


## 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

**Operation and Maintenance:**
Maxxam Analytics

**Data Validation and Report:**
Peace River Area Monitoring Program

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
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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).

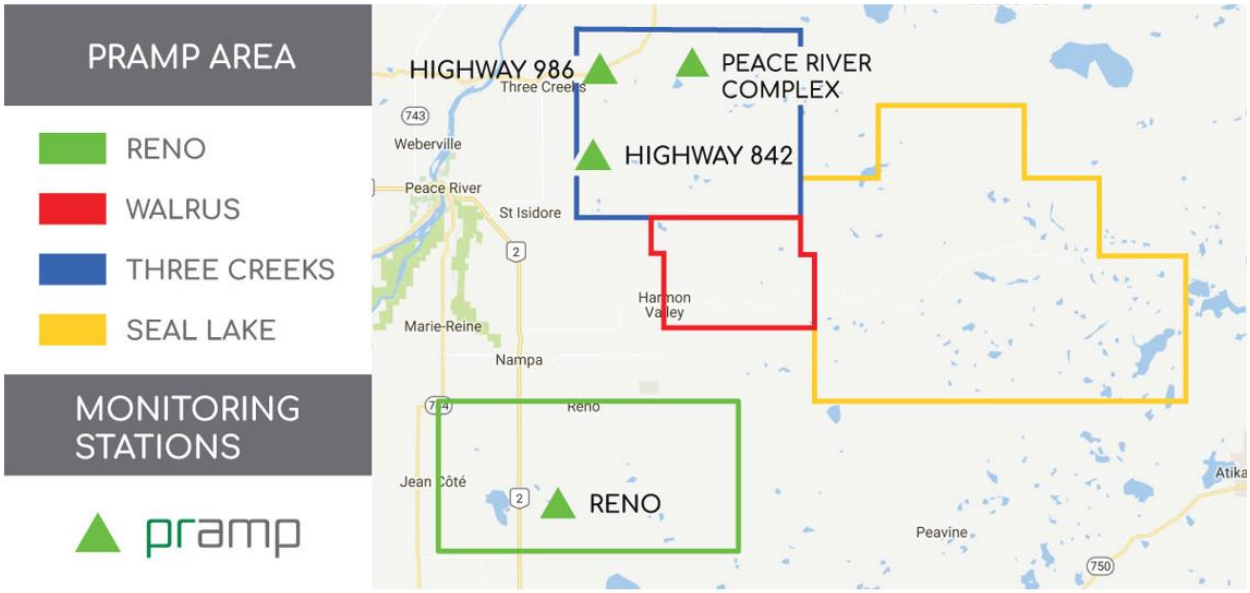
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• The RH sensor was checked on August 1. The sensor passed the check requirements.<br>• 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.<br>• The BP sensor was checked on August 1. The sensor passed the check requirements.<br>• 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.<br>• The temperature sensor was checked on August 1. The sensor passed the check requirements.<br>• 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.<br>• 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.<br>• 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.<br>• The anemometer sensors were checked on August 1. The sensor passed the check requirements.<br>• 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 30 | 95.0 | 90.3 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.71 | 0.02 | 2.55 | August 14 at hour 20 | 4.8 | S | 1.00 | August 7 | 92.3 | 87.6 |
| THC (ppm) | - | - | - | - | - | - | 1.98 | 1.88 | 2.38 | August 10 at hour 6 | 4.2 | ESE | 2.07 | August 29 | 95.0 | 90.3 |
| CH4 (ppm) | - | - | - | - | - | - | 1.98 | 1.88 | 2.38 | August 10 at hour 6 | 4.2 | ESE | 2.07 | August 29 | 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 15 | 95.0 | 95.0 |
| BP (millibar) | - | - | - | - | - | - | 944 | 934 | 951 | August 6 at hour 6 | 7.3 | N | 950 | August 29 | 95.0 | 95.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 12.7 | -0.4 | 25.4 | August 21 at hour 14 | 8.4 | SSW | 18.9 | August 21 | 95.0 | 95.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.0 | 21.6 | 24.4 | August 17 at hour 15 | 1.6 | SSE | 23.3 | August 18 | 96.1 | 96.1 |
| Precipitation (mm)* | - | - | - | - | - | - | 54.6 | 0.0 | 6.4 | August 2 at hour | 3.9 | ESE | 9.4 | August 2 | 91.9 | 91.9 |
| WSV (km/hr) | - | - | - | - | - | - | 1.6 | 0.0 | 23.8 | August 21 at hour 2 | 23.8 | ESE | 15.1 | August 16 | 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 for the 986c Station 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.<br>• 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.<br>• 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.<br>• A successful monthly calibration was performed on August 8.<br>• 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.<br>• 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.<br>• 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.<br>• 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 28 | 99.9 | 95.1 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.43 | 0.10 | 1.26 | August 17 at hour 7 | 1.5 | SE | 0.58 | August 15 | 99.9 | 94.9 |
| THC (ppm) | - | - | - | - | - | - | 1.98 | 1.89 | 2.57 | August 12 at hour 6 | 1.7 | ENE | 2.14 | August 30 | 99.7 | 94.9 |
| CH4 (ppm) | - | - | - | - | - | - | 1.98 | 1.89 | 2.57 | August 12 at hour 6 | 1.7 | ENE | 2.14 | August 30 | 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 8 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 943 | 932 | 950 | August 6 at hour 0 | 5.3 | N | 949 | August 29 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 13.0 | 0.1 | 25.1 | August 21 at hour 14 | 8.9 | SSW | 18.9 | August 21 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.0 | 21.6 | 23.8 | August 1 at hour 13 | 2.1 | SE | 23.5 | August 1 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 2.1 | 0.2 | 22.3 | August 22 at hour 6 | 22.3 | WSW | 13.5 | August 22 | 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 for the 842b Station 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.<br>• A successful monthly calibration was performed on August 21. | | | |
| **TRS** | **Thermo / 43i-TLE** | **1162460022** | |
| • A successful monthly calibration was performed on August 21.<br>• 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.<br>• 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.<br>• The canister system was tested and the canisters were replaced on August 21.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• The anemometer sensors were checked on August 21. The sensor passed the check requirements.<br>• 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 21 | 100.0 | 95.1 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.51 | 0.18 | 3.73 | August 27 at hour 6 | 1.7 | S | 1.05 | August 23 | 97.8 | 93.0 |
| THC (ppm) | - | - | - | - | - | - | 1.99 | 1.88 | 3.10 | August 29 at hour 2 | 0.8 | SW | 2.18 | August 29 | 97.7 | 93.0 |
| CH4 (ppm) | - | - | - | - | - | - | 1.99 | 1.88 | 3.10 | August 29 at hour 2 | 0.8 | SW | 2.18 | August 29 | 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 8 | 97.8 | 97.8 |
| BP (millibar) | - | - | - | - | - | - | 939 | 928 | 945 | August 6 at hour 4 | 3.6 | NNE | 944 | August 29 | 97.8 | 97.8 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 13.4 | 2.5 | 26.0 | August 21 at hour 14 | 2.1 | S | 19.8 | August 21 | 97.8 | 97.8 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.6 | 21.1 | 23.5 | August 21 at hour 9 | 4 | S | 23.2 | August 23 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 1.3 | 0.0 | 13.9 | August 16 at hour 11 | 13.9 | N | 8.1 | August 16 | 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

### Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

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

# TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

# 986c STATION

peace river area monitoring program pramp

# 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

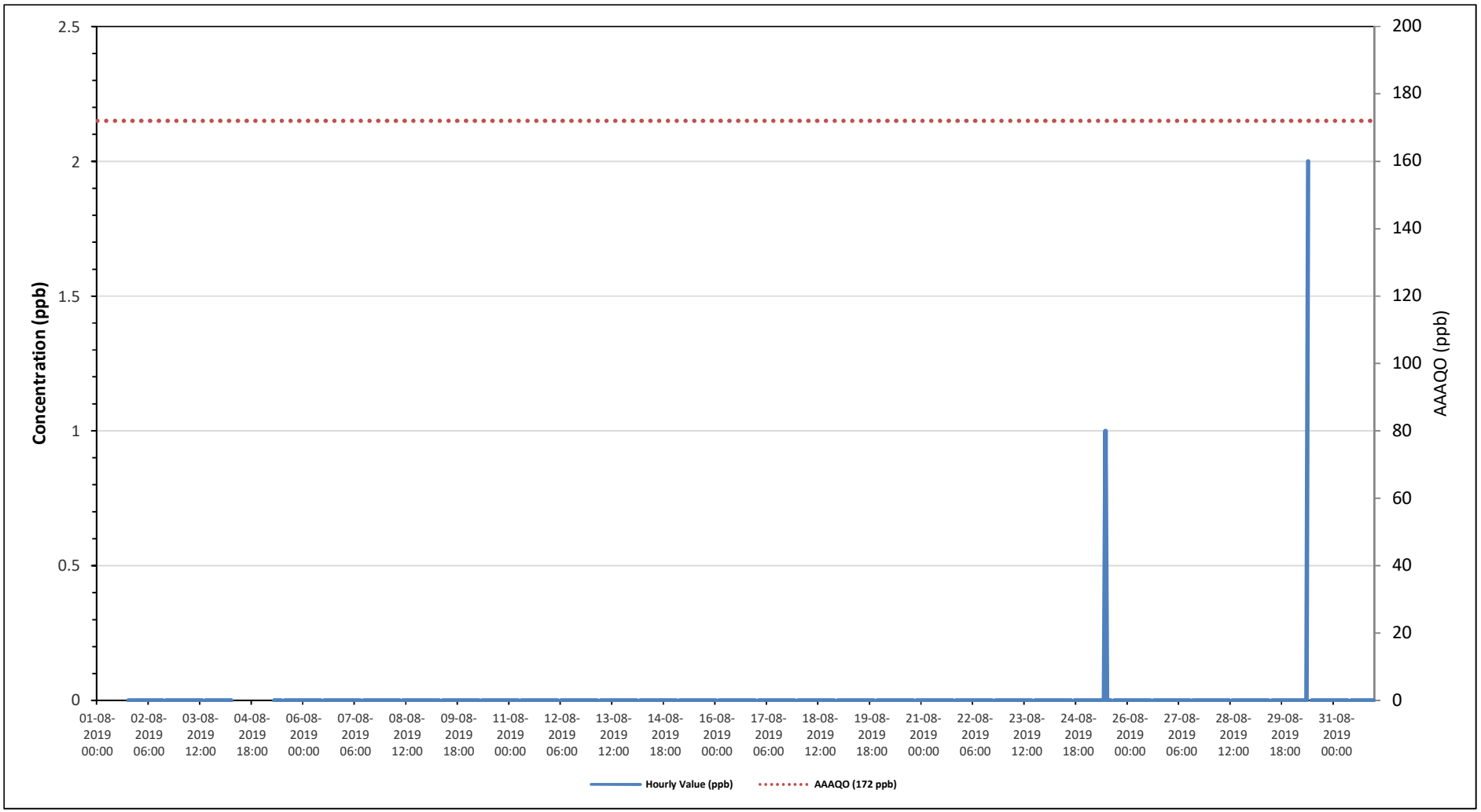
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2 | ppb | on August 30 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.1 | ppb | on August 30 | Hours of Data: | 672 |
| Minimum Hourly Value: | 0 | ppb | on August 1 at hour 18 | Hours of Missing Data: | 37 |
| Minimum 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 | | | |

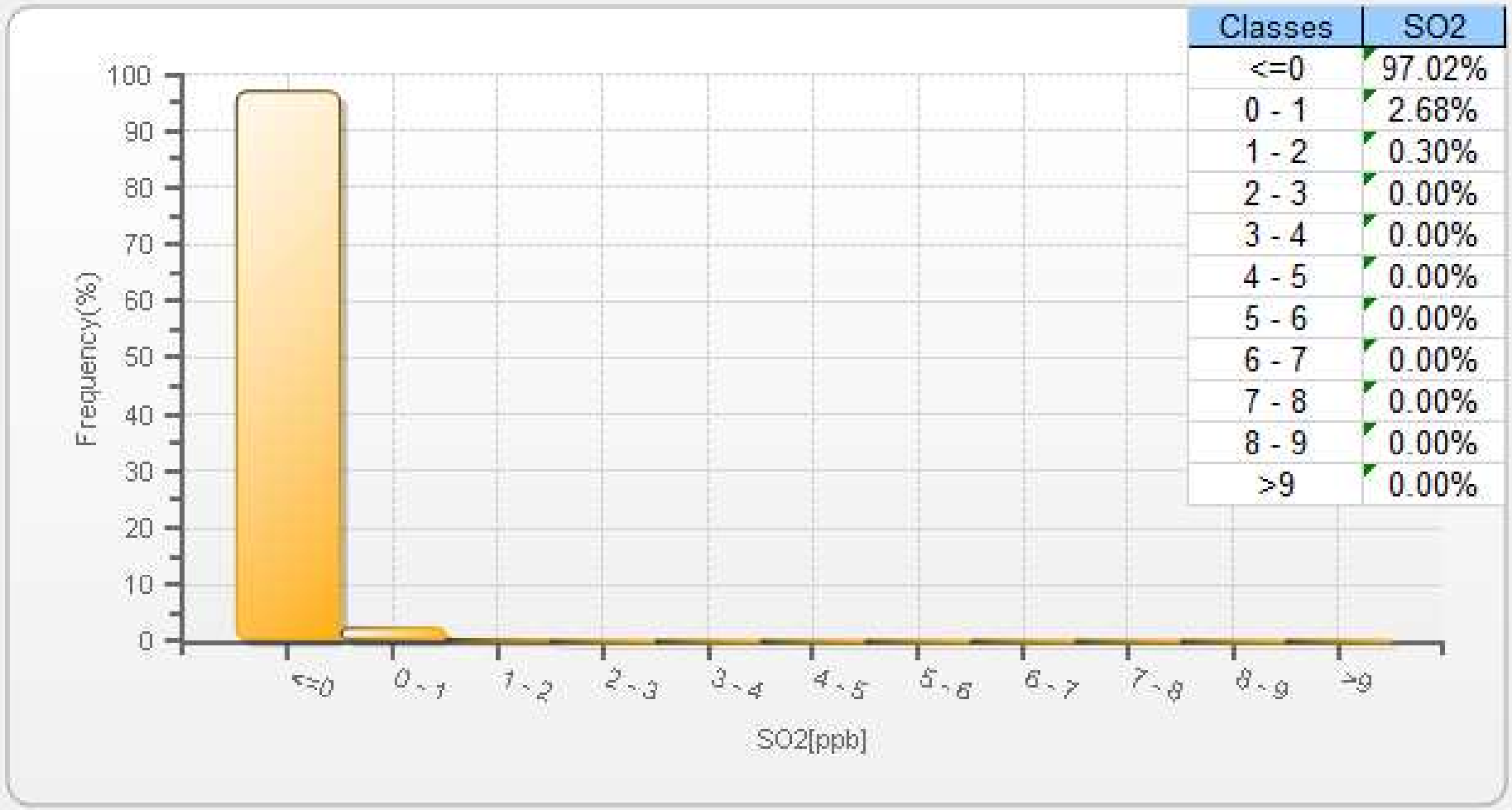
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| R | Recovery | 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.

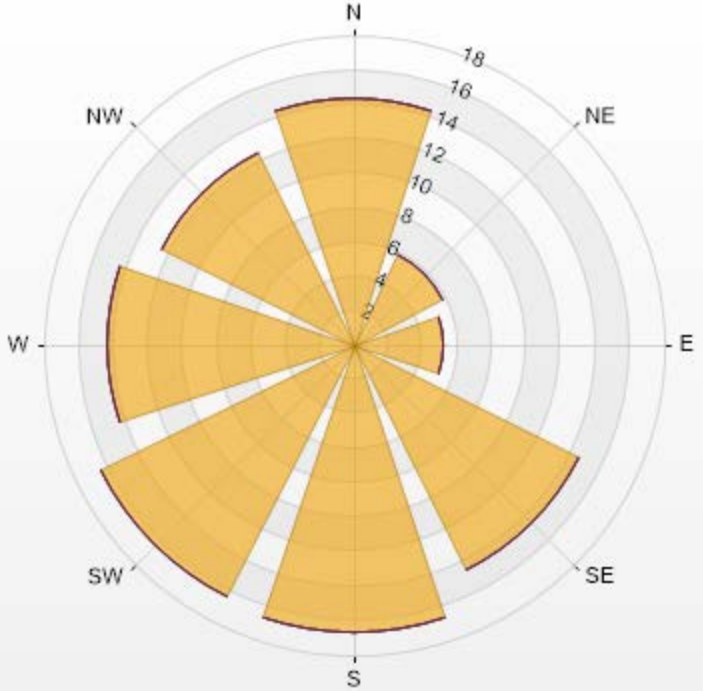



| Classes | SO2 |
|---|---|
| <=0 | 97.02% |
| 0 - 1 | 2.68% |
| 1 - 2 | 0.30% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

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%




| % | 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

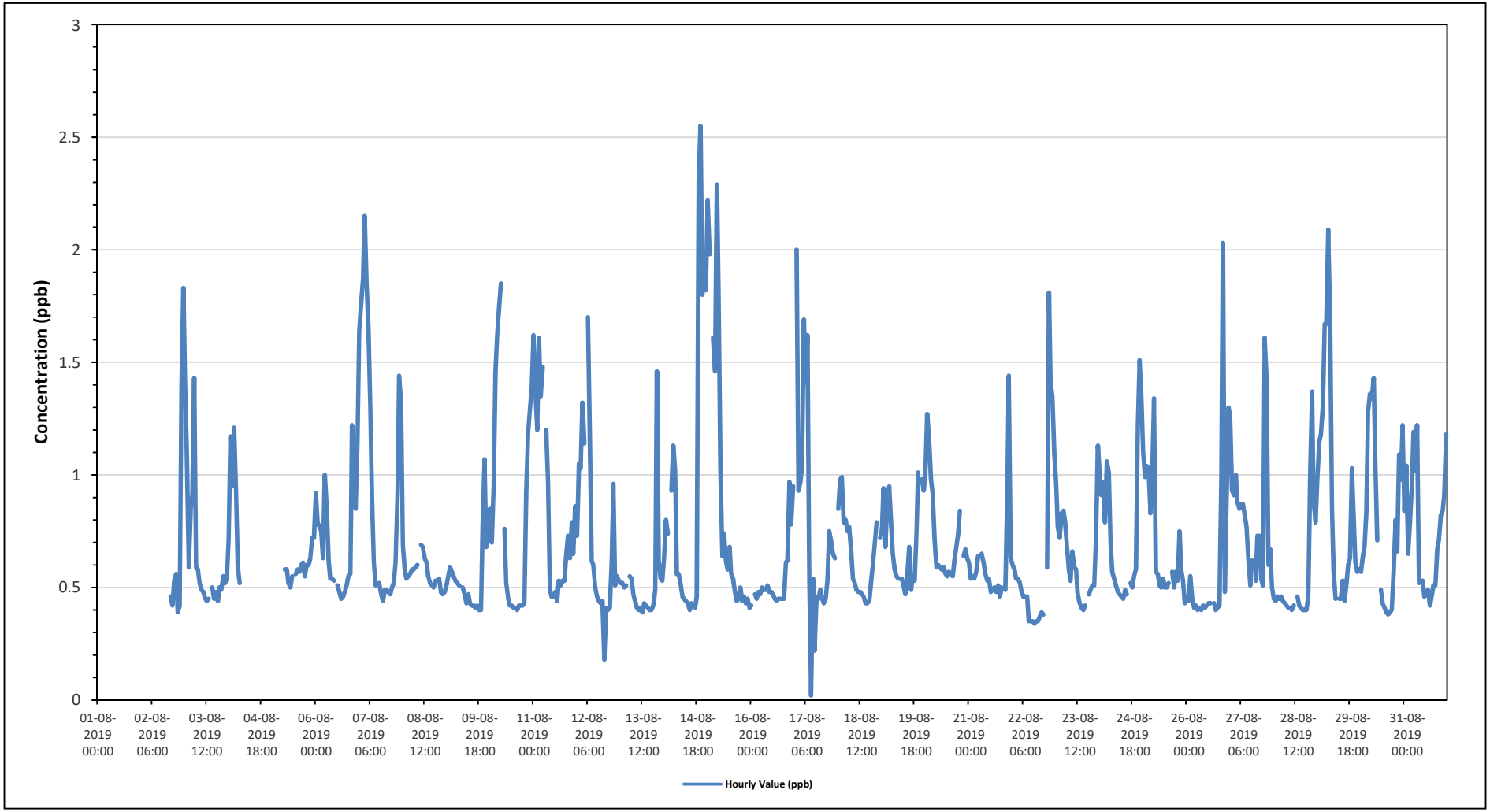
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.55 | ppb | on August 14 at hour 20 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.00 | ppb | on August 7 | Hours of Data: | 652 |
| Minimum Hourly Value: | 0.02 | ppb | on August 17 at hour 9 | Hours of Missing Data: | 57 |
| 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 | | | |

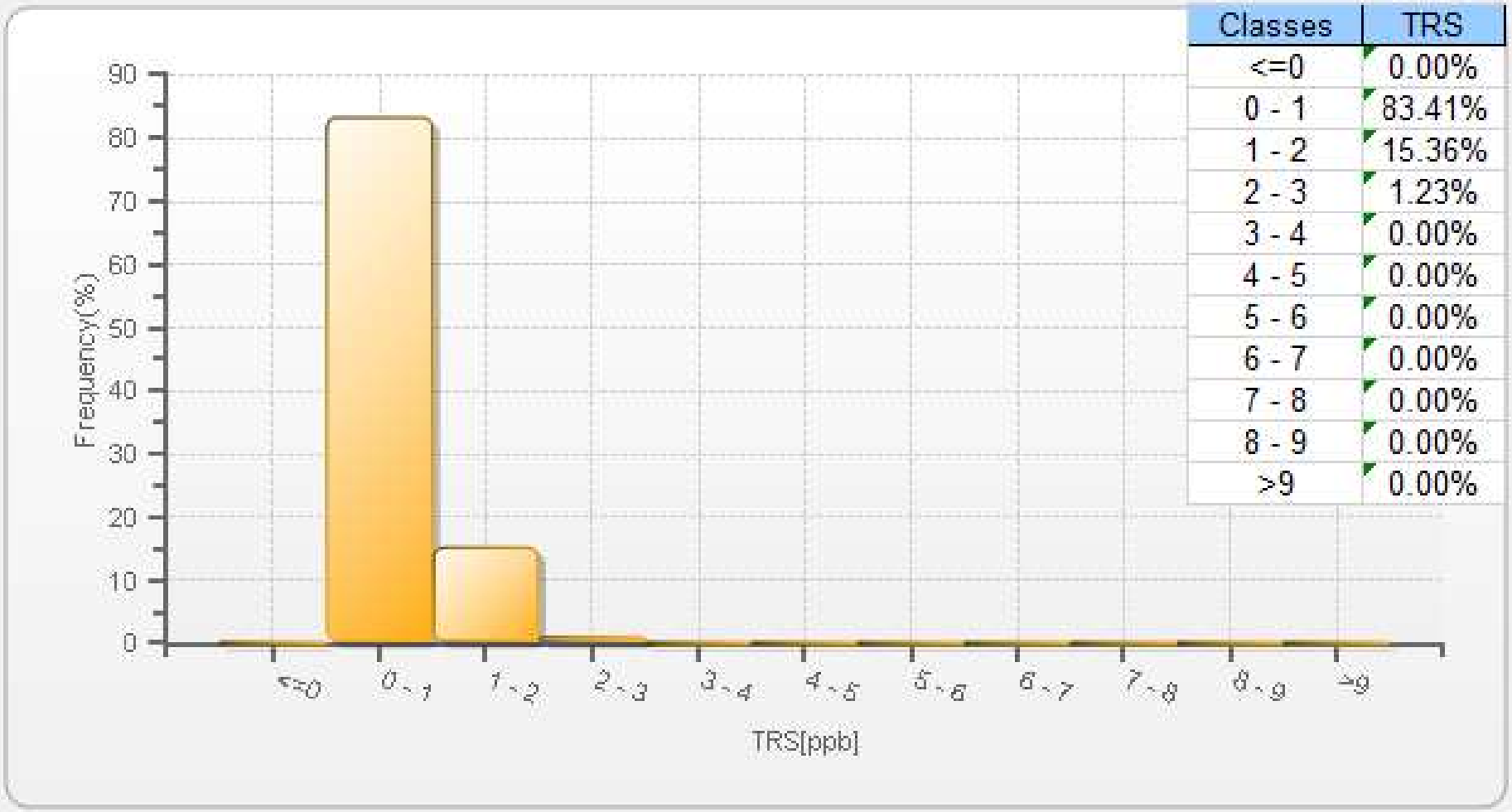
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| 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*

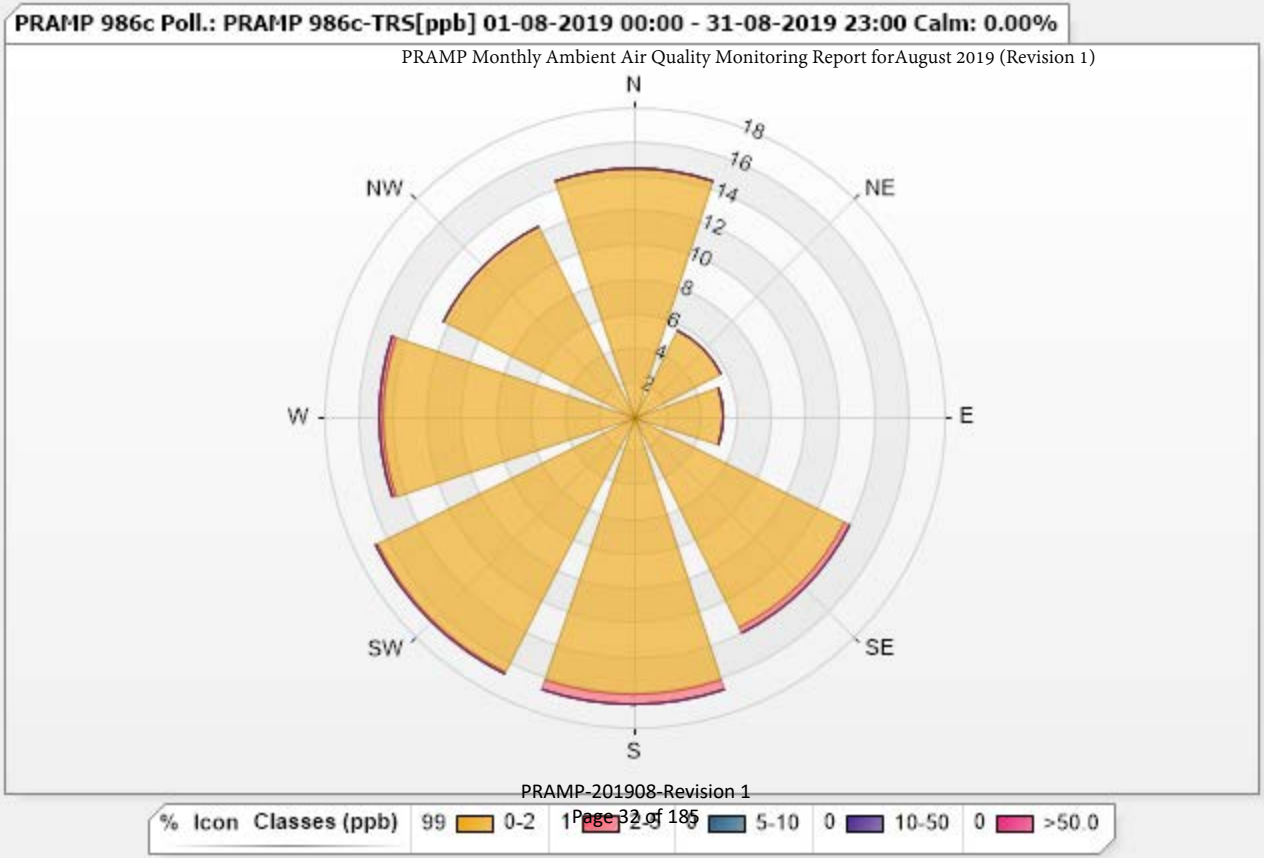


TRS[ppb] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.



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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

## TOTAL HYDROCARBONS (THC) in ppm

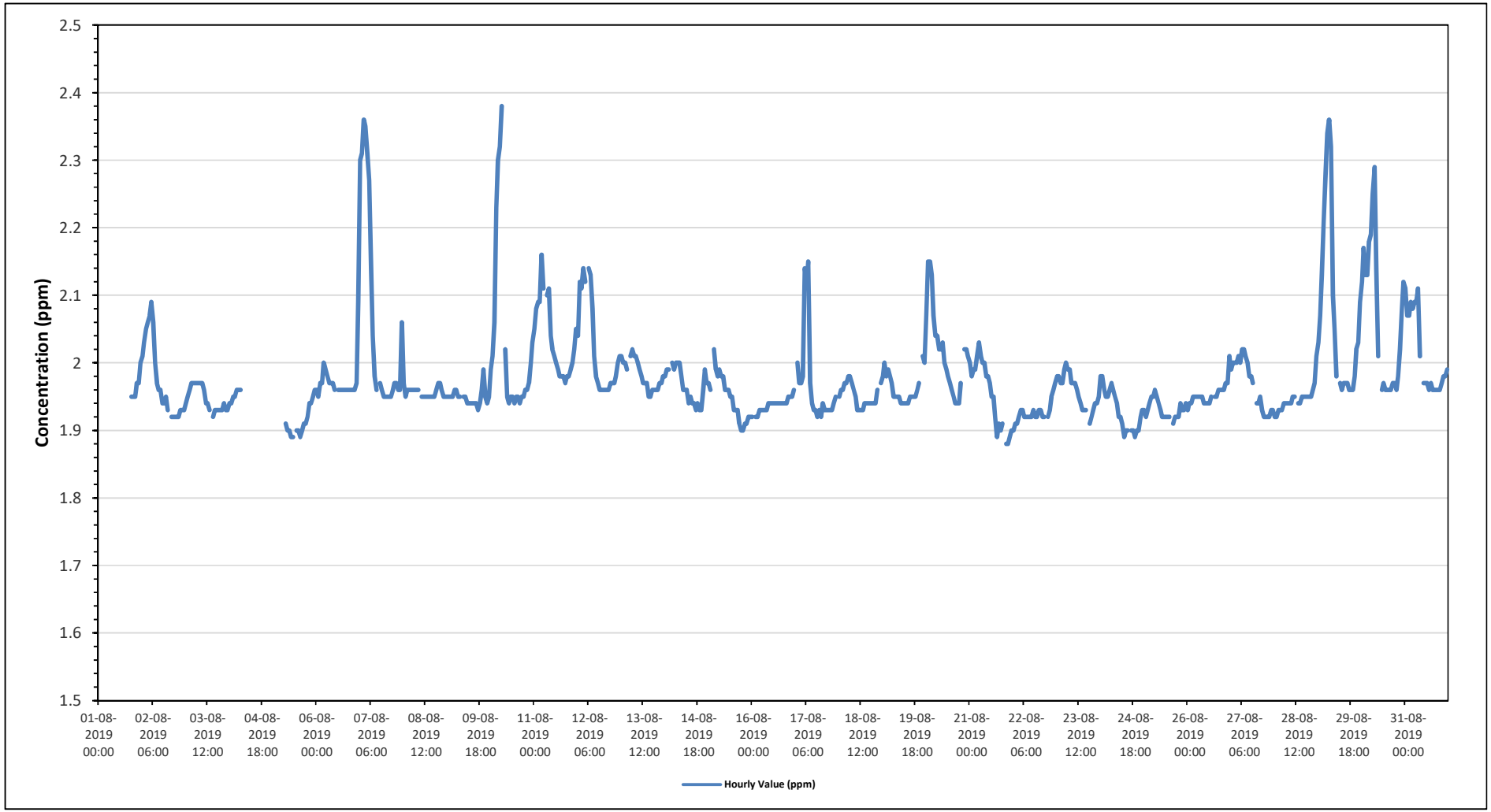
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.38 | ppm | on August 10 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.07 | ppm | on August 29 | Hours of Data: | 672 |
| Minimum Hourly Value: | 1.88 | ppm | on August 21 at hour 20 | Hours of Missing Data: | 37 |
| 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 | | | |

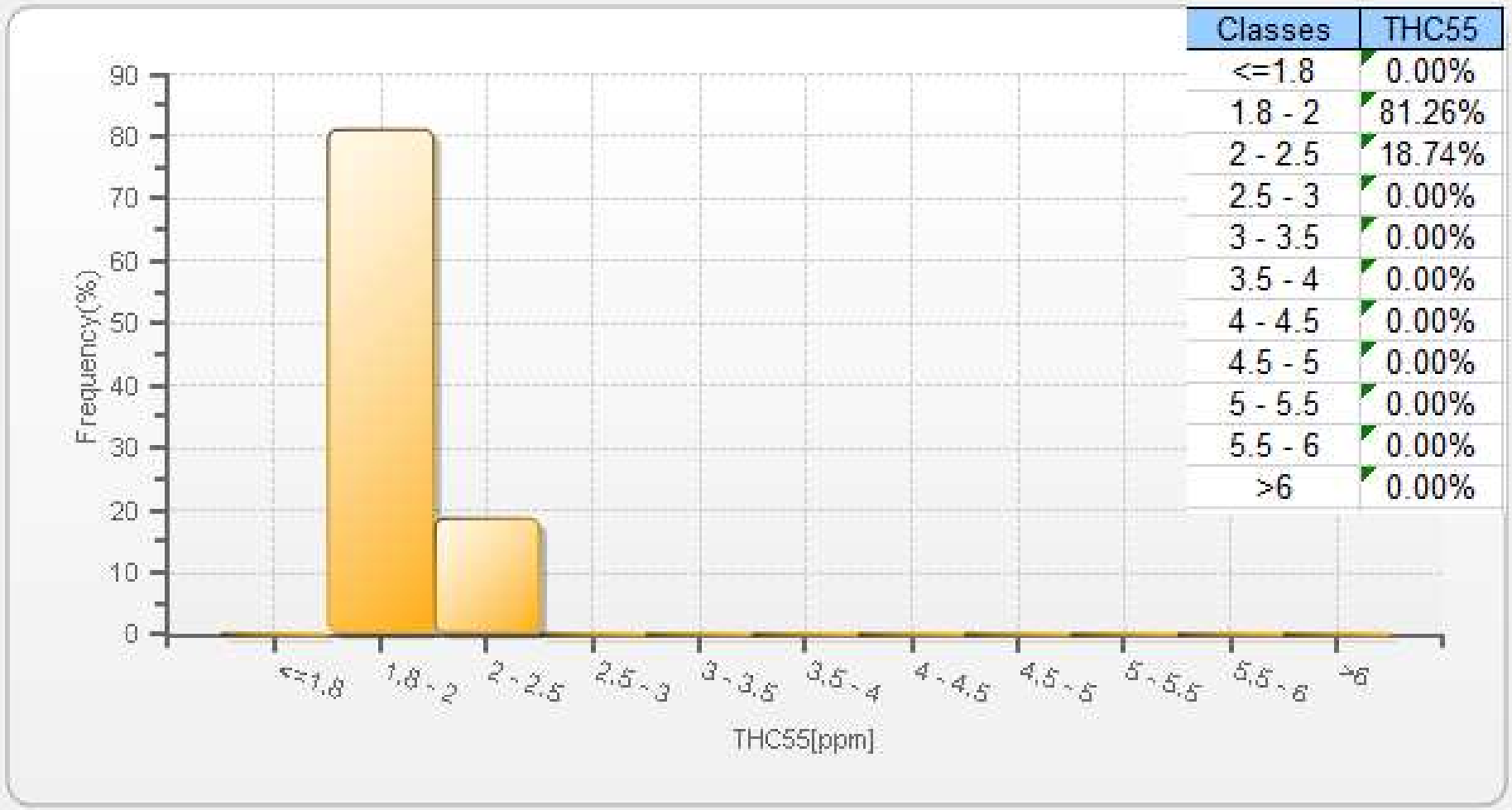
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power 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*



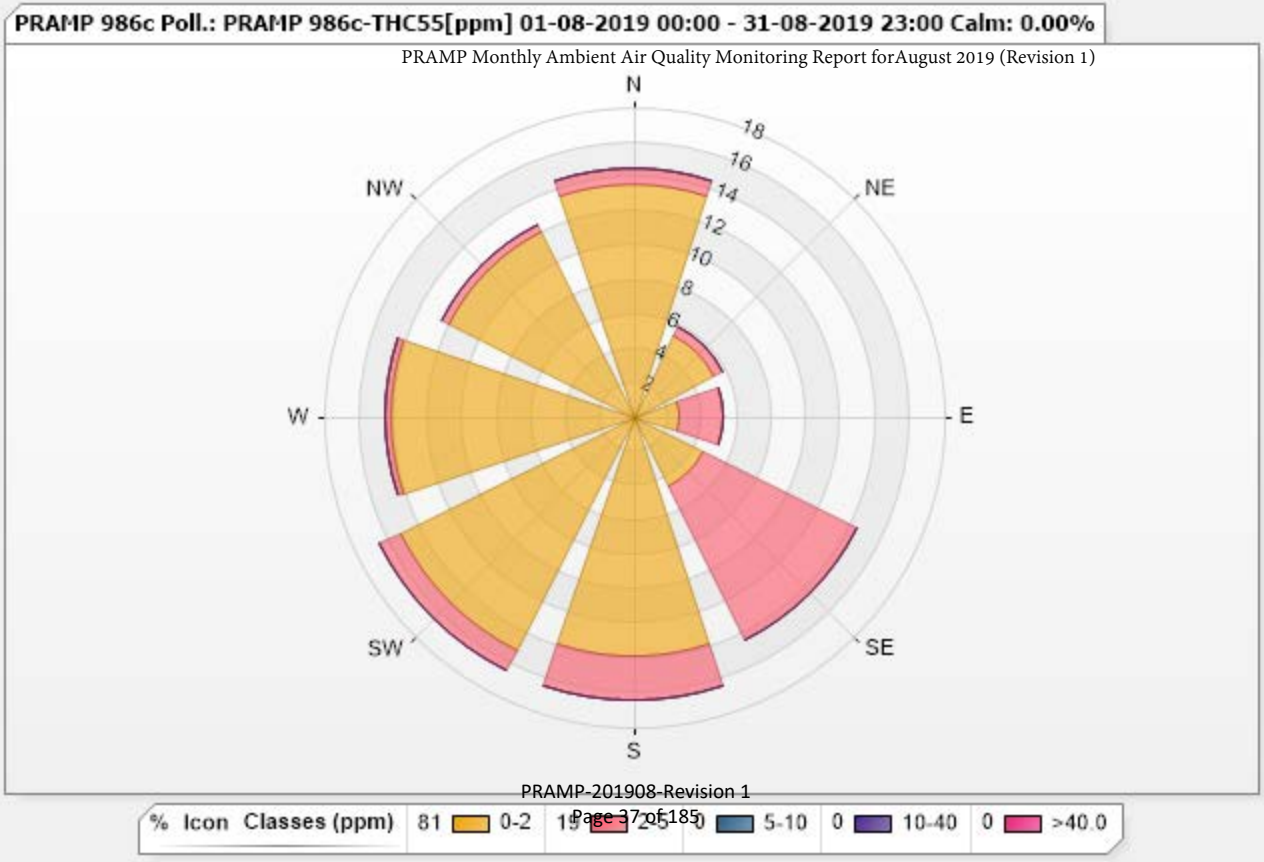
THC55[ppm] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.




| 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
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

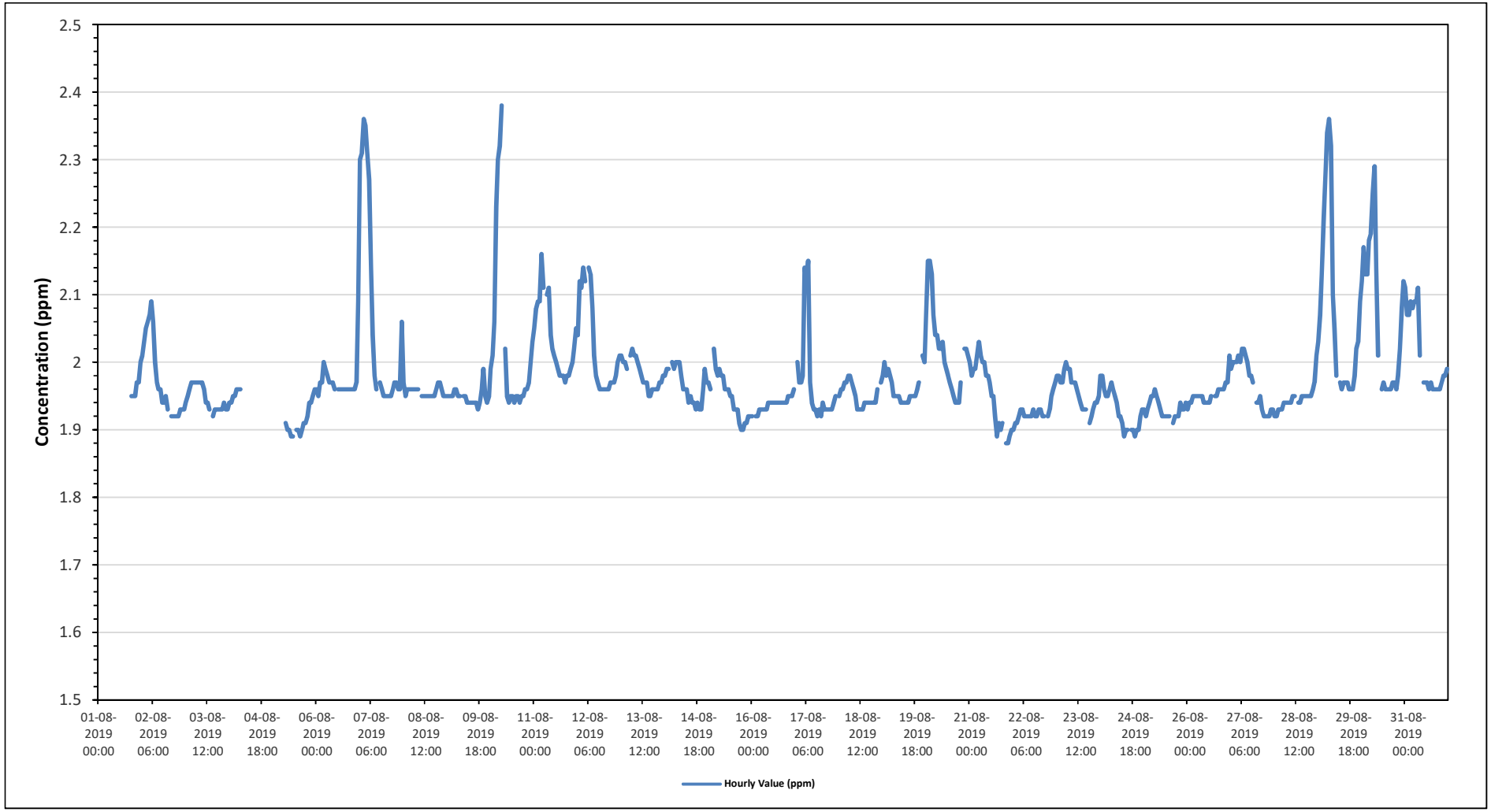
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.38 | ppm | on August 10 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.07 | ppm | on August 29 | Hours of Data: | 672 |
| Minimum Hourly Value: | 1.88 | ppm | on August 21 at hour 20 | Hours of Missing Data: | 37 |
| 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 | 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 | 1.97 | 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 | | | |

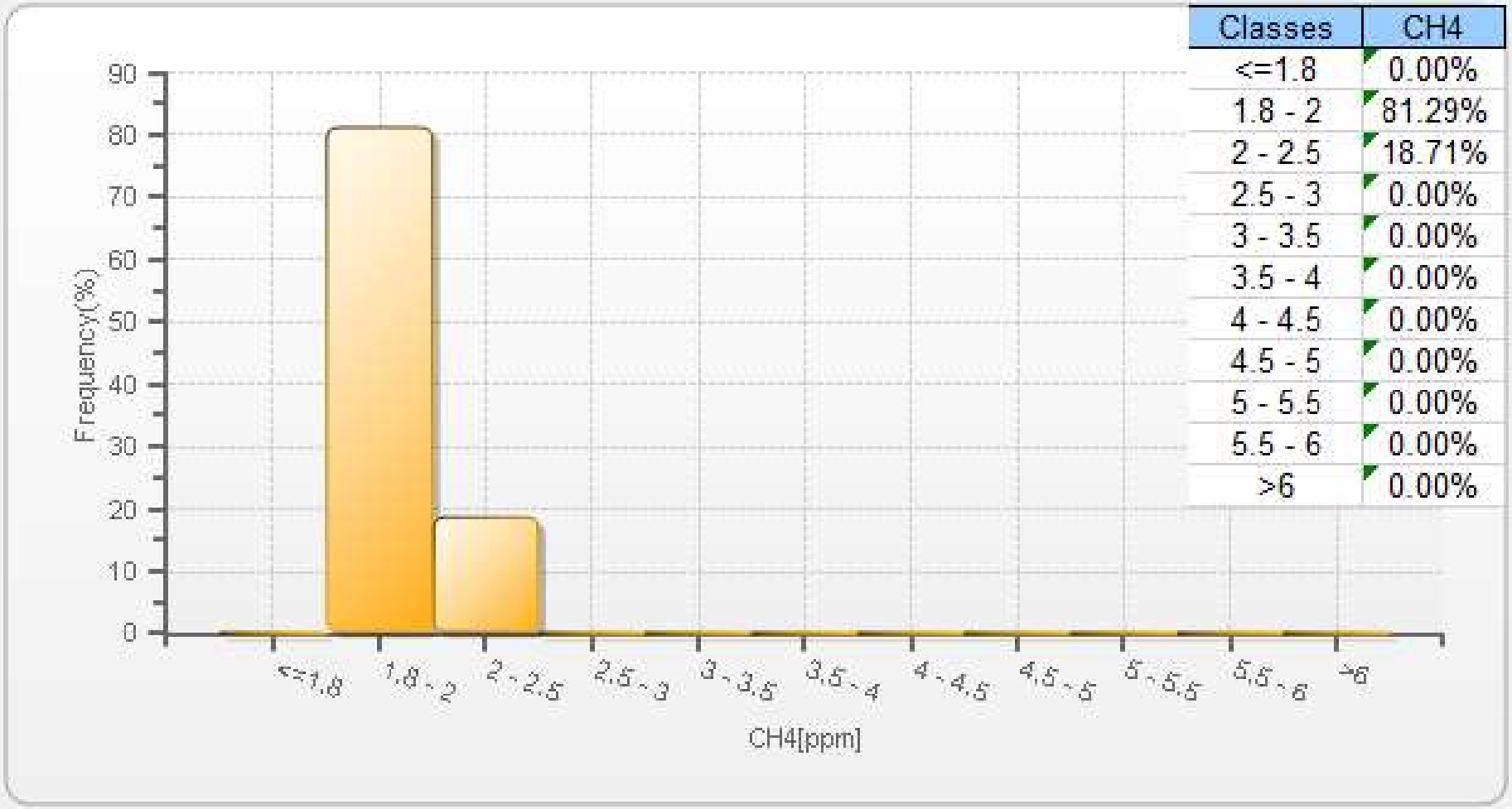
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| 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*



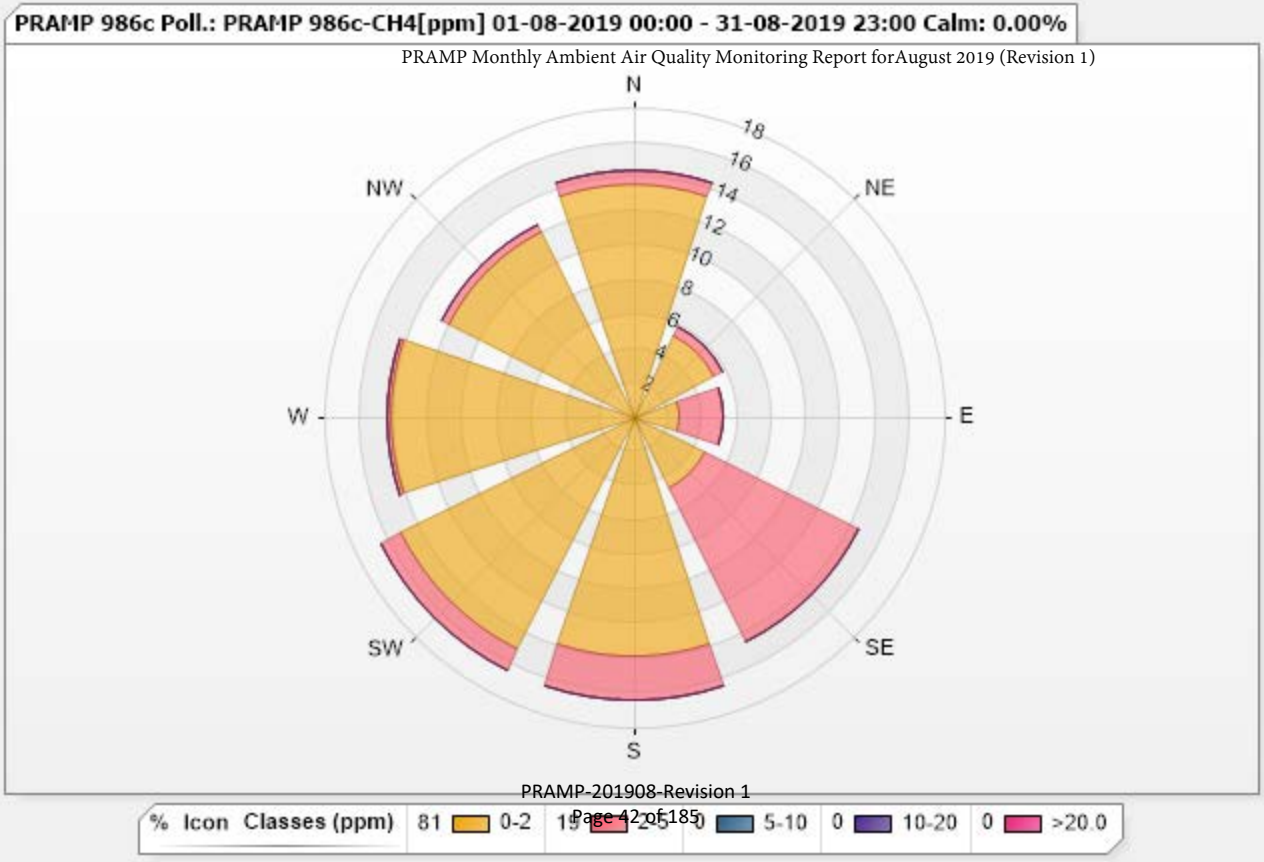
CH4[ppm] Histogram: PRAMP 986c Monthly: 08-2019 1 Hr.




| 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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

## NON-METHANE HYDROCARBONS (NMHC) in ppm

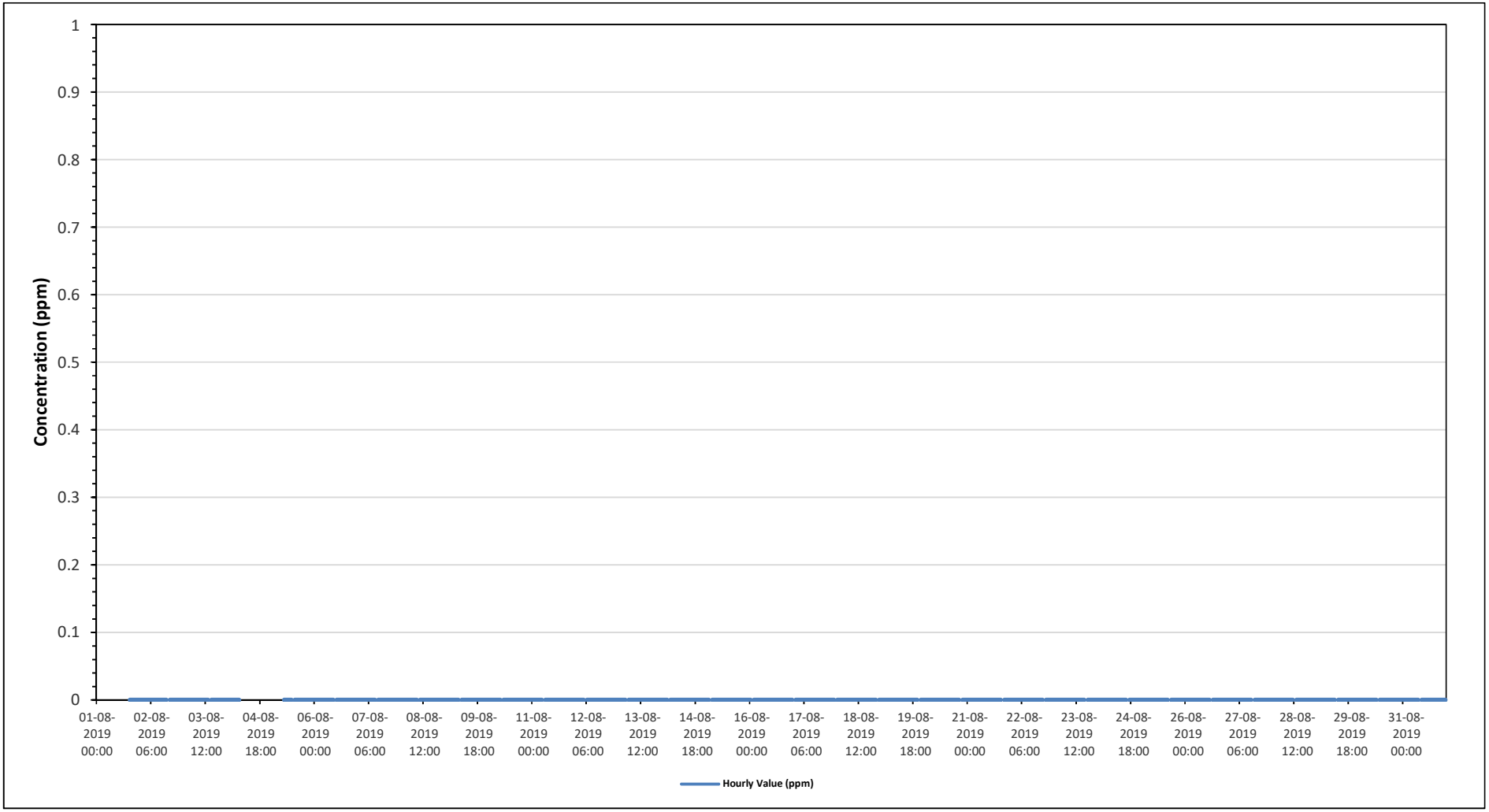
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on August 1 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 2 | Hours of Data: | 672 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 18 | Hours of Missing Data: | 37 |
|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

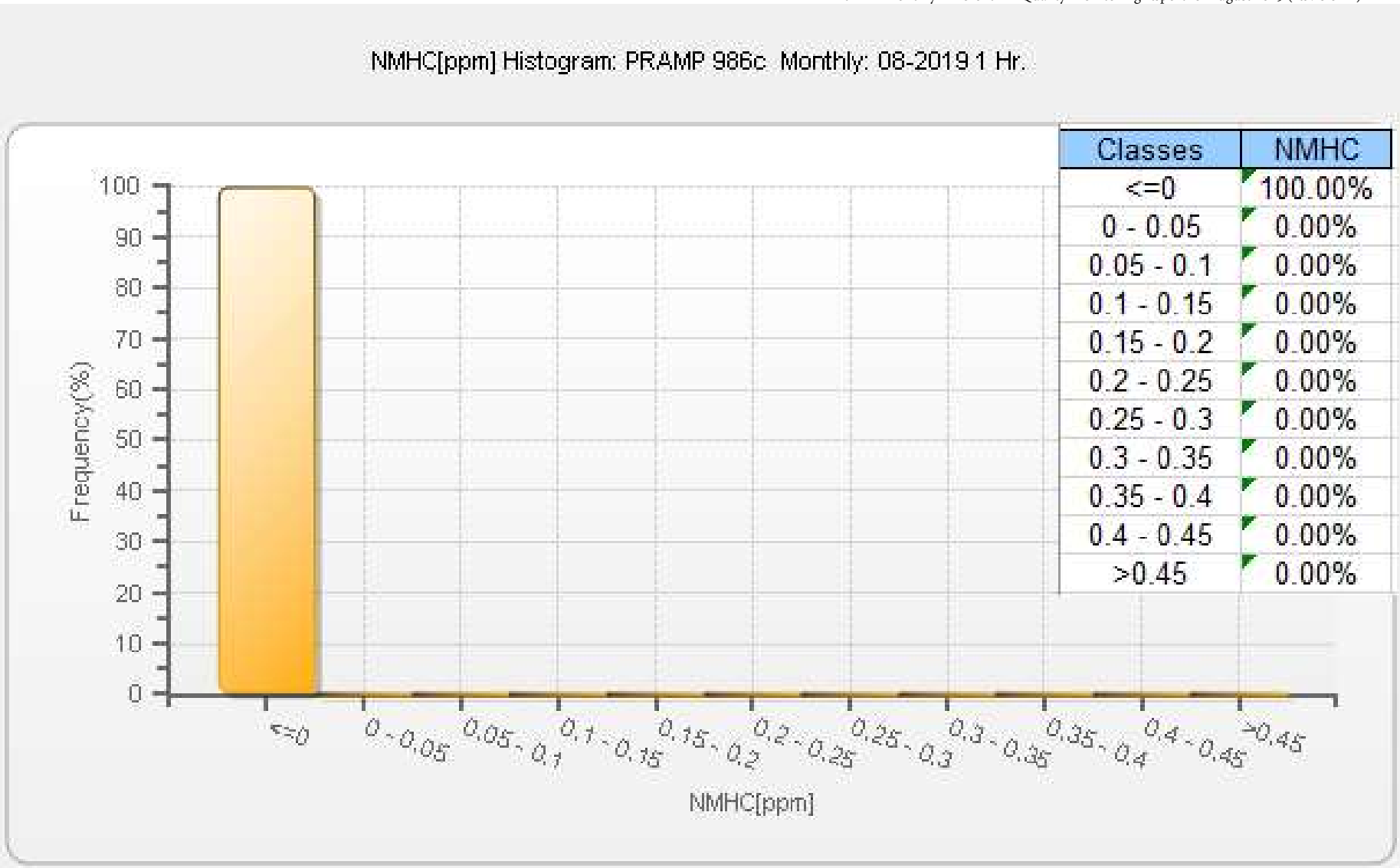
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 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.

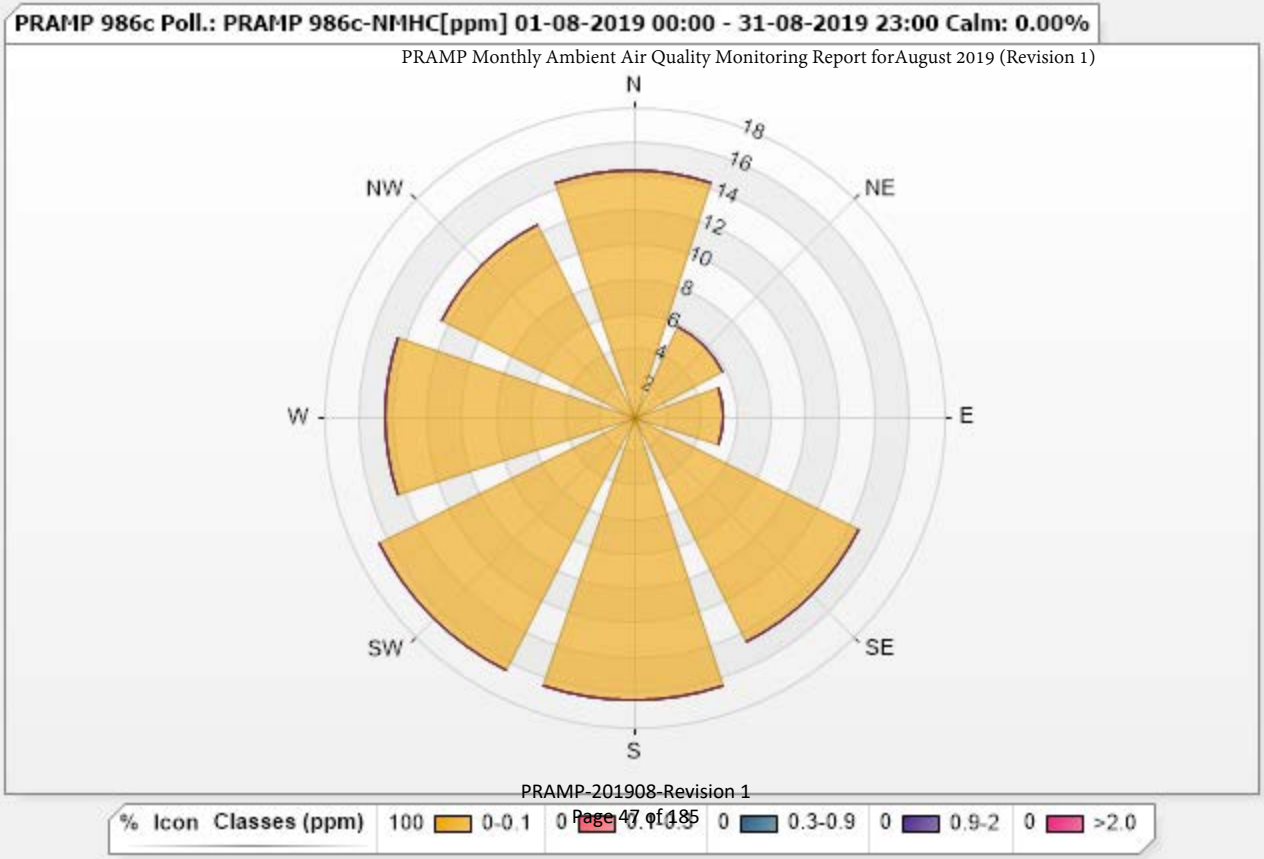
## *Timeseries Chart of Hourly Average for NMHC - 986c Station*




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%
Frequency(%)
100
90
80
70
60
50
40
30
20
10
0
<=0
0 - 0.05
0.05 - 0.1
0.1 - 0.15
0.15 - 0.2
0.2 - 0.25
0.25 - 0.3
0.3 - 0.35
0.35 - 0.4
0.4 - 0.45
>0.45
NMHC[ppm]

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%
N
NE
E
SE
S
SW
W
NW
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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

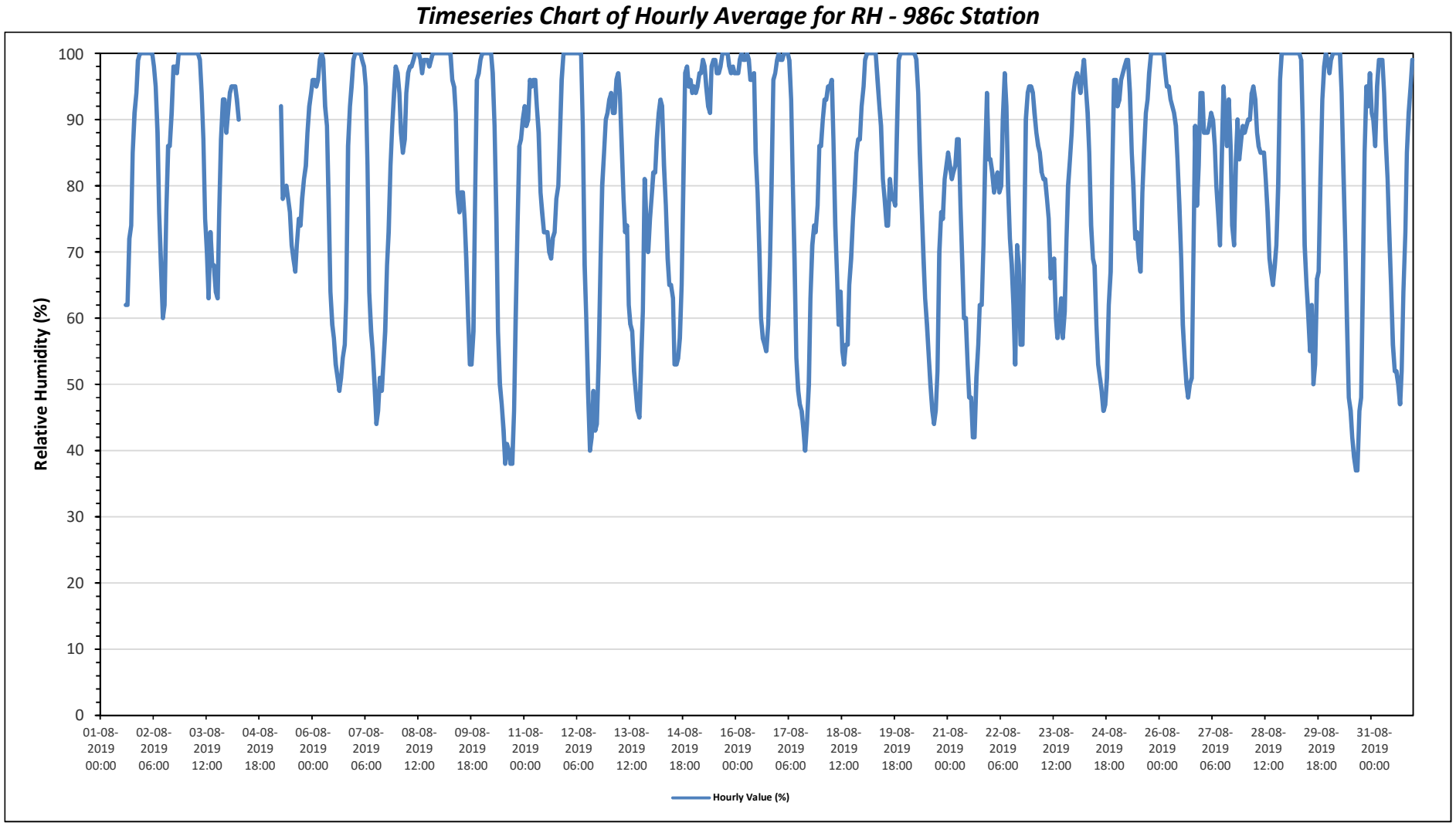
## RELATIVE HUMIDITY (RH) in %

| | | | | | |
|---|---|---|---|---|---|
| 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 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 | 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
Relative Humidity (%)
100
90
80
70
60
50
40
30
20
10
0
01-08-2019 00:00
02-08-2019 06:00
03-08-2019 12:00
04-08-2019 18:00
06-08-2019 00:00
07-08-2019 06:00
08-08-2019 12:00
09-08-2019 18:00
11-08-2019 00:00
12-08-2019 06:00
13-08-2019 12:00
14-08-2019 18:00
16-08-2019 00:00
17-08-2019 06:00
18-08-2019 12:00
19-08-2019 18:00
21-08-2019 00:00
22-08-2019 06:00
23-08-2019 12:00
24-08-2019 18:00
26-08-2019 00:00
27-08-2019 06:00
28-08-2019 12:00
29-08-2019 18:00
31-08-2019 00:00
Hourly Value (%)

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - August 2019*

## Summary of Hourly Averages

## BAROMETRIC PRESSURE (BP) in millibar

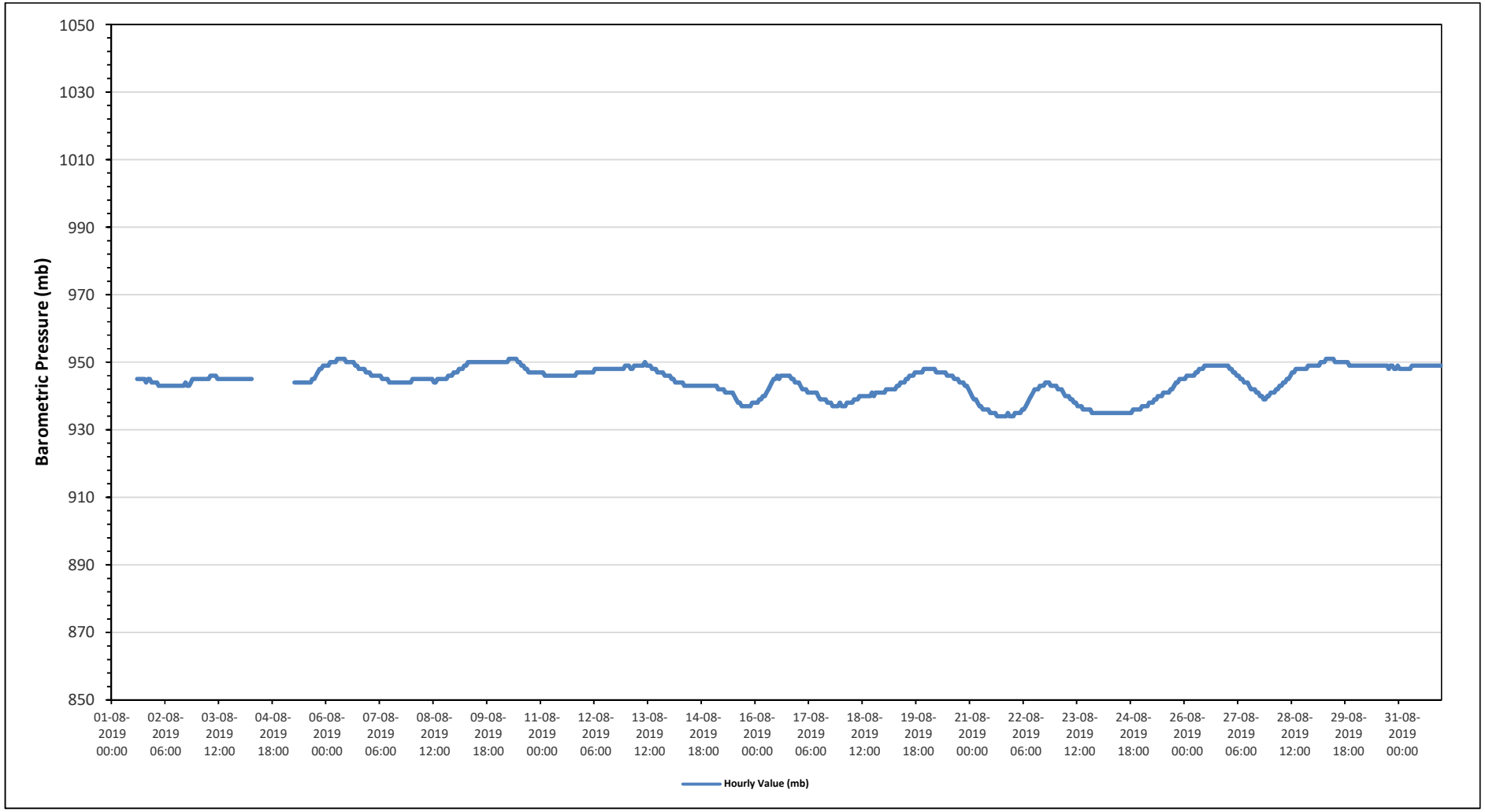
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 951 | mb | on August 6 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 950 | mb | on August 29 | Hours of Data: | 707 |
| Minimum Hourly Value: | 934 | mb | on August 21 at hour 15 | Hours of Missing Data: | 37 |
| Minimum 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*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

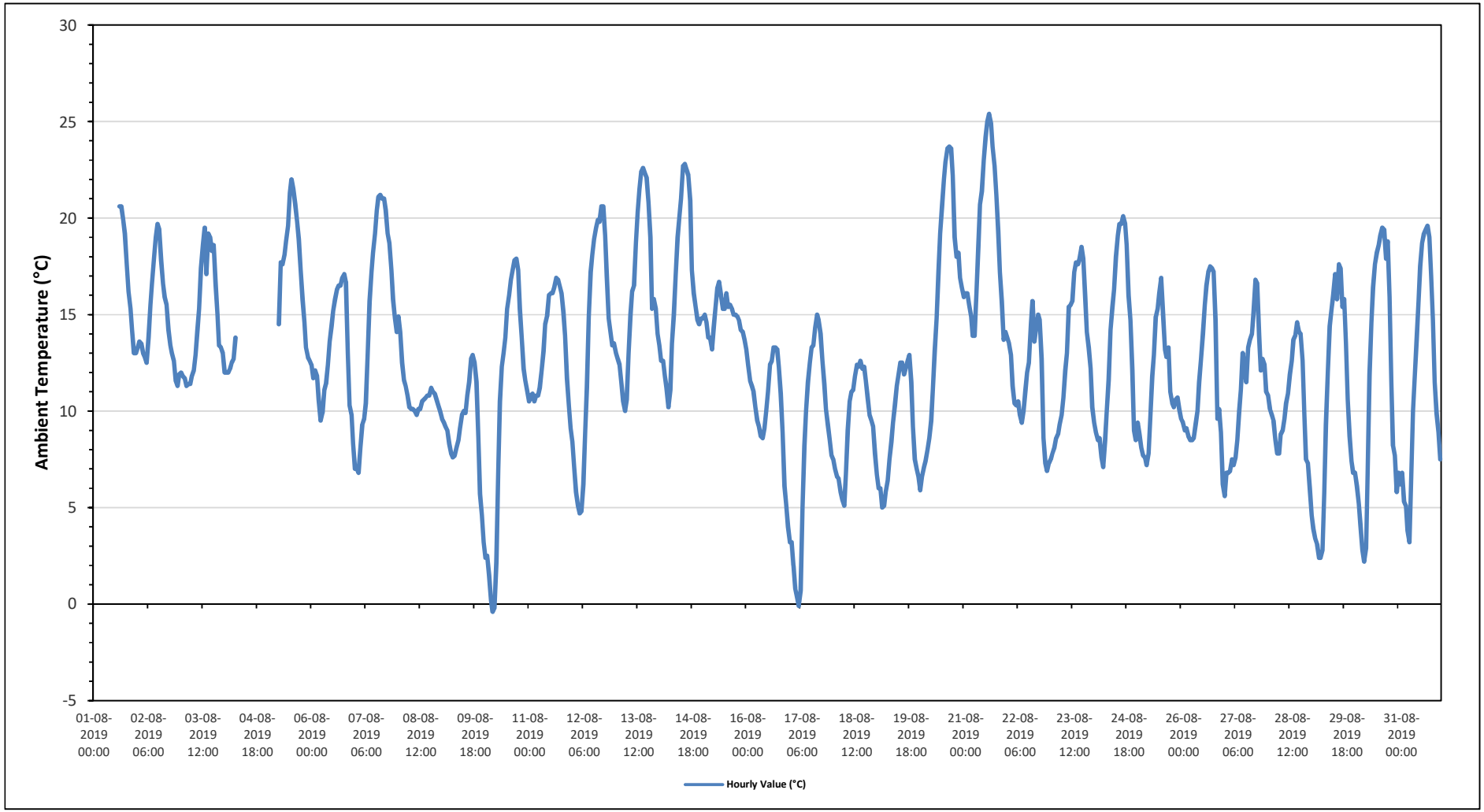
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 25.4 | °C | on August 21 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.9 | °C | on August 21 | Hours of Data: | 707 |
| Minimum Hourly Value: | -0.4 | °C | on August 10 at hour 4 | Hours of Missing Data: | 37 |
| Minimum 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

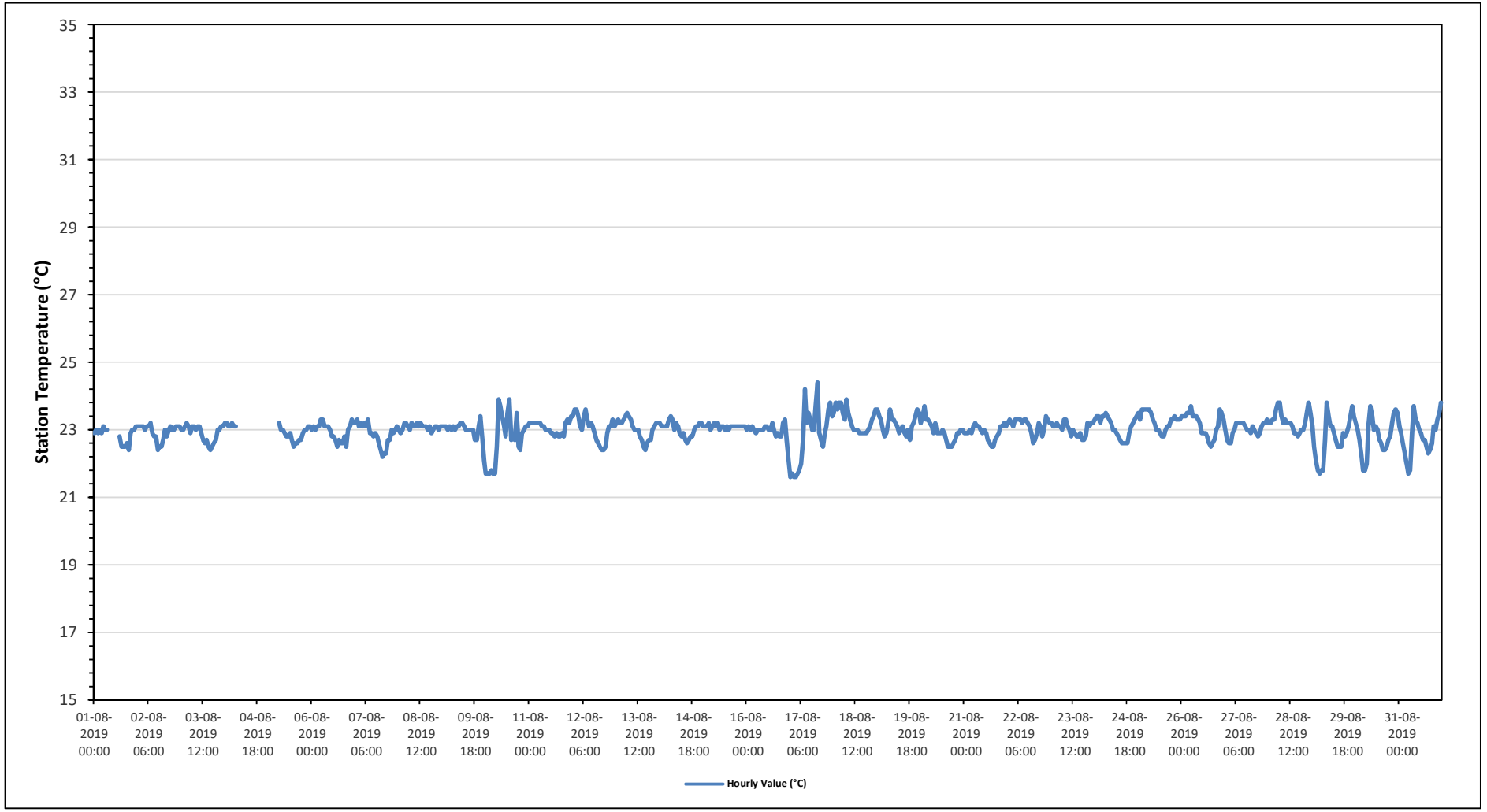
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.4 | °C | on August 17 at hour 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.3 | °C | on August 18 | Hours of Data: | 715 |
| Minimum Hourly Value: | 21.6 | °C | on August 17 at hour 0 | Hours of Missing Data: | 29 |
| Minimum 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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

## PRECIPITATION in mm

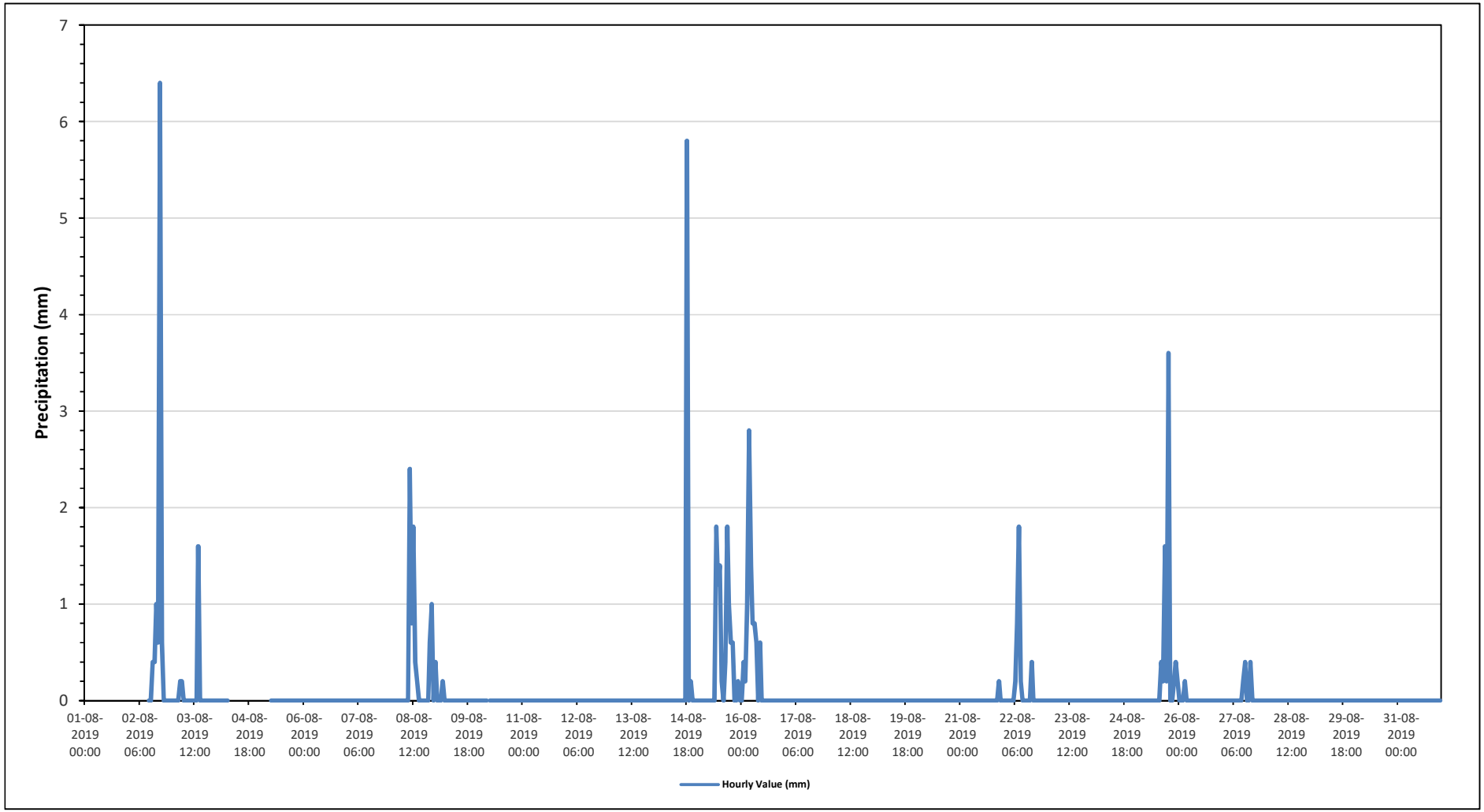
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 6.4 | mm | on August 2 at hour | Hours in Service: | 744 |
| Maximum Daily Value: | 9.4 | mm | on August 2 | Hours of Data: | 684 |
| Minimum Hourly Value: | 0.0 | mm | on August 2 at hour | Hours of Missing Data: | 25 |
| Minimum Daily 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

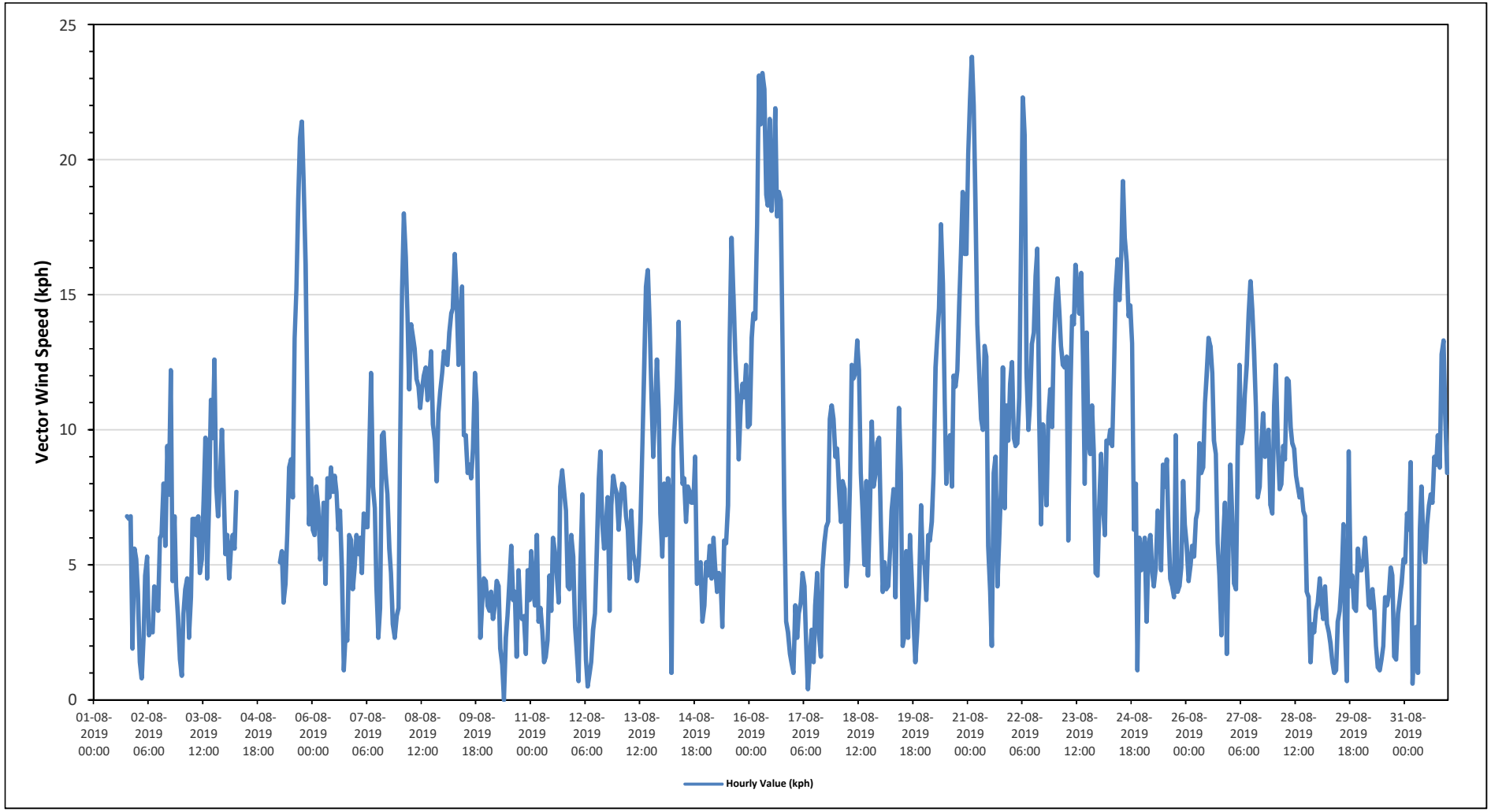
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.8 | kph | on August 21 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 15.1 | kph | on August 16 | Hours of Data: | 703 |
| Minimum Hourly Value: | 0.0 | kph | on August 10 at hour 9 | Hours of Missing Data: | 41 |
| 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 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 | 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 |

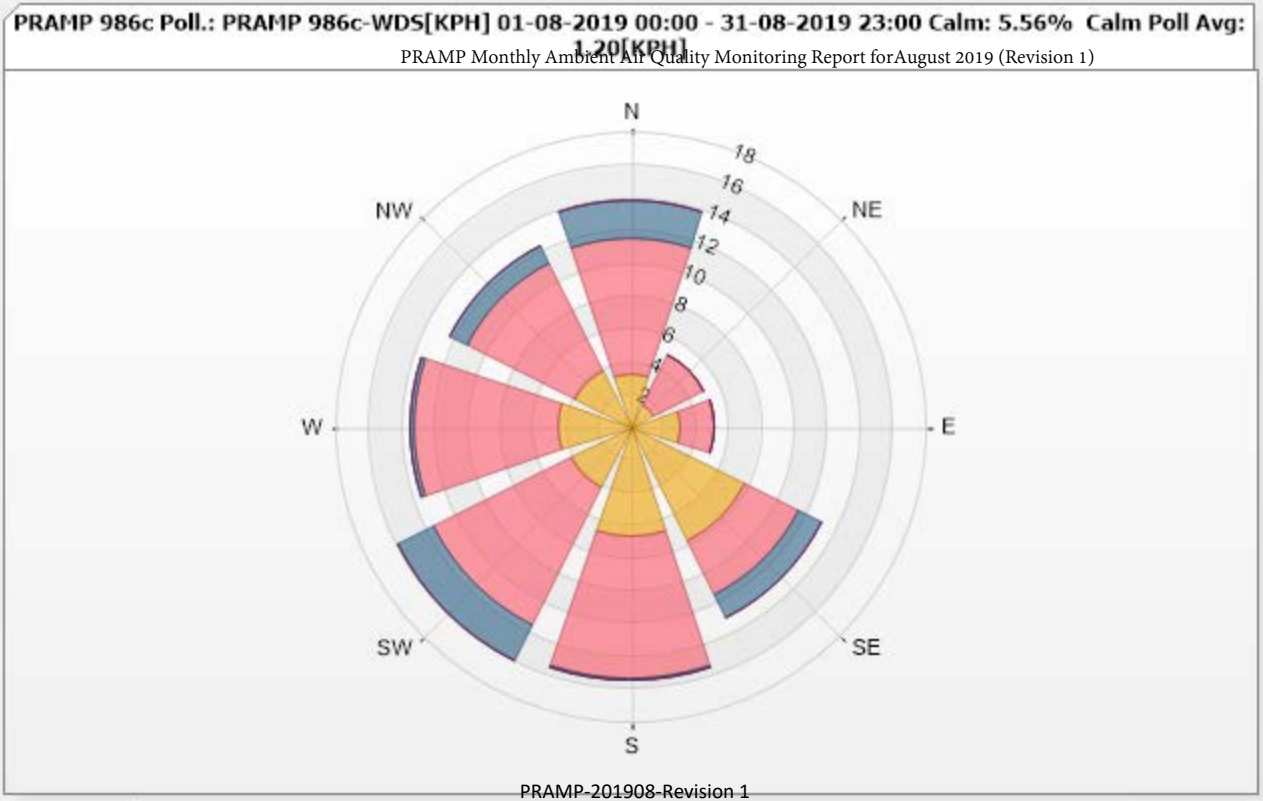
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

## *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]
N
NE
E
SE
S
SW
W
NW
18
16
14
12
10
8
6
4
2
% Icon Classes (KPH)
35 0-6
52 6-15
8 15-29
0 29-39
0 >39.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

Monthly Average: 257 (WSW) degree

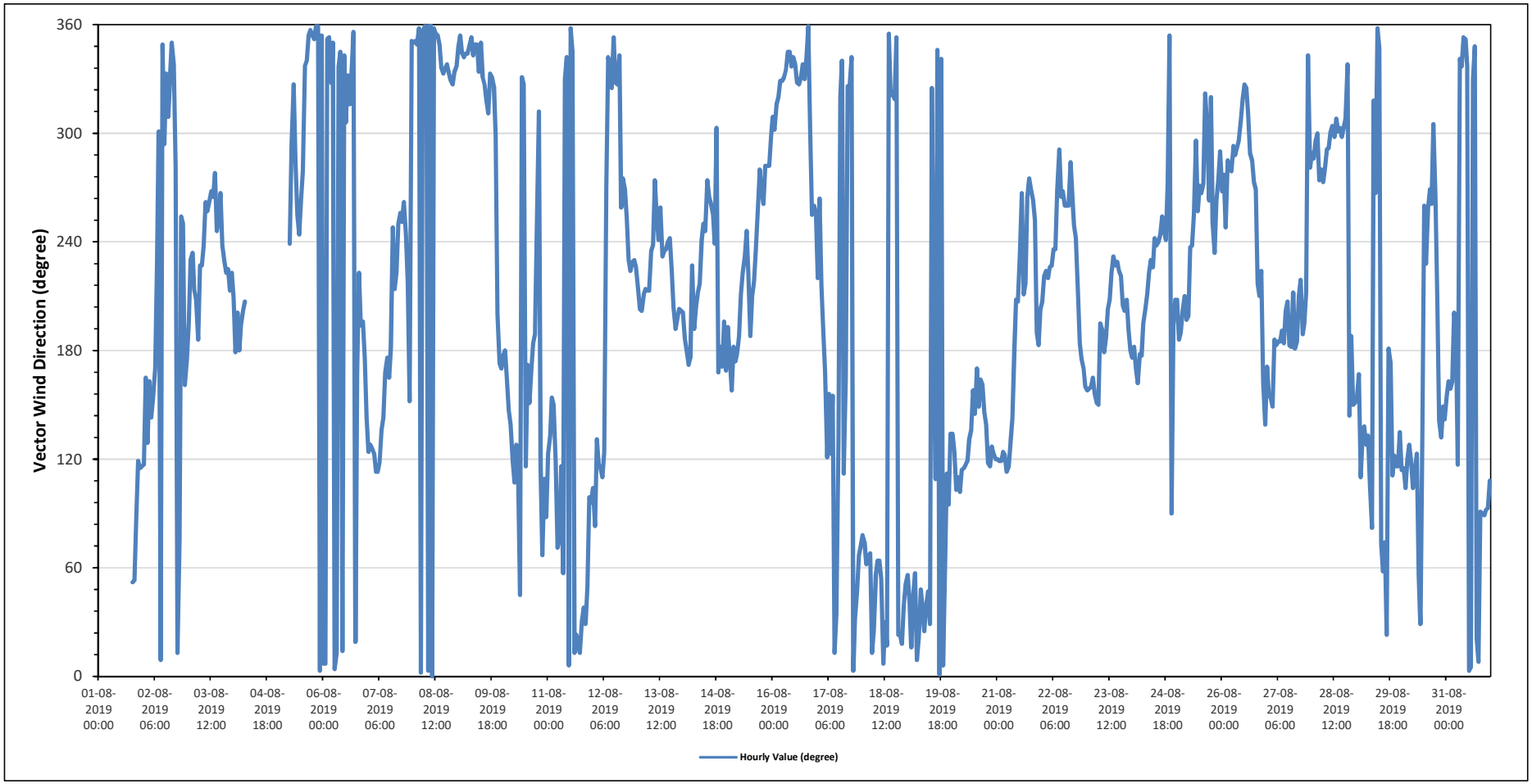
| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 703 |
| Hours of Missing Data: | 41 |
| Hours of Calibration: | 0 |
| Operational Uptime: | 94.5 |

| 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 | SSW | 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 | | | |

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 - 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

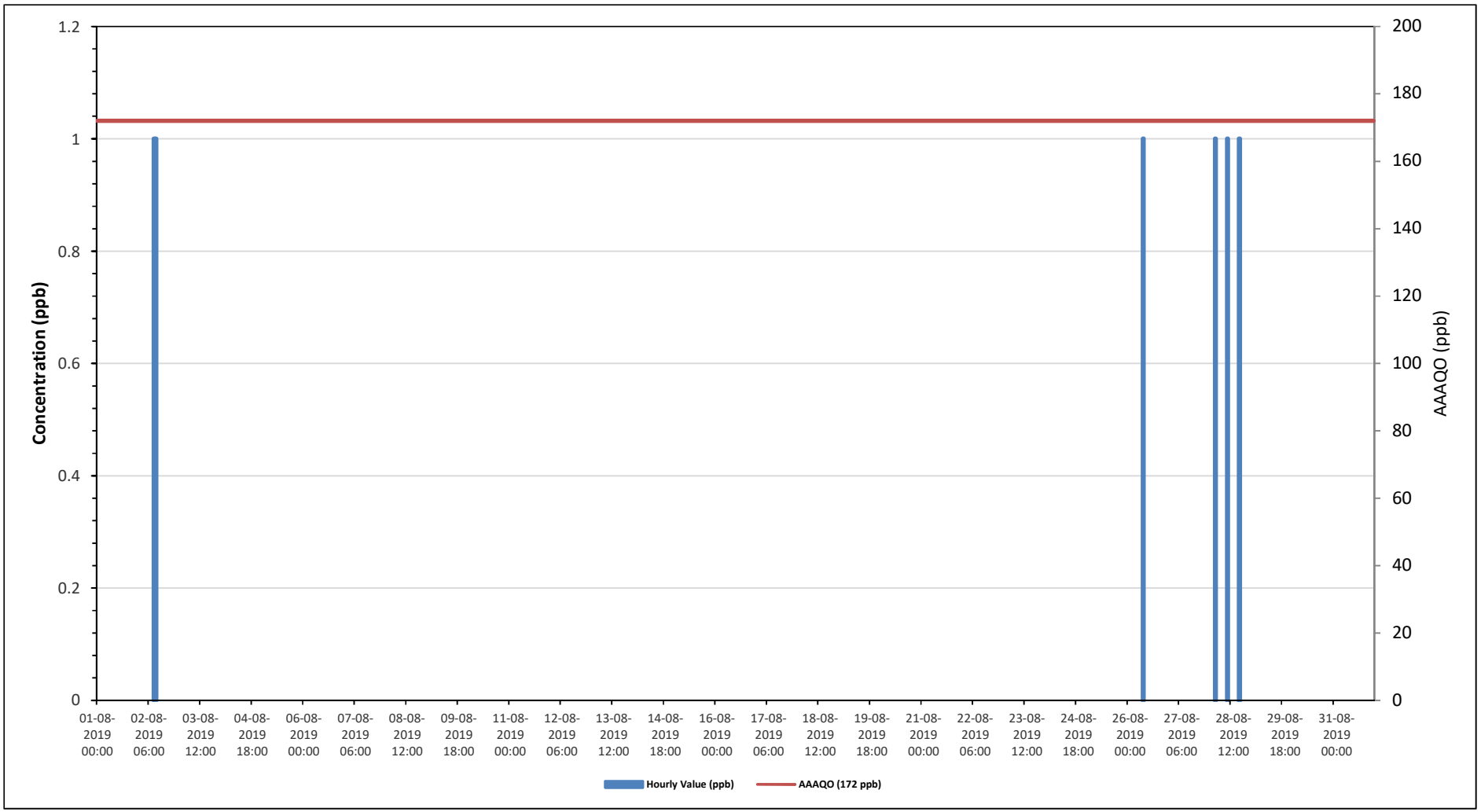
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on August 2 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.1 | ppb | on August 28 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on August 1 at hour 0 | Hours of Missing Data: | 1 |
| Minimum Daily 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 | | | |

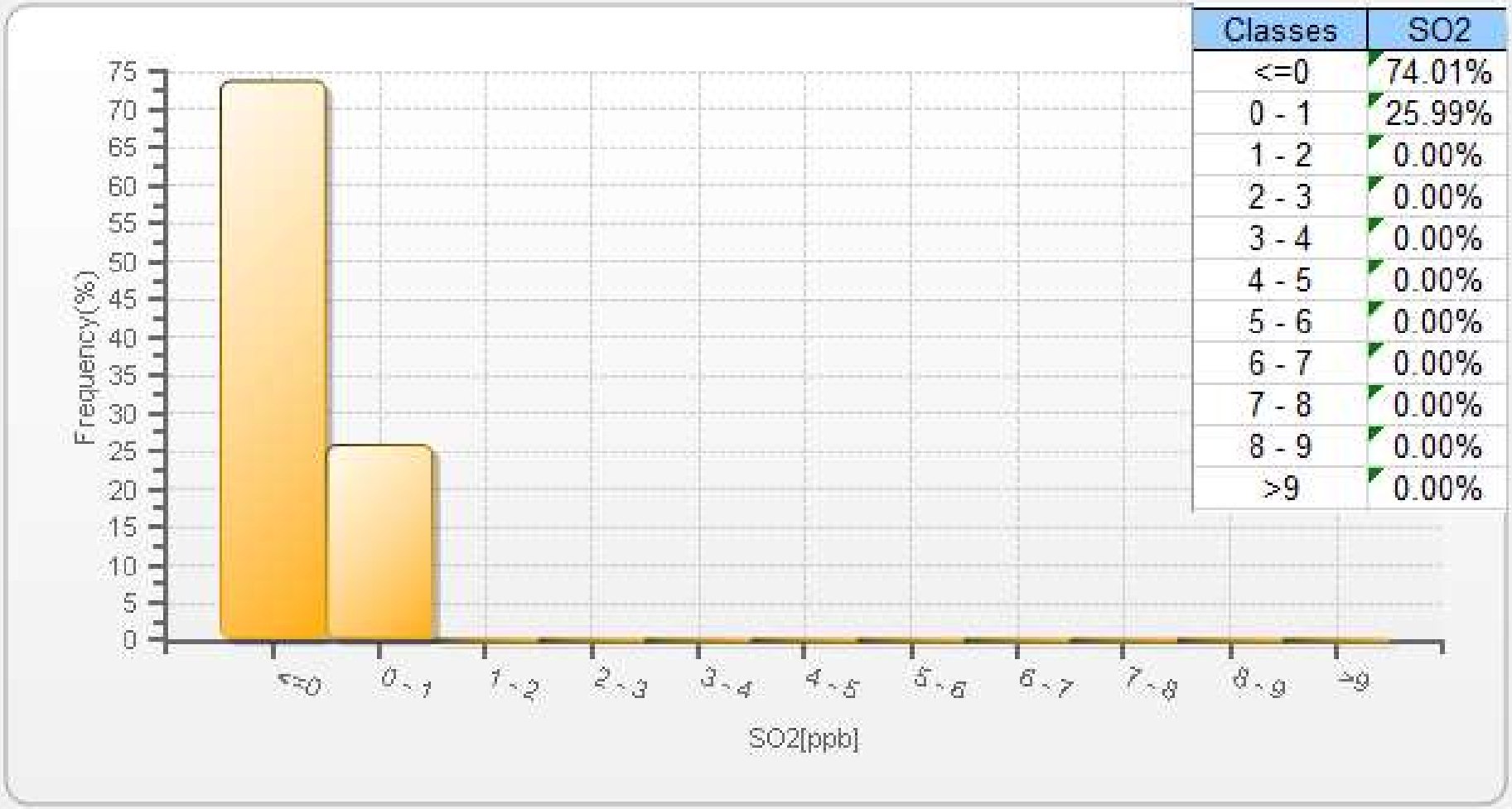
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| R | Recovery | 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.

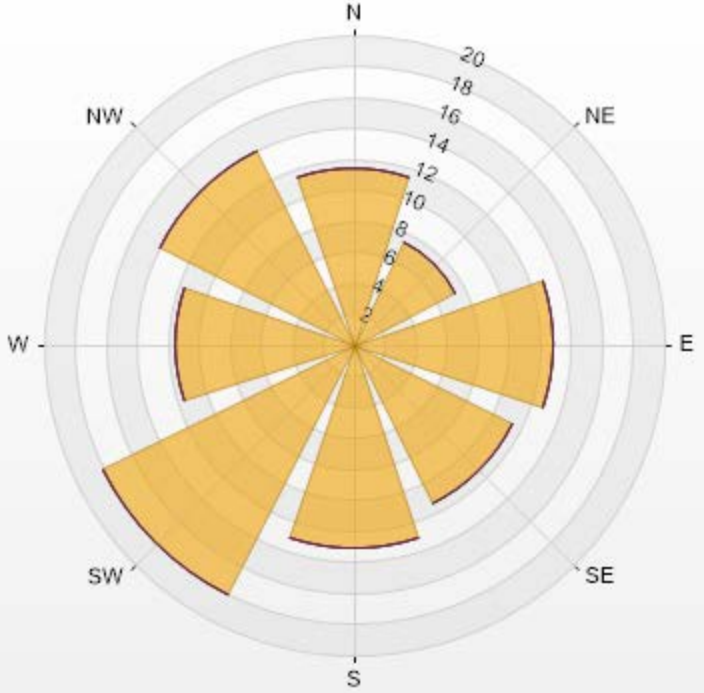



| Classes | SO2 |
|---|---|
| <=0 | 74.01% |
| 0 - 1 | 25.99% |
| 1 - 2 | 0.00% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

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%**




| % | Icon | Classes (ppb) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | | 0-10 | 0 | | 0 | 50-100 | 0 | 100-172 | 0 | >172.0 |

peace river area monitoring program pramp

# 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

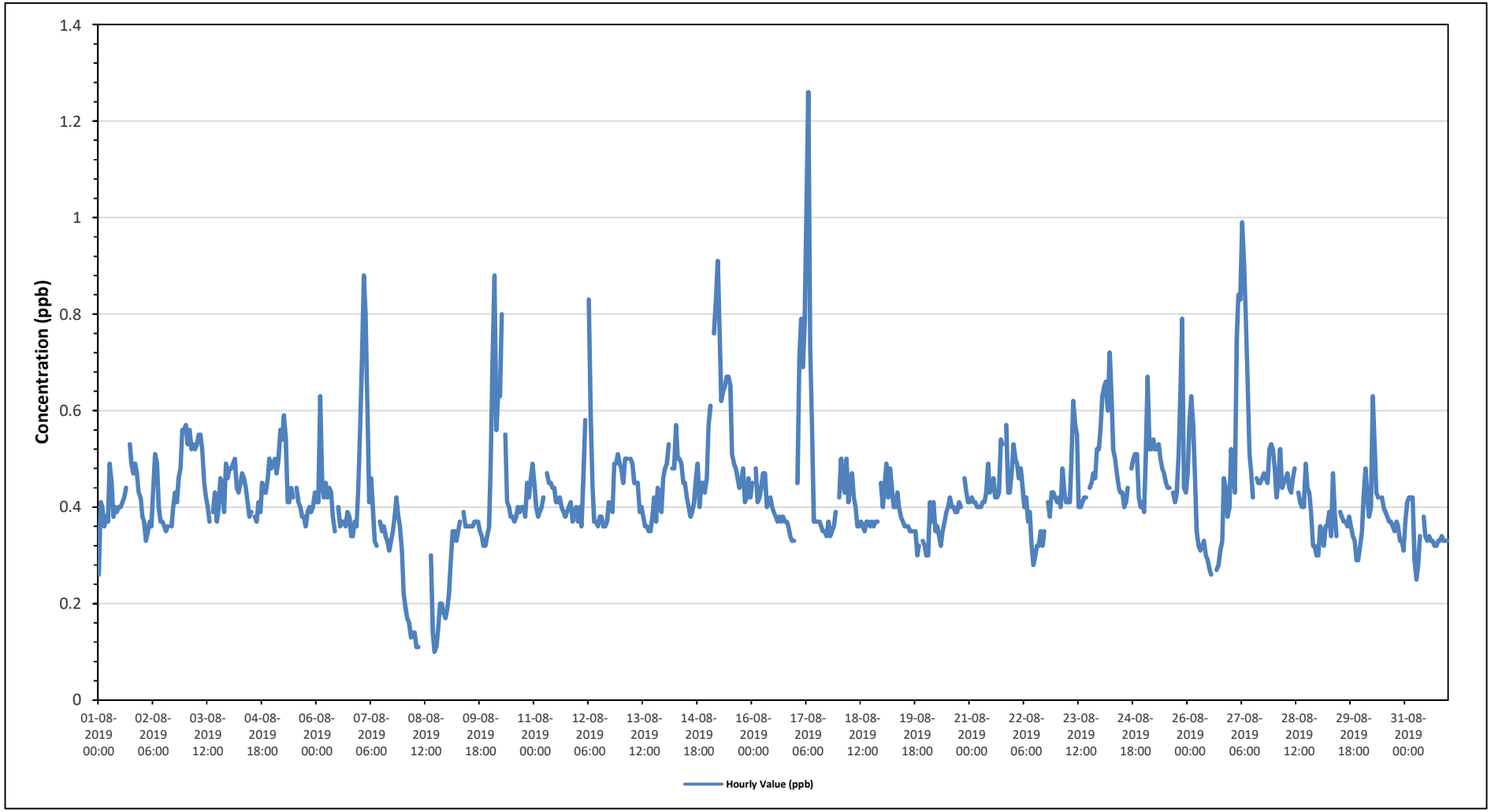
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1.26 | ppb | on August 17 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.58 | ppb | on August 15 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.10 | ppb | on August 8 at hour 17 | Hours of Missing Data: | 1 |
| 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 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 | 0.26 | 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 | | | |

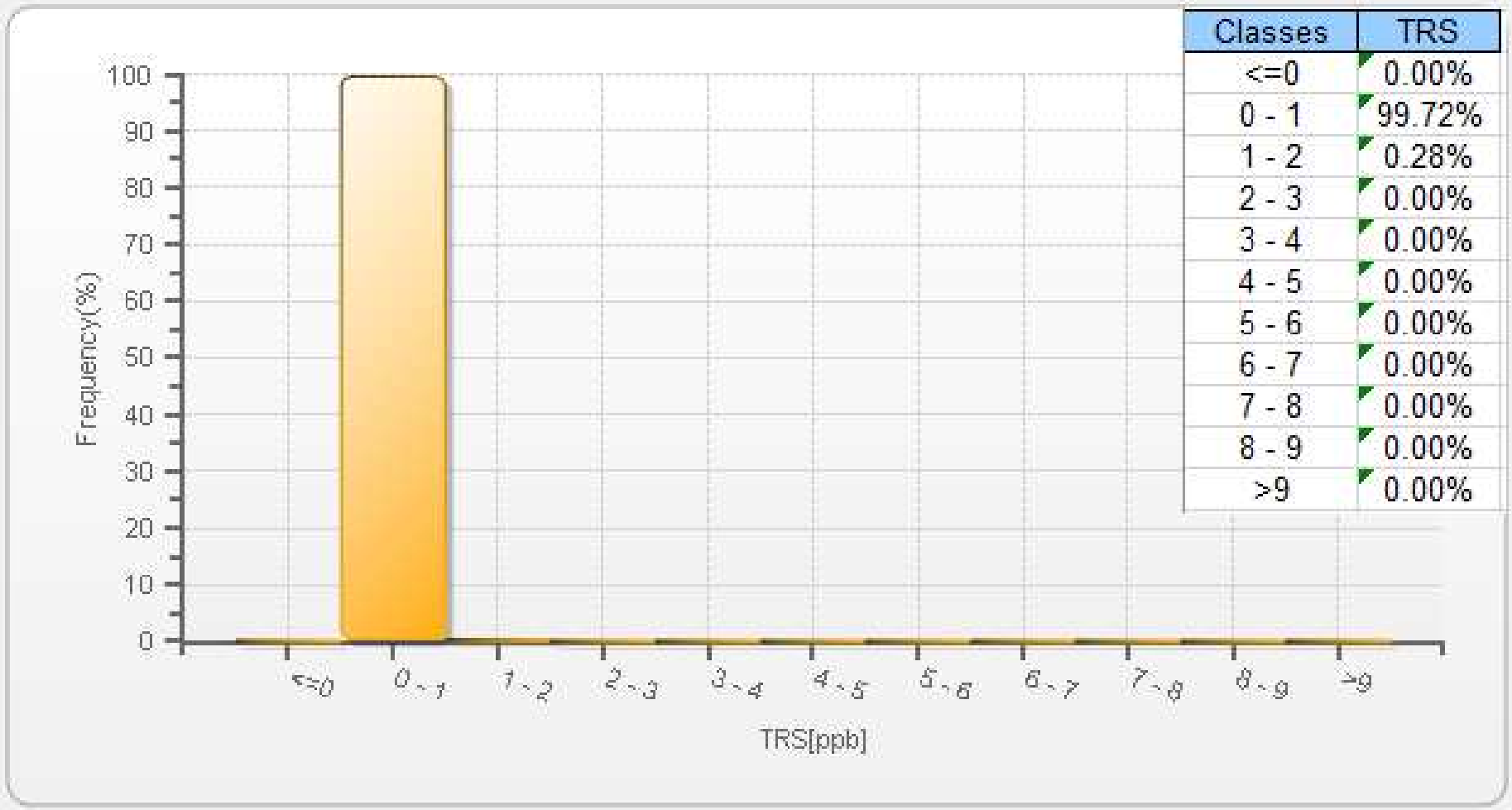
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| 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*



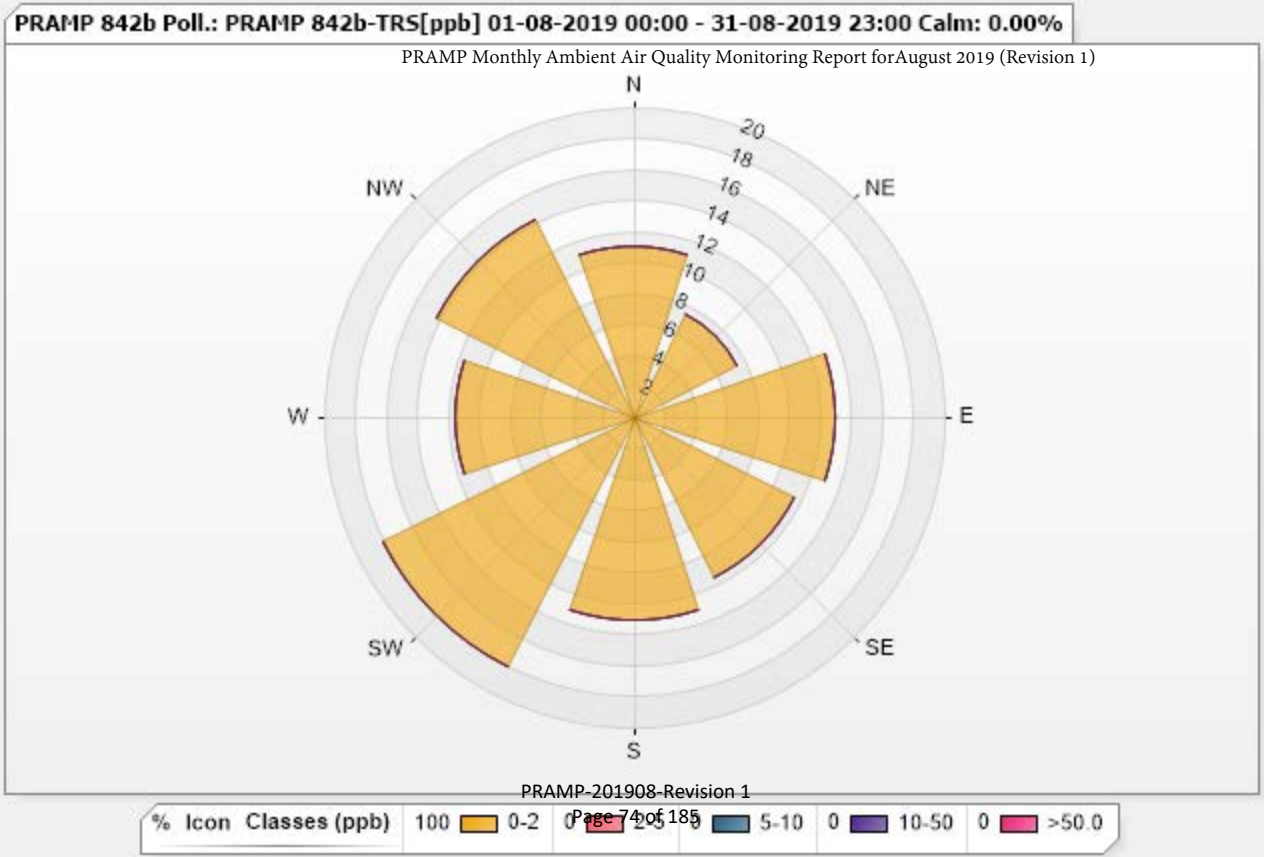
TRS[ppb] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.




| 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

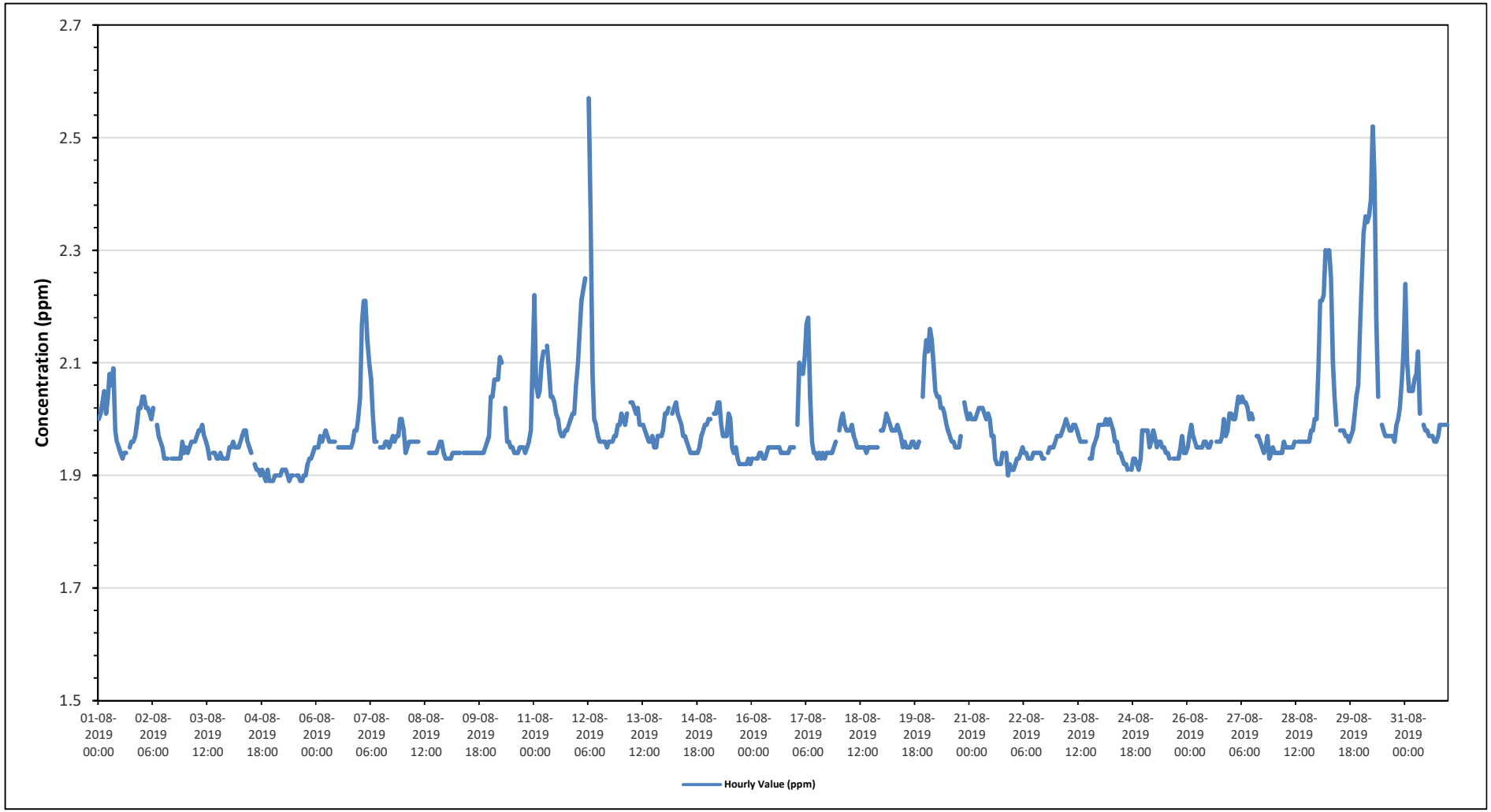
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.57 | ppm | on August 12 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.14 | ppm | on August 30 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.89 | ppm | on August 4 at hour 20 | Hours of Missing Data: | 2 |
|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

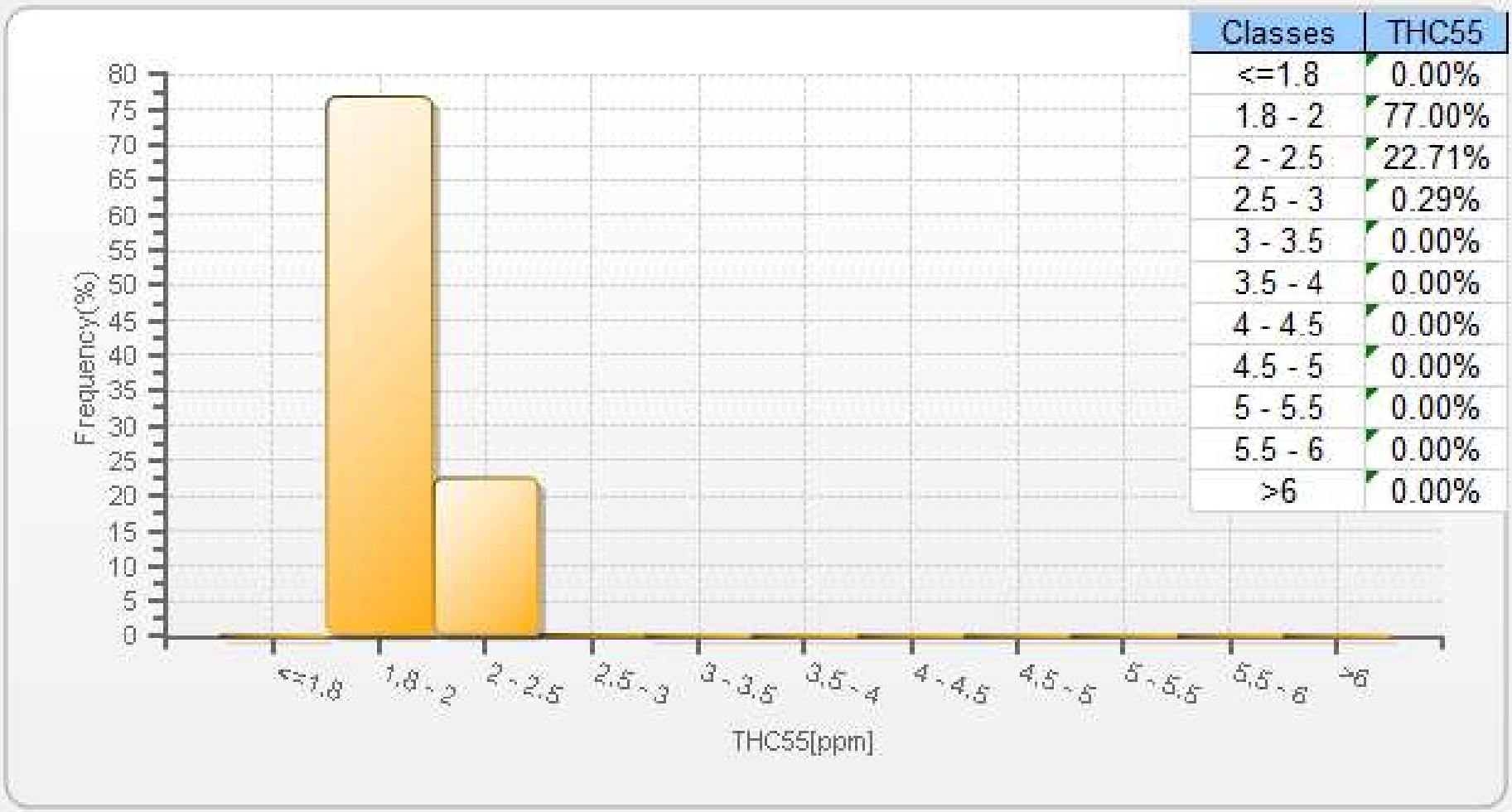
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 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.

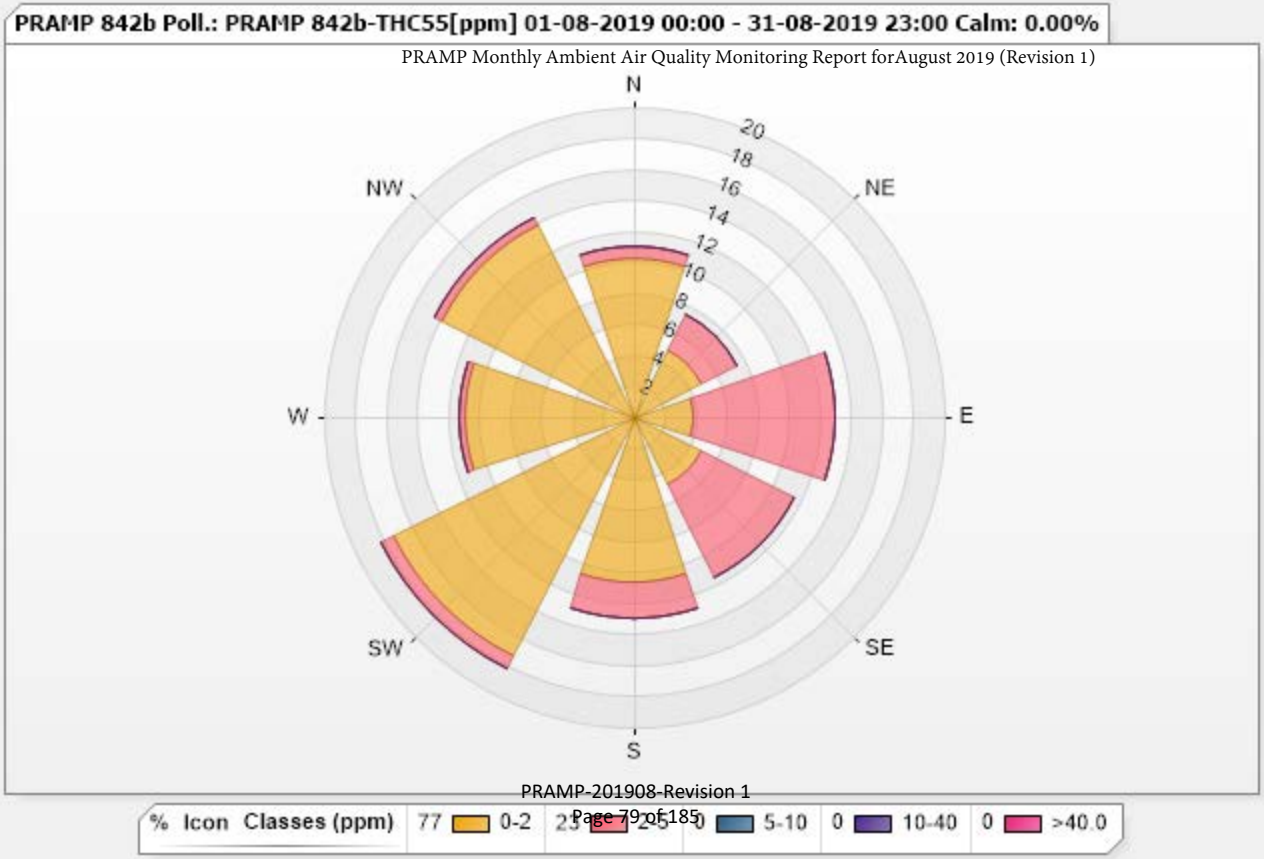
## *Timeseries Chart of Hourly Average for THC - 842b Station*




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%
Frequency(%)
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
<=1.8
1.8 - 2
2 - 2.5
2.5 - 3
3 - 3.5
3.5 - 4
4 - 4.5
4.5 - 5
5 - 5.5
5.5 - 6
>6
THC55[ppm]

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

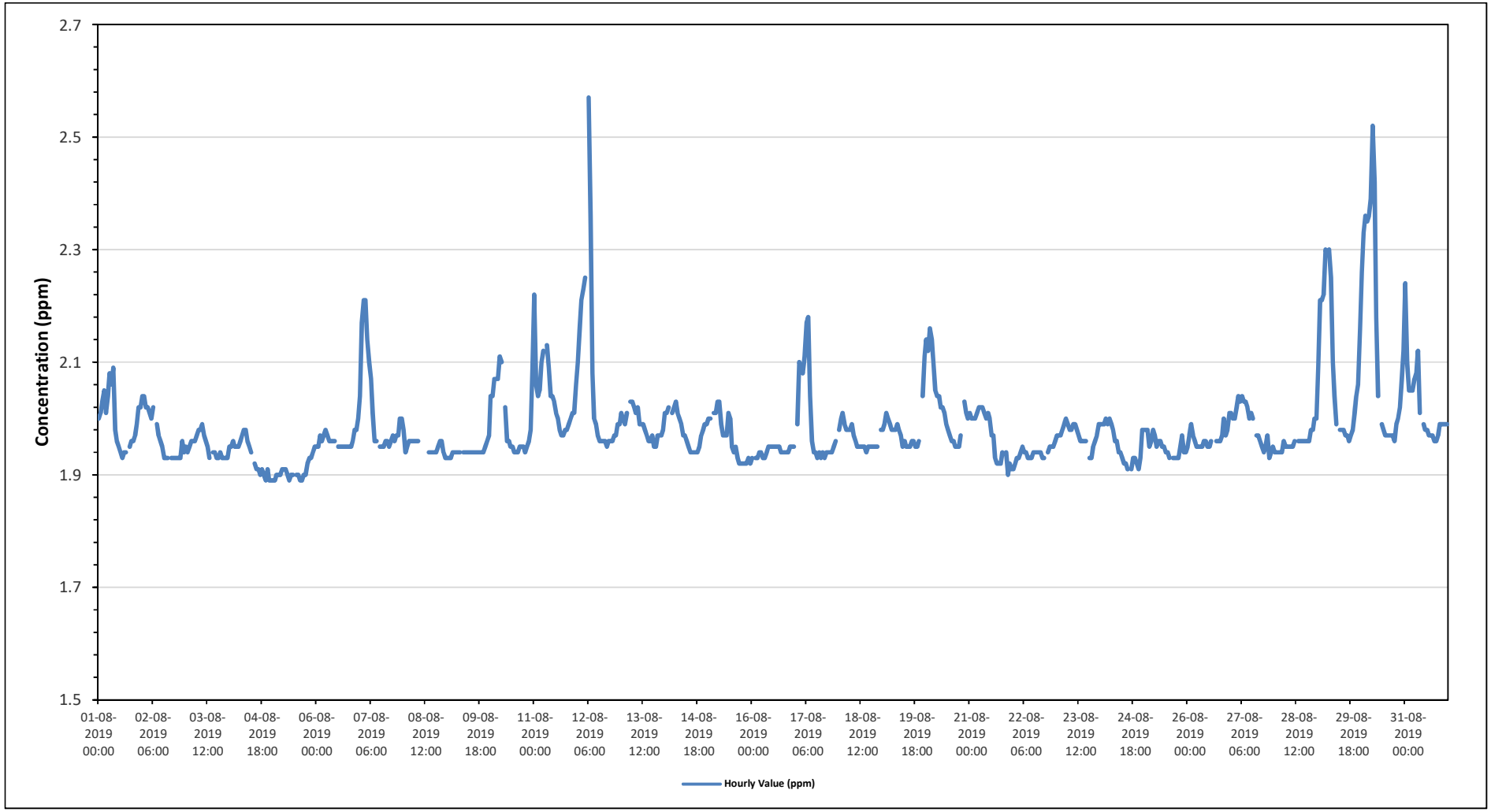
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.57 | ppm | on August 12 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.14 | ppm | on August 30 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.89 | ppm | on August 4 at hour 20 | Hours of Missing Data: | 2 |
| 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 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 | 1.89 | 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 | 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 | | | |

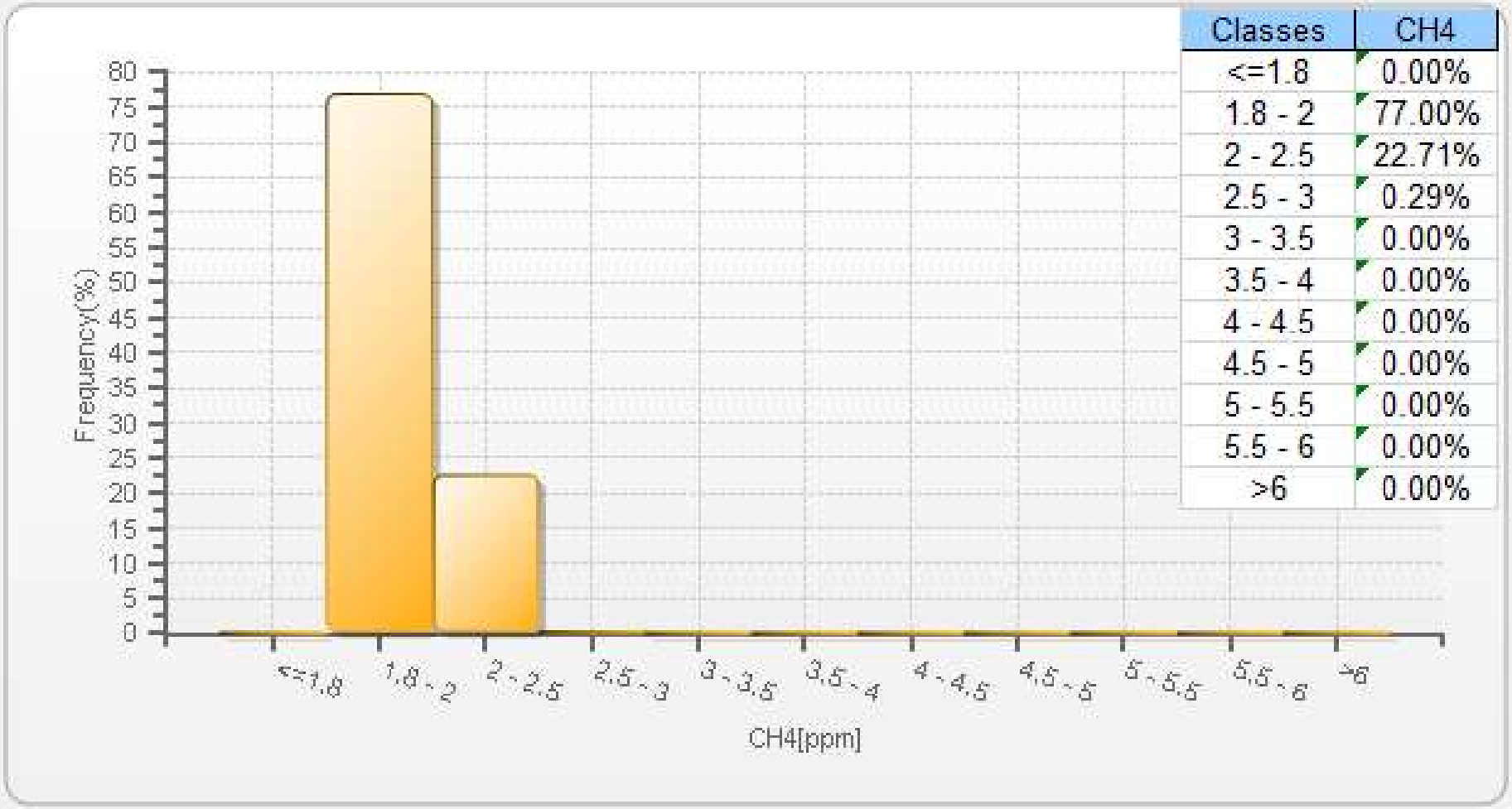
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| 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 CH4 - 842b Station*



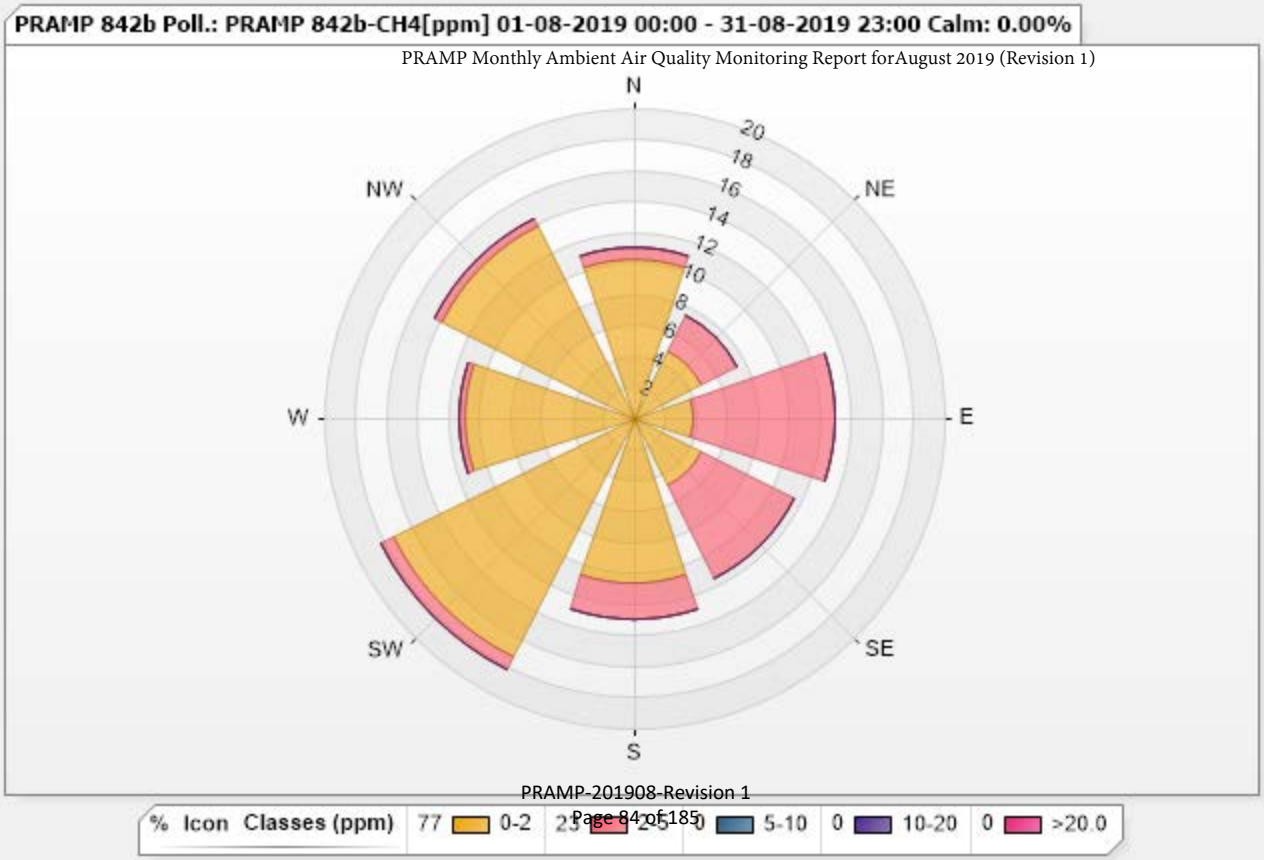
CH4[ppm] Histogram: PRAMP 842b Monthly: 08-2019 1 Hr.




| 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

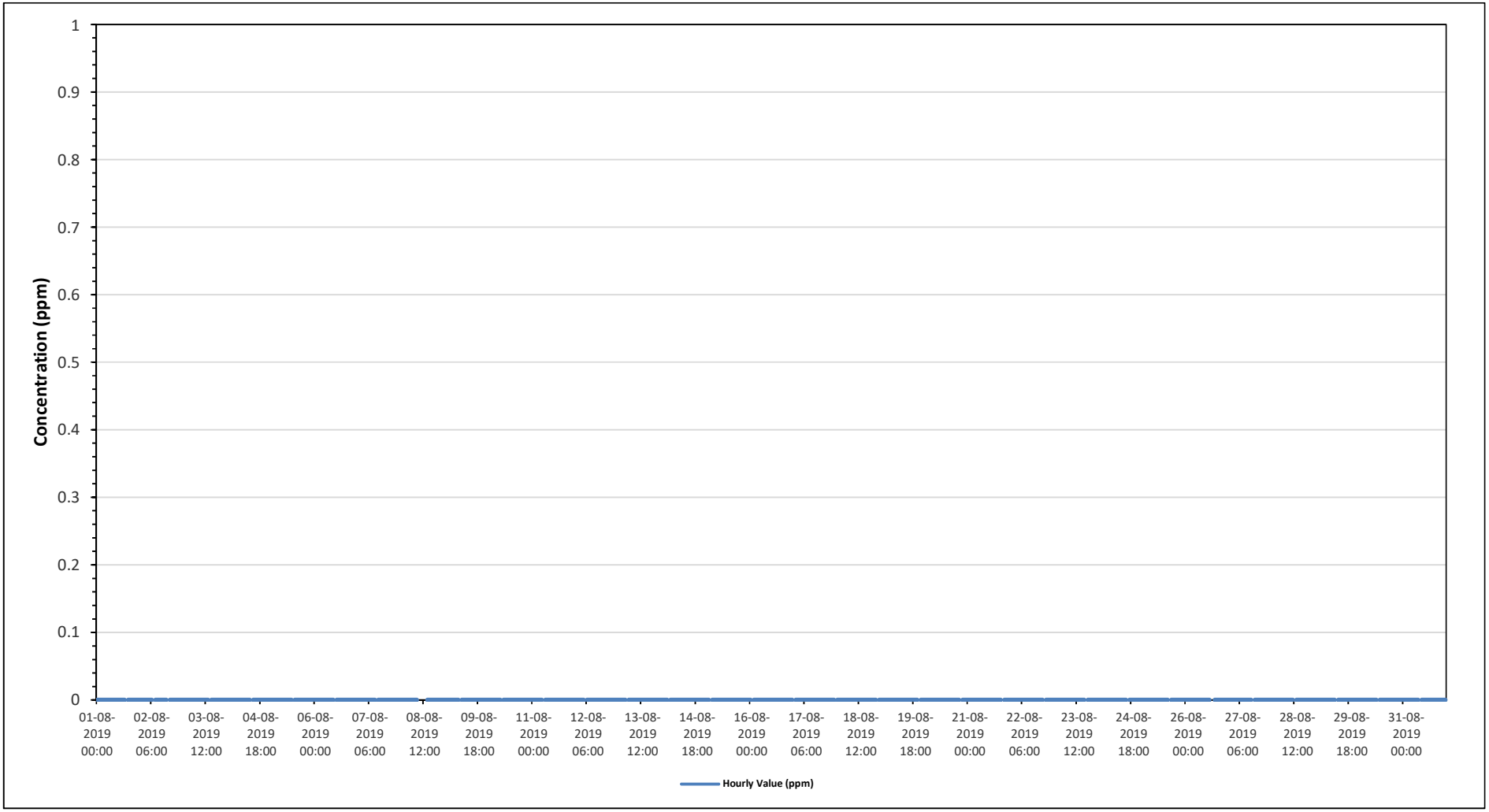
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 1 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours of Missing Data: | 2 |
| Minimum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

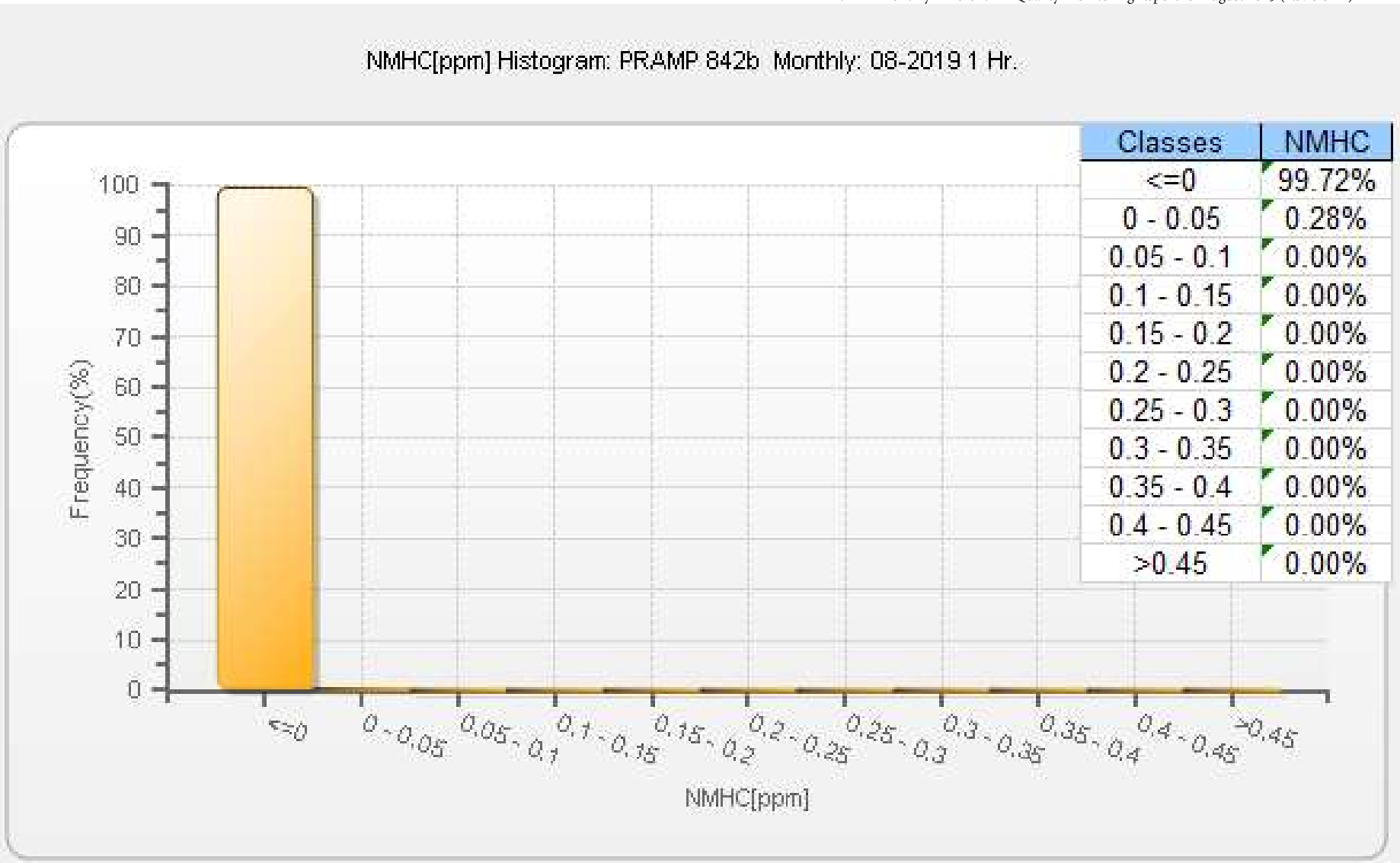
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 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.

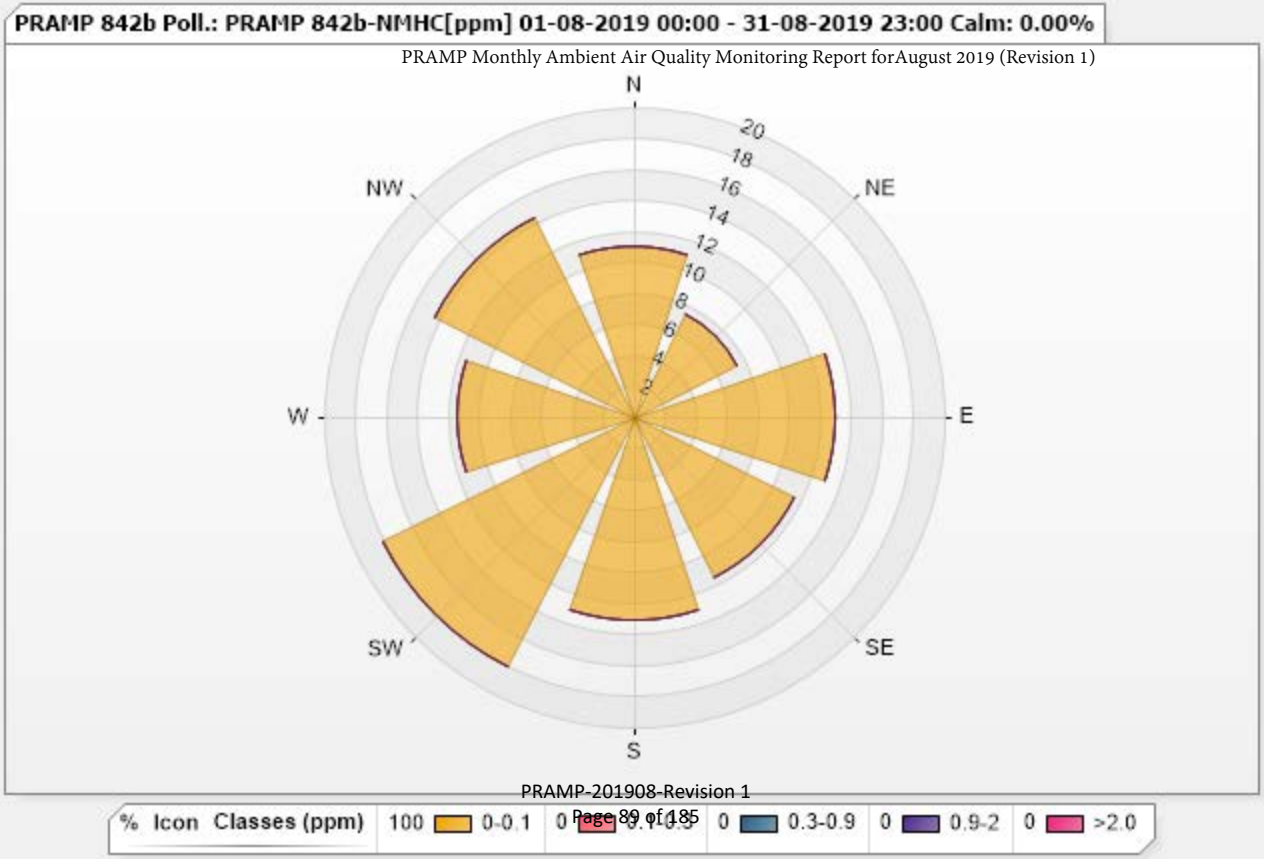
## *Timeseries Chart of Hourly Average for NMHC - 842b Station*




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%
Frequency(%)
100
90
80
70
60
50
40
30
20
10
0
<=0
0 - 0.05
0.05 - 0.1
0.1 - 0.15
0.15 - 0.2
0.2 - 0.25
0.25 - 0.3
0.3 - 0.35
0.35 - 0.4
0.4 - 0.45
>0.45
NMHC[ppm]

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 pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Averages

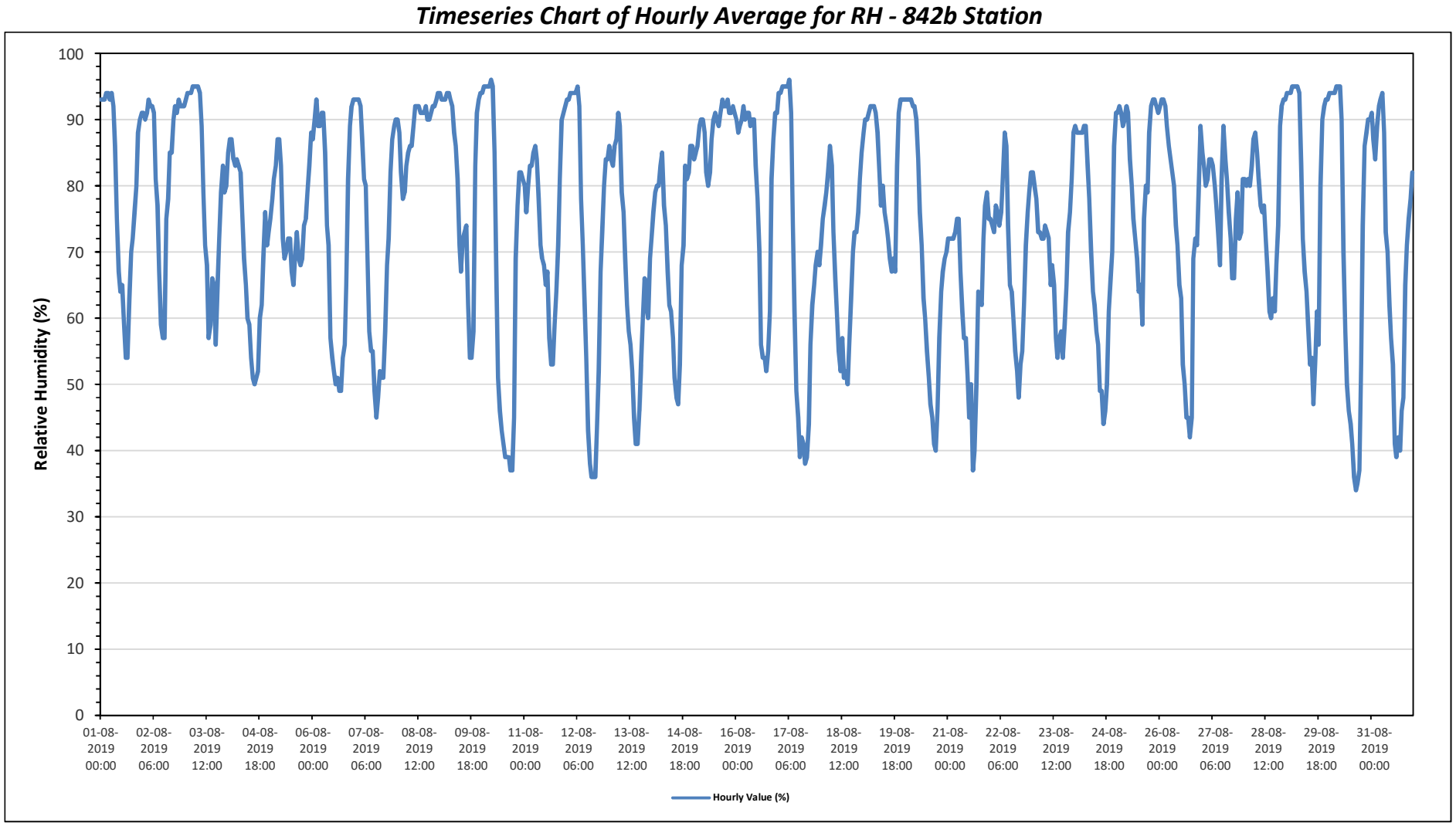
## RELATIVE HUMIDITY (RH) in %

| | | | | | |
|---|---|---|---|---|---|
| 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
Relative Humidity (%)
100
90
80
70
60
50
40
30
20
10
0
01-08-2019 00:00
02-08-2019 06:00
03-08-2019 12:00
04-08-2019 18:00
06-08-2019 00:00
07-08-2019 06:00
08-08-2019 12:00
09-08-2019 18:00
11-08-2019 00:00
12-08-2019 06:00
13-08-2019 12:00
14-08-2019 18:00
16-08-2019 00:00
17-08-2019 06:00
18-08-2019 12:00
19-08-2019 18:00
21-08-2019 00:00
22-08-2019 06:00
23-08-2019 12:00
24-08-2019 18:00
26-08-2019 00:00
27-08-2019 06:00
28-08-2019 12:00
29-08-2019 18:00
31-08-2019 00:00
Hourly Value (%)

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Averages

## BAROMETRIC PRESSURE (BP) in millibar

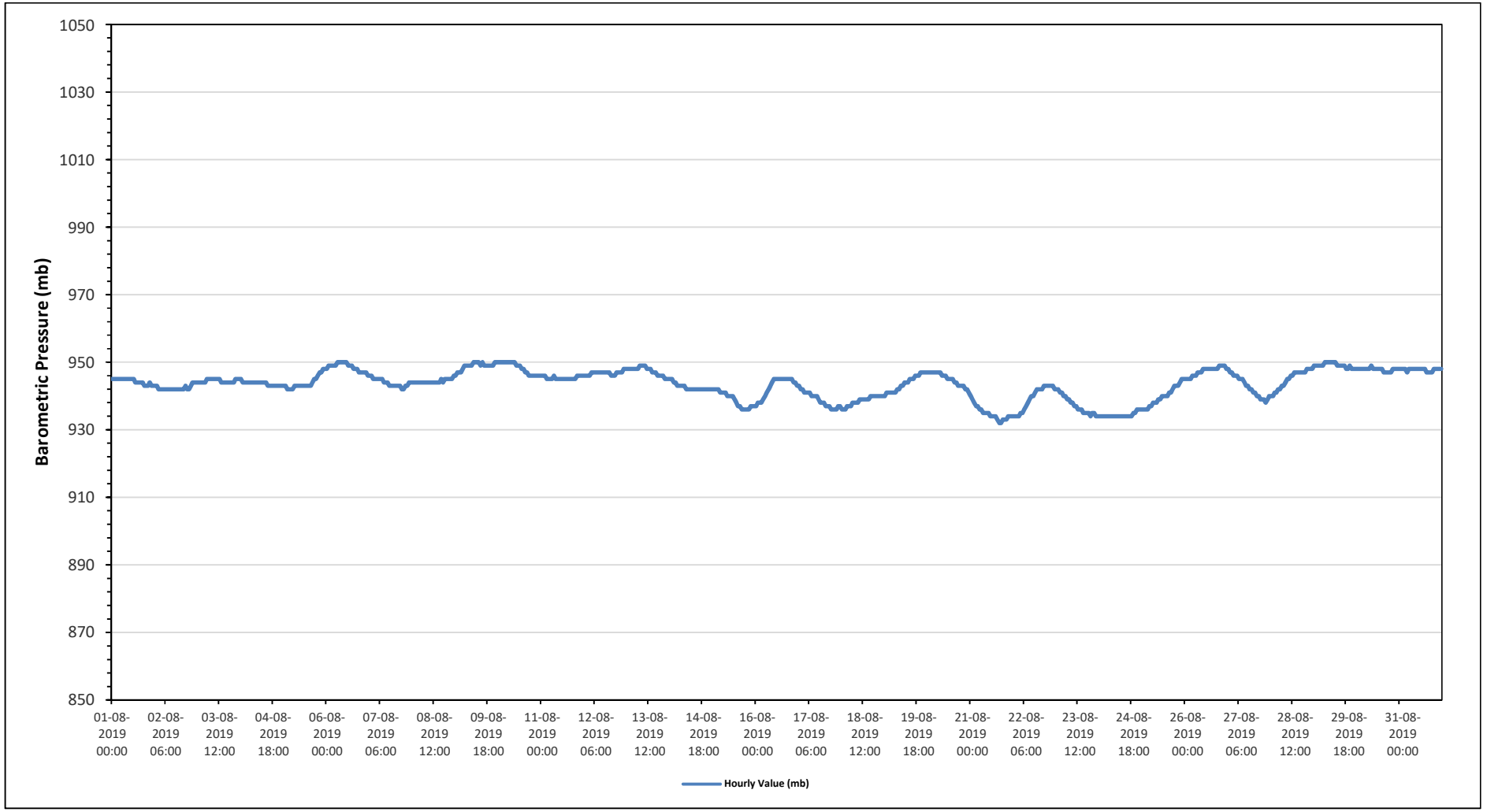
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 950 | mb | on August 6 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 949 | mb | on August 29 | Hours of Data: | 744 |
| Minimum Hourly Value: | 932 | mb | on August 21 at hour 16 | Hours of Missing Data: | 0 |
| Minimum 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*



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

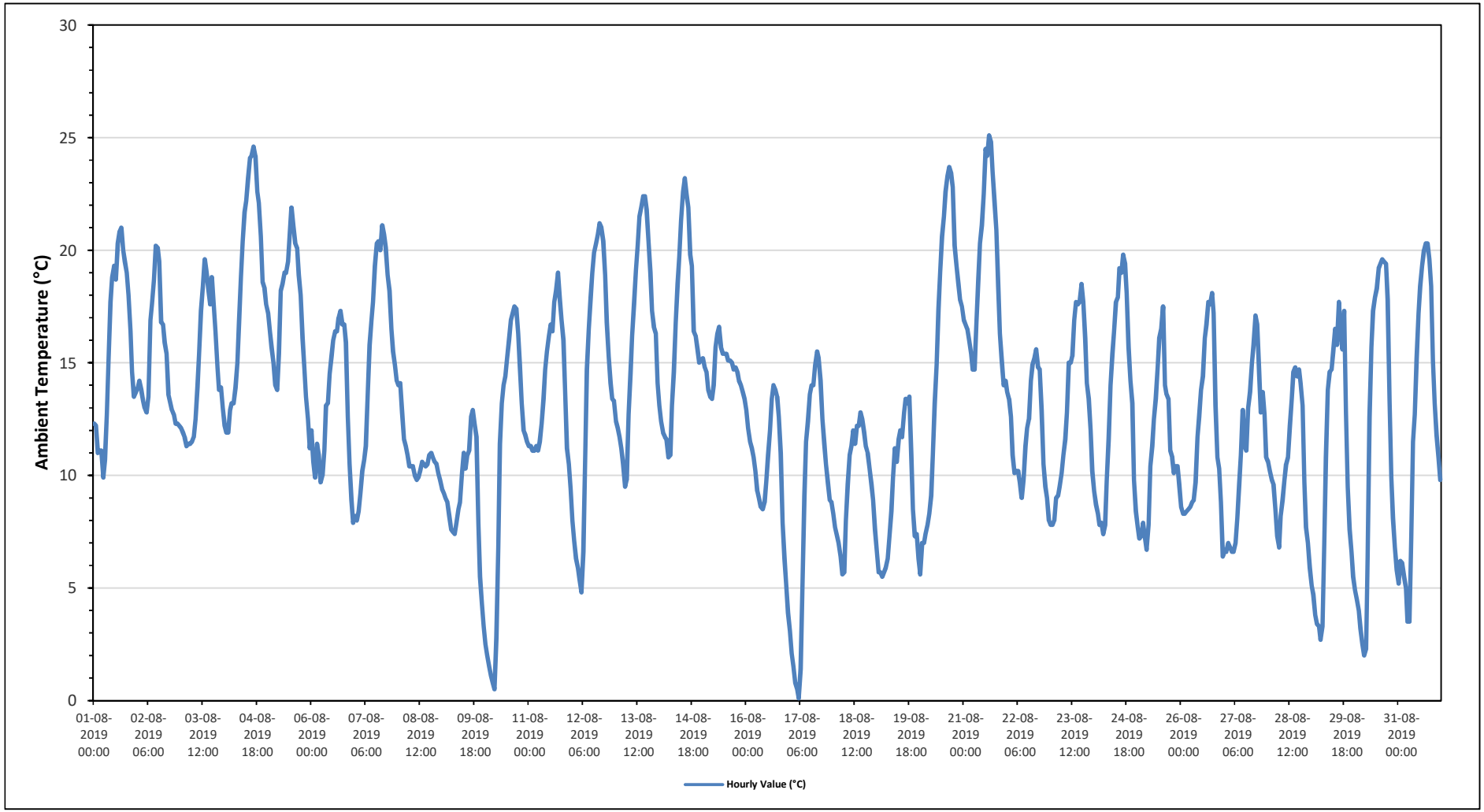
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 25.1 | °C | on August 21 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.9 | °C | on August 21 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.1 | °C | on August 17 at hour 5 | Hours of Missing Data: | 0 |
| Minimum 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

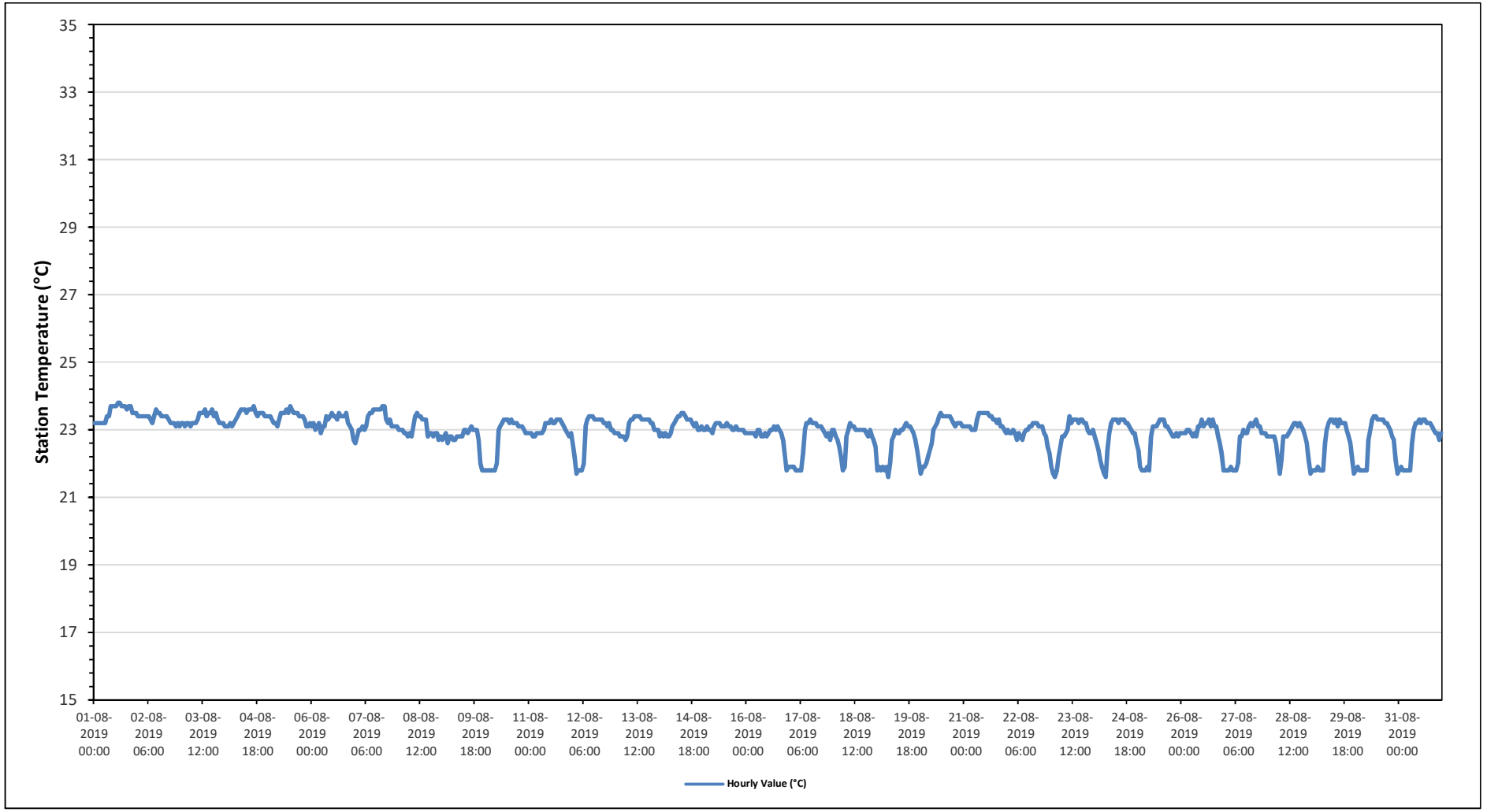
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.8 | °C | on August 1 at hour 13 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.5 | °C | on August 1 | Hours of Data: | 744 |
| Minimum Hourly Value: | 21.6 | °C | on August 19 at hour 6 | Hours of Missing Data: | 0 |
| Minimum 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*



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr

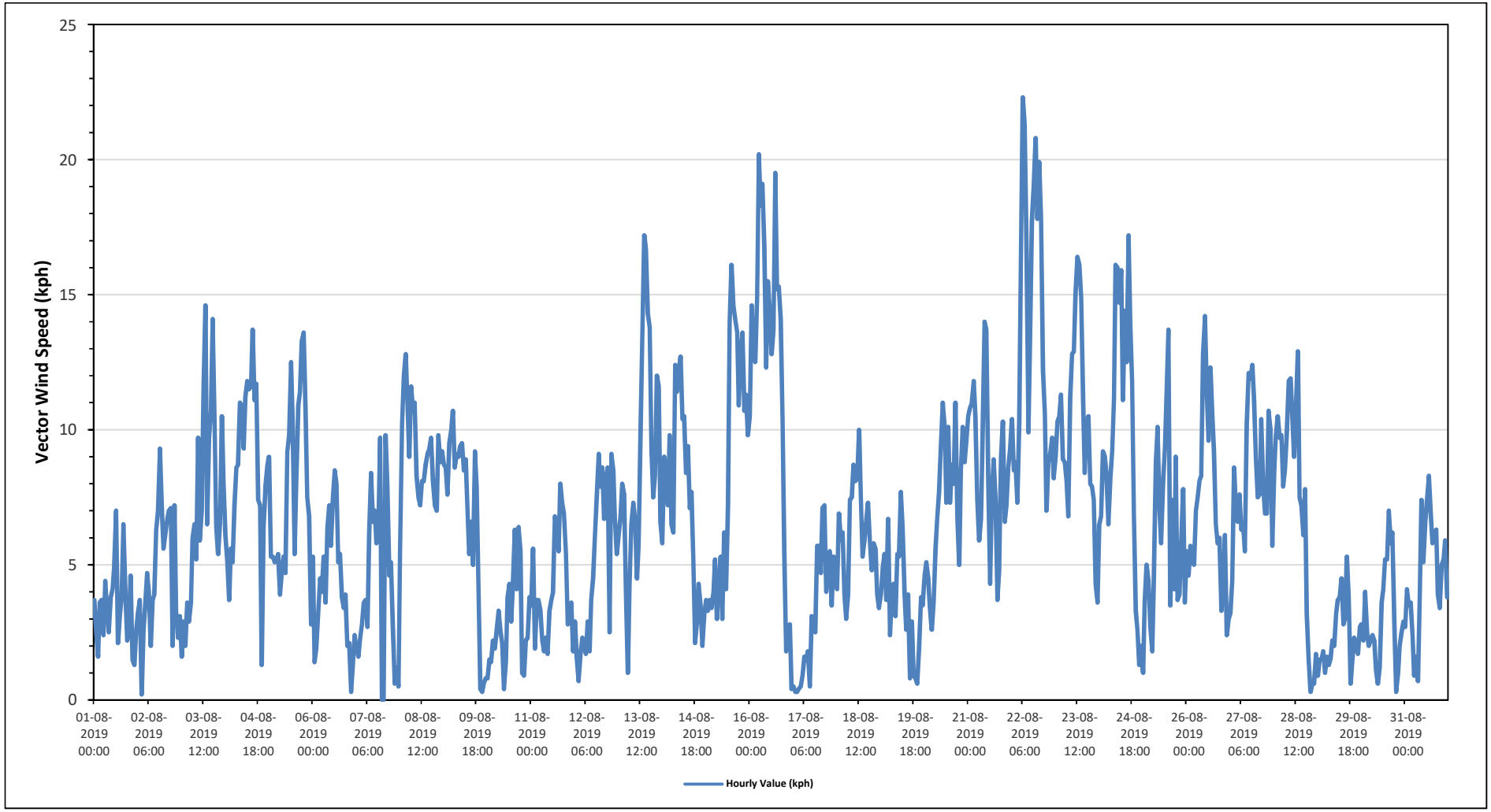
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 22.3 | kph | on August 22 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 13.5 | kph | on August 22 | Hours of Data: | 742 |
| Minimum Hourly Value: | 0.2 | kph | on August 2 at hour 2 | Hours of Missing Data: | 0 |
| Minimum 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 |

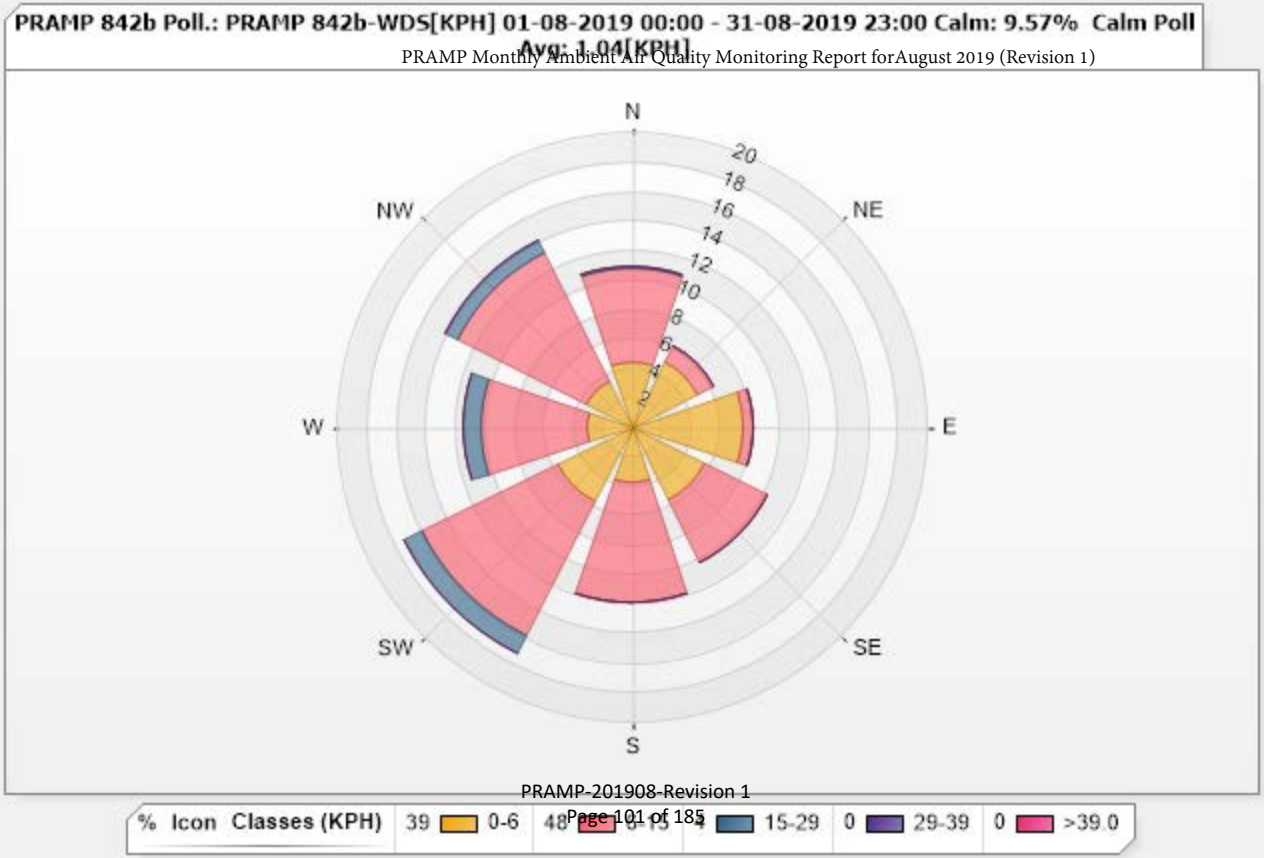
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

## *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]
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
6
4
2
% 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

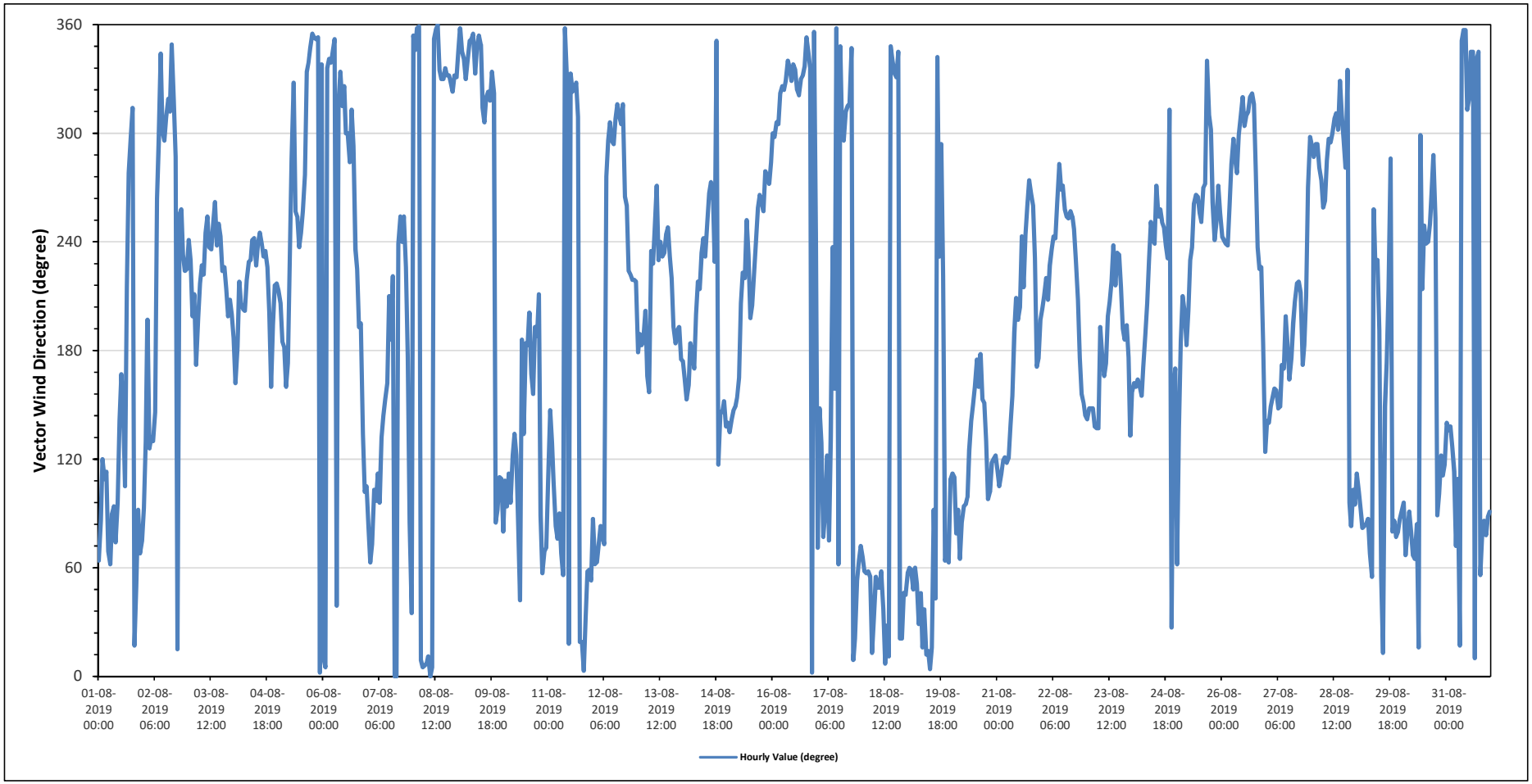
| | | | |
|---|---|---|---|
| Monthly Average: | 253 (WSW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 742 |
| | | Hours of Missing Data: | 0 |
| | | Hours of Calibration: | 2 |
| | | Operational Uptime: | 100.0 |

| 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

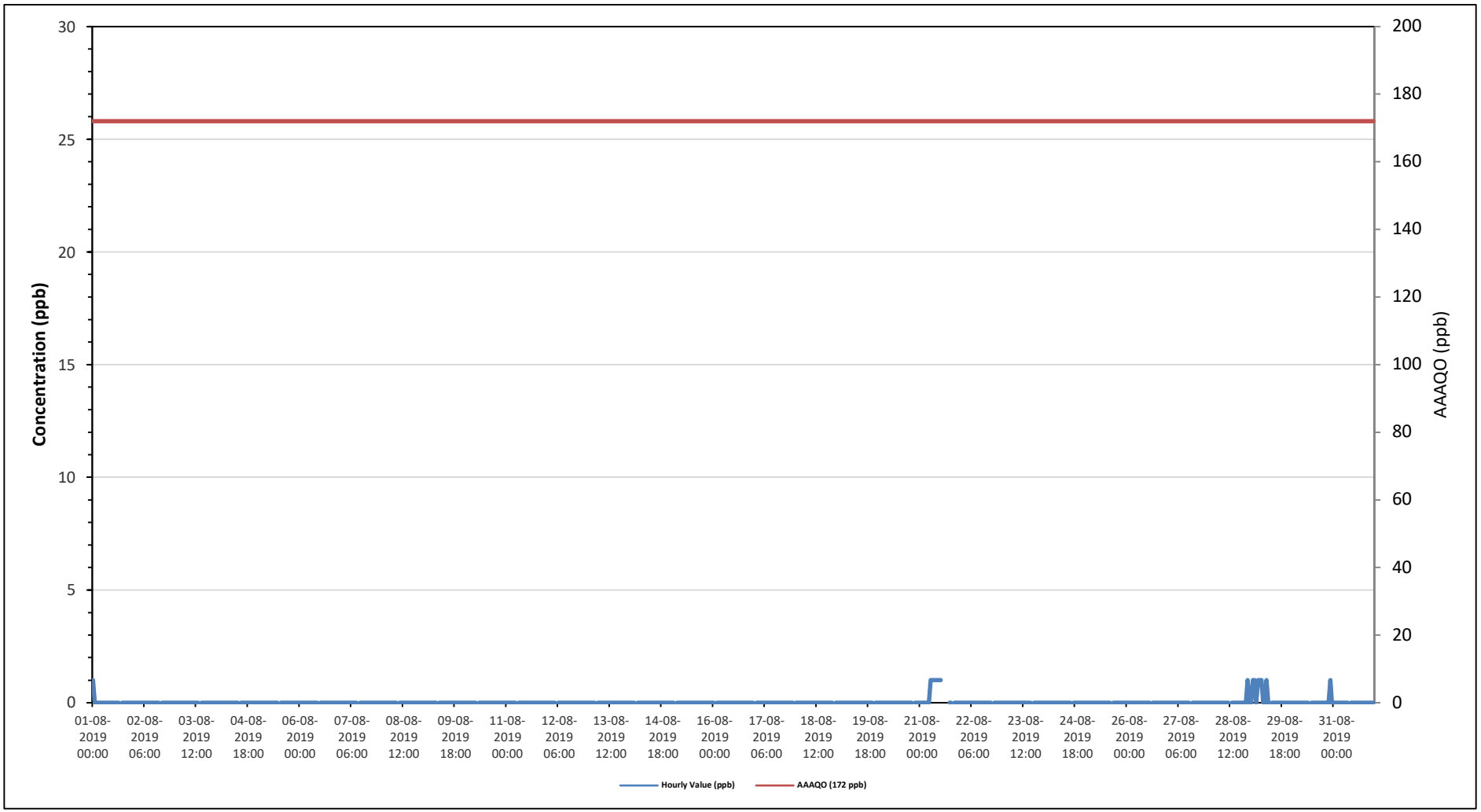
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on August 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.4 | ppb | on August 21 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on August 1 at hour 1 | Hours of Missing Data: | 0 |
| Minimum Daily 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 | | | |

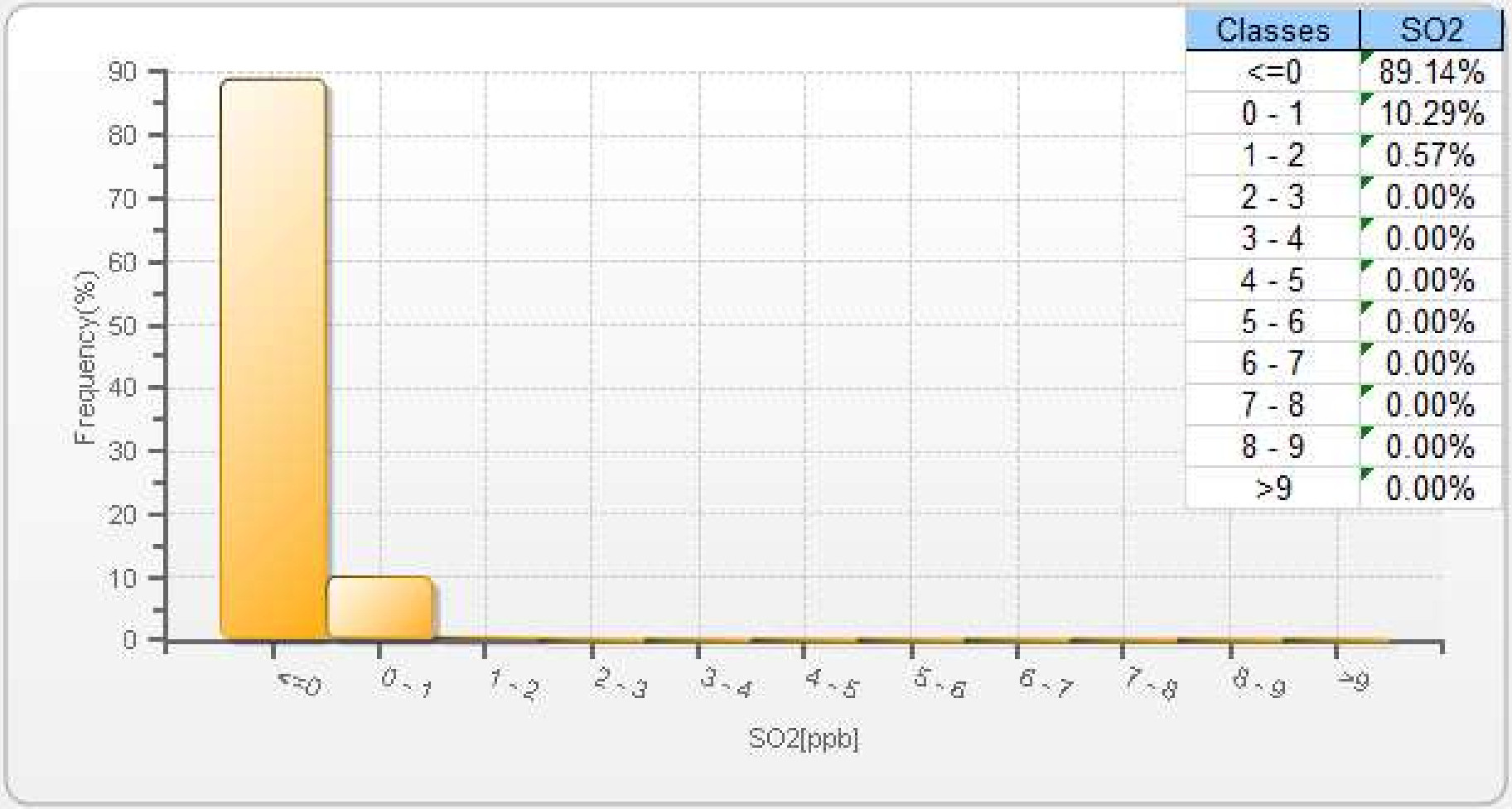
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| R | Recovery | 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*

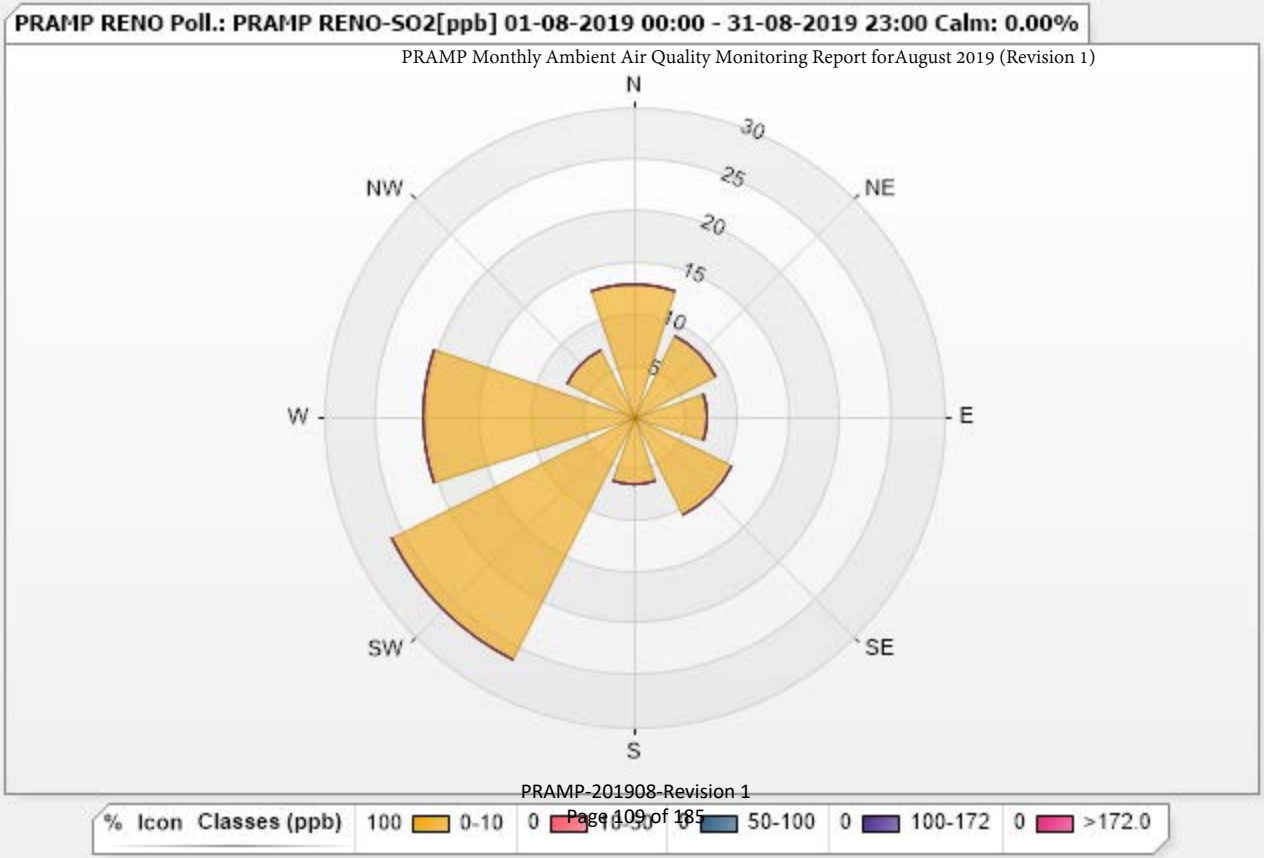


SO2[ppb] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



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 pramp

# 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

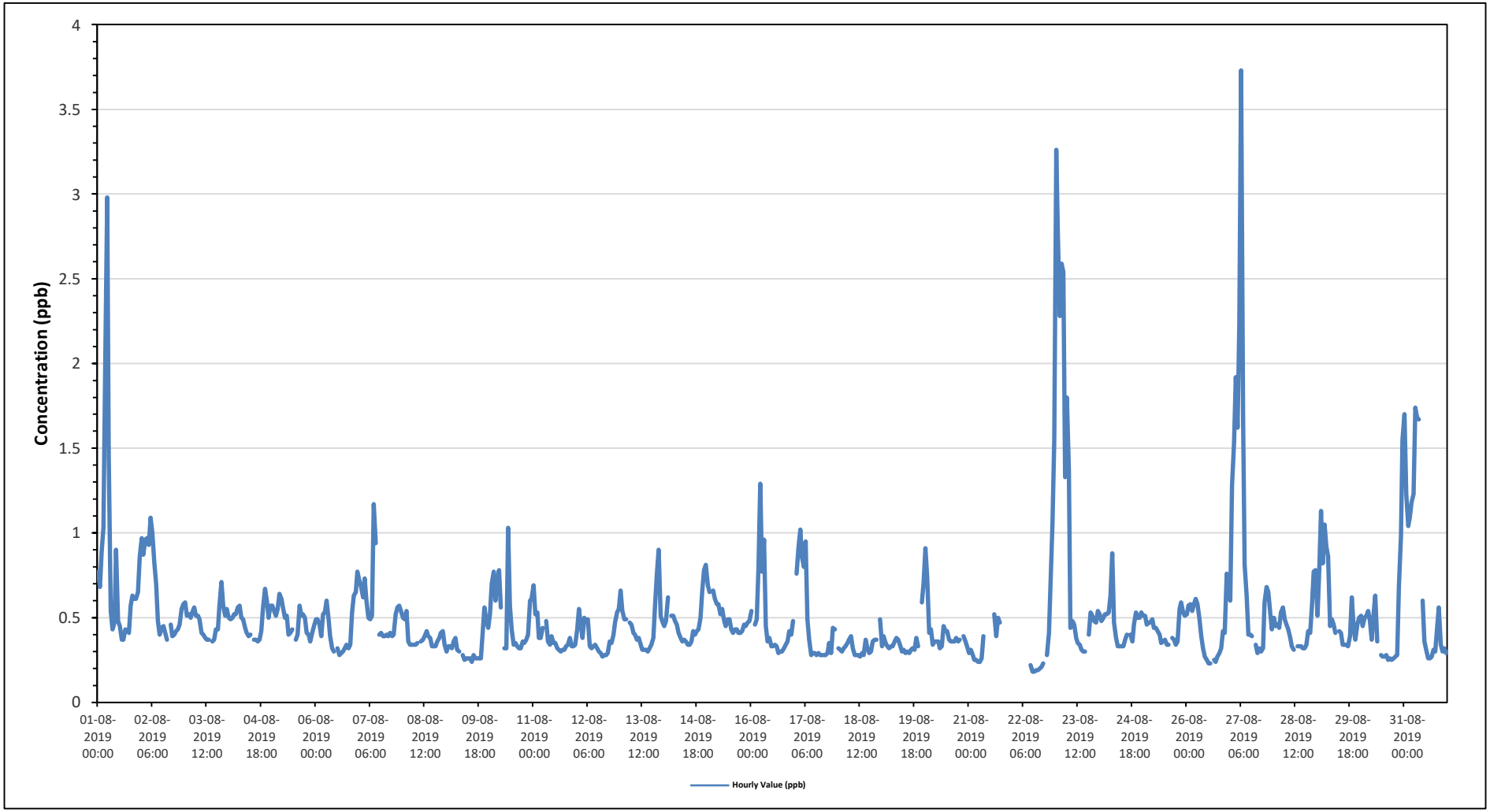
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.73 | ppb | on August 27 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.05 | ppb | on August 23 | Hours of Data: | 692 |
| Minimum Hourly Value: | 0.18 | ppb | on August 22 at hour 11 | Hours of Missing Data: | 16 |
| 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 | | | |

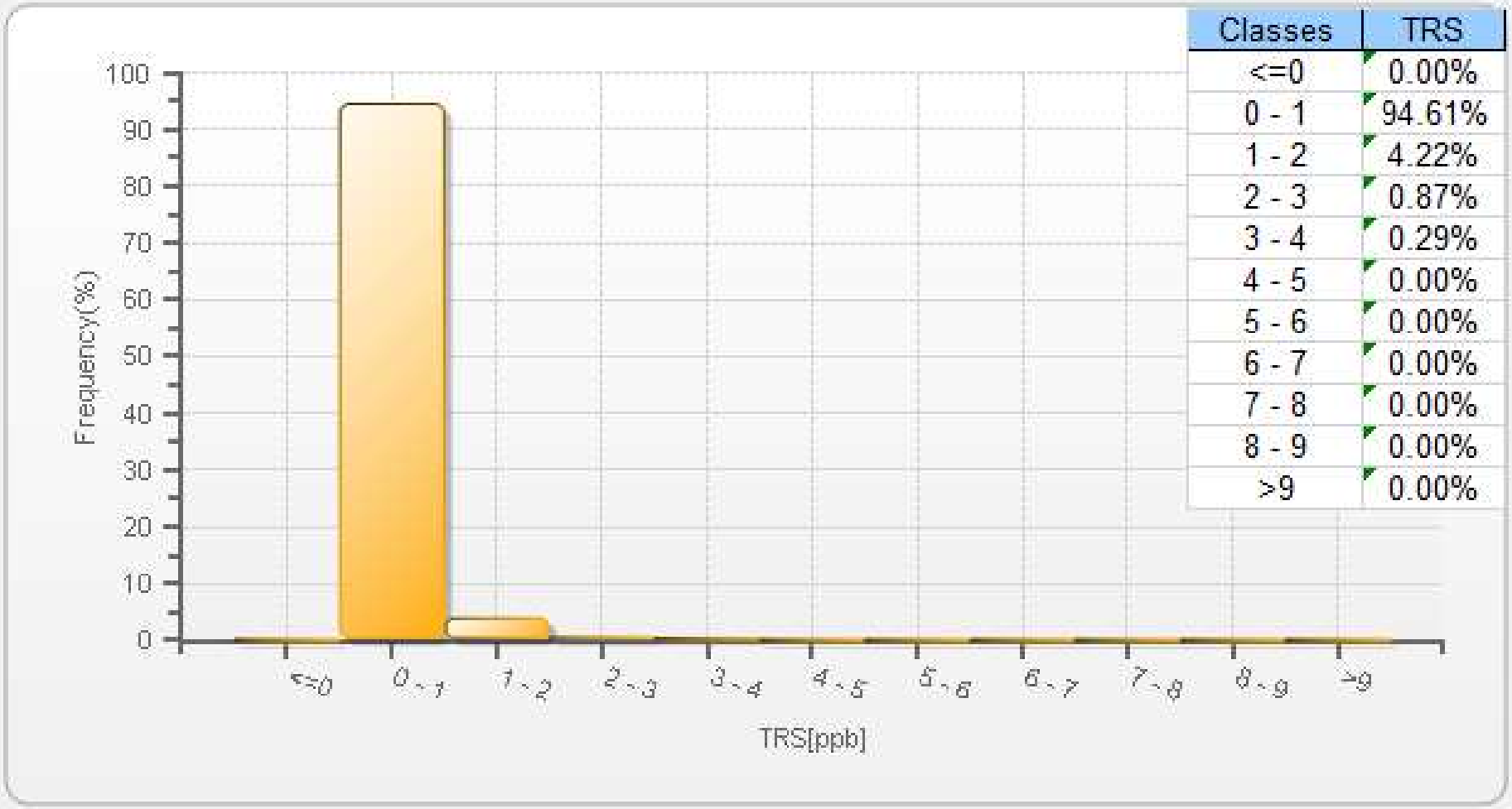
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| R | Recovery | 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*

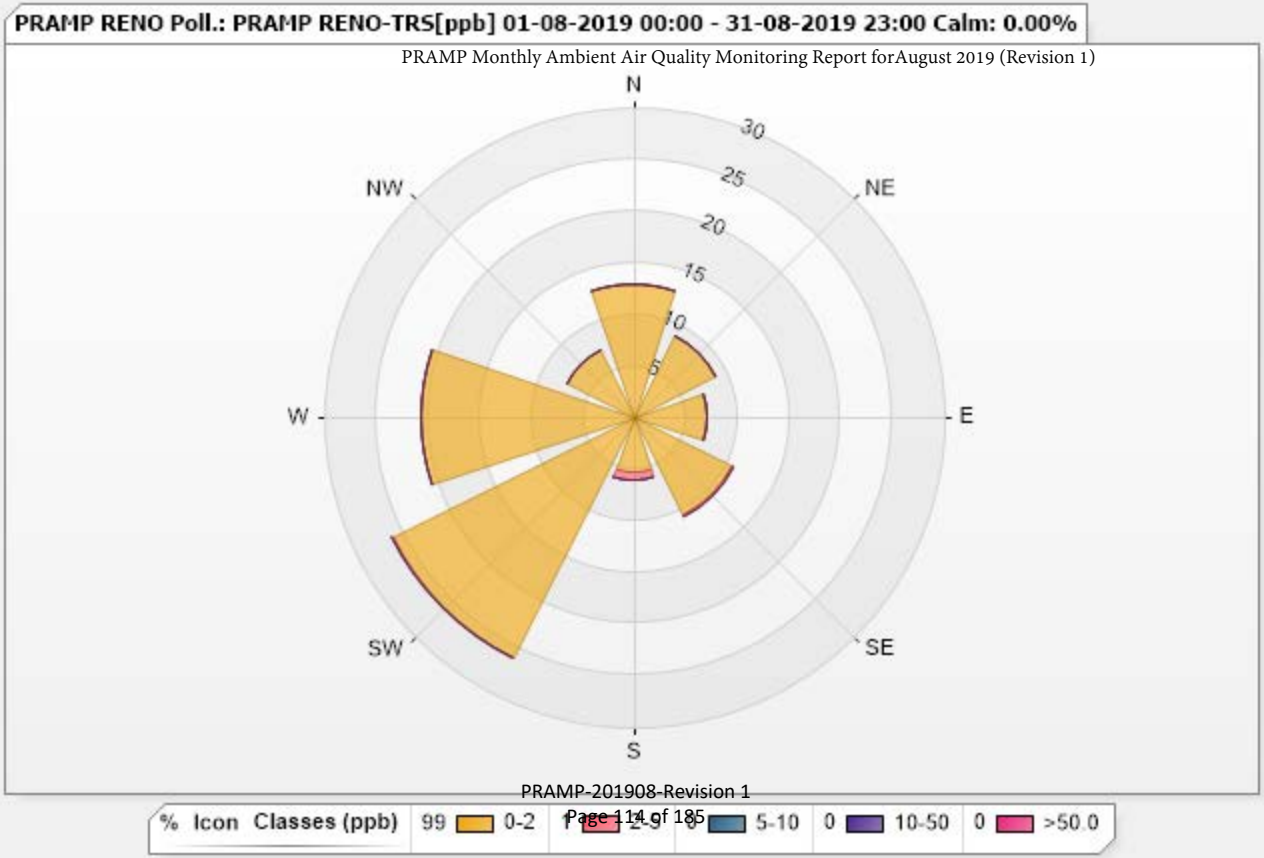


TRS[ppb] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.



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

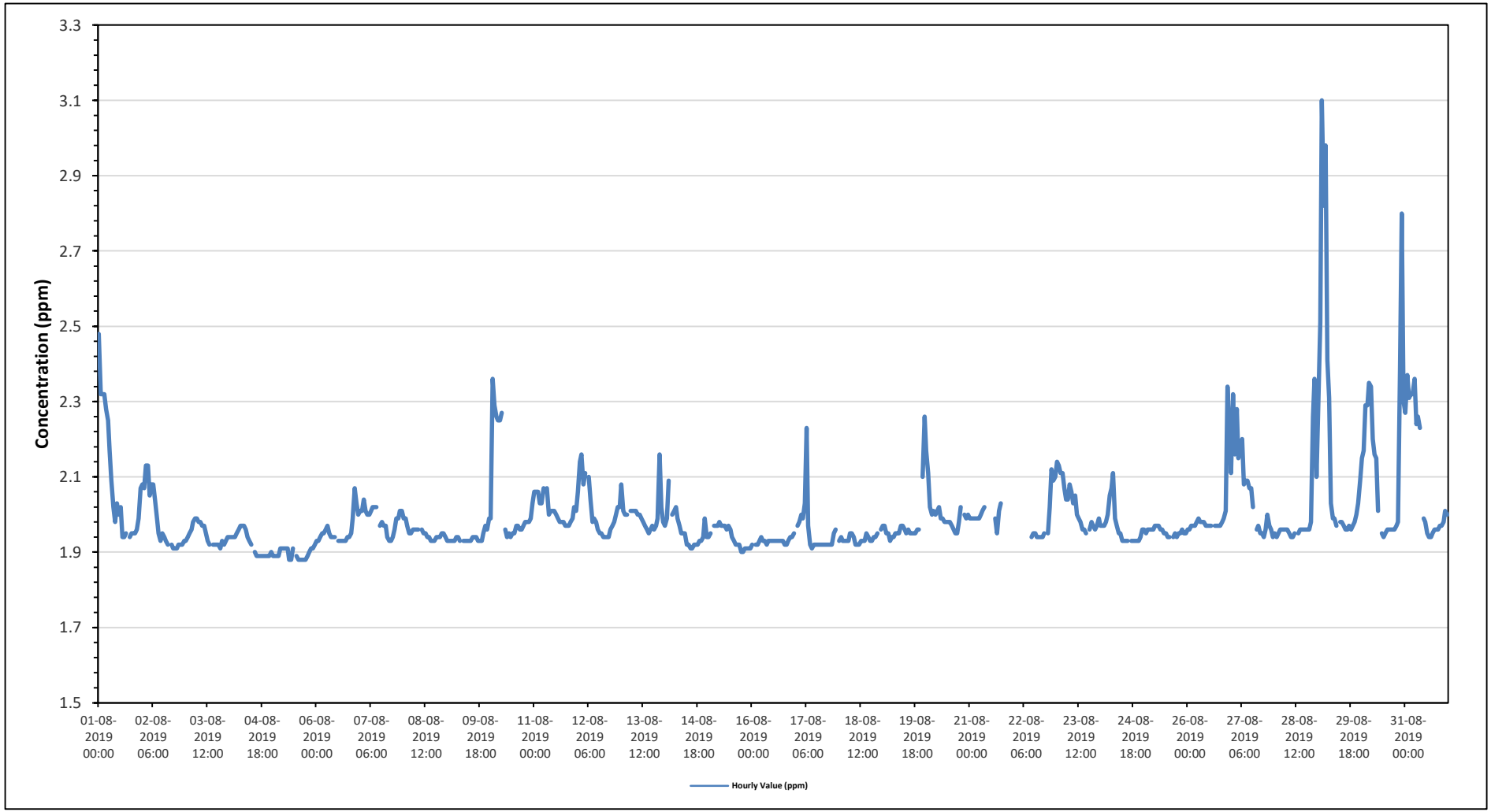
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.10 | ppm | on August 29 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.18 | ppm | on August 29 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.88 | ppm | on August 5 at hour 9 | Hours of Missing Data: | 17 |
|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

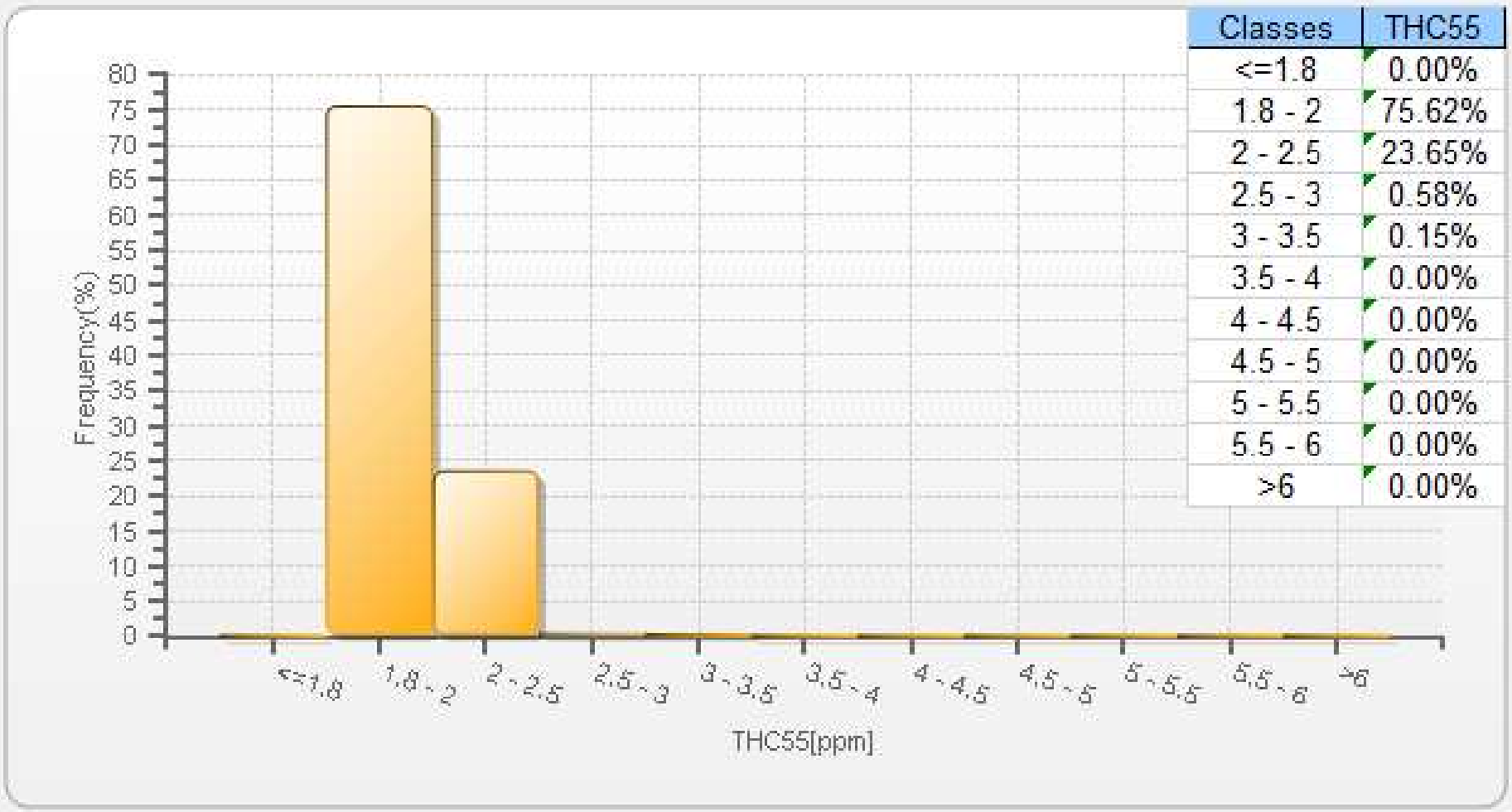
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Aug 1 | 2.48 | 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 | 1.89 | 1.90 | 1.91 | 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.

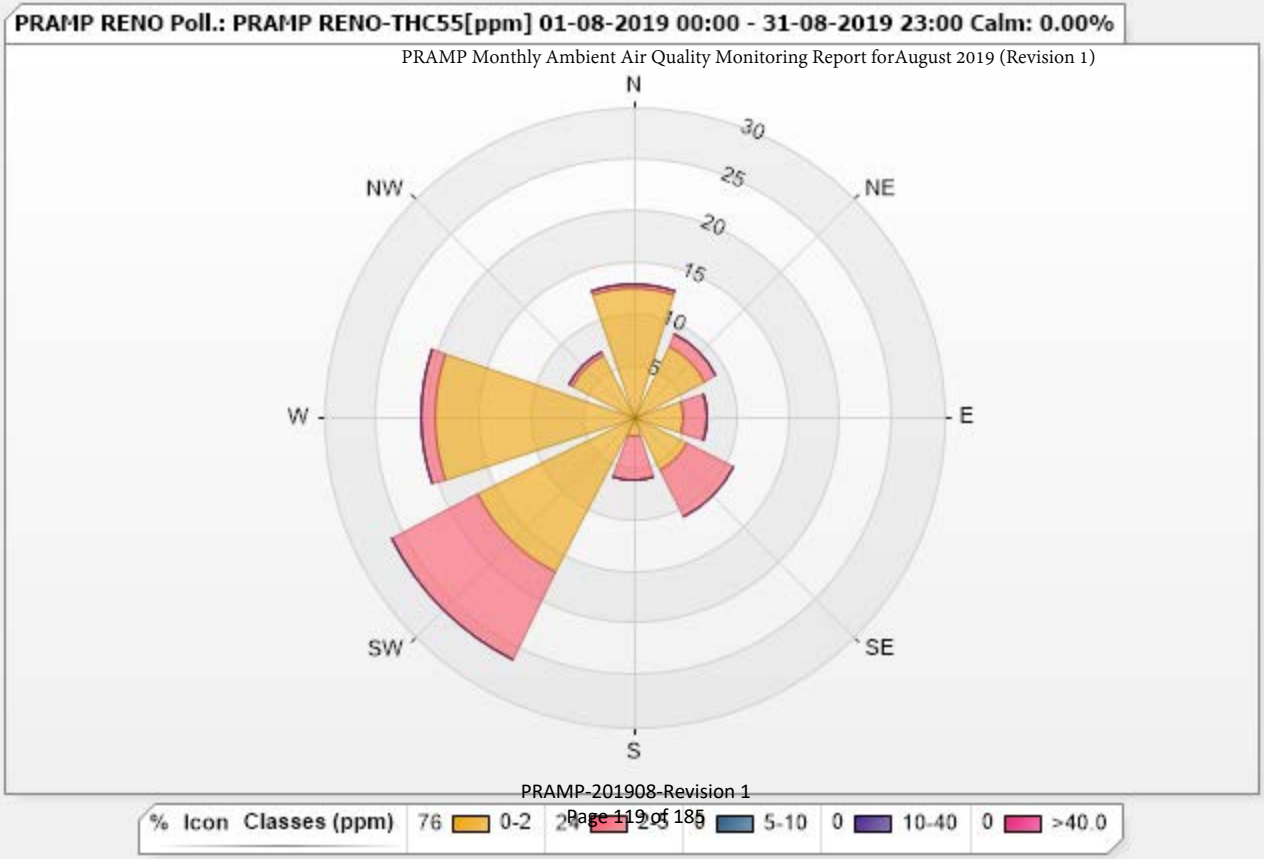
## *Timeseries Chart of Hourly Average for THC - Reno Station*




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%
Frequency(%)
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
<=1.8
1.8 - 2
2 - 2.5
2.5 - 3
3 - 3.5
3.5 - 4
4 - 4.5
4.5 - 5
5 - 5.5
5.5 - 6
>6
THC55[ppm]

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

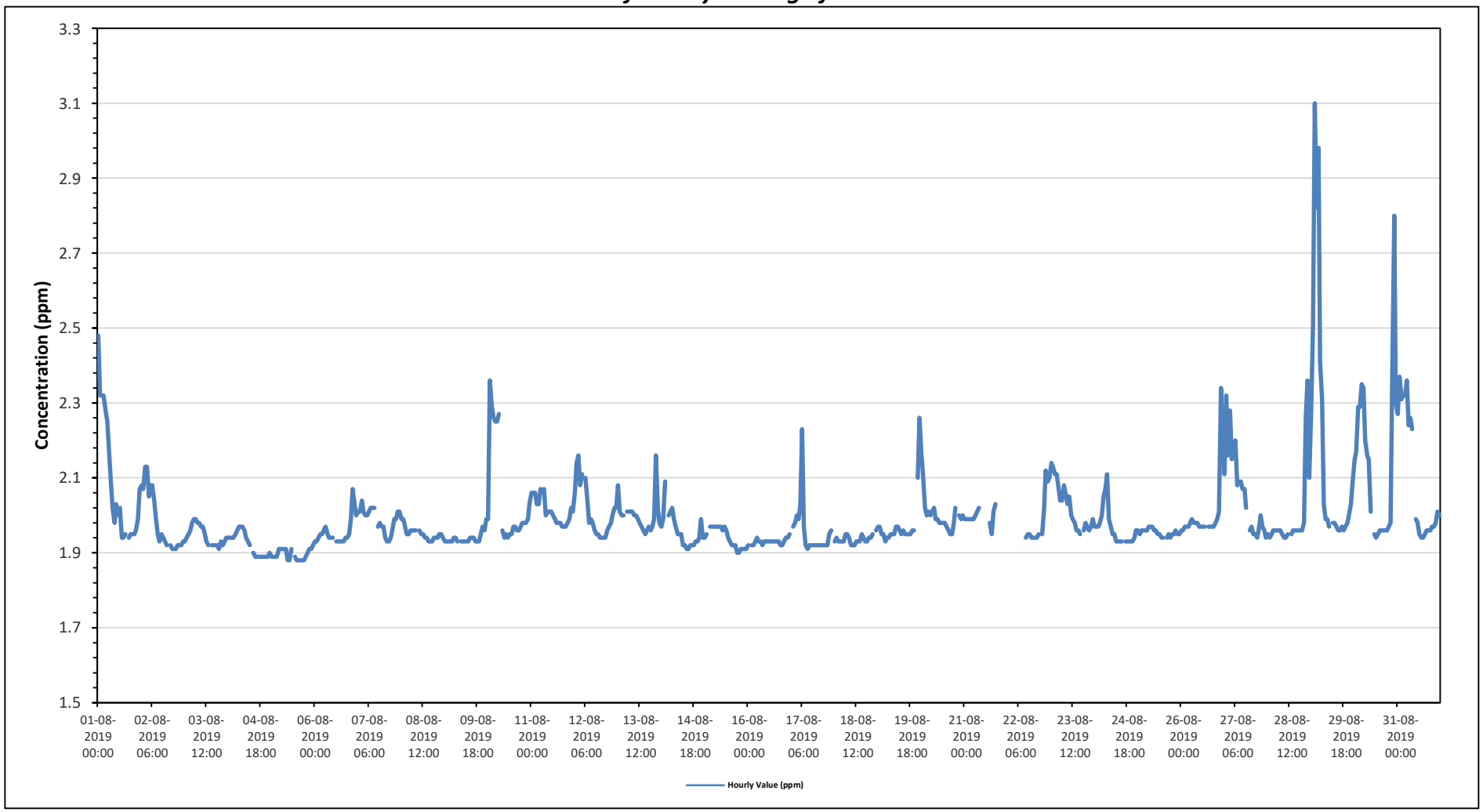
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.10 | ppm | on August 29 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.18 | ppm | on August 29 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.88 | ppm | on August 5 at hour 9 | Hours of Missing Data: | 17 |
| Minimum Daily Value: | 1.90 | ppm | on August 5 | Hours of Calibration: | 35 |
| Monthly Average: | 1.99 | 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 | 2.48 | 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 | | | |

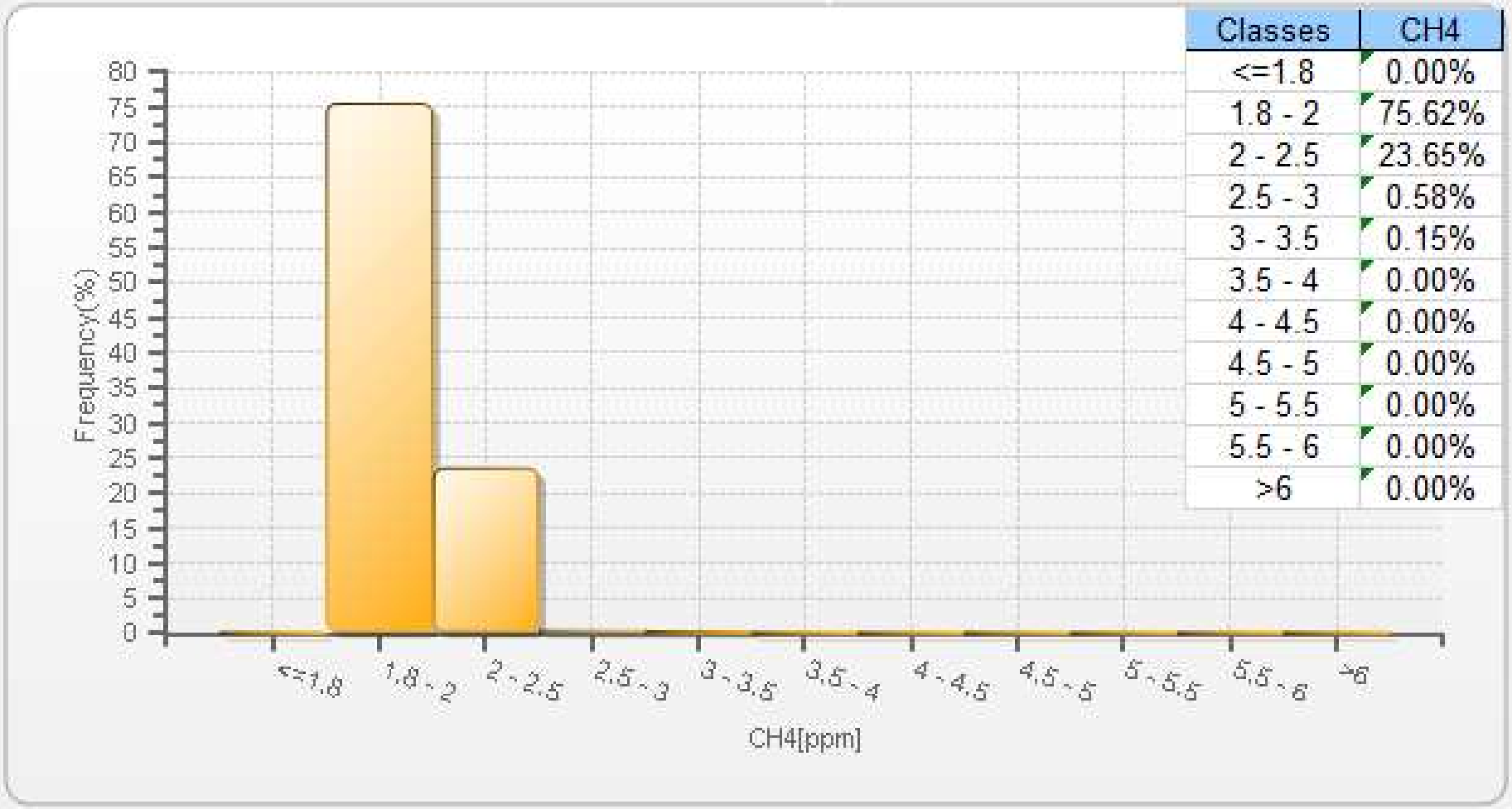
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power 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*



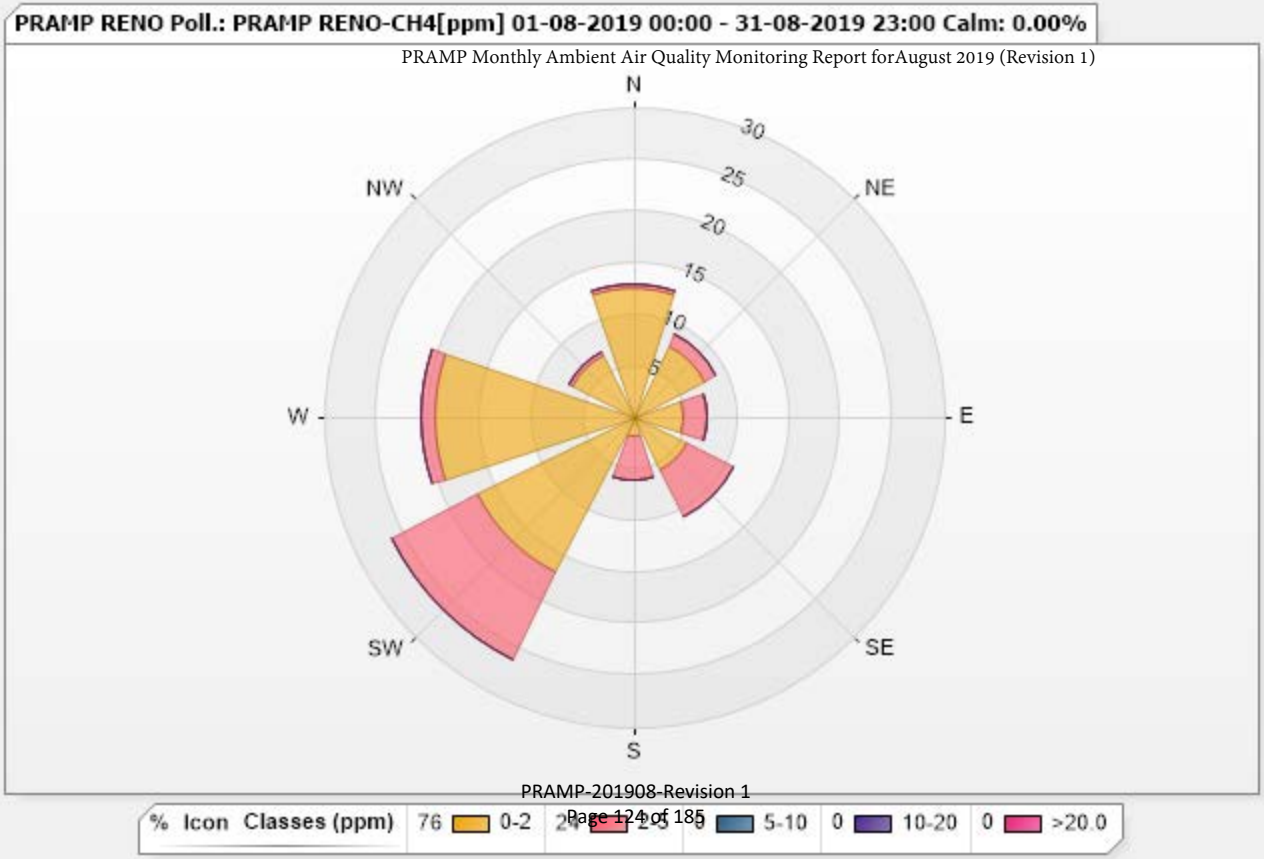
CH4[ppm] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.




| 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
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

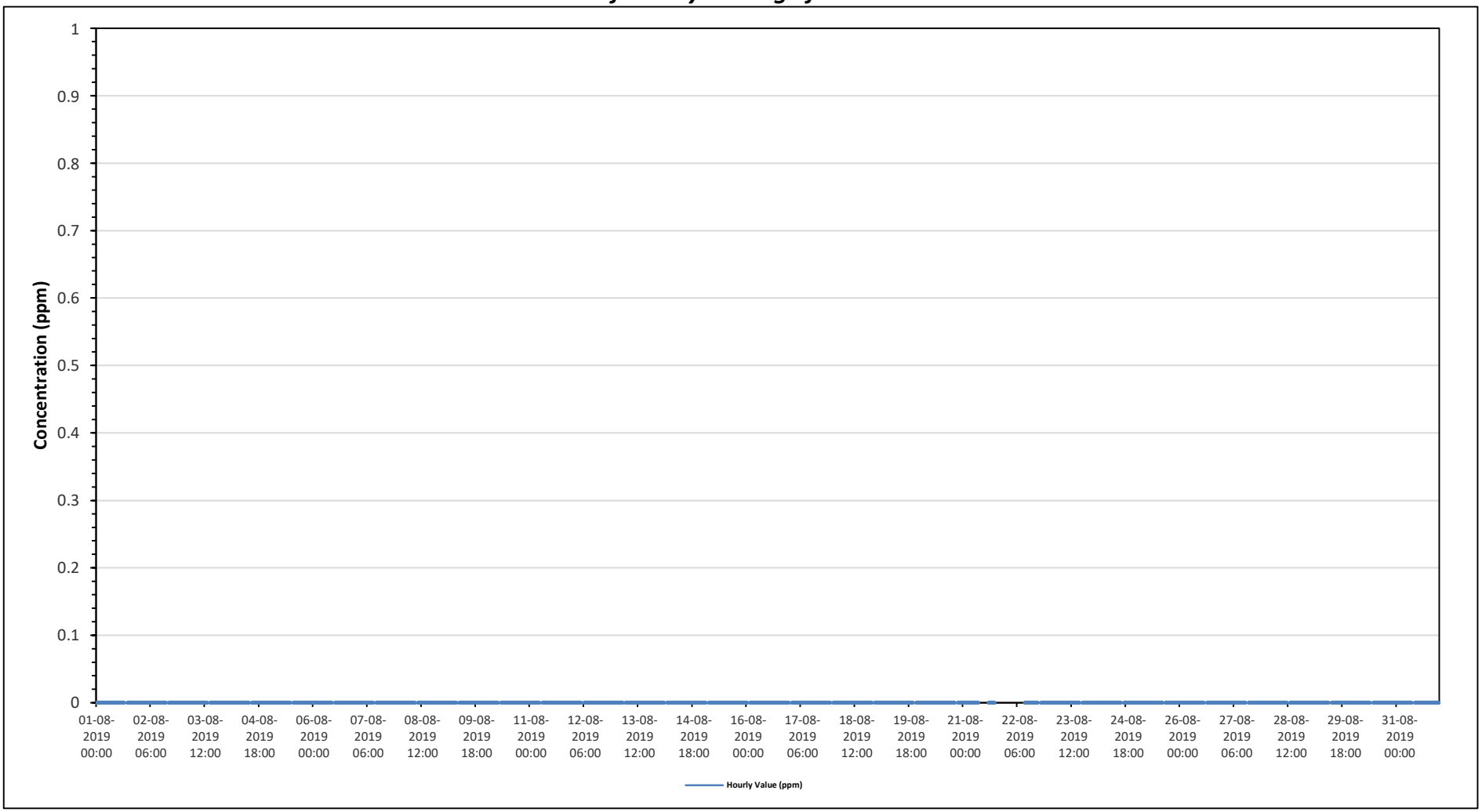
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 1 | Hours of Data: | 692 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours of Missing Data: | 17 |
| Minimum 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 | | | |

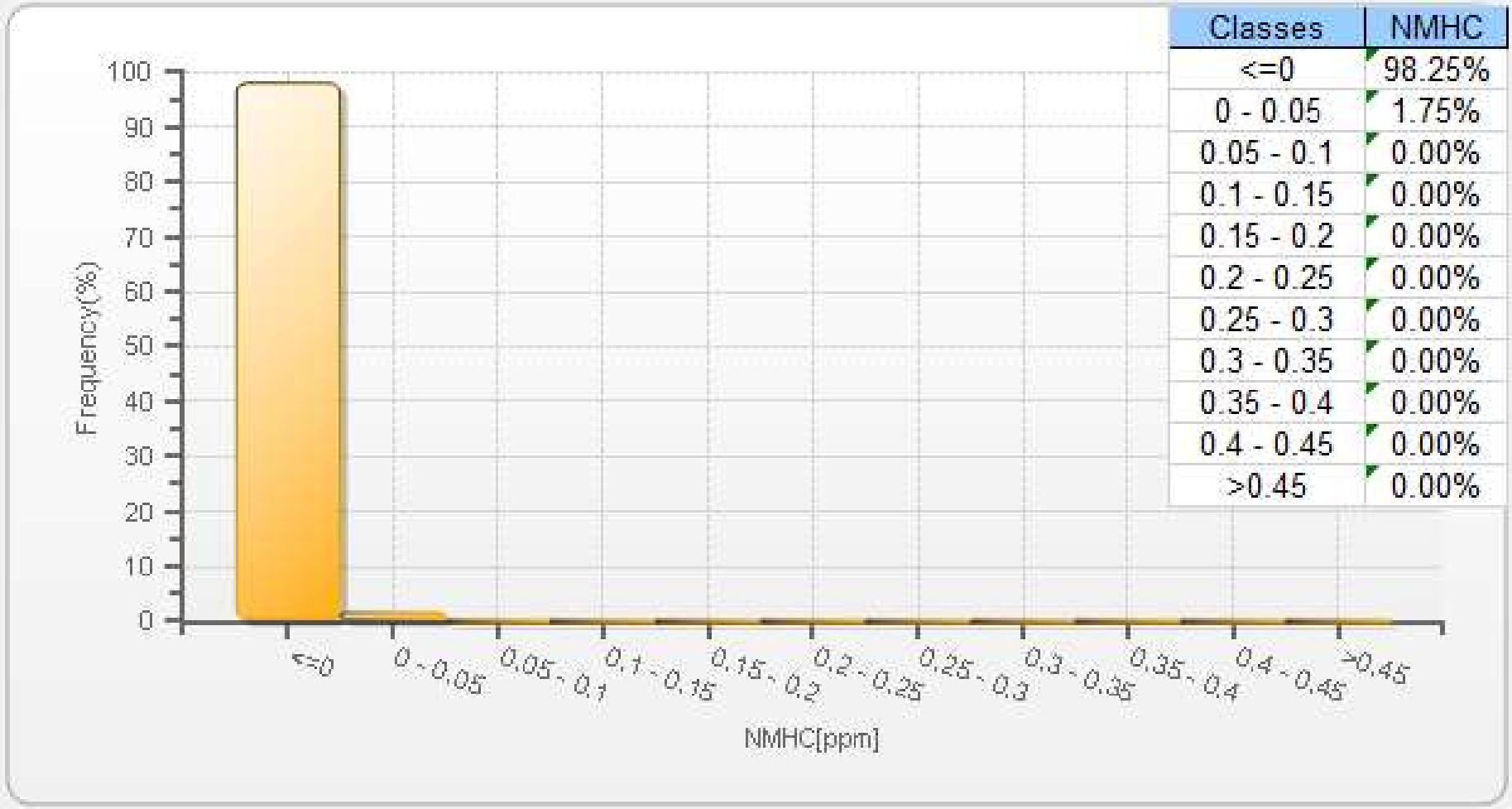
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | K | Collection Error | N | Not in Service | O | Operator Error | P | Power Failure |
| R | Recovery | 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 Average for NMHC - Reno Station*



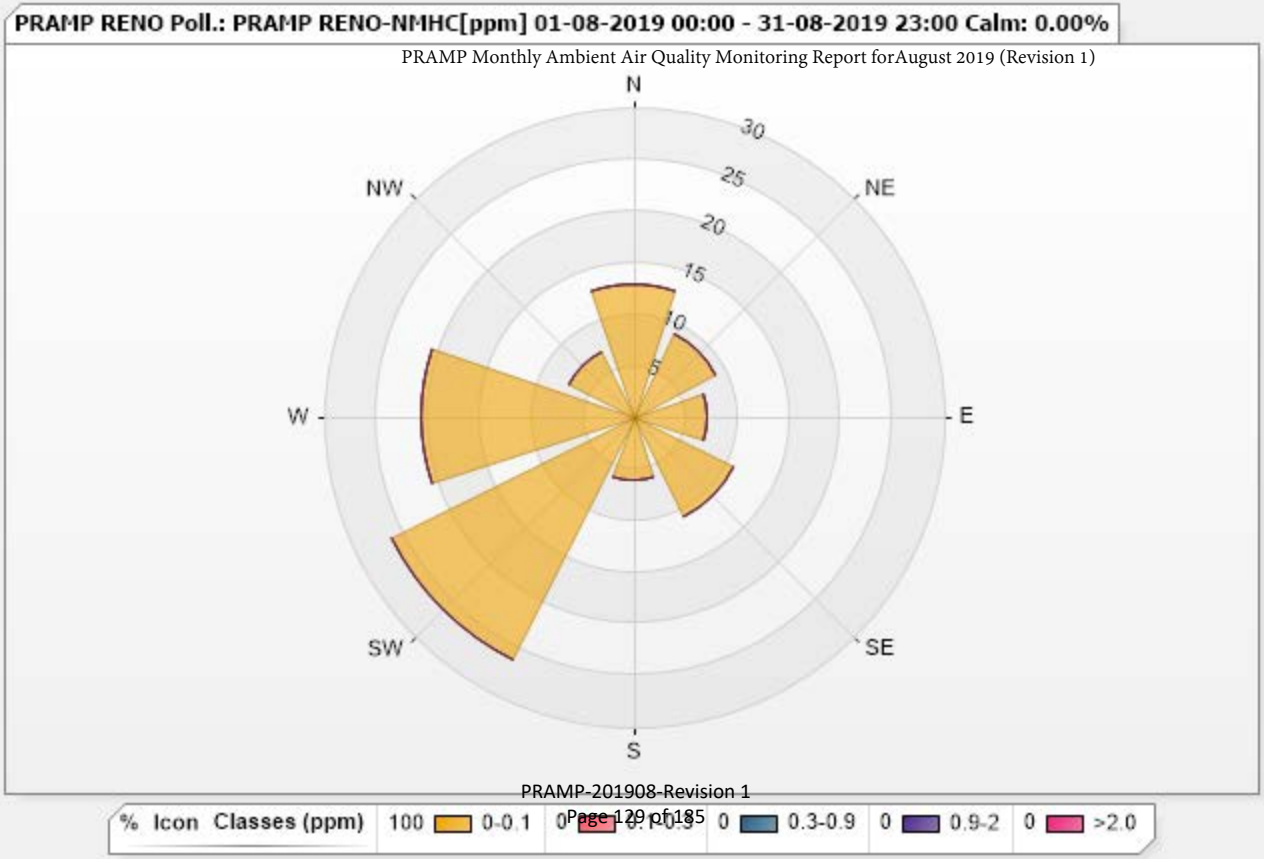
NMHC[ppm] Histogram: PRAMP RENO Monthly: 08-2019 1 Hr.




| 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 %

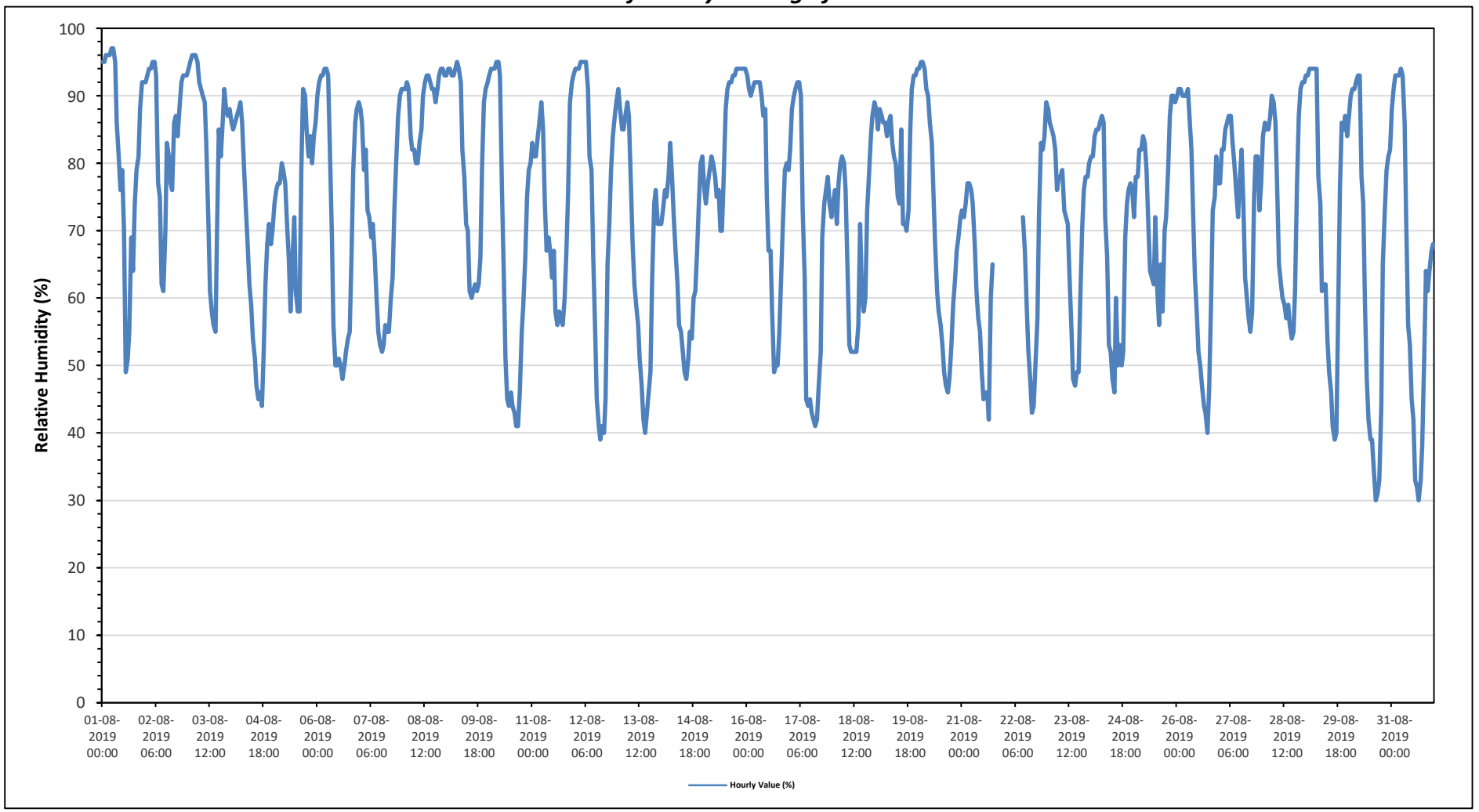
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 97 | % | on August 1 at hour 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 89.0 | % | on August 8 | Hours of Data: | 728 |
| Minimum Hourly Value: | 30 | % | on August 30 at hour 15 | Hours of Missing Data: | 16 |
| Minimum Daily 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

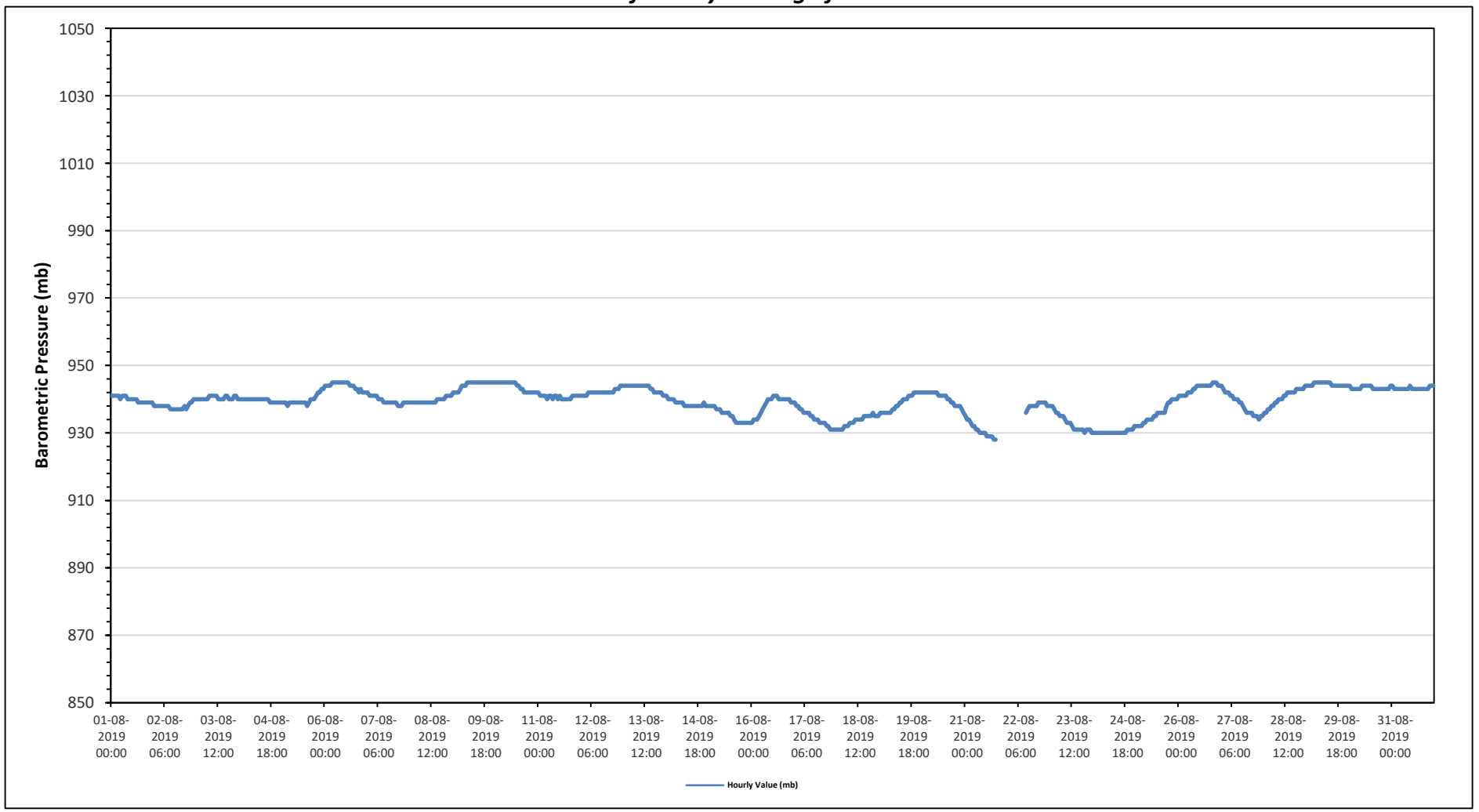
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 945 | mb | on August 6 at hour 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 944 | mb | on August 29 | Hours of Data: | 728 |
| Minimum Hourly Value: | 928 | mb | on August 21 at hour 16 | Hours of Missing Data: | 16 |
| Minimum 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

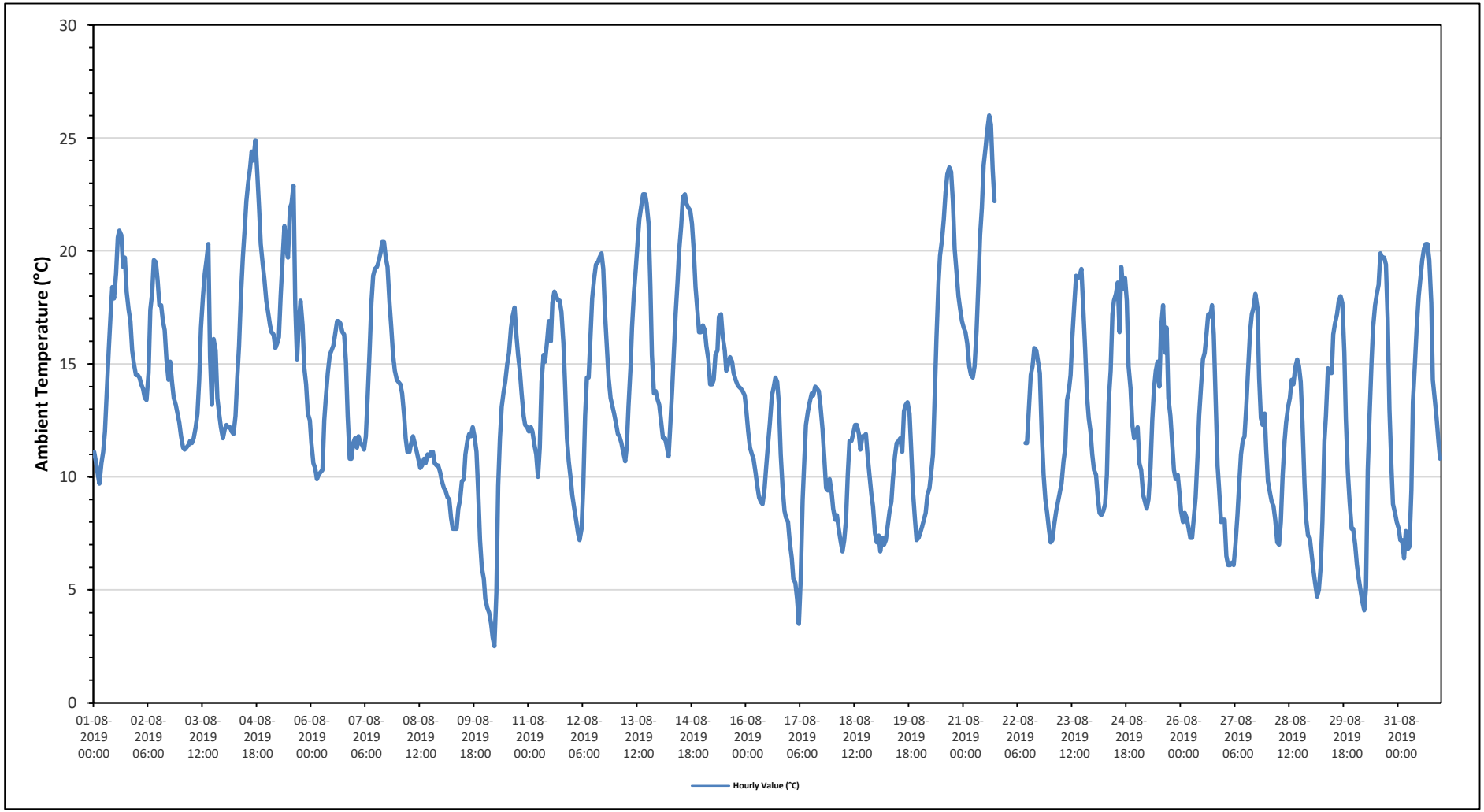
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 26.0 | °C | on August 21 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.8 | °C | on August 21 | Hours of Data: | 728 |
| Minimum Hourly Value: | 2.5 | °C | on August 10 at hour 5 | Hours of Missing Data: | 16 |
| Minimum 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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Reno Station - August 2019

## Summary of Hourly Averages

## STATION TEMPERATURE (ST) in Degree Celsius

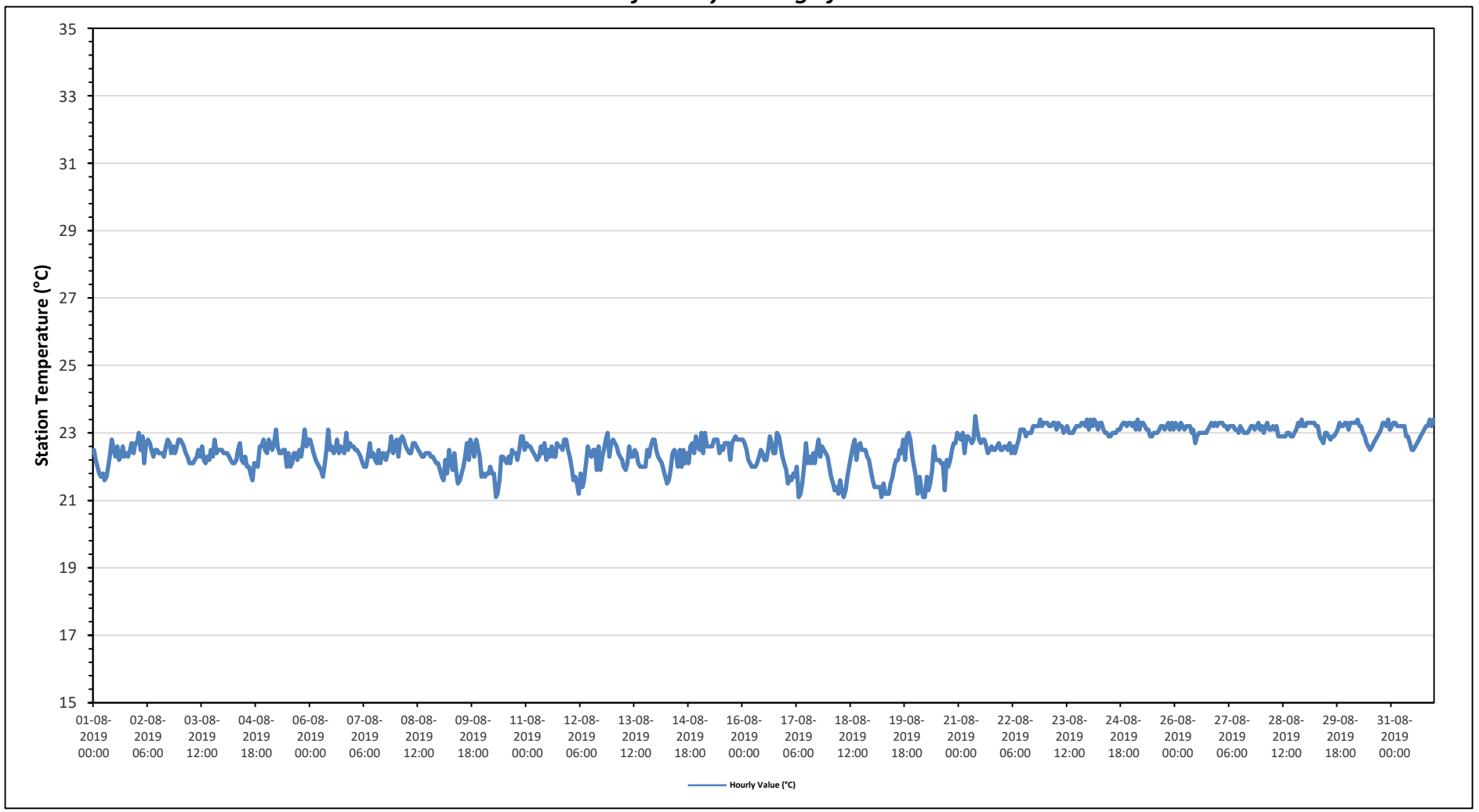
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.5 | °C | on August 21 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.2 | °C | on August 23 | Hours of Data: | 744 |
| Minimum Hourly Value: | 21.1 | °C | on August 10 at hour 7 | Hours of Missing Data: | 0 |
| Minimum 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 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 | 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

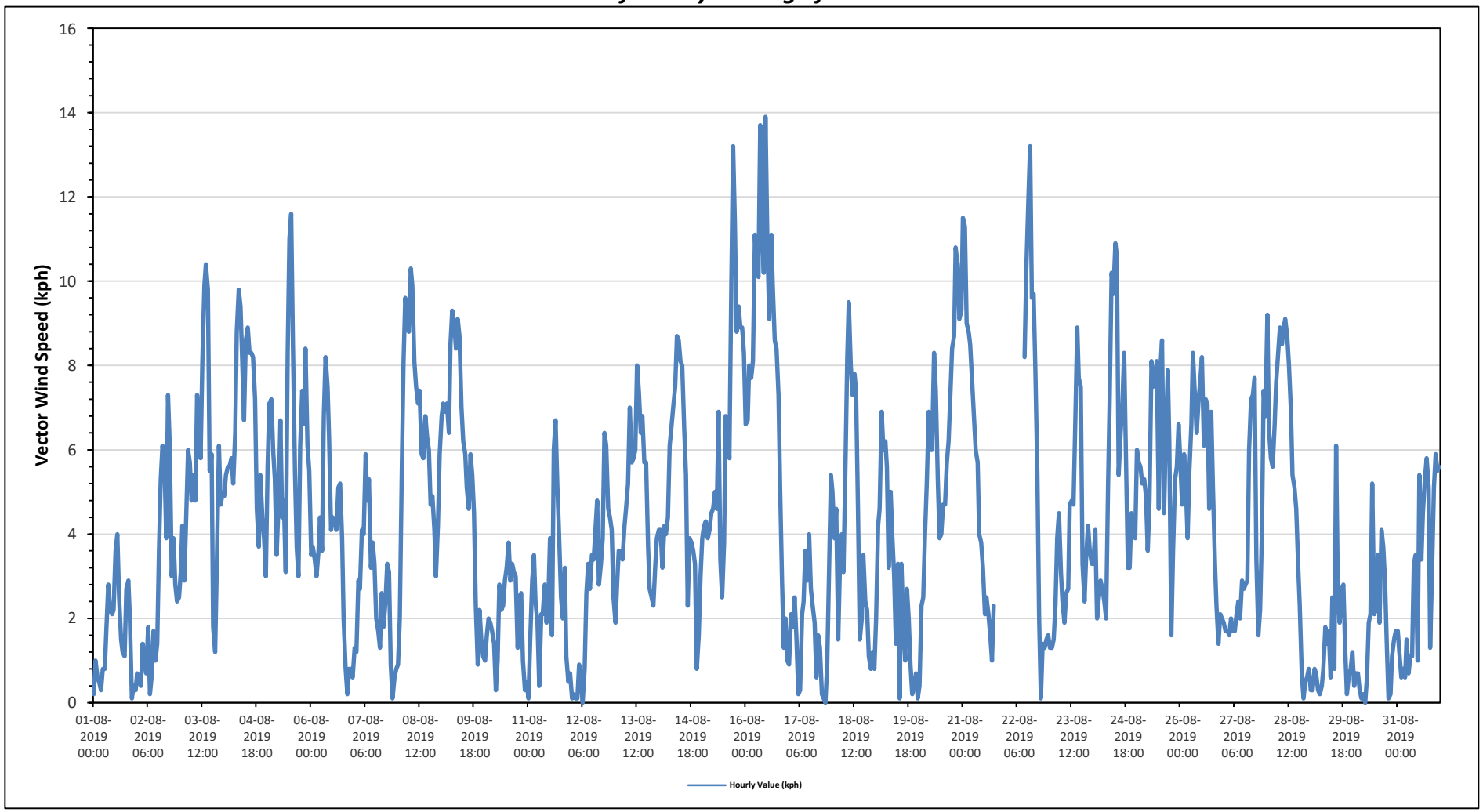
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 13.9 | kph | on August 16 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 8.1 | kph | on August 16 | Hours of Data: | 728 |
| Minimum Hourly Value: | 0.0 | kph | on August 12 at hour 6 | Hours of Missing Data: | 16 |
| Minimum Daily Value: | 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 |

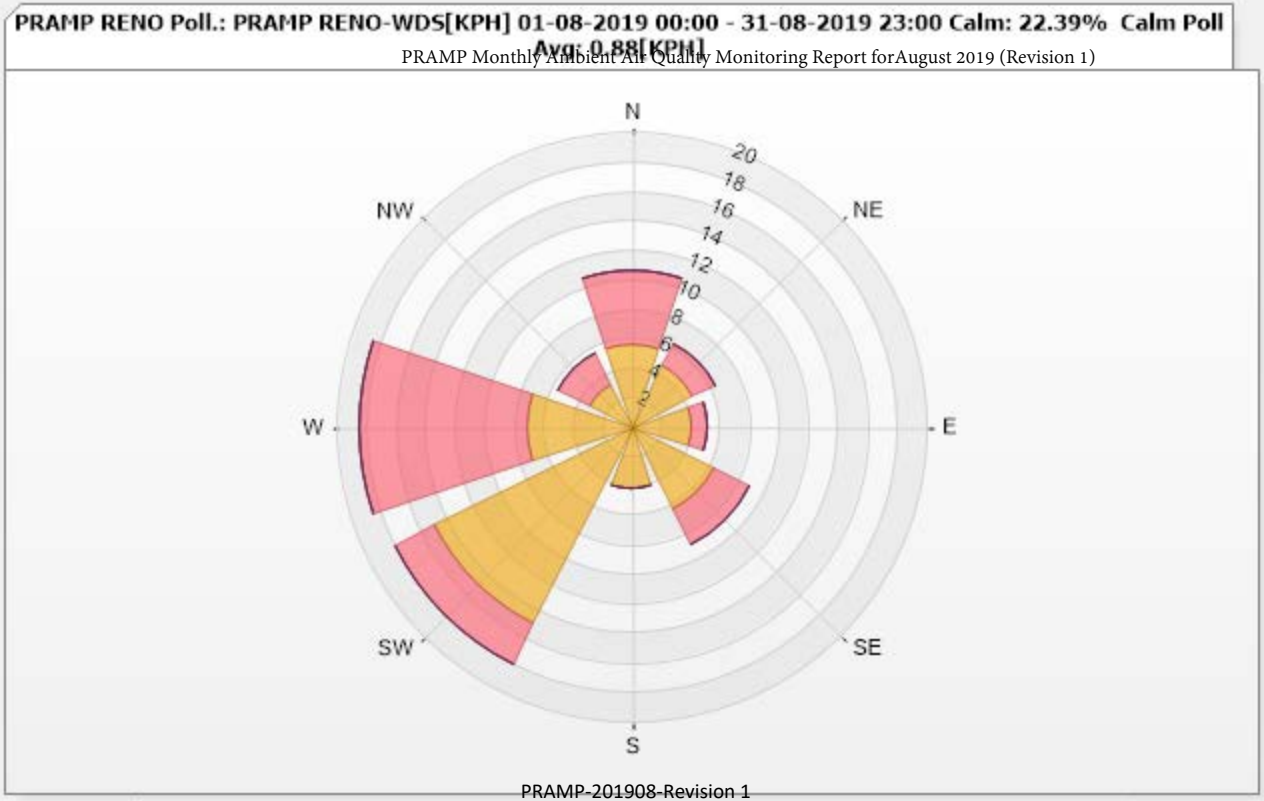
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

## *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]
N
NE
E
SE
S
SW
W
NW
20
18
16
14
12
10
8
6
4
2
% Icon Classes (KPH)
50 0-6
27 6-15
0 15-29
0 29-39
0 >39.0

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Reno Station - August 2019*

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

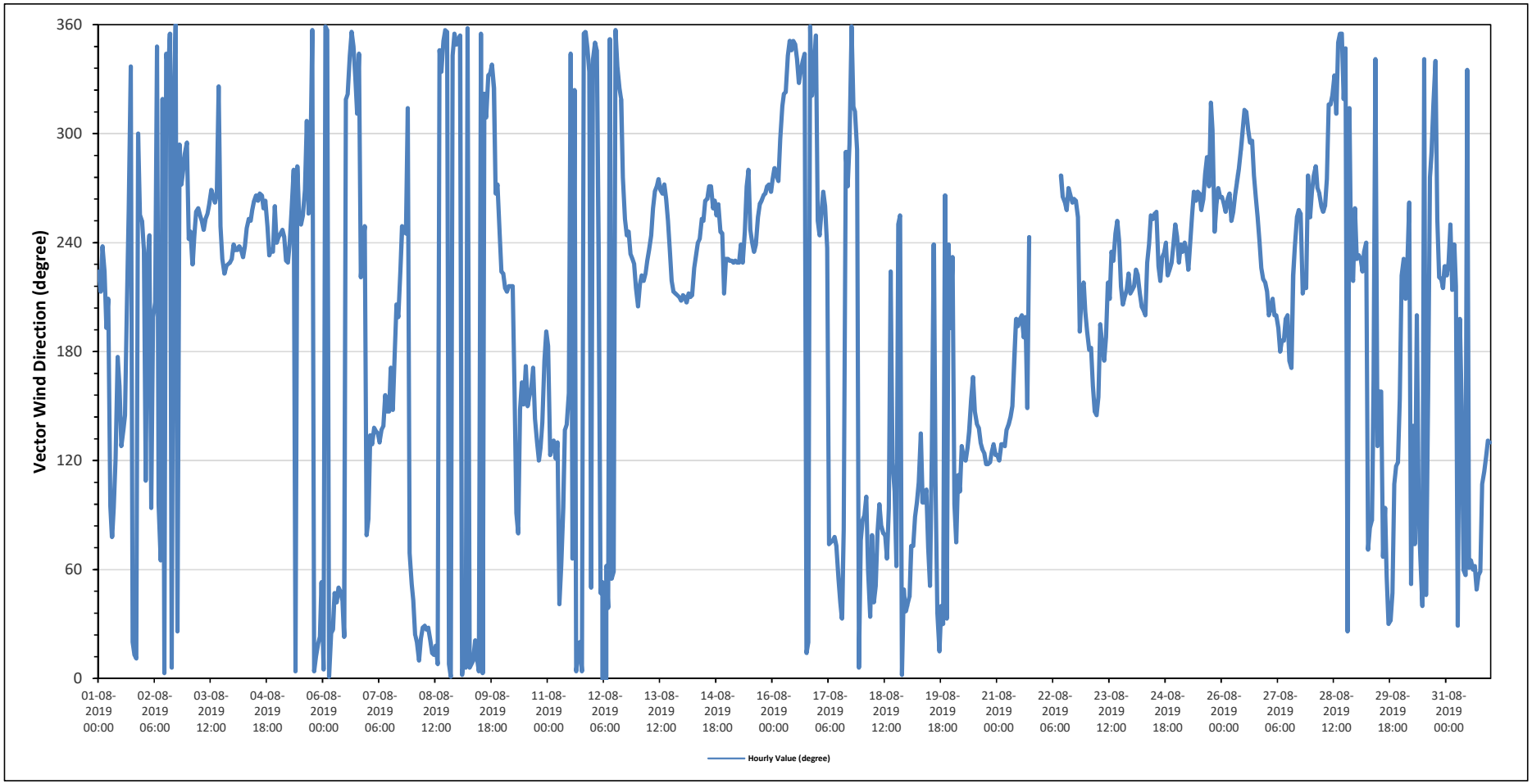
| | | | |
|---|---|---|---|
| Monthly Average: | 270 (W) | degree | |
| Hours in Service: | 744 | | |
| Hours of Data: | 728 | | |
| Hours of Missing Data: | 16 | | |
| Hours of Calibration: | 0 | | |
| Operational Uptime: | 97.8 | | |

| 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

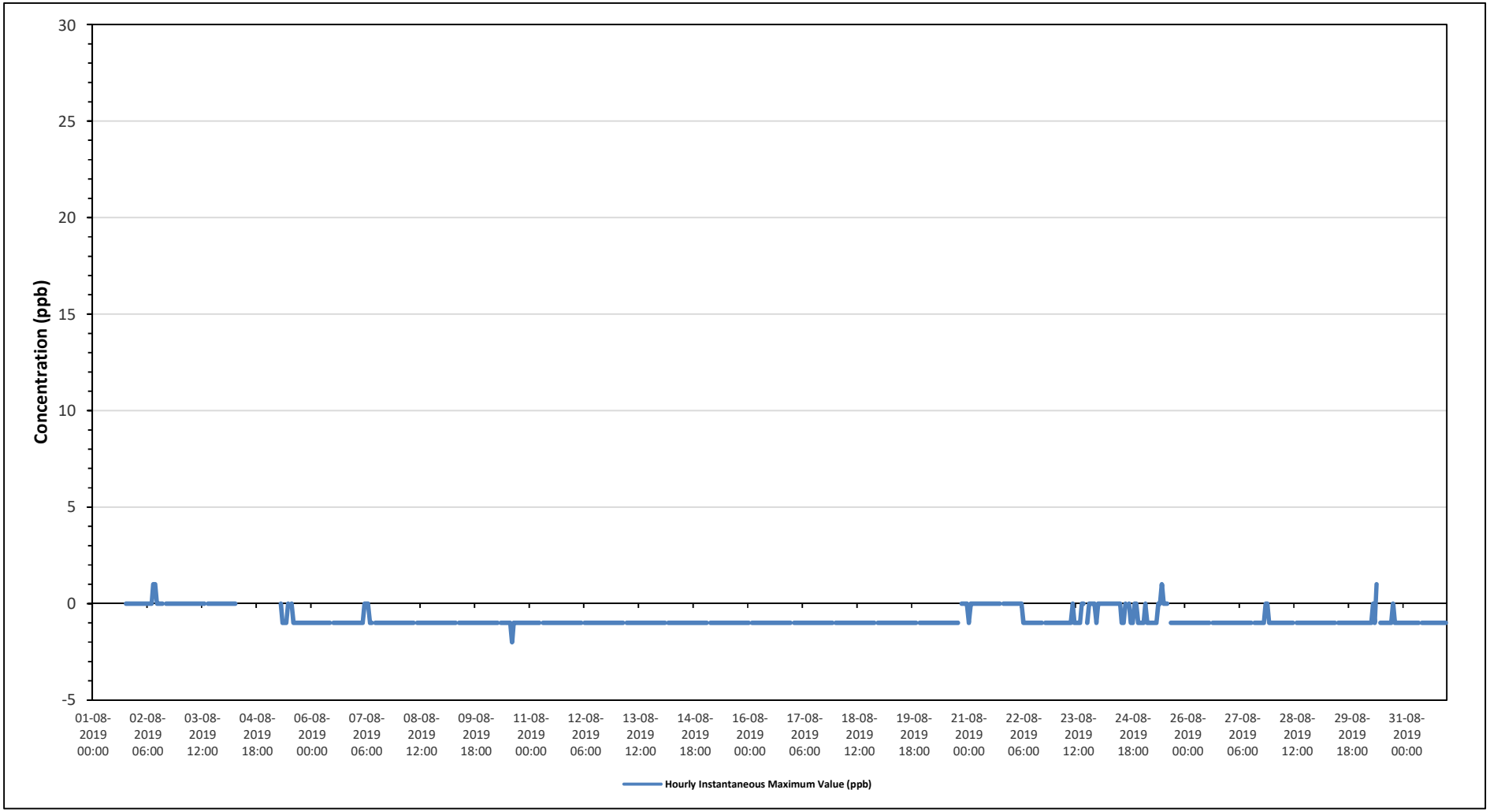
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on August 2 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.1 | ppb | on August 2 | Hours of Data: | 672 |
| Minimum Hourly Value: | -2 | ppb | on August 10 at hour 14 | Hours of Missing Data: | 37 |
| Minimum 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

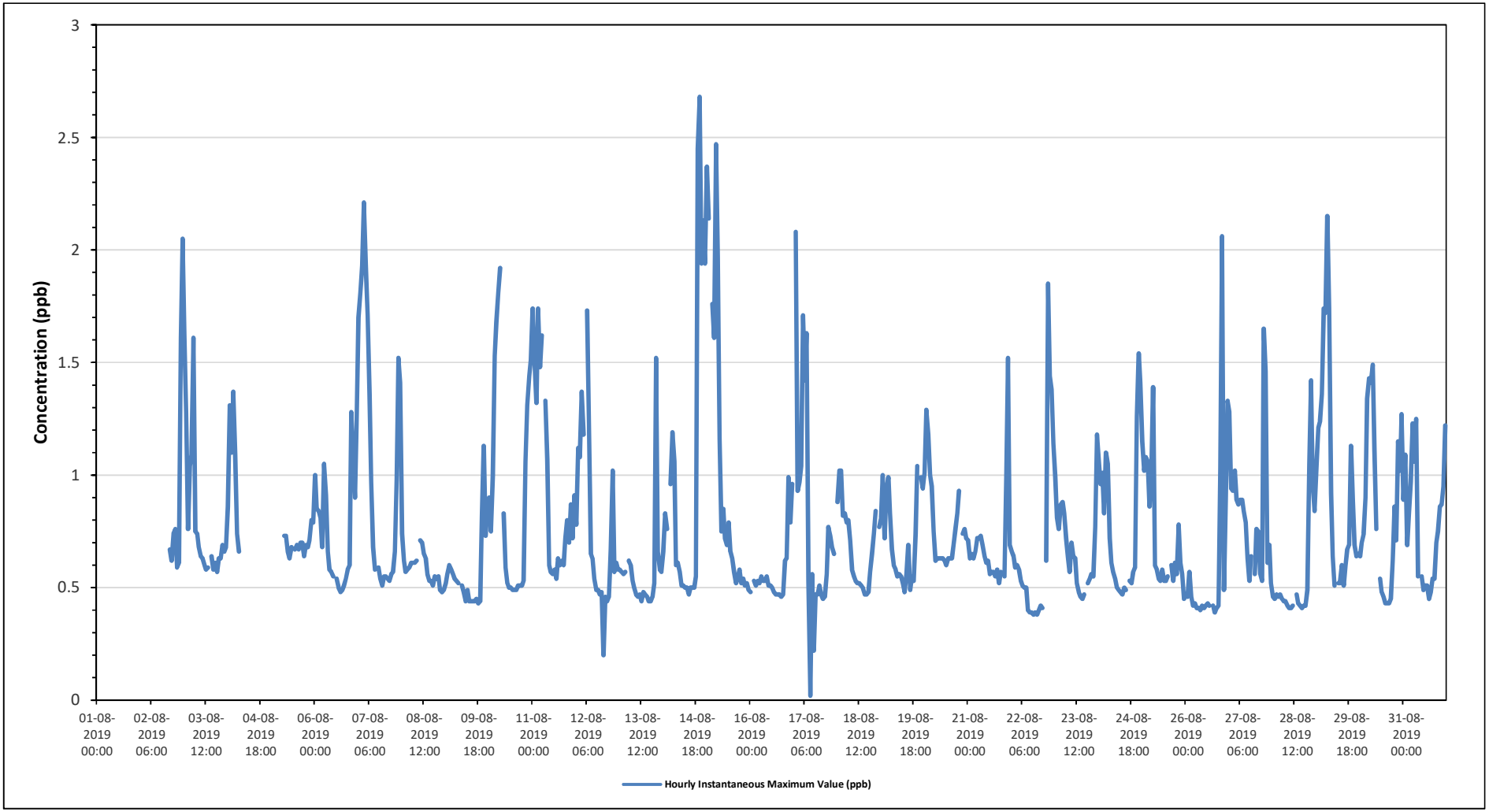
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.68 | ppb | on August 14 at hour 20 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.06 | ppb | on August 7 | Hours of Data: | 652 |
| Minimum Hourly Value: | 0.02 | ppb | on August 17 at hour 9 | Hours of Missing Data: | 57 |
| 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 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 | 0.66 | 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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Instantaneous Maximums

## TOTAL HYDROCARBONS (THC) in ppm

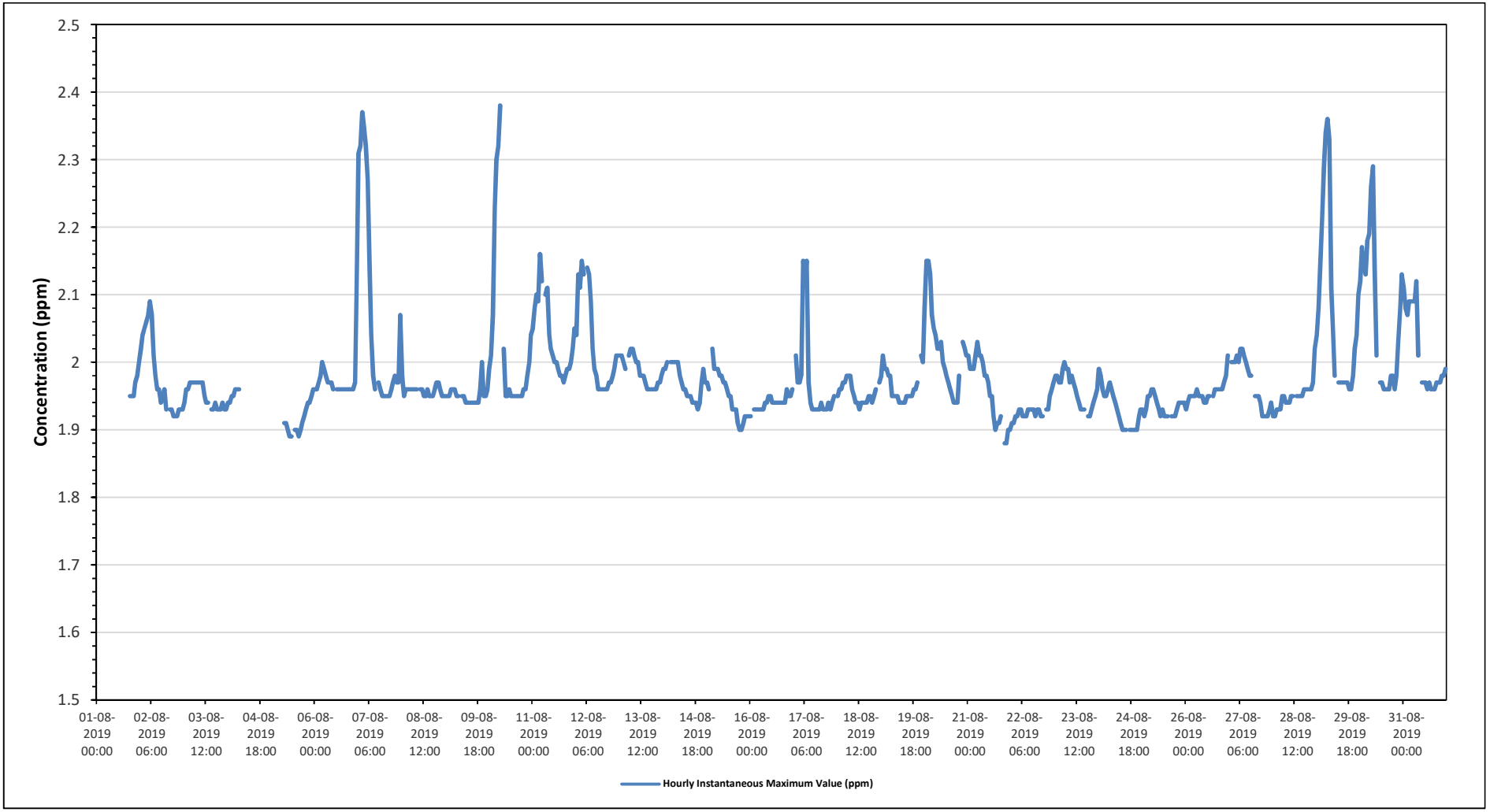
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.38 | ppm | on August 10 at hour | Hours in Service: | 744 |
| Maximum Daily Value: | 2.08 | ppm | on August 29 | Hours of Data: | 671 |
| Minimum Hourly Value: | 1.88 | ppm | on August 21 at hour | Hours of Missing Data: | 38 |
| Minimum 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 | 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 | 2.06 | 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 | 1.96 | 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 | 1.96 | 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 pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Instantaneous Maximums

## METHANE (CH4) in ppm

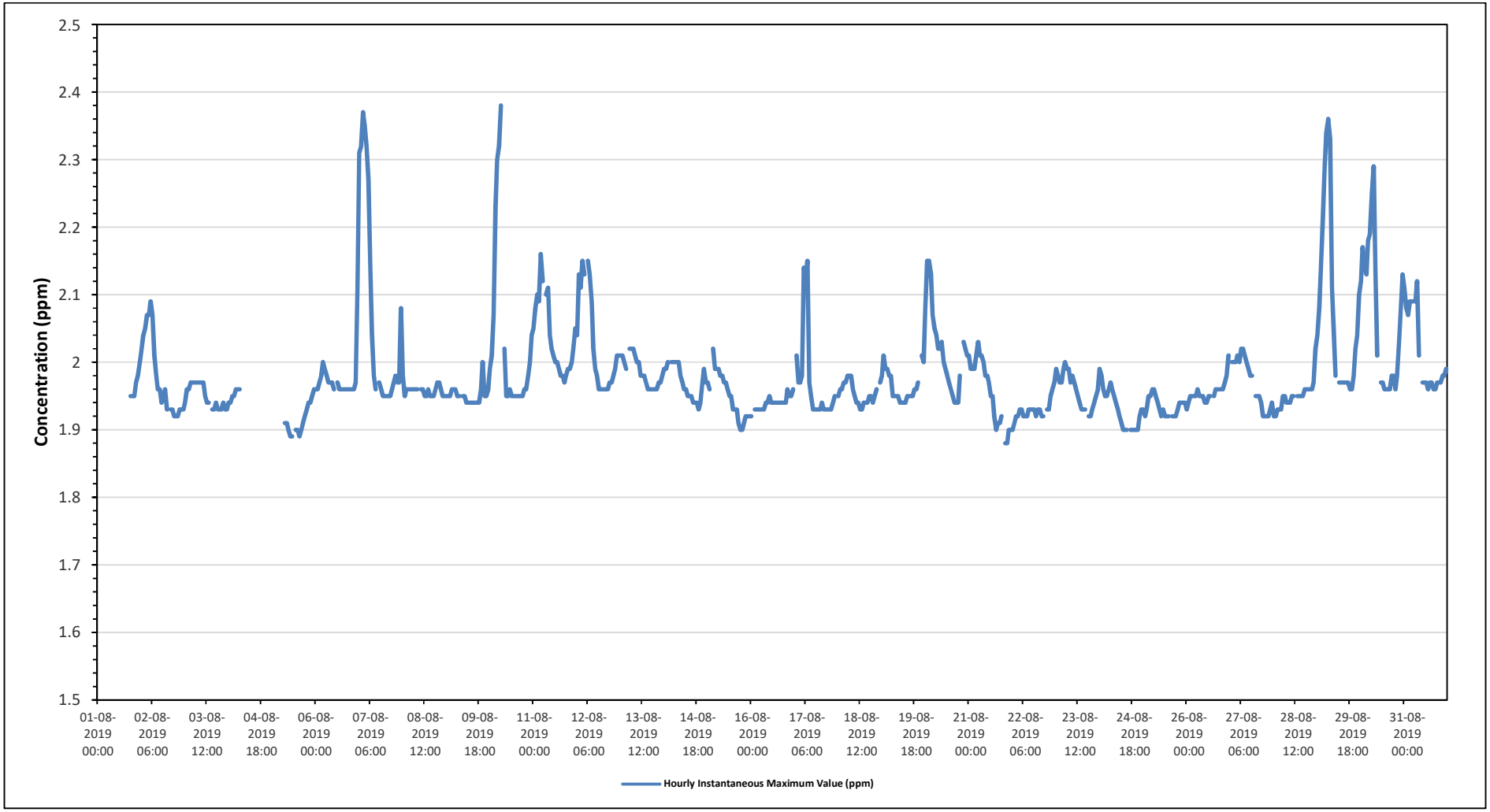
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.38 | ppm | on August 10 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.08 | ppm | on August 29 | Hours of Data: | 671 |
| Minimum Hourly Value: | 1.88 | ppm | on August 21 at hour 20 | Hours of Missing Data: | 38 |
| 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 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 | 2.07 | 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 | 1.96 | 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

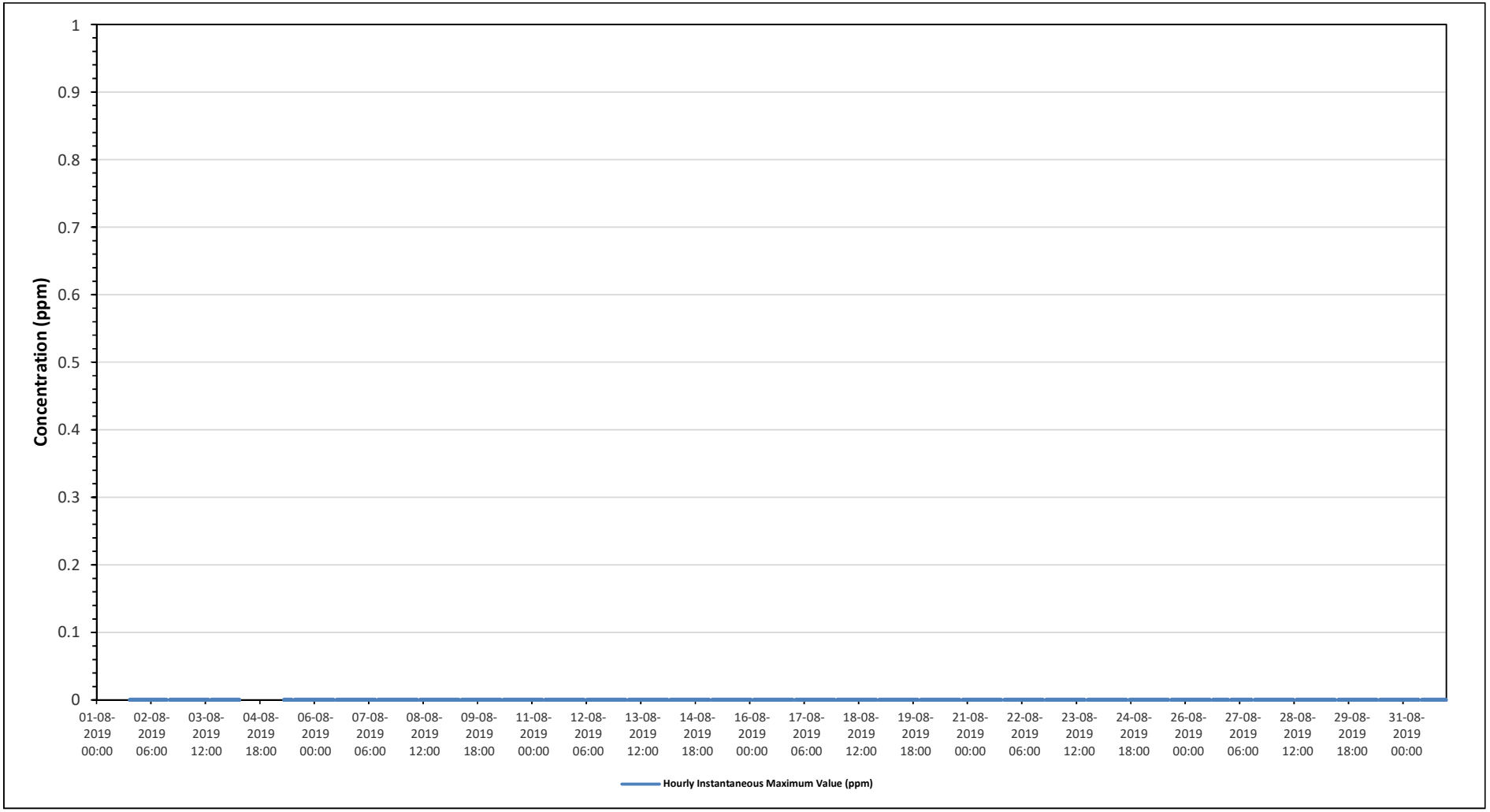
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on August 1 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 2 | Hours of Data: | 671 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 18 | Hours of Missing Data: | 38 |
| 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*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - August 2019

## Summary of Hourly Instantaneous Maximums

## WIND SPEED (WS) in km/h

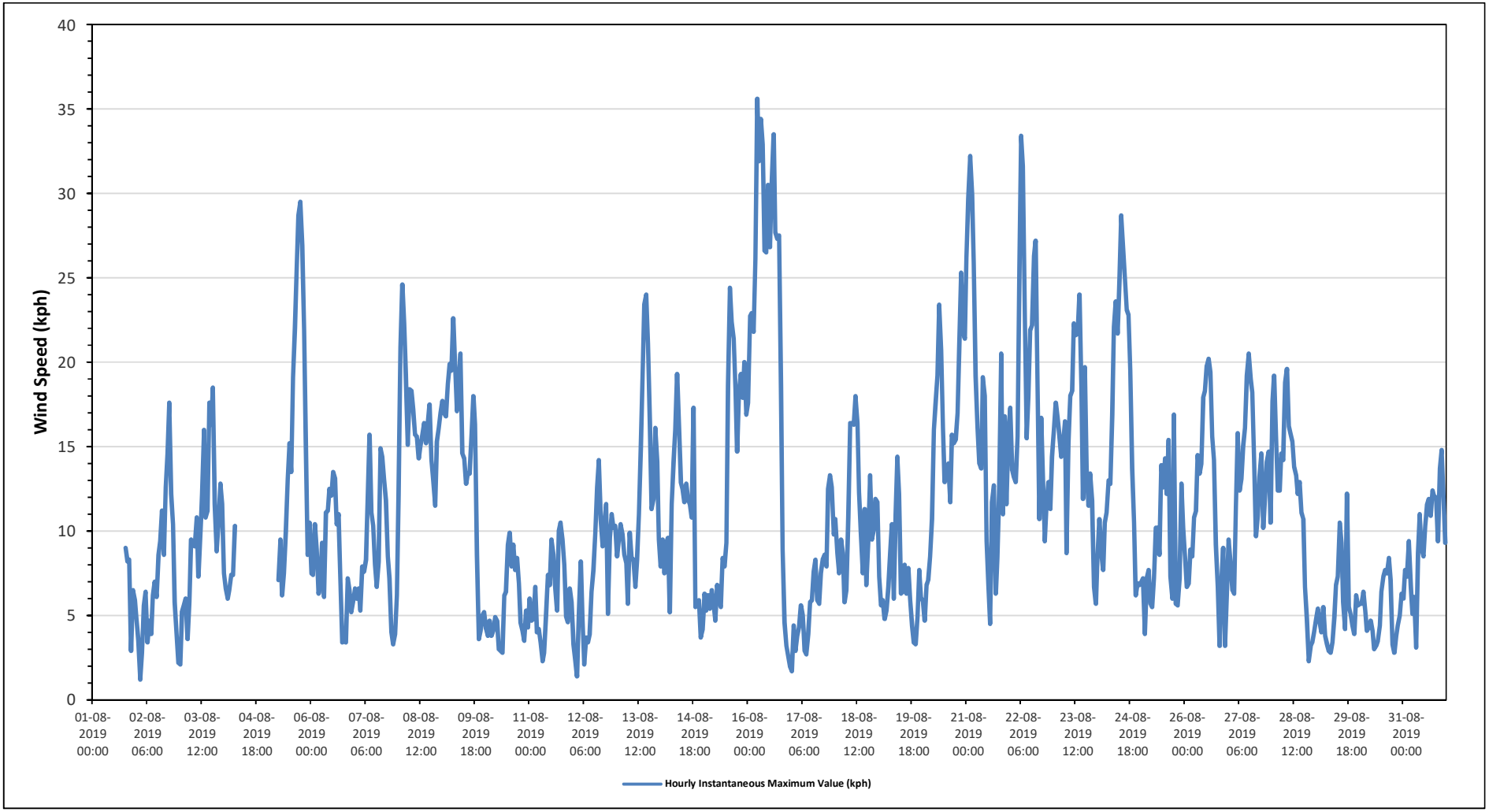
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 35.6 | kph | on August 16 at hour 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 22.6 | kph | on August 16 | Hours of Data: | 703 |
| Minimum Hourly Value: | 1.2 | kph | on August 2 at hour 2 | Hours of Missing Data: | 41 |
| Minimum 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

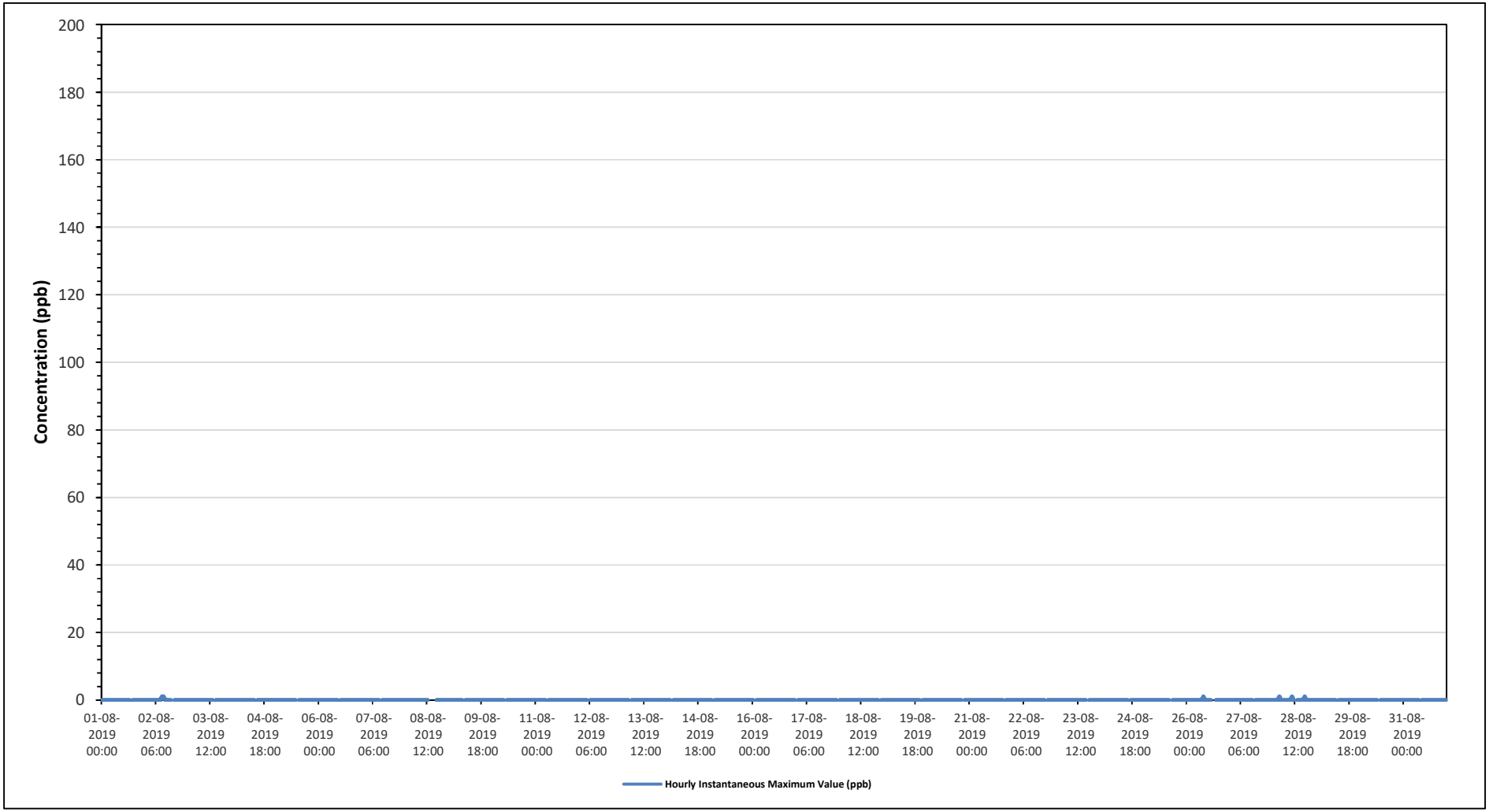
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on August 2 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.1 | ppb | on August 28 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on August 1 at hour 0 | Hours of Missing Data: | 1 |
| Minimum Daily 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

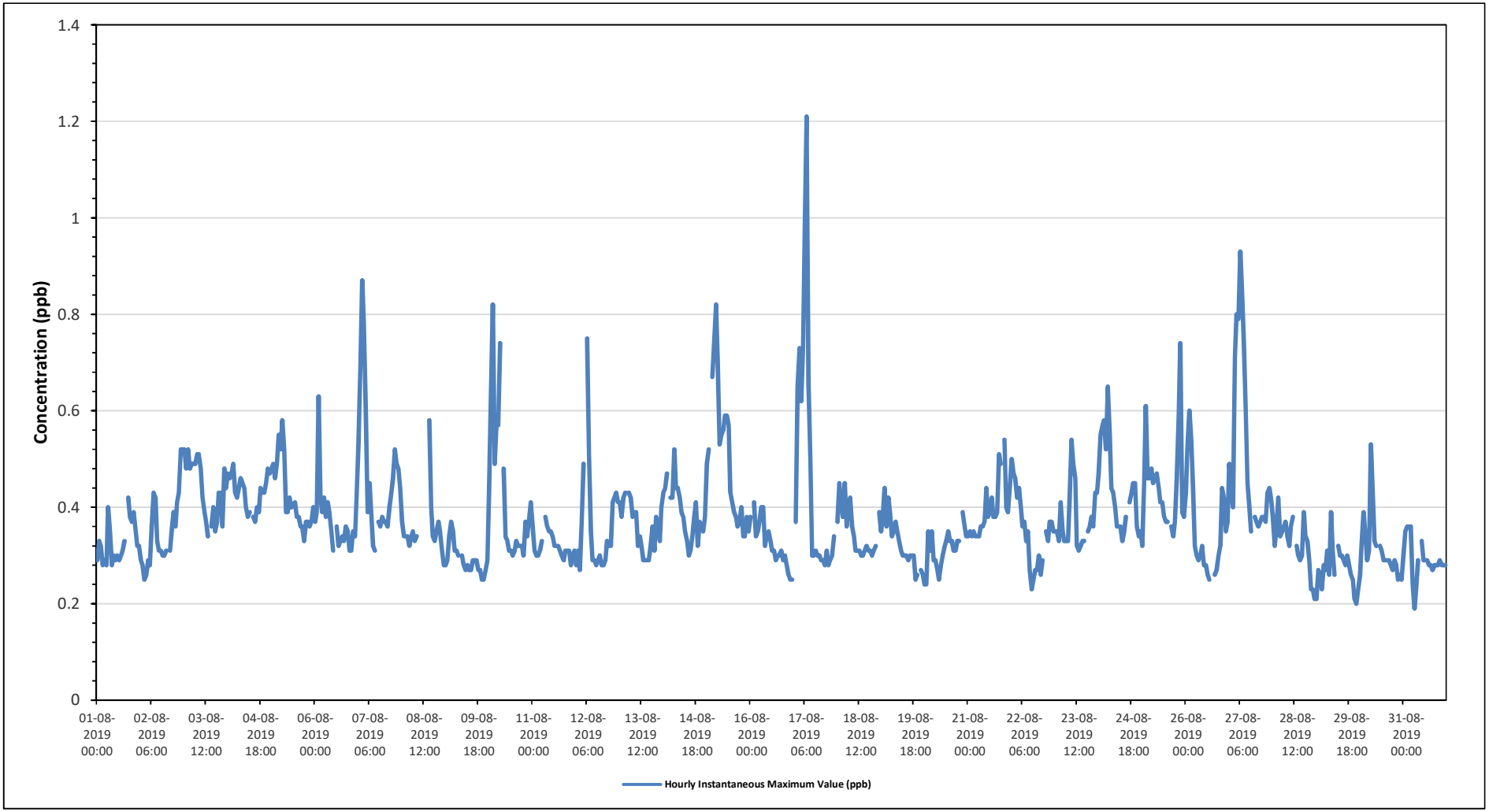
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1.21 | ppb | on August 17 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.51 | ppb | on August 27 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.19 | ppb | on August 31 at hour 6 | Hours of Missing Data: | 1 |
| 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*



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Instantaneous Maximums

## TOTAL HYDROCARBONS (THC) in ppm

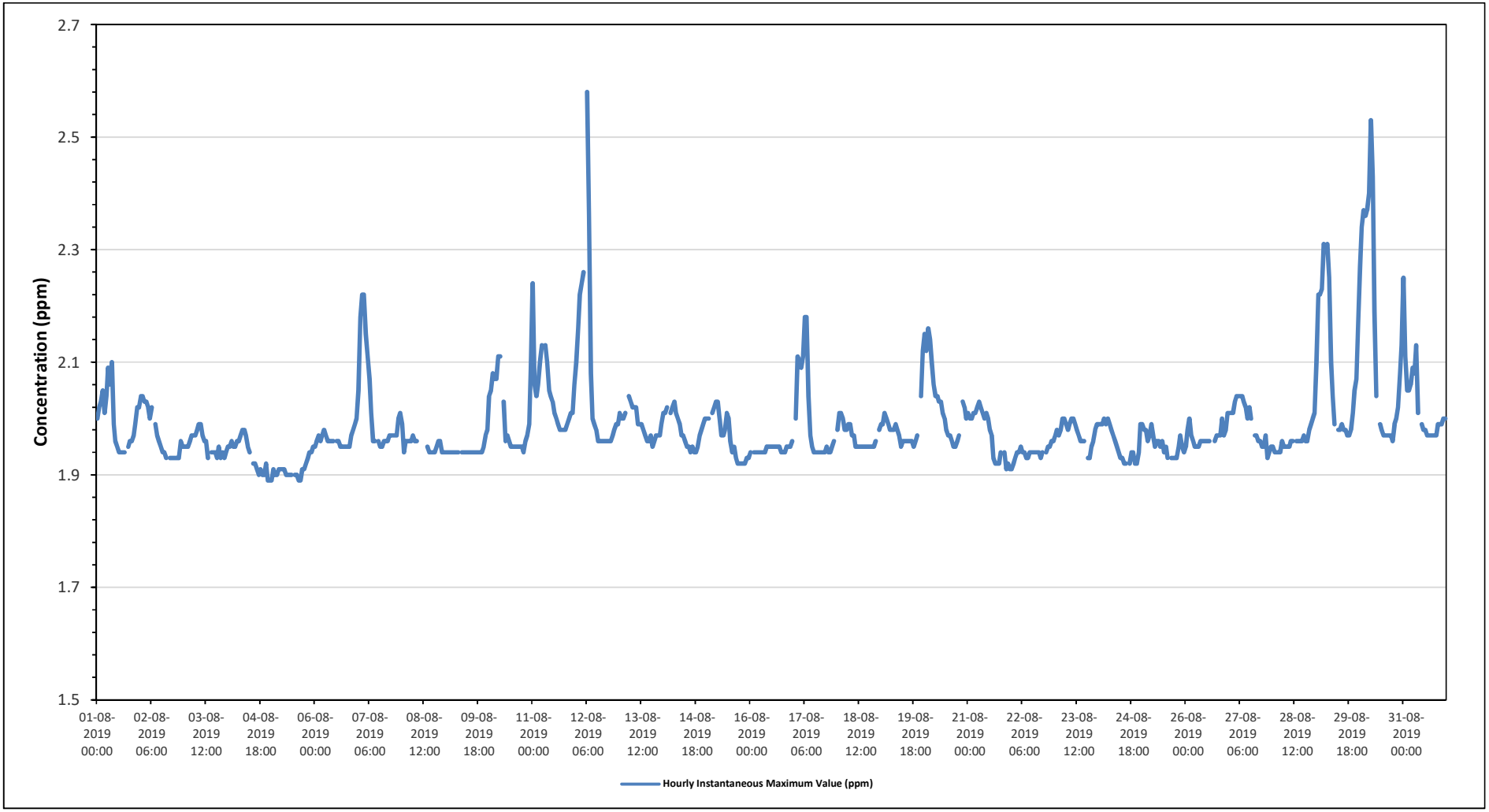
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.58 | ppm | on August 12 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.14 | ppm | on August 30 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.89 | ppm | on August 4 at hour 22 | Hours of Missing Data: | 2 |
| 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 | 1.94 | 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

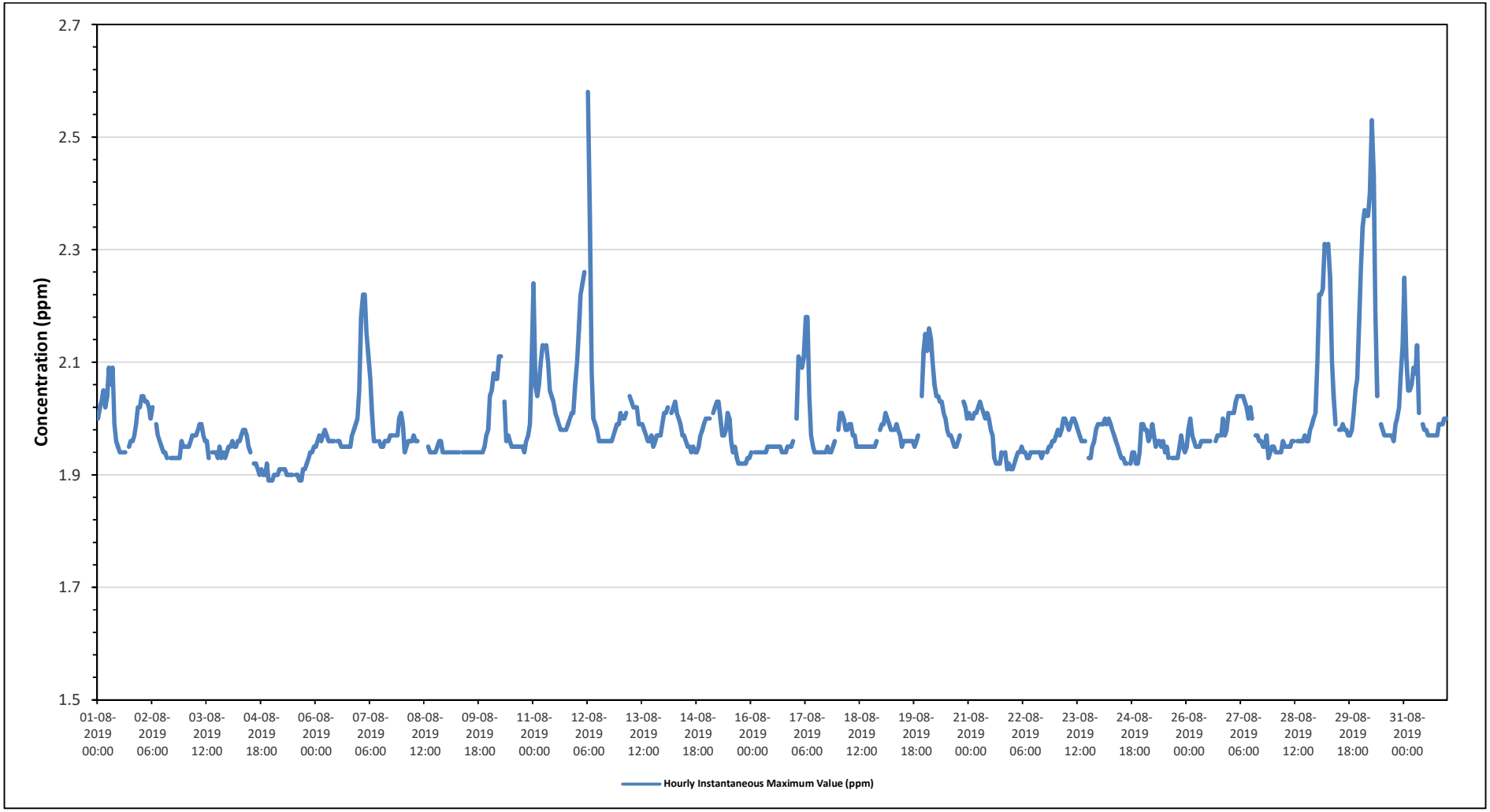
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.58 | ppm | on August 12 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.14 | ppm | on August 30 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.89 | ppm | on August 4 at hour 22 | Hours of Missing Data: | 2 |
| 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

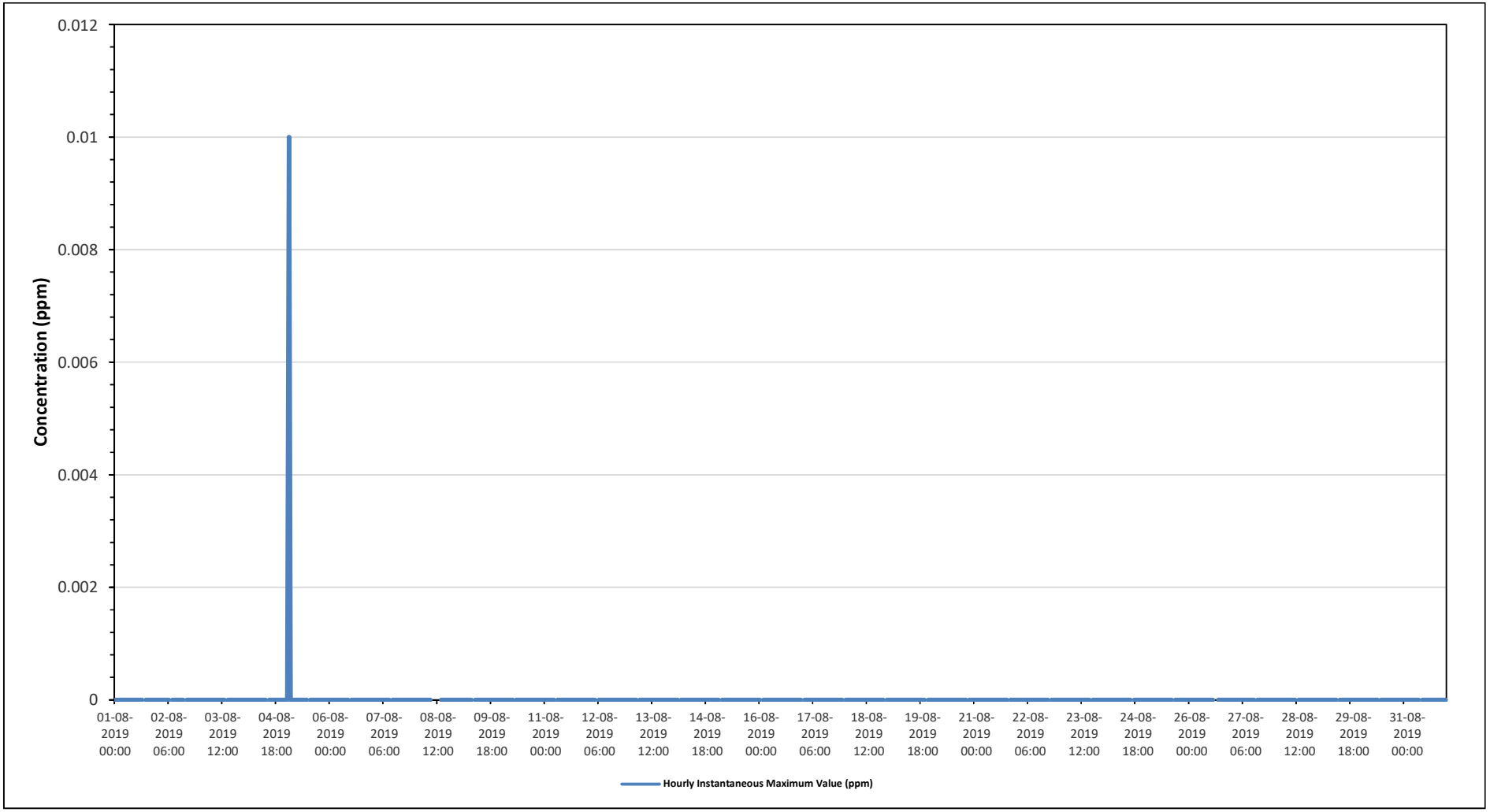
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.01 | ppm | on August 5 at hour 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 5 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours of Missing Data: | 2 |
| Minimum 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 | 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 | 0.01 | 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*



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - August 2019*

## Summary of Hourly Instantaneous Maximums

## WIND SPEED (WS) in km/h

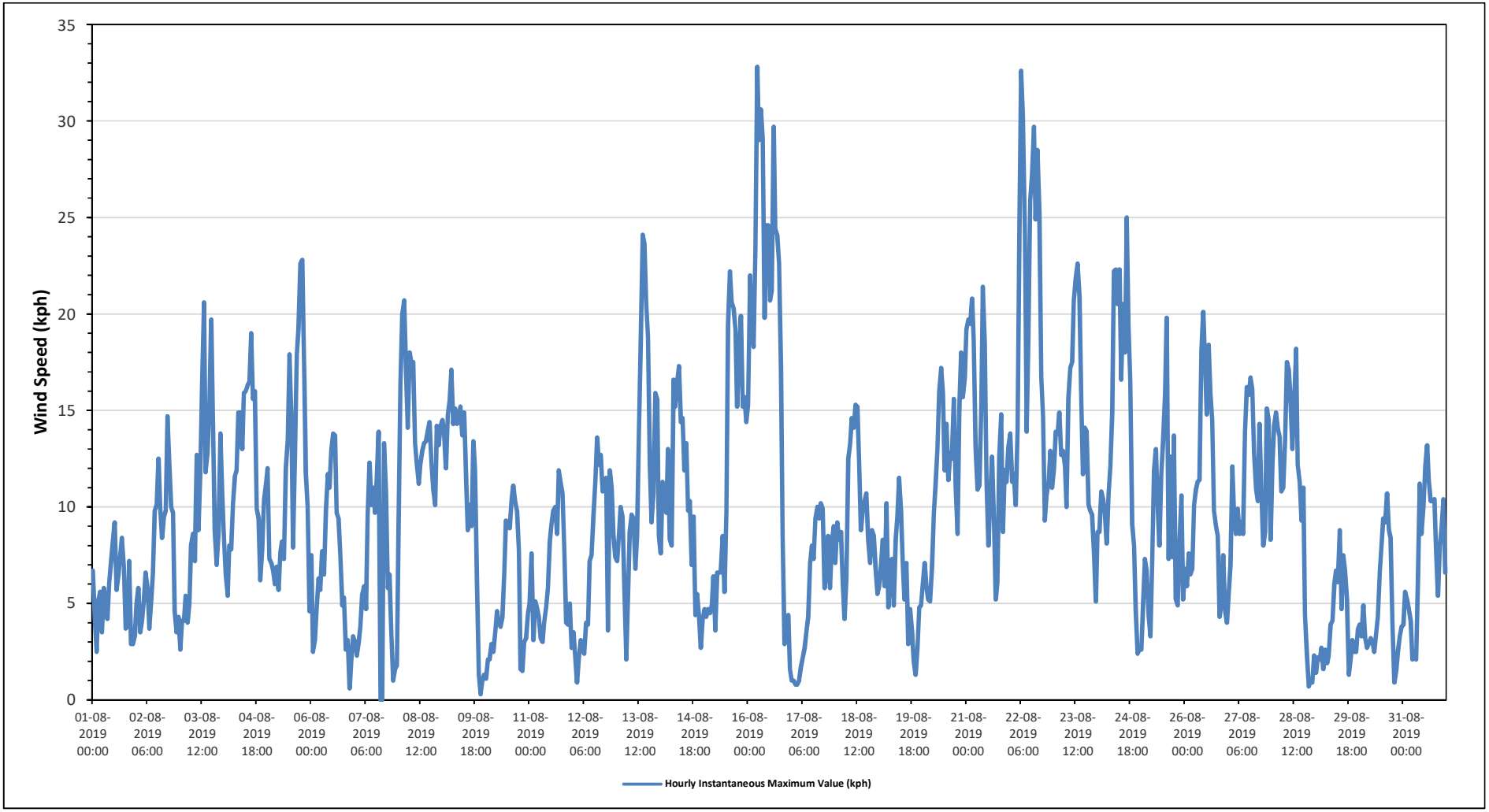
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 32.8 | kph | on August 16 at hour 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.6 | kph | on August 16 | Hours of Data: | 742 |
| Minimum Hourly Value: | 0.3 | kph | on August 9 at hour 21 | Hours of Missing Data: | 0 |
| Minimum 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

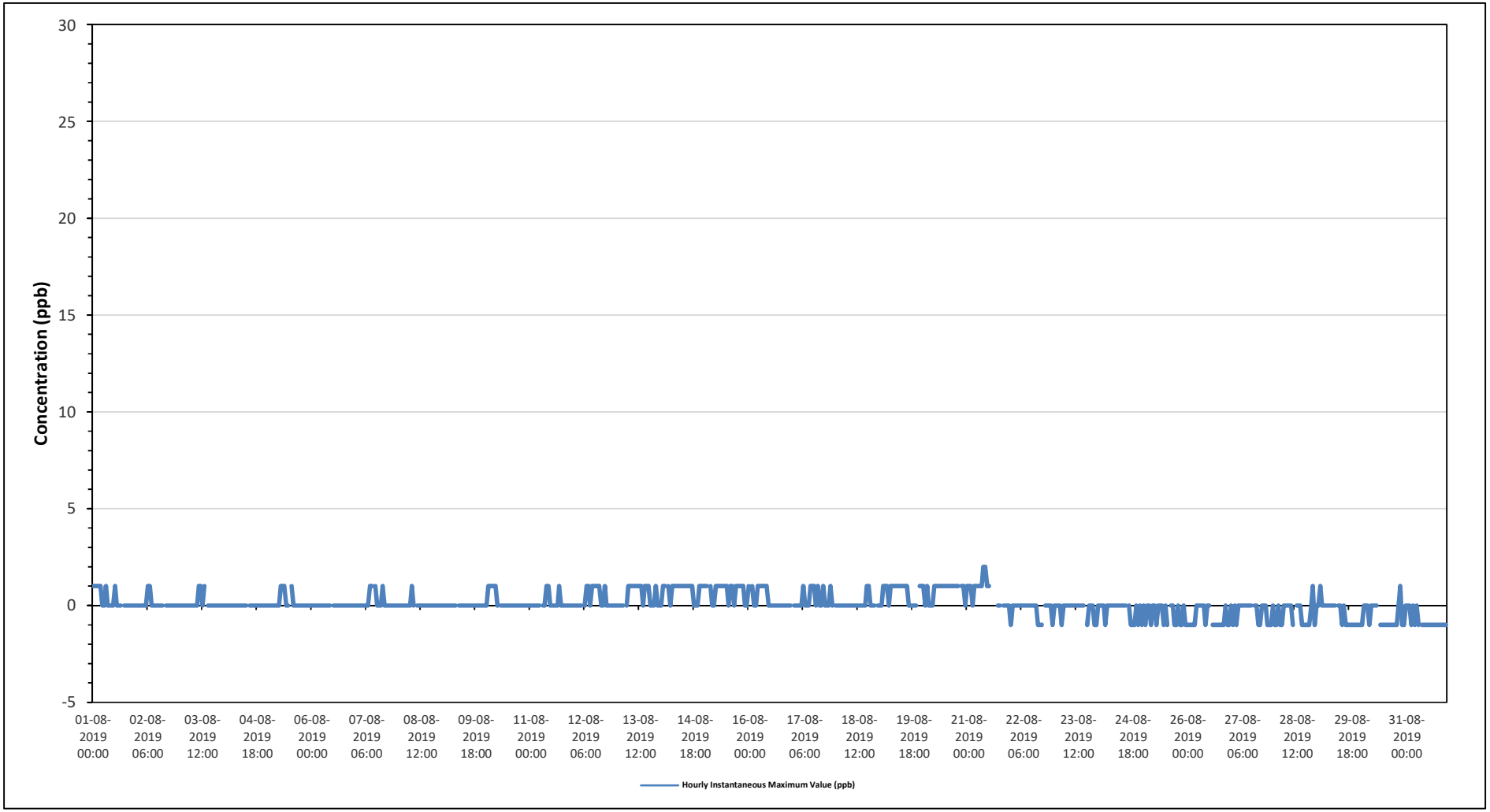
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2 | ppb | on August 21 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.8 | ppb | on August 14 | Hours of Data: | 708 |
| Minimum Hourly Value: | -1 | ppb | on August 22 at hour 0 | Hours of Missing Data: | 0 |
| Minimum 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

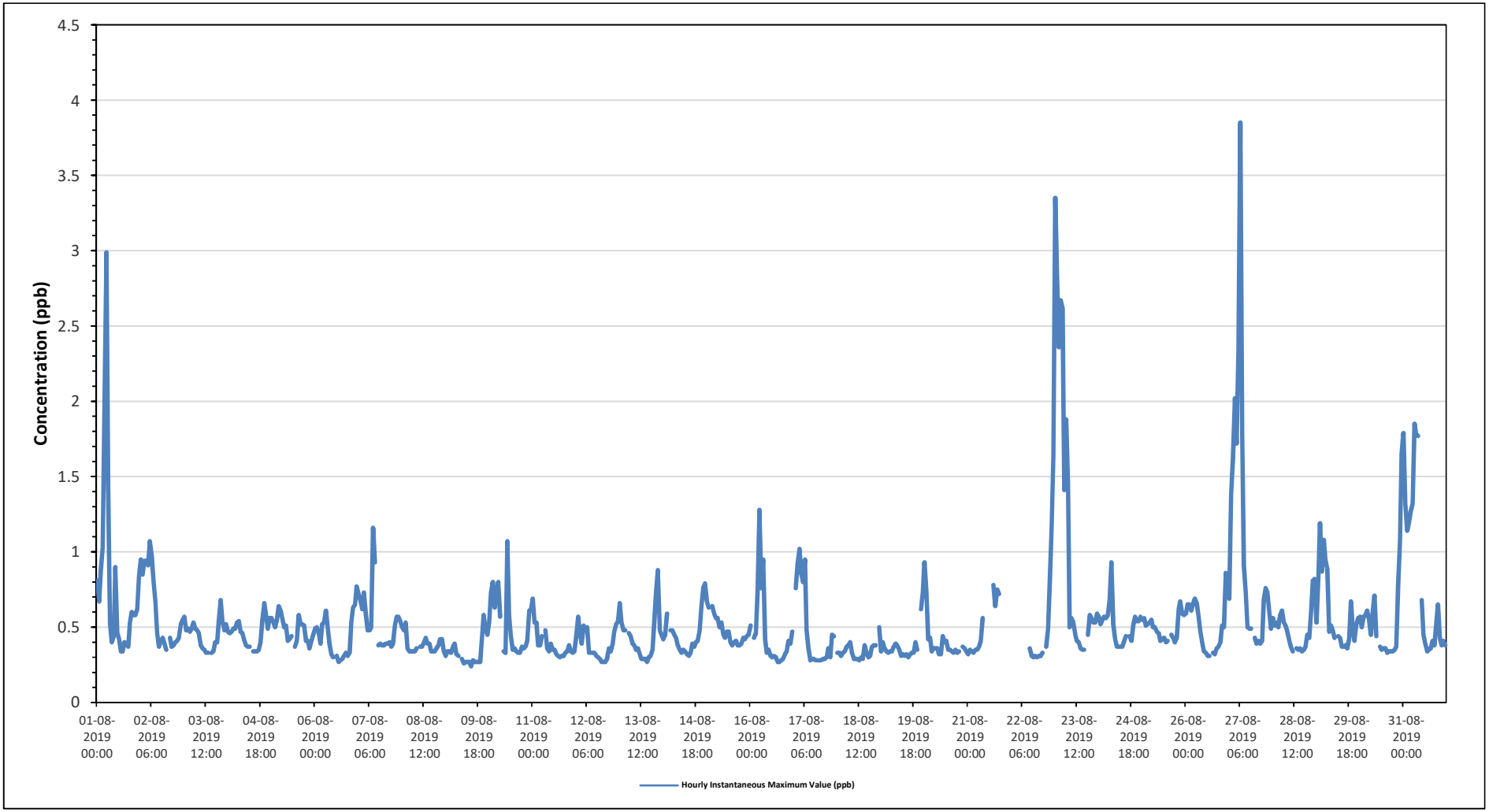
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.85 | ppb | on August 27 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.12 | ppb | on August 23 | Hours of Data: | 692 |
| Minimum Hourly Value: | 0.24 | ppb | on August 9 at hour 14 | Hours of Missing Data: | 16 |
| 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 pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Reno Station - August 2019*

## Summary of Hourly Instantaneous Maximums

## TOTAL HYDROCARBONS (THC) in ppm

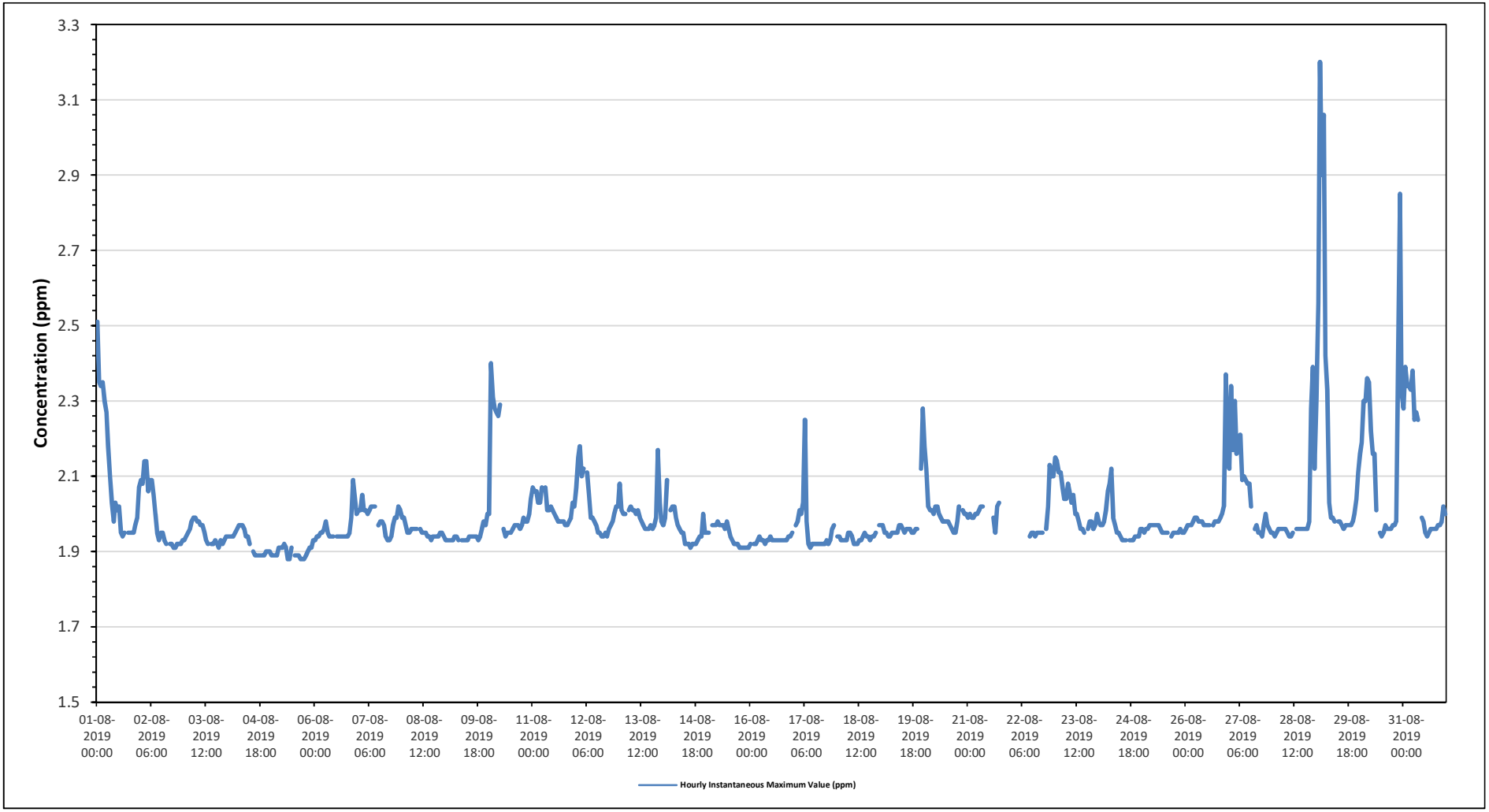
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.20 | ppm | on August 29 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.20 | ppm | on August 29 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.88 | ppm | on August 5 at hour 9 | Hours of Missing Data: | 17 |
| 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

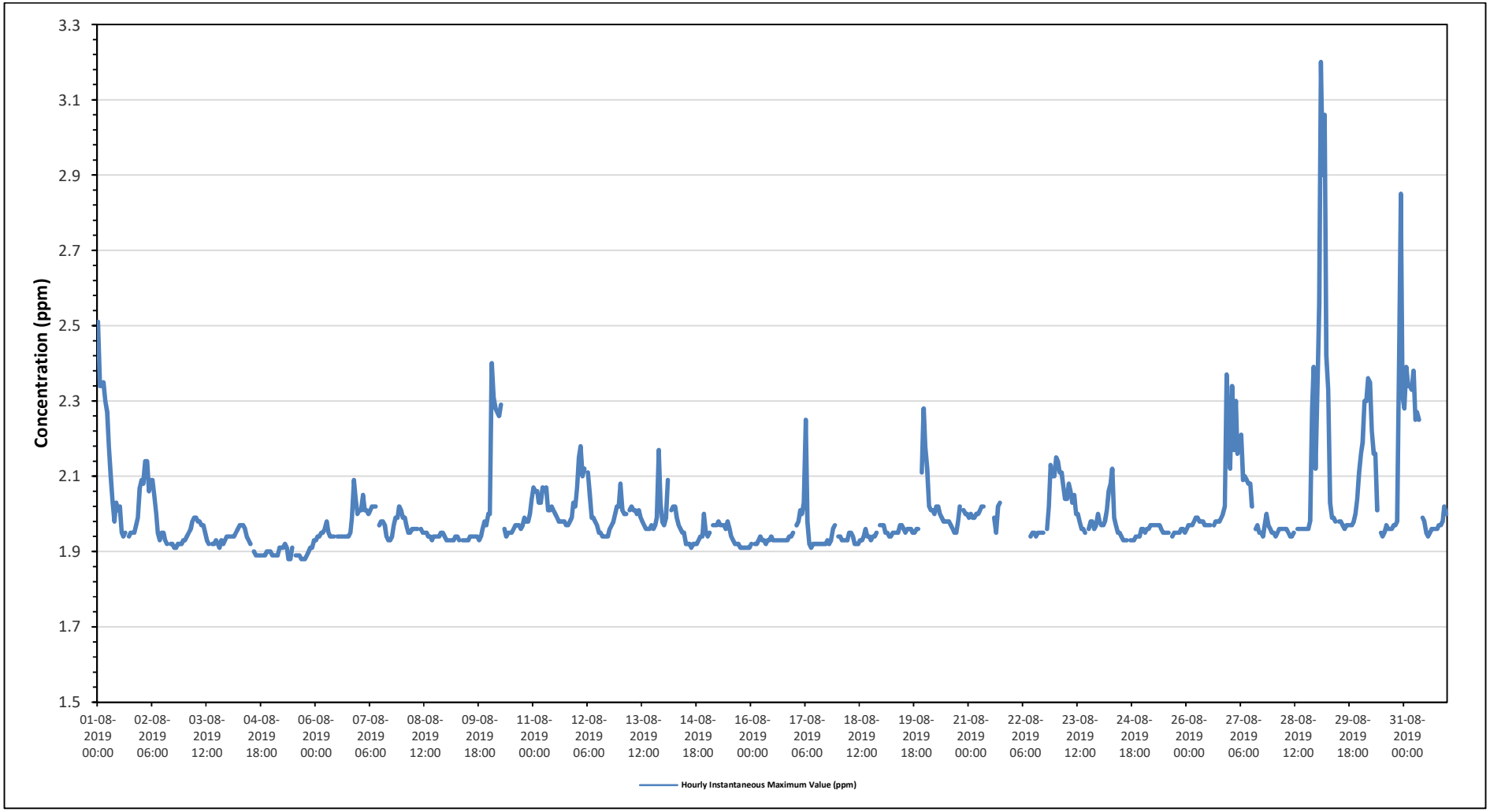
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.20 | ppm | on August 29 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.20 | ppm | on August 29 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.88 | ppm | on August 5 at hour 9 | Hours of Missing Data: | 17 |
| 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 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 | 2.34 | 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 pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Reno Station - August 2019*

## Summary of Hourly Instantaneous Maximums

## NON-METHANE HYDROCARBONS (NMHC) in ppm

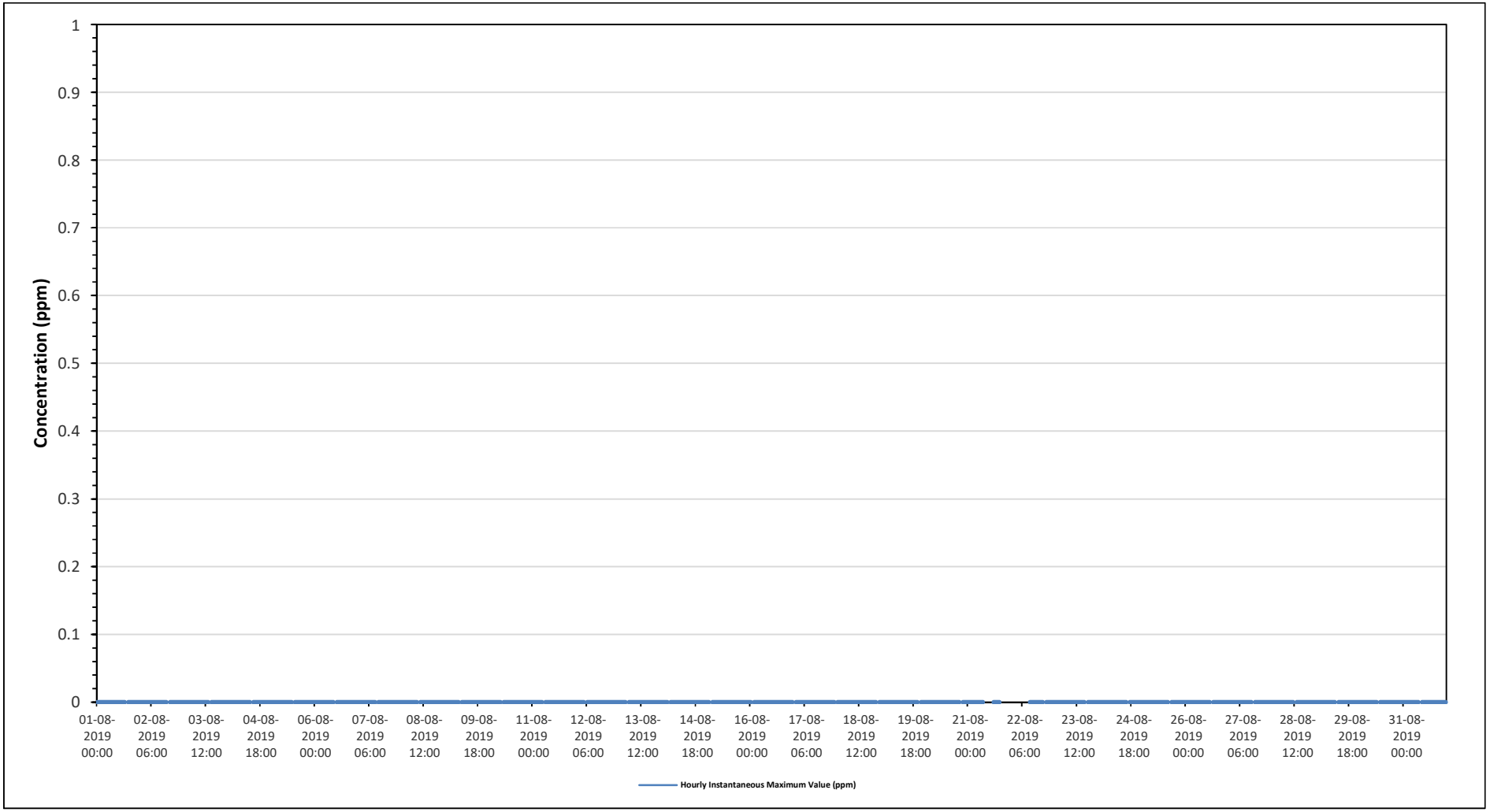
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on August 1 | Hours of Data: | 692 |
| Minimum Hourly Value: | 0.00 | ppm | on August 1 at hour 0 | Hours of Missing Data: | 17 |
| Minimum 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 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 | 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

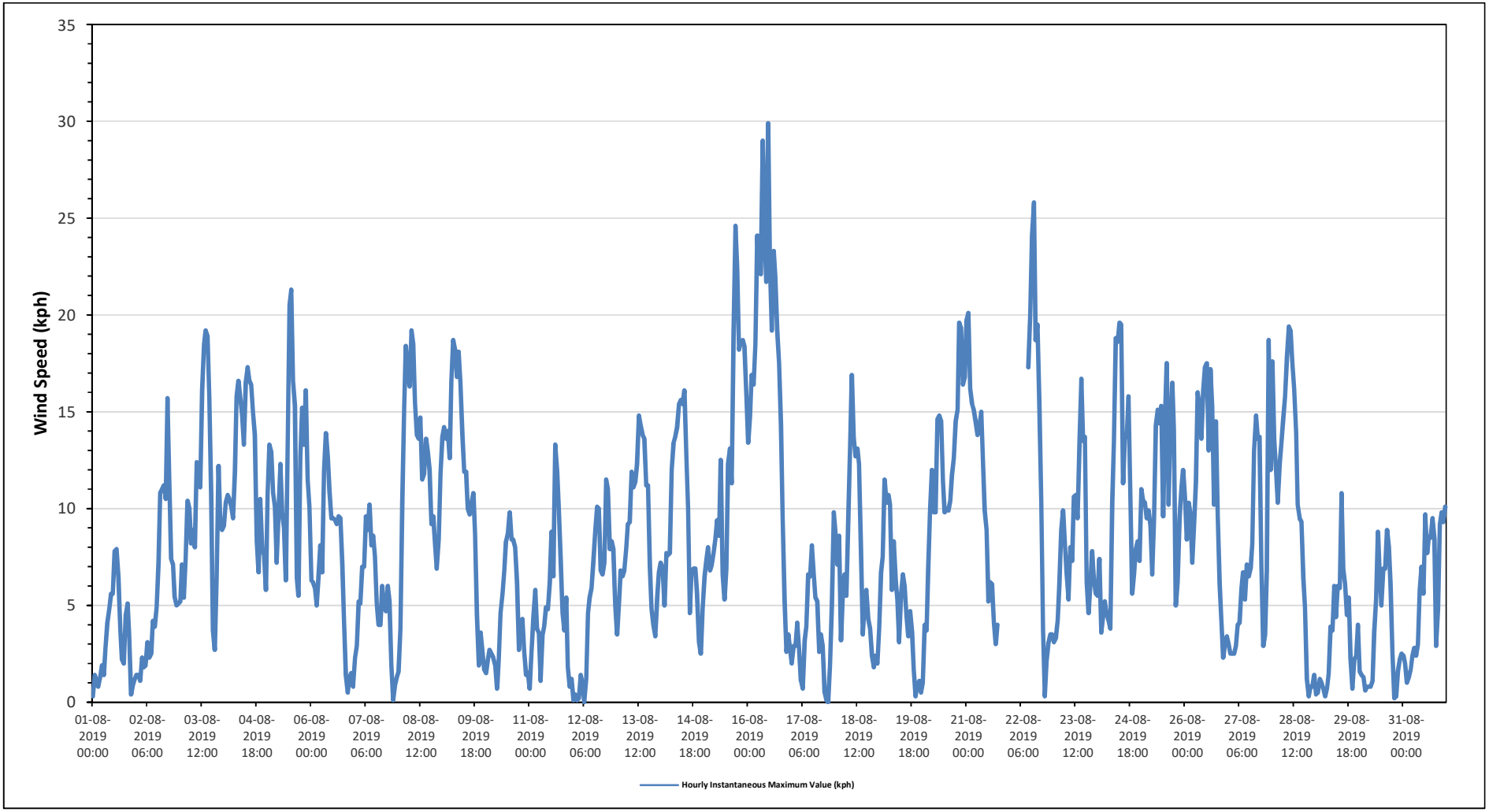
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 29.9 | kph | on August 16 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 17.3 | kph | on August 16 | Hours of Data: | 728 |
| Minimum Hourly Value: | 0.0 | kph | on August 12 at hour 6 | Hours of Missing Data: | 16 |
| 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 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 | 0.3 | 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-

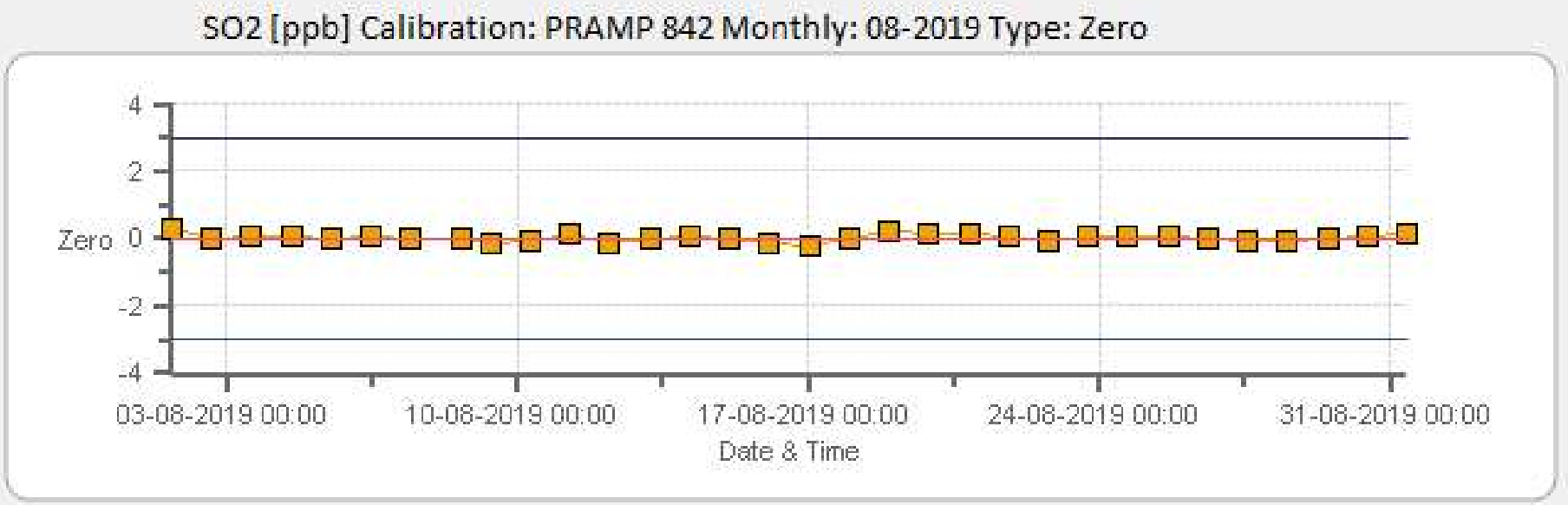
## CAL-PRAMP-201908-01561

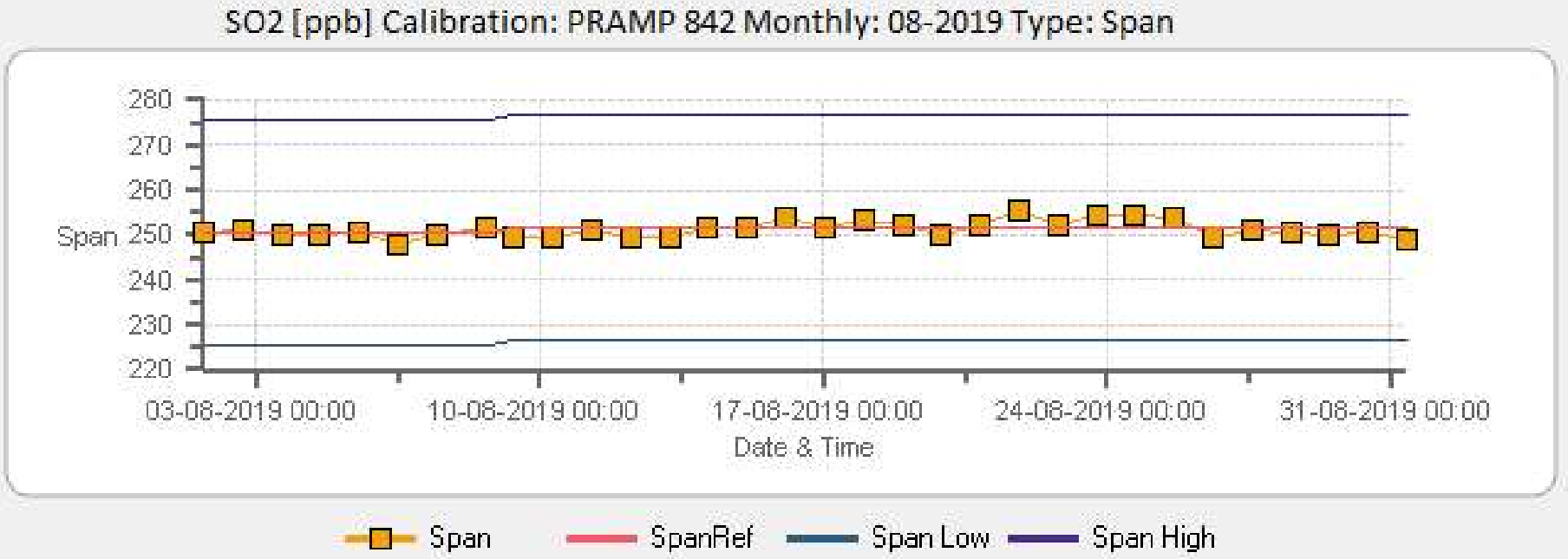
**Operation and Maintenance:**
Maxxam Analytics

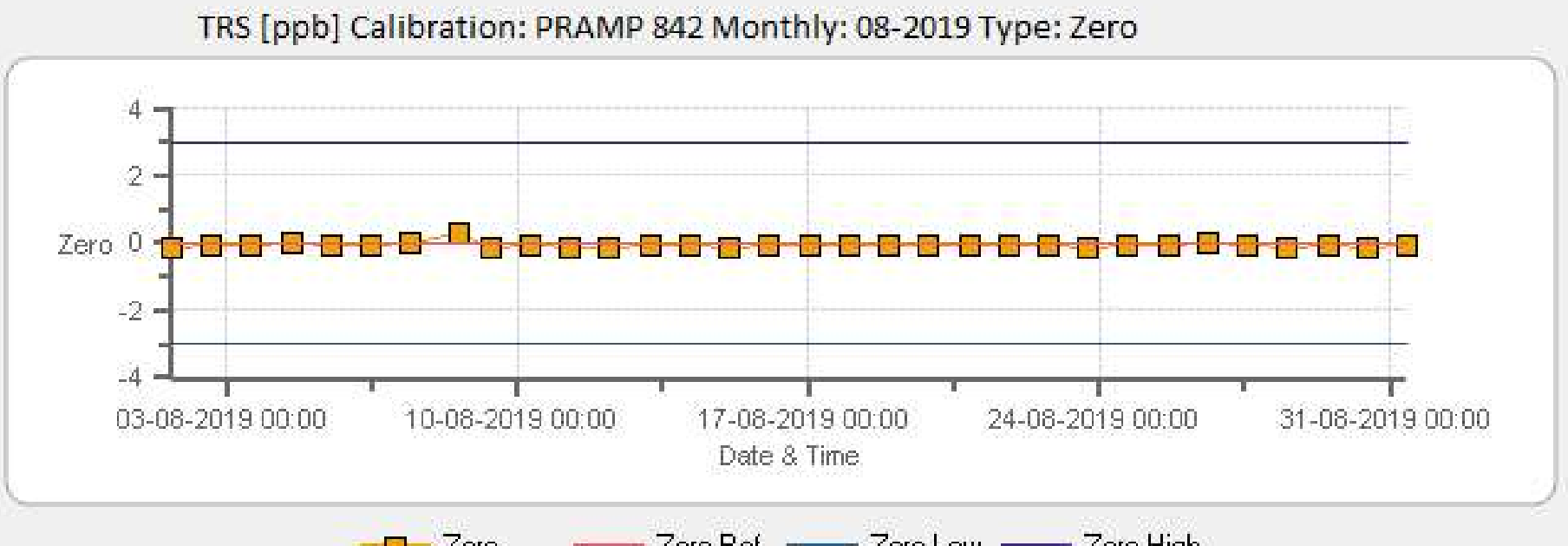
**Data Validation and Report:**
Maxxam Analytics

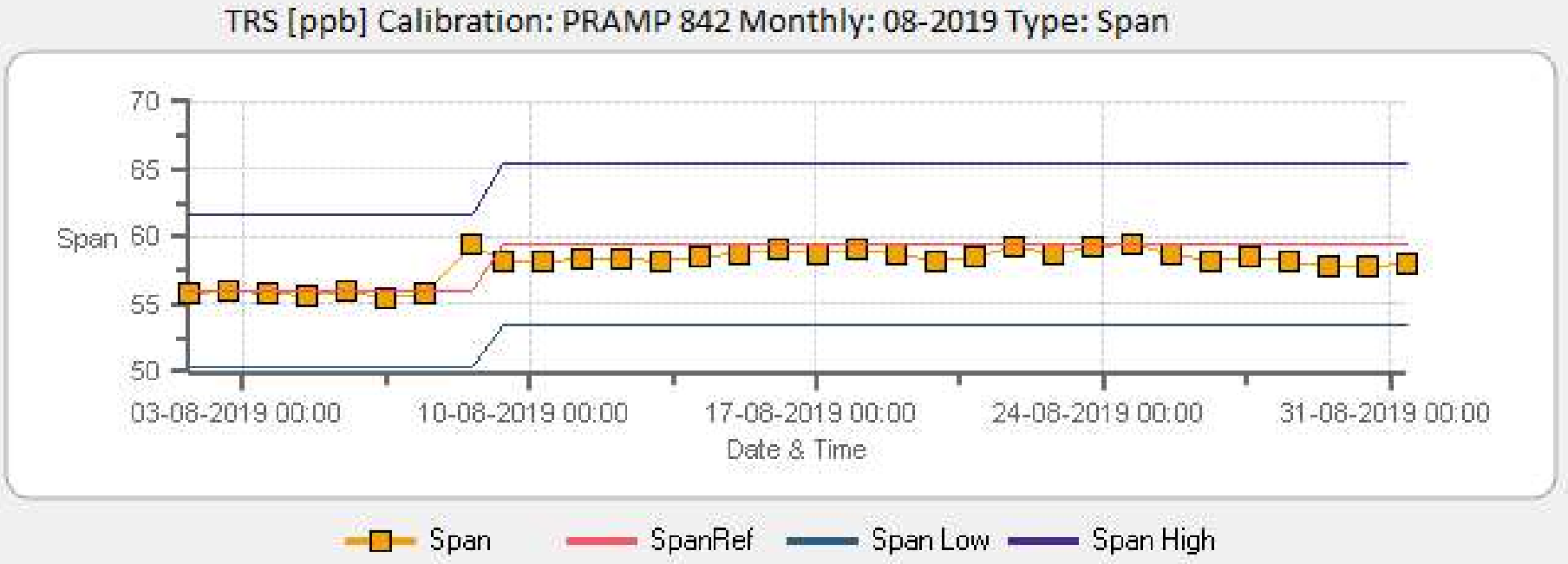
September 12, 2019

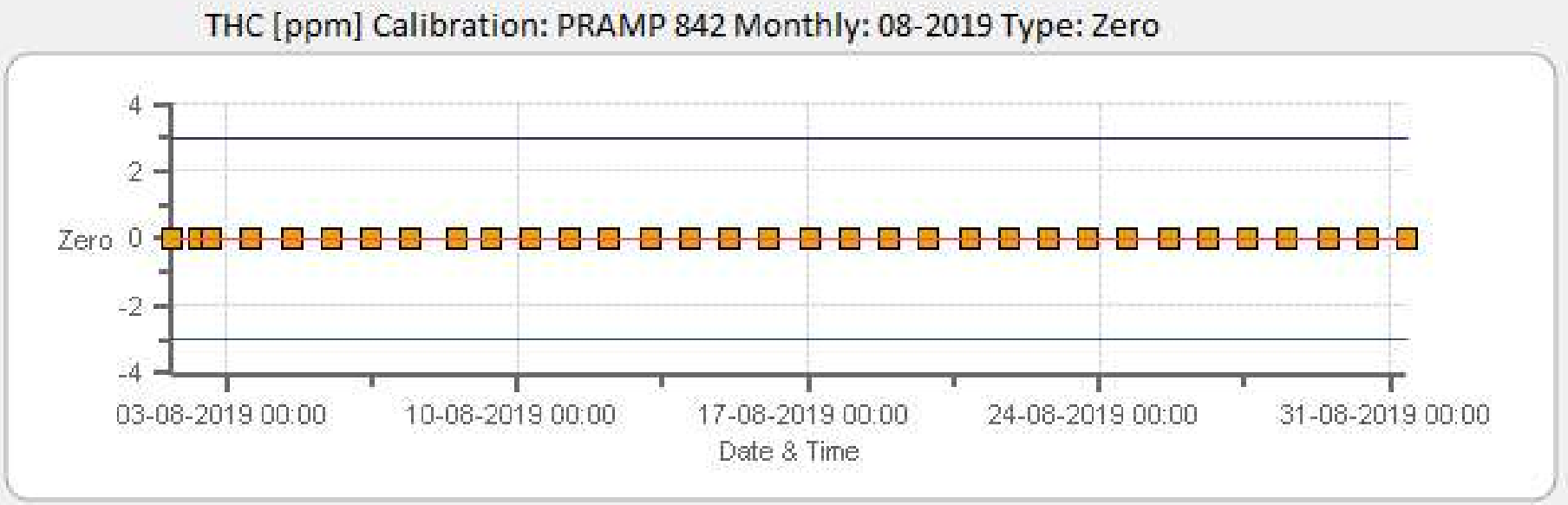
# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

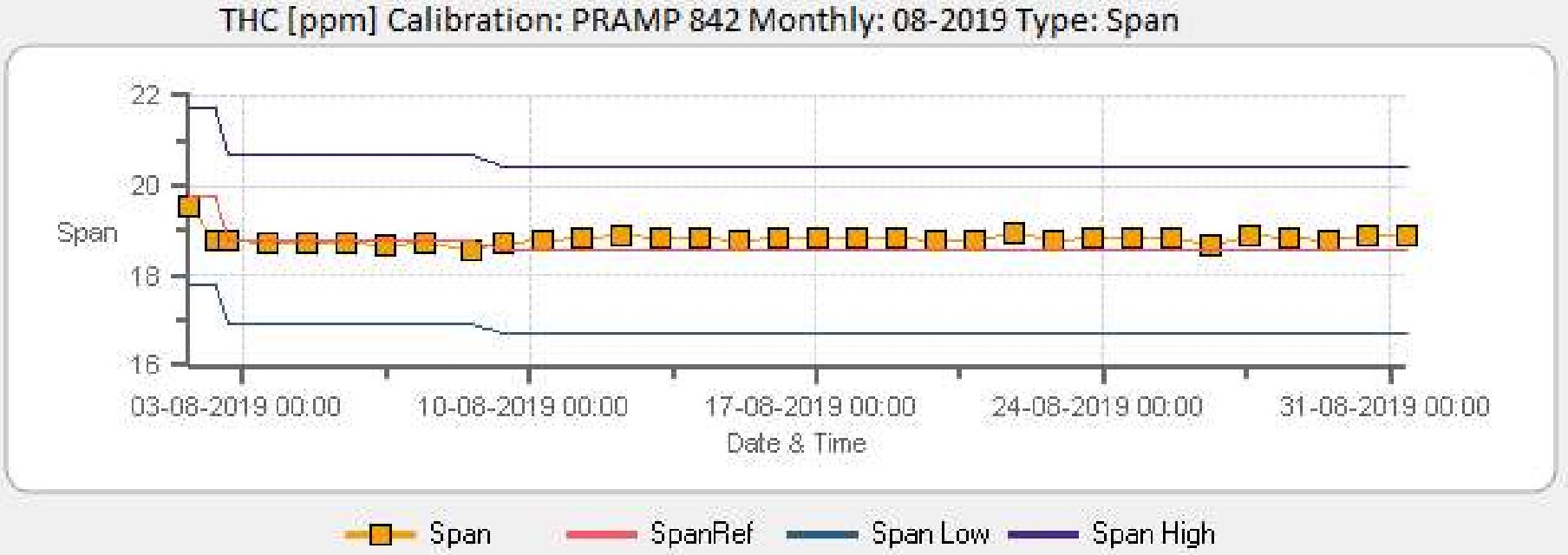

SO2 [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

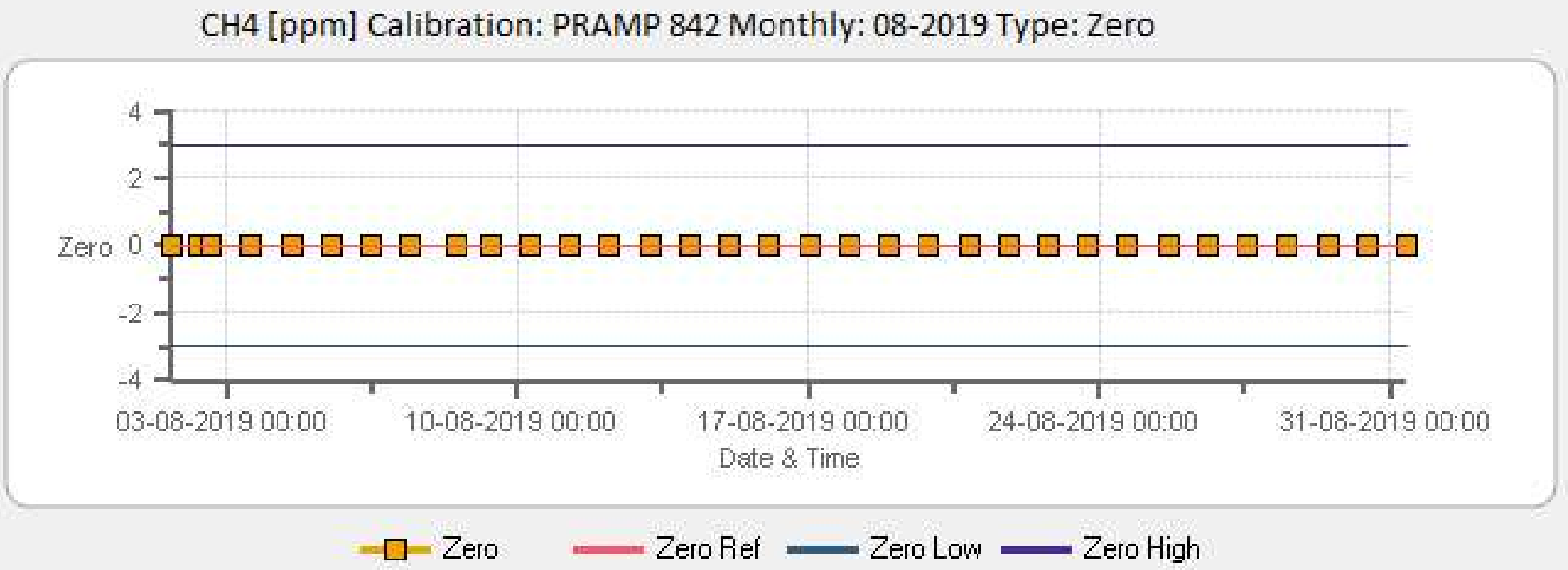

SO2 [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span
280
270
260
Span 250
240
230
220
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

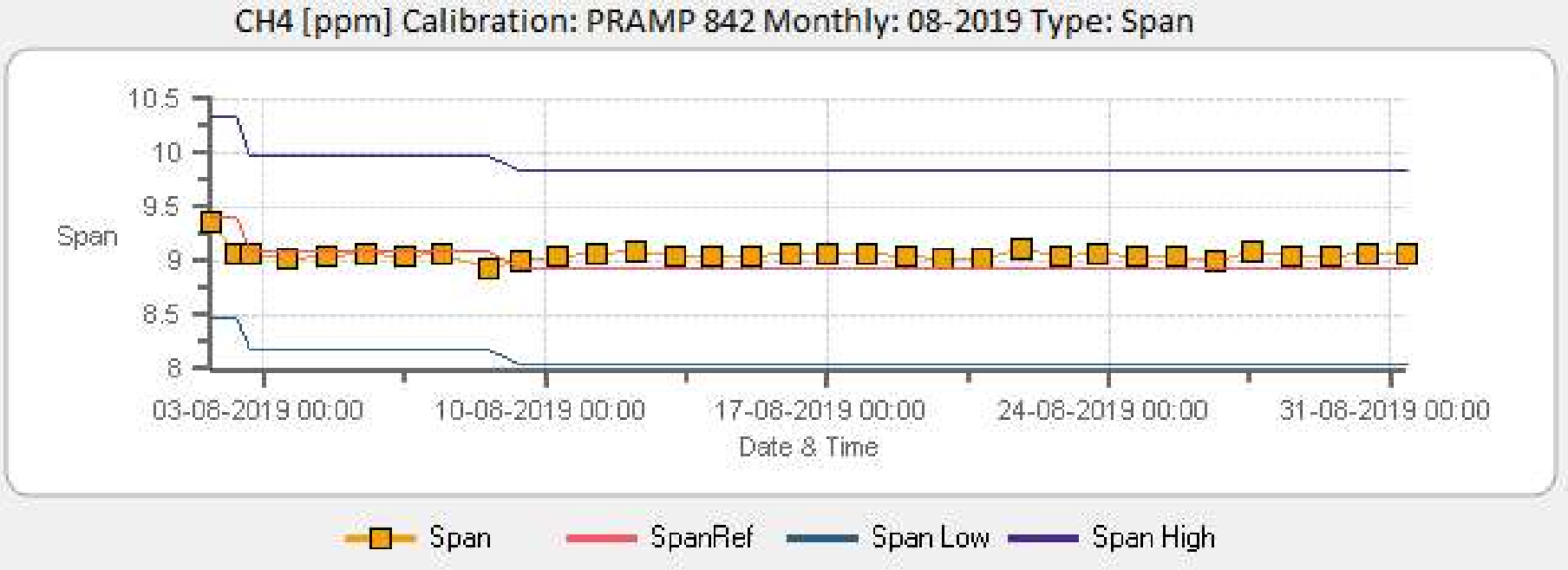

TRS [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

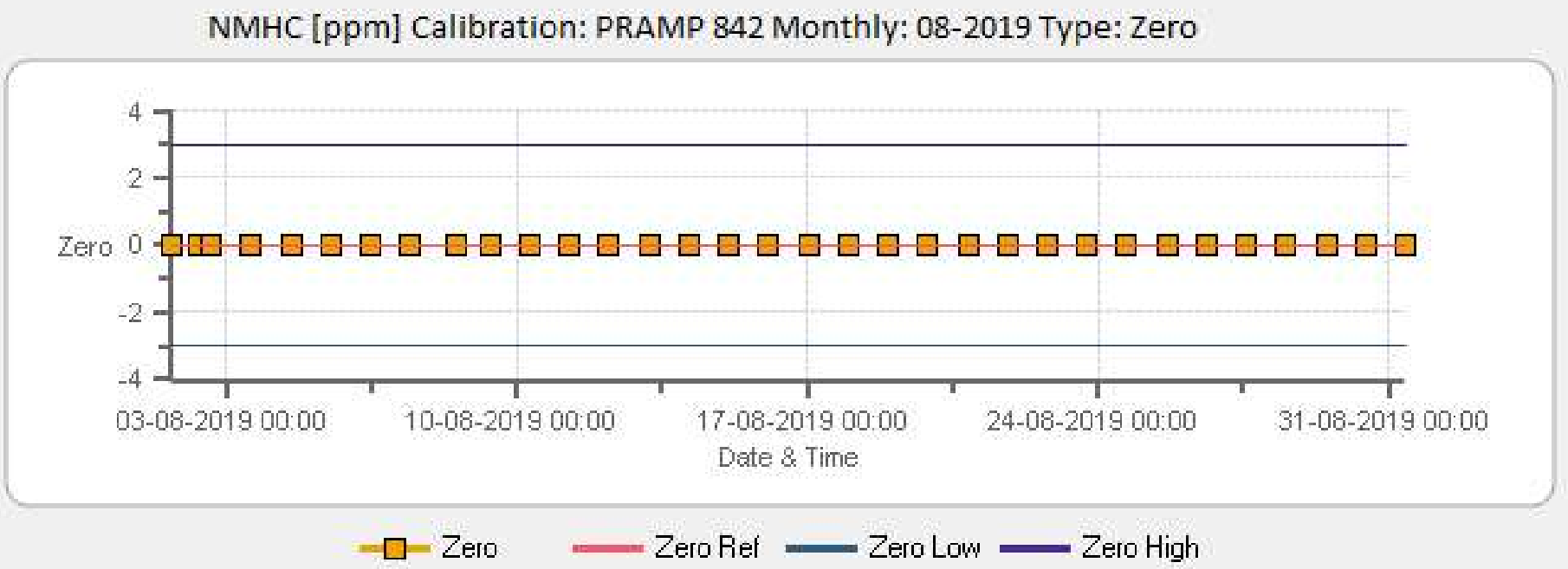

TRS [ppb] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span
70
65
Span 60
55
50
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

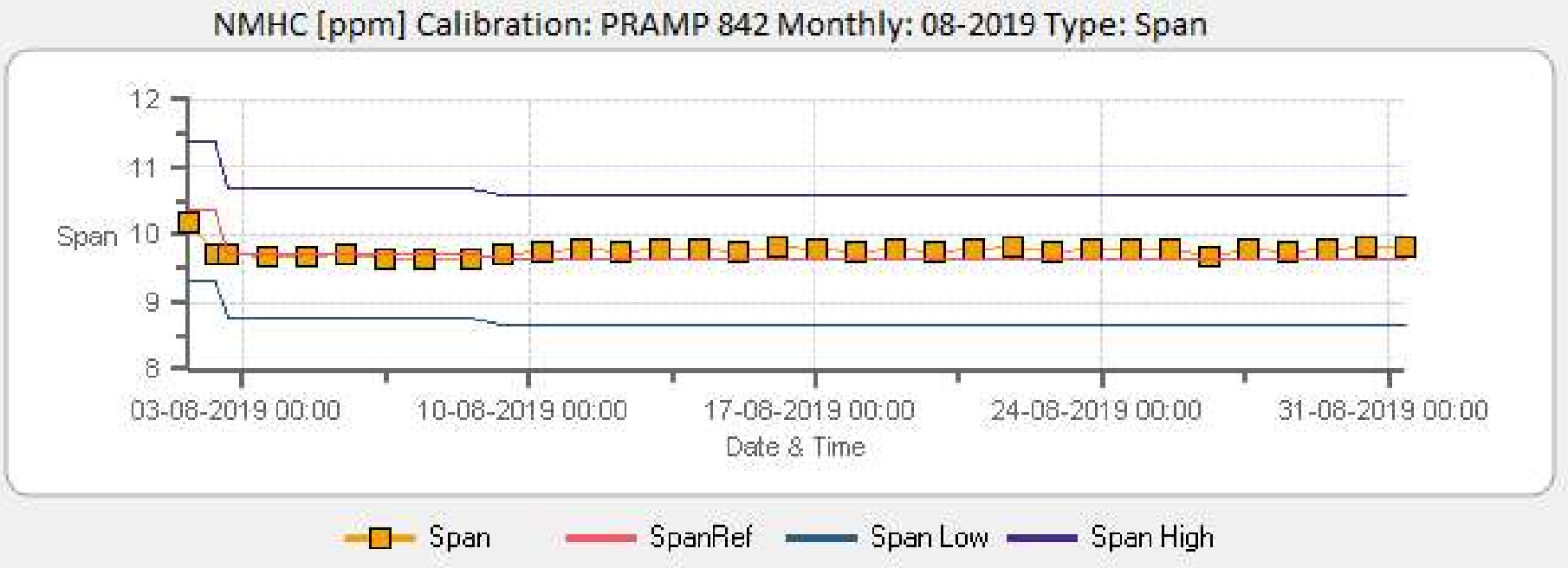

THC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


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
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 842 Monthly: 08-2019 Type: Span
10.5
10
9.5
Span
9
8.5
8
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 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


NMHC [ppm] Calibration: PRAMP 842 Monthly: 08-2019 Type: Span
12
11
Span 10
9
8
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: | 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


Shaping a world of trust


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:**

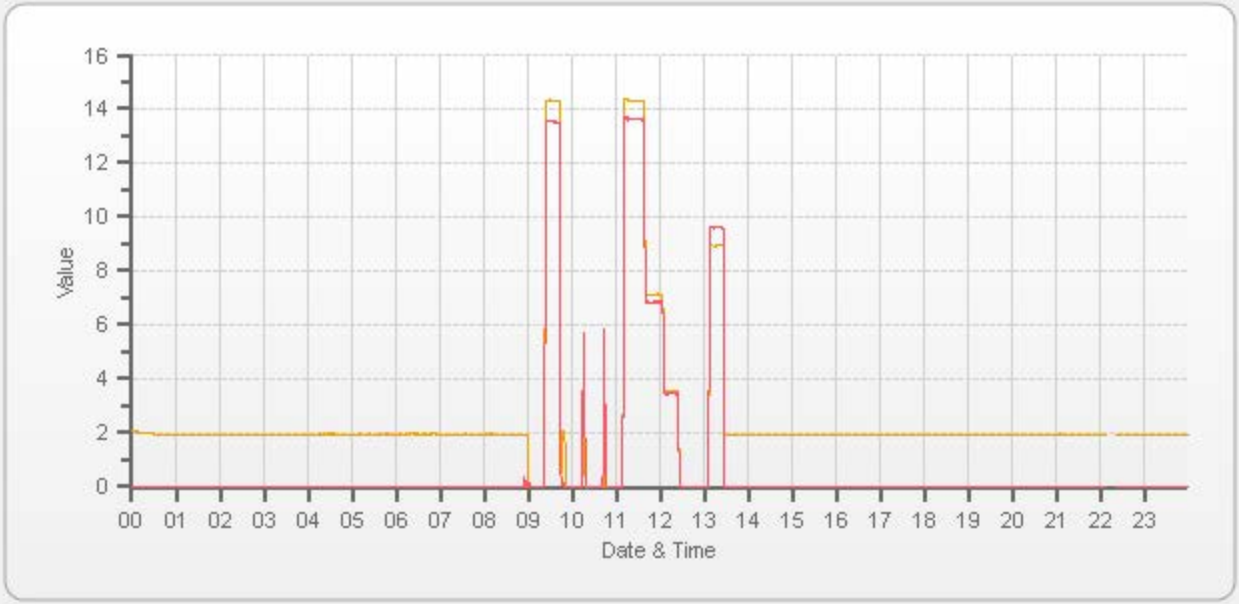
| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | 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.]
Value
Date & Time
CH4[ppm]
NMHC[ppm]

# 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 | |
|---|---|---|---|---|---|---|---|
| 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

Form No. F-GAS-002
Version No. 1.1

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

Form No. F-GAS-002
Version No. 1.1

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 pramp

**Peace River Area Monitoring Program**

# AUGUST 2019

## Ambient Air Monitoring Calibration Report

## - 986c STATION-

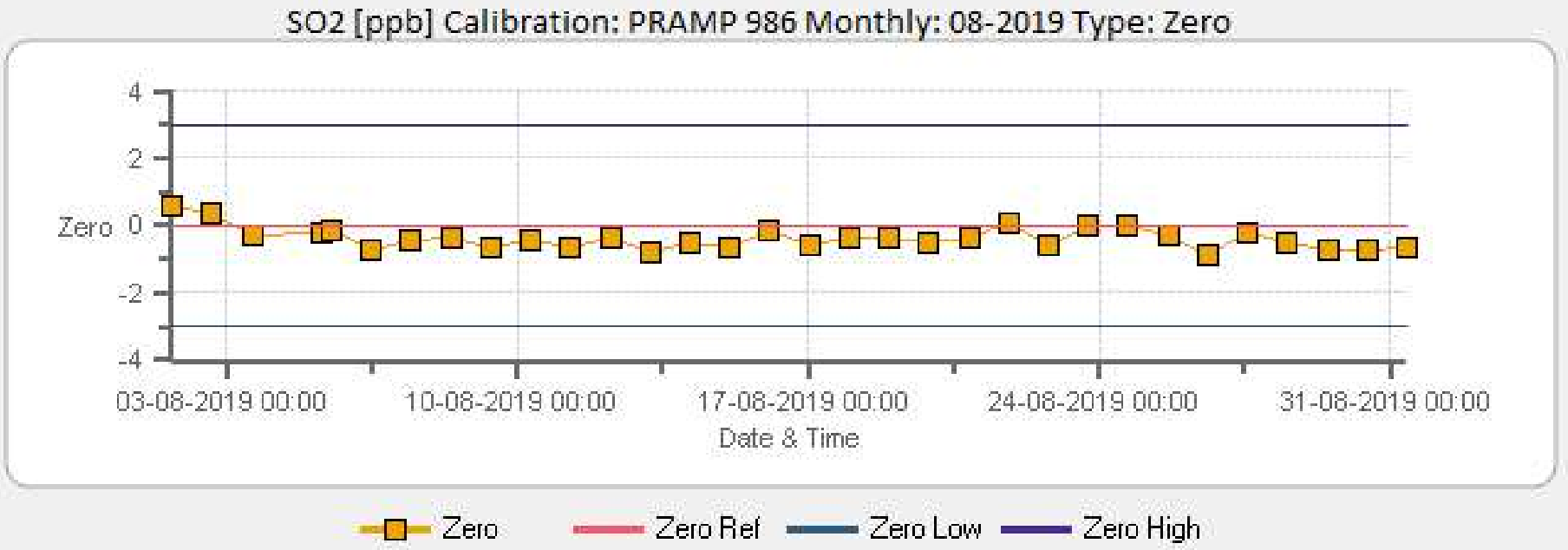
## CAL-PRAMP-201908-01562

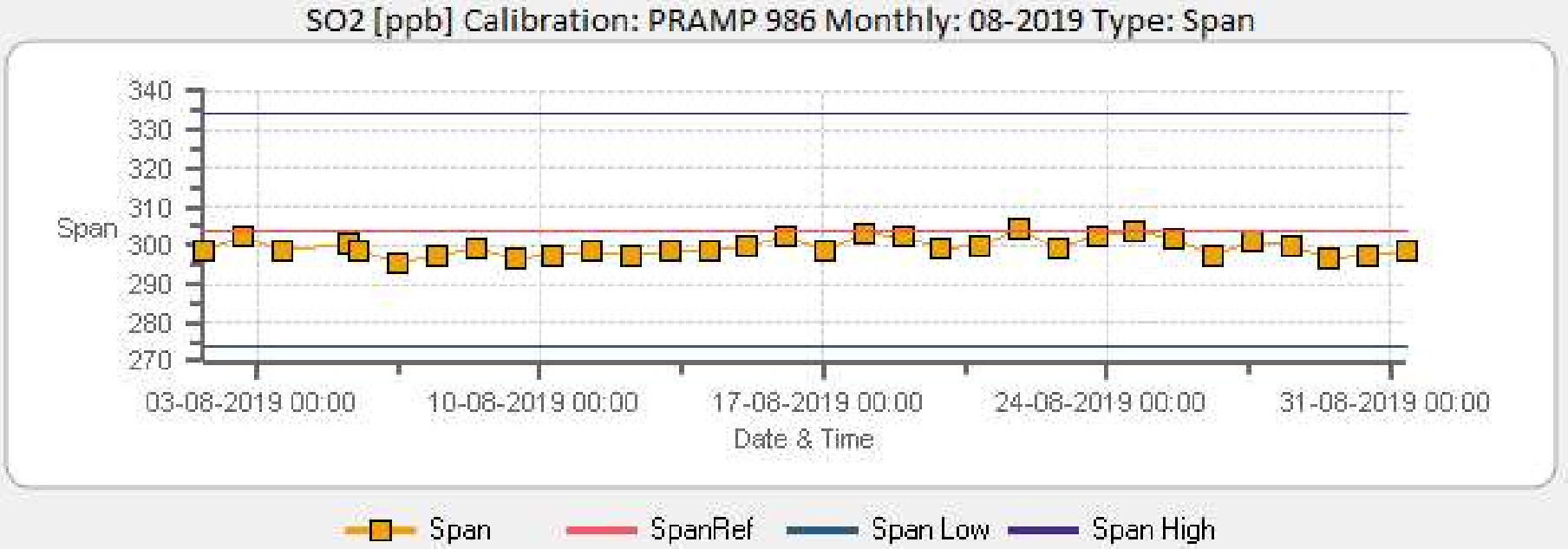
**Operation and Maintenance:**
Maxxam Analytics

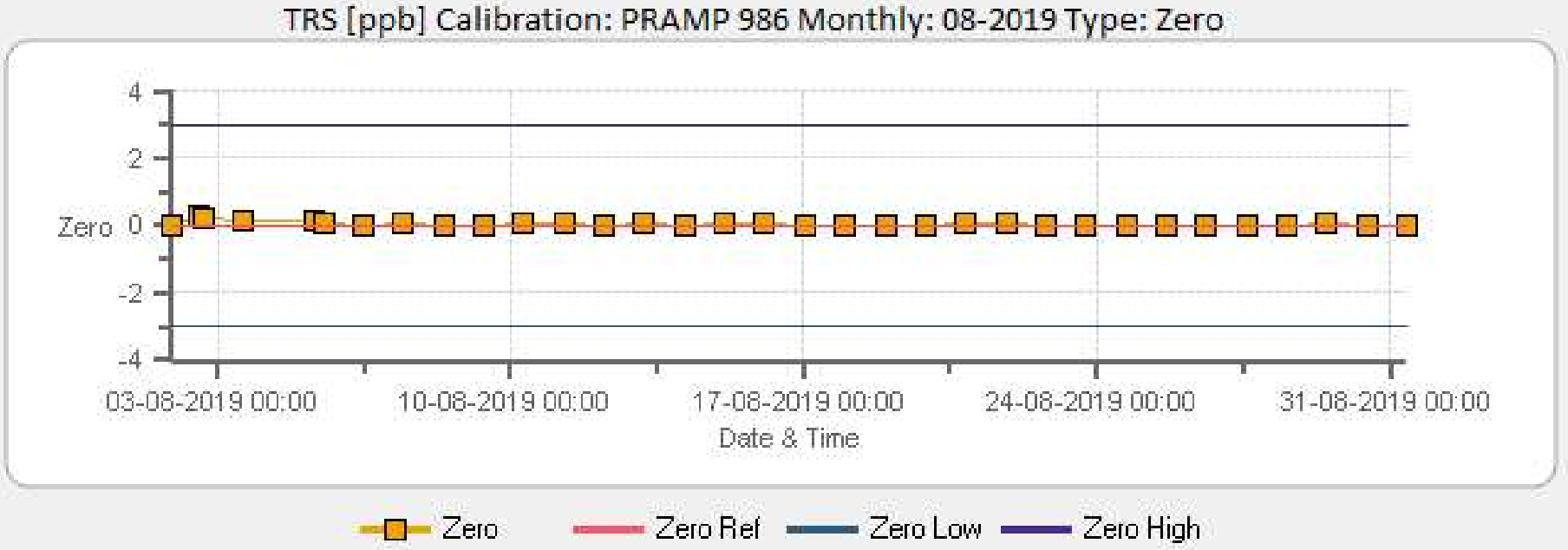
**Data Validation and Report:**
Maxxam Analytics

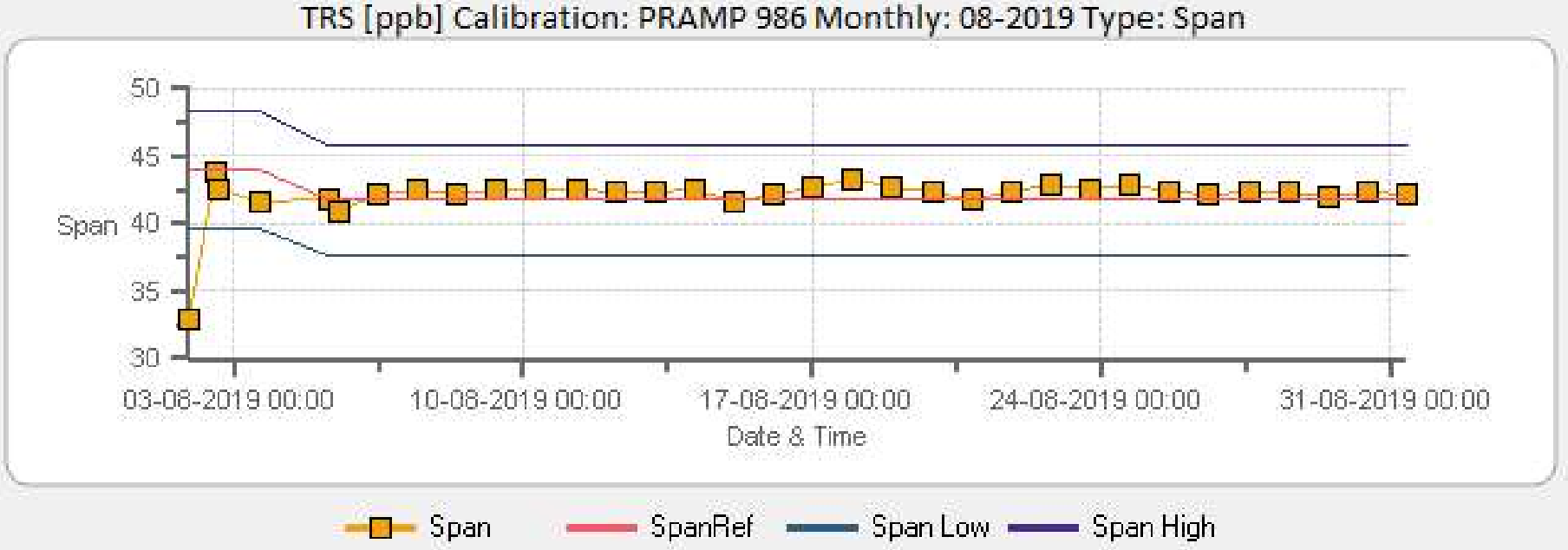
September 23, 2019

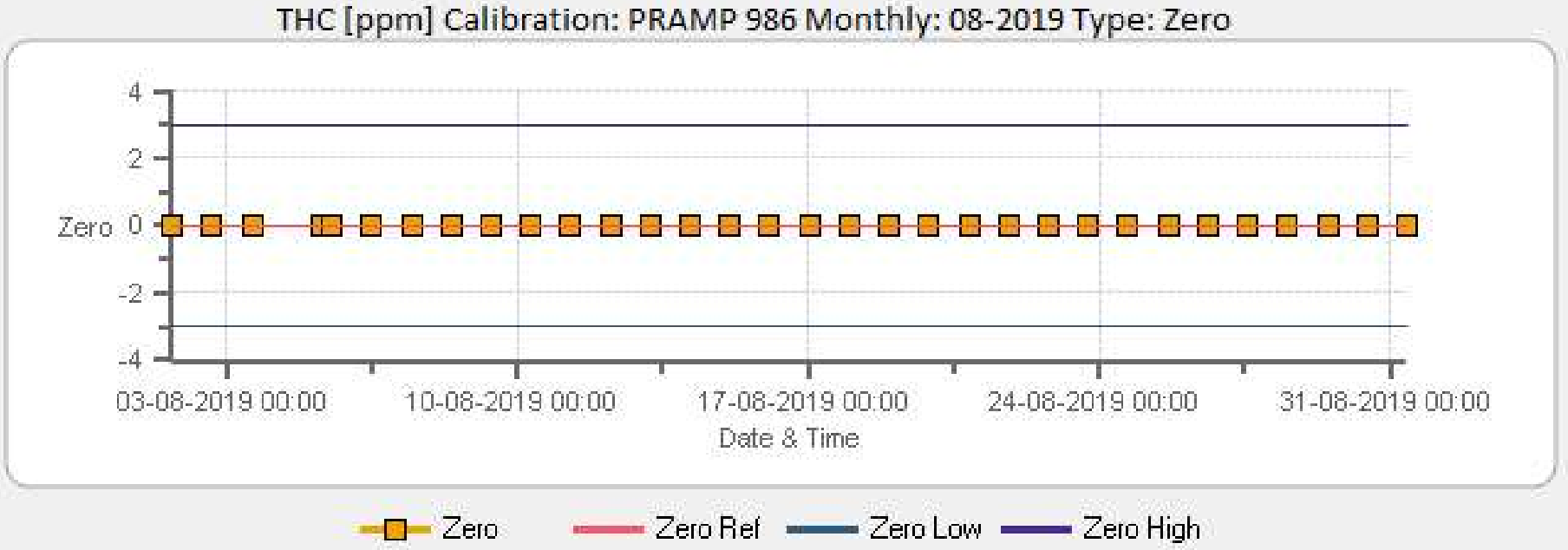
# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

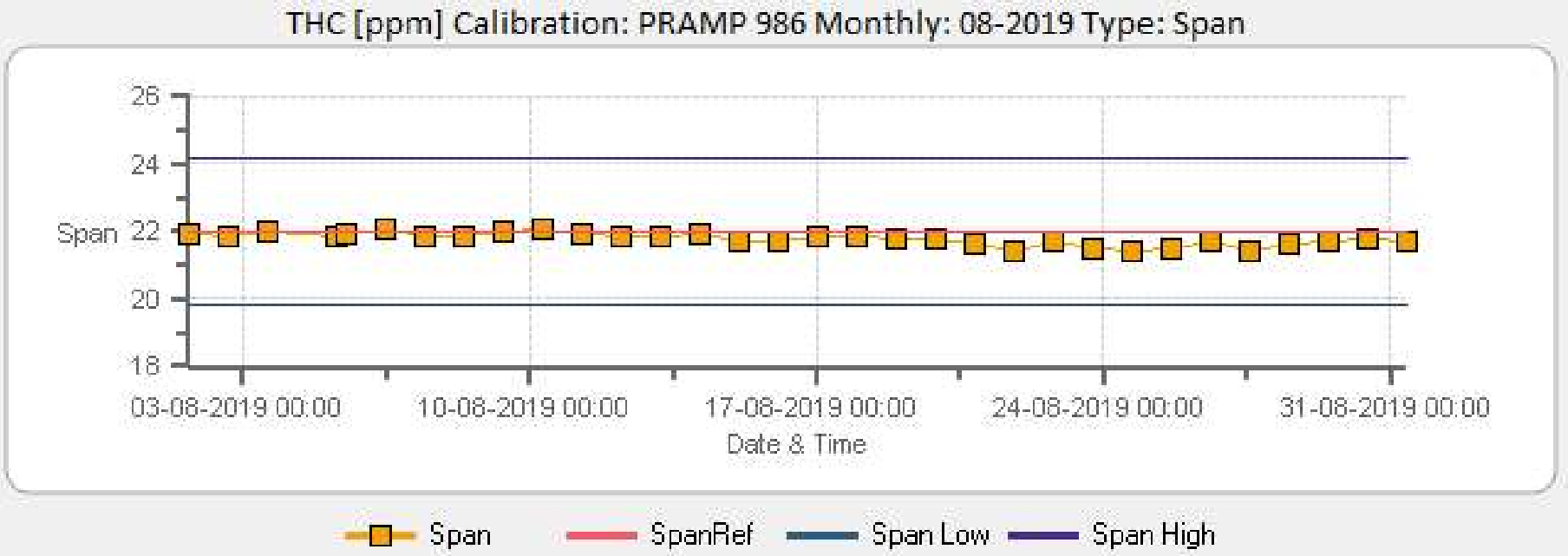

SO2 [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

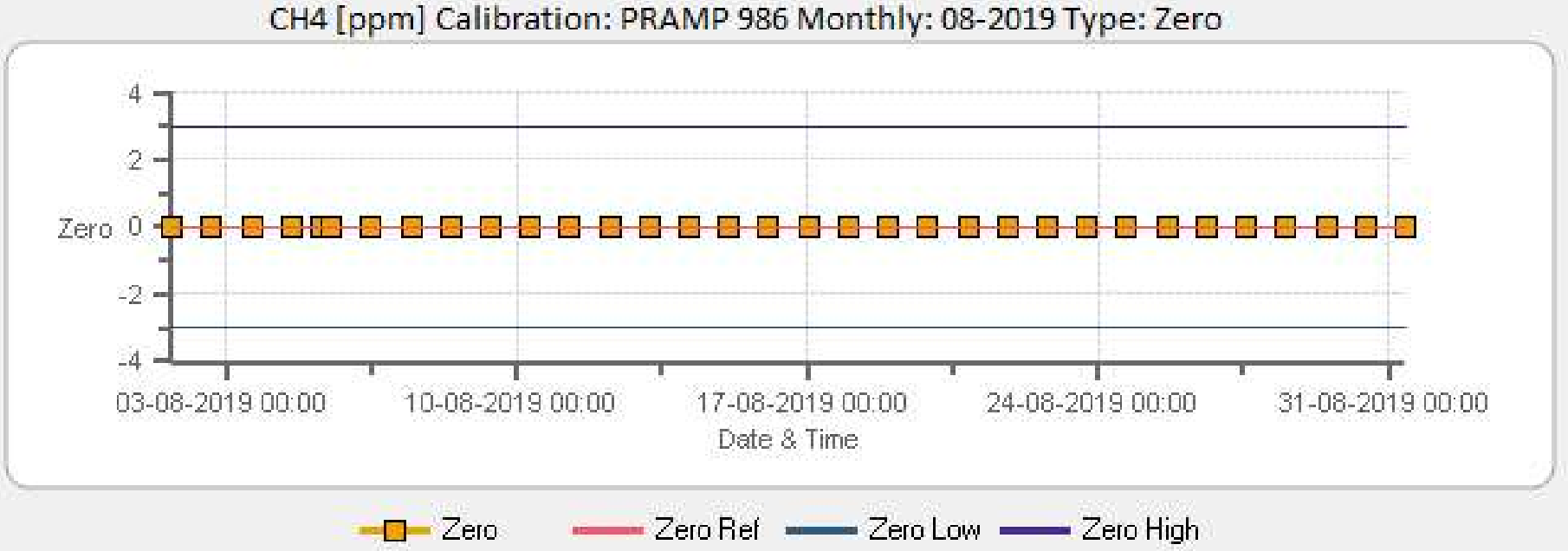

SO2 [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
340
330
320
310
Span 300
290
280
270
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

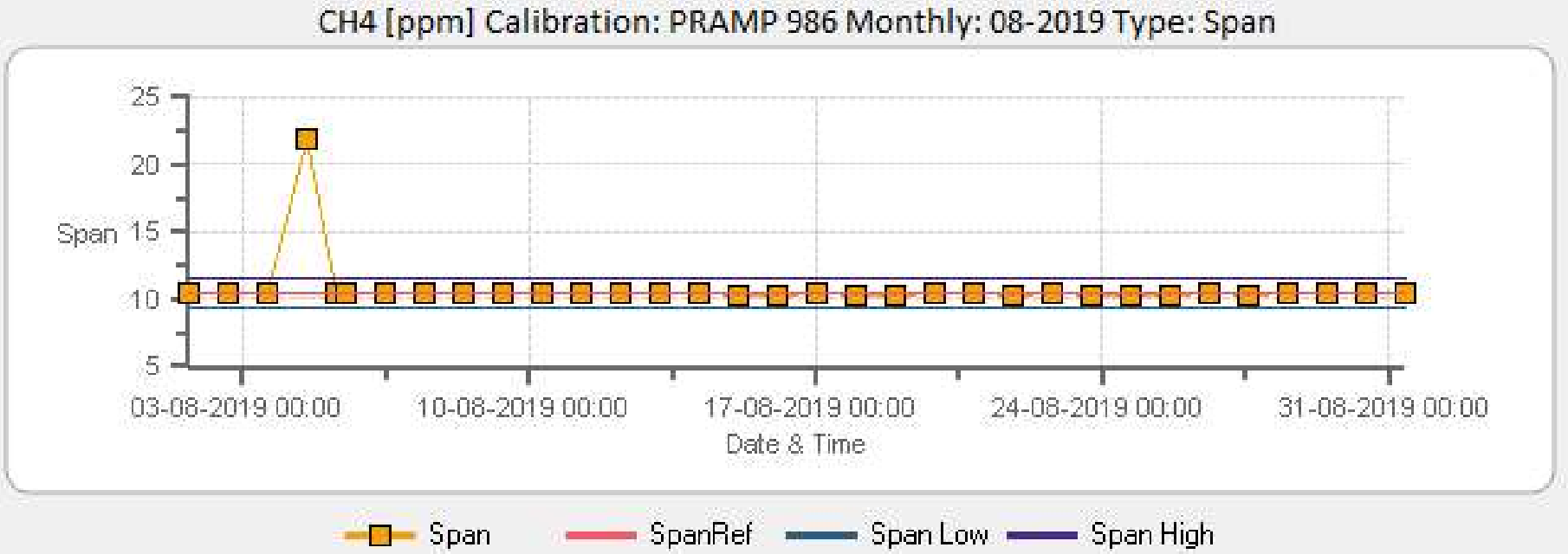

TRS [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

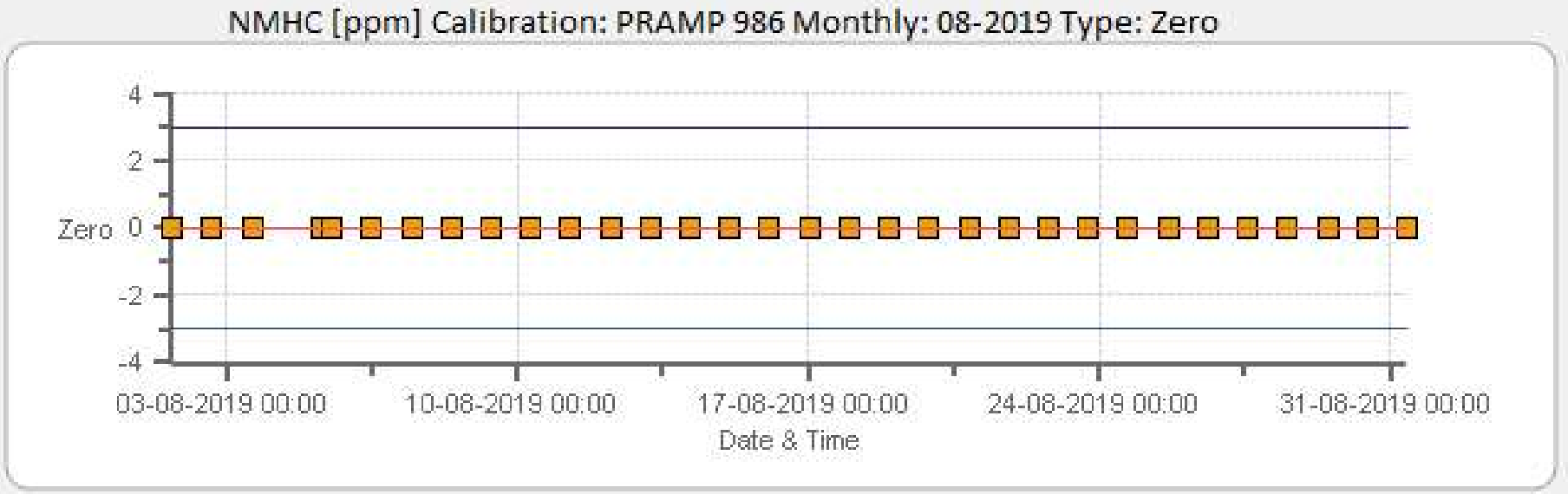

TRS [ppb] Calibration: PRAMP 986 Monthly: 08-2019 Type: Span
50
45
Span 40
35
30
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

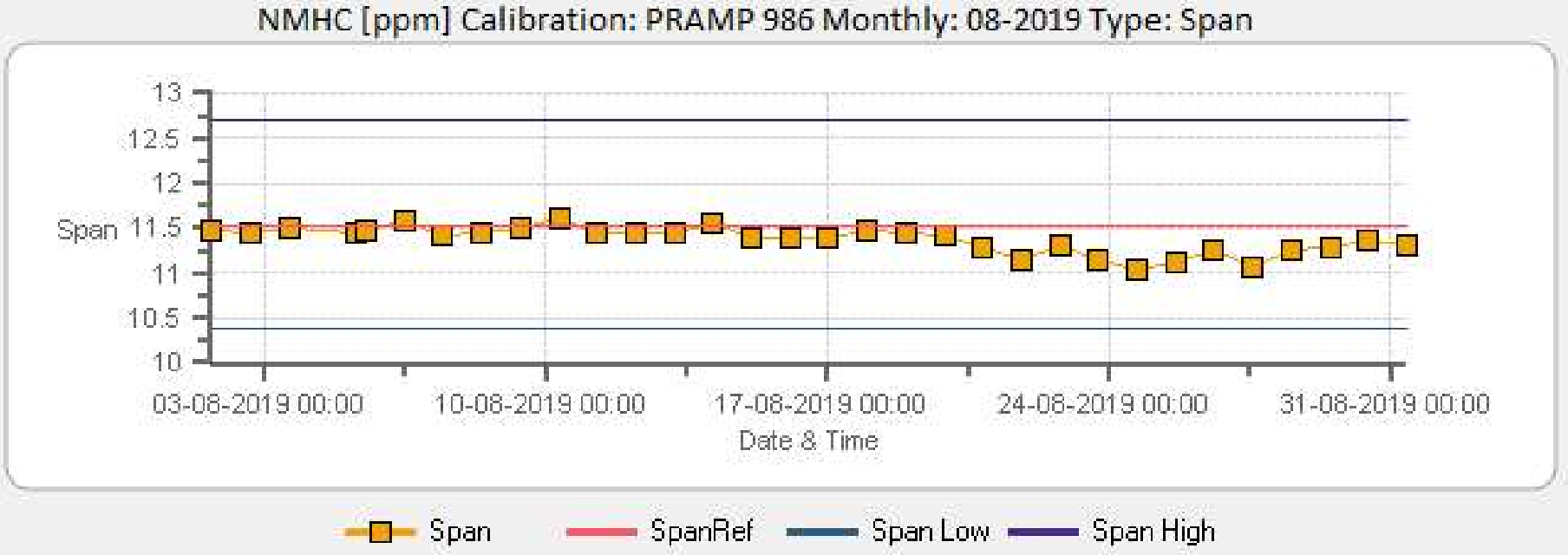

THC [ppm] Calibration: PRAMP 986 Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


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
SO2[ppb]

# 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:**

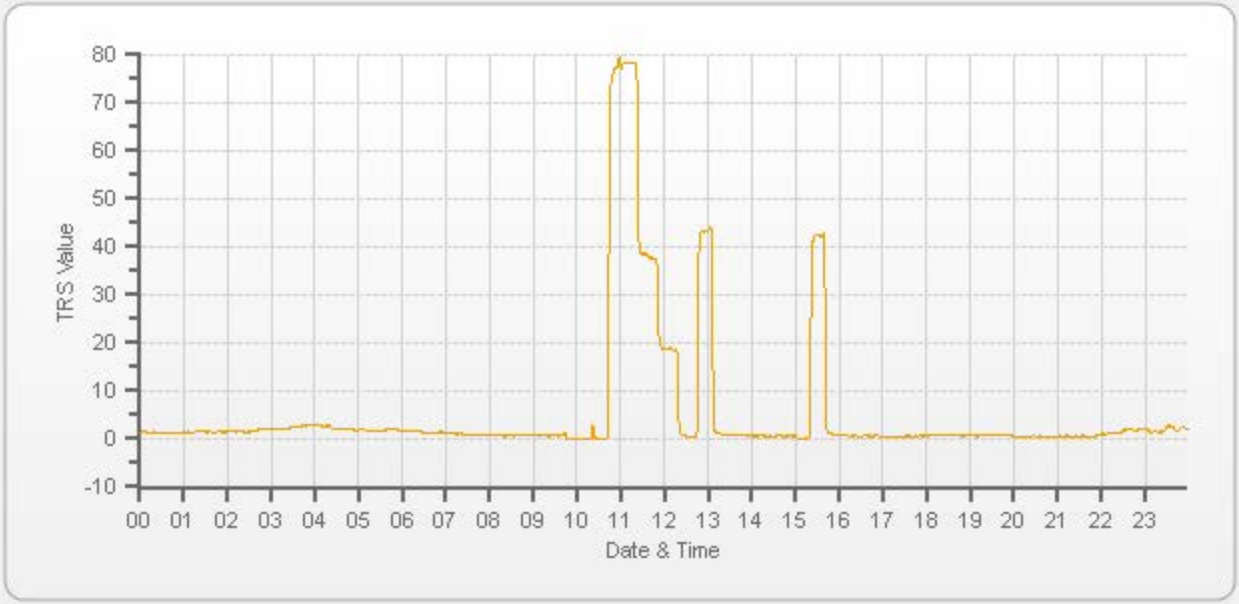
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4001 | | 4001 | 0.00 | n/a | 0 | | |
| 3968 | 30.42 | 3998 | 78.20 | n/a | 78.2 | n/a | 1.000 |
| 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:**

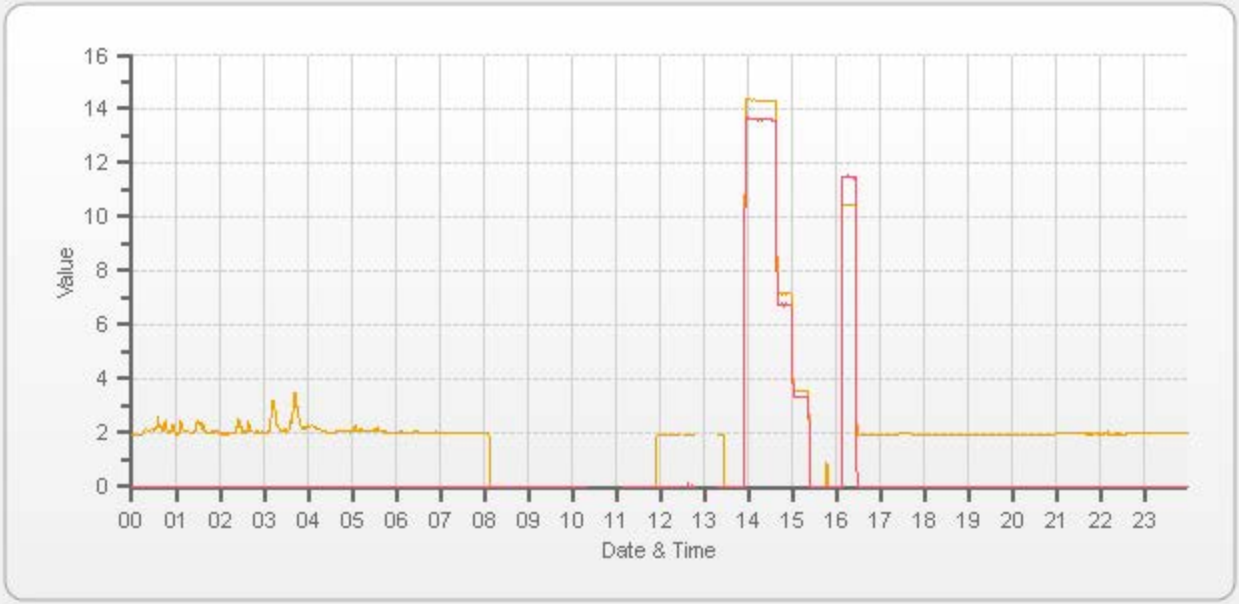
| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | 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 | |
|---|---|---|---|---|---|---|---|
| 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

Form No. F-GAS-002
Version No. 1.1

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

Form No. F-GAS-002
Version No. 1.1

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 pramp

## Peace River Area Monitoring Program

# AUGUST 2019

## Ambient Air Monitoring Calibration Report

## - RENO STATION-

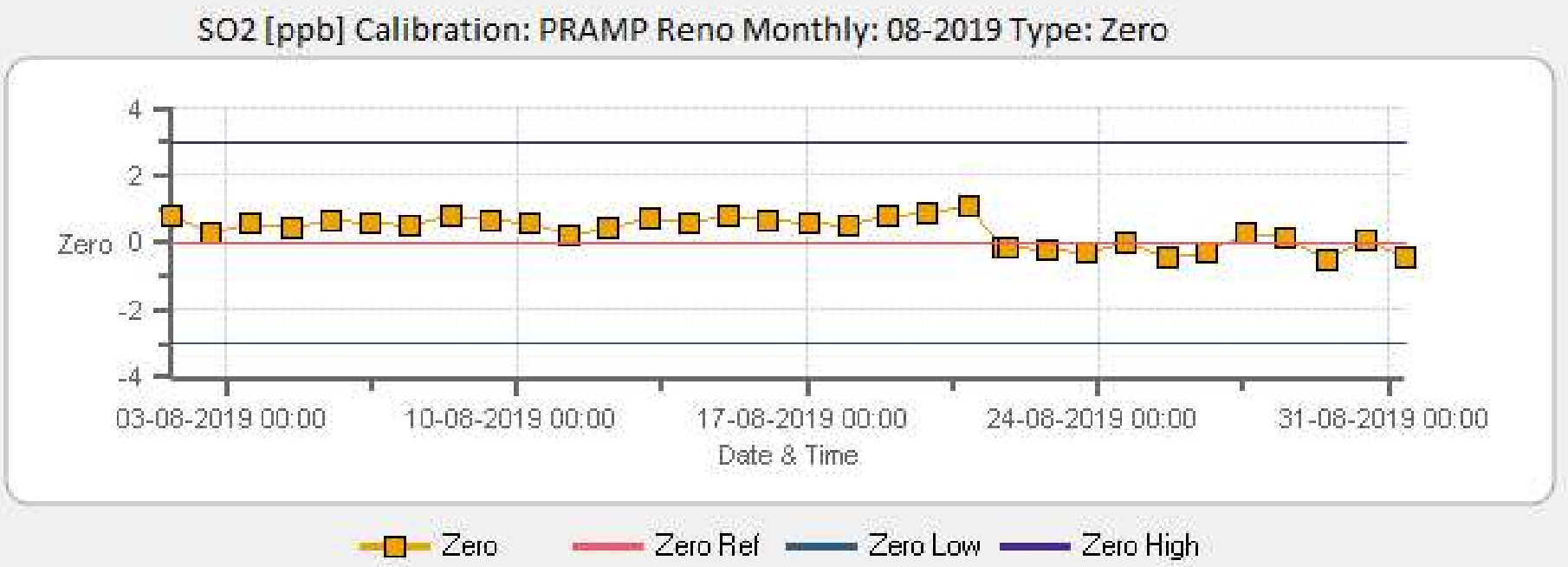
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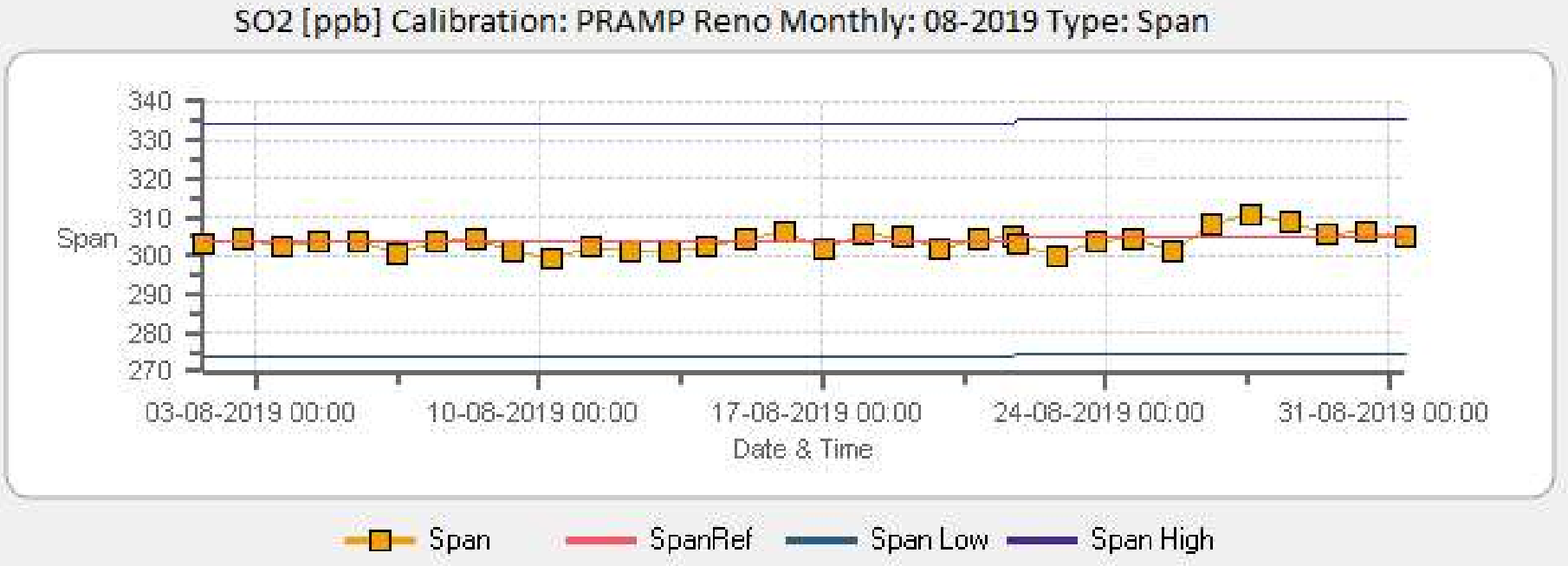
**Operation and Maintenance:**
Maxxam Analytics

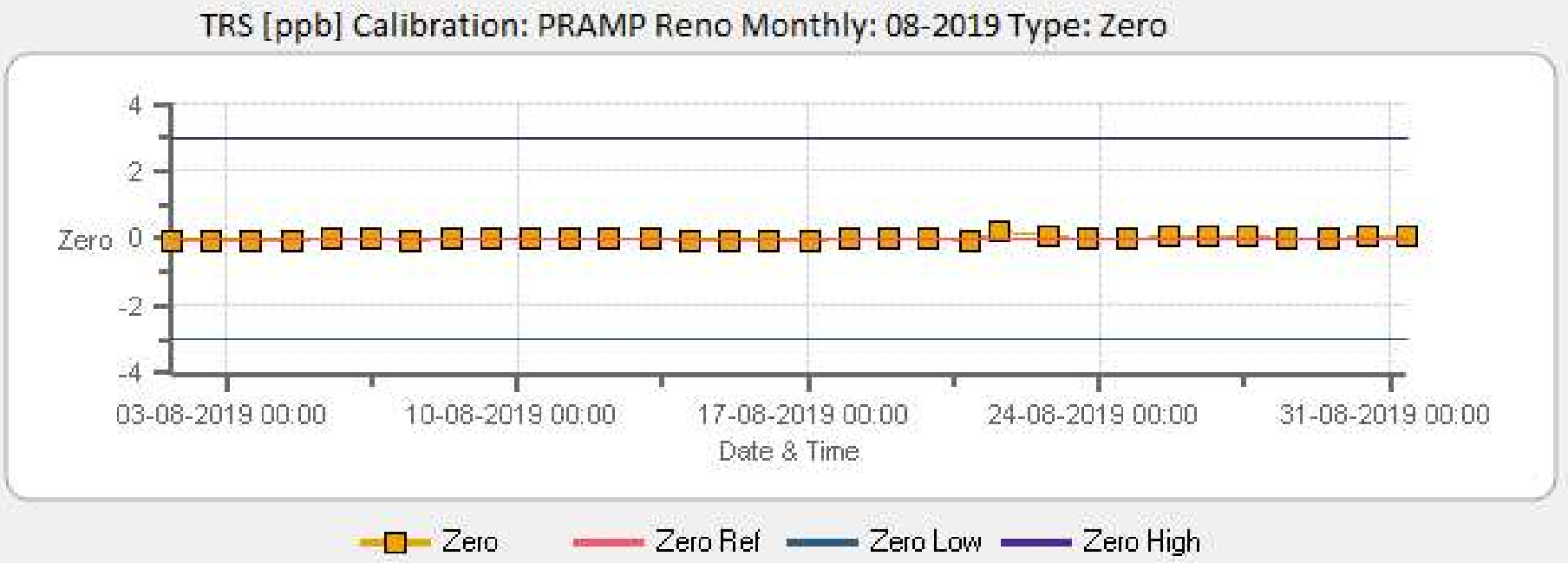
**Data Validation and Report:**
Maxxam Analytics

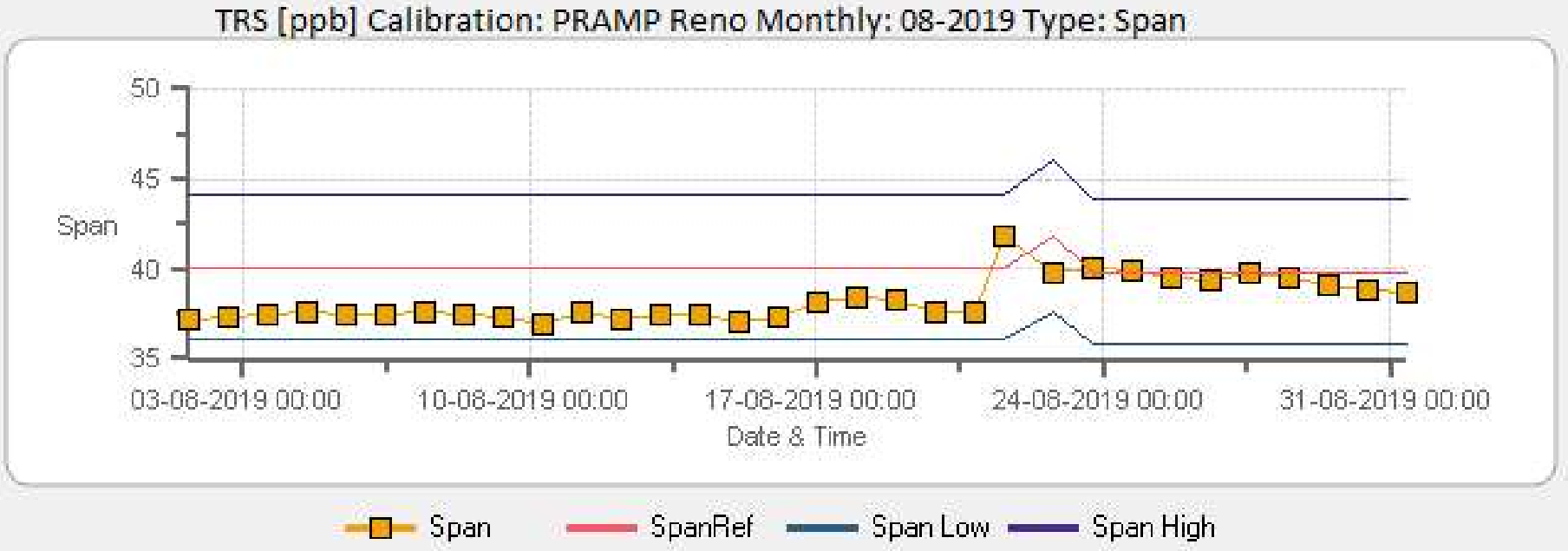
September 12, 2019

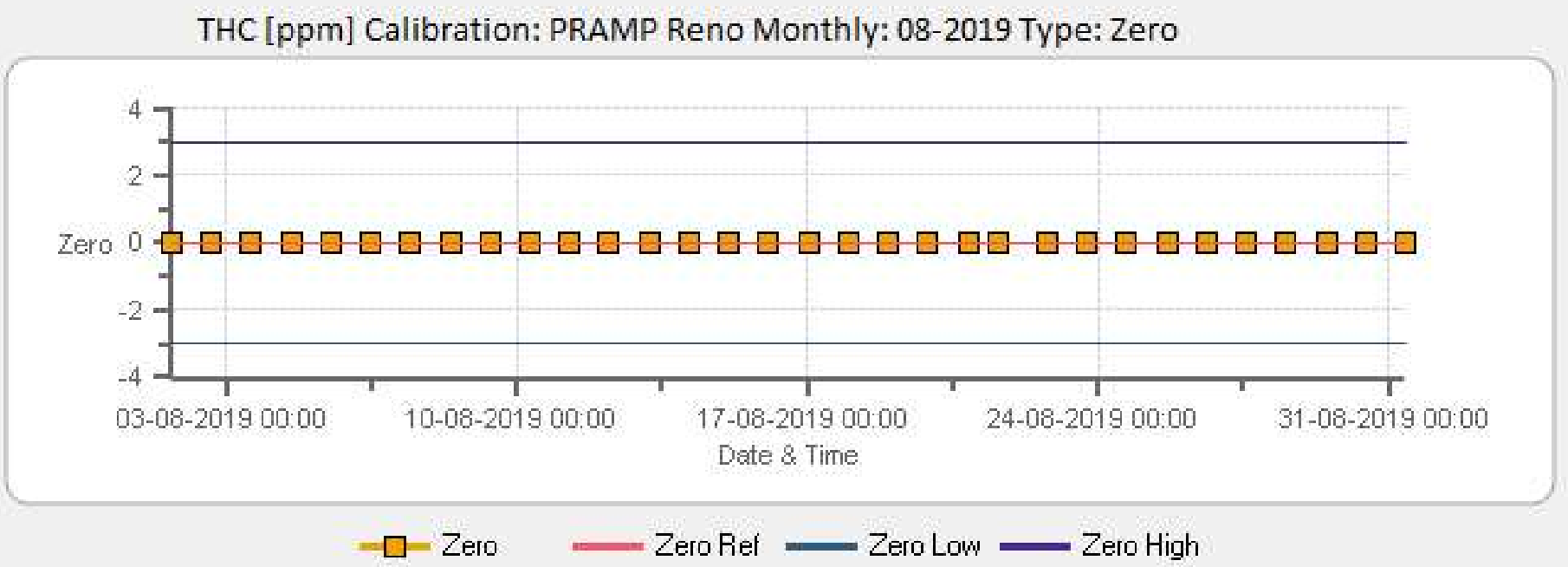
# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

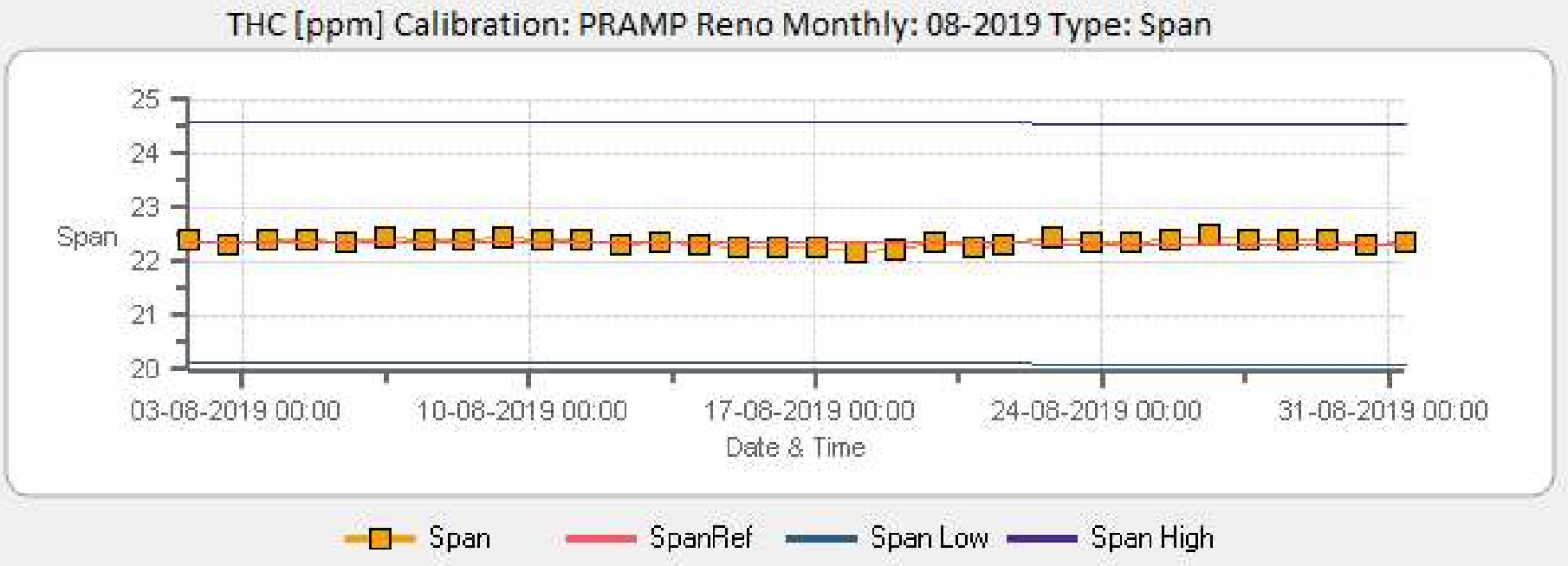

SO2 [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

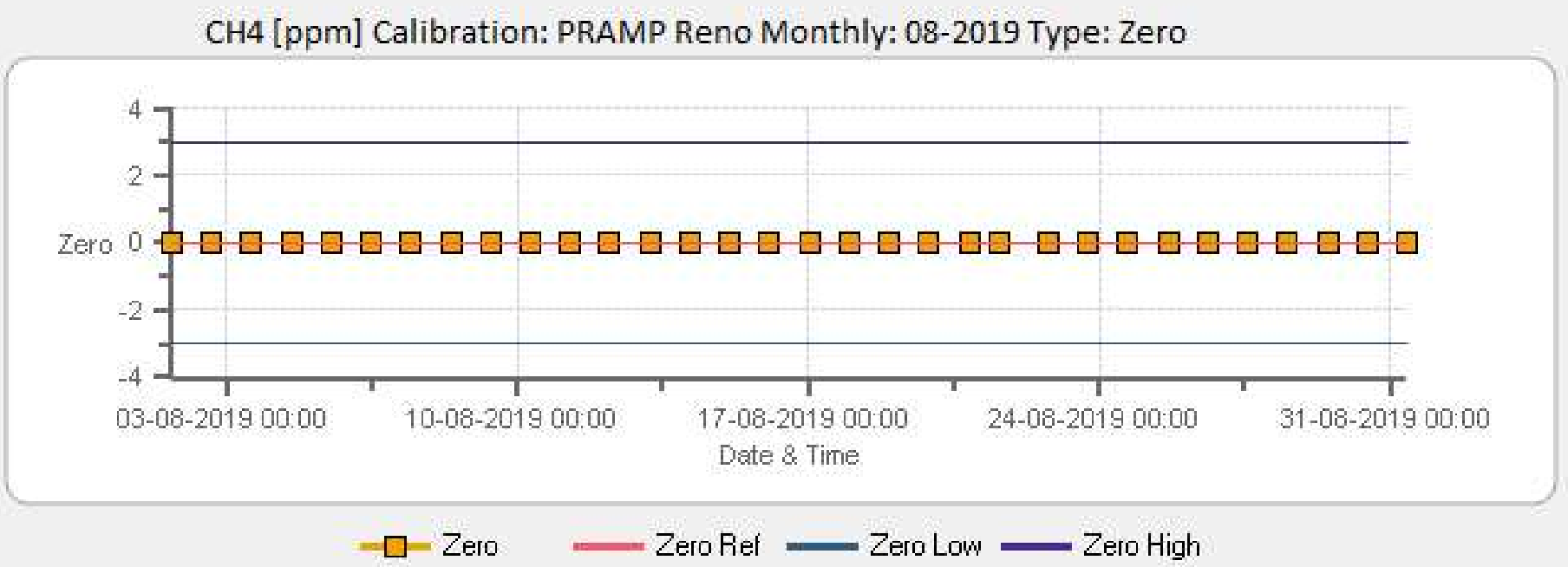

SO2 [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
340
330
320
310
Span 300
290
280
270
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

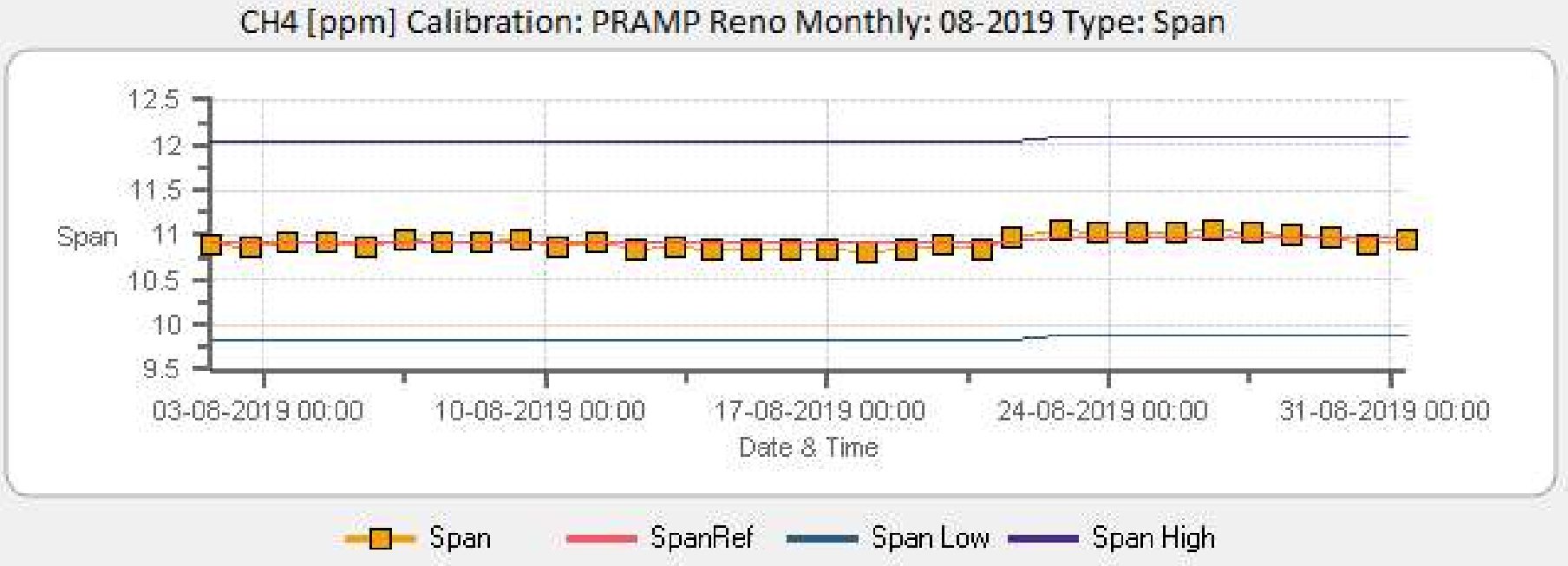

TRS [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

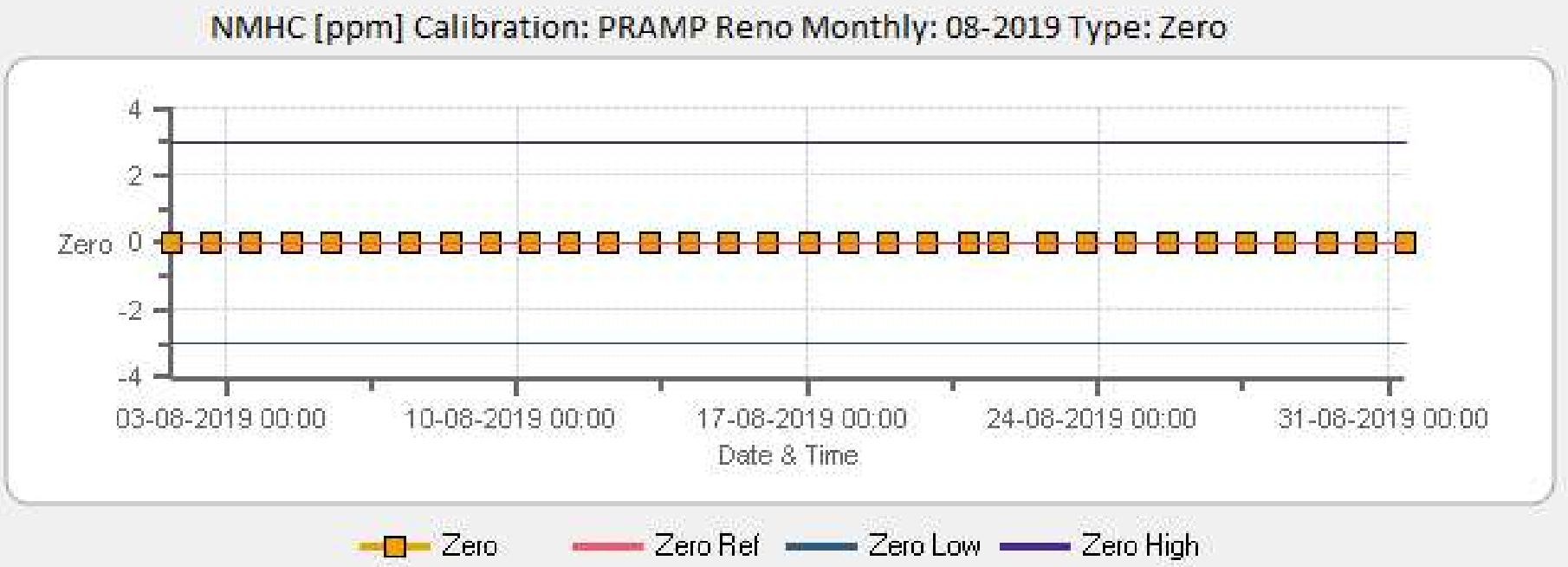

TRS [ppb] Calibration: PRAMP Reno Monthly: 08-2019 Type: Span
50
45
Span
40
35
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

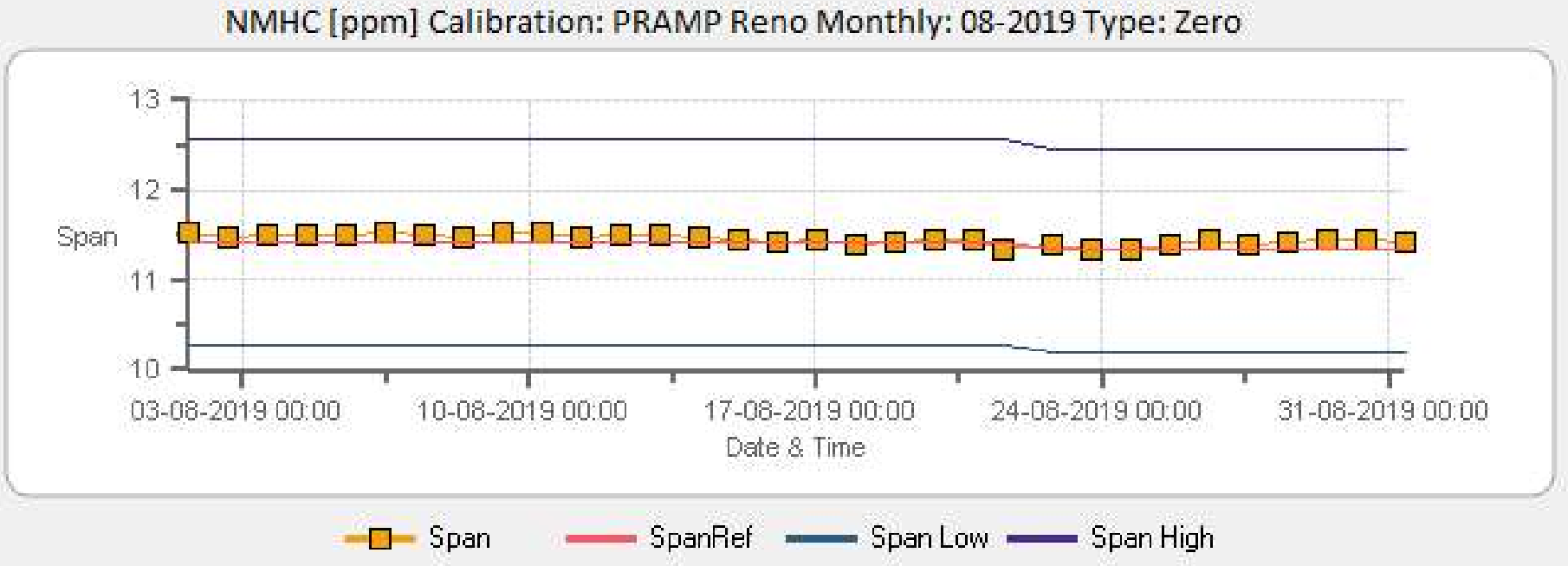

THC [ppm] Calibration: PRAMP Reno Monthly: 08-2019 Type: Zero
4
2
Zero 0
-2
-4
03-08-2019 00:00
10-08-2019 00:00
17-08-2019 00:00
24-08-2019 00:00
31-08-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


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:**

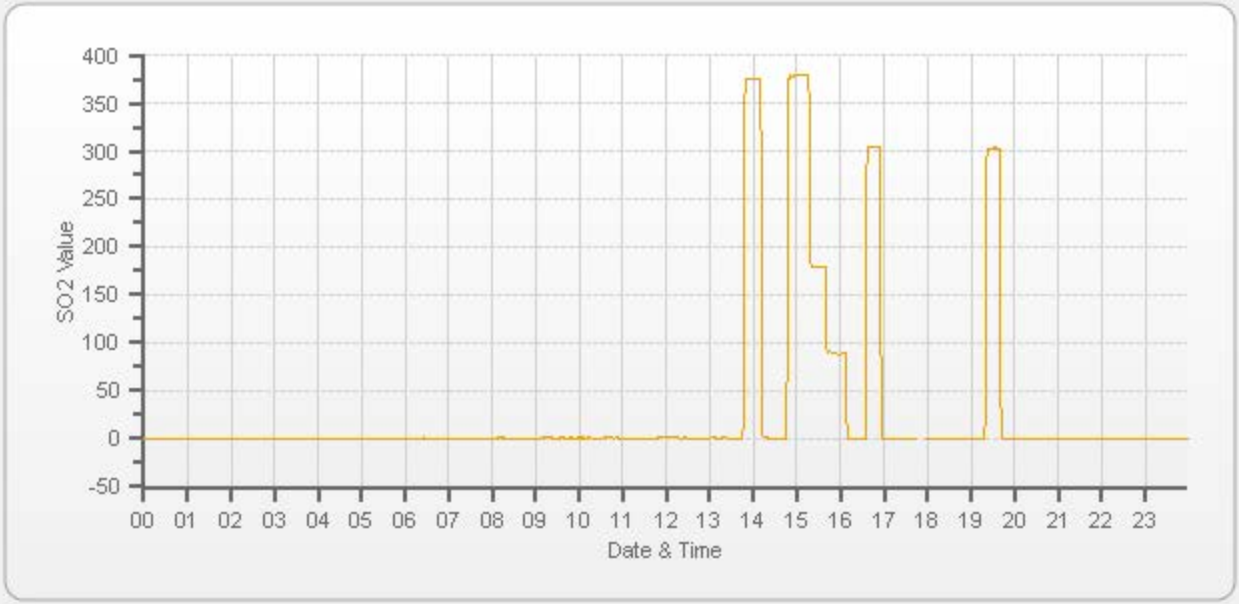
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4013 | | 4013 | 0.00 | 1.2 | 0 | | |
| 3980 | 30.70 | 4011 | 378.87 | 374.4 | 378.9 | 1.015 | 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
TRS [ppb]

# 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:**

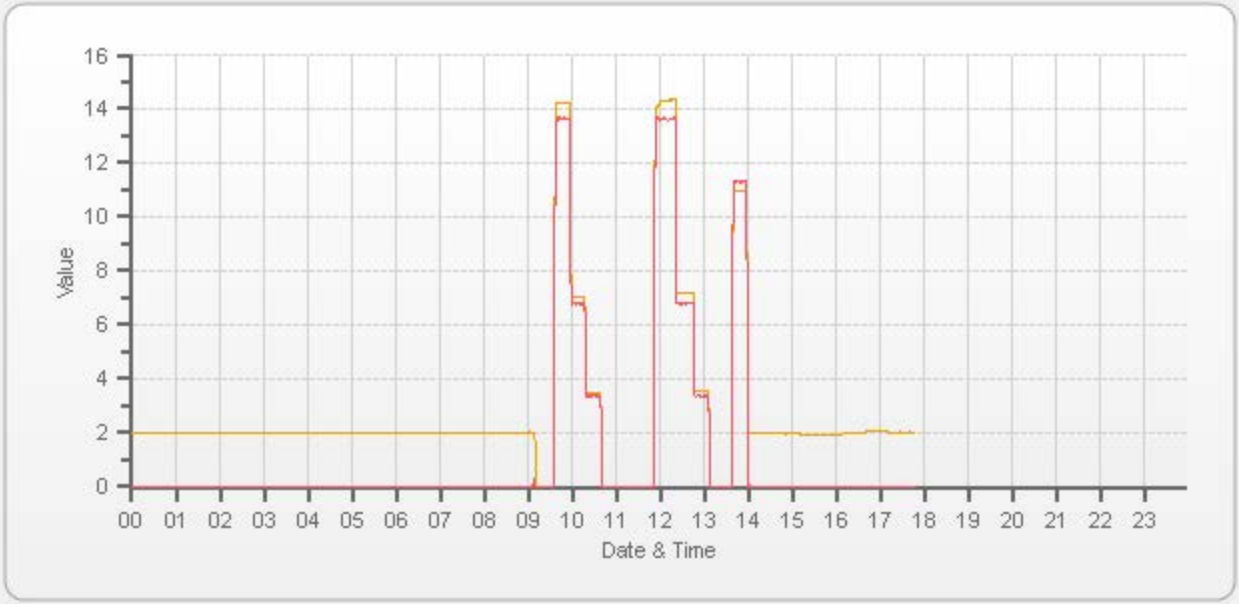
| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | 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.]
Value
Date & Time
CH4[ppm]
NMHC[ppm]
CH4PRAMP-201908-01[03]

# 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

Form No. F-GAS-002
Version No. 1.1

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

Form No. F-GAS-002
Version No. 1.1

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