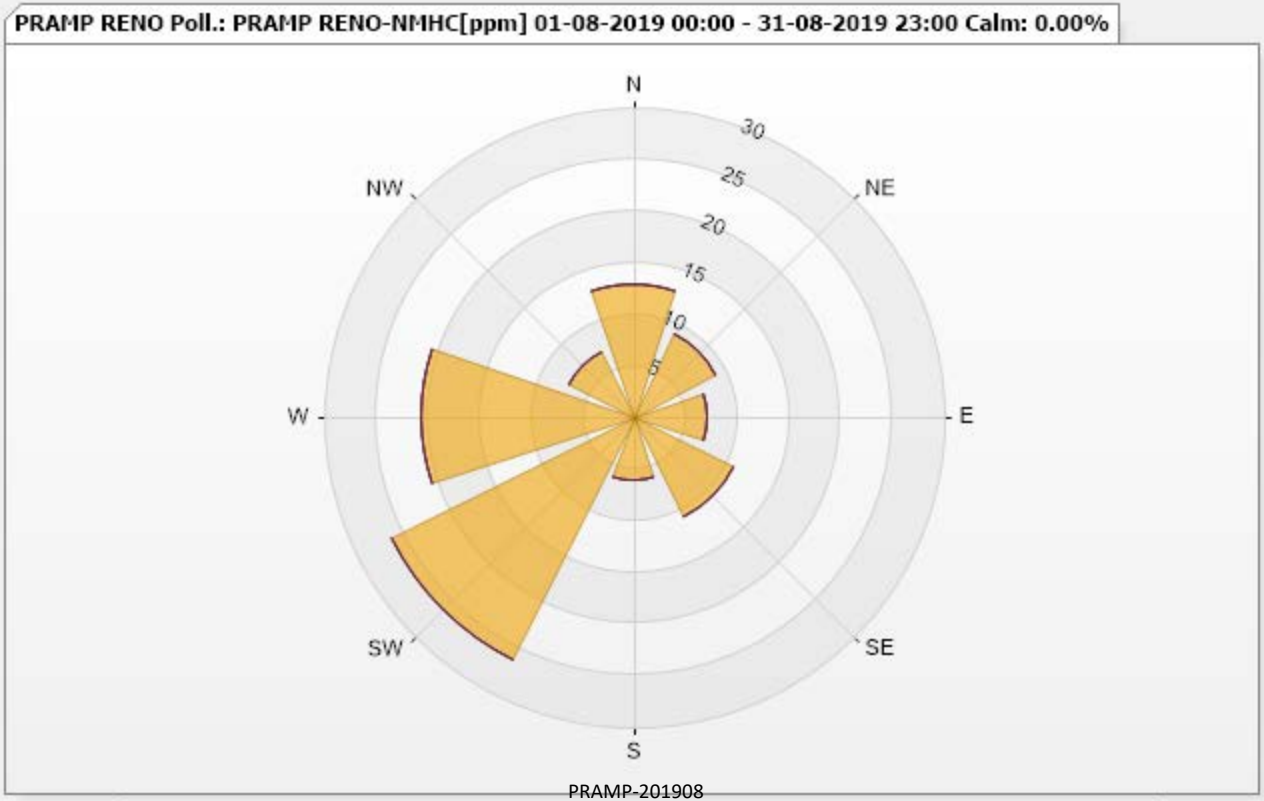
NMHC[ppm] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



Classes	NMHC
<=0	98.25%
0 - 0.05	1.75%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	12.85	0	0	0	0	12.85
NE	8.91	0	0	0	0	8.91
E	7.15	0	0	0	0	7.15
SE	10.8	0	0	0	0	10.8
S	6.28	0	0	0	0	6.28
SW	26.28	0	0	0	0	26.28
W	20.58	0	0	0	0	20.58
NW	7.15	0	0	0	0	7.15
Summary	100	0	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 0.00%
N
NE
E
SE
S
SW
W
NW
30
25
20
15
10
5
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

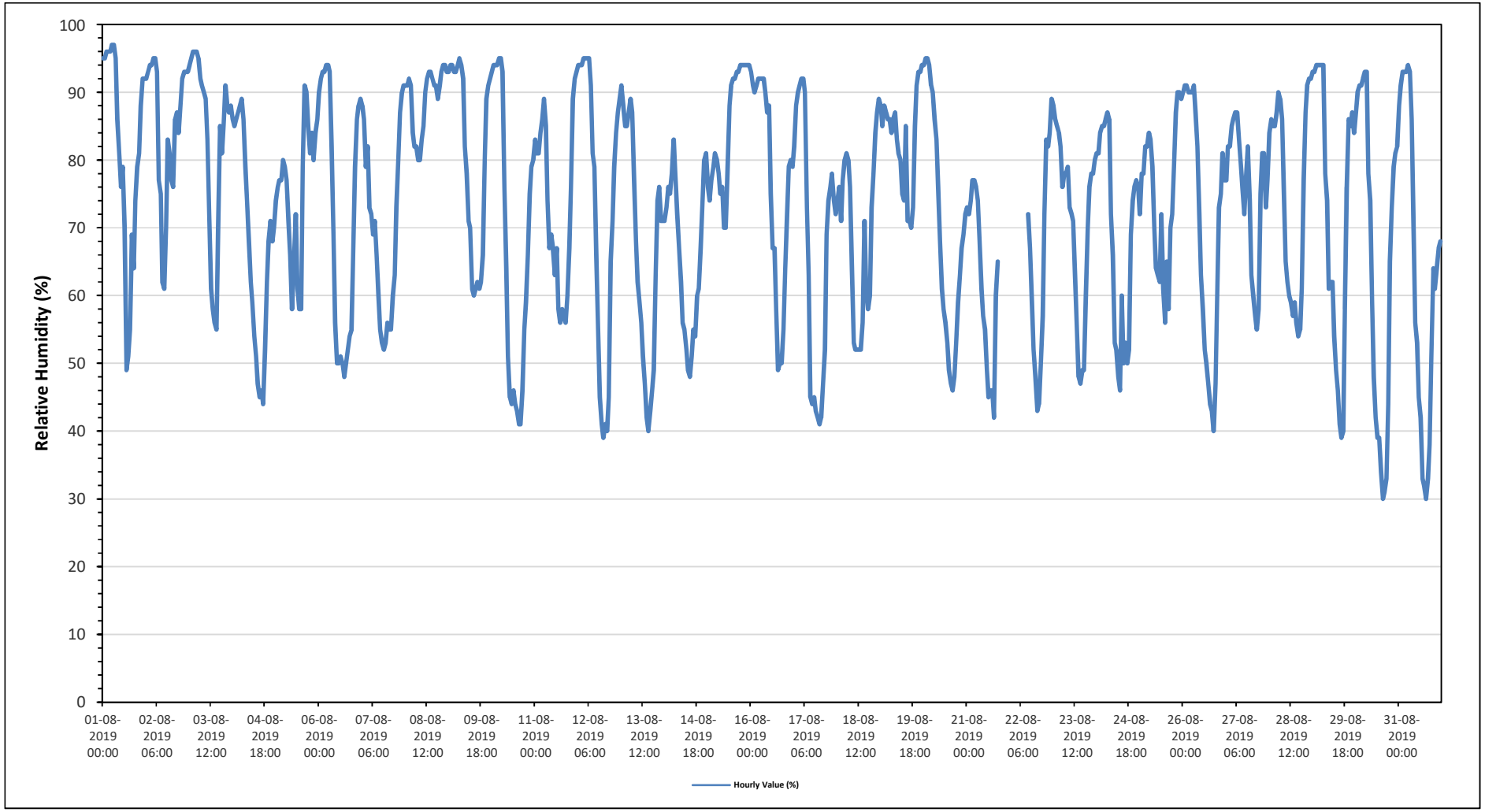
Maximum Hourly Value:	97	%	on August 1 at hour 5	Hours in Service:	744
Maximum Daily Value:	89.0	%	on	Hours of Data:	728
Minimum Hourly Value:	30	%	on August 30 at hour 15	Hours of Missing Data:	16
Minimum Daily Value:	62.1	%	on August 21	Hours of Calibration:	0
Monthly Average:	73.2	%		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	95	95	96	96	96	**97**	**97**	95	86	81	76	79	70	49	51	55	69	64	74	79	81	88	92	92	49	**97**	81
Aug 2	92	93	94	94	95	95	93	77	75	62	61	70	83	81	77	76	86	87	84	88	92	93	93	93	61	95	85
Aug 3	94	95	96	96	96	95	92	91	90	89	83	72	61	58	56	55	70	85	81	85	91	88	87	88	55	96	83
Aug 4	86	85	86	87	88	89	86	79	74	68	62	59	54	51	47	45	46	44	52	62	68	71	68	70	44	89	68
Aug 5	74	76	77	77	80	79	77	71	66	58	65	72	61	58	58	79	91	90	85	81	84	80	84	86	58	91	75
Aug 6	90	92	93	93	94	94	93	82	69	56	50	50	51	50	48	50	52	54	55	66	79	86	88	89	48	94	72
Aug 7	88	86	79	82	73	72	69	71	66	60	55	53	52	53	56	55	55	60	63	73	80	87	90	91	52	91	70
Aug 8	91	91	92	91	84	82	82	80	80	83	85	90	92	93	93	92	91	91	89	91	93	94	94	93	80	94	**89**
Aug 9	93	94	94	93	93	94	95	94	92	82	78	71	70	61	60	61	62	61	62	66	80	89	91	92	60	95	80
Aug 10	93	94	94	94	95	95	93	76	64	51	45	44	46	44	43	41	41	46	55	59	66	75	79	80	41	95	67
Aug 11	83	81	81	84	86	89	85	74	67	69	67	63	67	58	56	58	57	56	60	67	76	89	92	93	56	93	73
Aug 12	94	94	94	95	95	95	95	91	81	79	66	56	45	41	39	41	40	45	65	71	79	84	87	89	39	95	73
Aug 13	91	88	85	85	87	89	87	77	68	62	59	56	51	47	42	40	43	46	49	63	74	76	71	71	40	91	67
Aug 14	71	73	76	75	78	83	78	72	67	62	56	55	52	49	48	51	55	54	60	61	67	74	80	81	48	83	66
Aug 15	76	74	77	79	81	80	78	75	76	70	70	79	88	91	92	92	93	93	94	94	94	94	94	94	70	94	85
Aug 16	93	91	90	91	92	92	92	92	90	87	88	75	67	67	58	49	50	50	55	64	71	79	80	79	49	93	77
Aug 17	82	88	90	91	92	92	90	73	63	45	44	45	43	42	41	42	47	52	69	74	76	78	74	72	41	92	67
Aug 18	74	76	71	77	80	81	80	76	64	53	52	52	52	52	56	71	61	58	60	73	78	84	87	89	52	89	69
Aug 19	88	85	88	87	86	86	84	86	87	83	81	80	75	74	85	71	71	70	73	85	91	93	93	94	70	94	83
Aug 20	94	95	95	94	91	90	86	83	76	68	61	58	56	53	49	47	46	48	53	59	63	67	69	72	46	95	70
Aug 21	73	72	74	77	77	76	74	68	61	57	55	49	45	46	46	42	60	65	**K**	**K**	**K**	**K**	**K**	**K**	42	77	62
Aug 22	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	72	67	59	52	48	43	44	50	57	72	83	82	84	89	43	89	-
Aug 23	88	86	85	84	82	76	78	78	79	73	72	71	63	55	48	47	49	49	60	70	76	78	78	80	47	88	71
Aug 24	81	81	84	85	85	86	87	86	72	66	53	52	48	46	60	50	53	50	52	69	74	76	77	76	46	87	69
Aug 25	72	78	78	82	82	84	83	79	70	64	63	62	72	61	56	65	58	70	72	79	87	90	90	89	56	90	74
Aug 26	90	91	91	90	90	90	91	87	82	72	63	58	52	50	47	44	43	40	47	59	73	75	81	77	40	91	70
Aug 27	77	82	82	85	86	87	87	83	80	76	72	77	82	74	63	60	57	55	58	75	81	81	73	77	55	87	75
Aug 28	84	86	85	85	87	90	89	86	76	65	62	60	59	57	59	56	54	55	61	77	87	91	92	92	54	92	75
Aug 29	93	93	94	94	94	94	94	78	74	61	62	62	54	49	46	41	39	40	58	76	86	85	87	84	39	94	72
Aug 30	87	90	91	91	92	93	93	78	74	59	48	42	39	39	34	**30**	31	33	44	65	73	79	81	82	**30**	93	65
Aug 31	88	91	93	93	93	94	93	86	72	56	53	45	42	33	32	**30**	33	38	51	64	61	64	67	68	**30**	94	64
Diurnal Maximum	95	95	96	96	96	97	97	95	92	89	88	90	92	93	93	92	93	93	94	94	94	94	94	94			
Daiurnal Average	85.8	86.5	86.8	87.6	87.7	88.0	86.7	80.8	74.7	67.2	63.8	62.1	59.7	55.9	54.6	54.2	56.4	58.0	63.3	72.2	78.8	82.3	83.4	84.1			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for RH - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

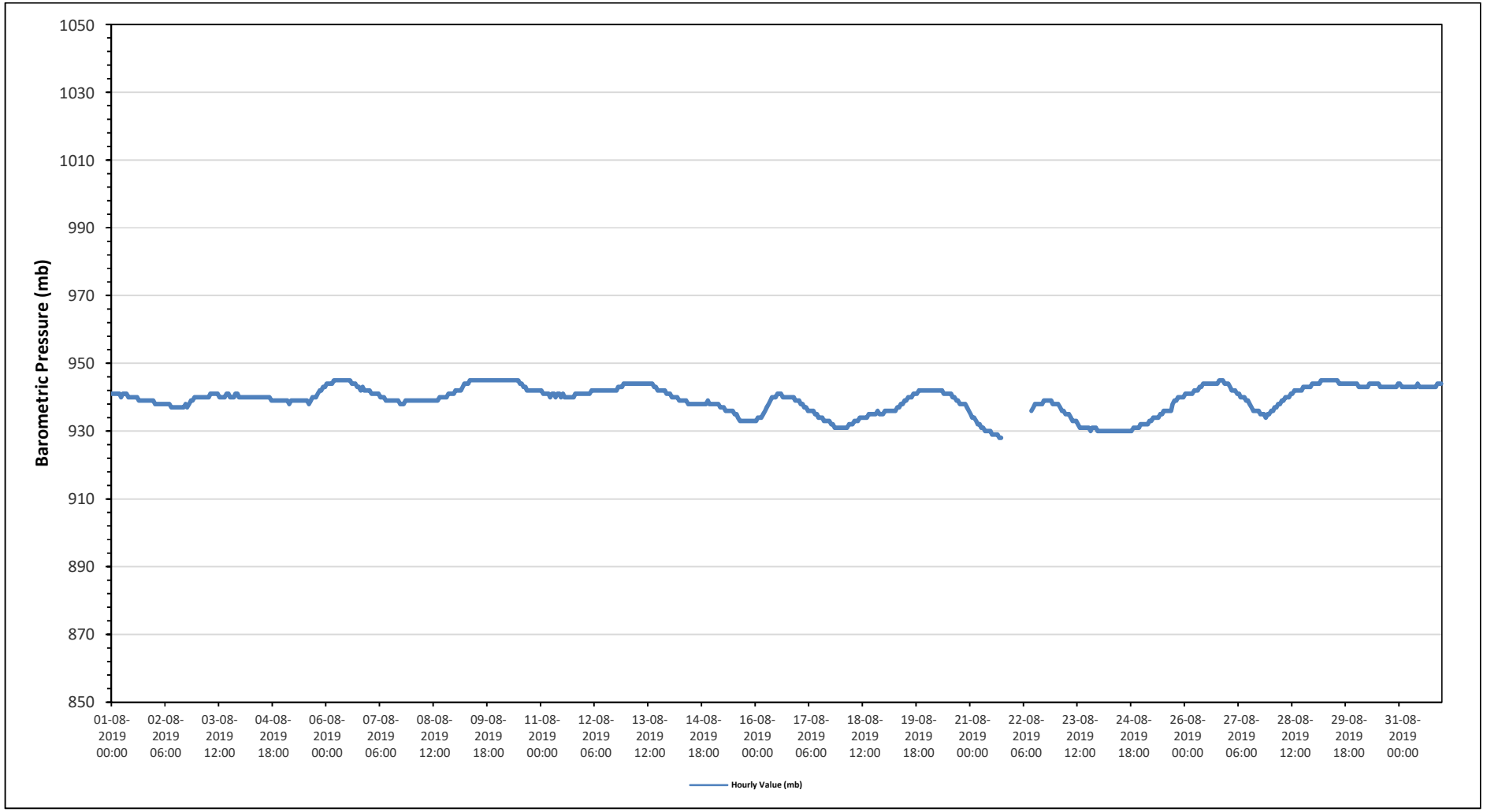
Maximum Hourly Value:	945	mb	on August 6 at hour 4	Hours in Service:	744
Maximum Daily Value:	944	mb	on	Hours of Data:	728
Minimum Hourly Value:	928	mb	on August 21 at hour 16	Hours of Missing Data:	16
Minimum Daily Value:	930	mb	on August 24	Hours of Calibration:	0
Monthly Average:	939	mb		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	941	941	941	941	941	940	941	941	941	940	940	940	940	940	940	939	939	939	939	939	939	939	939	939	939	941	940
Aug 2	938	938	938	938	938	938	938	938	938	937	937	937	937	937	937	937	937	938	937	938	939	939	940	940	937	940	938
Aug 3	940	940	940	940	940	940	940	941	941	941	941	941	940	940	940	940	941	941	940	940	940	941	941	940	940	941	940
Aug 4	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	939	939	939	939	939	939	939	939	940	940
Aug 5	939	939	939	938	939	939	939	939	939	939	939	939	939	939	938	939	940	940	940	941	942	942	943	943	938	943	940
Aug 6	944	944	944	944	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	944	944	944	943	943	942	943	942	942	942	942	**945**	944
Aug 7	942	941	941	941	941	941	940	940	940	939	939	939	939	939	939	939	939	938	938	938	939	939	939	939	938	942	940
Aug 8	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	940	940	940	940	940	941	941	941	941	939	941	940
Aug 9	942	942	942	942	943	944	944	944	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	942	**945**	944
Aug 10	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	944	944	943	943	942	942	942	942	942	942	942	942	942	**945**	944
Aug 11	942	941	941	941	941	940	941	941	940	941	941	940	941	940	940	940	940	940	940	941	941	941	941	941	940	942	941
Aug 12	941	941	941	941	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	943	943	943	944	944	941	944	942
Aug 13	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944	943	943	942	942	942	942	942	941	941	941	944	943
Aug 14	941	940	940	940	940	939	939	939	939	939	938	938	938	938	938	938	938	938	938	938	938	939	938	938	938	941	939
Aug 15	938	938	938	938	937	937	937	936	936	936	936	936	935	935	934	933	933	933	933	933	933	933	933	933	933	938	935
Aug 16	933	934	934	934	935	936	937	938	939	940	940	940	941	941	941	940	940	940	940	940	940	940	939	939	933	941	938
Aug 17	939	938	938	937	937	936	936	936	936	935	935	934	934	934	933	933	933	933	932	932	931	931	931	931	931	939	934
Aug 18	931	931	931	931	932	932	932	933	933	933	934	934	934	934	934	935	935	935	935	935	936	935	935	935	931	936	934
Aug 19	936	936	936	936	936	936	936	937	937	938	938	939	939	940	940	940	941	941	941	942	942	942	942	942	936	942	939
Aug 20	942	942	942	942	942	942	942	942	942	941	941	941	941	941	940	940	939	939	938	938	938	938	937	936	936	942	940
Aug 21	935	934	934	933	932	932	931	931	930	930	930	930	929	929	929	929	**928**	**928**	**K**	**K**	**K**	**K**	**K**	**K**	**928**	935	931
Aug 22	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	936	937	938	938	938	938	938	939	939	939	939	939	938	938	936	939	-
Aug 23	938	938	937	936	936	935	935	935	934	933	933	933	932	931	931	931	931	931	931	930	931	931	931	930	930	938	933
Aug 24	930	930	930	930	930	930	930	930	930	930	930	930	930	930	930	930	930	930	930	931	931	931	931	932	930	932	930
Aug 25	932	932	932	932	933	933	934	934	934	934	935	935	936	936	936	936	936	938	939	939	940	940	940	940	932	940	936
Aug 26	941	941	941	941	941	942	942	942	943	943	944	944	944	944	944	944	944	944	944	**945**	**945**	**945**	944	944	941	**945**	943
Aug 27	944	943	942	942	942	941	941	940	940	940	939	939	938	937	936	936	936	936	935	935	935	934	935	935	934	944	938
Aug 28	936	936	937	937	938	938	939	939	940	940	940	941	941	942	942	942	942	942	943	943	943	943	943	944	936	944	940
Aug 29	944	944	944	944	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	**945**	944	944	944	944	944	944	944	944	944	944	944	**945**	**944**
Aug 30	944	943	943	943	943	943	943	944	944	944	944	944	944	943	943	943	943	943	943	943	943	943	943	944	943	944	943
Aug 31	944	943	943	943	943	943	943	943	943	943	944	943	943	943	943	943	943	943	943	943	943	944	944	944	943	944	943
Diurnal Maximum	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945			
Daiurnal Average	940	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	940	940	940	940			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for BP - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

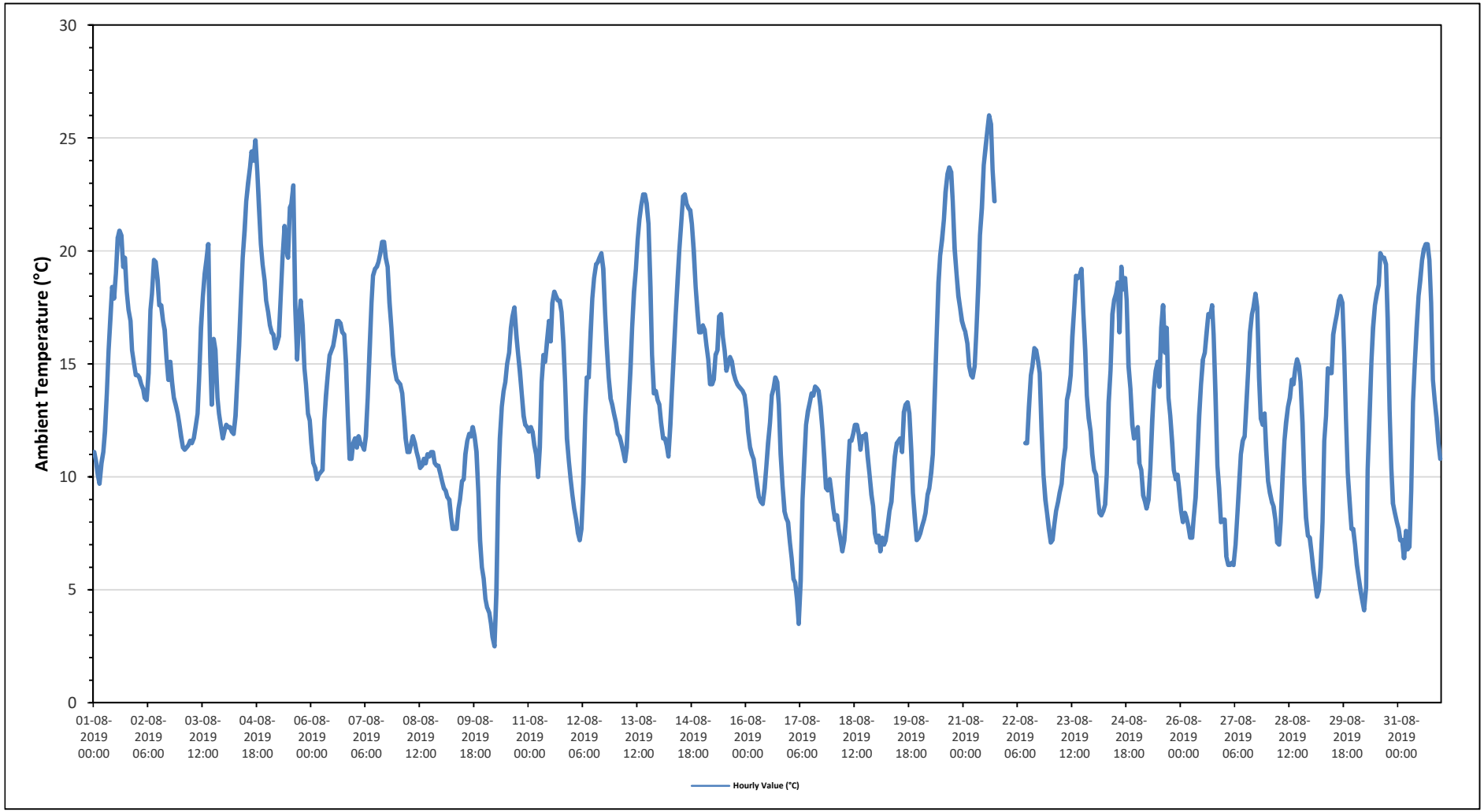
Maximum Hourly Value:	26.0	°C	on August 21 at hour 14	Hours in Service:	744
Maximum Daily Value:	19.8	°C	on	Hours of Data:	728
Minimum Hourly Value:	2.5	°C	on August 10 at hour 5	Hours of Missing Data:	16
Minimum Daily Value:	9.4	°C	on August 9	Hours of Calibration:	0
Monthly Average:	13.4	°C		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	11.1	10.7	10.1	9.7	10.6	11.1	12.0	13.7	15.6	17.1	18.4	17.9	19.0	20.6	20.9	20.7	19.3	19.7	18.2	17.4	16.9	15.6	15.0	14.5	9.7	20.9	15.7
Aug 2	14.5	14.4	14.1	13.9	13.5	13.4	14.6	17.4	18.1	19.6	19.5	18.7	17.6	17.6	16.9	16.5	15.2	14.3	15.1	14.2	13.5	13.2	12.8	12.4	12.4	19.6	15.5
Aug 3	11.8	11.3	11.2	11.3	11.4	11.6	11.5	11.7	12.2	12.8	14.3	16.6	18.0	19.0	19.6	20.3	15.3	13.2	16.1	15.6	13.5	12.8	12.2	11.7	11.2	20.3	14.0
Aug 4	12.1	12.3	12.2	12.2	12.0	11.9	12.7	14.4	15.8	17.9	19.7	20.9	22.2	23.0	23.7	24.4	24.0	24.9	23.5	22.0	20.3	19.4	18.7	17.8	11.9	24.9	18.3
Aug 5	17.3	16.7	16.4	16.3	15.7	15.9	16.2	18.0	19.7	21.1	20.1	19.7	21.9	22.1	22.9	17.6	15.2	16.8	17.8	16.7	14.8	14.1	12.8	12.5	12.5	22.9	17.4
Aug 6	11.5	10.6	10.4	9.9	10.1	10.2	10.3	12.5	13.6	14.6	15.4	15.6	15.8	16.3	16.9	16.9	16.8	16.4	16.3	15.1	12.7	10.8	10.8	11.5	9.9	16.9	13.4
Aug 7	11.7	11.3	11.8	11.5	11.4	11.2	11.8	13.5	15.6	17.7	18.9	19.2	19.3	19.5	19.9	20.4	20.4	19.7	19.3	17.7	16.6	15.4	14.7	14.3	11.2	20.4	16.0
Aug 8	14.2	14.1	13.7	12.7	11.7	11.1	11.1	11.5	11.8	11.5	11.1	10.8	10.4	10.5	10.8	10.6	11.0	10.9	11.1	11.1	10.6	10.5	10.5	10.2	10.2	14.2	11.4
Aug 9	9.8	9.5	9.4	9.1	9.0	8.2	7.7	7.7	7.7	8.6	9.0	9.8	9.9	11.0	11.6	11.9	11.8	12.2	11.8	11.1	9.3	7.2	6.0	5.5	5.5	12.2	9.4
Aug 10	4.6	4.2	4.0	3.5	2.9	**2.5**	4.9	9.6	11.7	13.1	13.8	14.2	15.0	15.5	16.6	17.1	17.5	16.3	15.4	14.7	13.7	12.7	12.3	12.2	**2.5**	17.5	11.2
Aug 11	12.0	12.2	12.0	11.4	11.0	10.0	11.3	14.2	15.4	15.1	16.0	16.9	16.0	17.7	18.2	18.0	17.8	17.8	17.3	15.9	14.2	11.7	10.7	9.9	9.9	18.2	14.3
Aug 12	9.2	8.6	8.1	7.5	7.2	7.7	9.7	12.7	14.4	14.4	16.4	17.9	18.8	19.4	19.5	19.7	19.9	19.2	17.2	15.8	14.4	13.5	13.2	12.8	7.2	19.9	14.1
Aug 13	12.4	11.9	11.8	11.5	11.1	10.7	11.3	13.1	14.8	16.6	18.2	19.2	20.5	21.4	22.0	22.5	22.5	22.1	21.2	18.4	15.4	13.7	13.8	13.4	10.7	22.5	16.2
Aug 14	13.2	12.4	11.7	11.7	11.4	10.9	12.3	13.8	15.5	17.2	18.7	20.0	21.1	22.4	22.5	22.1	21.9	21.8	21.2	20.0	18.4	17.3	16.4	16.4	10.9	22.5	17.1
Aug 15	16.7	16.5	15.8	15.2	14.1	14.1	14.3	15.4	15.6	17.1	17.2	16.2	15.6	14.7	15.0	15.3	15.1	14.6	14.3	14.1	14.0	13.9	13.8	13.6	13.6	17.2	15.1
Aug 16	13.0	12.0	11.3	11.0	10.8	10.2	9.6	9.1	8.9	8.8	9.5	10.4	11.5	12.4	13.6	13.9	14.4	14.2	13.2	11.0	9.6	8.5	8.2	8.0	8.0	14.4	11.0
Aug 17	7.1	6.4	5.5	5.3	4.6	3.5	5.4	9.0	10.8	12.3	12.9	13.3	13.7	13.6	14.0	13.9	13.8	13.1	12.1	10.8	9.5	9.4	9.9	9.3	3.5	14.0	10.0
Aug 18	8.6	8.1	8.3	7.7	7.2	6.7	7.2	8.1	10.1	11.6	11.6	11.9	12.3	12.3	11.9	11.2	11.8	11.8	11.9	10.9	10.1	9.2	8.7	7.5	6.7	12.3	9.9
Aug 19	7.1	7.4	6.7	7.3	7.0	7.2	7.8	8.5	8.9	9.9	10.9	11.5	11.6	11.7	11.1	12.9	13.2	13.3	12.8	11.1	9.3	8.2	7.2	7.3	6.7	13.3	9.6
Aug 20	7.5	7.8	8.1	8.4	9.2	9.5	10.2	11.0	13.6	16.2	18.6	19.8	20.5	21.4	22.6	23.4	23.7	23.5	22.2	20.1	19.0	18.0	17.5	16.9	7.5	23.7	16.2
Aug 21	16.6	16.4	15.9	14.9	14.5	14.4	14.9	16.5	18.5	20.7	21.9	23.8	24.6	25.3	**26.0**	25.6	23.6	22.2	**K**	**K**	**K**	**K**	**K**	**K**	14.4	**26.0**	**19.8**
Aug 22	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	11.5	11.5	13.1	14.5	14.9	15.7	15.6	15.1	14.6	12.1	10.1	9.0	8.4	7.7	7.7	15.7	-
Aug 23	7.1	7.2	7.9	8.5	8.9	9.3	9.7	10.7	11.3	13.4	13.8	14.5	16.2	17.5	18.9	18.8	18.9	19.2	17.3	15.6	13.6	12.6	12.0	11.0	7.1	19.2	13.1
Aug 24	10.3	10.1	9.1	8.4	8.3	8.5	8.8	10.1	13.3	14.7	17.2	17.8	18.1	18.6	16.4	19.3	18.3	18.8	17.8	14.9	13.9	12.3	11.7	11.8	8.3	19.3	13.7
Aug 25	12.2	10.6	10.3	9.2	8.9	8.6	9.0	10.4	12.5	13.9	14.7	15.1	14.0	16.6	17.6	15.5	16.6	13.5	12.7	11.5	10.3	9.9	10.1	9.4	8.6	17.6	12.2
Aug 26	8.5	8.0	8.4	8.2	7.8	7.3	7.3	8.2	9.1	11.0	12.7	14.1	15.2	15.5	16.3	17.2	17.1	17.6	16.3	13.6	10.5	9.5	8.0	8.1	7.3	17.6	11.5
Aug 27	8.1	6.5	6.1	6.1	6.2	6.1	7.0	8.3	9.7	11.0	11.6	11.8	13.1	14.7	16.4	17.2	17.5	18.1	17.5	14.4	12.6	12.3	12.8	11.2	6.1	18.1	11.5
Aug 28	9.8	9.3	8.9	8.7	8.1	7.1	7.0	8.0	10.0	11.6	12.4	13.1	13.5	14.3	14.1	14.8	15.2	14.9	14.2	12.4	9.7	8.2	7.4	7.3	7.0	15.2	10.8
Aug 29	6.6	5.9	5.3	4.7	5.0	6.0	8.0	11.6	12.7	14.8	14.6	14.6	16.3	16.8	17.2	17.8	18.0	17.7	15.5	12.6	10.2	8.9	7.7	7.7	4.7	18.0	11.5
Aug 30	7.0	6.1	5.5	5.0	4.5	4.1	5.1	10.3	12.7	15.1	16.6	17.6	18.1	18.5	19.9	19.7	19.7	19.4	17.0	13.0	10.4	8.8	8.4	8.0	4.1	19.9	12.1
Aug 31	7.7	7.2	7.2	6.4	7.6	6.8	6.9	9.4	13.3	15.0	16.6	18.0	18.7	19.6	20.1	20.3	20.3	19.6	17.7	14.3	13.4	12.6	11.5	10.8	6.4	20.3	13.4
Diurnal Maximum	17.3	16.7	16.4	16.3	15.7	15.9	16.2	18.0	19.7	21.1	21.9	23.8	24.6	25.3	26.0	25.6	24.0	24.9	23.5	22.0	20.3	19.4	18.7	17.8			
Daiurnal Average	10.6	10.2	9.9	9.6	9.4	9.2	9.9	11.6	13.1	14.5	15.3	15.9	16.5	17.2	17.7	17.8	17.5	17.2	16.3	14.6	13.0	12.0	11.4	11.0			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for AT - Reno Station



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

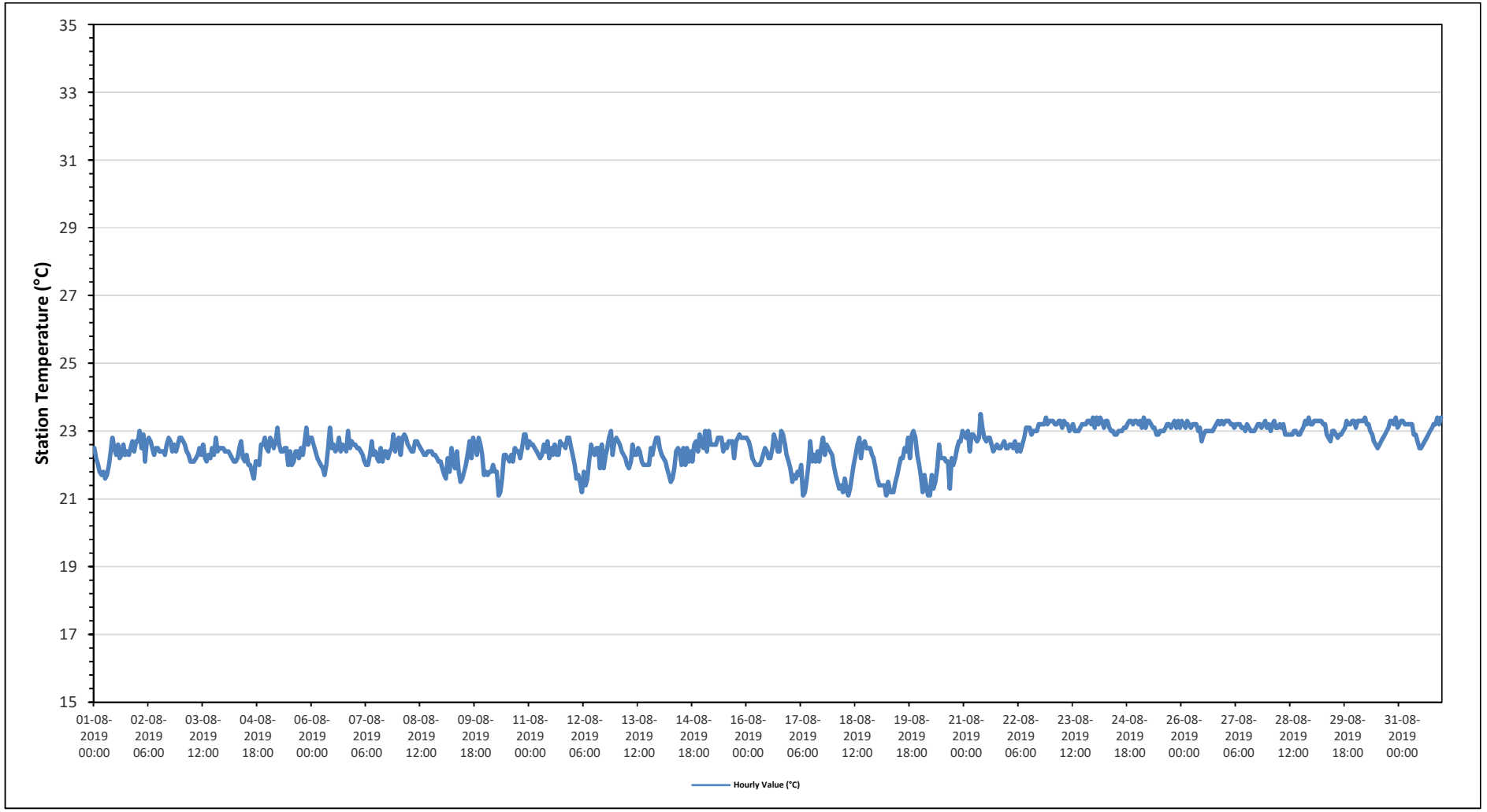
Maximum Hourly Value:	23.5	°C	on August 21 at hour 9	Hours in Service:	744
Maximum Daily Value:	23.2	°C	on	Hours of Data:	744
Minimum Hourly Value:	21.1	°C	on August 10 at hour 7	Hours of Missing Data:	0
Minimum Daily Value:	21.9	°C	on August 19	Hours of Calibration:	0
Monthly Average:	22.6	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	22.5	22.2	22.0	21.8	21.7	21.8	21.6	21.7	22.0	22.4	22.8	22.5	22.3	22.6	22.2	22.3	22.6	22.3	22.4	22.3	22.5	22.7	22.4	22.7	21.6	22.8	22.3
Aug 2	22.7	23.0	22.5	22.9	22.1	22.7	22.8	22.7	22.5	22.3	22.5	22.5	22.4	22.4	22.4	22.3	22.6	22.8	22.7	22.4	22.6	22.4	22.6	22.8	22.1	23.0	22.6
Aug 3	22.8	22.7	22.6	22.4	22.3	22.1	22.1	22.1	22.2	22.3	22.5	22.3	22.6	22.2	22.1	22.3	22.2	22.5	22.3	22.8	22.4	22.5	22.5	22.5	22.1	22.8	22.4
Aug 4	22.4	22.4	22.4	22.3	22.2	22.1	22.1	22.2	22.5	22.7	22.2	22.1	22.3	22.0	22.0	21.8	21.6	22.1	22.1	22.0	22.6	22.6	22.8	22.5	21.6	22.8	22.3
Aug 5	22.4	22.8	22.7	22.5	22.7	23.1	22.6	22.4	22.4	22.5	22.5	22.0	22.4	22.0	22.1	22.4	22.4	22.2	22.5	22.3	22.7	23.1	22.6	22.8	22.0	23.1	22.5
Aug 6	22.8	22.6	22.4	22.2	22.1	22.0	21.9	21.7	22.0	22.5	23.1	22.5	22.6	22.4	22.5	22.8	22.4	22.6	22.5	22.4	23.0	22.5	22.7	22.6	21.7	23.1	22.5
Aug 7	22.6	22.5	22.5	22.4	22.3	22.1	22.0	22.0	22.3	22.7	22.3	22.4	22.2	22.1	22.5	22.1	22.4	22.4	22.2	22.4	22.5	22.9	22.4	22.7	22.0	22.9	22.4
Aug 8	22.8	22.3	22.8	22.9	22.8	22.6	22.5	22.4	22.4	22.7	22.7	22.6	22.5	22.4	22.3	22.3	22.4	22.4	22.4	22.3	22.3	22.2	22.1	22.1	22.1	22.9	22.5
Aug 9	21.9	21.7	21.6	22.2	21.8	22.5	22.2	21.9	22.4	21.8	21.5	21.6	21.8	22.0	22.3	22.7	22.2	22.8	22.6	22.3	22.8	22.6	22.3	21.7	21.5	22.8	22.1
Aug 10	21.8	21.7	21.8	21.8	22.0	21.8	21.8	**21.1**	21.2	21.6	22.3	22.3	22.2	22.1	22.3	22.1	22.5	22.4	22.4	22.2	22.5	22.9	22.9	22.5	**21.1**	22.9	22.1
Aug 11	22.7	22.6	22.6	22.5	22.4	22.3	22.2	22.3	22.6	22.4	22.7	22.2	22.5	22.3	22.6	22.3	22.3	22.7	22.6	22.6	22.5	22.8	22.8	22.5	22.2	22.8	22.5
Aug 12	22.3	22.0	21.6	21.7	21.5	21.2	21.8	21.4	21.6	22.1	22.6	22.4	22.3	22.5	22.5	21.9	22.6	21.9	22.3	22.5	22.8	23.0	22.3	22.7	21.2	23.0	22.1
Aug 13	22.8	22.7	22.6	22.4	22.3	22.2	22.0	21.9	22.1	22.6	22.3	22.3	22.5	22.4	22.1	22.0	22.0	22.0	22.0	22.5	22.3	22.6	22.8	22.8	21.9	22.8	22.3
Aug 14	22.5	22.3	22.2	22.1	21.9	21.7	21.5	21.6	21.9	22.4	22.5	22.4	22.0	22.5	22.0	22.5	22.1	22.4	22.1	22.6	22.7	22.4	22.9	22.6	21.5	22.9	22.2
Aug 15	22.5	23.0	22.4	23.0	22.6	22.6	22.6	22.6	22.8	22.8	22.8	22.4	22.6	22.5	22.7	22.7	22.7	22.2	22.7	22.8	22.9	22.8	22.8	22.8	22.2	23.0	22.7
Aug 16	22.8	22.7	22.5	22.2	22.1	22.0	22.0	22.0	22.1	22.3	22.5	22.4	22.2	22.2	22.5	22.9	22.7	22.4	22.4	23.0	22.9	22.6	22.3	22.1	22.0	23.0	22.4
Aug 17	21.9	21.5	21.7	21.6	21.8	21.7	22.0	**21.1**	21.2	21.5	22.0	22.7	22.1	22.3	22.1	22.4	22.1	22.5	22.8	22.3	22.6	22.5	22.4	22.3	**21.1**	22.8	22.0
Aug 18	22.0	21.7	21.5	21.3	21.4	21.2	21.6	21.3	**21.1**	21.3	21.7	22.0	22.3	22.6	22.8	22.2	22.6	22.7	22.5	22.5	22.5	22.3	22.2	21.9	**21.1**	22.8	22.0
Aug 19	21.6	21.4	21.4	21.4	21.4	**21.1**	21.5	21.2	21.2	21.2	21.5	21.7	22.0	22.2	22.2	22.5	22.4	22.8	22.2	22.9	23.0	22.8	22.3	22.0	**21.1**	23.0	21.9
Aug 20	21.7	21.2	21.7	21.4	**21.1**	**21.1**	21.7	21.3	21.5	21.9	22.6	22.2	22.2	22.2	22.1	22.1	21.3	22.2	22.0	22.2	22.5	22.7	22.7	23.0	**21.1**	23.0	21.9
Aug 21	22.9	22.8	23.0	22.4	22.9	22.9	22.8	22.7	22.8	**23.5**	23.1	22.8	22.7	22.8	22.8	22.6	22.4	22.5	22.6	22.5	22.5	22.6	22.7	22.5	22.4	**23.5**	22.7
Aug 22	22.5	22.6	22.6	22.5	22.7	22.4	22.6	22.4	22.6	22.8	23.1	23.1	23.1	22.9	23.0	23.0	23.0	23.2	23.2	23.2	23.2	23.4	23.2	23.3	22.4	23.4	22.9
Aug 23	23.3	23.3	23.2	23.2	23.3	23.3	23.1	23.3	23.2	23.2	23.0	23.1	23.2	23.0	23.0	23.0	23.1	23.2	23.2	23.2	23.3	23.3	23.2	23.4	23.0	23.4	**23.2**
Aug 24	23.1	23.4	23.2	23.4	23.3	23.1	23.3	23.3	23.1	23.0	23.0	22.9	22.9	23.0	23.0	23.0	23.1	23.1	23.2	23.3	23.3	23.2	23.3	23.3	22.9	23.4	23.2
Aug 25	23.2	23.3	23.1	23.4	23.1	23.3	23.3	23.2	23.1	23.1	22.9	22.9	23.0	23.0	23.0	23.1	23.2	23.2	23.1	23.2	23.3	23.1	23.3	23.1	22.9	23.4	23.1
Aug 26	23.3	23.2	23.1	23.3	23.2	23.1	23.2	23.2	23.2	23.0	23.1	22.7	22.9	23.0	23.0	23.0	23.0	23.0	23.1	23.2	23.3	23.2	23.3	23.2	22.7	23.3	23.1
Aug 27	23.3	23.3	23.3	23.2	23.2	23.1	23.2	23.2	23.2	23.1	23.1	23.0	23.2	23.1	23.0	23.0	23.0	23.1	23.2	23.2	23.1	23.2	23.3	23.1	23.0	23.3	23.2
Aug 28	23.2	23.0	23.2	23.3	23.1	23.1	23.2	23.1	23.2	22.9	22.9	22.9	22.9	22.9	23.0	23.0	22.9	22.9	23.0	23.1	23.3	23.2	23.4	23.2	22.9	23.4	23.1
Aug 29	23.2	23.3	23.3	23.3	23.3	23.3	23.2	23.2	22.9	22.8	22.7	23.0	23.0	22.9	22.8	22.9	22.9	23.0	23.1	23.3	23.2	23.2	23.3	23.3	22.7	23.3	23.1
Aug 30	23.1	23.3	23.3	23.3	23.3	23.4	23.2	23.2	23.0	22.9	22.7	22.6	22.5	22.6	22.7	22.8	22.9	23.0	23.1	23.3	23.3	23.2	23.4	23.1	22.5	23.4	23.1
Aug 31	23.2	23.3	23.3	23.2	23.2	23.2	23.2	23.2	22.9	22.9	22.7	22.5	22.5	22.6	22.7	22.8	22.9	23.0	23.1	23.2	23.2	23.4	23.2	23.4	22.5	23.4	23.0
Diurnal Maximum	23.3	23.4	23.3	23.4	23.3	23.4	23.3	23.3	23.2	23.5	23.1	23.1	23.2	23.1	23.0	23.1	23.2	23.2	23.2	23.3	23.3	23.4	23.4	23.4			
Daiurnal Average	22.6	22.6	22.5	22.5	22.4	22.4	22.4	22.3	22.4	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.7	22.8	22.8	22.8	22.7			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for ST - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

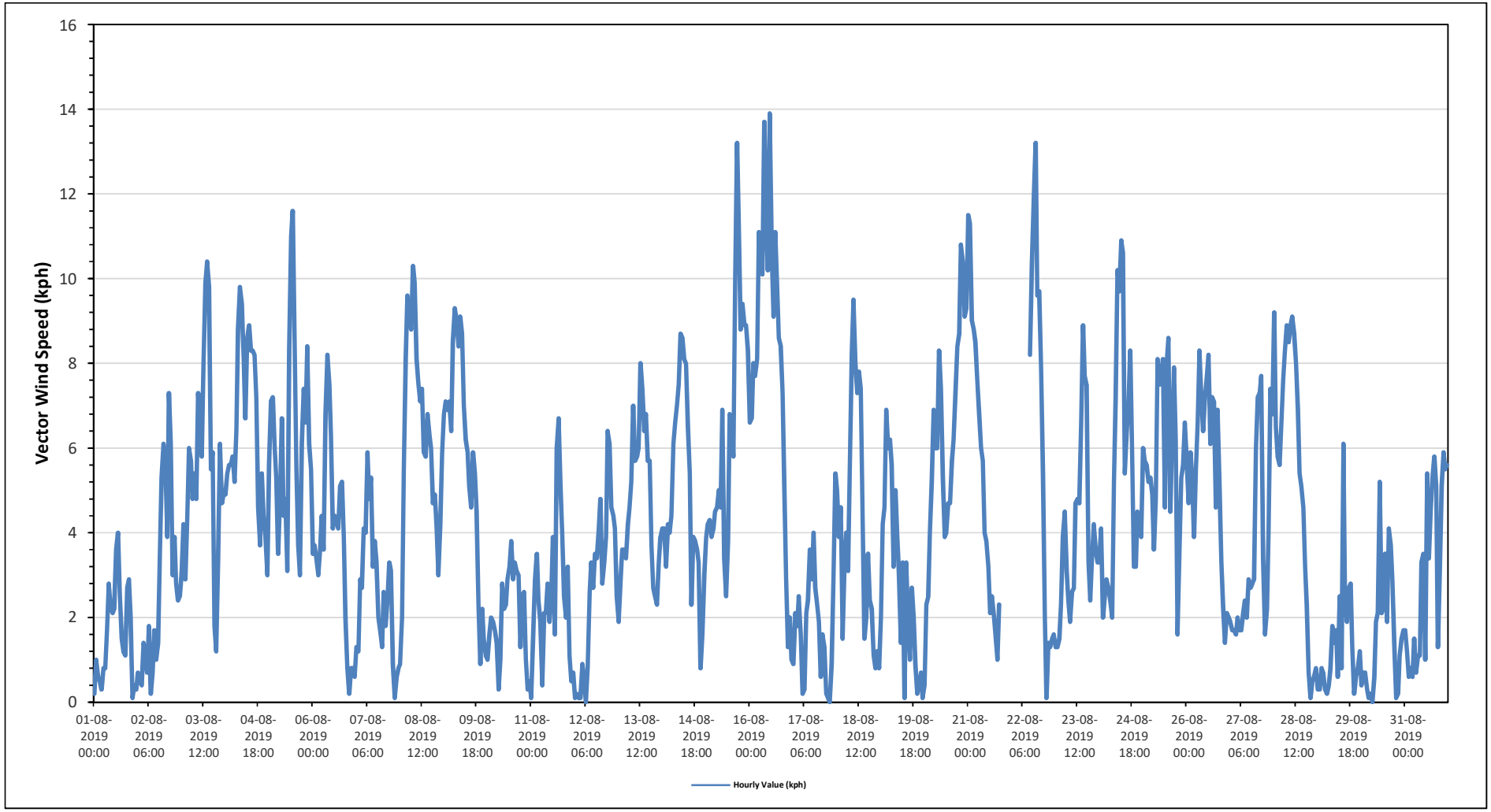
Maximum Hourly Value:	13.9	kph	on August 16 at hour 11	Hours in Service:	744
Maximum Daily Value:	8.1	kph	on	Hours of Data:	728
Minimum Hourly Value:	0.0	kph	on August 12 at hour 6	Hours of Missing Data:	16
Minimum Daily Value:	1.4	kph	on August 29	Hours of Calibration:	0
Monthly Average:	1.3	kph		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.2	1	0.6	0.5	0.3	0.8	0.8	1.7	2.8	2.2	2.1	2.2	3.6	4	2.5	1.5	1.2	1.1	2.7	2.9	2	0.1	0.4	0.3	0.1	4.0	1.6
Aug 2	0.7	0.5	0.4	1.4	1.1	0.7	1.8	0.2	0.7	1.7	1	1.4	3.6	5.3	6.1	5.7	3.9	7.3	6.1	3	3.9	2.8	2.4	2.5	0.2	7.3	2.7
Aug 3	3.1	4.2	2.9	4.3	6	5.7	4.8	5.4	4.8	7.3	6.6	5.8	8.1	9.9	10.4	9.8	5.5	5.9	1.8	1.2	3.4	6.1	4.7	4.9	1.2	10.4	5.5
Aug 4	4.9	5.4	5.6	5.6	5.8	5.2	6.4	8.8	9.8	9.4	8.1	6.7	8.6	8.9	8.3	8.3	8.2	7.2	4.6	3.7	5.4	4.4	3.9	3	3.0	9.8	6.5
Aug 5	5.6	7.1	7.2	6	5.3	3.5	4.8	6.7	4.4	4.8	3.1	8.3	11	11.6	8.5	5.5	3.7	3	6.1	7.4	6.6	8.4	6.1	5.5	3.0	11.6	6.3
Aug 6	3.5	3.7	3.4	3	3.6	4.4	3.6	6.8	8.2	7.5	6.3	4.1	4.4	4.3	4.1	5.1	5.2	3.9	2	0.8	0.2	0.8	0.8	0.6	0.2	8.2	3.8
Aug 7	1.3	1.2	2.9	2.7	4.1	4	5.9	4.8	5.3	3.2	3.8	3.3	2	1.7	1.3	2.6	1.8	2.4	3.3	3.1	0.9	0.1	0.6	0.8	0.1	5.9	2.6
Aug 8	0.9	2	5.5	8.1	9.6	9.1	8.8	10.3	9.9	8.1	7.5	7.1	7.4	5.9	5.8	6.8	6.3	6	4.7	4.9	4.1	3	4.2	5.9	0.9	10.3	6.3
Aug 9	6.8	7.1	6.9	7.1	6.4	8.5	9.3	9	8.4	9.1	8.7	7	6.2	5.9	5.1	4.6	5.9	5.4	4.5	2.3	0.9	2.2	1.5	1.1	0.9	9.3	5.8
Aug 10	1	1.6	2	1.9	1.7	1.4	0.3	1	2.8	2.2	2.3	2.9	3.2	3.8	2.9	3.3	3.1	3	1.3	2.5	2.6	1	0.3	0.5	0.3	3.8	2.0
Aug 11	0.1	1.5	2.9	3.5	2.4	1.9	0.4	2.1	2.1	2.8	1.9	2.6	3.9	1.6	6	6.7	5.2	4	2.5	2	3.2	1.1	0.5	0.7	0.1	6.7	2.6
Aug 12	0.1	0.2	0.1	0.1	0.9	0.6	**0**	0.8	2.6	3.3	2.7	3.5	3.4	4.1	4.8	2.8	3.3	3.9	6.4	6.1	4.6	4.4	4.1	2.5	**0.0**	6.4	2.7
Aug 13	1.9	2.9	3.6	3.6	3.4	4.2	4.6	5.2	7	5.7	5.8	6	8	7.4	6.4	6.8	5.7	5.7	3.7	2.7	2.5	2.3	3.3	3.9	1.9	8.0	4.7
Aug 14	4.1	4.1	3.2	4.2	4	4.4	6.1	6.6	7	7.5	8.7	8.6	8.1	8	6.5	5.4	2.3	3.9	3.8	3.6	3.3	0.8	1.6	3	0.8	8.7	5.0
Aug 15	3.9	4.2	4.3	3.9	4.1	4.5	4.6	5	4.6	6.9	3.4	2.5	3.8	6.8	6.7	5.8	10	13.2	11.4	8.8	9.4	8.9	8.9	8.3	2.5	13.2	6.4
Aug 16	6.6	6.7	8	7.7	8.1	11.1	10.3	10.1	13.7	11.3	10.2	**13.9**	10.8	9.1	11.1	9.9	8.6	8.4	7.3	5.2	2.9	1.3	2	1	1.0	**13.9**	**8.1**
Aug 17	0.9	2.1	1.8	2.5	1.6	0.2	0.3	2.1	2.4	3.6	2.9	4	2.7	2.3	1.9	0.6	1.6	1.3	0.2	0.1	**0**	0.9	3	5.4	**0.0**	5.4	1.9
Aug 18	5	3.9	4.6	1.5	3.3	4	3.1	5.7	8.2	9.5	8	7.3	7.8	7.4	4.5	1.5	2	3.5	2.4	2.2	1.1	0.8	1.2	0.8	0.8	9.5	4.1
Aug 19	2	4.2	4.6	6.9	6	6.2	5.6	3.2	5	3.9	3	1.4	3.3	0.1	3.3	2	1	2.7	2	0.9	0.2	0.4	0.7	0.1	0.1	6.9	2.9
Aug 20	0.4	2.3	2.5	4	5.2	6.9	6	6	8.3	7.4	5.3	3.9	4	4.7	4.7	5.7	6.2	7.3	8.4	8.7	10.8	10.4	9.1	9.3	0.4	10.8	6.1
Aug 21	11.5	11.3	9	8.8	8.5	7.6	6.8	6	5.7	4	3.8	3.2	2.1	2.5	2.1	1.6	1	2.3	**K**	**K**	**K**	**K**	**K**	**K**	1.0	11.5	5.4
Aug 22	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	8.2	10.3	11.9	13.2	9.6	9.7	7.9	5.4	2	0.1	1.4	1.3	1.5	1.6	0.1	13.2	-
Aug 23	1.3	1.3	1.5	2.3	3.9	4.5	3.1	2.4	1.9	2.6	2.7	4.7	4.8	4.7	6.6	8.9	7.7	7.5	3.3	2.4	3.4	4.2	3.6	3.3	1.3	8.9	3.9
Aug 24	3.3	4.1	2	2.5	2.9	2.7	2.4	2	5.2	7.1	10.2	9.7	10.9	10.6	5.4	6.4	7.1	8.3	5.9	3.2	3.2	4.5	4.3	3.9	2.0	10.9	5.3
Aug 25	6	5.7	5.6	5.2	5.3	4.9	3.6	4.8	8.1	7.5	7.7	8.1	4.6	8	8.6	4.5	6.3	7.9	6.2	1.6	3.6	5.3	5.6	6.6	1.6	8.6	5.9
Aug 26	5.7	4.7	5.9	5.3	3.9	5.5	6.6	8.3	7.3	6.4	7.2	7.6	8.2	6.1	7.2	7.1	4.6	6.9	5.1	3.3	2.3	1.4	2.1	2	1.4	8.3	5.4
Aug 27	1.9	1.7	1.7	1.6	2	1.7	1.7	2.1	2.4	2	2.9	2.7	2.8	2.9	6	7.2	7.3	7.7	3.4	1.6	2.2	4	7.4	6.8	1.6	7.7	3.5
Aug 28	9.2	6.5	5.8	5.6	6.6	7.6	8.3	8.9	8.5	8.9	9.1	8.7	8	6.9	5.4	5.1	4.6	3.2	2.3	0.7	0.1	0.5	0.6	0.8	0.1	9.2	5.5
Aug 29	0.3	0.3	0.8	0.7	0.3	0.2	0.4	0.8	1.8	1.4	1.7	0.6	2.5	0.8	6.1	2.6	1.9	2.7	2.8	1.3	0.2	0.6	0.8	1.2	0.2	6.1	**1.4**
Aug 30	0.4	0.7	0.7	0.3	0.1	0.2	**0**	0.6	1.9	2.1	5.2	2.1	2.2	3.5	1.9	4.1	3.7	2.9	1.4	0.1	0.2	1.1	1.5	1.7	**0.0**	5.2	1.6
Aug 31	1.7	1.2	0.6	0.8	0.6	1.5	0.7	1.1	1.1	3.3	3.5	1	5.4	3.4	4.5	5.3	5.8	5.1	1.3	3	5.1	5.9	5.5	5.6	0.6	5.9	3.0
Diurnal Maximum	12	11	9	9	10	11	10	10	14	11	10	14	12	13	11	10	10	13	11	9	11	10	9	9			
Daiurnal Average	3.1	3.4	3.6	3.7	3.9	4.1	4.0	4.6	5.4	5.4	5.3	5.2	5.7	5.7	5.6	5.3	4.8	5.1	4.0	3.0	3.0	3.0	3.1	3.1			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

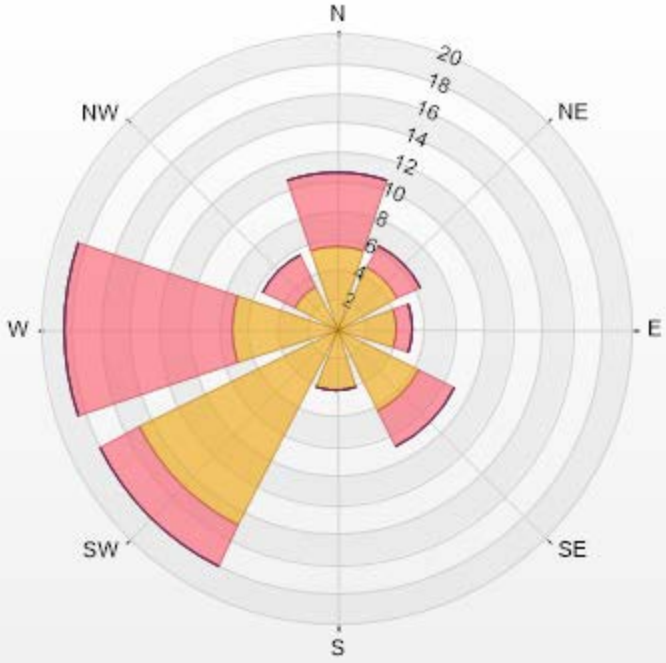
Timeseries Chart of Hourly Average for VWS - Reno Station



Wind: PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] Monthly: 08-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 22.39% Valid Data: 97.85% Calm Avg: 0.88 [KPH]

Direction	0-6	6-15	15-29	29-39	>39.0	Total
N	5.63	5.08	0	0	0	10.71
NE	4.67	1.65	0	0	0	6.32
E	4.12	1.1	0	0	0	5.22
SE	6.18	2.75	0	0	0	8.93
S	4.26	0	0	0	0	4.26
SW	14.97	3.02	0	0	0	17.99
W	7.14	11.4	0	0	0	18.54
NW	3.16	2.47	0	0	0	5.63
Summary	50.13	27.47	0	0	0	77.6

PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] 01-08-2019 00:00 - 31-08-2019 23:00 Calm: 22.39% Calm Poll Avg: 0.88[KPH]



% Icon Classes (KPH)	50	0-6	27	6-15	0	15-29	0	29-39	0	>39.0

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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

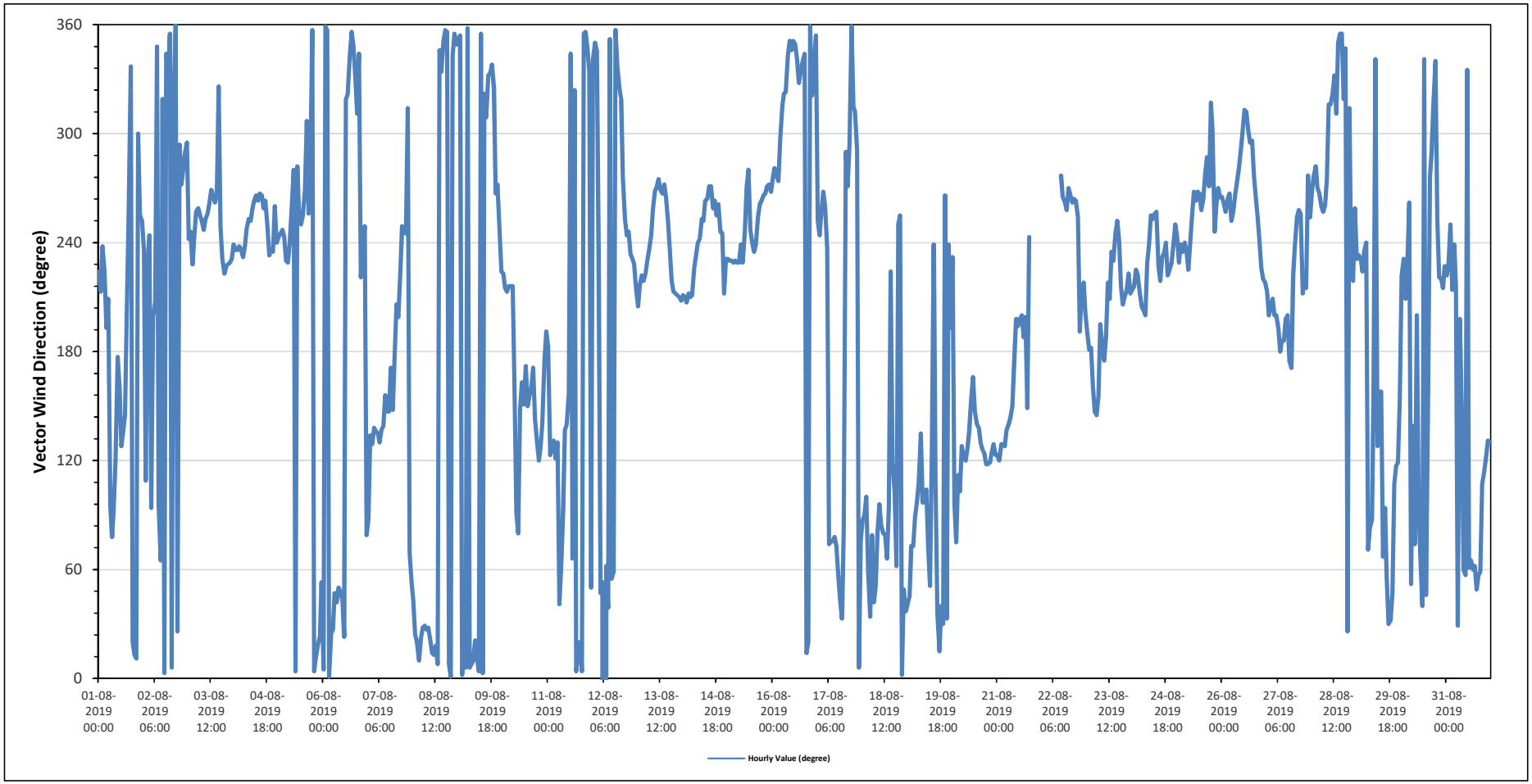
Monthly Average:	270 (W)	degree	
Hours in Service:	744		
Hours of Data:	728		
Hours of Missing Data:	16		
Hours of Calibration:	0		
Operational Uptime:	97.8		

Day	Hourly Period Starting at (MST)																							Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Aug 1	SW	SSW	SW	SW	S	SSW	E	ENE	E	ESE	S	SSE	SE	SE	SE	SSW	WSW	NNW	NNE	NNE	NNE	WNW	WSW	WSW	125	SE
Aug 2	SW	ESE	SW	WSW	E	SSW	SSW	NNW	E	ENE	NW	N	NNW	NNW	N	N	NW	N	NNE	WNW	W	W	WNW	WNW	336	NNW
Aug 3	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	NW	WSW	SW	SW	SW	SW	SW	SW	254	WSW
Aug 4	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	W	W	WSW	W	WSW	SW	SW	SW	WSW	WSW	251	WSW
Aug 5	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	W	N	W	WSW	WSW	WSW	W	NW	WSW	W	N	N	NNE	NNE	NNE	NE	280	W
Aug 6	N	N	N	N	NNE	NNE	NE	NE	NE	NE	NE	NNE	NW	NW	NNW	N	NNW	NNW	NW	NNW	SW	WSW	WSW	ENE	12	NNE
Aug 7	E	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	S	SE	S	SSW	SSW	SW	WSW	WSW	WSW	NW	ENE	NE	155	SSE
Aug 8	NE	NNE	NNE	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNW	NNW	N	N	N	N	N	NNW	N	NNW	11	NNE
Aug 9	N	N	N	NNE	N	N	N	N	N	NNE	NNE	N	N	N	NW	NW	NNW	NNW	NNW	NW	W	W	WSW	SW	355	N
Aug 10	SW	SSW	SSW	SW	SW	SW	SSE	E	E	SE	SSE	SSE	S	SSE	SSE	SSE	S	SE	SE	ESE	SE	SE	S	S	159	SSE
Aug 11	S	ESE	SE	SE	ESE	SE	NE	ENE	E	SE	SE	SSE	NNW	ENE	NW	N	NNE	NNE	N	N	N	NNW	NNW	NE	38	NE
Aug 12	NNW	N	NNW	SW	NE	NE	NW	ENE	NE	N	NE	ENE	N	NNW	NW	NW	W	WSW	WSW	WSW	SW	SW	SW	SSW	284	WNW
Aug 13	SSW	SW	SW	SW	SW	SW	SW	WSW	WSW	W	W	W	W	W	W	W	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	246	WSW
Aug 14	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	W	WSW	W	WSW	W	WSW	WSW	SSW	SW	243	WSW
Aug 15	SW	SW	SW	SW	SW	SW	SW	WSW	SW	WSW	W	W	WSW	WSW	SW	WSW	WSW	W	W	W	W	W	W	W	252	WSW
Aug 16	W	W	W	W	WNW	NW	NW	NW	NNW	N	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNE	NNE	N	NW	NNW	N	331	NNW
Aug 17	WSW	WSW	WSW	W	WSW	SW	ENE	ENE	ENE	ENE	ENE	NE	NE	NNE	E	WNW	W	WNW	N	NW	NW	WNW	N	ENE	42	NE
Aug 18	E	E	E	ENE	NE	ENE	NE	NE	E	E	E	E	ENE	ENE	E	SW	ESE	ESE	ENE	WSW	WSW	N	NE	NE	79	ENE
Aug 19	NE	NE	ENE	ENE	E	E	ESE	SE	E	E	ESE	ENE	NE	SE	WSW	ESE	NE	NNE	NE	NNE	W	NNE	WSW	S	82	E
Aug 20	SW	E	ENE	ESE	ESE	SE	ESE	ESE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	ESE	126	SE
Aug 21	ESE	ESE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SSW	SSW	S	SSW	SSE	WSW	K	K	K	K	K	K	144	SE
Aug 22	K	K	K	K	K	K	K	K	K	K	W	W	W	WSW	W	W	W	W	W	WSW	S	SSW	SW	SSW	-	W
Aug 23	S	S	S	SSE	SE	SE	SSE	SSW	S	S	S	SW	SSW	SW	SW	WSW	WSW	WSW	SW	SSW	SSW	SSW	SW	SSW	212	SSW
Aug 24	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	SW	SW	SW	WSW	WSW	237	SW
Aug 25	WSW	SW	WSW	SW	WSW	SW	SW	WSW	WSW	W	W	W	W	WSW	W	W	WNW	W	NW	WNW	WSW	W	W	W	260	WSW
Aug 26	W	W	WSW	W	W	WSW	WSW	W	W	W	WNW	WNW	NW	NW	WNW	WNW	WNW	W	W	WSW	WSW	SW	SW	SW	277	W
Aug 27	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	SSW	SSW	S	S	SW	SW	WSW	WSW	WSW	SSW	SW	SSW	W	WSW	227	SW
Aug 28	W	W	W	W	W	WSW	WSW	WSW	W	NW	NW	NW	NNW	NW	N	N	N	NW	NNW	NNE	NW	SW	SW	WSW	296	WNW
Aug 29	SW	SW	SW	SW	SW	WSW	ENE	E	E	SSE	NNW	SE	SSE	SSE	ENE	E	NE	NNE	NNE	NE	ESE	ESE	ESE	SSE	82	E
Aug 30	SW	SW	SSW	SW	W	NE	SE	ENE	SSW	E	ENE	NE	NNW	NE	SSE	W	WNW	NW	NNW	WSW	SW	SW	SSW	SW	323	NW
Aug 31	SW	SW	WSW	SSW	WSW	SW	NNE	SSW	SSE	ENE	ENE	NNW	ENE	ENE	ENE	ENE	NE	ENE	ENE	ESE	ESE	ESE	SE	SE	88	E

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWD - Reno Station



REFERENCE DOCUMENTS

HOURLY INSTANTANEOUS DATA

986c STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

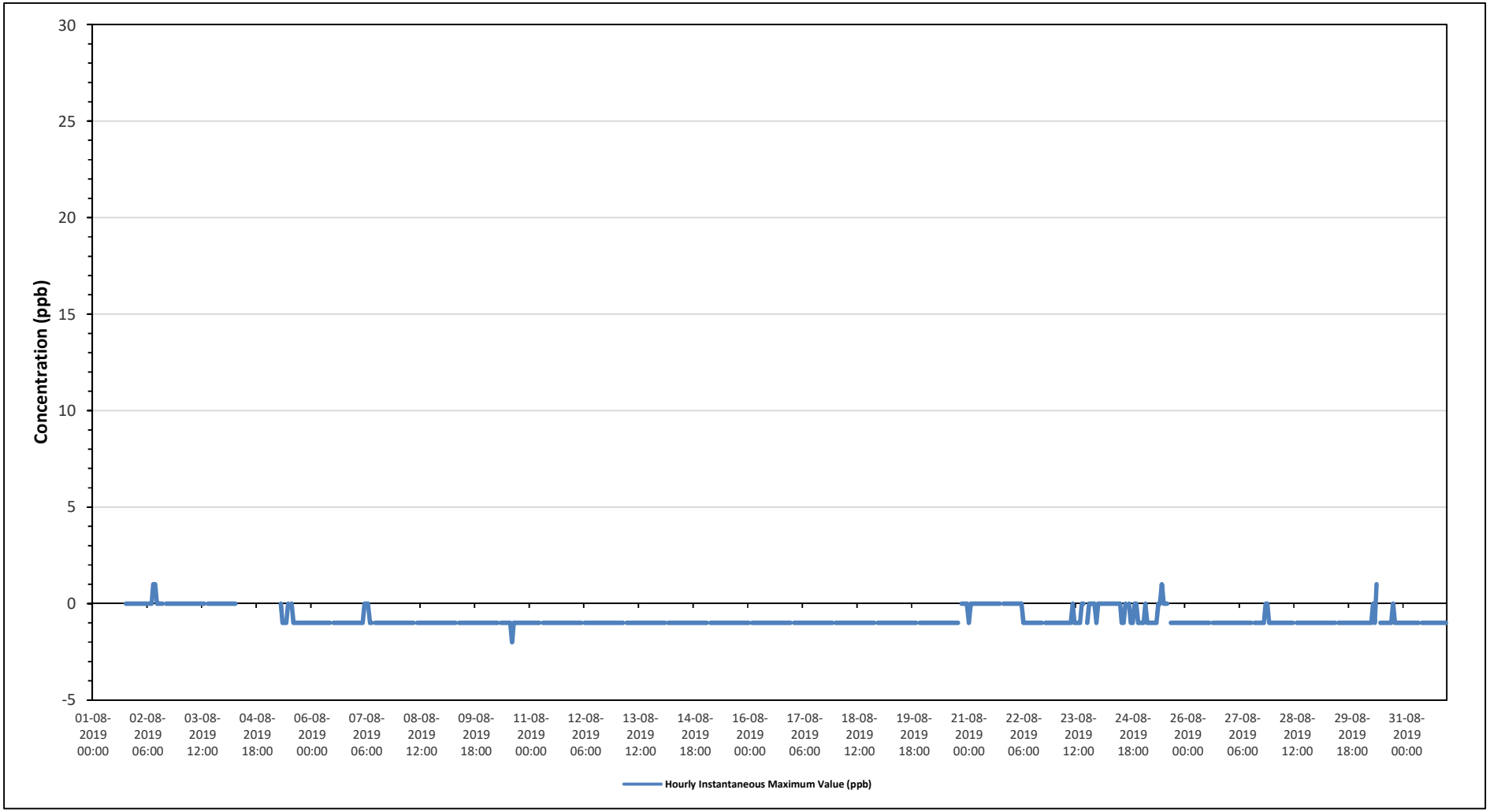
Maximum Hourly Value:	1	ppb	on August 2 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.1	ppb	on August 2	Hours of Data:	672
Minimum Hourly Value:	-2	ppb	on August 10 at hour 14	Hours of Missing Data:	37
Minimum Daily Value:	-1.0	ppb	on August 10	Hours of Calibration:	35
Monthly Average:	-0.8	ppb		Operational Uptime:	95.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0	0	0	0	0	0	0	0	-
Aug 2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Aug 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 4	0	0	0	0	0	0	0	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0	0	-
Aug 5	K	K	K	K	K	K	Y	0	-1	-1	-1	0	S	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-
Aug 6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 7	-1	-1	-1	-1	-1	0	0	0	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-0.9
Aug 8	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 9	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 10	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2	-1	-1.0
Aug 11	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 12	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 13	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 14	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 15	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 16	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 17	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1.0
Aug 18	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1.0
Aug 19	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1.0
Aug 20	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	0	0	0	-1	0	-0.9
Aug 21	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	-1	0	0.0
Aug 22	0	0	0	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	0	-0.7
Aug 23	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	0	0	S	-1	0	0	0	0	-1	-1	0	-0.7
Aug 24	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	0	S	0	-1	-1	0	0	-1	-1	-1	0	-0.3
Aug 25	-1	-1	0	-1	-1	-1	-1	-1	-1	0	0	1	0	0	0	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-0.7
Aug 26	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 27	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	0	0	-1	-1	-1	0	-0.9
Aug 28	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 29	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Aug 30	-1	-1	-1	-1	-1	-1	-1	0	-1	1	S	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	1	-0.8
Aug 31	-1	-1	-1	-1	-1	-1	-1	-1	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.0
Diurnal Maximum	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0			
Daiurnal Average	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.8	-0.9	-0.8	-0.7	-0.8	-0.8			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for SO2 - 986c Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

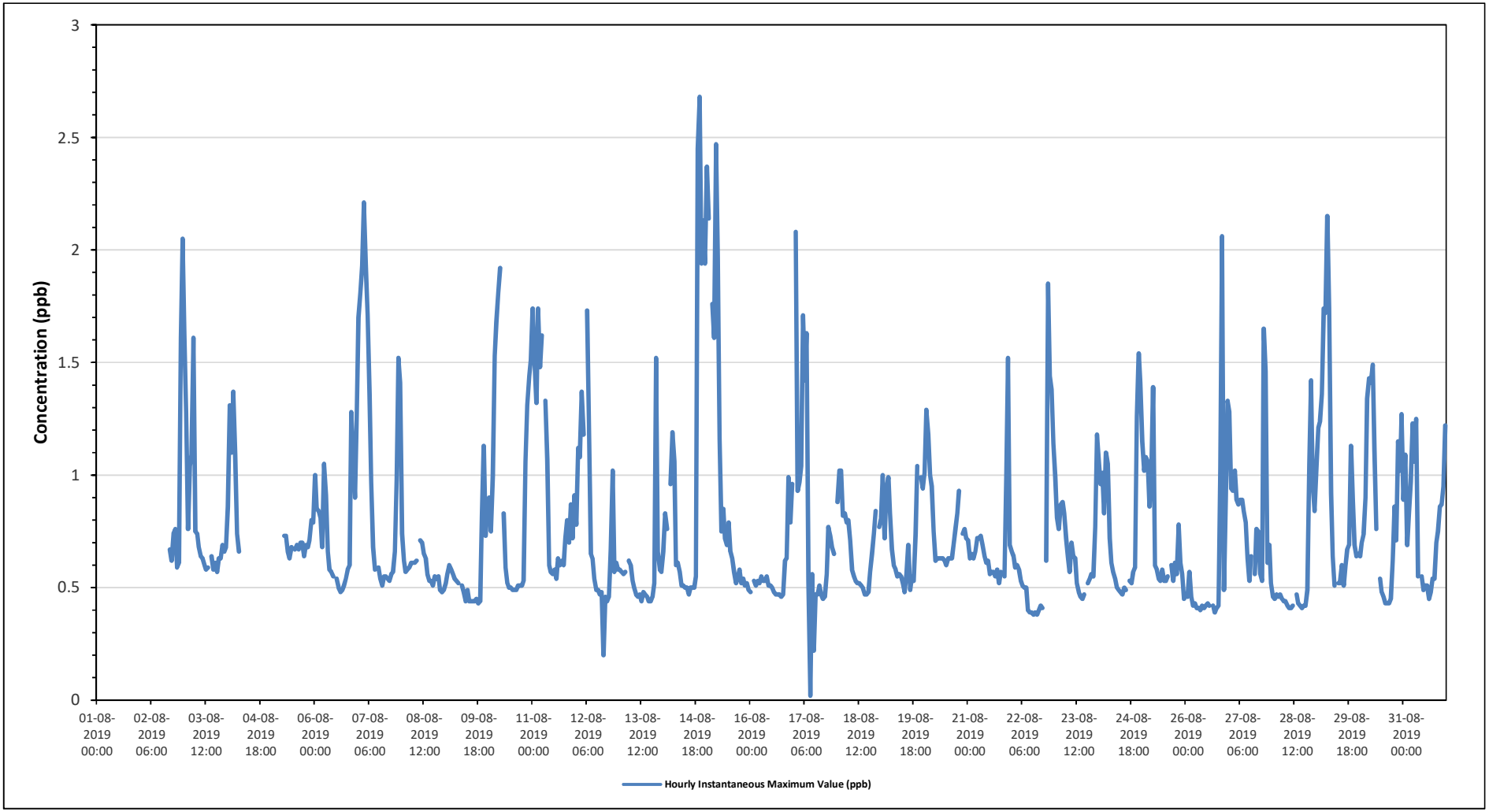
Maximum Hourly Value:	2.68	ppb	on August 14 at hour 20	Hours in Service:	744
Maximum Daily Value:	1.06	ppb	on August 7	Hours of Data:	652
Minimum Hourly Value:	0.02	ppb	on August 17 at hour 9	Hours of Missing Data:	57
Minimum Daily Value:	0.55	ppb	on August 28	Hours of Calibration:	35
Monthly Average:	0.77	ppb		Operational Uptime:	92.3

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Aug 2	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.66	S	0.67	0.62	0.74	0.76	0.59	0.61	1.61	2.05	0.59	2.05	-
Aug 3	1.63	1.28	0.76	1.04	1.09	1.61	0.75	0.74	0.68	0.64	0.63	0.6	0.58	0.59	S	0.64	0.58	0.61	0.57	0.63	0.63	0.69	0.66	0.68	0.57	1.63	0.80
Aug 4	0.86	1.31	1.1	1.37	1.09	0.74	0.66	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.66	1.37	-
Aug 5	K	K	K	K	K	K	Y	0.73	0.73	0.66	0.63	0.68	S	0.67	0.69	0.67	0.7	0.7	0.64	0.69	0.68	0.71	0.8	0.79	0.63	0.80	-
Aug 6	1	0.85	0.84	0.81	0.68	1.05	0.91	0.66	0.58	0.57	0.55	S	0.54	0.5	0.48	0.49	0.51	0.54	0.58	0.6	1.28	1.1	0.9	1.22	0.48	1.28	0.75
Aug 7	1.7	1.81	1.93	2.21	1.93	1.71	1.36	0.97	0.68	0.58	S	0.59	0.54	0.51	0.55	0.55	0.54	0.53	0.56	0.57	0.66	0.98	1.52	1.41	0.51	2.21	**1.06**
Aug 8	0.74	0.62	0.57	0.58	0.59	0.61	0.61	0.61	0.62	S	0.71	0.7	0.65	0.63	0.56	0.53	0.53	0.51	0.55	0.54	0.55	0.49	0.48	0.49	0.48	0.74	0.59
Aug 9	0.52	0.56	0.6	0.58	0.56	0.54	0.53	0.52	S	0.51	0.48	0.44	0.49	0.44	0.44	0.44	0.44	0.45	0.43	0.44	0.82	1.13	0.73	0.85	0.43	1.13	0.56
Aug 10	0.9	0.75	1	1.53	1.68	1.81	1.92	S	0.83	0.59	0.52	0.5	0.5	0.49	0.49	0.49	0.51	0.51	0.51	0.53	1.06	1.31	1.44	1.51	0.49	1.92	0.93
Aug 11	1.74	1.5	1.32	1.74	1.48	1.62	S	1.33	1.07	0.6	0.57	0.56	0.58	0.54	0.63	0.6	0.62	0.6	0.72	0.8	0.7	0.87	0.72	0.91	0.54	1.74	0.95
Aug 12	0.78	1.12	1.08	1.37	1.18	S	1.73	1.21	0.65	0.63	0.54	0.49	0.49	0.47	0.48	0.2	0.46	0.44	0.46	0.67	1.02	0.57	0.61	0.58	0.20	1.73	0.75
Aug 13	0.58	0.57	0.56	0.57	S	0.62	0.6	0.53	0.5	0.47	0.46	0.47	0.44	0.48	0.47	0.46	0.44	0.44	0.46	0.52	1.52	0.66	0.58	0.57	0.44	1.52	0.56
Aug 14	0.66	0.83	0.76	S	0.96	1.19	1.06	0.6	0.61	0.57	0.51	0.51	0.5	0.5	0.47	0.5	0.5	0.5	0.55	2.45	**2.68**	1.94	2.13	1.94	0.47	**2.68**	1.00
Aug 15	2.37	2.14	S	1.76	1.61	2.47	1.97	1.16	0.75	0.85	0.72	0.69	0.79	0.66	0.63	0.57	0.52	0.54	0.58	0.52	0.54	0.51	0.52	0.49	0.49	2.47	1.02
Aug 16	0.48	S	0.53	0.51	0.53	0.52	0.55	0.53	0.53	0.55	0.51	0.51	0.5	0.48	0.47	0.47	0.47	0.46	0.47	0.62	0.63	0.99	0.79	0.96	0.46	0.99	0.57
Aug 17	S	2.08	0.93	0.97	1.04	1.71	1.42	1.63	0.53	0.02	0.56	0.22	0.47	0.47	0.51	0.47	0.45	0.46	0.56	0.77	0.73	0.68	0.65	S	0.02	2.08	0.79
Aug 18	0.88	1.02	1.02	0.82	0.83	0.79	0.8	0.71	0.58	0.55	0.53	0.52	0.52	0.51	0.5	0.47	0.47	0.48	0.57	0.65	0.74	0.84	S	0.77	0.47	1.02	0.68
Aug 19	0.81	1	0.72	0.94	0.99	0.83	0.67	0.6	0.58	0.55	0.56	0.55	0.52	0.48	0.56	0.69	0.49	0.55	0.53	0.74	1.04	S	0.99	0.94	0.48	1.04	0.71
Aug 20	1.01	1.29	1.18	1	0.95	0.75	0.62	0.63	0.63	0.63	0.63	0.62	0.6	0.63	0.63	0.63	0.69	0.76	0.83	0.93	S	0.74	0.76	0.72	0.60	1.29	0.78
Aug 21	0.71	0.63	0.65	0.63	0.66	0.72	0.72	0.73	0.69	0.64	0.61	0.62	0.56	0.57	0.57	0.55	0.58	0.52	0.57	S	0.55	0.99	1.52	0.69	0.52	1.52	0.68
Aug 22	0.66	0.64	0.59	0.6	0.58	0.53	0.51	0.5	0.5	0.4	0.39	0.39	0.38	0.39	0.38	0.4	0.42	0.41	S	0.62	1.85	1.44	1.38	1.14	0.38	1.85	0.66
Aug 23	0.99	0.81	0.76	0.87	0.88	0.83	0.72	0.63	0.57	0.7	0.64	0.63	0.52	0.48	0.46	0.45	0.47	S	0.52	0.54	0.56	0.55	0.77	1.18	0.45	1.18	0.68
Aug 24	1.07	0.96	1.01	0.83	1.1	1.05	0.72	0.61	0.57	0.54	0.5	0.49	0.48	0.47	0.5	0.49	S	0.53	0.52	0.57	0.59	1.26	1.54	1.41	0.47	1.54	0.77
Aug 25	1.15	1.02	1.08	1.06	0.86	1.04	1.39	0.6	0.58	0.54	0.53	0.58	0.53	0.53	0.55	S	0.6	0.53	0.61	0.56	0.78	0.61	0.56	0.45	0.45	1.39	0.73
Aug 26	0.47	0.46	0.57	0.46	0.42	0.43	0.41	0.41	0.4	0.42	0.41	0.42	0.43	0.42	S	0.42	0.39	0.41	0.42	1.03	2.06	0.49	0.89	1.33	0.39	2.06	0.59
Aug 27	1.28	0.94	0.93	1.02	0.89	0.87	0.89	0.89	0.84	0.79	0.63	0.53	0.64	S	0.56	0.76	0.75	0.56	0.53	1.65	1.46	0.61	0.69	0.52	0.52	1.65	0.84
Aug 28	0.46	0.45	0.47	0.46	0.47	0.45	0.44	0.44	0.42	0.41	0.41	0.42	S	0.47	0.43	0.42	0.41	0.42	0.42	0.49	1.05	1.42	0.95	0.84	0.41	1.42	0.55
Aug 29	1.04	1.21	1.24	1.36	1.74	1.72	2.15	1.74	0.92	0.64	0.51	S	0.52	0.52	0.6	0.51	0.6	0.67	0.69	1.13	0.89	0.69	0.64	0.65	0.51	2.15	0.97
Aug 30	0.64	0.7	0.74	0.9	1.34	1.43	1.41	1.49	1.11	0.76	S	0.54	0.48	0.46	0.43	0.43	0.43	0.45	0.62	0.86	0.71	1.15	1.02	1.27	0.43	1.49	0.84
Aug 31	0.89	1.09	0.69	0.82	0.97	1.23	1.06	1.25	0.55	S	0.55	0.49	0.51	0.51	0.45	0.48	0.54	0.54	0.7	0.75	0.86	0.87	0.95	1.22	0.45	1.25	0.78
Diurnal Maximum	2.37	2.14	1.93	2.21	1.93	2.47	2.15	1.74	1.11	0.85	0.72	0.70	0.79	0.67	0.69	0.76	0.75	0.76	0.83	2.45	2.68	1.94	2.13	2.05			
Daiurnal Average	0.96	1.02	0.88	0.99	1.00	1.07	0.98	0.83	0.66	0.57	0.55	0.53	0.53	0.51	0.52	0.51	0.53	0.53	0.57	0.77	0.97	0.89	0.96	0.99			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for TRS - 986c Station



PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

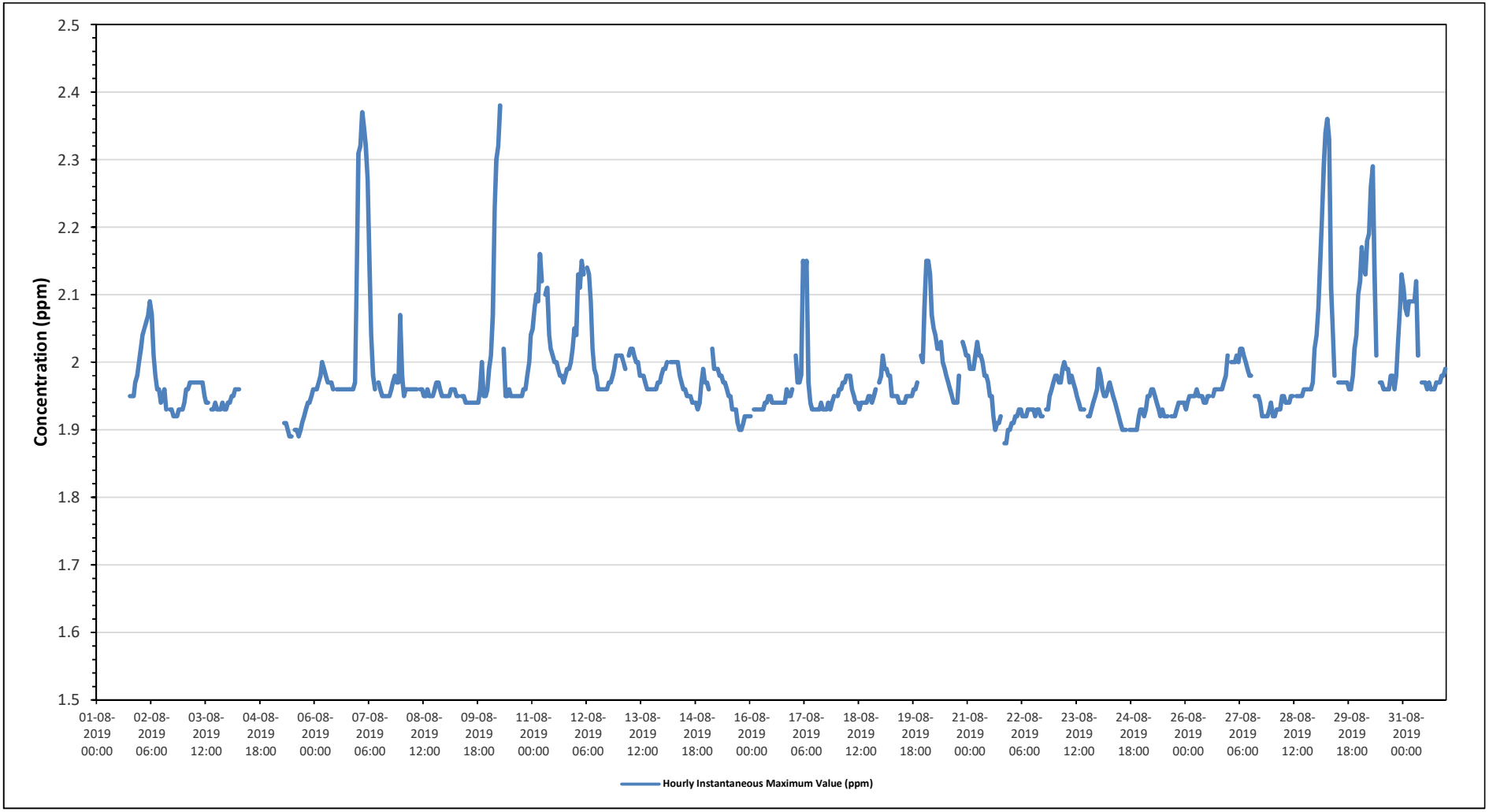
Maximum Hourly Value:	2.38	ppm	on August 10 at hour	Hours in Service:	744
Maximum Daily Value:	2.08	ppm	on August 29	Hours of Data:	671
Minimum Hourly Value:	1.88	ppm	on August 21 at hour	Hours of Missing Data:	38
Minimum Daily Value:	1.93	ppm	on August 22	Hours of Calibration:	35
Monthly Average:	1.98	ppm		Operational Uptime:	94.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	1.95	1.95	1.95	1.97	1.98	2.00	1.95	2.00	-
Aug 2	2.02	2.04	2.05	2.06	2.07	2.09	2.07	2.01	1.98	1.96	1.96	1.94	1.95	1.96	1.93	S	1.93	1.93	1.92	1.92	1.92	1.93	1.93	1.93	1.92	2.09	1.98
Aug 3	1.94	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.95	1.94	1.94	S	1.93	1.93	1.94	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.97	1.95
Aug 4	1.94	1.94	1.95	1.95	1.96	1.96	1.96	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.94	1.96	-
Aug 5	K	K	K	K	K	K	Y	1.91	1.91	1.90	1.89	1.89	S	1.90	1.90	1.89	1.90	1.91	1.92	1.93	1.94	1.94	1.95	1.96	1.89	1.96	-
Aug 6	1.96	1.96	1.97	1.98	2.00	1.99	1.98	1.97	1.97	1.97	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.11	1.96	2.11	1.97
Aug 7	2.31	2.32	2.37	2.35	2.32	2.27	2.14	2.04	1.98	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.98	1.97	1.97	2.07	1.95	2.37	2.07
Aug 8	1.98	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.95	1.95	1.95	1.98	1.96
Aug 9	1.95	1.95	1.95	1.96	1.96	1.96	1.95	1.95	S	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	2.00	1.95	1.95	1.94	2.00	1.95
Aug 10	1.99	2.01	2.07	2.23	2.30	2.32	**2.38**	S	2.02	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.98	2.00	2.04	1.95	**2.38**	2.03
Aug 11	2.05	2.08	2.10	2.09	2.16	2.12	S	2.10	2.11	2.04	2.02	2.01	2.00	2.00	1.99	1.98	1.98	1.97	1.98	1.99	1.99	2.00	2.02	2.05	1.97	2.16	2.04
Aug 12	2.04	2.13	2.11	2.15	2.13	S	2.14	2.13	2.09	2.02	1.99	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.99	2.01	2.01	1.96	2.15	2.03
Aug 13	2.01	2.01	2.00	1.99	S	2.01	2.02	2.02	2.01	2.00	2.00	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.96	2.02	1.99
Aug 14	1.99	1.99	2.00	S	2.00	2.00	2.00	2.00	2.00	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.94	1.97	1.99	1.97	1.93	2.00	1.97
Aug 15	1.97	1.96	S	2.02	1.99	1.99	1.99	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.93	1.93	1.93	1.91	1.90	1.90	1.91	1.92	1.92	1.92	1.90	2.02	1.95
Aug 16	1.92	S	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.96	1.92	1.96	1.94
Aug 17	S	2.01	1.97	1.97	1.98	2.15	2.12	2.15	1.97	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.94	1.93	1.94	1.95	S	1.93	2.15	1.97
Aug 18	1.95	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.96	1.95	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.94	1.95	1.96	S	1.97	1.93	1.98	1.95
Aug 19	1.98	2.01	1.99	1.99	1.98	1.98	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.96	1.97	S	2.01	2.00	1.94	2.01	1.96
Aug 20	2.08	2.15	2.15	2.13	2.07	2.05	2.04	2.02	2.02	2.03	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.94	1.94	1.98	S	2.03	2.02	2.01	1.94	2.15	2.02
Aug 21	2.01	1.99	1.99	1.99	2.01	2.03	2.01	2.01	2.00	1.98	1.98	1.97	1.95	1.95	1.92	1.90	1.91	1.91	1.92	S	1.88	1.88	1.90	1.90	1.88	2.03	1.96
Aug 22	1.91	1.91	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.92	1.93	1.93	1.92	1.92	S	1.93	1.93	1.95	1.96	1.97	1.91	1.97	1.93
Aug 23	1.98	1.98	1.97	1.97	1.99	2.00	1.99	1.99	1.97	1.98	1.97	1.96	1.95	1.94	1.93	1.93	1.93	S	1.92	1.92	1.93	1.94	1.95	1.96	1.92	2.00	1.96
Aug 24	1.99	1.98	1.96	1.95	1.95	1.96	1.97	1.96	1.95	1.94	1.93	1.92	1.91	1.90	1.90	1.90	S	1.90	1.90	1.90	1.90	1.90	1.92	1.93	1.90	1.99	1.93
Aug 25	1.93	1.92	1.93	1.95	1.95	1.96	1.96	1.95	1.94	1.93	1.92	1.93	1.92	1.92	1.92	S	1.92	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.92	1.96	1.93
Aug 26	1.93	1.94	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	S	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.01	1.93	2.01	1.96
Aug 27	K	2.00	2.00	2.00	2.01	2.00	2.02	2.02	2.01	2.00	1.99	1.98	1.98	S	1.95	1.95	1.95	1.94	1.92	1.92	1.92	1.92	1.93	1.94	1.92	2.02	1.97
Aug 28	1.92	1.92	1.93	1.93	1.93	1.95	1.95	1.94	1.94	1.94	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.97	2.02	1.92	2.02	1.95
Aug 29	2.04	2.08	2.14	2.21	2.29	2.34	2.36	2.33	2.11	2.05	1.98	S	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.98	2.02	2.04	2.10	1.96	2.36	**2.08**
Aug 30	2.12	2.17	2.14	2.13	2.18	2.19	2.26	2.29	2.14	2.01	S	1.97	1.97	1.96	1.96	1.96	1.96	1.98	1.98	1.96	1.98	2.03	2.08	2.13	1.96	2.29	2.07
Aug 31	2.11	2.08	2.07	2.09	2.09	2.09	2.09	2.12	2.01	S	1.97	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.96	2.12	2.01
Diurnal Maximum	2.31	2.32	2.37	2.35	2.32	2.34	2.38	2.33	2.14	2.05	2.02	2.01	2.00	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.03	2.08	2.13			
Daiurnal Average	2.00	2.01	2.02	2.03	2.04	2.04	2.04	2.02	1.99	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.97	1.99			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for THC - 986c Station



peace river area monitoring program

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

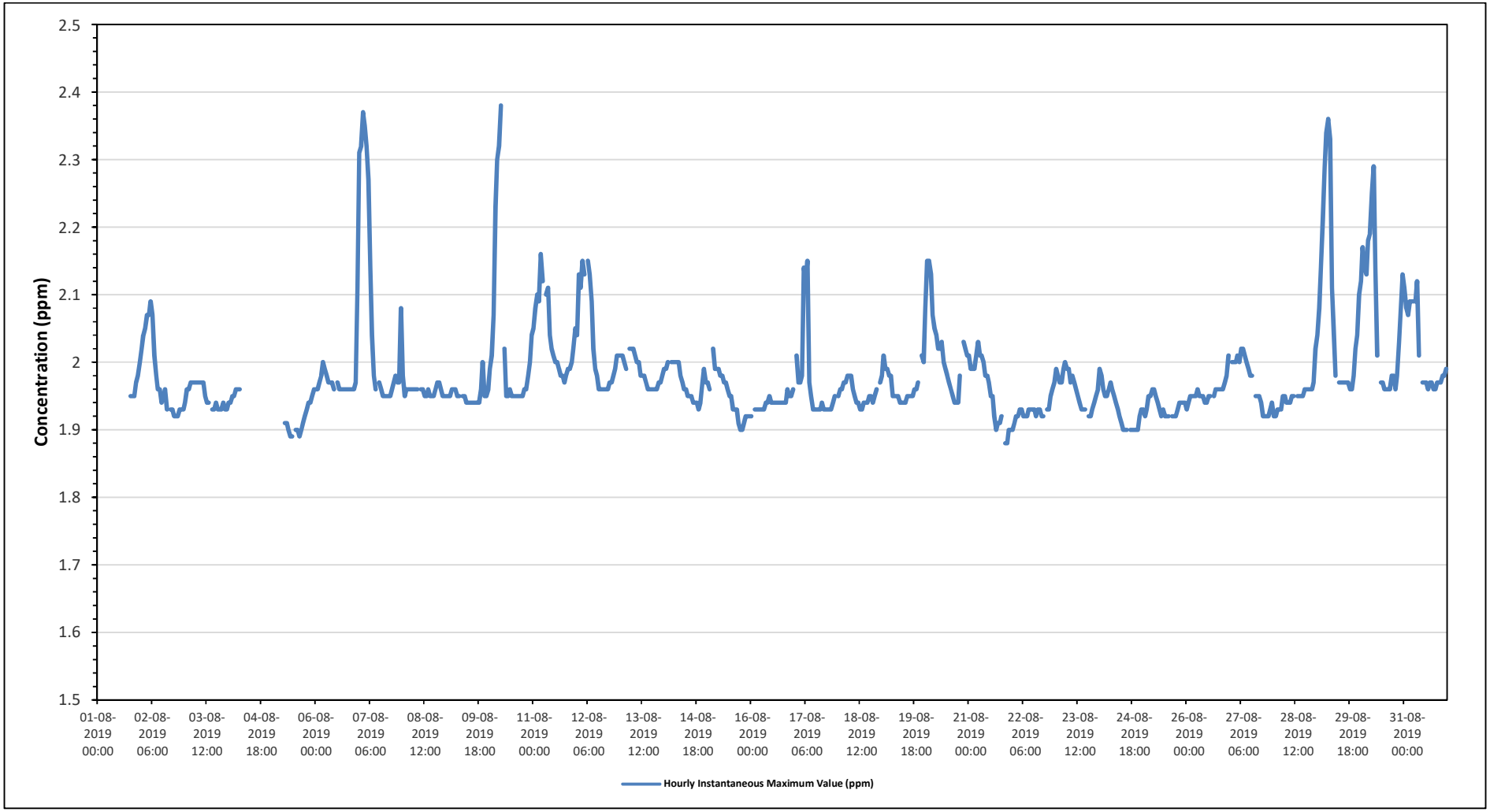
Maximum Hourly Value:	2.38	ppm	on August 10 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.08	ppm	on August 29	Hours of Data:	671
Minimum Hourly Value:	1.88	ppm	on August 21 at hour 20	Hours of Missing Data:	38
Minimum Daily Value:	1.93	ppm	on August 22	Hours of Calibration:	35
Monthly Average:	1.98	ppm		Operational Uptime:	94.9

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	1.95	1.95	1.95	1.97	1.98	2.00	1.95	2.00	-
Aug 2	2.02	2.04	2.05	2.07	2.07	2.09	2.07	2.01	1.98	1.96	1.96	1.94	1.95	1.96	1.93	S	1.93	1.93	1.92	1.92	1.92	1.93	1.93	1.93	1.92	2.09	1.98
Aug 3	1.94	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.95	1.94	1.94	S	1.93	1.93	1.94	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.97	1.95
Aug 4	1.94	1.94	1.95	1.95	1.96	1.96	1.96	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.94	1.96	-
Aug 5	K	K	K	K	K	K	Y	1.91	1.91	1.90	1.89	1.89	S	1.90	1.90	1.89	1.90	1.91	1.92	1.93	1.94	1.94	1.95	1.96	1.89	1.96	-
Aug 6	1.96	1.96	1.97	1.98	2.00	1.99	1.98	1.97	1.97	1.97	1.96	S	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.11	1.96	2.11	1.97
Aug 7	2.31	2.32	2.37	2.35	2.32	2.27	2.14	2.04	1.98	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.98	1.97	1.97	2.08	1.95	2.37	2.07
Aug 8	1.98	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.95	1.95	1.95	1.98	1.96
Aug 9	1.95	1.95	1.95	1.96	1.96	1.96	1.95	1.95	S	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	2.00	1.95	1.95	1.96	1.94	2.00	1.95
Aug 10	1.99	2.01	2.07	2.23	2.30	2.32	**2.38**	S	2.02	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.98	2.00	2.04	1.95	**2.38**	2.03
Aug 11	2.05	2.08	2.10	2.09	2.16	2.12	S	2.10	2.11	2.04	2.02	2.01	2.00	2.00	1.99	1.98	1.98	1.97	1.98	1.99	1.99	2.00	2.02	2.05	1.97	2.16	2.04
Aug 12	2.04	2.13	2.11	2.15	2.13	S	2.15	2.13	2.09	2.02	1.99	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.99	2.01	2.01	1.96	2.15	2.03
Aug 13	2.01	2.01	2.00	1.99	S	2.02	2.02	2.02	2.01	2.00	2.00	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.96	2.02	1.99
Aug 14	1.99	1.99	2.00	S	2.00	2.00	2.00	2.00	2.00	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.94	1.97	1.99	1.97	1.93	2.00	1.97
Aug 15	1.97	1.96	S	2.02	1.99	1.99	1.99	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.93	1.93	1.93	1.91	1.90	1.90	1.91	1.92	1.92	1.92	1.90	2.02	1.95
Aug 16	1.92	S	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.96	1.92	1.96	1.94
Aug 17	S	2.01	1.97	1.97	1.98	2.14	2.12	2.15	1.97	1.95	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.93	2.15	1.97
Aug 18	1.95	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.96	1.95	1.94	1.94	1.93	1.93	1.94	1.94	1.94	1.95	1.95	1.94	1.95	1.96	S	1.97	1.93	1.98	1.95
Aug 19	1.98	2.01	1.99	1.99	1.98	1.98	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.96	1.97	S	2.01	2.00	1.94	2.01	1.96
Aug 20	2.08	2.15	2.15	2.13	2.07	2.05	2.04	2.02	2.02	2.03	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.94	1.94	1.98	S	2.03	2.02	2.01	1.94	2.15	2.02
Aug 21	2.01	1.99	1.99	1.99	2.01	2.03	2.01	2.01	2.00	1.98	1.98	1.97	1.95	1.95	1.92	1.90	1.91	1.91	1.92	S	1.88	1.88	1.90	1.90	1.88	2.03	1.96
Aug 22	1.90	1.91	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.92	1.93	1.93	1.92	1.92	S	1.93	1.93	1.95	1.96	1.97	1.90	1.97	1.93
Aug 23	1.99	1.98	1.97	1.97	1.99	2.00	1.99	1.99	1.97	1.98	1.97	1.96	1.95	1.94	1.93	1.93	1.93	S	1.92	1.92	1.93	1.94	1.95	1.96	1.92	2.00	1.96
Aug 24	1.99	1.98	1.96	1.95	1.95	1.96	1.97	1.96	1.95	1.94	1.93	1.92	1.91	1.90	1.90	1.90	S	1.90	1.90	1.90	1.90	1.90	1.92	1.93	1.90	1.99	1.93
Aug 25	1.93	1.92	1.93	1.95	1.95	1.96	1.96	1.95	1.94	1.93	1.92	1.93	1.92	1.92	1.92	S	1.92	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.92	1.96	1.93
Aug 26	1.93	1.94	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	S	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.01	1.93	2.01	1.96
Aug 27	K	2.00	2.00	2.00	2.01	2.00	2.02	2.02	2.01	2.00	1.99	1.98	1.98	S	1.95	1.95	1.95	1.94	1.92	1.92	1.92	1.92	1.93	1.94	1.92	2.02	1.97
Aug 28	1.92	1.92	1.93	1.93	1.93	1.95	1.95	1.94	1.94	1.94	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.97	2.02	1.92	2.02	1.95
Aug 29	2.04	2.08	2.14	2.21	2.29	2.34	2.36	2.33	2.11	2.05	1.98	S	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.98	2.02	2.04	2.10	1.96	2.36	**2.08**
Aug 30	2.12	2.17	2.14	2.13	2.18	2.19	2.25	2.29	2.14	2.01	S	1.97	1.97	1.96	1.96	1.96	1.96	1.98	1.98	1.96	1.98	2.03	2.08	2.13	1.96	2.29	2.07
Aug 31	2.11	2.08	2.07	2.09	2.09	2.09	2.09	2.12	2.01	S	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.96	2.12	2.01
Diurnal Maximum	2.31	2.32	2.37	2.35	2.32	2.34	2.38	2.33	2.14	2.05	2.02	2.01	2.00	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.03	2.08	2.13			
Daiurnal Average	2.00	2.01	2.02	2.03	2.04	2.04	2.04	2.02	1.99	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.97	1.99			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - 986c Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

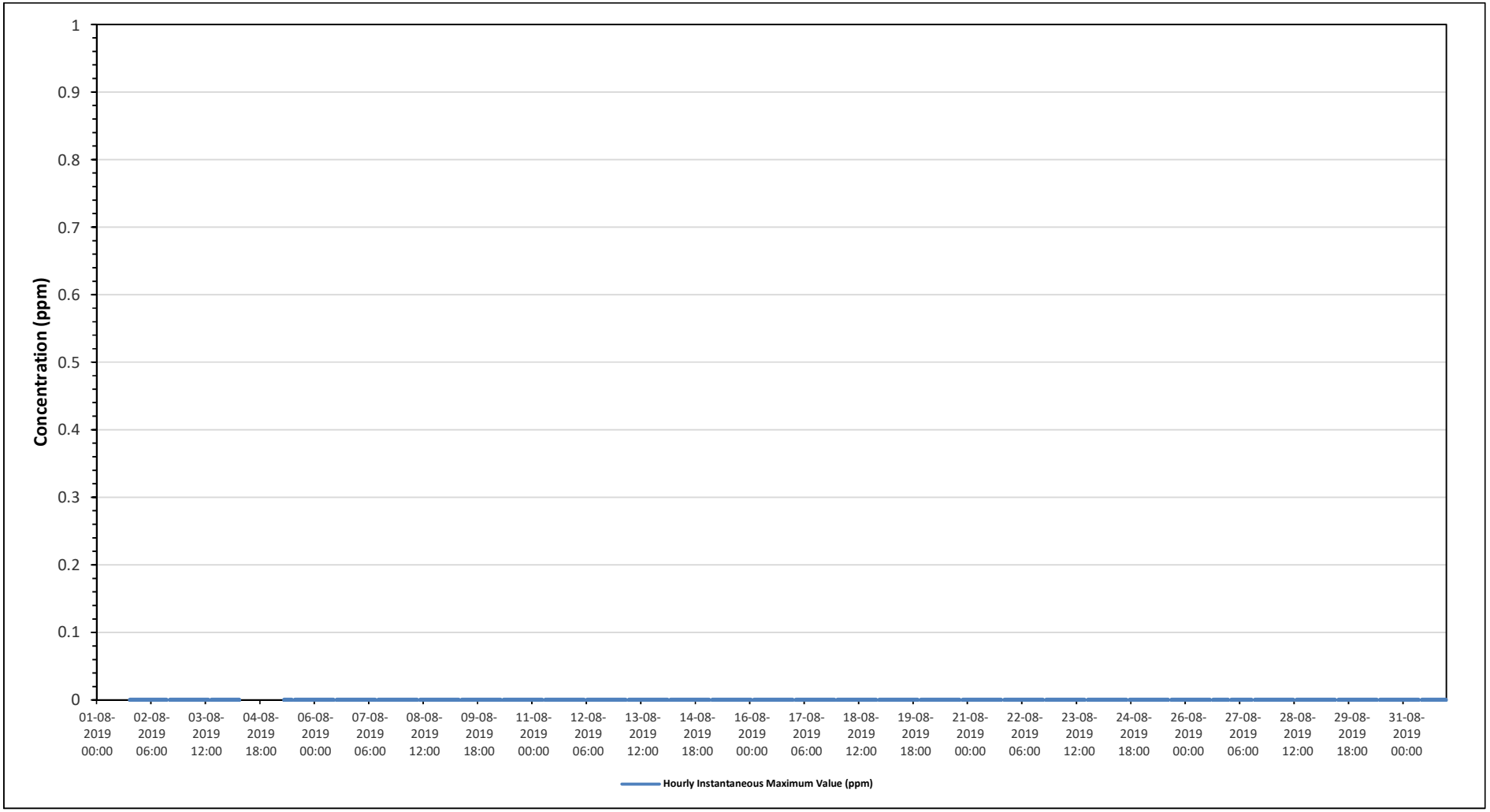
Maximum Hourly Value:	0.00	ppm	on August 1 at hour 18	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on August 2	Hours of Data:	671
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 18	Hours of Missing Data:	38
Minimum Daily Value:	0.00	ppm	on August 2	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	94.9

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.00	0.00	-
Aug 5	K	K	K	K	K	K	Y	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for NMHC - 986c Station



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PEACE RIVER AREA MONITORING PROGRAM

986c Station - August 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

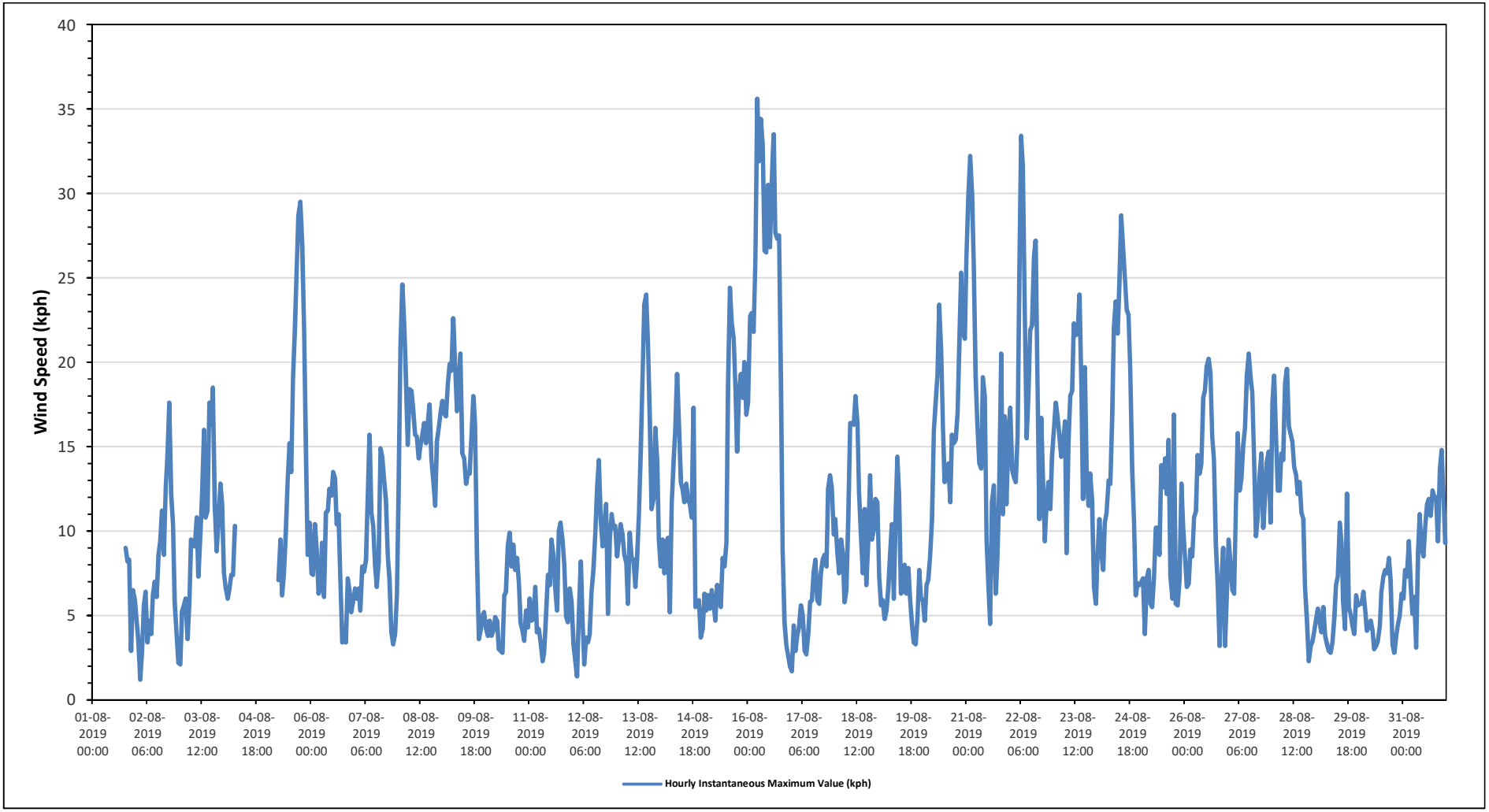
Maximum Hourly Value:	35.6	kph	on August 16 at hour 5	Hours in Service:	744
Maximum Daily Value:	22.6	kph	on August 16	Hours of Data:	703
Minimum Hourly Value:	1.2	kph	on August 2 at hour 2	Hours of Missing Data:	41
Minimum Daily Value:	5.2	kph	on August 30	Hours of Calibration:	0
Monthly Average:	11.3	kph		Operational Uptime:	94.5

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	9.0	8.2	8.3	2.9	6.5	5.9	2.9	9.0	-
Aug 2	4.8	3.5	**1.2**	2.8	5.6	6.4	3.4	4.7	3.9	6.2	7.0	6.1	8.6	9.4	11.2	8.6	12.6	14.6	17.6	12.2	10.4	5.8	3.9	2.2	**1.2**	17.6	7.2
Aug 3	2.1	5.2	5.6	6.0	3.6	5.8	9.5	9.2	9.1	10.8	7.3	9.6	12.2	16.0	10.8	11.2	17.6	16.3	18.5	11.6	8.8	10.6	12.8	11.6	2.1	18.5	10.1
Aug 4	7.5	6.6	6.0	6.5	7.4	7.4	10.3	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	6.0	10.3	-
Aug 5	K	K	K	K	K	K	7.1	9.5	6.2	7.5	10.0	13.1	15.2	13.5	19.1	22.0	25.8	28.7	29.5	26.9	21.9	15.4	8.6	10.5	6.2	29.5	16.1
Aug 6	7.5	7.4	10.4	8.9	6.3	6.9	9.3	6.1	11.1	11.2	12.5	12.1	13.5	13.1	10.4	11.0	7.0	3.4	3.5	3.4	7.2	6.5	5.2	5.8	3.4	13.5	8.3
Aug 7	6.6	6.0	6.6	5.3	7.9	7.6	8.3	11.9	15.7	11.1	10.3	8.0	6.7	8.2	14.9	14.4	13.1	11.8	8.5	7.2	4.0	3.3	3.9	6.2	3.3	15.7	8.6
Aug 8	12.1	20.9	24.6	22.3	19.2	15.1	18.4	18.3	17.2	15.7	15.6	14.3	15.0	15.7	16.4	15.2	16.5	17.5	14.2	13.0	11.5	15.3	16.1	17.0	11.5	24.6	16.5
Aug 9	17.7	17.0	16.8	18.7	19.9	19.5	22.6	19.8	17.1	18.9	20.5	14.6	14.3	12.8	13.4	13.4	15.7	18.0	16.3	8.6	3.6	4.1	5.0	5.2	3.6	22.6	14.7
Aug 10	4.2	3.8	4.7	3.8	4.1	4.9	4.7	3.0	2.9	2.8	6.2	6.4	9.2	9.9	7.9	9.2	7.7	8.4	6.9	4.6	4.1	3.5	5.3	4.3	2.8	9.9	5.5
Aug 11	6.0	4.7	4.8	6.7	4.0	4.2	3.4	2.3	2.8	5.0	7.4	6.8	9.5	8.6	6.6	5.3	10.0	10.5	9.5	8.0	4.9	4.6	6.6	5.8	2.3	10.5	6.2
Aug 12	3.3	2.4	1.4	5.3	8.2	4.9	2.1	3.7	3.4	3.9	6.4	7.7	9.9	12.6	14.2	10.7	9.1	10.4	11.6	5.1	9.6	11.0	10.2	10.3	1.4	14.2	7.4
Aug 13	8.5	9.6	10.4	9.8	8.6	8.1	5.7	9.9	8.4	8.3	6.7	8.3	11.0	14.9	19.5	23.4	24.0	21.1	16.4	11.3	11.9	16.1	14.1	9.5	5.7	24.0	12.3
Aug 14	7.9	9.5	7.5	9.3	9.6	5.2	11.6	14.1	16.0	19.3	16.3	12.9	12.5	11.7	12.8	11.9	11.6	10.8	17.3	5.5	5.6	5.9	3.7	4.2	3.7	19.3	10.5
Aug 15	6.3	5.3	6.2	5.4	6.5	5.7	4.7	6.8	5.9	5.5	8.4	7.9	9.3	18.6	24.4	22.4	21.4	18.4	14.7	18.3	19.3	17.9	20.0	16.9	4.7	24.4	12.3
Aug 16	17.6	22.7	22.9	21.8	26.1	**35.6**	31.9	34.4	32.9	26.6	26.5	30.5	26.8	30.8	33.5	27.7	27.3	27.5	18.6	8.9	4.6	3.2	2.6	2.0	2.0	**35.6**	**22.6**
Aug 17	1.7	4.4	2.9	3.8	4.3	5.6	5.0	2.9	2.7	3.9	5.8	5.9	7.6	8.3	5.9	5.7	7.5	8.3	8.6	7.9	12.5	13.3	12.6	9.8	1.7	13.3	6.5
Aug 18	10.7	8.7	7.5	9.5	8.7	5.8	6.5	10.8	16.4	16.4	16.3	18.0	16.4	12.3	9.9	7.5	11.3	6.8	9.4	13.3	9.5	10.1	11.9	11.7	5.8	18.0	11.1
Aug 19	7.3	5.6	5.9	4.8	5.3	6.7	8.6	10.4	6.0	11.0	14.4	12.2	6.3	6.4	8.0	6.3	7.8	5.9	4.4	3.4	3.3	4.9	7.7	6.0	3.3	14.4	7.0
Aug 20	5.9	4.7	6.8	7.1	8.5	10.7	16.0	17.5	19.2	23.4	20.7	16.1	12.9	13.5	14.0	11.7	15.7	15.2	15.4	17.0	20.8	25.3	21.8	21.4	4.7	25.3	15.1
Aug 21	26.2	29.7	32.2	29.9	25.9	19.2	16.1	14.0	13.7	19.1	18.0	9.4	6.8	4.5	11.7	12.7	6.3	8.4	12.7	20.5	11.0	16.8	11.6	15.8	4.5	32.2	16.3
Aug 22	17.3	13.6	13.2	12.9	15.6	25.6	33.4	31.6	22.5	15.5	18.0	21.9	22.2	26.3	27.2	18.8	10.7	16.7	13.0	9.4	11.6	12.9	11.3	14.4	9.4	33.4	18.2
Aug 23	16.0	17.6	16.7	15.7	14.4	15.1	16.5	8.7	15.2	18.0	18.3	22.3	21.6	21.7	24.0	18.6	11.9	19.7	13.7	11.5	13.4	11.8	6.7	5.7	5.7	24.0	15.6
Aug 24	8.5	10.7	8.7	7.7	10.5	11.1	13.0	12.8	16.9	22.1	23.6	21.7	25.0	28.7	26.7	24.9	23.1	22.8	19.5	13.7	10.5	6.2	6.9	6.8	6.2	28.7	15.9
Aug 25	7.0	7.2	3.9	7.2	7.7	5.7	5.5	7.2	10.2	10.2	8.6	13.9	12.6	14.3	12.2	15.4	7.3	6.0	16.9	5.7	5.6	7.2	12.8	10.2	3.9	16.9	9.2
Aug 26	8.5	6.7	6.9	8.9	8.5	10.8	11.2	14.5	13.4	14.0	17.9	18.3	19.8	20.2	19.4	15.6	14.2	9.2	6.7	3.2	6.9	9.0	3.2	6.6	3.2	20.2	11.4
Aug 27	9.5	8.1	6.5	6.3	11.5	15.8	12.4	13.1	15.0	16.1	19.2	20.5	19.0	18.2	14.3	9.7	10.9	13.2	14.6	10.2	12.1	14.1	14.7	10.5	6.3	20.5	13.1
Aug 28	17.7	19.2	15.7	12.4	12.4	14.6	14.2	18.8	19.6	16.2	15.8	15.3	13.8	13.3	12.2	12.9	11.1	10.7	6.7	4.8	2.3	3.2	3.4	4.0	2.3	19.6	12.1
Aug 29	4.8	5.4	4.5	4.0	5.5	3.8	3.3	2.9	2.8	3.4	4.9	6.8	7.3	10.5	9.3	5.8	4.2	12.2	5.5	5.1	4.4	3.9	6.2	5.6	2.8	12.2	5.5
Aug 30	5.7	5.7	6.4	5.3	4.1	4.3	4.7	4.1	3.0	3.2	3.5	4.4	6.4	7.3	7.7	7.5	8.4	7.1	3.3	2.8	3.8	4.4	5.0	6.3	2.8	8.4	**5.2**
Aug 31	6.0	7.7	7.3	9.4	6.8	5.1	6.1	3.1	8.7	11.0	9.0	8.5	10.3	11.6	11.9	10.9	12.4	12.0	12.0	9.4	13.7	14.8	12.2	9.3	3.1	14.8	9.6
Diurnal Maximum	26.2	29.7	32.2	29.9	26.1	35.6	33.4	34.4	32.9	26.6	26.5	30.5	26.8	30.8	33.5	27.7	27.3	28.7	29.5	26.9	21.9	25.3	21.8	21.4			
Daiurnal Average	9.1	9.6	9.5	9.6	9.9	10.2	10.9	11.2	11.7	12.3	12.9	12.9	13.2	14.2	14.8	13.5	13.2	13.5	12.5	9.7	9.2	9.5	9.1	8.7			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for WS - 986c Station



842b STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

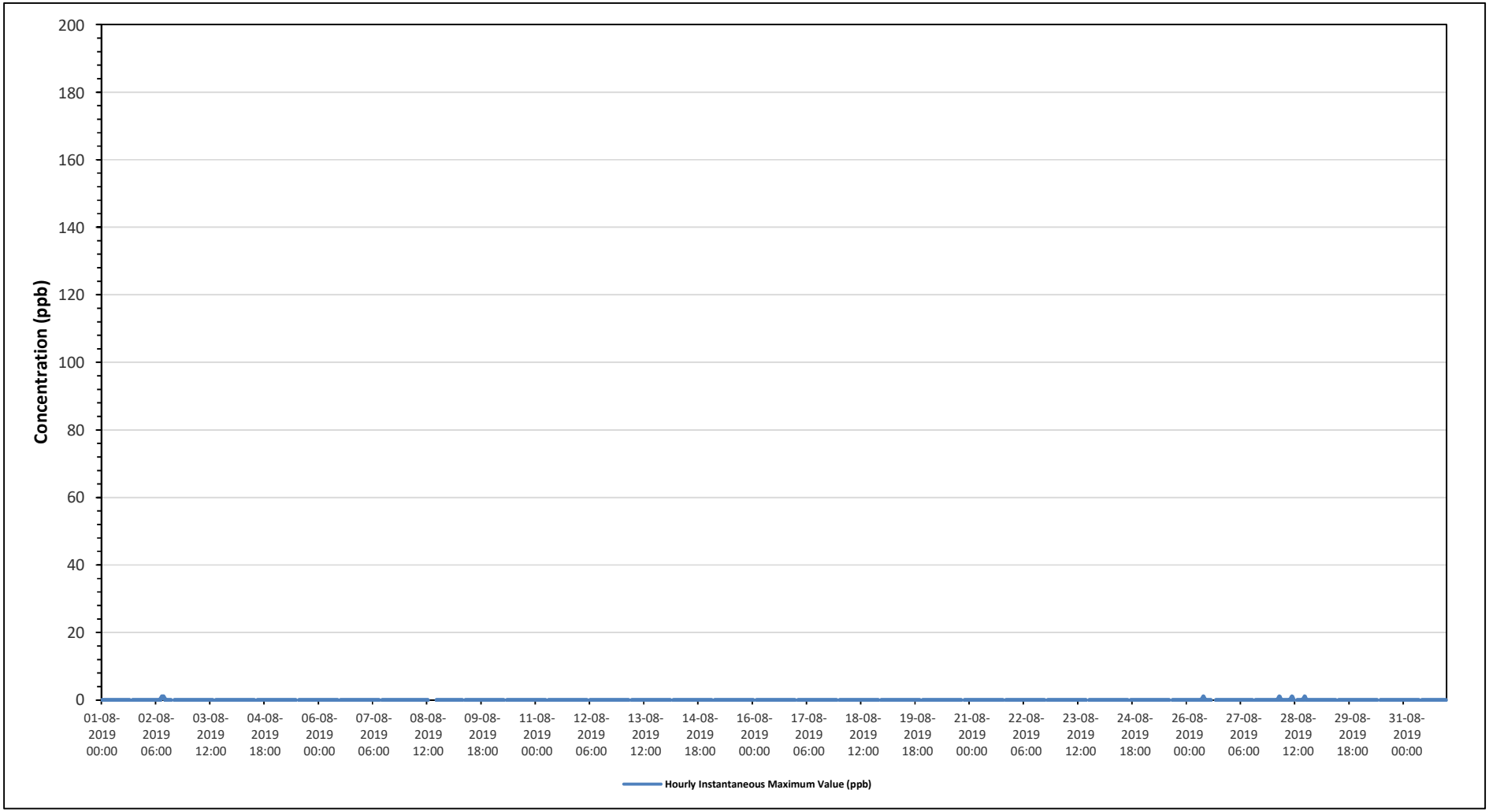
Maximum Hourly Value:	1	ppb	on August 2 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.1	ppb	on August 28	Hours of Data:	708
Minimum Hourly Value:	0	ppb	on August 1 at hour 0	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on August 1	Hours of Calibration:	35
Monthly Average:	0.0	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Aug 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 4	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 5	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 6	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 7	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 8	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0.0
Aug 9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 10	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 11	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 12	0	0	0	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
Aug 13	0	0	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
Aug 14	0	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
Aug 15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 16	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
Aug 17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Aug 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Aug 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Aug 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Aug 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Aug 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Aug 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Aug 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Aug 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Aug 26	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	Y	0	0	0	0	0	0	0	0	0	1	0.0
Aug 27	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 28	0	0	0	1	0	0	0	0	0	0	1	0	S	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
Aug 29	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 30	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 31	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for SO2 - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

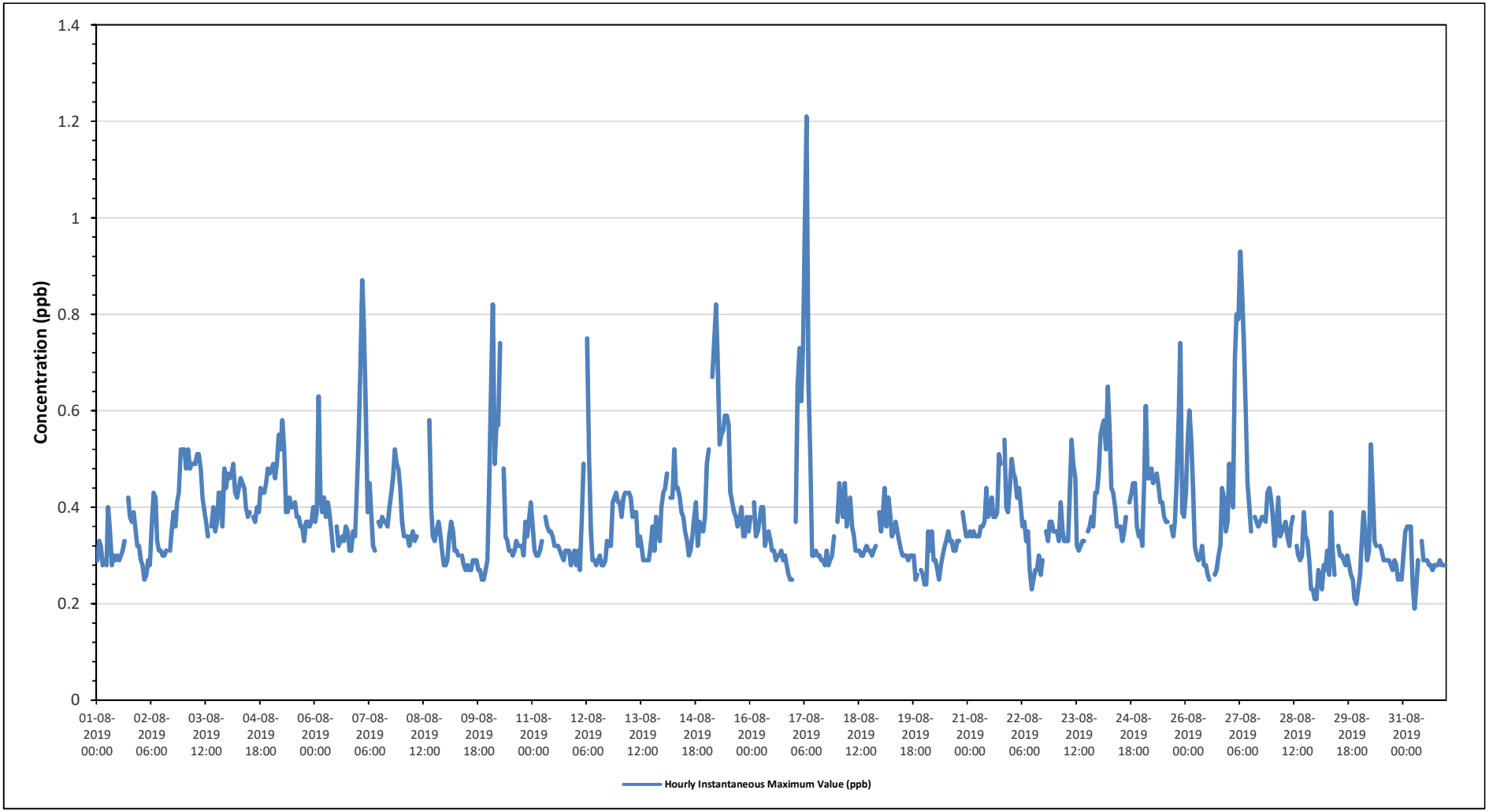
Maximum Hourly Value:	1.21	ppb	on August 17 at hour 7	Hours in Service:	744
Maximum Daily Value:	0.51	ppb	on August 27	Hours of Data:	706
Minimum Hourly Value:	0.19	ppb	on August 31 at hour 6	Hours of Missing Data:	1
Minimum Daily Value:	0.27	ppb	on August 29	Hours of Calibration:	37
Monthly Average:	0.38	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.29	0.33	0.32	0.28	0.29	0.28	0.4	0.35	0.28	0.3	0.29	0.3	0.29	0.3	0.31	0.33	S	0.42	0.38	0.37	0.39	0.36	0.32	0.32	0.28	0.42	0.33
Aug 2	0.29	0.28	0.25	0.26	0.29	0.28	0.36	0.43	0.42	0.33	0.31	0.31	0.3	0.3	0.31	S	0.31	0.35	0.39	0.36	0.41	0.43	0.52	0.52	0.25	0.52	0.35
Aug 3	0.52	0.48	0.52	0.48	0.49	0.49	0.49	0.51	0.51	0.48	0.42	0.39	0.37	0.34	S	0.36	0.4	0.35	0.37	0.43	0.43	0.36	0.48	0.44	0.34	0.52	0.44
Aug 4	0.47	0.46	0.47	0.49	0.43	0.42	0.44	0.46	0.45	0.44	0.4	0.38	0.39	S	0.38	0.37	0.4	0.39	0.44	0.43	0.43	0.45	0.48	0.47	0.37	0.49	0.43
Aug 5	0.48	0.49	0.46	0.49	0.55	0.52	0.58	0.52	0.39	0.39	0.42	0.4	S	0.41	0.38	0.38	0.36	0.36	0.33	0.37	0.37	0.36	0.37	0.4	0.33	0.58	0.43
Aug 6	0.37	0.39	0.63	0.42	0.39	0.42	0.38	0.41	0.39	0.35	0.31	S	0.36	0.32	0.33	0.34	0.33	0.36	0.35	0.31	0.31	0.35	0.34	0.42	0.31	0.63	0.37
Aug 7	0.53	0.69	0.87	0.78	0.6	0.39	0.45	0.39	0.32	0.31	S	0.37	0.36	0.38	0.37	0.37	0.36	0.4	0.43	0.46	0.52	0.49	0.48	0.44	0.31	0.87	0.47
Aug 8	0.37	0.34	0.34	0.34	0.32	0.34	0.35	0.33	0.34	C	C	C	C	C	C	0.58	0.4	0.34	0.33	0.35	0.37	0.35	0.31	0.28	0.28	0.58	0.35
Aug 9	0.28	0.29	0.34	0.37	0.35	0.31	0.31	0.3	S	0.3	0.28	0.27	0.28	0.27	0.27	0.29	0.29	0.29	0.27	0.27	0.25	0.25	0.27	0.29	0.25	0.37	0.29
Aug 10	0.43	0.64	0.82	0.49	0.57	0.57	0.74	S	0.48	0.34	0.33	0.31	0.31	0.3	0.31	0.33	0.32	0.32	0.32	0.3	0.37	0.34	0.38	0.41	0.30	0.82	0.42
Aug 11	0.36	0.31	0.3	0.3	0.31	0.33	S	0.38	0.36	0.35	0.35	0.34	0.32	0.32	0.32	0.31	0.3	0.29	0.31	0.31	0.31	0.28	0.3	0.31	0.28	0.38	0.32
Aug 12	0.28	0.31	0.27	0.37	0.49	S	0.75	0.51	0.35	0.29	0.29	0.28	0.29	0.3	0.28	0.28	0.29	0.33	0.32	0.32	0.41	0.42	0.43	0.41	0.27	0.75	0.36
Aug 13	0.41	0.38	0.42	0.43	S	0.43	0.42	0.38	0.39	0.39	0.32	0.34	0.32	0.29	0.29	0.29	0.29	0.32	0.36	0.31	0.38	0.36	0.33	0.4	0.29	0.43	0.36
Aug 14	0.43	0.44	0.47	S	0.42	0.42	0.52	0.44	0.44	0.42	0.39	0.38	0.35	0.33	0.3	0.31	0.34	0.38	0.41	0.32	0.37	0.36	0.35	0.38	0.30	0.52	0.39
Aug 15	0.49	0.52	S	0.67	0.74	0.82	0.7	0.53	0.55	0.56	0.59	0.59	0.57	0.43	0.41	0.39	0.38	0.36	0.37	0.4	0.34	0.34	0.38	0.35	0.34	0.82	0.50
Aug 16	0.38	S	0.41	0.34	0.35	0.37	0.4	0.4	0.32	0.34	0.35	0.33	0.31	0.31	0.29	0.3	0.3	0.31	0.29	0.3	0.28	0.26	0.25	0.25	0.25	0.41	0.32
Aug 17	S	0.37	0.65	0.73	0.62	0.73	0.99	**1.21**	0.66	0.5	0.3	0.3	0.31	0.3	0.3	0.29	0.29	0.28	0.31	0.28	0.29	0.3	0.34	S	0.28	**1.21**	0.47
Aug 18	0.37	0.45	0.41	0.38	0.45	0.36	0.4	0.42	0.36	0.34	0.31	0.31	0.31	0.3	0.3	0.31	0.32	0.31	0.31	0.3	0.31	0.32	S	0.39	0.30	0.45	0.35
Aug 19	0.35	0.38	0.44	0.36	0.42	0.39	0.34	0.35	0.37	0.35	0.33	0.31	0.3	0.3	0.3	0.29	0.3	0.3	0.3	0.25	0.26	S	0.27	0.26	0.25	0.44	0.33
Aug 20	0.24	0.24	0.35	0.31	0.35	0.29	0.29	0.27	0.25	0.28	0.3	0.32	0.33	0.35	0.33	0.33	0.31	0.31	0.33	0.33	S	0.39	0.36	0.34	0.24	0.39	0.31
Aug 21	0.34	0.35	0.34	0.35	0.34	0.34	0.34	0.36	0.36	0.37	0.44	0.38	0.39	0.42	0.38	0.38	0.39	0.51	0.49	S	0.54	0.4	0.39	0.44	0.34	0.54	0.39
Aug 22	0.5	0.47	0.46	0.42	0.44	0.4	0.36	0.37	0.33	0.35	0.27	0.23	0.25	0.27	0.27	0.3	0.26	0.29	S	0.35	0.33	0.37	0.37	0.35	0.23	0.50	0.35
Aug 23	0.35	0.35	0.33	0.41	0.35	0.33	0.33	0.33	0.42	0.54	0.49	0.46	0.32	0.31	0.32	0.33	0.33	S	0.35	0.36	0.38	0.36	0.43	0.43	0.31	0.54	0.37
Aug 24	0.47	0.55	0.57	0.58	0.52	0.65	0.55	0.44	0.43	0.4	0.36	0.36	0.36	0.33	0.35	0.38	S	0.41	0.43	0.45	0.45	0.36	0.34	0.35	0.33	0.65	0.44
Aug 25	0.32	0.45	0.61	0.46	0.46	0.48	0.45	0.46	0.47	0.44	0.41	0.41	0.38	0.37	0.37	S	0.36	0.34	0.37	0.46	0.59	0.74	0.39	0.38	0.32	0.74	0.44
Aug 26	0.43	0.53	0.6	0.54	0.43	0.32	0.3	0.29	0.3	0.32	0.28	0.28	0.26	0.25	S	Y	0.26	0.27	0.3	0.32	0.44	0.42	0.35	0.37	0.25	0.60	0.36
Aug 27	0.49	0.44	0.4	0.71	0.8	0.79	0.93	0.84	0.74	0.6	0.45	0.4	0.35	S	0.38	0.37	0.36	0.37	0.38	0.38	0.37	0.43	0.44	0.42	0.35	0.93	**0.51**
Aug 28	0.38	0.32	0.36	0.42	0.34	0.35	0.36	0.37	0.34	0.32	0.36	0.38	S	0.32	0.3	0.29	0.3	0.39	0.34	0.33	0.29	0.23	0.23	0.21	0.21	0.42	0.33
Aug 29	0.21	0.27	0.26	0.23	0.28	0.27	0.31	0.26	0.39	0.31	0.26	S	0.32	0.3	0.3	0.29	0.28	0.3	0.28	0.26	0.25	0.21	0.2	0.23	0.20	0.39	0.27
Aug 30	0.26	0.33	0.39	0.34	0.29	0.31	0.53	0.43	0.33	0.32	S	0.32	0.31	0.29	0.29	0.29	0.29	0.28	0.27	0.29	0.28	0.25	0.26	0.25	0.25	0.53	0.31
Aug 31	0.3	0.35	0.36	0.36	0.36	0.24	0.19	0.23	0.29	S	0.33	0.29	0.29	0.29	0.28	0.28	0.27	0.28	0.28	0.28	0.29	0.28	0.28	0.28	0.19	0.36	0.29
Diurnal Maximum	0.53	0.69	0.87	0.78	0.80	0.82	0.99	1.21	0.74	0.60	0.59	0.59	0.57	0.43	0.41	0.58	0.40	0.51	0.49	0.46	0.59	0.74	0.52	0.52			
Daiurnal Average	0.38	0.41	0.45	0.44	0.43	0.42	0.47	0.43	0.40	0.38	0.36	0.35	0.33	0.32	0.32	0.33	0.32	0.34	0.35	0.34	0.37	0.36	0.35	0.36			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for TRS - 842b Station



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

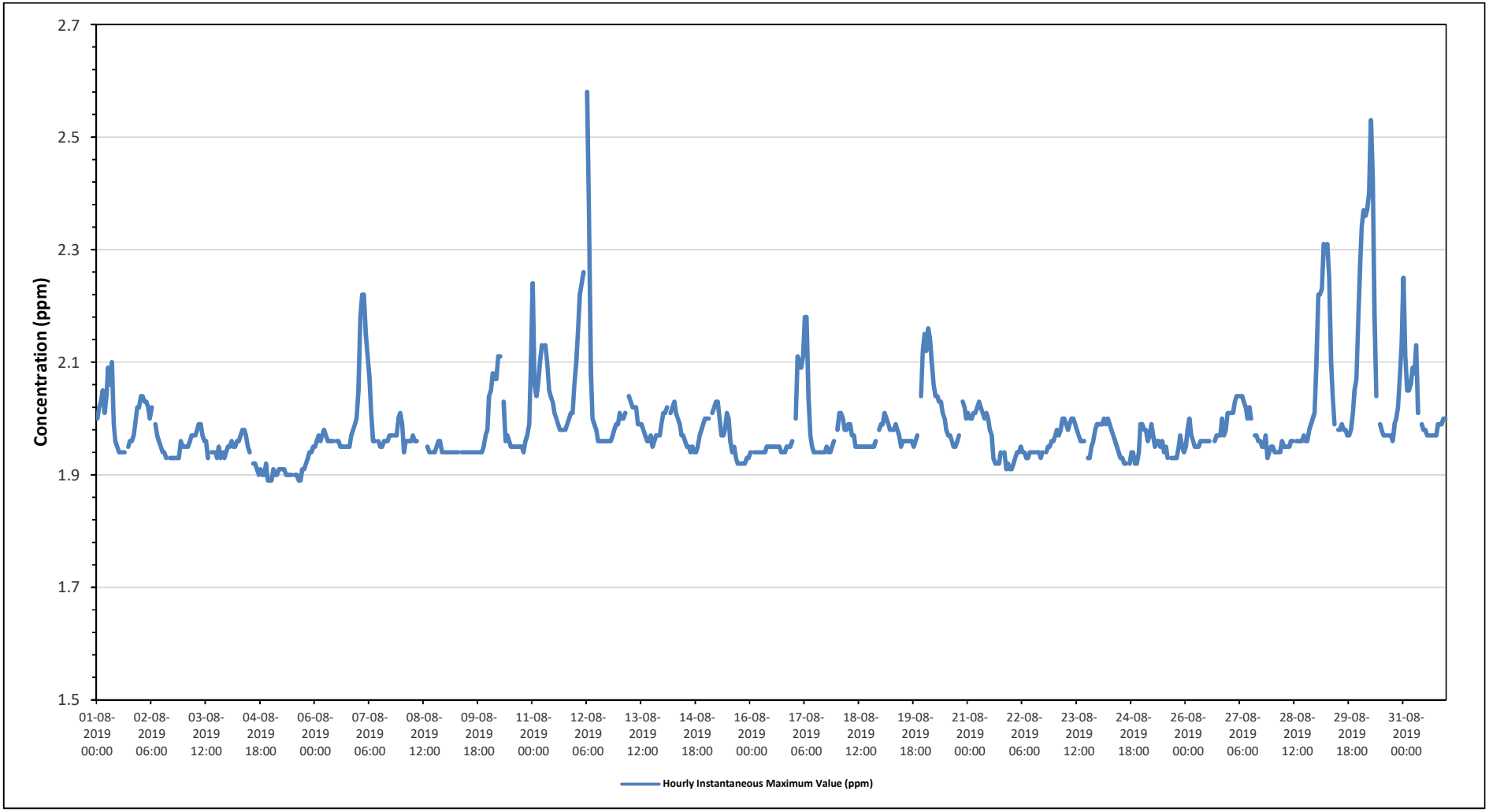
Maximum Hourly Value:	2.58	ppm	on August 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.14	ppm	on August 30	Hours of Data:	706
Minimum Hourly Value:	1.89	ppm	on August 4 at hour 22	Hours of Missing Data:	2
Minimum Daily Value:	1.91	ppm	on August 5	Hours of Calibration:	36
Monthly Average:	1.99	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	2.00	2.02	2.03	2.05	2.01	2.04	2.09	2.06	2.10	1.99	1.96	1.95	1.94	1.94	1.94	1.94	S	1.95	1.96	1.96	1.97	1.99	2.02	2.02	1.94	2.10	2.00
Aug 2	2.04	2.04	2.03	2.03	2.02	2.00	2.02	S1	1.99	1.97	1.96	1.95	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.93	1.93	1.96	1.95	1.93	2.04	1.97
Aug 3	1.95	1.95	1.95	1.96	1.97	1.97	1.97	1.98	1.99	1.99	1.97	1.96	1.96	1.93	S	1.94	1.94	1.94	1.93	1.95	1.93	1.94	1.93	1.94	1.93	1.99	1.95
Aug 4	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.97	1.98	1.98	1.97	1.95	1.94	S	1.92	1.92	1.91	1.90	1.91	1.90	1.90	1.92	1.89	1.89	1.89	1.98	1.94
Aug 5	1.89	1.91	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	S	1.90	1.90	1.89	1.89	1.91	1.91	1.92	1.93	1.94	1.94	1.95	1.89	1.95	1.91
Aug 6	1.95	1.96	1.97	1.96	1.97	1.98	1.97	1.96	1.96	1.96	1.96	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.98	1.99	2.00	1.95	2.00	1.96
Aug 7	2.05	2.18	2.22	2.22	2.15	2.11	2.07	2.01	1.96	1.96	S	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	2.00	2.01	1.95	2.22	2.02
Aug 8	1.99	1.94	1.96	1.96	1.96	1.96	1.97	1.96	1.96	C	C	C	C	C	1.95	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.94	1.94	1.94	1.99	1.95
Aug 9	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.98	1.94	1.98	1.94
Aug 10	2.04	2.05	2.08	2.07	2.07	2.11	2.11	S	2.03	1.96	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.97	1.99	2.09	1.94	2.11	2.00
Aug 11	2.24	2.06	2.04	2.06	2.10	2.13	S	2.13	2.10	2.05	2.04	2.03	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.01	2.01	2.06	1.98	2.24	2.04
Aug 12	2.10	2.16	2.22	2.24	2.26	S	**2.58**	2.36	2.08	2.00	1.99	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.99	1.99	1.96	**2.58**	2.07
Aug 13	2.01	2.00	2.00	2.01	S	2.04	2.03	2.02	2.02	2.02	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.97	1.95	1.96	1.97	1.97	1.97	1.99	1.95	2.04	1.99
Aug 14	2.01	2.01	2.02	S	2.01	2.02	2.03	2.01	2.00	1.99	1.97	1.97	1.96	1.95	1.95	1.94	1.95	1.94	1.94	1.95	1.97	1.98	1.99	2.00	1.94	2.03	1.98
Aug 15	2.00	2.00	S	2.01	2.02	2.03	2.03	2.00	1.97	1.97	1.98	2.01	2.00	1.96	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.92	2.03	1.97
Aug 16	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.94	1.96	1.95
Aug 17	S	2.00	2.11	2.10	2.09	2.11	2.18	2.18	2.04	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.94	1.95	S	1.94	2.18	2.00
Aug 18	1.98	2.01	2.01	2.00	1.98	1.98	1.99	1.99	1.97	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	S	1.98	1.95	2.01	1.97
Aug 19	1.99	1.99	2.01	2.00	1.99	1.98	1.98	1.98	1.99	1.98	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.97	S	2.04	2.12	1.95	2.12	1.98
Aug 20	2.15	2.12	2.16	2.14	2.10	2.06	2.04	2.04	2.03	2.03	2.01	2.00	1.98	1.97	1.97	1.96	1.95	1.95	1.96	1.97	S	2.03	2.02	2.00	1.95	2.16	2.03
Aug 21	2.01	2.00	2.00	2.01	2.01	2.02	2.03	2.02	2.01	2.00	2.01	2.00	1.98	1.97	1.93	1.92	1.92	1.92	1.94	S	1.94	1.91	1.92	1.91	1.91	2.03	1.97
Aug 22	1.91	1.92	1.93	1.94	1.94	1.95	1.94	1.94	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	S	1.94	1.95	1.95	1.96	1.96	1.91	1.96	1.94
Aug 23	1.97	1.98	1.97	1.98	2.00	2.00	1.99	1.98	1.99	2.00	2.00	1.99	1.98	1.97	1.96	1.96	1.96	S	1.93	1.93	1.95	1.96	1.98	1.99	1.93	2.00	1.97
Aug 24	1.99	1.99	1.99	2.00	1.99	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.93	1.93	1.92	1.92	S	1.92	1.94	1.94	1.92	1.92	1.94	1.99	1.92	2.00	1.96
Aug 25	1.99	1.98	1.98	1.96	1.97	1.99	1.97	1.95	1.96	1.96	1.95	1.96	1.94	1.95	1.93	S	1.93	1.93	1.93	1.93	1.95	1.97	1.95	1.94	1.93	1.99	1.96
Aug 26	1.95	1.98	2.00	1.97	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	S	Y	1.96	1.97	1.97	1.97	2.00	1.97	1.98	2.01	1.95	2.01	1.97
Aug 27	2.01	2.01	2.01	2.03	2.04	2.04	2.04	2.04	2.03	2.02	2.00	2.02	2.00	S	1.97	1.97	1.96	1.96	1.95	1.95	1.97	1.93	1.94	1.95	1.93	2.04	1.99
Aug 28	1.95	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.96	1.96	S	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.98	1.99	2.00	2.01	1.94	2.01	1.96
Aug 29	2.10	2.22	2.22	2.23	2.31	2.30	2.31	2.25	2.10	2.04	1.99	S	1.98	1.98	1.99	1.98	1.98	1.97	1.97	1.98	2.01	2.05	2.07	2.17	1.97	2.31	2.10
Aug 30	2.27	2.34	2.37	2.36	2.37	2.40	2.53	2.43	2.19	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.99	2.00	2.02	2.08	2.13	1.96	2.53	**2.14**
Aug 31	2.25	2.11	2.05	2.05	2.06	2.09	2.08	2.13	2.01	S	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	1.99	2.00	2.00	1.97	2.25	2.02
Diurnal Maximum	2.27	2.34	2.37	2.36	2.37	2.40	2.58	2.43	2.19	2.05	2.04	2.03	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.01	2.05	2.08	2.17			
Daiurnal Average	2.02	2.03	2.03	2.03	2.03	2.03	2.05	2.04	2.00	1.98	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.98	2.00			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for THC - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

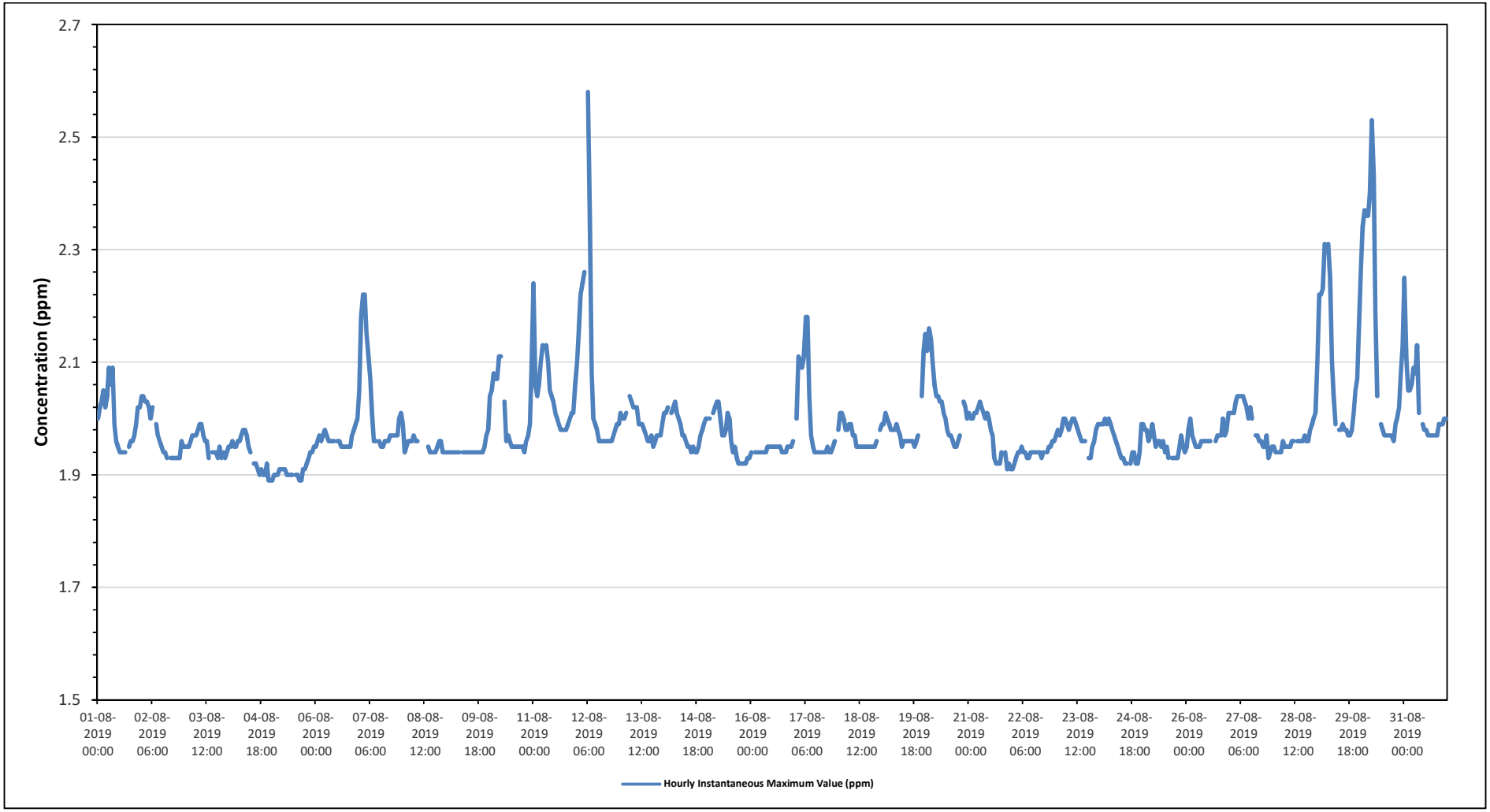
Maximum Hourly Value:	2.58	ppm	on August 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.14	ppm	on August 30	Hours of Data:	706
Minimum Hourly Value:	1.89	ppm	on August 4 at hour 22	Hours of Missing Data:	2
Minimum Daily Value:	1.91	ppm	on August 5	Hours of Calibration:	36
Monthly Average:	1.99	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	2.00	2.02	2.03	2.05	2.02	2.04	2.09	2.06	2.09	1.99	1.96	1.95	1.94	1.94	1.94	1.94	S	1.95	1.96	1.96	1.97	1.99	2.02	2.02	1.94	2.09	2.00
Aug 2	2.04	2.04	2.03	2.03	2.02	2.00	2.02	S1	1.99	1.97	1.96	1.95	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.93	1.93	1.96	1.95	1.93	2.04	1.97
Aug 3	1.95	1.95	1.95	1.96	1.97	1.97	1.97	1.98	1.99	1.99	1.97	1.96	1.96	1.93	S	1.94	1.94	1.94	1.93	1.95	1.93	1.94	1.93	1.94	1.93	1.99	1.95
Aug 4	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.97	1.98	1.98	1.97	1.95	1.94	S	1.92	1.92	1.91	1.90	1.91	1.90	1.90	1.92	1.89	1.89	1.89	1.98	1.94
Aug 5	1.89	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	S	1.90	1.90	1.89	1.89	1.91	1.91	1.92	1.93	1.94	1.94	1.95	1.89	1.95	1.91
Aug 6	1.95	1.96	1.97	1.96	1.97	1.98	1.97	1.96	1.96	1.96	1.96	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.98	1.99	2.00	1.95	2.00	1.96
Aug 7	2.05	2.18	2.22	2.22	2.15	2.11	2.07	2.01	1.96	1.96	S	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	2.00	2.01	1.95	2.22	2.02
Aug 8	1.99	1.94	1.95	1.96	1.96	1.96	1.97	1.96	1.96	C	C	C	C	C	1.95	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.94	1.94	1.94	1.99	1.95
Aug 9	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.98	1.94	1.98	1.94
Aug 10	2.04	2.05	2.08	2.07	2.07	2.11	2.11	S	2.03	1.96	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.97	1.99	2.09	1.94	2.11	2.00
Aug 11	2.24	2.06	2.04	2.06	2.10	2.13	S	2.13	2.10	2.05	2.04	2.03	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.01	2.01	2.06	1.98	2.24	2.04
Aug 12	2.10	2.16	2.22	2.24	2.26	S	**2.58**	2.36	2.08	2.00	1.99	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.99	1.99	1.96	**2.58**	2.07
Aug 13	2.01	2.00	2.00	2.01	S	2.04	2.03	2.02	2.02	2.02	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.97	1.95	1.96	1.97	1.97	1.97	1.99	1.95	2.04	1.99
Aug 14	2.01	2.01	2.02	S	2.01	2.02	2.03	2.01	2.00	1.99	1.97	1.97	1.96	1.95	1.95	1.94	1.95	1.94	1.94	1.95	1.97	1.98	1.99	2.00	1.94	2.03	1.98
Aug 15	2.00	2.00	S	2.01	2.02	2.03	2.03	2.00	1.97	1.97	1.98	2.01	2.00	1.96	1.94	1.95	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.92	2.03	1.97
Aug 16	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.94	1.96	1.95
Aug 17	S	2.00	2.11	2.10	2.09	2.11	2.18	2.18	2.04	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.94	1.95	S	1.94	2.18	2.00
Aug 18	1.98	2.01	2.01	2.00	1.98	1.98	1.99	1.99	1.97	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	S	1.98	1.95	2.01	1.97
Aug 19	1.99	1.99	2.01	2.00	1.99	1.98	1.98	1.98	1.99	1.98	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.97	S	2.04	2.12	1.95	2.12	1.98
Aug 20	2.15	2.12	2.16	2.14	2.10	2.06	2.04	2.04	2.03	2.03	2.01	2.00	1.98	1.97	1.97	1.96	1.95	1.95	1.96	1.97	S	2.03	2.02	2.00	1.95	2.16	2.03
Aug 21	2.01	2.00	2.00	2.01	2.01	2.02	2.03	2.02	2.01	2.00	2.01	2.00	1.98	1.97	1.93	1.92	1.92	1.92	1.94	S	1.94	1.91	1.92	1.91	1.91	2.03	1.97
Aug 22	1.91	1.92	1.93	1.94	1.94	1.95	1.94	1.94	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	S	1.94	1.95	1.95	1.96	1.96	1.91	1.96	1.94
Aug 23	1.97	1.98	1.97	1.98	2.00	2.00	1.99	1.98	1.99	2.00	2.00	1.99	1.98	1.97	1.96	1.96	1.96	S	1.93	1.93	1.95	1.96	1.98	1.99	1.93	2.00	1.97
Aug 24	1.99	1.99	1.99	2.00	1.99	2.00	1.99	1.98	1.97	1.96	1.95	1.94	1.93	1.93	1.92	1.92	S	1.92	1.94	1.94	1.92	1.92	1.94	1.99	1.92	2.00	1.96
Aug 25	1.99	1.98	1.98	1.96	1.97	1.99	1.97	1.95	1.96	1.96	1.95	1.96	1.94	1.95	1.93	S	1.93	1.93	1.93	1.93	1.95	1.97	1.95	1.94	1.93	1.99	1.96
Aug 26	1.95	1.98	2.00	1.97	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	S	Y	1.96	1.97	1.97	1.97	2.00	1.97	1.98	2.01	1.95	2.01	1.97
Aug 27	2.01	2.01	2.01	2.03	2.04	2.04	2.04	2.04	2.03	2.02	2.00	2.02	2.00	S	1.97	1.97	1.96	1.96	1.95	1.95	1.97	1.93	1.94	1.95	1.93	2.04	1.99
Aug 28	1.95	1.94	1.94	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.96	1.96	S	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.98	1.99	2.00	2.01	1.94	2.01	1.96
Aug 29	2.10	2.22	2.22	2.23	2.31	2.30	2.31	2.25	2.10	2.04	1.99	S	1.98	1.98	1.99	1.98	1.98	1.97	1.97	1.98	2.01	2.05	2.07	2.17	1.97	2.31	2.10
Aug 30	2.27	2.34	2.37	2.36	2.36	2.40	2.53	2.43	2.19	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.99	2.00	2.02	2.08	2.13	1.96	2.53	**2.14**
Aug 31	2.25	2.11	2.05	2.05	2.06	2.09	2.08	2.13	2.01	S	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	1.99	2.00	2.00	1.97	2.25	2.02
Diurnal Maximum	2.27	2.34	2.37	2.36	2.36	2.40	2.58	2.43	2.19	2.05	2.04	2.03	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.01	2.05	2.08	2.17			
Daiurnal Average	2.02	2.03	2.03	2.03	2.03	2.03	2.05	2.04	2.00	1.98	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.98	2.00			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

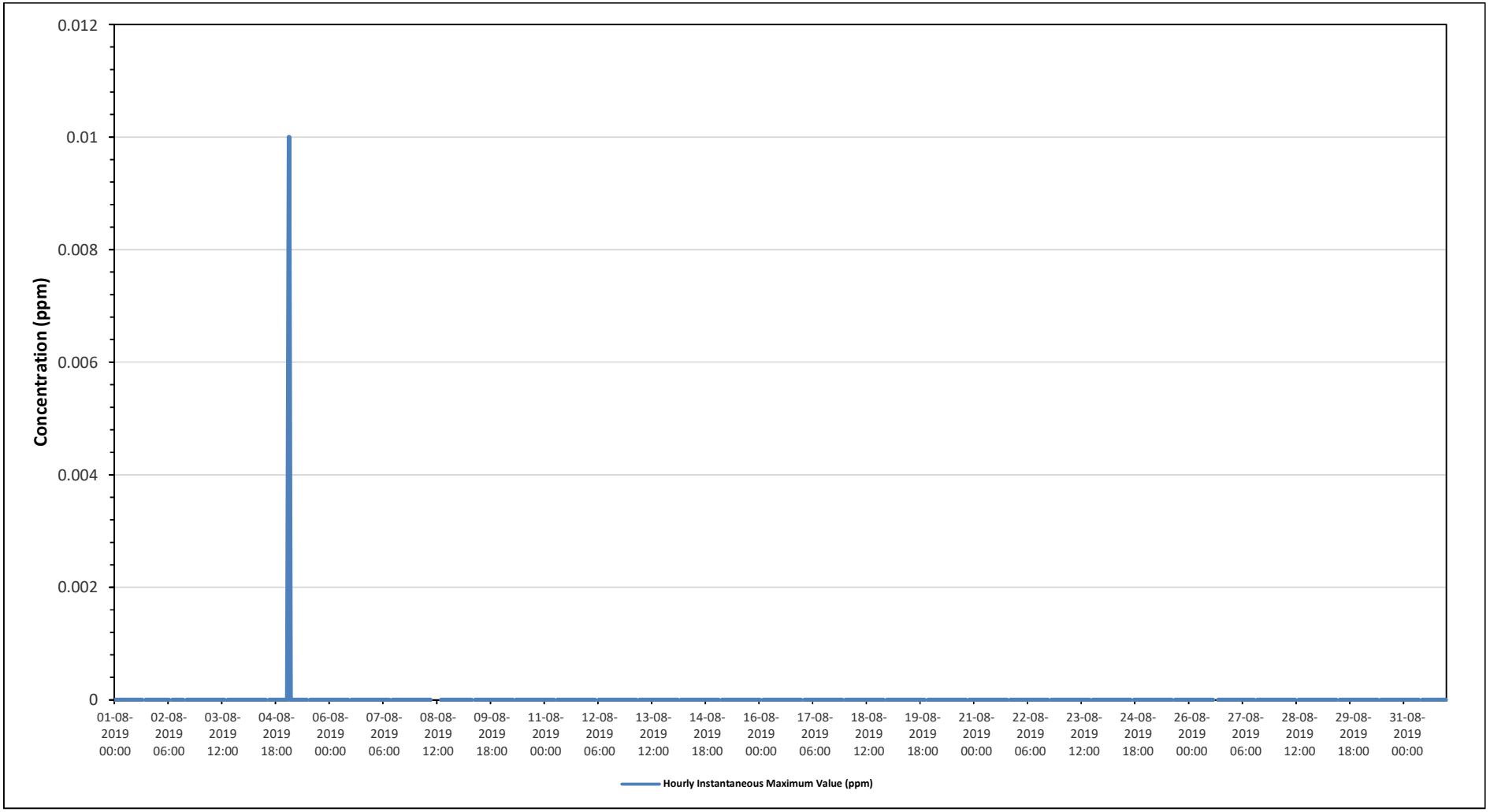
Maximum Hourly Value:	0.01	ppm	on August 5 at hour 1	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on August 5	Hours of Data:	706
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.00	ppm	on August 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 5	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for NMHC - 842b Station



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - August 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

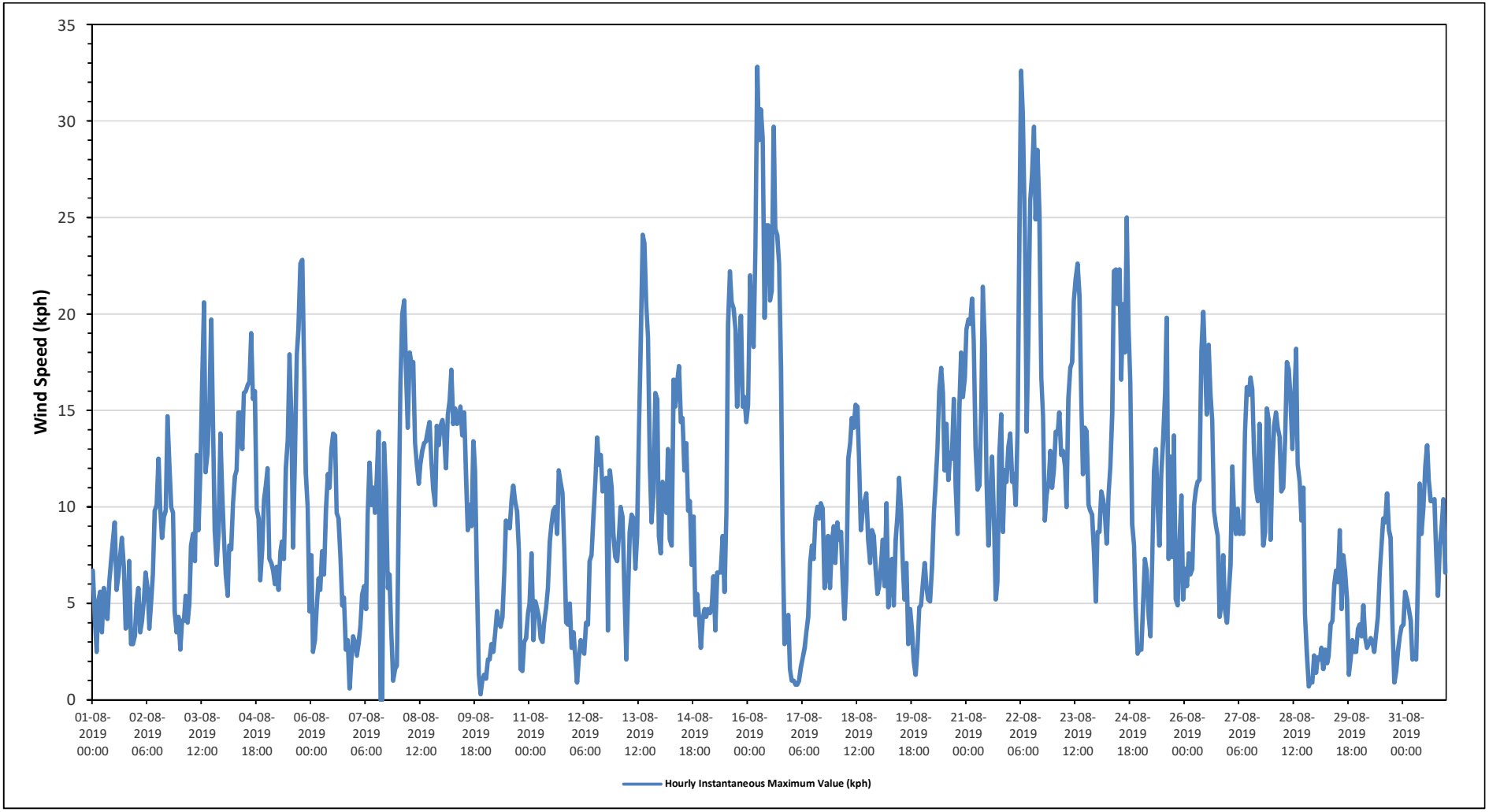
Maximum Hourly Value:	32.8	kph	on August 16 at hour 5	Hours in Service:	744
Maximum Daily Value:	19.6	kph	on August 16	Hours of Data:	742
Minimum Hourly Value:	0.3	kph	on August 9 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	3.8	kph	on August 29	Hours of Calibration:	2
Monthly Average:	10.0	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	6.7	4.3	2.5	5.1	5.6	3.5	5.8	5.1	4.2	6.1	7.2	8.2	9.2	5.7	6.5	7.6	8.4	6.9	3.7	3.9	7.2	2.9	2.9	3.3	2.5	9.2	5.5
Aug 2	5.0	5.8	3.5	4.1	5.1	6.6	5.8	3.7	5.2	6.5	9.8	10.1	12.5	10.0	8.4	9.5	9.8	14.7	12.4	10.0	9.7	4.6	3.5	4.3	3.5	14.7	7.5
Aug 3	2.6	4.1	4.1	5.4	4.0	5.0	8.0	8.6	7.2	12.7	8.8	11.6	16.3	20.6	11.8	12.8	15.1	19.7	14.8	8.8	7.0	8.7	13.8	10.8	2.6	20.6	10.1
Aug 4	8.4	6.5	5.4	8.0	7.8	10.2	11.6	11.9	14.9	14.9	13.0	15.9	16.0	16.3	16.5	19.0	15.6	16.0	9.9	9.4	6.2	7.8	10.4	11.1	5.4	19.0	11.8
Aug 5	12.0	7.3	7.1	6.7	6.0	6.9	5.7	7.7	8.2	7.3	12.0	13.5	17.9	14.8	7.9	12.8	17.9	19.2	22.6	22.8	17.3	11.8	10.0	4.6	4.6	22.8	11.7
Aug 6	7.5	2.5	3.1	4.8	6.3	5.7	7.7	6.5	9.8	11.7	11.0	13.0	13.8	13.7	9.7	9.4	7.4	4.9	5.3	2.6	3.1	0.6	2.0	3.3	0.6	13.8	6.9
Aug 7	3.0	2.3	3.0	3.8	5.5	5.9	4.7	9.6	12.3	10.1	11.0	9.7	11.5	13.9	C	C	13.3	10.8	5.8	6.5	3.4	1.0	1.6	1.8	1.0	13.9	6.8
Aug 8	8.9	16.4	20.0	20.7	17.4	14.1	18.0	17.4	17.5	13.3	12.2	11.2	12.2	12.9	13.3	13.4	14.0	14.4	12.3	10.9	10.1	14.2	13.2	14.2	8.9	20.7	14.3
Aug 9	14.5	13.8	12.0	14.8	15.5	17.1	14.3	15.1	14.3	14.4	15.2	13.7	14.9	11.5	8.8	10.1	9.0	13.4	11.9	6.2	1.3	**0.3**	1.0	1.3	**0.3**	17.1	11.0
Aug 10	1.1	2.1	2.1	2.9	2.5	3.5	4.6	4.0	3.8	4.3	6.6	9.3	9.0	8.9	10.4	11.1	10.3	9.8	7.7	1.6	1.5	3.0	3.2	4.5	1.1	11.1	5.3
Aug 11	5.0	7.6	3.1	5.1	4.8	4.3	3.2	3.0	4.0	4.8	5.8	8.2	9.1	9.8	10.0	8.6	11.9	11.3	10.7	7.8	4.0	3.9	5.0	2.7	2.7	11.9	6.4
Aug 12	3.5	2.3	0.9	2.2	3.1	2.7	2.4	4.0	3.9	7.2	7.5	9.5	11.3	13.6	12.2	12.7	10.8	11.1	11.5	3.6	11.9	11.0	8.6	7.4	0.9	13.6	7.3
Aug 13	7.2	8.6	10.0	9.5	5.8	2.1	5.0	8.7	9.6	9.4	6.8	8.5	13.9	18.7	24.1	23.7	20.5	18.8	12.2	9.2	10.7	15.9	15.6	8.5	2.1	24.1	11.8
Aug 14	7.6	11.3	10.5	9.7	13.0	8.3	8.0	16.6	15.2	16.4	17.3	14.4	14.6	11.9	13.3	9.8	10.3	7.0	9.5	4.4	5.5	4.4	2.7	4.2	2.7	17.3	10.2
Aug 15	4.7	4.3	4.7	4.5	4.9	6.4	3.6	6.6	6.6	6.6	8.5	5.6	9.7	19.4	22.2	20.6	20.3	19.2	15.2	17.9	19.9	15.2	15.7	14.4	3.6	22.2	11.5
Aug 16	15.3	22.0	19.5	18.3	23.4	**32.8**	29.0	30.6	29.1	19.8	24.6	24.6	20.7	21.2	29.7	24.4	24.1	22.6	17.2	8.5	2.9	4.0	4.4	1.6	1.6	**32.8**	**19.6**
Aug 17	1.0	1.0	0.8	0.8	1.0	1.7	2.2	2.7	3.5	4.3	7.1	8.0	7.3	9.4	10.0	9.4	10.2	9.9	5.8	6.6	8.5	5.8	8.2	9.0	0.8	10.2	5.6
Aug 18	7.1	9.2	8.3	8.7	5.9	4.2	6.3	12.5	13.3	14.6	14.1	15.3	15.2	12.5	8.8	9.8	10.3	10.7	8.3	7.1	8.8	8.5	6.9	5.5	4.2	15.3	9.7
Aug 19	5.9	7.0	8.3	5.9	10.2	4.8	6.3	7.3	4.9	8.3	9.5	11.5	9.8	6.9	5.2	7.1	2.9	4.7	3.5	2.0	1.3	2.7	4.8	4.9	1.3	11.5	6.1
Aug 20	6.0	7.1	5.8	5.2	5.1	6.9	9.7	11.1	13.0	16.0	17.2	15.9	11.9	14.3	11.4	12.8	12.5	15.6	11.1	8.6	14.9	18.0	15.7	16.7	5.1	18.0	11.8
Aug 21	19.2	19.7	19.5	20.8	18.6	13.1	10.9	11.1	15.2	21.4	18.5	11.2	8.0	10.3	12.6	9.5	5.2	6.1	12.6	14.8	8.7	11.9	11.3	13.1	5.2	21.4	13.5
Aug 22	13.8	11.3	11.7	10.1	14.0	24.6	32.6	30.3	24.3	13.9	18.8	25.9	27.2	29.7	24.9	28.5	25.2	16.7	14.7	9.3	10.6	11.3	12.9	11.0	9.3	32.6	18.9
Aug 23	11.9	13.9	13.8	14.9	12.7	12.9	12.1	10.0	15.6	17.2	17.5	20.7	21.8	22.6	20.9	15.3	11.7	14.1	13.9	10.1	9.8	9.6	7.6	5.1	5.1	22.6	14.0
Aug 24	8.7	8.7	10.8	10.4	9.7	8.1	10.7	12.1	14.9	22.2	22.3	20.5	22.3	16.6	20.5	18.0	25.0	19.4	16.5	9.1	8.0	4.7	2.4	2.6	2.4	25.0	13.5
Aug 25	2.6	4.8	7.3	6.7	4.3	3.3	7.2	11.9	13.0	9.9	8.0	11.7	13.5	15.9	19.8	7.3	12.6	7.4	13.7	5.2	4.9	8.2	10.6	5.2	2.6	19.8	9.0
Aug 26	6.8	5.9	7.6	6.5	6.8	10.1	10.9	11.3	11.4	18.1	20.1	17.7	14.8	18.4	15.9	14.5	9.8	9.0	8.5	4.3	5.0	7.5	4.6	4.0	4.0	20.1	10.4
Aug 27	5.4	7.0	12.1	9.5	8.6	9.9	8.6	9.2	8.6	13.9	16.2	15.8	16.7	16.1	12.8	10.9	10.3	14.3	10.8	8.0	8.7	15.1	14.5	8.3	5.4	16.7	11.3
Aug 28	12.2	14.2	14.9	14.1	13.6	10.8	11.0	13.4	17.5	17.1	15.6	13.0	15.5	18.2	12.2	11.3	9.3	11.0	4.4	2.4	0.7	1.0	0.9	2.3	0.7	18.2	10.7
Aug 29	1.4	2.2	2.1	2.7	1.6	2.6	1.9	2.3	3.9	4.1	6.0	6.7	6.1	8.8	4.7	7.5	6.7	5.2	1.3	2.1	3.1	2.5	2.5	3.7	1.3	8.8	**3.8**
Aug 30	3.9	3.3	4.9	3.2	2.7	2.9	3.2	3.0	2.5	3.4	4.3	6.7	7.9	9.4	9.2	10.7	8.8	8.4	3.9	0.9	1.5	2.5	3.3	3.8	0.9	10.7	4.8
Aug 31	3.9	5.6	5.2	4.7	4.1	2.1	2.3	2.1	6.5	11.2	8.6	10.0	12.1	13.2	11.4	10.3	10.3	10.4	7.7	5.4	8.0	9.0	10.4	6.6	2.1	13.2	7.5
Diurnal Maximum	19.2	22.0	20.0	20.8	23.4	32.8	32.6	30.6	29.1	22.2	24.6	25.9	27.2	29.7	29.7	28.5	25.2	22.6	22.6	22.8	19.9	18.0	15.7	16.7			
Daiurnal Average	7.2	7.8	7.9	8.1	8.1	8.2	8.8	10.0	10.8	11.6	12.3	12.8	13.6	14.4	13.5	12.9	12.6	12.3	10.3	7.4	7.2	7.3	7.4	6.4			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for WS - 842b Station



RENO STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

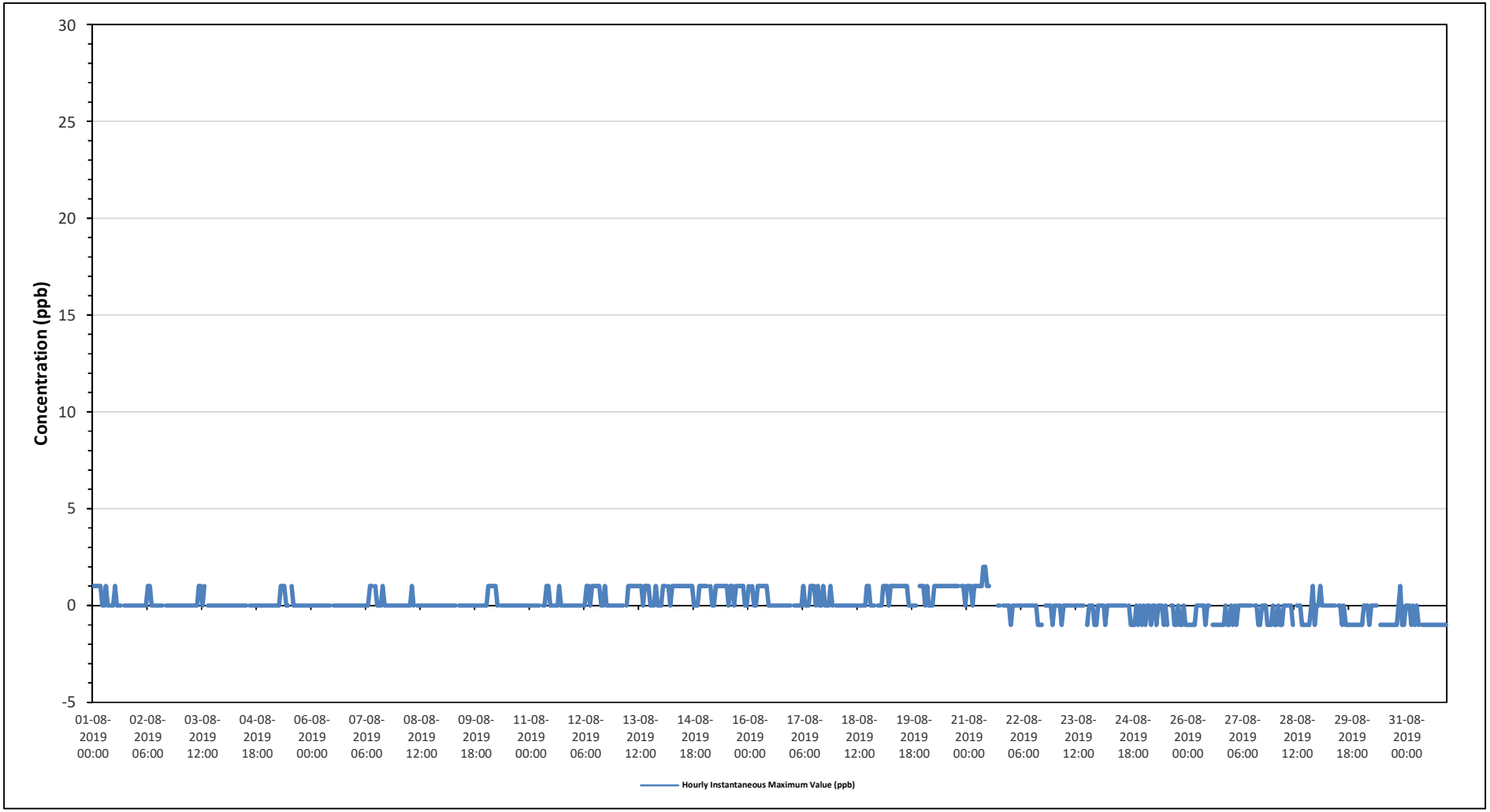
Maximum Hourly Value:	2	ppb	on August 21 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.8	ppb	on August 14	Hours of Data:	708
Minimum Hourly Value:	-1	ppb	on August 22 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	-0.8	ppb	on August 31	Hours of Calibration:	36
Monthly Average:	0.1	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	1	0.3
Aug 2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Aug 3	0	0	0	0	0	0	0	0	0	0	1	1	0	1	S	0	0	0	0	0	0	0	0	0	0	1	0.1
Aug 4	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 5	0	0	0	0	0	0	0	1	1	1	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Aug 6	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 7	0	0	0	0	0	0	0	0	1	1	S	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.2
Aug 8	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Aug 9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Aug 10	0	1	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Aug 11	0	0	0	0	0	0	S	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
Aug 12	0	0	0	0	0	S	0	1	1	0	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	1	0.3
Aug 13	0	0	0	0	S	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	1	0	0	0	1	0.5
Aug 14	0	1	1	S	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	1	**0.8**
Aug 15	1	1	S	1	0	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0	0	0	1	0.7
Aug 16	1	S	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Aug 17	S	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	0	1	0	0	0	1	0	S	0	1	0.3
Aug 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	S	0	0	1	0.1
Aug 19	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	S	1	1	0	1	0.7
Aug 20	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	0	1	**0.8**
Aug 21	1	1	1	0	1	1	1	1	1	**2**	**2**	1	1	C	C	C	C	0	0	S	0	0	0	0	0	**2**	0.7
Aug 22	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	S	0	0	0	0	-1	-1	0	-0.2
Aug 23	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	S	-1	0	0	0	-1	-1	-1	0	-0.2
Aug 24	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	S	0	-1	-1	-1	0	-1	0	-1	0	-0.2
Aug 25	-1	0	-1	0	0	-1	0	0	-1	0	0	0	-1	0	-1	S	0	0	-1	-1	0	-1	-1	0	-1	0	-0.4
Aug 26	-1	-1	-1	-1	-1	-1	0	0	0	0	0	-1	0	0	S	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	-0.7
Aug 27	-1	0	-1	0	-1	0	0	0	0	0	0	0	0	S	0	0	-1	-1	0	0	0	-1	-1	-1	-1	0	-0.3
Aug 28	0	-1	-1	0	-1	-1	0	0	0	0	0	-1	S	0	0	0	-1	-1	-1	-1	-1	0	1	-1	-1	1	-0.4
Aug 29	0	0	1	0	0	0	0	0	0	0	0	S	0	0	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-0.3
Aug 30	-1	-1	0	0	0	-1	0	0	0	0	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	-1	-1	1	-0.6
Aug 31	-1	0	0	0	-1	0	-1	0	-1	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-0.8
Diurnal Maximum	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1			
Daiurnal Average	0.0	0.1	0.1	0.1	0.0	0.0	0.3	0.4	0.3	0.4	0.4	0.2	0.2	0.2	0.1	0.1	-0.1	0.0	-0.2	-0.2	-0.2	0.0	0.0	-0.2			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for SO2 - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

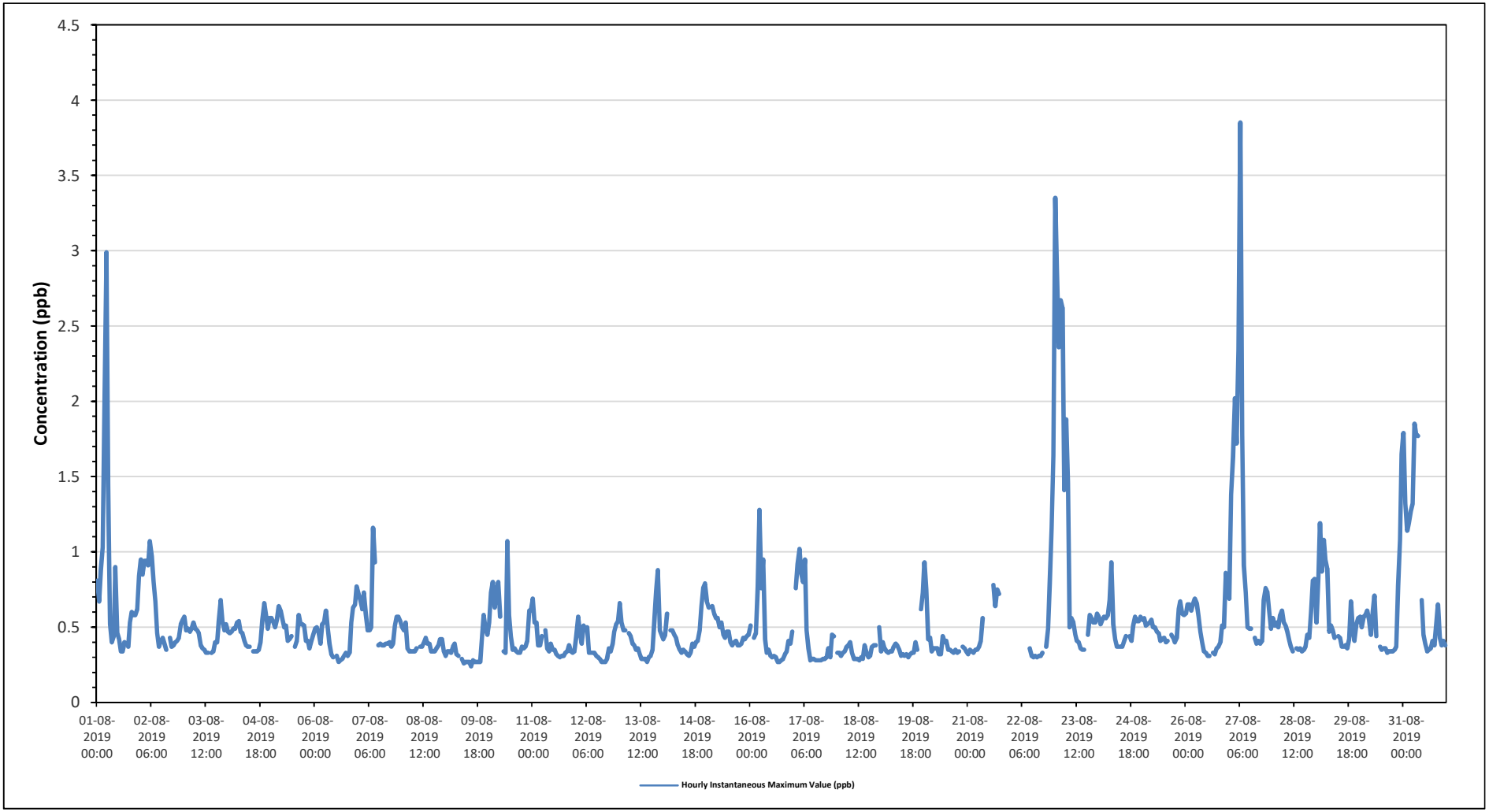
Maximum Hourly Value:	3.85	ppb	on August 27 at hour 6	Hours in Service:	744
Maximum Daily Value:	1.12	ppb	on August 23	Hours of Data:	692
Minimum Hourly Value:	0.24	ppb	on August 9 at hour 14	Hours of Missing Data:	16
Minimum Daily Value:	0.33	ppb	on August 9	Hours of Calibration:	36
Monthly Average:	0.53	ppb		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	0.81	0.67	0.88	1.03	1.99	2.99	1.44	0.52	0.4	0.44	0.9	0.46	0.42	0.34	0.34	0.4	S	0.37	0.53	0.6	0.58	0.58	0.62	0.84	0.34	2.99	0.79
Aug 2	0.95	0.85	0.94	0.94	0.91	1.07	0.97	0.8	0.67	0.46	0.37	0.41	0.43	0.39	0.35	S	0.43	0.37	0.38	0.4	0.41	0.43	0.52	0.55	0.35	1.07	0.61
Aug 3	0.57	0.48	0.49	0.47	0.49	0.53	0.49	0.48	0.46	0.38	0.36	0.35	0.33	0.33	S	0.33	0.34	0.4	0.4	0.54	0.68	0.54	0.48	0.52	0.33	0.68	0.45
Aug 4	0.47	0.46	0.47	0.49	0.49	0.53	0.54	0.47	0.46	0.41	0.38	0.37	0.37	S	0.34	0.34	0.34	0.35	0.4	0.55	0.66	0.58	0.49	0.56	0.34	0.66	0.46
Aug 5	0.56	0.53	0.5	0.55	0.64	0.61	0.56	0.5	0.51	0.41	0.42	0.44	S	0.37	0.41	0.58	0.52	0.52	0.51	0.41	0.41	0.36	0.41	0.45	0.36	0.64	0.49
Aug 6	0.49	0.5	0.46	0.39	0.52	0.53	0.61	0.49	0.39	0.32	0.3	S	0.31	0.27	0.28	0.29	0.31	0.33	0.31	0.33	0.53	0.63	0.65	0.77	0.27	0.77	0.44
Aug 7	0.72	0.68	0.62	0.73	0.59	0.48	0.48	0.5	1.16	0.93	S	0.38	0.39	0.38	0.38	0.39	0.39	0.4	0.37	0.39	0.51	0.57	0.57	0.54	0.37	1.16	0.55
Aug 8	0.5	0.48	0.53	0.36	0.34	0.34	0.34	0.34	0.36	S	0.37	0.37	0.4	0.43	0.39	0.39	0.34	0.34	0.34	0.36	0.38	0.42	0.42	0.34	0.34	0.53	0.39
Aug 9	0.31	0.34	0.34	0.33	0.37	0.39	0.32	0.31	S	0.29	0.26	0.27	0.27	0.27	0.24	0.28	0.27	0.27	0.27	0.27	0.42	0.58	0.49	0.45	0.24	0.58	0.33
Aug 10	0.53	0.73	0.8	0.63	0.73	0.8	0.57	S	0.34	0.33	1.07	0.58	0.44	0.35	0.36	0.34	0.33	0.33	0.37	0.36	0.37	0.41	0.61	0.61	0.33	1.07	0.52
Aug 11	0.69	0.53	0.53	0.38	0.38	0.44	S	0.48	0.36	0.34	0.39	0.35	0.35	0.32	0.31	0.3	0.31	0.31	0.33	0.34	0.38	0.34	0.33	0.34	0.30	0.69	0.38
Aug 12	0.44	0.57	0.47	0.39	0.51	S	0.5	0.33	0.33	0.33	0.33	0.31	0.3	0.29	0.27	0.27	0.27	0.29	0.36	0.34	0.39	0.47	0.52	0.54	0.27	0.57	0.38
Aug 13	0.66	0.53	0.48	0.48	S	0.46	0.44	0.39	0.38	0.35	0.36	0.32	0.29	0.29	0.29	0.27	0.3	0.31	0.35	0.55	0.74	0.88	0.48	0.45	0.27	0.88	0.44
Aug 14	0.42	0.45	0.59	S	0.48	0.48	0.45	0.43	0.38	0.35	0.33	0.35	0.34	0.32	0.31	0.33	0.39	0.37	0.4	0.41	0.48	0.64	0.76	0.79	0.31	0.79	0.45
Aug 15	0.67	0.63	S	0.64	0.59	0.56	0.56	0.5	0.53	0.45	0.43	0.47	0.47	0.4	0.38	0.4	0.41	0.38	0.38	0.39	0.43	0.42	0.44	0.45	0.38	0.67	0.48
Aug 16	0.51	S	0.43	0.46	0.77	1.28	0.76	0.95	0.42	0.33	0.35	0.31	0.3	0.31	0.3	0.27	0.27	0.28	0.29	0.32	0.34	0.41	0.39	0.47	0.27	1.28	0.46
Aug 17	S	0.76	0.92	1.02	0.86	0.8	0.95	0.48	0.36	0.28	0.29	0.29	0.28	0.28	0.28	0.28	0.29	0.29	0.3	0.36	0.3	0.45	0.44	S	0.28	1.02	0.48
Aug 18	0.33	0.33	0.31	0.33	0.34	0.37	0.38	0.4	0.33	0.29	0.29	0.29	0.28	0.3	0.29	0.38	0.33	0.3	0.31	0.37	0.38	0.38	S	0.5	0.28	0.50	0.34
Aug 19	0.34	0.4	0.36	0.34	0.33	0.34	0.34	0.37	0.39	0.38	0.35	0.31	0.32	0.31	0.32	0.3	0.32	0.33	0.33	0.4	0.35	S	0.62	0.73	0.30	0.73	0.37
Aug 20	0.93	0.75	0.42	0.43	0.34	0.36	0.36	0.36	0.32	0.32	0.44	0.4	0.41	0.35	0.35	0.34	0.33	0.35	0.33	0.34	S	0.37	0.36	0.34	0.32	0.93	0.40
Aug 21	0.32	0.35	0.34	0.33	0.35	0.35	0.37	0.41	0.56	C	C	C	C	C	0.78	0.64	0.75	0.72	K	K	K	K	K	K	0.32	0.78	-
Aug 22	K	K	K	K	K	K	K	K	K	K	0.36	0.31	0.3	0.31	0.3	0.31	0.31	0.33	S	0.37	0.49	0.79	1.16	1.64	0.30	1.64	-
Aug 23	3.35	2.88	2.36	2.67	2.62	1.41	1.88	1.46	0.5	0.56	0.53	0.45	0.41	0.4	0.36	0.35	0.35	S	0.45	0.58	0.56	0.53	0.53	0.59	0.35	3.35	**1.12**
Aug 24	0.57	0.52	0.55	0.57	0.56	0.58	0.68	0.93	0.52	0.42	0.37	0.37	0.37	0.37	0.41	0.44	S	0.44	0.41	0.51	0.57	0.54	0.54	0.57	0.37	0.93	0.51
Aug 25	0.55	0.56	0.51	0.52	0.53	0.55	0.5	0.5	0.47	0.46	0.41	0.42	0.43	0.4	0.41	S	0.45	0.43	0.4	0.43	0.62	0.67	0.59	0.58	0.40	0.67	0.50
Aug 26	0.59	0.65	0.65	0.61	0.66	0.69	0.66	0.57	0.47	0.4	0.34	0.33	0.31	0.31	S	0.33	0.32	0.36	0.37	0.4	0.51	0.5	0.86	0.76	0.31	0.86	0.51
Aug 27	0.69	1.38	1.63	2.02	1.72	2.34	**3.85**	1.78	0.91	0.73	0.5	0.49	0.49	S	0.43	0.39	0.41	0.39	0.41	0.68	0.76	0.73	0.59	0.49	0.39	**3.85**	1.04
Aug 28	0.56	0.51	0.53	0.5	0.58	0.61	0.53	0.51	0.47	0.41	0.37	0.34	S	0.36	0.35	0.36	0.34	0.35	0.37	0.45	0.43	0.6	0.81	0.82	0.34	0.82	0.49
Aug 29	0.53	0.82	1.19	0.87	1.08	0.95	0.89	0.47	0.51	0.48	0.43	S	0.44	0.43	0.37	0.37	0.38	0.36	0.42	0.67	0.47	0.41	0.52	0.56	0.36	1.19	0.59
Aug 30	0.57	0.5	0.57	0.58	0.61	0.55	0.45	0.61	0.71	0.44	S	0.37	0.35	0.36	0.36	0.33	0.34	0.34	0.34	0.35	0.37	0.78	1.08	1.65	0.33	1.65	0.55
Aug 31	1.79	1.32	1.14	1.19	1.27	1.32	1.85	1.78	1.77	S	0.68	0.45	0.39	0.34	0.35	0.36	0.41	0.38	0.53	0.65	0.43	0.38	0.41	0.38	0.34	1.85	0.85
Diurnal Maximum	3.35	2.88	2.36	2.67	2.62	2.99	3.85	1.78	1.77	0.93	1.07	0.58	0.49	0.43	0.78	0.64	0.75	0.72	0.53	0.68	0.76	0.88	1.16	1.65			
Daiurnal Average	0.70	0.70	0.69	0.70	0.75	0.78	0.78	0.62	0.53	0.42	0.43	0.38	0.36	0.34	0.36	0.36	0.36	0.37	0.38	0.44	0.48	0.53	0.58	0.63			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for TRS - Reno Station



peace river area monitoring program

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

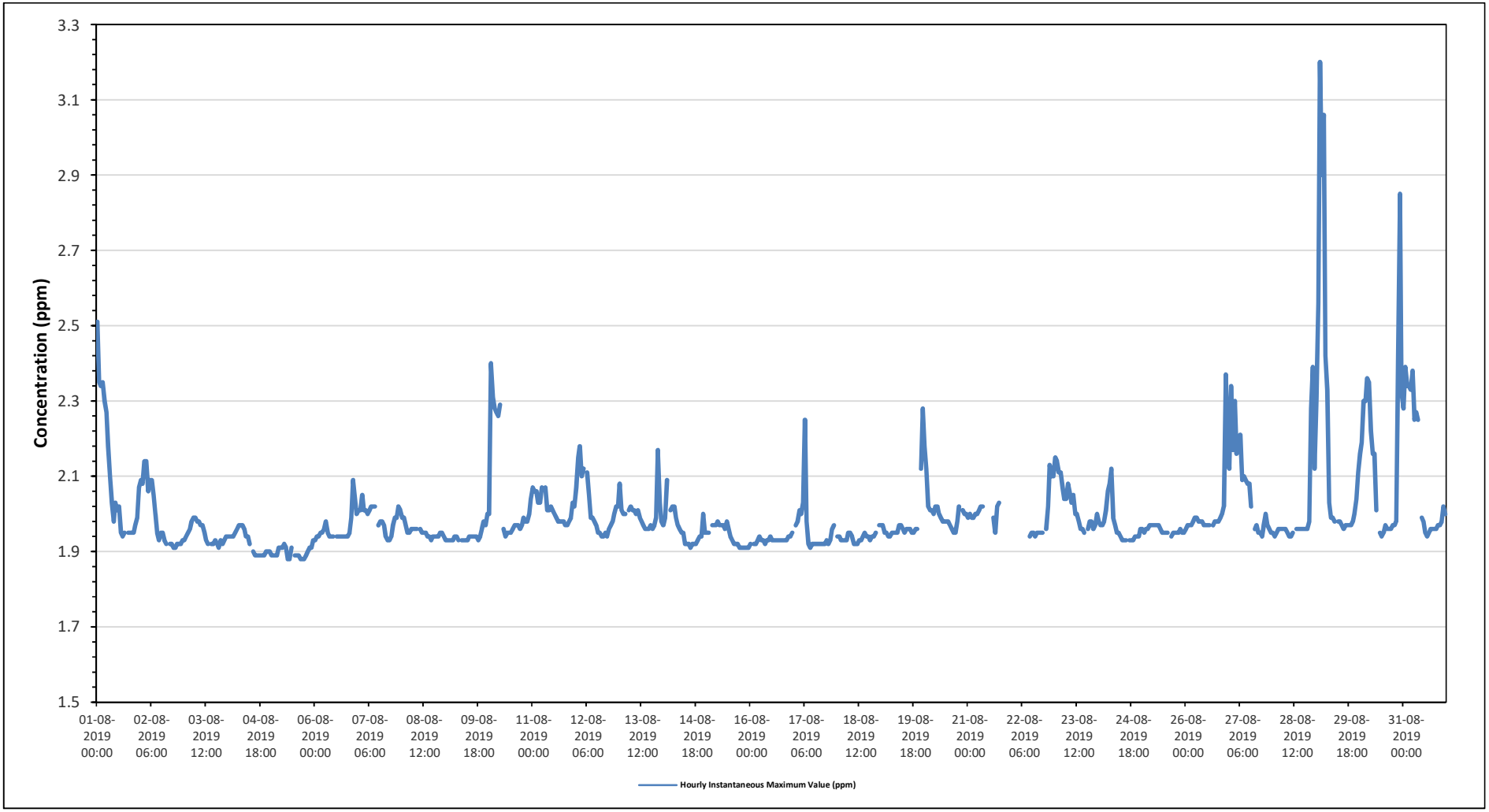
Maximum Hourly Value:	3.20	ppm	on August 29 at hour 2	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on August 29	Hours of Data:	692
Minimum Hourly Value:	1.88	ppm	on August 5 at hour 9	Hours of Missing Data:	17
Minimum Daily Value:	1.90	ppm	on August 5	Hours of Calibration:	35
Monthly Average:	2.00	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Aug 1	2.51	2.35	2.34	2.35	2.30	2.27	2.18	2.10	2.03	1.98	2.03	2.01	2.02	1.95	1.94	1.95	S	1.95	1.95	1.95	1.95	1.97	1.99	2.07	1.94	2.51	2.09
Aug 2	2.09	2.08	2.14	2.14	2.06	2.09	2.09	2.05	2.00	1.95	1.93	1.95	1.95	1.93	1.92	S	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.91	2.14	1.99
Aug 3	1.93	1.94	1.95	1.96	1.98	1.99	1.99	1.98	1.98	1.97	1.97	1.95	1.93	1.92	S	1.92	1.92	1.93	1.92	1.91	1.93	1.92	1.93	1.94	1.91	1.99	1.95
Aug 4	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.94	1.94	1.92	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.89	1.97	1.93
Aug 5	1.89	1.89	1.89	1.89	1.91	1.91	1.91	1.92	1.91	1.88	1.88	1.91	S	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.90	1.91	1.91	1.93	1.88	1.93	1.90
Aug 6	1.93	1.94	1.94	1.95	1.95	1.96	1.98	1.95	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.99	2.09	2.04	2.00	1.93	2.09	1.96
Aug 7	2.01	2.01	2.05	2.01	2.01	2.00	2.01	2.02	2.02	2.02	S	1.97	1.98	1.98	1.97	1.94	1.93	1.93	1.94	1.97	1.99	1.99	2.02	2.01	1.93	2.05	1.99
Aug 8	1.99	1.99	1.97	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.95	1.95	1.95	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.94	1.93	1.99	1.95
Aug 9	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.96	1.98	1.97	2.00	1.93	2.00	1.94
Aug 10	2.00	2.40	2.31	2.28	2.27	2.26	2.29	S	1.96	1.94	1.95	1.95	1.95	1.96	1.97	1.97	1.97	1.96	1.97	1.99	1.98	1.98	2.00	2.04	1.94	2.40	2.06
Aug 11	2.07	2.06	2.06	2.03	2.03	2.07	S	2.07	2.01	2.01	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.99	2.03	2.02	1.97	2.07	2.01
Aug 12	2.07	2.15	2.18	2.10	2.12	S	2.11	2.05	1.99	1.99	1.98	1.97	1.95	1.95	1.94	1.94	1.95	1.94	1.96	1.97	1.98	2.00	2.02	2.02	1.94	2.18	2.01
Aug 13	2.08	2.01	2.00	2.00	S	2.01	2.02	2.01	2.01	2.00	2.01	1.99	1.98	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.99	2.17	2.03	1.98	1.96	2.17	2.00
Aug 14	1.97	1.99	2.09	S	2.01	2.02	2.02	1.99	1.97	1.96	1.95	1.95	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.93	1.94	1.94	2.00	1.95	1.91	2.09	1.96
Aug 15	1.95	1.95	S	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.96	1.98	1.96	1.94	1.93	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.98	1.94
Aug 16	1.92	S	1.92	1.92	1.93	1.94	1.93	1.93	1.92	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.92	1.95	1.93
Aug 17	S	1.97	1.98	2.01	2.00	2.03	2.25	1.98	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.93	1.96	1.97	S	1.91	2.25	1.96
Aug 18	1.94	1.94	1.93	1.93	1.93	1.93	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.94	1.95	1.94	1.94	1.93	1.94	1.94	1.95	S	1.97	1.92	1.97	1.94
Aug 19	1.97	1.97	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.97	1.97	1.96	1.95	1.96	1.96	1.96	1.95	1.95	1.96	1.96	S	2.12	2.28	1.94	2.28	1.98
Aug 20	2.18	2.12	2.02	2.01	2.01	2.00	2.02	2.02	2.00	1.99	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.98	2.02	S	2.01	2.00	2.00	1.95	2.18	2.01
Aug 21	1.99	2.00	1.99	1.99	2.00	2.00	2.01	2.02	2.02	C	C	Y	C	C	1.99	1.95	2.02	2.03	K	K	K	K	K	K	1.95	2.03	-
Aug 22	K	K	K	K	K	K	K	K	K	K	1.94	1.95	1.95	1.94	1.95	1.95	1.95	1.95	S	1.96	2.02	2.13	2.10	2.10	1.94	2.13	-
Aug 23	2.15	2.14	2.11	2.11	2.07	2.04	2.04	2.08	2.06	2.03	2.05	2.00	2.00	1.98	1.96	1.96	1.95	S	1.96	1.98	1.98	1.96	1.97	2.00	1.95	2.15	2.03
Aug 24	1.98	1.97	1.97	1.98	2.01	2.06	2.08	2.12	1.99	1.97	1.95	1.95	1.94	1.93	1.93	1.93	S	1.93	1.93	1.93	1.94	1.94	1.94	1.96	1.93	2.12	1.97
Aug 25	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.95	1.95	S	1.94	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.94	1.97	1.96
Aug 26	1.96	1.97	1.97	1.97	1.98	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.98	1.98	1.98	1.99	2.00	2.02	2.37	2.22	1.96	2.37	2.01
Aug 27	2.12	2.34	2.17	2.30	2.16	2.19	2.21	2.09	2.10	2.09	2.08	2.08	2.02	S	1.96	1.97	1.95	1.95	1.94	1.97	2.00	1.97	1.96	1.95	1.94	2.34	2.07
Aug 28	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.94	1.94	1.95	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	2.28	2.39	2.12	1.94	2.39	2.00
Aug 29	2.31	2.56	**3.20**	2.90	3.06	2.42	2.33	2.03	1.99	1.99	1.98	S	1.98	1.98	1.97	1.96	1.97	1.97	1.97	1.97	1.98	2.00	2.04	2.11	1.96	**3.20**	**2.20**
Aug 30	2.16	2.19	2.30	2.30	2.36	2.35	2.22	2.16	2.16	2.01	S	1.95	1.94	1.95	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.98	2.41	2.85	2.32	1.94	2.85	2.15
Aug 31	2.28	2.39	2.34	2.34	2.33	2.38	2.25	2.27	2.25	S	1.99	1.98	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.98	2.02	2.00	1.94	2.39	2.11
Diurnal Maximum	2.51	2.56	3.20	2.90	3.06	2.42	2.33	2.27	2.25	2.09	2.08	2.08	2.02	1.99	1.99	1.98	2.02	2.03	1.98	2.02	2.02	2.41	2.85	2.32			
Daiurnal Average	2.04	2.07	2.09	2.07	2.07	2.06	2.06	2.02	2.00	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.96	2.00	2.04	2.02			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for THC - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

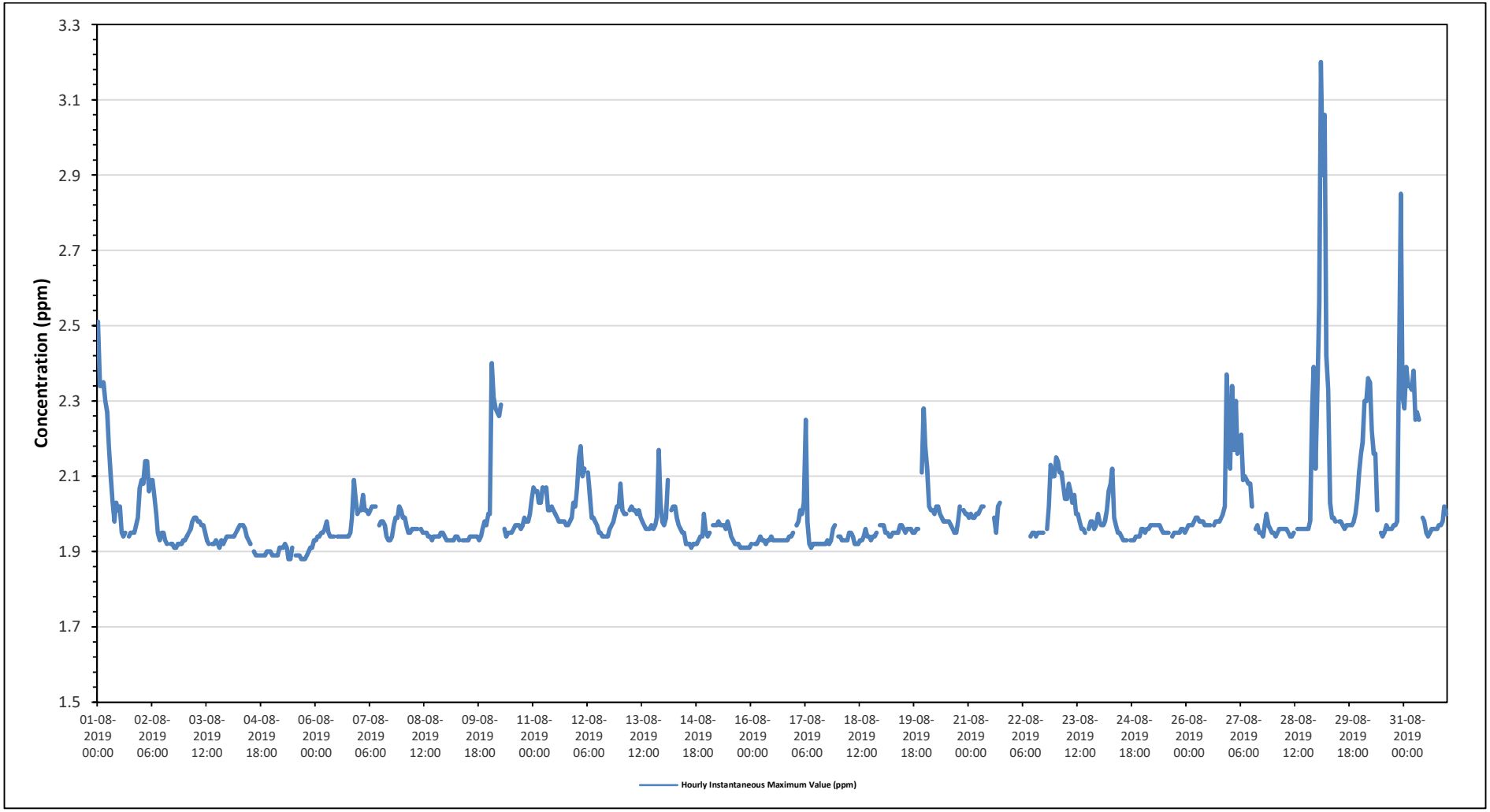
Maximum Hourly Value:	3.20	ppm	on August 29 at hour 2	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on August 29	Hours of Data:	692
Minimum Hourly Value:	1.88	ppm	on August 5 at hour 9	Hours of Missing Data:	17
Minimum Daily Value:	1.90	ppm	on August 5	Hours of Calibration:	35
Monthly Average:	2.00	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	2.51	2.34	2.34	2.35	2.30	2.27	2.18	2.10	2.03	1.98	2.03	2.01	2.02	1.95	1.94	1.95	S	1.94	1.95	1.95	1.95	1.97	1.99	2.07	1.94	2.51	2.09
Aug 2	2.09	2.08	2.14	2.14	2.06	2.09	2.09	2.05	2.00	1.95	1.93	1.95	1.95	1.93	1.92	S	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.91	2.14	1.99
Aug 3	1.93	1.94	1.95	1.96	1.98	1.99	1.99	1.98	1.98	1.97	1.97	1.95	1.93	1.92	S	1.92	1.92	1.93	1.92	1.91	1.93	1.92	1.93	1.94	1.91	1.99	1.95
Aug 4	1.94	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.94	1.93	1.92	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.89	1.97	1.92
Aug 5	1.89	1.89	1.89	1.89	1.91	1.91	1.91	1.92	1.91	1.88	1.88	1.91	S	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.90	1.91	1.91	1.93	1.88	1.93	1.90
Aug 6	1.93	1.94	1.94	1.95	1.95	1.96	1.98	1.95	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.99	2.09	2.04	2.00	1.93	2.09	1.96
Aug 7	2.01	2.01	2.05	2.01	2.01	2.00	2.01	2.02	2.02	2.02	S	1.97	1.98	1.98	1.97	1.94	1.93	1.93	1.94	1.97	1.99	1.99	2.02	2.01	1.93	2.05	1.99
Aug 8	1.99	1.99	1.97	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.95	1.95	1.95	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.94	1.93	1.99	1.95
Aug 9	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.96	1.98	1.97	2.00	1.93	2.00	1.94
Aug 10	2.00	2.40	2.31	2.28	2.27	2.26	2.29	S	1.96	1.94	1.95	1.95	1.95	1.96	1.97	1.97	1.97	1.96	1.97	1.99	1.98	1.98	2.00	2.04	1.94	2.40	2.06
Aug 11	2.07	2.06	2.06	2.03	2.03	2.07	S	2.07	2.01	2.01	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.99	2.03	2.02	1.97	2.07	2.01
Aug 12	2.07	2.15	2.18	2.10	2.12	S	2.11	2.05	1.99	1.99	1.98	1.97	1.95	1.95	1.94	1.94	1.94	1.94	1.96	1.97	1.98	2.00	2.02	2.02	1.94	2.18	2.01
Aug 13	2.08	2.01	2.00	2.00	S	2.01	2.02	2.01	2.01	2.00	2.01	1.99	1.98	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.99	2.17	2.03	1.98	1.96	2.17	2.00
Aug 14	1.97	1.99	2.09	S	2.01	2.02	2.02	1.99	1.97	1.96	1.95	1.95	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.93	1.94	1.94	2.00	1.95	1.91	2.09	1.96
Aug 15	1.94	1.95	S	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.96	1.98	1.96	1.94	1.93	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.98	1.94
Aug 16	1.92	S	1.92	1.92	1.93	1.94	1.93	1.93	1.92	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.92	1.95	1.93
Aug 17	S	1.97	1.98	2.01	2.00	2.03	2.25	1.98	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.93	1.96	1.97	S	1.91	2.25	1.96
Aug 18	1.94	1.94	1.93	1.93	1.93	1.93	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.94	1.96	1.94	1.94	1.93	1.94	1.94	1.95	S	1.97	1.92	1.97	1.94
Aug 19	1.97	1.97	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.97	1.97	1.96	1.95	1.96	1.96	1.96	1.95	1.95	1.96	1.96	S	2.11	2.28	1.94	2.28	1.98
Aug 20	2.18	2.12	2.02	2.01	2.01	2.00	2.02	2.02	2.00	1.99	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.98	2.02	S	2.01	2.00	2.00	1.95	2.18	2.01
Aug 21	1.99	2.00	1.99	1.99	2.00	2.00	2.01	2.02	2.02	C	C	Y	C	C	1.99	1.95	2.02	2.03	K	K	K	K	K	K	1.95	2.03	-
Aug 22	K	K	K	K	K	K	K	K	K	K	1.94	1.95	1.95	1.94	1.95	1.95	1.95	1.95	S	1.96	2.02	2.13	2.10	2.10	1.94	2.13	-
Aug 23	2.15	2.14	2.11	2.11	2.07	2.04	2.04	2.08	2.06	2.03	2.05	2.00	2.00	1.98	1.96	1.96	1.95	S	1.96	1.98	1.98	1.96	1.97	2.00	1.95	2.15	2.03
Aug 24	1.98	1.97	1.97	1.98	2.01	2.06	2.08	2.12	1.99	1.97	1.95	1.95	1.94	1.93	1.93	1.93	S	1.93	1.93	1.93	1.94	1.94	1.94	1.96	1.93	2.12	1.97
Aug 25	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.95	1.95	S	1.94	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.94	1.97	1.96
Aug 26	1.96	1.97	1.97	1.97	1.98	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.98	1.98	1.98	1.99	2.00	2.02	2.37	2.22	1.96	2.37	2.01
Aug 27	2.12	2.34	2.17	2.30	2.16	2.19	2.21	2.09	2.10	2.09	2.08	2.08	2.02	S	1.96	1.97	1.95	1.95	1.94	1.97	2.00	1.97	1.96	1.95	1.94	2.34	2.07
Aug 28	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.94	1.94	1.95	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	2.28	2.39	2.12	1.94	2.39	2.00
Aug 29	2.32	2.56	**3.20**	2.90	3.06	2.42	2.33	2.03	1.99	1.99	1.98	S	1.98	1.98	1.97	1.96	1.97	1.97	1.97	1.97	1.98	2.00	2.04	2.11	1.96	**3.20**	**2.20**
Aug 30	2.16	2.19	2.30	2.30	2.36	2.35	2.22	2.16	2.16	2.01	S	1.95	1.94	1.95	1.97	1.96	1.96	1.96	1.97	1.97	1.98	2.41	2.85	2.31	1.94	2.85	2.15
Aug 31	2.28	2.39	2.34	2.34	2.33	2.38	2.25	2.27	2.25	S	1.99	1.98	1.95	1.94	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.98	2.02	2.00	1.94	2.39	2.11
Diurnal Maximum	2.51	2.56	3.20	2.90	3.06	2.42	2.33	2.27	2.25	2.09	2.08	2.08	2.02	1.99	1.99	1.98	2.02	2.03	1.98	2.02	2.02	2.41	2.85	2.31			
Daiurnal Average	2.04	2.07	2.09	2.07	2.07	2.06	2.06	2.02	2.00	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.96	2.00	2.04	2.02			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - Reno Station



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

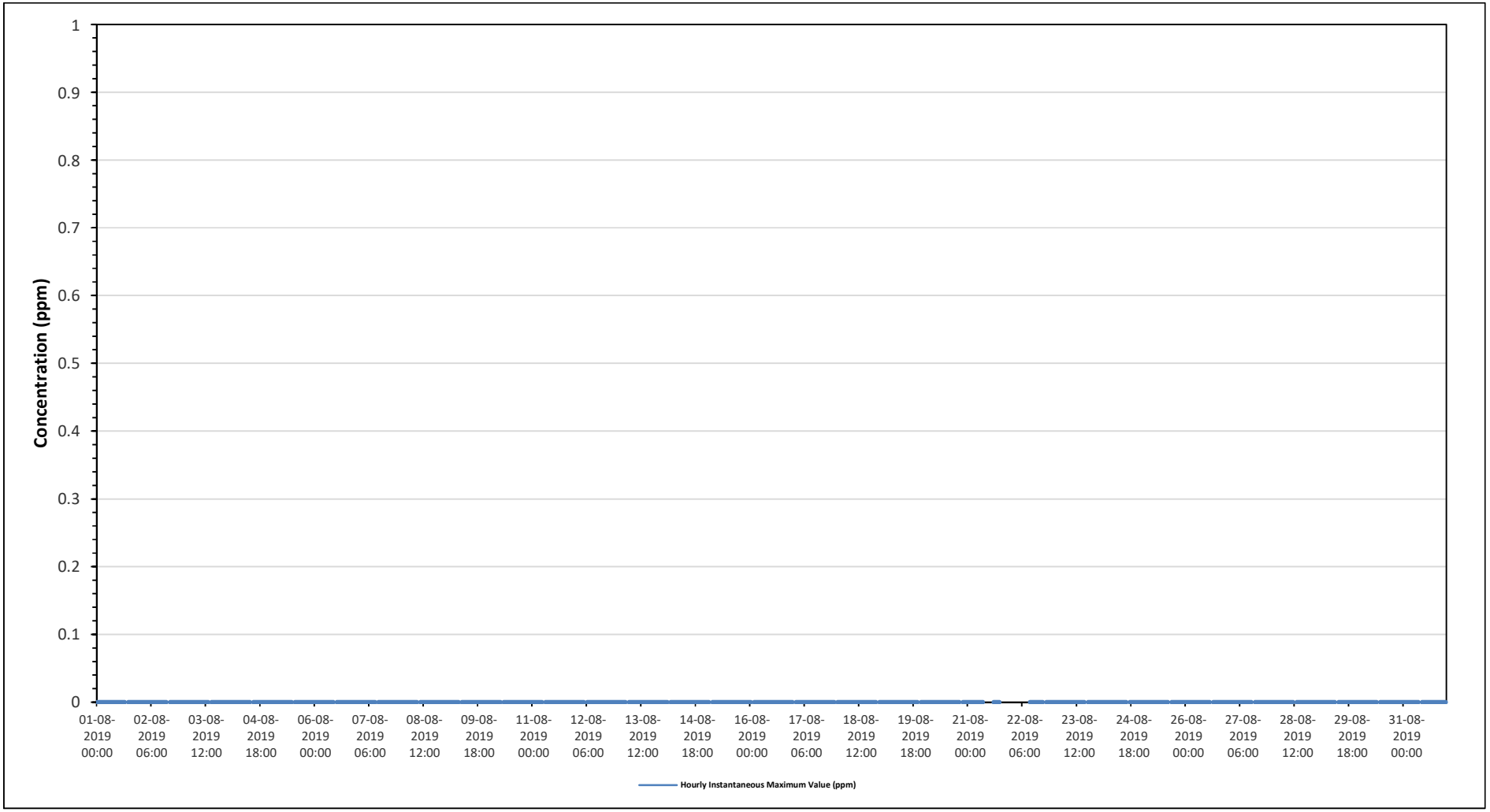
Maximum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on August 1	Hours of Data:	692
Minimum Hourly Value:	0.00	ppm	on August 1 at hour 0	Hours of Missing Data:	17
Minimum Daily Value:	0.00	ppm	on August 1	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	97.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Aug 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Aug 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Aug 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Aug 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	Y	C	C	0.00	0.00	0.00	0.00	K	K	K	K	K	K	0.00	0.00	-
Aug 22	K	K	K	K	K	K	K	K	K	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Aug 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for NMHC - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - August 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

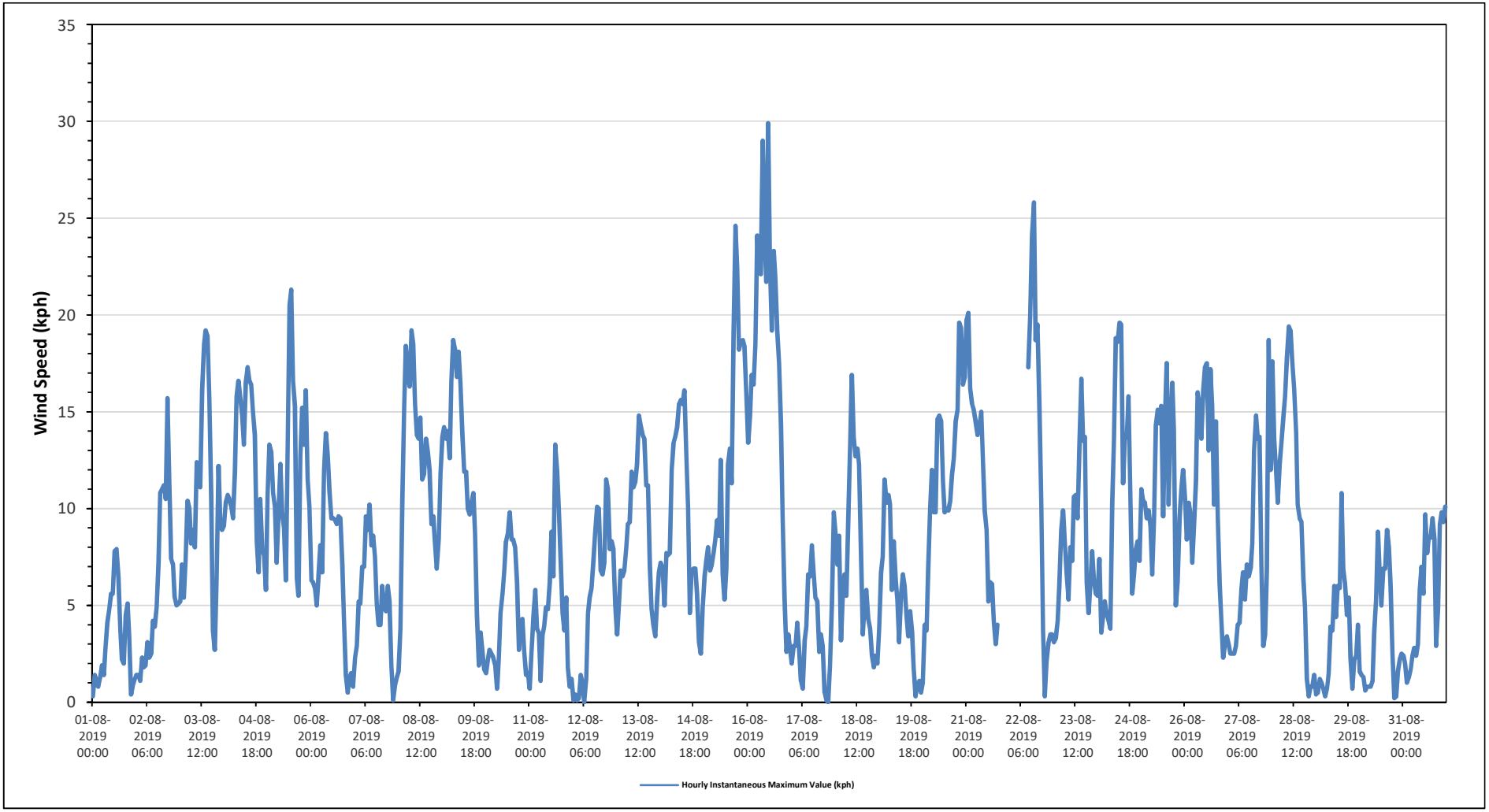
Maximum Hourly Value:	29.9	kph	on August 16 at hour 11	Hours in Service:	744
Maximum Daily Value:	17.3	kph	on August 16	Hours of Data:	728
Minimum Hourly Value:	0.0	kph	on August 12 at hour 6	Hours of Missing Data:	16
Minimum Daily Value:	3.2	kph	on August 1	Hours of Calibration:	0
Monthly Average:	8.5	kph		Operational Uptime:	97.8

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Aug 1	0.3	1.4	1.1	0.8	1.3	1.9	1.4	2.8	4.1	4.8	5.6	5.6	7.8	7.9	6.4	3.7	2.2	2.0	4.5	5.1	3.5	0.4	0.9	1.2	0.3	7.9	**3.2**
Aug 2	1.4	1.4	1.1	2.3	1.8	1.9	3.1	2.3	2.5	4.2	3.9	4.9	7.2	10.8	11.0	11.2	10.5	15.7	11.6	7.4	7.1	5.4	5.0	5.1	1.1	15.7	5.8
Aug 3	5.2	7.1	5.4	7.4	10.4	10.0	8.2	8.9	8.0	12.4	11.4	11.1	16.1	18.5	19.2	18.9	15.7	10.6	3.7	2.7	6.4	12.2	9.1	8.9	2.7	19.2	10.3
Aug 4	9.1	10.3	10.7	10.5	10.1	9.5	11.9	15.8	16.6	15.7	14.8	13.3	16.5	17.3	16.6	16.4	15.0	13.8	8.3	6.7	10.5	7.9	7.6	5.8	5.8	17.3	12.1
Aug 5	10.7	13.3	12.9	10.8	10.1	7.2	9.8	12.3	9.8	9.0	6.3	13.5	20.5	21.3	16.6	15.3	6.4	5.5	12.7	15.2	13.3	16.1	11.5	10.1	5.5	21.3	12.1
Aug 6	6.3	6.2	5.9	5.0	6.6	8.1	6.7	12.0	13.9	12.7	10.9	9.5	9.5	9.4	9.2	9.6	9.5	7.1	4.3	1.4	0.5	1.3	1.5	0.8	0.5	13.9	7.0
Aug 7	2.3	2.9	5.2	5.1	7.0	7.0	9.6	8.9	10.2	8.1	8.6	7.5	5.1	4.0	4.0	6.0	4.9	4.7	6.0	5.2	1.9	0.1	0.9	1.3	0.1	10.2	5.3
Aug 8	1.6	3.8	10.4	15.3	18.4	17.1	16.3	19.2	18.5	15.4	13.8	13.6	14.7	11.5	11.8	13.6	12.9	12.0	9.2	9.6	8.0	6.9	8.4	11.8	1.6	19.2	12.2
Aug 9	13.7	14.2	13.6	14.0	12.6	16.6	18.7	18.2	16.8	18.1	16.5	13.9	11.9	11.9	10.0	9.7	10.3	10.8	8.7	4.5	1.9	3.6	2.7	1.7	1.7	18.7	11.4
Aug 10	1.5	2.2	2.7	2.5	2.3	1.9	0.7	2.2	4.6	5.6	6.8	8.3	8.7	9.8	8.4	8.4	8.0	6.2	2.7	4.0	4.3	2.6	1.4	1.5	0.7	9.8	4.5
Aug 11	0.7	2.6	4.4	5.8	3.8	3.6	1.1	3.5	3.9	4.9	4.8	6.2	8.8	6.5	13.3	11.9	10.1	7.4	4.6	3.7	5.4	1.8	0.8	1.2	0.7	13.3	5.0
Aug 12	0.1	0.4	0.1	0.2	1.4	1.0	**0.0**	1.2	4.6	5.4	5.9	7.3	8.9	10.1	10.0	6.8	6.6	7.2	11.5	11.0	7.9	8.3	7.9	5.0	**0.0**	11.5	5.4
Aug 13	3.5	5.1	6.8	6.5	6.8	8.0	9.2	9.3	11.9	11.1	11.4	12.3	14.8	14.3	13.8	13.6	11.2	11.2	7.0	4.8	4.0	3.4	5.4	6.7	3.4	14.8	8.8
Aug 14	7.2	6.9	5.0	7.7	7.6	7.7	12.0	13.4	13.7	14.2	15.4	15.6	15.4	16.1	12.8	10.0	4.6	6.8	6.9	6.9	5.6	3.1	2.5	4.9	2.5	16.1	9.3
Aug 15	6.5	7.3	8.0	6.8	7.1	7.7	8.4	9.4	8.6	12.5	6.6	5.3	6.9	12.3	13.1	11.3	19.0	24.6	22.4	18.2	18.6	18.7	18.4	15.9	5.3	24.6	12.2
Aug 16	13.4	14.8	16.9	16.4	18.5	24.1	22.2	22.1	29.0	24.2	21.7	**29.9**	22.4	19.2	23.3	22.0	19.2	17.5	14.3	9.6	5.4	2.6	3.5	2.8	2.6	**29.9**	**17.3**
Aug 17	2.0	2.9	2.9	4.1	2.8	1.1	0.7	3.2	3.9	6.6	6.5	8.1	6.7	5.4	5.2	2.6	3.5	2.9	0.5	0.1	**0.0**	1.9	5.1	9.8	**0.0**	9.8	3.7
Aug 18	8.9	7.1	8.6	3.2	5.6	6.6	5.5	9.5	13.4	16.9	13.7	12.7	13.1	12.3	8.0	3.5	5.2	5.8	4.3	3.8	2.4	1.8	2.4	2.0	1.8	16.9	7.3
Aug 19	3.8	6.7	7.5	11.5	10.3	10.7	10.2	5.8	8.3	6.3	5.3	3.1	5.5	6.6	6.0	4.5	3.4	4.7	3.6	1.7	0.3	0.9	1.1	0.5	0.3	11.5	5.3
Aug 20	1.0	4.0	3.7	6.9	10.0	12.0	9.8	9.8	14.6	14.8	14.5	11.4	9.8	10.0	9.9	10.4	11.7	12.6	14.5	15.1	19.6	19.3	16.4	16.8	1.0	19.6	11.6
Aug 21	19.7	20.1	16.2	15.4	15.1	14.5	13.8	14.2	15.0	12.7	9.9	8.9	5.2	6.2	6.1	4.1	3.0	4.0	**K**	**K**	**K**	**K**	**K**	**K**	3.0	20.1	11.3
Aug 22	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	17.3	20.0	24.1	25.8	18.7	19.5	15.3	10.3	3.7	0.3	2.1	3.1	3.5	3.5	0.3	25.8	-
Aug 23	3.1	3.3	4.2	6.0	8.9	9.9	8.1	6.7	5.3	8.0	7.3	10.6	10.7	9.5	13.3	16.7	13.5	13.7	6.2	4.6	5.9	7.8	6.3	5.6	3.1	16.7	8.1
Aug 24	5.5	7.4	3.6	4.5	5.2	4.6	4.2	3.8	10.3	13.4	18.8	18.6	19.6	19.5	11.3	13.8	13.7	15.8	10.9	5.6	6.6	7.9	8.3	7.3	3.6	19.6	10.0
Aug 25	11.0	10.4	10.3	9.5	9.9	9.1	6.6	9.3	14.3	15.1	14.4	15.3	9.6	14.9	17.5	10.2	14.0	16.5	14.1	5.0	6.2	9.5	11.1	12.0	5.0	17.5	11.5
Aug 26	10.6	8.4	10.3	9.8	7.2	9.1	11.4	16.0	15.3	13.6	16.1	17.3	17.5	13.0	17.2	15.3	10.2	14.5	9.6	6.1	4.3	2.3	3.0	3.4	2.3	17.5	10.9
Aug 27	3.0	2.5	2.5	2.5	2.9	4.0	4.1	5.9	6.7	5.3	7.1	6.5	6.9	8.2	13.0	14.8	13.6	13.7	7.1	2.9	3.5	6.8	18.7	12.0	2.5	18.7	7.3
Aug 28	17.6	13.6	12.0	10.3	12.3	13.3	14.6	15.8	17.8	19.4	19.2	17.5	16.2	13.9	10.2	9.5	9.3	6.4	4.9	1.2	0.3	0.8	0.8	1.4	0.3	19.4	10.8
Aug 29	0.4	0.5	1.2	1.0	0.7	0.3	0.7	1.5	3.9	3.7	6.0	4.4	6.0	5.9	10.8	6.9	6.1	4.5	5.4	2.3	0.7	2.2	2.4	4.0	0.3	10.8	3.4
Aug 30	1.6	1.4	1.3	0.6	0.8	0.8	0.8	1.1	3.6	5.3	8.8	6.4	5.0	6.9	6.9	8.9	8.0	6.0	2.5	0.2	0.3	1.6	2.2	2.5	0.2	8.9	3.5
Aug 31	2.4	2.0	1.0	1.3	1.7	2.4	2.8	2.4	3.0	5.8	7.0	5.6	9.7	7.7	8.5	8.5	9.5	8.4	2.9	4.8	9.2	9.8	9.3	10.1	1.0	10.1	5.7
Diurnal Maximum	19.7	20.1	16.9	16.4	18.5	24.1	22.2	22.1	29.0	24.2	21.7	29.9	24.1	25.8	23.3	22.0	19.2	24.6	22.4	18.2	19.6	19.3	18.7	16.8			
Daiurnal Average	5.8	6.3	6.5	6.8	7.3	7.7	7.8	8.9	10.4	10.8	10.8	11.1	11.6	11.8	11.7	10.9	9.9	9.8	7.6	5.7	5.5	5.7	5.9	5.9			

C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for WS - Reno Station



END OF REPORT

This report, 185 of 185, ends the August 2019 Monthly Ambient Air Quality Monitoring Report.

Peace River Area Monitoring Program

AUGUST 2019

Ambient Air Monitoring Calibration Report

- 842b STATION-

CAL-PRAMP-201908-01561

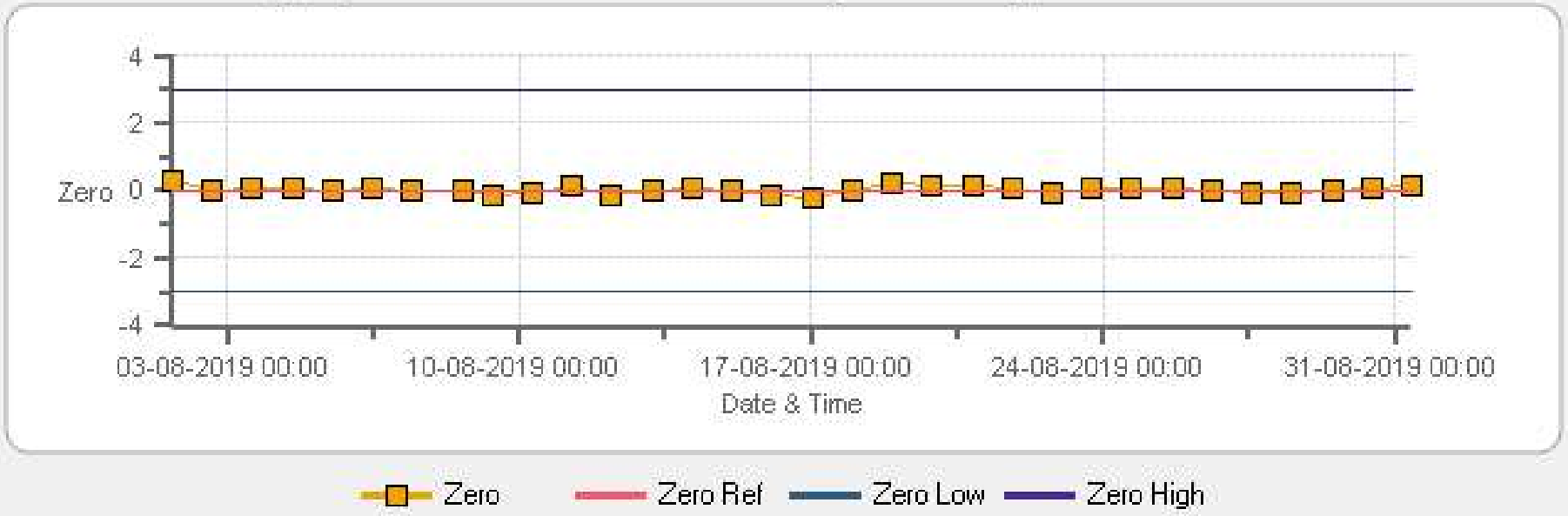
Operation and Maintenance:
Maxxam Analytics

Data Validation and Report:
Maxxam Analytics

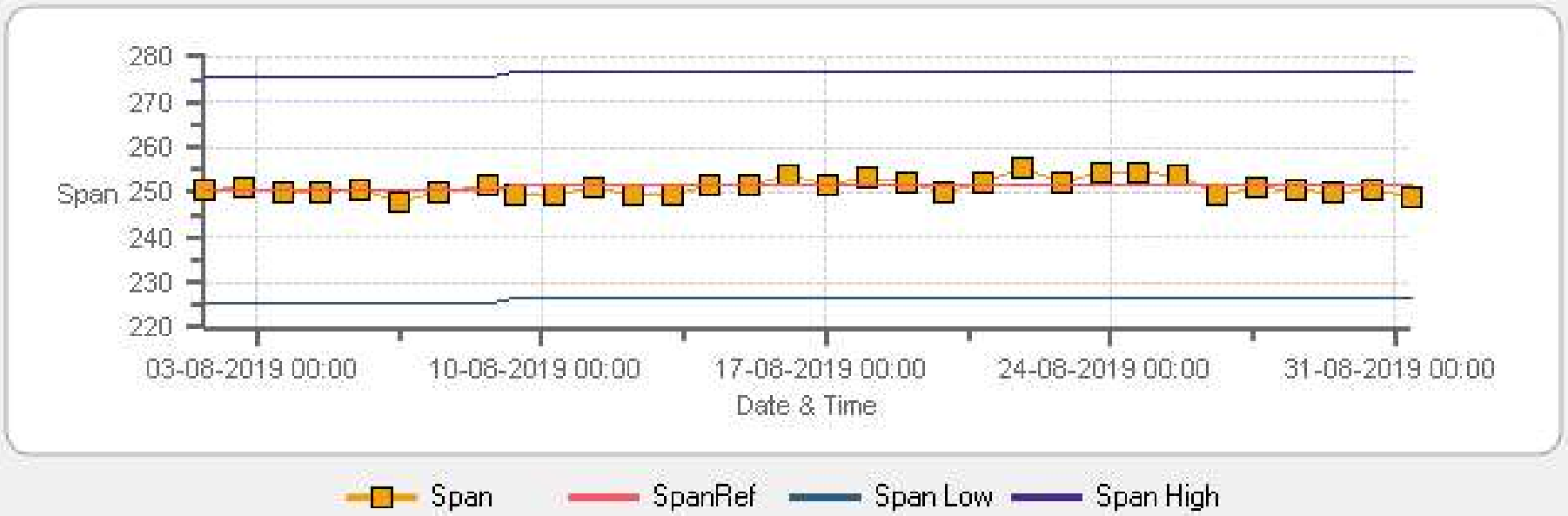
September 12, 2019

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

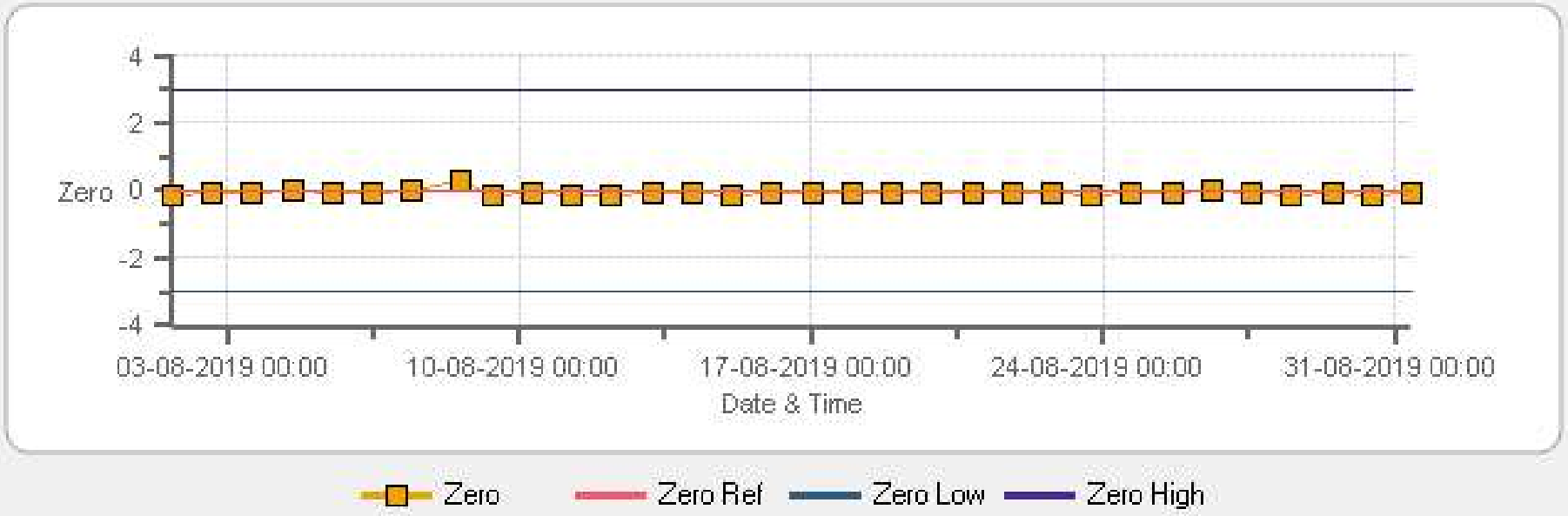
SO2 [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero



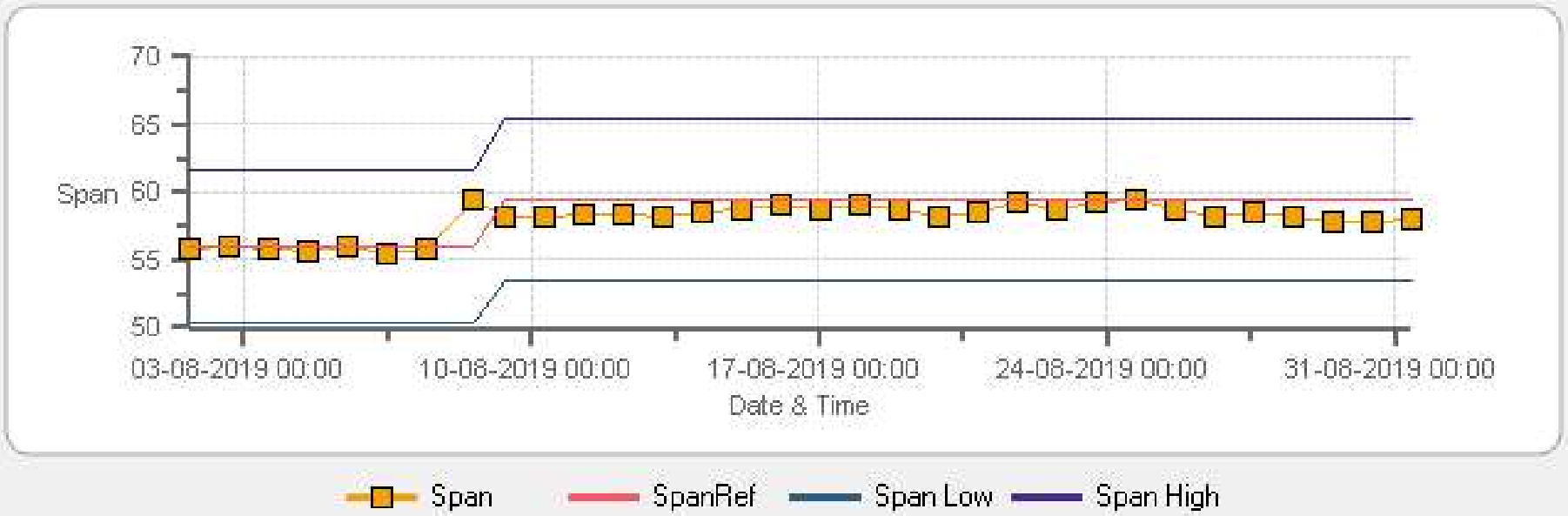
SO2 [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span

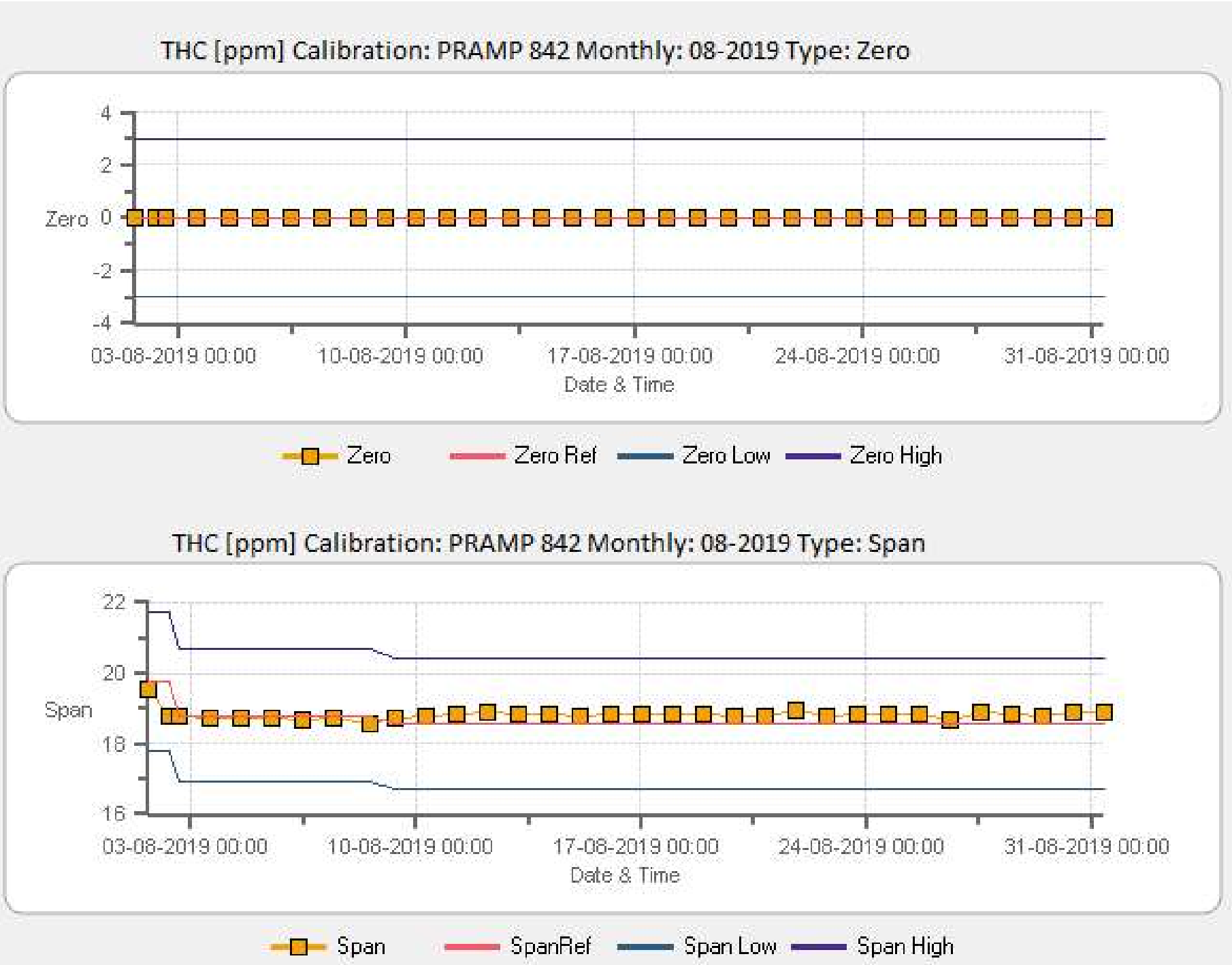


TRS [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero

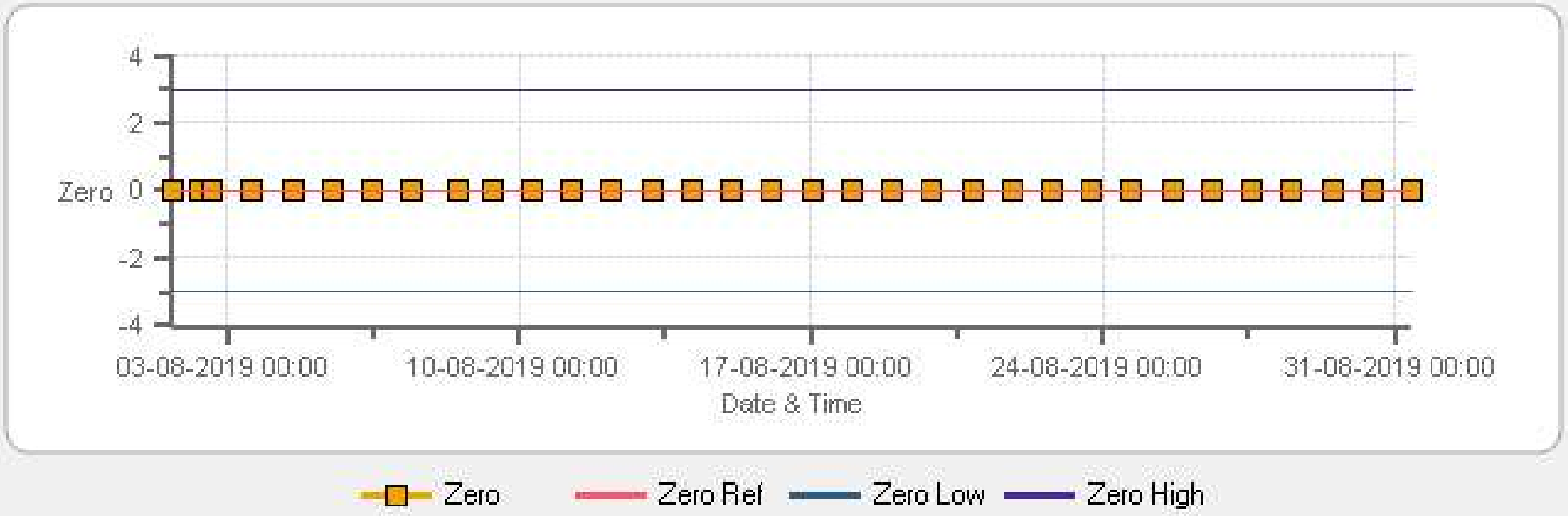


TRS [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span

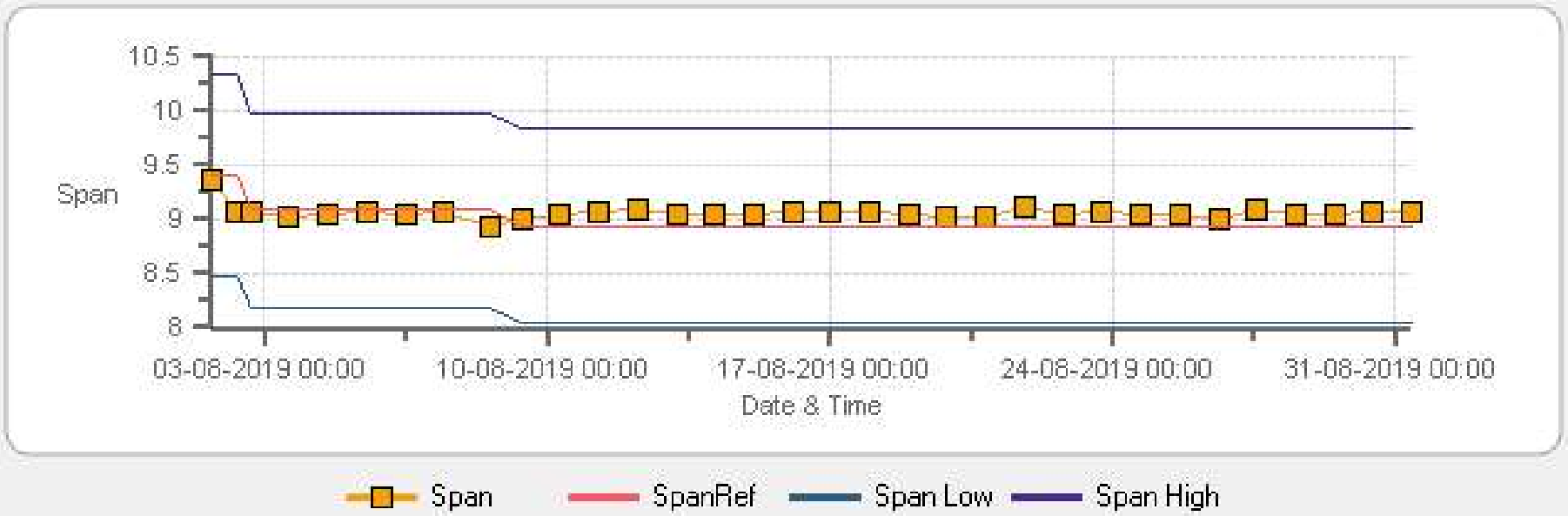



THC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span
22
20
Span
18
16
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

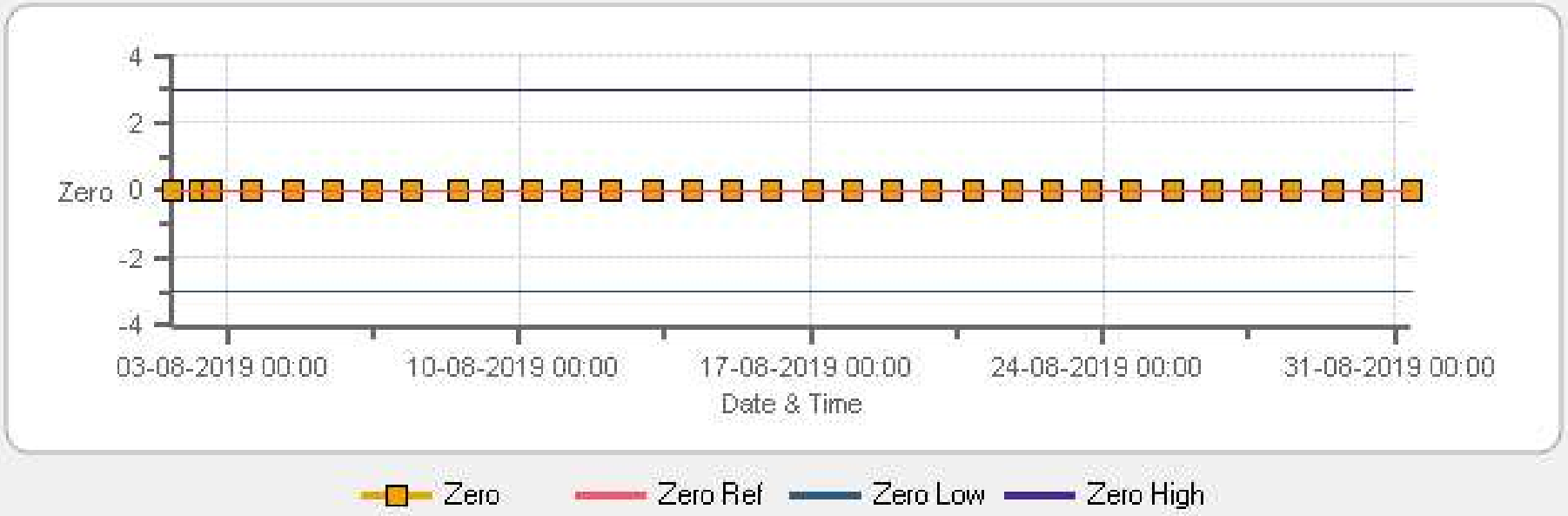
CH4 [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero



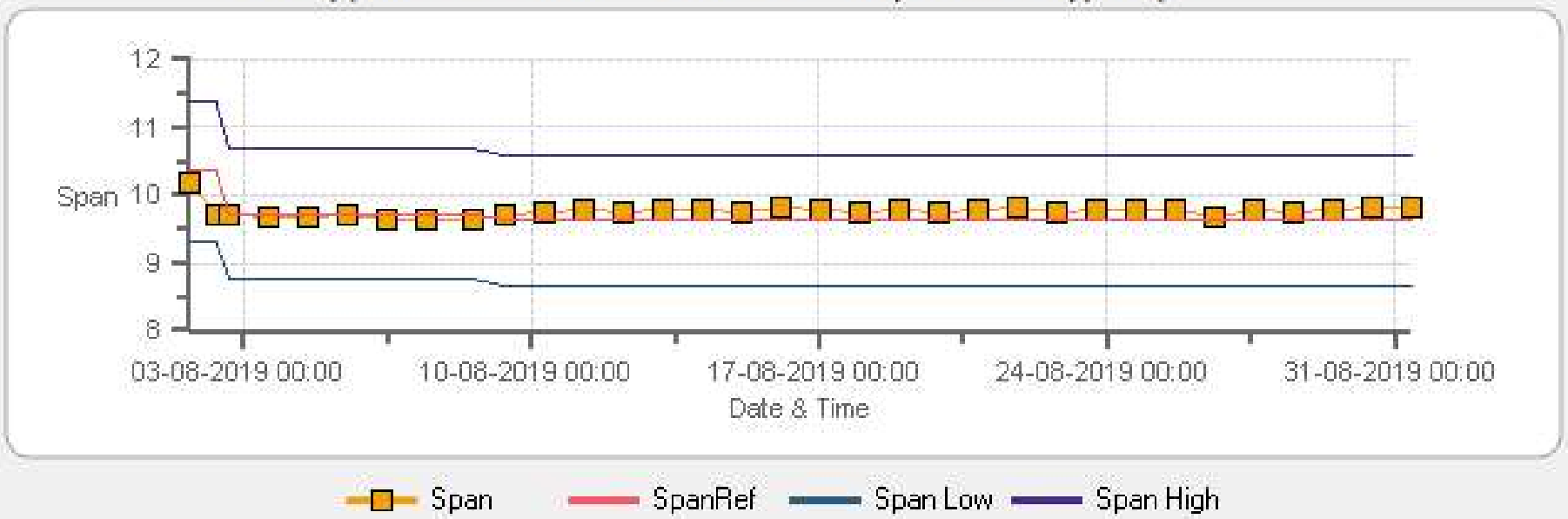
CH4 [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span



NMHC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero



NMHC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	08-Aug-2019	PREVIOUS CALIBRATION DATE:	03-Jul-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	842b	BAROMETRIC (mBar):	942
PURPOSE	Routine	START TIME (MST):	12:46
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:37

ANALYZER:

MAKE/MODEL	Thermo 43i	RANGE	500 ppb
SERIAL #	835033373	FLOW (mL/min)	420
INITIAL		FINAL	
BKG/OFFSET	14.5	BKG/OFFSET	14.7
COEF/SLOPE	1.018	COEF/SLOPE	1.025
Expected (reference) Value	250.5	Expected (reference) Value	251.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	134
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL48147	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1700	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4013		4013	0.00	0	0		
3982	30.70	4013	378.68	375.8	379	1.008	0.999
3998	14.50	4012	178.90	n/a	179.7	n/a	0.996
4006	7.30	4013	90.04	n/a	90.1	n/a	0.999

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.0%

COMMENTS:

n/a


SO2[ppb] Station: PRAMP 842b Daily: 08-08-2019 Type: AVG 1 Min. [1 Min.]
SO2 Value
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2[ppb]

TRS Analyzer Calibration by Dilution

DATE:	08-Aug-2019	PREVIOUS CALIBRATION DATE:	03-Jul-2019
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.2
LOCATION:	842b	BAROMETRIC (mBar):	943
PURPOSE	Routine	START TIME (MST):	08:51
PERFORMED BY:	Chris Wesson	END TIME (MST):	14:37

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460023	FLOW (mL/min)	403
INITIAL		FINAL	
BKG/OFFSET	2.82	BKG/OFFSET	2.97
COEF/SLOPE	0.883	COEF/SLOPE	0.928
Expected (reference) Value	56.05	Expected (reference) Value	59.45

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	Teledyne
MODEL:	2000	MODEL:	T701
ID:	1991	ID:	134
MFC CALIBRATION DATE:	17-May-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL119432	HIGH ID	n/a
CONC (ppm):	10.3	EXPIRY DATE	n/a
CYLINDER (psi):	350	LOW ID	n/a
EXPIRY DATE	07-Nov-2020	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	09:24	SO2 Conc (ppb)	380
END TIME:	09:39	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4002		4002	0.00	-0.08	0		
3970	30.38	4001	78.05	74.58	78.1	1.045	0.999
3987	14.80	4002	38.00	n/a	36.79	n/a	1.033
3995	7.40	4003	19.01	n/a	18.3	n/a	1.039

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.5%

COMMENTS:

10:03 - regulator flushed due to unstable response. As-found high restarted.


TRS[ppb] Station: PRAMP 842b Daily: 08-08-2019 Type: AVG 1 Min. [1 Min.]
TRS Value
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
TRS[ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	08-Aug-2019	PREVIOUS CALIBRATION DATE:	03-Jul-2019
CLIENT:	PRAMP	TEMPERATURE (°C):	23.2
LOCATION:	842b	BAROMETRIC (mBar):	942
PURPOSE	Routine	START TIME (MST):	08:51
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:30

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1505664392	1248
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL107207		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	600.0	207.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	134	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	Internal	EXPIRY DATE	18-Oct-2025		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	569.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1169.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.08	9.72	18.79		8.94	9.62	18.56

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3160		3160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3086	75.40	3161	14.31	13.58	27.89	14.31	13.51	27.82	14.30	13.59	27.89	1.000	1.005	1.003	1.001	0.999	1.000
3123	37.70	3161	7.16	6.79	13.95	n/a	n/a	n/a	7.14	6.83	13.97	n/a	n/a	n/a	1.002	0.994	0.998
3143	18.80	3162	3.57	3.38	6.95	n/a	n/a	n/a	3.54	3.47	7.01	n/a	n/a	n/a	1.008	0.975	0.992

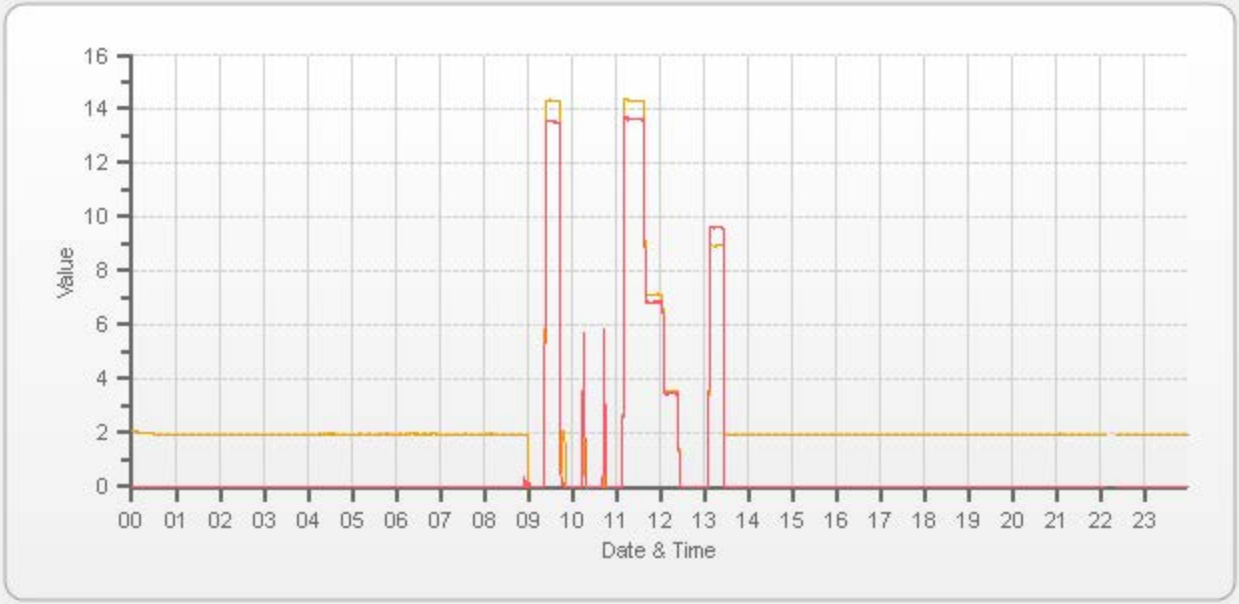
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	-0.1%
NMHC	1.000	1.000	0.2%
THC	1.000	0.999	0.1%

COMMENTS:

10:14 -10:46 = 55i's zero-air power issue. Calibration restarted at adjusted zero.

Station: PRAMP 842b Daily: 08-08-2019 Type: AVG 1 Min. [1 Min.]



Meteorological System Checklist

Date:	August 8, 2019		
Technician:	Chris Wesson		
Reviewer:	Wunmi Adekanmbi		
Station:	PRAMP 986C		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	Campbell Scientific	HMP45C	C2608
Anemometer:	RM Young	05305VK	124638
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	July 3, 2019		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	FS 181341226		
Reference Temperature (^{o}C):	10.7		
Station - Ambient Temperature (^{o}C):	10.5		
Temperature Difference (^{o}C):	0.2		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	n/a		
Reference Barometer ID:	Brunton 05490		
Reference Pressure - Units/Reading:	millibar	942.3	
Station Pressure - Units/Reading:	millibar	943.7	
Pressure Tolerance +/- 15% of error:	801 - 1084	-0.15%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	n/a		
Reference Hygrometer ID:	FS 181341226		
Reference Hygrometer % RH- Reading:	98.50		
Station Hygrometer % RH- Reading:	90.50		
RH Tolerance +/- 15% of difference:	83.73 - 113.28	8.1%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	n/a - install	Previous check date:	n/a - install
Wind Speed Observed (kph):	0-5	Wind Direction Observed:	NE
Wind speed on Data Logger (kph):	4.3	Wind Direction on Data Logger:	NE
		Wind Direction Pass/Fail?:	Pass

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	842b	**Reviewed By:**	Wunmi Adekanmbi
Audit Date:	August 7, 2019	**Start/End Time (mst):**	14:31 / 16:08
Calibration Purpose:	routine annual	**Weather Conditions:**	Mainly sunny

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0 - 1 V
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200 KPH
Serial #:	124638	**Direction Voltage Output Range:**	0 - 1 V
Previous Cal/Audit Date:	August 22, 2018	**Direction Unit Output Range:**	0-360 °

Wind Calibrator Information

Calibrator I.D. and Expiry Date: _____

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.2	0.4	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.8	36.8	1.002
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.4	110.4	1.002
7000	129.0	128.8	128.8	1.002
8000	147.4	147.4	147.4	1.000
9000	165.9	165.8	165.8	1.000
10000	184.3	184.4	184.4	0.999
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.001**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	354	1.0	1.0	1.0
30	330	30	329	0.0	1.0	0.5
60	300	61	299	-1.0	1.0	1.0
90	270	91	269	-1.0	1.0	1.0
120	240	121	239	-1.0	1.0	1.0
150	210	151	211	-1.0	-1.0	1.0
180	180	180	179	0.0	1.0	0.5
210	150	210	150	0.0	0.0	0.0
240	120	241	120	-1.0	0.0	0.5
270	90	270	90	0.0	0.0	0.0
300	60	300	59	0.0	1.0	0.5
330	30	329	28	1.0	2.0	1.5
355	0	354	1	1.0	1.0	1.0
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.7**

Comments:

Calibrator: RM Young 18802 #CA03309 Expires: Oct 03, 2019
Physical inspection completed, bearings replaced. Tower extended +1.25m. Alignment checked: declination +15Deg

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-396A

Company Maxxam **Operator:** Alex

Calibrator:				**Flow Measurement Device:**	
Make/Model	Sabio 2010			Make/Model	N/A
Serial Number	26801218			Serial Number	N/A
Last Verification Date	New			Temperature (°C)	N/A
NO Cylinder S/N	LL48147			Barometric Pressure	N/A
NO [PPM]	50.5	NOx [PPM]	50.6		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5015	79.1	0.797	0.798	0.793	0.001	0.794	0%	-1%
5015	39.6	0.399	0.400	0.395	0.001	0.396	-1%	-1%
5017	19.8	0.199	0.200	0.197	0.000	0.197	-1%	-1%
					Absolute Average Percent Difference		1%	1%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9959	**0.90-1.10**	m (Slope)=	0.9954
b (Intercept % of FS)=	-0.0968	**± 3% F.S.**	b (Intercept % of FS)=	-0.0969

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5015	0.000	0.000	0.792	0.001	0.793		
5015	0.500	0.496	0.296	0.493	0.791	-1%	± 10%
5015	0.250	0.246	0.546	0.245	0.793	-1%	± 10%
5015	0.100	0.098	0.694	0.098	0.793	-1%	± 10%
				Absolute Average Percent Difference		1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9921	**0.90-1.10**
b (Intercept % of FS)=	0.0909	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator		Make/Model	Teco 42i
Make/Model	Teco 146i	Serial/AMU Number	AMU 1868
Serial/AMU Number	AMU 1809	Last Calibration Date	January 14, 2019
SRM Gas Cylinder No.	APEX1236645	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	50.05	Cylinder Gas Expiry Date	June 2021

COMMENTS:

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Sulphur Dioxide (by Cylinder Dilution)

File No. 2019-424A

Company: Maxxam **Operator:** C. Wesson

Calibrator:		**Flow Measurement Device:**	
Make/Model	Environics 2000	Make/Model	N/A
Serial Number	1991	Serial Number	N/A
Last Verification Date	March 1, 2018	Temperature (°C)	N/A
SO_2 Cylinder Conc.	49.5	Barometric Pressure	N/A
SO_2 Cylinder S/N	LL48147		
Expiry Date	August 2026		

Flow Measurements

Pt. No. 1 78.8 **Pt. No. 2** 38.4 **Pt. No. 3** 19.2

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference vs Audit Gas	% Difference Limit
Zero Air	0.000	0.000		
5000	0.780	0.763	-2%	± 10%
4999	0.380	0.371	-2%	± 10%
5000	0.190	0.183	-4%	± 10%
		Absolute Average Percent Difference	3%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

SO_2		LIMITS
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9792	**0.90-1.10**
b (Intercept % of FS)=	-0.1346	**± 3% F.S.**

AENV Standards

Audit Calibrator

Make/Model	Sabio 2010
Serial/AMU Number	AMU 2092
SO_2 SRM Gas Cylinder No.	FF28071
Cylinder Conc. (ppm)	50.3

SO_2 Analyzer

Make/Model	Teco 43i
Serial/AMU Number	AMU 2195
Last Calibration Date	February 8, 2019
Full Scale (ppm)	1.0
Expiry Date	March 2020

COMMENTS:

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-390CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL48147 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4898	78.1	0.789	0.01595	62.714	49.5
4893	38.7	0.391	0.00791	126.434	49.4
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.2**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119432 Concentration PPM: 10.3 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1
Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000			
5117	38.9	0.0595	0.00760	131.542	7.8
5103	18.4		0.00361	277.337	0.0
5097	9.4		0.00184	542.234	0.0
				Average Cylinder Concentration:	**2.6**

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: **75**

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☐ **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐ Do not use.

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☒ X

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-484CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL107207 Conc CH4 (PPM) 600/207 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.28	12.77	0.02	45.00	598	209
3547	39.8	6.71	6.47	0.01	89.12	598	210
3560	19.8	3.35	3.26	0.01	179.80	602	213
					Average Cylinder Concentration:	**599**	**211**

	CH4	C3H8
Previous Stated Concentration PPM:	600	207
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

Peace River Area Monitoring Program

AUGUST 2019

Ambient Air Monitoring Calibration Report

- 986c STATION-

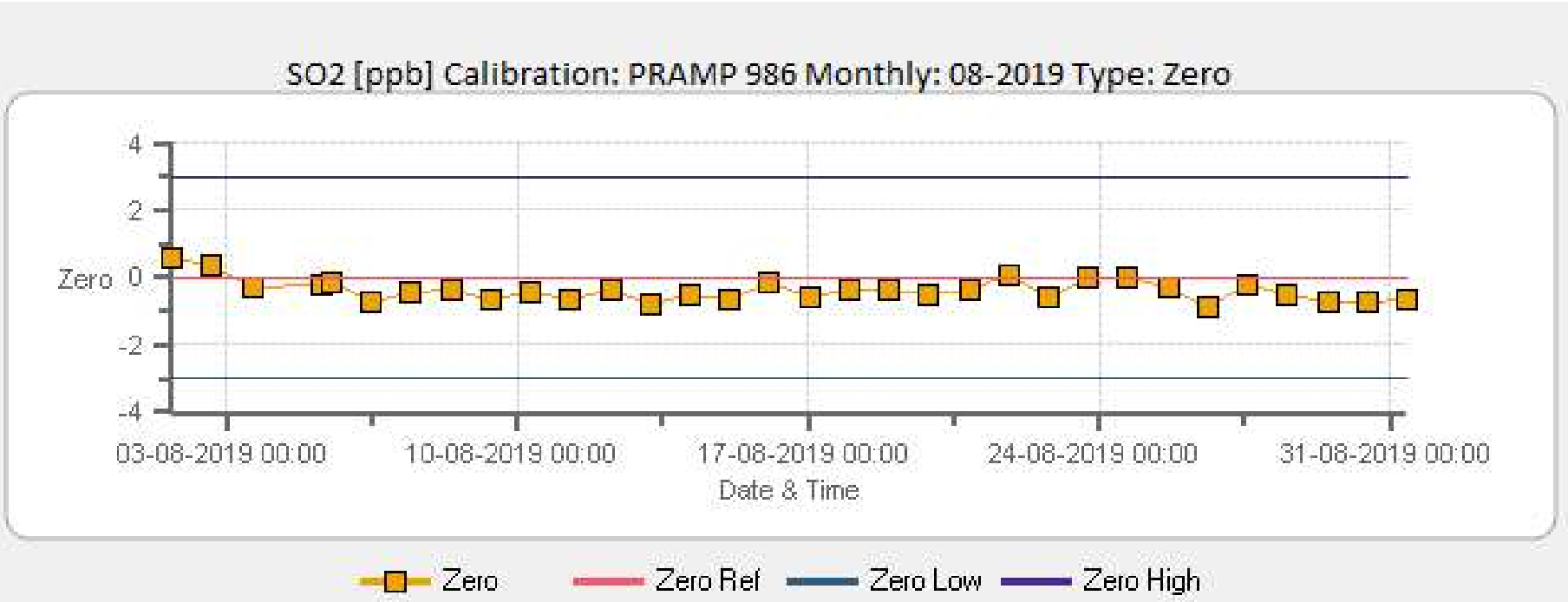
CAL-PRAMP-201908-01562

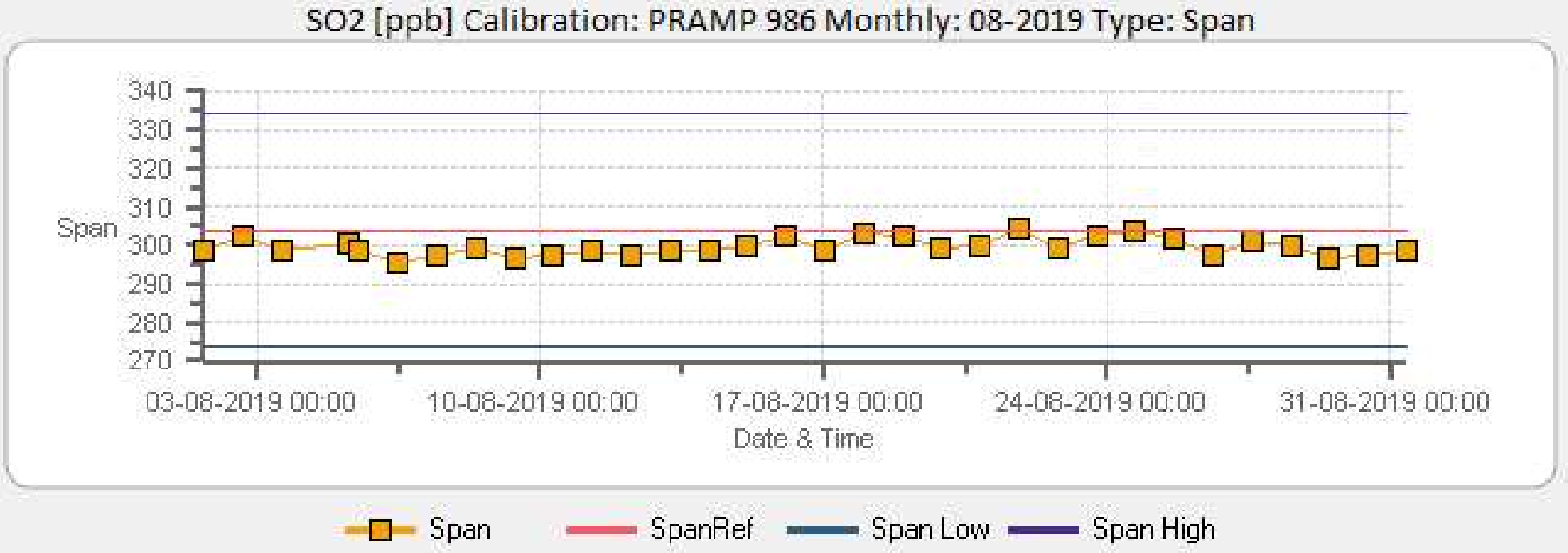
Operation and Maintenance:
Maxxam Analytics

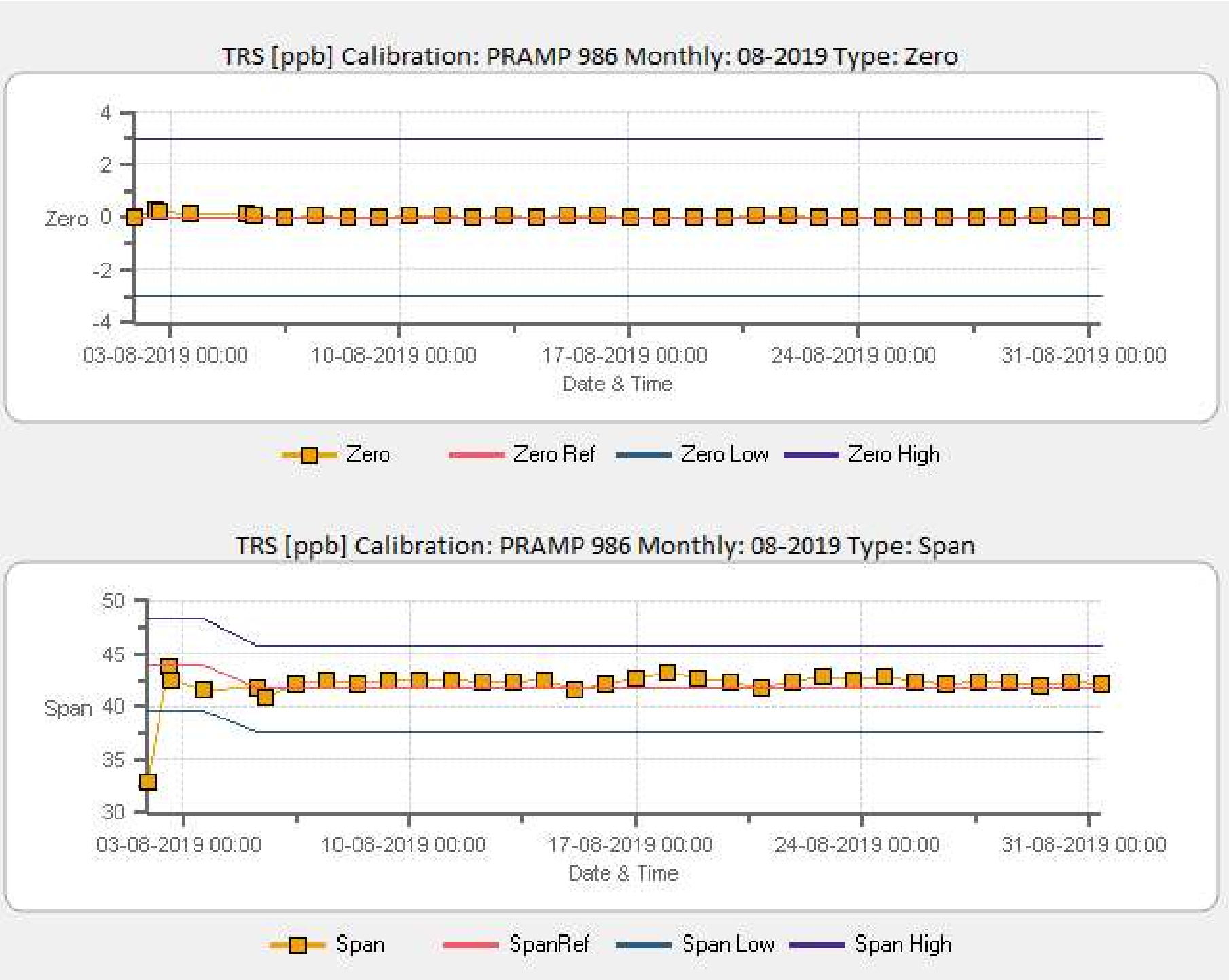
Data Validation and Report:
Maxxam Analytics

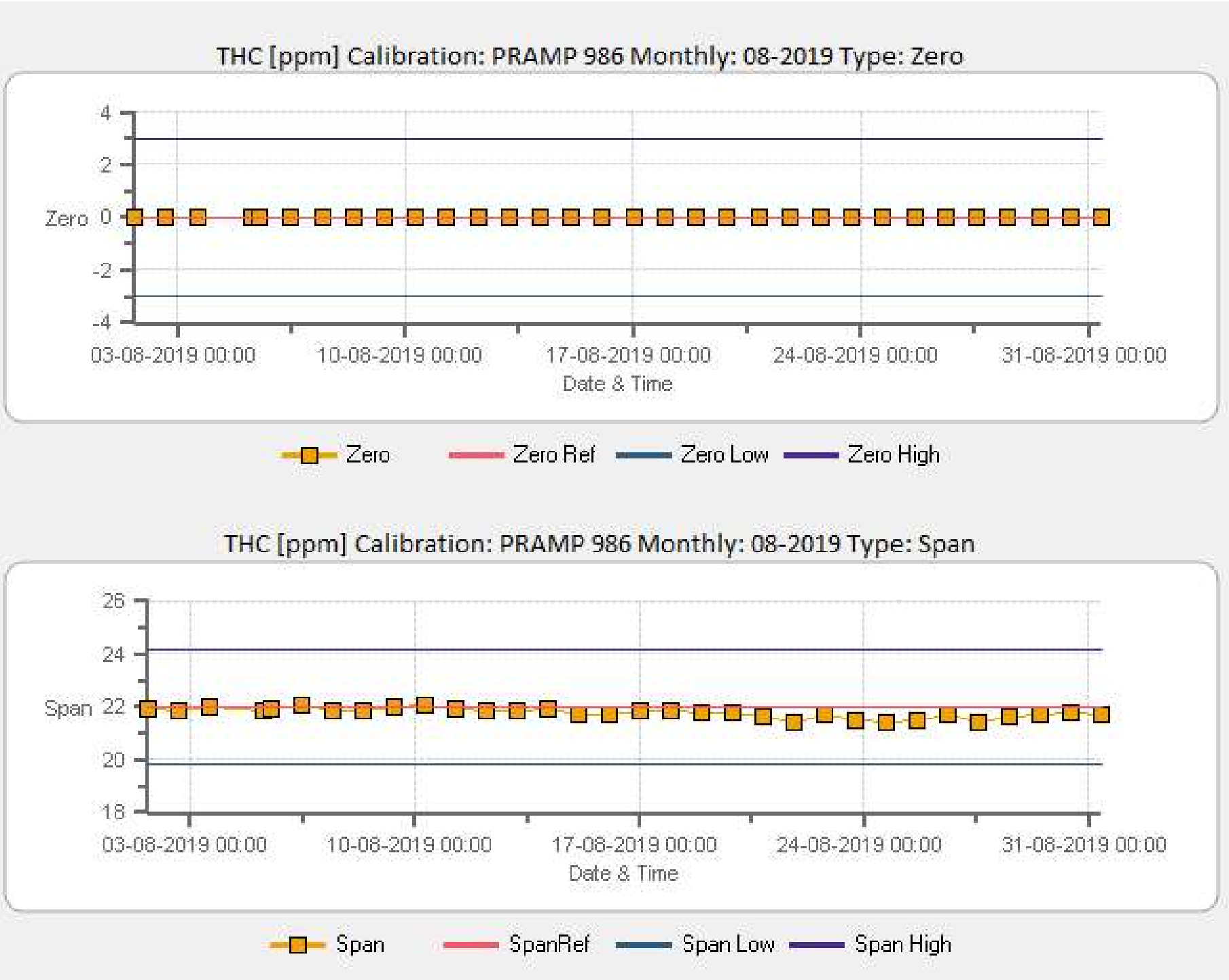
September 23, 2019

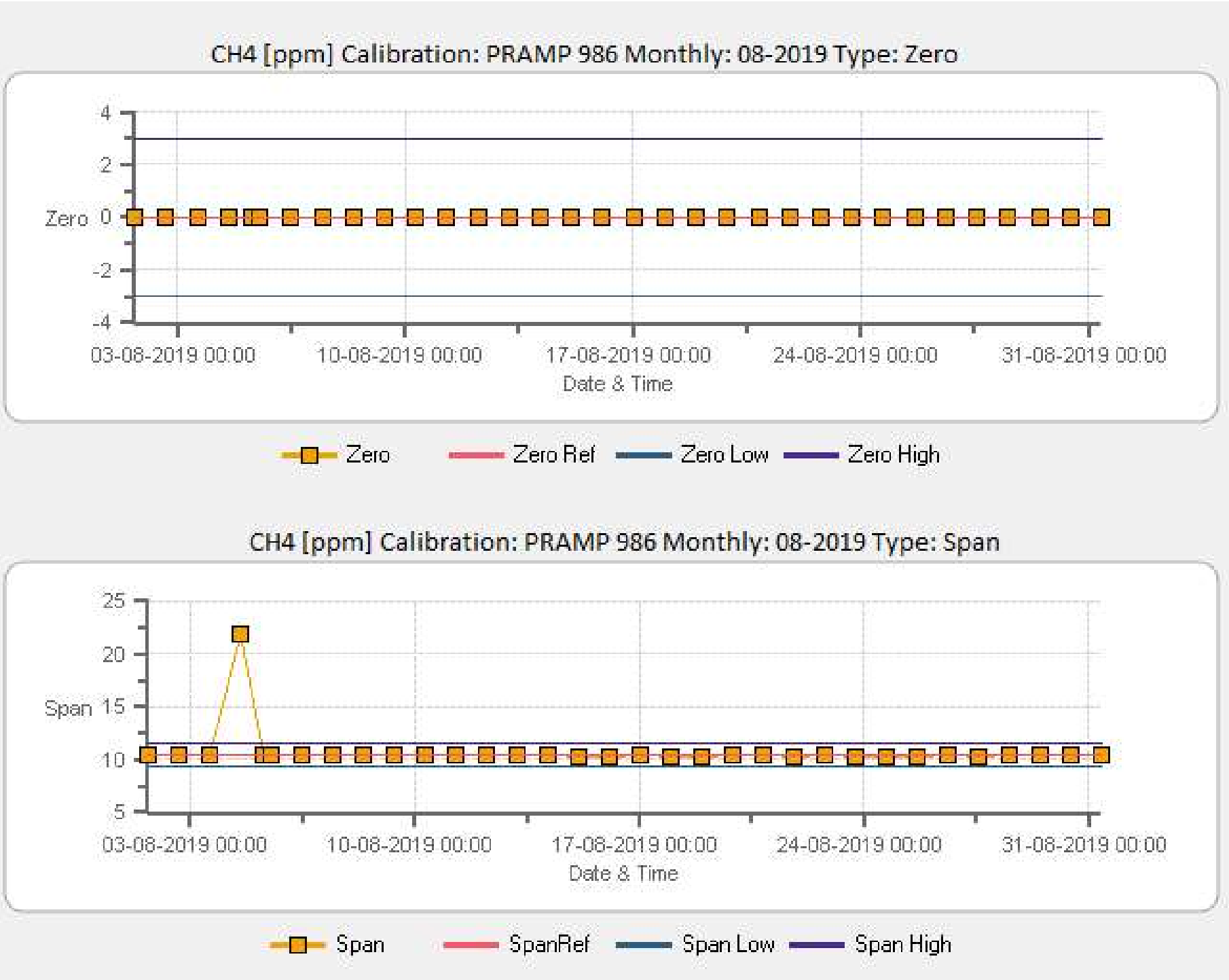
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

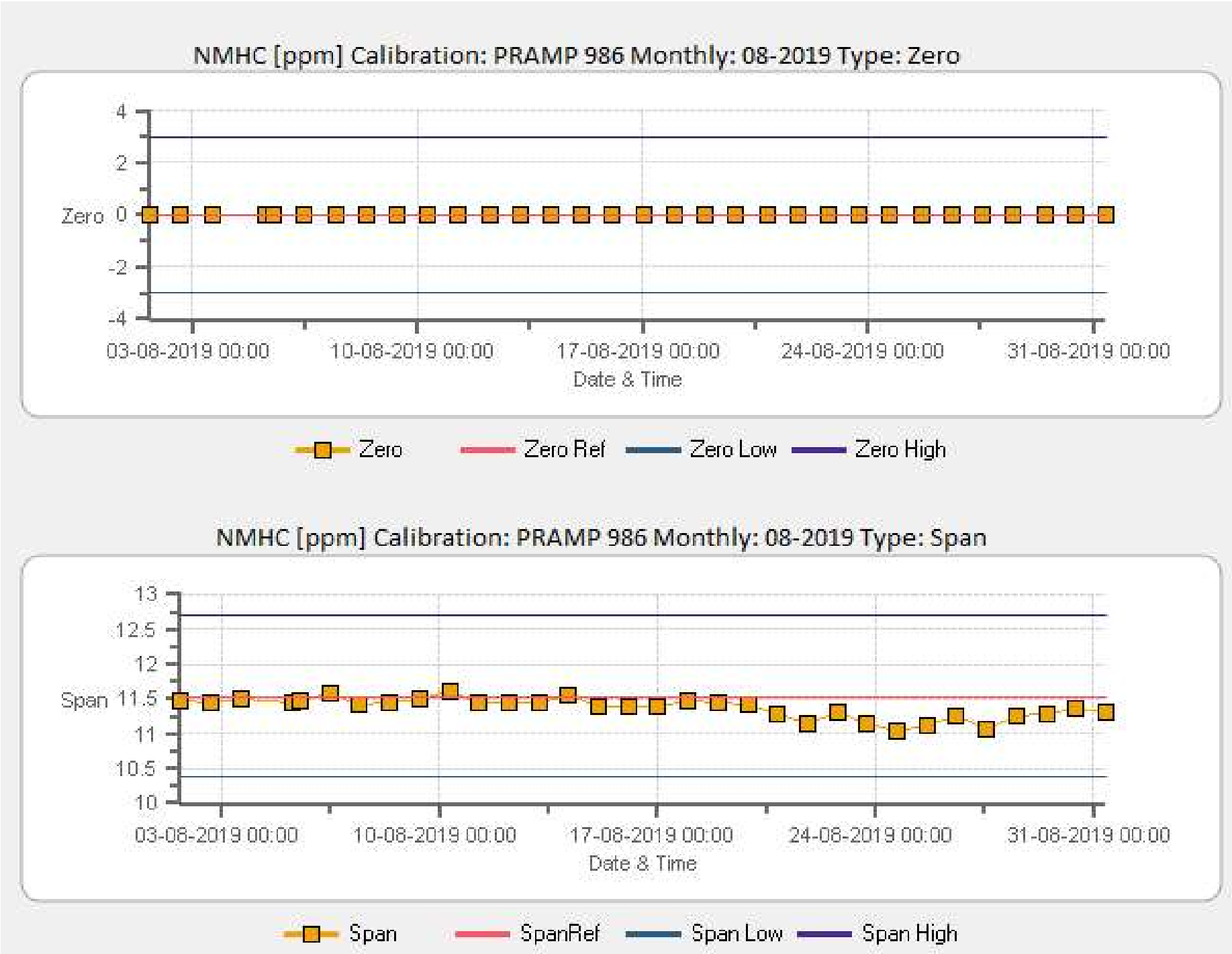

SO2 [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
Zero
4
2
0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


SO2 [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
Span
340
330
320
310
300
290
280
270
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


TRS [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
TRS [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
50
45
Span 40
35
30
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


THC [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
26
24
Span 22
20
18
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


CH4 [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
CH4 [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
25
20
Span 15
10
5
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


NMHC [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NMHC [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
13
12.5
12
Span 11.5
11
10.5
10
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	01-Aug-2019	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	986C	BAROMETRIC (mBar):	944
PURPOSE	Install/Post-Repair	START TIME (MST):	13:25
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:37

ANALYZER:

MAKE/MODEL	API 100A	RANGE	500 ppb
SERIAL #	1298	FLOW (mL/min)	622
INITIAL		FINAL	
BKG/OFFSET	98.8	BKG/OFFSET	93.1
COEF/SLOPE	1.014	COEF/SLOPE	0.901
Expected (reference) Value	n/a	Expected (reference) Value	304

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	Teledyne
MODEL:	2000	MODEL:	T701
ID:	1991	ID:	134
MFC CALIBRATION DATE:	17-May-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL48147	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1700	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4000		4000	0.00	n/a	0		
3968	30.72	3998	380.36	n/a	380	n/a	1.001
3988	14.55	4002	179.99	n/a	179	n/a	1.006
3995	7.30	4002	90.27	n/a	88.6	n/a	1.019

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	-0.2%

COMMENTS:

n/a


SO2[ppb] Station: PRAMP 986c Daily: 01-08-2019 Type: AVG 1 Min. [1 Min.]
SO2 Value
450
400
350
300
250
200
150
100
50
0
-50
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time

TRS Analyzer Calibration by Dilution

DATE:	02-Aug-2019	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.2
LOCATION:	986C	BAROMETRIC (mBar):	943
PURPOSE	Install/Post-Repair	START TIME (MST):	09:48
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:20

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1152940011	FLOW (mL/min)	478
INITIAL		FINAL	
BKG/OFFSET	1.95	BKG/OFFSET	1.89
COEF/SLOPE	0.958	COEF/SLOPE	0.956
Expected (reference) Value	n/a	Expected (reference) Value	41.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	Teledyne
MODEL:	2000	MODEL:	T701
ID:	1991	ID:	134
MFC CALIBRATION DATE:	17-May-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL119432	HIGH ID	n/a
CONC (ppm):	10.3	EXPIRY DATE	n/a
CYLINDER (psi):	300	LOW ID	n/a
EXPIRY DATE	07-Nov-2020	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	10:26	SO2 Conc (ppb)	380
END TIME:	10:41	Analyzer Response (ppb)	0.0

CALIBRATION:

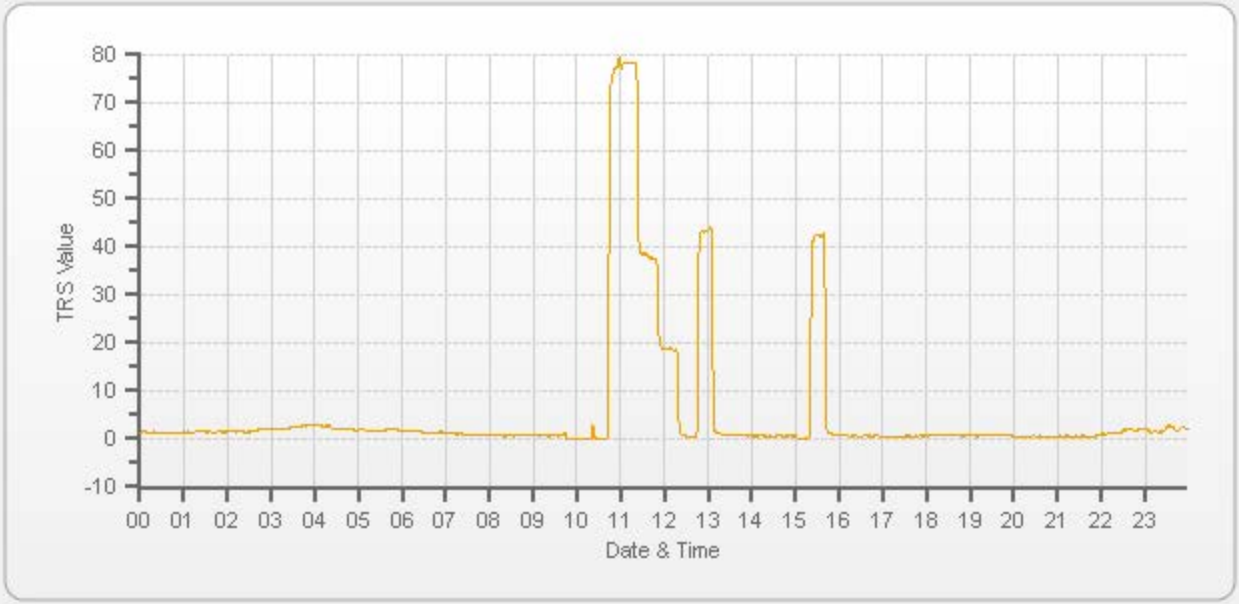
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4001		4001	0.00	n/a	0		
3968	30.42	3998	78.20	n/a	78.2	n/a	1.000
3988	14.80	4002	38.00	n/a	38.13	n/a	0.997
3995	7.40	4003	19.01	n/a	18.66	n/a	1.019

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.1%

COMMENTS:

n/a


TRS[ppb] Station: PRAMP 986c Daily: 02-08-2019 Type: AVG 1 Min. [1 Min.]
TRS Value
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	01-Aug-2019	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5
LOCATION:	986C	BAROMETRIC (mBar):	944
PURPOSE	Install/Post-Repair	START TIME (MST):	13:25
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:30

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1022043392	962
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL107207		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	600	207	HIGH EXPIRY:	n/a
ID:	26801218	ID:	134	CYLINDER (psi):	1050		LOW ID:	n/a
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	Internal	EXPIRY DATE	18-Oct-2025		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	569.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1169.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	n/a	n/a	n/a		10.47	11.54	22.00

CALIBRATION:

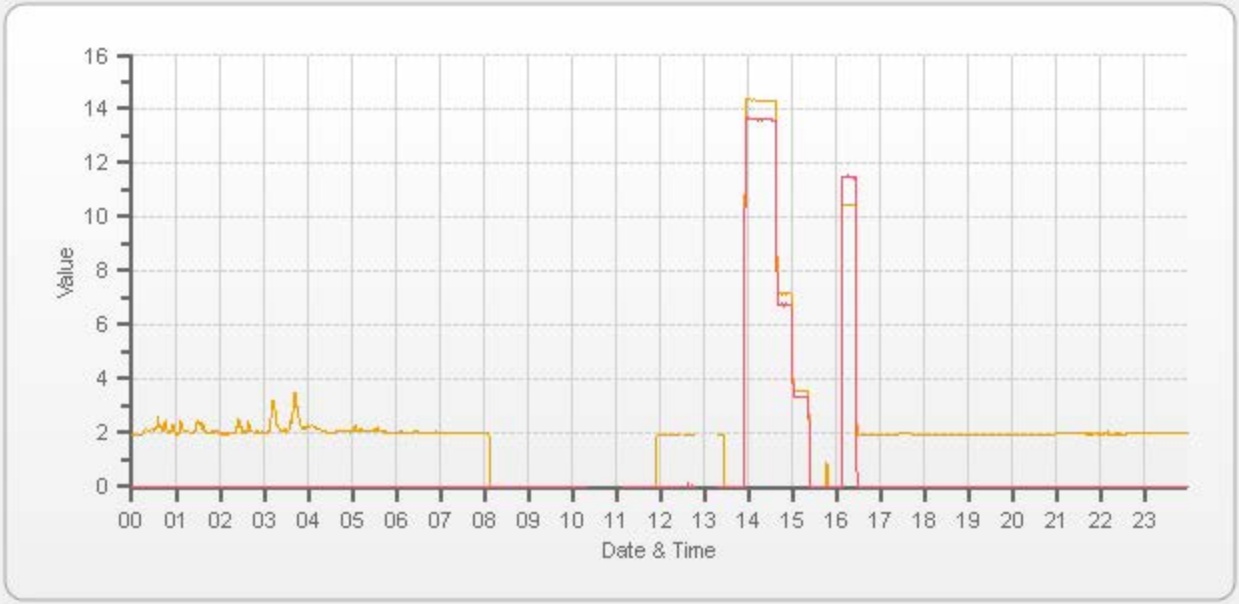
FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3011		3011	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
2939	71.80	3011	14.31	13.57	27.88	n/a	n/a	n/a	14.30	13.58	27.88	n/a	n/a	n/a	1.001	1.000	1.000
2975	35.90	3011	7.15	6.79	13.94	n/a	n/a	n/a	7.14	6.76	13.90	n/a	n/a	n/a	1.002	1.004	1.003
2992	18.00	3010	3.59	3.40	6.99	n/a	n/a	n/a	3.55	3.32	6.88	n/a	n/a	n/a	1.011	1.025	1.016

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	-0.1%
NMHC	1.000	1.000	-0.2%
THC	1.000	1.001	-0.1%

COMMENTS:

n/a


Station: PRAMP 986c Daily: 01-08-2019 Type: AVG 1 Min. [1 Min.]
Value
Date & Time
CH4[ppm]
NMHC[ppm]

Meteorological System Checklist

Date:	August 1, 2019
Technician:	Chris Wesson
Reviewer:	Rob Fisher
Station:	PRAMP 986C

Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	EML	ARG100	190114
Temperature Sensor:	RM Young	43182VC	030978
Barometric Pressure Sensor:	MetOne	090D	F3845
Relative Humidity Sensor:	RM Young	43182VC	030978
Anemometer:	RM Young	05305VK	129612

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:		n/a - install
Is the sensor Level?	yes	
Is the heater operating properly?	other - see comments	No heater installed
Are the bucket drain holes clean?	Yes	
Is the screen on the housing? (screen should be on between July and September	other - see comments	n/a - differing design
Is the housing clean?	yes	
Is the area around the housing clean and free from obstacles?	yes	

TIP TEST - Slowly pour water until 5 tip are heard. (5 tips = 1 ml)

# of Tips	Data Logger Response (ml):	Manual Specification = +/- 0.2 ml
5	1.00	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	n/a
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	FS 181341226
Reference Temperature (^{o}C):	21.5
Station - Ambient Temperature (^{o}C):	21.0
Temperature Difference (^{o}C):	0.5

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	n/a	
Reference Barometer ID:	Brunton 05490	
Reference Pressure - Units/Reading:	millibar	943.2
Station Pressure - Units/Reading:	millibar	945.1
Pressure Tolerance +/- 15% of error:	802 - 1085	-0.20%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	n/a	
Reference Hygrometer ID:	FS 181341226	
Reference Hygrometer % RH- Reading:	58.80	
Station Hygrometer % RH- Reading:	61.40	
RH Tolerance +/- 15% of difference:	49.98 - 67.62	-4.4%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	n/a - install	Previous check date:	n/a - install
Wind Speed Observed (kph):	0-5	Wind Direction Observed:	NE
Wind speed on Data Logger (kph):	4.3	Wind Direction on Data Logger:	NE
		Wind Direction Pass/Fail?:	Pass

Comments

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-396A

Company Maxxam **Operator:** Alex

Calibrator:				**Flow Measurement Device:**	
Make/Model	Sabio 2010			Make/Model	N/A
Serial Number	26801218			Serial Number	N/A
Last Verification Date	New			Temperature (°C)	N/A
NO Cylinder S/N	LL48147			Barometric Pressure	N/A
NO [PPM]	50.5	NOx [PPM]	50.6		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5015	79.1	0.797	0.798	0.793	0.001	0.794	0%	-1%
5015	39.6	0.399	0.400	0.395	0.001	0.396	-1%	-1%
5017	19.8	0.199	0.200	0.197	0.000	0.197	-1%	-1%
						Absolute Average Percent Difference	1%	1%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9959	**0.90-1.10**	m (Slope)=	0.9954
b (Intercept % of FS)=	-0.0968	**± 3% F.S.**	b (Intercept % of FS)=	-0.0969

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5015	0.000	0.000	0.792	0.001	0.793		
5015	0.500	0.496	0.296	0.493	0.791	-1%	± 10%
5015	0.250	0.246	0.546	0.245	0.793	-1%	± 10%
5015	0.100	0.098	0.694	0.098	0.793	-1%	± 10%
					Absolute Average Percent Difference	1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9921	**0.90-1.10**
b (Intercept % of FS)=	0.0909	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator		Make/Model	Teco 42i
Make/Model	Teco 146i	Serial/AMU Number	AMU 1868
Serial/AMU Number	AMU 1809	Last Calibration Date	January 14, 2019
SRM Gas Cylinder No.	APEX1236645	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	50.05	Cylinder Gas Expiry Date	June 2021

COMMENTS:

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Sulphur Dioxide (by Cylinder Dilution)

File No. 2019-424A

Company: Maxxam **Operator:** C. Wesson

Calibrator:		**Flow Measurement Device:**	
Make/Model	Environics 2000	Make/Model	N/A
Serial Number	1991	Serial Number	N/A
Last Verification Date	March 1, 2018	Temperature (°C)	N/A
SO_2 Cylinder Conc.	49.5	Barometric Pressure	N/A
SO_2 Cylinder S/N	LL48147		
Expiry Date	August 2026		

Flow Measurements

Pt. No. 1 78.8 **Pt. No. 2** 38.4 **Pt. No. 3** 19.2

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference vs Audit Gas	% Difference Limit
Zero Air	0.000	0.000		
5000	0.780	0.763	-2%	± 10%
4999	0.380	0.371	-2%	± 10%
5000	0.190	0.183	-4%	± 10%
		Absolute Average Percent Difference	3%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

SO_2		LIMITS
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9792	**0.90-1.10**
b (Intercept % of FS)=	-0.1346	**± 3% F.S.**

AENV Standards

Audit Calibrator

Make/Model	Sabio 2010
Serial/AMU Number	AMU 2092
SO_2 SRM Gas Cylinder No.	FF28071
Cylinder Conc. (ppm)	50.3

SO_2 Analyzer

Make/Model	Teco 43i
Serial/AMU Number	AMU 2195
Last Calibration Date	February 8, 2019
Full Scale (ppm)	1.0
Expiry Date	March 2020

COMMENTS:

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-390CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL48147 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4898	78.1	0.789	0.01595	62.714	49.5
4893	38.7	0.391	0.00791	126.434	49.4
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.2**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119432 Concentration PPM: 10.3 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1
Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000			
5117	38.9	0.0595	0.00760	131.542	7.8
5103	18.4		0.00361	277.337	0.0
5097	9.4		0.00184	542.234	0.0
				Average Cylinder Concentration:	**2.6**

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: **75**

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☐ **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐ Do not use.

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☒ X

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-484CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL107207 Conc CH4 (PPM) 600/207 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.28	12.77	0.02	45.00	598	209
3547	39.8	6.71	6.47	0.01	89.12	598	210
3560	19.8	3.35	3.26	0.01	179.80	602	213
					Average Cylinder Concentration:	**599**	**211**

	CH4	C3H8
Previous Stated Concentration PPM:	600	207
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

Peace River Area Monitoring Program

AUGUST 2019

Ambient Air Monitoring Calibration Report

- RENO STATION-

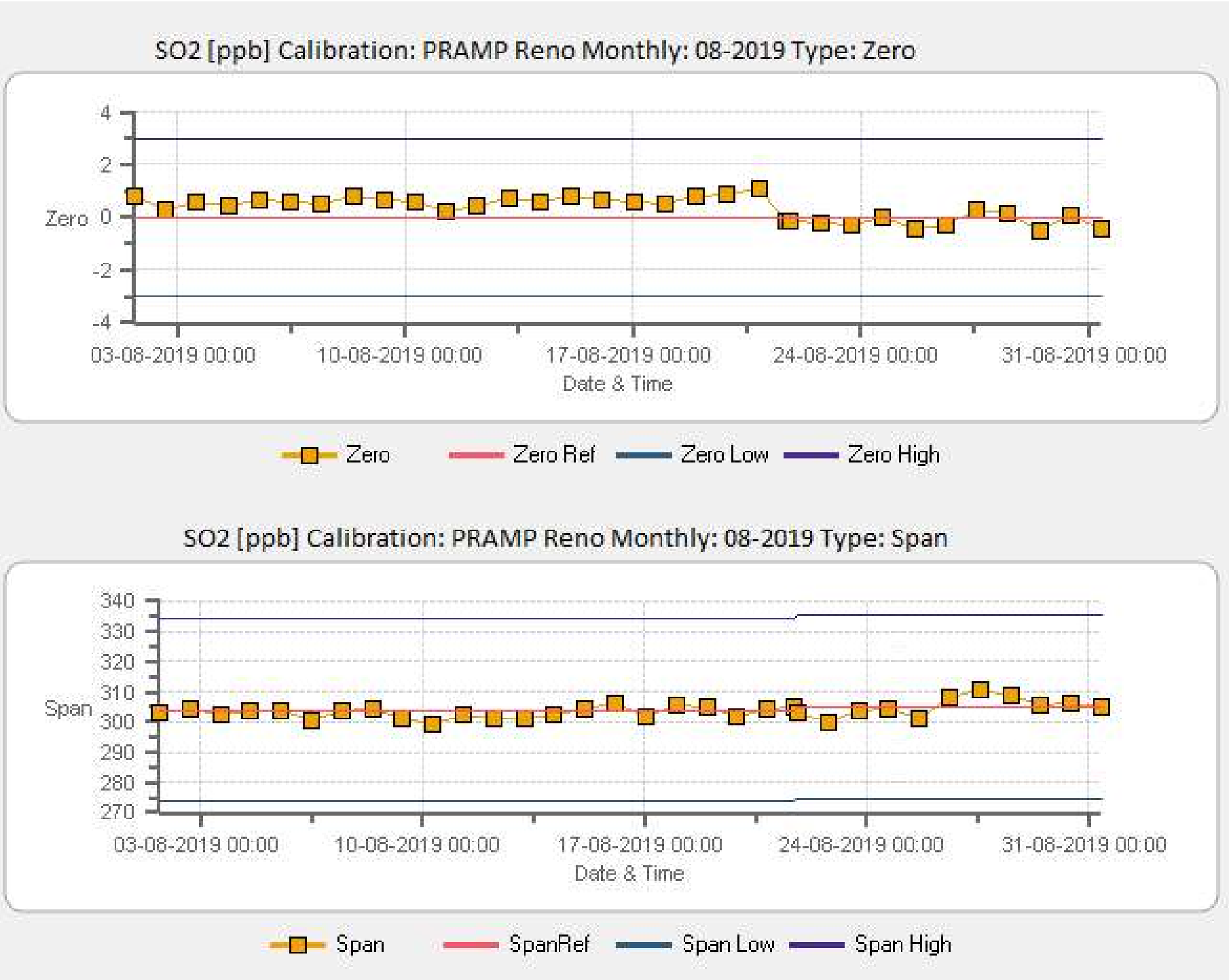
CAL-PRAMP-201908-01563

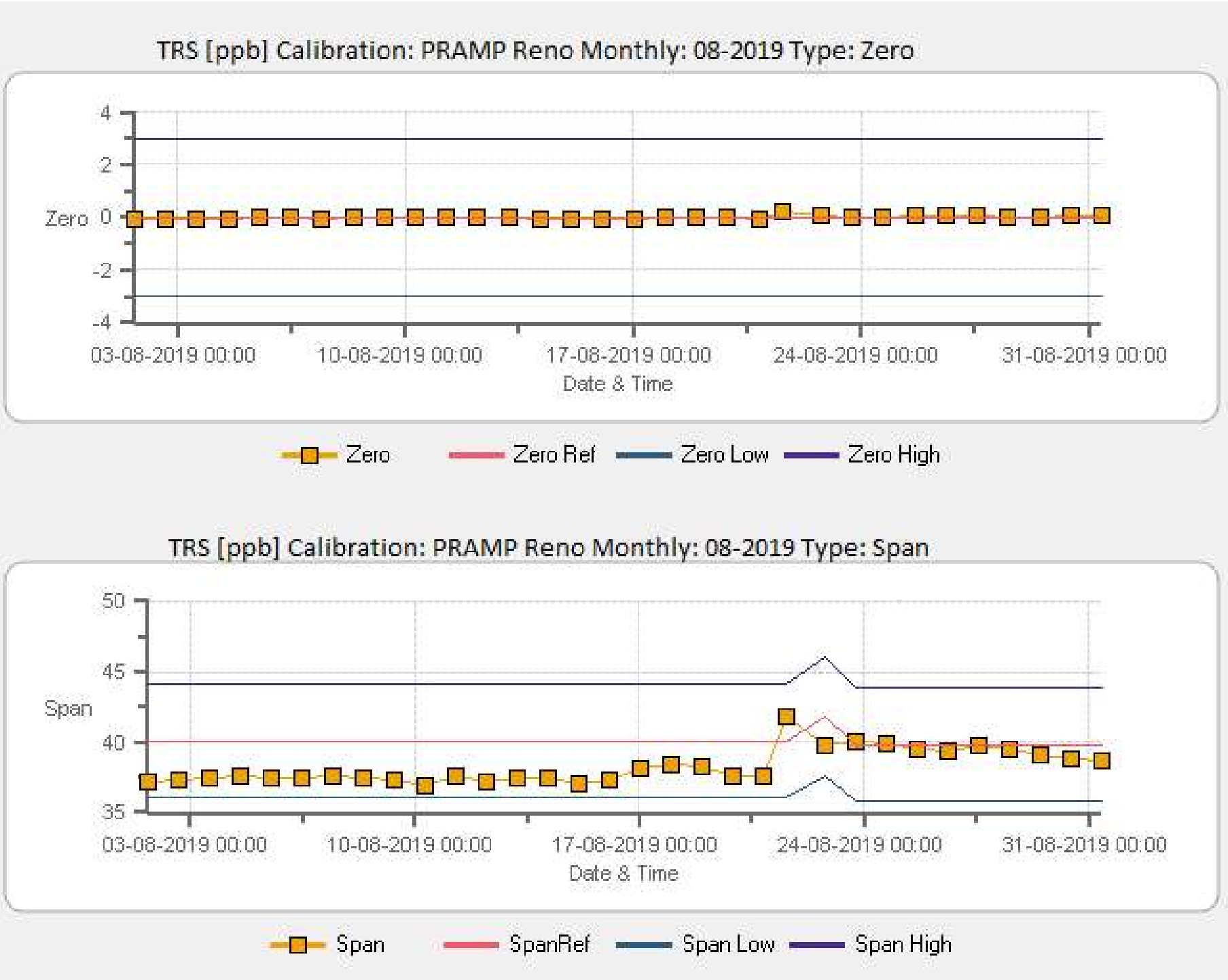
Operation and Maintenance:
Maxxam Analytics

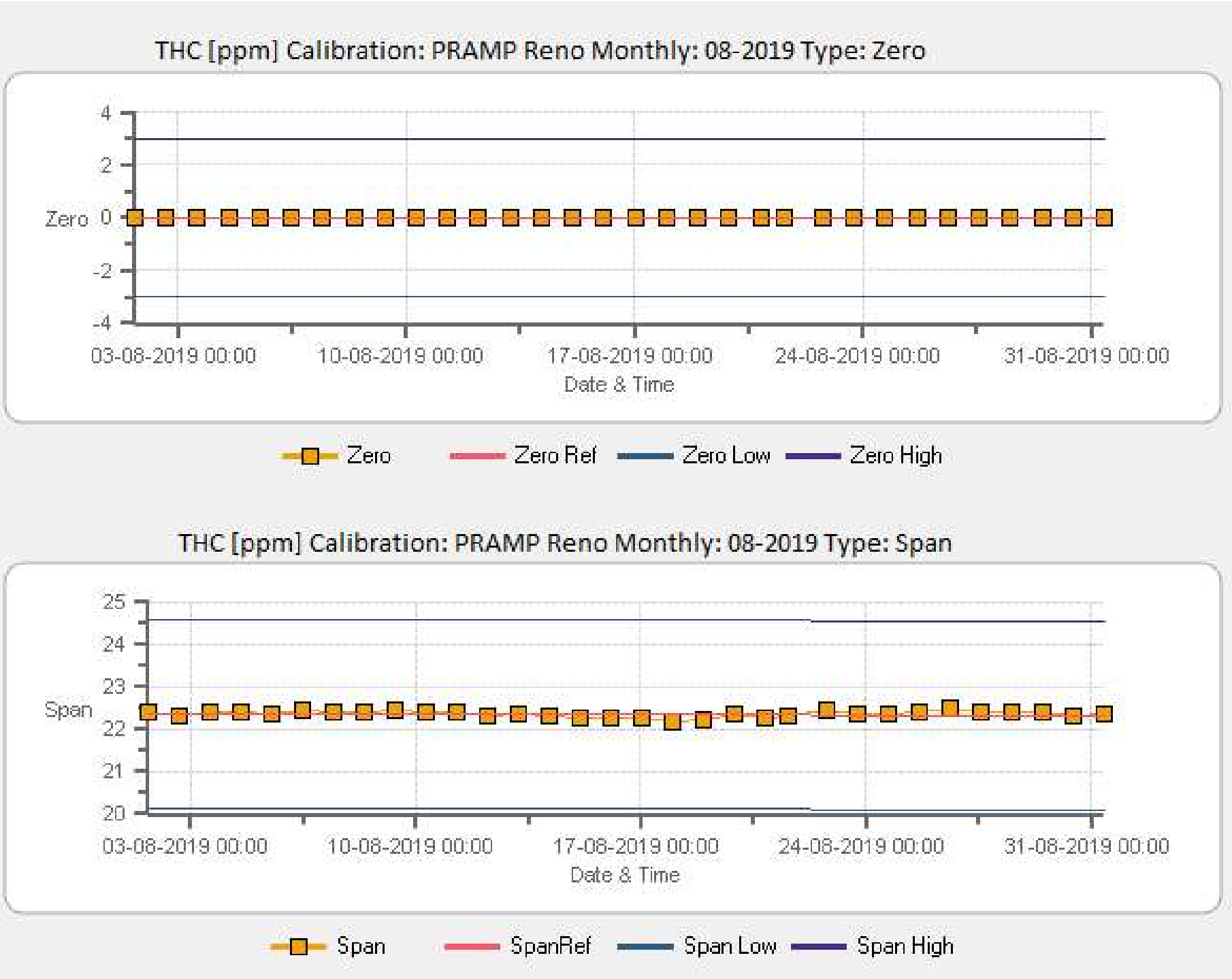
Data Validation and Report:
Maxxam Analytics

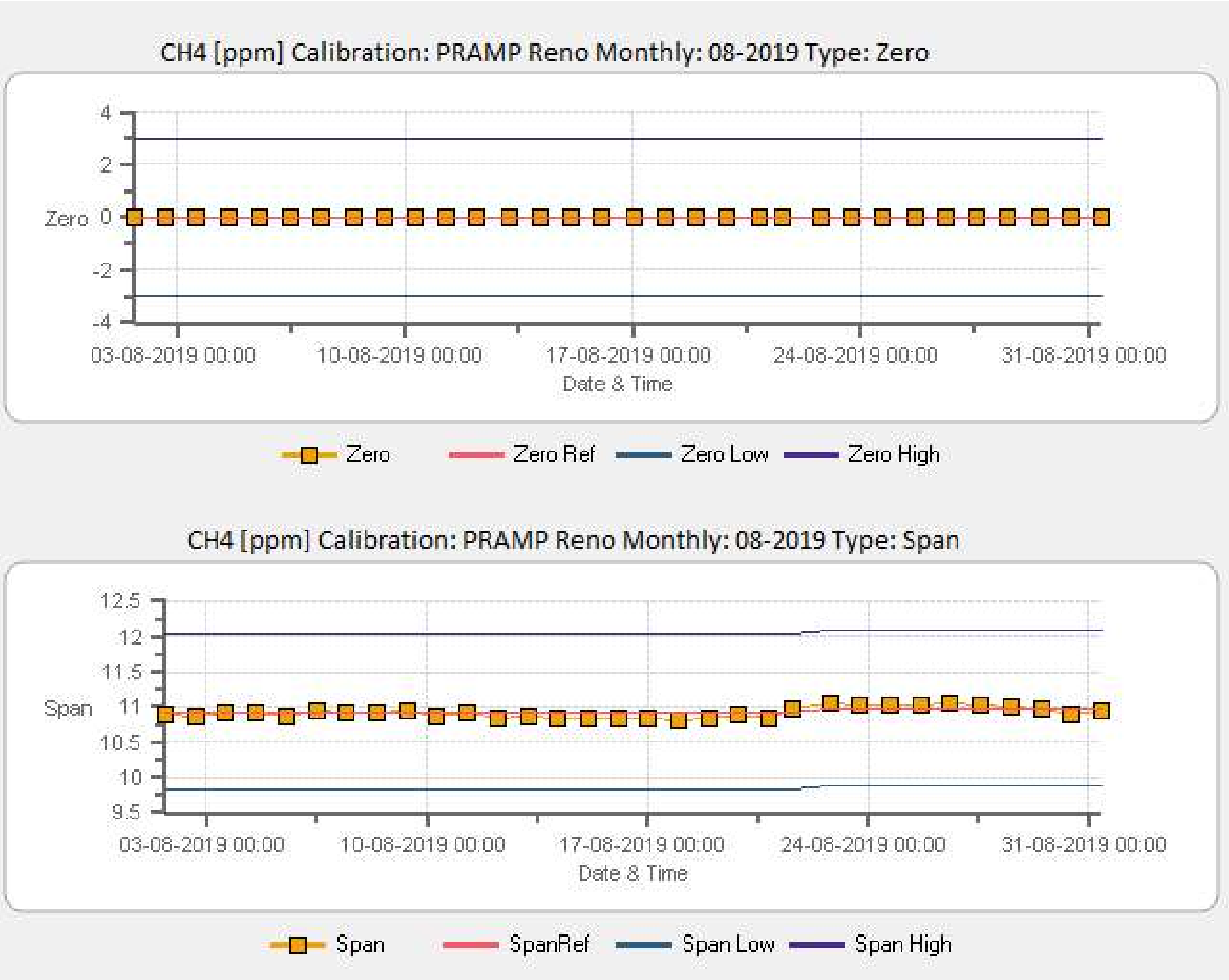
September 12, 2019

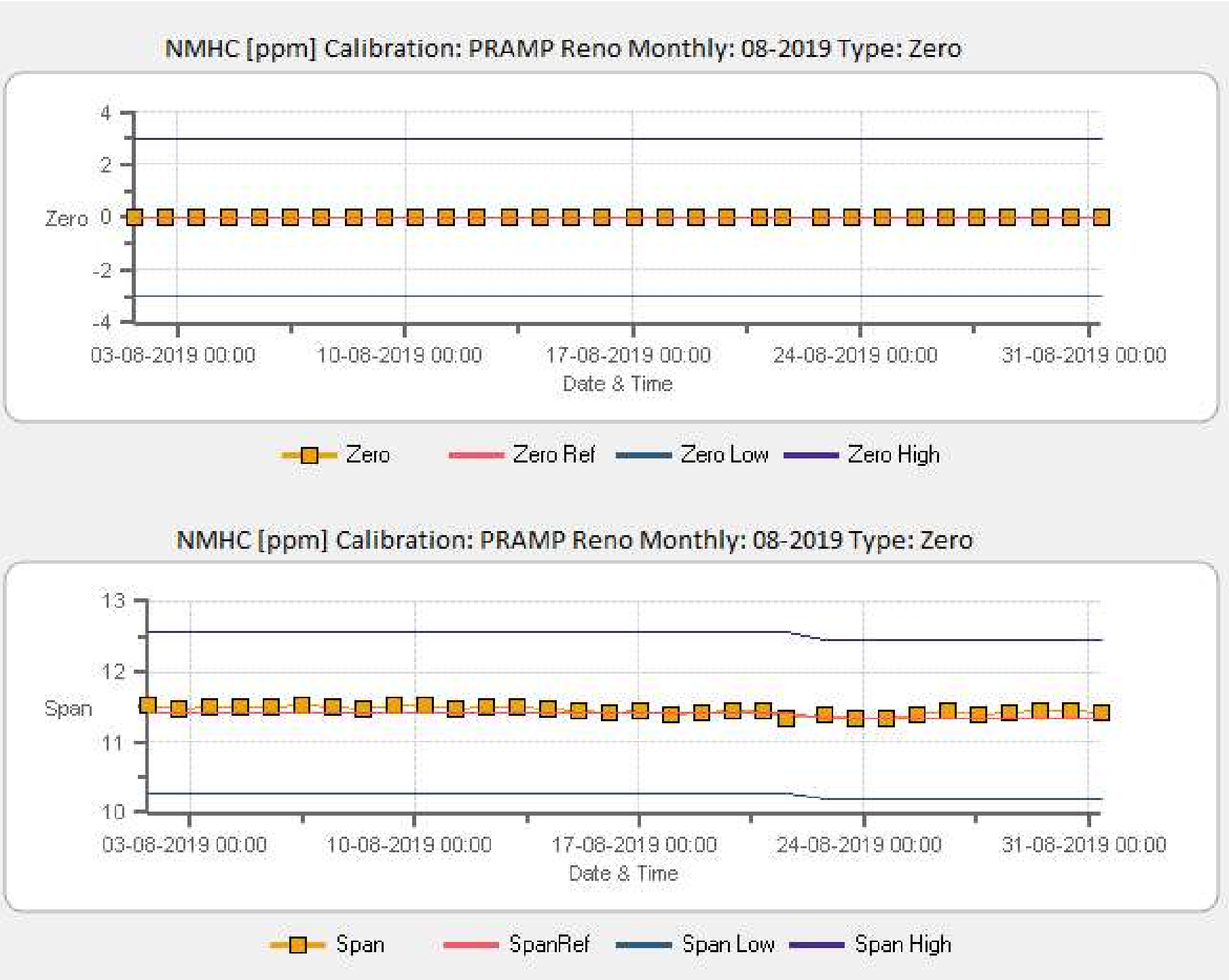
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS


SO2 [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
SO2 [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
340
330
320
310
Span 300
290
280
270
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


TRS [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
TRS [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
50
45
Span
40
35
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


THC [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
25
24
23
Span
22
21
20
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


CH4 [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
CH4 [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
12.5
12
11.5
Span 11
10.5
10
9.5
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


NMHC [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NMHC [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
13
12
Span
11
10
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	21-Aug-2019	PREVIOUS CALIBRATION DATE:	04-Jul-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	13:17
PERFORMED BY:	Chris Wesson	END TIME (MST):	17:00

ANALYZER:

MAKE/MODEL	API 100A	RANGE	500 ppb
SERIAL #	841	FLOW (mL/min)	638
INITIAL		FINAL	
BKG/OFFSET	53.2	BKG/OFFSET	55
COEF/SLOPE	1.085	COEF/SLOPE	1.085
Expected (reference) Value	303.9	Expected (reference) Value	304.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	134
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL48147	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1600	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

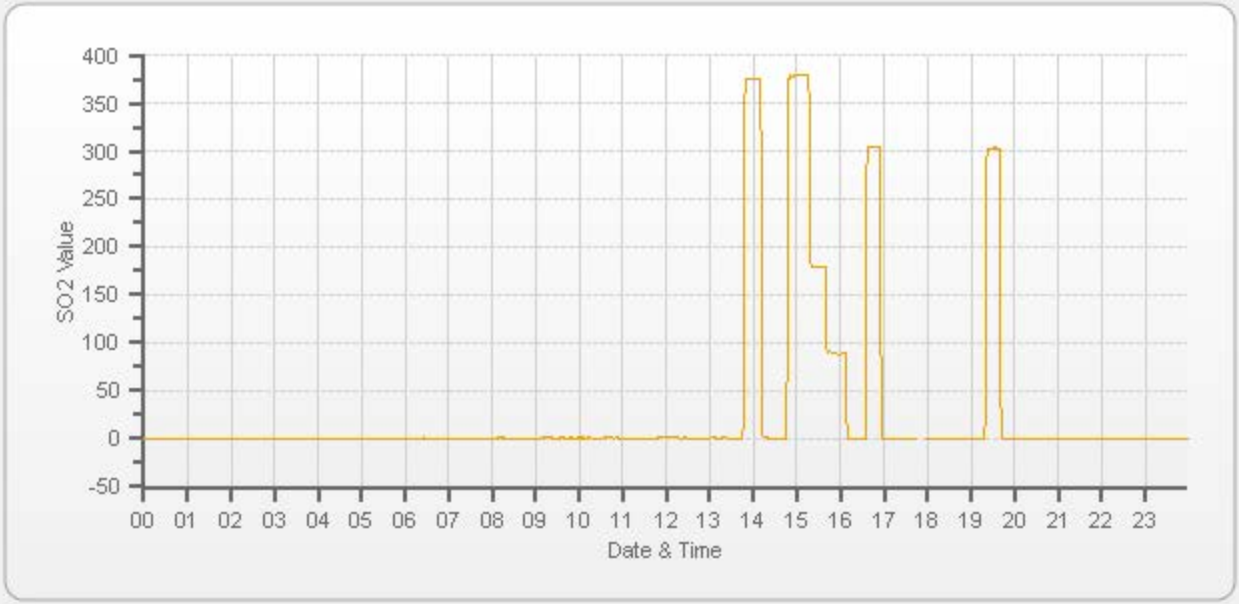
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4013		4013	0.00	1.2	0		
3980	30.70	4011	378.87	374.4	378.9	1.015	1.000
3998	14.50	4012	178.90	n/a	179.9	n/a	0.994
4005	7.30	4012	90.07	n/a	88.7	n/a	1.015

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.1%

COMMENTS:

Sample filter changed.


SO2[ppb] Station: PRAMP RENO Daily: 21-08-2019 Type: AVG 1 Min. [1 Min.]
SO2 Value
400
350
300
250
200
150
100
50
0
-50
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2[ppb]

TRS Analyzer Calibration by Dilution

DATE:	21-Aug-2019	PREVIOUS CALIBRATION DATE:	04-Jul-2019
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	09:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	14:02

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460022	FLOW (mL/min)	405
INITIAL		FINAL	
BKG/OFFSET	2.2	BKG/OFFSET	2.25
COEF/SLOPE	0.945	COEF/SLOPE	0.982
Expected (reference) Value	40.11	Expected (reference) Value	41.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	Teledyne
MODEL:	2000	MODEL:	T701
ID:	1991	ID:	134
MFC CALIBRATION DATE:	17-May-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL119432	HIGH ID	n/a
CONC (ppm):	10.3	EXPIRY DATE	n/a
CYLINDER (psi):	300	LOW ID	n/a
EXPIRY DATE	07-Nov-2020	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	09:38	SO2 Conc (ppb)	380
END TIME:	09:53	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4000		4000	0.00	-0.08	0		
3970	30.36	4001	78.02	73.55	78	1.060	1.000
3985	14.78	4000	37.99	n/a	38.07	n/a	0.998
3993	7.40	4000	19.02	n/a	18.56	n/a	1.025

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.2%

COMMENTS:

09:58 - regulator flushed due to slow response. As-found high restarted at 10:01
Sample filter changed


TRS[ppb] Station: PRAMP RENO Daily: 21-08-2019 Type: AVG 1 Min. [1 Min.]
TRS Value
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	21-Aug-2019	PREVIOUS CALIBRATION DATE:	04-Jul-2019
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE	Removal/Shut-down	START TIME (MST):	09:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	10:41

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	314057759	281.5
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	1.003	1.001

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL107207		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	600	207	HIGH EXPIRY:	n/a
ID:	26801218	ID:	134	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	Internal	EXPIRY DATE	18-Oct-2025		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	569.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1169.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.93	11.42	22.35		n/a	n/a	n/a

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3011		3011	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a						
2938	71.80	3010	14.31	13.58	27.89	14.22	13.63	27.85	n/a	n/a	n/a	1.006	0.996	1.001	n/a	n/a	n/a
2975	35.90	3011	7.15	6.79	13.94	7.05	6.78	13.83	n/a	n/a	n/a	1.015	1.001	1.008	n/a	n/a	n/a
2992	18.00	3010	3.59	3.40	6.99	3.49	3.38	6.86	n/a	n/a	n/a	1.028	1.007	1.019	n/a	n/a	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.995	-0.2%
NMHC	1.000	1.000	-0.1%
THC	1.000	1.000	-0.2%

COMMENTS:

Shut-down to allow pump rebuild

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	21-Aug-2019	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.8
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE	Install/Post-Repair	START TIME (MST):	11:29
PERFORMED BY:	Chris Wesson	END TIME (MST):	14:01

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	314057759	1232
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL107207		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	600	207	HIGH EXPIRY:	n/a
ID:	26801218	ID:	134	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	19-Jun-2019	OXIDIZER ID:	Internal	EXPIRY DATE	18-Oct-2025		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	569.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1169.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.93	11.42	22.35		10.98	11.33	22.31

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3110		3110	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
3037	74.20	3111	14.31	13.58	27.89	n/a	n/a	n/a	14.32	13.58	27.91	n/a	n/a	n/a	0.999	1.000	0.999
3076	37.10	3113	7.15	6.78	13.93	n/a	n/a	n/a	7.19	6.79	13.98	n/a	n/a	n/a	0.995	0.999	0.997
3094	18.60	3113	3.58	3.40	6.99	n/a	n/a	n/a	3.56	3.38	6.94	n/a	n/a	n/a	1.007	1.006	1.007

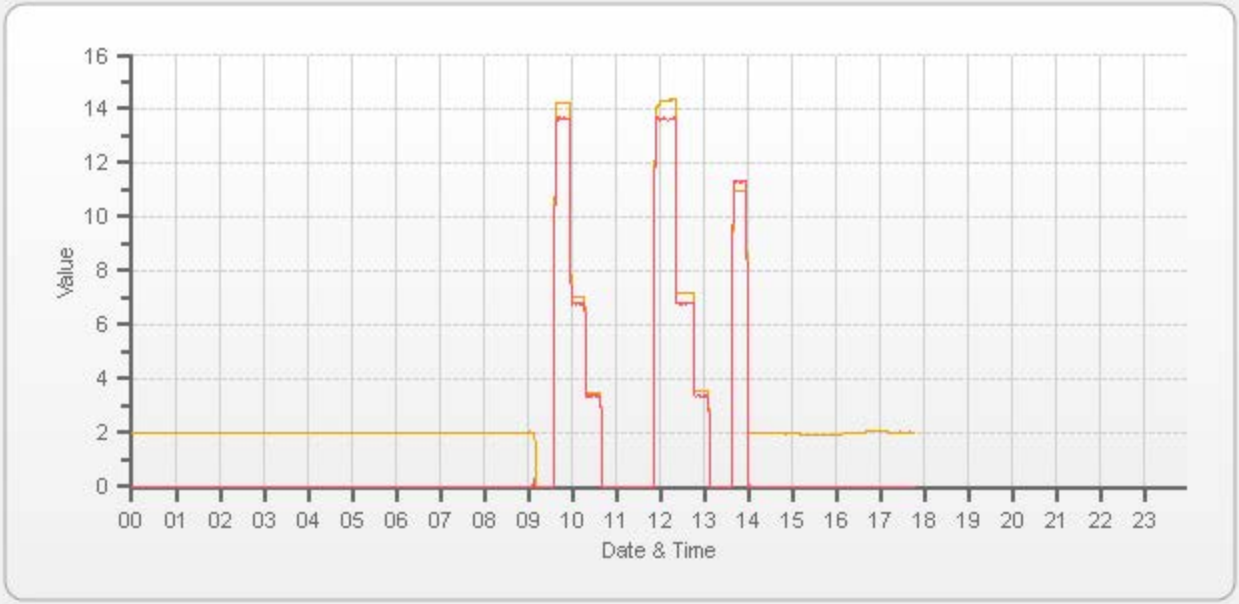
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.002	0.0%
NMHC	1.000	1.000	0.0%
THC	1.000	1.002	0.0%

COMMENTS:

Post-repair following sample pump rebuild
Sample filter changed
Span gas cylinder changed

Station: PRAMP RENO Daily: 21-08-2019 Type: AVG 1 Min. [1 Min.]



Meteorological System Checklist

Date:	August 21, 2019		
Technician:	Chris Wesson		
Reviewer:	Wunmi Adekanmbi		
Station:	PRAMP RENO		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	R12877
Relative Humidity Sensor:	RM Young	43172VC	60837897
Anemometer:	RM Young	05305VK	149769
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	July 4, 2019		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	FS 181341226		
Reference Temperature (^{o}C):	26.8		
Station - Ambient Temperature (^{o}C):	26.0		
Temperature Difference (^{o}C):	0.8		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	July 4, 2019		
Reference Barometer ID:	Brunton 05490		
Reference Pressure - Units/Reading:	millibar	929.3	
Station Pressure - Units/Reading:	millibar	929.5	
Pressure Tolerance +/- 15% of error:	790 - 1069	-0.02%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	July 4, 2019		
Reference Hygrometer ID:	FS 181341226		
Reference Hygrometer % RH- Reading:	52.38		
Station Hygrometer % RH- Reading:	46.80		
RH Tolerance +/- 15% of difference:	44.52 - 60.24	10.7%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	July 4, 2019	Previous check date:	July 4, 2019
Wind Speed Observed (kph):	0-5	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	4.3	Wind Direction on Data Logger:	SE
		Wind Direction Pass/Fail?:	Pass

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-396A

Company Maxxam **Operator:** Alex

Calibrator:				**Flow Measurement Device:**	
Make/Model	Sabio 2010			Make/Model	N/A
Serial Number	26801218			Serial Number	N/A
Last Verification Date	New			Temperature (°C)	N/A
NO Cylinder S/N	LL48147			Barometric Pressure	N/A
NO [PPM]	50.5	NOx [PPM]	50.6		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5015	79.1	0.797	0.798	0.793	0.001	0.794	0%	-1%
5015	39.6	0.399	0.400	0.395	0.001	0.396	-1%	-1%
5017	19.8	0.199	0.200	0.197	0.000	0.197	-1%	-1%
						Absolute Average Percent Difference	1%	1%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9959	**0.90-1.10**	m (Slope)=	0.9954
b (Intercept % of FS)=	-0.0968	**± 3% F.S.**	b (Intercept % of FS)=	-0.0969

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
5015	0.000	0.000	0.792	0.001	0.793	NO_2	% Diff. Limit
5015	0.500	0.496	0.296	0.493	0.791	-1%	± 10%
5015	0.250	0.246	0.546	0.245	0.793	-1%	± 10%
5015	0.100	0.098	0.694	0.098	0.793	-1%	± 10%
					Absolute Average Percent Difference	1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9921	**0.90-1.10**
b (Intercept % of FS)=	0.0909	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator		Make/Model	Teco 42i
Make/Model	Teco 146i	Serial/AMU Number	AMU 1868
Serial/AMU Number	AMU 1809	Last Calibration Date	January 14, 2019
SRM Gas Cylinder No.	APEX1236645	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	50.05	Cylinder Gas Expiry Date	June 2021

COMMENTS:

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Sulphur Dioxide (by Cylinder Dilution)

File No. 2019-424A

Company: Maxxam **Operator:** C. Wesson

Calibrator:		**Flow Measurement Device:**	
Make/Model	Environics 2000	Make/Model	N/A
Serial Number	1991	Serial Number	N/A
Last Verification Date	March 1, 2018	Temperature (°C)	N/A
SO_2 Cylinder Conc.	49.5	Barometric Pressure	N/A
SO_2 Cylinder S/N	LL48147		
Expiry Date	August 2026		

Flow Measurements

Pt. No. 1 78.8 **Pt. No. 2** 38.4 **Pt. No. 3** 19.2

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference vs Audit Gas	% Difference Limit
Zero Air	0.000	0.000		
5000	0.780	0.763	-2%	± 10%
4999	0.380	0.371	-2%	± 10%
5000	0.190	0.183	-4%	± 10%
		Absolute Average Percent Difference	3%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

SO_2		LIMITS
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9792	**0.90-1.10**
b (Intercept % of FS)=	-0.1346	**± 3% F.S.**

AENV Standards

Audit Calibrator

Make/Model	Sabio 2010
Serial/AMU Number	AMU 2092
SO_2 SRM Gas Cylinder No.	FF28071
Cylinder Conc. (ppm)	50.3

SO_2 Analyzer

Make/Model	Teco 43i
Serial/AMU Number	AMU 2195
Last Calibration Date	February 8, 2019
Full Scale (ppm)	1.0
Expiry Date	March 2020

COMMENTS:

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-390CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL48147 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195

Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4898	78.1	0.789	0.01595	62.714	49.5
4893	38.7	0.391	0.00791	126.434	49.4
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.2**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119432 Concentration PPM: 10.3 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1
Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000			
5117	38.9	0.0595	0.00760	131.542	7.8
5103	18.4		0.00361	277.337	0.0
5097	9.4		0.00184	542.234	0.0
				Average Cylinder Concentration:	**2.6**

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: **75**

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☐ **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐ Do not use.

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☒ X

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-484CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL107207 Conc CH4 (PPM) 600/207 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.28	12.77	0.02	45.00	598	209
3547	39.8	6.71	6.47	0.01	89.12	598	210
3560	19.8	3.35	3.26	0.01	179.80	602	213
					Average Cylinder Concentration:	**599**	**211**

	CH4	C3H8
Previous Stated Concentration PPM:	600	207
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton