



Peace River Area Monitoring Program

OCTOBER 2019
Monthly Ambient Air Quality Monitoring Report
PRAMP-201910

Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Peace River Area Monitoring Program

November 21, 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 |
| CH ₄ | Methane |
| EPEA | Environmental Protection and Enhancement Act |
| H ₂ S | 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 |
| SO ₂ | 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 |



Peace River Area Monitoring Program
Suite 91, 305 – 4625 Varsity Drive NW
Calgary, AB, T3A 0Z9
Phone #: 780-226-7068 / 587-225-2248
E-mail: pramptech@prampairshed.ca
www.prampairshed.ca

Alberta Environment and Parks (AEP)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6
Emailed to: Air.Reporting@gov.ab.ca

November 21, 2019

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

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

The representative of the Person Responsible for this monitoring program is

PRAMP Airshed
Michael Bisaga / Lily Lin, Technical Program Managers
Suite 91, 305 – 4625 Varsity Drive NW
Calgary, AB, T3A 0Z9
Phone #: 780-226-7068 / 587-225-2248
E-mail: pramptech@prampairshed.ca

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
- AQHI Cadotte Lake

| Station ID | Station Name | Latitude | Longitude |
|------------|-------------------|----------|------------|
| 1562 | 986c | 56.36980 | -116.92500 |
| 1561 | 842b | 56.27406 | -116.98129 |
| 1563 | Reno | 55.86936 | -117.05739 |
| 1651 | AQHI-Cadotte Lake | 56.49022 | -116.42739 |

Listing of Intermittent Monitoring Stations

- VOC Canister Sampling Station
 - 986c Station
 - 842b Station
 - Reno Station
 - AQHI – Cadotte Lake

Monitoring Notes during the Month of October 2019

986c Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAQOs) 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.
- **TRS:** The TRS convertor failed upon arrival on October 12. The convertor was replaced on October 12. Data was invalidated back to last valid calibration check, which was October 10 hour 16. Fifty-three hours of data were invalidated due to this event.
- **THC/CH4/NMHC:** Hourly data that were recorded on October 22 hour 16 were deemed invalid as less than 75% of valid data in the hour were recorded. One hour of downtime was recorded as a result.
- **Precipitation:** One hundred ninety-two hours of data collected in October were invalidated due to a sensor malfunction, which was caused by low ambient air temperature. The sensor operational uptime was 74.2%. The AMD 90% operational uptime requirement does not apply to this parameter.

842b Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAQOs) 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.

- **TRS:** The TRS convertor failed upon arrival on October 9. The thermocouple was replaced on October 9. Data was invalidated back to the last valid calibration check, which was October 8 hour 18. Seventeen hours of data were discarded 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.
- **All parameters:** No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. Data collected on October 16 hour 8 and on October 25 hour 4 for all gas parameters were discarded as the analyzers were recovering from the power failures.
- **TRS/THC/CH4/NMHC:** A zero-span check was initiated after the power outage on October 25 hour 7 to confirm the analyzers' functionality. Both analyzers passed the check requirements. One hour of downtime was recorded as a result.
- **WS/WD/RH/BP/AT:** Invalid data were recorded following the power failure on October 16. Troubleshooting revealed an issue with analog software to datalogger communication. The issue was fixed on October 17. Twenty-six hours of data were discarded due to this event.
- **WS/WD:** Invalid data were recorded on October 23 between hour 0 and hour 10 due to wind system malfunction. The cause was due to freezing rain that impacted the wind system blade to function properly.

AQHI – Cadotte Lake 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, with an exception of NOx/NO/NO2 (67.9%). During the month of October, most analyzers and support systems were in a stabilizing period following the new station's deployment in the field; data completeness that did not meet the 90% operational uptime requirement was not considered a contravention and was not reported to AEP.
- The station was installed on October 1. An installation calibration was performed on October 2 and October 3.
- **SO2:**
 - A Teledyne T100 SO2 analyzer, s/n: 722, was installed on October 2. Valid data started being recorded on October 2 hour 14.
 - A repeat multi-point calibration was performed on October 4 after repairs were completed on the internal zero-span system. Nine hours of downtime were recorded due to this maintenance.
- **TRS:**
 - A Teledyne T100U TRS analyzer, s/n: 132, was installed on October 3. Valid data started being recorded on October 3 hour 16.

- The analyzer firmware failed on October 7 hour 10 and was fixed on October 8. Data was invalidated back to the last valid calibration check, which was October 6 hour 20. Forty-seven hours of data were invalidated due to this event.
- **NOX/NO/NO2:**
 - A Teledyne T200 NO2 analyzer, s/n: 837, was installed on October 2. Valid data started being recorded on October 2 hour 17.
 - The analyzer was put offline on October 8 during hours 12 and 13 in order to obtain reference concentrations for ozone analyzer calibration.
 - The analyzer failed a shut-down calibration on October 17 due to a blocked exhaust tubing which caused the pump cabinet to overheat. Exhaust tubing was replaced, and a successful post-repair calibration was performed on October 18. The point of failure was determined to be October 9 hour 4. Two hundred forty-eight hours of downtime were recorded due to this event.
- **O3:**
 - A Teledyne T400 O3 analyzer, s/n: 824, was installed on October 2. Valid data started being recorded on October 2 hour 19.
 - A repeat zero span check was performed on October 3 hour 9 in order to retrieve a reference daily span value. One hour of downtime was recorded as a result.
 - The analyzer failed the daily span check on October 5. A repeat zero span check was performed on October 6 hour 7, and the check results still did not pass the check requirements. A successful shut-down calibration was performed before the sample pump was replaced on October 8. As the analyzer passed the shut-down calibration requirement, no data were discarded. However, nine hours of downtime were recorded due to this maintenance activity.
 - No O3max data collected on October 8 between hour 20 and October 9 hour 6 due to operator error. The channel was accidentally left offline after post-repair calibration was completed. Eleven hours of data were missing due to this event.
- **THC/CH4/NMHC:**
 - A Thermo 55i HC analyzer, s/n: 1501663728, was installed on October 3. Valid data started being recorded on October 2 hour 16.
 - A repeat multi-point calibration was performed on October 8 in order to address drifts in daily zero-span responses. Four hours of downtime were recorded due to this maintenance.
 - The analyzer continued showing unstable zero-span check results after the calibration on October 8. A successful shut-down calibration was performed on October 17 before troubleshooting was performed. Analyzer was put offline overnight for column conditioning on October 17. A post-repair calibration was performed on October 18. Thirty-five hours of downtime were recorded due to this event.
 - As the analyzer showed unstable zero responses in daily zero checks between October 2 and October 18, the daily zero results were determined invalid. No baseline correction was performed on data collected between October 2 hour 16 and October 17 hour 17.
- **PM2.5:** A Teledyne T640PM2.5 instrument, s/n: 318, was installed on October 2. Valid data started being recorded on October 2 hour 19.
- **RH/TPX:** A Vaisala TPX/RH HMP155 sensor, s/n: N2910506, was installed on October 1. Valid data started being recorded on October 2 hour 2.

- **AT:**
 - A Vaisala TPX/RH HMP155 sensor, s/n: N2910506, was installed on October 1. Valid data started being recorded on October 2 hour 2.
 - The channel was put into maintenance mode on October 2 between hour 13 and 17 during the time the ambient station installation was performed.
- **WS/WD:** A MetOne 010C/020C wind system, s/n: W15277/WW16102, was installed on October 1. The wind system was calibrated at PRAMP's contractor's (Bureau Veritas Canada) shop in Edmonton on June 28, 2019. Valid data started being recorded on October 2 hour 2.

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.
- Canisters sample collection systems are in place at Station 986c, 842b, and the Reno Station; a canister sample collection system is not part of the suite of instruments currently deployed at the AQHI-Cadotte Lake Station.
- Sample analysis and analytical results were prepared and provided by InnoTech Alberta.
- In this report, a value of zero (0) value is assigned if the laboratory analysis results in a concentration that is below Reported Detection Limits (RDL).
- One NMHC canister was collected at Reno site on October 17 at 20:45, at concentration of 0.73ppm.

| | | | | | | | | |
|------------------|--------------------------|---------|-----------------|--------|-------------------|-----------------|------|---------|
| Sample Date/Time | 2019-10-18 | | | | | | | |
| Canister Sample | Non-Methane Hydrocarbons | | | | | | | |
| Canister ID | 32240 | | | | | | | |
| Method | NA-025 | Method | NA-024 | Method | AC-058 | | | |
| Maximum Reading | 2.2 | Methane | Maximum Reading | 1.5 | Carbonyl sulphide | Maximum Reading | 30.7 | Acetone |

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.

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 Bureau Veritas.

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).

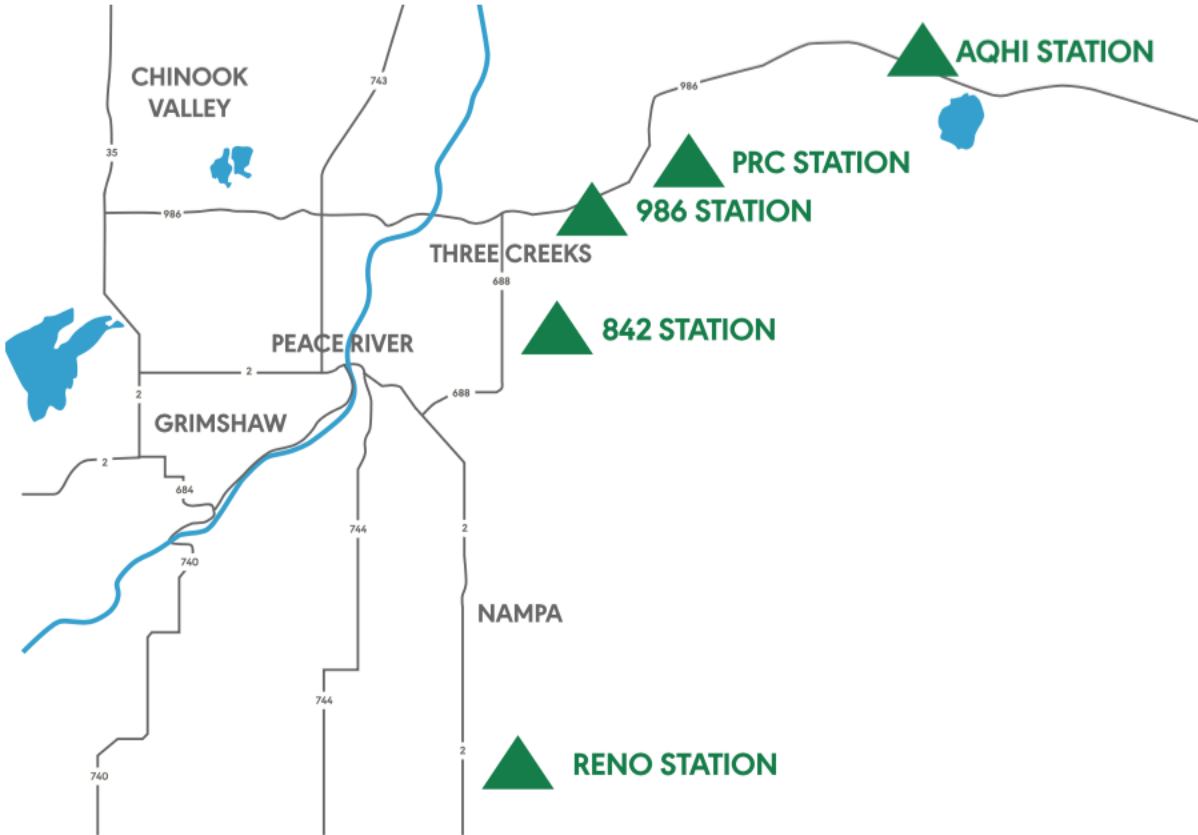
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all 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

November 21, 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 | |
| <ul style="list-style-type: none"> A successful monthly calibration was performed on October 2. | | | |
| TRS | Thermo / 43i-TLE | 1152940011 | |
| <ul style="list-style-type: none"> A successful monthly calibration was performed on October 2. The TRS convertor failed upon arrival on October 12. The convertor was replaced on October 12. A successful post-repair calibration was performed on October 12. Data was invalidated back to last valid calibration check, which was October 10 hour 16. Fifty-three hours of data were invalidated due to this event. | | | |
| THC/CH4/NMHC | Thermo / 55i | 1022043392 | |
| <ul style="list-style-type: none"> A successful monthly calibration was performed on October 2. Hourly data that were recorded on October 22 hour 16 were deemed invalid as less than 75% of valid data in the hour were recorded. One hour of downtime was recorded as a result. | | | |
| Relative Humidity (RH) | RM Young / 43182VC | 030978 | |
| <ul style="list-style-type: none"> The RH sensor was checked on October 2. The sensor passed the check requirements. | | | |
| Barometric Pressure (BP) | MetOne / 090D | F3845 | |
| <ul style="list-style-type: none"> The BP sensor was checked on October 2. The sensor passed the check requirements. | | | |
| Ambient Temperature (AT) | RM Young 431872VC | 030978 | |
| <ul style="list-style-type: none"> The temperature sensor was checked on October 2. The sensor passed the check requirements. | | | |

| Parameter | Make / Model | Serial Number | |
|--|--------------------------|---------------|--|
| Station Temperature (ST) | Maxxam | N/A | |
| <ul style="list-style-type: none"> No issue was identified this month. | | | |
| Wind Speed/Wind Direction (WS/ WD) | RM Young / 5305VK | 129612 | |
| <ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The anemometer sensors were checked on October 2. The sensor passed the check requirements. | | | |
| Precipitation | EML / ARG100 | 190114 | |
| <ul style="list-style-type: none"> One hundred ninety-two hours of data collected in October were invalidated due to a sensor malfunction, which was caused by low ambient air temperature. The sensor operational uptime was 74.2%. The AMD 90% operational uptime requirement does not apply to this parameter. | | | |

Monitored Data Summary for 986c Station

| 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 | October 1 at hour 0 | 14.3 | S | 0.0 | October 1 | 100.0 | 94.7 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.71 | 0.00 | 5.31 | October 17 at hour 19 | 6.8 | S | 2.31 | October 17 | 92.9 | 87.9 |
| THC (ppm) | - | - | - | - | - | - | 1.96 | 1.89 | 2.20 | October 2 at hour 6 | 5.6 | SE | 2.05 | October 1 | 99.9 | 94.7 |
| CH4 (ppm) | - | - | - | - | - | - | 1.96 | 1.89 | 2.20 | October 2 at hour 6 | 5.6 | SE | 2.05 | October 1 | 99.9 | 94.7 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.06 | October 16 at hour 20 | 12 | ENE | 0.00 | October 16 | 99.9 | 94.7 |
| RH (%) | - | - | - | - | - | - | 76.7 | 27 | 100 | October 14 at hour 1 | 9.9 | NNE | 99.8 | October 22 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 942 | 922 | 964 | October 28 at hour 12 | 10.9 | NNW | 961 | October 28 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 2.3 | -14.5 | 17.6 | October 3 at hour 15 | 4.9 | WSW | 9.0 | October 6 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 21.9 | 20.5 | 26.9 | October 2 at hour 16 | 9.9 | S | 23.4 | October 5 | 100.0 | 100.0 |
| Precipitation (mm)* | - | - | - | - | - | - | 25.0 | 0.0 | 1.4 | October 7 at hour 8 | 14.3 | WNW | 3.8 | October 21 | 74.2 | 74.2 |
| WSV (km/hr) | - | - | - | - | - | - | 4.5 | 0.7 | 31.3 | October 6 at hour 18 | 31.3 | SW | 21.3 | October 6 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 231 (SW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

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 at 986c Station

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

842b Station**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|--|-------------------------------------|----------------------|--|
| SO2 | Thermo / 43i | 835033373 | |
| <ul style="list-style-type: none"> A successful monthly calibration was performed on October 9. | | | |
| TRS | Thermo / 43i-TLE | 1162460023 | |
| <ul style="list-style-type: none"> The TRS convertor failed upon arrival on October 9. The thermocouple was replaced on October 9. A successful post-repair calibration was performed on October 9. Data was invalidated back to the last valid calibration check, which was October 8 hour 18. Seventeen hours of data were discarded due to this event. | | | |
| THC/CH4/NMHC | Thermo / 55i | 1505664392 | |
| <ul style="list-style-type: none"> A successful monthly calibration was performed on October 9. Both H2 and N2 gas bottles were replaced during the time the monthly calibration was performed on October 9. | | | |
| Relative Humidity (RH) | Campbell Scientific / HMP45C | C2608 | |
| <ul style="list-style-type: none"> The RH sensor was checked on October 9. The sensor passed the check requirements. | | | |
| Barometric Pressure (BP) | MetOne / 92 | K12864 | |
| <ul style="list-style-type: none"> The BP sensor was checked on October 9. The sensor passed the check requirements. | | | |
| Station Temperature (ST) | Maxxam | N/A | |
| <ul style="list-style-type: none"> No issue was identified this month. | | | |
| Ambient Temperature (AT) | Campbell Scientific / HMP45C | C2608 | |
| <ul style="list-style-type: none"> The temperature sensor was checked on October 9. The sensor passed the check requirements. | | | |

| Parameter | Make / Model | Serial Number | |
|--|-------------------|---------------|--|
| Wind Speed/Wind Direction (WS/ WD) | RM Young / 5305VK | 124638 | |
| <ul style="list-style-type: none">• Wind direction data contained in this report represents where the wind is coming from.• The anemometer sensors were checked on October 9. The sensor passed the check requirements. | | | |

Monitored Data Summary for 842b Station

| 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 | October 2 at hour 10 | 11.1 | S | 0.3 | October 2 | 100.0 | 94.9 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.40 | 0.24 | 1.19 | October 17 at hour 6 | 8.2 | SW | 0.61 | October 18 | 97.7 | 92.6 |
| THC (ppm) | - | - | - | - | - | - | 1.99 | 1.91 | 2.18 | October 3 at hour 7 | 3.8 | ESE | 2.05 | October 3 | 100.0 | 94.9 |
| CH4 (ppm) | - | - | - | - | - | - | 1.99 | 1.91 | 2.18 | October 3 at hour 7 | 3.8 | ESE | 2.05 | October 3 | 100.0 | 94.9 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.00 | October 1 at hour 0 | 11.8 | SSE | 0.00 | October 1 | 100.0 | 94.9 |
| RH (%) | - | - | - | - | - | - | 71.6 | 27 | 96 | October 20 at hour 7 | 3.3 | SSW | 93.8 | October 22 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 941 | 921 | 963 | October 28 at hour 11 | 8.5 | N | 961 | October 28 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 2.1 | -14.3 | 16.9 | October 3 at hour 15 | 8.5 | SW | 8.8 | October 6 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.3 | 21.8 | 23.4 | October 2 at hour 12 | 9 | S | 23.0 | October 5 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 4.2 | 0.1 | 29.4 | October 6 at hour 18 | 29.4 | SW | 19.5 | October 6 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 227 (SW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances at 842b Station

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

Reno Station

Equipment Operation Summary

| Parameter | Make / Model | Serial Number | |
|---|------------------|---------------|--|
| SO2 | API / 100A | 841 | |
| <ul style="list-style-type: none"> • A successful monthly calibration was performed on October 3. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. Data collected on October 16 hour 8 and on October 25 hour 4 were also discarded as the analyzers were recovering from the power failures. | | | |
| TRS | Thermo / 43i-TLE | 1162460022 | |
| <ul style="list-style-type: none"> • A successful monthly calibration was performed on October 3. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. Data collected on October 16 hour 8 and on October 25 hour 4 were also discarded as the analyzers were recovering from the power failures. • A zero-span check was initiated after the power outage on October 25 hour 7 to confirm the analyzers' functionality. The analyzer passed the check requirements. One hour of downtime was recorded as a result. | | | |
| THC/CH4/NMHC | Thermo / 55i | 1314057759 | |
| <ul style="list-style-type: none"> • A successful monthly calibration was performed on October 3. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. Data collected on October 16 hour 8 and on October 25 hour 4 were also discarded as the analyzers were recovering from the power failures. • A zero-span check was initiated after the power outage on October 25 hour 7 to confirm the analyzers' functionality. The analyzer passed the check requirements. One hour of downtime was recorded as a result. | | | |

| Parameter | Make / Model | Serial Number | |
|--|---------------------------|----------------------|--|
| Relative Humidity (RH) | RM Young / 43172VC | 60837897 | |
| <ul style="list-style-type: none"> • The RH sensor was checked on October 3. The sensor passed the check requirements. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. • Invalid data were recorded following the power failure on October 16. Troubleshooting revealed an issue with analog software to datalogger communication. The issue was fixed on October 17. Twenty-six hours of data were discarded due to this event. | | | |
| Barometric Pressure (BP) | MetOne / 92 | R12877 | |
| <ul style="list-style-type: none"> • The BP sensor was checked on October 3. The sensor passed the check requirements. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. • Invalid data were recorded following the power failure on October 16. Troubleshooting revealed an issue with analog software to datalogger communication. The issue was fixed on October 17. Twenty-six hours of data were discarded due to this event. | | | |
| Ambient Temperature (AT) | RM Young / 43172VC | 60837897 | |
| <ul style="list-style-type: none"> • The temperature sensor was checked on October 3. The sensor passed the check requirements. • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. • Invalid data were recorded following the power failure on October 16. Troubleshooting revealed an issue with analog software to datalogger communication. The issue was fixed on October 17. Twenty-six hours of data were discarded due to this event. | | | |
| Station Temperature (ST) | Maxxam | N/A | |
| <ul style="list-style-type: none"> • No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events. | | | |

| Parameter | Make / Model | Serial Number | |
|--|-------------------|---------------|--|
| Wind Speed/Wind Direction (WS/ WD) | RM Young / 5305VK | 149769 | |
| <ul style="list-style-type: none">• Wind direction data contained in this report represents where the wind is coming from.• The anemometer sensors were checked on October 3. The sensor passed the check requirements.• No data were recorded on October 16 during hours 1 and 7, and from October 24 hour 23 to October 25 hour 3 due to two power outages. Twelve hours of data were invalidated due to these two events.• Invalid data were recorded following the power failure on October 16. Troubleshooting revealed an issue with analog software to datalogger communication. The issue was fixed on October 17. Twenty-six hours of data were discarded due to this event. | | | |

Monitored Data Summary for Reno Station

| 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 | October 3 at hour 6 | 4.9 | SSE | 0.1 | October 30 | 98.1 | 93.0 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.37 | 0.22 | 2.45 | October 17 at hour 21 | 1.5 | SSW | 0.78 | October 17 | 98.0 | 92.8 |
| THC (ppm) | - | - | - | - | - | - | 2.00 | 1.90 | 2.67 | October 17 at hour 21 | 1.5 | SSW | 2.10 | October 3 | 98.0 | 93.0 |
| CH4 (ppm) | - | - | - | - | - | - | 2.00 | 1.90 | 2.48 | October 17 at hour 21 | 1.5 | SSW | 2.10 | October 3 | 98.0 | 93.0 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.24 | October 17 at hour 20 | 1 | SSW | 0.02 | October 17 | 98.0 | 93.0 |
| RH (%) | - | - | - | - | - | - | 69.5 | 22 | 99 | October 20 at hour 1 | 2.2 | W | 95.7 | October 21 | 94.9 | 94.9 |
| BP (millibar) | - | - | - | - | - | - | 938 | 917 | 958 | October 28 at hour 12 | 7.4 | N | 956 | October 28 | 94.9 | 94.9 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 2.0 | -14.2 | 17.0 | October 2 at hour 14 | 4.9 | S | 8.8 | October 4 | 94.9 | 94.9 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.0 | 19.7 | 24.0 | October 22 at hour 1 | 9.7 | SE | 23.6 | October 24 | 98.4 | 98.4 |
| WSV (km/hr) | - | - | - | - | - | - | 2.9 | 0.2 | 20.4 | October 6 at hour 14 | 20.4 | WSW | 11.5 | October 6 | 93.4 | 93.4 |
| WDV (sector) | - | - | - | - | - | - | 251 (WSW) | - | - | - | - | - | - | - | 93.4 | 93.4 |

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances at Reno Station

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

AQHI – Cadotte Lake Station**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|-------------------------|----------------------|--|
| SO2 | Teledyne / T100 | 722 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 2. Valid data started being recorded on October 2 hour 14. • A significant leak in the internal zero-span system circuit was found on October 4. A repeat multi-point calibration was performed on October 4 after repairs was completed. The issue was limited to the zero-span system, and did not affect on sample path. Data quality was not affected. Nine hours of downtime, however, were recorded due to this maintenance. | | | |
| TRS | Teledyne / T100U | 132 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 3. Valid data started being recorded on October 3 hour 16. • The analyzer firmware failed on October 7 hour 10 and was fixed on October 8. A post-repair calibration was performed on October 8. Data was invalidated back to the last valid calibration check, which was October 6 hour 20. Forty-seven hours of data were invalidated due to this event. | | | |
| NO_x/NO/NO₂ | Teledyne / T200 | 837 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 2. Valid data started being recorded on October 2 hour 17. • The analyzer was put offline on October 8 during hours 12 and 13 in order to obtain reference concentrations for ozone analyzer calibration. • The analyzer failed a shut-down calibration on October 17 due to a blocked exhaust tubing which caused the pump cabinet to overheat. The exhaust tubing was replaced, and a successful post-repair calibration was performed on October 18. The point of failure was determined to be October 9 hour 4. Two hundred forty-eight hours of downtime were recorded due to this event. | | | |

| Parameter | Make / Model | Serial Number | |
|--|-------------------------|-------------------|--|
| O3 | Teledyne / T400 | 824 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 2. Valid data started being recorded on October 2 hour 19. • A repeat zero span check was performed on October 3 hour 9 in order to retrieve a reference daily span value. One hour of downtime was recorded as a result. • The analyzer failed the daily span check on October 5. A repeat zero span check was performed on October 6 hour 7, and the check results still did not pass the check requirements. A successful shut-down calibration was performed before the sample pump was replaced on October 8. As the analyzer passed the shut-down calibration requirement, no data were discarded. However, nine hours of downtime were recorded due to this maintenance activity. • No O3max data collected on October 8 between hour 20 and October 9 hour 6 due to operator error. The channel was accidentally left offline after post-repair calibration was completed. Eleven hours of data were missing due to this event | | | |
| THC/CH4/NMHC | Thermo / 55i | 1501663728 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 3. Valid data started being recorded on October 2 hour 16. • A repeat multi-point calibration was performed on October 8 in order to address drifts in daily zero-span responses. Four hours of downtime were recorded due to this maintenance. • The analyzer continued showing unstable zero-span check results after the calibration on October 8. A successful shut-down calibration was performed on October 17 before troubleshooting was performed. Analyzer was put offline overnight for column conditioning on October 17. A post-repair calibration was performed on October 18. Thirty-five hours of downtime were recorded due to this event. | | | |
| PM2.5 | Teledyne / T640 | 318 | |
| <ul style="list-style-type: none"> • A successful installation calibration was performed on October 3. Valid data started being recorded on October 2 hour 19. | | | |
| Relative Humidity (RH) | Vaisala / HMP155 | N2910506 | |
| <ul style="list-style-type: none"> • The RH sensor was installed on October 1. Valid data started being recorded on October 2 hour 2. • The RH sensor was checked on October 2. The sensor passed the check requirements. | | | |

| Parameter | Make / Model | Serial Number | |
|--|---------------------------|-----------------------|--|
| Ambient Temperature (AT) | Vaisala / HMP155 | N2910506 | |
| <ul style="list-style-type: none"> • The temperature sensor was installed on October 1. Valid data started being recorded on October 2 hour 2. • The temperature sensor was checked on October 2. The sensor passed the check requirements. • The channel was put into maintenance mode on October 2 between hour 13 and 17 during the time the ambient station installation was performed | | | |
| Station Temperature (ST) | Maxxam | N/A | |
| <ul style="list-style-type: none"> • The temperature sensor was installed on October 1. Valid data started being recorded on October 2 hour 2. | | | |
| Wind Speed/Wind Direction (WS/ WD) | MetOne / 010C/020C | W15277/WW16102 | |
| <ul style="list-style-type: none"> • Wind direction data contained in this report represents where the wind is coming from. • The wind sensors were installed on October 1. Valid data started being recorded on October 2 hour 2. • The wind system was calibrated at PRAMP's contractor's (Bureau Veritas Canada) shop in Edmonton on June 28, 2019. • The anemometer sensors were checked on October 2. The sensor passed the check requirements. | | | |

Monitored Data Summary for AQHI - Cadotte Lake Station

| 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 | 0 | October 2 at hour 14 | 7.6 | SE | 0.0 | October 3 | 98.7 | 89.4 |
| TRS (ppb) | 10 | 3 | - | - | - | - | 0.29 | 0.00 | 0.71 | October 4 at hour 12 | 11.6 | WSW | 0.43 | October 30 | 93.1 | 81.3 |
| Nox (ppb) | - | - | - | - | - | - | 0.6 | 0 | 10 | October 3 at hour 6 | 1.5 | SE | 2.1 | October 29 | 67.9 | 61.0 |
| NO (ppb) | - | - | - | - | - | - | 0.1 | 0 | 8 | October 3 at hour 7 | 0.6 | S | 1.1 | October 3 | 67.9 | 61.0 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 0.4 | 0 | 5 | October 24 at hour 17 | 3.1 | SW | 1.8 | October 29 | 67.9 | 61.0 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 18.8 | 0 | 38 | October 3 at hour 17 | 7.6 | ESE | 30.3 | October 6 | 98.7 | 88.7 |
| THC (ppm) | - | - | - | - | - | - | 1.90 | 1.82 | 2.02 | October 17 at hour 7 | 0.5 | WNW | 1.93 | October 29 | 94.3 | 82.4 |
| CH4 (ppm) | - | - | - | - | - | - | 1.90 | 1.82 | 1.99 | October 17 at hour 6 | 3.2 | SE | 1.93 | October 29 | 94.3 | 82.4 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.03 | October 17 at hour 6 | 3.2 | SE | 0.00 | October 8 | 94.3 | 82.4 |
| PM2.5 (µg/m3) | 80 | 30 | - | 0 | 0 | - | 3.1 | 0.2 | 18.4 | October 4 at hour 8 | 6.1 | WSW | 7.5 | October 30 | 100.0 | 94.2 |
| RH (%) | - | - | - | - | - | - | 74.8 | 28 | 98 | October 16 at hour 0 | 6.5 | E | 96.1 | October 22 | 100.0 | 96.5 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 1.5 | -20.1 | 17.5 | October 2 at hour 12 | 5.2 | SSE | 9.4 | October 6 | 99.3 | 95.8 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.4 | 19.8 | 24.7 | October 2 at hour 11 | 4 | SE | 22.9 | October 18 | 100.0 | 96.5 |
| WSV (km/hr) | - | - | - | - | - | - | 2.0 | 0.3 | 27.8 | October 6 at hour 20 | 27.8 | SW | 14.7 | October 6 | 100.0 | 96.5 |
| WDV (sector) | - | - | - | - | - | - | 269 (W) | - | - | - | - | - | - | - | 100.0 | 96.5 |

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances at AQHI - Cadotte Lake Station

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

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986c STATION



PEACE RIVER AREA MONITORING PROGRAM

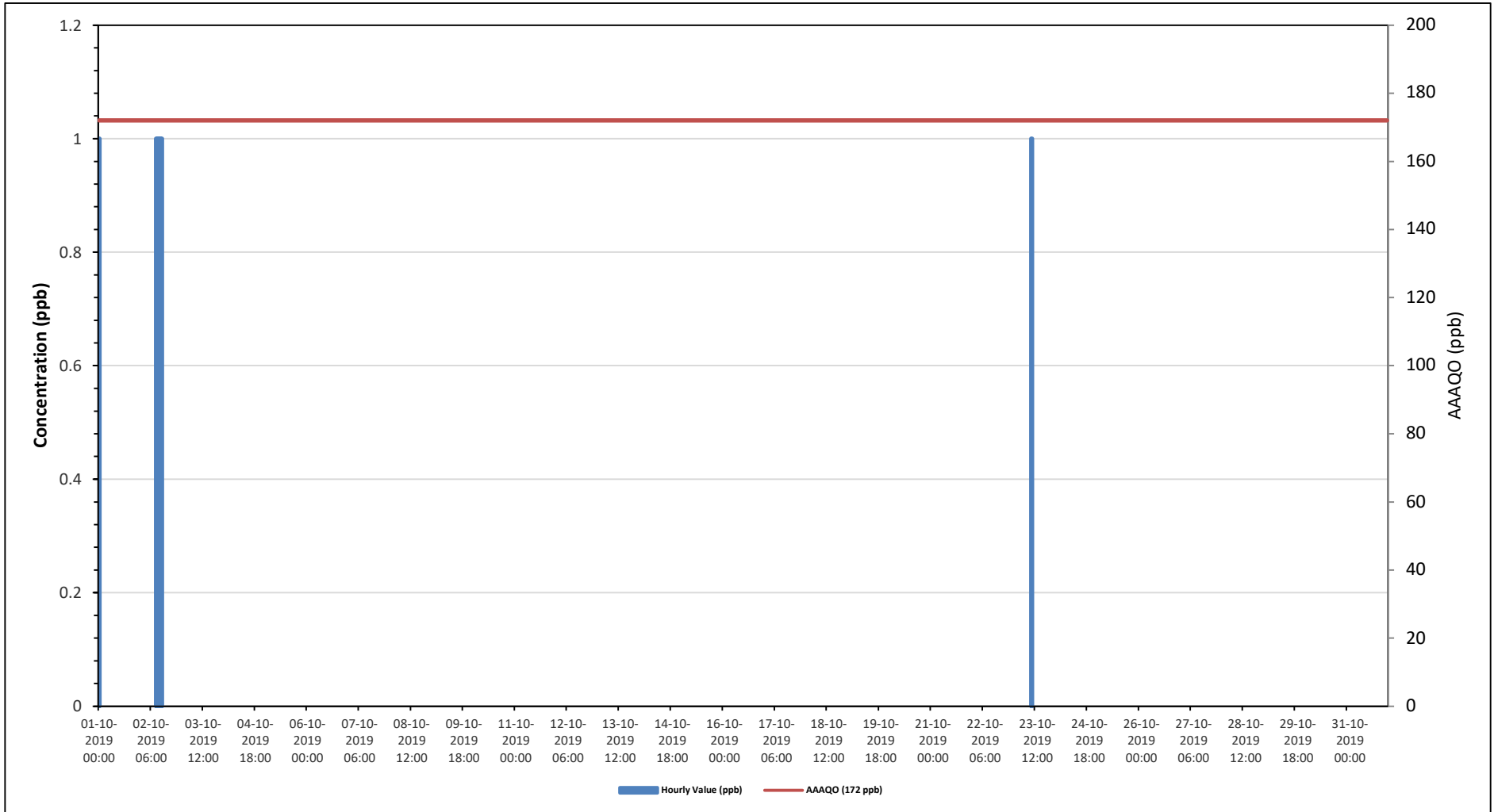
986c Station - October 2019

Summary of Hourly Averages

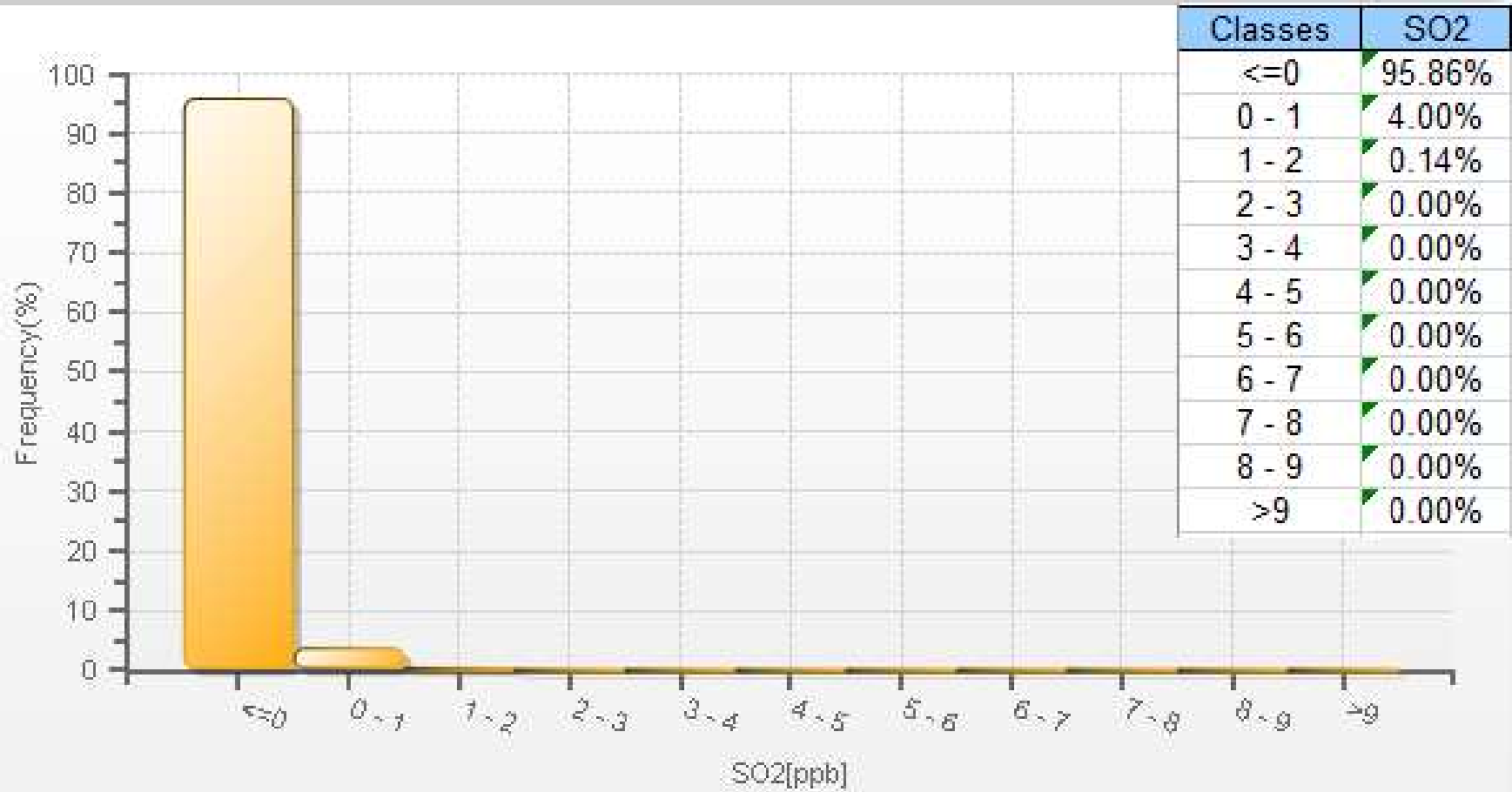
SULPHUR DIOXIDE (SO₂) in ppb

| 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 October 1 at hour 0 | | | | | | | | Hours in Service: | | | | 744 | | | | | | | | | | | | | | | | |
| Maximum Daily Value: | | | | 0.0 ppb on October 1 | | | | | | | | Hours of Data: | | | | 705 | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | | | | 0 ppb on October 1 at hour 2 | | | | | | | | Hours of Missing Data: | | | | 0 | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | | | | 0.0 ppb on October 3 | | | | | | | | Hours of Calibration: | | | | 39 | | | | | | | | | | | | | | | | |
| Monthly Average: | | | | 0.0 ppb | | | | | | | | 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 | | | | | |
| Oct 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | |
| Oct 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| Oct 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Oct 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 | |
| Diurnal Maximum | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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



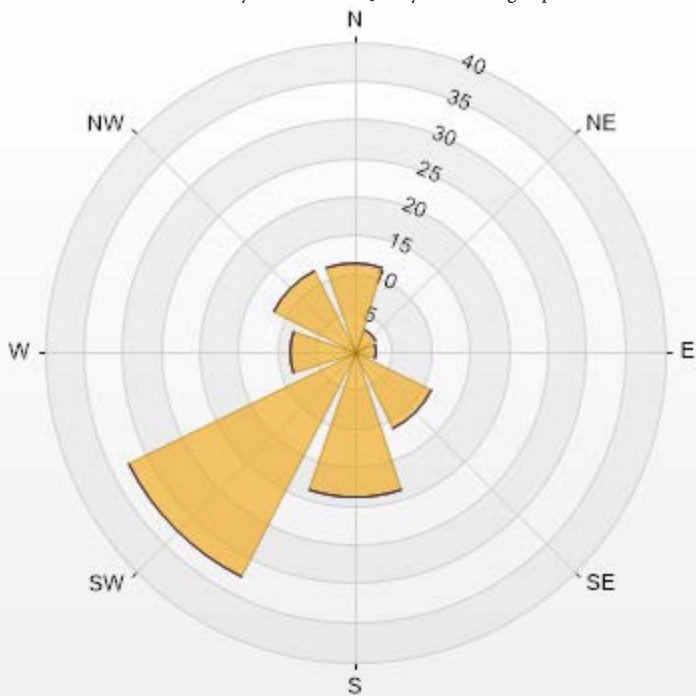
SO2[ppb] Histogram: PRAMP 986c Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-SO₂[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.82% Calm Avg: 0.00 [ppb]

| Direction | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|--------|---------|--------|-------|
| N | 11.46 | 0 | 0 | 0 | 11.46 |
| NE | 3.15 | 0 | 0 | 0 | 3.15 |
| E | 2.87 | 0 | 0 | 0 | 2.87 |
| SE | 11.03 | 0 | 0 | 0 | 11.03 |
| S | 18.77 | 0 | 0 | 0 | 18.77 |
| SW | 32.52 | 0 | 0 | 0 | 32.52 |
| W | 8.45 | 0 | 0 | 0 | 8.45 |
| NW | 11.75 | 0 | 0 | 0 | 11.75 |
| Summary | 100 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

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



PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

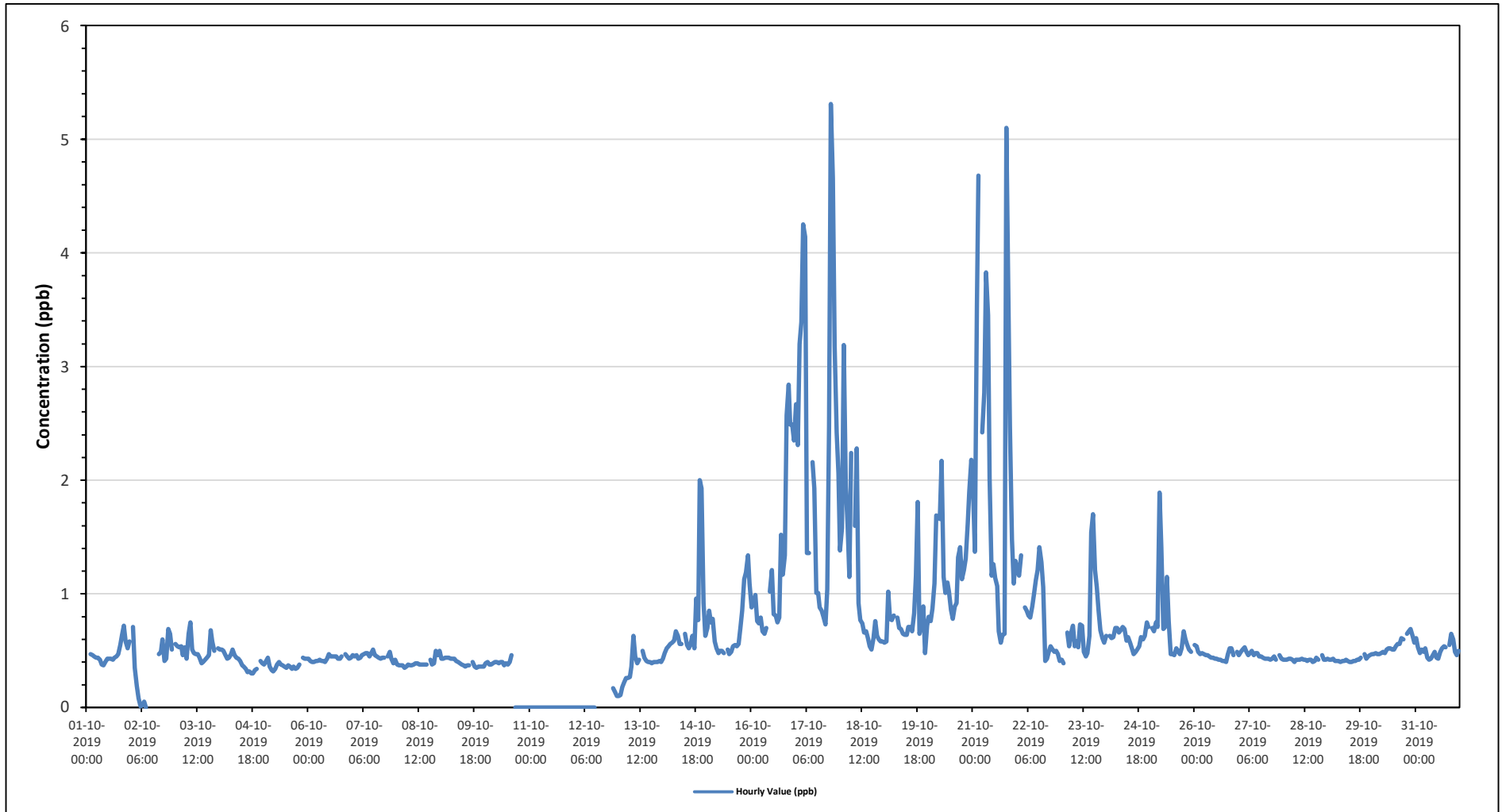
TOTAL REDUCED SULPHUR (TRS) in ppb

| 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: 5.31 ppb on October 17 at hour 19 | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 2.31 ppb on October 17 | | | | | | | | | | | | Hours of Data: 654 | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0.00 ppb on October 1 at hour 0 | | | | | | | | | | | | Hours of Missing Data: 53 | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.36 ppb on October 13 | | | | | | | | | | | | Hours of Calibration: 37 | | | | | | | | | | | | | | | | |
| Monthly Average: 0.71 ppb | | | | | | | | | | | | Operational Uptime: 92.9 | | | | | | | | | | | | | | | | |
| 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 | |
| Oct 1 | 0 | S | 0.47 | 0.46 | 0.45 | 0.44 | 0.44 | 0.42 | 0.38 | 0.37 | 0.4 | 0.43 | 0.43 | 0.43 | 0.42 | 0.44 | 0.45 | 0.47 | 0.55 | 0.64 | 0.72 | 0.58 | 0.52 | 0.58 | 0.00 | 0.72 | 0.46 | |
| Oct 2 | S | 0.71 | 0.35 | 0.19 | 0.08 | 0.01 | 0.02 | 0.05 | 0 | C | C | C | C | C | C | 0.47 | 0.49 | 0.6 | 0.41 | 0.43 | 0.69 | 0.65 | 0.51 | S | 0.00 | 0.71 | - | |
| Oct 3 | 0.56 | 0.54 | 0.53 | 0.54 | 0.46 | 0.53 | 0.43 | 0.65 | 0.75 | 0.51 | 0.48 | 0.47 | 0.47 | 0.44 | 0.39 | 0.4 | 0.42 | 0.44 | 0.46 | 0.68 | 0.58 | 0.5 | S | 0.52 | 0.39 | 0.75 | 0.51 | |
| Oct 4 | 0.51 | 0.51 | 0.5 | 0.46 | 0.43 | 0.44 | 0.47 | 0.51 | 0.46 | 0.44 | 0.43 | 0.41 | 0.37 | 0.36 | 0.34 | 0.31 | 0.32 | 0.3 | 0.3 | 0.33 | 0.34 | S | 0.41 | 0.39 | 0.30 | 0.51 | 0.41 | |
| Oct 5 | 0.38 | 0.41 | 0.44 | 0.36 | 0.33 | 0.32 | 0.34 | 0.38 | 0.4 | 0.38 | 0.37 | 0.36 | 0.35 | 0.37 | 0.36 | 0.34 | 0.36 | 0.34 | 0.35 | 0.38 | S | 0.44 | 0.43 | 0.43 | 0.32 | 0.44 | 0.37 | |
| Oct 6 | 0.43 | 0.41 | 0.4 | 0.4 | 0.41 | 0.41 | 0.42 | 0.41 | 0.41 | 0.4 | 0.43 | 0.47 | 0.45 | 0.45 | 0.45 | 0.45 | 0.43 | 0.43 | 0.45 | S | 0.47 | 0.45 | 0.43 | 0.44 | 0.40 | 0.47 | 0.43 | |
| Oct 7 | 0.46 | 0.45 | 0.46 | 0.43 | 0.44 | 0.46 | 0.47 | 0.48 | 0.48 | 0.45 | 0.48 | 0.51 | 0.46 | 0.45 | 0.44 | 0.43 | 0.44 | 0.44 | S | 0.45 | 0.49 | 0.43 | 0.39 | 0.42 | 0.39 | 0.51 | 0.45 | |
| Oct 8 | 0.38 | 0.37 | 0.37 | 0.37 | 0.35 | 0.36 | 0.38 | 0.37 | 0.37 | 0.38 | 0.39 | 0.39 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | S | 0.42 | 0.38 | 0.39 | 0.5 | 0.46 | 0.5 | 0.35 | 0.50 | 0.39 |
| Oct 9 | 0.43 | 0.43 | 0.44 | 0.44 | 0.44 | 0.43 | 0.43 | 0.43 | 0.41 | 0.4 | 0.39 | 0.38 | 0.37 | 0.36 | 0.37 | 0.37 | S | 0.4 | 0.36 | 0.35 | 0.36 | 0.36 | 0.36 | 0.36 | 0.35 | 0.44 | 0.39 | |
| Oct 10 | 0.39 | 0.4 | 0.38 | 0.38 | 0.39 | 0.4 | 0.4 | 0.39 | 0.4 | 0.4 | 0.37 | 0.39 | 0.38 | 0.4 | 0.46 | C1 | X | X | X | X | X | X | X | X | 0.37 | 0.46 | - | |
| Oct 11 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 0.10 | 0.17 | - | |
| Oct 12 | X | X | X | X | X | X | X | X | X | X | X | X | Y | Y | Y | Y | Y | Y | C1 | C1 | C1 | C1 | 0.17 | 0.14 | 0.1 | 0.10 | 0.17 | - |
| Oct 13 | 0.1 | 0.11 | 0.18 | 0.22 | 0.26 | 0.26 | 0.27 | 0.36 | 0.63 | 0.45 | 0.39 | 0.42 | S | 0.5 | 0.44 | 0.41 | 0.4 | 0.4 | 0.39 | 0.4 | 0.4 | 0.4 | 0.41 | 0.4 | 0.10 | 0.63 | 0.36 | |
| Oct 14 | 0.43 | 0.48 | 0.52 | 0.54 | 0.56 | 0.57 | 0.59 | 0.67 | 0.63 | 0.56 | 0.56 | S | 0.65 | 0.55 | 0.52 | 0.56 | 0.63 | 0.52 | 0.96 | 0.77 | 2 | 1.93 | 0.92 | 0.63 | 0.43 | 2.00 | 0.73 | |
| Oct 15 | 0.7 | 0.85 | 0.75 | 0.78 | 0.58 | 0.52 | 0.48 | 0.5 | 0.5 | 0.48 | S | 0.51 | 0.47 | 0.49 | 0.54 | 0.55 | 0.54 | 0.56 | 0.7 | 0.85 | 1.13 | 1.19 | 1.34 | 1.09 | 0.47 | 1.34 | 0.70 | |
| Oct 16 | 0.88 | 0.91 | 0.99 | 0.76 | 0.74 | 0.79 | 0.67 | 0.65 | 0.7 | S | 1.02 | 1.21 | 0.82 | 0.81 | 0.75 | 0.79 | 1.52 | 1.17 | 1.34 | 2.57 | 2.84 | 2.49 | 2.49 | 2.35 | 0.65 | 2.84 | 1.27 | |
| Oct 17 | 2.67 | 2.31 | 3.2 | 3.39 | 4.25 | 4.14 | 1.36 | 1.36 | S | 2.16 | 1.93 | 1.01 | 1.01 | 0.88 | 0.85 | 0.8 | 0.73 | 1.04 | 2.47 | 5.31 | 4.66 | 3.18 | 2.42 | 2.06 | 0.73 | 5.31 | 2.31 | |
| Oct 18 | 1.38 | 1.58 | 3.19 | 1.94 | 1.61 | 1.15 | 2.24 | S | 1.6 | 2.28 | 0.92 | 0.77 | 0.74 | 0.66 | 0.67 | 0.61 | 0.54 | 0.51 | 0.61 | 0.76 | 0.63 | 0.6 | 0.58 | 0.58 | 0.51 | 3.19 | 1.14 | |
| Oct 19 | 0.57 | 0.58 | 1.02 | 0.78 | 0.77 | 0.81 | S | 0.79 | 0.7 | 0.69 | 0.65 | 0.64 | 0.64 | 0.71 | 0.71 | 0.67 | 0.83 | 1.16 | 1.81 | 0.65 | 0.72 | 0.89 | 0.48 | 0.72 | 0.48 | 1.81 | 0.78 | |
| Oct 20 | 0.8 | 0.76 | 0.87 | 1.09 | 1.69 | S | 1.66 | 2.17 | 1.15 | 1.01 | 1.1 | 1.02 | 0.86 | 0.78 | 0.89 | 0.92 | 1.32 | 1.41 | 1.13 | 1.21 | 1.31 | 1.62 | 1.9 | 2.18 | 0.76 | 2.18 | 1.25 | |
| Oct 21 | 1.91 | 1.37 | 3.52 | 4.68 | S | 2.42 | 2.77 | 3.83 | 3.45 | 2.02 | 1.16 | 1.26 | 1.14 | 1.07 | 0.67 | 0.57 | 0.64 | 0.65 | 5.1 | 3.77 | 2.47 | 1.48 | 1.09 | 1.29 | 0.57 | 5.10 | 2.10 | |
| Oct 22 | 1.2 | 1.16 | 1.34 | S | 0.88 | 0.85 | 0.81 | 0.79 | 0.89 | 1 | 1.12 | 1.21 | 1.41 | 1.28 | 1.06 | 0.41 | 0.43 | 0.49 | 0.54 | 0.51 | 0.49 | 0.5 | 0.47 | 0.41 | 0.41 | 1.41 | 0.84 | |
| Oct 23 | 0.42 | 0.39 | S | 0.66 | 0.54 | 0.65 | 0.72 | 0.54 | 0.58 | 0.53 | 0.73 | 0.72 | 0.49 | 0.45 | 0.48 | 0.63 | 1.54 | 1.7 | 1.21 | 1.06 | 0.85 | 0.68 | 0.61 | 0.57 | 0.39 | 1.70 | 0.73 | |
| Oct 24 | 0.63 | S | 0.63 | 0.61 | 0.62 | 0.7 | 0.7 | 0.66 | 0.68 | 0.71 | 0.69 | 0.59 | 0.62 | 0.57 | 0.52 | 0.47 | 0.49 | 0.51 | 0.54 | 0.62 | 0.6 | 0.63 | 0.75 | 0.71 | 0.47 | 0.75 | 0.62 | |
| Oct 25 | S | 0.7 | 0.67 | 0.75 | 0.71 | 1.89 | 1.41 | 0.69 | 0.71 | 1.15 | 0.76 | 0.47 | 0.47 | 0.46 | 0.52 | 0.5 | 0.47 | 0.52 | 0.67 | 0.6 | 0.55 | 0.51 | 0.49 | S | 0.46 | 1.89 | 0.71 | |
| Oct 26 | 0.55 | 0.54 | 0.49 | 0.47 | 0.48 | 0.47 | 0.46 | 0.46 | 0.45 | 0.44 | 0.44 | 0.43 | 0.43 | 0.42 | 0.42 | 0.41 | 0.41 | 0.4 | 0.47 | 0.52 | 0.52 | 0.46 | S | 0.49 | 0.40 | 0.55 | 0.46 | |
| Oct 27 | 0.46 | 0.49 | 0.51 | 0.53 | 0.49 | 0.46 | 0.48 | 0.5 | 0.46 | 0.48 | 0.48 | 0.45 | 0.45 | 0.44 | 0.43 | 0.43 | 0.43 | 0.42 | 0.43 | 0.45 | 0.42 | S | 0.46 | 0.43 | 0.42 | 0.53 | 0.46 | |
| Oct 28 | 0.42 | 0.42 | 0.42 | 0.43 | 0.43 | 0.42 | 0.4 | 0.42 | 0.42 | 0.42 | 0.43 | 0.42 | 0.42 | 0.41 | 0.42 | 0.42 | 0.4 | 0.41 | 0.44 | 0.44 | S | 0.46 | 0.42 | 0.42 | 0.40 | 0.46 | 0.42 | |
| Oct 29 | 0.43 | 0.42 | 0.42 | 0.43 | 0.41 | 0.41 | 0.41 | 0.4 | 0.42 | 0.41 | 0.42 | 0.41 | 0.4 | 0.4 | 0.41 | 0.41 | 0.42 | 0.42 | 0.44 | S | 0.47 | 0.43 | 0.45 | 0.46 | 0.40 | 0.47 | 0.42 | |
| Oct 30 | 0.47 | 0.47 | 0.48 | 0.47 | 0.47 | 0.48 | 0.49 | 0.48 | 0.51 | 0.52 | 0.52 | 0.51 | 0.51 | 0.54 | 0.56 | 0.56 | 0.61 | 0.6 | S | 0.65 | 0.67 | 0.69 | 0.63 | 0.57 | 0.47 | 0.69 | 0.54 | |
| Oct 31 | 0.61 | 0.53 | 0.48 | 0.51 | 0.49 | 0.52 | 0.44 | 0.42 | 0.43 | 0.46 | 0.49 | 0.44 | 0.43 | 0.49 | 0.52 | 0.54 | 0.53 | S | 0.55 | 0.65 | 0.6 | 0.49 | 0.46 | 0.5 | 0.42 | 0.65 | 0.50 | |
| Diurnal Maximum | 2.67 | 2.31 | 3.52 | 4.68 | 4.25 | 4.14 | 2.77 | 3.83 | 3.45 | 2.28 | 1.93 | 1.26 | 1.41 | 1.28 | 1.06 | 0.92 | 1.54 | 1.70 | 5.10 | 5.31 | 4.66 | 3.18 | 2.49 | 2.35 | | | | |
| Daiurnal Average | 0.67 | 0.68 | 0.86 | 0.82 | 0.71 | 0.76 | 0.72 | 0.71 | 0.68 | 0.72 | 0.65 | 0.60 | 0.58 | 0.56 | 0.54 | 0.51 | 0.60 | 0.63 | 0.89 | 0.98 | 0.98 | 0.84 | 0.74 | 0.73 | | | | |
| 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 | | | | | | | |

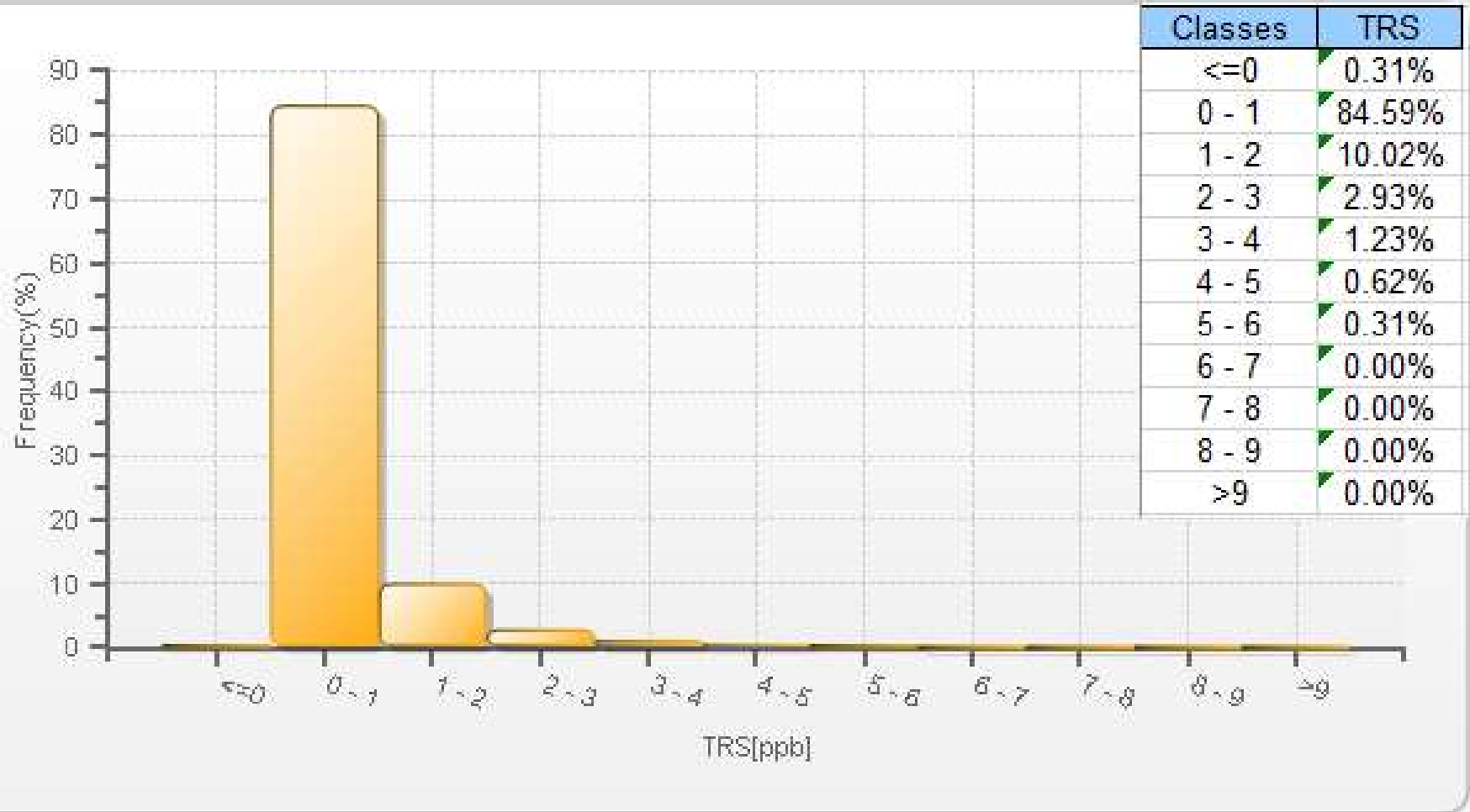
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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



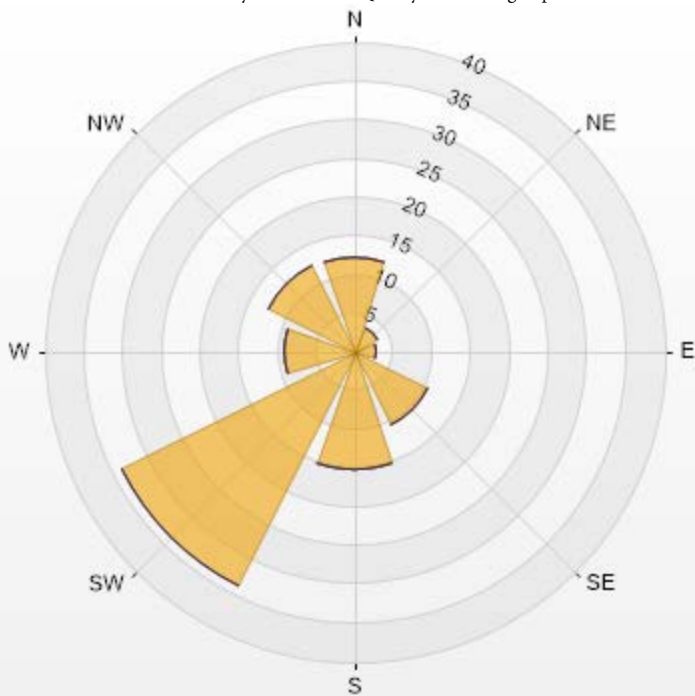
TRS[ppb] Histogram: PRAMP 986c Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 86.83% Calm Avg: 0.00 [ppb]

| Direction | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|-------|-------|-------|
| N | 12.23 | 0 | 0 | 0 | 12.23 |
| NE | 3.41 | 0 | 0 | 0 | 3.41 |
| E | 2.94 | 0 | 0 | 0 | 2.94 |
| SE | 10.53 | 0.15 | 0 | 0 | 10.68 |
| S | 15.17 | 0.15 | 0 | 0 | 15.32 |
| SW | 33.75 | 0 | 0 | 0 | 33.75 |
| W | 9.13 | 0 | 0 | 0 | 9.13 |
| NW | 12.54 | 0 | 0 | 0 | 12.54 |
| Summary | 100 | 0.3 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| | | | | | | |
|----------------------|-----|----------------|---|-------|---|-------|
| % Icon Classes (ppb) | 100 | Page 39 of 279 | 0 | 10-50 | 0 | >50.0 |
|----------------------|-----|----------------|---|-------|---|-------|



PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

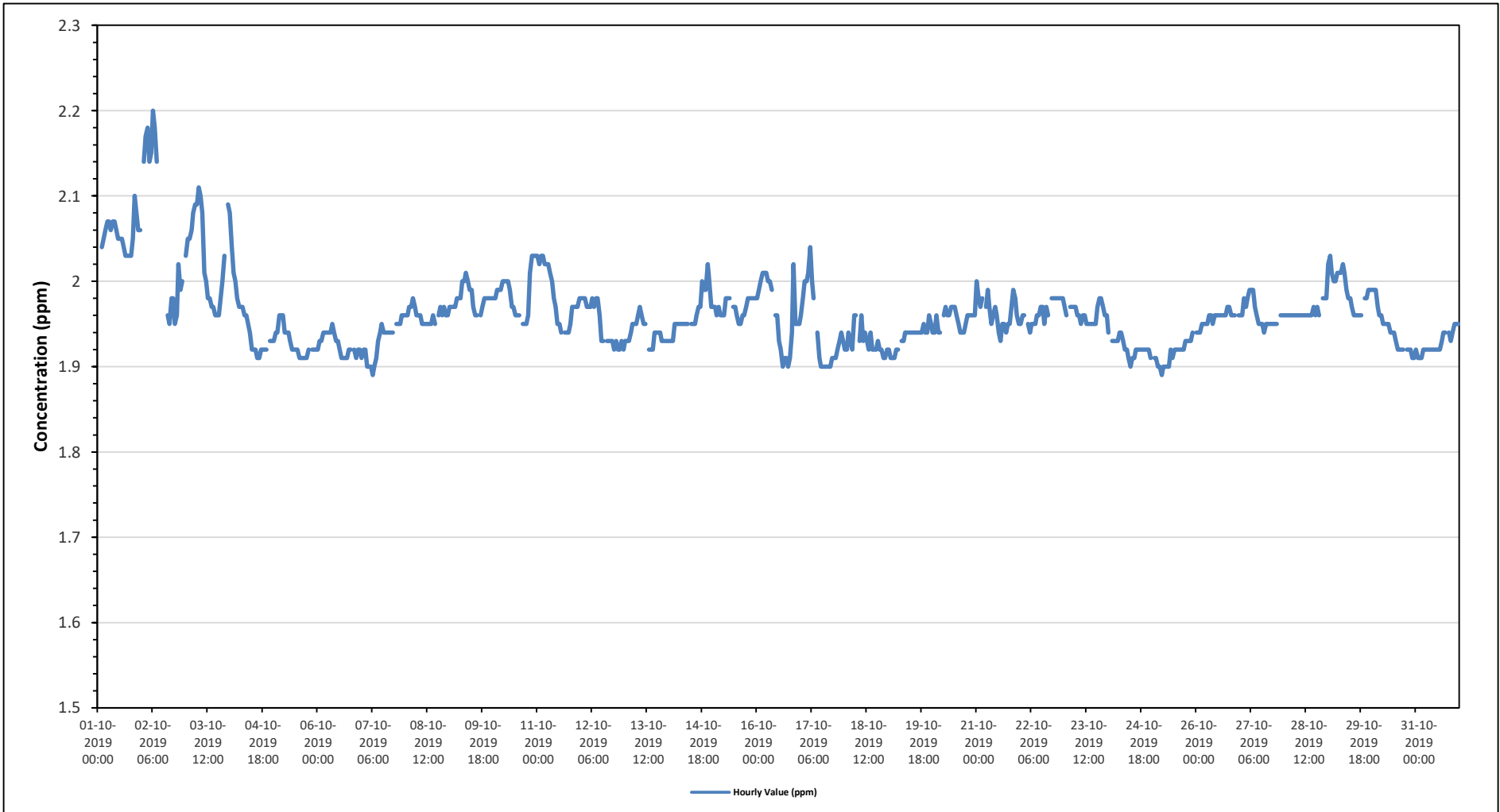
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.20 ppm on October 2 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 1 | Hours of Data: | 705 |
| Minimum Hourly Value: | 1.89 ppm on October 7 at hour 6 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.91 ppm on October 25 | Hours of Calibration: | 38 |
| Monthly Average: | 1.96 ppm | 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 | |
| Oct 1 | 2.04 | S | 2.04 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.06 | 2.03 | 2.10 | 2.05 | |
| Oct 2 | S | 2.14 | 2.17 | 2.18 | 2.14 | 2.15 | 2.20 | 2.18 | 2.14 | 2.10 | C | C | C | C | 1.96 | 1.95 | 1.98 | 1.98 | 1.95 | 1.96 | 2.02 | 1.99 | 2.00 | S | 1.95 | 2.20 | - | |
| Oct 3 | 2.03 | 2.05 | 2.05 | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.10 | 2.08 | 2.01 | 2.00 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 2.00 | 2.03 | S | 2.09 | 1.96 | 2.11 | 2.03 | |
| Oct 4 | 2.08 | 2.04 | 2.01 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.94 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.91 | 2.08 | 1.95 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.96 | 1.93 | |
| Oct 6 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.94 | 1.93 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | 1.95 | 1.93 | |
| Oct 7 | 1.91 | 1.92 | 1.92 | 1.90 | 1.90 | 1.90 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.89 | 1.96 | 1.93 | |
| Oct 8 | 1.96 | 1.96 | 1.97 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | S | 1.96 | 1.97 | 1.96 | 1.97 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 9 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.97 | 1.96 | 1.96 | S | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 2.01 | 1.98 | |
| Oct 10 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.95 | 1.95 | 1.95 | 1.96 | 2.01 | 2.03 | 2.03 | 2.03 | 1.95 | 2.03 | 1.98 | |
| Oct 11 | 2.03 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.97 | 1.95 | 1.95 | 1.94 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.94 | 2.03 | 1.98 | |
| Oct 12 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.96 | 1.93 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.93 | 1.92 | 1.92 | 1.93 | 1.92 | 1.92 | 1.98 | 1.95 | |
| Oct 13 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | S | 1.92 | 1.92 | 1.92 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.97 | 1.94 | |
| Oct 14 | 1.93 | 1.93 | 1.93 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.97 | 2.00 | 1.99 | 1.99 | 2.02 | 2.00 | 1.97 | 1.93 | 2.02 | 1.96 | |
| Oct 15 | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 1.98 | 1.98 | S | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | |
| Oct 16 | 1.98 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | S | 1.96 | 1.96 | 1.93 | 1.92 | 1.90 | 1.91 | 1.91 | 1.90 | 1.91 | 1.91 | 1.94 | 2.02 | 1.95 | 1.95 | 1.90 | 2.02 | 1.96 | |
| Oct 17 | 1.96 | 1.98 | 2.00 | 2.00 | 2.01 | 2.04 | 2.00 | 1.98 | S | 1.94 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 | |
| Oct 18 | 1.92 | 1.92 | 1.94 | 1.93 | 1.92 | 1.96 | 1.96 | S | 1.93 | 1.96 | 1.93 | 1.94 | 1.93 | 1.92 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.96 | 1.93 | |
| Oct 19 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.94 | 1.94 | 1.96 | 1.95 | 1.91 | 1.96 | 1.93 | |
| Oct 20 | 1.94 | 1.94 | 1.96 | 1.94 | 1.94 | S | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.94 | 1.97 | 1.95 | |
| Oct 21 | 2.00 | 1.98 | 1.97 | 1.98 | S | 1.97 | 1.99 | 1.97 | 1.95 | 1.96 | 1.97 | 1.96 | 1.94 | 1.93 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.97 | 1.99 | 1.98 | 1.96 | 1.95 | 1.93 | 2.00 | 1.96 | |
| Oct 22 | 1.95 | 1.96 | 1.96 | S | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.95 | 1.97 | 1.96 | X | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.96 | |
| Oct 23 | 1.97 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.97 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 24 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.91 | 1.90 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.90 | 1.94 | 1.92 | |
| Oct 25 | S | 1.91 | 1.91 | 1.90 | 1.90 | 1.89 | 1.90 | 1.90 | 1.90 | 1.90 | 1.92 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | S | 1.89 | 1.94 | 1.91 | |
| Oct 26 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.96 | 1.94 | 1.97 | 1.96 | |
| Oct 27 | 1.96 | 1.96 | 1.98 | 1.97 | 1.98 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.94 | 1.99 | 1.96 | |
| Oct 28 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.96 | 1.97 | S | 1.98 | 1.98 | 1.96 | 1.98 | 1.96 | |
| Oct 29 | 2.02 | 2.03 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 1.99 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.96 | 2.03 | 1.99 |
| Oct 30 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.94 | |
| Oct 31 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.91 | 1.95 | 1.93 | |
| Diurnal Maximum | 2.08 | 2.14 | 2.17 | 2.18 | 2.14 | 2.15 | 2.20 | 2.18 | 2.14 | 2.08 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.09 | | | | | |
| Diurnal Average | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | | | | | |

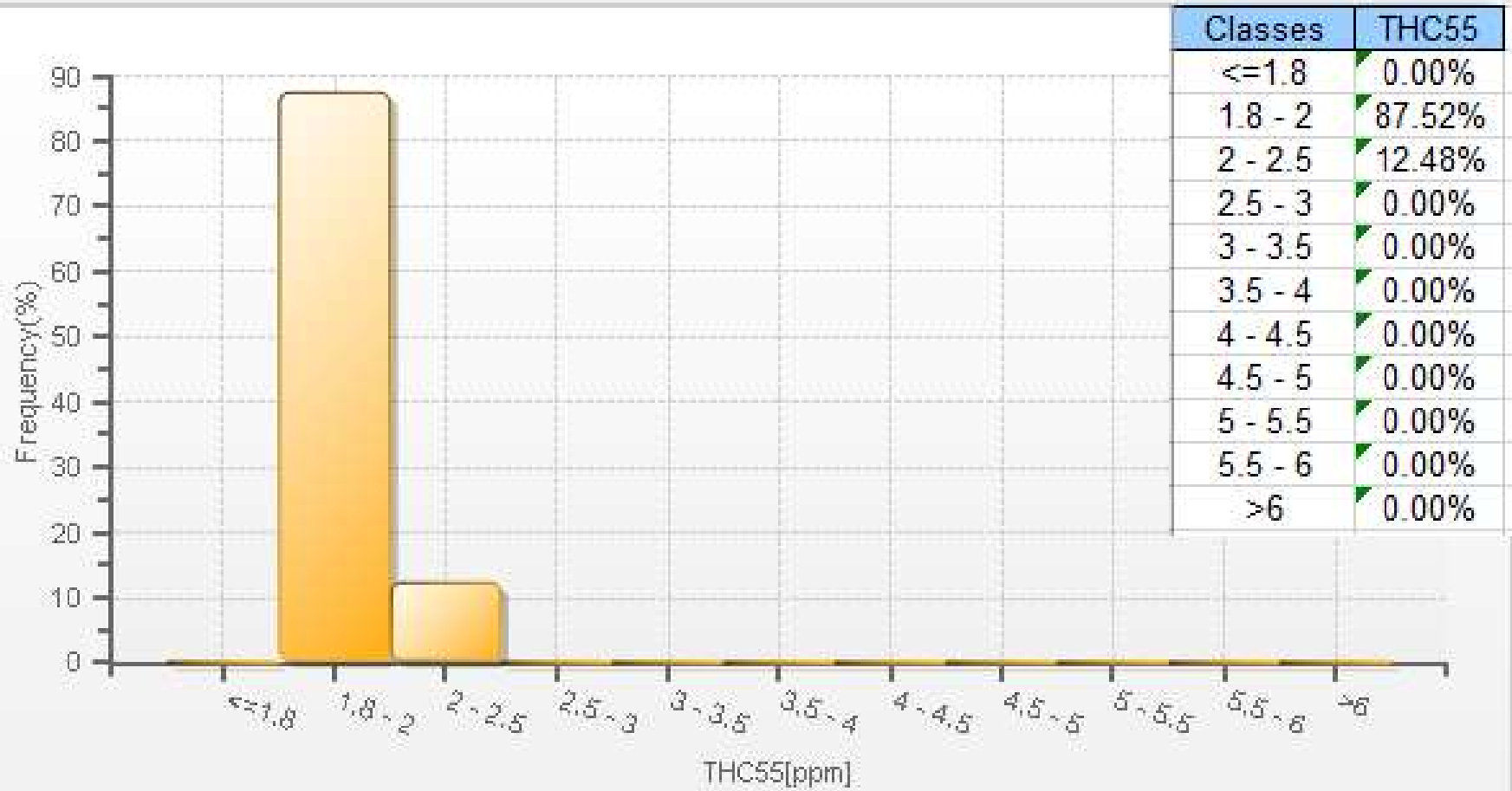
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



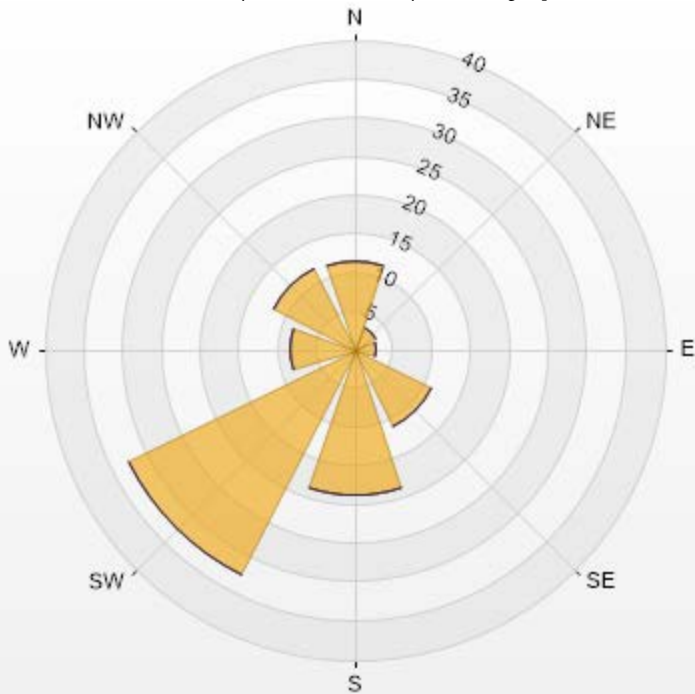
THC55[ppm] Histogram: PRAMP 986c Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.55% Calm Avg: 0.00 [ppm]

| Direction | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|------|-------|-------|-------|
| N | 11.49 | 0 | 0 | 0 | 11.49 |
| NE | 3.16 | 0 | 0 | 0 | 3.16 |
| E | 2.87 | 0 | 0 | 0 | 2.87 |
| SE | 11.06 | 0 | 0 | 0 | 11.06 |
| S | 18.82 | 0 | 0 | 0 | 18.82 |
| SW | 32.61 | 0 | 0 | 0 | 32.61 |
| W | 8.33 | 0 | 0 | 0 | 8.33 |
| NW | 11.64 | 0 | 0 | 0 | 11.64 |
| Summary | 100 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 100 | 25 | 5-10 | 0 | 10-40 | 0 | >40.0 |
|----------------------|-----|----|------|---|-------|---|-------|
| | | | | | | | |



PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

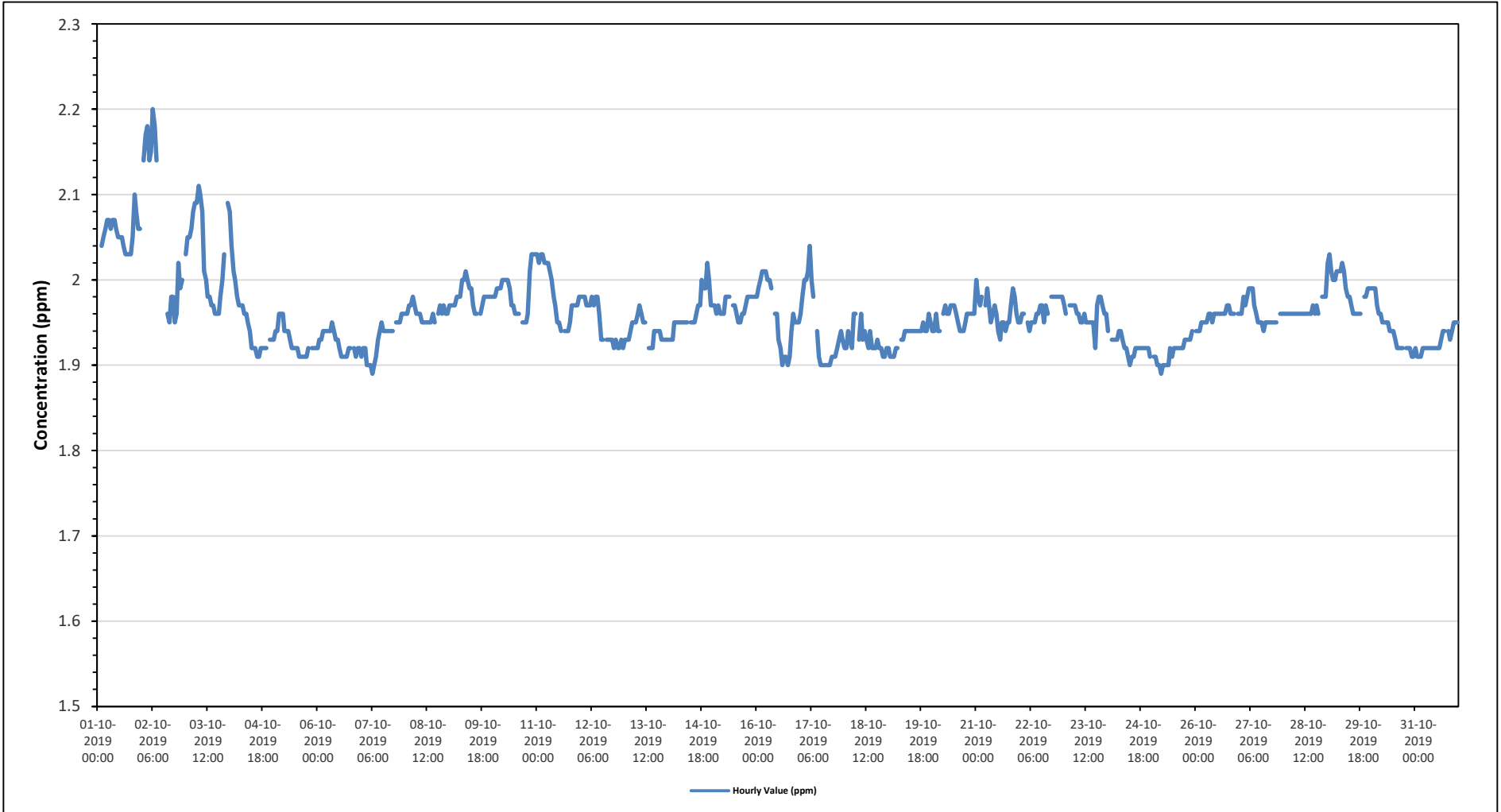
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.20 ppm on October 2 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 1 | Hours of Data: | 705 |
| Minimum Hourly Value: | 1.89 ppm on October 7 at hour 6 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.91 ppm on October 25 | Hours of Calibration: | 38 |
| Monthly Average: | 1.96 ppm | 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 | |
| Oct 1 | 2.04 | S | 2.04 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.06 | 2.03 | 2.10 | 2.05 | |
| Oct 2 | S | 2.14 | 2.17 | 2.18 | 2.14 | 2.15 | 2.20 | 2.18 | 2.14 | C | C | C | C | C | 1.96 | 1.95 | 1.98 | 1.98 | 1.96 | 1.96 | 2.02 | 1.99 | 2.00 | S | 2.09 | 1.95 | 2.20 | - |
| Oct 3 | 2.03 | 2.05 | 2.05 | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.10 | 2.08 | 2.01 | 2.00 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 2.00 | 2.03 | S | 2.09 | 1.96 | 2.11 | 2.03 | |
| Oct 4 | 2.08 | 2.04 | 2.01 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.94 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.91 | 2.08 | 1.95 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.96 | 1.93 | |
| Oct 6 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.94 | 1.93 | 1.93 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | 1.95 | 1.93 | |
| Oct 7 | 1.91 | 1.92 | 1.92 | 1.90 | 1.90 | 1.90 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.89 | 1.96 | 1.93 | |
| Oct 8 | 1.96 | 1.96 | 1.97 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | S | 1.96 | 1.97 | 1.96 | 1.97 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 9 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.97 | 1.96 | 1.96 | S | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 2.01 | 1.98 | |
| Oct 10 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.95 | 1.95 | 1.95 | 1.96 | 2.01 | 2.03 | 2.03 | 2.03 | 1.95 | 2.03 | 1.98 | |
| Oct 11 | 2.03 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.97 | 1.95 | 1.95 | 1.94 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.94 | 2.03 | 1.98 | |
| Oct 12 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.96 | 1.93 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.93 | 1.92 | 1.92 | 1.93 | 1.92 | 1.92 | 1.98 | 1.95 | |
| Oct 13 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | S | 1.92 | 1.92 | 1.92 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.97 | 1.94 | |
| Oct 14 | 1.93 | 1.93 | 1.93 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.97 | 2.00 | 1.99 | 1.99 | 2.02 | 2.00 | 1.97 | 1.93 | 2.02 | 1.96 | |
| Oct 15 | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 1.98 | 1.98 | S | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | |
| Oct 16 | 1.98 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | S | 1.96 | 1.96 | 1.93 | 1.92 | 1.90 | 1.91 | 1.91 | 1.90 | 1.91 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 |
| Oct 17 | 1.96 | 1.98 | 2.00 | 2.00 | 2.01 | 2.04 | 2.00 | 1.98 | S | 1.94 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 |
| Oct 18 | 1.92 | 1.92 | 1.94 | 1.93 | 1.92 | 1.96 | 1.96 | S | 1.93 | 1.96 | 1.93 | 1.94 | 1.93 | 1.92 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.91 | 1.96 | 1.93 |
| Oct 19 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.94 | 1.94 | 1.96 | 1.95 | 1.91 | 1.96 | 1.93 | |
| Oct 20 | 1.94 | 1.94 | 1.96 | 1.94 | 1.94 | S | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.94 | 1.97 | 1.95 | |
| Oct 21 | 2.00 | 1.98 | 1.97 | 1.98 | S | 1.97 | 1.99 | 1.97 | 1.95 | 1.96 | 1.97 | 1.96 | 1.94 | 1.93 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.97 | 1.99 | 1.98 | 1.96 | 1.95 | 1.93 | 2.00 | 1.96 | |
| Oct 22 | 1.95 | 1.96 | 1.96 | S | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.95 | 1.97 | 1.96 | X | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.96 | |
| Oct 23 | 1.97 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.92 | 1.97 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.92 | 1.98 | 1.96 | |
| Oct 24 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.91 | 1.90 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.90 | 1.94 | 1.92 | |
| Oct 25 | S | 1.91 | 1.91 | 1.90 | 1.90 | 1.89 | 1.90 | 1.90 | 1.90 | 1.90 | 1.92 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | S | 1.89 | 1.94 | 1.91 | |
| Oct 26 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.96 | 1.94 | 1.96 | |
| Oct 27 | 1.96 | 1.96 | 1.98 | 1.97 | 1.98 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.94 | 1.99 | 1.96 | |
| Oct 28 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.96 | 1.97 | S | 1.98 | 1.98 | 1.96 | 1.98 | 1.96 | |
| Oct 29 | 2.02 | 2.03 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 1.99 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.96 | 2.03 | 1.99 |
| Oct 30 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.94 | 1.91 |
| Oct 31 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.91 | 1.95 | 1.93 | |
| Diurnal Maximum | 2.08 | 2.14 | 2.17 | 2.18 | 2.14 | 2.15 | 2.20 | 2.18 | 2.14 | 2.08 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.06 | 2.09 | | | | |
| Diurnal Average | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | | | | |

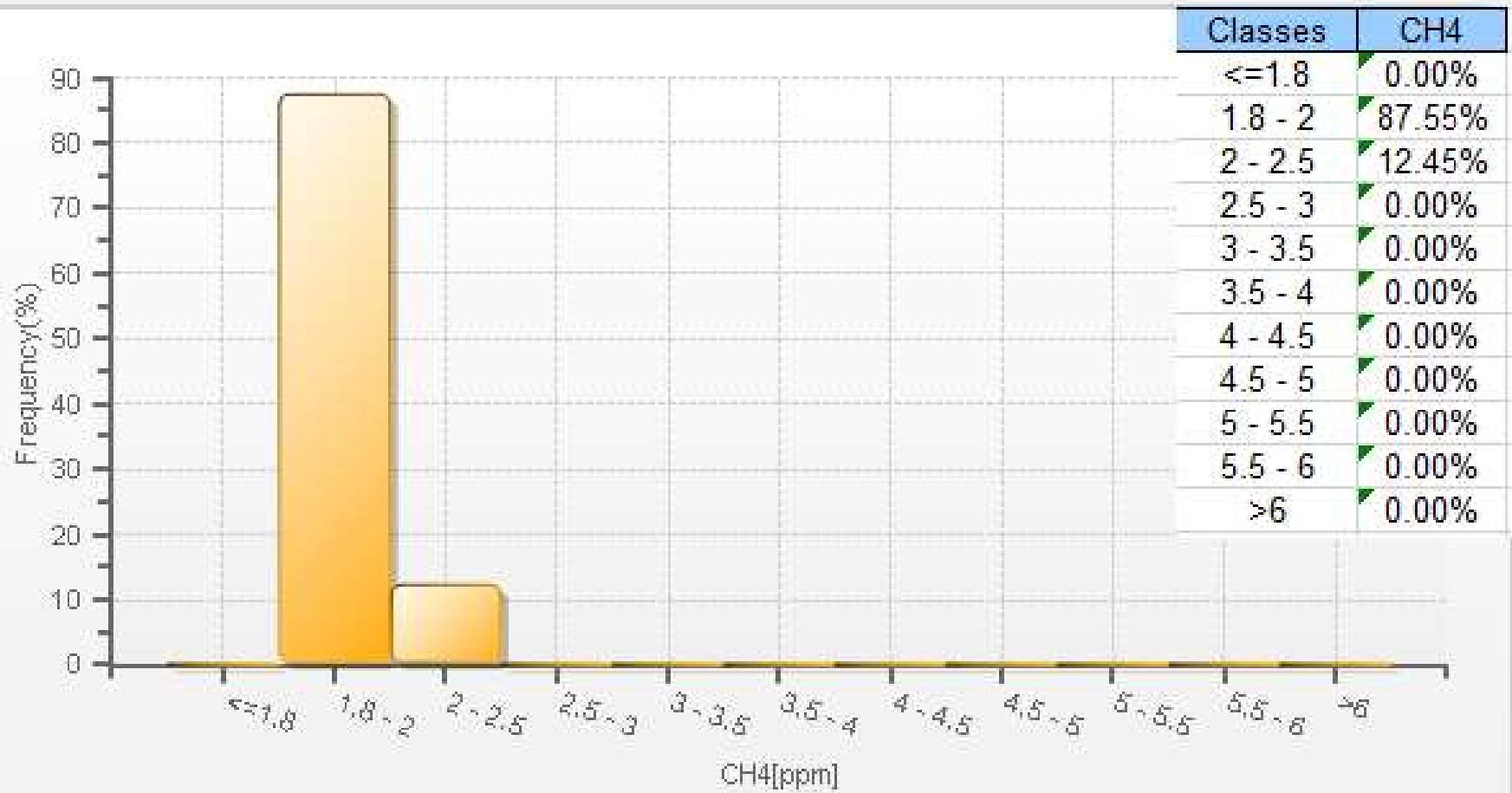
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



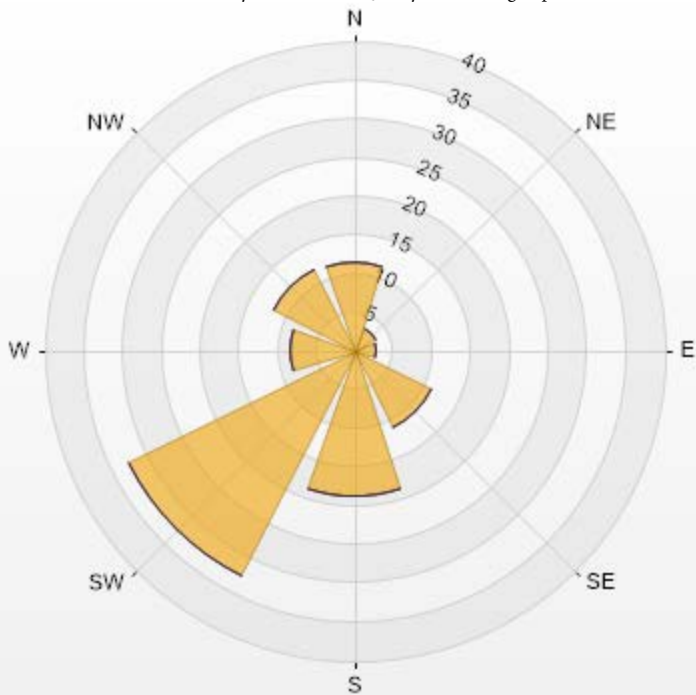
CH4[ppm] Histogram: PRAMP 986c Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

| Direction | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|------|-------|-------|-------|
| N | 11.48 | 0 | 0 | 0 | 11.48 |
| NE | 3.16 | 0 | 0 | 0 | 3.16 |
| E | 2.87 | 0 | 0 | 0 | 2.87 |
| SE | 11.05 | 0 | 0 | 0 | 11.05 |
| S | 18.94 | 0 | 0 | 0 | 18.94 |
| SW | 32.57 | 0 | 0 | 0 | 32.57 |
| W | 8.32 | 0 | 0 | 0 | 8.32 |
| NW | 11.62 | 0 | 0 | 0 | 11.62 |
| Summary | 100 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 100 | 25 | 5-10 | 0 | 10-20 | 0 | >20.0 |
|----------------------|-----|----|------|---|-------|---|-------|
| | 100 | 25 | 5-10 | 0 | 10-20 | 0 | >20.0 |



PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 0.06 ppm on October 16 at hour 20 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 ppm on October 16 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0.00 ppm on October 1 at hour 0 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 0.00 ppm on October 1 | Hours of Calibration: | 38 |
| Monthly Average: | 0.00 ppm | Operational Uptime: | 99.9 |

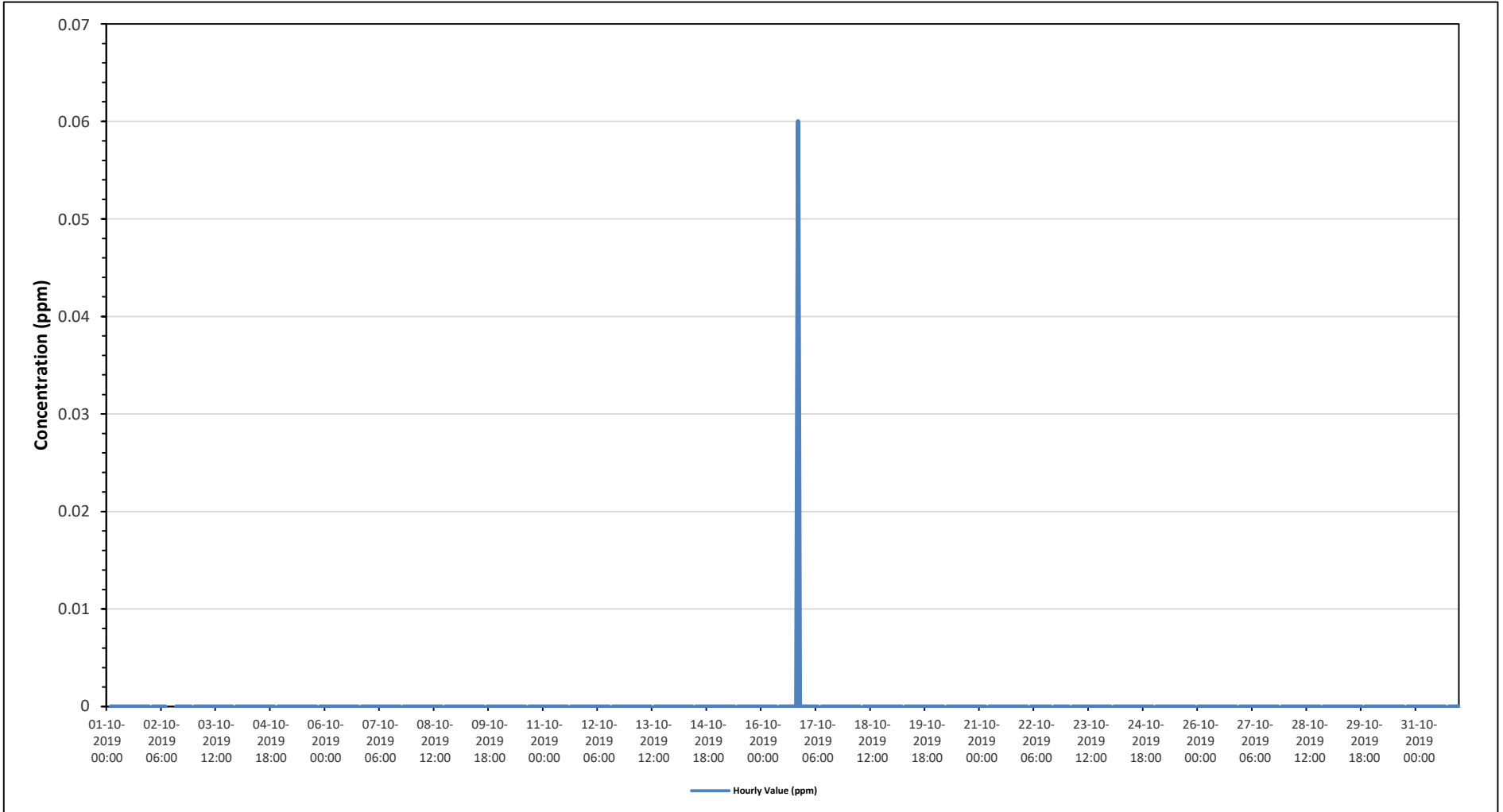
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | |
| Oct 1 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 2 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | S | 0.00 | 0.00 | 0.00 | - | |
| Oct 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 | 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 | |
| Oct 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 | 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 | |
| Oct 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 | 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 | |
| Oct 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 10 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 11 | 0.00 | 0.00 | 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 | 0.00 | 0.00 | |
| Oct 12 | 0.00 | 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 | 0.00 | 0.00 | 0.00 | |
| Oct 13 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 14 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 15 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 16 | 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 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | |
| Oct 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 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 | |
| Oct 18 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 19 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 20 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 21 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 22 | 0.00 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 23 | 0.00 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 24 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 25 | 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 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 | 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 | |
| Oct 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 | 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 | |
| Oct 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Oct 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| Oct 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Diurnal 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 | 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 |

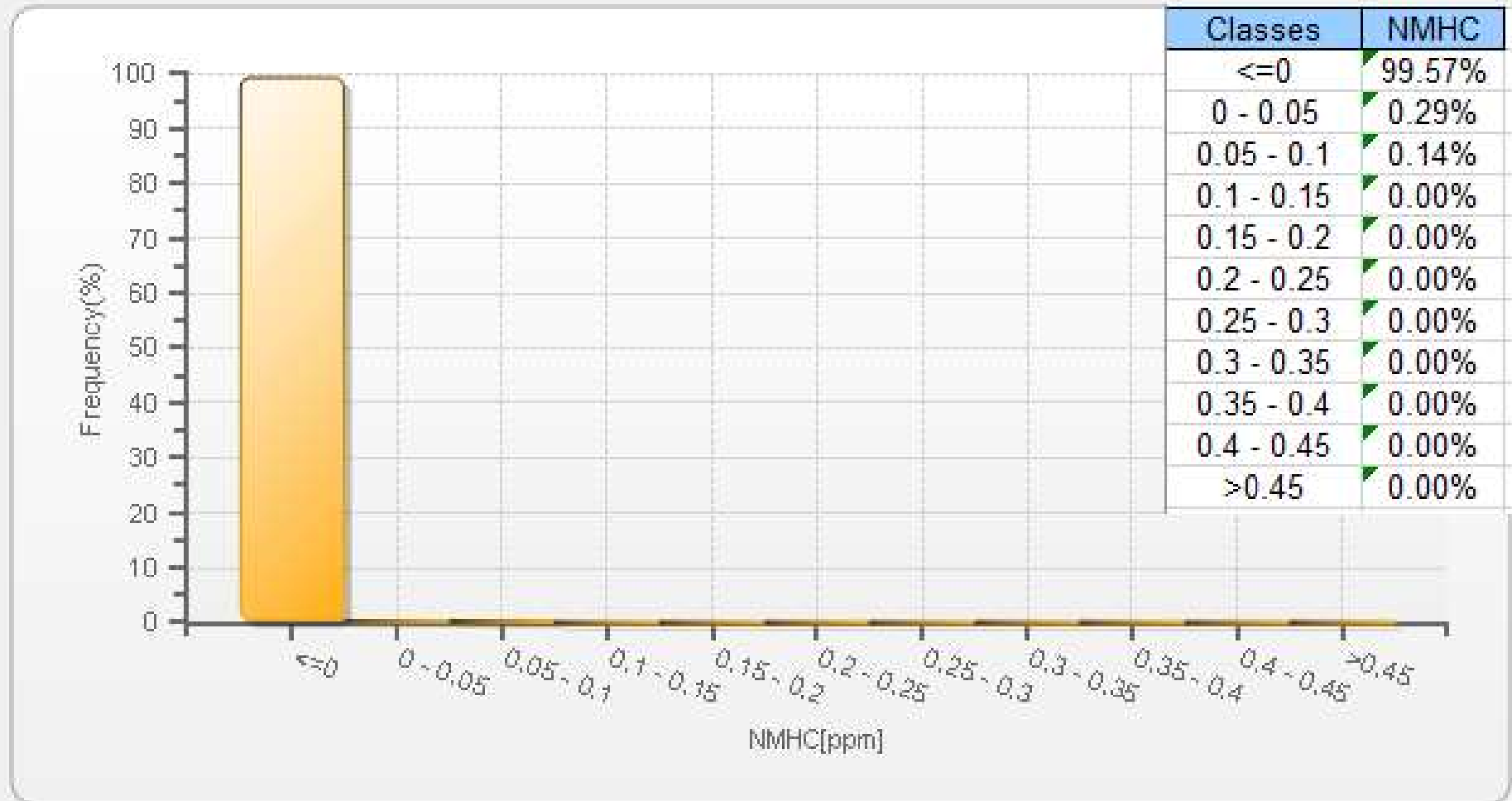
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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



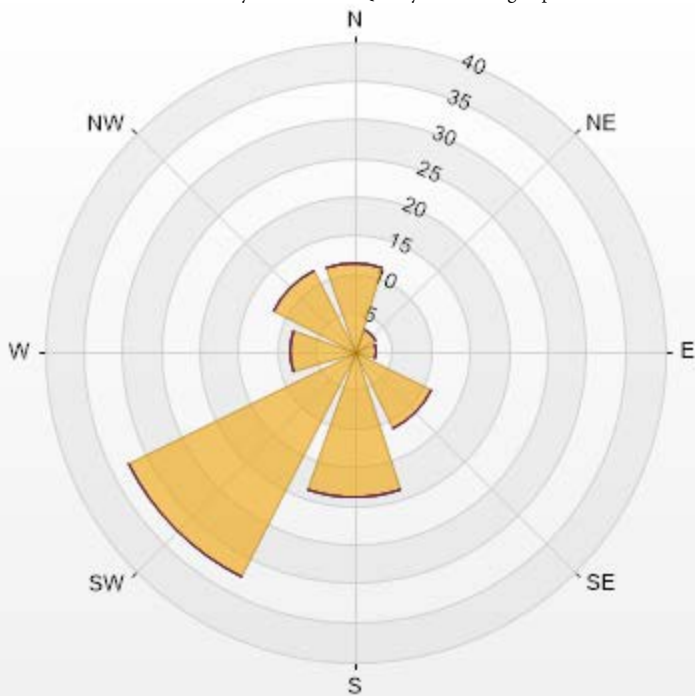
NMHC[ppm] Histogram: PRAMP 986c Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-0.9 | 0.9-2 | >2.0 | Total |
|-----------|-------|---------|---------|-------|------|-------|
| N | 11.48 | 0 | 0 | 0 | 0 | 11.48 |
| NE | 3.16 | 0 | 0 | 0 | 0 | 3.16 |
| E | 2.87 | 0 | 0 | 0 | 0 | 2.87 |
| SE | 11.05 | 0 | 0 | 0 | 0 | 11.05 |
| S | 18.94 | 0 | 0 | 0 | 0 | 18.94 |
| SW | 32.57 | 0 | 0 | 0 | 0 | 32.57 |
| W | 8.32 | 0 | 0 | 0 | 0 | 8.32 |
| NW | 11.62 | 0 | 0 | 0 | 0 | 11.62 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

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



PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

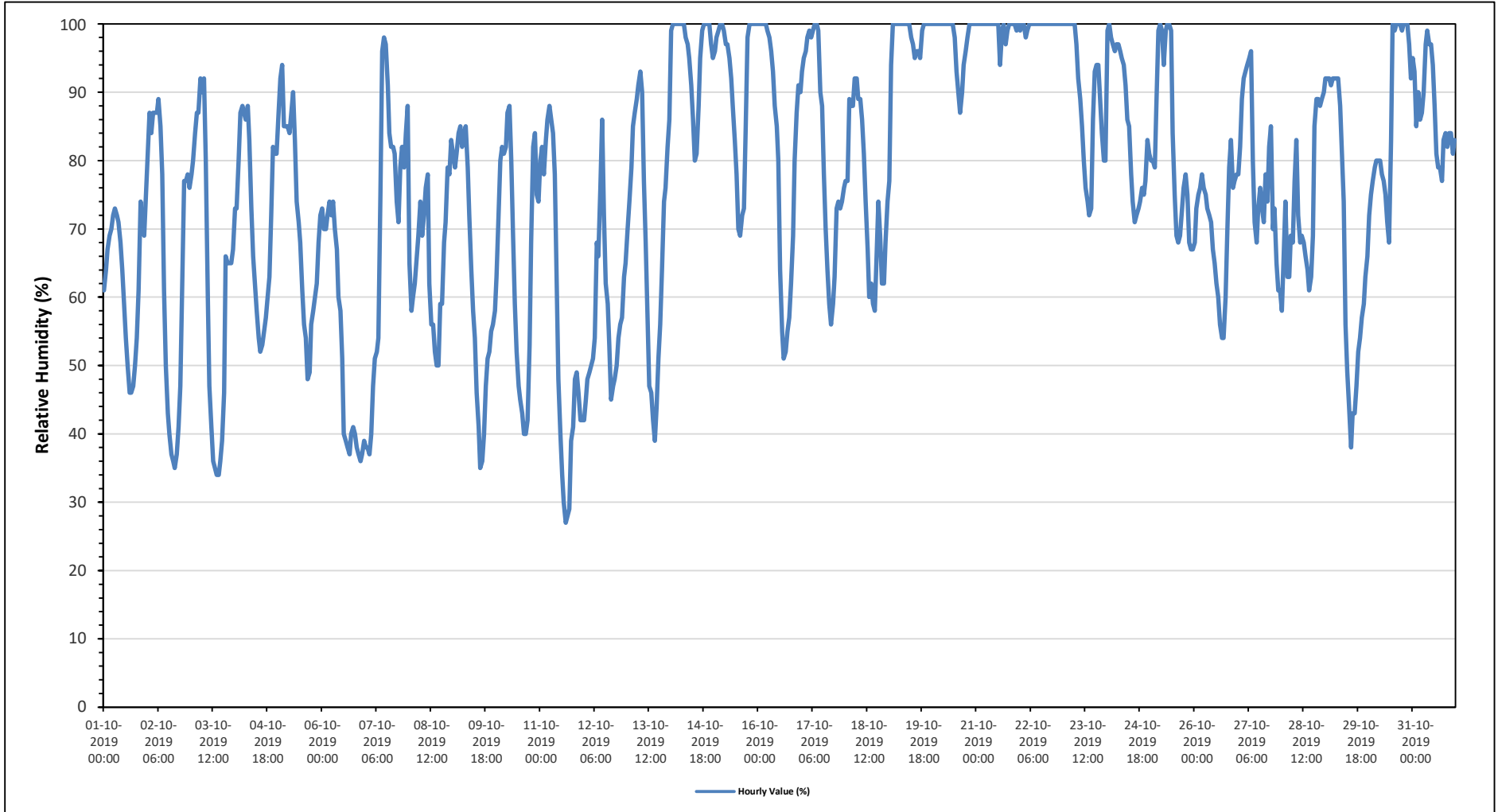
| | | | | |
|-----------------------|--------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 100 % | on October 14 at hour 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 99.8 % | on October 22 | Hours of Data: | 744 |
| Minimum Hourly Value: | 27 % | on October 11 at hour 14 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 53.0 % | on October 6 | Hours of Calibration: | 0 |
| Monthly Average: | 76.7 % | | 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 | |
| Oct 1 | 61 | 64 | 67 | 69 | 70 | 72 | 73 | 72 | 71 | 68 | 64 | 59 | 54 | 50 | 46 | 46 | 47 | 50 | 54 | 61 | 74 | 71 | 69 | 75 | 46 | 75 | 63 | |
| Oct 2 | 81 | 87 | 84 | 87 | 87 | 87 | 89 | 85 | 78 | 61 | 50 | 43 | 40 | 37 | 36 | 35 | 37 | 41 | 47 | 61 | 77 | 77 | 78 | 76 | 35 | 89 | 65 | |
| Oct 3 | 78 | 80 | 84 | 87 | 87 | 92 | 90 | 92 | 80 | 60 | 47 | 41 | 36 | 35 | 34 | 34 | 36 | 39 | 46 | 66 | 65 | 65 | 65 | 67 | 34 | 92 | 63 | |
| Oct 4 | 73 | 73 | 80 | 87 | 88 | 87 | 86 | 88 | 83 | 73 | 66 | 62 | 58 | 54 | 52 | 53 | 55 | 57 | 60 | 63 | 72 | 82 | 81 | 81 | 52 | 88 | 71 | |
| Oct 5 | 87 | 92 | 94 | 85 | 85 | 85 | 84 | 87 | 90 | 83 | 74 | 71 | 68 | 61 | 56 | 54 | 48 | 49 | 56 | 58 | 60 | 62 | 68 | 72 | 48 | 94 | 72 | |
| Oct 6 | 73 | 70 | 70 | 72 | 74 | 72 | 74 | 70 | 67 | 60 | 58 | 51 | 40 | 39 | 38 | 37 | 40 | 41 | 40 | 38 | 37 | 36 | 37 | 39 | 36 | 74 | 53 | |
| Oct 7 | 38 | 38 | 37 | 40 | 47 | 51 | 52 | 54 | 75 | 96 | 98 | 97 | 91 | 84 | 82 | 82 | 81 | 74 | 71 | 79 | 82 | 79 | 84 | 88 | 37 | 98 | 71 | |
| Oct 8 | 65 | 58 | 60 | 62 | 66 | 69 | 74 | 69 | 72 | 76 | 78 | 62 | 56 | 56 | 52 | 50 | 50 | 59 | 59 | 68 | 71 | 79 | 78 | 83 | 50 | 83 | 66 | |
| Oct 9 | 81 | 79 | 81 | 84 | 85 | 82 | 84 | 85 | 79 | 72 | 64 | 58 | 54 | 46 | 41 | 35 | 36 | 40 | 47 | 51 | 52 | 55 | 56 | 58 | 35 | 85 | 63 | |
| Oct 10 | 63 | 72 | 80 | 82 | 81 | 82 | 87 | 88 | 80 | 69 | 59 | 52 | 47 | 45 | 43 | 40 | 40 | 42 | 53 | 68 | 82 | 84 | 75 | 74 | 40 | 88 | 66 | |
| Oct 11 | 80 | 82 | 78 | 83 | 86 | 88 | 86 | 84 | 78 | 61 | 48 | 40 | 34 | 30 | 27 | 28 | 29 | 39 | 41 | 48 | 49 | 46 | 42 | 42 | 27 | 88 | 56 | |
| Oct 12 | 42 | 45 | 48 | 49 | 50 | 51 | 54 | 68 | 66 | 76 | 86 | 72 | 62 | 59 | 53 | 45 | 47 | 48 | 50 | 54 | 56 | 57 | 63 | 65 | 42 | 86 | 57 | |
| Oct 13 | 70 | 74 | 79 | 85 | 87 | 89 | 91 | 93 | 90 | 77 | 68 | 56 | 47 | 46 | 42 | 39 | 44 | 51 | 56 | 64 | 74 | 76 | 82 | 86 | 39 | 93 | 69 | |
| Oct 14 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 97 | 95 | 91 | 86 | 80 | 81 | 88 | 95 | 99 | 100 | 100 | 100 | 100 | 97 | 95 | 80 | 100 | 96 | |
| Oct 15 | 96 | 98 | 99 | 100 | 100 | 99 | 97 | 97 | 95 | 92 | 88 | 83 | 78 | 70 | 69 | 72 | 73 | 85 | 98 | 100 | 100 | 100 | 100 | 100 | 69 | 100 | 91 | |
| Oct 16 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 99 | 96 | 93 | 88 | 85 | 80 | 64 | 55 | 51 | 52 | 55 | 57 | 62 | 69 | 80 | 87 | 91 | 51 | 100 | 81 | |
| Oct 17 | 93 | 95 | 96 | 98 | 99 | 98 | 99 | 100 | 100 | 99 | 90 | 88 | 78 | 70 | 64 | 59 | 56 | 59 | 63 | 73 | 74 | 73 | 74 | 76 | 56 | 100 | 82 | |
| Oct 18 | 77 | 77 | 89 | 88 | 88 | 92 | 92 | 89 | 89 | 86 | 81 | 74 | 67 | 60 | 62 | 59 | 58 | 66 | 74 | 69 | 62 | 62 | 68 | 74 | 58 | 92 | 75 | |
| Oct 19 | 77 | 94 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 97 | 95 | 96 | 96 | 95 | 99 | 100 | 100 | 100 | 100 | 100 | 77 | 100 | 98 | |
| Oct 20 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 93 | 90 | 87 | 90 | 94 | 96 | 98 | 100 | 100 | 100 | 87 | 100 | 98 | |
| Oct 21 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 94 | 99 | 100 | 97 | 99 | 100 | 100 | 100 | 99 | 100 | 94 | 100 | 100 | |
| Oct 22 | 99 | 100 | 100 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 100 | 100 | |
| Oct 23 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 92 | 89 | 85 | 80 | 76 | 74 | 72 | 73 | 86 | 93 | 94 | 94 | 89 | 84 | 80 | 80 | 72 | 100 | 89 | |
| Oct 24 | 99 | 100 | 98 | 97 | 96 | 97 | 97 | 96 | 95 | 94 | 91 | 86 | 85 | 78 | 74 | 71 | 72 | 73 | 74 | 76 | 75 | 77 | 83 | 81 | 71 | 100 | 86 | |
| Oct 25 | 80 | 80 | 79 | 88 | 99 | 100 | 99 | 94 | 99 | 100 | 100 | 99 | 84 | 75 | 69 | 68 | 69 | 73 | 76 | 78 | 75 | 68 | 67 | 67 | 67 | 100 | 83 | |
| Oct 26 | 68 | 73 | 75 | 76 | 78 | 76 | 75 | 73 | 72 | 71 | 67 | 65 | 62 | 60 | 56 | 54 | 54 | 60 | 70 | 79 | 83 | 76 | 77 | 78 | 54 | 83 | 70 | |
| Oct 27 | 78 | 82 | 89 | 92 | 93 | 94 | 95 | 96 | 80 | 71 | 68 | 73 | 76 | 73 | 71 | 78 | 74 | 82 | 85 | 70 | 73 | 65 | 61 | 61 | 61 | 96 | 78 | |
| Oct 28 | 58 | 67 | 74 | 63 | 63 | 69 | 68 | 77 | 83 | 72 | 68 | 69 | 68 | 66 | 64 | 61 | 63 | 69 | 85 | 89 | 89 | 88 | 89 | 90 | 58 | 90 | 73 | |
| Oct 29 | 92 | 92 | 92 | 91 | 92 | 92 | 92 | 92 | 88 | 82 | 74 | 56 | 49 | 44 | 38 | 43 | 43 | 47 | 52 | 54 | 57 | 59 | 63 | 66 | 38 | 92 | 69 | |
| Oct 30 | 72 | 75 | 77 | 79 | 80 | 80 | 80 | 78 | 77 | 75 | 71 | 68 | 83 | 100 | 99 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 97 | 92 | 68 | 100 | 87 | |
| Oct 31 | 95 | 93 | 85 | 90 | 86 | 87 | 90 | 97 | 99 | 97 | 97 | 94 | 88 | 81 | 79 | 79 | 77 | 83 | 84 | 82 | 84 | 84 | 81 | 83 | 77 | 99 | 87 | |
| Diurnal Maximum | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Diurnal Average | 79.8 | 81.9 | 83.7 | 84.9 | 86.0 | 86.8 | 87.3 | 87.6 | 86.1 | 82.1 | 78.1 | 73.2 | 68.6 | 64.9 | 62.4 | 61.9 | 62.8 | 66.6 | 70.7 | 74.5 | 77.2 | 77.2 | 77.6 | 78.7 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 RH - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

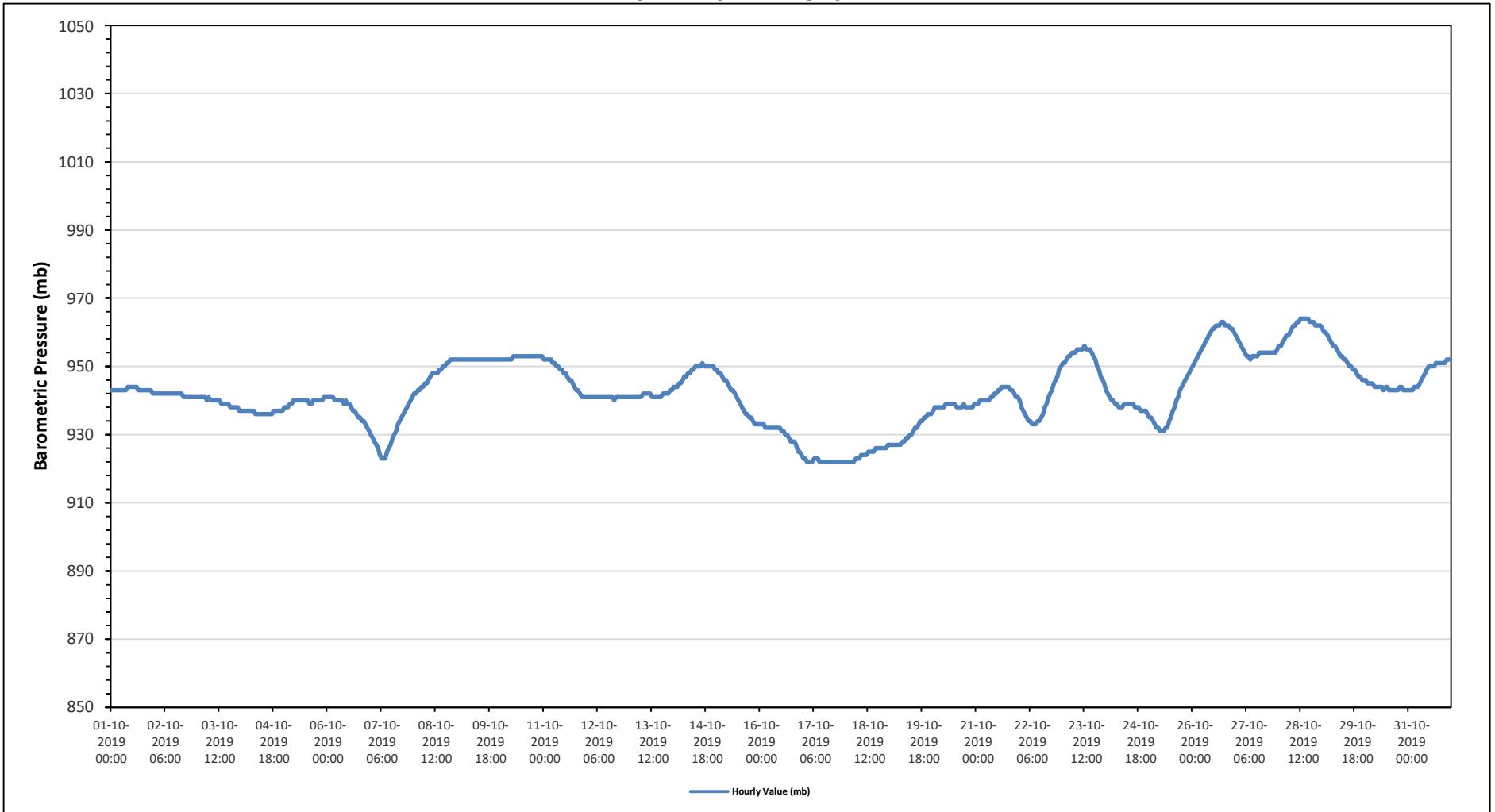
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 964 mb on October 28 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 961 mb on October 28 | Hours of Data: | 744 |
| Minimum Hourly Value: | 922 mb on October 17 at hour 2 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 922 mb on October 17 | Hours of Calibration: | 0 |
| Monthly Average: | 942 mb | 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 | | |
| Oct 1 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 943 | 942 | 944 | 943 | |
| Oct 2 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 942 |
| Oct 3 | 941 | 941 | 941 | 941 | 941 | 941 | 940 | 941 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 941 | 941 | 940 | |
| Oct 4 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | |
| Oct 5 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 941 | 941 | 940 | |
| Oct 6 | 941 | 941 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 940 | 939 | 939 | 938 | 937 | 937 | 936 | 935 | 935 | 934 | 934 | 933 | 932 | 931 | 931 | 941 | 938 | |
| Oct 7 | 930 | 929 | 928 | 927 | 926 | 924 | 923 | 923 | 923 | 923 | 925 | 926 | 927 | 929 | 930 | 931 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 941 | 941 | 931 | |
| Oct 8 | 942 | 942 | 943 | 943 | 944 | 944 | 945 | 945 | 946 | 947 | 948 | 948 | 948 | 948 | 949 | 949 | 950 | 950 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 948 | |
| Oct 9 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | |
| Oct 10 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | |
| Oct 11 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 950 | 950 | 949 | 949 | 948 | 948 | 947 | 946 | 946 | 945 | 944 | 943 | 943 | 942 | 941 | 941 | 941 | 941 | 941 | 941 | 947 | |
| Oct 12 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 940 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | |
| Oct 13 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 942 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 943 | 942 | |
| Oct 14 | 944 | 944 | 944 | 945 | 945 | 946 | 947 | 947 | 948 | 948 | 949 | 949 | 950 | 950 | 950 | 950 | 951 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 949 | 949 | 949 | 948 | |
| Oct 15 | 949 | 948 | 948 | 947 | 946 | 946 | 945 | 944 | 943 | 943 | 942 | 941 | 940 | 939 | 938 | 937 | 936 | 936 | 935 | 935 | 934 | 933 | 933 | 933 | 933 | 933 | 933 | 940 | |
| Oct 16 | 933 | 933 | 933 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 931 | 931 | 930 | 930 | 929 | 928 | 928 | 928 | 927 | 925 | 925 | 924 | 924 | 933 | 930 | | |
| Oct 17 | 923 | 923 | 922 | 922 | 922 | 922 | 923 | 923 | 923 | 923 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | |
| Oct 18 | 922 | 922 | 922 | 922 | 922 | 923 | 923 | 923 | 924 | 924 | 924 | 924 | 925 | 925 | 925 | 925 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 927 | 927 | 927 | 927 | 924 | |
| Oct 19 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 928 | 928 | 929 | 929 | 930 | 930 | 931 | 932 | 932 | 933 | 934 | 934 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 931 | |
| Oct 20 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 939 | 938 | |
| Oct 21 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 942 | 942 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 943 | 943 | 942 | 941 | 941 | 941 | 941 | 941 | 942 | |
| Oct 22 | 940 | 938 | 937 | 936 | 935 | 934 | 934 | 933 | 933 | 933 | 933 | 934 | 934 | 935 | 936 | 938 | 939 | 941 | 942 | 943 | 945 | 946 | 947 | 949 | 950 | 950 | 950 | 942 | |
| Oct 23 | 951 | 951 | 952 | 953 | 953 | 954 | 954 | 954 | 955 | 955 | 955 | 955 | 955 | 956 | 955 | 955 | 955 | 954 | 953 | 952 | 950 | 949 | 947 | 946 | 945 | 945 | 945 | 942 | |
| Oct 24 | 943 | 942 | 941 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 939 | |
| Oct 25 | 935 | 935 | 934 | 933 | 932 | 932 | 931 | 931 | 931 | 932 | 932 | 932 | 934 | 935 | 937 | 938 | 940 | 941 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 949 | 949 | 942 | |
| Oct 26 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 961 | 962 | 962 | 962 | 963 | 963 | 962 | 962 | 962 | 961 | 961 | 960 | 960 | 960 | 960 | 959 | |
| Oct 27 | 959 | 958 | 957 | 956 | 955 | 954 | 953 | 953 | 952 | 953 | 953 | 953 | 953 | 954 | 954 | 954 | 954 | 954 | 954 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 955 | 954 | |
| Oct 28 | 956 | 956 | 957 | 958 | 959 | 959 | 960 | 961 | 962 | 962 | 963 | 963 | 964 | 964 | 964 | 964 | 964 | 963 | 963 | 963 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | 961 | |
| Oct 29 | 961 | 960 | 960 | 959 | 958 | 957 | 956 | 956 | 955 | 954 | 953 | 953 | 952 | 952 | 951 | 950 | 950 | 949 | 949 | 948 | 947 | 947 | 946 | 946 | 946 | 946 | 946 | 946 | |
| Oct 30 | 946 | 945 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 943 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | |
| Oct 31 | 943 | 943 | 943 | 944 | 944 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 951 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 948 | |
| Diurnal Maximum | 961 | 960 | 960 | 959 | 959 | 959 | 960 | 961 | 962 | 962 | 963 | 963 | 964 | 964 | 964 | 964 | 964 | 963 | 963 | 963 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | |
| Diurnal Average | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

986c Station - October 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

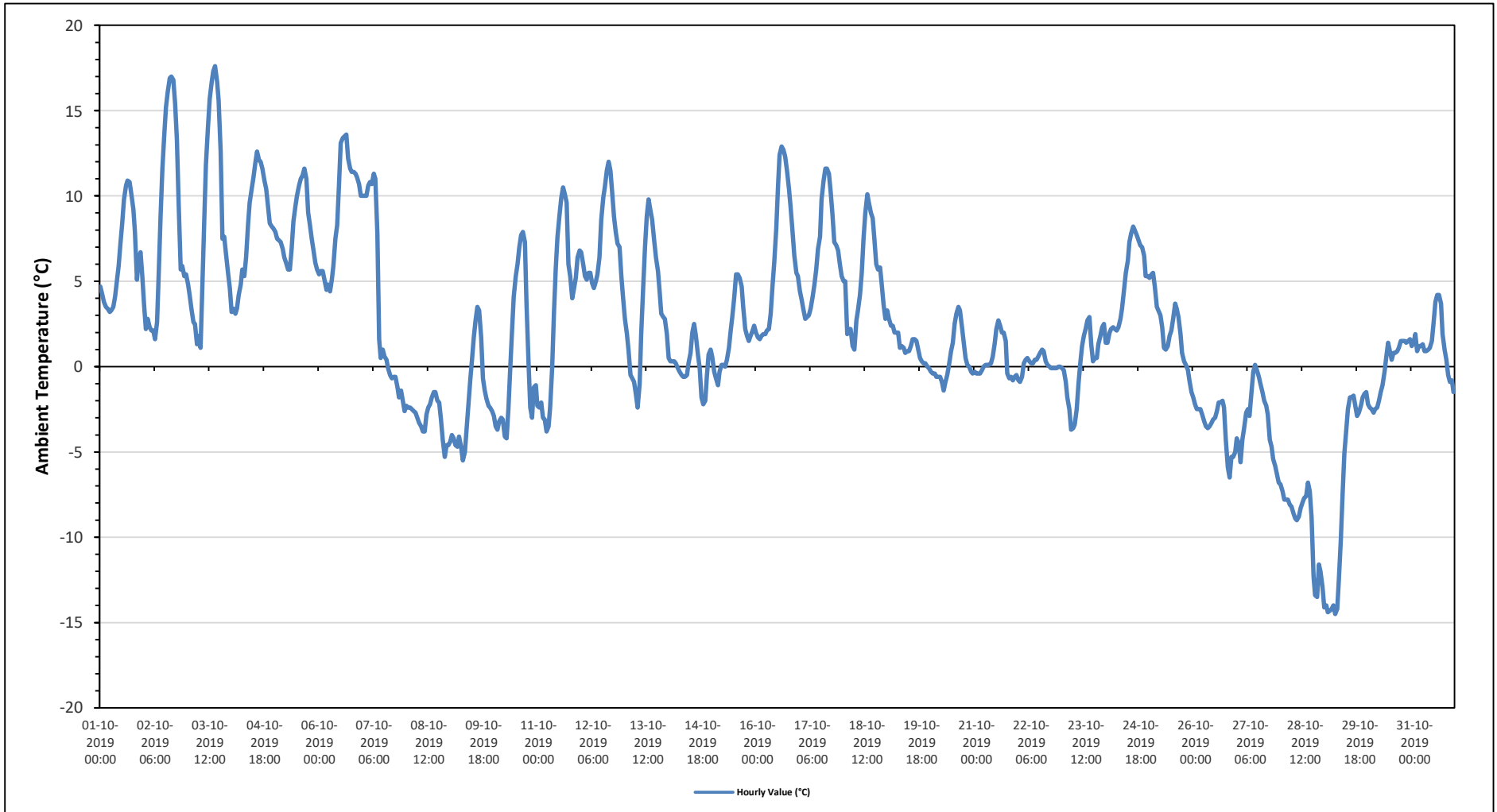
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 17.6 °C | on October 3 at hour 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 9.0 °C | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | -14.5 °C | on October 29 at hour 6 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | -9.1 °C | on October 28 | Hours of Calibration: | 0 |
| Monthly Average: | 2.3 °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 | |
| Oct 1 | 4.7 | 4.2 | 3.8 | 3.5 | 3.4 | 3.2 | 3.3 | 3.5 | 4.1 | 5.0 | 5.9 | 7.2 | 8.4 | 9.8 | 10.6 | 10.9 | 10.8 | 10.1 | 9.2 | 7.9 | 5.1 | 6.3 | 6.7 | 5.3 | 3.2 | 10.9 | 6.4 | |
| Oct 2 | 3.6 | 2.2 | 2.8 | 2.3 | 2.1 | 2.1 | 1.6 | 2.6 | 5.2 | 8.9 | 11.6 | 13.5 | 15.2 | 16.1 | 16.9 | 17.0 | 16.8 | 15.4 | 13.3 | 9.5 | 5.7 | 5.9 | 5.3 | 5.4 | 1.6 | 17.0 | 8.4 | |
| Oct 3 | 4.8 | 4.2 | 3.4 | 2.6 | 2.5 | 1.3 | 1.8 | 1.1 | 4.7 | 8.8 | 11.8 | 14.0 | 15.7 | 16.7 | 17.3 | 17.6 | 16.7 | 15.6 | 12.6 | 7.5 | 7.6 | 6.6 | 5.5 | 4.6 | 1.1 | 17.6 | 8.5 | |
| Oct 4 | 3.2 | 3.4 | 3.1 | 3.4 | 4.2 | 4.8 | 5.7 | 5.3 | 6.4 | 8.4 | 9.6 | 10.4 | 11.1 | 11.9 | 12.6 | 12.1 | 12.0 | 11.6 | 10.9 | 10.4 | 9.4 | 8.4 | 8.2 | 8.1 | 3.1 | 12.6 | 8.1 | |
| Oct 5 | 7.9 | 7.5 | 7.4 | 7.3 | 6.9 | 6.4 | 6.1 | 5.7 | 5.7 | 6.9 | 8.5 | 9.4 | 10.0 | 10.6 | 11.0 | 11.2 | 11.6 | 11.0 | 9.0 | 8.4 | 7.5 | 6.8 | 6.1 | 5.7 | 5.7 | 11.6 | 8.1 | |
| Oct 6 | 5.4 | 5.6 | 5.6 | 5.1 | 4.5 | 4.8 | 4.4 | 5.1 | 5.9 | 7.5 | 8.3 | 10.6 | 13.1 | 13.4 | 13.5 | 13.6 | 12.2 | 11.6 | 11.4 | 11.4 | 11.3 | 11.1 | 10.7 | 10.0 | 4.4 | 13.6 | 9.0 | |
| Oct 7 | 10.0 | 10.0 | 10.0 | 10.6 | 10.8 | 10.7 | 11.3 | 11.0 | 7.8 | 1.6 | 0.5 | 1.0 | 0.6 | 0.4 | -0.1 | -0.5 | -0.7 | -0.6 | -0.6 | -1.2 | -1.8 | -1.4 | -2.0 | -2.6 | -2.6 | 11.3 | 3.5 | |
| Oct 8 | -2.3 | -2.4 | -2.4 | -2.5 | -2.6 | -2.7 | -3.0 | -3.3 | -3.5 | -3.8 | -3.8 | -2.8 | -2.4 | -2.2 | -1.8 | -1.5 | -1.5 | -2.0 | -2.1 | -3.1 | -4.3 | -5.3 | -4.6 | -4.6 | -5.3 | -1.5 | -2.9 | |
| Oct 9 | -4.4 | -4.0 | -4.2 | -4.6 | -4.7 | -4.1 | -4.7 | -5.5 | -5.0 | -3.8 | -2.2 | -0.8 | 0.4 | 1.7 | 2.7 | 3.5 | 3.3 | 1.7 | -0.7 | -1.4 | -1.9 | -2.3 | -2.4 | -2.6 | -5.5 | 3.5 | -1.9 | |
| Oct 10 | -2.9 | -3.5 | -3.7 | -3.2 | -3.0 | -3.1 | -4.1 | -4.2 | -2.5 | -0.2 | 2.3 | 4.1 | 5.3 | 6.0 | 7.0 | 7.7 | 7.9 | 7.3 | 3.8 | 0.3 | -2.4 | -3.0 | -1.2 | -1.1 | -4.2 | 7.9 | 0.6 | |
| Oct 11 | -2.3 | -2.4 | -2.1 | -3.0 | -3.1 | -3.8 | -3.5 | -2.4 | -0.1 | 3.1 | 5.7 | 7.6 | 8.9 | 9.9 | 10.5 | 10.1 | 9.6 | 6.0 | 5.3 | 4.0 | 4.5 | 5.2 | 6.4 | 6.8 | -3.8 | 10.5 | 3.4 | |
| Oct 12 | 6.7 | 6.0 | 5.3 | 5.1 | 5.5 | 5.5 | 4.9 | 4.6 | 5.0 | 5.4 | 6.4 | 8.6 | 9.9 | 10.5 | 11.5 | 12.0 | 11.5 | 10.2 | 8.8 | 7.9 | 7.2 | 7.0 | 5.3 | 4.0 | 4.0 | 12.0 | 7.3 | |
| Oct 13 | 2.8 | 1.9 | 1.0 | -0.5 | -0.7 | -0.9 | -1.6 | -2.4 | -1.0 | 1.9 | 4.7 | 7.0 | 8.8 | 9.8 | 9.1 | 8.6 | 7.4 | 6.4 | 5.6 | 4.5 | 3.1 | 2.9 | 2.8 | 1.9 | -2.4 | 9.8 | 3.5 | |
| Oct 14 | 0.5 | 0.3 | 0.3 | 0.3 | 0.2 | -0.1 | -0.3 | -0.5 | -0.6 | -0.6 | -0.5 | 0.2 | 0.8 | 2.0 | 2.5 | 1.8 | 0.7 | -0.1 | -1.8 | -2.2 | -2.0 | -0.6 | 0.7 | 1.0 | -2.2 | 2.5 | 0.1 | |
| Oct 15 | 0.6 | -0.3 | -0.7 | -1.1 | -0.3 | 0.1 | 0.1 | 0.0 | 0.4 | 1.1 | 2.0 | 2.9 | 4.1 | 5.4 | 5.4 | 5.2 | 4.7 | 3.5 | 2.2 | 1.8 | 1.5 | 1.8 | 2.1 | 2.4 | -1.1 | 5.4 | 1.9 | |
| Oct 16 | 2.0 | 1.7 | 1.6 | 1.8 | 1.9 | 1.9 | 2.1 | 2.2 | 3.1 | 4.7 | 6.1 | 8.1 | 10.6 | 12.4 | 12.9 | 12.7 | 12.3 | 11.5 | 10.4 | 9.4 | 7.9 | 6.5 | 5.5 | 5.3 | 1.6 | 12.9 | 6.4 | |
| Oct 17 | 4.4 | 3.9 | 3.4 | 2.8 | 2.9 | 3.0 | 3.4 | 4.1 | 4.8 | 5.7 | 6.9 | 7.6 | 9.8 | 10.9 | 11.6 | 11.3 | 10.2 | 8.9 | 7.3 | 7.1 | 6.8 | 6.0 | 5.3 | 2.8 | 2.8 | 11.6 | 6.7 | |
| Oct 18 | 5.0 | 5.0 | 1.9 | 2.2 | 2.2 | 1.2 | 1.0 | 2.7 | 3.3 | 4.2 | 5.5 | 7.5 | 9.0 | 10.1 | 9.6 | 9.0 | 8.7 | 7.4 | 6.0 | 5.7 | 5.8 | 4.9 | 3.6 | 2.8 | 1.0 | 10.1 | 5.2 | |
| Oct 19 | 3.3 | 2.8 | 2.4 | 2.4 | 2.0 | 2.0 | 2.0 | 1.1 | 1.2 | 1.1 | 0.8 | 0.9 | 0.9 | 1.2 | 1.6 | 1.6 | 1.5 | 1.0 | 0.5 | 0.3 | 0.2 | 0.2 | 0.0 | -0.1 | -0.1 | 3.3 | 1.3 | |
| Oct 20 | -0.3 | -0.4 | -0.4 | -0.6 | -0.6 | -0.6 | -0.9 | -1.4 | -0.9 | -0.5 | 0.1 | 0.9 | 1.4 | 2.5 | 3.1 | 3.5 | 3.3 | 2.3 | 1.4 | 0.5 | 0.1 | 0.0 | -0.3 | -0.4 | -1.4 | 3.5 | 0.5 | |
| Oct 21 | -0.3 | -0.4 | -0.4 | -0.4 | -0.4 | -0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.6 | 1.4 | 2.2 | 2.7 | 2.4 | 2.0 | 2.0 | 1.5 | -0.4 | -0.7 | -0.6 | -0.8 | -0.6 | -0.5 | -0.8 | 2.7 | 0.4 |
| Oct 22 | -0.8 | -0.9 | -0.6 | 0.2 | 0.4 | 0.5 | 0.3 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 0.8 | 1.0 | 0.9 | 0.3 | 0.1 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | 0.0 | 0.0 | -0.9 | 1.0 | 0.2 | |
| Oct 23 | -0.1 | -0.2 | -0.9 | -1.8 | -2.5 | -3.7 | -3.6 | -3.4 | -2.5 | -1.0 | 0.2 | 1.2 | 1.8 | 2.2 | 2.7 | 2.9 | 1.3 | 0.3 | 0.5 | 0.5 | 1.3 | 1.8 | 2.3 | 2.5 | -3.7 | 2.9 | 0.1 | |
| Oct 24 | 1.4 | 1.4 | 2.0 | 2.2 | 2.3 | 2.2 | 2.1 | 2.3 | 2.8 | 3.4 | 4.5 | 5.5 | 6.2 | 7.3 | 7.8 | 8.2 | 8.0 | 7.7 | 7.4 | 7.1 | 7.0 | 6.5 | 5.3 | 5.3 | 1.4 | 8.2 | 4.8 | |
| Oct 25 | 5.2 | 5.4 | 5.5 | 4.7 | 3.5 | 3.3 | 3.0 | 2.3 | 1.1 | 1.0 | 1.2 | 1.8 | 2.1 | 2.8 | 3.7 | 3.4 | 2.9 | 1.9 | 0.8 | 0.3 | 0.1 | -0.2 | -0.8 | -1.5 | -1.5 | 5.5 | 2.2 | |
| Oct 26 | -1.8 | -2.2 | -2.5 | -2.5 | -2.5 | -2.8 | -3.2 | -3.5 | -3.6 | -3.5 | -3.3 | -3.1 | -3.0 | -2.6 | -2.1 | -2.1 | -2.0 | -2.4 | -4.3 | -5.9 | -6.5 | -5.3 | -5.3 | -5.0 | -6.5 | -1.8 | -3.4 | |
| Oct 27 | -4.2 | -4.5 | -5.6 | -4.3 | -3.6 | -2.7 | -2.5 | -2.9 | -1.5 | -0.3 | 0.1 | -0.2 | -0.6 | -1.0 | -1.5 | -2.0 | -2.3 | -2.8 | -4.3 | -4.7 | -5.4 | -5.8 | -6.3 | -6.8 | -6.8 | 0.1 | -3.2 | |
| Oct 28 | -6.9 | -7.3 | -7.8 | -7.8 | -7.8 | -8.1 | -8.2 | -8.6 | -8.9 | -9.0 | -8.8 | -8.3 | -8.0 | -7.7 | -7.6 | -6.8 | -7.3 | -8.8 | -12.3 | -13.4 | -13.5 | -11.6 | -12.0 | -12.9 | -13.5 | -6.8 | -9.1 | |
| Oct 29 | -14.1 | -14.0 | -14.4 | -14.3 | -14.2 | -14.0 | -14.5 | -14.2 | -12.6 | -10.2 | -7.5 | -5.1 | -3.8 | -2.5 | -1.8 | -1.8 | -1.7 | -2.3 | -2.9 | -2.7 | -2.3 | -1.8 | -1.6 | -1.5 | -14.5 | -1.5 | -7.3 | |
| Oct 30 | -2.2 | -2.4 | -2.5 | -2.7 | -2.5 | -2.4 | -2.0 | -1.5 | -1.1 | -0.3 | 0.6 | 1.4 | 0.9 | 0.4 | 0.8 | 0.8 | 0.9 | 1.1 | 1.5 | 1.5 | 1.5 | 1.4 | 1.5 | 1.6 | -2.7 | 1.6 | -0.2 | |
| Oct 31 | 1.2 | 1.4 | 1.9 | 0.9 | 1.2 | 1.2 | 1.3 | 0.9 | 0.9 | 1.0 | 1.1 | 1.5 | 2.6 | 3.8 | 4.2 | 4.2 | 3.7 | 1.9 | 1.0 | 0.4 | -0.5 | -0.9 | -0.8 | -1.5 | -1.5 | 4.2 | 1.4 | |
| Diurnal Maximum | 10.0 | 10.0 | 10.0 | 10.6 | 10.8 | 10.7 | 11.3 | 11.0 | 7.8 | 8.9 | 11.8 | 14.0 | 15.7 | 16.7 | 17.3 | 17.6 | 16.8 | 15.6 | 13.3 | 11.4 | 11.3 | 11.1 | 10.7 | 10.0 | | | | |
| Diurnal Average | 1.0 | 0.7 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.0 | 0.6 | 1.5 | 2.6 | 3.7 | 4.6 | 5.3 | 5.7 | 5.7 | 5.3 | 4.5 | 3.3 | 2.3 | 1.7 | 1.6 | 1.5 | 1.2 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 AT - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

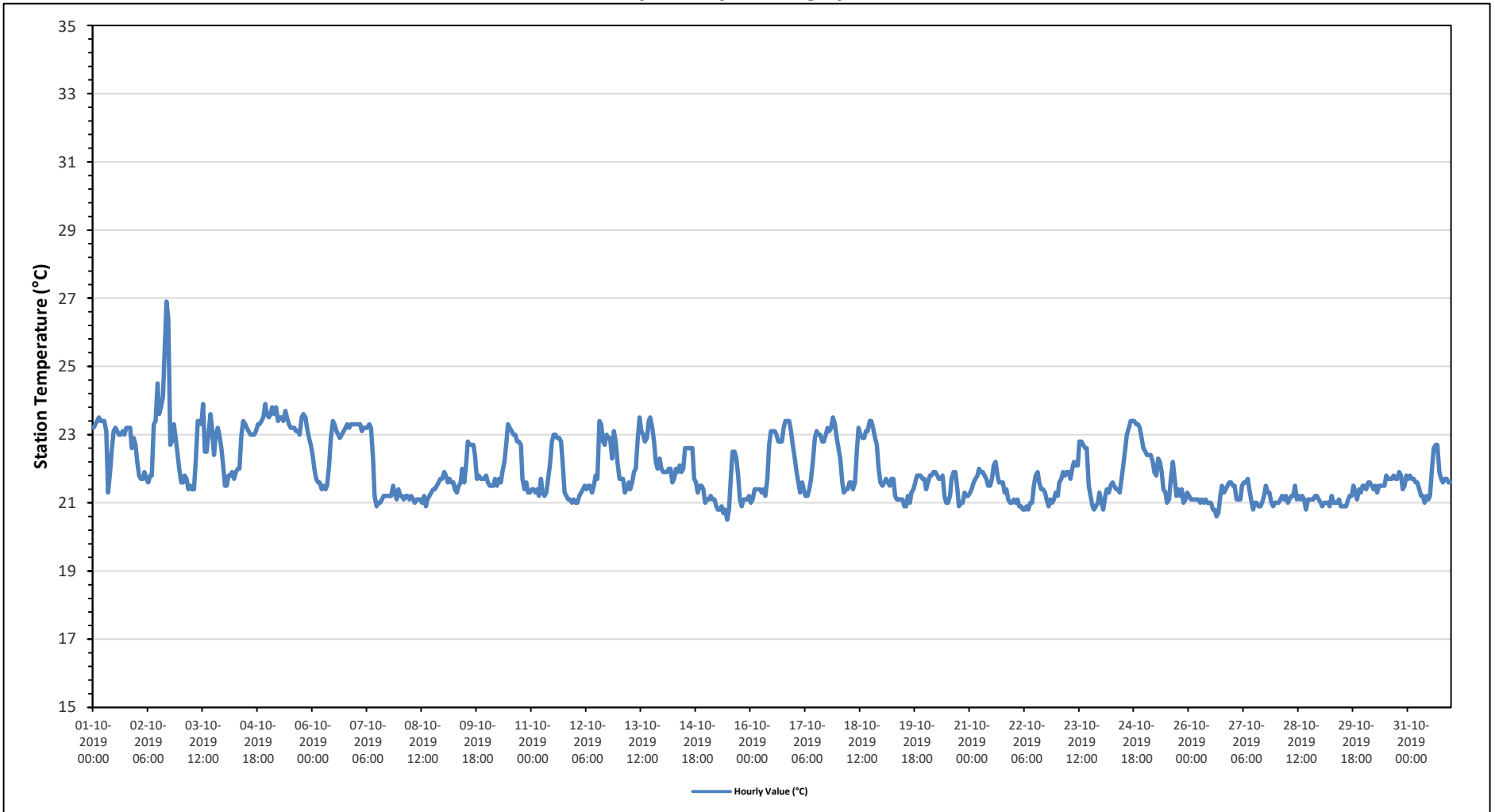
| | | | | |
|-----------------------|---------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 26.9 °C | on October 2 at hour 16 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.4 °C | on October 5 | Hours of Data: | 744 |
| Minimum Hourly Value: | 20.5 °C | on October 15 at hour 11 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 21.1 °C | on October 29 | Hours of Calibration: | 0 |
| Monthly Average: | 21.9 °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 |
| Oct 1 | 23.2 | 23.3 | 23.4 | 23.5 | 23.4 | 23.4 | 23.4 | 23.1 | 21.3 | 21.9 | 22.5 | 23.1 | 23.2 | 23.1 | 23.0 | 23.0 | 23.1 | 23.0 | 23.2 | 23.2 | 22.6 | 22.9 | 22.7 | 21.3 | 23.5 | 23.0 | |
| Oct 2 | 22.2 | 21.8 | 21.7 | 21.7 | 21.9 | 21.7 | 21.6 | 21.8 | 21.8 | 23.3 | 23.4 | 24.5 | 23.6 | 23.8 | 24.1 | 25.3 | 26.9 | 26.4 | 22.7 | 22.8 | 23.3 | 22.9 | 22.4 | 22.0 | 21.6 | 26.9 | 23.1 |
| Oct 3 | 21.6 | 21.6 | 21.8 | 21.7 | 21.4 | 21.5 | 21.4 | 21.4 | 22.2 | 23.4 | 23.4 | 23.3 | 23.9 | 22.5 | 22.5 | 23.0 | 23.6 | 23.2 | 22.4 | 23.0 | 23.2 | 23.0 | 22.6 | 22.1 | 21.4 | 23.9 | 22.5 |
| Oct 4 | 21.5 | 21.5 | 21.8 | 21.8 | 21.9 | 21.7 | 21.9 | 22.0 | 22.0 | 23.0 | 23.4 | 23.3 | 23.2 | 23.1 | 23.0 | 23.0 | 23.0 | 23.1 | 23.3 | 23.3 | 23.4 | 23.5 | 23.9 | 23.6 | 21.5 | 23.9 | 22.7 |
| Oct 5 | 23.5 | 23.6 | 23.8 | 23.6 | 23.8 | 23.4 | 23.5 | 23.5 | 23.4 | 23.7 | 23.5 | 23.3 | 23.2 | 23.2 | 23.2 | 23.1 | 23.0 | 23.5 | 23.6 | 23.5 | 23.2 | 22.9 | 22.7 | 22.7 | 23.8 | 23.4 | |
| Oct 6 | 22.4 | 22.0 | 21.7 | 21.6 | 21.6 | 21.4 | 21.5 | 21.4 | 21.5 | 22.1 | 22.9 | 23.4 | 23.3 | 23.1 | 23.0 | 22.9 | 23.0 | 23.1 | 23.2 | 23.3 | 23.2 | 23.3 | 23.3 | 21.4 | 23.4 | 22.6 | |
| Oct 7 | 23.3 | 23.3 | 23.3 | 23.1 | 23.2 | 23.2 | 23.2 | 23.3 | 23.2 | 22.3 | 21.2 | 20.9 | 21.0 | 21.0 | 21.1 | 21.2 | 20.9 | 21.1 | 21.2 | 21.3 | 21.4 | 21.5 | 21.6 | 21.7 | 21.7 | 23.3 | 22.0 |
| Oct 8 | 21.2 | 21.2 | 21.1 | 21.2 | 21.2 | 21.1 | 21.2 | 21.1 | 21.0 | 21.1 | 21.1 | 21.1 | 21.0 | 21.2 | 20.9 | 21.1 | 21.2 | 21.3 | 21.4 | 21.4 | 21.5 | 21.6 | 21.7 | 21.7 | 20.9 | 21.7 | 21.2 |
| Oct 9 | 21.9 | 21.8 | 21.6 | 21.7 | 21.6 | 21.6 | 21.4 | 21.3 | 21.5 | 21.6 | 22.0 | 21.6 | 22.1 | 22.8 | 22.7 | 22.7 | 22.4 | 21.7 | 21.8 | 21.7 | 21.7 | 21.7 | 21.8 | 21.3 | 22.8 | 21.9 | |
| Oct 10 | 21.6 | 21.5 | 21.5 | 21.5 | 21.7 | 21.5 | 21.7 | 21.6 | 21.9 | 22.2 | 22.7 | 23.3 | 23.2 | 23.1 | 23.0 | 23.0 | 22.8 | 22.8 | 22.7 | 21.7 | 21.4 | 21.6 | 21.3 | 21.3 | 21.3 | 23.3 | 22.1 |
| Oct 11 | 21.4 | 21.4 | 21.3 | 21.4 | 21.2 | 21.7 | 21.3 | 21.2 | 21.3 | 21.7 | 22.1 | 22.8 | 23.0 | 23.0 | 22.9 | 22.9 | 22.8 | 22.2 | 21.3 | 21.2 | 21.1 | 21.0 | 21.1 | 21.0 | 23.0 | 21.8 | |
| Oct 12 | 21.0 | 21.0 | 21.2 | 21.3 | 21.4 | 21.5 | 21.4 | 21.5 | 21.5 | 21.3 | 21.5 | 21.8 | 21.7 | 23.4 | 23.3 | 22.8 | 22.7 | 23.0 | 22.9 | 22.9 | 22.3 | 23.1 | 22.8 | 22.2 | 21.0 | 23.4 | 22.1 |
| Oct 13 | 21.7 | 21.7 | 21.7 | 21.3 | 21.4 | 21.6 | 21.4 | 21.6 | 21.9 | 22.0 | 22.8 | 23.5 | 23.1 | 23.0 | 22.8 | 22.9 | 23.4 | 23.5 | 23.2 | 22.8 | 22.2 | 22.0 | 22.3 | 22.0 | 21.3 | 23.5 | 22.3 |
| Oct 14 | 21.9 | 21.9 | 21.9 | 22.0 | 22.0 | 21.6 | 21.7 | 22.0 | 21.9 | 22.1 | 21.9 | 22.0 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 21.7 | 21.6 | 21.3 | 21.5 | 21.5 | 21.4 | 21.0 | 21.0 | 22.6 | 21.9 |
| Oct 15 | 21.1 | 21.1 | 21.2 | 21.1 | 21.1 | 20.9 | 20.8 | 20.8 | 20.9 | 20.7 | 20.8 | 20.5 | 20.8 | 21.7 | 22.5 | 22.5 | 22.3 | 21.8 | 21.1 | 20.9 | 21.1 | 21.1 | 21.2 | 20.5 | 22.5 | 21.2 | |
| Oct 16 | 21.0 | 21.1 | 21.4 | 21.4 | 21.4 | 21.4 | 21.3 | 21.4 | 21.2 | 21.7 | 22.7 | 23.1 | 23.1 | 23.1 | 23.0 | 22.8 | 22.8 | 22.8 | 23.2 | 23.4 | 23.4 | 23.1 | 22.7 | 21.0 | 23.4 | 22.3 | |
| Oct 17 | 22.3 | 21.9 | 21.6 | 21.3 | 21.6 | 21.4 | 21.2 | 21.4 | 21.7 | 22.2 | 22.9 | 23.1 | 23.0 | 23.0 | 22.8 | 22.8 | 23.0 | 23.2 | 23.1 | 23.2 | 23.5 | 23.3 | 22.9 | 21.2 | 23.5 | 22.4 | |
| Oct 18 | 22.6 | 22.3 | 21.6 | 21.3 | 21.4 | 21.4 | 21.6 | 21.6 | 21.4 | 21.6 | 22.5 | 23.2 | 23.0 | 22.9 | 22.9 | 23.1 | 23.1 | 23.4 | 23.4 | 23.2 | 22.9 | 22.7 | 22.0 | 21.6 | 21.3 | 23.4 | 22.4 |
| Oct 19 | 21.5 | 21.6 | 21.7 | 21.6 | 21.5 | 21.7 | 21.7 | 21.2 | 21.1 | 21.1 | 21.1 | 21.1 | 20.9 | 20.9 | 21.2 | 21.0 | 21.3 | 21.4 | 21.6 | 21.8 | 21.8 | 21.7 | 21.7 | 20.9 | 21.8 | 21.4 | |
| Oct 20 | 21.4 | 21.6 | 21.8 | 21.8 | 21.9 | 21.9 | 21.8 | 21.7 | 21.7 | 21.8 | 21.2 | 21.0 | 21.2 | 21.7 | 21.9 | 21.9 | 21.4 | 20.9 | 21.0 | 21.0 | 21.3 | 21.2 | 21.2 | 20.9 | 21.9 | 21.5 | |
| Oct 21 | 21.3 | 21.4 | 21.6 | 21.7 | 21.8 | 22.0 | 21.9 | 21.9 | 21.8 | 21.7 | 21.5 | 21.5 | 21.7 | 22.1 | 22.2 | 21.8 | 21.6 | 21.6 | 21.6 | 21.3 | 21.4 | 21.1 | 21.0 | 21.0 | 21.0 | 22.2 | 21.6 |
| Oct 22 | 21.1 | 21.0 | 21.1 | 20.9 | 20.9 | 20.8 | 20.8 | 20.9 | 20.8 | 21.0 | 21.0 | 21.5 | 21.8 | 21.9 | 21.6 | 21.4 | 21.4 | 21.3 | 21.1 | 20.9 | 21.1 | 21.0 | 21.1 | 21.3 | 20.8 | 21.9 | 21.2 |
| Oct 23 | 21.2 | 21.6 | 21.7 | 21.9 | 21.8 | 21.9 | 21.9 | 21.7 | 22.0 | 22.2 | 22.1 | 22.1 | 22.8 | 22.8 | 22.7 | 22.6 | 22.6 | 21.5 | 21.2 | 20.9 | 20.8 | 20.9 | 21.0 | 21.3 | 20.8 | 22.8 | 21.8 |
| Oct 24 | 21.0 | 20.8 | 21.2 | 21.4 | 21.3 | 21.5 | 21.6 | 21.5 | 21.4 | 21.3 | 21.7 | 22.1 | 22.6 | 23.0 | 23.2 | 23.4 | 23.4 | 23.4 | 23.3 | 23.2 | 22.9 | 22.6 | 22.0 | 20.8 | 23.4 | 22.2 | |
| Oct 25 | 22.5 | 22.4 | 22.4 | 22.4 | 22.2 | 21.9 | 21.8 | 22.3 | 22.2 | 21.9 | 21.4 | 21.3 | 21.0 | 21.1 | 21.7 | 22.2 | 21.8 | 21.2 | 21.4 | 21.2 | 21.4 | 21.0 | 21.1 | 21.3 | 21.0 | 22.5 | 21.7 |
| Oct 26 | 21.2 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.0 | 21.1 | 21.0 | 21.1 | 21.0 | 21.0 | 20.8 | 20.8 | 20.6 | 20.7 | 21.2 | 21.5 | 21.3 | 21.4 | 21.5 | 21.6 | 21.6 | 20.6 | 21.6 | 21.1 | |
| Oct 27 | 21.5 | 21.5 | 21.1 | 21.1 | 21.1 | 21.5 | 21.6 | 21.6 | 21.7 | 21.4 | 21.1 | 20.8 | 21.0 | 21.0 | 20.9 | 20.9 | 21.0 | 21.2 | 21.5 | 21.3 | 21.3 | 21.0 | 20.9 | 21.0 | 20.8 | 21.7 | 21.2 |
| Oct 28 | 21.0 | 21.0 | 21.1 | 21.2 | 21.1 | 21.2 | 21.0 | 21.1 | 21.2 | 21.2 | 21.5 | 21.1 | 21.2 | 21.1 | 21.2 | 21.1 | 20.8 | 21.1 | 21.1 | 21.1 | 21.2 | 21.2 | 21.1 | 20.8 | 21.5 | 21.1 | |
| Oct 29 | 21.0 | 20.9 | 21.0 | 21.0 | 21.0 | 20.9 | 21.2 | 21.0 | 21.0 | 21.0 | 21.1 | 20.9 | 20.9 | 20.9 | 21.1 | 21.2 | 21.2 | 21.5 | 21.3 | 21.1 | 21.4 | 21.3 | 21.5 | 20.9 | 21.5 | 21.1 | |
| Oct 30 | 21.5 | 21.4 | 21.6 | 21.6 | 21.5 | 21.4 | 21.5 | 21.3 | 21.5 | 21.5 | 21.5 | 21.5 | 21.8 | 21.7 | 21.7 | 21.7 | 21.8 | 21.7 | 21.7 | 21.9 | 21.8 | 21.4 | 21.5 | 21.8 | 21.3 | 21.9 | 21.6 |
| Oct 31 | 21.7 | 21.8 | 21.7 | 21.7 | 21.6 | 21.6 | 21.4 | 21.2 | 21.2 | 21.0 | 21.2 | 21.1 | 21.2 | 22.0 | 22.6 | 22.7 | 22.7 | 21.9 | 21.7 | 21.6 | 21.7 | 21.6 | 21.6 | 21.0 | 22.7 | 21.7 | |
| Diurnal Maximum | 23.5 | 23.6 | 23.8 | 23.6 | 23.8 | 23.4 | 23.5 | 23.5 | 23.4 | 23.7 | 23.5 | 24.5 | 23.9 | 23.8 | 24.1 | 25.3 | 26.9 | 26.4 | 23.5 | 23.6 | 23.5 | 23.5 | 23.9 | 23.6 | | | |
| Daily Average | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 21.6 | 21.6 | 21.6 | 21.8 | 21.9 | 22.1 | 22.1 | 22.2 | 22.3 | 22.4 | 22.4 | 22.3 | 22.1 | 22.0 | 22.0 | 21.9 | 21.8 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 ST - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019
Summary of Hourly Averages

PRECIPITATION in mm

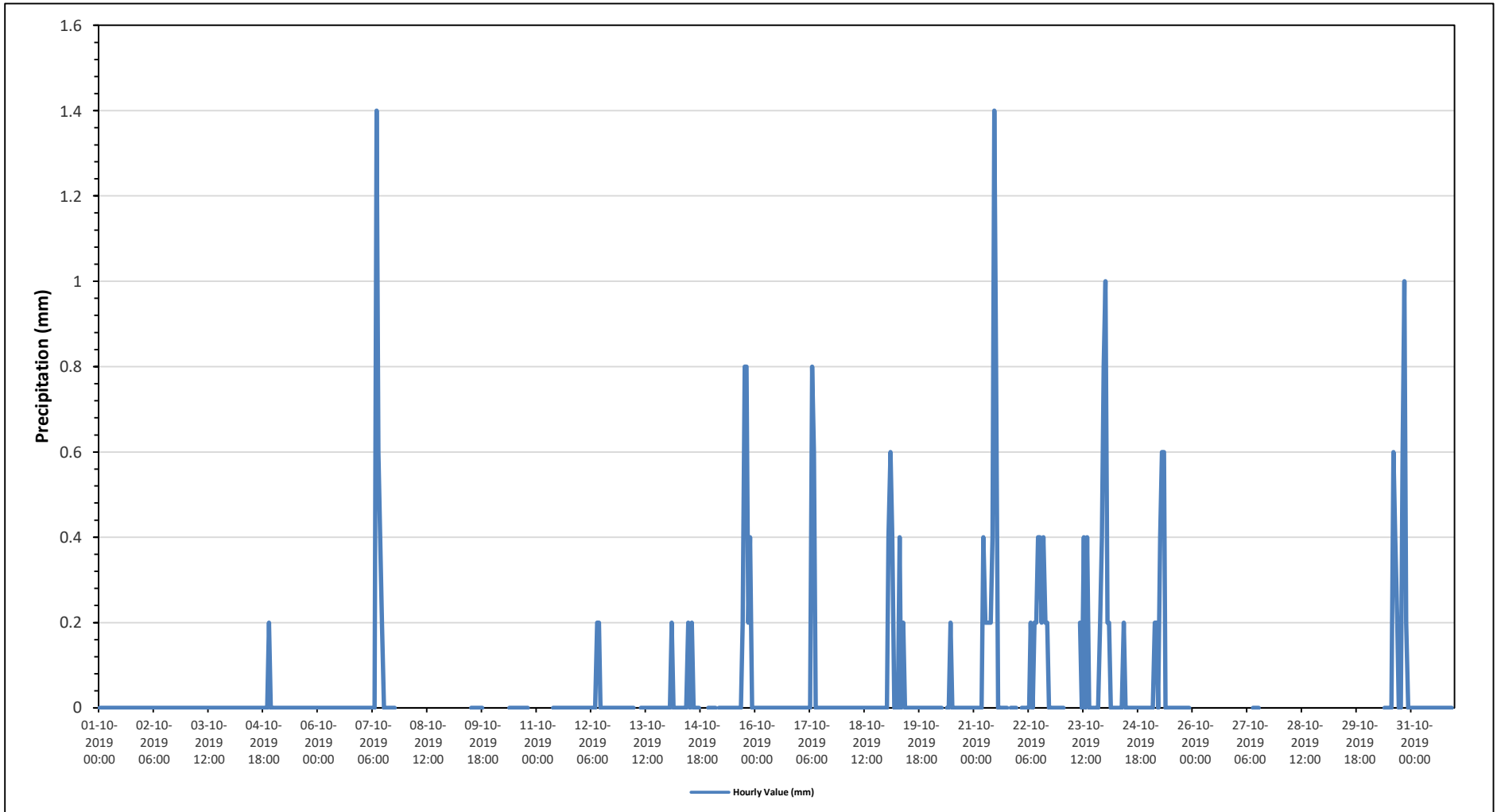
| | | | |
|-----------------------|-------------------------------|------------------------|------|
| Maximum Hourly Value: | 1.4 mm on October 7 at hour 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 3.8 mm on October 21 | Hours of Data: | 552 |
| Minimum Hourly Value: | 0.0 mm on October 1 at hour 0 | Hours of Missing Data: | 192 |
| Minimum Daily Value: | 0.0 mm on October 1 | Hours of Calibration: | 0 |
| Monthly Total: | 25.0 mm | Operational Uptime: | 74.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Total | | | | | | | | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | |
| Oct 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Oct 3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Oct 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.6 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 8 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 9 | X | X | X | X | X | X | X | X | X | X | X | X | 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 | 0.0 | |
| Oct 10 | X | X | X | X | X | X | X | X | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 11 | X | X | X | X | X | X | X | X | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | X | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 14 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 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 | |
| Oct 15 | 0.0 | 0.0 | 0.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 19 | 0.0 | 0.4 | 0.6 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | X | X | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Oct 21 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 1.4 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Oct 22 | X | X | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 | 0.2 | 0.4 | 0.4 | 0.2 | 0.4 | 0.2 | 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 |
| Oct 23 | 0.0 | 0.0 | X | X | X | X | X | X | X | X | 0.2 | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Oct 24 | 1.0 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Oct 25 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | 0.4 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Oct 26 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Oct 27 | X | X | X | X | X | X | X | X | X | X | 0.0 | 0.0 | 0.0 | 0.0 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Oct 28 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Oct 29 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Oct 30 | X | X | X | X | X | X | X | X | X | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.4 | 0.2 | 0.0 | 0.0 | 0.6 | 1.0 | 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 |
| Oct 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Diurnal Maximum | 1.0 | 0.4 | 0.6 | 0.4 | 0.2 | 0.4 | 0.4 | 0.8 | 1.4 | 0.6 | 0.4 | 1.4 | 0.8 | 0.2 | 0.6 | 0.4 | 0.2 | 0.2 | 0.8 | 0.8 | 1.0 | 0.4 | 0.4 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Diurnal Average | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 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 | 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

986c Station - October 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

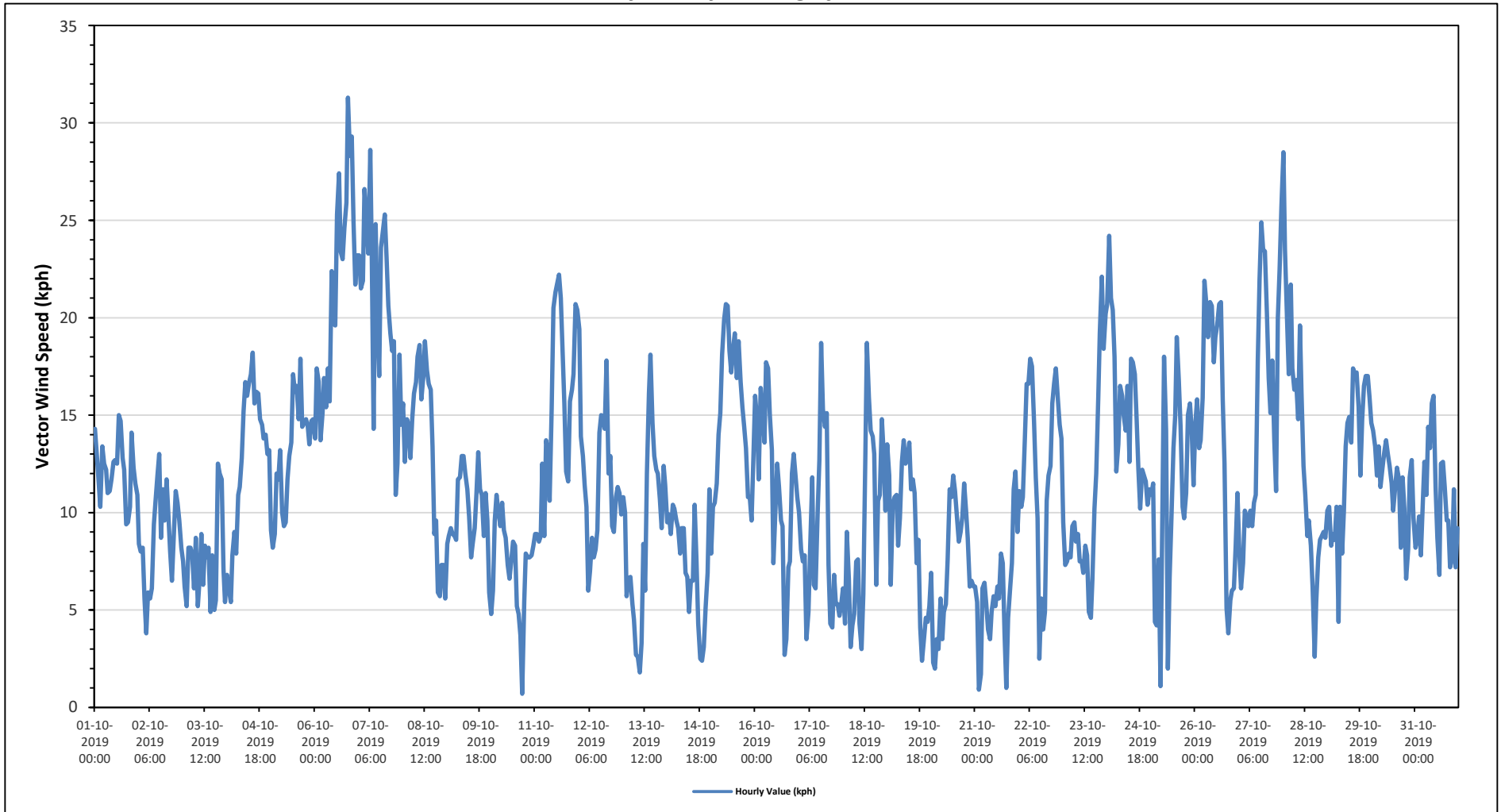
| | | | | |
|-----------------------|----------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 31.3 kph | on October 6 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 21.3 kph | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.7 kph | on October 10 at hour 17 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 5.7 kph | on October 21 | Hours of Calibration: | 0 |
| Monthly Average: | 4.5 kph | | 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 |
| Oct 1 | 14.3 | 13 | 11.5 | 10.3 | 13.4 | 12.5 | 12.2 | 11 | 11.1 | 11.7 | 12.6 | 12.7 | 12.5 | 15 | 14.7 | 12.8 | 12.2 | 9.4 | 9.5 | 10.3 | 14.1 | 12.3 | 11.5 | 10.9 | 9.4 | 15.0 | 12.1 |
| Oct 2 | 8.4 | 8 | 8.2 | 5.6 | 3.8 | 5.9 | 5.6 | 6.1 | 9.4 | 10.5 | 11.9 | 13 | 8.7 | 11.2 | 9.6 | 11.7 | 9.9 | 8 | 6.5 | 9 | 11.1 | 10.5 | 9.6 | 8.2 | 3.8 | 13.0 | 8.8 |
| Oct 3 | 7.5 | 6.2 | 5.2 | 8.2 | 8.2 | 7.8 | 6.1 | 8.7 | 5.2 | 6.6 | 8.9 | 6.3 | 8.3 | 7.7 | 8.2 | 4.9 | 7.8 | 5 | 5.5 | 12.5 | 12 | 11.7 | 7.1 | 5.4 | 4.9 | 12.5 | 7.5 |
| Oct 4 | 6.8 | 6.1 | 5.4 | 7.8 | 9 | 7.9 | 10.9 | 11.3 | 12.8 | 15.2 | 16.7 | 16 | 16.6 | 17.1 | 18.2 | 15.6 | 16.2 | 16.1 | 14.8 | 14.5 | 13.8 | 14 | 13 | 13.2 | 5.4 | 18.2 | 12.9 |
| Oct 5 | 9.1 | 8.2 | 8.9 | 12 | 11.7 | 13.2 | 10 | 9.3 | 9.5 | 11.7 | 12.9 | 13.6 | 17.1 | 16.2 | 16.5 | 14.8 | 17.9 | 14.4 | 14.6 | 14.8 | 14.4 | 13.5 | 14.7 | 14.8 | 8.2 | 17.9 | 13.1 |
| Oct 6 | 13.8 | 17.4 | 16.7 | 13.7 | 15.1 | 16.9 | 15.4 | 17.4 | 15.7 | 22.4 | 19.7 | 19.6 | 25.3 | 27.4 | 23.4 | 23 | 24.6 | 25.9 | 31.3 | 28.3 | 29.3 | 24.9 | 21.7 | 23.2 | 13.7 | 31.3 | 21.3 |
| Oct 7 | 23.2 | 21.5 | 21.9 | 26.6 | 25 | 23.3 | 28.6 | 23 | 14.3 | 24.8 | 20.1 | 17 | 23.6 | 24.5 | 25.3 | 23.1 | 20.6 | 19.2 | 18.3 | 18.8 | 10.9 | 12.5 | 18.1 | 14.5 | 10.9 | 28.6 | 20.8 |
| Oct 8 | 15.6 | 12.6 | 14.8 | 14.5 | 12.8 | 14.8 | 16.1 | 16.7 | 18 | 18.6 | 15.8 | 17 | 18.8 | 17.3 | 16.6 | 16.3 | 13.4 | 8.9 | 9.6 | 5.9 | 5.7 | 7.3 | 7.3 | 5.6 | 5.6 | 18.8 | 13.3 |
| Oct 9 | 8.4 | 8.8 | 9.2 | 8.9 | 8.8 | 8.6 | 11.7 | 11.8 | 12.9 | 12.9 | 12 | 11.2 | 9.8 | 7.7 | 8.4 | 9.2 | 11 | 13.1 | 11.2 | 10.9 | 8.8 | 11 | 9.6 | 5.9 | 5.9 | 13.1 | 10.1 |
| Oct 10 | 4.8 | 6 | 9.6 | 10.9 | 10.1 | 9.3 | 10.5 | 9.1 | 8.7 | 7.3 | 6.6 | 7.5 | 8.5 | 8.3 | 5.2 | 4.8 | 3.7 | 0.7 | 5.4 | 7.9 | 7.7 | 7.7 | 7.8 | 8.3 | 0.7 | 10.9 | 7.4 |
| Oct 11 | 8.9 | 8.9 | 8.5 | 8.8 | 12.5 | 8.8 | 13.7 | 13.1 | 10.6 | 15.3 | 20.5 | 21.3 | 21.7 | 22.2 | 21 | 18.3 | 15.6 | 12.1 | 11.6 | 15.7 | 16.3 | 17.1 | 20.7 | 20.4 | 8.5 | 22.2 | 15.2 |
| Oct 12 | 19.4 | 13.9 | 12.9 | 11.4 | 10.3 | 6 | 7 | 8.7 | 7.7 | 8.1 | 9.1 | 14.1 | 15 | 14.8 | 14.3 | 17.8 | 12 | 12.9 | 9.3 | 9 | 10.8 | 11.3 | 11 | 9.9 | 6.0 | 19.4 | 11.5 |
| Oct 13 | 10.8 | 10 | 5.7 | 6.6 | 6.7 | 5.3 | 4.5 | 2.7 | 2.6 | 1.8 | 3.3 | 8.4 | 6 | 12 | 16.1 | 18.1 | 14.6 | 12.9 | 12.2 | 12 | 10.7 | 9.2 | 12.4 | 11.4 | 1.8 | 18.1 | 9.0 |
| Oct 14 | 9.5 | 9.9 | 8.9 | 10.4 | 10.2 | 9.6 | 9.2 | 7.9 | 9.2 | 9.2 | 6.9 | 6.7 | 4.9 | 6.5 | 6.5 | 10.4 | 7.6 | 4.3 | 2.5 | 2.4 | 3.1 | 5.1 | 6.9 | 11.2 | 2.4 | 11.2 | 7.5 |
| Oct 15 | 7.9 | 10.3 | 10.5 | 11.5 | 14 | 15.1 | 18.1 | 19.9 | 20.7 | 20.6 | 18.3 | 17.2 | 18.5 | 19.2 | 16.9 | 18.8 | 16.7 | 15.4 | 14.4 | 13.3 | 10.8 | 10.8 | 9.6 | 12.7 | 7.9 | 20.7 | 15.1 |
| Oct 16 | 16 | 14.7 | 11.7 | 16.4 | 15.1 | 13.6 | 17.7 | 17.4 | 15 | 13.2 | 7.4 | 9.8 | 12.5 | 11.3 | 9.6 | 9.3 | 2.7 | 3.5 | 7.2 | 7.5 | 12 | 13 | 11.9 | 10.8 | 2.7 | 17.7 | 11.6 |
| Oct 17 | 10 | 8.1 | 7.5 | 7.8 | 3.5 | 4.9 | 8.3 | 11.8 | 6.3 | 6.1 | 9.9 | 12.7 | 18.7 | 15.3 | 14.4 | 15.1 | 7.3 | 4.3 | 4.1 | 6.8 | 5.3 | 5.3 | 4.7 | 5.4 | 3.5 | 18.7 | 8.5 |
| Oct 18 | 6.1 | 4.3 | 9 | 6.6 | 3.1 | 4.2 | 4.8 | 7.5 | 7.6 | 4.3 | 3 | 5.8 | 12.9 | 18.7 | 15.9 | 14.2 | 13.9 | 13 | 6.3 | 10.6 | 10.9 | 14.8 | 13.3 | 10.1 | 3.0 | 18.7 | 9.2 |
| Oct 19 | 13.5 | 11.9 | 6.3 | 10.4 | 10.8 | 10.9 | 8.3 | 9.7 | 12.6 | 13.7 | 12.5 | 12.7 | 13.6 | 11.2 | 11.7 | 11 | 7.4 | 8.6 | 4.1 | 2.4 | 3.4 | 4.6 | 4.4 | 5.2 | 2.4 | 13.7 | 9.2 |
| Oct 20 | 6.9 | 2.3 | 2 | 3.5 | 3 | 5.6 | 3.5 | 4.9 | 5.3 | 7.6 | 11.2 | 10.8 | 11.9 | 11.1 | 9.7 | 8.5 | 9 | 9.8 | 11.5 | 10 | 8.7 | 6.2 | 6.5 | 6.2 | 2.0 | 11.9 | 7.3 |
| Oct 21 | 6.2 | 5.4 | 0.9 | 1.7 | 6.1 | 6.4 | 5.3 | 4 | 3.5 | 4.9 | 5.7 | 5.2 | 6.2 | 5.6 | 7.9 | 7.4 | 3.8 | 1 | 4.6 | 6.1 | 7.4 | 11.2 | 12.1 | 9 | 0.9 | 12.1 | 5.7 |
| Oct 22 | 11.1 | 10.3 | 10.8 | 13.8 | 16.6 | 16.6 | 17.9 | 17.5 | 14.7 | 11.8 | 9.7 | 2.5 | 5.6 | 4 | 4.9 | 10.6 | 11.9 | 12.4 | 15.6 | 16.6 | 17.4 | 15.8 | 14.5 | 13.8 | 2.5 | 17.9 | 12.4 |
| Oct 23 | 9.5 | 7.3 | 7.5 | 7.9 | 7.7 | 9.3 | 9.5 | 8.5 | 8.9 | 7.5 | 7.5 | 6.9 | 8.3 | 7.8 | 4.9 | 4.6 | 6.6 | 10.2 | 12 | 15.9 | 19.2 | 22.1 | 18.4 | 20.2 | 4.6 | 22.1 | 10.3 |
| Oct 24 | 20.7 | 24.2 | 21 | 20.4 | 18 | 12.1 | 13.5 | 16.5 | 16 | 15 | 14.2 | 16.5 | 12.6 | 17.9 | 17.7 | 17.1 | 14.8 | 12.2 | 10.2 | 12.2 | 11.9 | 11.6 | 10.4 | 11.2 | 10.2 | 24.2 | 15.3 |
| Oct 25 | 10.9 | 11.5 | 4.4 | 4.2 | 7.6 | 1.1 | 9.5 | 18 | 14.2 | 2 | 6.7 | 9.7 | 13.3 | 15 | 19 | 16.8 | 14.4 | 10.3 | 9.7 | 11 | 15 | 15.6 | 14.2 | 11.4 | 1.1 | 19.0 | 11.1 |
| Oct 26 | 14.5 | 15.8 | 13.3 | 13.7 | 15.9 | 21.9 | 20.6 | 19 | 20.8 | 20.6 | 17.7 | 19 | 19.6 | 20.7 | 20.8 | 15.8 | 12.5 | 5.1 | 3.8 | 5.5 | 6 | 6.1 | 8.3 | 11 | 3.8 | 21.9 | 14.5 |
| Oct 27 | 8.1 | 6.1 | 7.4 | 10.1 | 9.8 | 9.3 | 10.1 | 9.3 | 10.5 | 10.9 | 17.8 | 22 | 24.9 | 23.5 | 23.4 | 20.2 | 16.9 | 15.1 | 17.8 | 13.7 | 11.1 | 20 | 22.5 | 25.7 | 6.1 | 25.7 | 15.3 |
| Oct 28 | 28.5 | 23.5 | 20 | 17.1 | 21.7 | 17.4 | 16.3 | 16.8 | 14.8 | 19.6 | 16.2 | 12.4 | 10.9 | 8.8 | 9.6 | 8.3 | 6.1 | 2.6 | 5.4 | 7.7 | 8.6 | 8.8 | 9 | 8.7 | 2.6 | 28.5 | 13.3 |
| Oct 29 | 10.1 | 10.3 | 8.3 | 8.9 | 8.6 | 10.3 | 4.4 | 10.3 | 7.9 | 10.1 | 13.4 | 14.6 | 14.9 | 13.6 | 17.4 | 17.1 | 17.2 | 15.4 | 11.9 | 14.8 | 16.5 | 17 | 17 | 15.9 | 4.4 | 17.4 | 12.7 |
| Oct 30 | 14.6 | 14.2 | 13.4 | 11.9 | 13.4 | 11.3 | 12.3 | 13.1 | 13.7 | 13 | 12.4 | 11.5 | 10.1 | 11.3 | 12.3 | 11.7 | 8.2 | 11.8 | 10.2 | 6.6 | 8.1 | 11.8 | 12.7 | 9.7 | 6.6 | 14.6 | 11.6 |
| Oct 31 | 8.2 | 8.6 | 9.8 | 7.8 | 10.6 | 12.6 | 10.9 | 14.4 | 13.3 | 15.6 | 16 | 11.3 | 8.7 | 6.8 | 12.5 | 12.6 | 11.3 | 9.6 | 9.6 | 7.2 | 7.6 | 11.2 | 7.2 | 9.2 | 6.8 | 16.0 | 10.5 |
| Diurnal Maximum | 29 | 24 | 22 | 27 | 25 | 23 | 29 | 23 | 21 | 25 | 21 | 22 | 25 | 27 | 25 | 23 | 25 | 26 | 31 | 28 | 29 | 25 | 23 | 26 | | | |
| Diurnal Average | 11.7 | 10.9 | 10.0 | 10.6 | 11.1 | 10.7 | 11.4 | 12.1 | 11.4 | 12.0 | 12.1 | 12.4 | 13.5 | 13.9 | 14.0 | 13.5 | 11.9 | 10.4 | 10.3 | 11.0 | 11.2 | 12.1 | 11.9 | 11.6 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

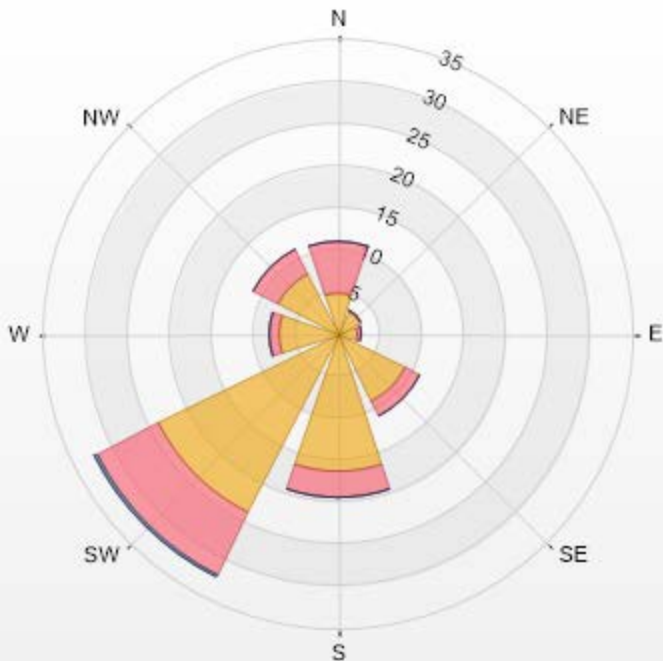


Wind: PRAMP 986c Poll.: PRAMP 986c-WDS[KPH] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.81% Valid Data: 99.06% Calm Avg: 1.20 [KPH]

| Direction | 6-15 | 15-29 | 29-39 | >39.0 | Total |
|-----------|-------|-------|-------|-------|-------|
| N | 4.88 | 6.24 | 0 | 0 | 11.12 |
| NE | 2.99 | 0.14 | 0 | 0 | 3.13 |
| E | 2.31 | 0.54 | 0 | 0 | 2.85 |
| SE | 9.09 | 1.76 | 0 | 0 | 10.85 |
| S | 16.28 | 3.12 | 0 | 0 | 19.4 |
| SW | 23.74 | 8.28 | 0.27 | 0 | 32.29 |
| W | 7.06 | 1.22 | 0 | 0 | 8.28 |
| NW | 7.87 | 3.39 | 0 | 0 | 11.26 |
| Summary | 74.22 | 24.69 | 0.27 | 0 | 99.18 |

1.20[KPH]

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| | | | | | | | | |
|----------------------|----|------|----|-------|---|-------|---|-------|
| % Icon Classes (KPH) | 74 | 6-15 | 23 | 15-29 | 0 | 29-39 | 0 | >39.0 |
|----------------------|----|------|----|-------|---|-------|---|-------|



PEACE RIVER AREA MONITORING PROGRAM

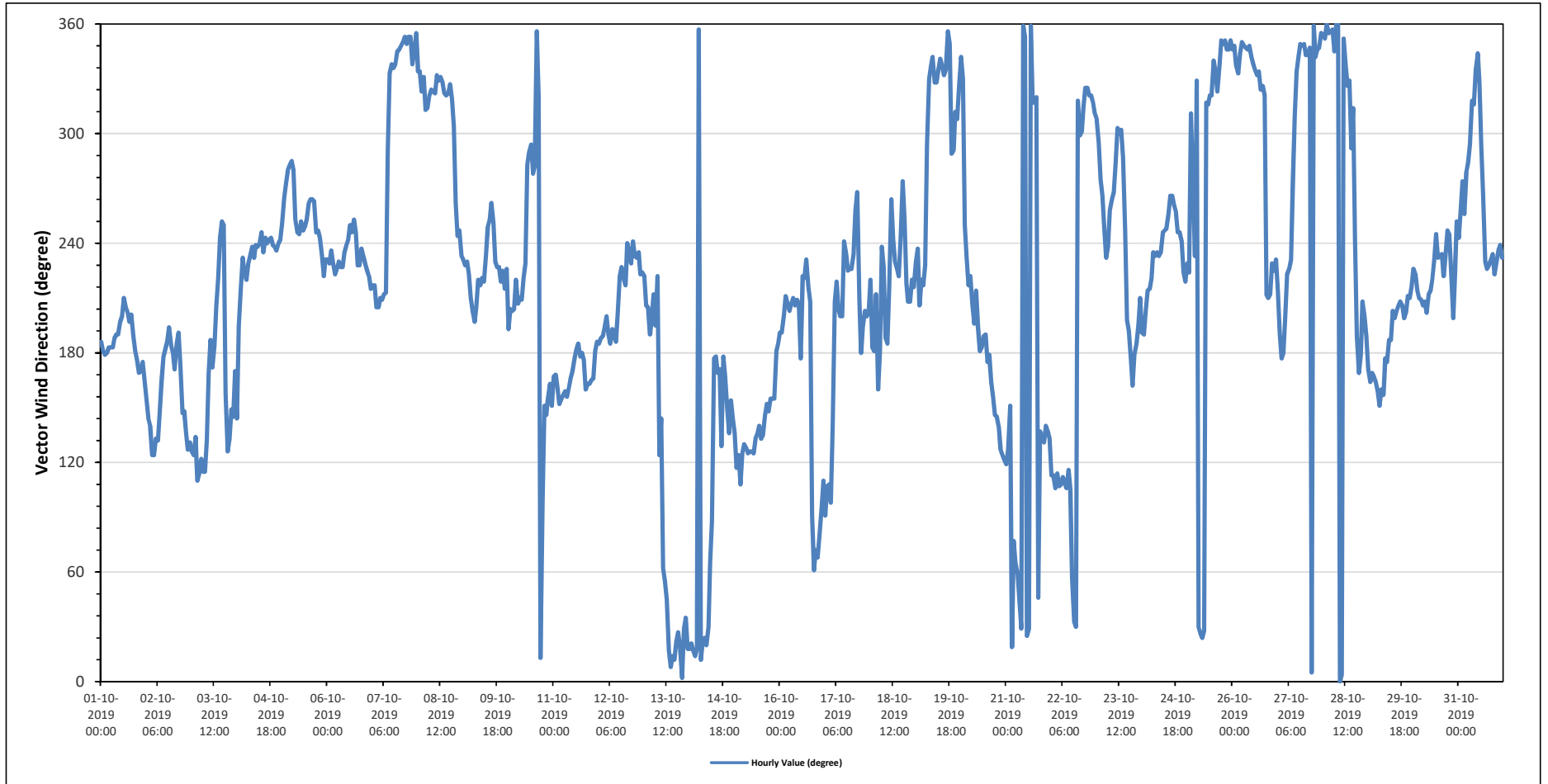
986c Station - October 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

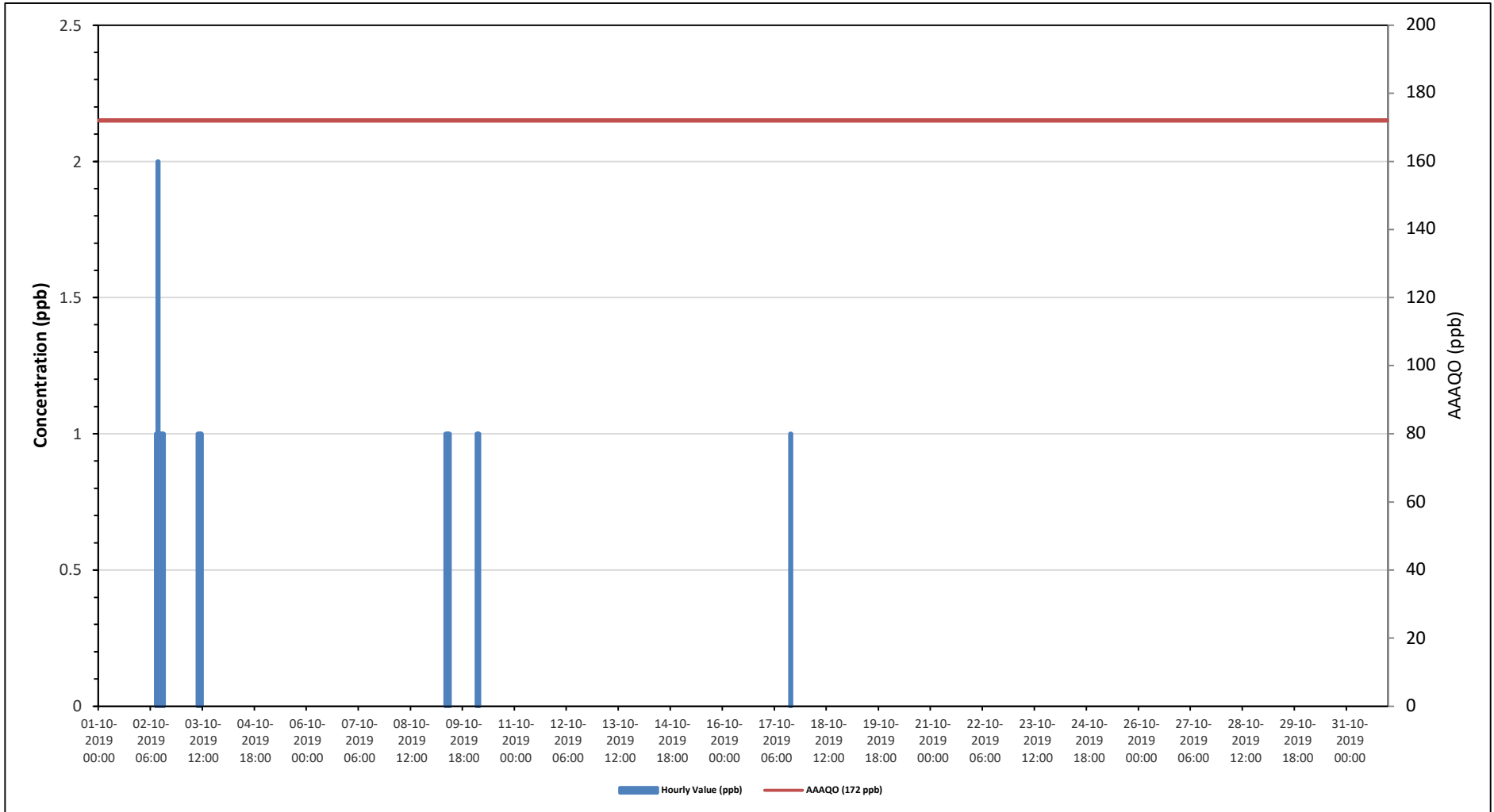
| Monthly Average: | | 231 (SW) degree | | | | | | | | | | Hours in Service: | | 744 | | | | | | | | | | | | |
|---|---------------------------------|-----------------|-----|-----|-----|---------------------|-----|-----|-----|-----|-------------------|------------------------|-----|-------|-----|----------------------------|-----|-----|-----|-----|------------------------|-----|-----|---------------|--------|----------|
| | | | | | | | | | | | | Hours of Data: | | 744 | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Missing Data: | | 0 | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | | | | | | | | |
| | | | | | | | | | | | | 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 |
| Oct 1 | S | S | S | S | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | SSW | S | S | S | SSE | SSE | S | SSE | 187 | S | |
| Oct 2 | SSE | SE | SE | ESE | ESE | SE | SE | SE | SSE | S | S | SSW | S | S | S | S | S | S | SE | SE | SE | SE | SE | 161 | SSE | |
| Oct 3 | SE | ESE | SE | ESE | ESE | ESE | ESE | ESE | SE | SSE | S | S | S | SSW | SW | WSW | WSW | WSW | SSE | SE | SE | SSE | SE | 153 | SSE | |
| Oct 4 | SE | SSW | SW | SW | SW | SW | SW | SW | SW | SW | WSW | SW | WSW | WSW | SW | WSW | WSW | WSW | WSW | WSW | SW | SW | WSW | WSW | 235 | SW |
| Oct 5 | WSW | W | W | W | W | WNW | W | WSW | WSW | WSW | WSW | WSW | WSW | WSW | W | W | W | W | WSW | WSW | WSW | SW | SW | 255 | WSW | |
| Oct 6 | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | SW | SW | SW | SW | SSW | 233 | SW | |
| Oct 7 | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | WNW | NNW | NNW | NNW | NNW | NNW | NNW | N | N | NNW | N | N | NNW | NNW | N | 302 | WNW | |
| Oct 8 | NNW | NNW | NW | NNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NW | NW | NW | NW | WNW | W | WSW | WSW | SW | 320 | NW | |
| Oct 9 | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | WSW | WSW | W | WSW | WSW | SW | SW | SW | SW | SSW | SW | 225 | SW | |
| Oct 10 | S | SSW | SSW | SSW | SW | SSW | SSW | SSW | SW | SW | W | WNW | WNW | W | W | N | NW | NNE | E | SSE | SE | SSE | SSE | 212 | SSW | |
| Oct 11 | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | S | S | S | SSE | SSE | SSE | SSE | SSE | S | S | 171 | S | |
| Oct 12 | S | S | S | SSW | SSW | S | S | S | S | S | SSW | SW | SW | SW | SW | WSW | SW | WSW | SW | SW | SW | SW | SW | 213 | SSW | |
| Oct 13 | SW | SSW | SSW | S | SSW | SSW | SSW | SW | ESE | SE | ENE | NE | NE | NNE | N | NNE | NNE | NNE | NNE | NNE | N | NNE | NE | 21 | NNE | |
| Oct 14 | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | ENE | E | S | S | SSE | S | SE | S | SSE | SSE | SE | SSE | SE | 58 | ENE | |
| Oct 15 | SE | ESE | ESE | ESE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SSE | SE | SSE | SSE | SSE | S | 137 | SE | |
| Oct 16 | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | SW | SW | SW | SW | SSW | E | ENE | ENE | ENE | E | E | 189 | S | |
| Oct 17 | E | ESE | ESE | E | SE | SSW | SW | SSW | SSW | SSW | WSW | SW | SW | SW | SW | WSW | W | SSW | S | SSW | SSW | SSW | SSW | 208 | SSW | |
| Oct 18 | SW | S | S | SSW | SSE | S | SW | SW | S | S | SW | W | WSW | SW | SW | SW | WSW | W | WSW | SW | SSW | SSW | SW | 222 | SW | |
| Oct 19 | SW | SW | SSW | SW | SW | SW | WNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | N | NNW | WNW | WNW | NW | NW | NW | 307 | NW | |
| Oct 20 | NNW | NNW | WSW | SW | SW | SW | SSW | SSW | SSW | SSW | S | S | S | S | S | SSE | SSE | SE | SE | SE | SE | ESE | ESE | 174 | S | |
| Oct 21 | ESE | SE | SSE | NNE | ENE | ENE | ENE | NE | NNE | N | N | NNE | NNE | N | NW | NW | NW | NE | SE | SE | SE | SE | SE | 78 | ENE | |
| Oct 22 | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ENE | NNE | NNE | NW | WNW | WNW | NW | NW | NW | NW | NW | NW | 47 | NE | |
| Oct 23 | NW | WNW | W | W | WSW | SW | SW | WSW | W | W | WNW | WNW | WNW | WNW | WSW | SSW | S | S | SSE | S | S | SSW | SSW | 228 | SW | |
| Oct 24 | S | S | SSW | SSW | SSW | SW | SW | SW | SW | SW | SW | SW | WSW | WSW | WSW | WSW | W | W | W | WSW | WSW | WSW | SW | 232 | SW | |
| Oct 25 | SW | SW | NW | W | SW | NNW | NNE | NNE | NNE | NNE | NW | NW | NW | NW | NNW | NNW | NW | NNW | N | NNW | N | NNW | NNW | 337 | NNW | |
| Oct 26 | NNW | NNW | NNW | NNW | NNW | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | SSW | SSW | SSW | SW | SW | 333 | NNW | |
| Oct 27 | SSW | S | S | S | SSW | SW | SW | SW | W | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | N | N | NNW | NNW | NNW | N | 334 | NNW | |
| Oct 28 | N | N | N | N | N | N | NNW | N | N | N | N | N | NNW | NW | NNW | WNW | NW | WSW | S | SSE | S | SSW | SSW | 346 | NNW | |
| Oct 29 | S | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 191 | S | |
| Oct 30 | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | WSW | SW | SW | SW | SW | WSW | WSW | SW | SSW | SW | 222 | SW | |
| Oct 31 | WSW | WSW | W | WSW | W | WNW | WNW | NW | NW | NNW | NNW | NNW | WNW | W | SW | SW | SW | SW | SW | SW | SW | WSW | WSW | 271 | W | |
| 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

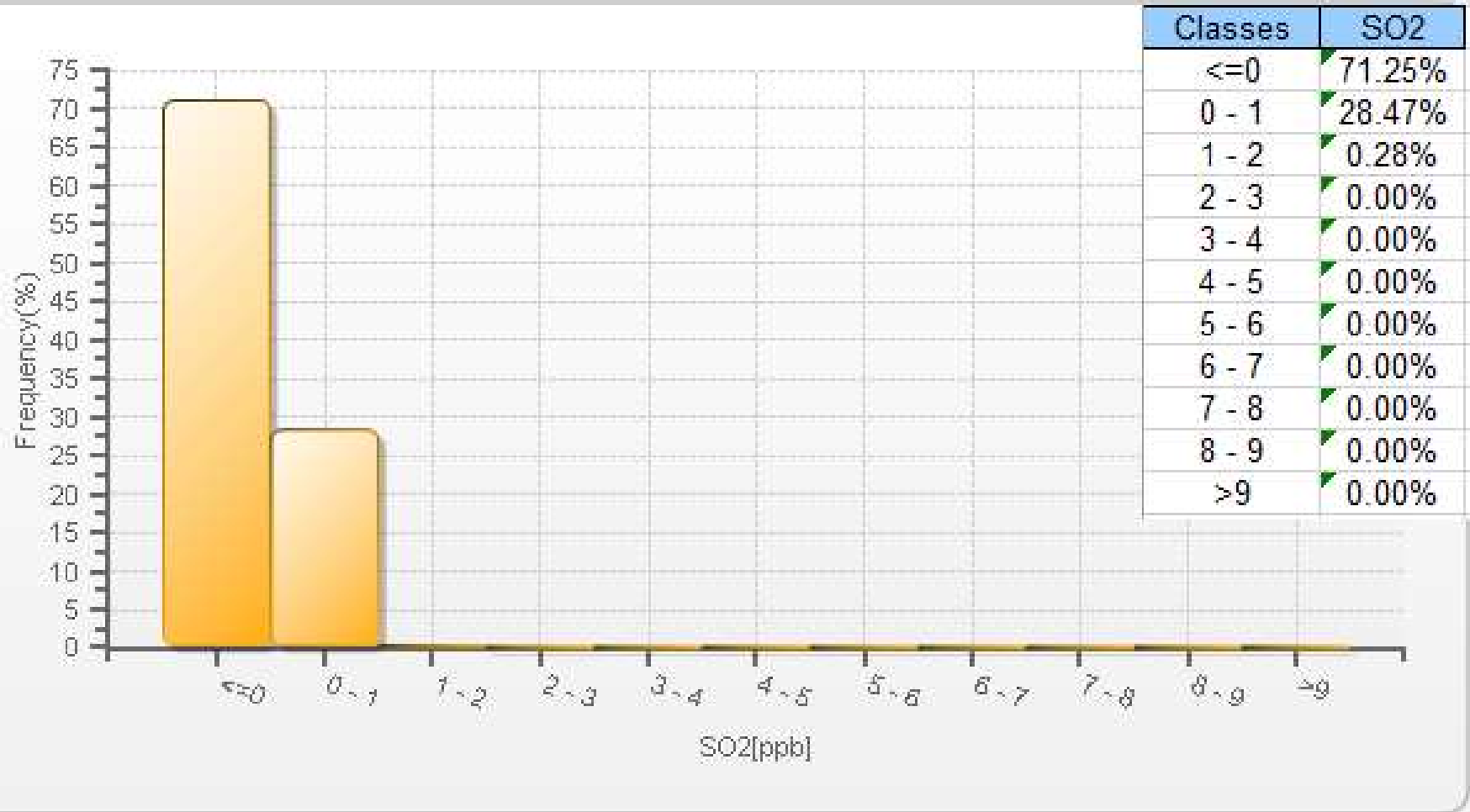


842b STATION

Timeseries Chart of Hourly Average for SO₂ - 842b Station



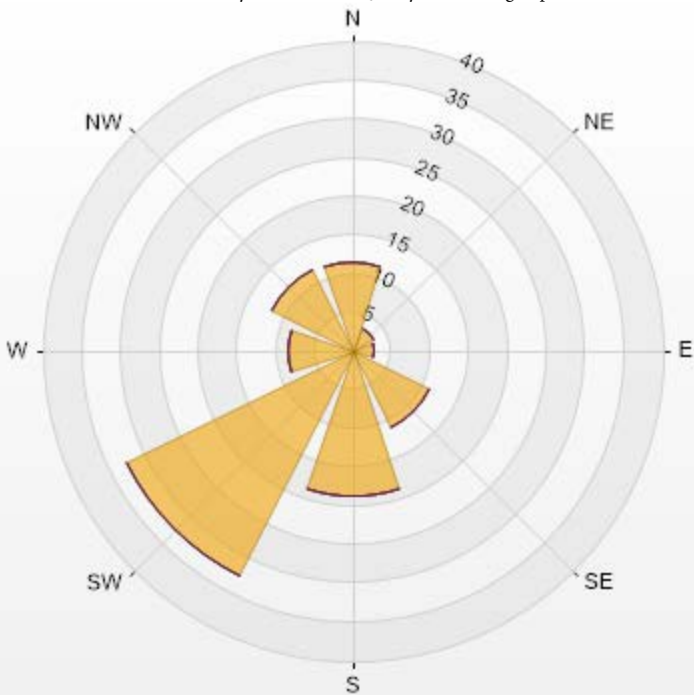
SO2[ppb] Histogram: PRAMP 842b Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.82% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 11.46 | 0 | 0 | 0 | 0 | 11.46 |
| NE | 3.15 | 0 | 0 | 0 | 0 | 3.15 |
| E | 2.87 | 0 | 0 | 0 | 0 | 2.87 |
| SE | 11.03 | 0 | 0 | 0 | 0 | 11.03 |
| S | 18.77 | 0 | 0 | 0 | 0 | 18.77 |
| SW | 32.52 | 0 | 0 | 0 | 0 | 32.52 |
| W | 8.45 | 0 | 0 | 0 | 0 | 8.45 |
| NW | 11.75 | 0 | 0 | 0 | 0 | 11.75 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1



PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

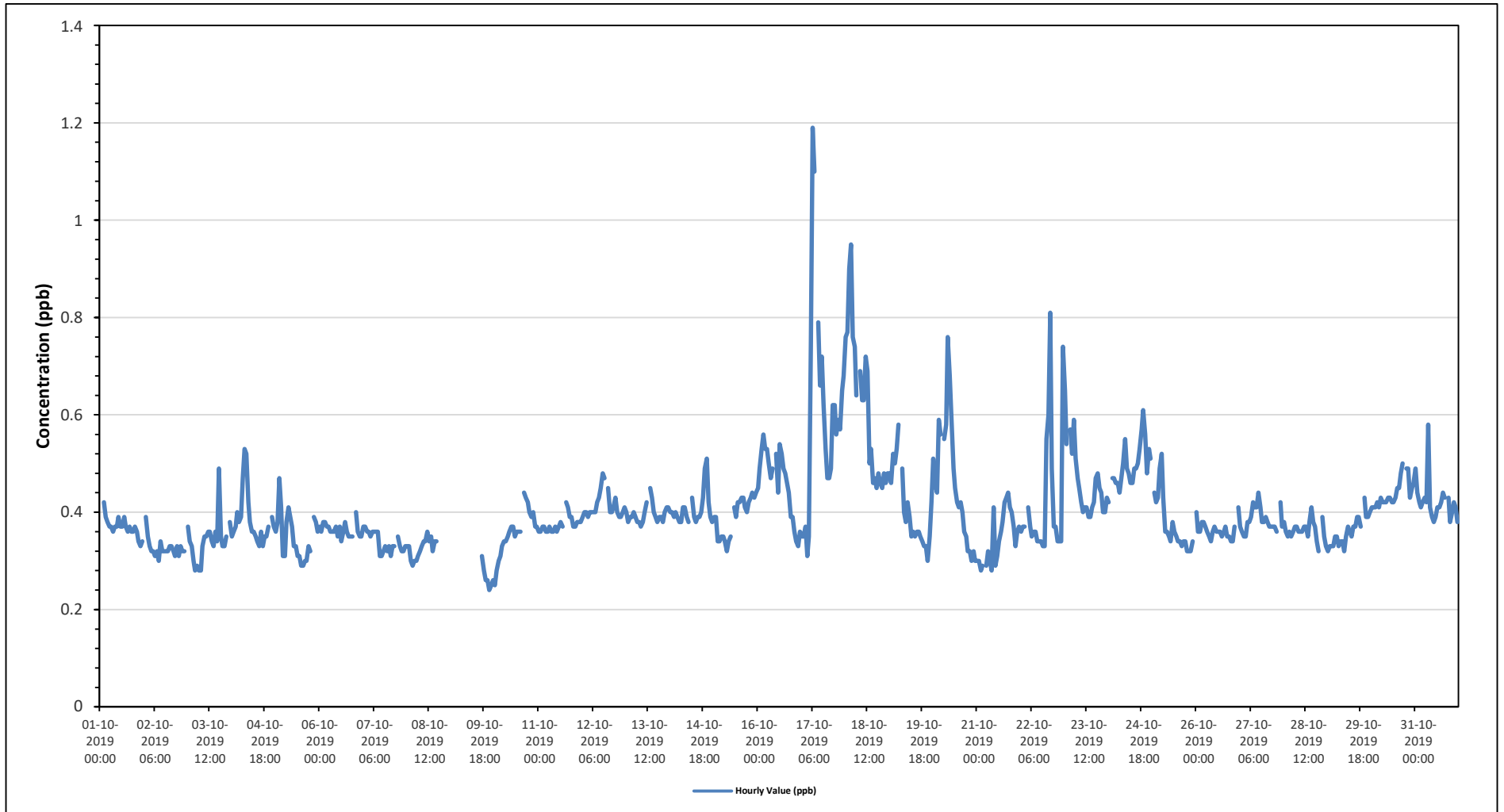
TOTAL REDUCED SULPHUR (TRS) in ppb

| 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: 1.19 ppb on October 17 at hour 6 | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 0.61 ppb on October 18 | | | | | Hours of Data: 689 | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0.24 ppb on October 9 at hour 21 | | | | | Hours of Missing Data: 17 | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.33 ppb on October 2 | | | | | Hours of Calibration: 38 | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 0.40 ppb | | | | | 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 |
| Oct 1 | 0.51 | S | 0.42 | 0.39 | 0.38 | 0.37 | 0.37 | 0.36 | 0.37 | 0.37 | 0.39 | 0.37 | 0.37 | 0.39 | 0.37 | 0.36 | 0.37 | 0.36 | 0.36 | 0.37 | 0.36 | 0.34 | 0.33 | 0.34 | 0.33 | 0.51 | 0.37 |
| Oct 2 | S | 0.39 | 0.35 | 0.33 | 0.32 | 0.32 | 0.31 | 0.32 | 0.3 | 0.34 | 0.32 | 0.32 | 0.32 | 0.34 | 0.33 | 0.33 | 0.32 | 0.31 | 0.33 | 0.31 | 0.33 | 0.32 | 0.32 | S | 0.38 | 0.39 | 0.33 |
| Oct 3 | 0.37 | 0.34 | 0.33 | 0.3 | 0.28 | 0.29 | 0.28 | 0.28 | 0.33 | 0.35 | 0.35 | 0.36 | 0.36 | 0.34 | 0.33 | 0.36 | 0.34 | 0.49 | 0.35 | 0.33 | 0.33 | 0.35 | S | 0.38 | 0.28 | 0.49 | 0.34 |
| Oct 4 | 0.35 | 0.36 | 0.37 | 0.4 | 0.38 | 0.39 | 0.47 | 0.53 | 0.52 | 0.42 | 0.38 | 0.36 | 0.36 | 0.35 | 0.34 | 0.33 | 0.36 | 0.33 | 0.35 | 0.35 | 0.37 | S | 0.39 | 0.37 | 0.33 | 0.53 | 0.38 |
| Oct 5 | 0.36 | 0.38 | 0.47 | 0.41 | 0.31 | 0.31 | 0.38 | 0.41 | 0.39 | 0.37 | 0.33 | 0.33 | 0.31 | 0.31 | 0.29 | 0.29 | 0.3 | 0.3 | 0.33 | 0.32 | S | 0.39 | 0.38 | 0.36 | 0.29 | 0.47 | 0.35 |
| Oct 6 | 0.37 | 0.36 | 0.38 | 0.38 | 0.37 | 0.37 | 0.36 | 0.36 | 0.36 | 0.37 | 0.35 | 0.37 | 0.34 | 0.36 | 0.38 | 0.36 | 0.35 | 0.35 | 0.35 | S | 0.4 | 0.36 | 0.35 | 0.35 | 0.34 | 0.40 | 0.36 |
| Oct 7 | 0.37 | 0.37 | 0.36 | 0.36 | 0.35 | 0.36 | 0.36 | 0.36 | 0.36 | 0.31 | 0.31 | 0.32 | 0.33 | 0.32 | 0.33 | 0.31 | 0.33 | 0.33 | S | 0.35 | 0.33 | 0.32 | 0.32 | 0.33 | 0.31 | 0.37 | 0.34 |
| Oct 8 | 0.33 | 0.33 | 0.3 | 0.29 | 0.3 | 0.3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.34 | 0.36 | 0.34 | 0.35 | 0.32 | 0.34 | 0.34 | S | X | X | X | X | X | X | 0.29 | 0.36 | - |
| Oct 9 | X | X | X | X | X | X | X | X | X | X | X | C | C | C | C | C | S | 0.31 | 0.28 | 0.26 | 0.26 | 0.24 | 0.25 | 0.26 | 0.24 | 0.31 | - |
| Oct 10 | 0.25 | 0.28 | 0.3 | 0.31 | 0.33 | 0.34 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.35 | 0.36 | 0.36 | 0.36 | S | 0.44 | 0.43 | 0.42 | 0.4 | 0.39 | 0.4 | 0.37 | 0.37 | 0.25 | 0.44 | 0.36 |
| Oct 11 | 0.36 | 0.36 | 0.37 | 0.37 | 0.36 | 0.36 | 0.37 | 0.36 | 0.36 | 0.37 | 0.36 | 0.37 | 0.36 | 0.37 | 0.38 | 0.37 | S | 0.42 | 0.41 | 0.39 | 0.39 | 0.37 | 0.38 | 0.38 | 0.36 | 0.42 | 0.37 |
| Oct 12 | 0.39 | 0.4 | 0.4 | 0.39 | 0.4 | 0.4 | 0.4 | 0.4 | 0.42 | 0.43 | 0.45 | 0.48 | 0.47 | S | 0.45 | 0.4 | 0.4 | 0.41 | 0.43 | 0.4 | 0.39 | 0.39 | 0.4 | 0.41 | 0.39 | 0.48 | 0.41 |
| Oct 13 | 0.4 | 0.38 | 0.39 | 0.39 | 0.4 | 0.39 | 0.38 | 0.38 | 0.37 | 0.38 | 0.4 | 0.42 | S | 0.45 | 0.43 | 0.4 | 0.39 | 0.38 | 0.39 | 0.39 | 0.38 | 0.4 | 0.41 | 0.41 | 0.37 | 0.45 | 0.40 |
| Oct 14 | 0.4 | 0.4 | 0.39 | 0.4 | 0.39 | 0.38 | 0.38 | 0.41 | 0.41 | 0.39 | 0.38 | S | 0.43 | 0.39 | 0.38 | 0.39 | 0.39 | 0.4 | 0.43 | 0.49 | 0.51 | 0.42 | 0.39 | 0.38 | 0.38 | 0.51 | 0.41 |
| Oct 15 | 0.39 | 0.39 | 0.34 | 0.34 | 0.35 | 0.35 | 0.34 | 0.32 | 0.34 | 0.35 | S | 0.41 | 0.39 | 0.42 | 0.42 | 0.43 | 0.43 | 0.41 | 0.4 | 0.42 | 0.43 | 0.44 | 0.43 | 0.44 | 0.32 | 0.44 | 0.39 |
| Oct 16 | 0.45 | 0.49 | 0.53 | 0.56 | 0.53 | 0.53 | 0.5 | 0.47 | 0.49 | S | 0.52 | 0.44 | 0.54 | 0.52 | 0.49 | 0.48 | 0.46 | 0.44 | 0.39 | 0.39 | 0.36 | 0.34 | 0.33 | 0.36 | 0.33 | 0.56 | 0.46 |
| Oct 17 | 0.35 | 0.35 | 0.37 | 0.31 | 0.35 | 0.75 | 1.19 | 1.1 | S | 0.79 | 0.66 | 0.72 | 0.62 | 0.53 | 0.47 | 0.47 | 0.49 | 0.62 | 0.62 | 0.56 | 0.59 | 0.57 | 0.65 | 0.68 | 0.31 | 1.19 | 0.60 |
| Oct 18 | 0.76 | 0.77 | 0.9 | 0.95 | 0.76 | 0.74 | 0.64 | S | 0.69 | 0.63 | 0.63 | 0.72 | 0.69 | 0.5 | 0.53 | 0.46 | 0.47 | 0.45 | 0.48 | 0.46 | 0.45 | 0.48 | 0.46 | 0.48 | 0.45 | 0.95 | 0.61 |
| Oct 19 | 0.48 | 0.46 | 0.52 | 0.5 | 0.53 | 0.58 | S | 0.49 | 0.4 | 0.38 | 0.42 | 0.39 | 0.35 | 0.36 | 0.35 | 0.36 | 0.36 | 0.35 | 0.34 | 0.33 | 0.33 | 0.3 | 0.35 | 0.42 | 0.30 | 0.58 | 0.41 |
| Oct 20 | 0.51 | 0.46 | 0.44 | 0.59 | 0.56 | S | 0.55 | 0.58 | 0.76 | 0.68 | 0.59 | 0.49 | 0.45 | 0.42 | 0.41 | 0.42 | 0.4 | 0.36 | 0.35 | 0.32 | 0.32 | 0.3 | 0.32 | 0.3 | 0.30 | 0.76 | 0.46 |
| Oct 21 | 0.3 | 0.3 | 0.28 | 0.29 | S | 0.29 | 0.32 | 0.3 | 0.28 | 0.41 | 0.29 | 0.31 | 0.34 | 0.36 | 0.38 | 0.42 | 0.43 | 0.44 | 0.41 | 0.4 | 0.37 | 0.33 | 0.36 | 0.37 | 0.28 | 0.44 | 0.35 |
| Oct 22 | 0.36 | 0.37 | 0.37 | S | 0.41 | 0.37 | 0.35 | 0.36 | 0.36 | 0.34 | 0.34 | 0.34 | 0.33 | 0.33 | 0.55 | 0.6 | 0.81 | 0.49 | 0.37 | 0.37 | 0.34 | 0.34 | 0.34 | 0.74 | 0.33 | 0.81 | 0.42 |
| Oct 23 | 0.65 | 0.54 | S | 0.57 | 0.52 | 0.59 | 0.51 | 0.47 | 0.45 | 0.42 | 0.4 | 0.41 | 0.41 | 0.39 | 0.39 | 0.41 | 0.42 | 0.47 | 0.48 | 0.45 | 0.44 | 0.4 | 0.43 | 0.39 | 0.65 | 0.65 | 0.46 |
| Oct 24 | 0.42 | S | 0.47 | 0.47 | 0.46 | 0.44 | 0.47 | 0.5 | 0.55 | 0.49 | 0.48 | 0.46 | 0.46 | 0.49 | 0.49 | 0.5 | 0.53 | 0.57 | 0.61 | 0.56 | 0.48 | 0.53 | 0.51 | 0.42 | 0.61 | 0.50 | |
| Oct 25 | S | 0.44 | 0.42 | 0.43 | 0.49 | 0.52 | 0.43 | 0.36 | 0.36 | 0.35 | 0.34 | 0.38 | 0.36 | 0.35 | 0.34 | 0.33 | 0.34 | 0.32 | 0.32 | 0.32 | 0.32 | 0.34 | S | 0.32 | 0.52 | 0.37 | |
| Oct 26 | 0.4 | 0.36 | 0.36 | 0.38 | 0.38 | 0.37 | 0.36 | 0.35 | 0.34 | 0.36 | 0.37 | 0.36 | 0.36 | 0.36 | 0.35 | 0.36 | 0.37 | 0.35 | 0.35 | 0.34 | 0.34 | 0.37 | S | 0.41 | 0.34 | 0.41 | 0.36 |
| Oct 27 | 0.37 | 0.36 | 0.35 | 0.35 | 0.38 | 0.38 | 0.39 | 0.42 | 0.41 | 0.41 | 0.44 | 0.41 | 0.38 | 0.38 | 0.39 | 0.38 | 0.37 | 0.37 | 0.37 | 0.37 | 0.36 | S | 0.42 | 0.37 | 0.35 | 0.44 | 0.38 |
| Oct 28 | 0.38 | 0.36 | 0.35 | 0.36 | 0.35 | 0.36 | 0.37 | 0.37 | 0.36 | 0.36 | 0.37 | 0.37 | 0.35 | 0.38 | 0.41 | 0.38 | 0.37 | 0.34 | 0.32 | S | 0.39 | 0.35 | 0.33 | 0.32 | 0.41 | 0.36 | |
| Oct 29 | 0.32 | 0.33 | 0.33 | 0.33 | 0.35 | 0.35 | 0.33 | 0.34 | 0.34 | 0.32 | 0.35 | 0.37 | 0.36 | 0.35 | 0.37 | 0.39 | 0.39 | 0.37 | S | 0.43 | 0.39 | 0.39 | 0.4 | 0.32 | 0.43 | 0.36 | |
| Oct 30 | 0.41 | 0.41 | 0.41 | 0.42 | 0.41 | 0.43 | 0.42 | 0.42 | 0.42 | 0.43 | 0.43 | 0.42 | 0.42 | 0.43 | 0.45 | 0.45 | 0.48 | 0.5 | S | 0.49 | 0.49 | 0.43 | 0.45 | 0.46 | 0.41 | 0.50 | 0.44 |
| Oct 31 | 0.49 | 0.44 | 0.42 | 0.41 | 0.42 | 0.43 | 0.42 | 0.58 | 0.41 | 0.39 | 0.38 | 0.39 | 0.41 | 0.41 | 0.42 | 0.44 | 0.43 | S | 0.43 | 0.38 | 0.4 | 0.42 | 0.41 | 0.38 | 0.38 | 0.58 | 0.42 |
| Diurnal Maximum | 0.76 | 0.77 | 0.90 | 0.95 | 0.76 | 0.75 | 1.19 | 1.10 | 0.76 | 0.79 | 0.66 | 0.72 | 0.69 | 0.53 | 0.55 | 0.60 | 0.81 | 0.62 | 0.62 | 0.61 | 0.59 | 0.57 | 0.65 | 0.74 | | | |
| Daiurnal Average | 0.41 | 0.40 | 0.40 | 0.41 | 0.41 | 0.42 | 0.42 | 0.42 | 0.41 | 0.41 | 0.40 | 0.41 | 0.40 | 0.39 | 0.40 | 0.40 | 0.41 | 0.40 | 0.39 | 0.39 | 0.39 | 0.38 | 0.39 | 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 | | | | | | |

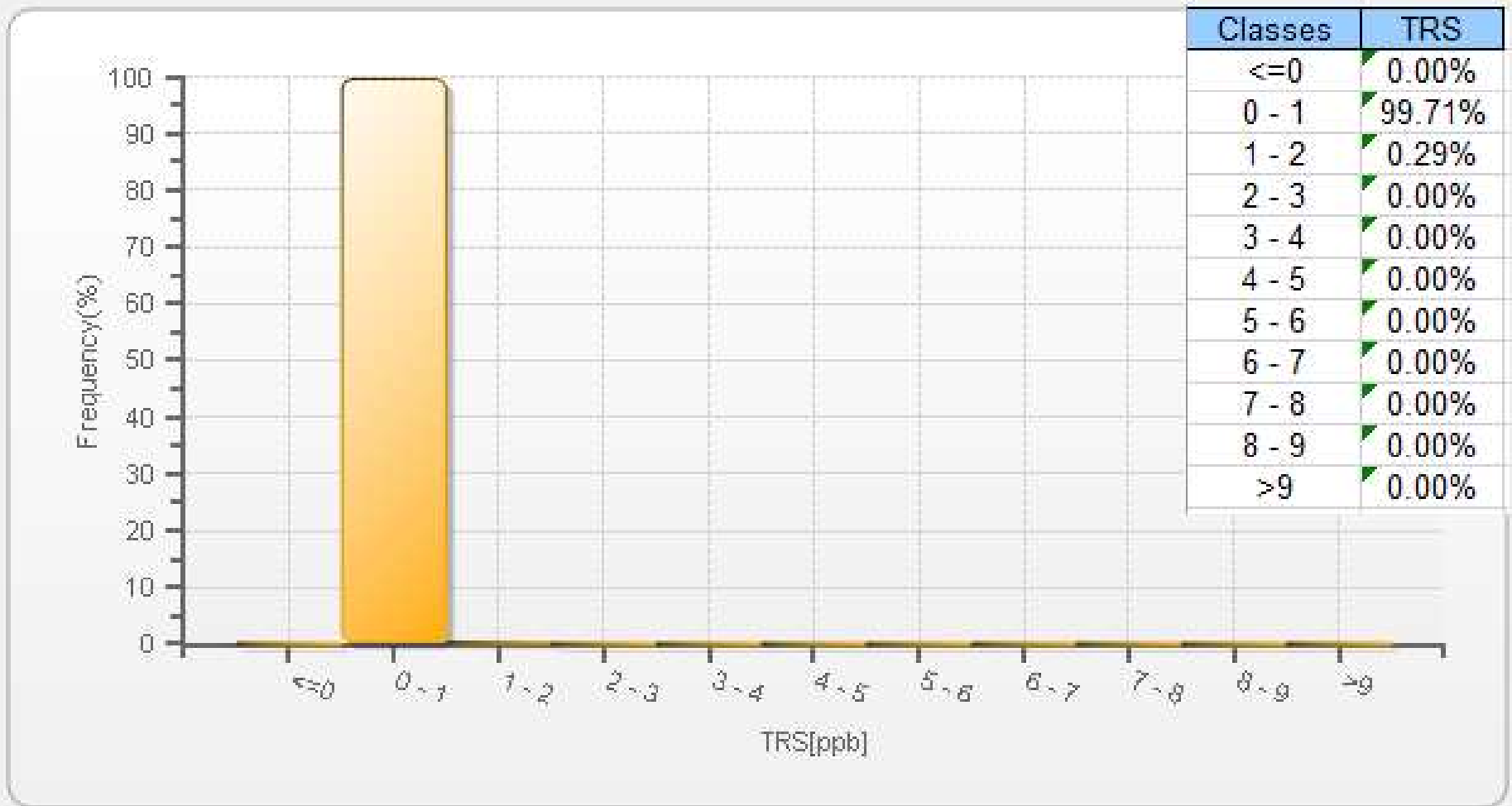
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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



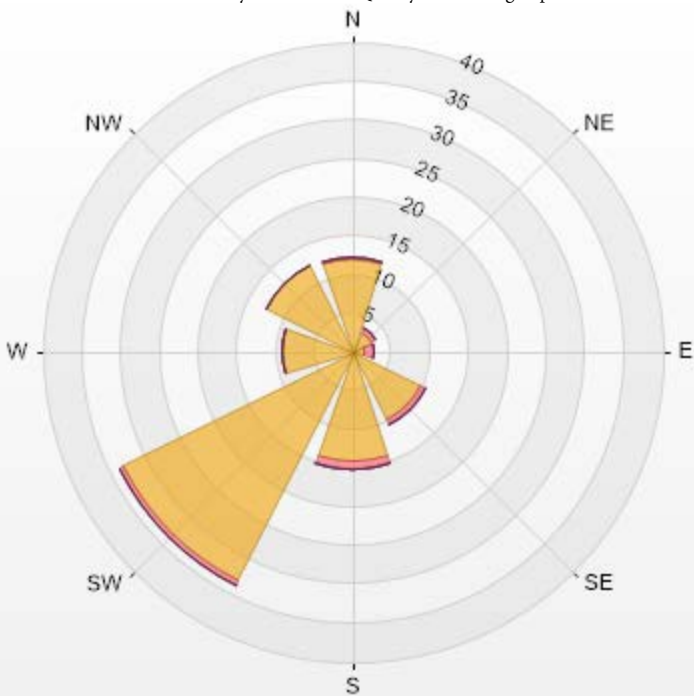
TRS[ppb] Histogram: PRAMP 842b Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 86.83% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 11.92 | 0.31 | 0 | 0 | 0 | 12.23 |
| NE | 2.79 | 0.62 | 0 | 0 | 0 | 3.41 |
| E | 1.55 | 1.39 | 0 | 0 | 0 | 2.94 |
| SE | 9.75 | 0.77 | 0.15 | 0 | 0 | 10.67 |
| S | 14.09 | 1.08 | 0.15 | 0 | 0 | 15.32 |
| SW | 33.13 | 0.62 | 0 | 0 | 0 | 33.75 |
| W | 9.13 | 0 | 0 | 0 | 0 | 9.13 |
| NW | 12.54 | 0 | 0 | 0 | 0 | 12.54 |
| Summary | 94.9 | 4.79 | 0.3 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppb) | 95 | 0-2 | 5 | 10-50 | 0 | >50.0 |
|----------------------|----|-----|-----|-------|---|-------|
| | 5 | 279 | 279 | 0 | 0 | 0 |



PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

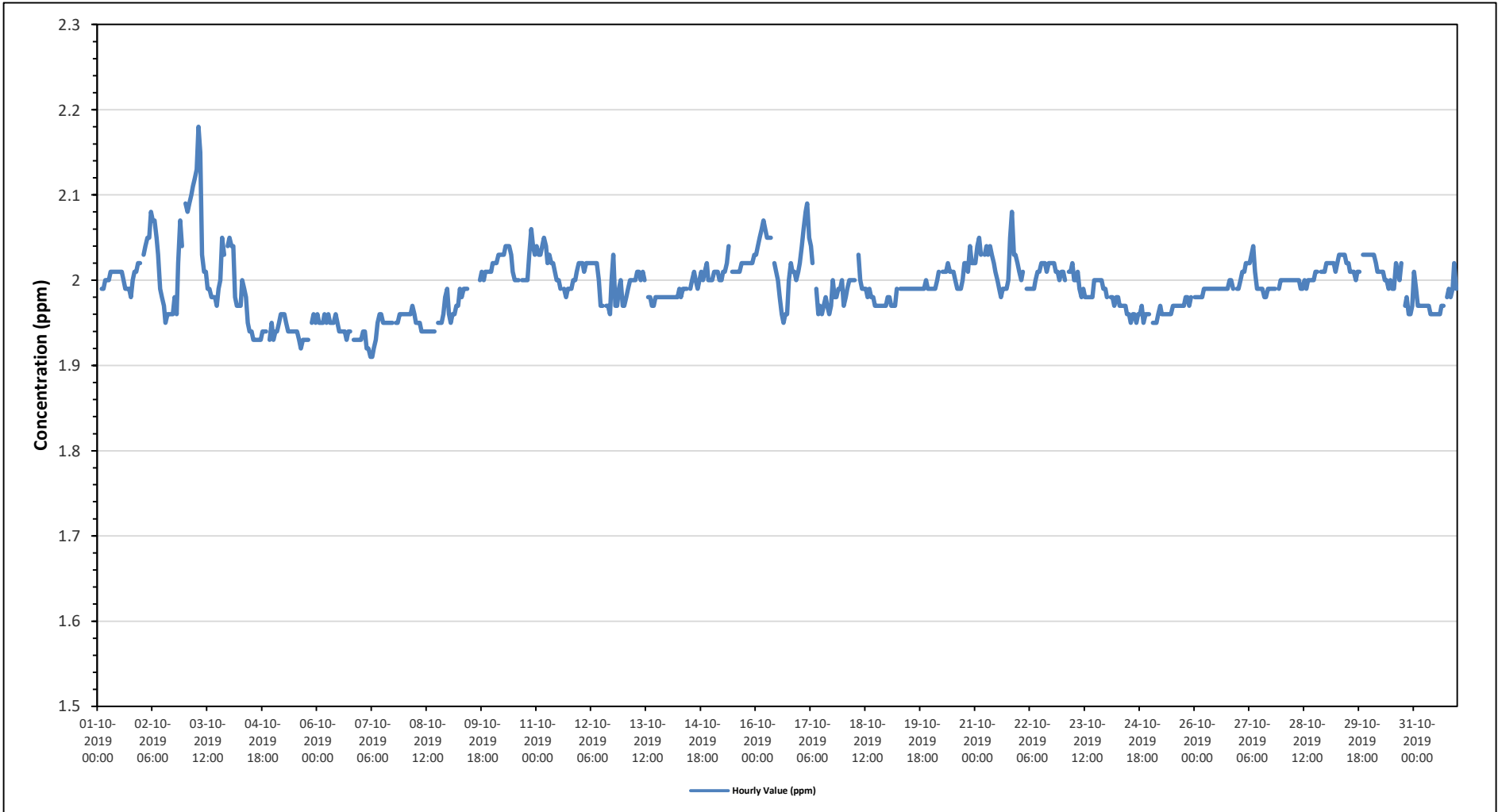
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 2.18 ppm on October 3 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 3 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.91 ppm on October 7 at hour 5 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 ppm on October 5 | Hours of Calibration: | 38 |
| Monthly Average: | 1.99 ppm | 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 | |
| Oct 1 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 1.98 | 2.02 | 2.00 | | |
| Oct 2 | S | 2.03 | 2.04 | 2.05 | 2.05 | 2.08 | 2.07 | 2.07 | 2.05 | 2.03 | 1.99 | 1.98 | 1.97 | 1.95 | 1.96 | 1.96 | 1.96 | 1.98 | 1.96 | 2.02 | 2.07 | 2.04 | S | 1.95 | 2.08 | 2.01 | | |
| Oct 3 | 2.09 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.18 | 2.15 | 2.03 | 2.01 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.00 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.18 | 2.05 | |
| Oct 4 | 2.05 | 2.04 | 2.04 | 1.98 | 1.97 | 1.97 | 1.97 | 2.00 | 1.99 | 1.98 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.95 | 1.93 | 2.05 | 1.96 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | S | 1.95 | 1.96 | 1.95 | 1.92 | 1.96 | 1.94 | |
| Oct 6 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.94 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.96 | 1.94 |
| Oct 7 | 1.93 | 1.94 | 1.94 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.93 | 1.95 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.91 | 1.96 | 1.94 |
| Oct 8 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.98 | 1.99 | 1.94 | 1.99 | 1.95 | 1.95 |
| Oct 9 | 1.96 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | C | C | C | C | C | S | 2.00 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 1.95 | 2.01 | 1.99 | |
| Oct 10 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | C | S | 2.00 | 2.00 | 2.00 | 2.03 | 2.06 | 2.04 | 2.03 | 2.00 | 2.06 | 2.02 | 2.02 |
| Oct 11 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | 2.00 | 2.00 | 1.99 | S | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.02 | 1.98 | 2.05 | 2.01 | 2.01 |
| Oct 12 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.00 | 1.97 | 1.97 | S | 1.97 | 1.97 | 1.96 | 2.00 | 2.03 | 1.97 | 1.97 | 1.99 | 2.00 | 1.97 | 1.96 | 2.03 | 2.00 | 2.00 |
| Oct 13 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.00 | 2.01 | 2.00 | S | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 2.01 | 1.99 | 1.99 |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 2.01 | 2.02 | 2.00 | 2.00 | 1.98 | 2.02 | 2.01 | 1.99 |
| Oct 15 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.00 | 2.04 | 2.01 | 2.01 |
| Oct 16 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.06 | 2.05 | 2.05 | 2.05 | S | 2.02 | 2.01 | 2.00 | 1.98 | 1.96 | 1.95 | 1.96 | 1.96 | 2.00 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.95 | 2.07 | 2.02 | 2.02 |
| Oct 17 | 2.02 | 2.04 | 2.06 | 2.08 | 2.09 | 2.05 | 2.04 | 2.02 | S | 1.99 | 1.96 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.96 | 1.97 | 2.00 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 1.96 | 2.09 | 2.00 | 2.00 |
| Oct 18 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | S | 2.03 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 2.03 | 1.99 | 1.99 |
| Oct 19 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 1.97 | 2.00 | 1.99 | 1.99 |
| Oct 20 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | S | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.02 | 2.01 | 2.04 | 2.02 | 2.02 | 1.99 | 2.04 | 2.01 | 2.01 |
| Oct 21 | 2.02 | 2.04 | 2.05 | 2.03 | S | 2.03 | 2.04 | 2.03 | 2.04 | 2.03 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 2.08 | 2.03 | 2.02 | 1.98 | 2.08 | 2.02 | 2.02 |
| Oct 22 | 2.01 | 2.00 | 2.01 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.99 | 2.02 | 2.01 | 2.01 |
| Oct 23 | 2.01 | 2.00 | S | 2.01 | 2.01 | 2.02 | 2.00 | 2.00 | 2.01 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 2.02 | 2.00 | 2.00 |
| Oct 24 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.96 | 1.95 | 1.96 | 1.96 | 1.97 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.98 | 1.97 | 1.97 |
| Oct 25 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | S | 1.95 | 1.98 | 1.97 |
| Oct 26 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | S | 1.99 | 1.98 | 2.00 | 1.99 | 1.99 |
| Oct 27 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.04 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 1.98 | 2.04 | 2.00 |
| Oct 28 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | S | 2.01 | 2.01 | 2.01 | 1.99 | 2.01 | 2.01 | 2.00 |
| Oct 29 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | S | 2.03 | 2.03 | 2.03 | 2.00 | 2.03 | 2.02 | 2.02 |
| Oct 30 | 2.03 | 2.03 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 2.02 | 2.01 | 2.00 | 2.02 | S | 1.97 | 1.98 | 1.96 | 1.96 | 1.97 | 1.96 | 2.03 | 2.00 | 2.00 |
| Oct 31 | 2.01 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 1.99 | 1.98 | 1.99 | 2.02 | 1.99 | 1.96 | 2.02 | 1.98 | 1.98 |
| Diurnal Maximum | 2.09 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.18 | 2.15 | 2.04 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.05 | 2.08 | 2.07 | 2.04 | 2.04 | | | |
| Diurnal Average | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | | | |

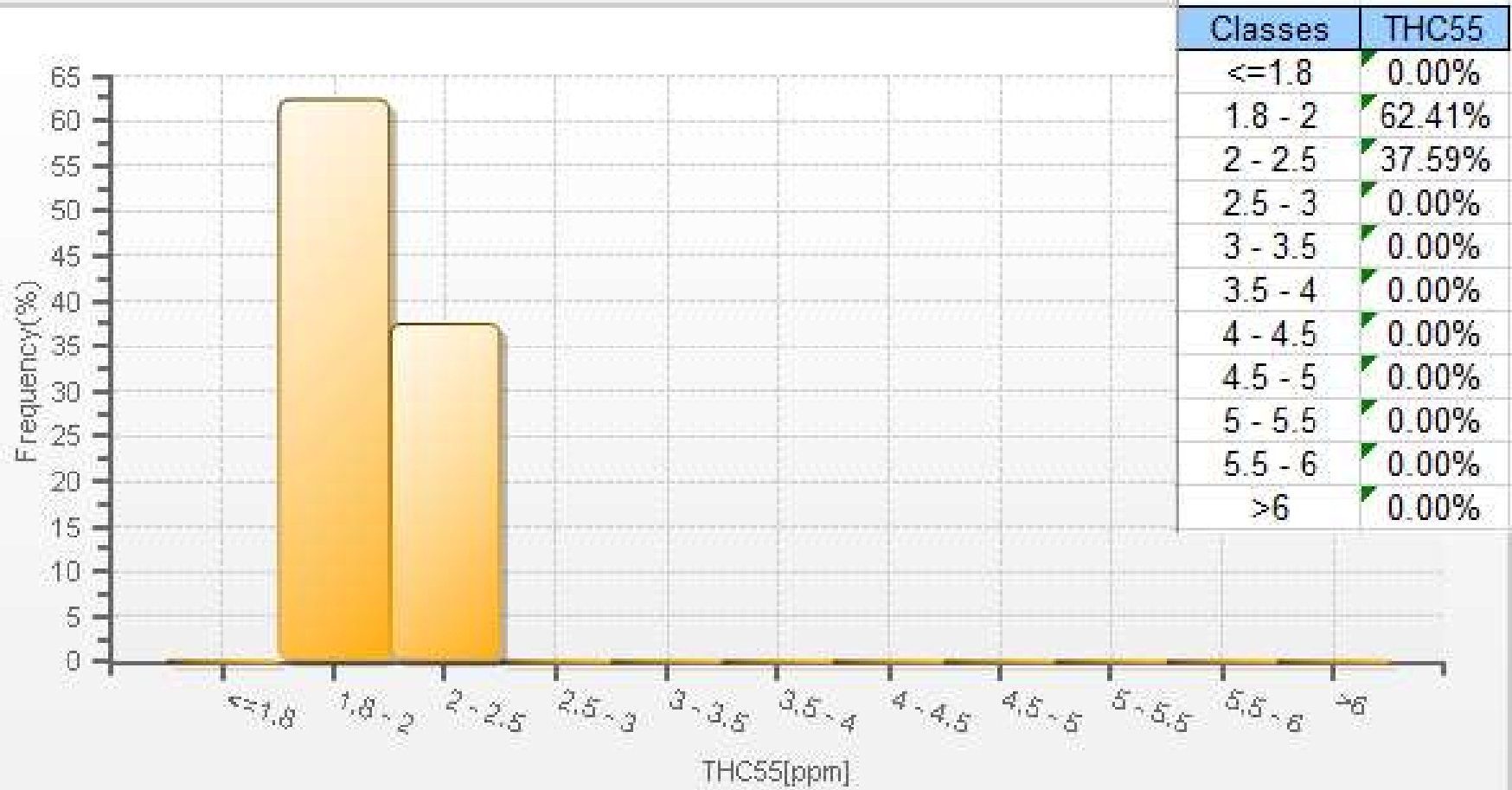
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



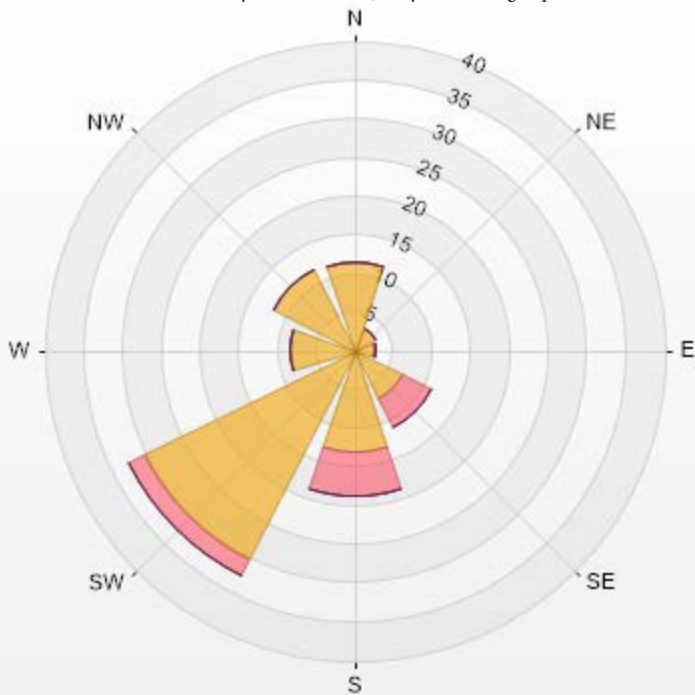
THC55[ppm] Histogram: PRAMP 842b Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.55% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 11.49 | 0 | 0 | 0 | 0 | 11.49 |
| NE | 3.16 | 0 | 0 | 0 | 0 | 3.16 |
| E | 2.59 | 0.29 | 0 | 0 | 0 | 2.88 |
| SE | 7.04 | 4.02 | 0 | 0 | 0 | 11.06 |
| S | 13.07 | 5.75 | 0 | 0 | 0 | 18.82 |
| SW | 30.32 | 2.3 | 0 | 0 | 0 | 32.62 |
| W | 8.33 | 0 | 0 | 0 | 0 | 8.33 |
| NW | 11.64 | 0 | 0 | 0 | 0 | 11.64 |
| Summary | 87.64 | 12.36 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 88 | 17 | 0 | 0 | 0 |
|----------------------|----|----|---|---|---|
| 0-2 | 88 | 17 | 0 | 0 | 0 |
| 2.5-5 | 0 | 0 | 0 | 0 | 0 |
| 5-10 | 0 | 0 | 0 | 0 | 0 |
| 10-40 | 0 | 0 | 0 | 0 | 0 |
| >40.0 | 0 | 0 | 0 | 0 | 0 |



PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

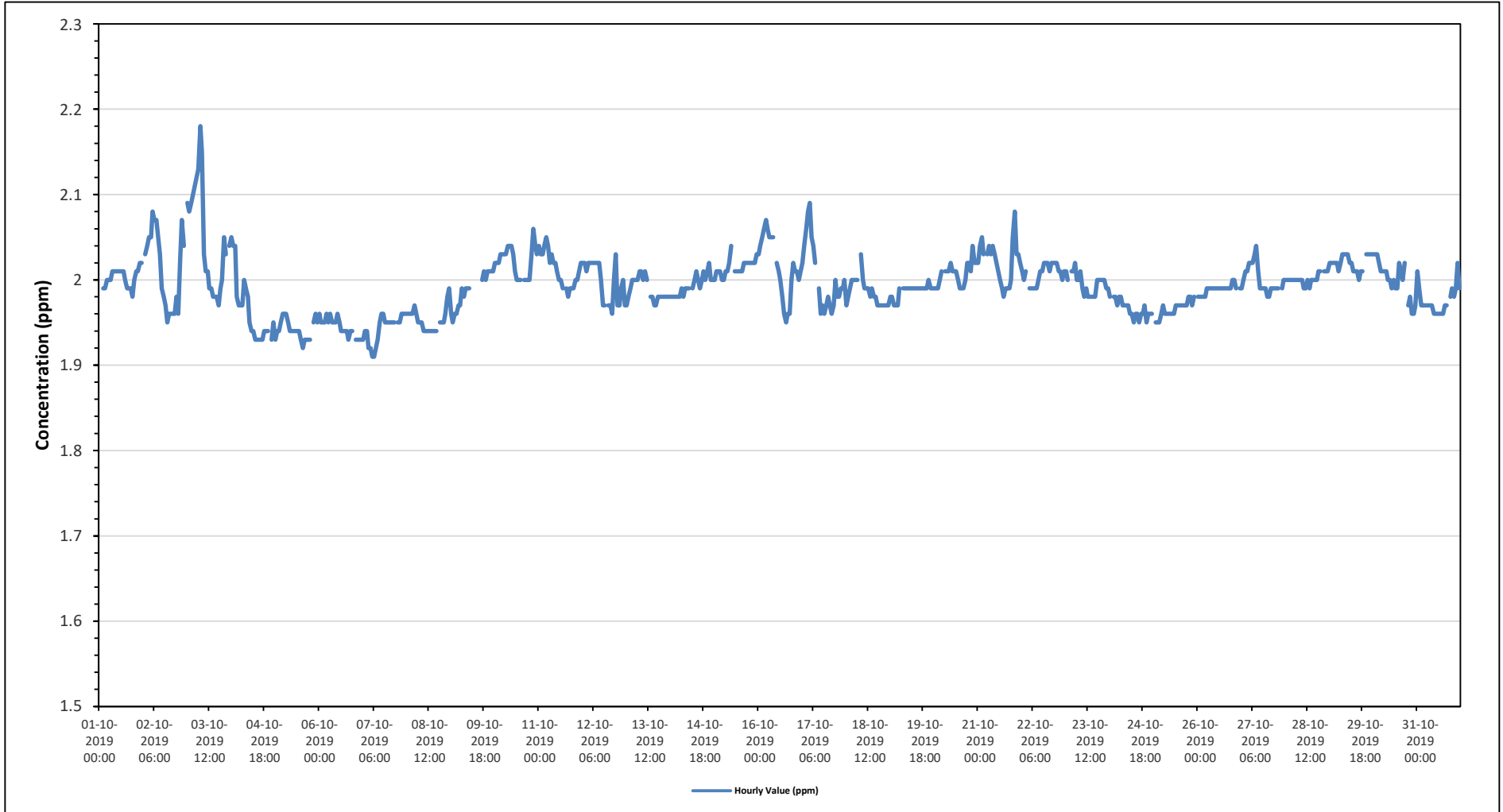
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 2.18 ppm on October 3 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 3 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.91 ppm on October 7 at hour 5 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 ppm on October 5 | Hours of Calibration: | 38 |
| Monthly Average: | 1.99 ppm | 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 | |
| Oct 1 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 1.98 | 2.02 | 2.00 | | |
| Oct 2 | S | 2.03 | 2.04 | 2.05 | 2.05 | 2.08 | 2.07 | 2.07 | 2.05 | 2.03 | 1.99 | 1.98 | 1.97 | 1.95 | 1.96 | 1.96 | 1.96 | 1.98 | 1.98 | 1.96 | 2.02 | 2.07 | 2.04 | S | 1.95 | 2.08 | 2.01 | |
| Oct 3 | 2.09 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.18 | 2.15 | 2.03 | 2.01 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.00 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.18 | 2.05 | |
| Oct 4 | 2.05 | 2.04 | 2.04 | 1.98 | 1.97 | 1.97 | 1.97 | 2.00 | 1.99 | 1.98 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.95 | 1.93 | 2.05 | 1.96 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | S | 1.95 | 1.96 | 1.95 | 1.92 | 1.96 | 1.94 | |
| Oct 6 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.96 | 1.94 |
| Oct 7 | 1.93 | 1.94 | 1.94 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.93 | 1.95 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.91 | 1.96 | 1.94 |
| Oct 8 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.98 | 1.99 | 1.94 | 1.99 | 1.95 | |
| Oct 9 | 1.96 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | C | C | C | C | C | S | 2.00 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 1.95 | 2.01 | 1.99 | |
| Oct 10 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | C | S | 2.00 | 2.00 | 2.00 | 2.03 | 2.06 | 2.04 | 2.03 | 2.00 | 2.06 | 2.02 | |
| Oct 11 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | 2.00 | 2.00 | 1.99 | S | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.02 | 1.98 | 2.05 | 2.01 | |
| Oct 12 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.00 | 1.97 | 1.97 | S | 1.97 | 1.97 | 1.96 | 2.00 | 2.03 | 1.97 | 1.97 | 1.99 | 2.00 | 1.97 | 1.96 | 2.03 | 2.00 | |
| Oct 13 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.00 | 2.01 | 2.00 | S | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 2.01 | 1.99 | |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 2.01 | 2.02 | 2.00 | 2.00 | 1.98 | 2.02 | 1.99 | |
| Oct 15 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.00 | 2.04 | 2.01 | |
| Oct 16 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.06 | 2.05 | 2.05 | 2.05 | S | 2.02 | 2.01 | 2.00 | 1.98 | 1.96 | 1.95 | 1.96 | 1.96 | 2.00 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.95 | 2.07 | 2.02 | |
| Oct 17 | 2.02 | 2.04 | 2.06 | 2.08 | 2.09 | 2.05 | 2.04 | 2.02 | S | 2.03 | 1.99 | 1.96 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.96 | 1.97 | 2.00 | 1.98 | 1.98 | 1.99 | 2.00 | 1.96 | 2.09 | 2.00 | |
| Oct 18 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | S | 2.03 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 2.03 | 1.99 | |
| Oct 19 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 1.97 | 2.00 | 1.99 | |
| Oct 20 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | S | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.02 | 2.01 | 2.04 | 2.02 | 2.02 | 1.99 | 2.04 | 2.01 | |
| Oct 21 | 2.02 | 2.04 | 2.05 | 2.03 | S | 2.03 | 2.04 | 2.03 | 2.04 | 2.03 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 2.08 | 2.03 | 2.02 | 1.98 | 2.08 | 2.02 | |
| Oct 22 | 2.01 | 2.00 | 2.01 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.99 | 2.02 | 2.01 | |
| Oct 23 | 2.01 | 2.00 | S | 2.01 | 2.01 | 2.02 | 2.00 | 2.00 | 2.01 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 2.02 | 2.00 | | |
| Oct 24 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.96 | 1.95 | 1.96 | 1.95 | 1.96 | 1.96 | 1.97 | 1.95 | 1.96 | 1.96 | 1.96 | 1.95 | 1.98 | 1.97 | |
| Oct 25 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | S | 1.95 | 1.98 | 1.97 |
| Oct 26 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | S | 1.99 | 1.98 | 2.00 | 1.99 | |
| Oct 27 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.04 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 1.98 | 2.04 | 2.00 |
| Oct 28 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | S | 2.01 | 2.01 | 2.01 | 1.99 | 2.01 | 2.00 | |
| Oct 29 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | S | 2.03 | 2.03 | 2.03 | 2.00 | 2.03 | 2.02 | |
| Oct 30 | 2.03 | 2.03 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 2.02 | 2.01 | 2.00 | 2.02 | S | 1.97 | 1.98 | 1.96 | 1.96 | 1.97 | 1.96 | 2.03 | 2.00 | |
| Oct 31 | 2.01 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 1.99 | 1.98 | 1.99 | 2.02 | 1.99 | 1.96 | 2.02 | 1.98 | |
| Diurnal Maximum | 2.09 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.18 | 2.15 | 2.04 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.05 | 2.08 | 2.07 | 2.04 | 2.04 | | | |
| Diurnal Average | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | | | | |

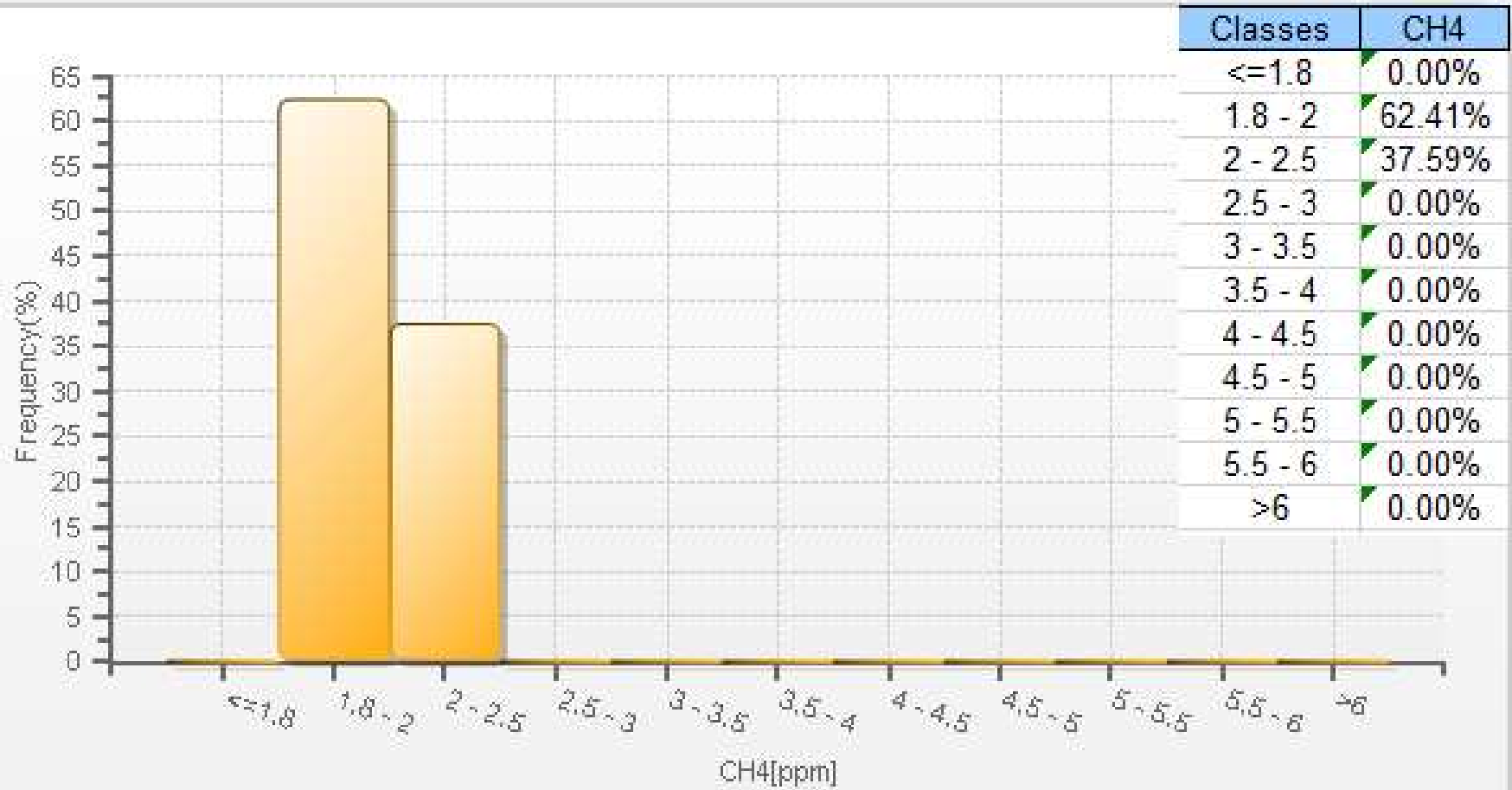
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



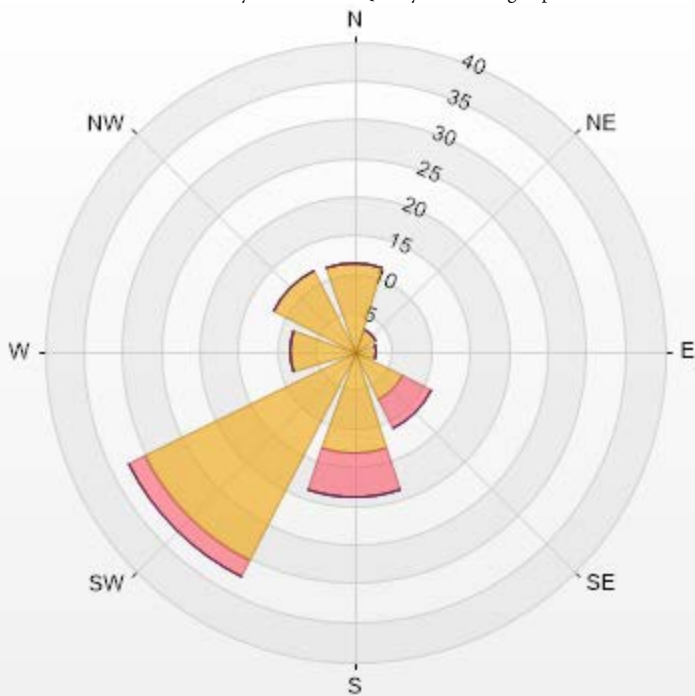
CH4[ppm] Histogram: PRAMP 842b Monthly: 10-2019 1 Hr.



Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 11.48 | 0 | 0 | 0 | 0 | 11.48 |
| NE | 3.16 | 0 | 0 | 0 | 0 | 3.16 |
| E | 2.73 | 0.14 | 0 | 0 | 0 | 2.87 |
| SE | 7.03 | 4.02 | 0 | 0 | 0 | 11.05 |
| S | 13.2 | 5.74 | 0 | 0 | 0 | 18.94 |
| SW | 30.27 | 2.3 | 0 | 0 | 0 | 32.57 |
| W | 8.32 | 0 | 0 | 0 | 0 | 8.32 |
| NW | 11.62 | 0 | 0 | 0 | 0 | 11.62 |
| Summary | 87.81 | 12.2 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 88 | 17 | 0 | 0 | 0 |
|----------------------|----|----|---|---|---|
| 0-2 | 88 | | | | |
| 2.5-5 | | 17 | | | |
| 5-10 | | | 0 | | |
| 10-20 | | | | 0 | |
| >20.0 | | | | | 0 |



PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

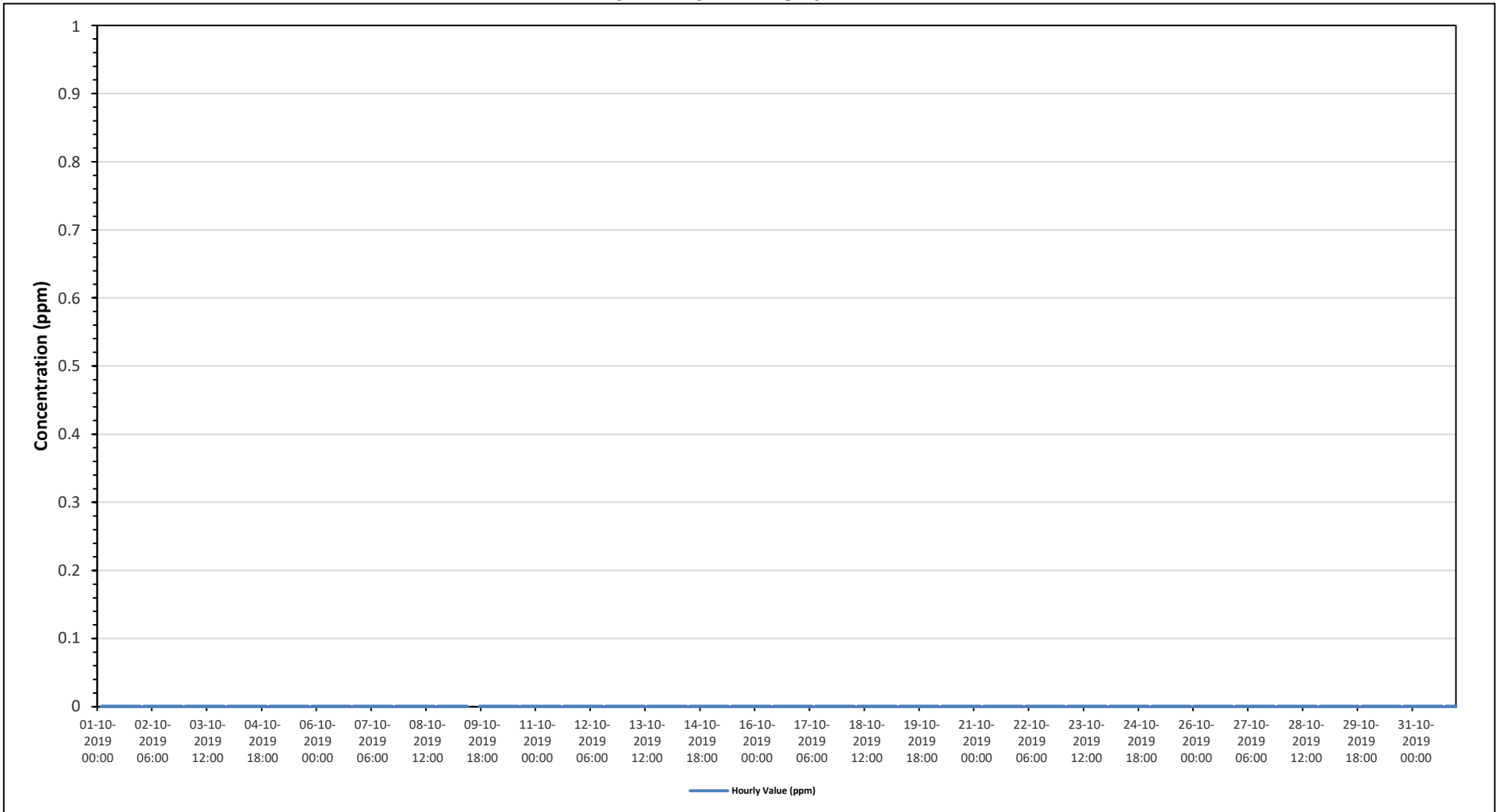
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 0.00 ppm on October 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 ppm on October 1 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.00 ppm on October 1 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.00 ppm on October 1 | Hours of Calibration: | 38 |
| Monthly Average: | 0.00 ppm | 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 | | | | |
| Oct 1 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 2 | 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 | S | 0.00 | S | 0.00 | 0.00 |
| Oct 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 | 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 |
| Oct 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 | 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 |
| Oct 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 | 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 |
| Oct 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Oct 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Oct 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Oct 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | S | 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 | |
| Oct 10 | 0.00 | 0.00 | 0.00 | 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 | 0.00 |
| Oct 11 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| Oct 12 | 0.00 | 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 | 0.00 | 0.00 | 0.00 |
| Oct 13 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 14 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 15 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 16 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 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 |
| Oct 18 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 19 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 20 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 21 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 22 | 0.00 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 23 | 0.00 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 24 | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 25 | 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 | 0.00 | S | 0.00 | 0.00 | 0.00 |
| Oct 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 | 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 |
| Oct 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 | 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 |
| Oct 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Oct 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Oct 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

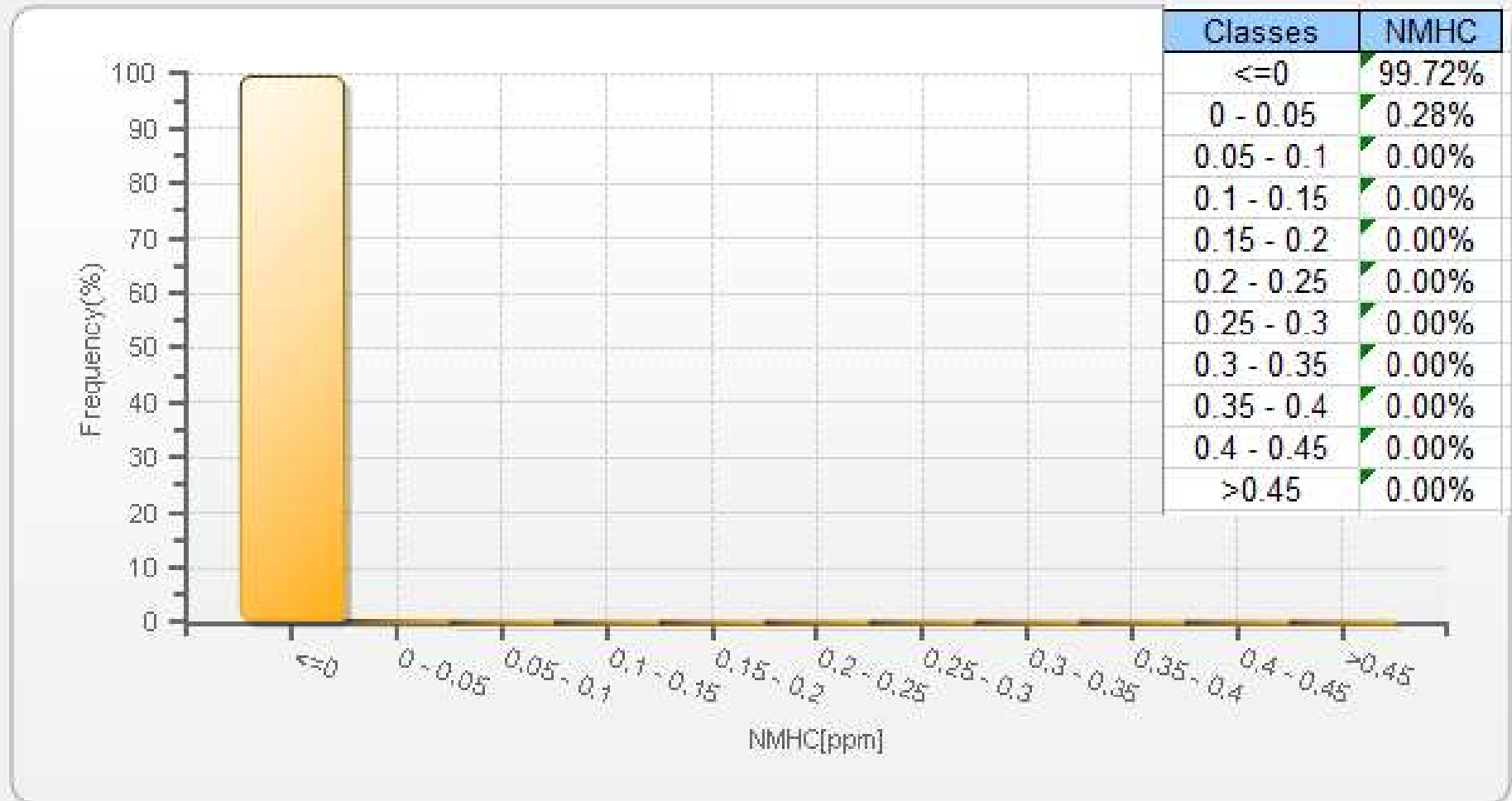
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



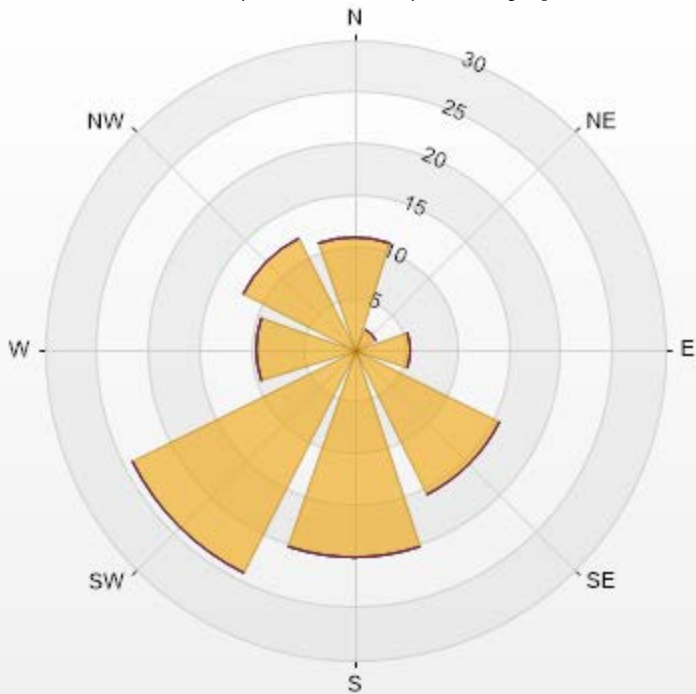
NMHC[ppm] Histogram: PRAMP 842b Monthly: 10-2019 1 Hr.



Wind: PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-0.9 | 0.9-2 | >2.0 | Total |
|-----------|-------|---------|---------|-------|------|-------|
| N | 10.92 | 0 | 0 | 0 | 0 | 10.92 |
| NE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| E | 5.39 | 0 | 0 | 0 | 0 | 5.39 |
| SE | 15.6 | 0 | 0 | 0 | 0 | 15.6 |
| S | 20.14 | 0 | 0 | 0 | 0 | 20.14 |
| SW | 24.11 | 0 | 0 | 0 | 0 | 24.11 |
| W | 9.5 | 0 | 0 | 0 | 0 | 9.5 |
| NW | 12.06 | 0 | 0 | 0 | 0 | 12.06 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon | Classes (ppm) | 0-0.1 | 0.1-0.3 | 0.3-0.9 | 0.9-2 | >2.0 |
|--------|---------------|-------|---------|---------|-------|------|
| 100 | 0-0.1 | 96 | 4 | 0 | 0 | 0 |
| 0 | 0.1-0.3 | 0 | 4 | 0 | 0 | 0 |
| 0 | 0.3-0.9 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0.9-2 | 0 | 0 | 0 | 0 | 0 |
| 0 | >2.0 | 0 | 0 | 0 | 0 | 0 |



PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

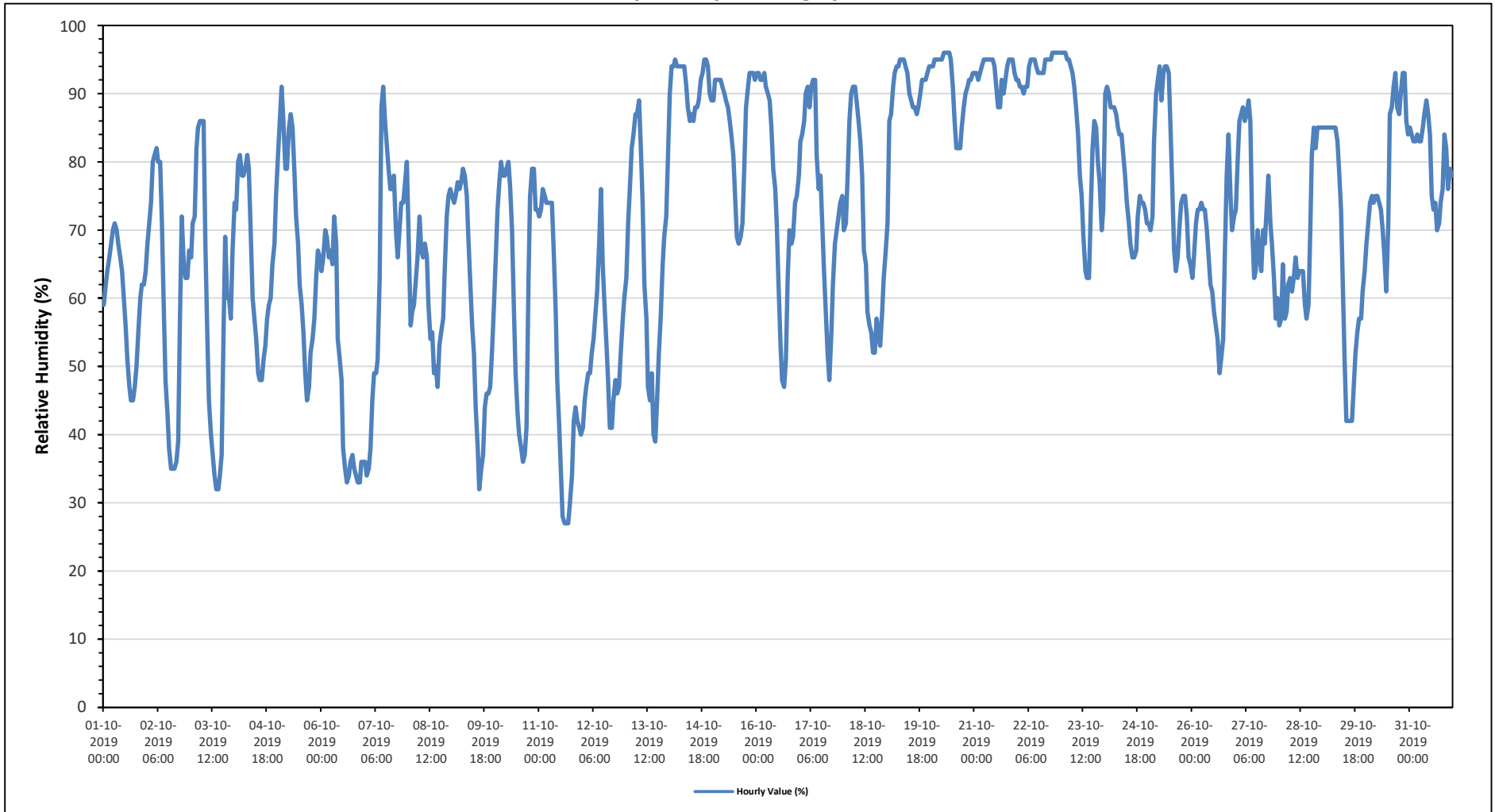
| | | | | |
|-----------------------|--------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 96 % | on October 20 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 93.8 % | on October 22 | Hours of Data: | 744 |
| Minimum Hourly Value: | 27 % | on October 11 at hour 14 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 49.2 % | on October 6 | Hours of Calibration: | 0 |
| Monthly Average: | 71.6 % | | 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 | |
| Oct 1 | 59 | 62 | 64 | 66 | 68 | 70 | 71 | 70 | 68 | 66 | 64 | 60 | 56 | 51 | 47 | 45 | 45 | 47 | 50 | 55 | 60 | 62 | 62 | 64 | 45 | 71 | 60 | |
| Oct 2 | 68 | 71 | 74 | 80 | 81 | 82 | 80 | 80 | 71 | 59 | 48 | 43 | 38 | 35 | 35 | 35 | 36 | 39 | 57 | 72 | 65 | 63 | 63 | 67 | 35 | 82 | 60 | |
| Oct 3 | 66 | 71 | 72 | 82 | 85 | 86 | 86 | 86 | 68 | 54 | 45 | 40 | 37 | 34 | 32 | 32 | 34 | 37 | 56 | 69 | 60 | 60 | 57 | 67 | 32 | 86 | 59 | |
| Oct 4 | 74 | 73 | 80 | 81 | 78 | 78 | 79 | 81 | 79 | 69 | 60 | 57 | 54 | 49 | 48 | 48 | 51 | 53 | 57 | 59 | 60 | 65 | 68 | 75 | 48 | 81 | 66 | |
| Oct 5 | 81 | 86 | 91 | 86 | 79 | 79 | 85 | 87 | 85 | 79 | 72 | 68 | 62 | 59 | 55 | 49 | 45 | 47 | 52 | 54 | 57 | 63 | 67 | 66 | 45 | 91 | 69 | |
| Oct 6 | 64 | 66 | 70 | 69 | 66 | 67 | 65 | 72 | 68 | 54 | 51 | 48 | 38 | 35 | 33 | 34 | 36 | 37 | 35 | 34 | 33 | 33 | 36 | 36 | 33 | 72 | 49 | |
| Oct 7 | 36 | 34 | 35 | 38 | 45 | 49 | 49 | 51 | 63 | 88 | 91 | 86 | 82 | 79 | 76 | 76 | 78 | 70 | 66 | 70 | 74 | 74 | 77 | 80 | 34 | 91 | 65 | |
| Oct 8 | 69 | 56 | 58 | 59 | 63 | 66 | 72 | 67 | 66 | 68 | 66 | 59 | 54 | 55 | 49 | 50 | 47 | 53 | 55 | 57 | 64 | 72 | 75 | 76 | 47 | 76 | 62 | |
| Oct 9 | 75 | 74 | 75 | 77 | 76 | 77 | 79 | 78 | 75 | 69 | 62 | 56 | 52 | 44 | 38 | 32 | 35 | 37 | 44 | 46 | 46 | 47 | 52 | 59 | 32 | 79 | 59 | |
| Oct 10 | 65 | 73 | 77 | 80 | 78 | 78 | 79 | 80 | 76 | 70 | 59 | 49 | 43 | 40 | 38 | 36 | 37 | 41 | 63 | 75 | 79 | 79 | 73 | 73 | 36 | 80 | 64 | |
| Oct 11 | 72 | 73 | 76 | 75 | 74 | 74 | 74 | 74 | 67 | 58 | 48 | 41 | 34 | 28 | 27 | 27 | 27 | 30 | 34 | 42 | 44 | 42 | 41 | 40 | 27 | 76 | 51 | |
| Oct 12 | 41 | 45 | 47 | 49 | 49 | 52 | 54 | 58 | 61 | 68 | 76 | 65 | 59 | 53 | 48 | 41 | 41 | 45 | 48 | 46 | 47 | 52 | 57 | 60 | 41 | 76 | 53 | |
| Oct 13 | 63 | 71 | 77 | 82 | 84 | 87 | 87 | 89 | 82 | 74 | 62 | 57 | 47 | 45 | 49 | 40 | 39 | 45 | 52 | 57 | 65 | 69 | 72 | 81 | 39 | 89 | 66 | |
| Oct 14 | 90 | 94 | 94 | 95 | 94 | 94 | 94 | 94 | 94 | 91 | 88 | 86 | 87 | 86 | 88 | 88 | 89 | 92 | 93 | 95 | 95 | 94 | 90 | 89 | 86 | 95 | 91 | |
| Oct 15 | 89 | 92 | 92 | 92 | 92 | 91 | 90 | 89 | 88 | 86 | 84 | 81 | 75 | 69 | 68 | 69 | 71 | 79 | 88 | 91 | 93 | 93 | 93 | 92 | 68 | 93 | 85 | |
| Oct 16 | 93 | 93 | 92 | 92 | 93 | 91 | 90 | 89 | 85 | 79 | 76 | 71 | 62 | 53 | 48 | 47 | 51 | 63 | 70 | 68 | 69 | 74 | 75 | 78 | 47 | 93 | 75 | |
| Oct 17 | 83 | 84 | 86 | 90 | 91 | 88 | 91 | 92 | 92 | 81 | 76 | 78 | 71 | 64 | 58 | 52 | 48 | 55 | 62 | 68 | 70 | 72 | 74 | 75 | 48 | 92 | 75 | |
| Oct 18 | 70 | 71 | 78 | 86 | 90 | 91 | 91 | 89 | 86 | 83 | 78 | 67 | 65 | 58 | 56 | 55 | 52 | 52 | 57 | 55 | 53 | 58 | 63 | 67 | 52 | 91 | 70 | |
| Oct 19 | 71 | 86 | 87 | 91 | 93 | 94 | 94 | 95 | 95 | 95 | 94 | 93 | 90 | 89 | 88 | 88 | 87 | 88 | 90 | 92 | 92 | 92 | 93 | 94 | 71 | 95 | 90 | |
| Oct 20 | 94 | 94 | 95 | 95 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 95 | 91 | 86 | 82 | 82 | 82 | 85 | 88 | 90 | 91 | 92 | 92 | 93 | 82 | 96 | 92 | |
| Oct 21 | 93 | 93 | 92 | 93 | 94 | 95 | 95 | 95 | 95 | 95 | 94 | 91 | 88 | 88 | 88 | 92 | 90 | 92 | 94 | 95 | 95 | 95 | 93 | 92 | 88 | 95 | 93 | |
| Oct 22 | 92 | 91 | 91 | 90 | 91 | 91 | 94 | 95 | 95 | 95 | 95 | 94 | 93 | 93 | 93 | 95 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 96 | 90 | 96 | 94 | |
| Oct 23 | 96 | 96 | 96 | 95 | 95 | 94 | 93 | 91 | 88 | 84 | 78 | 75 | 69 | 64 | 63 | 63 | 73 | 82 | 86 | 85 | 80 | 77 | 70 | 73 | 63 | 96 | 82 | |
| Oct 24 | 90 | 91 | 90 | 88 | 88 | 88 | 87 | 85 | 84 | 84 | 81 | 78 | 74 | 71 | 68 | 66 | 66 | 67 | 72 | 75 | 74 | 74 | 73 | 71 | 66 | 91 | 79 | |
| Oct 25 | 71 | 70 | 72 | 83 | 90 | 92 | 94 | 89 | 93 | 94 | 94 | 93 | 86 | 76 | 67 | 64 | 66 | 71 | 74 | 75 | 75 | 72 | 66 | 65 | 64 | 94 | 79 | |
| Oct 26 | 63 | 66 | 71 | 73 | 73 | 74 | 73 | 73 | 70 | 66 | 62 | 61 | 58 | 56 | 54 | 49 | 51 | 54 | 67 | 78 | 84 | 75 | 70 | 72 | 49 | 84 | 66 | |
| Oct 27 | 73 | 80 | 86 | 87 | 88 | 86 | 87 | 89 | 86 | 71 | 63 | 64 | 70 | 66 | 64 | 70 | 68 | 73 | 78 | 71 | 68 | 63 | 57 | 60 | 57 | 89 | 74 | |
| Oct 28 | 56 | 57 | 65 | 57 | 58 | 62 | 63 | 61 | 63 | 66 | 63 | 64 | 64 | 64 | 59 | 57 | 59 | 70 | 81 | 85 | 82 | 85 | 85 | 85 | 56 | 85 | 67 | |
| Oct 29 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 83 | 79 | 73 | 62 | 51 | 42 | 42 | 42 | 42 | 47 | 52 | 55 | 57 | 57 | 61 | 64 | 42 | 85 | 66 | |
| Oct 30 | 68 | 71 | 74 | 75 | 74 | 75 | 74 | 73 | 70 | 66 | 61 | 71 | 87 | 88 | 91 | 93 | 88 | 87 | 90 | 93 | 93 | 86 | 84 | 61 | 93 | 79 | | |
| Oct 31 | 85 | 84 | 83 | 83 | 84 | 83 | 83 | 85 | 87 | 89 | 87 | 84 | 75 | 73 | 74 | 70 | 71 | 74 | 76 | 84 | 82 | 76 | 79 | 78 | 70 | 89 | 80 | |
| Diurnal Maximum | 96 | 96 | 96 | 95 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 95 | 93 | 93 | 93 | 95 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Diurnal Average | 74.0 | 75.9 | 78.2 | 79.8 | 80.5 | 81.1 | 81.7 | 81.9 | 80.1 | 76.8 | 72.6 | 68.7 | 64.5 | 61.0 | 58.8 | 57.6 | 58.2 | 61.5 | 67.1 | 70.5 | 71.1 | 71.6 | 71.5 | 73.3 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 RH - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

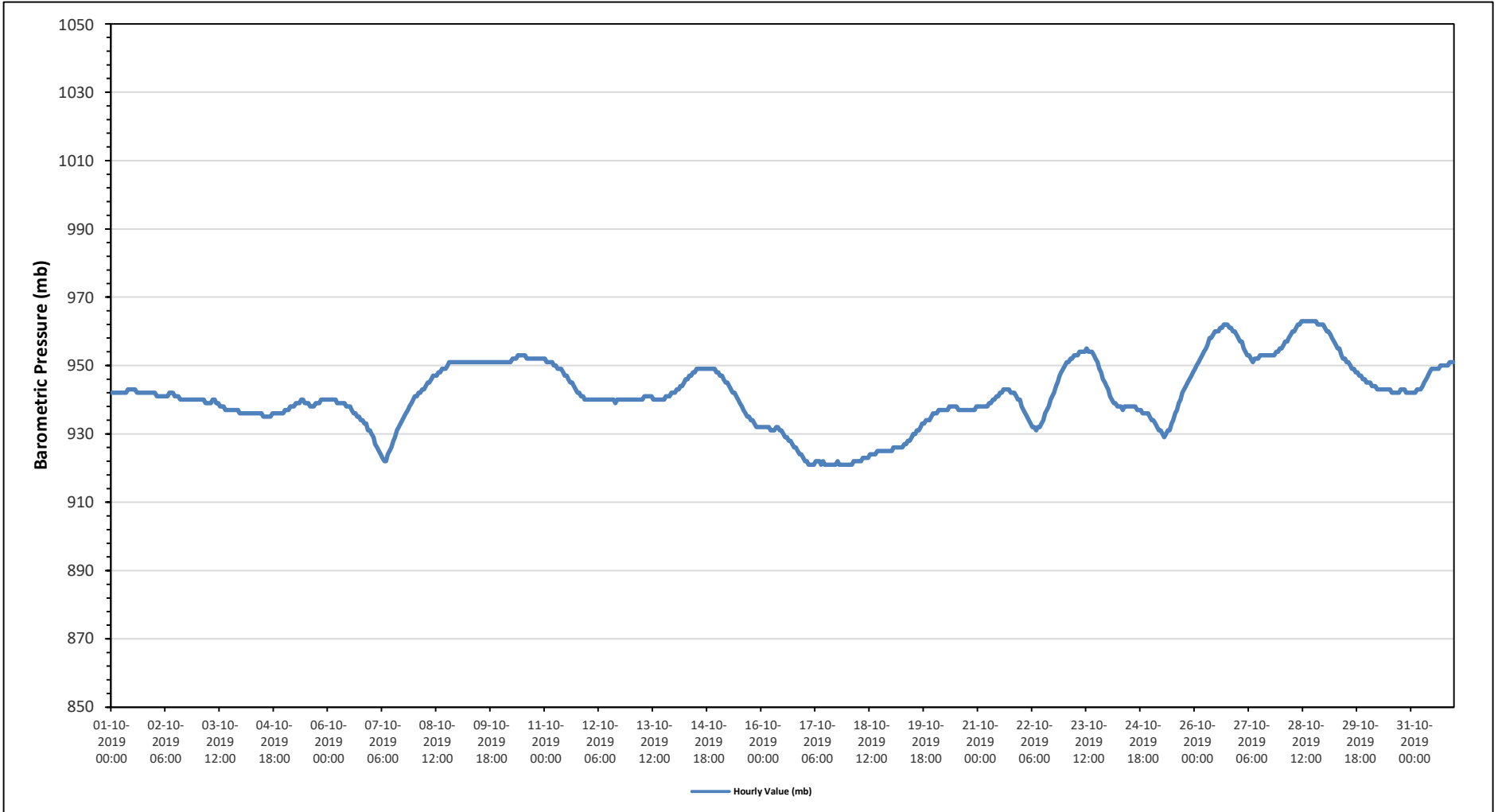
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 963 mb on October 28 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 961 mb on October 28 | Hours of Data: | 744 |
| Minimum Hourly Value: | 921 mb on October 17 at hour 2 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 921 mb on October 17 | Hours of Calibration: | 0 |
| Monthly Average: | 941 mb | 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 | |
| Oct 1 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 942 |
| Oct 2 | 942 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 942 |
| Oct 3 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 940 | 938 |
| Oct 4 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 936 | 936 |
| Oct 5 | 937 | 937 | 937 | 938 | 938 | 938 | 939 | 939 | 939 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 939 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 937 | 940 | 939 |
| Oct 6 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 937 | 936 | 936 | 935 | 935 | 934 | 934 | 933 | 933 | 931 | 931 | 931 | 931 | 931 | 940 | 937 |
| Oct 7 | 930 | 929 | 927 | 926 | 925 | 924 | 923 | 922 | 922 | 924 | 925 | 926 | 928 | 929 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 940 | 922 | 940 | 930 |
| Oct 8 | 941 | 941 | 942 | 942 | 943 | 943 | 944 | 945 | 945 | 946 | 947 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 950 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 947 |
| Oct 9 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 |
| Oct 10 | 951 | 951 | 951 | 951 | 951 | 951 | 952 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 |
| Oct 11 | 952 | 951 | 951 | 951 | 951 | 950 | 950 | 949 | 949 | 949 | 948 | 947 | 947 | 946 | 945 | 945 | 944 | 943 | 942 | 942 | 941 | 941 | 940 | 940 | 940 | 940 | 952 | 946 |
| Oct 12 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 |
| Oct 13 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 942 | 942 | 942 | 940 | 942 | 941 |
| Oct 14 | 942 | 943 | 943 | 944 | 944 | 945 | 946 | 946 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 949 | 949 | 947 |
| Oct 15 | 948 | 947 | 947 | 946 | 945 | 945 | 944 | 943 | 942 | 942 | 941 | 940 | 939 | 938 | 937 | 936 | 935 | 935 | 934 | 934 | 933 | 932 | 932 | 932 | 932 | 932 | 948 | 939 |
| Oct 16 | 932 | 932 | 932 | 932 | 932 | 931 | 931 | 931 | 932 | 932 | 931 | 931 | 930 | 929 | 929 | 928 | 928 | 927 | 926 | 926 | 925 | 924 | 924 | 923 | 923 | 932 | 932 | 929 |
| Oct 17 | 922 | 922 | 921 | 921 | 921 | 921 | 922 | 922 | 922 | 922 | 921 | 922 | 921 | 921 | 921 | 921 | 921 | 921 | 922 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 922 | 921 |
| Oct 18 | 921 | 921 | 921 | 922 | 922 | 922 | 922 | 922 | 923 | 923 | 923 | 923 | 924 | 924 | 924 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 923 |
| Oct 19 | 925 | 926 | 926 | 926 | 926 | 926 | 926 | 927 | 927 | 928 | 928 | 929 | 930 | 930 | 931 | 931 | 932 | 933 | 933 | 934 | 934 | 934 | 935 | 936 | 936 | 936 | 936 | 930 |
| Oct 20 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 |
| Oct 21 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 941 | 941 | 942 | 942 | 943 | 943 | 943 | 942 | 942 | 942 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 940 |
| Oct 22 | 938 | 937 | 936 | 935 | 934 | 933 | 932 | 932 | 931 | 932 | 932 | 933 | 934 | 936 | 937 | 938 | 940 | 941 | 942 | 944 | 945 | 947 | 948 | 949 | 949 | 931 | 949 | 938 |
| Oct 23 | 950 | 951 | 951 | 952 | 952 | 953 | 953 | 953 | 954 | 954 | 954 | 954 | 955 | 954 | 954 | 953 | 952 | 951 | 949 | 948 | 946 | 945 | 944 | 944 | 944 | 944 | 944 | 944 |
| Oct 24 | 943 | 941 | 940 | 939 | 939 | 938 | 938 | 938 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | 935 | 943 | 938 |
| Oct 25 | 934 | 934 | 933 | 932 | 931 | 931 | 930 | 929 | 930 | 931 | 931 | 933 | 934 | 936 | 937 | 939 | 940 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 948 | 929 | 948 | 937 |
| Oct 26 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 958 | 958 | 959 | 960 | 960 | 960 | 961 | 961 | 962 | 962 | 962 | 961 | 961 | 960 | 960 | 959 | 949 | 962 | 958 | |
| Oct 27 | 958 | 957 | 957 | 955 | 954 | 953 | 953 | 952 | 951 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 954 | 954 | 955 | 951 | 958 | 954 | |
| Oct 28 | 955 | 956 | 957 | 957 | 958 | 959 | 960 | 960 | 961 | 962 | 962 | 963 | 963 | 963 | 963 | 963 | 963 | 963 | 963 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | 962 |
| Oct 29 | 961 | 960 | 960 | 959 | 958 | 957 | 956 | 955 | 955 | 953 | 952 | 952 | 951 | 951 | 950 | 949 | 949 | 948 | 948 | 947 | 947 | 946 | 946 | 945 | 945 | 945 | 945 | 945 |
| Oct 30 | 945 | 945 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 942 | 942 | 942 |
| Oct 31 | 942 | 942 | 942 | 943 | 943 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 949 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 951 | 942 | 951 | 947 | |
| Diurnal Maximum | 961 | 960 | 960 | 959 | 958 | 959 | 960 | 960 | 961 | 962 | 962 | 963 | 963 | 963 | 963 | 963 | 963 | 963 | 963 | 963 | 962 | 962 | 962 | 962 | 962 | 962 | 962 | 962 |
| Diurnal Average | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

842b Station - October 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

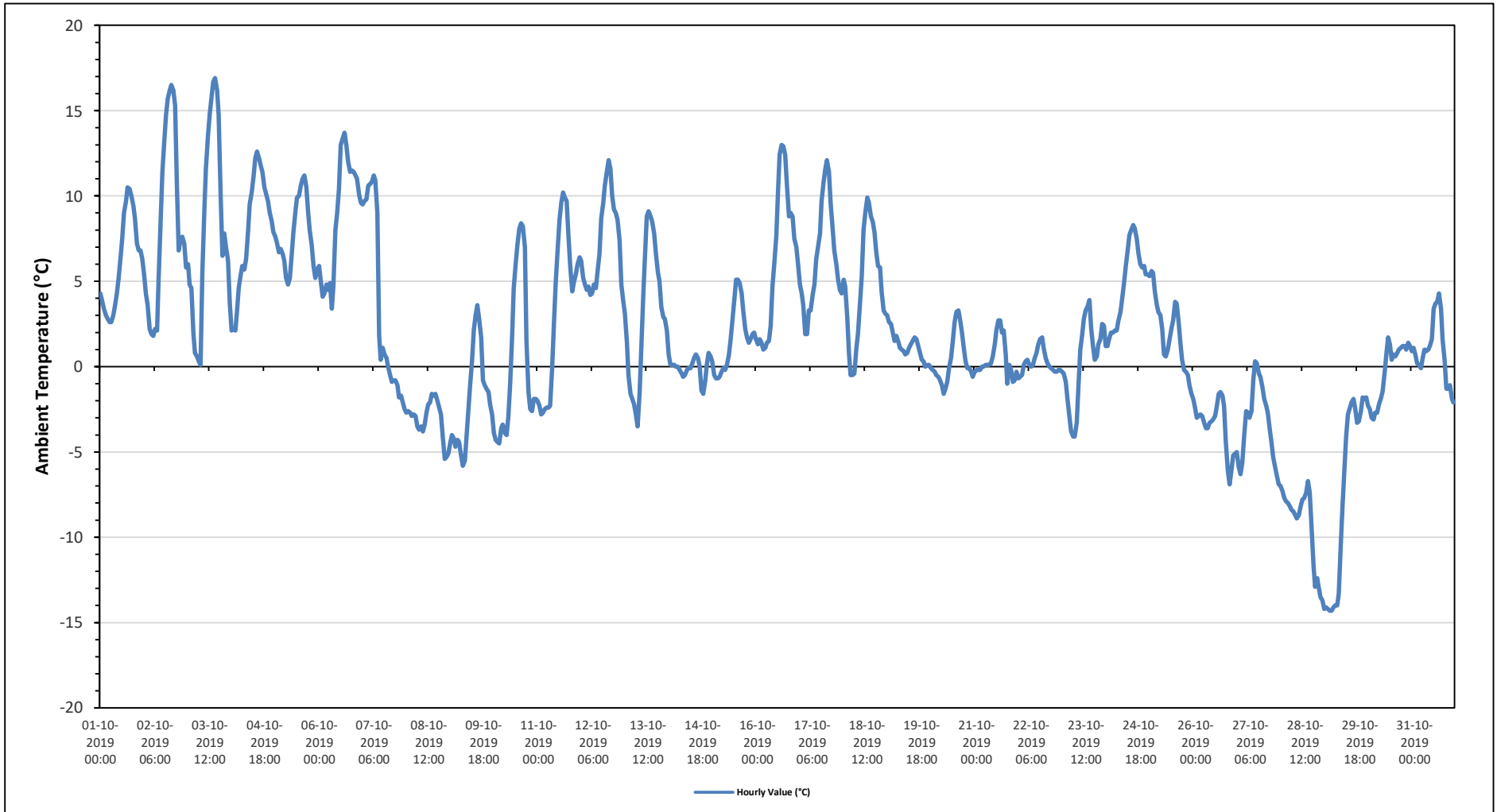
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 16.9 °C | on October 3 at hour 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 8.8 °C | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | -14.3 °C | on October 29 at hour 3 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | -9.2 °C | on October 28 | Hours of Calibration: | 0 |
| Monthly Average: | 2.1 °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 |
| Oct 1 | 4.3 | 3.8 | 3.4 | 3.0 | 2.8 | 2.6 | 2.6 | 3.0 | 3.6 | 4.3 | 5.2 | 6.3 | 7.5 | 9.0 | 9.7 | 10.5 | 10.4 | 10.0 | 9.4 | 8.7 | 7.2 | 6.8 | 6.8 | 6.3 | 2.6 | 10.5 | 6.1 |
| Oct 2 | 5.4 | 4.3 | 3.6 | 2.2 | 1.9 | 1.8 | 2.2 | 2.1 | 5.1 | 8.5 | 11.4 | 13.1 | 14.7 | 15.7 | 16.2 | 16.5 | 16.2 | 15.3 | 10.6 | 6.8 | 7.5 | 7.6 | 7.2 | 5.8 | 1.8 | 16.5 | 8.4 |
| Oct 3 | 6.0 | 4.8 | 4.6 | 1.9 | 0.8 | 0.6 | 0.3 | 0.1 | 5.5 | 9.2 | 11.6 | 13.5 | 14.8 | 15.9 | 16.7 | 16.9 | 16.2 | 14.8 | 10.0 | 6.5 | 7.8 | 7.0 | 6.2 | 3.7 | 0.1 | 16.9 | 8.1 |
| Oct 4 | 2.1 | 2.2 | 2.1 | 3.2 | 4.6 | 5.4 | 5.9 | 5.7 | 6.3 | 8.0 | 9.5 | 10.2 | 11.1 | 12.2 | 12.6 | 12.2 | 11.8 | 11.4 | 10.5 | 10.1 | 9.7 | 9.0 | 8.5 | 7.9 | 2.1 | 12.6 | 8.0 |
| Oct 5 | 7.6 | 7.2 | 6.7 | 6.9 | 6.6 | 6.2 | 5.2 | 4.8 | 5.2 | 6.5 | 7.9 | 9.1 | 9.9 | 10.0 | 10.6 | 11.0 | 11.2 | 10.5 | 9.0 | 8.0 | 7.1 | 5.9 | 5.2 | 5.7 | 4.8 | 11.2 | 7.7 |
| Oct 6 | 5.9 | 5.1 | 4.1 | 4.3 | 4.8 | 4.5 | 4.9 | 3.4 | 4.7 | 8.0 | 9.0 | 10.4 | 13.0 | 13.4 | 13.7 | 13.0 | 12.0 | 11.4 | 11.5 | 11.4 | 11.2 | 11.0 | 10.1 | 9.6 | 3.4 | 13.7 | 8.8 |
| Oct 7 | 9.5 | 9.7 | 9.8 | 10.6 | 10.7 | 10.8 | 11.2 | 10.9 | 9.0 | 1.8 | 0.4 | 1.1 | 0.7 | 0.5 | 0.0 | -0.5 | -0.9 | -0.8 | -0.8 | -1.1 | -1.8 | -1.7 | -2.1 | -2.5 | -2.5 | 11.2 | 3.5 |
| Oct 8 | -2.7 | -2.6 | -2.7 | -2.9 | -2.8 | -2.9 | -3.5 | -3.7 | -3.5 | -3.8 | -3.4 | -2.7 | -2.2 | -2.1 | -1.6 | -1.7 | -1.6 | -2.0 | -2.4 | -2.8 | -4.1 | -5.4 | -5.3 | -5.1 | -5.4 | -1.6 | -3.1 |
| Oct 9 | -4.5 | -4.0 | -4.2 | -4.7 | -4.3 | -4.4 | -5.2 | -5.8 | -5.5 | -4.2 | -2.5 | -1.0 | 0.3 | 2.1 | 3.0 | 3.6 | 2.8 | 1.7 | -0.8 | -1.1 | -1.3 | -1.5 | -2.2 | -2.8 | -5.8 | 3.6 | -1.9 |
| Oct 10 | -3.9 | -4.3 | -4.4 | -4.5 | -3.6 | -3.4 | -3.9 | -4.0 | -2.9 | -1.0 | 1.9 | 4.6 | 6.1 | 7.2 | 8.1 | 8.4 | 8.2 | 7.0 | 1.5 | -1.5 | -2.5 | -2.6 | -1.9 | -1.9 | -4.5 | 8.4 | 0.3 |
| Oct 11 | -2.0 | -2.3 | -2.8 | -2.7 | -2.5 | -2.4 | -2.4 | -2.3 | -0.1 | 2.5 | 4.9 | 6.7 | 8.6 | 9.6 | 10.2 | 9.9 | 9.7 | 7.7 | 5.9 | 4.4 | 4.9 | 5.4 | 6.0 | 6.4 | -2.8 | 10.2 | 3.5 |
| Oct 12 | 6.2 | 5.2 | 4.8 | 4.5 | 4.7 | 4.2 | 4.3 | 4.8 | 4.6 | 5.5 | 6.6 | 8.7 | 9.6 | 10.6 | 11.4 | 12.1 | 11.6 | 10.0 | 9.2 | 9.0 | 8.6 | 7.4 | 4.8 | 3.9 | 3.9 | 12.1 | 7.2 |
| Oct 13 | 3.1 | 1.4 | -0.5 | -1.6 | -1.9 | -2.2 | -2.8 | -3.5 | -1.5 | 0.9 | 4.1 | 6.5 | 8.8 | 9.1 | 8.8 | 8.5 | 7.8 | 6.6 | 5.5 | 5.0 | 3.5 | 2.9 | 2.8 | 2.1 | -3.5 | 9.1 | 3.1 |
| Oct 14 | 0.7 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | -0.2 | -0.4 | -0.6 | -0.5 | -0.2 | -0.1 | -0.1 | 0.2 | 0.5 | 0.7 | 0.5 | 0.0 | -1.4 | -1.6 | -0.8 | 0.1 | 0.8 | 0.6 | -1.6 | 0.8 | -0.1 |
| Oct 15 | 0.3 | -0.5 | -0.7 | -0.7 | -0.6 | -0.3 | -0.1 | -0.2 | 0.1 | 0.7 | 1.5 | 2.6 | 3.9 | 5.1 | 5.1 | 4.9 | 4.3 | 3.3 | 2.2 | 1.7 | 1.4 | 1.6 | 1.9 | 2.0 | -0.7 | 5.1 | 1.6 |
| Oct 16 | 1.6 | 1.3 | 1.6 | 1.4 | 1.0 | 1.1 | 1.4 | 1.5 | 2.4 | 4.7 | 6.0 | 7.6 | 10.3 | 12.4 | 13.0 | 12.9 | 12.4 | 10.6 | 8.8 | 9.0 | 8.8 | 7.5 | 7.0 | 6.1 | 1.0 | 13.0 | 6.3 |
| Oct 17 | 4.8 | 4.3 | 3.6 | 1.9 | 1.9 | 3.3 | 3.3 | 4.2 | 4.8 | 6.3 | 7.0 | 7.8 | 9.7 | 10.8 | 11.6 | 12.1 | 11.4 | 9.5 | 8.2 | 6.8 | 6.0 | 5.1 | 4.5 | 4.3 | 1.9 | 12.1 | 6.4 |
| Oct 18 | 5.1 | 4.7 | 2.9 | 0.7 | -0.5 | -0.5 | -0.4 | 1.1 | 1.9 | 3.7 | 5.3 | 8.0 | 9.0 | 9.9 | 9.6 | 8.8 | 8.5 | 7.9 | 6.7 | 5.9 | 5.8 | 4.4 | 3.3 | 3.1 | -0.5 | 9.9 | 4.8 |
| Oct 19 | 3.0 | 2.6 | 2.5 | 2.0 | 1.5 | 1.8 | 1.5 | 1.1 | 1.0 | 0.9 | 0.7 | 0.8 | 1.1 | 1.3 | 1.5 | 1.7 | 1.6 | 1.2 | 0.8 | 0.4 | 0.3 | 0.0 | 0.1 | 0.1 | 0.0 | 3.0 | 1.2 |
| Oct 20 | -0.1 | -0.2 | -0.3 | -0.5 | -0.6 | -0.8 | -1.1 | -1.6 | -1.3 | -0.9 | -0.1 | 0.5 | 1.5 | 2.6 | 3.2 | 3.3 | 2.8 | 2.0 | 1.1 | 0.3 | -0.1 | -0.1 | -0.3 | -0.6 | -1.6 | 3.3 | 0.4 |
| Oct 21 | -0.3 | -0.2 | -0.2 | -0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.6 | 1.3 | 2.1 | 2.7 | 2.7 | 2.0 | 2.1 | 0.7 | -1.0 | 0.1 | -0.2 | -0.9 | -0.8 | -0.3 | -1.0 | 2.7 | 0.4 |
| Oct 22 | -0.7 | -0.6 | -0.5 | 0.1 | 0.3 | 0.4 | 0.1 | 0.0 | 0.1 | 0.5 | 0.8 | 1.3 | 1.6 | 1.7 | 1.1 | 0.5 | 0.2 | 0.0 | -0.1 | -0.2 | -0.3 | -0.3 | -0.2 | -0.2 | -0.7 | 1.7 | 0.2 |
| Oct 23 | -0.3 | -0.4 | -0.9 | -1.8 | -2.9 | -3.8 | -4.1 | -4.1 | -3.3 | -1.1 | 1.0 | 1.8 | 2.8 | 3.3 | 3.5 | 3.9 | 2.2 | 1.2 | 0.4 | 0.6 | 1.3 | 1.6 | 2.5 | 2.4 | -4.1 | 3.9 | 0.2 |
| Oct 24 | 1.2 | 1.2 | 1.7 | 2.0 | 2.0 | 2.1 | 2.1 | 2.7 | 3.2 | 3.9 | 4.9 | 5.9 | 6.9 | 7.7 | 8.0 | 8.3 | 8.1 | 7.5 | 6.6 | 6.0 | 5.8 | 5.9 | 5.4 | 5.4 | 1.2 | 8.3 | 4.8 |
| Oct 25 | 5.3 | 5.6 | 5.5 | 4.4 | 3.6 | 3.2 | 3.0 | 2.2 | 0.7 | 0.6 | 1.0 | 1.6 | 2.2 | 2.7 | 3.8 | 3.7 | 2.7 | 1.3 | 0.4 | -0.2 | -0.3 | -0.5 | -1.1 | -1.6 | -1.6 | 5.6 | 2.1 |
| Oct 26 | -1.9 | -2.4 | -3.0 | -2.9 | -2.8 | -2.9 | -3.3 | -3.6 | -3.6 | -3.3 | -3.2 | -3.1 | -2.9 | -2.3 | -1.6 | -1.5 | -1.7 | -2.3 | -4.4 | -6.1 | -6.9 | -6.1 | -5.2 | -5.1 | -6.9 | -1.5 | -3.4 |
| Oct 27 | -5.0 | -5.9 | -6.3 | -5.6 | -4.1 | -2.6 | -2.7 | -3.0 | -2.6 | -0.8 | 0.3 | 0.2 | -0.4 | -0.6 | -1.2 | -1.9 | -2.3 | -2.7 | -3.7 | -4.5 | -5.3 | -5.9 | -6.4 | -6.9 | -6.9 | 0.3 | -3.3 |
| Oct 28 | -7.0 | -7.3 | -7.7 | -7.9 | -8.0 | -8.2 | -8.4 | -8.5 | -8.7 | -8.9 | -8.7 | -8.2 | -7.8 | -7.4 | -6.7 | -7.4 | -9.4 | -11.7 | -12.9 | -12.4 | -13.0 | -13.5 | -13.7 | -13.7 | -13.7 | -6.7 | -9.2 |
| Oct 29 | -14.2 | -14.1 | -14.2 | -14.3 | -14.3 | -14.1 | -14.0 | -14.0 | -13.3 | -10.4 | -8.1 | -6.1 | -4.1 | -2.8 | -2.4 | -2.1 | -1.9 | -2.5 | -3.3 | -3.2 | -2.6 | -1.8 | -1.9 | -1.8 | -14.3 | -1.8 | -7.6 |
| Oct 30 | -2.3 | -2.5 | -3.0 | -3.1 | -2.7 | -2.7 | -2.2 | -1.9 | -1.5 | -0.4 | 0.7 | 1.7 | 1.3 | 0.4 | 0.7 | 0.6 | 0.8 | 1.0 | 1.1 | 1.2 | 1.2 | 1.0 | 1.4 | 1.2 | -3.1 | 1.7 | -0.3 |
| Oct 31 | 0.9 | 1.1 | 0.7 | 0.2 | 0.1 | -0.1 | 0.5 | 1.0 | 0.9 | 1.0 | 1.2 | 1.6 | 3.4 | 3.7 | 3.8 | 4.3 | 3.4 | 1.6 | 0.4 | -1.3 | -1.3 | -1.1 | -1.9 | -2.1 | -2.1 | 4.3 | 0.9 |
| Diurnal Maximum | 9.5 | 9.7 | 9.8 | 10.6 | 10.7 | 10.8 | 11.2 | 10.9 | 9.0 | 9.2 | 11.6 | 13.5 | 14.8 | 15.9 | 16.7 | 16.9 | 16.2 | 15.3 | 11.5 | 11.4 | 11.2 | 11.0 | 10.1 | 9.6 | | | |
| Diurnal Average | 0.9 | 0.6 | 0.2 | -0.1 | -0.1 | -0.1 | -0.2 | -0.3 | 0.3 | 1.4 | 2.5 | 3.6 | 4.6 | 5.3 | 5.6 | 5.7 | 5.3 | 4.3 | 2.9 | 2.1 | 1.9 | 1.6 | 1.3 | 1.0 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

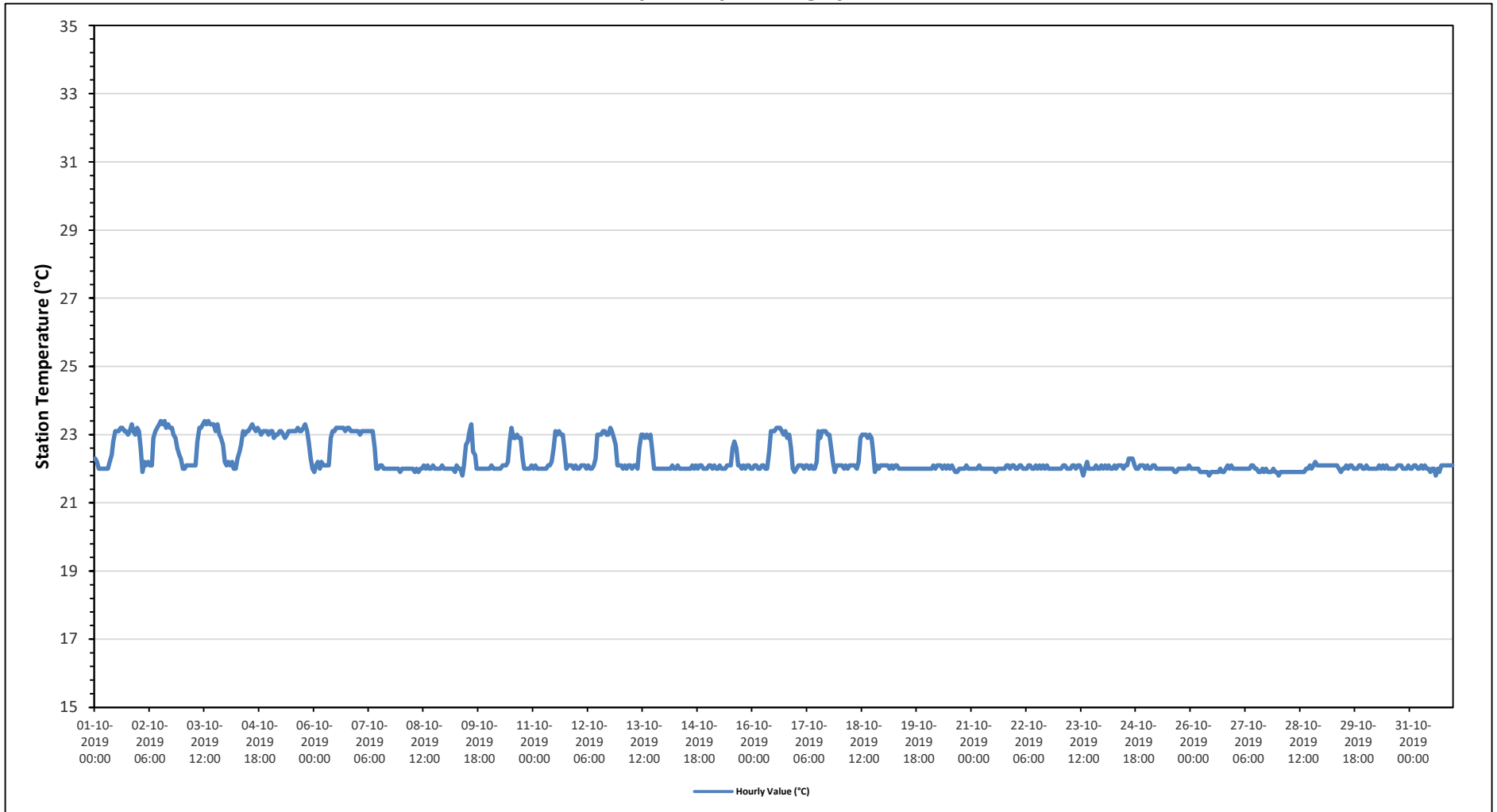
| | | | | |
|-----------------------|---------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 23.4 °C | on October 2 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.0 °C | on October 5 | Hours of Data: | 744 |
| Minimum Hourly Value: | 21.8 °C | on October 9 at hour 9 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 22.0 °C | on October 26 | Hours of Calibration: | 0 |
| Monthly Average: | 22.3 °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 |
| Oct 1 | 22.3 | 22.2 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.2 | 22.4 | 22.8 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.1 | 23.1 | 23.0 | 23.1 | 23.3 | 23.1 | 23.0 | 23.2 | 22.0 | 23.3 | 22.7 |
| Oct 2 | 23.1 | 22.6 | 21.9 | 22.2 | 22.1 | 22.2 | 22.1 | 22.1 | 22.9 | 23.1 | 23.2 | 23.3 | 23.4 | 23.3 | 23.4 | 23.2 | 23.3 | 23.2 | 23.2 | 23.0 | 22.9 | 22.6 | 22.4 | 22.3 | 21.9 | 23.4 | 22.8 |
| Oct 3 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.8 | 23.2 | 23.2 | 23.3 | 23.4 | 23.3 | 23.4 | 23.3 | 23.3 | 23.3 | 23.1 | 23.3 | 23.0 | 22.9 | 22.7 | 22.2 | 22.0 | 23.4 | 22.8 |
| Oct 4 | 22.1 | 22.2 | 22.1 | 22.2 | 22.0 | 22.0 | 22.3 | 22.5 | 22.7 | 23.1 | 23.0 | 23.1 | 23.1 | 23.2 | 23.3 | 23.2 | 23.1 | 23.2 | 23.1 | 23.0 | 23.1 | 23.1 | 23.1 | 23.0 | 22.0 | 23.3 | 22.8 |
| Oct 5 | 23.1 | 23.1 | 22.9 | 23.0 | 23.0 | 23.1 | 23.1 | 23.0 | 22.9 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.3 | 23.1 | 22.8 | 22.3 | 22.0 | 22.0 | 23.3 | 23.0 | |
| Oct 6 | 21.9 | 22.1 | 22.2 | 22.0 | 22.2 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.9 | 23.1 | 23.1 | 23.2 | 23.2 | 23.2 | 23.1 | 23.2 | 23.2 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 21.9 | 23.3 | 22.7 |
| Oct 7 | 23.1 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 22.6 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.9 | 23.1 | 22.4 | |
| Oct 8 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 22.0 | 21.9 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 21.9 | 21.9 | 22.1 | 22.0 |
| Oct 9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 22.1 | 22.0 | 22.0 | 21.8 | 22.1 | 22.7 | 22.8 | 23.1 | 23.3 | 22.5 | 22.4 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.8 | 23.3 | 22.2 | |
| Oct 10 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.2 | 22.8 | 23.2 | 22.9 | 23.0 | 22.9 | 22.9 | 22.9 | 22.3 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 23.2 | 22.3 |
| Oct 11 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.2 | 22.6 | 23.1 | 23.0 | 23.1 | 23.0 | 23.0 | 22.6 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 23.1 | 22.3 |
| Oct 12 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.3 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.0 | 23.0 | 23.2 | 23.1 | 22.9 | 22.7 | 22.1 | 22.1 | 22.0 | 23.2 | 22.5 |
| Oct 13 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.6 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 23.0 | 22.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 23.0 | 22.3 |
| Oct 14 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 |
| Oct 15 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.6 | 22.8 | 22.6 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.8 | 22.1 |
| Oct 16 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.5 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.1 | 23.0 | 23.1 | 23.0 | 23.1 | 22.9 | 23.0 | 22.6 | 22.0 | 21.9 | 23.2 | 22.6 |
| Oct 17 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.2 | 23.1 | 22.9 | 23.1 | 23.1 | 23.1 | 23.0 | 23.0 | 22.6 | 22.2 | 21.9 | 22.1 | 22.1 | 21.9 | 23.1 | 22.4 |
| Oct 18 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 22.2 | 22.9 | 23.0 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 22.5 | 21.9 | 22.1 | 22.0 | 22.1 | 22.1 | 21.9 | 23.0 | 22.3 |
| Oct 19 | 22.1 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 |
| Oct 20 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 21.9 | 21.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 21.9 | 22.1 | 22.0 |
| Oct 21 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.1 | 22.1 | 21.9 | 22.1 | 22.0 |
| Oct 22 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 |
| Oct 23 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 21.8 | 22.0 | 22.2 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 21.8 | 22.2 | 22.0 |
| Oct 24 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.1 | 22.3 | 22.3 | 22.3 | 22.1 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.3 | 22.1 |
| Oct 25 | 22.1 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 21.9 | 22.1 | 22.0 | |
| Oct 26 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.8 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 22.0 | 21.9 | 21.9 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 21.8 | 22.1 | 22.0 |
| Oct 27 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 21.9 | 21.9 | 22.0 | 21.9 | 22.0 | 21.9 | 21.9 | 21.9 | 22.0 | 21.9 | 21.9 | 21.9 | 22.1 | 22.0 |
| Oct 28 | 21.8 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.2 | 22.1 | 22.1 | 21.8 | 22.2 | 22.0 |
| Oct 29 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 21.9 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 21.9 | 22.1 | 22.1 |
| Oct 30 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 |
| Oct 31 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.0 | 22.1 | 22.0 | 22.1 | 22.0 | 22.0 | 21.9 | 22.0 | 21.8 | 22.0 | 21.9 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 21.8 | 22.1 | 22.0 |
| Diurnal Maximum | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.3 | 23.4 | 23.3 | 23.4 | 23.3 | 23.3 | 23.3 | 23.2 | 23.3 | 23.3 | 23.1 | 23.1 | 23.2 | | | |
| Diurnal Average | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.2 | 22.2 | 22.2 | 22.3 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.2 | 22.2 | 22.1 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 ST - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

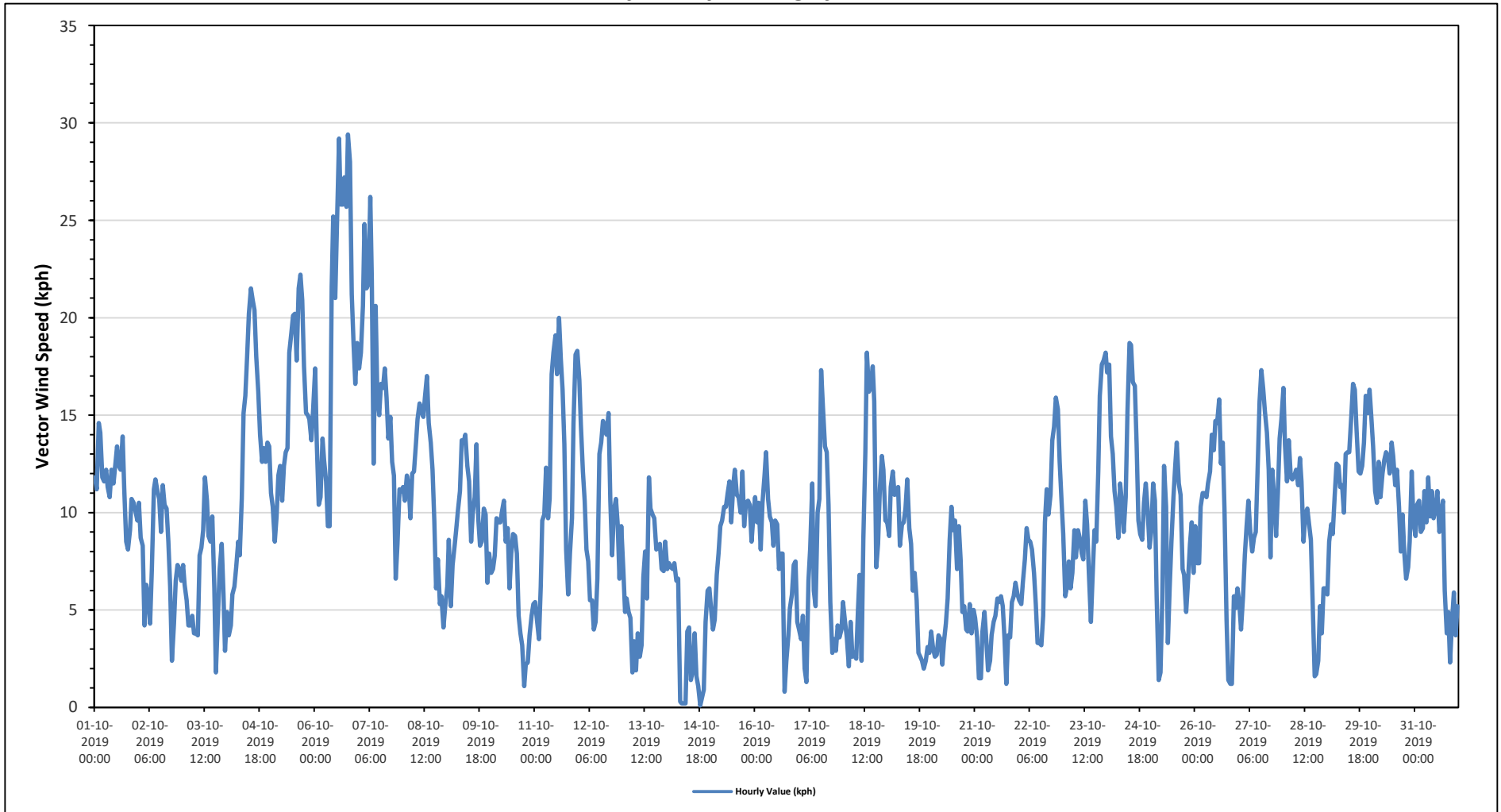
| | | | | |
|-----------------------|----------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 29.4 kph | on October 6 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.5 kph | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.1 kph | on October 14 at hour 18 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 3.6 kph | on October 14 | Hours of Calibration: | 0 |
| Monthly Average: | 4.2 kph | | 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 |
| Oct 1 | 11.8 | 11.2 | 14.6 | 14.1 | 11.8 | 11.6 | 12.2 | 11.3 | 10.8 | 12.2 | 11.5 | 12.3 | 13.4 | 12.4 | 12.2 | 13.9 | 11.3 | 8.5 | 8.1 | 9.1 | 10.7 | 10.5 | 10.1 | 9.6 | 8.1 | 14.6 | 11.5 |
| Oct 2 | 10.5 | 8.7 | 8.3 | 4.2 | 6.3 | 5.8 | 4.3 | 7.1 | 11.2 | 11.7 | 11.1 | 10.7 | 9 | 11.4 | 10.4 | 10.2 | 8.5 | 6.2 | 2.4 | 4.3 | 6.5 | 7.3 | 7.1 | 6.5 | 2.4 | 11.7 | 7.9 |
| Oct 3 | 7.3 | 6.3 | 5.5 | 4.2 | 4.2 | 4.7 | 3.8 | 3.8 | 3.7 | 7.8 | 8.2 | 9.1 | 11.8 | 10.6 | 8.8 | 8.5 | 9.8 | 6.1 | 1.8 | 4.6 | 7.1 | 8.4 | 5.8 | 2.9 | 1.8 | 11.8 | 6.5 |
| Oct 4 | 4.9 | 3.7 | 4.2 | 5.8 | 6.2 | 7.2 | 8.5 | 7.8 | 10.7 | 15.1 | 16 | 18 | 20.2 | 21.5 | 20.9 | 20.4 | 18 | 16.2 | 14 | 12.6 | 13.3 | 12.6 | 13.6 | 13.4 | 3.7 | 21.5 | 12.7 |
| Oct 5 | 11 | 10.3 | 8.5 | 9.8 | 11.9 | 12.4 | 10.6 | 12.4 | 13.1 | 13.3 | 18.2 | 19.2 | 20.1 | 20.2 | 17.8 | 21.5 | 22.2 | 20.9 | 17.5 | 15.1 | 15 | 14.8 | 13.7 | 15.3 | 8.5 | 22.2 | 15.2 |
| Oct 6 | 17.4 | 13.7 | 10.4 | 10.8 | 13.8 | 12.7 | 11.6 | 9.3 | 9.3 | 21.6 | 25.2 | 21 | 24.9 | 29.2 | 25.8 | 27.2 | 25.7 | 29.4 | 28 | 21.2 | 18.7 | 16.6 | 18.7 | 9.3 | 29.4 | 19.5 | |
| Oct 7 | 17.4 | 18.2 | 20.6 | 24.8 | 21.5 | 21.7 | 26.2 | 21.9 | 12.5 | 20.6 | 15.8 | 15 | 16.6 | 16.4 | 17.4 | 15.9 | 13.8 | 14.9 | 12.6 | 11.9 | 6.6 | 8.4 | 11.2 | 11.1 | 6.6 | 26.2 | 16.4 |
| Oct 8 | 11.3 | 10.6 | 11.9 | 11.4 | 9.7 | 12 | 12.1 | 13.6 | 14.8 | 15.6 | 15.2 | 14.9 | 15.9 | 17 | 14.6 | 13.6 | 12.2 | 9.6 | 6.1 | 7.6 | 5.3 | 5.7 | 4.1 | 5.2 | 4.1 | 17.0 | 11.3 |
| Oct 9 | 6.2 | 8.6 | 5.2 | 7.3 | 8.3 | 9.1 | 10.1 | 11.1 | 13.7 | 13.6 | 14 | 12.4 | 11.6 | 8.5 | 9.9 | 10.8 | 13.5 | 9.7 | 8.3 | 8.5 | 10.2 | 9.9 | 6.4 | 7.9 | 5.2 | 14.0 | 9.8 |
| Oct 10 | 6.9 | 7.1 | 7.8 | 9.7 | 9.5 | 9.5 | 10.1 | 10.6 | 8.5 | 9.2 | 6.1 | 7.9 | 8.9 | 8.8 | 7.9 | 4.7 | 3.8 | 3.2 | 1.1 | 2.2 | 2.3 | 3.7 | 4.7 | 5.3 | 1.1 | 10.6 | 6.6 |
| Oct 11 | 5.4 | 4.5 | 3.5 | 6.2 | 9.6 | 9.9 | 12.3 | 9.7 | 10.7 | 17.1 | 18.2 | 19.1 | 17.1 | 20 | 17.9 | 16.3 | 13.5 | 8.1 | 5.8 | 7.9 | 9.7 | 14.6 | 18.1 | 18.3 | 3.5 | 20.0 | 12.2 |
| Oct 12 | 16.8 | 14.5 | 12.1 | 10.6 | 8.1 | 7.5 | 5.5 | 5.5 | 4 | 4.4 | 6.6 | 13 | 13.6 | 14.7 | 14.4 | 14 | 15.1 | 10.6 | 7.8 | 10.1 | 10.7 | 9.4 | 6.6 | 9.3 | 4.0 | 16.8 | 10.2 |
| Oct 13 | 7.1 | 4.9 | 5.6 | 4.9 | 4.6 | 1.8 | 3.4 | 1.9 | 3.8 | 2.6 | 3.2 | 6.7 | 8 | 5.6 | 11.8 | 10.2 | 9.9 | 9.7 | 8.1 | 8.2 | 8.4 | 7.1 | 7 | 8.5 | 1.8 | 11.8 | 6.4 |
| Oct 14 | 7.1 | 7.4 | 7.2 | 7.1 | 7.4 | 6.5 | 6.6 | 0.3 | 0.2 | 0.2 | 0.2 | 3.9 | 4.1 | 1.4 | 1.9 | 3.8 | 1.6 | 1.1 | 0.1 | 0.5 | 0.9 | 4.4 | 6 | 6.1 | 0.1 | 7.4 | 3.6 |
| Oct 15 | 5 | 4 | 4.5 | 6.8 | 7.9 | 9.3 | 9.6 | 10.3 | 10.3 | 11 | 11.6 | 9.5 | 11.4 | 12.2 | 10.9 | 10.8 | 10 | 12.1 | 9.3 | 10.5 | 10.6 | 10.4 | 8.5 | 9.8 | 4.0 | 12.2 | 9.4 |
| Oct 16 | 10.8 | 9.5 | 10.5 | 8.1 | 10.5 | 11.9 | 13.1 | 10.7 | 9.8 | 9.5 | 8.3 | 9.6 | 9.4 | 7.1 | 7.9 | 0.8 | 2.4 | 3.7 | 5.1 | 5.8 | 7.3 | 7.5 | 4.4 | 0.8 | 13.1 | 8.0 | |
| Oct 17 | 4 | 3.5 | 4.7 | 2 | 1.3 | 6.5 | 8.2 | 11.5 | 6 | 5.2 | 10 | 10.7 | 17.3 | 15.4 | 13.4 | 13.1 | 10.4 | 5.4 | 2.8 | 3.5 | 2.9 | 4.2 | 3.6 | 4 | 1.3 | 17.3 | 7.1 |
| Oct 18 | 5.4 | 4.4 | 3.6 | 2.1 | 4.4 | 2.6 | 2.8 | 2.5 | 5 | 6.8 | 2.4 | 8.6 | 13.1 | 18.2 | 16.2 | 16.5 | 17.5 | 15.7 | 7.2 | 8.4 | 11.2 | 12.9 | 12.2 | 9.6 | 2.1 | 18.2 | 8.7 |
| Oct 19 | 9.5 | 8.8 | 11.3 | 12.1 | 10.9 | 11 | 11.3 | 8.3 | 9.4 | 9.5 | 10.2 | 11.7 | 9.2 | 8.4 | 6 | 6.9 | 5.5 | 2.8 | 2.6 | 2.4 | 2 | 2.4 | 3.1 | 2.8 | 2.0 | 12.1 | 7.4 |
| Oct 20 | 3.9 | 3 | 2.6 | 2.7 | 3.7 | 3.5 | 2.2 | 3.3 | 4.3 | 5.6 | 8.6 | 10.3 | 9.1 | 9.6 | 7.1 | 9.3 | 7.6 | 4.9 | 5.2 | 4 | 3.9 | 5.3 | 3.8 | 5 | 2.2 | 10.3 | 5.4 |
| Oct 21 | 4.6 | 3.6 | 1.5 | 1.5 | 3.9 | 4.9 | 3.5 | 1.9 | 2.4 | 3.7 | 4.4 | 4.7 | 5.6 | 5.4 | 5.7 | 5.2 | 3.5 | 1.2 | 3.7 | 3.6 | 5.4 | 5.7 | 6.4 | 5.8 | 1.2 | 6.4 | 4.1 |
| Oct 22 | 5.5 | 5.3 | 6.4 | 7.6 | 9.2 | 8.6 | 8.5 | 8.1 | 6.9 | 5.3 | 3.3 | 3.3 | 3.2 | 4.7 | 9.5 | 11.2 | 9.9 | 10.9 | 13.7 | 14.4 | 15.9 | 15.3 | 12.6 | 10.7 | 3.2 | 15.9 | 8.8 |
| Oct 23 | 8.9 | 5.7 | 6.2 | 7.5 | 6.1 | 6.9 | 9.1 | 7.7 | 9.1 | 8.7 | 7.9 | 7.6 | 10.6 | 9.4 | 6.9 | 4.4 | 6.5 | 9.1 | 8.5 | 12.1 | 16 | 17.6 | 17.8 | 18.2 | 4.4 | 18.2 | 9.5 |
| Oct 24 | 17.2 | 17.6 | 13.9 | 13 | 11.1 | 10.3 | 8.7 | 11.5 | 10.4 | 9 | 10.8 | 15.2 | 18.7 | 18.6 | 16.7 | 16.5 | 13.5 | 9.6 | 8.9 | 8.6 | 10.5 | 11.5 | 10.2 | 8.2 | 8.2 | 18.7 | 12.5 |
| Oct 25 | 9.1 | 11.5 | 10.6 | 5.6 | 1.4 | 1.8 | 5.5 | 12.4 | 10.3 | 3.3 | 6.1 | 8.5 | 10.8 | 12.4 | 13.6 | 11.5 | 10.9 | 7.1 | 6.8 | 4.9 | 6.4 | 8.4 | 9.5 | 6.9 | 1.4 | 13.6 | 8.1 |
| Oct 26 | 9.3 | 7.4 | 7.4 | 10.3 | 11 | 11 | 10.8 | 11.5 | 12.1 | 14 | 13.2 | 14.7 | 14.6 | 15.8 | 12.5 | 13.6 | 10.1 | 4.5 | 1.4 | 1.2 | 1.2 | 5.7 | 5.1 | 6.1 | 1.2 | 15.8 | 9.4 |
| Oct 27 | 5.4 | 4 | 5.7 | 7.8 | 9.3 | 10.6 | 8.9 | 8 | 8.7 | 9 | 12.5 | 15.7 | 17.3 | 16.4 | 15.2 | 14.1 | 12.2 | 7.7 | 12.2 | 10.7 | 8.8 | 11 | 13.8 | 14.8 | 4.0 | 17.3 | 10.8 |
| Oct 28 | 16.4 | 13.5 | 11.6 | 13.7 | 11.8 | 11.7 | 11.9 | 12.2 | 11.4 | 12.8 | 11.6 | 8.5 | 9.9 | 10.2 | 9.5 | 8.6 | 5.4 | 1.6 | 1.7 | 2.4 | 5.2 | 3.8 | 6.1 | 6.1 | 1.6 | 16.4 | 9.1 |
| Oct 29 | 5.8 | 8.5 | 9.4 | 8.9 | 10.9 | 12.5 | 12.4 | 11.3 | 11.4 | 10 | 13 | 13.1 | 13.1 | 14.9 | 16.6 | 16.3 | 14.2 | 12.1 | 12 | 12.4 | 13.6 | 16 | 15.1 | 16.3 | 5.8 | 16.6 | 12.5 |
| Oct 30 | 14.9 | 13.4 | 11.1 | 10.5 | 12.6 | 10.8 | 12 | 12.7 | 13.1 | 12.9 | 12 | 13.6 | 12.9 | 11.4 | 12.2 | 10.3 | 8 | 9.9 | 7.9 | 6.6 | 7.2 | 8.5 | 12.1 | 9.5 | 6.6 | 14.9 | 11.1 |
| Oct 31 | 8.8 | 10.4 | 10.6 | 9 | 9.2 | 11.1 | 9.5 | 11.8 | 9.8 | 11.1 | 9.7 | 10.2 | 11.1 | 9 | 9.9 | 10.6 | 6 | 3.8 | 4.9 | 2.3 | 4.5 | 5.9 | 3.7 | 5.2 | 2.3 | 11.8 | 8.3 |
| Diurnal Maximum | 17 | 18 | 21 | 25 | 22 | 22 | 26 | 22 | 15 | 22 | 25 | 21 | 25 | 29 | 26 | 26 | 27 | 26 | 29 | 28 | 21 | 19 | 18 | 19 | | | |
| Diurnal Average | 9.2 | 8.5 | 8.3 | 8.4 | 8.6 | 8.9 | 9.2 | 9.1 | 8.9 | 10.1 | 10.5 | 11.6 | 12.7 | 12.8 | 12.3 | 12.1 | 10.7 | 8.8 | 7.6 | 7.9 | 8.4 | 9.3 | 9.1 | 9.1 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 - 842b Station

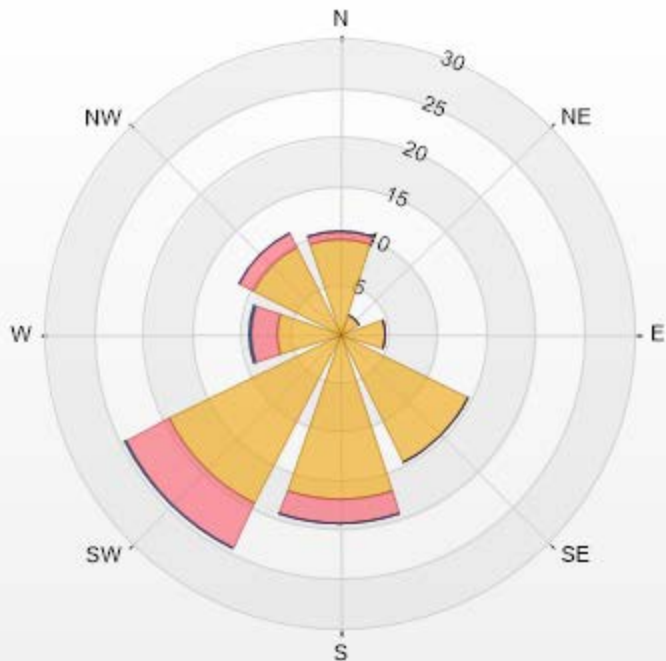


Wind: PRAMP 842b Poll.: PRAMP 842b-WDS[KPH] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 3.36% Valid Data: 99.87% Calm Avg: 1.10 [KPH]

| Direction | 6-15 | 15-29 | 29-39 | >39.0 | Total |
|-----------|-------|-------|-------|-------|-------|
| N | 9.69 | 0.81 | 0 | 0 | 10.5 |
| NE | 2.15 | 0 | 0 | 0 | 2.15 |
| E | 4.58 | 0 | 0 | 0 | 4.58 |
| SE | 14.67 | 0 | 0 | 0 | 14.67 |
| S | 16.82 | 2.56 | 0 | 0 | 19.38 |
| SW | 19.38 | 4.98 | 0.13 | 0 | 24.49 |
| W | 6.46 | 2.69 | 0.13 | 0 | 9.28 |
| NW | 9.96 | 1.62 | 0 | 0 | 11.58 |
| Summary | 83.71 | 12.66 | 0.26 | 0 | 96.63 |

Avg: 1.10[KPH]

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| | | | | | |
|----------------------|------|-------|-------|-------|---|
| % Icon Classes (KPH) | 84 | 6 | 19 | 0 | 0 |
| | 6-15 | 15-29 | 29-39 | >39.0 | |



PEACE RIVER AREA MONITORING PROGRAM

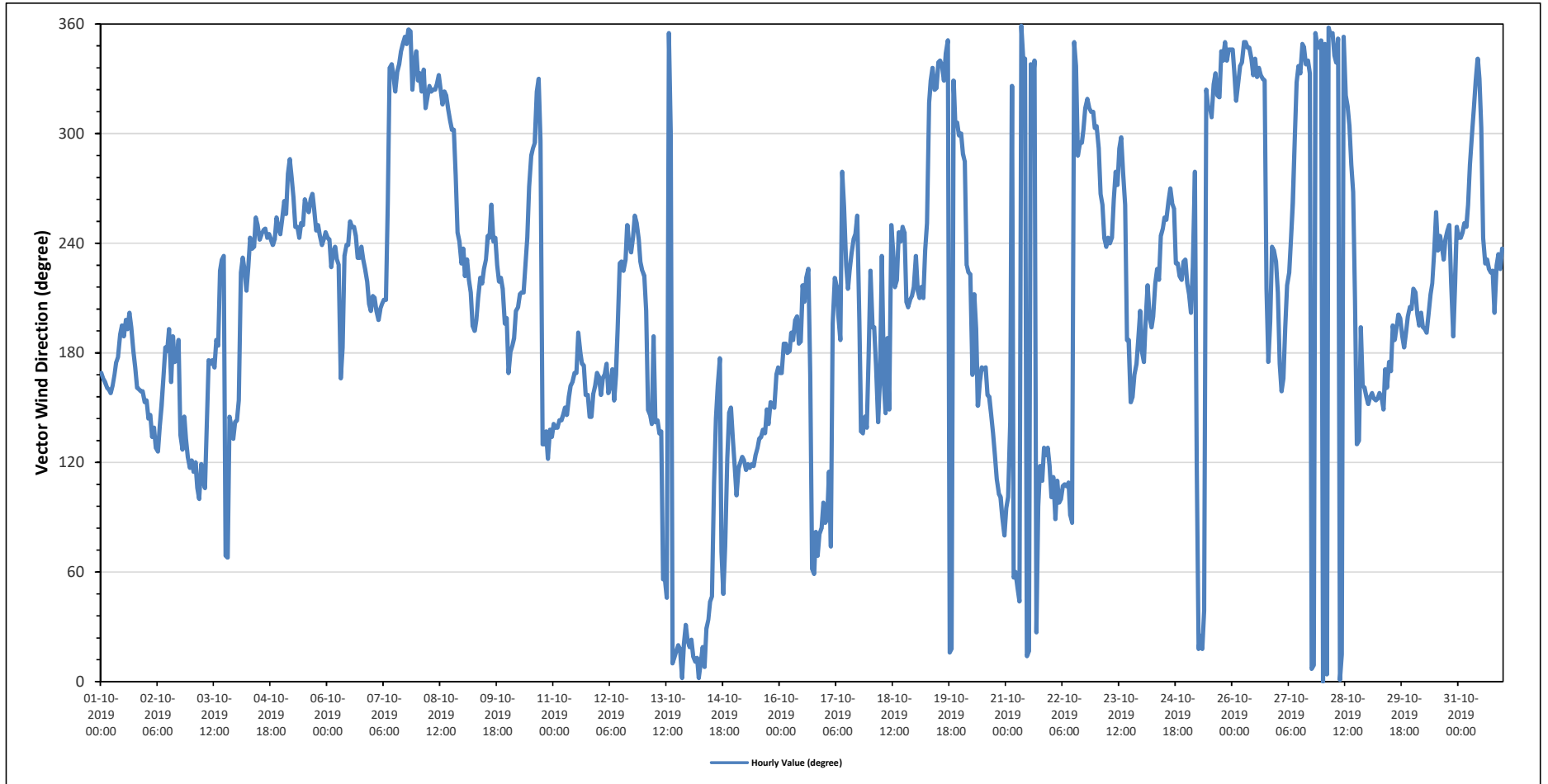
842b Station - October 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

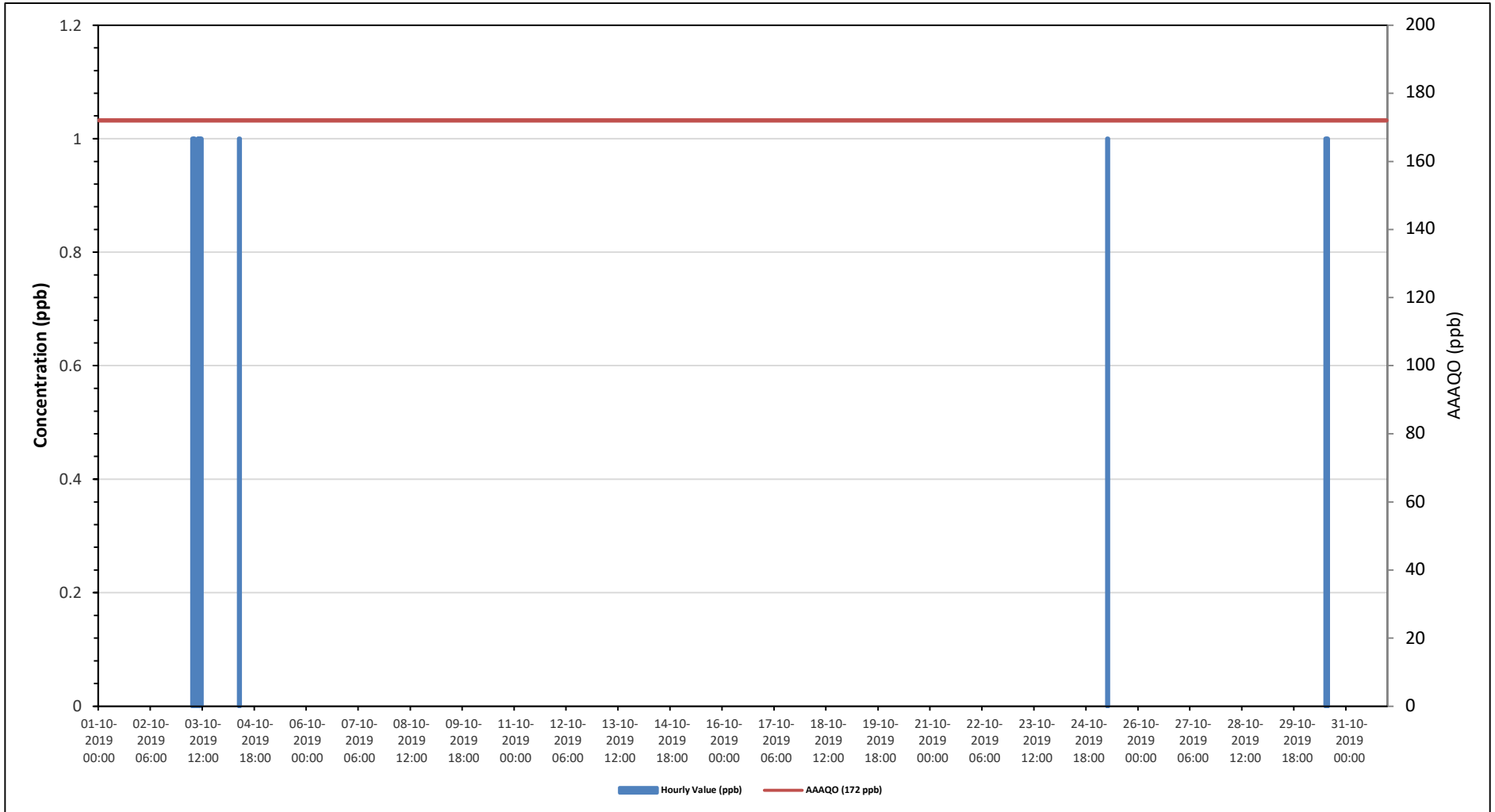
| Monthly Average: | | 227 (SW) degree | | | | | | | | | | | | | | | | | | Hours in Service: | | 744 | | | | | |
|---|---------------------------------|-----------------|-----|-----|-----|---------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|----------------------------|-----|-----|-----|------------------------|------------------------|-------|-----|---------------|--------|----------|--|
| | | | | | | | | | | | | | | | | | | | | Hours of Data: | | 744 | | | | | |
| | | | | | | | | | | | | | | | | | | | | Hours of Missing Data: | | 0 | | | | | |
| | | | | | | | | | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | |
| | | | | | | | | | | | | | | | | | | | | 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 | |
| Oct 1 | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | S | SSW | S | SSW | S | SSW | S | S | SSE | SSE | SSE | SSE | SSE | SSE | 174 | S | |
| Oct 2 | SSE | SE | SE | SE | SE | SE | SE | SE | SSE | SSE | S | S | S | SSE | S | S | S | S | SE | SE | SE | SE | ESE | ESE | 157 | SSE | |
| Oct 3 | ESE | ESE | ESE | ESE | E | ESE | ESE | ESE | SE | S | S | S | S | S | S | SW | SW | SW | ENE | ENE | SE | SE | SE | SE | 158 | SSE | |
| Oct 4 | SE | SSE | SW | SW | SW | SSW | SW | WSW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | 241 | WSW | |
| Oct 5 | WSW | W | WSW | W | WNW | W | W | WSW | WSW | WSW | WSW | W | WSW | WSW | W | W | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | 256 | WSW | |
| Oct 6 | WSW | WSW | SW | SW | SW | SW | SW | SSE | S | SW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | SW | SW | SW | SW | SSW | SSW | 233 | SW | |
| Oct 7 | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | W | NNW | NNW | NNW | NW | NNW | NNW | NNW | NNW | N | NNW | N | N | NW | NNW | NNW | 283 | W | |
| Oct 8 | NNW | NNW | NW | NNW | NW | NW | NW | NW | NW | NW | NNW | NW | NW | NW | NW | NW | NW | NNW | NNW | W | WSW | WSW | SW | SW | 318 | NW | |
| Oct 9 | SW | SW | SW | SW | SSW | SSW | S | SSW | SSW | SW | SW | SW | WSW | WSW | W | WSW | WSW | SW | SW | SW | SSW | SSW | SSW | SSW | 222 | SW | |
| Oct 10 | SSE | S | S | S | SSW | SSW | SSW | SSW | SSW | SW | WSW | W | WNW | WNW | WNW | NW | NNW | WNW | SE | SE | SE | ESE | SE | SE | 219 | SW | |
| Oct 11 | SE | SE | SE | SE | SE | SE | SSE | SE | SSE | SSE | SSE | S | S | S | S | S | SSE | SSE | SE | SE | SSE | SSE | SSE | SSE | 162 | SSE | |
| Oct 12 | SSE | SSE | SSE | SSE | S | SSE | SSE | S | SSE | SSE | S | SW | SW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | 211 | SSW | |
| Oct 13 | SW | SSW | SSE | SE | SE | S | SE | SE | SE | SE | NE | NE | NE | N | WNW | N | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | 28 | NNE | |
| Oct 14 | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | N | NNE | NE | NE | NE | ESE | SE | SSE | S | ENE | NE | ENE | ESE | SE | SSE | SE | 45 | NE | |
| Oct 15 | ESE | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | SE | SE | SE | SE | SE | SE | SSE | SE | SSE | SSE | SSE | S | S | 133 | SE | |
| Oct 16 | SSE | SSE | S | S | S | S | S | S | SSW | SSW | S | S | SW | SSW | SW | SW | SSE | ENE | ENE | E | ENE | E | E | E | 178 | S | |
| Oct 17 | E | E | ESE | ENE | SSW | SW | SW | SSW | S | W | WSW | SW | SSW | SW | SW | WSW | WSW | WSW | SSW | SE | SE | SE | SE | S | 216 | SW | |
| Oct 18 | SW | SSW | SSW | S | SE | SSE | SW | SSE | SE | S | SSE | WSW | SW | SW | SW | WSW | WSW | WSW | WSW | SSW | SSW | SSW | SSW | SSW | 219 | SW | |
| Oct 19 | SW | SSW | SSW | SW | SSW | SW | WSW | NW | NNW | NNW | NW | NW | NNW | NNW | NNW | NNW | NNW | N | NNE | NNE | NNW | NW | NW | WNW | 290 | WNW | |
| Oct 20 | WNW | WNW | WNW | SW | SW | SW | SSE | SSW | S | SSE | SSE | S | S | S | SSE | SSE | SE | SE | ESE | ESE | ESE | E | E | E | 160 | SSE | |
| Oct 21 | E | E | SE | NW | ENE | ENE | NE | NE | N | NNW | NNW | NNE | NNW | NW | NNW | NNE | E | ESE | ESE | SE | ESE | SE | ESE | SE | 55 | NE | |
| Oct 22 | E | ESE | E | ESE | E | E | ESE | ESE | ESE | ESE | E | E | N | NNW | WNW | WNW | WNW | WNW | NW | NW | NW | NW | NW | WNW | 339 | NNW | |
| Oct 23 | WNW | WNW | W | W | WSW | SW | WSW | WSW | WSW | W | W | W | WNW | WNW | W | W | S | S | SSE | SSE | SSE | S | S | SSW | 227 | SW | |
| Oct 24 | S | S | SSW | SW | SSW | SSW | SSW | SW | SW | SW | WSW | WSW | WSW | WSW | W | W | W | WSW | SW | SW | SW | SW | SW | SW | 228 | SW | |
| Oct 25 | SW | SSW | SSW | SW | W | ESE | NNE | NNE | NNE | NE | NW | NW | NW | NW | NW | NNW | NW | NNW | NNW | N | NNW | NNW | NNW | 325 | NW | | |
| Oct 26 | NNW | NNW | NW | NNW | NNW | NNW | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | SSW | S | SSW | SW | SW | SW | 332 | NNW | |
| Oct 27 | SSW | S | SSE | SSE | SSW | SW | SW | WSW | W | WNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | N | N | N | NNW | NNW | N | N | 327 | NW | |
| Oct 28 | N | NNW | N | N | N | N | NNW | NNW | N | N | NNE | N | NW | NW | WNW | W | W | SSW | SE | SE | SSW | SSE | SSE | SSE | 344 | NNW | |
| Oct 29 | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | SSE | S | SSE | SSW | S | SSW | SSW | SSW | S | S | S | SSW | SSW | SSW | 179 | S | |
| Oct 30 | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | S | SSW | SSW | SW | SW | WSW | SW | WSW | SW | WSW | WSW | SW | SW | SW | SW | SW | 219 | SW | |
| Oct 31 | WSW | WSW | WSW | WSW | WSW | W | W | WNW | NW | NNW | NNW | NNW | WNW | WSW | SW | SW | SW | SW | SSW | SW | SW | SW | SW | SW | 265 | W | |
| 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

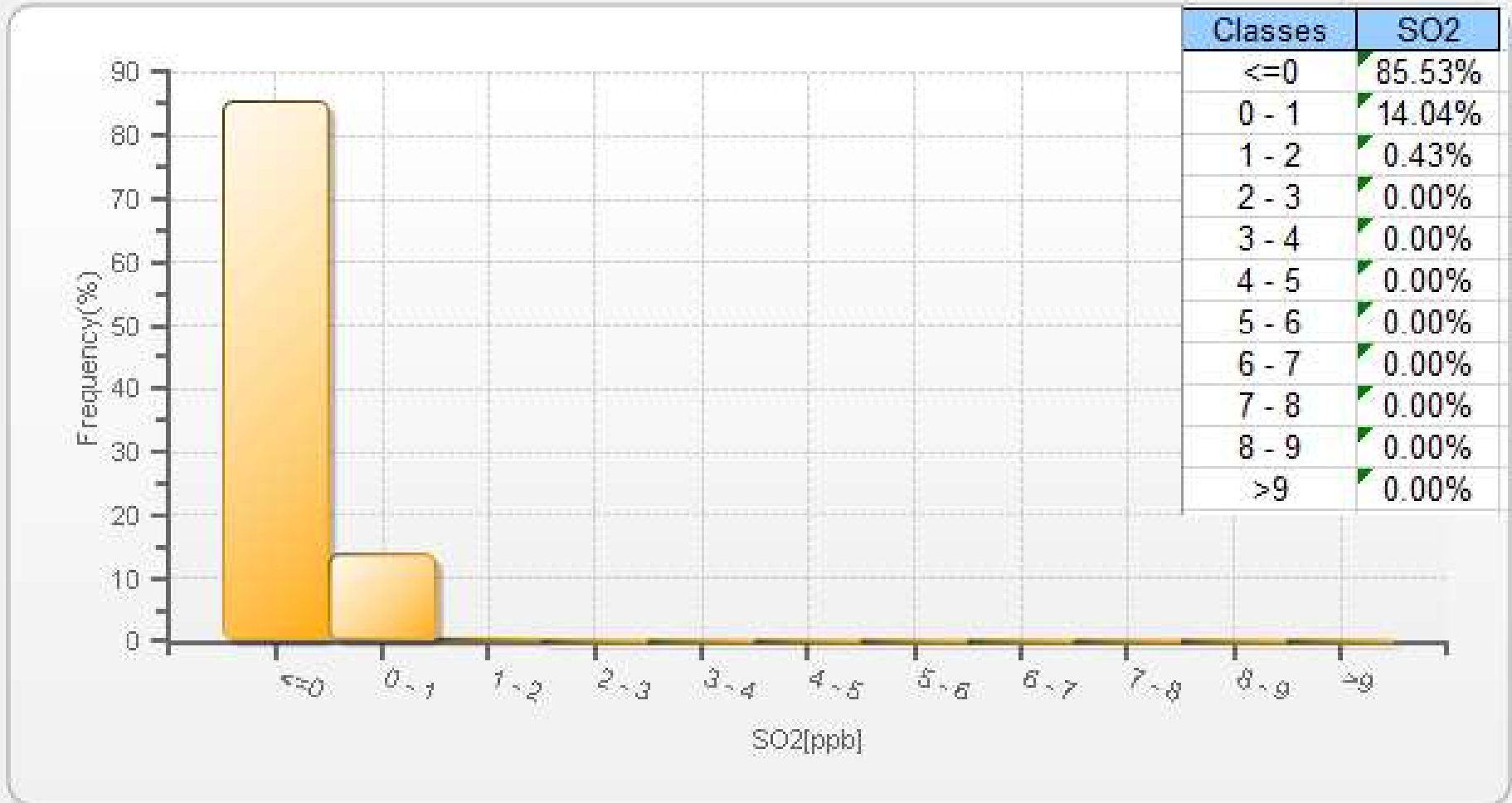


RENO STATION

Timeseries Chart of Hourly Average for SO₂ - Reno Station



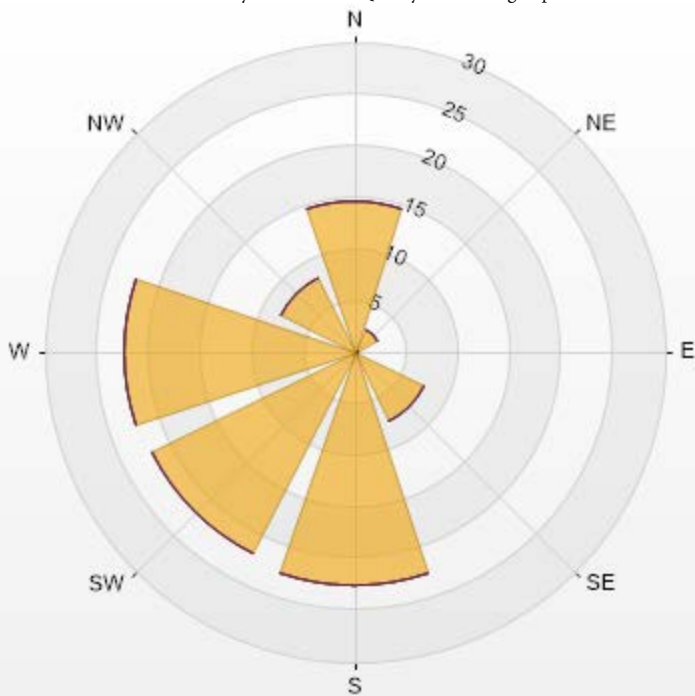
SO2[ppb] Histogram: PRAMP RENO Monthly: 10-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 89.39% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 14.61 | 0 | 0 | 0 | 0 | 14.61 |
| NE | 2.44 | 0 | 0 | 0 | 0 | 2.44 |
| E | 0.3 | 0 | 0 | 0 | 0 | 0.3 |
| SE | 7.61 | 0 | 0 | 0 | 0 | 7.61 |
| S | 22.68 | 0 | 0 | 0 | 0 | 22.68 |
| SW | 21.92 | 0 | 0 | 0 | 0 | 21.92 |
| W | 22.37 | 0 | 0 | 0 | 0 | 22.37 |
| NW | 8.07 | 0 | 0 | 0 | 0 | 8.07 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

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



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019

Summary of Hourly Averages

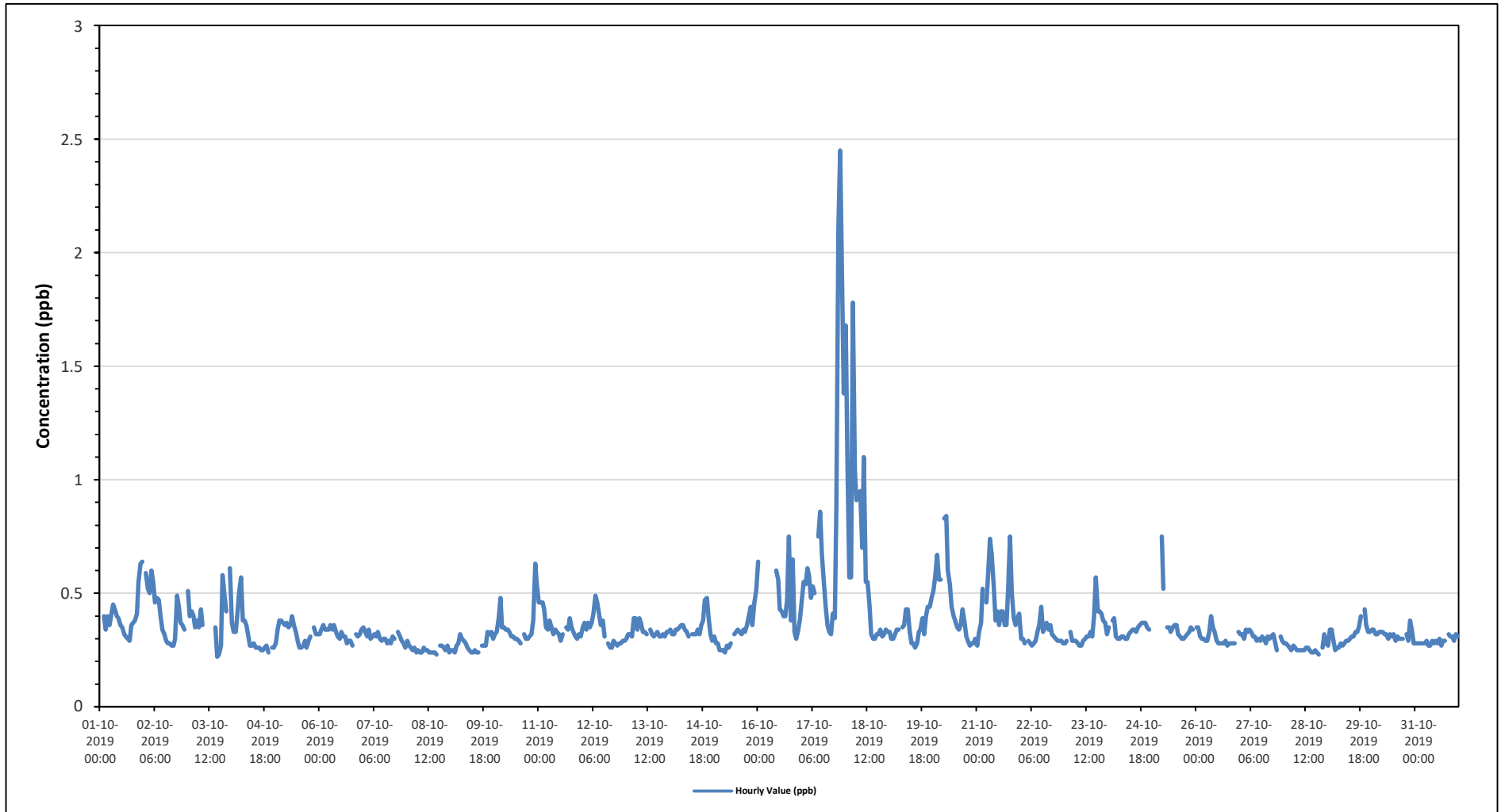
TOTAL REDUCED SULPHUR (TRS) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO) for H2S: 1-Hour 10 ppb, 24-Hour 3 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|------|------|------|----------------------------------|---------------------|------|------|------|------|-------------------|------|------|------|------|----------------------------|------|------|------|------|------------------------|------|------|---------------|---------------|---------------|------|------|
| Number of 1-Hour Exceedances: 0 | | | | | Number of 24-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 2.45 ppb on October 17 at hour 21 | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 0.78 ppb on October 17 | | | | | Hours of Data: 691 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0.22 ppb on October 3 at hour 16 | | | | | Hours of Missing Data: 15 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.25 ppb on October 8 | | | | | Hours of Calibration: 38 | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 0.37 ppb | | | | | Operational Uptime: 98.0 | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| Oct 1 | 0.37 | S | 0.4 | 0.34 | 0.4 | 0.36 | 0.4 | 0.45 | 0.43 | 0.4 | 0.39 | 0.36 | 0.35 | 0.32 | 0.31 | 0.3 | 0.29 | 0.36 | 0.37 | 0.38 | 0.41 | 0.55 | 0.63 | 0.64 | 0.29 | 0.64 | 0.40 | |
| Oct 2 | S | 0.59 | 0.52 | 0.5 | 0.6 | 0.55 | 0.46 | 0.48 | 0.47 | 0.4 | 0.34 | 0.32 | 0.29 | 0.28 | 0.28 | 0.27 | 0.27 | 0.3 | 0.49 | 0.44 | 0.37 | 0.36 | 0.34 | S | 0.27 | 0.60 | 0.41 | |
| Oct 3 | 0.51 | 0.4 | 0.42 | 0.4 | 0.35 | 0.38 | 0.35 | 0.43 | 0.36 | C | C | C | C | C | C | 0.35 | 0.22 | 0.23 | 0.27 | 0.58 | 0.49 | 0.42 | S | 0.61 | 0.22 | 0.61 | - | |
| Oct 4 | 0.37 | 0.33 | 0.33 | 0.4 | 0.5 | 0.57 | 0.38 | 0.38 | 0.36 | 0.31 | 0.27 | 0.27 | 0.28 | 0.26 | 0.26 | 0.26 | 0.25 | 0.25 | 0.26 | 0.27 | 0.24 | S | 0.26 | 0.26 | 0.24 | 0.57 | 0.32 | |
| Oct 5 | 0.28 | 0.34 | 0.38 | 0.38 | 0.37 | 0.36 | 0.37 | 0.35 | 0.36 | 0.4 | 0.36 | 0.33 | 0.29 | 0.26 | 0.26 | 0.27 | 0.29 | 0.26 | 0.29 | 0.31 | S | 0.35 | 0.32 | 0.32 | 0.26 | 0.40 | 0.33 | |
| Oct 6 | 0.32 | 0.34 | 0.36 | 0.34 | 0.34 | 0.34 | 0.36 | 0.34 | 0.36 | 0.33 | 0.31 | 0.3 | 0.33 | 0.31 | 0.31 | 0.28 | 0.29 | 0.29 | 0.27 | S | 0.32 | 0.31 | 0.32 | 0.34 | 0.27 | 0.36 | 0.32 | |
| Oct 7 | 0.35 | 0.33 | 0.31 | 0.34 | 0.3 | 0.31 | 0.32 | 0.31 | 0.33 | 0.3 | 0.29 | 0.3 | 0.3 | 0.28 | 0.29 | 0.28 | 0.31 | 0.3 | S | 0.33 | 0.31 | 0.29 | 0.28 | 0.26 | 0.26 | 0.35 | 0.31 | |
| Oct 8 | 0.29 | 0.27 | 0.26 | 0.25 | 0.26 | 0.24 | 0.25 | 0.24 | 0.24 | 0.26 | 0.25 | 0.25 | 0.24 | 0.24 | 0.24 | 0.24 | 0.23 | S | 0.27 | 0.27 | 0.26 | 0.25 | 0.27 | 0.24 | 0.23 | 0.29 | 0.25 | |
| Oct 9 | 0.25 | 0.25 | 0.24 | 0.27 | 0.28 | 0.32 | 0.3 | 0.29 | 0.28 | 0.26 | 0.25 | 0.24 | 0.24 | 0.25 | 0.24 | 0.24 | S | 0.27 | 0.27 | 0.27 | 0.33 | 0.32 | 0.33 | 0.3 | 0.24 | 0.33 | 0.27 | |
| Oct 10 | 0.32 | 0.33 | 0.39 | 0.48 | 0.35 | 0.35 | 0.34 | 0.34 | 0.33 | 0.31 | 0.31 | 0.3 | 0.3 | 0.29 | 0.28 | S | 0.32 | 0.3 | 0.3 | 0.31 | 0.32 | 0.38 | 0.63 | 0.54 | 0.28 | 0.63 | 0.35 | |
| Oct 11 | 0.46 | 0.46 | 0.46 | 0.43 | 0.35 | 0.34 | 0.38 | 0.35 | 0.32 | 0.34 | 0.33 | 0.32 | 0.29 | 0.32 | S | 0.35 | 0.34 | 0.39 | 0.35 | 0.33 | 0.31 | 0.3 | 0.32 | 0.31 | 0.29 | 0.46 | 0.35 | |
| Oct 12 | 0.35 | 0.37 | 0.34 | 0.37 | 0.35 | 0.37 | 0.41 | 0.49 | 0.46 | 0.41 | 0.36 | 0.38 | 0.31 | S | 0.28 | 0.26 | 0.26 | 0.29 | 0.28 | 0.27 | 0.28 | 0.28 | 0.29 | 0.29 | 0.26 | 0.49 | 0.34 | |
| Oct 13 | 0.3 | 0.32 | 0.32 | 0.31 | 0.39 | 0.39 | 0.34 | 0.39 | 0.37 | 0.33 | 0.33 | 0.32 | S | 0.34 | 0.32 | 0.31 | 0.32 | 0.33 | 0.31 | 0.31 | 0.32 | 0.31 | 0.33 | 0.33 | 0.30 | 0.39 | 0.33 | |
| Oct 14 | 0.34 | 0.32 | 0.32 | 0.34 | 0.34 | 0.35 | 0.36 | 0.36 | 0.34 | 0.33 | 0.31 | S | 0.32 | 0.32 | 0.32 | 0.34 | 0.32 | 0.36 | 0.38 | 0.47 | 0.48 | 0.39 | 0.32 | 0.29 | 0.29 | 0.48 | 0.35 | |
| Oct 15 | 0.31 | 0.28 | 0.28 | 0.25 | 0.25 | 0.25 | 0.24 | 0.27 | 0.26 | 0.28 | S | 0.32 | 0.33 | 0.34 | 0.33 | 0.32 | 0.34 | 0.33 | 0.36 | 0.4 | 0.44 | 0.36 | 0.46 | 0.51 | 0.24 | 0.51 | 0.33 | |
| Oct 16 | 0.64 | P | P | P | P | P | P | P | R | S | 0.6 | 0.56 | 0.43 | 0.42 | 0.4 | 0.4 | 0.47 | 0.75 | 0.38 | 0.65 | 0.33 | 0.3 | 0.34 | 0.39 | 0.30 | 0.75 | - | |
| Oct 17 | 0.47 | 0.55 | 0.54 | 0.61 | 0.58 | 0.48 | 0.53 | 0.5 | S | 0.75 | 0.86 | 0.67 | 0.56 | 0.44 | 0.36 | 0.33 | 0.32 | 0.41 | 0.39 | 0.88 | 2.11 | 2.45 | 1.84 | 1.38 | 0.32 | 2.45 | 0.78 | |
| Oct 18 | 1.68 | 1.05 | 0.57 | 0.57 | 1.78 | 1.04 | 0.91 | S | 0.95 | 0.7 | 1.1 | 0.55 | 0.55 | 0.44 | 0.32 | 0.3 | 0.3 | 0.32 | 0.32 | 0.34 | 0.31 | 0.32 | 0.34 | 0.33 | 0.30 | 1.78 | 0.66 | |
| Oct 19 | 0.33 | 0.3 | 0.3 | 0.32 | 0.34 | 0.34 | S | 0.35 | 0.36 | 0.43 | 0.43 | 0.33 | 0.28 | 0.28 | 0.26 | 0.28 | 0.33 | 0.34 | 0.39 | 0.32 | 0.4 | 0.44 | 0.44 | 0.48 | 0.26 | 0.48 | 0.35 | |
| Oct 20 | 0.51 | 0.57 | 0.67 | 0.56 | 0.56 | S | 0.83 | 0.84 | 0.6 | 0.54 | 0.44 | 0.4 | 0.38 | 0.35 | 0.34 | 0.36 | 0.43 | 0.38 | 0.31 | 0.29 | 0.27 | 0.28 | 0.28 | 0.3 | 0.27 | 0.84 | 0.46 | |
| Oct 21 | 0.27 | 0.33 | 0.37 | 0.52 | S | 0.46 | 0.59 | 0.74 | 0.67 | 0.53 | 0.38 | 0.42 | 0.36 | 0.42 | 0.42 | 0.36 | 0.36 | 0.53 | 0.75 | 0.5 | 0.39 | 0.36 | 0.39 | 0.41 | 0.27 | 0.75 | 0.46 | |
| Oct 22 | 0.3 | 0.3 | 0.28 | S | 0.29 | 0.28 | 0.27 | 0.28 | 0.29 | 0.33 | 0.36 | 0.44 | 0.33 | 0.35 | 0.37 | 0.34 | 0.36 | 0.32 | 0.31 | 0.3 | 0.29 | 0.29 | 0.29 | 0.28 | 0.27 | 0.44 | 0.32 | |
| Oct 23 | 0.28 | 0.29 | S | 0.33 | 0.29 | 0.29 | 0.29 | 0.29 | 0.28 | 0.27 | 0.27 | 0.29 | 0.3 | 0.31 | 0.31 | 0.33 | 0.31 | 0.4 | 0.57 | 0.42 | 0.42 | 0.41 | 0.38 | 0.37 | 0.32 | 0.27 | 0.57 | 0.34 |
| Oct 24 | 0.35 | S | 0.38 | 0.39 | 0.31 | 0.3 | 0.3 | 0.31 | 0.31 | 0.3 | 0.3 | 0.32 | 0.33 | 0.34 | 0.34 | 0.33 | 0.35 | 0.36 | 0.37 | 0.37 | 0.37 | 0.35 | 0.34 | P | 0.30 | 0.39 | 0.34 | |
| Oct 25 | P | P | P | P | R | 0.75 | 0.52 | S1 | 0.35 | 0.35 | 0.33 | 0.35 | 0.36 | 0.36 | 0.32 | 0.31 | 0.3 | 0.3 | 0.31 | 0.32 | 0.33 | 0.35 | 0.34 | S | 0.30 | 0.75 | - | |
| Oct 26 | 0.35 | 0.35 | 0.31 | 0.3 | 0.3 | 0.29 | 0.29 | 0.33 | 0.4 | 0.35 | 0.33 | 0.29 | 0.28 | 0.28 | 0.28 | 0.28 | 0.29 | 0.27 | 0.28 | 0.28 | 0.28 | 0.28 | S | 0.33 | 0.27 | 0.40 | 0.31 | |
| Oct 27 | 0.32 | 0.32 | 0.3 | 0.34 | 0.33 | 0.34 | 0.33 | 0.31 | 0.31 | 0.29 | 0.3 | 0.29 | 0.31 | 0.3 | 0.28 | 0.31 | 0.3 | 0.31 | 0.32 | 0.29 | 0.25 | S | 0.31 | 0.29 | 0.25 | 0.34 | 0.31 | |
| Oct 28 | 0.28 | 0.28 | 0.27 | 0.26 | 0.25 | 0.27 | 0.26 | 0.25 | 0.25 | 0.25 | 0.25 | 0.26 | 0.26 | 0.25 | 0.24 | 0.24 | 0.25 | 0.24 | 0.25 | 0.24 | 0.23 | S | 0.26 | 0.32 | 0.23 | 0.32 | 0.26 | |
| Oct 29 | 0.27 | 0.34 | 0.34 | 0.29 | 0.25 | 0.26 | 0.26 | 0.28 | 0.27 | 0.28 | 0.29 | 0.29 | 0.3 | 0.31 | 0.31 | 0.33 | 0.33 | 0.35 | 0.4 | S | 0.43 | 0.36 | 0.33 | 0.33 | 0.25 | 0.43 | 0.31 | |
| Oct 30 | 0.34 | 0.34 | 0.32 | 0.32 | 0.33 | 0.33 | 0.33 | 0.32 | 0.32 | 0.3 | 0.32 | 0.31 | 0.32 | 0.29 | 0.31 | 0.3 | 0.3 | 0.3 | S | 0.32 | 0.29 | 0.38 | 0.33 | 0.28 | 0.28 | 0.38 | 0.32 | |
| Oct 31 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.29 | 0.27 | 0.27 | 0.29 | 0.28 | 0.29 | 0.28 | 0.3 | 0.27 | 0.29 | 0.29 | S | 0.32 | 0.31 | 0.31 | 0.29 | 0.32 | 0.31 | 0.27 | 0.32 | 0.29 | |
| Diurnal Maximum | 1.68 | 1.05 | 0.67 | 0.61 | 1.78 | 1.04 | 0.91 | 0.84 | 0.95 | 0.75 | 1.10 | 0.67 | 0.56 | 0.44 | 0.42 | 0.40 | 0.47 | 0.75 | 0.75 | 0.88 | 2.11 | 2.45 | 1.84 | 1.38 | | | | |
| Diurnal Average | 0.40 | 0.38 | 0.37 | 0.37 | 0.40 | 0.39 | 0.39 | 0.38 | 0.38 | 0.37 | 0.38 | 0.35 | 0.33 | 0.32 | 0.31 | 0.30 | 0.31 | 0.35 | 0.34 | 0.37 | 0.40 | 0.41 | 0.40 | 0.39 | | | | |
| 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 | | | | | | | |

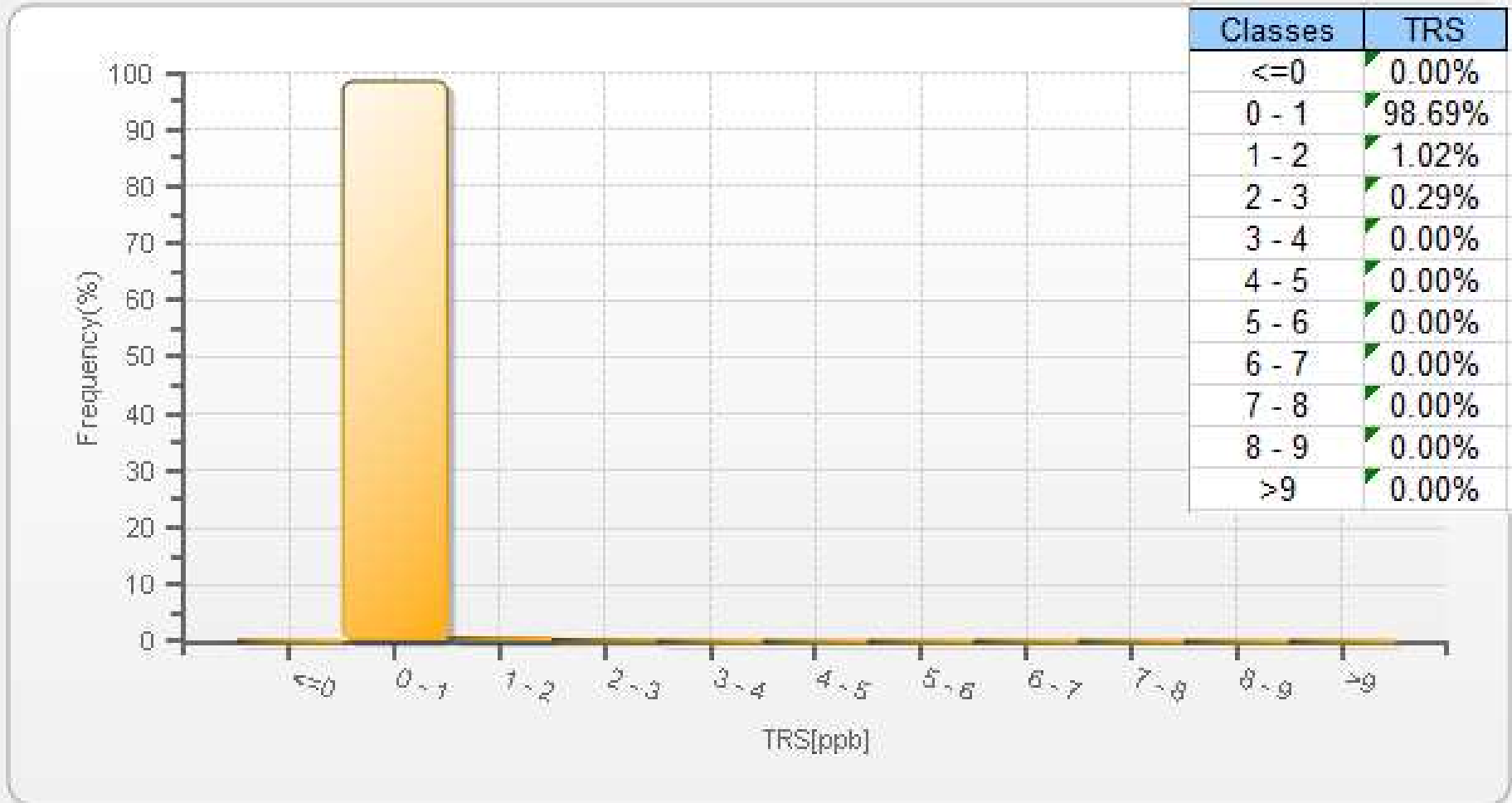
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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



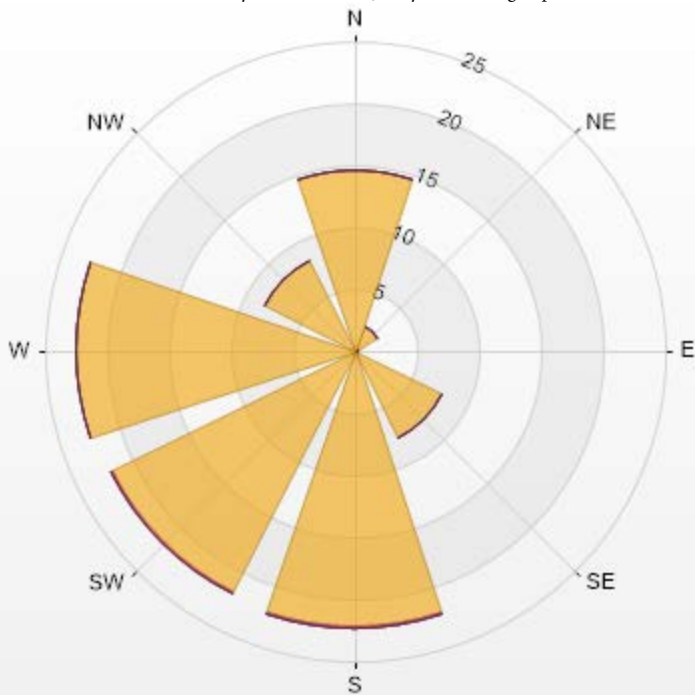
TRS[ppb] Histogram: PRAMP RENO Monthly: 10-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 89.12% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 14.66 | 0 | 0 | 0 | 0 | 14.66 |
| NE | 2.14 | 0 | 0 | 0 | 0 | 2.14 |
| E | 0.31 | 0 | 0 | 0 | 0 | 0.31 |
| SE | 7.94 | 0 | 0 | 0 | 0 | 7.94 |
| S | 22.29 | 0.15 | 0 | 0 | 0 | 22.44 |
| SW | 21.83 | 0.15 | 0 | 0 | 0 | 21.98 |
| W | 22.44 | 0 | 0 | 0 | 0 | 22.44 |
| NW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| Summary | 100 | 0.3 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppb) | 100 | 0-2 | 0-2 | 5-10 | 0 | 10-50 | 0 | >50.0 |
|----------------------|-----|-----|-----------------|------|---|-------|---|-------|
| | | | Page 121 of 279 | | | | | |



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019
Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

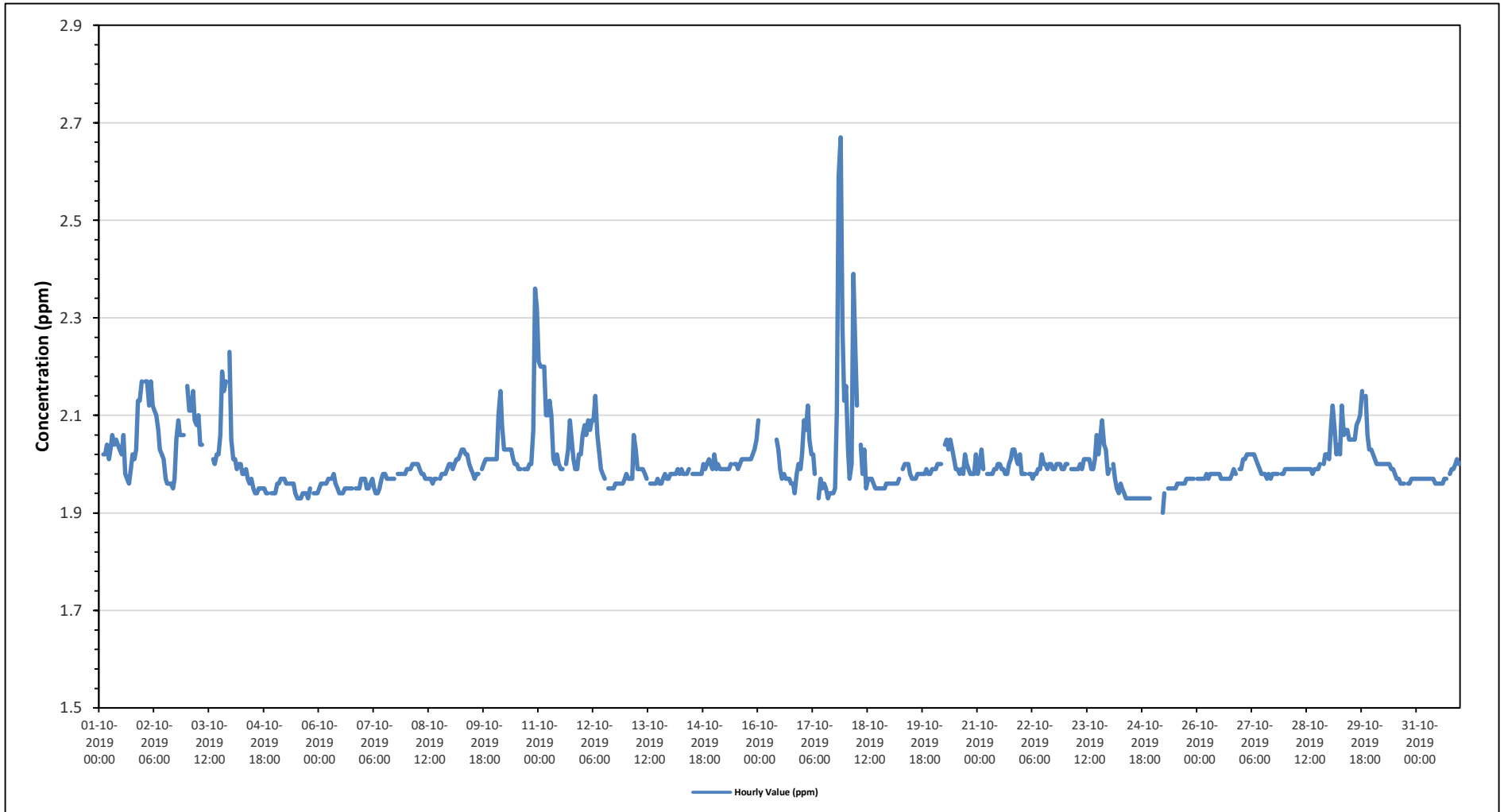
| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.67 ppm on October 17 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.10 ppm on October 3 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.90 ppm on October 25 at hour 5 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.94 ppm on October 24 | Hours of Calibration: | 37 |
| Monthly Average: | 2.00 ppm | Operational Uptime: | 98.0 |

| 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 | |
| Oct 1 | 2.00 | S | 2.02 | 2.02 | 2.04 | 2.01 | 2.03 | 2.06 | 2.04 | 2.05 | 2.04 | 2.03 | 2.02 | 2.06 | 1.98 | 1.97 | 1.96 | 1.99 | 2.02 | 2.01 | 2.03 | 2.13 | 2.13 | 2.17 | 1.96 | 2.17 | 2.04 | |
| Oct 2 | S | 2.17 | 2.17 | 2.12 | 2.12 | 2.11 | 2.10 | 2.10 | 2.07 | 2.03 | 2.02 | 2.01 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.97 | 2.05 | 2.09 | 2.06 | 2.06 | 2.06 | S | 1.95 | 2.17 | 2.05 | |
| Oct 3 | 2.16 | 2.11 | 2.11 | 2.15 | 2.09 | 2.08 | 2.10 | 2.04 | 2.04 | C | C | C | C | C | 2.01 | 2.00 | 2.02 | 2.02 | 2.06 | 2.19 | 2.15 | 2.17 | S | 2.23 | 2.00 | 2.23 | 2.10 | |
| Oct 4 | 2.05 | 2.01 | 2.01 | 1.99 | 2.00 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | S | 1.94 | 1.94 | 1.94 | 2.05 | 1.97 | |
| Oct 5 | 1.94 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.93 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.93 | 1.97 | 1.95 | |
| Oct 6 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.97 | 1.94 | 1.98 | 1.96 | |
| Oct 7 | 1.97 | 1.97 | 1.95 | 1.95 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.97 | |
| Oct 8 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 9 | 2.00 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.00 | 1.99 | 1.98 | 1.97 | 1.98 | 1.98 | S | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 1.97 | 2.03 | 2.00 | |
| Oct 10 | 2.01 | 2.01 | 2.10 | 2.15 | 2.08 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | S | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.07 | 2.36 | 2.32 | 1.99 | 2.36 | 2.05 | |
| Oct 11 | 2.21 | 2.20 | 2.20 | 2.20 | 2.10 | 2.10 | 2.13 | 2.10 | 2.01 | 2.00 | 2.02 | 2.00 | 1.99 | 1.99 | S | 2.00 | 2.03 | 2.09 | 2.05 | 2.01 | 1.99 | 1.99 | 2.02 | 2.02 | 1.99 | 2.21 | 2.06 | |
| Oct 12 | 2.06 | 2.08 | 2.06 | 2.09 | 2.07 | 2.09 | 2.09 | 2.14 | 2.06 | 2.03 | 1.99 | 1.98 | 1.97 | S | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.95 | 2.14 | 2.01 | |
| Oct 13 | 1.98 | 1.97 | 1.97 | 1.97 | 2.06 | 2.03 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.97 | S | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 2.06 | 1.98 | |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.98 | 2.01 | 1.99 | |
| Oct 15 | 2.02 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.00 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 1.99 | 2.05 | 2.00 |
| Oct 16 | 2.09 | P | P | P | P | P | P | P | R | S | 2.05 | 2.03 | 1.99 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.94 | 1.94 | 1.98 | 2.00 | 1.99 | 1.94 | 2.09 | - | |
| Oct 17 | 2.02 | 2.09 | 2.07 | 2.12 | 2.05 | 2.02 | 2.02 | 1.98 | S | 1.93 | 1.97 | 1.95 | 1.96 | 1.95 | 1.93 | 1.94 | 1.94 | 1.94 | 1.95 | 2.11 | 2.59 | 2.67 | 2.28 | 2.13 | 1.93 | 2.67 | 2.07 | |
| Oct 18 | 2.16 | 2.03 | 1.97 | 2.00 | 2.39 | 2.23 | 2.12 | S | 2.04 | 1.98 | 2.03 | 1.95 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.95 | 2.39 | 2.02 | |
| Oct 19 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 1.99 | 2.00 | 2.00 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 1.99 | 1.96 | 2.00 | 1.98 | |
| Oct 20 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | S | 2.04 | 2.05 | 2.03 | 2.05 | 2.03 | 2.01 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 2.02 | 2.00 | 1.99 | 1.98 | 1.98 | 2.02 | 1.98 | 2.05 | 2.00 | 2.00 | |
| Oct 21 | 1.98 | 2.00 | 2.03 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.03 | 2.03 | 2.01 | 2.00 | 2.02 | 1.98 | 2.03 | 2.00 | |
| Oct 22 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 2.02 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.97 | 2.02 | 1.99 | |
| Oct 23 | 2.00 | 2.00 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 2.01 | 2.01 | 2.01 | 2.01 | 1.99 | 1.99 | 2.01 | 2.06 | 2.02 | 2.06 | 2.09 | 2.04 | 2.03 | 1.98 | 1.98 | 2.09 | 2.01 | |
| Oct 24 | 1.99 | S | 2.00 | 1.97 | 1.95 | 1.94 | 1.96 | 1.95 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 2.00 | 1.94 | |
| Oct 25 | P | P | P | P | R | 1.90 | 1.94 | S1 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.90 | 1.97 | - | |
| Oct 26 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.98 | S | 1.99 | 1.97 | 1.98 | |
| Oct 27 | 1.99 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 2.02 | 1.99 |
| Oct 28 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.02 | 2.02 | 1.98 | 2.02 | 1.99 | |
| Oct 29 | 2.01 | 2.08 | 2.12 | 2.07 | 2.02 | 2.04 | 2.02 | 2.12 | 2.06 | 2.07 | 2.07 | 2.05 | 2.05 | 2.05 | 2.05 | 2.08 | 2.09 | 2.10 | 2.15 | S | 2.14 | 2.06 | 2.03 | 2.03 | 2.01 | 2.15 | 2.07 | |
| Oct 30 | 2.02 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 2.02 | 1.98 | |
| Oct 31 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 1.99 | 1.99 | 2.00 | 2.01 | 2.00 | 1.96 | 2.01 | 1.97 | |
| Diurnal Maximum | 2.21 | 2.20 | 2.20 | 2.20 | 2.39 | 2.23 | 2.13 | 2.14 | 2.07 | 2.07 | 2.07 | 2.05 | 2.05 | 2.06 | 2.05 | 2.08 | 2.09 | 2.10 | 2.15 | 2.19 | 2.59 | 2.67 | 2.36 | 2.32 | | | | |
| Diurnal Average | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | 1.99 | 2.00 | 2.02 | 2.03 | 2.02 | 2.02 | | | | |

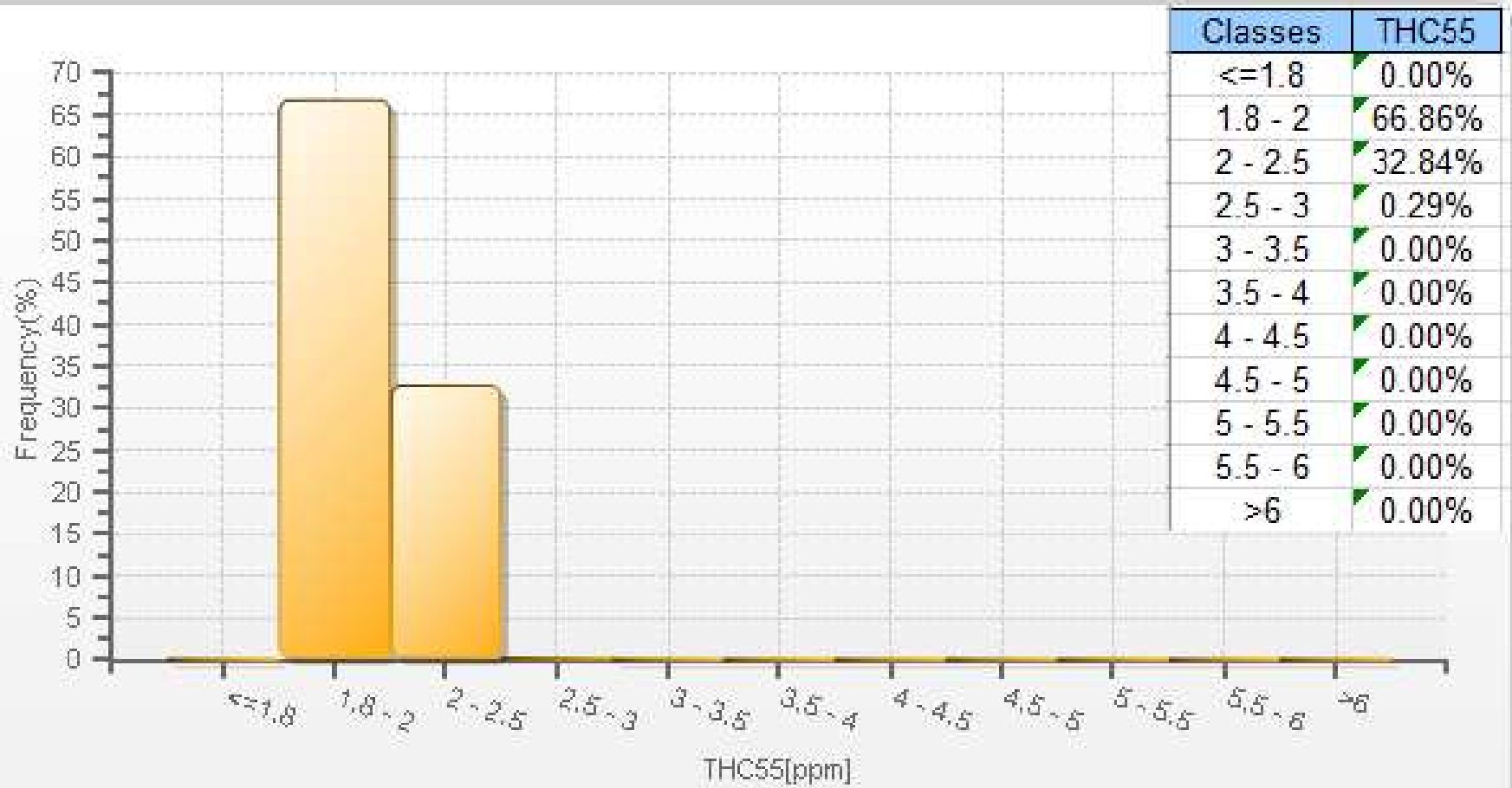
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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 Average for THC - Reno Station



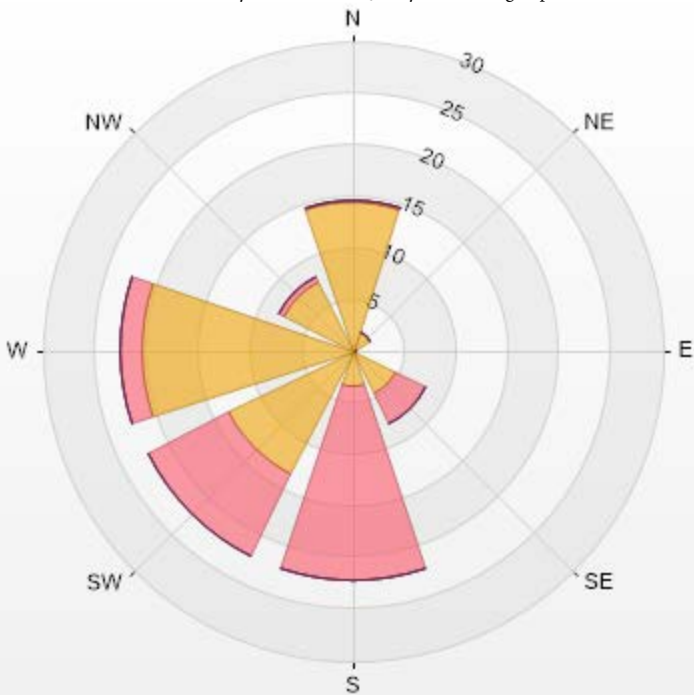
THC55[ppm] Histogram: PRAMP RENO Monthly: 10-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 88.16% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 14.35 | 0.31 | 0 | 0 | 0 | 14.66 |
| NE | 2.01 | 0 | 0 | 0 | 0 | 2.01 |
| E | 0.31 | 0 | 0 | 0 | 0 | 0.31 |
| SE | 4.63 | 3.4 | 0 | 0 | 0 | 8.03 |
| S | 3.4 | 18.83 | 0 | 0 | 0 | 22.23 |
| SW | 13.43 | 8.8 | 0 | 0 | 0 | 22.23 |
| W | 20.37 | 2.16 | 0 | 0 | 0 | 22.53 |
| NW | 7.41 | 0.62 | 0 | 0 | 0 | 8.03 |
| Summary | 65.91 | 34.12 | 0 | 0 | 0 | 100 |

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PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 66 | 34 | 0 | 0 |
|----------------------|----|----|---|---|
| 0-2 | 66 | 34 | 0 | 0 |
| 5-10 | 0 | 0 | 0 | 0 |
| 10-40 | 0 | 0 | 0 | 0 |
| >40.0 | 0 | 0 | 0 | 0 |



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019
Summary of Hourly Averages

METHANE (CH4) in ppm

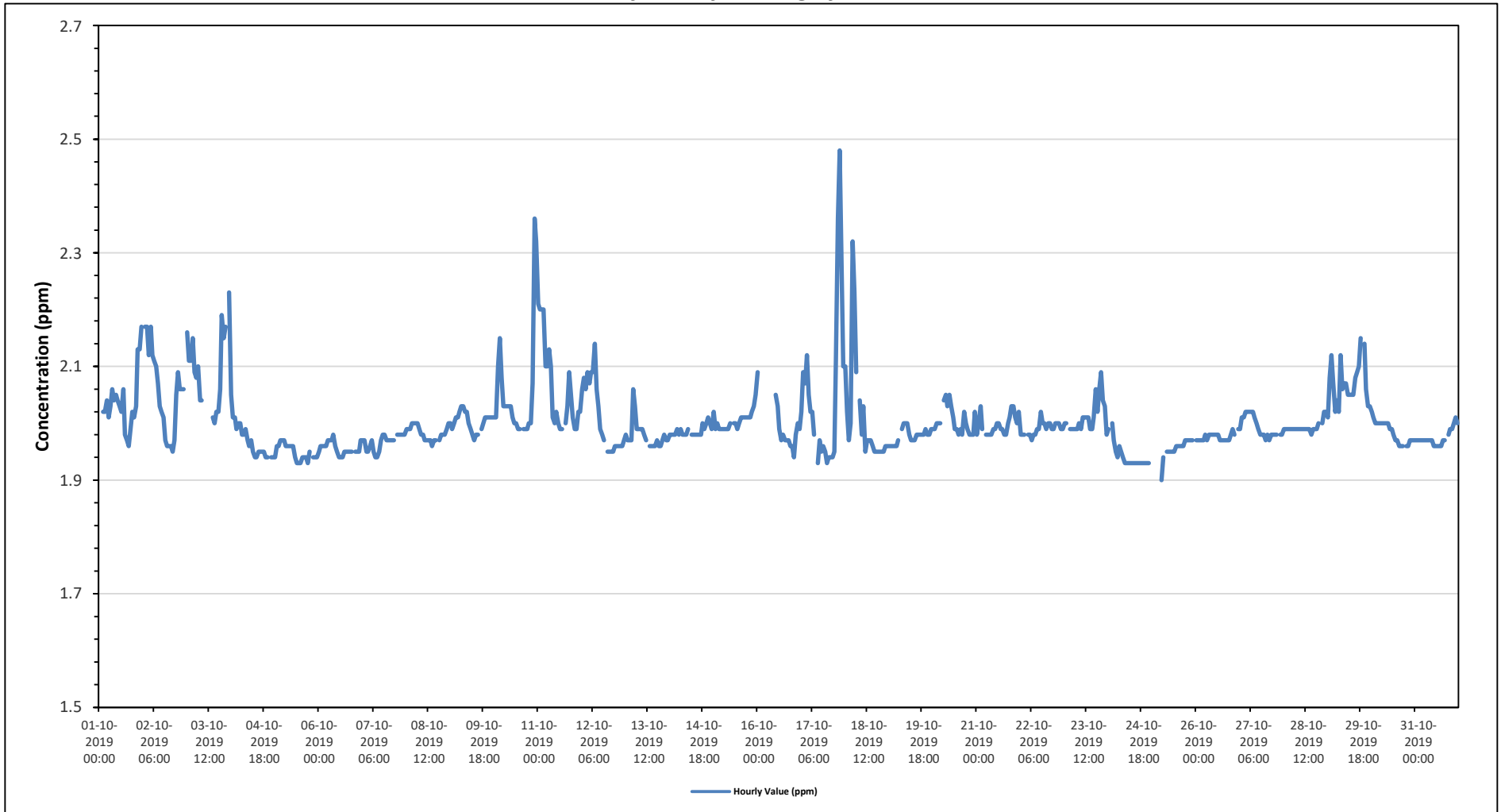
| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.48 ppm on October 17 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.10 ppm on October 3 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.90 ppm on October 25 at hour 5 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.94 ppm on October 24 | Hours of Calibration: | 37 |
| Monthly Average: | 2.00 ppm | Operational Uptime: | 98.0 |

| 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 | |
| Oct 1 | 2.00 | S | 2.02 | 2.02 | 2.04 | 2.01 | 2.03 | 2.06 | 2.04 | 2.05 | 2.04 | 2.03 | 2.02 | 2.06 | 1.98 | 1.97 | 1.96 | 1.99 | 2.02 | 2.01 | 2.03 | 2.13 | 2.13 | 2.17 | 1.96 | 2.17 | 2.04 | |
| Oct 2 | S | 2.17 | 2.17 | 2.12 | 2.12 | 2.11 | 2.10 | 2.10 | 2.07 | 2.03 | 2.02 | 2.01 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.97 | 2.05 | 2.09 | 2.06 | 2.06 | 2.06 | S | 1.95 | 2.17 | 2.05 | |
| Oct 3 | 2.16 | 2.11 | 2.11 | 2.15 | 2.09 | 2.08 | 2.10 | 2.04 | 2.04 | C | C | C | C | C | 2.01 | 2.00 | 2.02 | 2.02 | 2.06 | 2.19 | 2.15 | 2.17 | S | 2.23 | 2.00 | 2.23 | 2.10 | |
| Oct 4 | 2.05 | 2.01 | 2.01 | 1.99 | 2.00 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | S | 1.94 | 1.94 | 1.94 | 2.05 | 1.97 | |
| Oct 5 | 1.94 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.93 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.93 | 1.97 | 1.95 | |
| Oct 6 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.97 | 1.94 | 1.98 | 1.96 | |
| Oct 7 | 1.97 | 1.97 | 1.95 | 1.95 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.97 | |
| Oct 8 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 9 | 2.00 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.00 | 1.99 | 1.98 | 1.97 | 1.98 | 1.98 | S | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 1.97 | 2.03 | 2.00 | |
| Oct 10 | 2.01 | 2.01 | 2.10 | 2.15 | 2.08 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | S | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.07 | 2.36 | 2.32 | 1.99 | 2.36 | 2.05 | |
| Oct 11 | 2.21 | 2.20 | 2.20 | 2.20 | 2.10 | 2.10 | 2.13 | 2.10 | 2.01 | 2.00 | 2.02 | 2.00 | 1.99 | 1.99 | S | 2.00 | 2.03 | 2.09 | 2.05 | 2.01 | 1.99 | 1.99 | 2.02 | 2.02 | 1.99 | 2.21 | 2.06 | |
| Oct 12 | 2.06 | 2.08 | 2.06 | 2.09 | 2.07 | 2.09 | 2.09 | 2.14 | 2.06 | 2.03 | 1.99 | 1.98 | 1.97 | S | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.95 | 2.14 | 2.01 | |
| Oct 13 | 1.98 | 1.97 | 1.97 | 1.97 | 2.06 | 2.03 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.97 | S | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 2.06 | 1.98 | |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.98 | 2.01 | 1.99 | |
| Oct 15 | 2.02 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.00 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 1.99 | 2.05 | 2.00 |
| Oct 16 | 2.09 | P | P | P | P | P | P | P | R | S | 2.05 | 2.03 | 1.99 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.94 | 1.94 | 1.98 | 2.00 | 1.99 | 1.94 | 2.09 | - | |
| Oct 17 | 2.02 | 2.09 | 2.07 | 2.12 | 2.05 | 2.02 | 2.02 | 1.98 | S | 1.93 | 1.97 | 1.95 | 1.96 | 1.95 | 1.93 | 1.94 | 1.94 | 1.94 | 1.95 | 2.11 | 2.36 | 2.48 | 2.26 | 2.10 | 1.93 | 2.48 | 2.05 | |
| Oct 18 | 2.10 | 2.02 | 1.97 | 2.00 | 2.32 | 2.23 | 2.09 | S | 2.04 | 1.98 | 2.03 | 1.95 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.95 | 2.32 | 2.01 | |
| Oct 19 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 1.99 | 2.00 | 2.00 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 1.99 | 1.96 | 2.00 | 1.98 | |
| Oct 20 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | S | 2.04 | 2.05 | 2.03 | 2.05 | 2.03 | 2.01 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 2.02 | 2.00 | 1.99 | 1.98 | 1.98 | 2.02 | 1.98 | 2.05 | 2.00 | 2.00 | |
| Oct 21 | 1.98 | 2.00 | 2.03 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.03 | 2.03 | 2.01 | 2.00 | 2.02 | 1.98 | 2.03 | 2.00 | |
| Oct 22 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 2.02 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.97 | 2.02 | 1.99 |
| Oct 23 | 2.00 | 2.00 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 2.01 | 2.01 | 2.01 | 2.01 | 1.99 | 1.99 | 2.01 | 2.06 | 2.02 | 2.06 | 2.09 | 2.04 | 2.03 | 1.98 | 1.98 | 2.09 | 2.01 | |
| Oct 24 | 1.99 | S | 2.00 | 1.97 | 1.95 | 1.94 | 1.96 | 1.95 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 2.00 | 1.94 | |
| Oct 25 | P | P | P | P | R | 1.90 | 1.94 | S1 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.90 | 1.97 | - | |
| Oct 26 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.98 | S | 1.99 | 1.97 | 1.98 | |
| Oct 27 | 1.99 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 2.02 | 1.99 |
| Oct 28 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.02 | 2.02 | 1.98 | 2.02 | 1.99 | |
| Oct 29 | 2.01 | 2.08 | 2.12 | 2.07 | 2.02 | 2.04 | 2.02 | 2.12 | 2.06 | 2.07 | 2.07 | 2.05 | 2.05 | 2.05 | 2.05 | 2.08 | 2.09 | 2.10 | 2.15 | S | 2.14 | 2.06 | 2.03 | 2.03 | 2.01 | 2.15 | 2.07 | |
| Oct 30 | 2.02 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 2.02 | 1.98 | |
| Oct 31 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 1.99 | 1.99 | 2.00 | 2.01 | 2.00 | 1.96 | 2.01 | 1.97 | |
| Diurnal Maximum | 2.21 | 2.20 | 2.20 | 2.20 | 2.32 | 2.23 | 2.13 | 2.14 | 2.07 | 2.07 | 2.07 | 2.05 | 2.05 | 2.06 | 2.05 | 2.08 | 2.09 | 2.10 | 2.15 | 2.19 | 2.36 | 2.48 | 2.36 | 2.32 | | | | |
| Diurnal Average | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.02 | 2.02 | | | | |

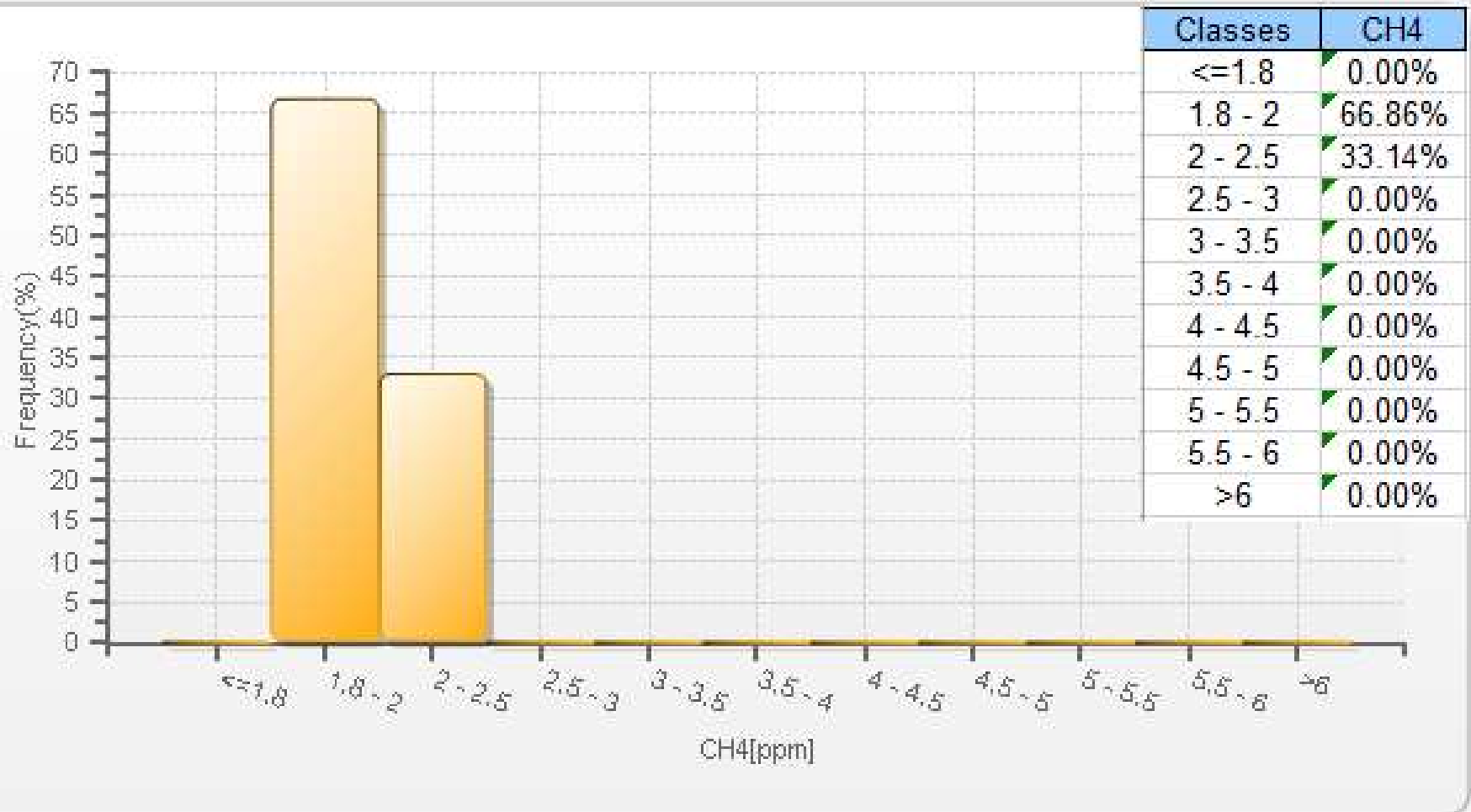
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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 Average for CH4 - Reno Station



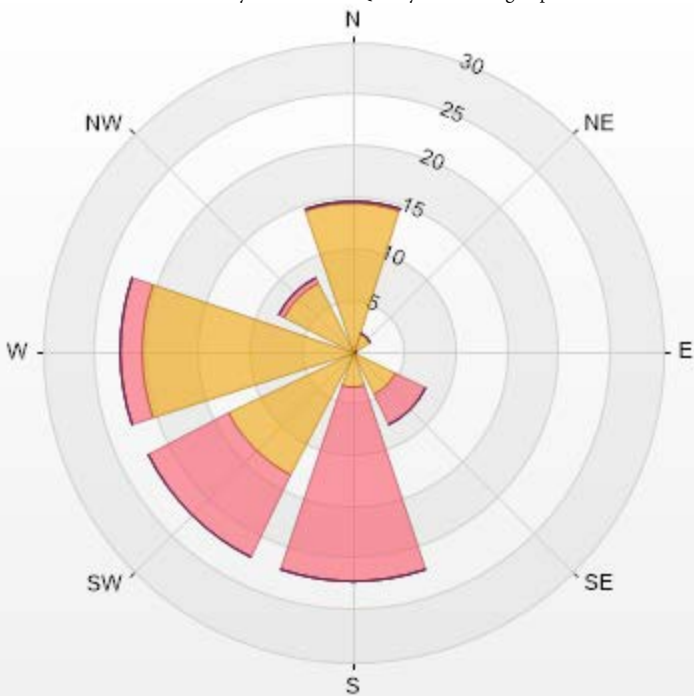
CH4[ppm] Histogram: PRAMP RENO Monthly: 10-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 88.16% Calm Avg: 0.00 [ppm]

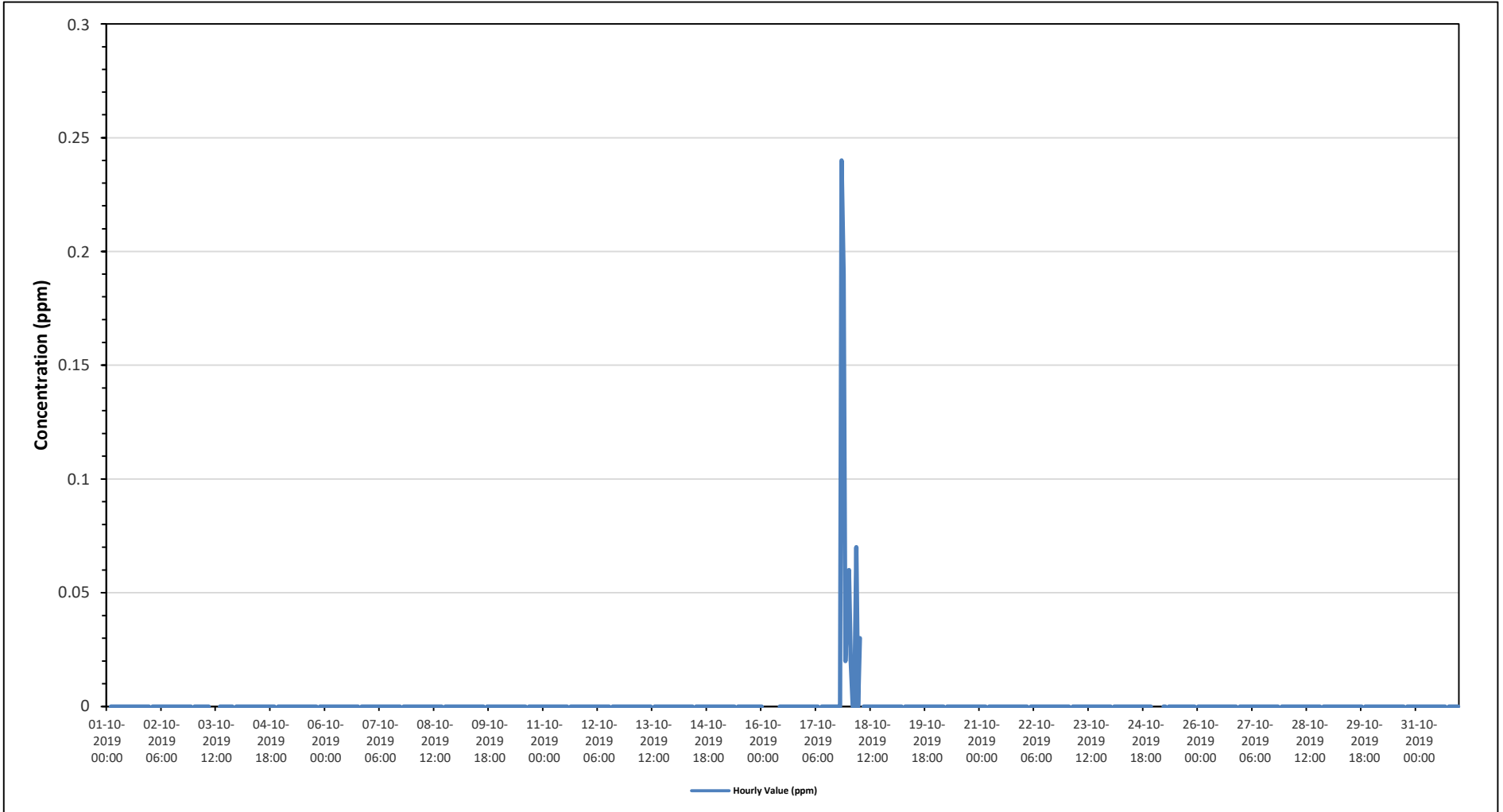
| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 14.35 | 0.31 | 0 | 0 | 0 | 14.66 |
| NE | 2.01 | 0 | 0 | 0 | 0 | 2.01 |
| E | 0.31 | 0 | 0 | 0 | 0 | 0.31 |
| SE | 4.63 | 3.4 | 0 | 0 | 0 | 8.03 |
| S | 3.4 | 18.83 | 0 | 0 | 0 | 22.23 |
| SW | 13.43 | 8.8 | 0 | 0 | 0 | 22.23 |
| W | 20.37 | 2.16 | 0 | 0 | 0 | 22.53 |
| NW | 7.41 | 0.62 | 0 | 0 | 0 | 8.03 |
| Summary | 65.91 | 34.12 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)

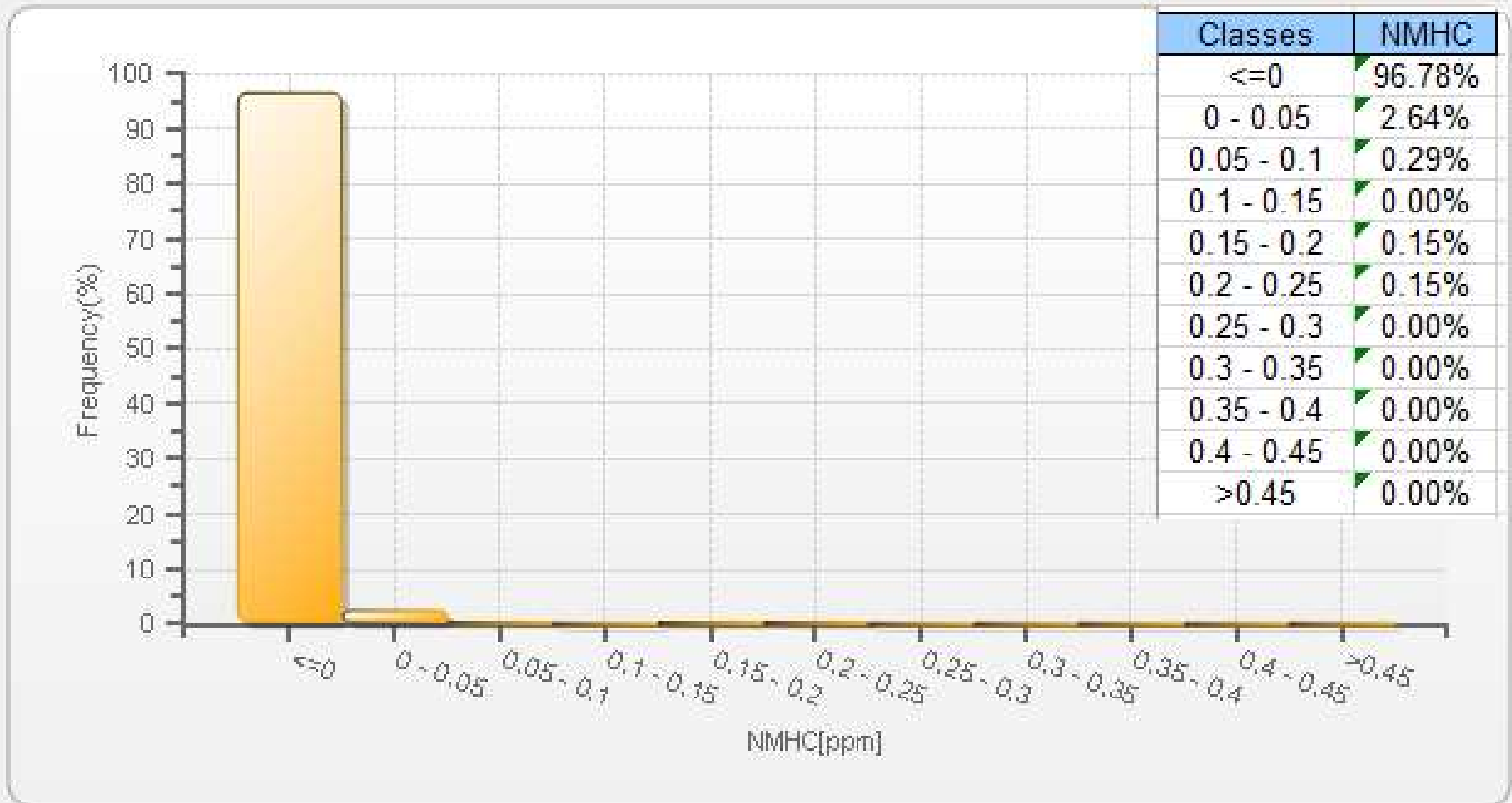


PRAMP-201910-Revision 1

Timeseries Chart of Hourly Average for NMHC - Reno Station



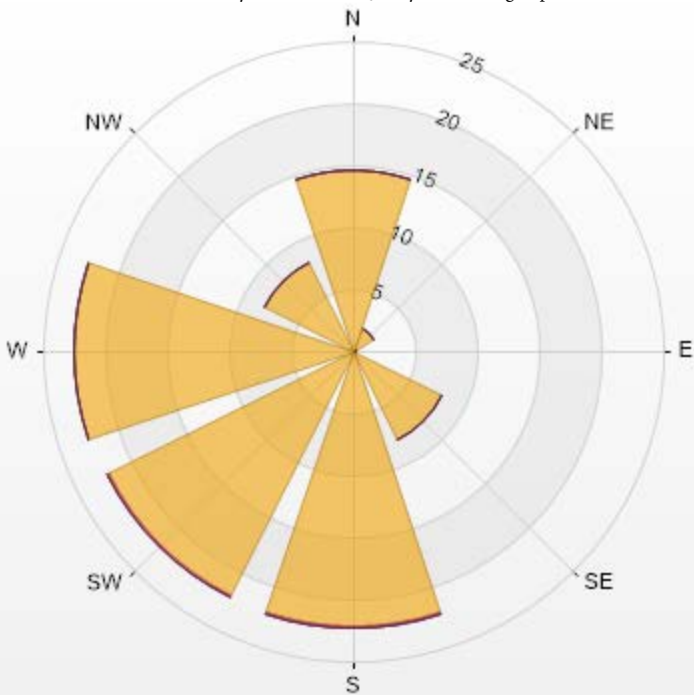
NMHC[ppm] Histogram: PRAMP RENO Monthly: 10-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 88.30% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-0.9 | 0.9-2 | >2.0 | Total |
|-----------|-------|---------|---------|-------|------|-------|
| N | 14.64 | 0 | 0 | 0 | 0 | 14.64 |
| NE | 2 | 0 | 0 | 0 | 0 | 2 |
| E | 0.31 | 0 | 0 | 0 | 0 | 0.31 |
| SE | 8.01 | 0 | 0 | 0 | 0 | 8.01 |
| S | 22.19 | 0.15 | 0 | 0 | 0 | 22.34 |
| SW | 22.03 | 0.15 | 0 | 0 | 0 | 22.18 |
| W | 22.5 | 0 | 0 | 0 | 0 | 22.5 |
| NW | 8.01 | 0 | 0 | 0 | 0 | 8.01 |
| Summary | 100 | 0.3 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 100 | 0-0.1 | 0.1-0.2 | 0.3-0.9 | 0.9-2 | >2.0 |
|----------------------|-----|-------|---------|---------|-------|------|
| | 0 | 136 | 279 | 0 | 0 | 0 |



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019 Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

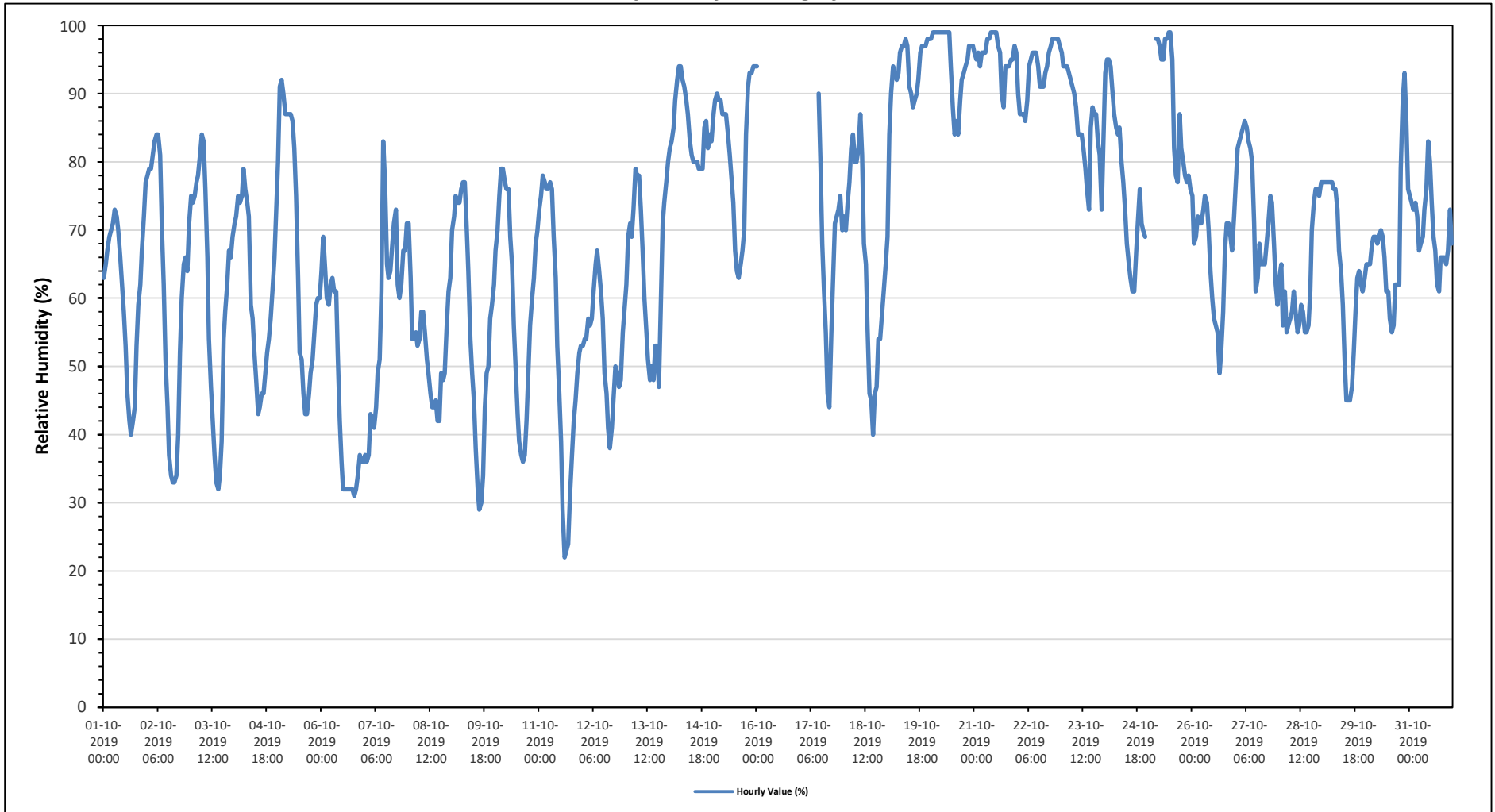
| | | | | |
|-----------------------|--------|--------------------------|------------------------|------|
| Maximum Hourly Value: | 99 % | on October 20 at hour 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 95.7 % | on October 21 | Hours of Data: | 706 |
| Minimum Hourly Value: | 22 % | on October 11 at hour 14 | Hours of Missing Data: | 38 |
| Minimum Daily Value: | 45.5 % | on October 6 | Hours of Calibration: | 0 |
| Monthly Average: | 69.5 % | | 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 |
| Oct 1 | 63 | 65 | 67 | 69 | 70 | 71 | 73 | 72 | 70 | 66 | 62 | 58 | 53 | 46 | 42 | 40 | 42 | 44 | 53 | 59 | 62 | 67 | 72 | 77 | 40 | 77 | 61 |
| Oct 2 | 78 | 79 | 79 | 81 | 83 | 84 | 84 | 81 | 70 | 62 | 51 | 44 | 37 | 34 | 33 | 33 | 34 | 40 | 52 | 60 | 65 | 66 | 64 | 71 | 33 | 84 | 61 |
| Oct 3 | 75 | 74 | 75 | 77 | 78 | 81 | 84 | 83 | 76 | 66 | 54 | 47 | 42 | 37 | 33 | 32 | 34 | 39 | 54 | 58 | 62 | 67 | 66 | 69 | 32 | 84 | 61 |
| Oct 4 | 71 | 72 | 75 | 74 | 75 | 79 | 76 | 74 | 72 | 59 | 57 | 52 | 48 | 43 | 44 | 46 | 46 | 49 | 52 | 54 | 57 | 61 | 66 | 72 | 43 | 79 | 61 |
| Oct 5 | 80 | 91 | 92 | 90 | 87 | 87 | 87 | 87 | 86 | 82 | 75 | 63 | 52 | 51 | 46 | 43 | 43 | 46 | 49 | 51 | 55 | 59 | 60 | 60 | 43 | 92 | 68 |
| Oct 6 | 64 | 69 | 64 | 60 | 59 | 62 | 63 | 61 | 61 | 52 | 42 | 36 | 32 | 32 | 32 | 32 | 32 | 31 | 32 | 34 | 37 | 36 | 36 | 36 | 31 | 69 | 45 |
| Oct 7 | 37 | 36 | 37 | 43 | 42 | 41 | 44 | 49 | 51 | 61 | 83 | 77 | 65 | 63 | 64 | 68 | 71 | 73 | 62 | 60 | 62 | 67 | 67 | 71 | 36 | 83 | 58 |
| Oct 8 | 71 | 63 | 54 | 54 | 55 | 53 | 54 | 58 | 58 | 55 | 51 | 49 | 46 | 44 | 44 | 45 | 42 | 42 | 49 | 48 | 49 | 56 | 61 | 63 | 42 | 71 | 53 |
| Oct 9 | 70 | 72 | 75 | 74 | 74 | 76 | 77 | 77 | 70 | 64 | 54 | 49 | 45 | 38 | 32 | 29 | 30 | 34 | 44 | 49 | 50 | 57 | 59 | 62 | 29 | 77 | 57 |
| Oct 10 | 67 | 70 | 75 | 79 | 79 | 77 | 76 | 76 | 69 | 65 | 56 | 50 | 43 | 39 | 37 | 36 | 37 | 42 | 50 | 56 | 60 | 63 | 68 | 70 | 36 | 79 | 60 |
| Oct 11 | 73 | 75 | 78 | 77 | 76 | 76 | 77 | 76 | 69 | 63 | 53 | 46 | 39 | 29 | 22 | 23 | 24 | 31 | 37 | 42 | 45 | 49 | 52 | 53 | 22 | 78 | 54 |
| Oct 12 | 53 | 54 | 54 | 57 | 56 | 57 | 61 | 65 | 67 | 64 | 61 | 57 | 49 | 46 | 41 | 38 | 41 | 45 | 50 | 49 | 47 | 48 | 55 | 58 | 38 | 67 | 53 |
| Oct 13 | 62 | 69 | 71 | 69 | 73 | 79 | 78 | 78 | 73 | 67 | 60 | 55 | 51 | 48 | 50 | 48 | 53 | 53 | 47 | 58 | 71 | 74 | 77 | 80 | 47 | 80 | 64 |
| Oct 14 | 82 | 83 | 85 | 89 | 92 | 94 | 94 | 92 | 91 | 89 | 87 | 83 | 81 | 80 | 80 | 80 | 79 | 79 | 79 | 85 | 86 | 82 | 84 | 83 | 79 | 94 | 85 |
| Oct 15 | 87 | 89 | 90 | 89 | 89 | 87 | 87 | 87 | 84 | 81 | 78 | 74 | 67 | 64 | 63 | 65 | 67 | 70 | 84 | 91 | 93 | 93 | 94 | 94 | 63 | 94 | 82 |
| Oct 16 | 94 | P | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 94 | 94 | - |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | X | X | X | 90 | 80 | 68 | 61 | 55 | 46 | 44 | 55 | 62 | 71 | 72 | 73 | 75 | 70 |
| Oct 18 | 72 | 70 | 74 | 77 | 82 | 84 | 80 | 80 | 82 | 87 | 81 | 68 | 65 | 56 | 46 | 45 | 40 | 46 | 47 | 54 | 54 | 58 | 61 | 65 | 40 | 87 | 66 |
| Oct 19 | 69 | 84 | 90 | 94 | 93 | 92 | 93 | 96 | 97 | 97 | 98 | 97 | 91 | 90 | 88 | 89 | 90 | 92 | 96 | 97 | 97 | 97 | 98 | 98 | 69 | 98 | 93 |
| Oct 20 | 98 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 84 | 99 | 95 |
| Oct 21 | 96 | 95 | 96 | 94 | 96 | 96 | 96 | 98 | 98 | 99 | 99 | 99 | 99 | 97 | 96 | 90 | 88 | 94 | 94 | 94 | 95 | 95 | 97 | 96 | 88 | 99 | 96 |
| Oct 22 | 90 | 87 | 87 | 87 | 86 | 89 | 94 | 95 | 96 | 96 | 96 | 94 | 91 | 91 | 91 | 93 | 94 | 96 | 97 | 98 | 98 | 98 | 98 | 97 | 86 | 98 | 93 |
| Oct 23 | 96 | 94 | 94 | 94 | 93 | 92 | 91 | 90 | 88 | 84 | 84 | 84 | 82 | 79 | 76 | 73 | 85 | 88 | 87 | 87 | 83 | 81 | 73 | 82 | 73 | 96 | 86 |
| Oct 24 | 93 | 95 | 95 | 94 | 90 | 87 | 85 | 84 | 85 | 80 | 77 | 73 | 68 | 65 | 63 | 61 | 61 | 67 | 71 | 76 | 71 | 70 | 69 | P | 61 | 95 | 77 |
| Oct 25 | P | P | P | P | 98 | 98 | 97 | 95 | 95 | 98 | 98 | 99 | 99 | 95 | 82 | 78 | 77 | 87 | 82 | 80 | 78 | 77 | 78 | 76 | 76 | 99 | 88 |
| Oct 26 | 75 | 68 | 69 | 72 | 71 | 71 | 73 | 75 | 74 | 70 | 64 | 60 | 57 | 56 | 55 | 49 | 52 | 58 | 67 | 71 | 71 | 69 | 67 | 72 | 49 | 75 | 66 |
| Oct 27 | 77 | 82 | 83 | 84 | 85 | 86 | 85 | 83 | 82 | 80 | 71 | 61 | 63 | 68 | 65 | 65 | 65 | 68 | 71 | 75 | 74 | 68 | 62 | 59 | 59 | 86 | 73 |
| Oct 28 | 63 | 65 | 56 | 61 | 55 | 56 | 57 | 58 | 61 | 58 | 55 | 56 | 59 | 58 | 55 | 55 | 56 | 61 | 70 | 74 | 76 | 76 | 75 | 77 | 55 | 77 | 62 |
| Oct 29 | 77 | 77 | 77 | 77 | 77 | 77 | 76 | 76 | 73 | 67 | 64 | 59 | 51 | 45 | 45 | 45 | 47 | 52 | 58 | 63 | 64 | 62 | 61 | 63 | 45 | 77 | 64 |
| Oct 30 | 65 | 65 | 65 | 68 | 69 | 69 | 68 | 69 | 70 | 69 | 66 | 61 | 61 | 57 | 55 | 56 | 62 | 62 | 62 | 79 | 89 | 93 | 86 | 76 | 55 | 93 | 68 |
| Oct 31 | 75 | 74 | 73 | 74 | 72 | 67 | 68 | 69 | 73 | 76 | 83 | 80 | 74 | 69 | 67 | 62 | 61 | 66 | 66 | 66 | 65 | 67 | 73 | 68 | 61 | 83 | 70 |
| Diurnal Maximum | 98 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 98 | 98 | 98 |
| Diurnal Average | 74.9 | 75.6 | 76.0 | 77.0 | 77.7 | 78.2 | 78.5 | 78.7 | 77.2 | 74.3 | 71.6 | 66.8 | 62.2 | 58.8 | 56.3 | 55.0 | 56.2 | 60.1 | 63.9 | 67.7 | 69.3 | 70.9 | 71.7 | 72.9 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 RH - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019
Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

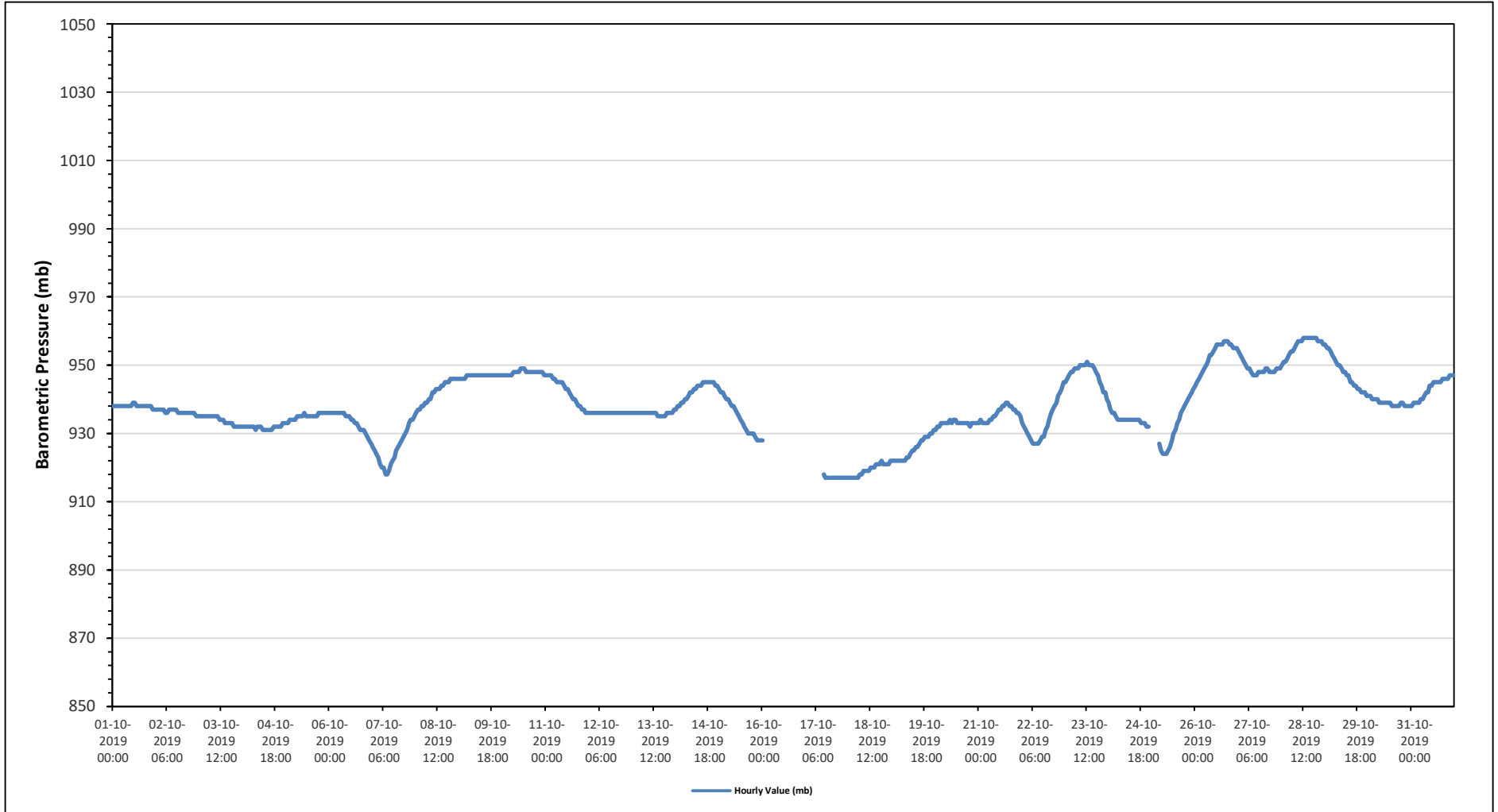
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 958 mb on October 28 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 956 mb on October 28 | Hours of Data: | 706 |
| Minimum Hourly Value: | 917 mb on October 17 at hour 11 | Hours of Missing Data: | 38 |
| Minimum Daily Value: | 919 mb on October 18 | Hours of Calibration: | 0 |
| Monthly Average: | 938 mb | 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 | | | |
| Oct 1 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | |
| Oct 2 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | |
| Oct 3 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 934 | 934 | 934 | 933 | 933 | 933 | 933 | 932 | 932 | 932 | 932 | 932 | 932 | |
| Oct 4 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 931 | 932 | 932 | 932 | 931 | 931 | 931 | 931 | 931 | 931 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 933 | |
| Oct 5 | 933 | 933 | 934 | 934 | 934 | 934 | 935 | 935 | 935 | 935 | 936 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | |
| Oct 6 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | 934 | 934 | 933 | 933 | 932 | 931 | 931 | 930 | 929 | 928 | 927 | 927 | |
| Oct 7 | 926 | 925 | 924 | 923 | 921 | 920 | 920 | 918 | 918 | 919 | 921 | 922 | 923 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 933 | 934 | 934 | 935 | 918 | |
| Oct 8 | 936 | 937 | 937 | 938 | 938 | 939 | 939 | 940 | 940 | 942 | 942 | 943 | 943 | 943 | 944 | 944 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 946 | 936 | |
| Oct 9 | 946 | 946 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 946 | |
| Oct 10 | 947 | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 948 | 948 | 949 | 949 | 949 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | |
| Oct 11 | 947 | 947 | 947 | 947 | 946 | 946 | 945 | 945 | 945 | 945 | 944 | 943 | 943 | 942 | 941 | 940 | 940 | 939 | 938 | 938 | 937 | 937 | 936 | 936 | 936 | |
| Oct 12 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | |
| Oct 13 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | 935 | 935 | 936 | 936 | 936 | 936 | 937 | 935 | |
| Oct 14 | 937 | 938 | 938 | 939 | 939 | 940 | 940 | 941 | 942 | 942 | 943 | 943 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 944 | 944 | 937 | |
| Oct 15 | 943 | 942 | 942 | 941 | 940 | 940 | 939 | 938 | 938 | 937 | 936 | 935 | 934 | 933 | 932 | 931 | 930 | 930 | 930 | 930 | 929 | 928 | 928 | 928 | 928 | |
| Oct 16 | 928 | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 928 | | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | 918 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | 917 | |
| Oct 18 | 917 | 917 | 917 | 917 | 917 | 917 | 918 | 918 | 919 | 919 | 919 | 919 | 920 | 920 | 920 | 921 | 921 | 921 | 922 | 921 | 921 | 921 | 921 | 922 | | |
| Oct 19 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 923 | 923 | 924 | 925 | 925 | 926 | 926 | 927 | 928 | 928 | 929 | 929 | 929 | 930 | 930 | 931 | | |
| Oct 20 | 931 | 932 | 932 | 933 | 933 | 933 | 933 | 933 | 934 | 934 | 933 | 934 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 932 | 933 | 933 | 933 | 933 | | |
| Oct 21 | 933 | 934 | 933 | 933 | 933 | 933 | 934 | 934 | 935 | 935 | 936 | 937 | 937 | 938 | 938 | 939 | 939 | 938 | 938 | 937 | 937 | 936 | 936 | 935 | | |
| Oct 22 | 933 | 932 | 931 | 930 | 929 | 928 | 927 | 927 | 927 | 927 | 928 | 929 | 929 | 931 | 932 | 934 | 936 | 937 | 938 | 939 | 941 | 942 | 943 | 945 | | |
| Oct 23 | 945 | 946 | 947 | 948 | 948 | 949 | 949 | 949 | 950 | 950 | 950 | 950 | 951 | 950 | 950 | 949 | 948 | 947 | 945 | 944 | 942 | 942 | 940 | 940 | | |
| Oct 24 | 939 | 937 | 936 | 936 | 935 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 933 | 933 | 933 | 933 | 932 | 932 | P | 932 | | |
| Oct 25 | P | P | P | P | 927 | 925 | 924 | 924 | 924 | 925 | 926 | 928 | 930 | 931 | 933 | 934 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | | |
| Oct 26 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 953 | 953 | 954 | 955 | 956 | 956 | 956 | 957 | 957 | 957 | 957 | 956 | 956 | 955 | 955 | 955 | | |
| Oct 27 | 954 | 953 | 952 | 951 | 950 | 949 | 949 | 948 | 947 | 947 | 948 | 948 | 948 | 948 | 949 | 949 | 948 | 948 | 948 | 948 | 948 | 949 | 949 | 949 | | |
| Oct 28 | 950 | 951 | 951 | 952 | 953 | 954 | 954 | 955 | 956 | 957 | 957 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 957 | 957 | 957 | 956 | 950 | | |
| Oct 29 | 956 | 955 | 955 | 954 | 953 | 952 | 951 | 950 | 949 | 948 | 948 | 947 | 947 | 945 | 945 | 944 | 944 | 943 | 943 | 942 | 942 | 942 | 941 | 941 | | |
| Oct 30 | 941 | 941 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 938 | 938 | 938 | 938 | | |
| Oct 31 | 938 | 939 | 939 | 939 | 939 | 940 | 940 | 941 | 942 | 942 | 944 | 944 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 947 | 947 | 947 | 938 | | |
| Diurnal Maximum | 956 | 955 | 955 | 954 | 953 | 954 | 954 | 955 | 956 | 957 | 957 | 957 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 957 | 957 | 957 | 956 | | |
| Diurnal Average | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

Reno Station - October 2019
Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

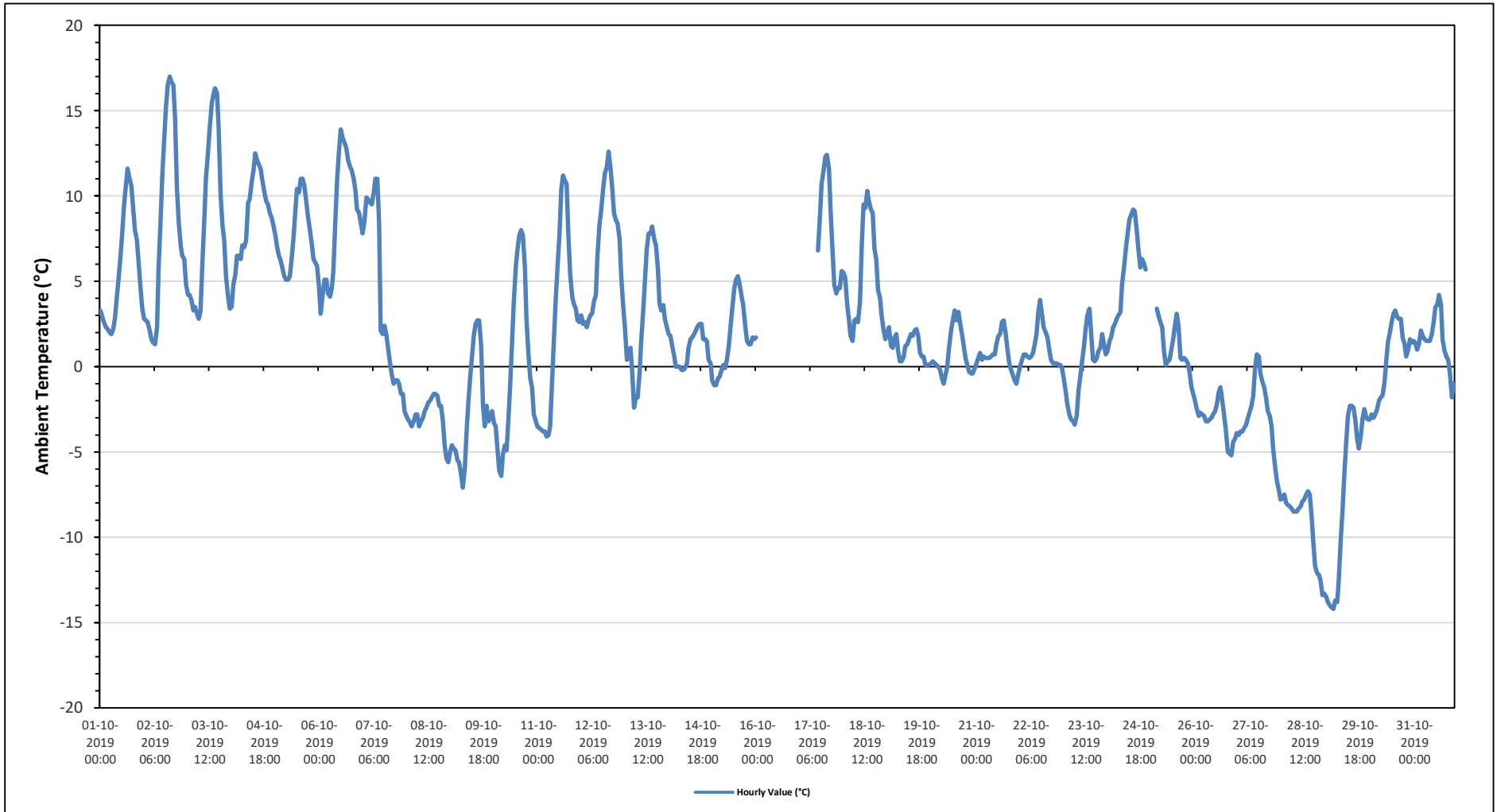
| | | | | |
|-----------------------|----------|-------------------------|------------------------|------|
| Maximum Hourly Value: | 17.0 °C | on October 2 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 8.8 °C | on October 4 | Hours of Data: | 706 |
| Minimum Hourly Value: | -14.2 °C | on October 29 at hour 5 | Hours of Missing Data: | 38 |
| Minimum Daily Value: | -9.0 °C | on October 28 | Hours of Calibration: | 0 |
| Monthly Average: | 2.0 °C | | 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 |
| Oct 1 | 3.3 | 2.9 | 2.6 | 2.3 | 2.2 | 2.0 | 1.9 | 2.2 | 2.9 | 4.1 | 5.2 | 6.4 | 7.8 | 9.4 | 10.7 | 11.6 | 11.0 | 10.6 | 9.1 | 8.0 | 7.4 | 6.0 | 4.6 | 3.4 | 1.9 | 11.6 | 5.7 |
| Oct 2 | 2.8 | 2.7 | 2.6 | 2.1 | 1.6 | 1.4 | 1.3 | 2.3 | 5.8 | 8.6 | 11.3 | 13.3 | 15.2 | 16.5 | 17.0 | 16.7 | 16.5 | 14.5 | 10.5 | 8.5 | 7.1 | 6.5 | 6.3 | 4.8 | 1.3 | 17.0 | 8.2 |
| Oct 3 | 4.2 | 4.2 | 3.9 | 3.3 | 3.5 | 3.1 | 2.8 | 3.3 | 6.0 | 8.7 | 11.0 | 12.5 | 14.0 | 15.4 | 15.9 | 16.3 | 16.0 | 14.0 | 10.0 | 8.3 | 7.4 | 5.3 | 4.1 | 3.4 | 2.8 | 16.3 | 8.2 |
| Oct 4 | 3.5 | 4.8 | 5.4 | 6.5 | 6.5 | 6.3 | 7.1 | 7.0 | 7.4 | 9.6 | 9.8 | 10.8 | 11.5 | 12.5 | 12.1 | 11.8 | 11.6 | 10.9 | 10.2 | 9.7 | 9.5 | 9.0 | 8.7 | 8.3 | 3.5 | 12.5 | 8.8 |
| Oct 5 | 7.7 | 7.0 | 6.5 | 6.2 | 5.7 | 5.3 | 5.1 | 5.1 | 5.3 | 6.3 | 7.5 | 9.2 | 10.4 | 10.2 | 11.0 | 11.0 | 10.6 | 9.6 | 8.7 | 8.1 | 7.2 | 6.3 | 6.1 | 5.9 | 5.1 | 11.0 | 7.6 |
| Oct 6 | 4.6 | 3.1 | 4.2 | 5.1 | 5.1 | 4.3 | 4.1 | 4.6 | 5.6 | 8.6 | 11.0 | 12.6 | 13.9 | 13.4 | 13.1 | 12.8 | 12.1 | 11.7 | 11.5 | 11.0 | 10.3 | 9.2 | 9.0 | 8.4 | 3.1 | 13.9 | 8.7 |
| Oct 7 | 7.8 | 8.5 | 9.9 | 9.8 | 9.6 | 9.5 | 10.2 | 11.0 | 11.0 | 8.3 | 2.1 | 1.9 | 2.4 | 1.8 | 1.1 | 0.2 | -0.5 | -1.0 | -0.8 | -0.8 | -1.0 | -1.6 | -1.6 | -2.6 | -2.6 | 11.0 | 4.0 |
| Oct 8 | -2.9 | -3.1 | -3.3 | -3.5 | -3.2 | -2.8 | -2.8 | -3.5 | -3.2 | -3.0 | -2.6 | -2.4 | -2.1 | -2.0 | -1.8 | -1.6 | -1.6 | -1.7 | -2.3 | -2.3 | -3.1 | -4.7 | -5.4 | -5.6 | -5.6 | -1.6 | -2.9 |
| Oct 9 | -5.0 | -4.6 | -4.8 | -4.9 | -5.5 | -5.6 | -6.3 | -7.1 | -5.9 | -4.0 | -2.0 | -0.6 | 0.6 | 1.8 | 2.5 | 2.7 | 2.7 | 1.2 | -2.2 | -3.5 | -2.3 | -3.2 | -3.0 | -2.6 | -7.1 | 2.7 | -2.6 |
| Oct 10 | -3.3 | -3.5 | -4.8 | -6.1 | -6.4 | -5.2 | -4.6 | -4.9 | -3.1 | -1.1 | 1.6 | 3.7 | 5.8 | 6.9 | 7.7 | 8.0 | 7.7 | 5.8 | 2.8 | 0.7 | -0.7 | -1.2 | -2.8 | -3.2 | -6.4 | 8.0 | 0.0 |
| Oct 11 | -3.5 | -3.6 | -3.7 | -3.8 | -3.8 | -4.1 | -4.0 | -3.5 | -0.8 | 1.6 | 3.9 | 5.8 | 7.8 | 10.4 | 11.2 | 10.9 | 10.7 | 7.6 | 5.4 | 4.1 | 3.7 | 3.4 | 2.7 | 2.6 | -4.1 | 11.2 | 2.5 |
| Oct 12 | 3.0 | 2.5 | 2.6 | 2.3 | 2.7 | 3.0 | 3.1 | 3.8 | 4.2 | 6.5 | 8.3 | 9.2 | 10.5 | 11.3 | 11.7 | 12.6 | 11.7 | 10.5 | 9.0 | 8.6 | 8.4 | 7.5 | 5.2 | 3.6 | 2.3 | 12.6 | 6.7 |
| Oct 13 | 2.3 | 0.4 | 0.7 | 1.1 | -0.4 | -2.4 | -1.8 | -1.8 | -0.3 | 1.5 | 3.3 | 5.1 | 6.9 | 7.8 | 7.8 | 8.2 | 7.5 | 7.1 | 5.7 | 3.7 | 3.3 | 3.6 | 2.8 | 2.3 | -2.4 | 8.2 | 3.1 |
| Oct 14 | 1.9 | 1.8 | 1.2 | 0.6 | 0.0 | 0.0 | 0.0 | -0.2 | -0.2 | -0.1 | 0.2 | 1.1 | 1.6 | 1.7 | 1.9 | 2.1 | 2.4 | 2.5 | 2.5 | 1.6 | 1.6 | 1.5 | 0.4 | 0.2 | -0.2 | 2.5 | 1.1 |
| Oct 15 | -0.8 | -1.1 | -1.1 | -0.7 | -0.6 | -0.2 | 0.1 | -0.1 | 0.4 | 1.3 | 2.3 | 3.4 | 4.6 | 5.1 | 5.3 | 4.8 | 4.1 | 3.6 | 2.4 | 1.5 | 1.3 | 1.3 | 1.7 | 1.6 | -1.1 | 5.3 | 1.7 |
| Oct 16 | 1.7 | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 1.7 | 1.7 | - |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | 6.8 | 8.9 | 10.7 | 11.5 | 12.3 | 12.4 | 11.6 | 9.0 | 6.8 | 4.8 | 4.3 | 4.6 | 4.6 | 5.6 | 4.3 | 12.4 | - |
| Oct 18 | 5.5 | 5.2 | 3.6 | 2.7 | 1.8 | 1.5 | 2.7 | 2.8 | 2.6 | 3.8 | 7.1 | 9.5 | 9.3 | 10.3 | 9.7 | 9.2 | 9.0 | 6.9 | 6.3 | 4.5 | 4.0 | 3.0 | 2.1 | 1.6 | 1.5 | 10.3 | 5.2 |
| Oct 19 | 2.0 | 2.3 | 1.2 | 1.1 | 1.7 | 1.9 | 0.9 | 0.3 | 0.3 | 0.6 | 1.2 | 1.3 | 1.6 | 1.9 | 1.8 | 2.1 | 2.2 | 1.8 | 0.8 | 0.6 | 0.6 | 0.1 | 0.1 | 0.1 | 0.1 | 2.3 | 1.2 |
| Oct 20 | 0.2 | 0.3 | 0.2 | 0.1 | 0.0 | -0.2 | -0.7 | -1.0 | -0.5 | 0.0 | 1.1 | 2.1 | 2.7 | 3.3 | 2.7 | 3.2 | 2.6 | 1.9 | 1.2 | 0.5 | 0.1 | -0.3 | -0.4 | -0.4 | -1.0 | 3.3 | 0.8 |
| Oct 21 | -0.1 | 0.2 | 0.5 | 0.8 | 0.4 | 0.6 | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 | 1.3 | 1.8 | 1.9 | 2.6 | 2.7 | 1.9 | 1.1 | 0.2 | -0.2 | -0.5 | -0.8 | -1.0 | -1.0 | 2.7 | 0.7 | |
| Oct 22 | -0.4 | 0.0 | 0.4 | 0.7 | 0.7 | 0.6 | 0.5 | 0.6 | 0.8 | 1.3 | 1.9 | 3.2 | 3.9 | 3.0 | 2.3 | 2.0 | 1.7 | 0.9 | 0.4 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | -0.4 | 3.9 | 1.1 |
| Oct 23 | -0.1 | -0.7 | -1.5 | -2.2 | -2.8 | -3.1 | -3.2 | -3.4 | -2.9 | -1.4 | -0.6 | 0.3 | 1.1 | 2.2 | 3.0 | 3.4 | 1.9 | 0.4 | 0.3 | 0.5 | 0.9 | 1.1 | 1.9 | 1.3 | -3.4 | 3.4 | -0.2 |
| Oct 24 | 0.7 | 0.9 | 1.5 | 1.7 | 2.3 | 2.5 | 2.8 | 3.0 | 3.2 | 4.8 | 5.8 | 6.9 | 7.9 | 8.6 | 8.9 | 9.2 | 9.1 | 8.0 | 6.8 | 5.8 | 6.3 | 6.0 | 5.7 | P | 0.7 | 9.2 | 5.1 |
| Oct 25 | P | P | P | P | 3.4 | 3.0 | 2.6 | 2.3 | 0.9 | 0.1 | 0.3 | 0.4 | 1.0 | 1.6 | 2.5 | 3.1 | 2.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.2 | -0.3 | -1.2 | -1.2 | 3.4 | 1.2 |
| Oct 26 | -1.6 | -2.0 | -2.5 | -2.9 | -2.7 | -2.8 | -2.9 | -3.2 | -3.2 | -3.1 | -3.0 | -2.8 | -2.6 | -2.2 | -1.5 | -1.2 | -2.1 | -2.8 | -3.7 | -5.0 | -5.1 | -5.2 | -4.4 | -4.2 | -5.2 | -1.2 | -3.0 |
| Oct 27 | -3.9 | -4.0 | -3.8 | -3.8 | -3.6 | -3.4 | -3.0 | -2.7 | -2.3 | -1.7 | -0.1 | 0.7 | 0.6 | -0.4 | -0.9 | -1.2 | -1.9 | -2.6 | -2.9 | -3.5 | -4.8 | -5.9 | -6.7 | -7.2 | -7.2 | 0.7 | -2.9 |
| Oct 28 | -7.8 | -7.7 | -7.5 | -8.0 | -8.1 | -8.2 | -8.3 | -8.5 | -8.5 | -8.5 | -8.3 | -8.2 | -7.9 | -7.8 | -7.5 | -7.3 | -7.5 | -8.7 | -10.5 | -11.7 | -12.1 | -12.2 | -12.5 | -13.4 | -13.4 | -7.3 | -9.0 |
| Oct 29 | -13.3 | -13.5 | -13.8 | -14.0 | -14.1 | -14.2 | -13.7 | -13.8 | -12.5 | -10.1 | -8.4 | -6.3 | -4.5 | -2.9 | -2.3 | -2.4 | -3.1 | -4.2 | -4.8 | -4.0 | -3.0 | -2.5 | -3.0 | -14.2 | -14.2 | -2.3 | -7.8 |
| Oct 30 | -3.1 | -3.1 | -2.8 | -3.0 | -2.8 | -2.5 | -2.0 | -1.8 | -1.7 | -0.9 | 0.4 | 1.5 | 2.0 | 2.6 | 3.1 | 3.3 | 2.9 | 2.8 | 2.8 | 1.7 | 1.3 | 0.6 | 1.0 | 1.6 | -3.1 | 3.3 | 0.2 |
| Oct 31 | 1.4 | 1.5 | 1.4 | 1.0 | 1.3 | 2.1 | 1.8 | 1.6 | 1.5 | 1.5 | 1.5 | 1.9 | 2.6 | 3.5 | 3.6 | 4.2 | 3.6 | 1.6 | 0.9 | 0.6 | 0.4 | -0.4 | -1.8 | -1.0 | -1.8 | 4.2 | 1.5 |
| Diurnal Maximum | 7.8 | 8.5 | 9.9 | 9.8 | 9.6 | 9.5 | 10.2 | 11.0 | 11.0 | 9.6 | 11.3 | 13.3 | 15.2 | 16.5 | 17.0 | 16.7 | 16.5 | 14.5 | 11.5 | 11.0 | 10.3 | 9.2 | 9.0 | 8.4 | | | |
| Diurnal Average | 0.2 | 0.0 | 0.0 | -0.2 | -0.2 | -0.3 | -0.2 | -0.2 | 0.5 | 1.5 | 2.6 | 3.7 | 4.7 | 5.3 | 5.6 | 5.7 | 5.3 | 4.2 | 3.0 | 2.1 | 1.7 | 1.2 | 0.8 | 0.3 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019
Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

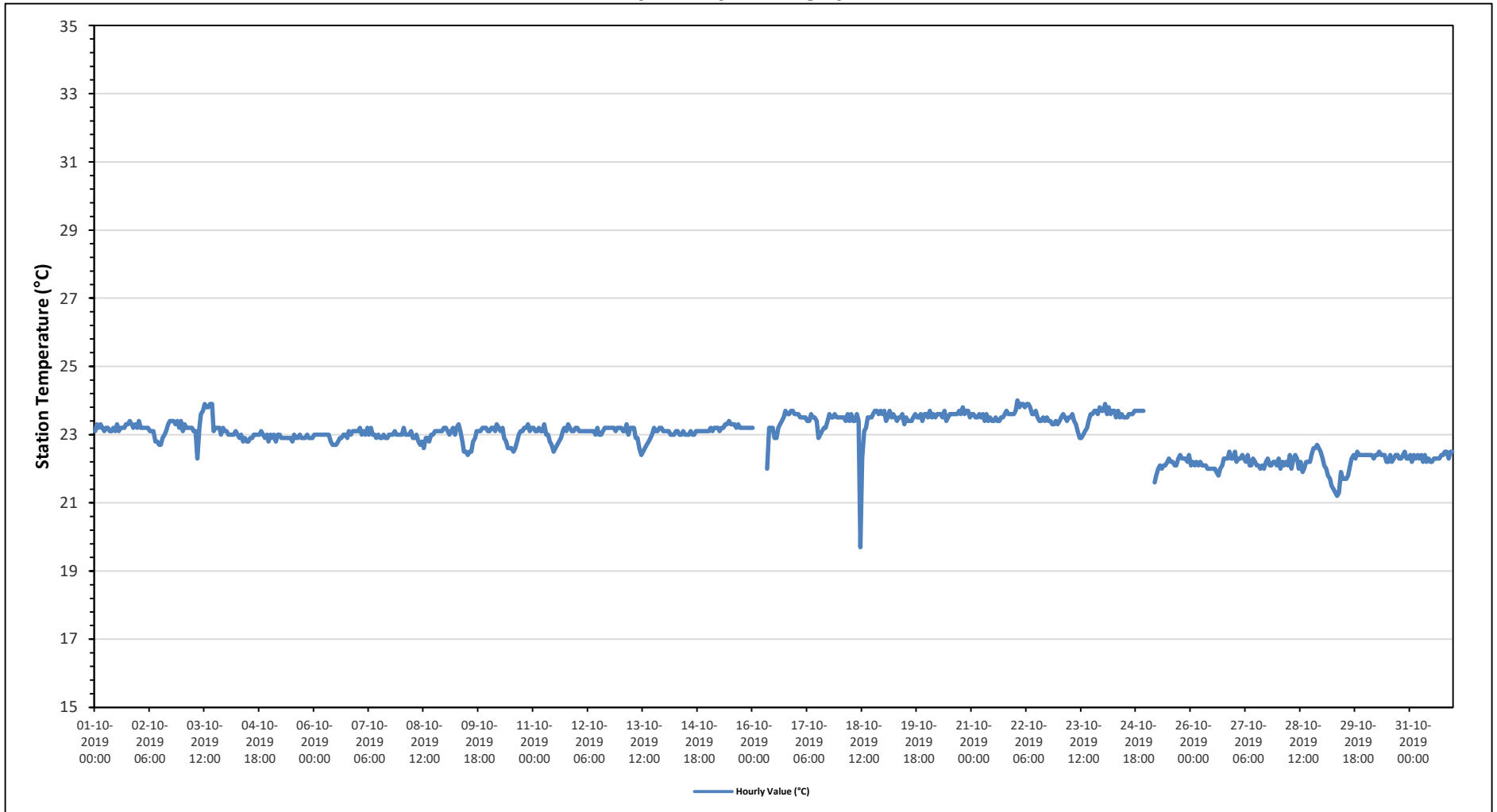
| | | | | |
|-----------------------|---------|--------------------------|------------------------|------|
| Maximum Hourly Value: | 24.0 °C | on October 22 at hour 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.6 °C | on October 24 | Hours of Data: | 732 |
| Minimum Hourly Value: | 19.7 °C | on October 18 at hour 11 | Hours of Missing Data: | 12 |
| Minimum Daily Value: | 21.9 °C | on October 29 | Hours of Calibration: | 0 |
| Monthly Average: | 23.0 °C | | Operational Uptime: | 98.4 |

| 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 |
| Oct 1 | 23.1 | 23.3 | 23.2 | 23.3 | 23.2 | 23.1 | 23.2 | 23.2 | 23.1 | 23.1 | 23.2 | 23.1 | 23.3 | 23.1 | 23.2 | 23.2 | 23.2 | 23.3 | 23.3 | 23.4 | 23.3 | 23.2 | 23.3 | 23.2 | 23.1 | 23.4 | 23.2 |
| Oct 2 | 23.4 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.1 | 23.1 | 22.8 | 22.8 | 22.7 | 22.7 | 22.9 | 23.0 | 23.1 | 23.3 | 23.4 | 23.4 | 23.3 | 23.4 | 23.2 | 23.4 | 22.7 | 23.4 | 23.1 | |
| Oct 3 | 23.1 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.1 | 22.3 | 23.2 | 23.6 | 23.7 | 23.9 | 23.8 | 23.8 | 23.9 | 23.9 | 23.1 | 23.2 | 23.2 | 23.0 | 23.2 | 23.1 | 22.3 | 23.9 | 23.3 | |
| Oct 4 | 23.1 | 23.0 | 23.0 | 23.0 | 23.0 | 23.1 | 23.0 | 22.9 | 23.0 | 22.8 | 22.9 | 22.8 | 22.8 | 22.9 | 22.9 | 23.0 | 23.0 | 23.0 | 23.0 | 23.1 | 23.0 | 22.9 | 23.0 | 22.8 | 22.8 | 23.1 | 23.0 |
| Oct 5 | 23.0 | 22.9 | 23.0 | 22.8 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 23.0 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.8 | 23.0 | 22.9 | 22.9 |
| Oct 6 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 22.8 | 22.7 | 22.7 | 22.7 | 22.8 | 22.9 | 22.9 | 23.0 | 23.0 | 22.9 | 23.1 | 23.0 | 23.1 | 23.1 | 22.7 | 23.1 | 23.0 | 22.9 |
| Oct 7 | 23.1 | 23.2 | 23.0 | 23.1 | 23.0 | 23.2 | 23.0 | 23.2 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 23.0 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 22.9 | 23.2 | 23.0 | 23.0 |
| Oct 8 | 23.0 | 23.2 | 23.0 | 23.0 | 23.0 | 23.1 | 22.9 | 22.9 | 23.0 | 22.8 | 22.7 | 22.8 | 22.6 | 22.9 | 22.9 | 22.8 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 22.6 | 23.2 | 23.0 | 23.0 |
| Oct 9 | 23.2 | 23.1 | 23.0 | 23.1 | 23.2 | 23.0 | 23.2 | 23.3 | 23.1 | 22.8 | 22.5 | 22.5 | 22.4 | 22.5 | 22.8 | 22.9 | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.1 | 22.4 | 23.3 | 23.0 | 23.0 |
| Oct 10 | 23.1 | 23.2 | 23.2 | 23.1 | 23.3 | 23.2 | 23.1 | 23.2 | 22.9 | 22.8 | 22.6 | 22.6 | 22.6 | 22.5 | 22.6 | 22.8 | 23.0 | 23.1 | 23.1 | 23.2 | 23.2 | 23.3 | 23.1 | 22.5 | 23.3 | 23.0 | 23.0 |
| Oct 11 | 23.2 | 23.1 | 23.1 | 23.2 | 23.1 | 23.1 | 23.3 | 23.0 | 23.0 | 22.8 | 22.7 | 22.5 | 22.6 | 22.7 | 22.8 | 22.9 | 23.1 | 23.2 | 23.1 | 23.3 | 23.2 | 23.1 | 22.5 | 23.3 | 23.0 | 23.0 | 23.0 |
| Oct 12 | 23.2 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 23.2 | 23.0 | 23.0 | 23.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.0 | 23.2 | 23.1 | 23.1 | 23.1 |
| Oct 13 | 23.2 | 23.1 | 23.1 | 23.3 | 23.0 | 23.2 | 23.2 | 23.2 | 22.9 | 22.9 | 22.6 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.9 | 23.0 | 23.2 | 23.1 | 23.1 | 23.2 | 23.2 | 22.4 | 23.3 | 23.0 | 23.0 |
| Oct 14 | 23.1 | 23.1 | 23.1 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 |
| Oct 15 | 23.1 | 23.2 | 23.1 | 23.2 | 23.2 | 23.2 | 23.1 | 23.2 | 23.2 | 23.3 | 23.3 | 23.4 | 23.3 | 23.3 | 23.3 | 23.2 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.4 | 23.2 | 23.2 | 23.2 |
| Oct 16 | 23.2 | P | P | P | P | P | P | P | 22.0 | 23.2 | 23.2 | 23.2 | 22.9 | 22.9 | 23.2 | 23.3 | 23.4 | 23.5 | 23.7 | 23.6 | 23.6 | 23.7 | 22.0 | 23.7 | - | - | |
| Oct 17 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.4 | 23.6 | 23.5 | 23.5 | 23.4 | 22.9 | 23.0 | 23.1 | 23.2 | 23.2 | 23.4 | 23.6 | 23.5 | 23.5 | 23.6 | 22.9 | 23.6 | 23.4 | 23.4 | |
| Oct 18 | 23.5 | 23.5 | 23.5 | 23.4 | 23.6 | 23.4 | 23.6 | 23.4 | 23.4 | 23.6 | 23.4 | 19.7 | 22.3 | 23.1 | 23.2 | 23.5 | 23.5 | 23.5 | 23.6 | 23.7 | 23.7 | 23.6 | 19.7 | 23.7 | 23.3 | 23.3 | |
| Oct 19 | 23.7 | 23.4 | 23.5 | 23.7 | 23.5 | 23.6 | 23.5 | 23.4 | 23.5 | 23.5 | 23.6 | 23.3 | 23.5 | 23.4 | 23.4 | 23.4 | 23.5 | 23.6 | 23.5 | 23.5 | 23.6 | 23.4 | 23.3 | 23.7 | 23.5 | 23.5 | |
| Oct 20 | 23.5 | 23.7 | 23.5 | 23.6 | 23.5 | 23.6 | 23.6 | 23.6 | 23.5 | 23.7 | 23.4 | 23.5 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.7 | 23.6 | 23.8 | 23.6 | 23.7 | 23.4 | 23.8 | 23.6 | 23.6 | |
| Oct 21 | 23.6 | 23.6 | 23.5 | 23.5 | 23.6 | 23.5 | 23.6 | 23.4 | 23.6 | 23.4 | 23.5 | 23.4 | 23.4 | 23.5 | 23.4 | 23.5 | 23.4 | 23.5 | 23.5 | 23.6 | 23.7 | 23.6 | 23.4 | 23.7 | 23.5 | 23.5 | |
| Oct 22 | 23.7 | 24.0 | 23.8 | 23.9 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.6 | 23.6 | 23.7 | 23.5 | 23.4 | 23.4 | 23.5 | 23.4 | 23.5 | 23.4 | 23.4 | 23.3 | 23.3 | 23.3 | 24.0 | 23.6 | 23.6 | |
| Oct 23 | 23.4 | 23.5 | 23.6 | 23.5 | 23.4 | 23.5 | 23.5 | 23.6 | 23.4 | 23.3 | 23.1 | 22.9 | 22.9 | 23.0 | 23.1 | 23.2 | 23.4 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 22.9 | 23.8 | 23.4 | 23.4 | |
| Oct 24 | 23.7 | 23.9 | 23.6 | 23.8 | 23.6 | 23.7 | 23.7 | 23.5 | 23.7 | 23.5 | 23.6 | 23.5 | 23.5 | 23.5 | 23.6 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.5 | 23.9 | 23.6 | 23.6 | |
| Oct 25 | P | P | P | P | 21.6 | 21.8 | 22.0 | 22.1 | 22.0 | 22.1 | 22.1 | 22.2 | 22.3 | 22.2 | 22.2 | 22.1 | 22.1 | 22.3 | 22.4 | 22.3 | 22.3 | 22.2 | 22.4 | 21.6 | 22.4 | 22.2 | |
| Oct 26 | 22.1 | 22.2 | 22.1 | 22.2 | 22.1 | 22.2 | 22.1 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.8 | 22.0 | 22.1 | 22.3 | 22.3 | 22.3 | 22.3 | 21.8 | 22.5 | 22.1 | 22.1 | |
| Oct 27 | 22.5 | 22.2 | 22.3 | 22.3 | 22.4 | 22.3 | 22.2 | 22.4 | 22.1 | 22.1 | 22.3 | 22.2 | 22.1 | 22.1 | 22.0 | 22.1 | 22.0 | 22.2 | 22.3 | 22.1 | 22.1 | 22.2 | 22.0 | 22.5 | 22.2 | 22.2 | |
| Oct 28 | 22.3 | 22.0 | 22.2 | 22.1 | 22.2 | 22.1 | 22.4 | 22.0 | 22.3 | 22.4 | 22.3 | 22.0 | 22.2 | 21.9 | 22.0 | 22.2 | 22.2 | 22.4 | 22.6 | 22.6 | 22.7 | 22.6 | 21.9 | 22.7 | 22.3 | 22.3 | |
| Oct 29 | 22.3 | 22.1 | 22.0 | 21.8 | 21.7 | 21.5 | 21.4 | 21.3 | 21.2 | 21.3 | 21.9 | 21.7 | 21.7 | 21.8 | 22.1 | 22.3 | 22.4 | 22.3 | 22.5 | 22.4 | 22.4 | 22.4 | 21.2 | 22.5 | 21.9 | 21.9 | |
| Oct 30 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.5 | 22.4 | 22.4 | 22.4 | 22.2 | 22.2 | 22.4 | 22.2 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.3 | 22.3 | 22.2 | 22.5 | 22.3 | 22.4 | |
| Oct 31 | 22.4 | 22.2 | 22.4 | 22.3 | 22.4 | 22.3 | 22.4 | 22.2 | 22.4 | 22.2 | 22.3 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.5 | 22.2 | 22.5 | 22.3 | 22.3 | |
| Diurnal Maximum | 23.7 | 24.0 | 23.8 | 23.9 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.7 | 23.6 | 23.7 | 23.9 | 23.8 | 23.8 | 23.9 | 23.9 | 23.7 | 23.7 | 23.8 | 23.7 | 23.8 | 23.7 | 23.8 | 23.7 | 23.7 | |
| Diurnal Average | 23.1 | 23.1 | 23.0 | 23.1 | 23.0 | 23.0 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.7 | 22.8 | 22.8 | 22.9 | 22.9 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 ST - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019 Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

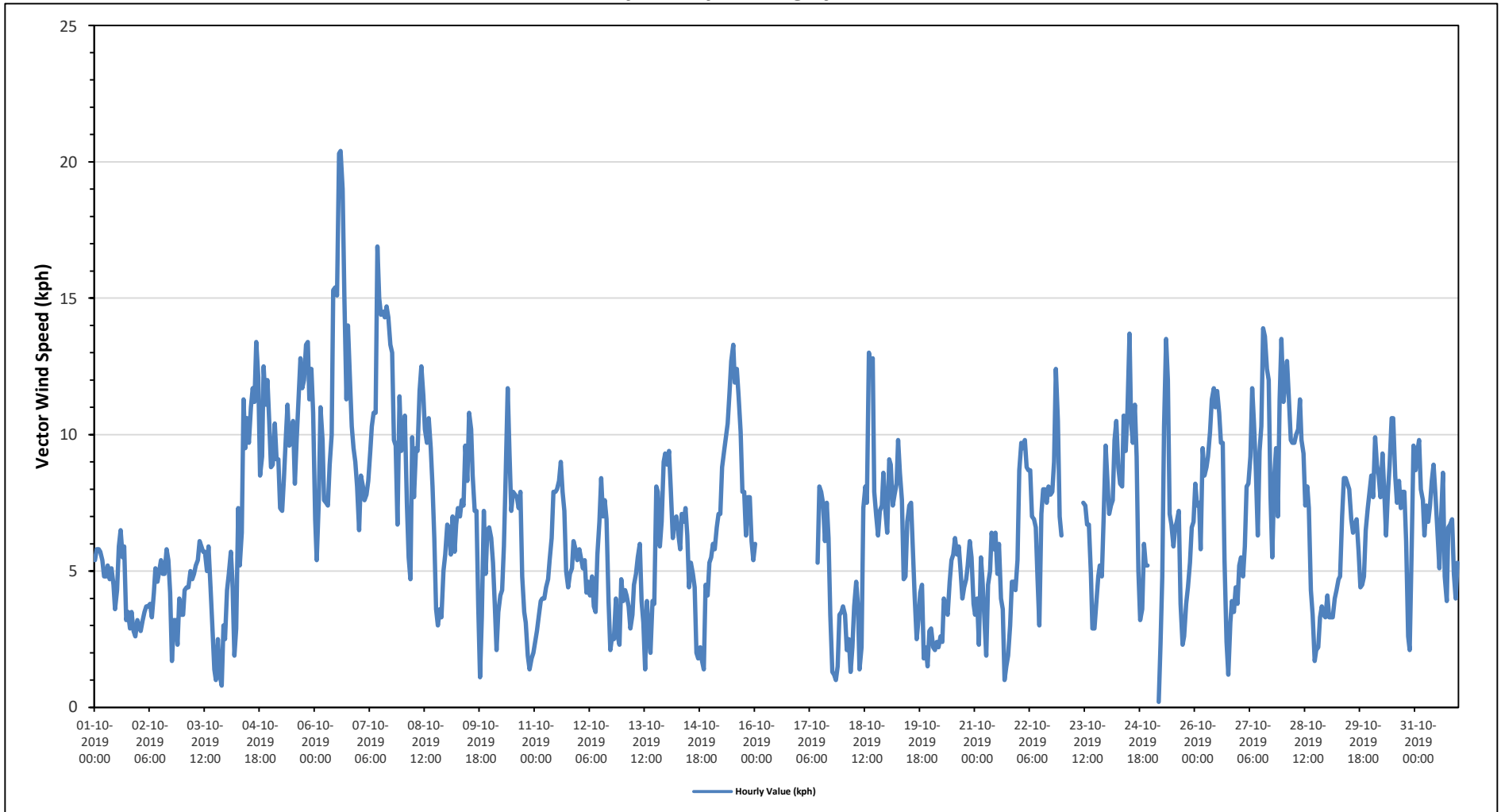
| | | | | |
|-----------------------|----------|-------------------------|------------------------|------|
| Maximum Hourly Value: | 20.4 kph | on October 6 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 11.5 kph | on October 6 | Hours of Data: | 695 |
| Minimum Hourly Value: | 0.2 kph | on October 25 at hour 4 | Hours of Missing Data: | 49 |
| Minimum Daily Value: | 3.9 kph | on October 2 | Hours of Calibration: | 0 |
| Monthly Average: | 2.9 kph | | Operational Uptime: | 93.4 |

| 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 | |
| Oct 1 | 5.4 | 5.8 | 5.8 | 5.7 | 5.4 | 4.8 | 4.8 | 5.2 | 4.7 | 5.1 | 4.5 | 3.6 | 4.3 | 5.9 | 6.5 | 5.5 | 5.9 | 3.2 | 3.5 | 2.9 | 3.5 | 2.8 | 2.6 | 3.2 | 2.6 | 6.5 | 4.6 | |
| Oct 2 | 3 | 2.8 | 3.2 | 3.5 | 3.7 | 3.7 | 3.8 | 3.3 | 4.2 | 5.1 | 4.6 | 5 | 5.4 | 4.9 | 4.9 | 5.8 | 5.4 | 4.2 | 1.7 | 3.2 | 3.2 | 2.3 | 4 | 3.4 | 1.7 | 5.8 | 3.9 | |
| Oct 3 | 3.4 | 4.3 | 4.4 | 4.4 | 5 | 4.7 | 4.9 | 5.2 | 5.4 | 6.1 | 5.9 | 5.7 | 5.7 | 5 | 5.9 | 4.4 | 3 | 1.4 | 1 | 2.5 | 1.2 | 0.8 | 3 | 2.5 | 0.8 | 6.1 | 4.0 | |
| Oct 4 | 4.3 | 4.9 | 5.7 | 4.7 | 1.9 | 2.9 | 7.3 | 5.2 | 6.4 | 11.3 | 9.5 | 10.6 | 9.7 | 11 | 11.7 | 11.2 | 13.4 | 12.1 | 8.5 | 9.2 | 12.5 | 11.1 | 12 | 10.5 | 1.9 | 13.4 | 8.7 | |
| Oct 5 | 8.8 | 8.9 | 10.4 | 9.1 | 9.1 | 7.3 | 7.2 | 8.4 | 9.8 | 11.1 | 9.6 | 9.7 | 10.5 | 8.2 | 9.8 | 11.4 | 12.8 | 11.7 | 12 | 13.3 | 13.4 | 11.3 | 12.4 | 10.8 | 7.2 | 13.4 | 10.3 | |
| Oct 6 | 6.9 | 5.4 | 7.5 | 11 | 9.8 | 7.6 | 7.5 | 7.4 | 8.9 | 10 | 15.3 | 15.4 | 15.1 | 20.3 | 20.4 | 19 | 15 | 11.3 | 14 | 12 | 10.3 | 9.5 | 9 | 8.1 | 5.4 | 20.4 | 11.5 | |
| Oct 7 | 6.5 | 8.5 | 8.1 | 7.6 | 7.8 | 8.3 | 9.4 | 10.3 | 10.8 | 10.8 | 16.9 | 15 | 14.4 | 14.5 | 14.3 | 14.7 | 14.3 | 13.3 | 13 | 9.8 | 9.6 | 6.7 | 11.4 | 9.4 | 6.5 | 16.9 | 11.1 | |
| Oct 8 | 9.9 | 10.7 | 7.5 | 5.5 | 4.7 | 9.9 | 7.7 | 9.5 | 9.4 | 11.6 | 12.5 | 11.4 | 10.2 | 9.7 | 10.6 | 9.5 | 8.1 | 6.2 | 3.6 | 3 | 3.6 | 3.3 | 5 | 5.6 | 3.0 | 12.5 | 7.9 | |
| Oct 9 | 6.7 | 6.6 | 5.6 | 7 | 5.7 | 6.7 | 7.3 | 7 | 7.6 | 7.4 | 9.6 | 8.3 | 10.8 | 10.2 | 8.5 | 7.2 | 7.2 | 3.7 | 1.1 | 3.3 | 7.2 | 4.9 | 6.5 | 6.6 | 1.1 | 10.8 | 6.8 | |
| Oct 10 | 6.2 | 5.3 | 3.8 | 2.1 | 3.5 | 4.1 | 4.3 | 5.9 | 8.5 | 11.7 | 9.3 | 7.2 | 7.9 | 7.8 | 7.7 | 7.3 | 7.9 | 4.8 | 3.5 | 3.1 | 1.9 | 1.4 | 1.8 | 2 | 1.4 | 11.7 | 5.4 | |
| Oct 11 | 2.4 | 2.8 | 3.4 | 3.9 | 4 | 4 | 4.4 | 4.7 | 5.4 | 6.2 | 7.9 | 7.9 | 8 | 8.3 | 9 | 7.9 | 7.2 | 5 | 4.4 | 4.9 | 5.1 | 6.1 | 5.8 | 5.4 | 2.4 | 9.0 | 5.6 | |
| Oct 12 | 5.8 | 5.5 | 5.1 | 5.4 | 4.2 | 4.6 | 4.1 | 4.8 | 3.7 | 3.5 | 5.6 | 6.8 | 8.4 | 7 | 7.6 | 6.9 | 3.9 | 2.1 | 2.6 | 2.5 | 4 | 2.6 | 2.3 | 4.7 | 2.1 | 8.4 | 4.7 | |
| Oct 13 | 3.9 | 4.3 | 4.1 | 3.7 | 2.9 | 3.4 | 4.5 | 4.9 | 5.5 | 6 | 3.9 | 3.1 | 1.4 | 3.9 | 2.6 | 2 | 3.9 | 3.8 | 8.1 | 7.9 | 5.9 | 6.8 | 9 | 9.3 | 1.4 | 9.3 | 4.8 | |
| Oct 14 | 8.9 | 9.4 | 8 | 6.2 | 6.9 | 7 | 6.4 | 5.8 | 7.1 | 6.8 | 7.3 | 6.3 | 4.4 | 5.3 | 4.9 | 4.4 | 2 | 1.8 | 2.2 | 1.7 | 1.4 | 4.5 | 4.1 | 5.3 | 1.4 | 9.4 | 5.3 | |
| Oct 15 | 5.5 | 6 | 5.8 | 6.6 | 7.1 | 7.1 | 8.8 | 9.4 | 9.9 | 10.4 | 11.5 | 12.7 | 13.3 | 11.9 | 12.4 | 11.4 | 10.1 | 7.9 | 7.9 | 6.3 | 7.7 | 7.7 | 6.1 | 5.4 | 5.4 | 13.3 | 8.7 | |
| Oct 16 | 6 | P | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 6.0 | 6.0 | - | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 1.0 | 8.1 | - | |
| Oct 18 | 3.7 | 3.4 | 2.1 | 2.5 | 1.3 | 2.2 | 3.7 | 4.6 | 3.7 | 1.4 | 2.2 | 7.3 | 8.1 | 7.5 | 13 | 12.3 | 12.8 | 7.9 | 7 | 6.3 | 7.2 | 7.4 | 8.6 | 7.2 | 1.3 | 13.0 | 6.0 | |
| Oct 19 | 6.4 | 9.1 | 8.9 | 7.4 | 7.8 | 8.2 | 9.8 | 8.6 | 7.6 | 4.7 | 4.8 | 6.8 | 7.4 | 7.5 | 5.8 | 4.1 | 2.5 | 3.2 | 4.2 | 4.5 | 1.8 | 2.2 | 1.5 | 2.8 | 1.5 | 9.8 | 5.7 | |
| Oct 20 | 2.9 | 2.2 | 2.1 | 2.4 | 2.2 | 2.6 | 2.4 | 4 | 3.7 | 3.4 | 4.6 | 5.4 | 5.6 | 6.2 | 5.6 | 5.9 | 5 | 4 | 4.4 | 4.7 | 5.2 | 6.1 | 5.5 | 3.8 | 2.1 | 6.2 | 4.2 | |
| Oct 21 | 3.4 | 4 | 2.3 | 3.5 | 4.7 | 3.2 | 1.9 | 4.5 | 5 | 6.4 | 5.8 | 6.4 | 4.9 | 6 | 4 | 3.6 | 1 | 1.5 | 1.9 | 3 | 4.6 | 4.6 | 4.3 | 5.4 | 1.0 | 6.4 | 4.1 | |
| Oct 22 | 8.7 | 9.7 | 9.5 | 9.8 | 8.8 | 8.7 | 8.7 | 7 | 6.9 | 6.6 | 4.7 | 3 | 7.1 | 8 | 8 | 7.5 | 8.1 | 7.8 | 7.9 | 9 | 12.4 | 10.5 | 7 | 6.3 | 3.0 | 12.4 | 8.0 | |
| Oct 23 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 7.5 | 7.4 | 6.7 | 6.7 | 4.9 | 2.9 | 3.8 | 4.8 | 5.2 | 4.8 | 6.9 | 2.9 | 9.6 | - |
| Oct 24 | 8.5 | 7.1 | 7.4 | 7.6 | 9.8 | 10.5 | 8.8 | 8.2 | 8.1 | 10.7 | 9.4 | 10.9 | 13.7 | 10.5 | 9.7 | 11.1 | 9.2 | 5 | 3.2 | 3.6 | 6 | 5.2 | 5.2 | P | 3.2 | 13.7 | 8.2 | |
| Oct 25 | P | P | P | P | 0.2 | 2.3 | 4.8 | 10.3 | 13.5 | 12 | 7.1 | 6.7 | 5.9 | 6.6 | 6.8 | 7.2 | 3.8 | 2.3 | 2.6 | 3.8 | 4.4 | 5.3 | 6.6 | 6.8 | 0.2 | 13.5 | 6.0 | |
| Oct 26 | 8.2 | 7.4 | 7.5 | 5.8 | 9.5 | 8.5 | 8.8 | 9.2 | 10.1 | 11.3 | 11.7 | 11 | 11.6 | 10.8 | 9.7 | 9.7 | 5.4 | 2.4 | 1.2 | 3.1 | 3.9 | 3.5 | 4.4 | 3.8 | 1.2 | 11.7 | 7.4 | |
| Oct 27 | 5.2 | 5.5 | 4.8 | 5.9 | 8.1 | 8.2 | 9.2 | 11.7 | 10.4 | 8.8 | 6.3 | 9.4 | 10.3 | 13.9 | 13.6 | 12.4 | 12 | 7.8 | 5.5 | 8.5 | 9.5 | 7 | 11.3 | 13.5 | 4.8 | 13.9 | 9.1 | |
| Oct 28 | 11.2 | 11.8 | 12.7 | 11.4 | 9.8 | 9.7 | 9.7 | 10 | 10.2 | 11.3 | 9.8 | 9.3 | 7.4 | 8.1 | 7.3 | 4.3 | 3.4 | 1.7 | 2.1 | 2.2 | 3.3 | 3.7 | 3.4 | 3.3 | 1.7 | 12.7 | 7.4 | |
| Oct 29 | 4.1 | 3.3 | 3.3 | 3.3 | 4 | 4.3 | 4.7 | 4.8 | 7 | 8.4 | 8.4 | 8.2 | 8 | 6.9 | 6.4 | 6.7 | 6.9 | 5.7 | 4.4 | 4.5 | 4.8 | 6.5 | 7.3 | 7.9 | 3.3 | 8.4 | 5.8 | |
| Oct 30 | 8.5 | 7.7 | 9.9 | 8.9 | 8.5 | 7.7 | 9.3 | 7.9 | 6.3 | 7.8 | 8.9 | 10.6 | 10.6 | 8.5 | 7.5 | 8.3 | 7.3 | 7.9 | 7.9 | 6.1 | 2.6 | 2.1 | 5.9 | 9.6 | 2.1 | 10.6 | 7.8 | |
| Oct 31 | 8.7 | 9.3 | 9.8 | 8 | 7.6 | 6.3 | 7.4 | 6.8 | 7.4 | 8.3 | 8.9 | 7.7 | 6.5 | 5.1 | 6.8 | 8.6 | 4.8 | 3.9 | 6.6 | 6.7 | 6.9 | 4.9 | 4 | 5.3 | 3.9 | 9.8 | 6.9 | |
| Diurnal Maximum | 11 | 12 | 13 | 11 | 10 | 11 | 10 | 12 | 14 | 12 | 17 | 15 | 15 | 20 | 20 | 19 | 15 | 13 | 14 | 13 | 13 | 11 | 12 | 14 | | | | |
| Diurnal Average | 6.2 | 6.4 | 6.2 | 6.1 | 5.9 | 6.0 | 6.5 | 7.0 | 7.4 | 8.0 | 8.0 | 8.2 | 8.4 | 8.5 | 8.5 | 8.1 | 7.0 | 5.3 | 5.0 | 5.3 | 5.6 | 5.2 | 6.0 | 6.2 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 VWS - Reno Station

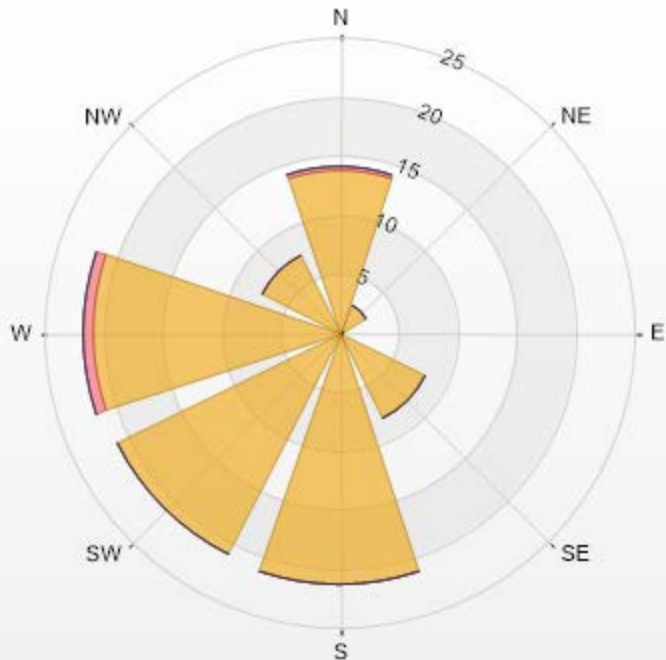


Wind: PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 3.32% Valid Data: 94.29% Calm Avg: 1.32 [KPH]

| Direction | 6-15 | 15-29 | 29-39 | >39.0 | Total |
|-----------|-------|-------|-------|-------|-------|
| N | 13.85 | 0.29 | 0 | 0 | 14.14 |
| NE | 2.6 | 0 | 0 | 0 | 2.6 |
| E | 0.29 | 0 | 0 | 0 | 0.29 |
| SE | 8.08 | 0 | 0 | 0 | 8.08 |
| S | 21.36 | 0 | 0 | 0 | 21.36 |
| SW | 21.07 | 0 | 0 | 0 | 21.07 |
| W | 20.92 | 0.87 | 0 | 0 | 21.79 |
| NW | 7.36 | 0 | 0 | 0 | 7.36 |
| Summary | 95.53 | 1.16 | 0 | 0 | 96.69 |

Avg: 1.32[KPH]

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| | | | | | |
|----------------------|------|-------|-------|-------|---|
| % Icon Classes (KPH) | 96 | 6 | 4 | 0 | 0 |
| | 6-15 | 15-29 | 29-39 | >39.0 | |



PEACE RIVER AREA MONITORING PROGRAM

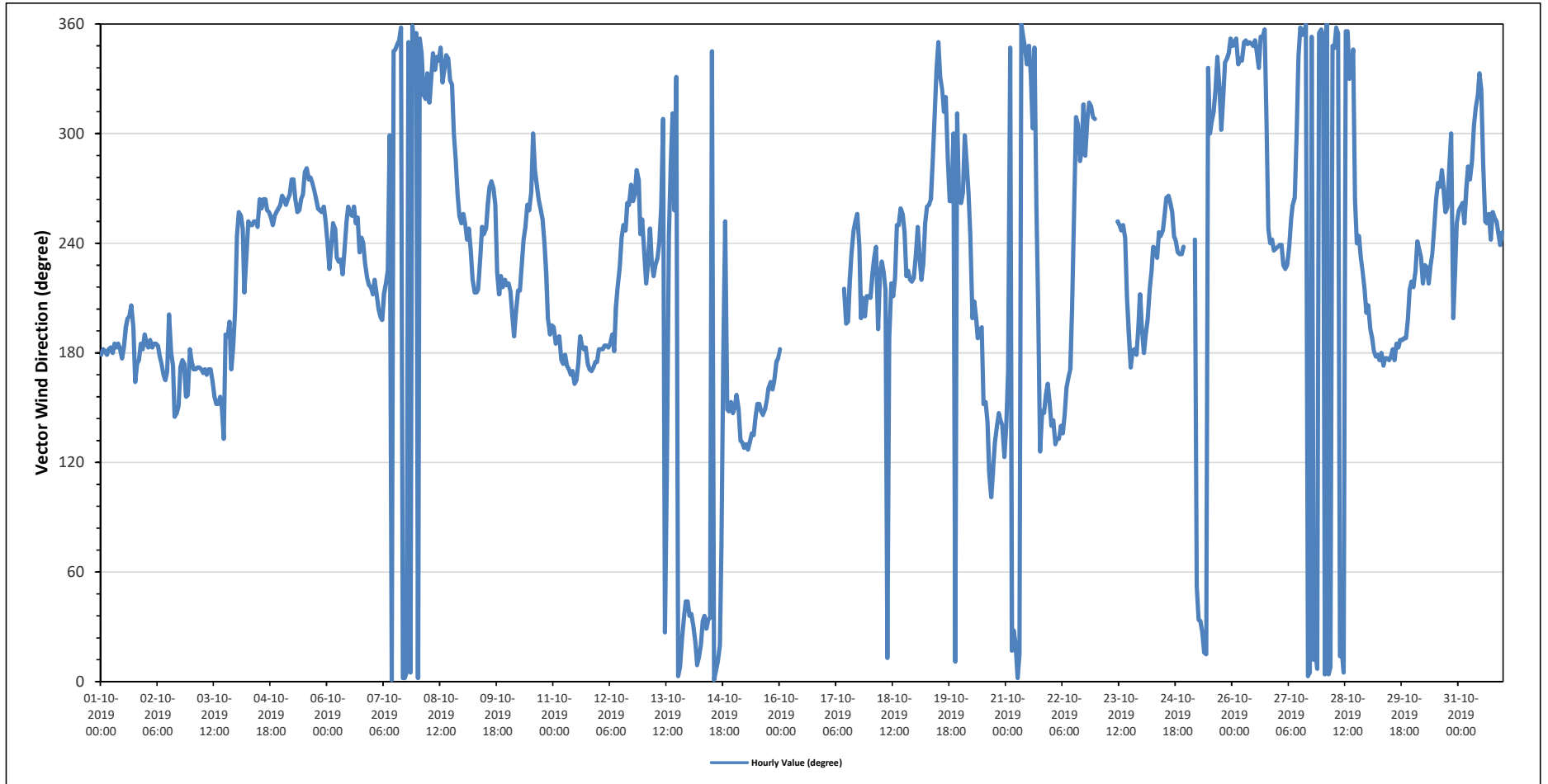
Reno Station - October 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

| Monthly Average: | | 251 (WSW) degree | | | | | | | | | | | | | | | | | Hours in Service: | | 744 | | | | | | |
|---|---------------------------------|------------------|-----|-----|-----|---------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|----------------------------|-----|-----|------------------------|-----|------------------------|-----|-----|---------------|--------|----------|--|
| | | | | | | | | | | | | | | | | | | | Hours of Data: | | 695 | | | | | | |
| | | | | | | | | | | | | | | | | | | | Hours of Missing Data: | | 49 | | | | | | |
| | | | | | | | | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | | |
| | | | | | | | | | | | | | | | | | | | Operational Uptime: | | 93.4 | | | | | | |
| 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 | |
| Oct 1 | S | S | S | S | S | S | S | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | SSE | S | S | S | S | S | 185 | S | |
| Oct 2 | S | S | S | S | S | S | S | S | S | SSE | SSE | SSE | SSW | S | S | SE | SE | SSE | S | S | S | SSE | SSE | S | 172 | S | |
| Oct 3 | S | S | S | S | S | S | SSE | S | SSE | S | SSE | SSE | SSE | SSE | SSE | SE | SE | S | S | SSW | S | S | SSW | 168 | SSE | | |
| Oct 4 | WSW | WSW | WSW | WSW | SSW | SW | WSW | WSW | WSW | WSW | WSW | WSW | W | WSW | W | W | WSW | WSW | WSW | WSW | WSW | WSW | WSW | W | 255 | WSW | |
| Oct 5 | W | W | W | W | W | W | W | W | WSW | WSW | W | W | W | W | W | W | W | W | WSW | WSW | WSW | WSW | WSW | WSW | 266 | W | |
| Oct 6 | WSW | SW | SW | WSW | WSW | SW | SW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | SW | WSW | WSW | SW | SW | SW | SW | 243 | WSW | |
| Oct 7 | SSW | SW | SSW | SSW | SSW | SSW | SSW | SW | SW | NNW | N | NNW | NNW | NNW | N | N | N | N | N | N | N | N | NNW | N | 331 | NNW | |
| Oct 8 | N | N | NNW | NW | NW | NNW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | W | WSW | WSW | 332 | NNW | | |
| Oct 9 | WSW | WSW | WSW | WSW | SW | SW | SSW | SSW | SSW | SSW | SW | WSW | WSW | W | W | W | W | SW | SSW | SW | SW | SW | SW | SW | 240 | WSW | |
| Oct 10 | SW | SSW | SSW | S | SSW | SSW | SSW | SW | WSW | WSW | W | WSW | W | WNW | W | W | W | WSW | WSW | WSW | SW | SSW | S | SSW | 247 | WSW | |
| Oct 11 | SSW | S | S | S | S | S | S | S | S | SSE | SSE | SSE | SSE | S | S | S | S | S | S | S | SSE | S | S | S | 176 | S | |
| Oct 12 | S | S | S | S | S | S | S | S | S | S | SSW | SW | SW | WSW | WSW | W | W | W | W | W | W | W | WSW | WSW | 223 | SW | |
| Oct 13 | SW | SW | SW | WSW | SW | SW | SW | SW | WSW | WSW | NW | NNE | ESE | WSW | W | NW | WSW | NNW | N | N | NNE | NE | NE | NE | 311 | NW | |
| Oct 14 | NE | NE | NNE | NNE | N | NNE | NNE | NNE | NE | NNE | NE | NE | NNW | N | N | NNE | NNE | ENE | S | WSW | SSE | SE | SSE | SE | 32 | NNE | |
| Oct 15 | SSE | SSE | SSE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SSE | SSE | SE | SE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | 147 | SE | |
| Oct 16 | S | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | - | S | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | SSW | SSW | SSW | SW | SW | WSW | WSW | WSW | SW | SSW | SSW | SSW | SSW | SSW | - | SW | |
| Oct 18 | SSW | SW | SW | SW | S | SW | SW | SW | SSW | NNE | S | SW | SSW | SW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | SW | SW | 232 | SW | |
| Oct 19 | SW | WSW | SW | SW | SW | WSW | WSW | W | W | W | NW | NNW | N | NNW | NW | NW | NW | WNW | W | W | WNW | NNE | NW | W | 274 | W | |
| Oct 20 | W | W | WNW | WNW | W | WSW | SSW | SSW | SSW | S | S | SSW | SSE | SSE | SE | ESE | E | ESE | SE | SE | SE | SE | ESE | ESE | 161 | SSE | |
| Oct 21 | SE | SSE | NNW | NNE | NNE | NNE | N | NNE | N | NNW | NNW | NNW | NNW | WNW | NNW | W | SSW | SE | SE | SE | SSE | SSE | SSE | 10 | N | | |
| Oct 22 | SE | SE | SE | SE | SE | SE | SE | SE | SSE | SSE | S | SSW | WSW | NW | WNW | WNW | WNW | NW | WNW | NW | NW | NW | NW | NW | 235 | SW | |
| Oct 23 | X | X | X | X | X | X | X | X | X | X | X | WSW | WSW | WSW | WSW | WSW | SSW | S | S | S | S | S | SSW | SSW | - | SW | |
| Oct 24 | SSW | S | S | SSW | SSW | SW | SW | SW | SW | WSW | WSW | WSW | WSW | W | W | W | WSW | WSW | WSW | SW | SW | SW | SW | SW | 236 | SW | |
| Oct 25 | P | P | P | P | WSW | NE | NE | NNE | NNE | NNE | NNE | NNW | WNW | NW | NW | NW | NNW | NW | WNW | NW | NNW | NNW | NNW | N | 352 | N | |
| Oct 26 | NNW | N | N | NNW | NNW | NNW | N | N | NNW | N | NNW | NNW | N | NNW | NNW | N | N | N | NW | WSW | WSW | WSW | SW | SW | 341 | NNW | |
| Oct 27 | SW | WSW | WSW | SW | SW | SW | SW | WSW | W | W | WNW | NNW | N | N | N | N | N | N | NNE | NNE | N | N | N | N | 324 | NW | |
| Oct 28 | N | N | N | N | N | NNW | NNW | N | N | NNE | NNE | N | N | N | NNW | NNW | NNW | W | WSW | WSW | SW | SW | SSW | SSW | 353 | N | |
| Oct 29 | SSW | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | 186 | S | |
| Oct 30 | SW | SW | WSW | SW | SW | SW | SW | SW | SW | SW | SW | SW | WSW | W | W | W | W | WSW | WSW | W | WNW | SSW | SW | WSW | 245 | WSW | |
| Oct 31 | WSW | WSW | W | WSW | W | W | W | WNW | WNW | NW | NW | NNW | NW | WNW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | 273 | W | |
| 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



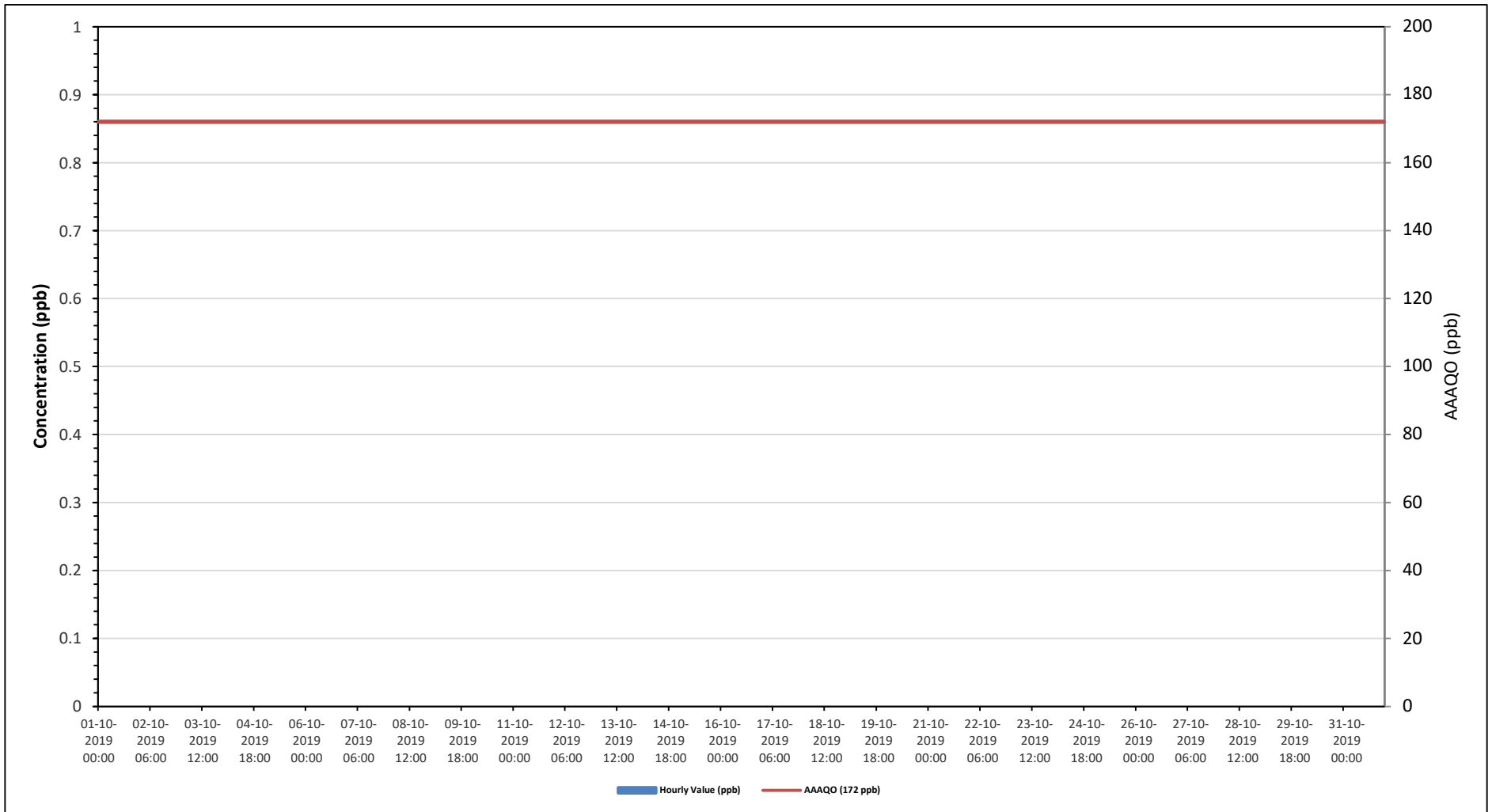
AQHI CADOTTE LAKE STATION



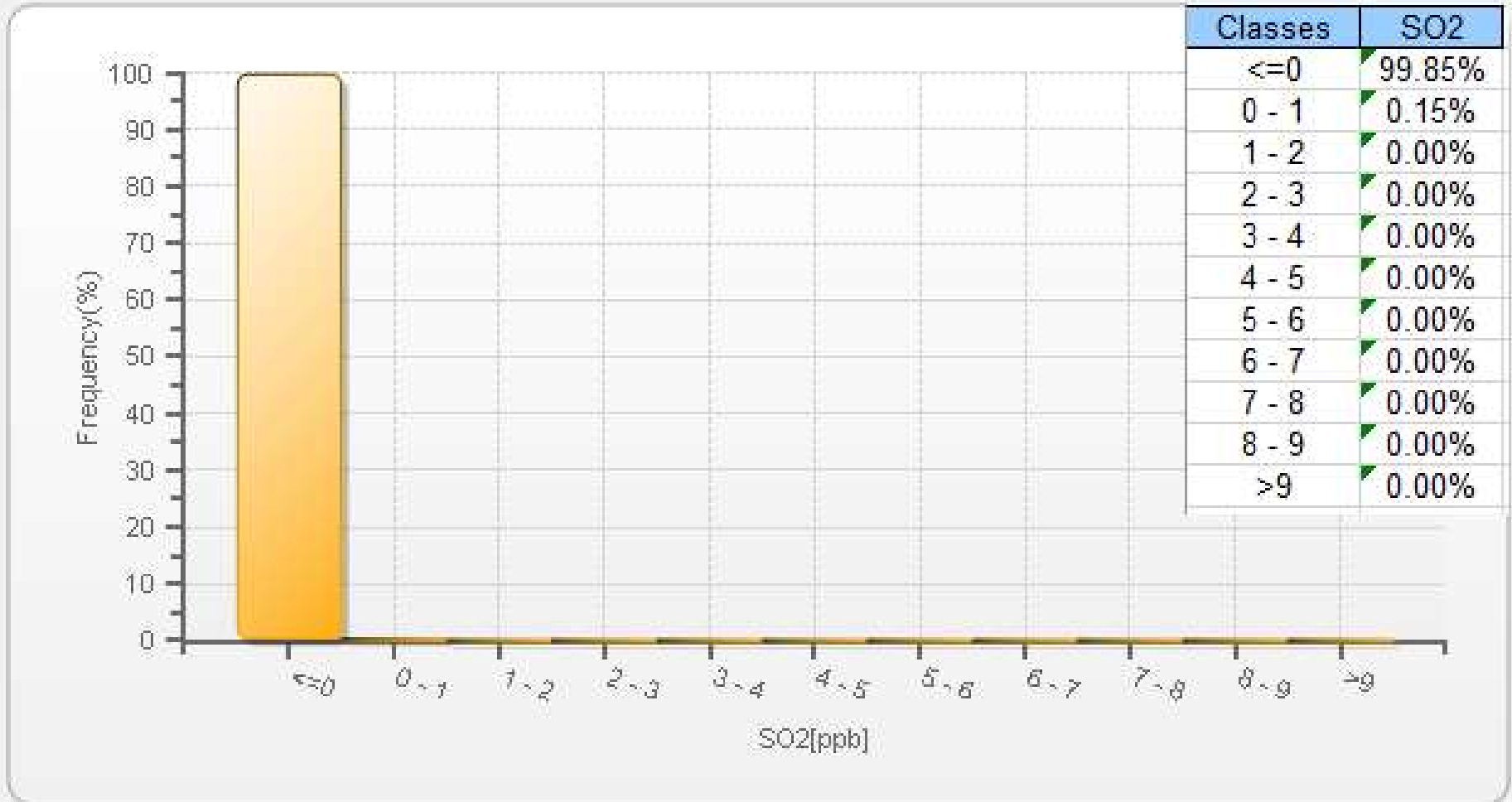
PEACE RIVER AREA MONITORING PROGRAM
AQHI - Cadotte Lake Station - October 2019
Summary of Hourly Averages
SULPHUR DIOXIDE (SO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|-----|-----|-----|----------------------------------|---------------------|-----|-----|------|----------------------|-------------------|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|------------------------|-----|-----|---------------|---------------|---------------|-----|-----|
| Number of 1-Hour Exceedances: 0 | | | | | Number of 24-Hour Exceedances: 0 | | | | | 30-Day Exceedance: 0 | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: | 0 ppb on October 2 at hour 14 | | | | Hours in Service: | | | | 710 | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: | 0.0 ppb on October 3 | | | | Hours of Data: | | | | 665 | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | 0 ppb on October 2 at hour 14 | | | | Hours of Missing Data: | | | | 9 | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | 0.0 ppb on October 3 | | | | Hours of Calibration: | | | | 36 | | | | | | | | | | | | | | | | | | | |
| Monthly Average: | 0.0 ppb | | | | Operational Uptime: | | | | 98.7 | | | | | | | | | | | | | | | | | | | |
| 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 | |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | - | |
| Oct 2 | | | | | | | | | | | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 0 | 0 | - |
| Oct 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | C1 | C1 | C1 | C1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | - |
| Oct 5 | 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 | 0.0 |
| Oct 6 | 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 | 0.0 |
| Oct 7 | 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 | 0.0 |
| Oct 8 | 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 | 0.0 |
| Oct 9 | 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 | 0.0 |
| Oct 10 | 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 | 0.0 |
| Oct 11 | 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 | 0.0 |
| Oct 12 | 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 | 0.0 |
| Oct 13 | 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 | 0.0 |
| Oct 14 | 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 | 0.0 |
| Oct 15 | 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 | 0.0 |
| Oct 16 | 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 | 0.0 |
| Oct 17 | 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 | 0.0 |
| Oct 18 | 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 | 0.0 |
| Oct 19 | 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 | 0.0 |
| Oct 20 | 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 | 0.0 |
| Oct 21 | 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 | 0.0 |
| Oct 22 | 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 | 0.0 |
| Oct 23 | 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 | 0.0 |
| Oct 24 | 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 | 0.0 |
| Oct 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Oct 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Oct 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Oct 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 |
| Oct 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 |
| Oct 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 |
| Oct 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 |
| Diurnal Maximum | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | | |
| Diurnal Average | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 - AQHI - Cadotte Lake Station



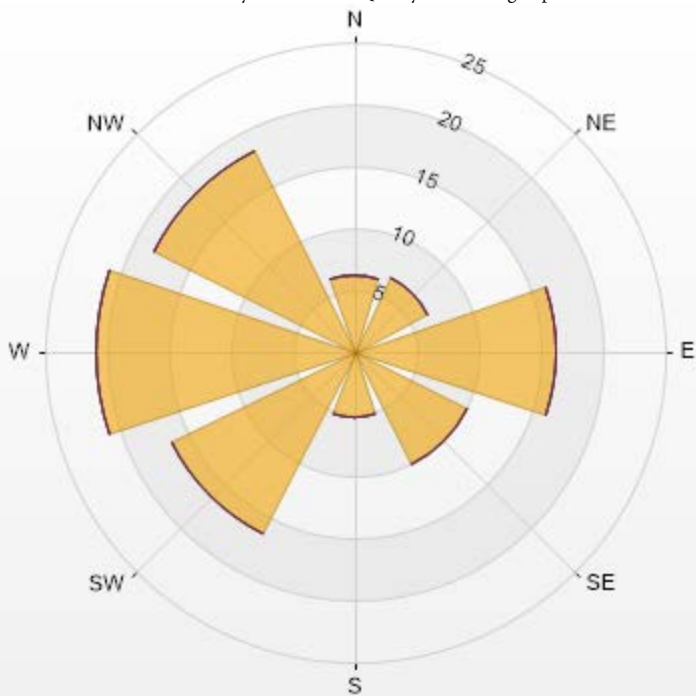
SO2[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-SO2[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 89.04% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 6.15 | 0 | 0 | 0 | 0 | 6.15 |
| NE | 6.62 | 0 | 0 | 0 | 0 | 6.62 |
| E | 16.31 | 0 | 0 | 0 | 0 | 16.31 |
| SE | 10 | 0 | 0 | 0 | 0 | 10 |
| S | 5.38 | 0 | 0 | 0 | 0 | 5.38 |
| SW | 16.46 | 0 | 0 | 0 | 0 | 16.46 |
| W | 20.92 | 0 | 0 | 0 | 0 | 20.92 |
| NW | 18.15 | 0 | 0 | 0 | 0 | 18.15 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

% Icon Classes (ppb)

100 0-10

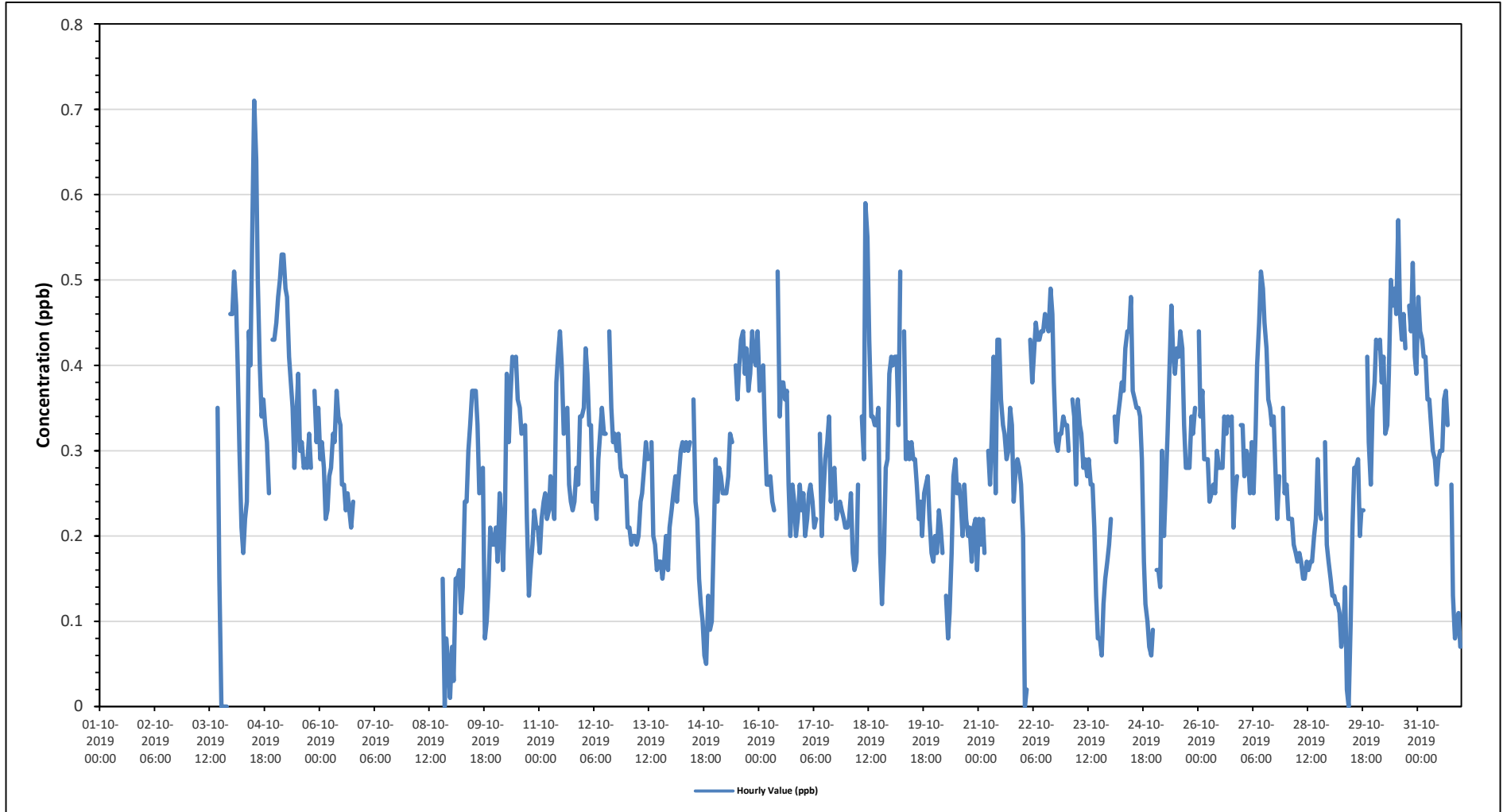
0 10-50

0 50-100

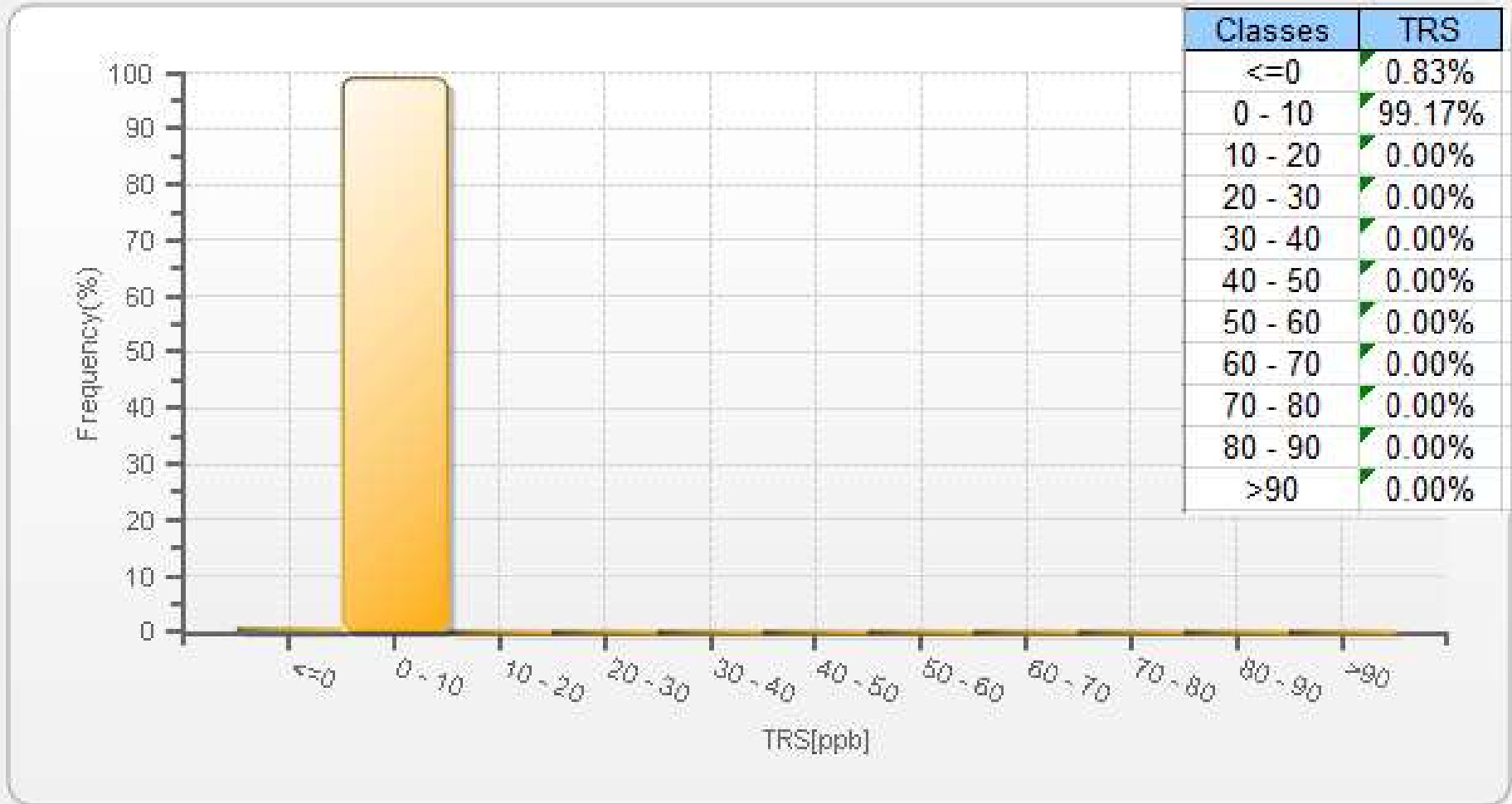
0 100-172

0 >172.0

Timeseries Chart of Hourly Average for TRS - AQHI - Cadotte Lake Station



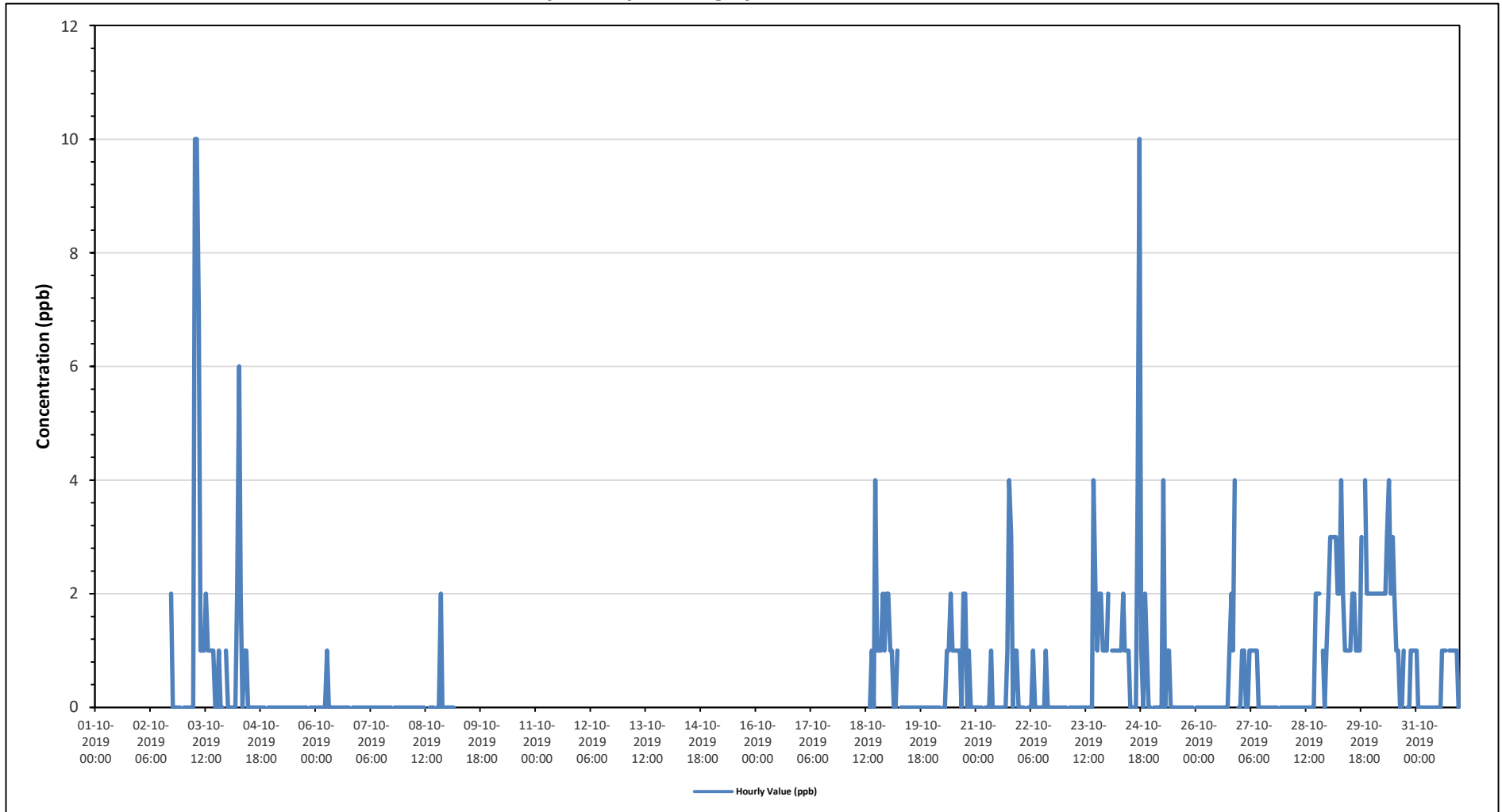
TRS[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



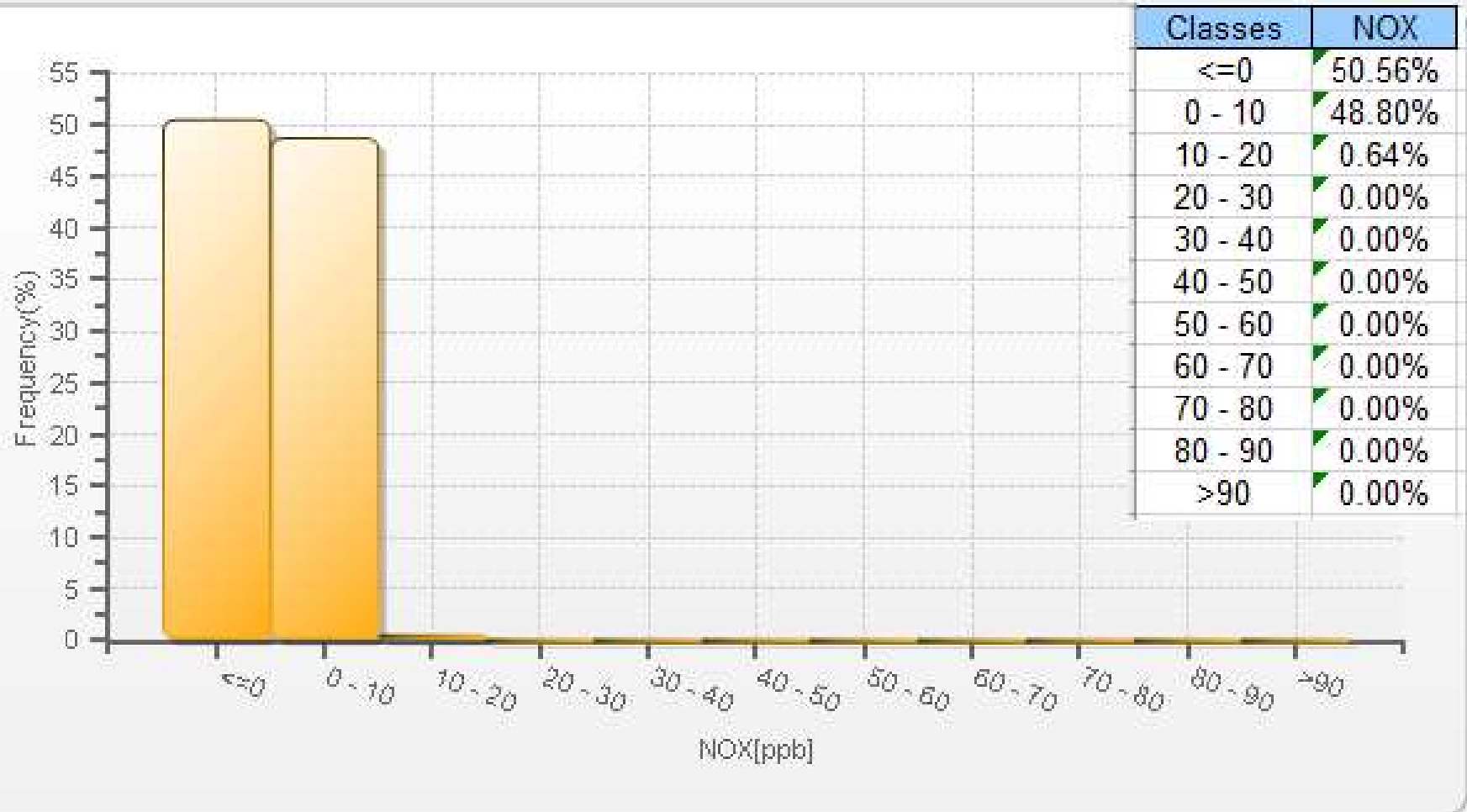
Wind: PRAMP AQHI Poll.: PRAMP AQHI-TRS[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 81.37% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|-----|------|-------|-------|-------|
| N | 6.06 | 0 | 0 | 0 | 0 | 6.06 |
| NE | 7.24 | 0 | 0 | 0 | 0 | 7.24 |
| E | 15.99 | 0 | 0 | 0 | 0 | 15.99 |
| SE | 9.6 | 0 | 0 | 0 | 0 | 9.6 |
| S | 5.72 | 0 | 0 | 0 | 0 | 5.72 |
| SW | 16.33 | 0 | 0 | 0 | 0 | 16.33 |
| W | 23.91 | 0 | 0 | 0 | 0 | 23.91 |
| NW | 14.98 | 0 | 0 | 0.17 | 0 | 15.15 |
| Summary | 100 | 0 | 0 | 0.17 | 0 | 100 |

Timeseries Chart of Hourly Average for NOx - AQHI - Cadotte Lake Station



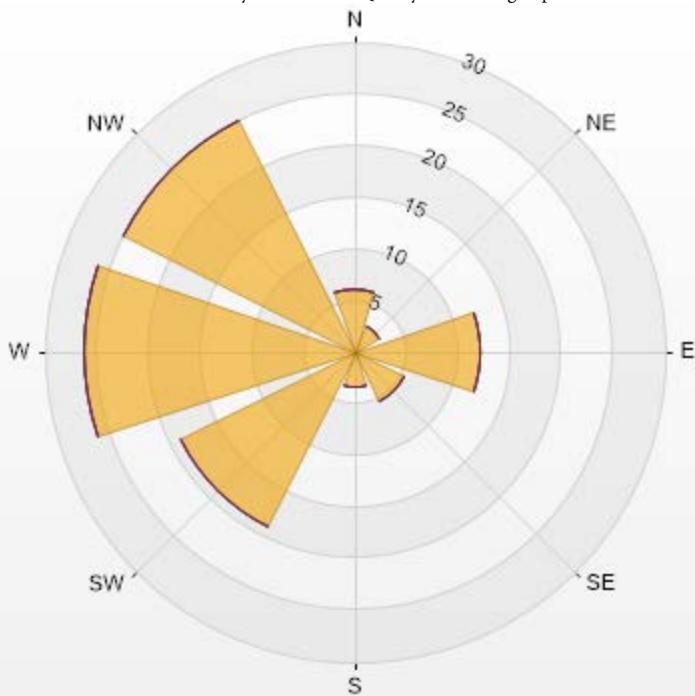
NOX[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-NOX[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 60.68% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-82 | 82-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 6.09 | 0 | 0 | 0 | 0 | 6.09 |
| NE | 2.71 | 0 | 0 | 0 | 0 | 2.71 |
| E | 12.19 | 0 | 0 | 0 | 0 | 12.19 |
| SE | 5.42 | 0 | 0 | 0 | 0 | 5.42 |
| S | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| SW | 18.96 | 0 | 0 | 0 | 0 | 18.96 |
| W | 26.19 | 0 | 0 | 0 | 0 | 26.19 |
| NW | 25.06 | 0 | 0 | 0 | 0 | 25.06 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % | Icon | Classes (ppb) | 100 | 0-30 | 0 | 30-50 | 50-82 | 0 | 82-159 | 0 | >159.0 |
|---|------|---------------|-----|------|---|-------|-------|---|--------|---|--------|
| | | | | | | | | | | | |



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

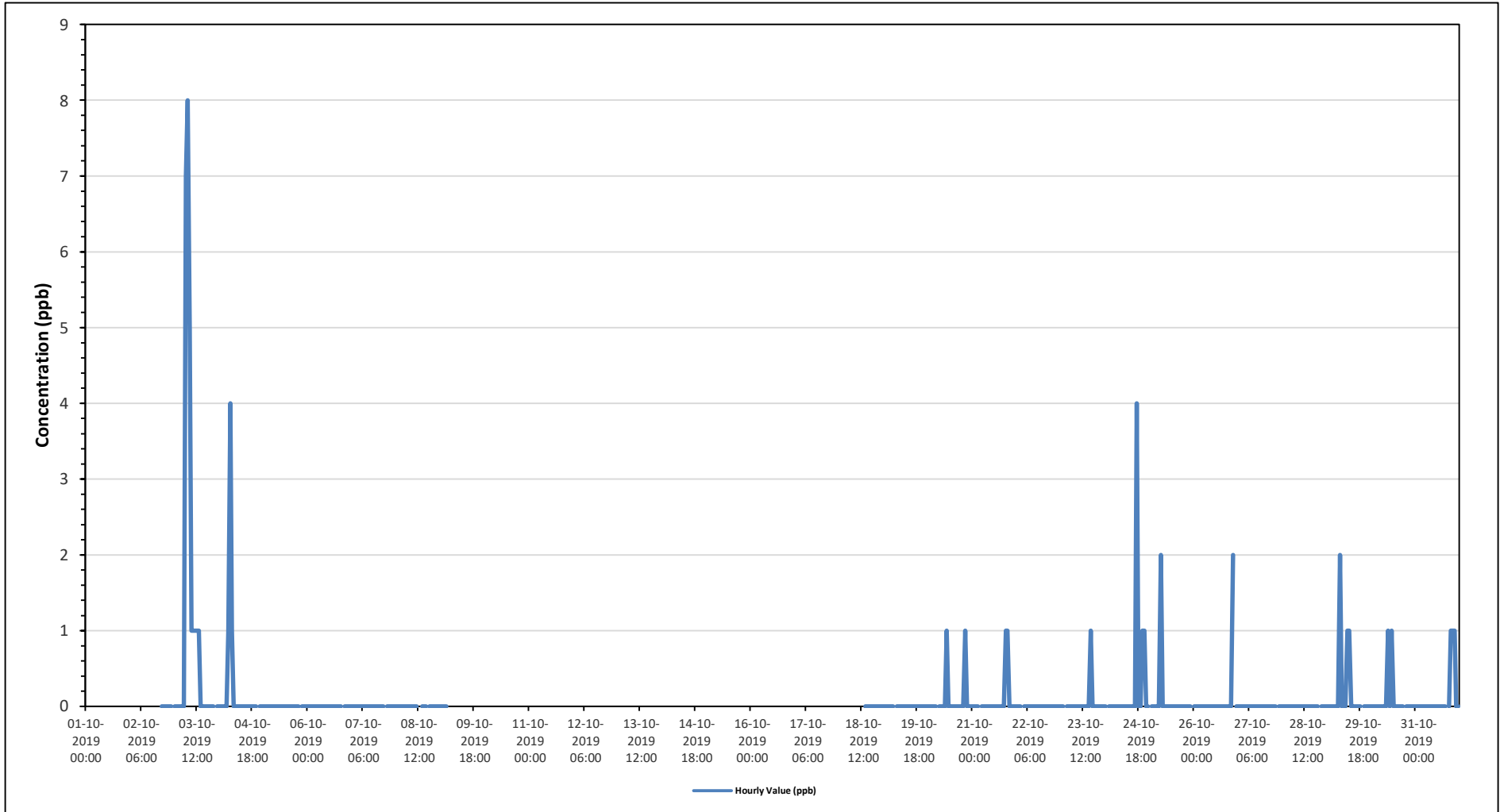
| | | | |
|-----------------------|-------------------------------|------------------------|------|
| Maximum Hourly Value: | 8 ppb on October 3 at hour 7 | Hours in Service: | 710 |
| Maximum Daily Value: | 1.1 ppb on October 3 | Hours of Data: | 454 |
| Minimum Hourly Value: | 0 ppb on October 2 at hour 17 | Hours of Missing Data: | 228 |
| Minimum Daily Value: | 0.0 ppb on October 5 | Hours of Calibration: | 28 |
| Monthly Average: | 0.1 ppb | Operational Uptime: | 67.9 |

| 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 | |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | - | |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | - |
| Oct 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 8 | 5 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1.1 | |
| Oct 4 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.3 | |
| Oct 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 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 | |
| Oct 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 | |
| Oct 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Oct 9 | 0 | 0 | 0 | 0 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 0 | 0 | - | |
| Oct 10 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 11 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 12 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 13 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 14 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 15 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 16 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Oct 18 | X | X | X | X | X | X | X | X | X | C1 | C1 | C1 | C1 | C1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Oct 19 | 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 | |
| Oct 20 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0.1 | |
| Oct 21 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.1 | |
| Oct 22 | 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 | |
| Oct 23 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | |
| Oct 24 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | 0.3 | |
| Oct 25 | S | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.1 | |
| Oct 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | S | 0 | 0.1 | |
| Oct 27 | 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 | |
| Oct 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 0 | 0 | 0 | 0.0 | |
| Oct 29 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 2 | 0.2 | |
| Oct 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Oct 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0.1 | |
| Diurnal Maximum | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 8 | 5 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | |
| Diurnal Average | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.7 | 0.6 | 0.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

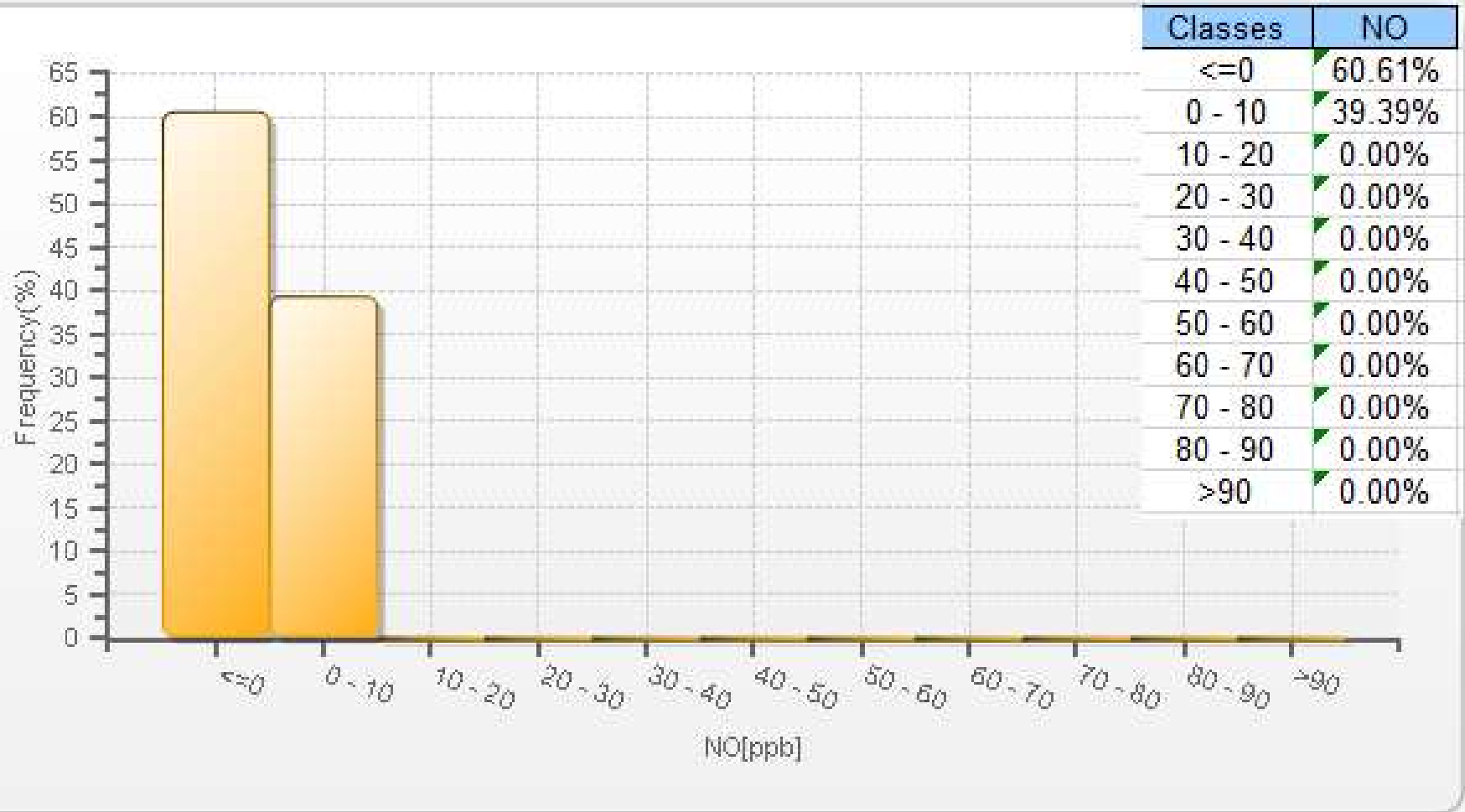
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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 NO - AQHI - Cadotte Lake Station



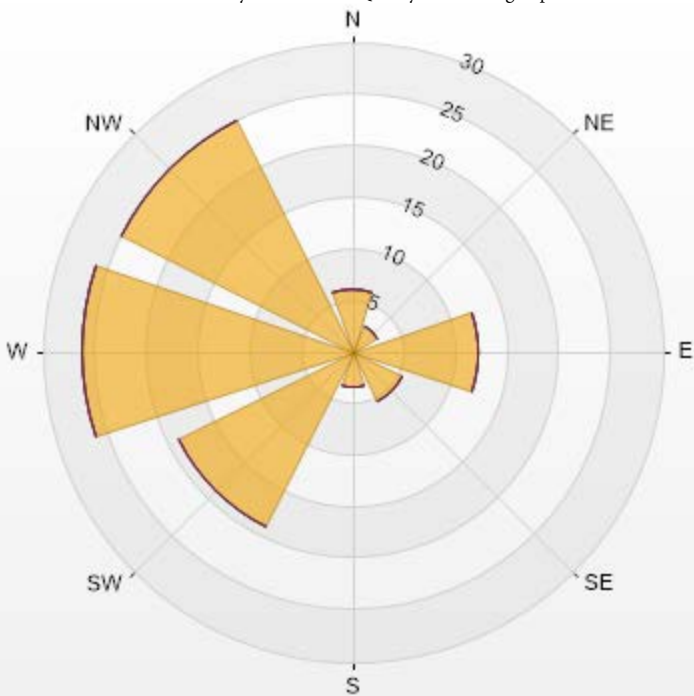
NO[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-NO[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 60.68% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-82 | 82-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 6.09 | 0 | 0 | 0 | 0 | 6.09 |
| NE | 2.71 | 0 | 0 | 0 | 0 | 2.71 |
| E | 12.19 | 0 | 0 | 0 | 0 | 12.19 |
| SE | 5.42 | 0 | 0 | 0 | 0 | 5.42 |
| S | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| SW | 18.96 | 0 | 0 | 0 | 0 | 18.96 |
| W | 26.19 | 0 | 0 | 0 | 0 | 26.19 |
| NW | 25.06 | 0 | 0 | 0 | 0 | 25.06 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

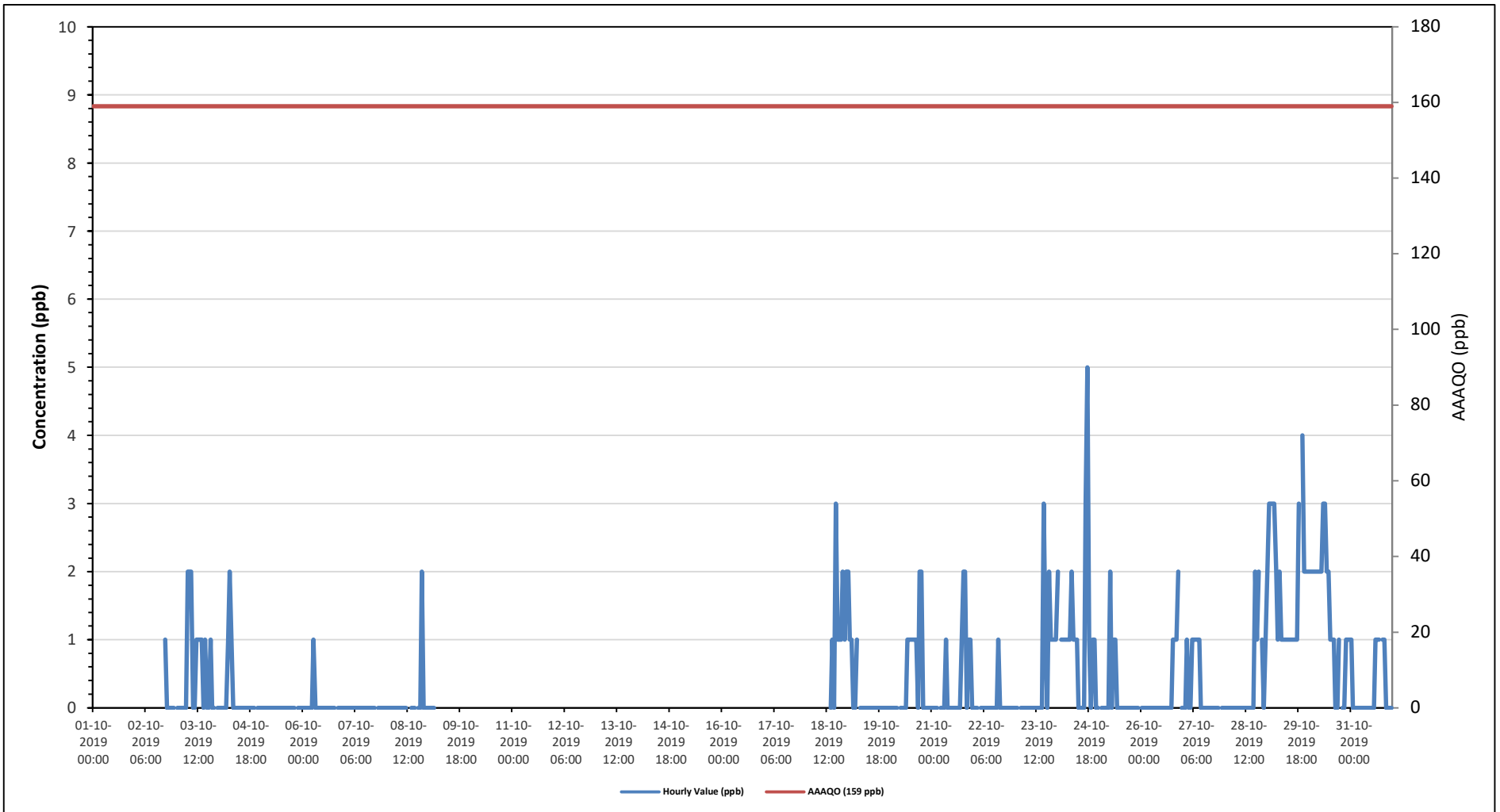
PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



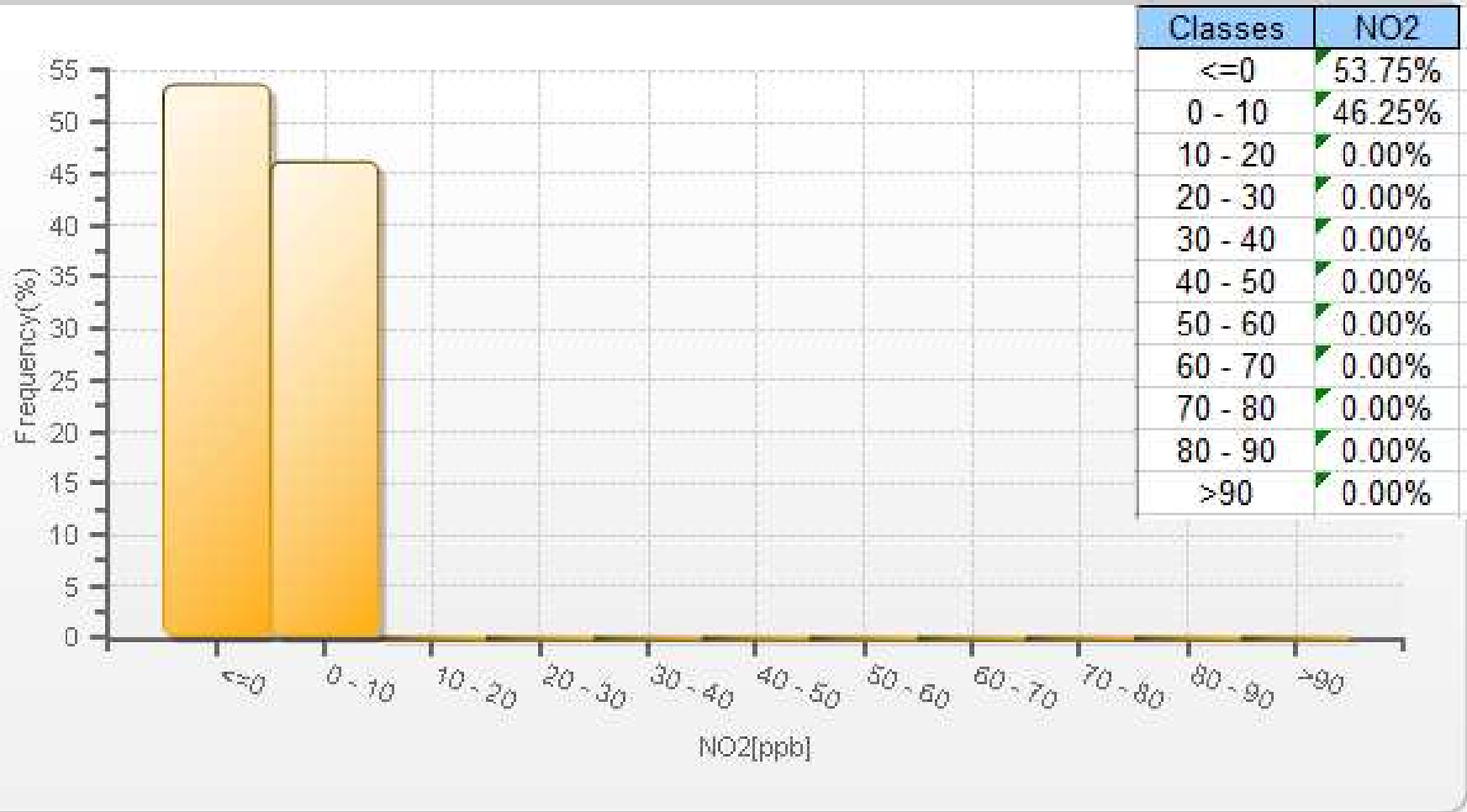
PRAMP-201910-Revision 1

| % Icon Classes (ppb) | 100 | 0-30 | 0 | 30-50 | 50-82 | 0 | 82-159 | 0 | >159.0 |
|----------------------|-----|------|---|-------|-------|---|--------|---|--------|
| | | | | | | | | | |

Timeseries Chart of Hourly Average for NO₂ - AQHI - Cadotte Lake Station



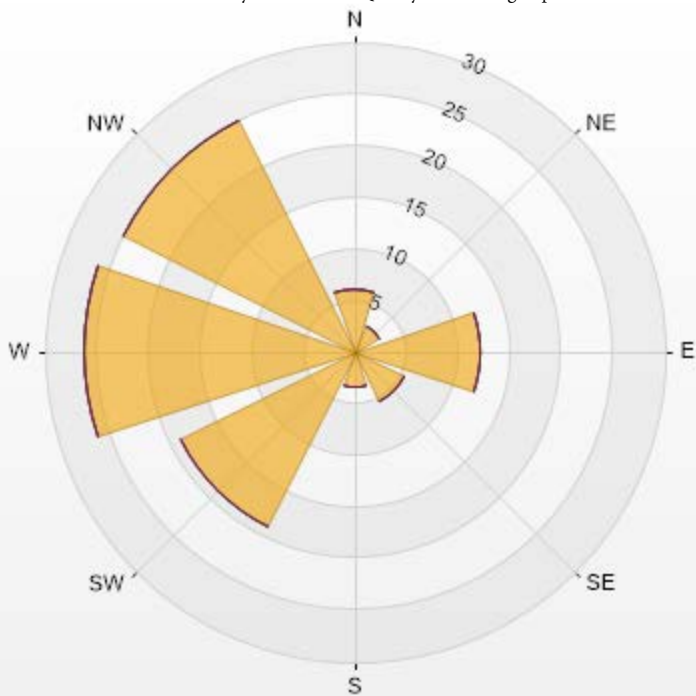
NO2[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-NO2[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 60.68% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-82 | 82-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 6.09 | 0 | 0 | 0 | 0 | 6.09 |
| NE | 2.71 | 0 | 0 | 0 | 0 | 2.71 |
| E | 12.19 | 0 | 0 | 0 | 0 | 12.19 |
| SE | 5.42 | 0 | 0 | 0 | 0 | 5.42 |
| S | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| SW | 18.96 | 0 | 0 | 0 | 0 | 18.96 |
| W | 26.19 | 0 | 0 | 0 | 0 | 26.19 |
| NW | 25.06 | 0 | 0 | 0 | 0 | 25.06 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| % Icon Classes (ppb) | 100 | 0-30 | 0 | 30-50 | 50-82 | 0 | 82-159 | 0 | >159.0 |
|----------------------|-----|------|---|-------|-------|---|--------|---|--------|
| | | | | | | | | | |

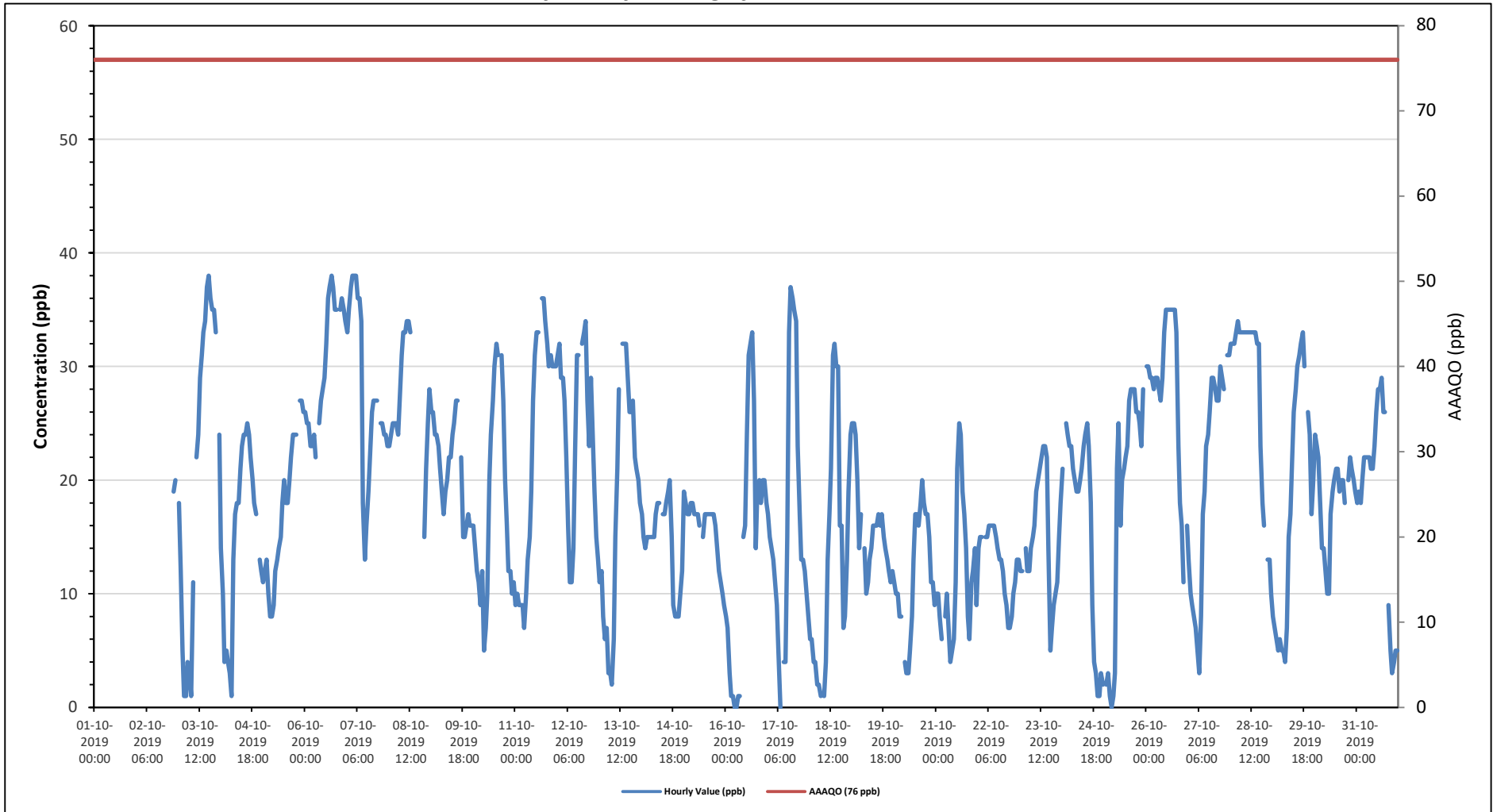


PEACE RIVER AREA MONITORING PROGRAM
AQHI - Cadotte Lake Station - October 2019
Summary of Hourly Averages
OZONE (O₃) in ppb

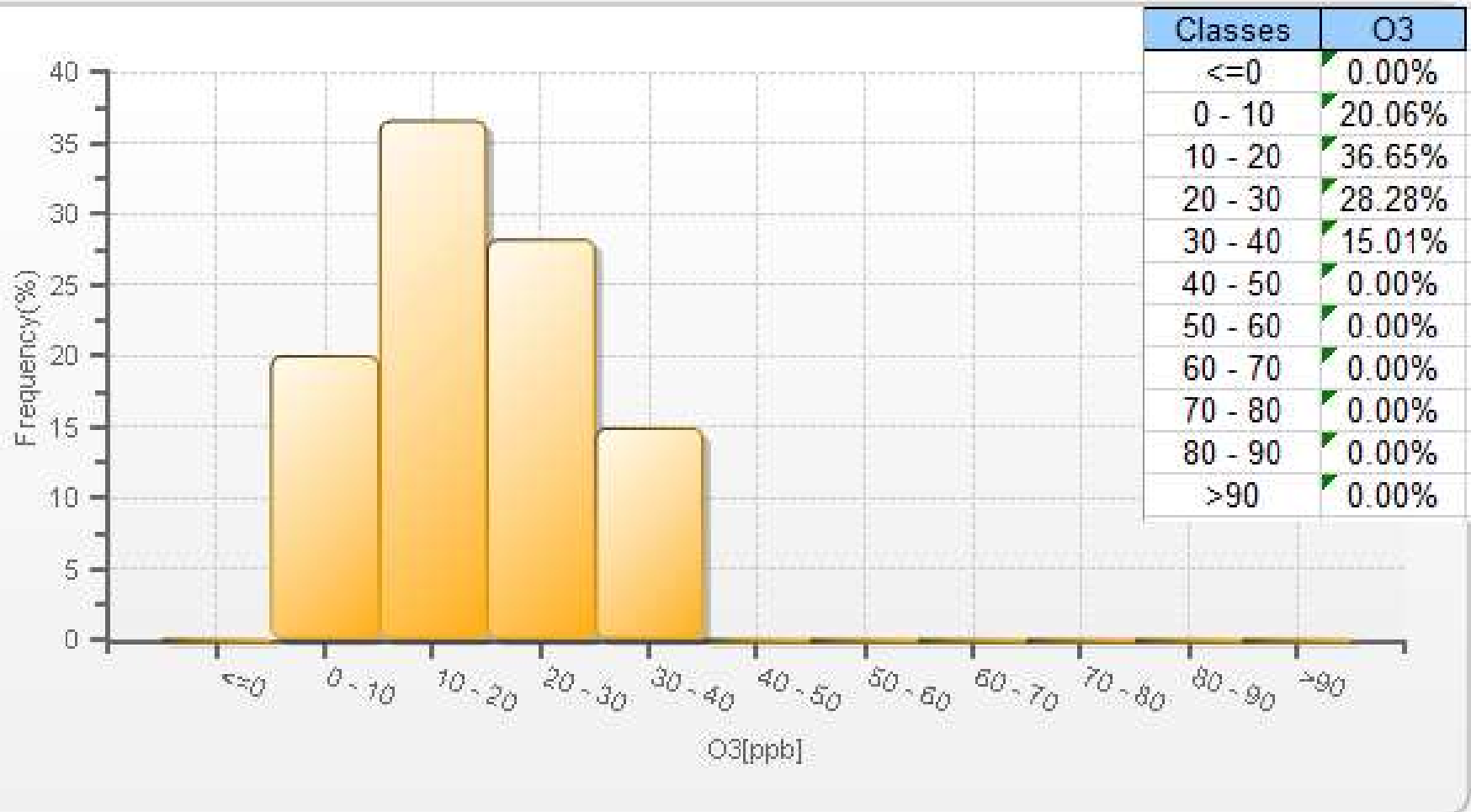
| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|------|------|------|------|------|---------------------|------|------|------|------|------|--------------------------|------|------|------|------|------|----------------------------|------|------|------|------|---------------|------------------------|---------------|------|------|--|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 38 ppb on October 3 at hour 17 | | | | | | | | | | | | | Hours in Service: 703 | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 30.3 ppb on October 6 | | | | | | | | | | | | | Hours of Data: 660 | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on October 16 at hour 5 | | | | | | | | | | | | | Hours of Missing Data: 9 | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 11.5 ppb on October 21 | | | | | | | | | | | | | Hours of Calibration: 34 | | | | | | | | | | | | | | | | |
| Monthly Average: 18.8 ppb | | | | | | | | | | | | | Operational Uptime: 98.7 | | | | | | | | | | | | | | | | |
| 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 | | |
| Oct 1 | | | | | | | | | | | | | | | | | | | C | C | C | C | 19 | 20 | S | 19 | 20 | - | |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 3 | 18 | 12 | 5 | 1 | 1 | 4 | 3 | 1 | 11 | S1 | 22 | 24 | 29 | 31 | 33 | 34 | 37 | 38 | 36 | 35 | 35 | 33 | S | 24 | 1 | 38 | 21.2 | | |
| Oct 4 | 14 | 10 | 4 | 5 | 4 | 3 | 1 | 13 | 17 | 18 | 18 | 21 | 23 | 24 | 24 | 25 | 24 | 22 | 20 | 18 | 17 | S | 13 | 12 | 1 | 25 | 15.2 | | |
| Oct 5 | 11 | 12 | 13 | 10 | 8 | 8 | 9 | 12 | 13 | 14 | 15 | 18 | 20 | 18 | 18 | 20 | 22 | 24 | 24 | S | 27 | 27 | 26 | 8 | 27 | 17.1 | | | |
| Oct 6 | 26 | 25 | 25 | 23 | 23 | 24 | 22 | S1 | 25 | 27 | 28 | 29 | 32 | 36 | 37 | 38 | 37 | 35 | S | S | 35 | 36 | 35 | 34 | 22 | 38 | 30.3 | | |
| Oct 7 | 33 | 35 | 37 | 38 | 38 | 38 | 36 | 36 | 34 | 18 | 13 | 16 | 19 | 22 | 26 | 27 | 27 | S | 25 | 25 | 24 | 24 | 23 | 13 | 22 | 38 | 27.9 | | |
| Oct 8 | 23 | 24 | 25 | 25 | 25 | 24 | 27 | 31 | 33 | 33 | 34 | 34 | 33 | C1 | C1 | C1 | Y | C1 | C1 | C1 | 15 | 21 | 25 | 28 | 15 | 34 | - | | |
| Oct 9 | 26 | 26 | 24 | 24 | 23 | 21 | 19 | 17 | 19 | 20 | 22 | 22 | 24 | 25 | 27 | 27 | S | S | 22 | 15 | 15 | 16 | 17 | 16 | 16 | 15 | 27 | 21.0 | |
| Oct 10 | 16 | 14 | 12 | 11 | 9 | 12 | 5 | 7 | 10 | 20 | 24 | 27 | 30 | 32 | 31 | S | S | 31 | 27 | 20 | 16 | 12 | 10 | 11 | 5 | 32 | 17.3 | | |
| Oct 11 | 9 | 10 | 9 | 9 | 9 | 7 | 10 | 13 | 15 | 19 | 27 | 31 | 33 | 33 | S | 36 | 36 | 34 | 32 | 30 | 31 | 30 | 30 | 30 | 7 | 36 | 22.7 | | |
| Oct 12 | 31 | 32 | 29 | 29 | 27 | 22 | 16 | 11 | 11 | 14 | 23 | 31 | 31 | S | 32 | 33 | 34 | 27 | 23 | 29 | 24 | 19 | 15 | 13 | 11 | 34 | 24.2 | | |
| Oct 13 | 11 | 12 | 8 | 6 | 7 | 3 | 3 | 2 | 6 | 15 | 21 | 28 | S | 32 | 32 | 32 | 29 | 26 | 26 | 27 | 22 | 21 | 20 | 18 | 2 | 32 | 17.7 | | |
| Oct 14 | 17 | 15 | 14 | 15 | 15 | 15 | 15 | 15 | 17 | 18 | 18 | S | 17 | 17 | 18 | 19 | 20 | 15 | 9 | 8 | 8 | 8 | 10 | 12 | 8 | 20 | 14.6 | | |
| Oct 15 | 19 | 18 | 17 | 17 | 18 | 18 | 17 | 17 | 17 | 16 | S | 15 | 17 | 17 | 17 | 17 | 17 | 16 | 14 | 12 | 11 | 10 | 9 | 9 | 19 | 15.8 | | | |
| Oct 16 | 8 | 7 | 3 | 1 | 1 | 0 | 0 | 1 | 1 | S | 15 | 16 | 24 | 31 | 32 | 33 | 27 | 14 | 19 | 20 | 18 | 20 | 18 | 0 | 33 | 14.3 | | | |
| Oct 17 | 17 | 15 | 14 | 13 | 11 | 9 | 5 | 0 | S | 4 | 4 | 15 | 33 | 37 | 36 | 35 | 34 | 23 | 17 | 13 | 12 | 10 | 8 | 0 | 37 | 16.4 | | | |
| Oct 18 | 6 | 6 | 4 | 4 | 2 | 2 | 1 | S | 1 | 4 | 13 | 17 | 21 | 31 | 32 | 30 | 30 | 16 | 16 | 7 | 8 | 13 | 19 | 24 | 1 | 32 | 13.3 | | |
| Oct 19 | 25 | 25 | 24 | 20 | 14 | 17 | S | 14 | 10 | 11 | 13 | 14 | 16 | 16 | 16 | 17 | 16 | 17 | 15 | 14 | 13 | 12 | 11 | 12 | 10 | 25 | 15.7 | | |
| Oct 20 | 11 | 10 | 10 | 8 | 8 | S | 4 | 3 | 3 | 5 | 8 | 13 | 17 | 17 | 16 | 18 | 20 | 18 | 17 | 17 | 15 | 11 | 11 | 9 | 3 | 20 | 11.7 | | |
| Oct 21 | 10 | 10 | 8 | 6 | S | 8 | 10 | 7 | 4 | 5 | 6 | 11 | 21 | 25 | 24 | 19 | 17 | 14 | 8 | 6 | 11 | 12 | 14 | 9 | 4 | 25 | 11.5 | | |
| Oct 22 | 14 | 15 | 15 | S | 15 | 15 | 16 | 16 | 16 | 16 | 15 | 14 | 13 | 13 | 12 | 10 | 9 | 7 | 7 | 8 | 10 | 11 | 13 | 13 | 7 | 16 | 12.7 | | |
| Oct 23 | 12 | 12 | S | 14 | 12 | 12 | 14 | 15 | 16 | 19 | 20 | 21 | 22 | 23 | 23 | 22 | 14 | 5 | 7 | 9 | 10 | 11 | 15 | 18 | 5 | 23 | 15.0 | | |
| Oct 24 | 21 | S | 25 | 24 | 23 | 23 | 21 | 20 | 19 | 19 | 20 | 21 | 23 | 24 | 25 | 23 | 18 | 9 | 4 | 3 | 1 | 1 | 3 | 2 | 1 | 25 | 16.2 | | |
| Oct 25 | S | 2 | 3 | 1 | 0 | 1 | 3 | 21 | 25 | 16 | 20 | 21 | 22 | 23 | 27 | 28 | 28 | 28 | 26 | 26 | 25 | 23 | 28 | S | 0 | 28 | 18.0 | | |
| Oct 26 | 30 | 30 | 29 | 29 | 28 | 29 | 29 | 28 | 27 | 29 | 33 | 35 | 35 | 35 | 35 | 35 | 35 | 33 | 23 | 18 | 16 | 11 | S | 16 | 11 | 35 | 28.2 | | |
| Oct 27 | 13 | 10 | 9 | 8 | 7 | 5 | 3 | 8 | 17 | 19 | 23 | 24 | 26 | 29 | 29 | 28 | 27 | 27 | 30 | 29 | 28 | S | 31 | 31 | 3 | 31 | 20.0 | | |
| Oct 28 | 32 | 32 | 32 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 33 | 18 | 16 | S | 13 | 13 | 10 | 10 | 34 | 28.3 | | |
| Oct 29 | 8 | 7 | 6 | 5 | 6 | 5 | 5 | 4 | 7 | 15 | 17 | 22 | 26 | 28 | 30 | 31 | 32 | 33 | 30 | S | 26 | 24 | 17 | 20 | 4 | 33 | 17.6 | | |
| Oct 30 | 24 | 23 | 22 | 18 | 14 | 14 | 12 | 10 | 10 | 17 | 19 | 20 | 21 | 21 | 19 | 20 | 20 | 18 | S | 20 | 22 | 21 | 20 | 19 | 10 | 24 | 18.4 | | |
| Oct 31 | 18 | 19 | 18 | 20 | 22 | 22 | 22 | 22 | 21 | 21 | 23 | 26 | 28 | 28 | 29 | 26 | 26 | S | 9 | 5 | 3 | 4 | 5 | 5 | 3 | 29 | 18.3 | | |
| Diurnal Maximum | 33 | 35 | 37 | 38 | 38 | 38 | 36 | 36 | 34 | 33 | 34 | 35 | 35 | 37 | 37 | 38 | 37 | 38 | 36 | 35 | 36 | 35 | 34 | 34 | 3 | 34 | | | |
| Diurnal Average | 18.0 | 16.7 | 15.9 | 14.9 | 14.4 | 14.1 | 12.9 | 14.0 | 15.6 | 17.2 | 19.5 | 22.1 | 24.6 | 26.0 | 26.4 | 26.5 | 25.9 | 22.2 | 19.3 | 17.4 | 17.4 | 17.0 | 17.3 | 16.8 | | | | | |
| 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 O3 - AQHI - Cadotte Lake Station



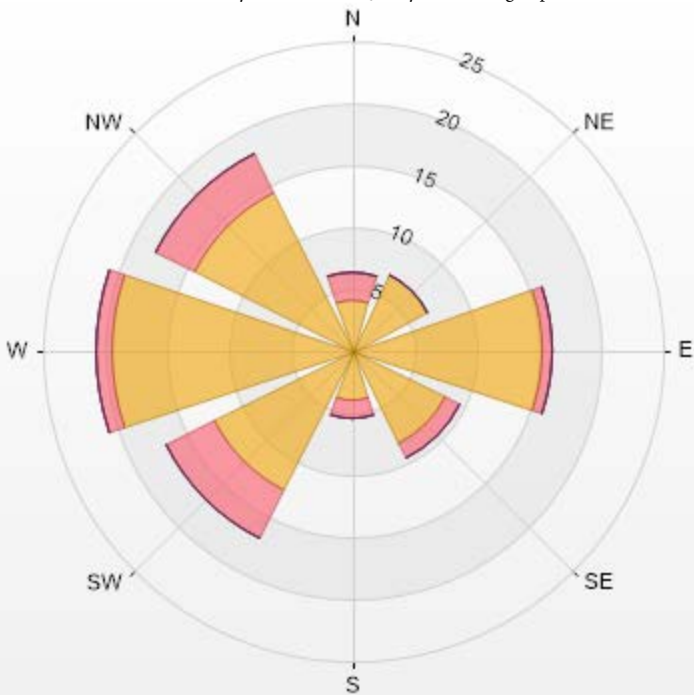
O3[ppb] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-O3[ppb] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 86.58% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-82 | 82-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 4.11 | 2.22 | 0 | 0 | 0 | 6.33 |
| NE | 6.8 | 0 | 0 | 0 | 0 | 6.8 |
| E | 15.35 | 0.79 | 0 | 0 | 0 | 16.14 |
| SE | 8.39 | 1.27 | 0 | 0 | 0 | 9.66 |
| S | 4.11 | 1.42 | 0 | 0 | 0 | 5.53 |
| SW | 12.5 | 4.43 | 0 | 0 | 0 | 16.93 |
| W | 19.46 | 1.27 | 0 | 0 | 0 | 20.73 |
| NW | 14.24 | 3.64 | 0 | 0 | 0 | 17.88 |
| Summary | 84.96 | 15.04 | 0 | 0 | 0 | 100 |

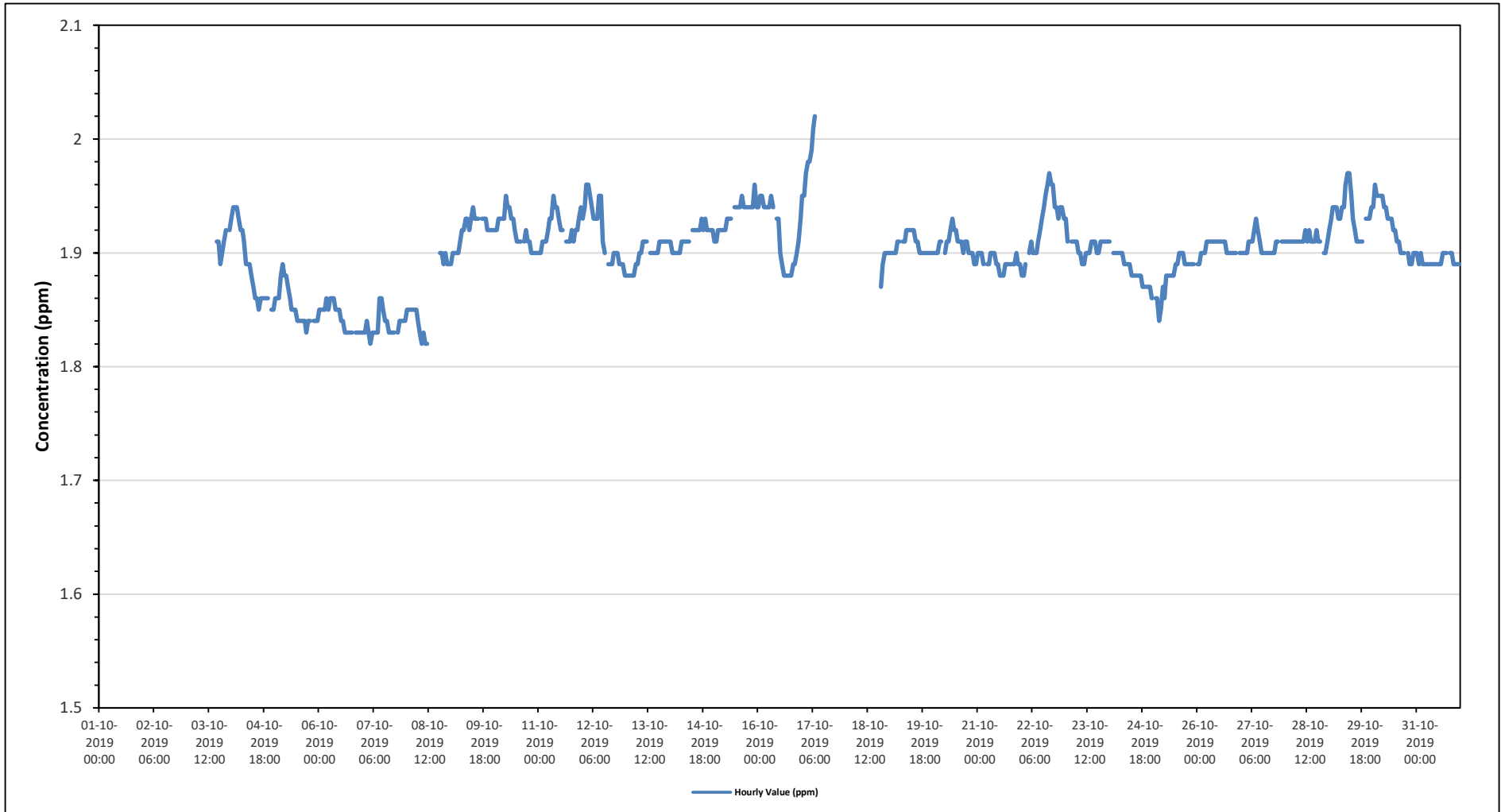
PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



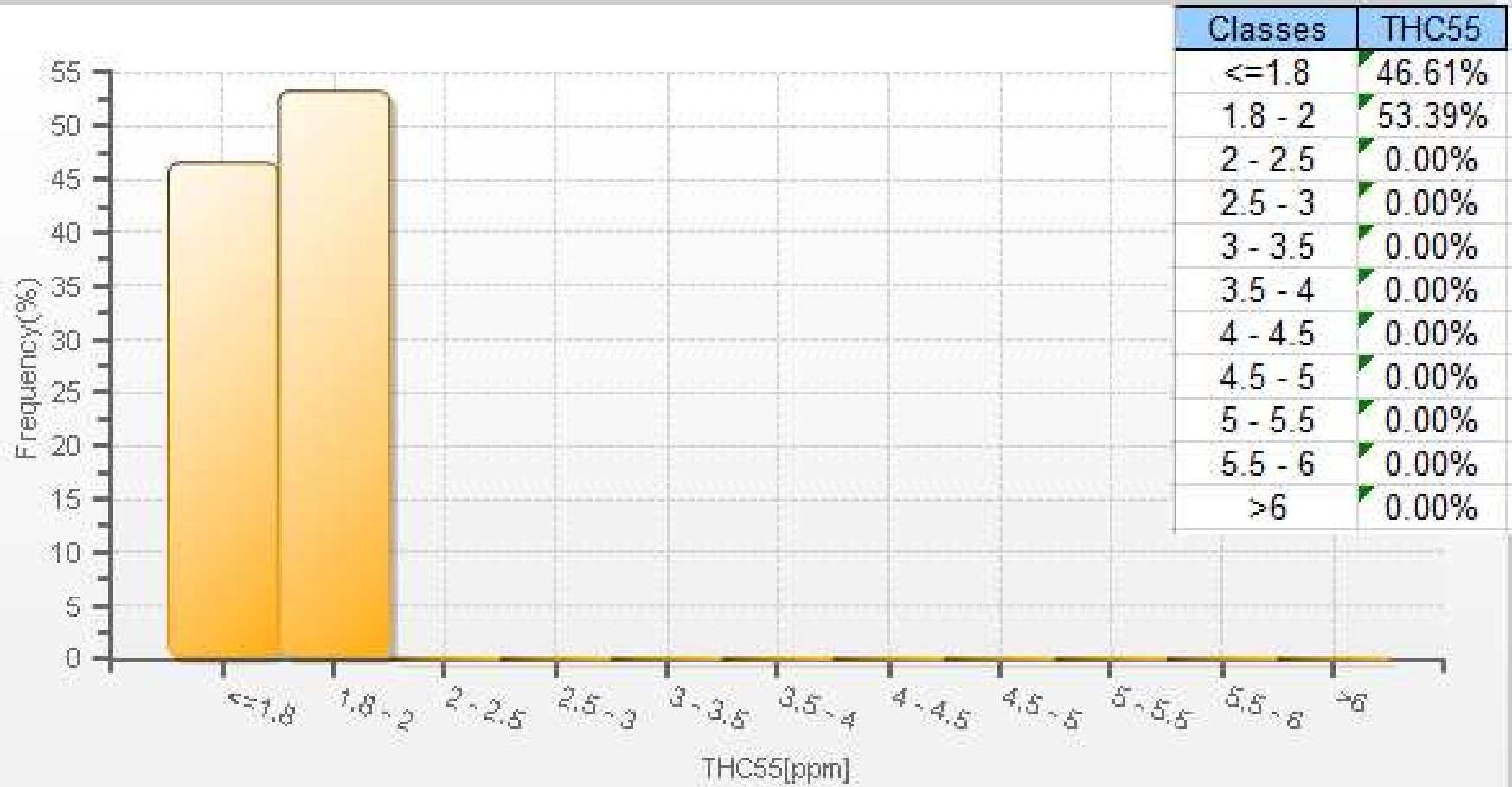
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| % Icon Classes (ppb) | 85 | 15 | 0 | 0 |
|----------------------|----|----|---|---|
| 0-30 | 85 | 15 | 0 | 0 |
| 30-50 | 0 | 15 | 0 | 0 |
| 50-82 | 0 | 0 | 0 | 0 |
| 82-159 | 0 | 0 | 0 | 0 |
| >159.0 | 0 | 0 | 0 | 0 |

Timeseries Chart of Hourly Average for THC - AQHI - Cadotte Lake Station



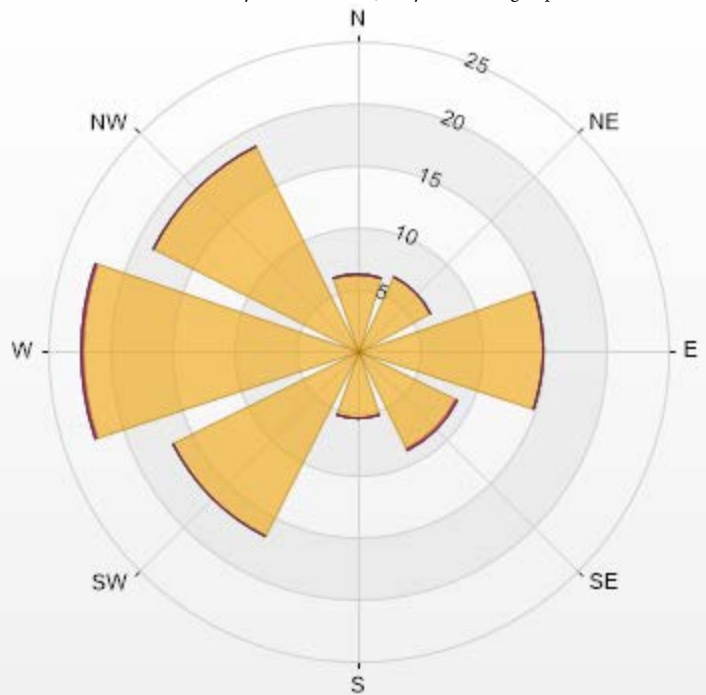
THC55[ppm] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-THC55[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 82.74% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 6.13 | 0 | 0 | 0 | 0 | 6.13 |
| NE | 6.62 | 0 | 0 | 0 | 0 | 6.62 |
| E | 15.07 | 0 | 0 | 0 | 0 | 15.07 |
| SE | 8.94 | 0.17 | 0 | 0 | 0 | 9.11 |
| S | 5.46 | 0 | 0 | 0 | 0 | 5.46 |
| SW | 16.72 | 0 | 0 | 0 | 0 | 16.72 |
| W | 22.19 | 0.17 | 0 | 0 | 0 | 22.36 |
| NW | 18.54 | 0 | 0 | 0 | 0 | 18.54 |
| Summary | 100 | 0.34 | 0 | 0 | 0 | 100 |

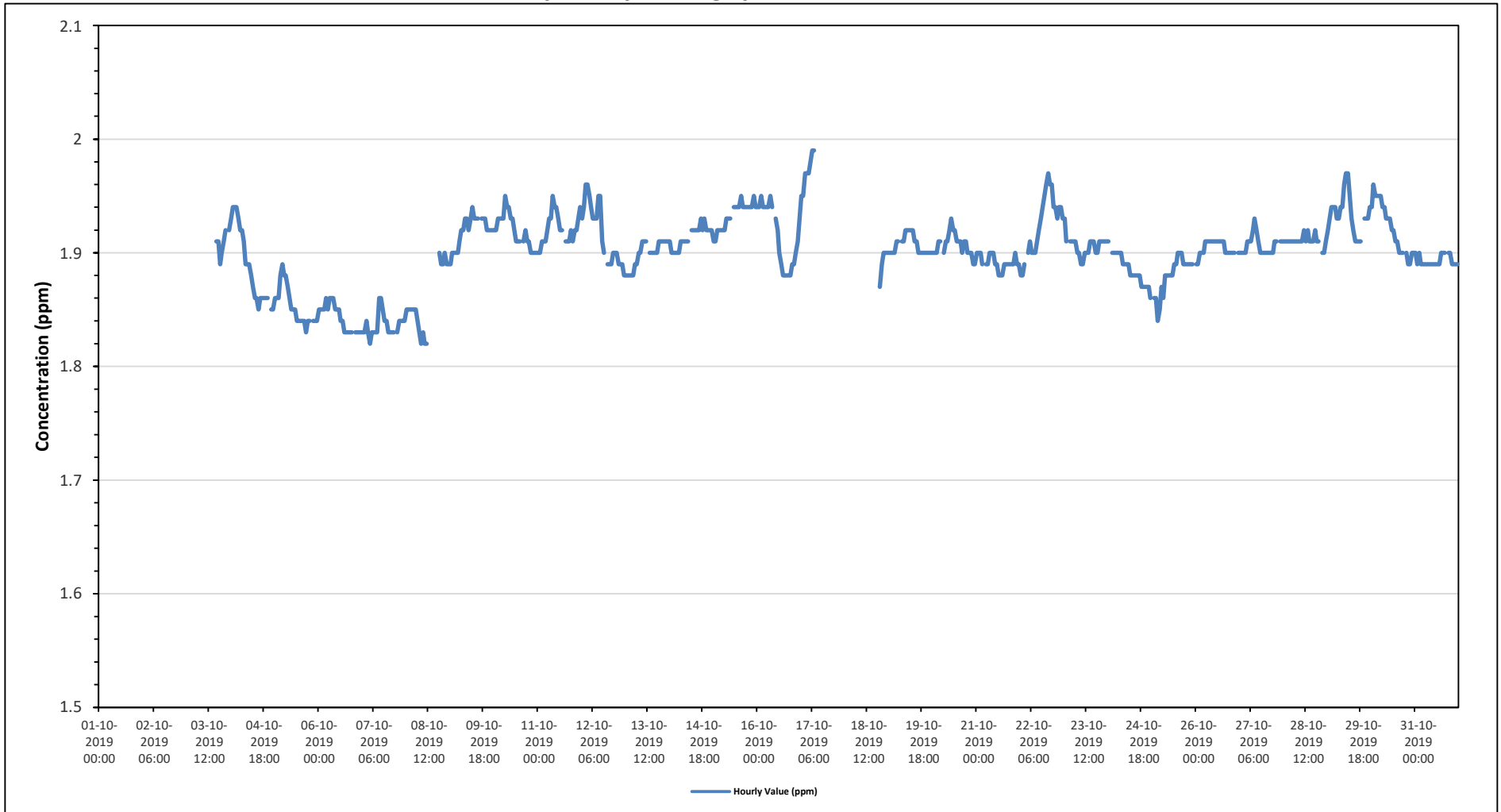
PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



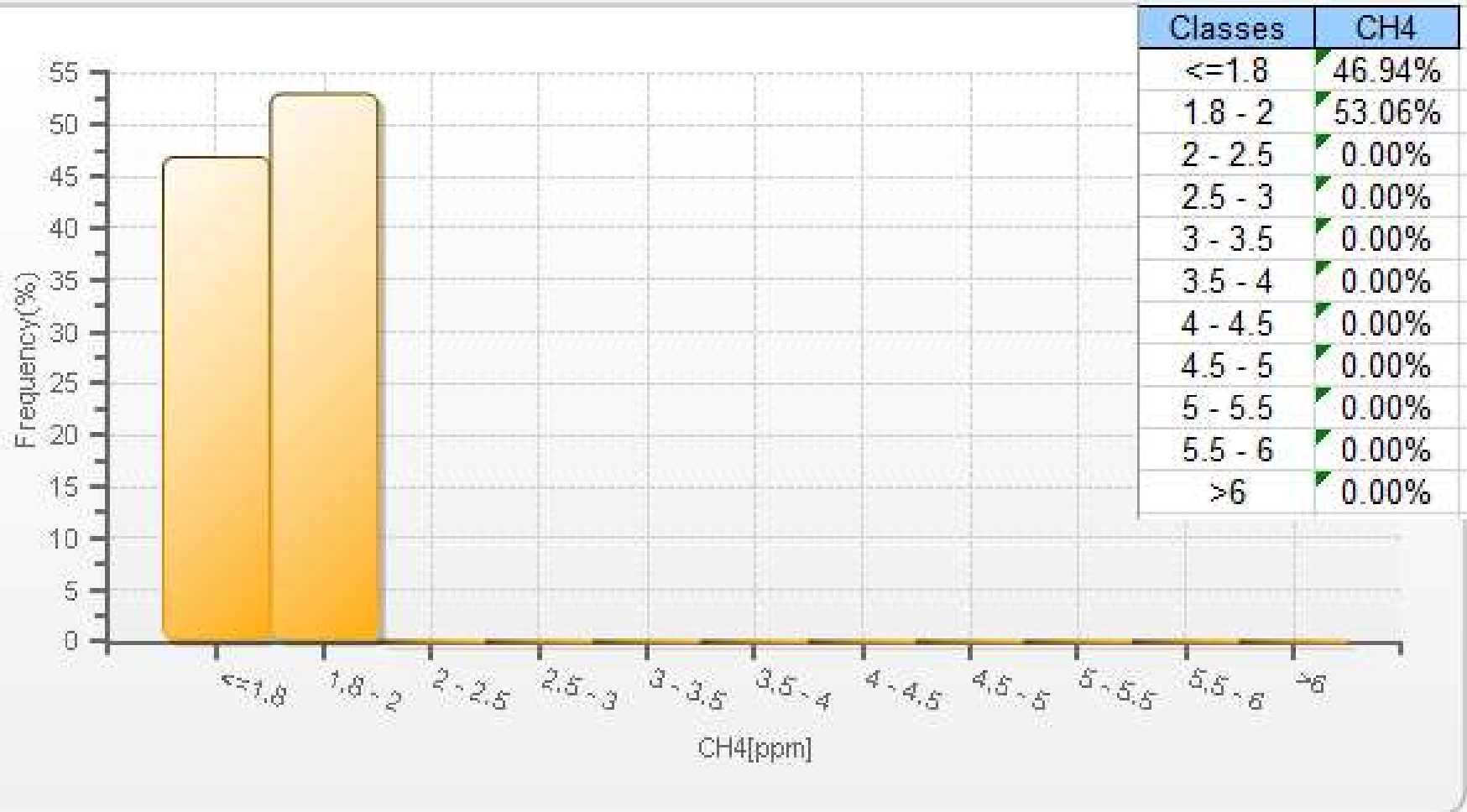
PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 100 | 0-2 | 0-5 | 5-10 | 0 | 10-40 | 0 | >40.0 |
|----------------------|-----|-----|-----|------|---|-------|---|-------|
| | | | | | | | | |

Timeseries Chart of Hourly Average for CH4 - AQHI - Cadotte Lake Station



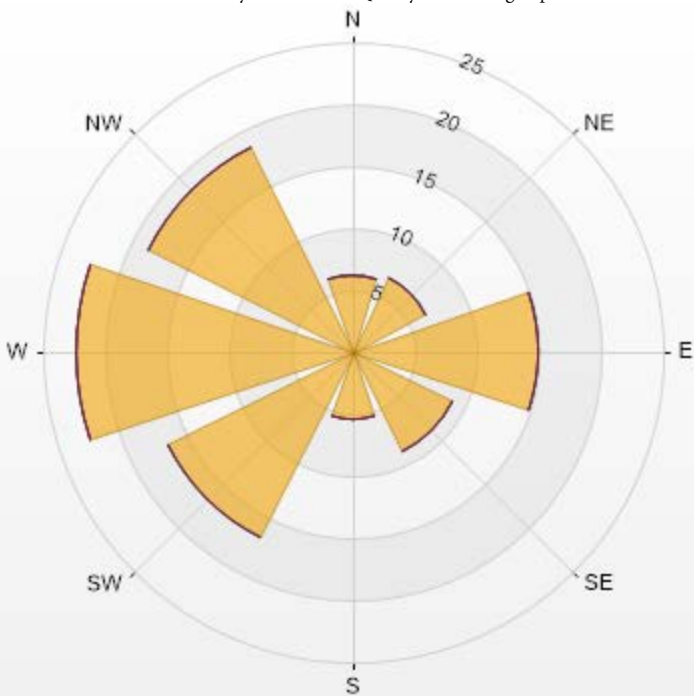
CH4[ppm] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-CH4[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 82.74% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-----|------|-------|-------|-------|
| N | 6.13 | 0 | 0 | 0 | 0 | 6.13 |
| NE | 6.62 | 0 | 0 | 0 | 0 | 6.62 |
| E | 15.07 | 0 | 0 | 0 | 0 | 15.07 |
| SE | 9.11 | 0 | 0 | 0 | 0 | 9.11 |
| S | 5.46 | 0 | 0 | 0 | 0 | 5.46 |
| SW | 16.72 | 0 | 0 | 0 | 0 | 16.72 |
| W | 22.35 | 0 | 0 | 0 | 0 | 22.35 |
| NW | 18.54 | 0 | 0 | 0 | 0 | 18.54 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

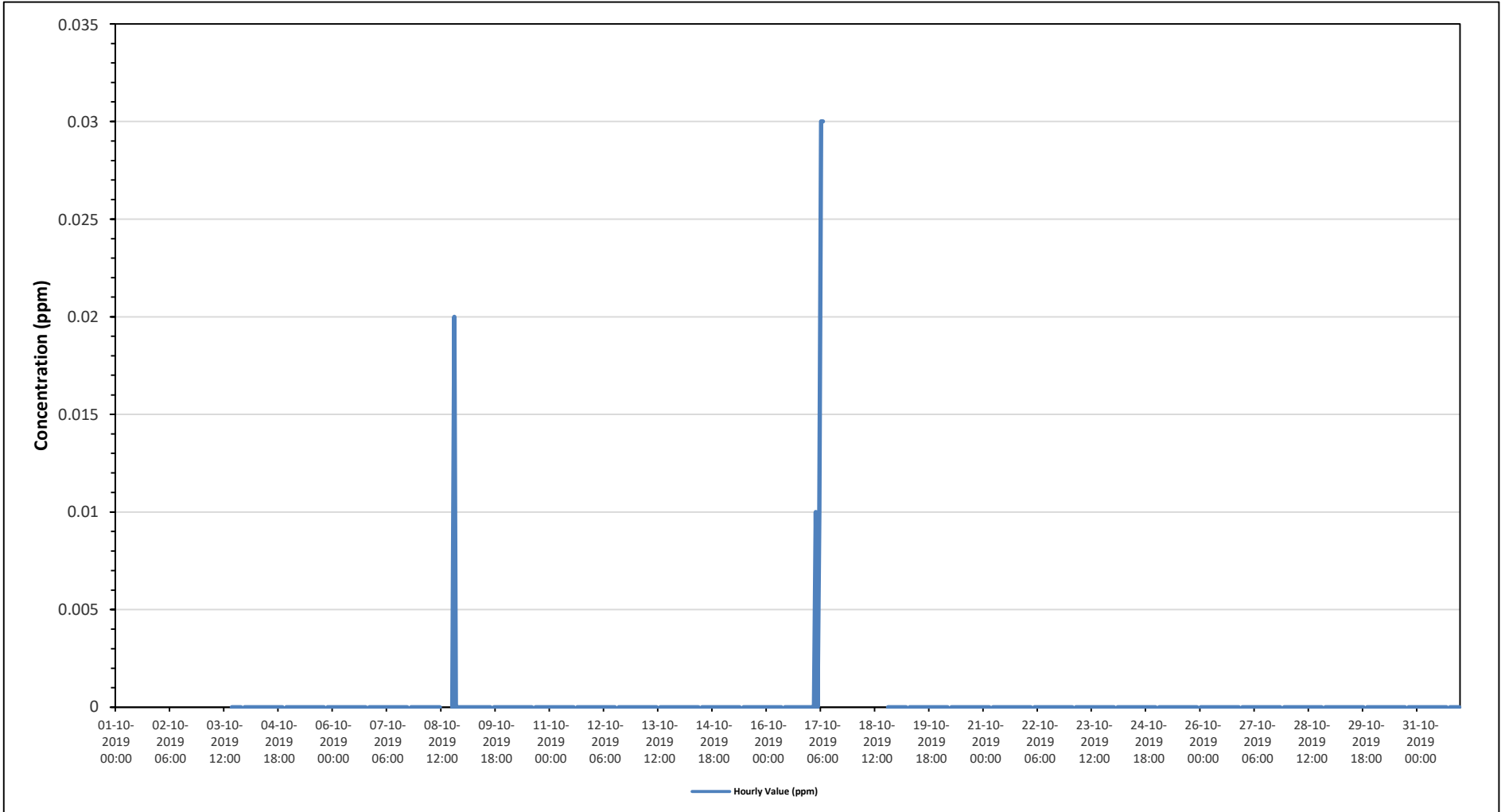
PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



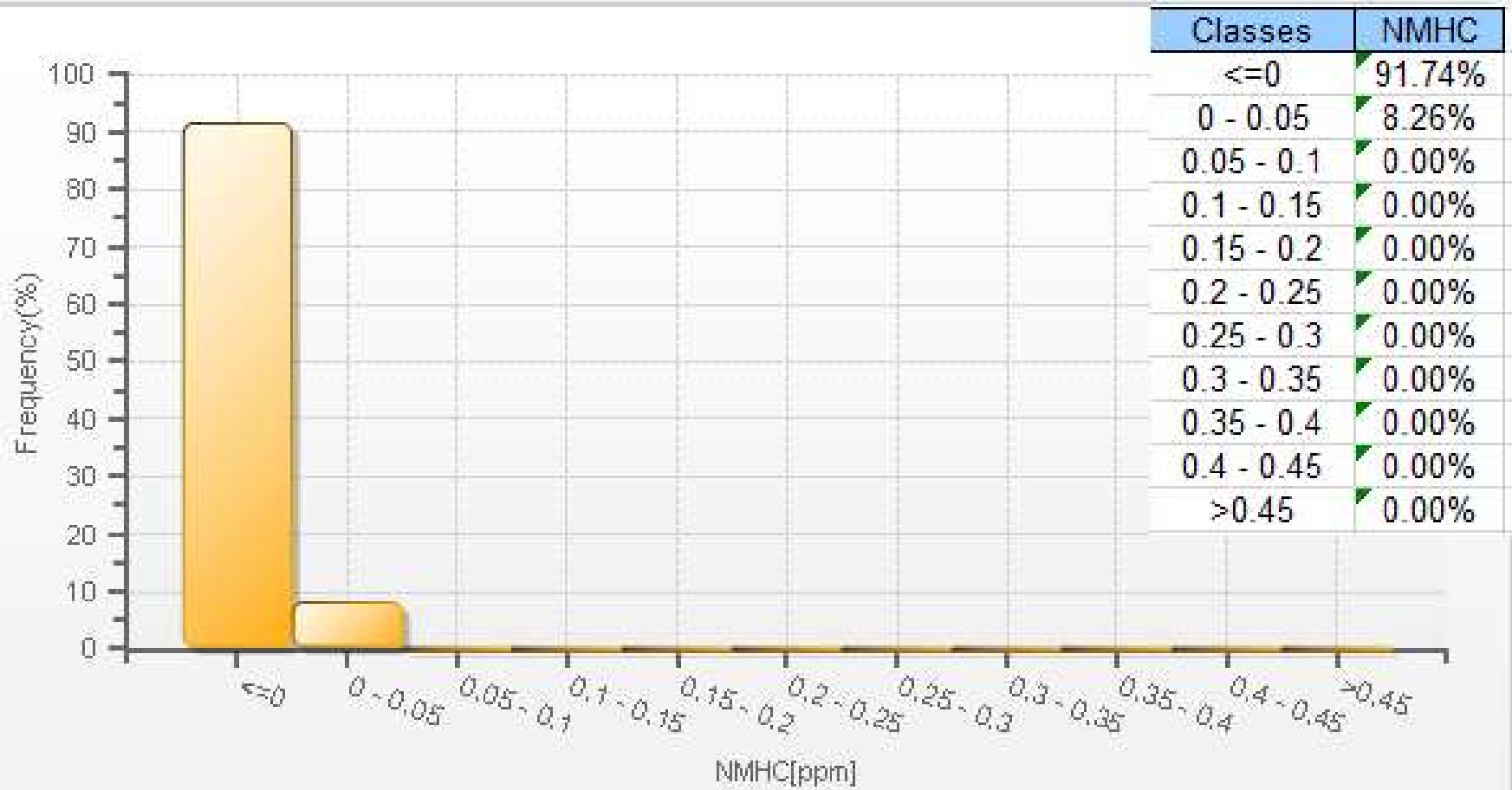
PRAMP-201910-Revision 1

| % Icon Classes (ppm) | 100 | 0-2 | 0-5 | 5-10 | 0 | 10-20 | 0 | >20.0 |
|----------------------|-----|-----|-----|------|---|-------|---|-------|
| | | | | | | | | |

Timeseries Chart of Hourly Average for NMHC - AQHI - Cadotte Lake Station



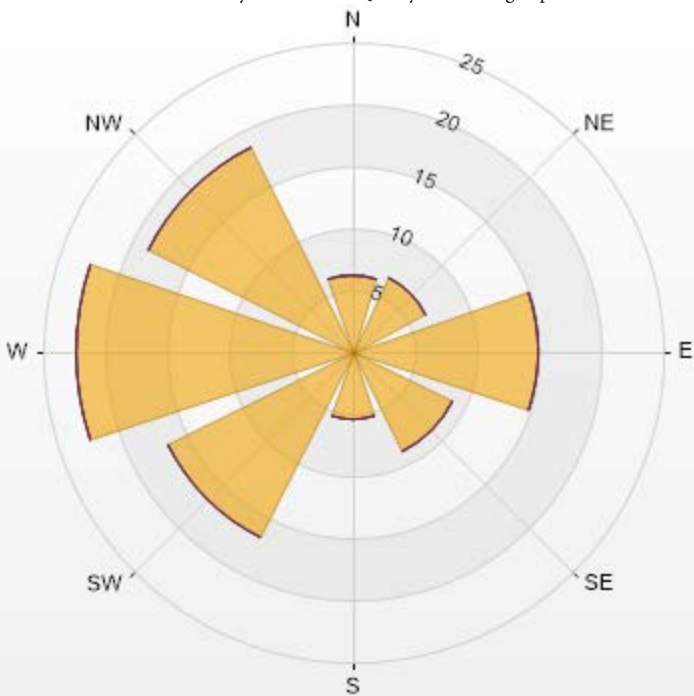
NMHC[ppm] Histogram: PRAMP A.Q.HI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-NMHC[ppm] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 82.74% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-0.9 | 0.9-2 | >2.0 | Total |
|-----------|-------|---------|---------|-------|------|-------|
| N | 6.13 | 0 | 0 | 0 | 0 | 6.13 |
| NE | 6.62 | 0 | 0 | 0 | 0 | 6.62 |
| E | 15.07 | 0 | 0 | 0 | 0 | 15.07 |
| SE | 9.11 | 0 | 0 | 0 | 0 | 9.11 |
| S | 5.46 | 0 | 0 | 0 | 0 | 5.46 |
| SW | 16.72 | 0 | 0 | 0 | 0 | 16.72 |
| W | 22.35 | 0 | 0 | 0 | 0 | 22.35 |
| NW | 18.54 | 0 | 0 | 0 | 0 | 18.54 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

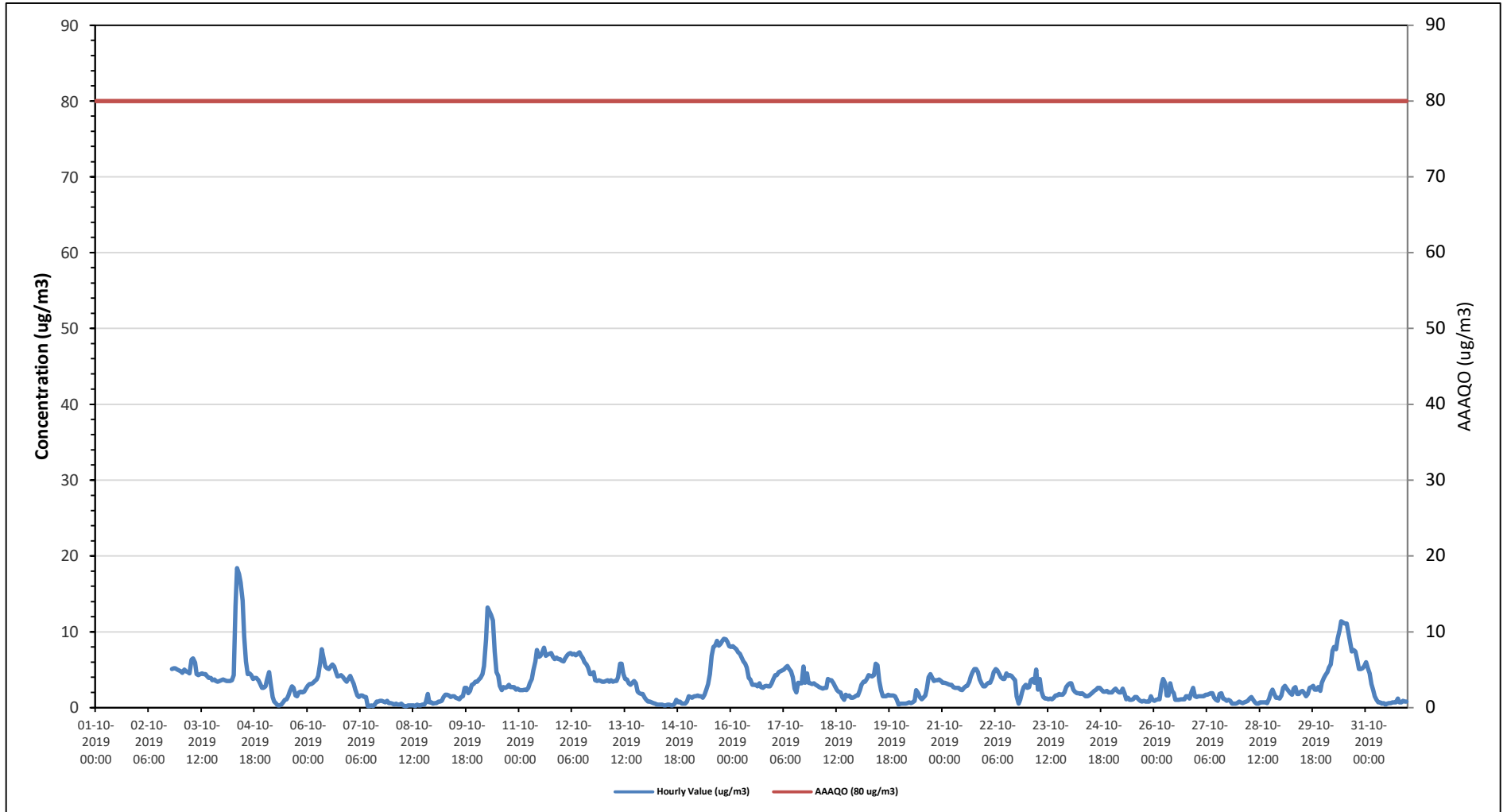
PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



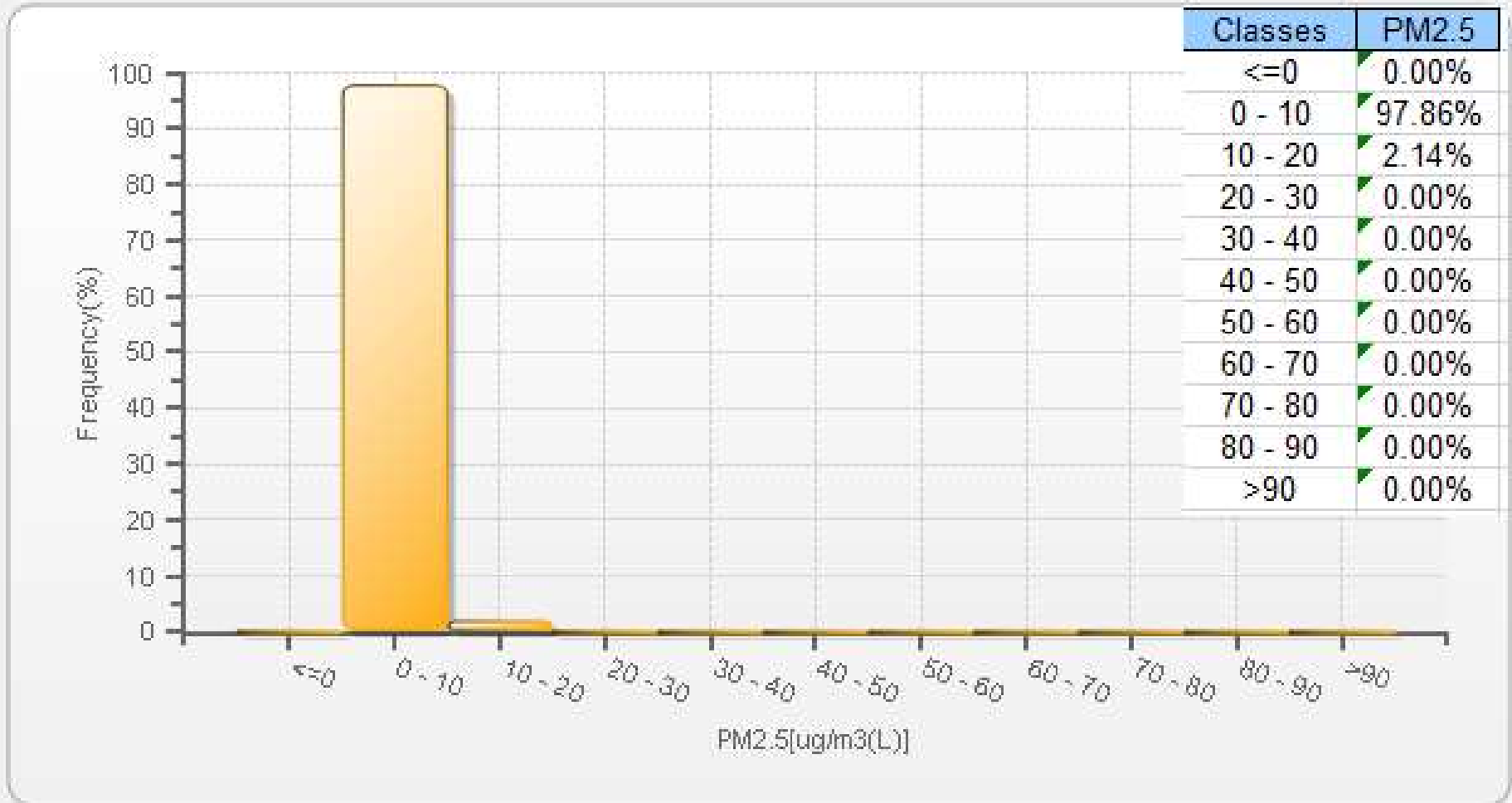
PRAMP-201910-Revision 1

| % Icon | Classes (ppm) | 100 | 0-0.1 | 0-1.0 | 0-2.0 | 0.3-0.9 | 0 | 0.9-2 | 0 | >2.0 |
|--------|---------------|-----|-------|-------|-------|---------|---|-------|---|------|
| | | | | | | | | | | |

Timeseries Chart of Hourly Average for PM2.5 - AQHI - Cadotte Lake Station



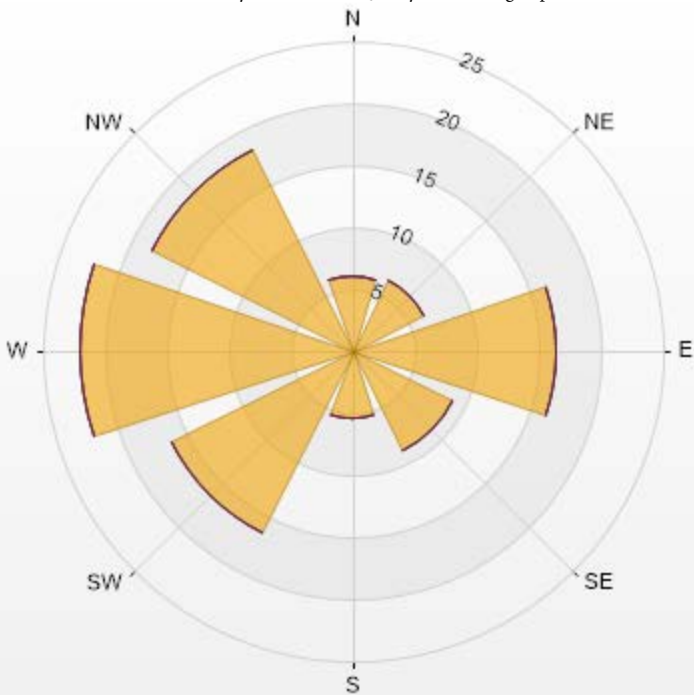
PM2.5[ug/m3(L)] Histogram: PRAMP AQHI Monthly: 10-2019 1 Hr.



Wind: PRAMP AQHI Poll.: PRAMP AQHI-PM2.5[ug/m3(L)] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.11% Calm Avg: 0.00 [ug/m3(L)]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 5.97 | 0 | 0 | 0 | 0 | 5.97 |
| NE | 6.4 | 0 | 0 | 0 | 0 | 6.4 |
| E | 16.45 | 0 | 0 | 0 | 0 | 16.45 |
| SE | 9.02 | 0 | 0 | 0 | 0 | 9.02 |
| S | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| SW | 16.45 | 0 | 0 | 0 | 0 | 16.45 |
| W | 21.98 | 0 | 0 | 0 | 0 | 21.98 |
| NW | 18.2 | 0 | 0 | 0 | 0 | 18.2 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

PRAMP Monthly Ambient Air Quality Monitoring Report for October 2019 (Revision 1)



PRAMP-201910-Revision 1

| | | | | | | | | |
|---------------------------|-----|------|---|--------|---|---------|---|--------|
| % Icon Classes (ug/m3(L)) | 100 | 0-50 | 0 | 80-120 | 0 | 120-240 | 0 | >240.0 |
|---------------------------|-----|------|---|--------|---|---------|---|--------|



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

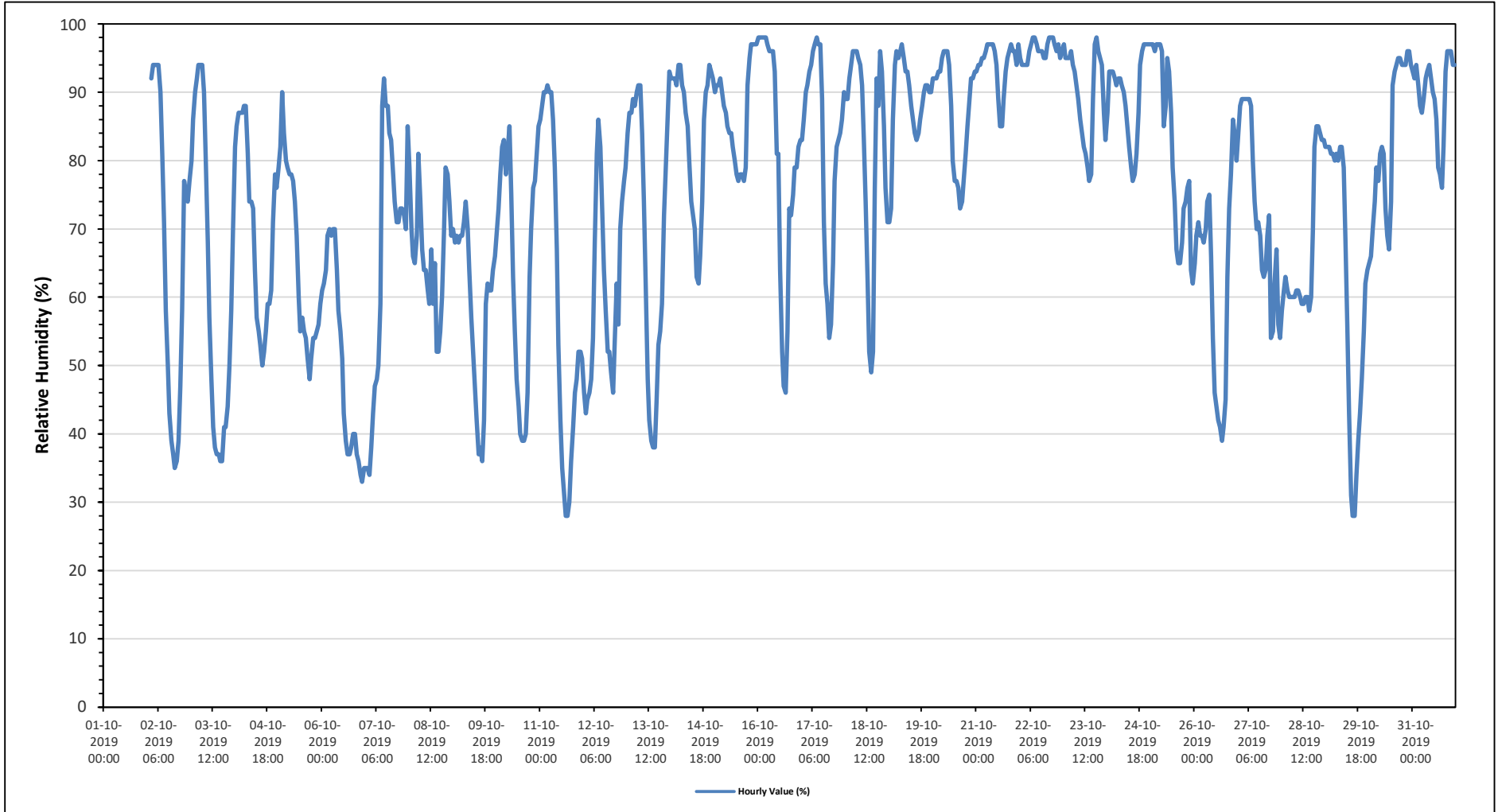
| | | | | |
|-----------------------|--------|--------------------------|------------------------|-------|
| Maximum Hourly Value: | 98 % | on October 16 at hour 0 | Hours in Service: | 718 |
| Maximum Daily Value: | 96.1 % | on October 22 | Hours of Data: | 718 |
| Minimum Hourly Value: | 28 % | on October 11 at hour 14 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 50.5 % | on October 6 | Hours of Calibration: | 0 |
| Monthly Average: | 74.8 % | | 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 | |
| Oct 1 | | | 92 | 94 | 94 | 94 | 94 | 90 | 81 | 71 | 58 | 50 | 43 | 39 | 37 | 35 | 36 | 39 | 47 | 58 | 77 | 75 | 74 | 77 | 35 | 94 | 66 | |
| Oct 2 | 80 | 86 | 90 | 92 | 94 | 94 | 94 | 90 | 80 | 68 | 57 | 48 | 41 | 38 | 37 | 37 | 36 | 36 | 41 | 41 | 44 | 50 | 58 | 70 | 36 | 94 | 63 | |
| Oct 3 | 82 | 85 | 87 | 87 | 87 | 88 | 88 | 81 | 74 | 74 | 73 | 64 | 57 | 55 | 53 | 50 | 52 | 55 | 59 | 59 | 61 | 71 | 78 | 76 | 50 | 88 | 71 | |
| Oct 4 | 79 | 82 | 90 | 84 | 80 | 79 | 78 | 78 | 77 | 74 | 69 | 60 | 55 | 57 | 55 | 54 | 51 | 48 | 51 | 54 | 54 | 55 | 56 | 59 | 48 | 90 | 66 | |
| Oct 5 | 61 | 62 | 64 | 69 | 70 | 69 | 70 | 70 | 64 | 58 | 55 | 51 | 43 | 39 | 37 | 37 | 38 | 40 | 40 | 37 | 36 | 34 | 33 | 35 | 33 | 70 | 51 | |
| Oct 6 | 35 | 35 | 34 | 38 | 43 | 47 | 48 | 50 | 59 | 88 | 92 | 88 | 88 | 84 | 83 | 78 | 74 | 71 | 71 | 73 | 73 | 72 | 70 | 85 | 34 | 92 | 66 | |
| Oct 7 | 79 | 70 | 66 | 65 | 69 | 81 | 74 | 67 | 64 | 64 | 61 | 59 | 67 | 59 | 65 | 52 | 52 | 55 | 60 | 70 | 79 | 78 | 74 | 69 | 52 | 81 | 67 | |
| Oct 8 | 70 | 68 | 69 | 68 | 69 | 69 | 71 | 74 | 70 | 64 | 57 | 52 | 47 | 42 | 37 | 38 | 36 | 42 | 59 | 62 | 61 | 61 | 64 | 66 | 36 | 74 | 59 | |
| Oct 9 | 69 | 73 | 78 | 82 | 83 | 78 | 81 | 85 | 75 | 63 | 55 | 48 | 44 | 40 | 39 | 39 | 40 | 46 | 63 | 70 | 76 | 77 | 81 | 85 | 39 | 85 | 65 | |
| Oct 10 | 86 | 88 | 90 | 90 | 91 | 90 | 90 | 86 | 79 | 67 | 53 | 42 | 35 | 32 | 28 | 28 | 30 | 36 | 41 | 46 | 48 | 52 | 52 | 51 | 28 | 91 | 60 | |
| Oct 11 | 46 | 43 | 45 | 46 | 48 | 54 | 68 | 81 | 86 | 82 | 73 | 64 | 58 | 52 | 52 | 49 | 46 | 53 | 62 | 56 | 70 | 74 | 77 | 79 | 43 | 86 | 61 | |
| Oct 12 | 84 | 87 | 87 | 89 | 88 | 90 | 91 | 91 | 84 | 74 | 62 | 48 | 42 | 39 | 38 | 38 | 45 | 53 | 55 | 59 | 72 | 78 | 86 | 93 | 38 | 93 | 70 | |
| Oct 13 | 92 | 92 | 92 | 91 | 94 | 94 | 91 | 90 | 87 | 85 | 80 | 74 | 72 | 70 | 63 | 62 | 66 | 74 | 86 | 90 | 91 | 94 | 93 | 92 | 62 | 94 | 84 | |
| Oct 14 | 90 | 91 | 91 | 92 | 90 | 88 | 87 | 85 | 84 | 84 | 82 | 80 | 78 | 77 | 78 | 78 | 77 | 79 | 91 | 95 | 97 | 97 | 97 | 97 | 77 | 97 | 87 | |
| Oct 15 | 98 | 98 | 98 | 98 | 98 | 97 | 96 | 96 | 96 | 96 | 93 | 81 | 81 | 64 | 52 | 47 | 46 | 55 | 73 | 72 | 75 | 79 | 82 | 83 | 46 | 98 | 81 | |
| Oct 16 | 83 | 86 | 90 | 91 | 93 | 94 | 96 | 97 | 98 | 97 | 97 | 89 | 71 | 62 | 59 | 54 | 56 | 65 | 77 | 82 | 83 | 84 | 86 | 90 | 54 | 98 | 83 | |
| Oct 17 | 89 | 89 | 92 | 94 | 96 | 96 | 96 | 95 | 94 | 91 | 83 | 74 | 62 | 52 | 49 | 52 | 76 | 92 | 88 | 96 | 93 | 85 | 76 | 71 | 49 | 96 | 83 | |
| Oct 18 | 71 | 73 | 86 | 94 | 96 | 95 | 96 | 97 | 95 | 93 | 93 | 91 | 88 | 86 | 84 | 83 | 84 | 86 | 88 | 90 | 91 | 91 | 90 | 90 | 71 | 97 | 89 | |
| Oct 19 | 92 | 92 | 92 | 93 | 93 | 95 | 96 | 96 | 96 | 94 | 88 | 80 | 77 | 77 | 76 | 73 | 74 | 77 | 81 | 85 | 89 | 92 | 92 | 93 | 73 | 96 | 87 | |
| Oct 20 | 93 | 94 | 94 | 95 | 95 | 96 | 97 | 97 | 97 | 97 | 96 | 94 | 89 | 85 | 85 | 89 | 93 | 95 | 96 | 97 | 96 | 96 | 94 | 97 | 85 | 97 | 94 | |
| Oct 21 | 95 | 94 | 94 | 94 | 94 | 96 | 97 | 98 | 98 | 97 | 96 | 96 | 96 | 95 | 95 | 97 | 98 | 98 | 98 | 97 | 96 | 97 | 95 | 96 | 94 | 98 | 96 | |
| Oct 22 | 97 | 95 | 95 | 95 | 96 | 94 | 93 | 91 | 89 | 86 | 84 | 82 | 81 | 79 | 77 | 78 | 89 | 97 | 98 | 96 | 95 | 94 | 87 | 83 | 77 | 98 | 90 | |
| Oct 23 | 87 | 93 | 93 | 93 | 92 | 91 | 92 | 92 | 91 | 90 | 88 | 85 | 82 | 79 | 77 | 78 | 81 | 87 | 94 | 96 | 97 | 97 | 97 | 97 | 77 | 97 | 90 | |
| Oct 24 | 97 | 97 | 96 | 97 | 97 | 97 | 96 | 85 | 88 | 95 | 93 | 87 | 79 | 74 | 67 | 65 | 65 | 68 | 73 | 74 | 76 | 77 | 64 | 62 | 62 | 97 | 82 | |
| Oct 25 | 65 | 69 | 71 | 69 | 69 | 68 | 70 | 74 | 75 | 66 | 54 | 46 | 44 | 42 | 41 | 39 | 41 | 45 | 63 | 73 | 78 | 86 | 84 | 80 | 39 | 86 | 63 | |
| Oct 26 | 84 | 88 | 89 | 89 | 89 | 89 | 88 | 80 | 74 | 70 | 71 | 69 | 64 | 63 | 64 | 69 | 72 | 54 | 55 | 62 | 67 | 56 | 54 | 54 | 54 | 89 | 73 | |
| Oct 27 | 58 | 61 | 63 | 61 | 60 | 60 | 60 | 60 | 61 | 61 | 60 | 59 | 59 | 60 | 60 | 58 | 60 | 70 | 82 | 85 | 85 | 84 | 83 | 83 | 58 | 85 | 66 | |
| Oct 28 | 82 | 82 | 82 | 81 | 81 | 80 | 81 | 80 | 82 | 82 | 79 | 68 | 56 | 43 | 31 | 28 | 28 | 34 | 39 | 43 | 48 | 55 | 62 | 64 | 28 | 82 | 62 | |
| Oct 29 | 65 | 66 | 70 | 74 | 79 | 77 | 81 | 82 | 81 | 73 | 69 | 67 | 74 | 91 | 93 | 94 | 95 | 95 | 94 | 94 | 94 | 96 | 96 | 94 | 65 | 96 | 83 | |
| Oct 30 | 93 | 92 | 94 | 91 | 88 | 87 | 89 | 92 | 93 | 94 | 92 | 90 | 89 | 86 | 79 | 78 | 76 | 82 | 93 | 96 | 96 | 96 | 94 | 94 | 76 | 96 | 90 | |
| Oct 31 | 98 | 98 | 98 | 98 | 98 | 97 | 97 | 98 | 98 | 97 | 97 | 96 | 96 | 95 | 95 | 97 | 98 | 98 | 98 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| Diurnal Maximum | 98 | 98 | 98 | 98 | 98 | 97 | 97 | 98 | 98 | 97 | 97 | 96 | 96 | 95 | 95 | 97 | 98 | 98 | 98 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| Diurnal Average | 79.4 | 80.4 | 82.5 | 83.2 | 83.9 | 84.2 | 85.0 | 84.6 | 82.6 | 80.0 | 75.0 | 69.6 | 65.0 | 61.7 | 59.5 | 58.4 | 60.6 | 65.4 | 70.5 | 73.5 | 76.6 | 78.1 | 77.7 | 78.8 | 78.8 | 78.8 | 78.8 | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 - AQHI - Cadotte Lake Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

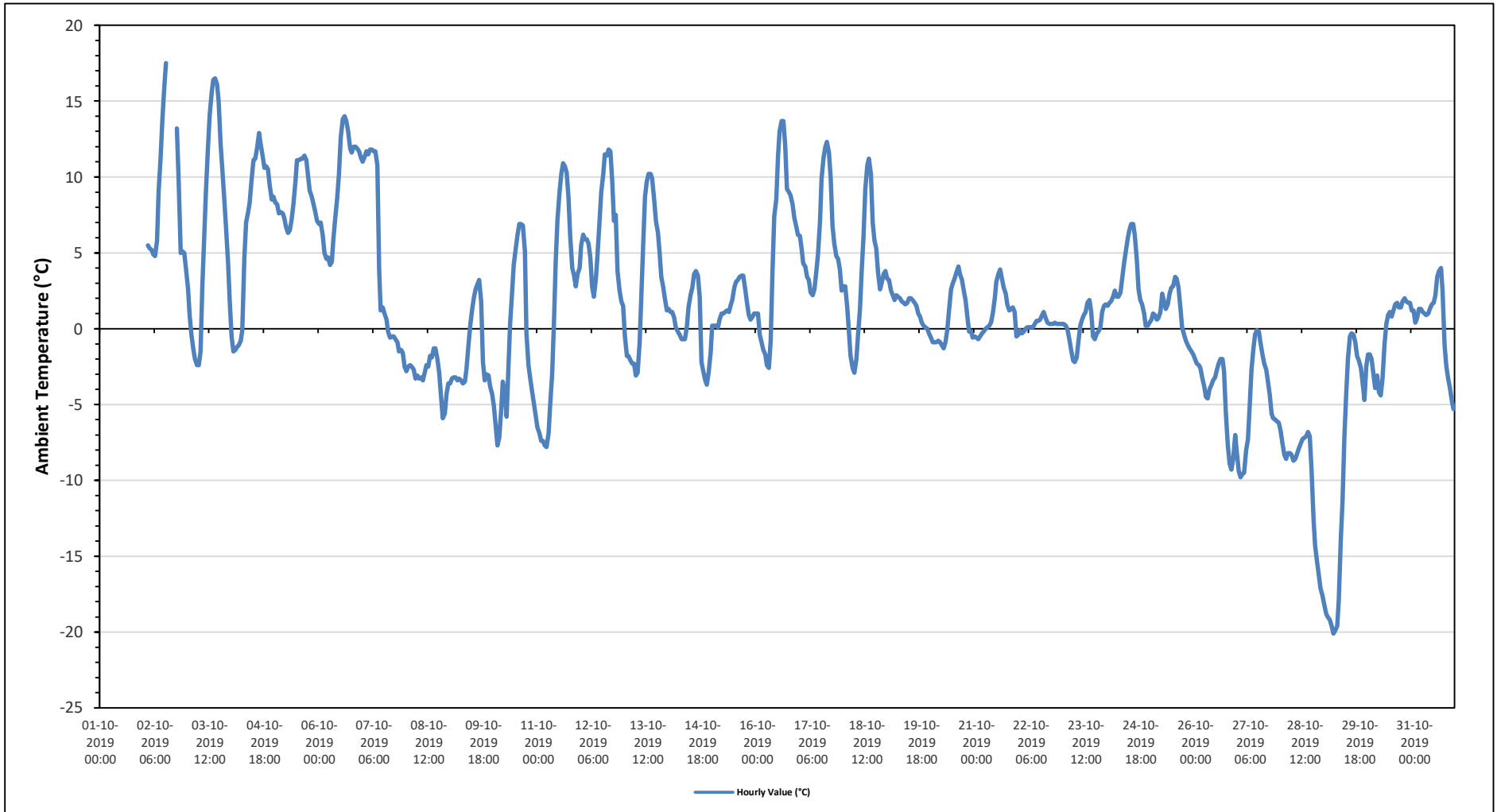
| | | | | |
|-----------------------|----------|-------------------------|------------------------|------|
| Maximum Hourly Value: | 17.5 °C | on October 2 at hour 12 | Hours in Service: | 718 |
| Maximum Daily Value: | 9.4 °C | on October 6 | Hours of Data: | 713 |
| Minimum Hourly Value: | -20.1 °C | on October 29 at hour 5 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | -9.8 °C | on October 28 | Hours of Calibration: | 0 |
| Monthly Average: | 1.5 °C | | Operational Uptime: | 99.3 |

| 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 |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 2 | | | 5.5 | 5.3 | 5.2 | 4.9 | 4.8 | 5.8 | 9.0 | 11.3 | 13.8 | 15.8 | 17.5 | Y | Y | Y | Y | Y | 13.2 | 9.7 | 5.0 | 5.1 | 5.0 | 3.9 | 3.9 | 17.5 | - |
| Oct 3 | 2.6 | 0.9 | -0.4 | -1.4 | -2.0 | -2.4 | -2.4 | -1.5 | 2.8 | 6.3 | 9.0 | 11.9 | 14.1 | 15.6 | 16.4 | 16.5 | 16.1 | 15.0 | 12.1 | 10.4 | 8.6 | 6.7 | 4.4 | 1.7 | -2.4 | 16.5 | 6.7 |
| Oct 4 | -0.5 | -1.5 | -1.4 | -1.2 | -1.1 | -0.8 | -0.1 | 4.6 | 7.0 | 7.7 | 8.3 | 9.9 | 11.1 | 11.2 | 11.9 | 12.2 | 11.5 | 10.6 | 10.7 | 10.5 | 9.4 | 8.5 | 8.7 | -1.5 | 12.9 | 6.7 | |
| Oct 5 | 8.3 | 8.2 | 7.6 | 7.7 | 7.6 | 7.3 | 6.7 | 6.3 | 6.5 | 7.2 | 8.2 | 9.7 | 11.1 | 11.1 | 11.2 | 11.2 | 11.4 | 11.1 | 10.0 | 9.1 | 8.7 | 8.2 | 7.7 | 7.1 | 6.3 | 11.4 | 8.7 |
| Oct 6 | 6.9 | 7.0 | 6.2 | 5.0 | 4.6 | 4.7 | 4.2 | 4.4 | 5.9 | 7.4 | 8.6 | 10.2 | 12.6 | 13.8 | 14.0 | 13.7 | 13.0 | 11.9 | 11.6 | 12.0 | 12.0 | 11.9 | 11.7 | 11.3 | 4.2 | 14.0 | 9.4 |
| Oct 7 | 11.0 | 11.3 | 11.7 | 11.5 | 11.8 | 11.8 | 11.7 | 11.7 | 10.8 | 3.9 | 1.2 | 1.4 | 1.0 | 0.6 | -0.2 | -0.6 | -0.5 | -0.5 | -0.7 | -0.9 | -1.5 | -1.4 | -1.6 | -2.5 | -2.5 | 11.8 | 4.2 |
| Oct 8 | -2.8 | -2.5 | -2.4 | -2.5 | -2.7 | -3.3 | -3.1 | -3.3 | -3.2 | -3.4 | -2.9 | -2.4 | -2.5 | -1.8 | -1.9 | -1.3 | -1.3 | -2.0 | -2.9 | -4.4 | -5.9 | -5.6 | -4.3 | -3.6 | -5.9 | -1.3 | -3.0 |
| Oct 9 | -3.6 | -3.3 | -3.2 | -3.2 | -3.4 | -3.3 | -3.4 | -3.6 | -3.5 | -2.7 | -1.1 | 0.2 | 1.2 | 2.0 | 2.6 | 2.9 | 3.2 | 1.8 | -2.2 | -3.4 | -3.0 | -3.1 | -3.8 | -4.3 | -4.3 | 3.2 | -1.7 |
| Oct 10 | -5.1 | -6.4 | -7.7 | -7.2 | -5.3 | -3.5 | -4.2 | -5.8 | -2.6 | 0.4 | 2.5 | 4.2 | 5.3 | 6.2 | 6.9 | 6.9 | 6.8 | 5.1 | -0.3 | -2.4 | -3.3 | -4.1 | -4.9 | -5.8 | -7.7 | 6.9 | -1.0 |
| Oct 11 | -6.5 | -6.9 | -7.4 | -7.4 | -7.7 | -7.8 | -6.9 | -5.1 | -3.0 | 0.3 | 4.4 | 7.2 | 9.0 | 10.2 | 10.9 | 10.7 | 10.3 | 8.7 | 6.1 | 4.0 | 3.6 | 2.8 | 3.6 | 4.0 | -7.8 | 10.9 | 1.5 |
| Oct 12 | 5.5 | 6.2 | 5.9 | 5.9 | 5.6 | 4.7 | 2.8 | 2.1 | 3.3 | 4.8 | 7.0 | 9.0 | 10.2 | 11.5 | 11.4 | 11.8 | 11.7 | 9.8 | 7.1 | 7.5 | 3.8 | 2.5 | 1.8 | 1.5 | 1.5 | 11.8 | 6.4 |
| Oct 13 | -0.5 | -1.8 | -1.8 | -2.1 | -2.3 | -2.3 | -3.1 | -2.9 | -0.9 | 1.9 | 5.6 | 8.7 | 9.7 | 10.2 | 10.2 | 9.9 | 8.5 | 7.1 | 6.3 | 5.1 | 3.4 | 2.7 | 2.0 | 1.2 | -3.1 | 10.2 | 3.1 |
| Oct 14 | 1.3 | 1.1 | 1.1 | 0.7 | 0.1 | -0.2 | -0.4 | -0.7 | -0.7 | -0.7 | 0.2 | 1.4 | 2.2 | 2.7 | 3.6 | 3.8 | 3.5 | 2.1 | -2.2 | -2.8 | -3.4 | -3.7 | -2.9 | -1.6 | -3.7 | 3.8 | 0.2 |
| Oct 15 | 0.2 | 0.2 | 0.2 | 0.1 | 0.6 | 1.0 | 1.0 | 1.1 | 1.2 | 1.1 | 1.5 | 1.9 | 2.7 | 3.1 | 3.2 | 3.4 | 3.5 | 3.5 | 2.6 | 1.7 | 0.9 | 0.6 | 0.8 | 1.0 | 0.1 | 3.5 | 1.5 |
| Oct 16 | 1.0 | 1.0 | -0.4 | -0.9 | -1.4 | -1.7 | -2.4 | -2.6 | -0.8 | 3.7 | 7.4 | 8.5 | 11.4 | 13.0 | 13.7 | 13.7 | 12.1 | 9.2 | 9.0 | 8.8 | 8.2 | 7.3 | 6.7 | 6.2 | -2.6 | 13.7 | 5.4 |
| Oct 17 | 6.1 | 5.2 | 4.3 | 4.1 | 3.4 | 3.2 | 2.4 | 2.2 | 2.6 | 3.7 | 4.9 | 7.1 | 9.9 | 11.3 | 12.0 | 12.3 | 11.6 | 9.9 | 6.8 | 5.6 | 4.8 | 4.6 | 3.9 | 2.5 | 2.2 | 12.3 | 6.0 |
| Oct 18 | 2.8 | 2.8 | 1.4 | -0.3 | -1.8 | -2.6 | -2.9 | -2.0 | -0.5 | 1.3 | 3.9 | 6.1 | 9.2 | 10.8 | 11.2 | 10.2 | 7.0 | 5.8 | 5.3 | 3.7 | 2.6 | 3.0 | 3.6 | 3.8 | -2.9 | 11.2 | 3.5 |
| Oct 19 | 3.3 | 3.2 | 2.5 | 2.2 | 1.9 | 2.2 | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 | 1.7 | 2.0 | 2.0 | 1.9 | 1.7 | 1.5 | 1.0 | 0.8 | 0.4 | 0.2 | 0.1 | 0.0 | -0.3 | -0.3 | 3.3 | 1.6 |
| Oct 20 | -0.6 | -0.9 | -0.9 | -0.9 | -0.8 | -0.9 | -1.1 | -1.3 | -0.9 | -0.1 | 1.2 | 2.6 | 3.0 | 3.3 | 3.7 | 4.1 | 3.6 | 3.2 | 2.5 | 1.9 | 0.8 | -0.2 | -0.2 | -0.6 | -1.3 | 4.1 | 0.9 |
| Oct 21 | -0.5 | -0.6 | -0.7 | -0.5 | -0.3 | -0.2 | 0.0 | 0.1 | 0.2 | 0.4 | 1.0 | 2.0 | 3.1 | 3.6 | 3.9 | 3.3 | 2.7 | 2.3 | 1.6 | 1.2 | 1.3 | 1.4 | 1.1 | -0.5 | -0.7 | 3.9 | 1.1 |
| Oct 22 | -0.4 | -0.1 | -0.3 | -0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.5 | 0.5 | 0.6 | 0.9 | 1.1 | 0.7 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | -0.4 | 1.1 | 0.3 |
| Oct 23 | 0.3 | 0.3 | 0.2 | 0.0 | -0.7 | -1.4 | -2.1 | -2.2 | -1.9 | -0.8 | 0.2 | 0.6 | 0.9 | 1.1 | 1.7 | 1.9 | 1.1 | -0.5 | -0.7 | -0.3 | -0.2 | 0.1 | 1.1 | 1.5 | -2.2 | 1.9 | 0.0 |
| Oct 24 | 1.6 | 1.5 | 1.7 | 1.8 | 2.1 | 2.5 | 2.1 | 2.1 | 2.4 | 3.2 | 4.3 | 5.1 | 6.0 | 6.5 | 6.9 | 6.9 | 6.2 | 4.6 | 2.6 | 1.9 | 1.6 | 1.0 | 0.2 | 0.2 | 0.2 | 6.9 | 3.1 |
| Oct 25 | 0.4 | 0.6 | 1.0 | 0.9 | 0.6 | 0.7 | 1.1 | 2.3 | 1.8 | 1.3 | 1.6 | 2.3 | 2.7 | 2.8 | 3.4 | 3.3 | 2.7 | 1.3 | 0.1 | -0.4 | -0.8 | -1.1 | -1.3 | -1.5 | -1.5 | 3.4 | 1.1 |
| Oct 26 | -1.7 | -2.0 | -2.3 | -2.4 | -2.6 | -3.2 | -3.8 | -4.5 | -4.6 | -4.0 | -3.7 | -3.4 | -3.2 | -2.7 | -2.3 | -2.0 | -2.0 | -2.8 | -5.5 | -7.7 | -8.9 | -9.3 | -8.6 | -7.0 | -9.3 | -1.7 | -4.2 |
| Oct 27 | -8.1 | -9.4 | -9.8 | -9.6 | -9.5 | -8.0 | -7.3 | -5.4 | -2.7 | -1.4 | -0.4 | -0.1 | -0.2 | -0.9 | -1.7 | -2.3 | -2.7 | -3.4 | -4.4 | -5.6 | -5.9 | -6.0 | -6.1 | -6.2 | -9.8 | -0.1 | -4.9 |
| Oct 28 | -6.7 | -7.6 | -8.3 | -8.6 | -8.2 | -8.2 | -8.3 | -8.7 | -8.6 | -8.3 | -7.9 | -7.6 | -7.3 | -7.2 | -7.1 | -6.8 | -7.1 | -9.3 | -12.6 | -14.3 | -15.4 | -16.3 | -17.1 | -17.6 | -17.6 | -6.7 | -9.8 |
| Oct 29 | -18.2 | -18.8 | -19.0 | -19.2 | -19.6 | -20.1 | -19.9 | -19.6 | -17.9 | -13.9 | -11.3 | -7.2 | -4.4 | -2.0 | -0.5 | -0.3 | -0.4 | -0.9 | -1.8 | -2.1 | -2.6 | -3.6 | -4.7 | -2.5 | -20.1 | -0.3 | -9.6 |
| Oct 30 | -1.7 | -1.7 | -2.0 | -3.1 | -3.9 | -3.1 | -4.2 | -4.4 | -3.3 | -1.0 | 0.3 | 0.9 | 1.1 | 0.8 | 1.2 | 1.6 | 1.7 | 1.4 | 1.4 | 1.8 | 2.0 | 1.8 | 1.7 | 1.7 | -4.4 | 2.0 | -0.4 |
| Oct 31 | 1.2 | 1.2 | 0.4 | 0.7 | 1.3 | 1.3 | 1.1 | 1.0 | 0.9 | 1.0 | 1.3 | 1.6 | 1.7 | 2.2 | 3.4 | 3.8 | 4.0 | 2.5 | -1.1 | -2.5 | -3.3 | -3.9 | -4.8 | -5.3 | -5.3 | 4.0 | 0.4 |
| Diurnal Maximum | 11.0 | 11.3 | 11.7 | 11.5 | 11.8 | 11.8 | 11.7 | 11.7 | 10.8 | 11.3 | 13.8 | 15.8 | 17.5 | 15.6 | 16.4 | 16.5 | 16.1 | 15.0 | 13.2 | 12.0 | 12.0 | 11.9 | 11.7 | 11.3 | | | |
| Diurnal Average | -0.2 | -0.4 | -0.6 | -0.8 | -1.0 | -1.0 | -1.2 | -0.9 | 0.0 | 1.1 | 2.4 | 3.7 | 4.7 | 4.9 | 5.3 | 5.3 | 4.9 | 3.8 | 2.5 | 1.6 | 0.8 | 0.4 | 0.1 | -0.1 | | | |

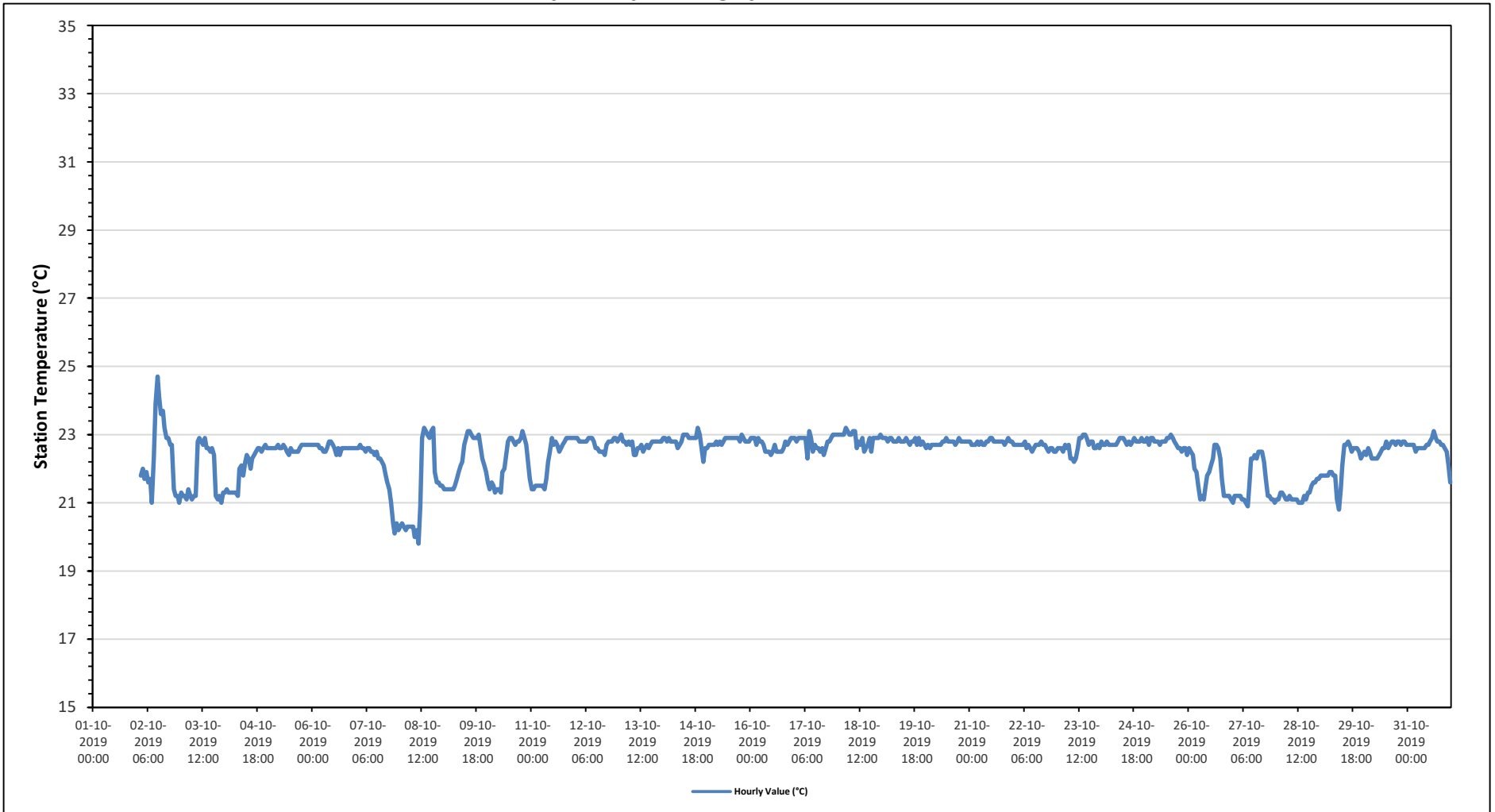
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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 AT - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Average for ST - AQHI - Cadotte Lake Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

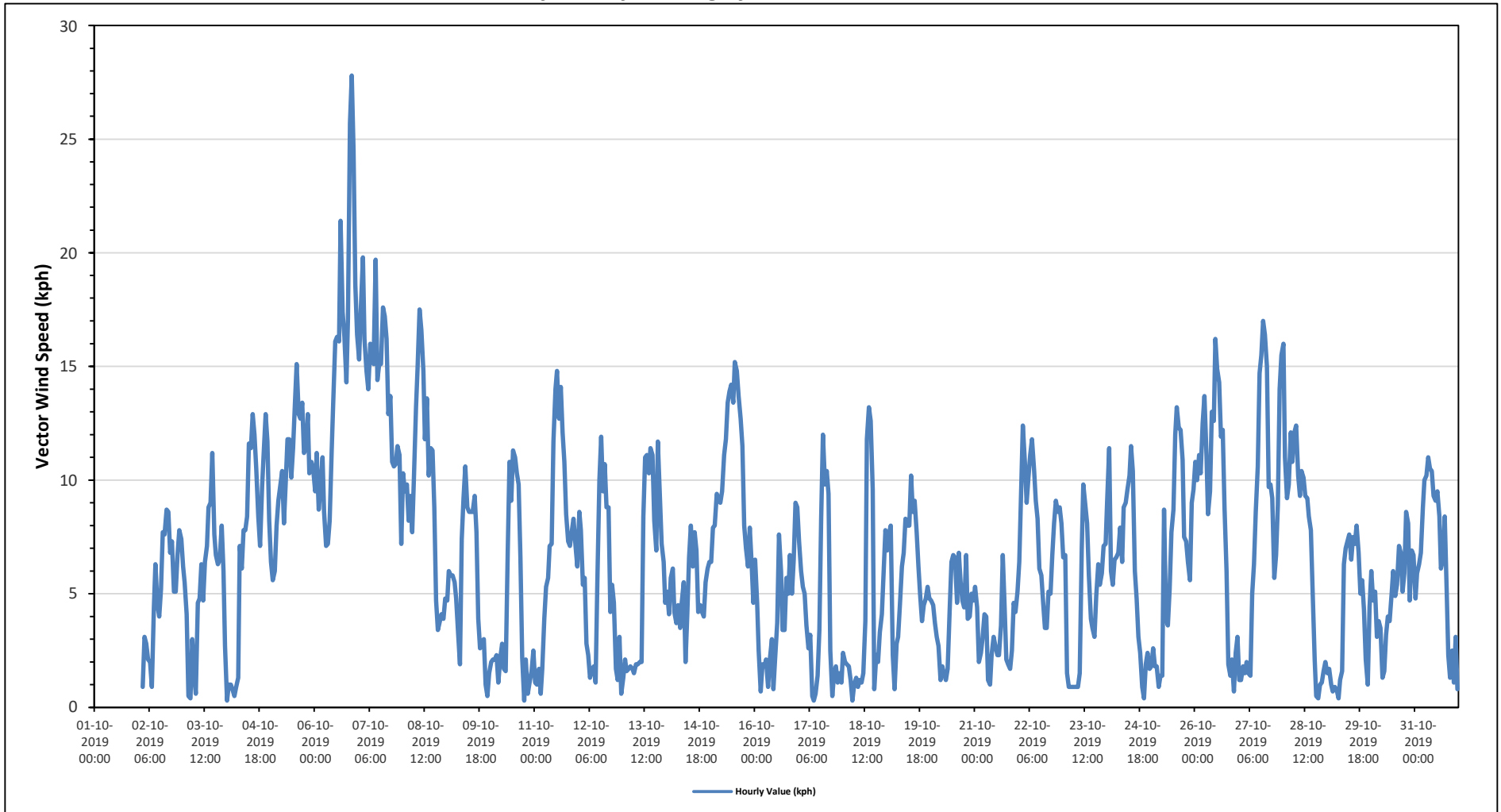
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 27.8 kph | on October 6 at hour 20 | Hours in Service: | 718 |
| Maximum Daily Value: | 14.7 kph | on October 6 | Hours of Data: | 718 |
| Minimum Hourly Value: | 0.3 kph | on October 4 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 3.2 kph | on October 21 | Hours of Calibration: | 0 |
| Monthly Average: | 2.0 kph | | 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 |
| Oct 1 | | | 0.9 | 3.1 | 2.8 | 2.1 | 2 | 0.9 | 4.4 | 6.3 | 4.5 | 4 | 5.2 | 7.7 | 7.6 | 8.7 | 8.6 | 6.8 | 7.3 | 5.1 | 5.1 | 6.7 | 7.8 | 7.4 | 0.9 | 8.7 | 5.2 |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | 11.2 | 5.4 |
| Oct 3 | 6.2 | 5.5 | 4.1 | 0.5 | 0.4 | 3 | 1.5 | 0.6 | 4.6 | 4.8 | 6.3 | 4.7 | 6.4 | 7.1 | 8.8 | 9 | 11.2 | 7.6 | 6.7 | 6.3 | 6.5 | 8 | 6 | 2.7 | 0.3 | 12.9 | 7.1 |
| Oct 4 | 0.3 | 1 | 1 | 0.8 | 0.5 | 0.9 | 1.3 | 7.1 | 6.1 | 7.8 | 7.8 | 8.4 | 11.6 | 11.4 | 12.9 | 12 | 10.5 | 8.4 | 7.1 | 9.7 | 11.1 | 12.9 | 11.7 | 8.2 | 0.3 | 12.9 | 7.1 |
| Oct 5 | 6.4 | 5.6 | 6 | 8 | 9.1 | 9.7 | 10.4 | 8.1 | 9.9 | 11.8 | 11.8 | 10.1 | 11.4 | 13.3 | 15.1 | 12.9 | 12.7 | 13.4 | 11.2 | 11.4 | 12.9 | 10.3 | 10.8 | 10.5 | 5.6 | 15.1 | 10.5 |
| Oct 6 | 9.5 | 11.2 | 8.7 | 9.7 | 11 | 8.6 | 7.1 | 7.2 | 8.2 | 11.3 | 13.4 | 16.1 | 16.3 | 16.1 | 21.4 | 17.4 | 16.3 | 14.3 | 17.1 | 25.7 | 27.8 | 24.5 | 18.6 | 16.4 | 7.1 | 27.8 | 14.7 |
| Oct 7 | 15.3 | 17.6 | 19.8 | 16.2 | 14.8 | 14 | 16 | 15.4 | 15.1 | 19.7 | 14.4 | 15.1 | 15.1 | 17.6 | 17.2 | 16.2 | 12.9 | 13.7 | 10.8 | 10.6 | 10.7 | 11.5 | 11.1 | 7.2 | 7.2 | 19.8 | 14.5 |
| Oct 8 | 10.3 | 9.5 | 9.8 | 8.2 | 9.3 | 7.7 | 10.2 | 13.2 | 14.9 | 17.5 | 16.6 | 14.8 | 11.8 | 13.6 | 10.2 | 11.4 | 11.3 | 8.8 | 4.7 | 3.4 | 3.8 | 4.1 | 3.9 | 4.8 | 3.4 | 17.5 | 9.7 |
| Oct 9 | 4.7 | 6 | 5.8 | 5.8 | 5.5 | 4.8 | 3.4 | 1.9 | 7.4 | 9.2 | 10.6 | 8.8 | 8.6 | 8.6 | 8.6 | 9.3 | 7.7 | 3.9 | 2.6 | 2.9 | 3 | 1 | 0.5 | 1.5 | 0.5 | 10.6 | 5.5 |
| Oct 10 | 2 | 2.1 | 2.1 | 2.3 | 1.1 | 2.2 | 2.8 | 1.7 | 1.6 | 6.8 | 10.8 | 9.1 | 11.3 | 11 | 10.3 | 9.8 | 6.6 | 2.2 | 0.3 | 2.1 | 0.6 | 1.1 | 1.6 | 2.5 | 0.3 | 11.3 | 4.3 |
| Oct 11 | 1.1 | 1 | 1.7 | 0.6 | 1.7 | 3.9 | 5.3 | 5.7 | 7.1 | 7.2 | 11.7 | 14 | 14.8 | 12.7 | 14.1 | 12.1 | 10.8 | 8.5 | 7.3 | 7.1 | 7.8 | 8.3 | 7.1 | 6.2 | 0.6 | 14.8 | 7.4 |
| Oct 12 | 8.6 | 7.8 | 5.4 | 5.7 | 2.8 | 2.3 | 1.3 | 1.7 | 1.8 | 1.1 | 5.6 | 10 | 11.9 | 9.5 | 10.7 | 8.8 | 8.8 | 4.2 | 5.4 | 4.6 | 1.7 | 1.2 | 3.1 | 0.6 | 0.6 | 11.9 | 5.2 |
| Oct 13 | 1.3 | 2.1 | 1.6 | 1.7 | 1.8 | 1.7 | 1.5 | 1.9 | 1.9 | 2 | 2 | 8.4 | 11 | 11.1 | 10.3 | 11.4 | 11.1 | 8.2 | 6.9 | 11.7 | 9.3 | 7.2 | 6.4 | 4.6 | 1.3 | 11.7 | 5.7 |
| Oct 14 | 5.1 | 4.1 | 5.7 | 6.1 | 4.2 | 3.7 | 4.5 | 3.5 | 4.6 | 5.5 | 2 | 4.1 | 6.6 | 8 | 6.2 | 7.7 | 6.9 | 4.2 | 4.5 | 4.2 | 4 | 5.5 | 6.1 | 6.4 | 2.0 | 8.0 | 5.1 |
| Oct 15 | 6.4 | 7.9 | 8 | 9.4 | 9.2 | 9 | 9.5 | 11.1 | 11.8 | 13.4 | 13.9 | 14.2 | 13.4 | 15.2 | 14.8 | 13.7 | 12.7 | 11.5 | 8 | 7 | 6.2 | 7.9 | 6.4 | 4.6 | 4.6 | 15.2 | 10.2 |
| Oct 16 | 6.5 | 4.6 | 2.5 | 0.7 | 1.9 | 1.8 | 2.1 | 0.9 | 2.1 | 3 | 0.8 | 2.2 | 3.7 | 7.6 | 6 | 3.4 | 3.4 | 5.7 | 5 | 6.7 | 5 | 6.5 | 9 | 8.8 | 0.7 | 9.0 | 4.2 |
| Oct 17 | 7.3 | 6 | 5.3 | 5 | 3.6 | 2.6 | 3.2 | 0.5 | 0.3 | 0.6 | 1.4 | 3.4 | 8.3 | 12 | 9.8 | 10.4 | 9.4 | 2.5 | 0.5 | 1.5 | 1.8 | 1.1 | 1.5 | 1.1 | 0.3 | 12.0 | 4.1 |
| Oct 18 | 2.4 | 2 | 1.9 | 1.8 | 1.2 | 0.3 | 1 | 1.3 | 0.9 | 1.2 | 1.1 | 1.5 | 3.8 | 11.8 | 13.2 | 12.6 | 9.6 | 0.8 | 2.3 | 2 | 3.3 | 4.1 | 5.7 | 7.8 | 0.3 | 13.2 | 3.9 |
| Oct 19 | 6.9 | 7.7 | 8 | 2.3 | 0.8 | 2.8 | 3.1 | 4.5 | 6.2 | 6.8 | 8.3 | 8 | 8 | 10.2 | 8.6 | 9.1 | 7.7 | 6.2 | 4.9 | 3.8 | 4.5 | 4.8 | 5.3 | 4.8 | 0.8 | 10.2 | 6.0 |
| Oct 20 | 4.7 | 4.5 | 3.7 | 3.1 | 2.7 | 1.2 | 1.8 | 1.5 | 1.2 | 1.7 | 4.3 | 6.4 | 6.7 | 6.6 | 4.6 | 6.8 | 5.5 | 4.7 | 4.4 | 6.7 | 3.9 | 4 | 5 | 4.7 | 1.2 | 6.8 | 4.2 |
| Oct 21 | 5.3 | 4.4 | 2 | 2.4 | 3 | 4.1 | 4 | 1.2 | 1 | 2.3 | 3.1 | 2.7 | 2.3 | 2.3 | 3.6 | 6.7 | 4.5 | 2.1 | 1.9 | 1.7 | 2.5 | 4.6 | 4.2 | 5.1 | 1.0 | 6.7 | 3.2 |
| Oct 22 | 6.4 | 9.8 | 12.4 | 10.8 | 9 | 10.1 | 11.1 | 11.8 | 10.5 | 9.1 | 8.3 | 6.1 | 5.8 | 4.6 | 3.5 | 3.5 | 5.1 | 5 | 6.7 | 8.1 | 9.1 | 8.6 | 8.8 | 8.1 | 3.5 | 12.4 | 8.0 |
| Oct 23 | 6.6 | 6.7 | 1.5 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 1.5 | 7 | 9.8 | 8.9 | 8.1 | 5.8 | 3.9 | 3.5 | 3.1 | 4.9 | 6.3 | 5.4 | 5.9 | 7.1 | 7.2 | 0.9 | 9.8 | 4.5 |
| Oct 24 | 9.1 | 11.4 | 6 | 5.4 | 6.5 | 6.6 | 6.8 | 7.9 | 6.4 | 8.8 | 9 | 9.6 | 10.2 | 11.5 | 10.4 | 6 | 4.8 | 3.1 | 2.4 | 0.9 | 0.4 | 1.9 | 2.4 | 1.7 | 0.4 | 11.5 | 6.2 |
| Oct 25 | 1.8 | 2.6 | 1.8 | 1.8 | 0.9 | 1.4 | 1.4 | 8.7 | 3.9 | 3.6 | 5.2 | 7.7 | 8.7 | 12 | 13.2 | 12.3 | 12.2 | 10.9 | 7.5 | 7.3 | 6.4 | 5.6 | 9 | 9.6 | 0.9 | 13.2 | 6.5 |
| Oct 26 | 10.8 | 10 | 11.1 | 10.3 | 12.5 | 13.7 | 11.1 | 8.5 | 9.5 | 13 | 12.6 | 16.2 | 14.9 | 14.3 | 11.9 | 12.2 | 8.8 | 6 | 1.9 | 1.4 | 2.1 | 0.7 | 2.4 | 3.1 | 0.7 | 16.2 | 9.1 |
| Oct 27 | 1.2 | 1.2 | 1.8 | 1.5 | 2 | 1.5 | 1.4 | 5 | 6.3 | 8.6 | 10.6 | 14.7 | 15.5 | 17 | 16.4 | 15 | 9.7 | 9.8 | 9.2 | 5.7 | 6.7 | 8.9 | 14 | 15.5 | 1.2 | 17.0 | 8.3 |
| Oct 28 | 16 | 11 | 9.2 | 9.8 | 12.1 | 10.8 | 12.1 | 12.4 | 10.2 | 9.3 | 10.4 | 10.1 | 9.3 | 9.2 | 8.4 | 7.8 | 5.1 | 2.1 | 0.5 | 0.4 | 1 | 1.1 | 1.6 | 2 | 0.4 | 16.0 | 7.6 |
| Oct 29 | 1.5 | 1.7 | 1 | 0.7 | 0.9 | 0.8 | 0.4 | 1.2 | 1.6 | 6.3 | 7 | 7.3 | 7.6 | 6.5 | 7.5 | 7.2 | 8 | 6.8 | 5 | 5.6 | 4.3 | 2.1 | 1 | 4.4 | 0.4 | 8.0 | 4.0 |
| Oct 30 | 6 | 4.7 | 5.1 | 3.1 | 3.8 | 3.5 | 1.3 | 1.6 | 3.2 | 4 | 3.8 | 5 | 6 | 4.9 | 5.4 | 7.1 | 6.8 | 5.1 | 5.9 | 8.6 | 8.1 | 4.7 | 6.9 | 6.7 | 1.3 | 8.6 | 5.1 |
| Oct 31 | 4.8 | 5.9 | 6.3 | 6.8 | 8.8 | 10 | 10.2 | 11 | 10.5 | 10.4 | 9.3 | 9.1 | 9.5 | 8.4 | 6.1 | 6.5 | 8.4 | 5 | 2.3 | 1.3 | 2.5 | 1.1 | 3.1 | 0.8 | 0.8 | 11.0 | 6.6 |
| Diurnal Maximum | 16 | 18 | 20 | 16 | 15 | 14 | 16 | 15 | 15 | 20 | 17 | 16 | 16 | 18 | 21 | 17 | 16 | 14 | 17 | 26 | 28 | 25 | 19 | 16 | | | |
| Diurnal Average | 6.0 | 6.1 | 5.3 | 4.8 | 4.8 | 4.9 | 5.0 | 5.3 | 5.8 | 7.2 | 7.8 | 8.7 | 9.5 | 10.3 | 10.1 | 9.7 | 8.7 | 6.5 | 5.5 | 6.0 | 5.9 | 5.9 | 6.3 | 5.8 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 |

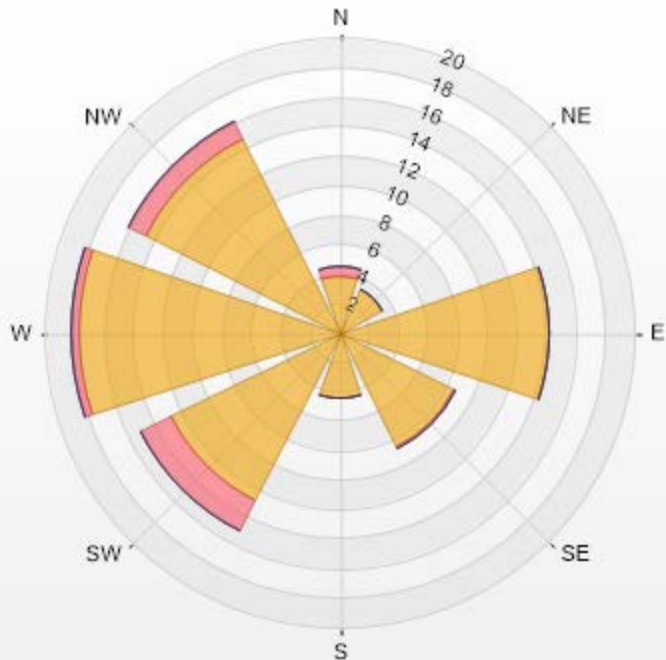
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWS - AQHI - Cadotte Lake Station



Wind: PRAMP AQHI Poll.: PRAMP AQHI-WDS[KPH] Monthly: 10-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 15.36% Valid Data: 96.30% Calm Avg: 1.12 [KPH]

| Direction | 6-15 | 15-29 | 29-39 | >39.0 | Total |
|-----------|-------|-------|-------|-------|-------|
| N | 3.84 | 0.71 | 0 | 0 | 4.55 |
| NE | 3.27 | 0 | 0 | 0 | 3.27 |
| E | 14.22 | 0 | 0 | 0 | 14.22 |
| SE | 8.68 | 0.14 | 0 | 0 | 8.82 |
| S | 4.41 | 0 | 0 | 0 | 4.41 |
| SW | 12.8 | 2.28 | 0 | 0 | 15.08 |
| W | 17.64 | 0.57 | 0 | 0 | 18.21 |
| NW | 14.65 | 1.42 | 0 | 0 | 16.07 |
| Summary | 79.51 | 5.12 | 0 | 0 | 84.63 |



PRAMP-201910-Revision 1

| % Icon Classes (KPH) | 80 | 6-15 | 5 | 15-29 | 0 | 29-39 | 0 | >39.0 |
|----------------------|----|------|---|-------|---|-------|---|-------|
| | | | | | | | | |



PEACE RIVER AREA MONITORING PROGRAM

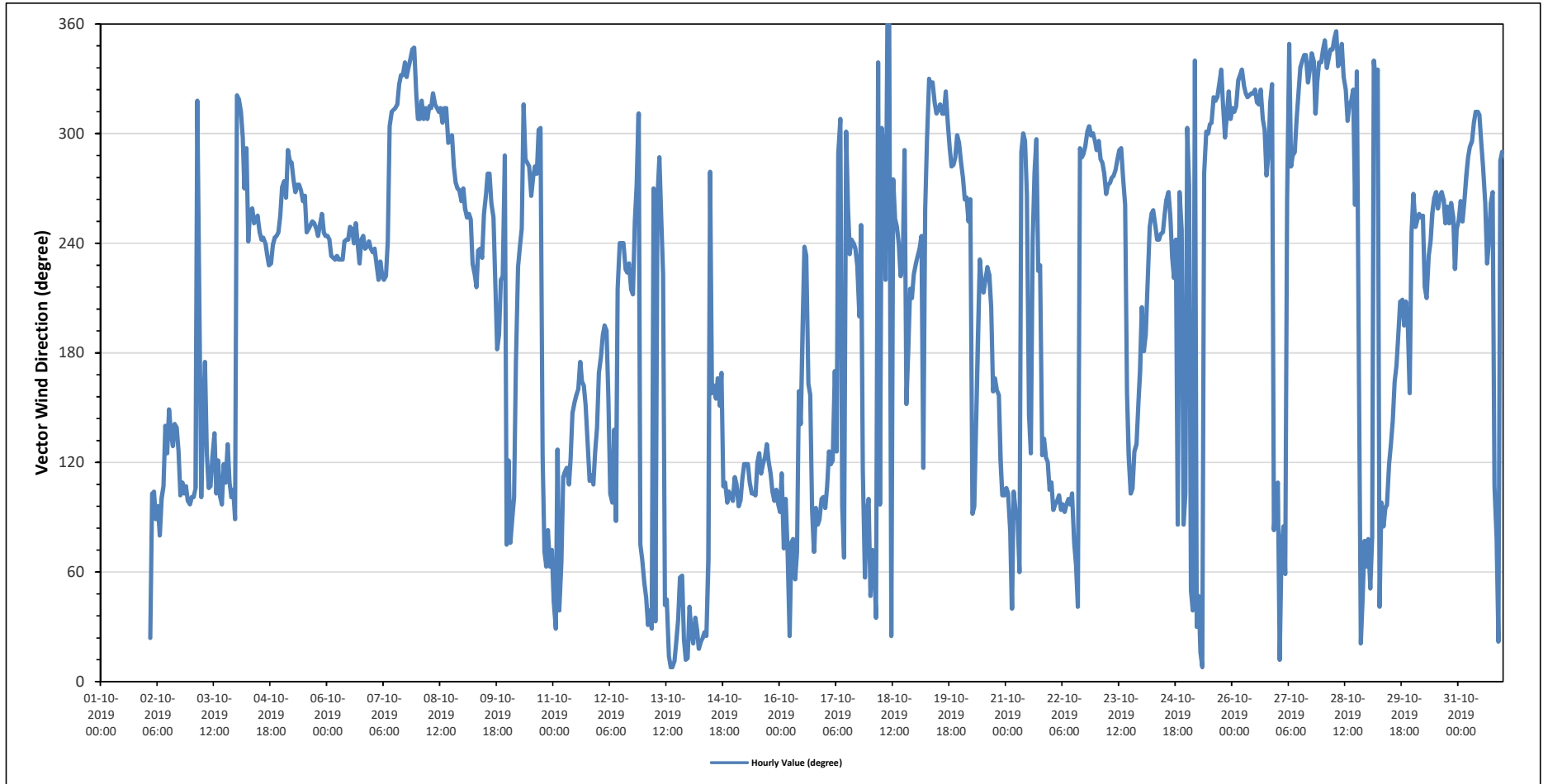
AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

| Monthly Average: | | 269 (W) degree | | | | | | | | | | | | | Hours in Service: | | 718 | | | | | | | | | | |
|---|---------------------------------|----------------|-----|-----|-----|---------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|------------------------|----------------------------|-------|-----|-----|-----|------------------------|-----|-----|---------------|--------|----------|--|
| | | | | | | | | | | | | | | | Hours of Data: | | 718 | | | | | | | | | | |
| | | | | | | | | | | | | | | | Hours of Missing Data: | | 0 | | | | | | | | | | |
| | | | | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | | | | | | |
| | | | | | | | | | | | | | | | 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 | |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | 117 | ESE | |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | 110 | ESE | |
| Oct 3 | E | E | NNE | ESE | ESE | E | E | E | E | ESE | SE | SE | SSE | SE | SE | SE | SE | E | ESE | ESE | ESE | E | E | E | 117 | ESE | |
| Oct 4 | NW | NW | NW | WNW | W | WNW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | SW | WSW | WSW | WSW | WSW | WSW | 246 | WSW | |
| Oct 5 | W | W | W | WNW | WNW | WNW | W | W | W | W | W | W | W | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | 260 | WSW | |
| Oct 6 | WSW | WSW | SW | SW | SW | SW | SW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | 240 | WSW | |
| Oct 7 | SW | SW | SW | SW | SW | SW | SW | SW | WSW | WNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | 287 | WNW | |
| Oct 8 | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | W | W | W | W | W | 308 | NW | |
| Oct 9 | W | WSW | WSW | WSW | WSW | SW | SW | SW | SW | SW | SW | WSW | W | W | W | W | WSW | SW | S | S | SW | SW | WNW | ENE | 249 | WSW | |
| Oct 10 | ESE | ENE | E | E | S | SW | SW | WSW | NW | WNW | WNW | W | W | W | W | W | WNW | WNW | ESE | ENE | ENE | E | ENE | ENE | 281 | W | |
| Oct 11 | NE | NNE | SE | NE | ENE | ESE | ESE | ESE | ESE | ESE | SE | SSE | SSE | SSE | S | SSE | SSE | SE | ESE | ESE | ESE | SE | SE | 140 | SE | | |
| Oct 12 | SSE | S | S | SSW | S | SSE | ESE | E | SE | E | SSW | WSW | WSW | WSW | SW | SW | SW | SSW | SSW | WSW | W | NW | ENE | ENE | 214 | SSW | |
| Oct 13 | NE | NE | NNE | NE | NNE | W | NNE | W | WNW | WSW | SW | NE | NE | NNE | N | N | NNE | NNE | NE | ENE | ENE | NNE | NNE | NNE | 25 | NNE | |
| Oct 14 | NE | NNE | NNE | NE | NNE | NNE | NNE | NNE | NNE | ENE | W | SSE | SSE | SSE | SSE | SSE | SSE | ESE | ESE | E | ESE | E | E | 91 | E | | |
| Oct 15 | ESE | ESE | E | E | ESE | ESE | ESE | ESE | ESE | ESE | E | ESE | SE | ESE | ESE | ESE | SE | ESE | ESE | ESE | ESE | E | ESE | E | 112 | ESE | |
| Oct 16 | E | ESE | ENE | E | ENE | NNE | ENE | ENE | NE | ENE | SSE | SE | SSW | SW | SW | SSE | SSE | E | ENE | E | E | E | E | 107 | ESE | | |
| Oct 17 | E | ESE | SE | ESE | ESE | SSE | SE | WNW | NW | E | ENE | WNW | WSW | SW | WSW | WSW | SW | SW | SSW | WSW | ESE | ENE | E | 202 | SSW | | |
| Oct 18 | NE | ENE | ENE | NE | NNW | E | WNW | WNW | SW | N | NNE | W | WSW | WSW | WSW | SW | SW | WNW | SSE | S | SSW | SSW | SW | 240 | WSW | | |
| Oct 19 | SW | SW | SW | WSW | ESE | WSW | WNW | NNW | NW | NNW | NW | NW | NW | NW | NW | NW | WNW | WNW | W | W | WNW | WNW | WNW | 297 | WNW | | |
| Oct 20 | WNW | W | W | W | WSW | W | E | E | SE | S | SW | SW | SSW | SW | SW | SSW | SSE | SSE | SSE | SSE | ESE | E | E | 201 | SSW | | |
| Oct 21 | ESE | ESE | E | NE | ESE | E | E | ENE | WNW | WNW | W | SE | SE | WSW | W | WNW | SW | SW | ESE | SE | ESE | ESE | ESE | 121 | ESE | | |
| Oct 22 | ESE | E | E | E | E | E | E | E | E | E | ESE | ENE | ENE | NE | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | 75 | ENE | | |
| Oct 23 | WNW | WNW | WNW | WNW | W | W | W | W | W | W | W | WNW | WNW | WNW | W | W | SSE | ESE | ESE | ESE | SE | SE | SSE | 251 | WSW | | |
| Oct 24 | SSW | S | S | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | W | W | WSW | SW | SW | WSW | E | W | WSW | E | ESE | 239 | WSW | |
| Oct 25 | WNW | W | NE | NE | NNW | NNE | NE | NNE | N | W | WNW | WNW | WNW | NW | NW | NW | NW | NNW | NNW | NW | WNW | NW | NW | 320 | NW | | |
| Oct 26 | NW | NW | NW | NNW | NNW | NNW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | WNW | W | WNW | NW | NW | E | E | 322 | NW | | |
| Oct 27 | ESE | NNE | ENE | E | ENE | W | NNW | WNW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | 331 | NNW | | |
| Oct 28 | NNW | N | NNW | NNW | NNW | NNW | N | N | NNW | NNW | NNW | NW | NW | NW | NW | W | NNW | SSE | NNE | NE | ENE | ENE | 340 | NNW | | | |
| Oct 29 | ENE | NE | ENE | NNW | NNW | NNW | NE | E | E | E | ESE | SE | SE | SSE | S | S | SSW | SSW | SSW | SSW | SSW | SSE | WSW | 158 | SSE | | |
| Oct 30 | W | WSW | WSW | WSW | WSW | WSW | SW | SSW | SW | WSW | WSW | W | W | WSW | W | W | WSW | WSW | WSW | W | WSW | SW | WSW | 254 | WSW | | |
| Oct 31 | WSW | W | WSW | W | W | WNW | WNW | WNW | NW | NW | NW | NW | WNW | W | W | SW | WSW | W | W | ESE | ENE | NNE | WNW | WNW | 283 | W | |
| 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 - AQHI - Cadotte Lake Station



VOC CANISTER SAMPLING RESULTS



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - October 2019

Volatile Organic Compounds (VOCs) Results

| Sample Date/Time Canister Sample Canister ID | | | 2019-10-18 Non-Methane Hydrocarbons 32240 | | | | | |
|--|---------------|------------|---|---------------|------------|------------------------------|---------------|------------|
| Method NA-025 | | | Method NA-024 | | | Method AC-058 | | |
| Maximum Reading 2.2 Methane | | | Maximum Reading 1.5 Carbonyl sulphide | | | Maximum Reading 30.7 Acetone | | |
| Parameter | Result (ppmv) | RDL (ppmv) | Parameter | Result (ppbv) | RDL (ppbv) | Parameter | Result (ppbv) | RDL (ppbv) |
| 1-Butene | < 0.17 | 0.2 | 2,5-Dimethylthiophene | < 0.5 | 0.5 | 1,1,1-Trichloroethane | < 0.03 | 0.03 |
| Acetylene | < 0.13 | 0.1 | 2-Ethylthiophene | < 0.3 | 0.3 | 1,1,2,2-Tetrachloroethane | < 0.03 | 0.03 |
| cis-2-Butene | < 0.07 | 0.1 | 2-Methylthiophene | < 0.3 | 0.3 | 1,1,2-Trichloroethane | < 0.03 | 0.03 |
| Ethane | < 0.2 | 0.2 | 3-Methylthiophene | < 0.5 | 0.5 | 1,1-Dichloroethane | < 0.03 | 0.03 |
| Ethylacetylene | < 0.10 | 0.1 | Butyl mercaptan | < 0.5 | 0.5 | 1,1-Dichloroethylene | < 0.07 | 0.07 |
| Ethylene | < 0.12 | 0.1 | Carbon disulphide | < 0.3 | 0.3 | 1,2,3-Trimethylbenzene | < 0.08 | 0.08 |
| Isobutane | < 0.2 | 0.2 | Carbonyl sulphide | 0.5 | 0.5 | 1,2,4-Trichlorobenzene | < 1.3 | 1.3 |
| Isobutylene | < 0.2 | 0.2 | Dimethyl disulphide | 0.5 | 0.3 | 1,2,4-Trimethylbenzene | 0.29 | 0.08 |
| Methane | 2.2 | 0.2 | Dimethyl sulphide | 1.2 | 0.3 | 1,2-Dibromoethane | < 0.03 | 0.03 |
| n-Butane | < 0.3 | 0.3 | Ethyl mercaptan | < 0.5 | 0.5 | 1,2-Dichlorobenzene | < 0.05 | 0.05 |
| n-Propane | < 0.12 | 0.1 | Ethyl sulphide | < 0.5 | 0.5 | 1,2-Dichloroethane | < 0.02 | 0.02 |
| Propylene | < 0.2 | 0.2 | Hydrogen sulphide | 1.5 | 0.2 | 1,2-Dichloropropane | < 0.02 | 0.02 |
| Propyne | < 0.2 | 0.2 | Isobutyl mercaptan | < 0.5 | 0.5 | 1,3,5-Trimethylbenzene | < 0.03 | 0.03 |
| trans-2-Butene | < 0.15 | 0.1 | Isopropyl mercaptan | < 0.5 | 0.5 | 1,3-Butadiene | 1.19 | 0.03 |
| | | | Methyl mercaptan | < 0.3 | 0.3 | 1,3-Dichlorobenzene | < 0.5 | 0.5 |
| | | | Pentyl mercaptan | < 0.7 | 0.7 | 1,4-Dichlorobenzene | < 0.7 | 0.7 |
| | | | Propyl mercaptan | < 0.7 | 0.7 | 1,4-Dioxane | < 0.7 | 0.7 |
| | | | tert-Butyl mercaptan | < 0.5 | 0.5 | 1-Butene/Isobutylene | 5.7 | 0.03 |
| | | | Thiophene | < 0.3 | 0.3 | 1-Hexene/2-Methyl-1-pentene | 0.48 | 0.03 |
| | | | | | | 1-Pentene | < 0.02 | 0.02 |
| | | | | | | 2,2,4-Trimethylpentane | < 0.02 | 0.02 |
| | | | | | | 2,2-Dimethylbutane | < 0.02 | 0.02 |
| | | | | | | 2,3,4-Trimethylpentane | < 0.02 | 0.02 |
| | | | | | | 2,3-Dimethylbutane | 0.29 | 0.03 |
| | | | | | | 2,3-Dimethylpentane | 0.09 | 0.03 |
| | | | | | | 2,4-Dimethylpentane | < 0.02 | 0.02 |
| | | | | | | 2-Methylheptane | 0.1 | 0.02 |
| | | | | | | 2-Methylhexane | 0.07 | 0.02 |
| | | | | | | 2-Methylpentane | 0.21 | 0.02 |
| | | | | | | 3-Methylheptane | < 0.03 | 0.03 |
| | | | | | | 3-Methylhexane | 0.1 | 0.03 |
| | | | | | | 3-Methylpentane | 0.14 | 0.02 |
| | | | | | | Acetone | 30.7 | 2.0 |
| | | | | | | Acrolein | 5.5 | 0.5 |
| | | | | | | Benzene | 6.99 | 0.02 |
| | | | | | | Benzyl chloride | < 0.7 | 0.7 |
| | | | | | | Bromodichloromethane | < 0.03 | 0.03 |
| | | | | | | Bromoform | < 0.03 | 0.03 |
| | | | | | | Bromomethane | < 0.02 | 0.02 |
| | | | | | | Carbon disulfide | < 0.02 | 0.02 |
| | | | | | | Carbon tetrachloride | 0.14 | 0.02 |
| | | | | | | Chlorobenzene | < 0.03 | 0.03 |
| | | | | | | Chloroethane | < 0.03 | 0.03 |
| | | | | | | Chloroform | < 0.03 | 0.03 |
| | | | | | | Chloromethane | 0.91 | 0.03 |
| | | | | | | cis-1,2-Dichloroethene | < 0.02 | 0.02 |
| | | | | | | cis-1,3-Dichloropropene | < 0.07 | 0.07 |
| | | | | | | cis-2-Butene | 0.72 | 0.03 |
| | | | | | | cis-2-Pentene | 0.48 | 0.03 |
| | | | | | | Cyclohexane | 0.23 | 0.03 |
| | | | | | | Cyclopentane | 1.06 | 0.02 |
| | | | | | | Dibromochloromethane | < 0.02 | 0.02 |
| | | | | | | Ethanol | 8.1 | 0.5 |
| | | | | | | Ethyl acetate | < 0.7 | 0.7 |
| | | | | | | Ethylbenzene | 0.52 | 0.02 |
| | | | | | | Freon-11 | 0.55 | 0.03 |
| | | | | | | Freon-113 | < 0.02 | 0.02 |
| | | | | | | Freon-114 | < 0.03 | 0.03 |



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - October 2019

Volatile Organic Compounds (VOCs) Results

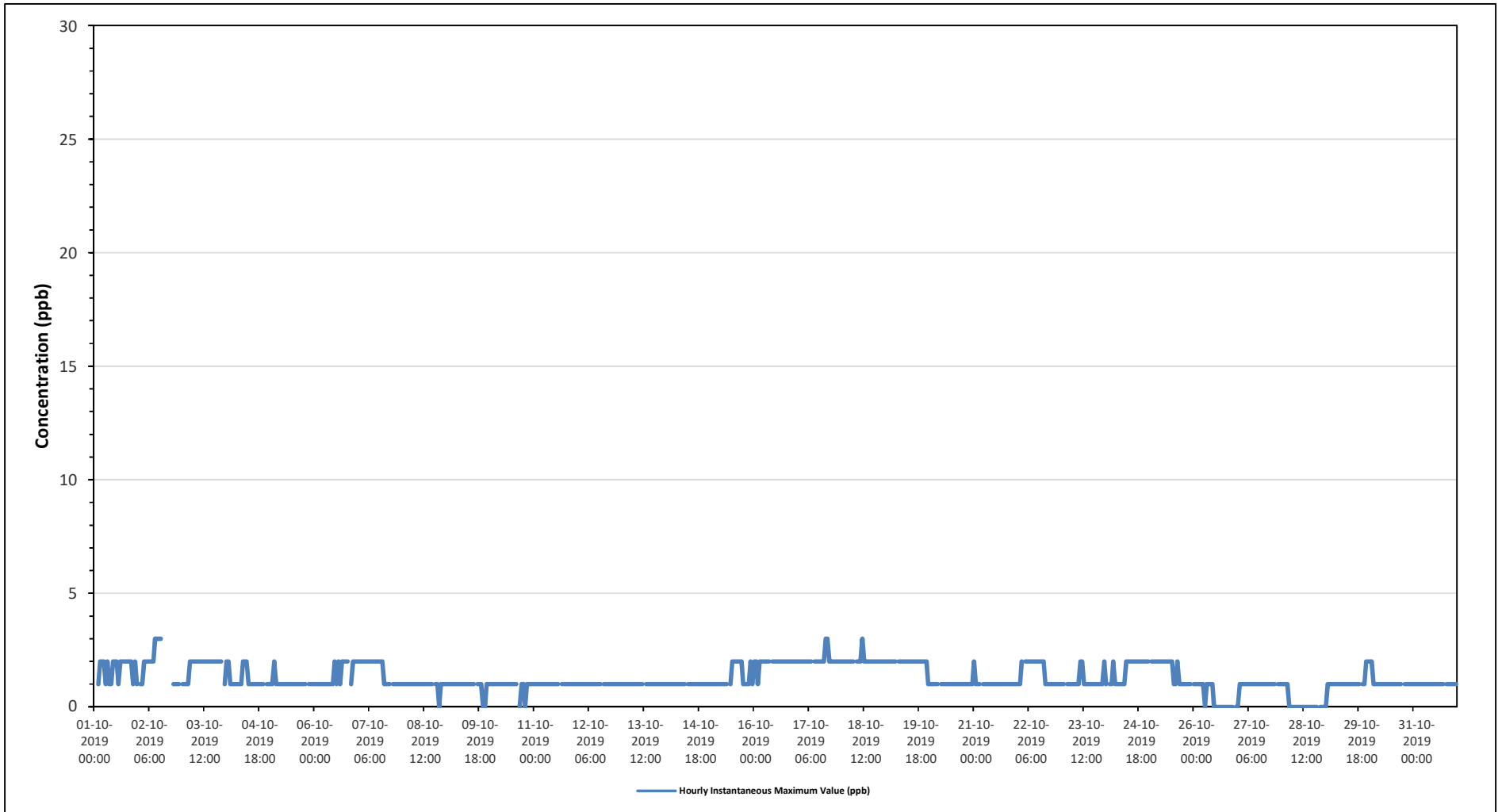
| Sample Date/Time | 2019-10-18 | | | | | | | |
|------------------|--------------------------|------------|-----------------|-----------------------|------------|-----------------------------|---------------|------------|
| Canister Sample | Non-Methane Hydrocarbons | | | | | | | |
| Canister ID | 32240 | | | | | | | |
| Method | NA-025 | | Method | NA-024 | | Method | AC-058 | |
| Maximum Reading | 2.2 Methane | | Maximum Reading | 1.5 Carbonyl sulphide | | Maximum Reading | 30.7 Acetone | |
| Parameter | Result (ppmv) | RDL (ppmv) | Parameter | Result (ppbv) | RDL (ppbv) | Parameter | Result (ppbv) | RDL (ppbv) |
| | | | | | | Freon-12 | 0.76 | 0.03 |
| | | | | | | Hexachloro-1,3-butadiene | < 0.83 | 0.83 |
| | | | | | | Isobutane | 2.57 | 0.03 |
| | | | | | | Isopentane | 1.53 | 0.05 |
| | | | | | | Isoprene | 0.57 | 0.02 |
| | | | | | | Isopropyl alcohol | 0.8 | 0.7 |
| | | | | | | Isopropylbenzene | 0.03 | 0.02 |
| | | | | | | m,p-Xylene | 0.79 | 0.05 |
| | | | | | | m-Diethylbenzene | < 0.07 | 0.07 |
| | | | | | | m-Ethyltoluene | 0.26 | 0.13 |
| | | | | | | Methyl butyl ketone | < 0.83 | 0.83 |
| | | | | | | Methyl ethyl ketone | 2.8 | 0.5 |
| | | | | | | Methyl isobutyl ketone | < 0.7 | 0.7 |
| | | | | | | Methyl methacrylate | < 0.12 | 0.12 |
| | | | | | | Methyl tert butyl ether | < 0.05 | 0.05 |
| | | | | | | Methylcyclohexane | 0.14 | 0.02 |
| | | | | | | Methylcyclopentane | 0.17 | 0.03 |
| | | | | | | Methylene chloride | < 0.5 | 0.5 |
| | | | | | | n-Butane | 2.88 | 0.05 |
| | | | | | | n-Decane | 0.22 | 0.10 |
| | | | | | | n-Dodecane | < 0.7 | 0.7 |
| | | | | | | n-Heptane | 0.36 | 0.02 |
| | | | | | | n-Hexane | 0.47 | 0.02 |
| | | | | | | n-Nonane | 0.22 | 0.02 |
| | | | | | | n-Octane | 0.25 | 0.03 |
| | | | | | | n-Pentane | 1.7 | 0.2 |
| | | | | | | n-Propylbenzene | 0.23 | 0.08 |
| | | | | | | n-Undecane | < 0.8 | 0.8 |
| | | | | | | Naphthalene | < 0.8 | 0.8 |
| | | | | | | o-Ethyltoluene | 0.15 | 0.02 |
| | | | | | | o-Xylene | 0.38 | 0.02 |
| | | | | | | p-Diethylbenzene | < 0.07 | 0.07 |
| | | | | | | p-Ethyltoluene | < 0.12 | 0.12 |
| | | | | | | Styrene | 0.63 | 0.07 |
| | | | | | | Tetrachloroethylene | < 0.07 | 0.07 |
| | | | | | | Tetrahydrofuran | < 0.7 | 0.7 |
| | | | | | | Toluene | 3.46 | 0.02 |
| | | | | | | trans-1,2-Dichloroethylene | < 0.02 | 0.02 |
| | | | | | | trans-1,3-Dichloropropylene | < 0.07 | 0.07 |
| | | | | | | trans-2-Butene | 0.94 | 0.02 |
| | | | | | | trans-2-Pentene | 0.47 | 0.03 |
| | | | | | | Trichloroethylene | < 0.07 | 0.07 |
| | | | | | | Vinyl acetate | < 0.7 | 0.7 |
| | | | | | | Vinyl chloride | < 0.03 | 0.03 |

REFERENCE DOCUMENTS

HOURLY INSTANTANEOUS DATA

986c STATION

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





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

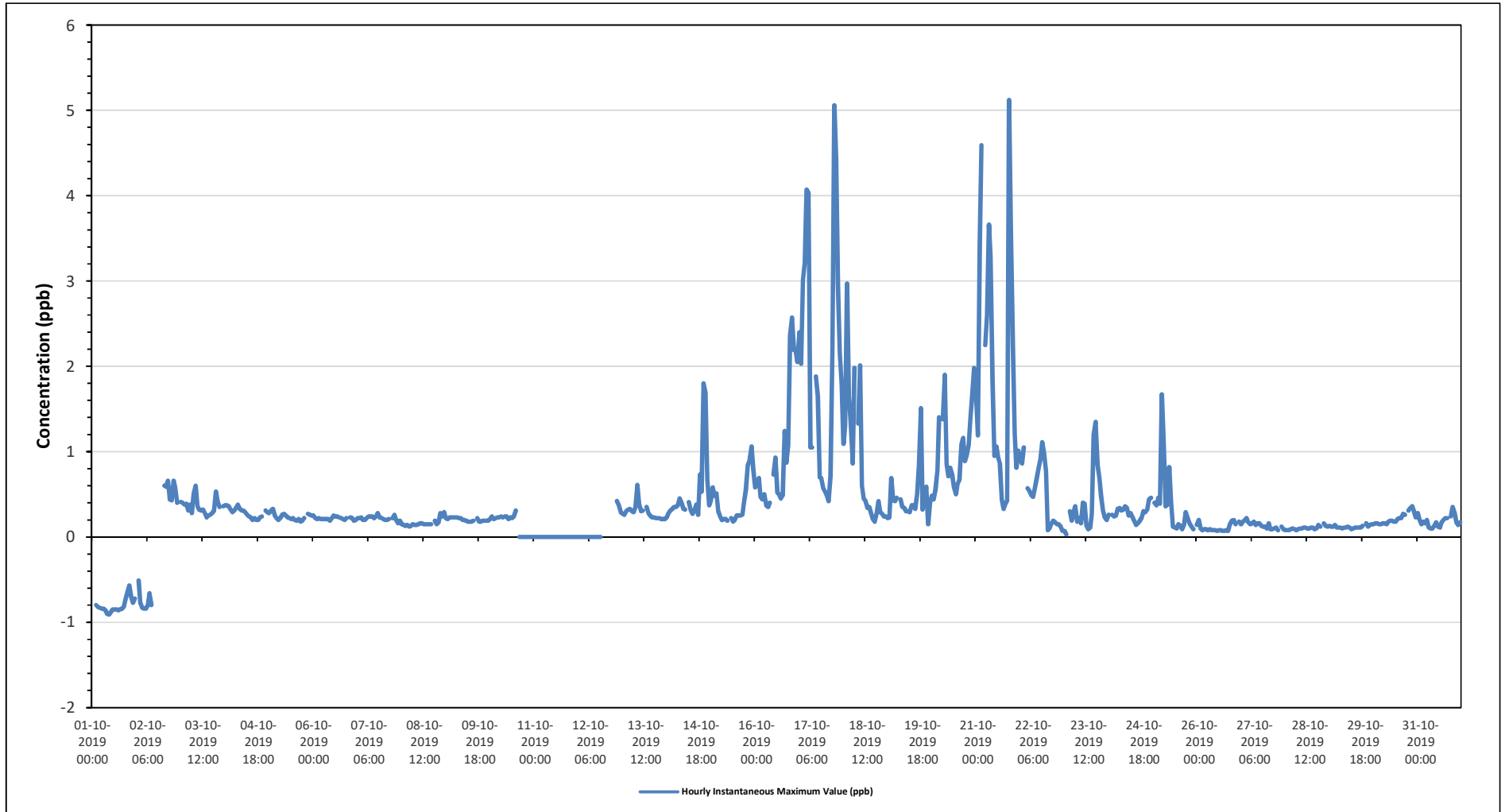
| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 5.12 ppb on October 21 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppb on October 17 | Hours of Data: | 654 |
| Minimum Hourly Value: | -0.91 ppb on October 1 at hour 9 | Hours of Missing Data: | 53 |
| Minimum Daily Value: | -0.81 ppb on October 1 | Hours of Calibration: | 37 |
| Monthly Average: | 0.41 ppb | Operational Uptime: | 92.9 |

| 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 | |
| Oct 1 | -0.87 | S | -0.8 | -0.82 | -0.83 | -0.84 | -0.84 | -0.86 | -0.9 | -0.91 | -0.88 | -0.85 | -0.85 | -0.85 | -0.86 | -0.85 | -0.84 | -0.82 | -0.73 | -0.64 | -0.57 | -0.71 | -0.77 | -0.72 | -0.91 | -0.57 | -0.81 | |
| Oct 2 | S | -0.51 | -0.77 | -0.83 | -0.84 | -0.84 | -0.8 | -0.66 | -0.8 | C | C | C | C | C | C | 0.6 | 0.59 | 0.66 | 0.44 | 0.43 | 0.66 | 0.58 | 0.4 | S | -0.84 | 0.66 | - | |
| Oct 3 | 0.41 | 0.4 | 0.38 | 0.39 | 0.31 | 0.38 | 0.28 | 0.51 | 0.6 | 0.36 | 0.32 | 0.31 | 0.32 | 0.28 | 0.23 | 0.25 | 0.26 | 0.28 | 0.31 | 0.53 | 0.42 | 0.35 | S | 0.36 | 0.23 | 0.60 | 0.36 | |
| Oct 4 | 0.37 | 0.37 | 0.36 | 0.32 | 0.29 | 0.31 | 0.34 | 0.38 | 0.33 | 0.31 | 0.31 | 0.29 | 0.26 | 0.24 | 0.23 | 0.2 | 0.22 | 0.2 | 0.2 | 0.23 | 0.24 | S | 0.31 | 0.29 | 0.20 | 0.38 | 0.29 | |
| Oct 5 | 0.28 | 0.31 | 0.33 | 0.25 | 0.22 | 0.2 | 0.22 | 0.26 | 0.27 | 0.25 | 0.23 | 0.22 | 0.21 | 0.22 | 0.2 | 0.19 | 0.21 | 0.18 | 0.19 | 0.22 | S | 0.27 | 0.26 | 0.25 | 0.18 | 0.33 | 0.24 | |
| Oct 6 | 0.25 | 0.22 | 0.21 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.19 | 0.22 | 0.25 | 0.24 | 0.24 | 0.23 | 0.22 | 0.21 | 0.2 | 0.22 | S | 0.23 | 0.22 | 0.19 | 0.2 | 0.19 | 0.25 | 0.22 | |
| Oct 7 | 0.22 | 0.22 | 0.23 | 0.2 | 0.2 | 0.22 | 0.24 | 0.24 | 0.24 | 0.22 | 0.24 | 0.28 | 0.23 | 0.22 | 0.21 | 0.2 | 0.2 | 0.21 | S | 0.22 | 0.26 | 0.2 | 0.16 | 0.19 | 0.16 | 0.28 | 0.22 | |
| Oct 8 | 0.15 | 0.14 | 0.13 | 0.14 | 0.12 | 0.13 | 0.15 | 0.14 | 0.14 | 0.15 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | S | 0.19 | 0.15 | 0.17 | 0.28 | 0.24 | 0.29 | 0.12 | 0.29 | 0.16 | |
| Oct 9 | 0.22 | 0.21 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.22 | 0.22 | 0.2 | 0.19 | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | S | 0.22 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 0.19 | 0.18 | 0.23 | 0.20 | |
| Oct 10 | 0.21 | 0.24 | 0.21 | 0.22 | 0.23 | 0.23 | 0.24 | 0.23 | 0.24 | 0.24 | 0.21 | 0.23 | 0.22 | 0.24 | 0.31 | S | X | X | X | X | X | X | X | X | 0.21 | 0.31 | - | |
| Oct 11 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 0.21 | 0.31 | - | |
| Oct 12 | X | X | X | X | X | X | X | X | X | X | X | X | Y | Y | Y | Y | Y | Y | C1 | C1 | C1 | C1 | 0.42 | 0.37 | 0.29 | 0.29 | 0.42 | - |
| Oct 13 | 0.27 | 0.26 | 0.3 | 0.32 | 0.33 | 0.3 | 0.29 | 0.35 | 0.61 | 0.38 | 0.3 | 0.31 | S | 0.35 | 0.28 | 0.25 | 0.23 | 0.23 | 0.22 | 0.22 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.61 | 0.29 |
| Oct 14 | 0.23 | 0.28 | 0.31 | 0.33 | 0.35 | 0.35 | 0.37 | 0.45 | 0.4 | 0.33 | 0.32 | S | 0.41 | 0.31 | 0.27 | 0.31 | 0.38 | 0.26 | 0.73 | 0.53 | 1.8 | 1.69 | 0.67 | 0.37 | 0.23 | 1.80 | 0.50 | |
| Oct 15 | 0.43 | 0.58 | 0.48 | 0.51 | 0.3 | 0.24 | 0.2 | 0.21 | 0.21 | 0.19 | S | 0.22 | 0.18 | 0.2 | 0.25 | 0.25 | 0.25 | 0.26 | 0.4 | 0.55 | 0.84 | 0.9 | 1.06 | 0.8 | 0.18 | 1.06 | 0.41 | |
| Oct 16 | 0.58 | 0.62 | 0.69 | 0.47 | 0.44 | 0.5 | 0.37 | 0.35 | 0.4 | S | 0.73 | 0.93 | 0.52 | 0.5 | 0.45 | 0.49 | 1.24 | 0.87 | 1.07 | 2.36 | 2.57 | 2.19 | 2.19 | 2.05 | 0.35 | 2.57 | 0.98 | |
| Oct 17 | 2.4 | 2.03 | 3.01 | 3.21 | 4.07 | 4.03 | 1.05 | 1.05 | S | 1.88 | 1.65 | 0.7 | 0.69 | 0.57 | 0.53 | 0.48 | 0.42 | 0.72 | 2.21 | 5.06 | 4.42 | 2.97 | 2.15 | 1.8 | 0.42 | 5.06 | 2.05 | |
| Oct 18 | 1.09 | 1.3 | 2.97 | 1.64 | 1.32 | 0.86 | 1.98 | S | 1.33 | 2.01 | 0.6 | 0.45 | 0.42 | 0.34 | 0.35 | 0.28 | 0.21 | 0.18 | 0.28 | 0.42 | 0.29 | 0.27 | 0.24 | 0.24 | 0.18 | 2.97 | 0.83 | |
| Oct 19 | 0.22 | 0.23 | 0.69 | 0.43 | 0.42 | 0.46 | S | 0.44 | 0.35 | 0.34 | 0.3 | 0.3 | 0.29 | 0.37 | 0.37 | 0.33 | 0.5 | 0.84 | 1.51 | 0.32 | 0.41 | 0.59 | 0.15 | 0.4 | 0.15 | 1.51 | 0.45 | |
| Oct 20 | 0.48 | 0.44 | 0.56 | 0.78 | 1.4 | S | 1.38 | 1.9 | 0.85 | 0.71 | 0.81 | 0.74 | 0.58 | 0.5 | 0.62 | 0.67 | 1.08 | 1.16 | 0.89 | 0.96 | 1.08 | 1.41 | 1.68 | 1.98 | 0.44 | 1.98 | 0.99 | |
| Oct 21 | 1.71 | 1.19 | 3.45 | 4.59 | S | 2.25 | 2.6 | 3.66 | 3.28 | 1.85 | 0.95 | 1.06 | 0.93 | 0.86 | 0.44 | 0.33 | 0.39 | 0.43 | S1 | 3.6 | 2.26 | 1.2 | 0.81 | 1.01 | 0.33 | 5.12 | 1.91 | |
| Oct 22 | 0.91 | 0.86 | 1.05 | S | 0.57 | 0.54 | 0.49 | 0.47 | 0.57 | 0.69 | 0.81 | 0.91 | 1.11 | 0.99 | 0.77 | 0.08 | 0.1 | 0.16 | 0.19 | 0.17 | 0.15 | 0.15 | 0.12 | 0.07 | 0.07 | 1.11 | 0.52 | |
| Oct 23 | 0.07 | 0.03 | S | 0.3 | 0.19 | 0.3 | 0.36 | 0.18 | 0.22 | 0.16 | 0.4 | 0.39 | 0.13 | 0.09 | 0.11 | 0.27 | 1.2 | 1.35 | 0.85 | 0.69 | 0.48 | 0.31 | 0.23 | 0.2 | 0.03 | 1.35 | 0.37 | |
| Oct 24 | 0.26 | S | 0.26 | 0.24 | 0.25 | 0.33 | 0.34 | 0.31 | 0.32 | 0.36 | 0.34 | 0.25 | 0.28 | 0.23 | 0.19 | 0.14 | 0.16 | 0.19 | 0.23 | 0.3 | 0.29 | 0.32 | 0.44 | 0.46 | 0.14 | 0.46 | 0.28 | |
| Oct 25 | S | 0.4 | 0.37 | 0.46 | 0.39 | 1.67 | 1.1 | 0.36 | 0.38 | 0.82 | 0.41 | 0.12 | 0.11 | 0.1 | 0.15 | 0.13 | 0.09 | 0.15 | 0.29 | 0.22 | 0.16 | 0.12 | 0.09 | S | 0.09 | 1.67 | 0.37 | |
| Oct 26 | 0.14 | 0.2 | 0.1 | 0.08 | 0.09 | 0.09 | 0.08 | 0.09 | 0.08 | 0.08 | 0.08 | 0.07 | 0.08 | 0.08 | 0.07 | 0.07 | 0.08 | 0.07 | 0.15 | 0.19 | 0.2 | 0.15 | S | 0.18 | 0.07 | 0.20 | 0.11 | |
| Oct 27 | 0.15 | 0.18 | 0.2 | 0.22 | 0.17 | 0.15 | 0.16 | 0.18 | 0.14 | 0.16 | 0.16 | 0.13 | 0.12 | 0.12 | 0.1 | 0.16 | 0.09 | 0.09 | 0.1 | 0.11 | 0.08 | S | 0.12 | 0.09 | 0.08 | 0.22 | 0.14 | |
| Oct 28 | 0.08 | 0.08 | 0.08 | 0.09 | 0.1 | 0.09 | 0.08 | 0.09 | 0.1 | 0.1 | 0.11 | 0.11 | 0.1 | 0.1 | 0.11 | 0.11 | 0.09 | 0.1 | 0.14 | 0.12 | S | 0.16 | 0.13 | 0.12 | 0.08 | 0.16 | 0.10 | |
| Oct 29 | 0.13 | 0.12 | 0.12 | 0.14 | 0.11 | 0.11 | 0.11 | 0.1 | 0.11 | 0.11 | 0.12 | 0.11 | 0.09 | 0.1 | 0.11 | 0.11 | 0.11 | 0.11 | 0.13 | S | 0.16 | 0.12 | 0.14 | 0.15 | 0.09 | 0.16 | 0.12 | |
| Oct 30 | 0.15 | 0.16 | 0.16 | 0.15 | 0.15 | 0.16 | 0.16 | 0.15 | 0.18 | 0.19 | 0.19 | 0.18 | 0.18 | 0.21 | 0.22 | 0.22 | 0.27 | 0.26 | S | 0.31 | 0.34 | 0.36 | 0.29 | 0.23 | 0.15 | 0.36 | 0.21 | |
| Oct 31 | 0.28 | 0.2 | 0.15 | 0.18 | 0.16 | 0.2 | 0.11 | 0.1 | 0.1 | 0.13 | 0.17 | 0.12 | 0.11 | 0.17 | 0.2 | 0.22 | 0.22 | S | 0.24 | 0.35 | 0.28 | 0.17 | 0.14 | 0.17 | 0.10 | 0.35 | 0.18 | |
| Diurnal Maximum | 2.40 | 2.03 | 3.45 | 4.59 | 4.07 | 4.03 | 2.60 | 3.66 | 3.28 | 2.01 | 1.65 | 1.06 | 1.11 | 0.99 | 0.77 | 0.67 | 1.24 | 1.35 | 5.12 | 5.06 | 4.42 | 2.97 | 2.19 | 2.05 | | | | |
| Diurnal Average | 0.40 | 0.40 | 0.55 | 0.52 | 0.39 | 0.46 | 0.41 | 0.40 | 0.36 | 0.43 | 0.35 | 0.30 | 0.27 | 0.25 | 0.23 | 0.22 | 0.30 | 0.33 | 0.61 | 0.68 | 0.68 | 0.56 | 0.45 | 0.44 | | | | |

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

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

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





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

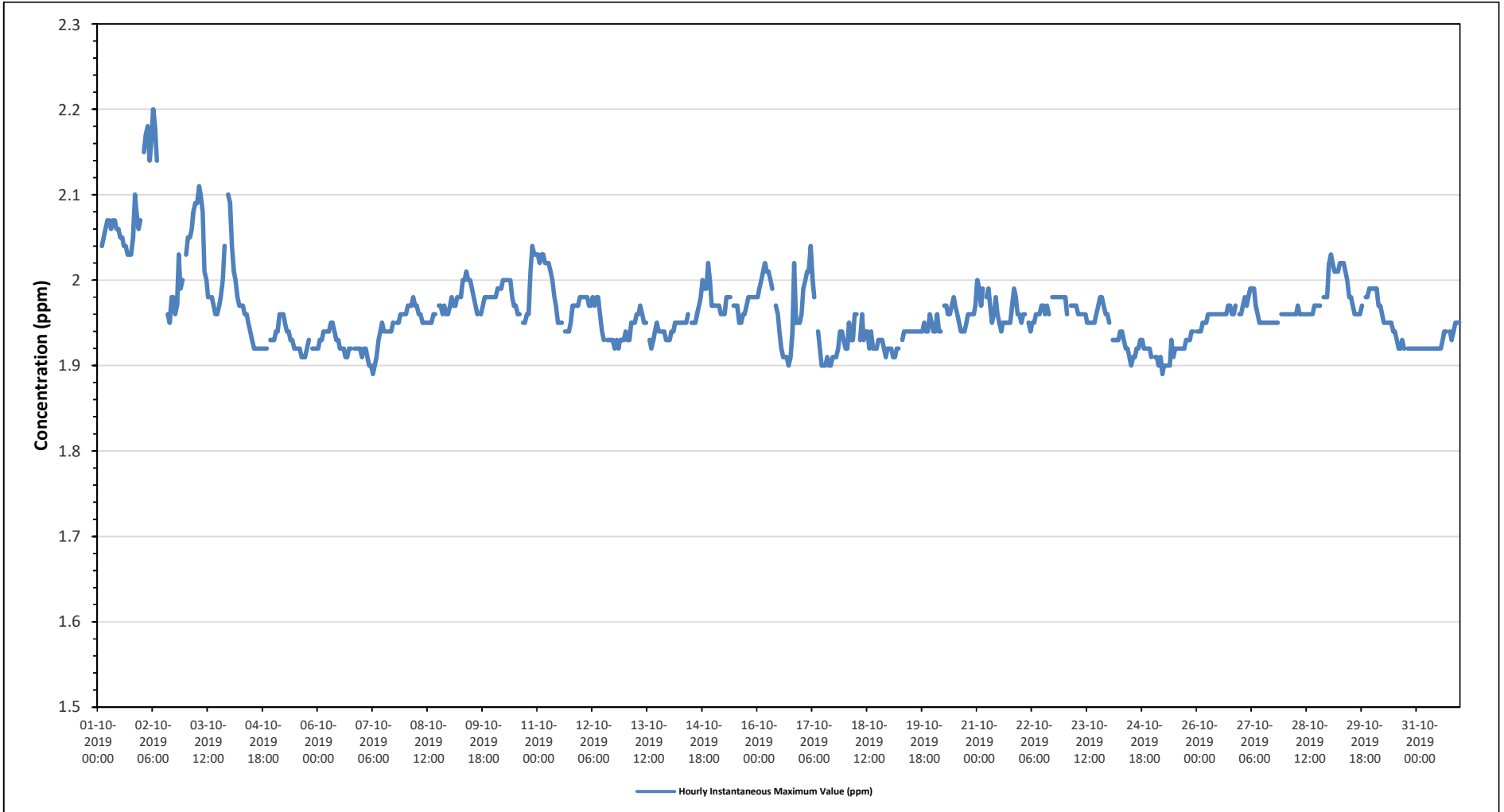
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.20 ppm on October 2 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.06 ppm on October 1 | Hours of Data: | 705 |
| Minimum Hourly Value: | 1.89 ppm on October 7 at hour 6 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.92 ppm on October 25 | Hours of Calibration: | 38 |
| Monthly Average: | 1.96 ppm | 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 | | |
| Oct 1 | 2.04 | S | 2.04 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.07 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.07 | 2.03 | 2.10 | 2.06 | | |
| Oct 2 | S | 2.15 | 2.17 | 2.18 | 2.14 | 2.16 | 2.20 | 2.18 | 2.14 | 2.10 | C | C | C | C | C | 1.96 | 1.95 | 1.98 | 1.98 | 1.96 | 1.97 | 2.03 | 1.99 | 2.00 | S | 2.10 | 1.95 | 2.11 | - |
| Oct 3 | 2.03 | 2.05 | 2.05 | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.10 | 2.08 | 2.01 | 2.00 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 2.00 | 2.04 | S | 2.10 | 1.96 | 2.11 | 2.03 | 2.03 | |
| Oct 4 | 2.09 | 2.04 | 2.01 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.92 | 2.09 | 1.96 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.96 | 1.93 | 1.93 | |
| Oct 6 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.94 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.95 | 1.93 | 1.93 | |
| Oct 7 | 1.91 | 1.92 | 1.92 | 1.91 | 1.90 | 1.90 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | S | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.89 | 1.96 | 1.93 | 1.93 | |
| Oct 8 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | S | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 9 | 1.97 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 1.99 | 1.98 | 1.97 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 2.01 | 1.98 | |
| Oct 10 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | S | 1.95 | 1.95 | 1.96 | 1.96 | 2.01 | 2.04 | 2.03 | 2.03 | 1.95 | 2.04 | 1.99 | 1.99 | |
| Oct 11 | 2.03 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.97 | 1.95 | 1.95 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.94 | 2.03 | 1.98 | 1.98 | |
| Oct 12 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.96 | 1.94 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.92 | 1.98 | 1.95 | 1.95 | |
| Oct 13 | 1.94 | 1.93 | 1.93 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | S | 1.93 | 1.92 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.97 | 1.94 | 1.94 | |
| Oct 14 | 1.93 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 2.00 | 1.99 | 1.99 | 2.02 | 2.00 | 1.97 | 1.93 | 2.02 | 1.96 | 1.96 | |
| Oct 15 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 1.98 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | 1.97 | |
| Oct 16 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | S | 1.97 | 1.96 | 1.94 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.91 | 1.91 | 1.91 | 1.92 | 1.94 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 | |
| Oct 17 | 1.96 | 1.99 | 2.00 | 2.01 | 2.01 | 2.04 | 2.00 | 1.98 | S | 1.94 | 1.92 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.94 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 | |
| Oct 18 | 1.92 | 1.92 | 1.95 | 1.93 | 1.93 | 1.96 | 1.96 | S | 1.93 | 1.96 | 1.93 | 1.94 | 1.94 | 1.92 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.92 | 1.91 | 1.92 | 1.91 | 1.96 | 1.93 | |
| Oct 19 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | S | 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 | 1.94 | 1.94 | 1.96 | 1.95 | 1.91 | 1.96 | 1.94 | 1.94 | |
| Oct 20 | 1.94 | 1.94 | 1.96 | 1.94 | 1.94 | S | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.94 | 1.98 | 1.96 | 1.96 | |
| Oct 21 | 2.00 | 1.99 | 1.97 | 1.99 | S | 1.98 | 1.99 | 1.97 | 1.95 | 1.96 | 1.98 | 1.96 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.97 | 1.99 | 1.98 | 1.96 | 1.96 | 1.94 | 2.00 | 1.97 | |
| Oct 22 | 1.95 | 1.96 | 1.96 | S | 1.95 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | 1.97 | 1.96 | X | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.97 | |
| Oct 23 | 1.98 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 24 | 1.95 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.91 | 1.90 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.91 | 1.90 | 1.95 | 1.92 | 1.92 | |
| Oct 25 | S | 1.91 | 1.91 | 1.90 | 1.91 | 1.89 | 1.90 | 1.90 | 1.90 | 1.90 | 1.93 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | S | 1.89 | 1.94 | 1.92 | |
| Oct 26 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | S | 1.96 | 1.94 | 1.97 | 1.96 | |
| Oct 27 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.95 | 1.99 | 1.96 | |
| Oct 28 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.98 | 1.98 | 1.98 | 1.96 | 1.98 | 1.96 | |
| Oct 29 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.96 | 2.03 | 1.99 |
| Oct 30 | 1.99 | 1.99 | 1.99 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.93 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.99 | 1.94 | |
| Oct 31 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.92 | 1.95 | 1.99 | 1.94 | |
| Diurnal Maximum | 2.09 | 2.15 | 2.17 | 2.18 | 2.14 | 2.16 | 2.20 | 2.18 | 2.14 | 2.08 | 2.06 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.10 | 1.92 | 2.15 | 2.06 | 2.10 | |
| Diurnal Average | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.92 | 1.95 | 1.96 | 1.96 | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

986c Station - October 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

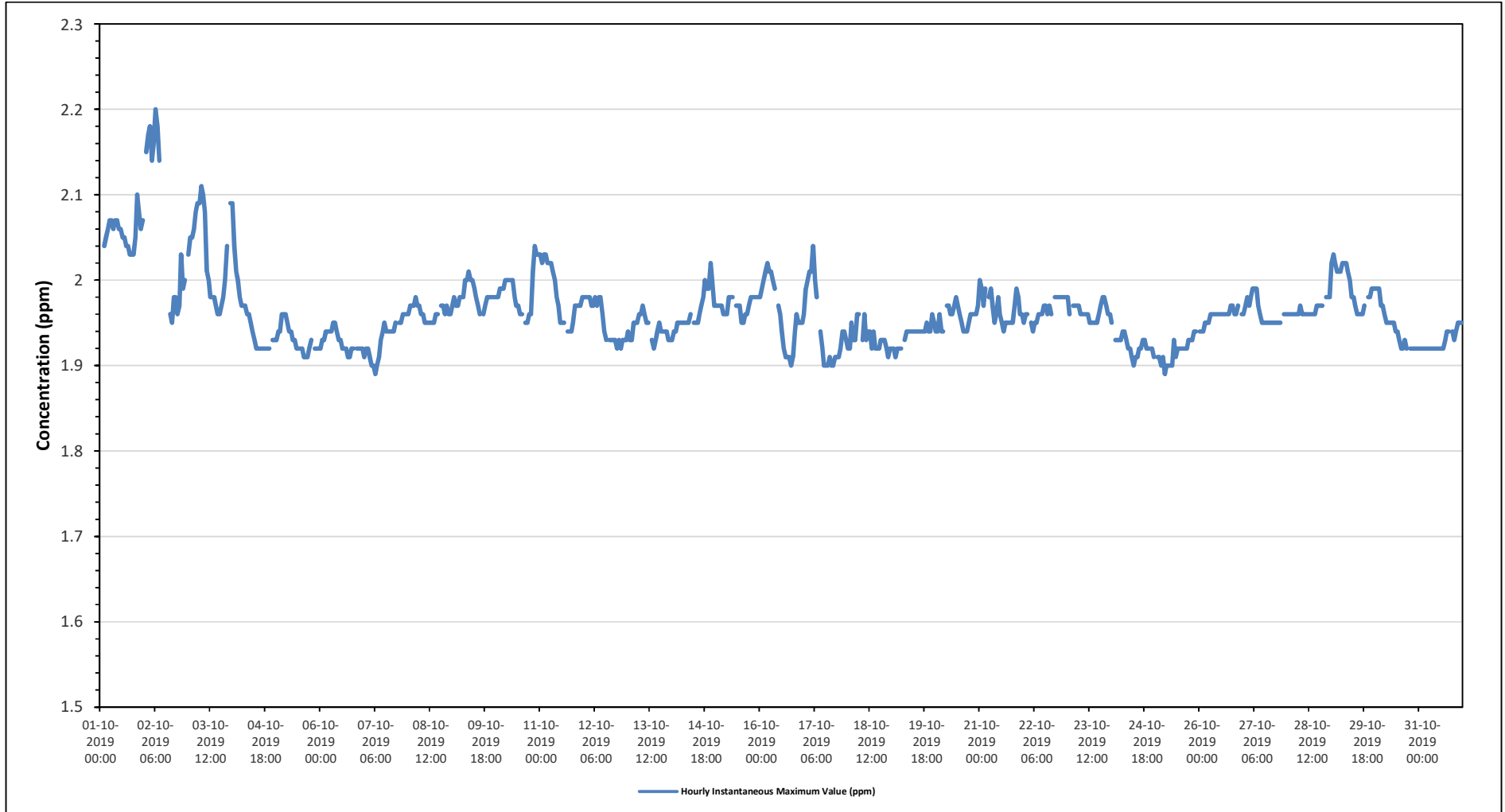
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.20 ppm on October 2 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.06 ppm on October 1 | Hours of Data: | 705 |
| Minimum Hourly Value: | 1.89 ppm on October 7 at hour 6 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.92 ppm on October 25 | Hours of Calibration: | 38 |
| Monthly Average: | 1.96 ppm | 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 | |
| Oct 1 | 2.04 | S | 2.04 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.07 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.07 | 2.03 | 2.10 | 2.06 | |
| Oct 2 | S | 2.15 | 2.17 | 2.18 | 2.14 | 2.16 | 2.20 | 2.18 | 2.14 | C | C | C | C | C | 1.96 | 1.95 | 1.98 | 1.98 | 1.96 | 1.97 | 2.03 | 1.99 | 2.00 | S | 2.09 | 1.95 | 2.20 | - |
| Oct 3 | 2.03 | 2.05 | 2.05 | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.10 | 2.08 | 2.01 | 2.00 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 2.00 | 2.04 | S | 2.09 | 1.96 | 2.11 | 2.03 | |
| Oct 4 | 2.09 | 2.04 | 2.01 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.93 | 1.93 | 1.92 | 2.09 | 1.96 | |
| Oct 5 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | S | 1.92 | 1.92 | 1.92 | 1.91 | 1.96 | 1.93 | |
| Oct 6 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.94 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.95 | 1.93 | |
| Oct 7 | 1.91 | 1.92 | 1.92 | 1.91 | 1.90 | 1.90 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | S | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.89 | 1.96 | 1.93 | |
| Oct 8 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | S | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 9 | 1.97 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 1.99 | 1.98 | 1.97 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 2.01 | 1.98 | |
| Oct 10 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.98 | 1.97 | 1.96 | 1.96 | S | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 2.01 | 2.04 | 2.03 | 2.03 | 1.95 | 2.04 | 1.99 | |
| Oct 11 | 2.03 | 2.02 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.97 | 1.95 | 1.95 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.94 | 2.03 | 1.98 | |
| Oct 12 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.96 | 1.94 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.92 | 1.98 | 1.95 | |
| Oct 13 | 1.94 | 1.93 | 1.93 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | S | 1.93 | 1.92 | 1.93 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.97 | 1.94 | |
| Oct 14 | 1.93 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 2.00 | 1.99 | 1.99 | 2.02 | 2.00 | 1.97 | 1.93 | 2.02 | 1.96 | |
| Oct 15 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 1.98 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | |
| Oct 16 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | S | 1.97 | 1.96 | 1.94 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.91 | 1.91 | 1.94 | 1.96 | 1.95 | 1.95 | 1.90 | 2.02 | 1.96 | |
| Oct 17 | 1.96 | 1.99 | 2.00 | 2.01 | 2.01 | 2.04 | 2.00 | 1.98 | S | 1.94 | 1.92 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.94 | 1.94 | 1.93 | 1.90 | 2.04 | 1.94 |
| Oct 18 | 1.92 | 1.92 | 1.95 | 1.93 | 1.93 | 1.96 | 1.96 | S | 1.93 | 1.96 | 1.93 | 1.94 | 1.94 | 1.92 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.92 | 1.91 | 1.92 | 1.91 | 1.96 | 1.93 |
| Oct 19 | 1.92 | 1.92 | 1.91 | 1.92 | 1.92 | 1.92 | S | 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 | 1.94 | 1.94 | 1.96 | 1.95 | 1.91 | 1.96 | 1.94 | |
| Oct 20 | 1.94 | 1.94 | 1.96 | 1.94 | 1.94 | S | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | 1.98 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.94 | 1.98 | 1.96 | |
| Oct 21 | 2.00 | 1.99 | 1.97 | 1.99 | S | 1.98 | 1.99 | 1.97 | 1.95 | 1.96 | 1.98 | 1.96 | 1.96 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.97 | 1.99 | 1.98 | 1.96 | 1.94 | 2.00 | 1.97 | |
| Oct 22 | 1.95 | 1.96 | 1.96 | S | 1.95 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.97 | 1.96 | X | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.94 | 1.98 | 1.97 | |
| Oct 23 | 1.98 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.98 | 1.96 | |
| Oct 24 | 1.95 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.91 | 1.90 | 1.91 | 1.91 | 1.92 | 1.92 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.90 | 1.95 | 1.92 | |
| Oct 25 | S | 1.91 | 1.91 | 1.90 | 1.91 | 1.89 | 1.90 | 1.90 | 1.90 | 1.90 | 1.93 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | S | 1.89 | 1.94 | 1.92 | |
| Oct 26 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | S | 1.96 | 1.94 | 1.96 | |
| Oct 27 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.99 | 1.99 | 1.99 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.95 | 1.99 | 1.96 | |
| Oct 28 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.98 | 1.98 | 1.98 | 1.96 | 1.98 | 1.96 | |
| Oct 29 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.96 | 2.03 | 1.99 |
| Oct 30 | 1.99 | 1.99 | 1.99 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.92 | 1.92 | 1.93 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.99 | 1.94 |
| Oct 31 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.93 | 1.94 | 1.95 | 1.95 | 1.95 | 1.92 | 1.95 | 1.93 | |
| Diurnal Maximum | 2.09 | 2.15 | 2.17 | 2.18 | 2.14 | 2.16 | 2.20 | 2.18 | 2.14 | 2.08 | 2.06 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.05 | 2.10 | 2.08 | 2.06 | 2.09 | | | | |
| Diurnal Average | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | | | | |

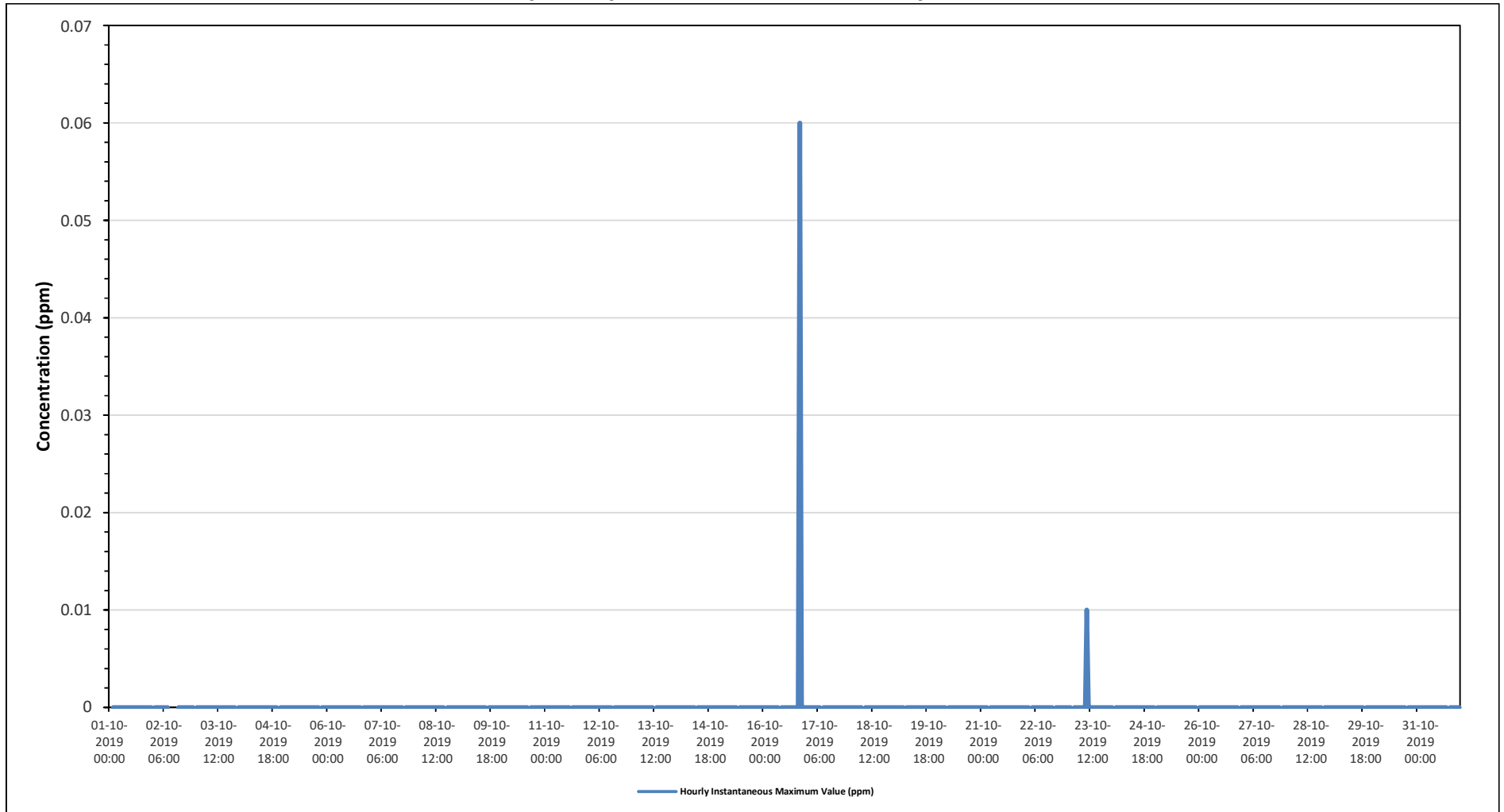
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



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





PEACE RIVER AREA MONITORING PROGRAM

986c Station - October 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/hr

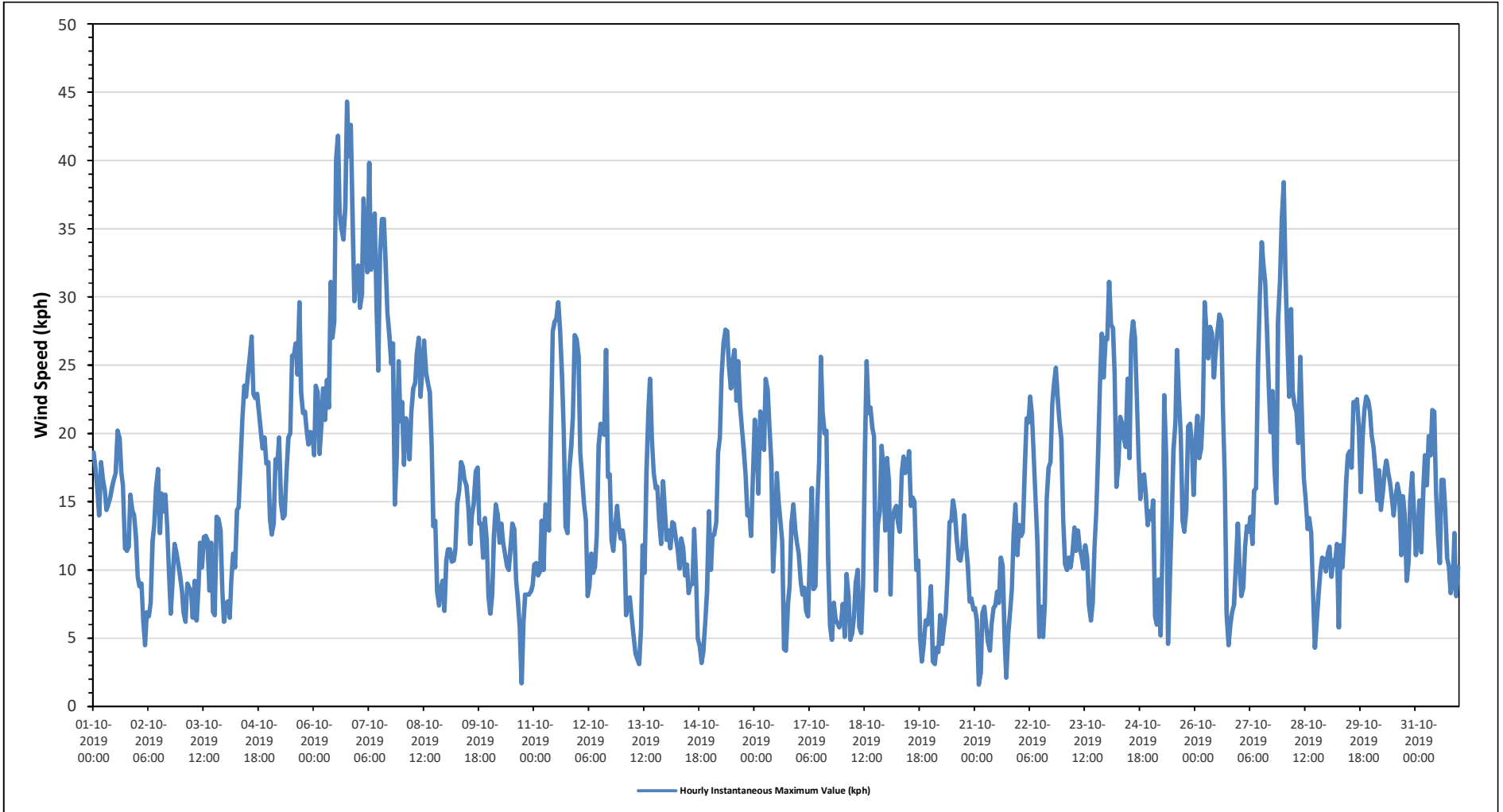
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 44.3 kph | on October 6 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 30.3 kph | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | 1.6 kph | on October 21 at hour 2 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 7.1 kph | on October 21 | Hours of Calibration: | 0 |
| Monthly Average: | 15.7 kph | | 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 |
| Oct 1 | 18.6 | 17.3 | 15.7 | 14.0 | 17.9 | 16.7 | 15.8 | 14.4 | 14.8 | 15.3 | 16.1 | 16.6 | 17.1 | 20.2 | 19.7 | 17.1 | 16.2 | 11.6 | 11.4 | 11.7 | 15.5 | 14.4 | 14.0 | 12.3 | 11.4 | 20.2 | 15.6 |
| Oct 2 | 9.5 | 8.8 | 9.0 | 6.2 | 4.5 | 6.9 | 6.6 | 7.6 | 12.1 | 13.3 | 16.0 | 17.4 | 12.7 | 15.6 | 14.3 | 15.5 | 13.2 | 9.8 | 6.8 | 9.4 | 11.9 | 11.3 | 10.5 | 9.6 | 4.5 | 17.4 | 10.8 |
| Oct 3 | 8.5 | 6.9 | 6.2 | 9.0 | 8.7 | 8.4 | 6.5 | 9.2 | 6.3 | 8.7 | 12.0 | 10.2 | 12.4 | 12.5 | 12.2 | 8.5 | 12.0 | 6.9 | 6.7 | 13.9 | 13.7 | 12.9 | 8.4 | 6.2 | 6.2 | 13.9 | 9.5 |
| Oct 4 | 7.5 | 7.7 | 6.5 | 9.2 | 11.2 | 10.2 | 14.4 | 14.6 | 18.0 | 21.2 | 23.5 | 22.7 | 24.3 | 25.7 | 27.1 | 22.9 | 22.6 | 22.9 | 21.5 | 20.1 | 18.9 | 19.7 | 17.8 | 17.9 | 6.5 | 27.1 | 17.8 |
| Oct 5 | 13.7 | 12.6 | 13.4 | 18.1 | 17.5 | 19.7 | 14.9 | 13.8 | 14.0 | 17.1 | 19.7 | 20.0 | 25.7 | 26.6 | 24.3 | 29.6 | 23.0 | 21.5 | 21.6 | 20.1 | 19.2 | 20.1 | 20.0 | 12.6 | 29.6 | 19.7 | |
| Oct 6 | 18.4 | 23.5 | 23.0 | 18.5 | 20.7 | 23.3 | 21.0 | 23.9 | 21.9 | 31.1 | 27.0 | 28.2 | 40.1 | 41.8 | 36.2 | 35.0 | 34.2 | 36.7 | 44.3 | 40.3 | 42.6 | 35.2 | 29.7 | 31.7 | 18.4 | 44.3 | 30.3 |
| Oct 7 | 32.3 | 29.2 | 30.2 | 37.2 | 34.0 | 31.8 | 39.8 | 32.0 | 33.1 | 36.1 | 29.2 | 24.6 | 33.2 | 35.7 | 35.7 | 32.6 | 28.8 | 27.2 | 25.1 | 26.6 | 14.8 | 18.4 | 25.3 | 20.9 | 14.8 | 39.8 | 29.7 |
| Oct 8 | 22.3 | 17.7 | 21.1 | 20.5 | 18.1 | 21.6 | 23.3 | 23.7 | 25.8 | 27.0 | 22.7 | 24.8 | 26.8 | 24.5 | 23.7 | 23.0 | 19.0 | 13.2 | 13.6 | 8.4 | 7.4 | 8.6 | 9.2 | 7.0 | 7.0 | 27.0 | 18.9 |
| Oct 9 | 10.7 | 11.5 | 11.5 | 10.6 | 10.7 | 11.5 | 14.9 | 15.8 | 17.9 | 17.6 | 16.6 | 16.2 | 14.6 | 11.9 | 14.0 | 14.9 | 17.2 | 17.5 | 13.4 | 13.4 | 10.9 | 13.8 | 12.3 | 8.1 | 8.1 | 17.9 | 13.6 |
| Oct 10 | 6.8 | 8.2 | 12.4 | 14.8 | 14.0 | 12.0 | 13.4 | 12.0 | 11.2 | 10.3 | 10.0 | 11.5 | 13.4 | 13.0 | 9.2 | 7.9 | 5.8 | 1.7 | 6.2 | 8.2 | 8.2 | 8.4 | 8.9 | 1.7 | 14.8 | 9.8 | |
| Oct 11 | 10.4 | 10.5 | 9.6 | 9.9 | 13.6 | 10.0 | 14.8 | 14.7 | 12.9 | 20.1 | 27.5 | 28.2 | 28.4 | 29.6 | 27.5 | 24.1 | 20.2 | 13.2 | 12.7 | 17.3 | 19.0 | 21.2 | 27.2 | 26.9 | 9.6 | 29.6 | 18.7 |
| Oct 12 | 25.6 | 18.6 | 16.7 | 14.8 | 13.7 | 8.1 | 8.8 | 11.2 | 9.8 | 10.2 | 12.5 | 19.1 | 20.7 | 20.1 | 19.9 | 26.1 | 16.8 | 17.0 | 12.2 | 11.4 | 13.2 | 14.7 | 13.2 | 12.3 | 8.1 | 26.1 | 15.3 |
| Oct 13 | 12.9 | 11.8 | 6.7 | 7.4 | 8.0 | 6.4 | 5.3 | 3.9 | 3.5 | 3.1 | 5.7 | 11.8 | 9.8 | 17.2 | 21.7 | 24.0 | 19.5 | 17.1 | 16.0 | 16.1 | 13.7 | 11.9 | 16.5 | 14.6 | 3.1 | 24.0 | 11.9 |
| Oct 14 | 12.2 | 12.9 | 11.6 | 13.5 | 13.4 | 12.3 | 11.5 | 10.1 | 12.3 | 11.6 | 9.6 | 10.4 | 8.3 | 8.9 | 9.0 | 13.0 | 9.7 | 5.0 | 4.4 | 3.2 | 4.0 | 6.0 | 8.4 | 14.3 | 3.2 | 14.3 | 9.8 |
| Oct 15 | 10.0 | 12.5 | 12.6 | 13.5 | 18.6 | 19.7 | 24.3 | 26.6 | 27.6 | 27.5 | 24.8 | 23.3 | 25.4 | 26.1 | 22.4 | 25.3 | 22.0 | 20.3 | 18.9 | 17.0 | 14.0 | 14.3 | 12.5 | 16.9 | 10.0 | 27.6 | 19.8 |
| Oct 16 | 21.0 | 19.2 | 15.6 | 21.6 | 21.0 | 18.8 | 24.0 | 23.2 | 20.5 | 17.8 | 9.9 | 12.7 | 17.1 | 15.0 | 13.4 | 12.1 | 4.2 | 4.1 | 7.5 | 8.8 | 13.4 | 14.8 | 12.9 | 12.0 | 4.1 | 24.0 | 15.0 |
| Oct 17 | 11.2 | 9.1 | 8.2 | 8.7 | 7.0 | 6.6 | 11.2 | 16.0 | 8.6 | 8.8 | 14.7 | 17.9 | 25.6 | 21.6 | 20.0 | 11.0 | 5.9 | 4.9 | 7.6 | 6.4 | 6.1 | 5.8 | 6.2 | 4.9 | 25.6 | 11.2 | |
| Oct 18 | 7.5 | 5.1 | 9.7 | 8.1 | 4.9 | 5.3 | 6.5 | 9.1 | 10.0 | 5.8 | 5.4 | 8.8 | 18.8 | 25.3 | 21.5 | 21.9 | 20.4 | 19.8 | 8.5 | 13.3 | 14.3 | 19.1 | 17.4 | 12.9 | 4.9 | 25.3 | 12.5 |
| Oct 19 | 18.2 | 16.5 | 8.2 | 13.6 | 14.4 | 14.7 | 13.5 | 12.8 | 17.1 | 18.3 | 17.1 | 17.3 | 18.7 | 14.7 | 15.3 | 15.0 | 10.0 | 10.7 | 5.0 | 3.3 | 4.4 | 6.3 | 6.0 | 6.9 | 3.3 | 18.7 | 12.4 |
| Oct 20 | 8.8 | 3.3 | 3.1 | 4.3 | 4.0 | 6.7 | 4.6 | 5.8 | 6.8 | 9.5 | 13.5 | 13.6 | 15.1 | 14.2 | 12.2 | 10.8 | 10.7 | 11.6 | 14.0 | 11.8 | 10.4 | 7.7 | 7.9 | 7.1 | 3.1 | 15.1 | 9.1 |
| Oct 21 | 7.2 | 6.3 | 1.6 | 2.5 | 6.8 | 7.3 | 5.9 | 4.7 | 4.1 | 6.0 | 7.2 | 7.4 | 8.4 | 7.6 | 10.9 | 10.3 | 5.1 | 2.1 | 5.3 | 6.9 | 8.6 | 12.7 | 14.8 | 11.1 | 1.6 | 14.8 | 7.1 |
| Oct 22 | 13.3 | 12.5 | 12.8 | 17.2 | 21.1 | 20.8 | 22.7 | 21.4 | 17.9 | 14.8 | 12.0 | 5.1 | 7.3 | 5.1 | 7.6 | 15.2 | 17.5 | 17.9 | 22.2 | 23.7 | 24.8 | 22.5 | 20.7 | 19.6 | 5.1 | 24.8 | 16.5 |
| Oct 23 | 13.6 | 10.4 | 10.0 | 10.9 | 10.2 | 11.2 | 13.1 | 11.4 | 12.9 | 11.6 | 10.9 | 10.1 | 11.8 | 10.9 | 7.4 | 6.3 | 7.6 | 11.7 | 14.3 | 18.7 | 23.4 | 27.3 | 24.1 | 27.0 | 6.3 | 27.3 | 13.6 |
| Oct 24 | 26.9 | 31.1 | 28.0 | 27.7 | 24.4 | 16.1 | 17.6 | 21.2 | 20.7 | 19.6 | 19.0 | 24.0 | 18.2 | 26.8 | 28.2 | 27.0 | 22.9 | 18.4 | 15.2 | 16.9 | 17.0 | 15.5 | 13.3 | 14.3 | 13.3 | 31.1 | 21.3 |
| Oct 25 | 13.7 | 15.1 | 6.6 | 6.0 | 9.3 | 5.2 | 11.3 | 22.8 | 18.3 | 4.6 | 9.0 | 13.4 | 18.8 | 20.8 | 26.1 | 22.7 | 19.9 | 13.6 | 12.8 | 14.4 | 20.5 | 20.7 | 19.0 | 15.5 | 4.6 | 26.1 | 15.0 |
| Oct 26 | 19.4 | 21.3 | 18.2 | 18.8 | 21.5 | 29.6 | 27.3 | 25.5 | 27.8 | 27.3 | 24.1 | 25.9 | 27.4 | 28.7 | 28.3 | 21.7 | 16.9 | 6.8 | 4.5 | 6.1 | 6.9 | 7.5 | 10.5 | 13.4 | 4.5 | 29.6 | 19.4 |
| Oct 27 | 10.3 | 8.1 | 8.7 | 11.7 | 13.2 | 12.8 | 13.9 | 11.9 | 15.8 | 16.0 | 24.8 | 30.1 | 34.0 | 32.4 | 31.1 | 27.4 | 22.9 | 20.1 | 23.1 | 17.6 | 14.9 | 28.2 | 31.1 | 35.7 | 8.1 | 35.7 | 20.7 |
| Oct 28 | 38.4 | 31.8 | 27.0 | 22.7 | 29.1 | 23.1 | 22.1 | 21.6 | 19.3 | 25.6 | 21.0 | 16.7 | 15.2 | 13.0 | 13.8 | 12.7 | 8.4 | 4.3 | 6.0 | 8.2 | 9.9 | 10.9 | 10.8 | 9.9 | 4.3 | 38.4 | 17.6 |
| Oct 29 | 11.2 | 11.7 | 9.5 | 10.7 | 10.4 | 11.9 | 5.8 | 11.8 | 10.2 | 12.8 | 16.5 | 18.4 | 18.7 | 17.5 | 22.3 | 22.0 | 22.5 | 20.4 | 15.7 | 19.6 | 21.7 | 22.7 | 22.4 | 21.6 | 5.8 | 22.7 | 16.2 |
| Oct 30 | 19.8 | 19.0 | 17.3 | 15.1 | 17.3 | 14.4 | 15.7 | 17.3 | 18.0 | 17.1 | 16.4 | 15.1 | 14.0 | 15.4 | 16.3 | 15.5 | 11.1 | 15.4 | 14.0 | 9.2 | 10.6 | 15.1 | 17.1 | 14.3 | 9.2 | 19.8 | 15.4 |
| Oct 31 | 11.1 | 12.4 | 15.1 | 11.3 | 15.8 | 18.4 | 16.2 | 19.8 | 18.4 | 21.7 | 21.6 | 15.6 | 12.6 | 10.5 | 16.6 | 16.6 | 14.4 | 10.9 | 10.3 | 8.3 | 8.9 | 12.7 | 8.1 | 10.2 | 8.1 | 21.7 | 14.1 |
| Diurnal Maximum | 38.4 | 31.8 | 30.2 | 37.2 | 34.0 | 31.8 | 39.8 | 32.0 | 33.1 | 36.1 | 29.2 | 30.1 | 40.1 | 41.8 | 36.2 | 35.0 | 34.2 | 36.7 | 44.3 | 40.3 | 42.6 | 35.2 | 31.1 | 35.7 | | | |
| Diurnal Average | 15.2 | 14.3 | 13.1 | 13.8 | 14.7 | 14.2 | 15.1 | 15.8 | 15.7 | 16.4 | 16.6 | 17.3 | 19.2 | 19.6 | 19.7 | 19.1 | 16.5 | 14.1 | 13.5 | 14.0 | 14.3 | 15.5 | 15.3 | 15.0 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 |

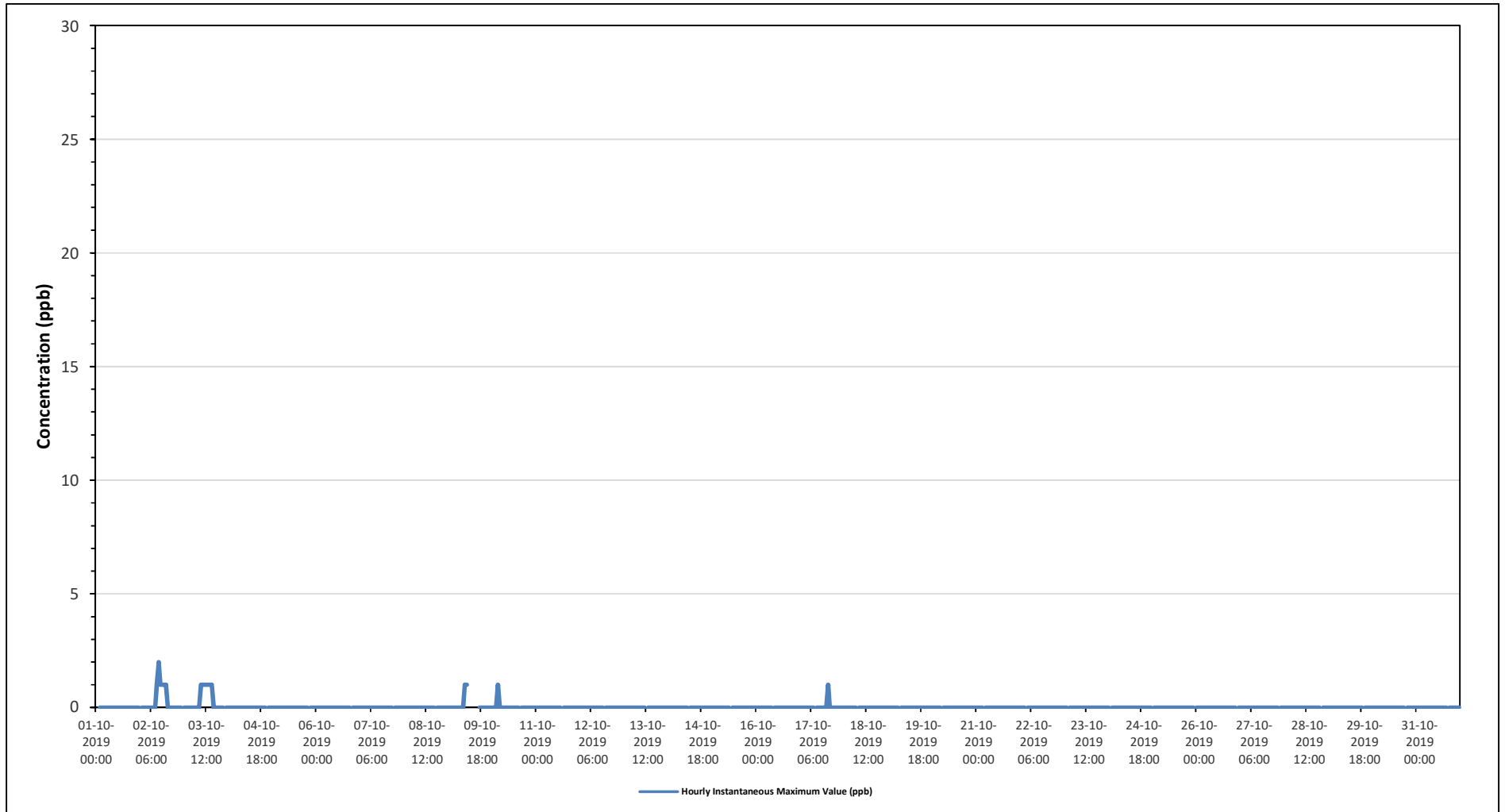
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



842b STATION

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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

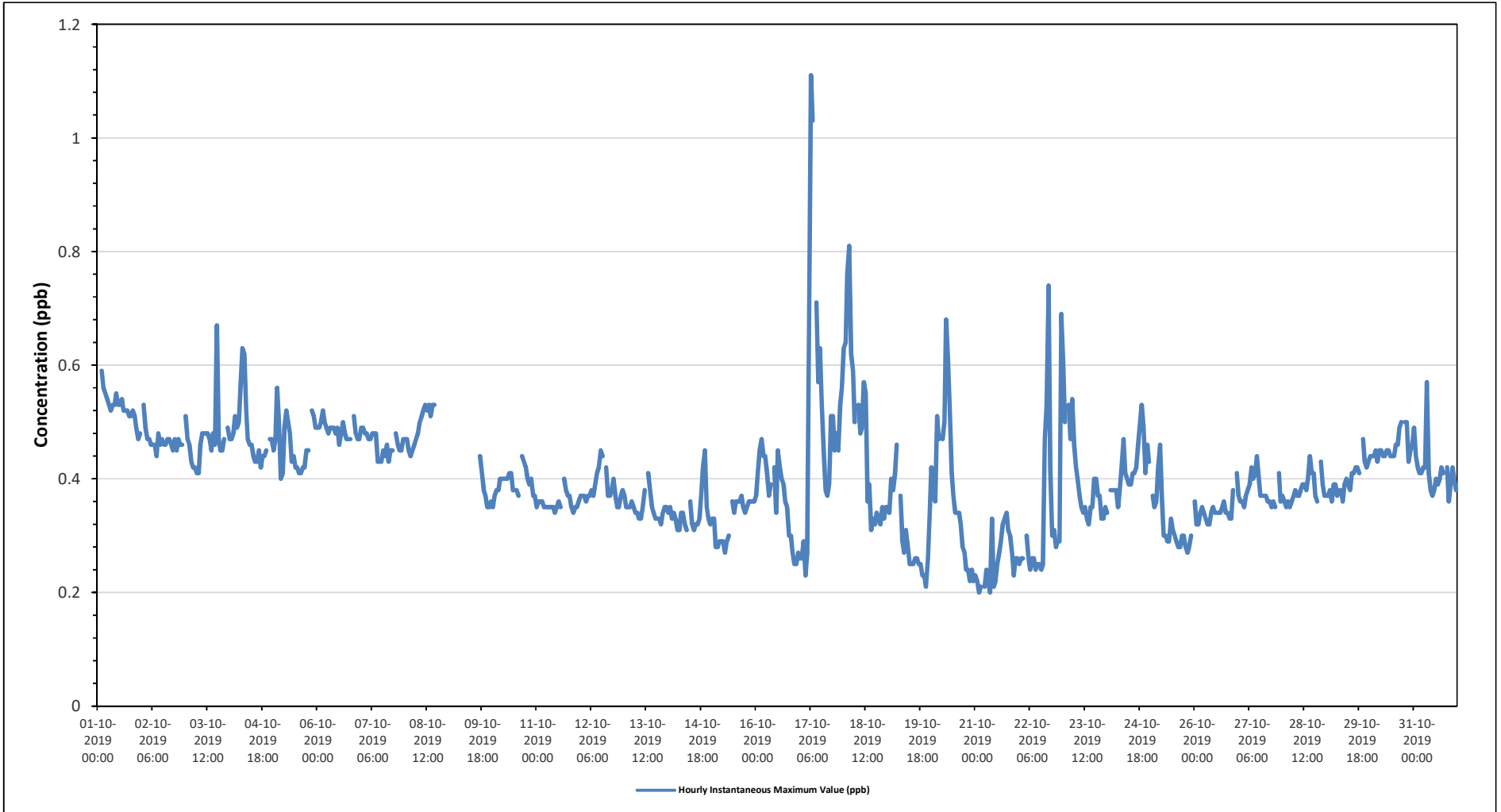
| | | | |
|-----------------------|----------------------------------|------------------------|------|
| Maximum Hourly Value: | 1.11 ppb on October 17 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.53 ppb on October 1 | Hours of Data: | 689 |
| Minimum Hourly Value: | 0.20 ppb on October 21 at hour 2 | Hours of Missing Data: | 17 |
| Minimum Daily Value: | 0.26 ppb on October 21 | Hours of Calibration: | 38 |
| Monthly Average: | 0.40 ppb | 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 |
| Oct 1 | 0.53 | S | 0.59 | 0.56 | 0.55 | 0.54 | 0.53 | 0.52 | 0.53 | 0.53 | 0.55 | 0.53 | 0.53 | 0.54 | 0.52 | 0.52 | 0.52 | 0.51 | 0.51 | 0.52 | 0.51 | 0.49 | 0.47 | 0.48 | 0.47 | 0.59 | 0.53 |
| Oct 2 | S | 0.53 | 0.49 | 0.47 | 0.47 | 0.46 | 0.46 | 0.46 | 0.44 | 0.48 | 0.46 | 0.47 | 0.46 | 0.46 | 0.47 | 0.47 | 0.46 | 0.45 | 0.47 | 0.45 | 0.47 | 0.46 | 0.46 | S | 0.44 | 0.53 | 0.47 |
| Oct 3 | 0.51 | 0.47 | 0.46 | 0.43 | 0.42 | 0.42 | 0.41 | 0.41 | 0.46 | 0.48 | 0.48 | 0.48 | 0.48 | 0.47 | 0.45 | 0.48 | 0.46 | 0.67 | 0.47 | 0.45 | 0.47 | 0.45 | S | 0.49 | 0.41 | 0.67 | 0.47 |
| Oct 4 | 0.47 | 0.47 | 0.48 | 0.51 | 0.49 | 0.5 | 0.57 | 0.63 | 0.62 | 0.52 | 0.47 | 0.46 | 0.46 | 0.44 | 0.43 | 0.43 | 0.45 | 0.42 | 0.44 | 0.44 | 0.45 | S | 0.47 | 0.47 | 0.42 | 0.63 | 0.48 |
| Oct 5 | 0.45 | 0.47 | 0.56 | 0.5 | 0.4 | 0.41 | 0.49 | 0.52 | 0.5 | 0.48 | 0.43 | 0.44 | 0.42 | 0.42 | 0.41 | 0.41 | 0.42 | 0.42 | 0.45 | 0.45 | S | 0.52 | 0.51 | 0.49 | 0.40 | 0.56 | 0.46 |
| Oct 6 | 0.49 | 0.49 | 0.5 | 0.52 | 0.5 | 0.49 | 0.48 | 0.49 | 0.49 | 0.49 | 0.48 | 0.49 | 0.46 | 0.48 | 0.5 | 0.48 | 0.47 | 0.47 | 0.47 | S | 0.51 | 0.48 | 0.47 | 0.47 | 0.46 | 0.52 | 0.49 |
| Oct 7 | 0.49 | 0.49 | 0.48 | 0.48 | 0.47 | 0.47 | 0.48 | 0.48 | 0.48 | 0.43 | 0.43 | 0.43 | 0.45 | 0.44 | 0.46 | 0.43 | 0.45 | 0.45 | S | 0.48 | 0.46 | 0.45 | 0.45 | 0.47 | 0.43 | 0.49 | 0.46 |
| Oct 8 | 0.47 | 0.47 | 0.45 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.5 | 0.51 | 0.52 | 0.53 | 0.52 | 0.53 | 0.51 | 0.53 | 0.53 | S | X | X | X | X | X | X | 0.44 | 0.53 | - |
| Oct 9 | X | X | X | X | X | X | X | X | X | X | X | C | C | C | C | C | S | 0.44 | 0.41 | 0.38 | 0.37 | 0.35 | 0.35 | 0.36 | 0.35 | 0.44 | - |
| Oct 10 | 0.35 | 0.37 | 0.38 | 0.38 | 0.4 | 0.4 | 0.4 | 0.4 | 0.41 | 0.41 | 0.38 | 0.38 | 0.38 | 0.37 | S | 0.44 | 0.43 | 0.42 | 0.4 | 0.39 | 0.4 | 0.37 | 0.37 | 0.35 | 0.44 | 0.39 | 0.4 |
| Oct 11 | 0.35 | 0.36 | 0.36 | 0.36 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.34 | 0.35 | 0.36 | 0.35 | S | 0.4 | 0.38 | 0.37 | 0.37 | 0.35 | 0.34 | 0.35 | 0.35 | 0.36 | 0.34 | 0.40 | 0.36 |
| Oct 12 | 0.37 | 0.37 | 0.37 | 0.36 | 0.37 | 0.37 | 0.38 | 0.37 | 0.39 | 0.41 | 0.42 | 0.45 | 0.44 | S | 0.42 | 0.37 | 0.37 | 0.38 | 0.4 | 0.37 | 0.35 | 0.35 | 0.37 | 0.38 | 0.35 | 0.45 | 0.38 |
| Oct 13 | 0.37 | 0.35 | 0.35 | 0.35 | 0.36 | 0.35 | 0.34 | 0.34 | 0.33 | 0.33 | 0.35 | 0.38 | S | 0.41 | 0.38 | 0.35 | 0.34 | 0.33 | 0.33 | 0.33 | 0.32 | 0.34 | 0.35 | 0.35 | 0.32 | 0.41 | 0.35 |
| Oct 14 | 0.34 | 0.35 | 0.33 | 0.34 | 0.33 | 0.31 | 0.31 | 0.34 | 0.34 | 0.32 | 0.31 | S | 0.36 | 0.32 | 0.31 | 0.32 | 0.32 | 0.33 | 0.37 | 0.42 | 0.45 | 0.35 | 0.33 | 0.32 | 0.31 | 0.45 | 0.34 |
| Oct 15 | 0.33 | 0.33 | 0.28 | 0.28 | 0.29 | 0.29 | 0.29 | 0.27 | 0.29 | 0.3 | S | 0.36 | 0.34 | 0.36 | 0.36 | 0.36 | 0.37 | 0.35 | 0.34 | 0.35 | 0.36 | 0.36 | 0.36 | 0.36 | 0.27 | 0.37 | 0.33 |
| Oct 16 | 0.37 | 0.41 | 0.45 | 0.47 | 0.44 | 0.44 | 0.41 | 0.37 | 0.39 | S | 0.42 | 0.34 | 0.45 | 0.42 | 0.4 | 0.39 | 0.36 | 0.35 | 0.3 | 0.3 | 0.27 | 0.25 | 0.25 | 0.27 | 0.25 | 0.47 | 0.37 |
| Oct 17 | 0.26 | 0.26 | 0.29 | 0.23 | 0.27 | 0.68 | 1.11 | 1.03 | S | 0.71 | 0.57 | 0.63 | 0.53 | 0.45 | 0.38 | 0.37 | 0.39 | 0.51 | 0.51 | 0.45 | 0.48 | 0.45 | 0.53 | 0.56 | 0.23 | 1.11 | 0.51 |
| Oct 18 | 0.63 | 0.64 | 0.76 | 0.81 | 0.62 | 0.59 | 0.5 | S | 0.53 | 0.48 | 0.49 | 0.57 | 0.55 | 0.36 | 0.39 | 0.31 | 0.33 | 0.32 | 0.34 | 0.33 | 0.32 | 0.35 | 0.33 | 0.35 | 0.31 | 0.81 | 0.47 |
| Oct 19 | 0.35 | 0.34 | 0.4 | 0.38 | 0.41 | 0.46 | S | 0.37 | 0.29 | 0.27 | 0.31 | 0.28 | 0.25 | 0.25 | 0.25 | 0.26 | 0.26 | 0.25 | 0.25 | 0.23 | 0.23 | 0.21 | 0.26 | 0.34 | 0.21 | 0.46 | 0.30 |
| Oct 20 | 0.42 | 0.37 | 0.36 | 0.51 | 0.47 | S | 0.47 | 0.5 | 0.68 | 0.61 | 0.52 | 0.41 | 0.37 | 0.34 | 0.34 | 0.34 | 0.32 | 0.28 | 0.27 | 0.24 | 0.24 | 0.22 | 0.24 | 0.22 | 0.22 | 0.68 | 0.38 |
| Oct 21 | 0.23 | 0.22 | 0.2 | 0.21 | S | 0.21 | 0.24 | 0.22 | 0.2 | 0.33 | 0.21 | 0.22 | 0.25 | 0.27 | 0.29 | 0.32 | 0.33 | 0.34 | 0.31 | 0.3 | 0.27 | 0.23 | 0.26 | 0.26 | 0.20 | 0.34 | 0.26 |
| Oct 22 | 0.25 | 0.26 | 0.26 | S | 0.3 | 0.26 | 0.24 | 0.26 | 0.26 | 0.24 | 0.25 | 0.25 | 0.24 | 0.25 | 0.47 | 0.53 | 0.74 | 0.42 | 0.3 | 0.31 | 0.28 | 0.29 | 0.29 | 0.69 | 0.24 | 0.74 | 0.33 |
| Oct 23 | 0.6 | 0.5 | S | 0.53 | 0.47 | 0.54 | 0.46 | 0.42 | 0.4 | 0.37 | 0.35 | 0.34 | 0.35 | 0.33 | 0.32 | 0.35 | 0.35 | 0.4 | 0.4 | 0.37 | 0.37 | 0.33 | 0.33 | 0.35 | 0.32 | 0.60 | 0.40 |
| Oct 24 | 0.34 | S | 0.38 | 0.38 | 0.38 | 0.38 | 0.35 | 0.38 | 0.42 | 0.47 | 0.41 | 0.4 | 0.39 | 0.39 | 0.41 | 0.41 | 0.42 | 0.46 | 0.5 | 0.53 | 0.49 | 0.41 | 0.46 | 0.43 | 0.34 | 0.53 | 0.42 |
| Oct 25 | S | 0.37 | 0.35 | 0.36 | 0.42 | 0.46 | 0.37 | 0.3 | 0.3 | 0.29 | 0.29 | 0.33 | 0.31 | 0.3 | 0.29 | 0.28 | 0.28 | 0.3 | 0.3 | 0.28 | 0.27 | 0.28 | 0.3 | S | 0.27 | 0.46 | 0.32 |
| Oct 26 | 0.36 | 0.32 | 0.32 | 0.34 | 0.35 | 0.34 | 0.33 | 0.32 | 0.32 | 0.34 | 0.35 | 0.34 | 0.34 | 0.34 | 0.34 | 0.35 | 0.36 | 0.34 | 0.34 | 0.33 | 0.33 | 0.38 | S | 0.41 | 0.32 | 0.41 | 0.34 |
| Oct 27 | 0.37 | 0.36 | 0.36 | 0.35 | 0.37 | 0.38 | 0.39 | 0.42 | 0.4 | 0.41 | 0.44 | 0.4 | 0.37 | 0.37 | 0.37 | 0.37 | 0.36 | 0.36 | 0.35 | 0.36 | 0.35 | S | 0.41 | 0.36 | 0.35 | 0.44 | 0.38 |
| Oct 28 | 0.37 | 0.36 | 0.35 | 0.36 | 0.35 | 0.36 | 0.37 | 0.38 | 0.37 | 0.37 | 0.38 | 0.39 | 0.39 | 0.38 | 0.4 | 0.44 | 0.41 | 0.41 | 0.37 | 0.36 | S | 0.43 | 0.39 | 0.37 | 0.35 | 0.44 | 0.38 |
| Oct 29 | 0.37 | 0.37 | 0.38 | 0.36 | 0.39 | 0.39 | 0.37 | 0.38 | 0.38 | 0.36 | 0.39 | 0.4 | 0.39 | 0.38 | 0.41 | 0.41 | 0.42 | 0.42 | 0.41 | S | 0.47 | 0.43 | 0.42 | 0.43 | 0.36 | 0.47 | 0.40 |
| Oct 30 | 0.44 | 0.44 | 0.44 | 0.45 | 0.43 | 0.45 | 0.45 | 0.44 | 0.44 | 0.45 | 0.44 | 0.44 | 0.44 | 0.44 | 0.46 | 0.46 | 0.49 | 0.5 | S | 0.5 | 0.5 | 0.43 | 0.45 | 0.46 | 0.43 | 0.50 | 0.45 |
| Oct 31 | 0.49 | 0.44 | 0.42 | 0.41 | 0.41 | 0.42 | 0.42 | 0.57 | 0.41 | 0.38 | 0.37 | 0.38 | 0.4 | 0.39 | 0.4 | 0.42 | 0.41 | S | 0.42 | 0.36 | 0.39 | 0.42 | 0.4 | 0.38 | 0.36 | 0.57 | 0.41 |
| Diurnal Maximum | 0.63 | 0.64 | 0.76 | 0.81 | 0.62 | 0.68 | 1.11 | 1.03 | 0.68 | 0.71 | 0.57 | 0.63 | 0.55 | 0.54 | 0.52 | 0.53 | 0.74 | 0.67 | 0.51 | 0.53 | 0.51 | 0.52 | 0.53 | 0.69 | | | |
| Diurnal Average | 0.41 | 0.40 | 0.41 | 0.42 | 0.41 | 0.42 | 0.43 | 0.43 | 0.41 | 0.42 | 0.41 | 0.41 | 0.40 | 0.39 | 0.40 | 0.40 | 0.41 | 0.40 | 0.39 | 0.38 | 0.38 | 0.37 | 0.38 | 0.40 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

842b Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

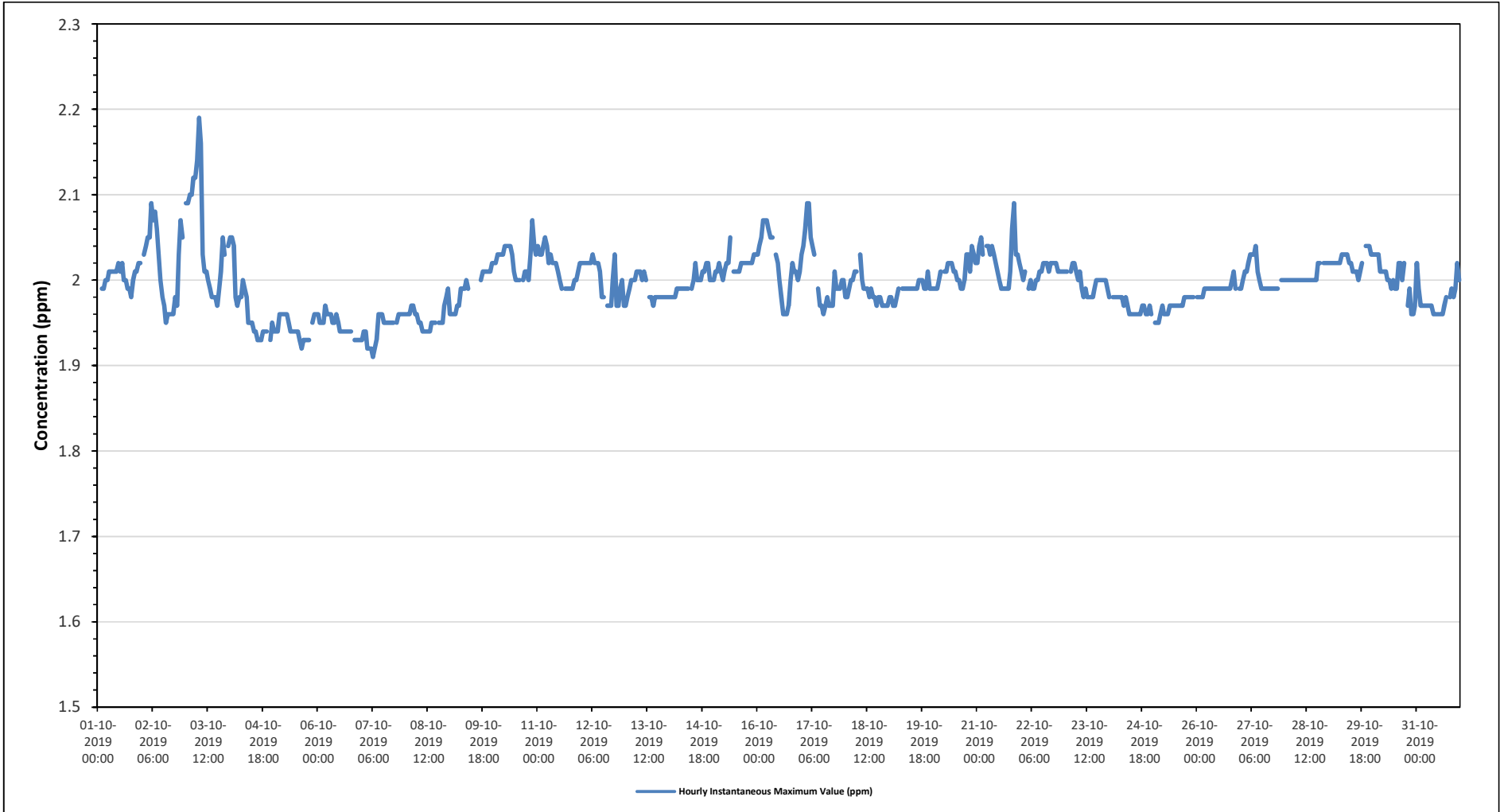
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 2.19 ppm on October 3 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 3 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.91 ppm on October 7 at hour 6 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 ppm on October 7 | Hours of Calibration: | 38 |
| Monthly Average: | 1.99 ppm | 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 | |
| Oct 1 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 2.02 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 1.98 | 2.02 | 2.00 | |
| Oct 2 | S | 2.03 | 2.04 | 2.05 | 2.05 | 2.09 | 2.07 | 2.08 | 2.06 | 2.03 | 2.00 | 1.98 | 1.97 | 1.95 | 1.96 | 1.96 | 1.98 | 1.98 | 1.97 | 1.99 | 2.01 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.19 | 2.05 |
| Oct 3 | 2.09 | 2.09 | 2.10 | 2.10 | 2.12 | 2.12 | 2.14 | 2.19 | 2.16 | 2.03 | 2.01 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.01 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.19 | 2.05 | |
| Oct 4 | 2.05 | 2.05 | 2.04 | 1.98 | 1.97 | 1.98 | 1.98 | 2.00 | 1.99 | 1.98 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.95 | 1.93 | 2.05 | 1.97 | |
| Oct 5 | 1.94 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | S | 1.95 | 1.96 | 1.96 | 1.92 | 1.96 | 1.94 | |
| Oct 6 | 1.96 | 1.95 | 1.95 | 1.95 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.97 | 1.95 |
| Oct 7 | 1.93 | 1.94 | 1.94 | 1.92 | 1.92 | 1.92 | 1.91 | 1.92 | 1.93 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.91 | 1.96 | 1.94 |
| Oct 8 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.97 | 1.98 | 1.99 | 1.94 | 1.99 | 1.96 | 1.96 |
| Oct 9 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | C | C | C | C | C | S | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 1.96 | 2.02 | 1.99 | |
| Oct 10 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | S | 2.00 | 2.01 | 2.01 | 2.00 | 2.03 | 2.07 | 2.04 | 2.03 | 2.00 | 2.00 | 2.07 | 2.02 |
| Oct 11 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.02 | 1.99 | 2.05 | 2.01 |
| Oct 12 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 1.98 | 1.98 | S | 1.97 | 1.97 | 1.97 | 2.00 | 2.03 | 1.97 | 1.97 | 1.99 | 2.00 | 1.97 | 1.97 | 2.03 | 2.00 | |
| Oct 13 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.01 | 2.00 | S | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 2.01 | 1.99 |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 2.02 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.00 | 2.00 | 1.98 | 2.02 | 2.00 | |
| Oct 15 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.00 | 2.01 | 2.02 | 2.02 | 2.05 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.00 | 2.05 | 2.02 |
| Oct 16 | 2.03 | 2.04 | 2.05 | 2.07 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | S | 2.03 | 2.02 | 2.00 | 1.98 | 1.96 | 1.96 | 1.96 | 1.97 | 2.00 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.96 | 2.07 | 2.02 | |
| Oct 17 | 2.03 | 2.04 | 2.06 | 2.09 | 2.09 | 2.05 | 2.04 | 2.03 | S | 1.99 | 1.97 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.97 | 1.97 | 2.01 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 1.96 | 2.09 | 2.01 | |
| Oct 18 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | S | 2.03 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 2.03 | 1.99 | |
| Oct 19 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 2.01 | 1.99 | 1.99 | 1.97 | 2.01 | 1.99 | 1.99 | |
| Oct 20 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | S | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.03 | 2.03 | 2.01 | 2.04 | 2.03 | 2.02 | 1.99 | 2.04 | 2.01 | |
| Oct 21 | 2.02 | 2.04 | 2.05 | 2.03 | S | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.01 | 2.06 | 2.09 | 2.03 | 2.03 | 2.02 | 1.99 | 2.09 | 2.02 | |
| Oct 22 | 2.01 | 2.00 | 2.01 | S | 1.99 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 1.99 | 2.02 | 2.01 | |
| Oct 23 | 2.01 | 2.01 | S | 2.01 | 2.02 | 2.02 | 2.01 | 2.00 | 2.01 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 2.02 | 2.00 | 2.00 | |
| Oct 24 | 1.98 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.98 | 1.97 | |
| Oct 25 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | |
| Oct 26 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 1.99 | S | 1.99 | 1.98 | 2.01 | 1.99 | 1.99 | |
| Oct 27 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 2.00 | 2.00 | 1.99 | 2.04 | 2.00 | |
| Oct 28 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.02 | 2.02 | S | 2.02 | 2.02 | 2.02 | 2.00 | 2.02 | 2.00 | |
| Oct 29 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | S | 2.04 | 2.04 | 2.04 | 2.03 | 2.00 | 2.04 | 2.02 | |
| Oct 30 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 2.02 | 2.02 | 2.00 | 2.02 | S | 1.97 | 1.99 | 1.96 | 1.96 | 1.97 | 1.96 | 2.03 | 2.00 | |
| Oct 31 | 2.02 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.98 | S | 1.98 | 1.99 | 1.98 | 1.99 | 2.02 | 2.00 | 1.96 | 2.02 | 1.98 | |
| Diurnal Maximum | 2.09 | 2.09 | 2.10 | 2.10 | 2.12 | 2.12 | 2.14 | 2.19 | 2.16 | 2.05 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.06 | 2.09 | 2.07 | 2.05 | 2.04 | | | |
| Diurnal Average | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 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

842b Station - October 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

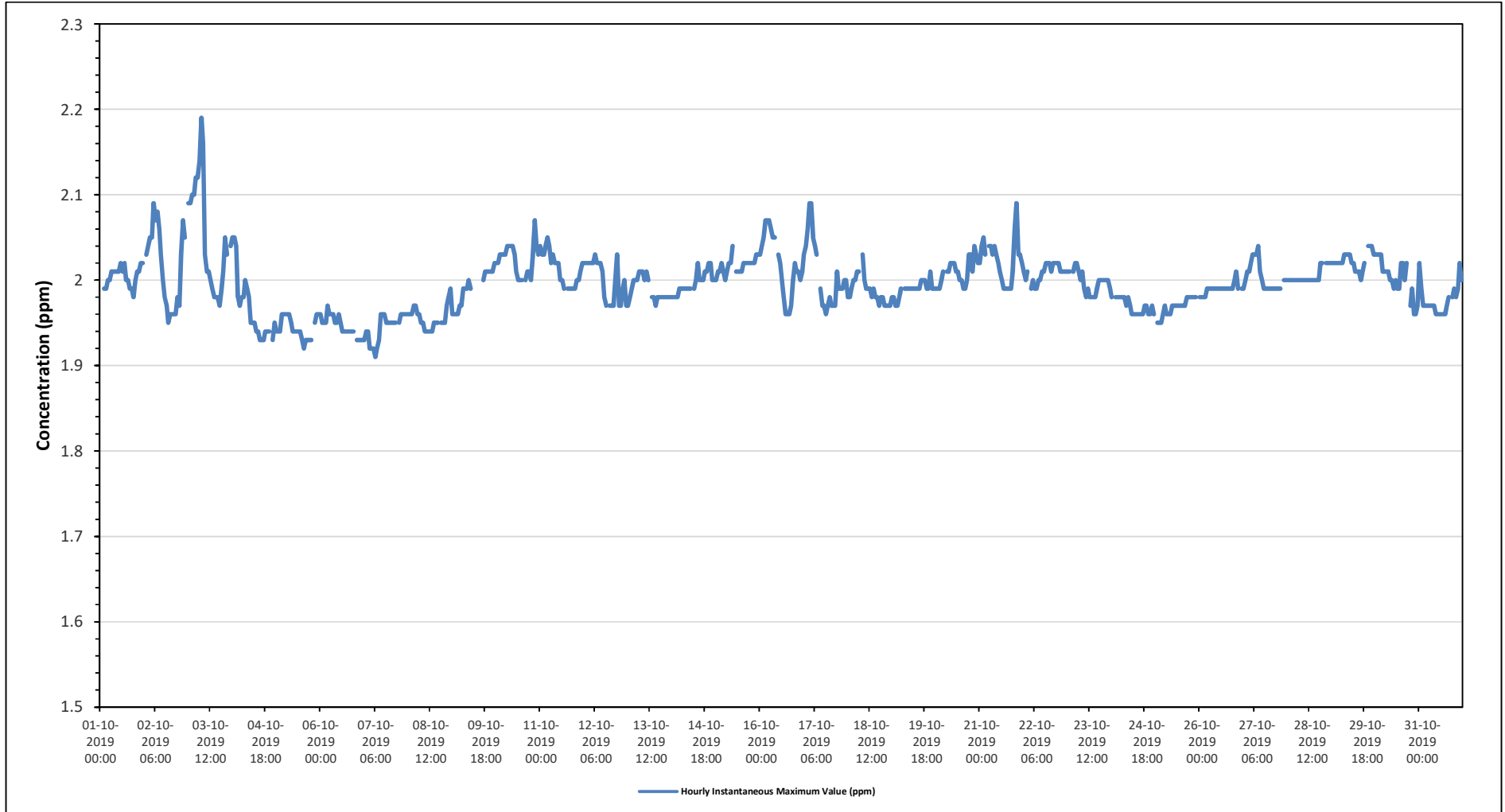
| | | | |
|-----------------------|---------------------------------|------------------------|-------|
| Maximum Hourly Value: | 2.19 ppm on October 3 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.05 ppm on October 3 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.91 ppm on October 7 at hour 6 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 ppm on October 7 | Hours of Calibration: | 38 |
| Monthly Average: | 1.99 ppm | 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 | |
| Oct 1 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.01 | 2.02 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 1.98 | 2.02 | 2.00 | | |
| Oct 2 | S | 2.03 | 2.04 | 2.05 | 2.05 | 2.09 | 2.07 | 2.08 | 2.06 | 2.03 | 2.00 | 1.98 | 1.97 | 1.95 | 1.96 | 1.96 | 1.98 | 1.98 | 1.97 | 1.99 | 2.01 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.19 | 2.05 |
| Oct 3 | 2.09 | 2.09 | 2.10 | 2.10 | 2.12 | 2.12 | 2.14 | 2.19 | 2.16 | 2.03 | 2.01 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.01 | 2.05 | 2.03 | S | 2.04 | 1.97 | 2.19 | 2.05 | |
| Oct 4 | 2.05 | 2.05 | 2.04 | 1.98 | 1.97 | 1.98 | 1.98 | 2.00 | 1.99 | 1.98 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.95 | 1.93 | 2.05 | 1.97 | |
| Oct 5 | 1.94 | 1.94 | 1.94 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | S | 1.95 | 1.96 | 1.96 | 1.92 | 1.96 | 1.94 | |
| Oct 6 | 1.96 | 1.95 | 1.95 | 1.95 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.97 | 1.95 |
| Oct 7 | 1.93 | 1.94 | 1.94 | 1.92 | 1.92 | 1.92 | 1.91 | 1.92 | 1.93 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.91 | 1.96 | 1.94 |
| Oct 8 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.97 | 1.98 | 1.99 | 1.94 | 1.99 | 1.96 | 1.96 |
| Oct 9 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | C | C | C | C | C | S | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 1.96 | 2.02 | 1.99 | |
| Oct 10 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | S | 2.00 | 2.01 | 2.01 | 2.00 | 2.03 | 2.07 | 2.04 | 2.03 | 2.00 | 2.07 | 2.02 | 2.02 |
| Oct 11 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.02 | 2.00 | 2.00 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.02 | 1.99 | 2.05 | 2.01 | 2.01 |
| Oct 12 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.97 | 2.00 | 2.03 | 1.97 | 1.97 | 1.99 | 2.00 | 1.97 | 1.97 | 2.03 | 2.00 | 2.00 |
| Oct 13 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 2.01 | 2.00 | S | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 2.01 | 1.99 | 1.99 |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 1.99 | 2.00 | 2.02 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.00 | 2.00 | 1.98 | 2.02 | 2.00 | 2.00 |
| Oct 15 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.00 | 2.01 | 2.02 | 2.02 | 2.04 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.00 | 2.04 | 2.02 | 2.02 |
| Oct 16 | 2.03 | 2.04 | 2.05 | 2.07 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | S | 2.03 | 2.02 | 2.00 | 1.98 | 1.96 | 1.96 | 1.96 | 1.97 | 2.00 | 2.02 | 2.01 | 2.01 | 2.00 | 2.01 | 1.96 | 2.07 | 2.02 | 2.02 |
| Oct 17 | 2.03 | 2.04 | 2.06 | 2.09 | 2.09 | 2.05 | 2.04 | 2.03 | S | 1.99 | 1.97 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.97 | 1.97 | 2.01 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 1.96 | 2.09 | 2.01 | 2.01 |
| Oct 18 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | S | 2.03 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 2.03 | 1.99 | 1.99 |
| Oct 19 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 2.01 | 1.99 | 1.97 | 2.01 | 1.99 | 1.99 | 1.99 |
| Oct 20 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | S | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.03 | 2.03 | 2.01 | 2.04 | 2.03 | 2.02 | 1.99 | 2.04 | 2.01 | 2.01 |
| Oct 21 | 2.02 | 2.04 | 2.05 | 2.03 | S | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.01 | 2.06 | 2.09 | 2.03 | 2.03 | 2.02 | 1.99 | 2.09 | 2.02 | 2.02 |
| Oct 22 | 2.01 | 2.00 | 2.01 | S | 1.99 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 1.99 | 2.02 | 2.01 | 2.01 |
| Oct 23 | 2.01 | 2.01 | S | 2.01 | 2.02 | 2.02 | 2.01 | 2.00 | 2.01 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 2.02 | 2.00 | 2.00 |
| Oct 24 | 1.98 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.98 | 1.97 | 1.97 |
| Oct 25 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.95 | 1.98 | 1.97 | 1.97 |
| Oct 26 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 1.99 | S | 1.99 | 1.98 | 2.01 | 1.99 | 1.99 |
| Oct 27 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 2.00 | 1.99 | 2.04 | 2.00 | 2.00 |
| Oct 28 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.02 | 2.02 | 2.02 | S | 2.02 | 2.02 | 2.00 | 2.02 | 2.02 | 2.02 |
| Oct 29 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | S | 2.04 | 2.04 | 2.03 | 2.00 | 2.04 | 2.02 | 2.02 |
| Oct 30 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 2.02 | 2.02 | 2.00 | 2.02 | S | 1.97 | 1.99 | 1.96 | 1.96 | 1.97 | 1.96 | 2.03 | 2.00 | 2.00 |
| Oct 31 | 2.02 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.98 | S | 1.98 | 1.99 | 1.98 | 1.99 | 2.02 | 2.00 | 1.96 | 2.02 | 1.98 | 1.98 |
| Diurnal Maximum | 2.09 | 2.09 | 2.10 | 2.10 | 2.12 | 2.12 | 2.14 | 2.19 | 2.16 | 2.04 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.06 | 2.09 | 2.07 | 2.05 | 2.04 | 2.04 | 2.04 |
| Diurnal Average | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 2.00 |

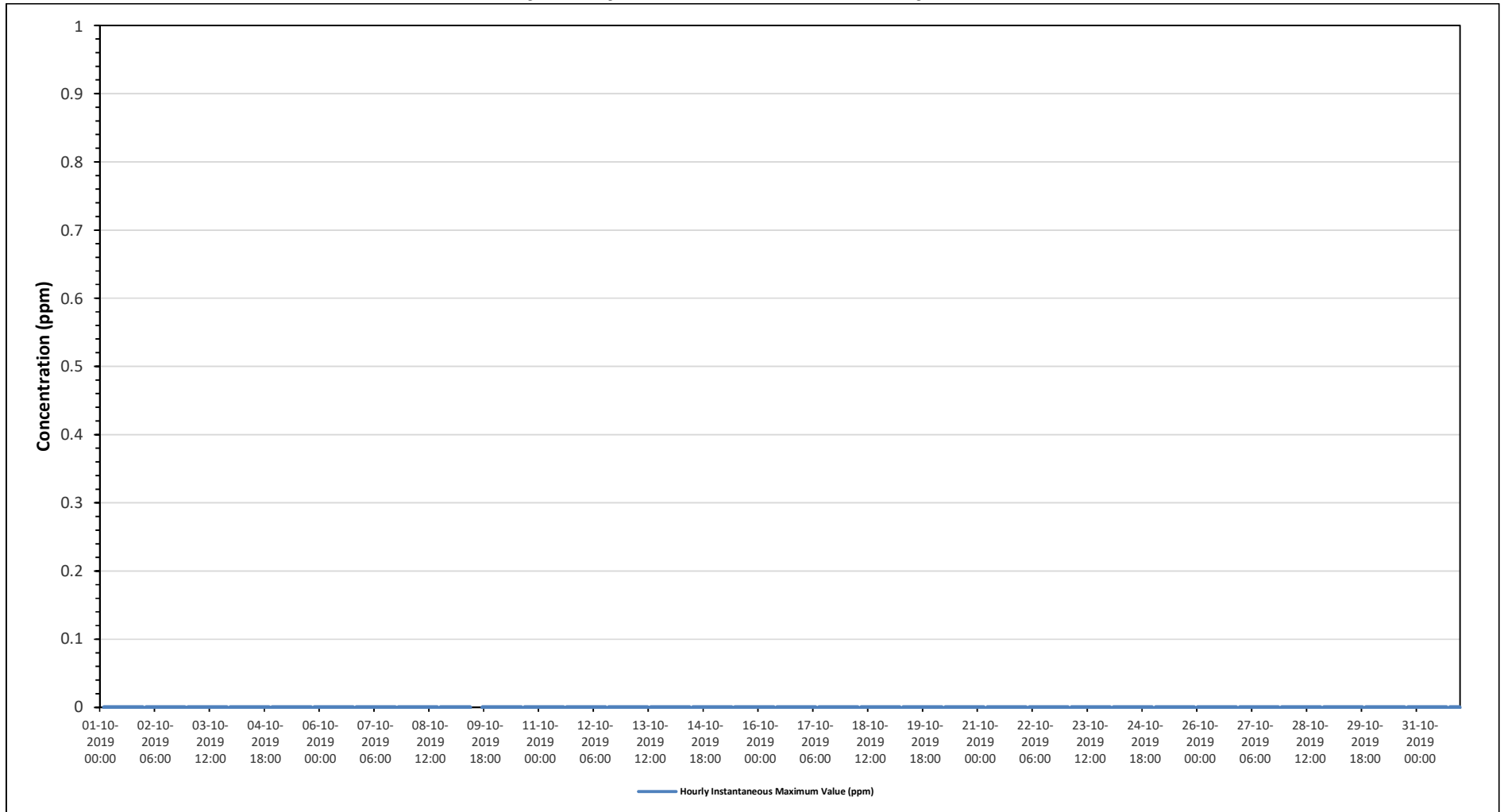
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - October 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/hr

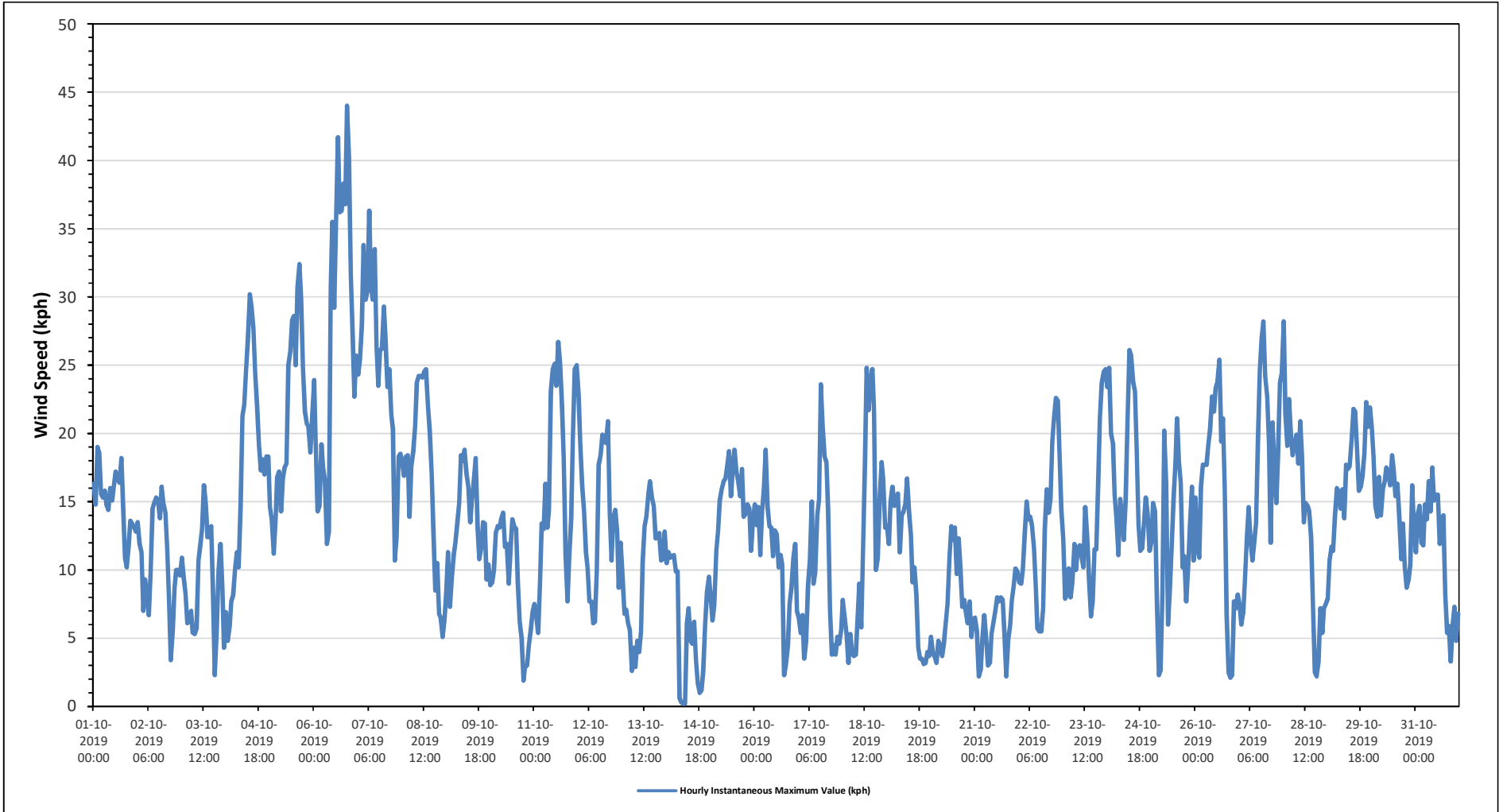
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 44.0 kph | on October 6 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 27.6 kph | on October 6 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.2 kph | on October 14 at hour 9 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 5.8 kph | on October 14 | Hours of Calibration: | 0 |
| Monthly Average: | 13.8 kph | | 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 |
| Oct 1 | 16.3 | 14.8 | 19.0 | 18.6 | 15.6 | 15.3 | 15.8 | 14.8 | 14.4 | 16.0 | 15.1 | 16.1 | 17.2 | 16.7 | 16.4 | 18.2 | 14.8 | 10.9 | 10.2 | 11.8 | 13.6 | 13.4 | 13.1 | 12.8 | 10.2 | 19.0 | 15.0 |
| Oct 2 | 13.5 | 11.9 | 11.3 | 7.0 | 9.3 | 8.2 | 6.7 | 9.9 | 14.5 | 14.9 | 15.3 | 15.1 | 13.8 | 16.1 | 14.9 | 14.2 | 11.6 | 7.9 | 3.4 | 5.5 | 8.7 | 10.0 | 10.0 | 9.6 | 3.4 | 16.1 | 11.0 |
| Oct 3 | 10.9 | 9.5 | 8.3 | 6.1 | 6.2 | 7.0 | 5.4 | 5.3 | 5.7 | 10.7 | 11.7 | 13.0 | 16.2 | 14.8 | 12.4 | 12.4 | 13.2 | 8.1 | 2.3 | 5.6 | 10.0 | 11.9 | 8.7 | 4.3 | 2.3 | 16.2 | 9.2 |
| Oct 4 | 6.9 | 4.8 | 5.9 | 7.7 | 8.2 | 10.1 | 11.3 | 10.2 | 14.6 | 21.3 | 22.1 | 24.6 | 27.0 | 30.2 | 29.2 | 27.7 | 24.4 | 22.0 | 19.1 | 17.3 | 18.1 | 17.0 | 18.3 | 18.3 | 4.8 | 30.2 | 17.3 |
| Oct 5 | 14.6 | 13.7 | 11.2 | 13.6 | 16.8 | 17.2 | 14.3 | 16.7 | 17.5 | 17.8 | 25.0 | 26.0 | 28.3 | 28.6 | 25.0 | 30.7 | 32.4 | 29.8 | 24.7 | 21.6 | 20.7 | 20.5 | 18.6 | 21.3 | 11.2 | 32.4 | 21.1 |
| Oct 6 | 23.9 | 19.2 | 14.3 | 14.7 | 19.2 | 17.5 | 16.5 | 11.9 | 12.8 | 30.7 | 35.5 | 29.2 | 35.6 | 41.7 | 36.2 | 36.3 | 38.3 | 36.8 | 44.0 | 40.2 | 31.6 | 27.0 | 22.7 | 25.7 | 11.9 | 44.0 | 27.6 |
| Oct 7 | 24.3 | 25.4 | 28.0 | 33.8 | 29.8 | 30.4 | 36.3 | 30.8 | 29.8 | 33.5 | 26.4 | 23.5 | 26.1 | 26.2 | 29.3 | 26.8 | 23.4 | 24.7 | 21.4 | 20.3 | 10.7 | 12.4 | 18.3 | 18.5 | 10.7 | 36.3 | 25.4 |
| Oct 8 | 17.9 | 16.9 | 18.3 | 18.4 | 13.9 | 17.6 | 18.7 | 20.6 | 23.7 | 24.2 | 24.2 | 24.1 | 24.5 | 24.7 | 22.1 | 20.1 | 17.0 | 13.0 | 8.5 | 10.5 | 6.8 | 6.5 | 5.1 | 6.3 | 5.1 | 24.7 | 16.8 |
| Oct 9 | 8.4 | 11.3 | 7.3 | 9.4 | 11.1 | 12.0 | 13.4 | 14.9 | 18.4 | 18.0 | 18.8 | 17.1 | 16.1 | 13.5 | 15.1 | 16.5 | 18.2 | 13.1 | 10.8 | 11.5 | 13.5 | 13.4 | 9.3 | 10.4 | 7.3 | 18.8 | 13.4 |
| Oct 10 | 8.9 | 9.1 | 10.0 | 12.7 | 13.2 | 13.1 | 13.8 | 14.2 | 11.7 | 11.9 | 9.0 | 11.4 | 13.7 | 13.2 | 13.0 | 9.1 | 6.2 | 5.0 | 1.9 | 2.9 | 3.0 | 4.5 | 5.6 | 7.0 | 1.9 | 14.2 | 9.3 |
| Oct 11 | 7.5 | 6.6 | 5.4 | 9.2 | 13.4 | 13.0 | 16.3 | 13.1 | 14.4 | 23.1 | 24.7 | 25.1 | 23.5 | 26.7 | 25.1 | 21.9 | 18.2 | 11.1 | 7.7 | 11.0 | 13.8 | 19.7 | 24.7 | 25.0 | 5.4 | 26.7 | 16.7 |
| Oct 12 | 22.8 | 19.3 | 16.2 | 14.3 | 11.3 | 10.1 | 7.7 | 7.7 | 6.1 | 6.2 | 9.9 | 17.7 | 18.4 | 19.9 | 19.5 | 19.3 | 20.9 | 14.2 | 10.7 | 13.8 | 14.4 | 12.9 | 8.7 | 12.0 | 6.1 | 22.8 | 13.9 |
| Oct 13 | 9.4 | 6.8 | 7.1 | 6.1 | 5.6 | 2.6 | 4.3 | 2.9 | 4.8 | 4.0 | 5.5 | 10.6 | 13.2 | 13.9 | 15.6 | 16.5 | 15.3 | 14.7 | 12.3 | 12.5 | 12.7 | 10.7 | 10.8 | 12.8 | 2.6 | 16.5 | 9.6 |
| Oct 14 | 10.5 | 11.3 | 10.9 | 11.0 | 11.1 | 9.9 | 9.9 | 0.6 | 0.3 | 0.2 | 0.2 | 6.1 | 7.2 | 4.8 | 4.6 | 6.2 | 3.4 | 1.7 | 1.0 | 1.2 | 2.6 | 6.0 | 8.4 | 9.5 | 0.2 | 11.3 | 5.8 |
| Oct 15 | 7.9 | 6.3 | 7.4 | 11.4 | 12.9 | 15.1 | 15.9 | 16.5 | 16.7 | 17.5 | 18.7 | 15.4 | 17.5 | 18.8 | 17.2 | 16.5 | 15.4 | 17.4 | 13.9 | 14.1 | 14.8 | 14.5 | 11.4 | 13.6 | 6.3 | 18.8 | 14.5 |
| Oct 16 | 14.8 | 13.3 | 14.6 | 11.1 | 14.3 | 16.0 | 18.8 | 14.6 | 13.2 | 13.1 | 11.0 | 12.9 | 12.6 | 10.2 | 11.1 | 10.4 | 2.3 | 3.1 | 4.5 | 7.5 | 8.7 | 10.9 | 11.9 | 7.0 | 2.3 | 18.8 | 11.2 |
| Oct 17 | 6.5 | 5.4 | 6.7 | 3.5 | 4.7 | 8.8 | 10.8 | 15.0 | 9.0 | 9.8 | 14.0 | 15.2 | 23.6 | 20.6 | 18.3 | 17.9 | 14.4 | 7.1 | 3.8 | 4.5 | 3.8 | 5.1 | 4.6 | 5.6 | 3.5 | 23.6 | 9.9 |
| Oct 18 | 7.8 | 6.5 | 5.3 | 3.2 | 5.3 | 3.9 | 3.7 | 3.8 | 6.7 | 9.0 | 5.8 | 11.6 | 17.9 | 24.8 | 21.7 | 24.0 | 24.7 | 21.7 | 10.0 | 10.9 | 15.3 | 17.9 | 16.7 | 13.1 | 3.2 | 24.8 | 12.1 |
| Oct 19 | 13.2 | 11.9 | 15.0 | 16.1 | 14.7 | 15.1 | 15.6 | 11.3 | 14.0 | 14.3 | 14.8 | 16.7 | 14.3 | 12.6 | 9.1 | 10.2 | 8.2 | 4.3 | 3.5 | 3.5 | 3.1 | 3.2 | 4.0 | 3.7 | 3.1 | 16.7 | 10.5 |
| Oct 20 | 5.1 | 3.9 | 3.6 | 3.2 | 4.8 | 4.5 | 3.7 | 4.6 | 6.1 | 7.5 | 11.0 | 13.2 | 12.2 | 13.1 | 9.7 | 12.3 | 10.2 | 7.3 | 7.8 | 6.8 | 6.1 | 7.7 | 5.1 | 6.4 | 3.2 | 13.2 | 7.3 |
| Oct 21 | 6.5 | 5.5 | 2.2 | 2.7 | 5.0 | 6.7 | 5.0 | 3.0 | 3.2 | 5.3 | 6.2 | 7.0 | 8.0 | 7.7 | 8.0 | 7.8 | 5.1 | 2.2 | 4.9 | 5.9 | 7.8 | 8.8 | 10.1 | 9.9 | 2.2 | 10.1 | 6.0 |
| Oct 22 | 9.1 | 9.0 | 10.0 | 12.6 | 15.0 | 13.7 | 13.9 | 13.3 | 11.6 | 8.8 | 5.7 | 5.5 | 5.5 | 7.2 | 13.0 | 15.9 | 14.2 | 15.2 | 19.4 | 21.2 | 22.6 | 22.4 | 18.2 | 14.4 | 5.5 | 22.6 | 13.2 |
| Oct 23 | 12.3 | 7.9 | 8.2 | 10.1 | 8.0 | 9.1 | 11.9 | 10.0 | 11.6 | 11.8 | 11.0 | 10.2 | 14.6 | 12.6 | 9.3 | 6.6 | 7.7 | 11.5 | 11.5 | 16.4 | 21.1 | 23.7 | 24.5 | 24.7 | 6.6 | 24.7 | 12.8 |
| Oct 24 | 23.4 | 24.8 | 20.0 | 19.3 | 15.5 | 13.8 | 11.1 | 15.2 | 13.9 | 12.2 | 15.2 | 21.1 | 26.1 | 25.7 | 23.8 | 23.1 | 18.7 | 13.3 | 11.4 | 11.6 | 13.6 | 15.3 | 14.1 | 11.4 | 11.1 | 26.1 | 17.2 |
| Oct 25 | 12.1 | 14.9 | 14.3 | 7.7 | 2.3 | 2.7 | 8.3 | 20.2 | 16.3 | 6.0 | 8.4 | 11.5 | 15.1 | 17.8 | 21.1 | 17.9 | 16.4 | 10.2 | 11.0 | 7.7 | 10.1 | 13.3 | 16.1 | 10.7 | 2.3 | 21.1 | 12.2 |
| Oct 26 | 15.3 | 11.6 | 10.9 | 16.1 | 17.7 | 17.7 | 17.7 | 19.1 | 20.3 | 22.7 | 21.6 | 23.3 | 23.8 | 25.4 | 19.4 | 21.1 | 16.0 | 6.7 | 2.5 | 2.1 | 2.3 | 7.7 | 7.2 | 8.2 | 2.1 | 25.4 | 14.9 |
| Oct 27 | 7.5 | 6.0 | 6.9 | 9.5 | 12.4 | 14.6 | 12.1 | 10.7 | 12.0 | 13.4 | 19.4 | 24.7 | 27.0 | 28.2 | 24.2 | 22.7 | 19.2 | 12.0 | 20.8 | 17.2 | 14.9 | 18.5 | 23.7 | 24.4 | 6.0 | 28.2 | 16.8 |
| Oct 28 | 28.2 | 21.5 | 19.1 | 22.5 | 19.7 | 18.4 | 19.2 | 19.9 | 17.8 | 20.9 | 18.3 | 13.5 | 14.9 | 14.7 | 14.3 | 12.4 | 7.3 | 2.5 | 2.2 | 3.3 | 7.2 | 5.4 | 7.2 | 7.5 | 2.2 | 28.2 | 14.1 |
| Oct 29 | 7.9 | 10.7 | 11.7 | 11.4 | 14.0 | 16.0 | 15.7 | 14.5 | 15.9 | 13.8 | 17.7 | 17.4 | 17.6 | 19.6 | 21.8 | 21.6 | 18.9 | 15.8 | 16.1 | 16.9 | 18.5 | 22.3 | 20.5 | 21.9 | 7.9 | 22.3 | 16.6 |
| Oct 30 | 20.5 | 18.3 | 14.7 | 13.9 | 16.8 | 14.0 | 15.9 | 16.5 | 17.5 | 17.1 | 16.2 | 18.4 | 17.4 | 15.4 | 16.3 | 13.8 | 10.8 | 13.4 | 10.2 | 8.7 | 9.3 | 10.4 | 16.2 | 13.1 | 8.7 | 20.5 | 14.8 |
| Oct 31 | 11.3 | 14.0 | 14.7 | 12.0 | 11.8 | 14.8 | 13.7 | 16.5 | 14.3 | 17.5 | 15.1 | 15.5 | 11.9 | 13.0 | 14.0 | 8.2 | 5.4 | 5.9 | 3.3 | 6.0 | 7.3 | 4.8 | 6.8 | 3.3 | 17.5 | 11.4 | |
| Diurnal Maximum | 28.2 | 25.4 | 28.0 | 33.8 | 29.8 | 30.4 | 36.3 | 30.8 | 29.8 | 33.5 | 35.5 | 29.2 | 35.6 | 41.7 | 36.2 | 36.3 | 38.3 | 36.8 | 44.0 | 40.2 | 31.6 | 27.0 | 24.7 | 25.7 | | | |
| Diurnal Average | 13.1 | 12.0 | 11.6 | 11.9 | 12.2 | 12.5 | 13.0 | 12.8 | 13.2 | 14.6 | 15.3 | 16.5 | 18.2 | 18.6 | 17.7 | 17.6 | 15.3 | 12.3 | 10.9 | 11.2 | 11.8 | 12.9 | 12.9 | 12.8 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 WS - 842b Station



RENO STATION



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO₂) in ppb

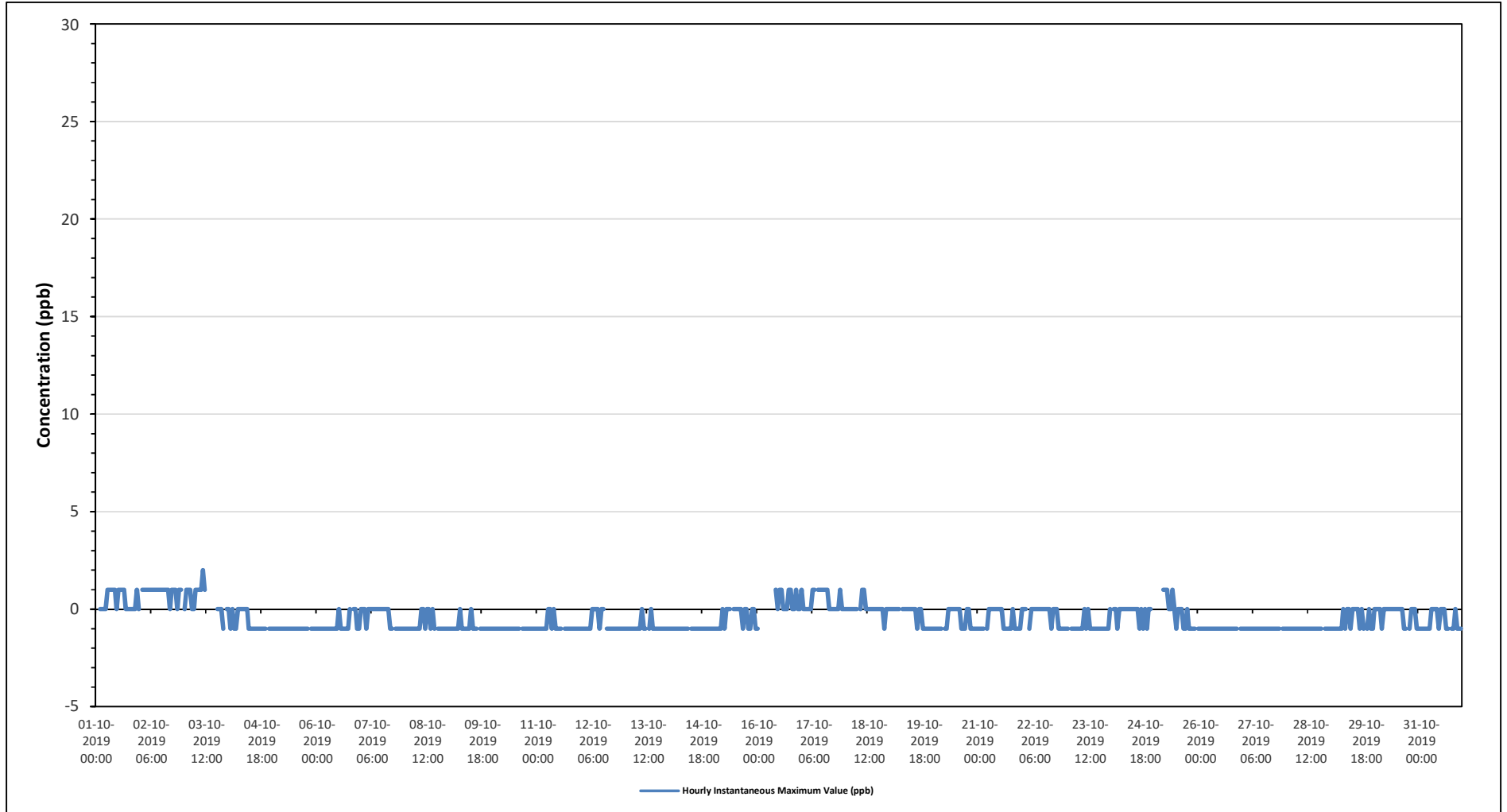
| | | | |
|-----------------------|--------------------------------|------------------------|------|
| Maximum Hourly Value: | 2 ppb on October 3 at hour 10 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.9 ppb on October 2 | Hours of Data: | 692 |
| Minimum Hourly Value: | -1 ppb on October 3 at hour 21 | Hours of Missing Data: | 14 |
| Minimum Daily Value: | -1.0 ppb on October 5 | Hours of Calibration: | 38 |
| Monthly Average: | -0.5 ppb | Operational Uptime: | 98.1 |

| 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 | | |
| Oct 1 | 0 | S | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0.4 |
| Oct 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | S | S | 0 | 0 | 1 | 0.9 |
| Oct 3 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | C | C | C | C | C | C | 0 | 0 | 0 | -1 | S | 0 | -1 | 2 | -1 | - | |
| Oct 4 | 0 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | S | -1 | -1 | -1 | -1 | 0 | -0.7 | |
| Oct 5 | -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 | -1 | -1.0 | |
| Oct 6 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | 0 | S | 0 | 0 | -1 | -1 | -1 | -1 | 0 | -0.8 | |
| Oct 7 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.3 | |
| Oct 8 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | 0 | 0 | -1 | 0 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -0.8 |
| Oct 9 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -0.9 |
| Oct 10 | -1 | -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 | -1.0 |
| Oct 11 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | 0 | -1 | -1 | -1 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.9 |
| Oct 12 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.7 |
| Oct 13 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.9 |
| Oct 14 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | S | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1.0 |
| Oct 15 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | -1 | 0 | 0 | -1 | -1 | 0 | -1 | 0 | -0.4 |
| Oct 16 | -1 | P | P | P | P | P | P | P | R | S | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | - |
| Oct 17 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.4 |
| Oct 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | 1 | 0.0 |
| Oct 19 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.3 |
| Oct 20 | -1 | -1 | -1 | -1 | -1 | S | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.6 |
| Oct 21 | -1 | -1 | -1 | -1 | S | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.6 |
| Oct 22 | 0 | 0 | 0 | S | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.3 |
| Oct 23 | -1 | -1 | S | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.9 |
| Oct 24 | 0 | S | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | 0 | -1 | 0 | -1 | 0 | -0.2 |
| Oct 25 | P | P | P | P | R | 1 | 1 | 1 | 0 | 0 | 1 | 0 | -1 | 0 | 0 | 0 | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 1 | -0.2 |
| Oct 26 | -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 | -1 | -1 | -1 | -1.0 |
| Oct 27 | -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 | -1 | -1 | -1 | -1.0 |
| Oct 28 | -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 | -1 | -1.0 |
| Oct 29 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | -1 | 0 | -1 | S | -1 | 0 | -1 | -1 | -1 | -1 | 0 | -0.6 |
| Oct 30 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | S | -1 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | 0 | -0.2 |
| Oct 31 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | -1 | S | -1 | -1 | -1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | -0.7 |
| Diurnal Maximum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| Diurnal Average | -0.6 | -0.6 | -0.5 | -0.6 | -0.7 | -0.5 | -0.3 | -0.2 | -0.3 | -0.1 | -0.1 | -0.4 | -0.2 | -0.3 | -0.3 | -0.5 | -0.8 | -0.6 | -0.6 | -0.6 | -0.6 | -0.7 | -0.6 | -0.7 | -0.8 | -0.8 | -0.8 | -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 - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

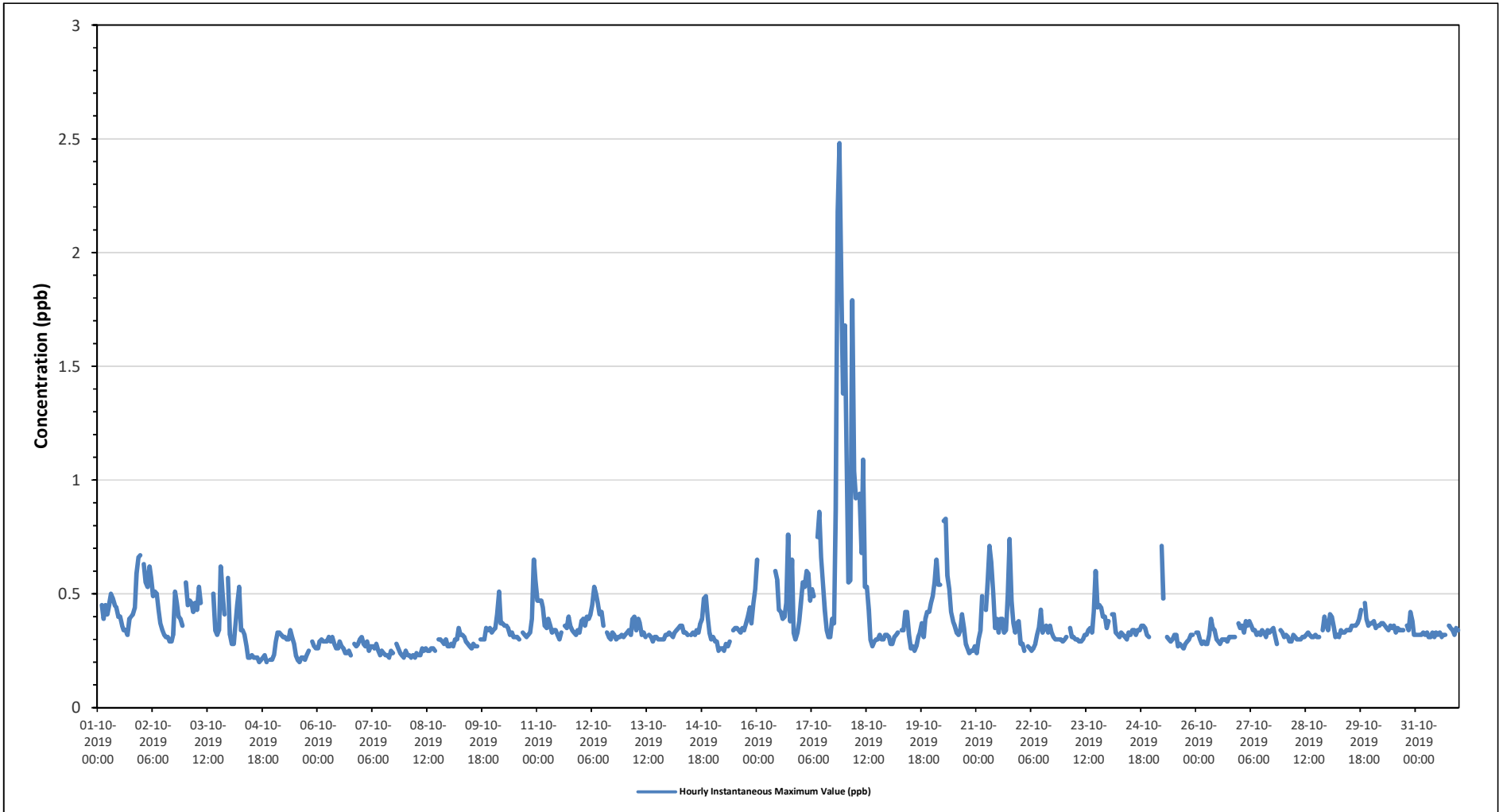
| | | | | |
|-----------------------|----------|--------------------------|------------------------|------|
| Maximum Hourly Value: | 2.48 ppb | on October 17 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.78 ppb | on October 17 | Hours of Data: | 691 |
| Minimum Hourly Value: | 0.20 ppb | on October 4 at hour 16 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.25 ppb | on October 7 | Hours of Calibration: | 38 |
| Monthly Average: | 0.37 ppb | | Operational Uptime: | 98.0 |

| 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 | |
| Oct 1 | 0.39 | S | 0.45 | 0.39 | 0.45 | 0.41 | 0.45 | 0.5 | 0.48 | 0.45 | 0.44 | 0.4 | 0.4 | 0.36 | 0.34 | 0.34 | 0.32 | 0.39 | 0.4 | 0.41 | 0.44 | 0.59 | 0.66 | 0.67 | 0.32 | 0.67 | 0.44 | |
| Oct 2 | S | 0.63 | 0.55 | 0.53 | 0.62 | 0.57 | 0.49 | 0.51 | 0.5 | 0.43 | 0.37 | 0.34 | 0.32 | 0.31 | 0.31 | 0.29 | 0.29 | 0.32 | 0.51 | 0.46 | 0.4 | 0.39 | 0.36 | S | 0.29 | 0.63 | 0.43 | |
| Oct 3 | 0.55 | 0.45 | 0.47 | 0.46 | 0.62 | 0.46 | 0.43 | 0.53 | 0.46 | C | C | C | C | C | C | 0.5 | 0.34 | 0.32 | 0.34 | 0.62 | 0.5 | 0.41 | S | 0.57 | 0.32 | 0.62 | - | |
| Oct 4 | 0.32 | 0.28 | 0.28 | 0.36 | 0.45 | 0.53 | 0.34 | 0.34 | 0.32 | 0.27 | 0.22 | 0.22 | 0.23 | 0.22 | 0.22 | 0.22 | 0.2 | 0.21 | 0.22 | 0.23 | 0.2 | S | 0.21 | 0.21 | 0.20 | 0.53 | 0.27 | |
| Oct 5 | 0.23 | 0.29 | 0.33 | 0.33 | 0.32 | 0.31 | 0.31 | 0.3 | 0.3 | 0.34 | 0.31 | 0.28 | 0.23 | 0.21 | 0.2 | 0.22 | 0.22 | 0.21 | 0.23 | 0.25 | S | 0.29 | 0.27 | 0.26 | 0.20 | 0.34 | 0.27 | |
| Oct 6 | 0.26 | 0.29 | 0.3 | 0.29 | 0.29 | 0.29 | 0.31 | 0.29 | 0.31 | 0.28 | 0.26 | 0.26 | 0.29 | 0.27 | 0.26 | 0.24 | 0.24 | 0.25 | 0.23 | S | 0.28 | 0.27 | 0.28 | 0.3 | 0.23 | 0.31 | 0.28 | |
| Oct 7 | 0.31 | 0.28 | 0.27 | 0.29 | 0.25 | 0.27 | 0.27 | 0.26 | 0.28 | 0.25 | 0.23 | 0.25 | 0.24 | 0.23 | 0.23 | 0.22 | 0.25 | 0.24 | S | 0.28 | 0.26 | 0.24 | 0.23 | 0.22 | 0.22 | 0.31 | 0.25 | |
| Oct 8 | 0.25 | 0.23 | 0.23 | 0.22 | 0.23 | 0.22 | 0.24 | 0.23 | 0.23 | 0.26 | 0.25 | 0.26 | 0.25 | 0.25 | 0.26 | 0.26 | 0.25 | S | 0.3 | 0.3 | 0.29 | 0.28 | 0.3 | 0.27 | 0.22 | 0.30 | 0.25 | |
| Oct 9 | 0.27 | 0.28 | 0.27 | 0.3 | 0.3 | 0.35 | 0.32 | 0.32 | 0.31 | 0.29 | 0.28 | 0.27 | 0.26 | 0.28 | 0.27 | 0.27 | S | 0.3 | 0.3 | 0.3 | 0.35 | 0.34 | 0.35 | 0.33 | 0.26 | 0.35 | 0.30 | |
| Oct 10 | 0.34 | 0.35 | 0.41 | 0.51 | 0.37 | 0.37 | 0.36 | 0.36 | 0.35 | 0.32 | 0.33 | 0.31 | 0.31 | 0.31 | 0.3 | S | 0.33 | 0.32 | 0.31 | 0.32 | 0.33 | 0.39 | 0.65 | 0.56 | 0.30 | 0.65 | 0.37 | |
| Oct 11 | 0.47 | 0.47 | 0.47 | 0.44 | 0.36 | 0.35 | 0.39 | 0.36 | 0.33 | 0.34 | 0.34 | 0.32 | 0.3 | 0.33 | S | 0.36 | 0.35 | 0.4 | 0.36 | 0.34 | 0.33 | 0.32 | 0.34 | 0.33 | 0.30 | 0.47 | 0.37 | |
| Oct 12 | 0.38 | 0.39 | 0.36 | 0.4 | 0.39 | 0.41 | 0.45 | 0.53 | 0.5 | 0.46 | 0.41 | 0.42 | 0.36 | S | 0.33 | 0.31 | 0.3 | 0.33 | 0.32 | 0.3 | 0.31 | 0.31 | 0.32 | 0.31 | 0.30 | 0.53 | 0.37 | |
| Oct 13 | 0.32 | 0.33 | 0.34 | 0.32 | 0.39 | 0.4 | 0.34 | 0.39 | 0.37 | 0.32 | 0.33 | 0.31 | S | 0.32 | 0.31 | 0.29 | 0.31 | 0.31 | 0.3 | 0.3 | 0.3 | 0.3 | 0.32 | 0.32 | 0.29 | 0.40 | 0.33 | |
| Oct 14 | 0.33 | 0.32 | 0.31 | 0.33 | 0.34 | 0.35 | 0.36 | 0.36 | 0.33 | 0.33 | 0.32 | S | 0.32 | 0.32 | 0.34 | 0.33 | 0.37 | 0.39 | 0.48 | 0.49 | 0.4 | 0.33 | 0.3 | 0.30 | 0.49 | 0.35 | | |
| Oct 15 | 0.31 | 0.29 | 0.29 | 0.25 | 0.26 | 0.26 | 0.25 | 0.28 | 0.27 | 0.29 | S | 0.34 | 0.35 | 0.35 | 0.34 | 0.33 | 0.35 | 0.34 | 0.37 | 0.4 | 0.44 | 0.37 | 0.46 | 0.52 | 0.25 | 0.52 | 0.34 | |
| Oct 16 | 0.65 | P | P | P | P | P | P | P | R | S | 0.6 | 0.56 | 0.43 | 0.42 | 0.39 | 0.4 | 0.46 | 0.76 | 0.38 | 0.65 | 0.33 | 0.3 | 0.33 | 0.38 | 0.30 | 0.76 | - | |
| Oct 17 | 0.46 | 0.55 | 0.53 | 0.6 | 0.59 | 0.47 | 0.52 | 0.49 | S | 0.75 | 0.86 | 0.66 | 0.55 | 0.43 | 0.34 | 0.31 | 0.31 | 0.39 | 0.37 | 0.87 | 2.18 | 2.48 | 1.85 | 1.38 | 0.31 | 2.48 | 0.78 | |
| Oct 18 | 1.68 | 1.04 | 0.55 | 0.56 | 1.79 | 1.04 | 0.92 | S | 0.94 | 0.68 | 1.09 | 0.53 | 0.53 | 0.43 | 0.3 | 0.27 | 0.29 | 0.3 | 0.3 | 0.32 | 0.3 | 0.3 | 0.32 | 0.32 | 0.27 | 1.79 | 0.64 | |
| Oct 19 | 0.31 | 0.28 | 0.28 | 0.31 | 0.32 | 0.33 | S | 0.34 | 0.34 | 0.42 | 0.42 | 0.32 | 0.26 | 0.27 | 0.25 | 0.27 | 0.31 | 0.33 | 0.37 | 0.31 | 0.39 | 0.42 | 0.42 | 0.46 | 0.25 | 0.46 | 0.34 | |
| Oct 20 | 0.49 | 0.55 | 0.65 | 0.54 | 0.54 | S | 0.82 | 0.83 | 0.58 | 0.52 | 0.42 | 0.38 | 0.36 | 0.33 | 0.32 | 0.34 | 0.41 | 0.35 | 0.28 | 0.26 | 0.24 | 0.25 | 0.25 | 0.27 | 0.24 | 0.83 | 0.43 | |
| Oct 21 | 0.24 | 0.3 | 0.34 | 0.49 | S | 0.43 | 0.56 | 0.71 | 0.64 | 0.5 | 0.35 | 0.39 | 0.33 | 0.39 | 0.33 | 0.34 | 0.5 | 0.74 | 0.47 | 0.37 | 0.33 | 0.37 | 0.38 | 0.24 | 0.74 | 0.43 | | |
| Oct 22 | 0.28 | 0.28 | 0.25 | S | 0.27 | 0.26 | 0.25 | 0.26 | 0.28 | 0.32 | 0.35 | 0.43 | 0.33 | 0.35 | 0.36 | 0.33 | 0.36 | 0.33 | 0.31 | 0.3 | 0.3 | 0.3 | 0.3 | 0.29 | 0.25 | 0.43 | 0.31 | |
| Oct 23 | 0.3 | 0.31 | S | 0.35 | 0.31 | 0.31 | 0.3 | 0.3 | 0.29 | 0.29 | 0.3 | 0.32 | 0.32 | 0.34 | 0.35 | 0.33 | 0.42 | 0.6 | 0.44 | 0.45 | 0.44 | 0.4 | 0.4 | 0.35 | 0.29 | 0.60 | 0.36 | |
| Oct 24 | 0.38 | S | 0.41 | 0.41 | 0.33 | 0.32 | 0.31 | 0.33 | 0.32 | 0.31 | 0.3 | 0.33 | 0.32 | 0.34 | 0.34 | 0.32 | 0.34 | 0.36 | 0.36 | 0.35 | 0.32 | 0.31 | 0.31 | P | 0.30 | 0.41 | 0.34 | |
| Oct 25 | P | P | P | P | R | 0.71 | 0.48 | S1 | 0.31 | 0.3 | 0.29 | 0.3 | 0.32 | 0.32 | 0.27 | 0.28 | 0.27 | 0.26 | 0.28 | 0.29 | 0.3 | 0.32 | 0.32 | S | 0.26 | 0.71 | - | |
| Oct 26 | 0.33 | 0.33 | 0.3 | 0.28 | 0.29 | 0.28 | 0.28 | 0.32 | 0.39 | 0.35 | 0.34 | 0.3 | 0.29 | 0.28 | 0.3 | 0.3 | 0.3 | 0.29 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | S | 0.37 | 0.28 | 0.31 | |
| Oct 27 | 0.35 | 0.36 | 0.33 | 0.38 | 0.36 | 0.38 | 0.36 | 0.34 | 0.34 | 0.32 | 0.33 | 0.32 | 0.34 | 0.33 | 0.31 | 0.34 | 0.33 | 0.34 | 0.35 | 0.32 | 0.28 | S | 0.34 | 0.33 | 0.28 | 0.38 | 0.34 | |
| Oct 28 | 0.31 | 0.32 | 0.31 | 0.29 | 0.29 | 0.32 | 0.31 | 0.3 | 0.3 | 0.3 | 0.31 | 0.31 | 0.32 | 0.33 | 0.32 | 0.31 | 0.31 | 0.32 | 0.31 | 0.31 | 0.31 | S | 0.34 | 0.4 | 0.36 | 0.29 | 0.40 | 0.32 |
| Oct 29 | 0.34 | 0.41 | 0.4 | 0.36 | 0.31 | 0.32 | 0.31 | 0.34 | 0.33 | 0.33 | 0.34 | 0.34 | 0.36 | 0.36 | 0.36 | 0.37 | 0.39 | 0.43 | S | 0.46 | 0.39 | 0.36 | 0.37 | 0.31 | 0.46 | 0.36 | | |
| Oct 30 | 0.37 | 0.38 | 0.35 | 0.36 | 0.36 | 0.37 | 0.37 | 0.36 | 0.35 | 0.34 | 0.36 | 0.35 | 0.36 | 0.33 | 0.35 | 0.34 | 0.34 | 0.34 | S | 0.36 | 0.34 | 0.42 | 0.38 | 0.32 | 0.32 | 0.42 | 0.36 | |
| Oct 31 | 0.32 | 0.32 | 0.32 | 0.32 | 0.33 | 0.32 | 0.33 | 0.31 | 0.31 | 0.33 | 0.31 | 0.33 | 0.32 | 0.33 | 0.31 | 0.32 | 0.32 | S | 0.36 | 0.35 | 0.34 | 0.32 | 0.35 | 0.34 | 0.31 | 0.36 | 0.33 | |
| Diurnal Maximum | 1.68 | 1.04 | 0.65 | 0.60 | 1.79 | 1.04 | 0.92 | 0.83 | 0.94 | 0.75 | 1.09 | 0.66 | 0.55 | 0.43 | 0.39 | 0.50 | 0.46 | 0.76 | 0.74 | 0.87 | 2.18 | 2.48 | 1.85 | 1.38 | | | | |
| Diurnal Average | 0.40 | 0.38 | 0.37 | 0.38 | 0.41 | 0.39 | 0.39 | 0.39 | 0.38 | 0.37 | 0.38 | 0.35 | 0.33 | 0.32 | 0.31 | 0.31 | 0.32 | 0.35 | 0.35 | 0.38 | 0.41 | 0.42 | 0.41 | 0.40 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

Reno Station - October 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

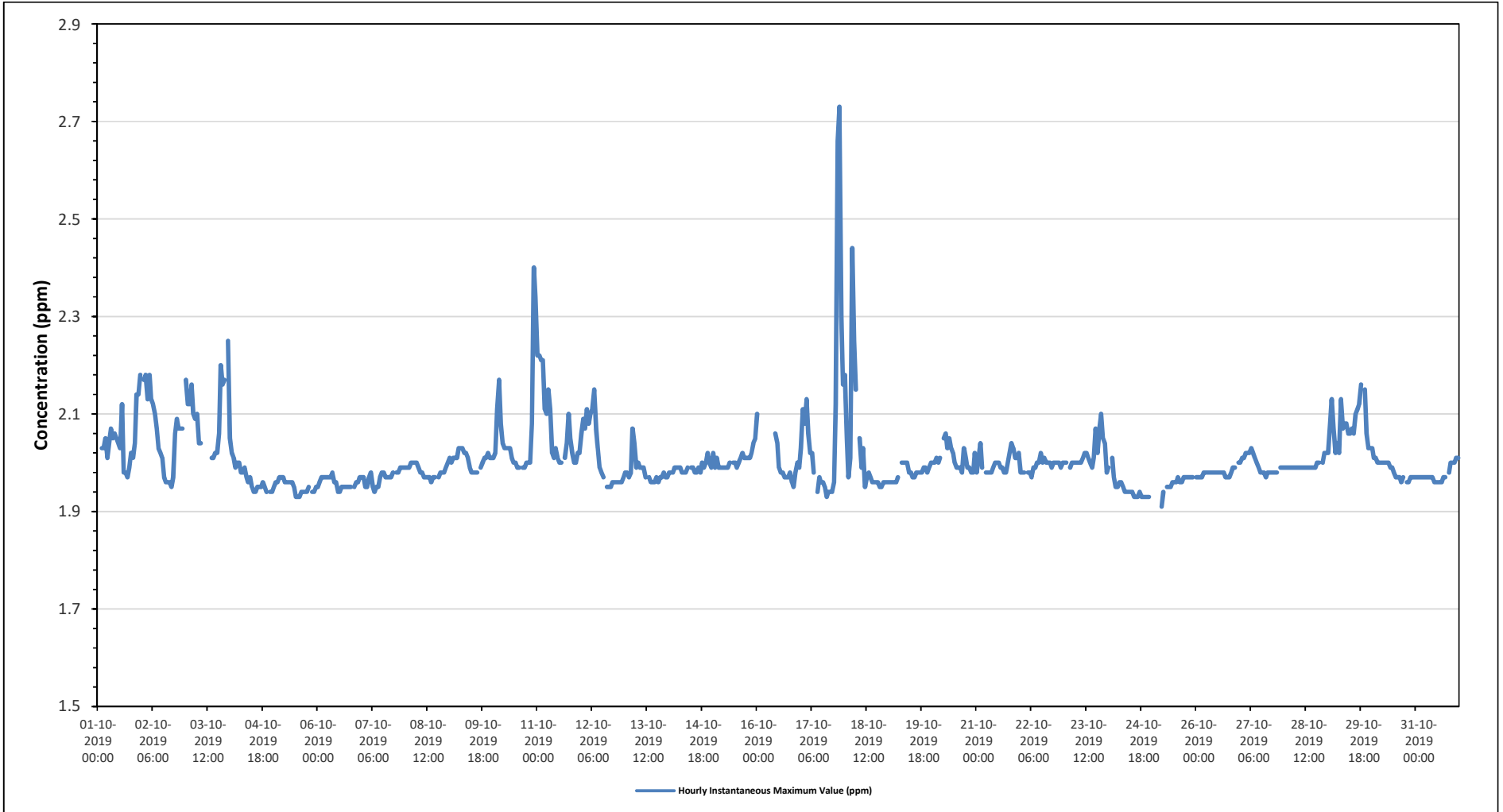
| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.73 ppm on October 17 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.10 ppm on October 3 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.91 ppm on October 25 at hour 5 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.95 ppm on October 24 | Hours of Calibration: | 37 |
| Monthly Average: | 2.01 ppm | Operational Uptime: | 98.0 |

| 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 | |
| Oct 1 | 2.00 | S | 2.03 | 2.03 | 2.05 | 2.01 | 2.04 | 2.07 | 2.05 | 2.06 | 2.05 | 2.04 | 2.03 | 2.12 | 1.98 | 1.98 | 1.97 | 1.99 | 2.02 | 2.01 | 2.04 | 2.14 | 2.14 | 2.18 | 1.97 | 2.18 | 2.04 | |
| Oct 2 | S | 2.17 | 2.18 | 2.13 | 2.18 | 2.13 | 2.12 | 2.10 | 2.07 | 2.03 | 2.02 | 2.01 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.97 | 2.06 | 2.09 | 2.07 | 2.07 | 2.07 | S | 1.95 | 2.18 | 2.06 | |
| Oct 3 | 2.17 | 2.12 | 2.12 | 2.16 | 2.10 | 2.09 | 2.10 | 2.04 | 2.04 | C | C | C | C | C | 2.01 | 2.01 | 2.02 | 2.02 | 2.06 | 2.20 | 2.16 | 2.17 | S | 2.25 | 2.01 | 2.25 | 2.10 | |
| Oct 4 | 2.05 | 2.02 | 2.01 | 1.99 | 2.00 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | S | 1.94 | 1.94 | 1.94 | 2.05 | 1.97 | |
| Oct 5 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.93 | 1.97 | 1.95 | |
| Oct 6 | 1.95 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.96 | 1.96 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.96 | 1.96 | 1.97 | 1.94 | 1.98 | 1.96 | |
| Oct 7 | 1.97 | 1.97 | 1.95 | 1.95 | 1.97 | 1.98 | 1.95 | 1.94 | 1.95 | 1.95 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.94 | 1.99 | 1.97 | |
| Oct 8 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 9 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 1.98 | 2.03 | 2.01 |
| Oct 10 | 2.01 | 2.02 | 2.11 | 2.17 | 2.08 | 2.04 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.08 | 2.40 | 2.34 | 1.99 | 2.40 | 2.06 | |
| Oct 11 | 2.22 | 2.22 | 2.21 | 2.21 | 2.11 | 2.10 | 2.15 | 2.11 | 2.02 | 2.01 | 2.03 | 2.01 | 2.00 | 2.00 | S | 2.01 | 2.04 | 2.10 | 2.05 | 2.02 | 2.00 | 2.00 | 2.02 | 2.02 | 2.00 | 2.22 | 2.07 | |
| Oct 12 | 2.06 | 2.09 | 2.07 | 2.11 | 2.08 | 2.10 | 2.11 | 2.15 | 2.07 | 2.03 | 1.99 | 1.98 | 1.97 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.95 | 2.15 | 2.02 | |
| Oct 13 | 1.98 | 1.98 | 1.97 | 1.98 | 2.07 | 2.04 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.97 | S | 1.97 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 2.07 | 1.98 | |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 2.00 | 1.99 | 2.00 | 2.02 | 2.00 | 1.99 | 1.98 | 2.02 | 1.99 | |
| Oct 15 | 2.02 | 1.99 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.00 | 1.99 | 2.00 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.04 | 2.05 | 1.99 | 2.05 | 2.01 | |
| Oct 16 | 2.10 | P | P | P | P | P | P | P | R | S | 2.06 | 2.04 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.96 | 1.95 | 1.98 | 2.00 | 1.99 | 1.95 | 2.10 | - | | |
| Oct 17 | 2.03 | 2.11 | 2.08 | 2.13 | 2.06 | 2.02 | 2.02 | 1.98 | S | 1.94 | 1.97 | 1.96 | 1.96 | 1.95 | 1.93 | 1.94 | 1.94 | 1.94 | 1.96 | 2.12 | 2.66 | 2.73 | 2.30 | 2.16 | 1.93 | 2.73 | 2.08 | |
| Oct 18 | 2.18 | 2.05 | 1.97 | 2.01 | 2.44 | 2.25 | 2.15 | S | 2.05 | 1.99 | 2.03 | 1.95 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.95 | 2.44 | 2.03 | |
| Oct 19 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 2.00 | 2.00 | 2.00 | 2.00 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 20 | 2.00 | 2.00 | 2.01 | 2.00 | 2.01 | S | 2.05 | 2.06 | 2.03 | 2.05 | 2.02 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 2.03 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 2.02 | 1.98 | 2.06 | 2.01 | 2.01 | |
| Oct 21 | 1.98 | 2.01 | 2.04 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.02 | 2.04 | 2.03 | 2.01 | 2.01 | 2.02 | 1.98 | 2.04 | 2.00 | |
| Oct 22 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.99 | 1.99 | 2.00 | 2.00 | 2.02 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 1.97 | 2.02 | 1.99 | |
| Oct 23 | 2.00 | 2.00 | S | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 2.01 | 2.07 | 2.02 | 2.07 | 2.10 | 2.05 | 2.04 | 1.98 | 1.98 | 2.10 | 2.02 | 2.02 | |
| Oct 24 | 1.99 | S | 2.01 | 1.97 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 2.01 | 1.95 | 1.95 | |
| Oct 25 | P | P | P | P | R | 1.91 | 1.94 | S1 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.91 | 1.97 | - | |
| Oct 26 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.99 | S | 2.00 | 1.97 | 2.00 | 1.98 | |
| Oct 27 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 1.99 | 1.97 | 2.03 | 2.00 | |
| Oct 28 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | S | 2.00 | 2.02 | 2.02 | 1.99 | 2.02 | 1.99 | |
| Oct 29 | 2.02 | 2.08 | 2.13 | 2.07 | 2.02 | 2.04 | 2.02 | 2.13 | 2.07 | 2.08 | 2.08 | 2.06 | 2.06 | 2.07 | 2.06 | 2.10 | 2.11 | 2.12 | 2.16 | S | 2.15 | 2.06 | 2.03 | 2.03 | 2.02 | 2.16 | 2.08 | |
| Oct 30 | 2.03 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 2.03 | 1.99 | |
| Oct 31 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 1.96 | 2.01 | 1.98 | |
| Diurnal Maximum | 2.22 | 2.22 | 2.21 | 2.21 | 2.44 | 2.25 | 2.15 | 2.15 | 2.07 | 2.08 | 2.08 | 2.06 | 2.06 | 2.12 | 2.06 | 2.10 | 2.11 | 2.12 | 2.16 | 2.20 | 2.66 | 2.73 | 2.40 | 2.34 | | | | |
| Diurnal Average | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.02 | 2.03 | 2.02 | 2.03 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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

Reno Station - October 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

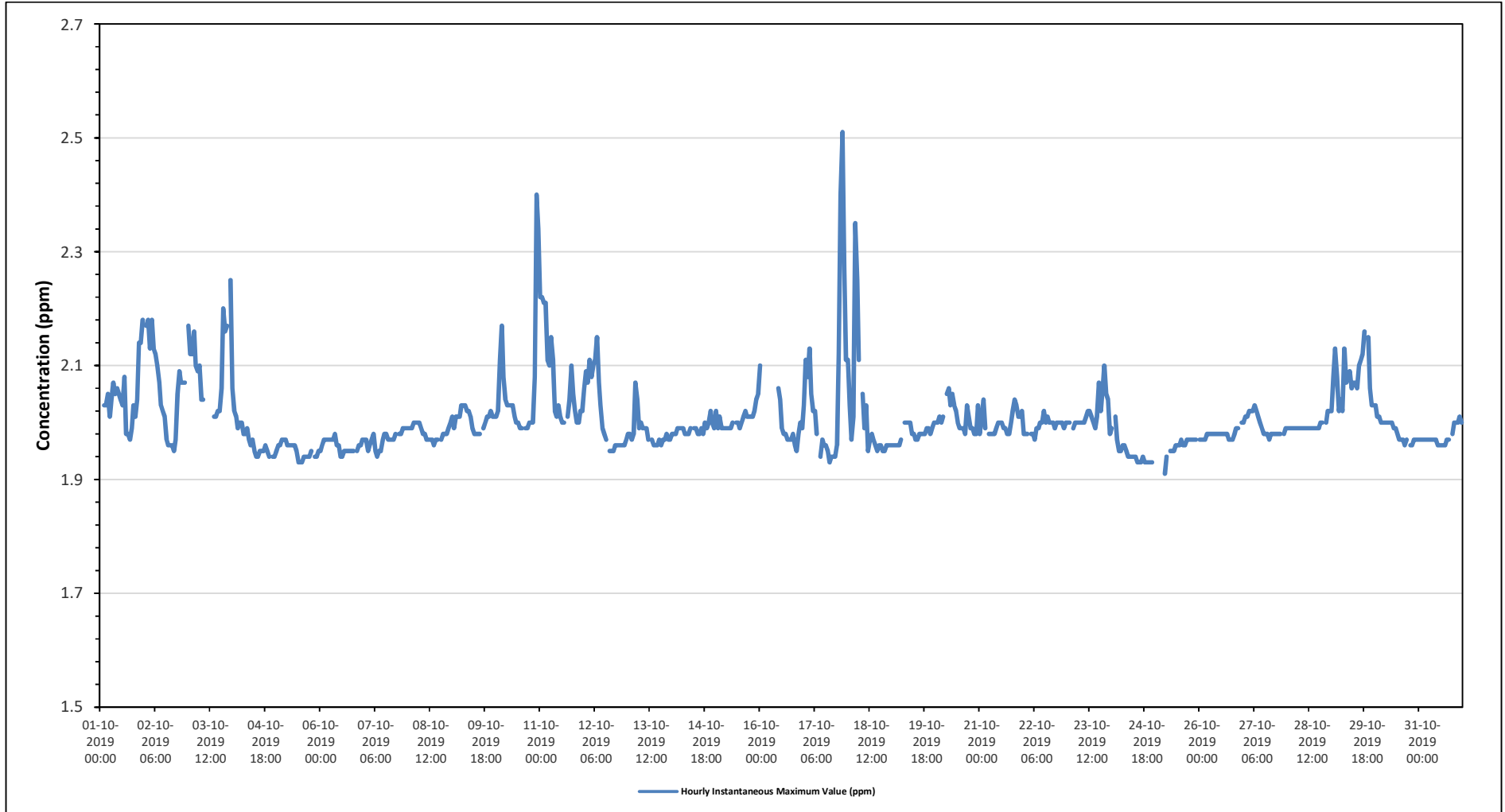
| | | | |
|-----------------------|-----------------------------------|------------------------|------|
| Maximum Hourly Value: | 2.51 ppm on October 17 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.10 ppm on October 3 | Hours of Data: | 692 |
| Minimum Hourly Value: | 1.91 ppm on October 25 at hour 5 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.95 ppm on October 24 | Hours of Calibration: | 37 |
| Monthly Average: | 2.00 ppm | Operational Uptime: | 98.0 |

| 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 | |
| Oct 1 | 2.01 | S | 2.03 | 2.03 | 2.05 | 2.01 | 2.04 | 2.07 | 2.05 | 2.06 | 2.05 | 2.04 | 2.03 | 2.08 | 1.98 | 1.98 | 1.97 | 1.99 | 2.03 | 2.01 | 2.04 | 2.14 | 2.14 | 2.18 | 1.97 | 2.18 | 2.04 | |
| Oct 2 | S | 2.17 | 2.18 | 2.13 | 2.18 | 2.13 | 2.12 | 2.10 | 2.07 | 2.03 | 2.02 | 2.01 | 1.97 | 1.96 | 1.96 | 1.96 | 1.95 | 1.97 | 2.05 | 2.09 | 2.07 | 2.07 | 2.07 | S | 1.95 | 2.18 | 2.06 | |
| Oct 3 | 2.17 | 2.12 | 2.12 | 2.16 | 2.10 | 2.09 | 2.10 | 2.04 | 2.04 | C | C | C | C | C | 2.01 | 2.01 | 2.02 | 2.02 | 2.06 | 2.20 | 2.16 | 2.17 | S | 2.25 | 2.01 | 2.25 | 2.10 | |
| Oct 4 | 2.06 | 2.02 | 2.01 | 1.99 | 2.00 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.96 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.94 | S | 1.94 | 1.94 | 1.94 | 2.06 | 1.97 | |
| Oct 5 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | S | S | 1.94 | 1.94 | 1.95 | 1.93 | 1.97 | 1.95 | |
| Oct 6 | 1.95 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.96 | 1.96 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.96 | 1.96 | 1.97 | 1.94 | 1.98 | 1.96 | |
| Oct 7 | 1.97 | 1.97 | 1.95 | 1.96 | 1.97 | 1.98 | 1.95 | 1.94 | 1.95 | 1.95 | 1.97 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.94 | 1.99 | 1.97 | |
| Oct 8 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 9 | 2.01 | 1.99 | 2.01 | 2.01 | 2.01 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | S | S | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 1.98 | 2.03 | 2.01 |
| Oct 10 | 2.01 | 2.02 | 2.11 | 2.17 | 2.08 | 2.04 | 2.03 | 2.03 | 2.03 | 2.03 | 2.01 | 2.00 | 1.99 | 1.99 | S | S | 1.99 | 1.99 | 2.00 | 2.00 | 2.00 | 2.08 | 2.40 | 2.34 | 1.99 | 2.40 | 2.06 | |
| Oct 11 | 2.22 | 2.22 | 2.21 | 2.21 | 2.11 | 2.10 | 2.15 | 2.11 | 2.02 | 2.01 | 2.03 | 2.01 | 2.00 | 2.00 | S | 2.01 | 2.04 | 2.10 | 2.05 | 2.02 | 2.00 | 2.00 | 2.02 | 2.02 | 2.00 | 2.22 | 2.07 | |
| Oct 12 | 2.06 | 2.09 | 2.07 | 2.11 | 2.08 | 2.10 | 2.11 | 2.15 | 2.07 | 2.03 | 1.99 | 1.98 | 1.97 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.95 | 2.15 | 2.02 | |
| Oct 13 | 1.98 | 1.98 | 1.97 | 1.98 | 2.07 | 2.04 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.97 | S | 1.97 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 2.07 | 1.98 | |
| Oct 14 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 2.00 | 1.99 | 2.00 | 2.02 | 2.00 | 1.99 | 1.98 | 2.02 | 1.99 | |
| Oct 15 | 2.02 | 1.99 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.00 | 1.99 | 2.00 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.04 | 2.05 | 1.99 | 2.05 | 2.01 | |
| Oct 16 | 2.10 | P | P | P | P | P | P | P | R | S | 2.06 | 2.04 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.96 | 1.95 | 1.98 | 1.95 | 1.98 | 1.99 | 1.95 | 2.10 | - | |
| Oct 17 | 2.03 | 2.11 | 2.08 | 2.13 | 2.05 | 2.02 | 2.02 | 1.98 | S | 1.94 | 1.97 | 1.96 | 1.96 | 1.95 | 1.93 | 1.94 | 1.94 | 1.94 | 1.96 | 2.12 | 2.40 | 2.51 | 2.27 | 2.11 | 1.93 | 2.51 | 2.06 | |
| Oct 18 | 2.11 | 2.03 | 1.97 | 2.01 | 2.35 | 2.25 | 2.11 | S | 2.05 | 1.99 | 2.03 | 1.95 | 1.97 | 1.98 | 1.97 | 1.96 | 1.95 | 1.96 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.95 | 2.35 | 2.02 | |
| Oct 19 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 2.00 | 2.00 | 2.00 | 2.00 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 1.98 | 1.99 | 2.00 | 1.96 | 2.00 | 1.98 | |
| Oct 20 | 2.00 | 2.00 | 2.01 | 2.00 | 2.01 | S | 2.05 | 2.06 | 2.03 | 2.05 | 2.02 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 2.03 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 2.03 | 1.98 | 2.06 | 2.01 | 2.01 | |
| Oct 21 | 1.98 | 2.01 | 2.04 | 1.99 | S | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.02 | 2.04 | 2.03 | 2.01 | 2.01 | 2.02 | 1.98 | 2.04 | 2.00 | |
| Oct 22 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.98 | 1.97 | 1.99 | 1.99 | 2.00 | 2.00 | 2.02 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 2.00 | 1.97 | 2.02 | 1.99 | |
| Oct 23 | 2.00 | 2.00 | S | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 2.01 | 2.07 | 2.02 | 2.06 | 2.10 | 2.05 | 2.04 | 1.98 | 1.98 | 2.10 | 2.02 | 2.02 | |
| Oct 24 | 1.99 | S | 2.01 | 1.97 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 2.01 | 1.95 | |
| Oct 25 | P | P | P | P | R | 1.91 | 1.94 | S1 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | S | 1.91 | 1.97 | - | |
| Oct 26 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.99 | S | 2.00 | 1.97 | 2.00 | 1.98 | |
| Oct 27 | 2.00 | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.99 | 1.97 | 2.03 | 2.00 | |
| Oct 28 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | S | 2.00 | 2.02 | 2.02 | 1.99 | 2.02 | 1.99 | |
| Oct 29 | 2.02 | 2.08 | 2.13 | 2.08 | 2.02 | 2.04 | 2.02 | 2.13 | 2.07 | 2.08 | 2.09 | 2.06 | 2.07 | 2.07 | 2.06 | 2.10 | 2.11 | 2.12 | 2.16 | S | 2.15 | 2.06 | 2.03 | 2.03 | 2.02 | 2.16 | 2.08 | |
| Oct 30 | 2.03 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.96 | 2.03 | 1.99 | |
| Oct 31 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.98 | 2.00 | 2.00 | 2.01 | 2.00 | 1.96 | 2.01 | 1.98 | | |
| Diurnal Maximum | 2.22 | 2.22 | 2.21 | 2.21 | 2.35 | 2.25 | 2.15 | 2.15 | 2.07 | 2.08 | 2.09 | 2.06 | 2.07 | 2.08 | 2.06 | 2.10 | 2.11 | 2.12 | 2.16 | 2.20 | 2.40 | 2.51 | 2.40 | 2.34 | | | | |
| Diurnal Average | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.02 | 2.02 | 2.02 | 2.03 | | | | |

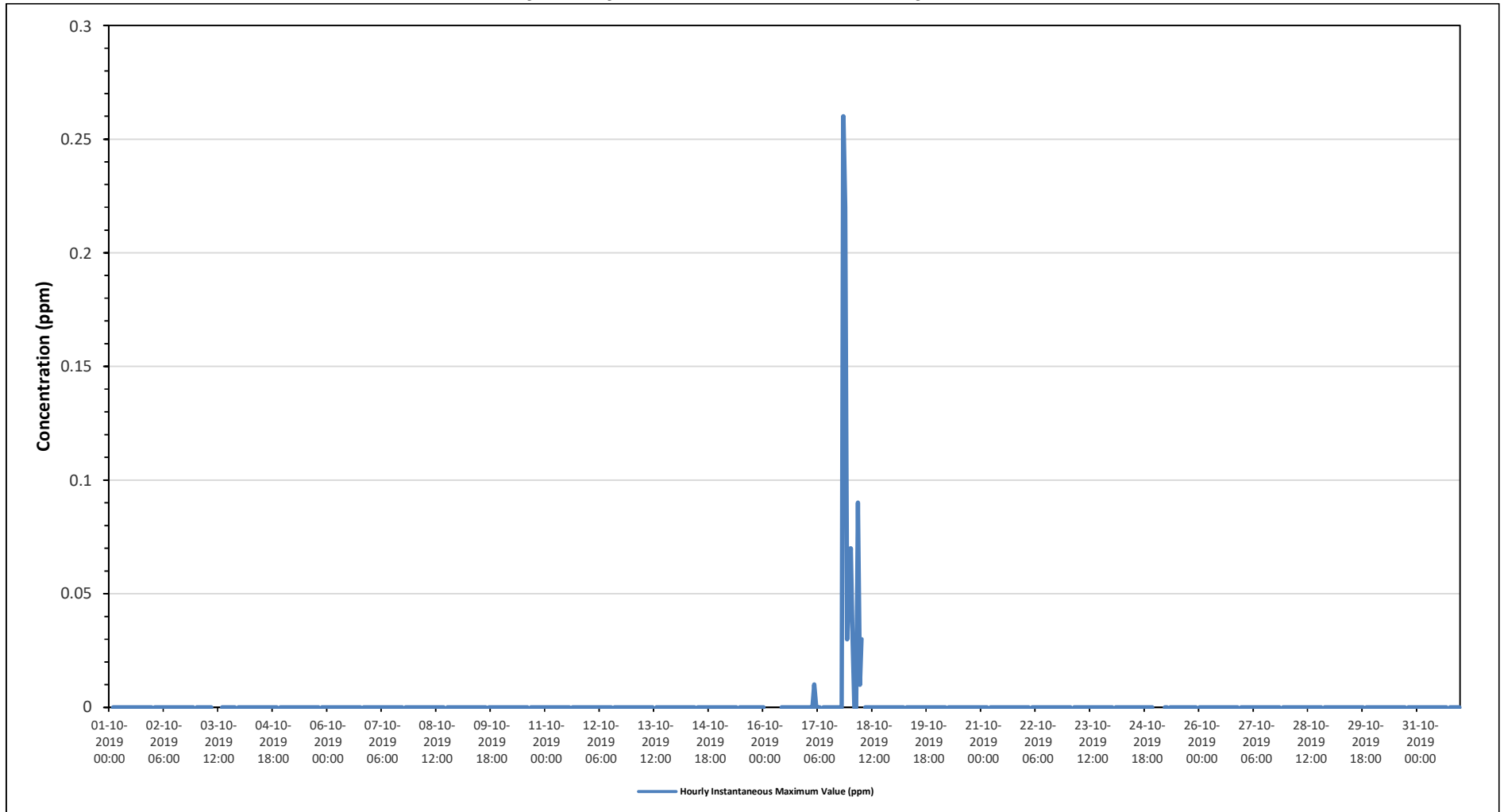
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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



Timeseries Chart of Hourly Instantaneous Maximum for NMHC - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - October 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/hr

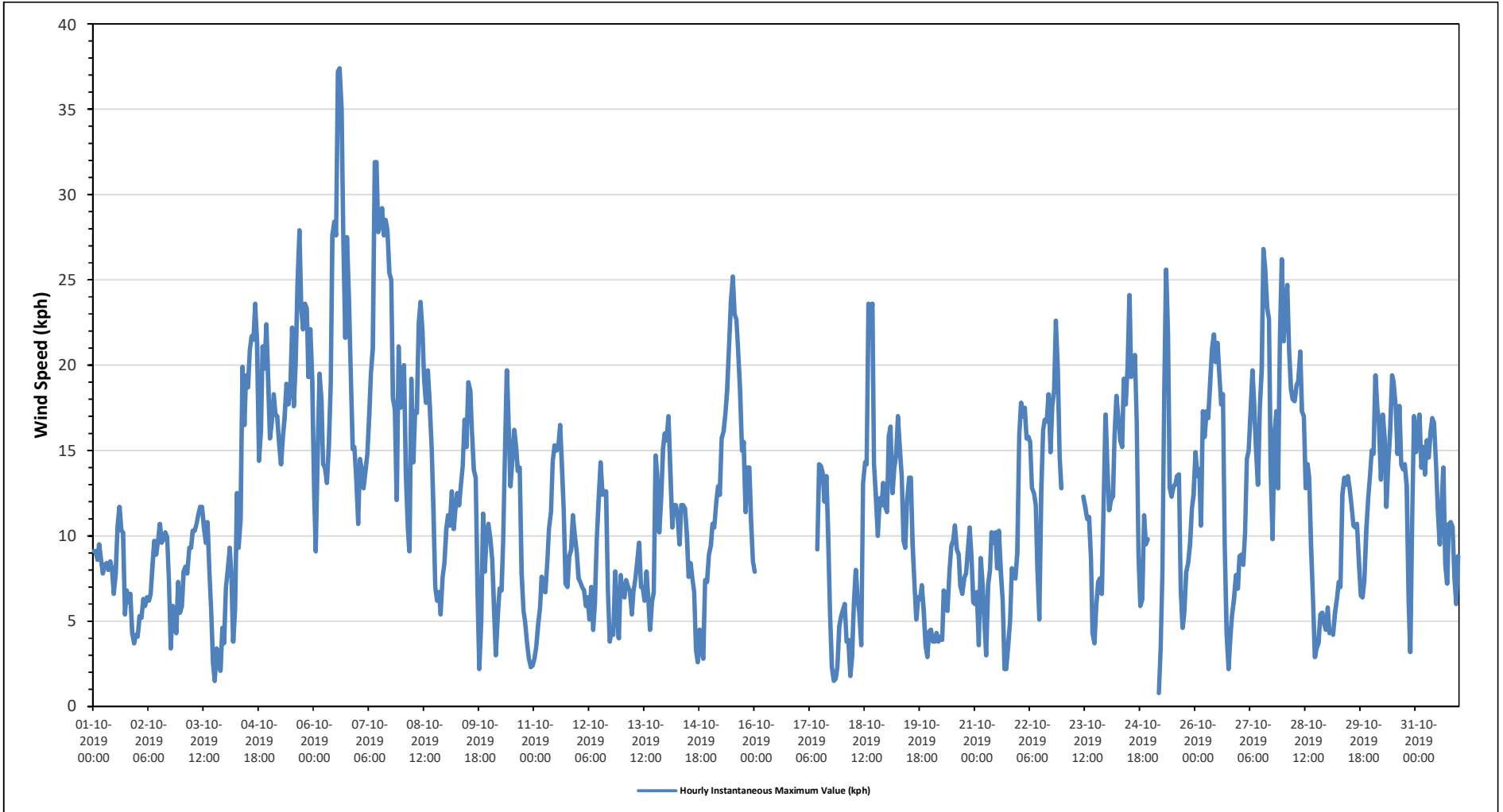
| | | | | |
|-----------------------|----------|-------------------------|------------------------|------|
| Maximum Hourly Value: | 37.4 kph | on October 6 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 21.2 kph | on October 7 | Hours of Data: | 695 |
| Minimum Hourly Value: | 0.8 kph | on October 25 at hour 4 | Hours of Missing Data: | 49 |
| Minimum Daily Value: | 6.8 kph | on October 21 | Hours of Calibration: | 0 |
| Monthly Average: | 12.1 kph | | Operational Uptime: | 93.4 |

| 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 | |
| Oct 1 | 9.1 | 9.1 | 8.6 | 9.5 | 8.6 | 7.8 | 8.3 | 8.4 | 8.0 | 8.5 | 8.0 | 6.6 | 7.8 | 10.6 | 11.7 | 10.3 | 10.2 | 5.4 | 6.8 | 6.1 | 6.6 | 4.3 | 3.7 | 4.2 | 3.7 | 11.7 | 7.8 | |
| Oct 2 | 4.1 | 5.3 | 5.2 | 6.3 | 5.9 | 6.4 | 6.2 | 6.6 | 6.3 | 9.7 | 8.9 | 9.7 | 10.7 | 9.6 | 9.8 | 10.2 | 9.9 | 7.3 | 3.4 | 5.9 | 5.6 | 4.3 | 7.3 | 5.5 | 3.4 | 10.7 | 7.2 | |
| Oct 3 | 5.9 | 7.9 | 8.2 | 7.8 | 9.3 | 9.3 | 10.3 | 10.3 | 10.7 | 11.3 | 11.7 | 11.7 | 10.5 | 9.6 | 10.8 | 7.9 | 5.6 | 2.5 | 1.5 | 3.4 | 2.6 | 2.1 | 4.6 | 3.7 | 1.5 | 11.7 | 7.5 | |
| Oct 4 | 7.0 | 8.0 | 9.3 | 7.9 | 3.8 | 5.7 | 12.5 | 9.3 | 11.0 | 19.9 | 16.5 | 19.4 | 18.7 | 20.9 | 21.7 | 21.5 | 23.6 | 21.2 | 14.4 | 16.2 | 21.1 | 19.8 | 22.4 | 18.9 | 3.8 | 23.6 | 15.4 | |
| Oct 5 | 15.7 | 16.6 | 18.3 | 17.1 | 17.0 | 15.4 | 14.2 | 15.8 | 16.9 | 18.9 | 17.7 | 18.6 | 22.2 | 17.6 | 20.0 | 24.7 | 27.9 | 23.5 | 22.1 | 23.6 | 23.3 | 19.3 | 22.1 | 19.0 | 14.2 | 27.9 | 19.5 | |
| Oct 6 | 12.3 | 9.1 | 14.8 | 19.5 | 17.9 | 14.2 | 14.0 | 13.1 | 15.3 | 18.9 | 27.6 | 28.4 | 27.6 | 37.2 | 37.4 | 35.0 | 26.9 | 21.6 | 27.5 | 23.8 | 19.4 | 15.1 | 15.2 | 13.4 | 9.1 | 37.4 | 21.1 | |
| Oct 7 | 10.7 | 14.5 | 13.8 | 12.8 | 13.8 | 14.8 | 17.1 | 19.5 | 21.0 | 31.9 | 31.9 | 27.8 | 28.2 | 29.2 | 27.6 | 28.5 | 27.9 | 25.4 | 25.0 | 18.1 | 17.4 | 12.1 | 21.1 | 17.5 | 10.7 | 31.9 | 21.2 | |
| Oct 8 | 18.7 | 20.0 | 13.7 | 10.5 | 9.1 | 19.2 | 14.3 | 17.3 | 17.2 | 22.5 | 23.7 | 22.0 | 19.2 | 17.8 | 19.7 | 17.6 | 15.1 | 11.7 | 7.0 | 6.2 | 6.7 | 5.4 | 7.6 | 8.4 | 5.4 | 23.7 | 14.6 | |
| Oct 9 | 10.4 | 11.2 | 10.6 | 12.6 | 10.4 | 11.5 | 12.5 | 11.8 | 13.0 | 14.1 | 16.8 | 15.2 | 19.0 | 18.5 | 16.2 | 13.9 | 13.4 | 6.7 | 2.2 | 5.0 | 11.3 | 7.9 | 10.2 | 10.7 | 2.2 | 19.0 | 11.9 | |
| Oct 10 | 9.8 | 8.6 | 6.0 | 3.0 | 5.3 | 6.9 | 6.8 | 9.7 | 14.9 | 19.7 | 16.3 | 12.9 | 14.4 | 16.2 | 15.2 | 13.8 | 14.0 | 7.8 | 5.6 | 5.0 | 3.7 | 2.8 | 2.3 | 2.4 | 2.3 | 19.7 | 9.3 | |
| Oct 11 | 2.8 | 3.5 | 4.8 | 5.8 | 7.6 | 6.8 | 6.7 | 8.6 | 10.4 | 11.4 | 14.4 | 15.3 | 15.0 | 15.1 | 16.5 | 13.9 | 11.5 | 7.2 | 7.0 | 8.8 | 9.2 | 11.2 | 10.0 | 9.1 | 2.8 | 16.5 | 9.7 | |
| Oct 12 | 7.5 | 7.3 | 7.0 | 6.8 | 5.9 | 6.4 | 5.1 | 7.0 | 4.5 | 6.1 | 9.8 | 12.1 | 14.3 | 12.4 | 12.6 | 12.6 | 6.7 | 3.8 | 4.4 | 4.2 | 7.9 | 5.4 | 4.0 | 7.7 | 3.8 | 14.3 | 7.6 | |
| Oct 13 | 6.5 | 6.4 | 7.4 | 7.0 | 6.8 | 5.4 | 6.7 | 7.5 | 8.5 | 9.6 | 7.0 | 7.0 | 6.2 | 7.9 | 6.2 | 4.5 | 6.1 | 6.7 | 14.7 | 13.5 | 10.2 | 12.1 | 15.1 | 16.0 | 4.5 | 16.0 | 8.5 | |
| Oct 14 | 15.6 | 17.0 | 13.7 | 10.5 | 11.8 | 11.8 | 11.1 | 9.5 | 11.8 | 11.8 | 11.6 | 10.0 | 7.6 | 8.4 | 7.5 | 6.7 | 3.3 | 2.6 | 4.5 | 3.2 | 2.8 | 7.4 | 7.3 | 8.9 | 2.6 | 17.0 | 9.0 | |
| Oct 15 | 9.4 | 10.7 | 10.5 | 12.0 | 12.9 | 12.4 | 15.7 | 16.1 | 17.2 | 18.5 | 21.1 | 23.7 | 25.2 | 23.0 | 22.7 | 20.8 | 18.5 | 15.0 | 15.5 | 11.4 | 14.0 | 14.0 | 10.9 | 8.5 | 8.5 | 25.2 | 15.8 | |
| Oct 16 | 7.9 | P | P | P | P | P | P | P | P | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 7.9 | 7.9 | - | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | X | 9.2 | 14.2 | 14.1 | 13.7 | 12.0 | 13.5 | 10.2 | 5.5 | 2.3 | 1.5 | 1.6 | 2.3 | 4.7 | 5.3 | 1.5 | 14.2 | - |
| Oct 18 | 5.6 | 6.0 | 3.8 | 3.9 | 1.8 | 2.9 | 6.1 | 8.0 | 6.2 | 5.5 | 3.6 | 13.1 | 14.3 | 14.2 | 23.6 | 22.8 | 23.6 | 14.2 | 12.3 | 10.0 | 12.2 | 11.8 | 13.1 | 11.7 | 1.8 | 23.6 | 10.4 | |
| Oct 19 | 11.4 | 15.9 | 16.4 | 12.5 | 14.0 | 14.8 | 17.0 | 15.1 | 13.5 | 9.7 | 9.3 | 12.1 | 13.4 | 13.4 | 9.6 | 7.2 | 5.1 | 6.4 | 6.3 | 7.1 | 5.6 | 3.5 | 2.9 | 4.4 | 2.9 | 17.0 | 10.3 | |
| Oct 20 | 4.5 | 3.8 | 3.8 | 4.3 | 3.8 | 4.1 | 3.9 | 6.8 | 6.1 | 5.6 | 8.0 | 9.4 | 9.7 | 10.6 | 9.2 | 8.9 | 7.1 | 6.6 | 7.5 | 7.8 | 9.0 | 10.5 | 8.9 | 6.1 | 3.8 | 10.6 | 6.9 | |
| Oct 21 | 6.0 | 6.7 | 3.6 | 8.7 | 7.4 | 5.2 | 3.0 | 7.1 | 8.0 | 10.2 | 9.6 | 10.2 | 8.1 | 10.3 | 7.9 | 6.2 | 2.2 | 2.2 | 3.6 | 5.0 | 8.1 | 7.6 | 7.5 | 9.0 | 2.2 | 10.3 | 6.8 | |
| Oct 22 | 15.9 | 17.8 | 17.0 | 17.5 | 15.7 | 15.8 | 15.5 | 12.8 | 12.5 | 11.8 | 8.2 | 5.1 | 12.6 | 16.2 | 16.8 | 16.7 | 18.3 | 14.9 | 17.6 | 18.5 | 22.6 | 19.7 | 14.6 | 12.8 | 5.1 | 22.6 | 15.3 | |
| Oct 23 | X | X | X | X | X | X | X | X | X | X | X | 12.3 | 11.7 | 11.0 | 11.1 | 8.7 | 4.3 | 3.7 | 5.9 | 7.3 | 7.5 | 6.6 | 12.0 | 17.1 | 3.7 | 17.1 | - | |
| Oct 24 | 14.3 | 11.5 | 12.1 | 12.3 | 16.0 | 18.2 | 16.9 | 15.6 | 15.2 | 19.2 | 17.7 | 19.9 | 24.1 | 19.3 | 19.5 | 20.6 | 16.6 | 8.8 | 5.9 | 6.3 | 11.2 | 9.5 | 9.8 | P | 5.9 | 24.1 | 14.8 | |
| Oct 25 | P | P | P | P | 0.8 | 3.4 | 7.9 | 18.3 | 25.6 | 21.9 | 12.8 | 12.3 | 12.9 | 13.0 | 13.5 | 13.6 | 6.8 | 4.6 | 5.5 | 7.9 | 8.4 | 9.5 | 11.6 | 12.4 | 0.8 | 25.6 | 11.1 | |
| Oct 26 | 14.9 | 13.5 | 13.9 | 10.6 | 17.3 | 15.8 | 17.3 | 16.9 | 18.9 | 21.0 | 21.8 | 20.2 | 21.3 | 19.4 | 17.7 | 18.3 | 9.4 | 4.3 | 2.2 | 4.2 | 5.4 | 6.3 | 7.7 | 6.9 | 2.2 | 21.8 | 13.6 | |
| Oct 27 | 8.8 | 8.9 | 8.3 | 10.2 | 14.5 | 15.0 | 17.2 | 19.7 | 17.7 | 15.0 | 13.0 | 17.5 | 19.8 | 26.8 | 25.7 | 23.4 | 22.7 | 14.1 | 9.8 | 16.0 | 17.3 | 12.8 | 21.7 | 26.2 | 8.3 | 26.8 | 16.8 | |
| Oct 28 | 21.4 | 23.4 | 24.7 | 20.9 | 18.6 | 18.0 | 17.9 | 18.8 | 19.1 | 20.8 | 17.3 | 17.0 | 12.8 | 14.2 | 13.4 | 9.3 | 6.3 | 2.9 | 3.4 | 3.7 | 5.4 | 5.5 | 4.9 | 4.5 | 2.9 | 24.7 | 13.5 | |
| Oct 29 | 5.8 | 4.3 | 4.4 | 4.2 | 5.5 | 6.3 | 7.3 | 7.0 | 12.4 | 13.4 | 13.0 | 13.5 | 12.8 | 11.7 | 10.6 | 10.5 | 10.7 | 8.5 | 6.5 | 6.4 | 7.4 | 10.3 | 12.2 | 13.5 | 4.2 | 13.5 | 9.1 | |
| Oct 30 | 15.0 | 14.8 | 19.4 | 17.5 | 16.6 | 13.3 | 17.1 | 15.7 | 11.7 | 14.2 | 16.2 | 19.4 | 19.0 | 17.6 | 14.8 | 17.6 | 14.2 | 13.9 | 14.2 | 12.9 | 6.1 | 3.2 | 11.0 | 17.0 | 3.2 | 19.4 | 14.7 | |
| Oct 31 | 14.9 | 16.1 | 17.1 | 14.0 | 15.2 | 13.6 | 15.6 | 14.6 | 16.1 | 16.9 | 16.6 | 14.1 | 11.4 | 9.5 | 11.6 | 14.0 | 8.3 | 7.2 | 10.7 | 10.8 | 10.5 | 7.5 | 6.0 | 8.8 | 6.0 | 17.1 | 12.5 | |
| Diurnal Maximum | 21.4 | 23.4 | 24.7 | 20.9 | 18.6 | 19.2 | 17.9 | 19.7 | 25.6 | 31.9 | 31.9 | 28.4 | 28.2 | 37.2 | 37.4 | 35.0 | 27.9 | 25.4 | 27.5 | 23.8 | 23.3 | 19.8 | 22.4 | 26.2 | | | | |
| Diurnal Average | 10.4 | 11.0 | 11.0 | 10.6 | 10.5 | 10.7 | 11.6 | 12.4 | 13.3 | 14.9 | 14.5 | 15.0 | 15.5 | 15.8 | 15.8 | 15.1 | 12.9 | 9.5 | 9.2 | 9.3 | 10.0 | 9.0 | 10.4 | 10.7 | | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 |

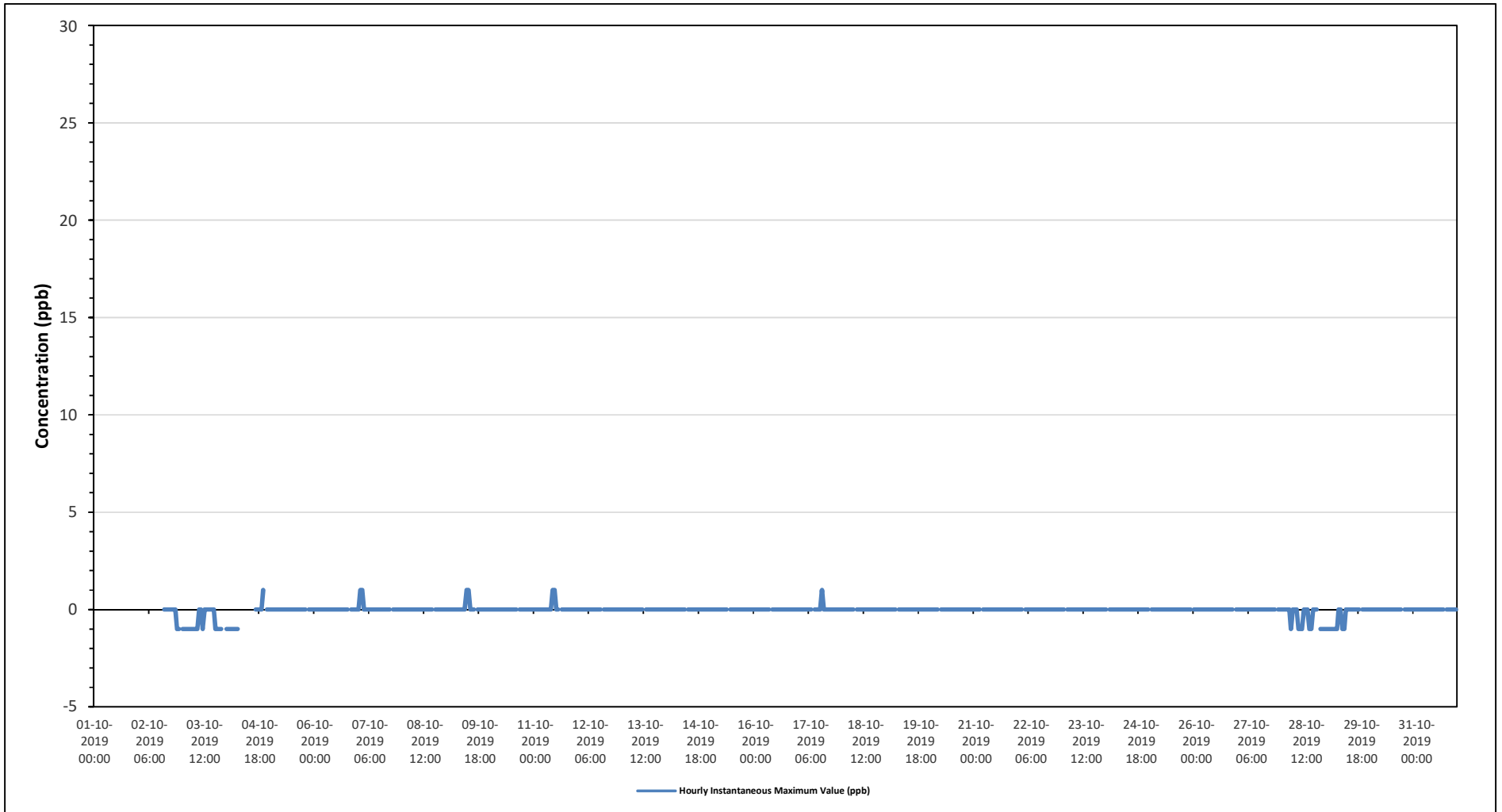
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for WS - Reno Station

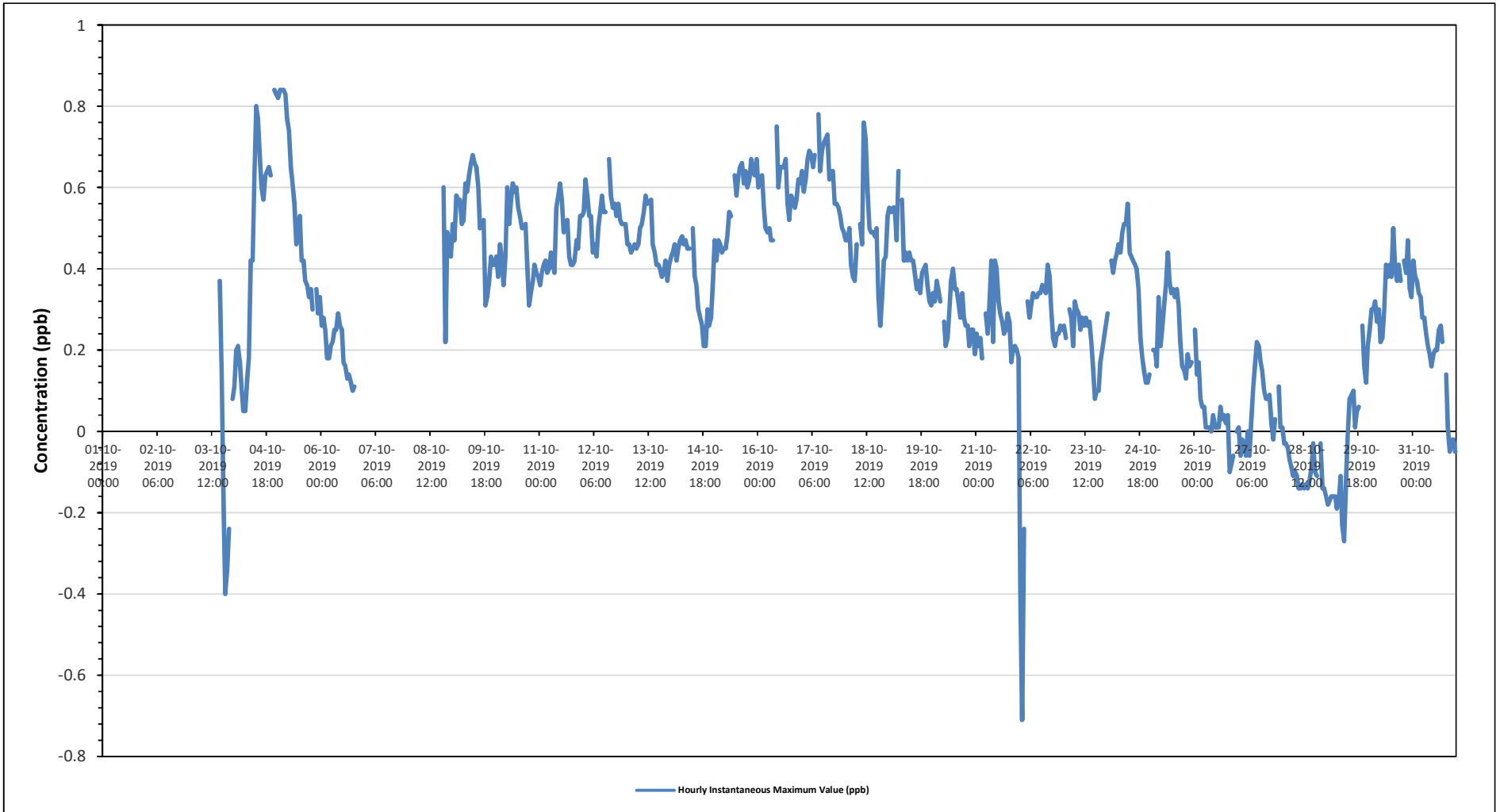


AQHI CADOTTE LAKE STATION

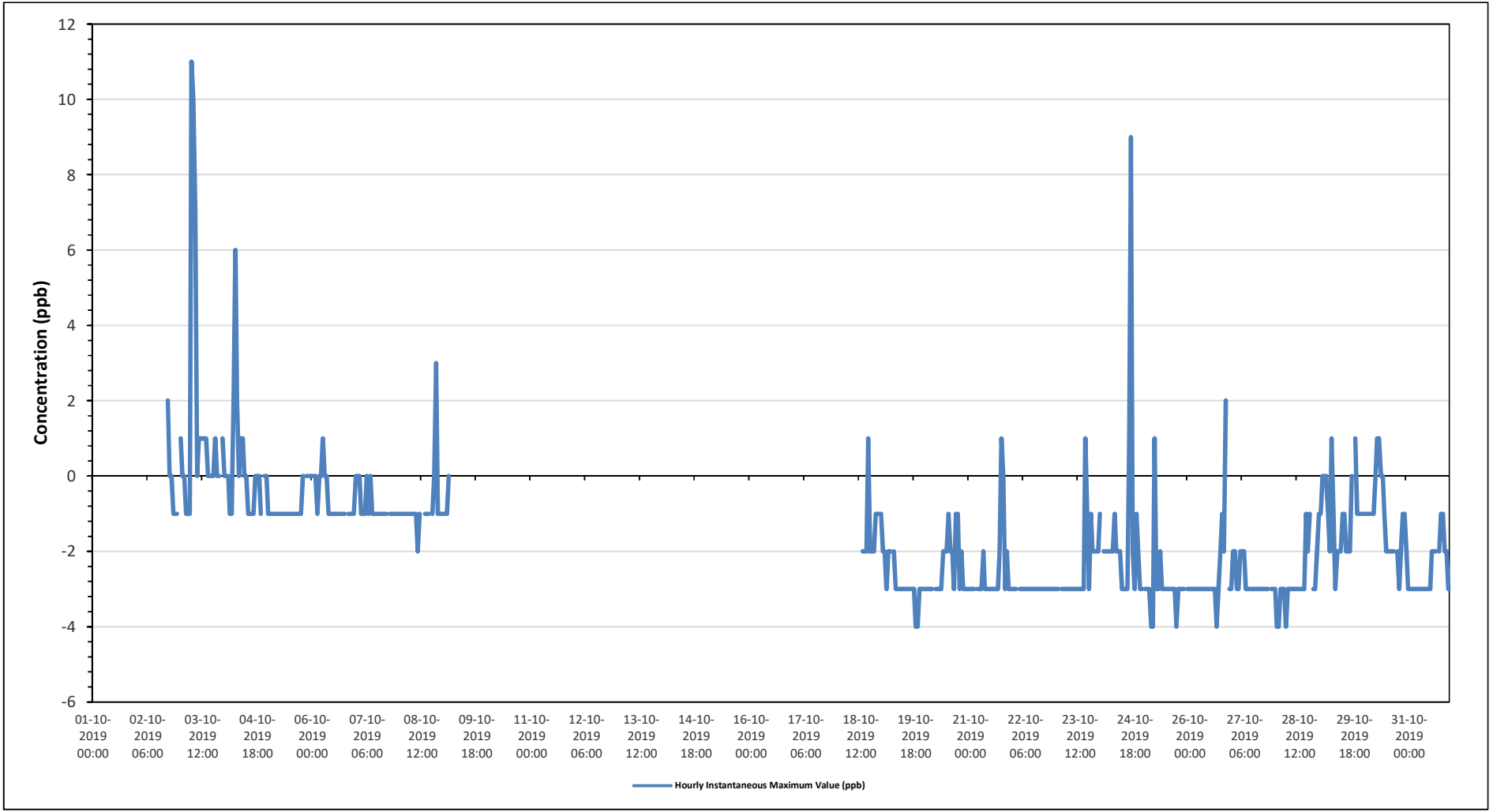
Timeseries Chart of Hourly Instantaneous Maximum for SO2 - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Instantaneous Maximum for TRS - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Instantaneous Maximum for NOx - AQHI - Cadotte Lake Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019 Summary of Hourly Instantaneous Maximums

NITRIC OXIDE (NO) in ppb

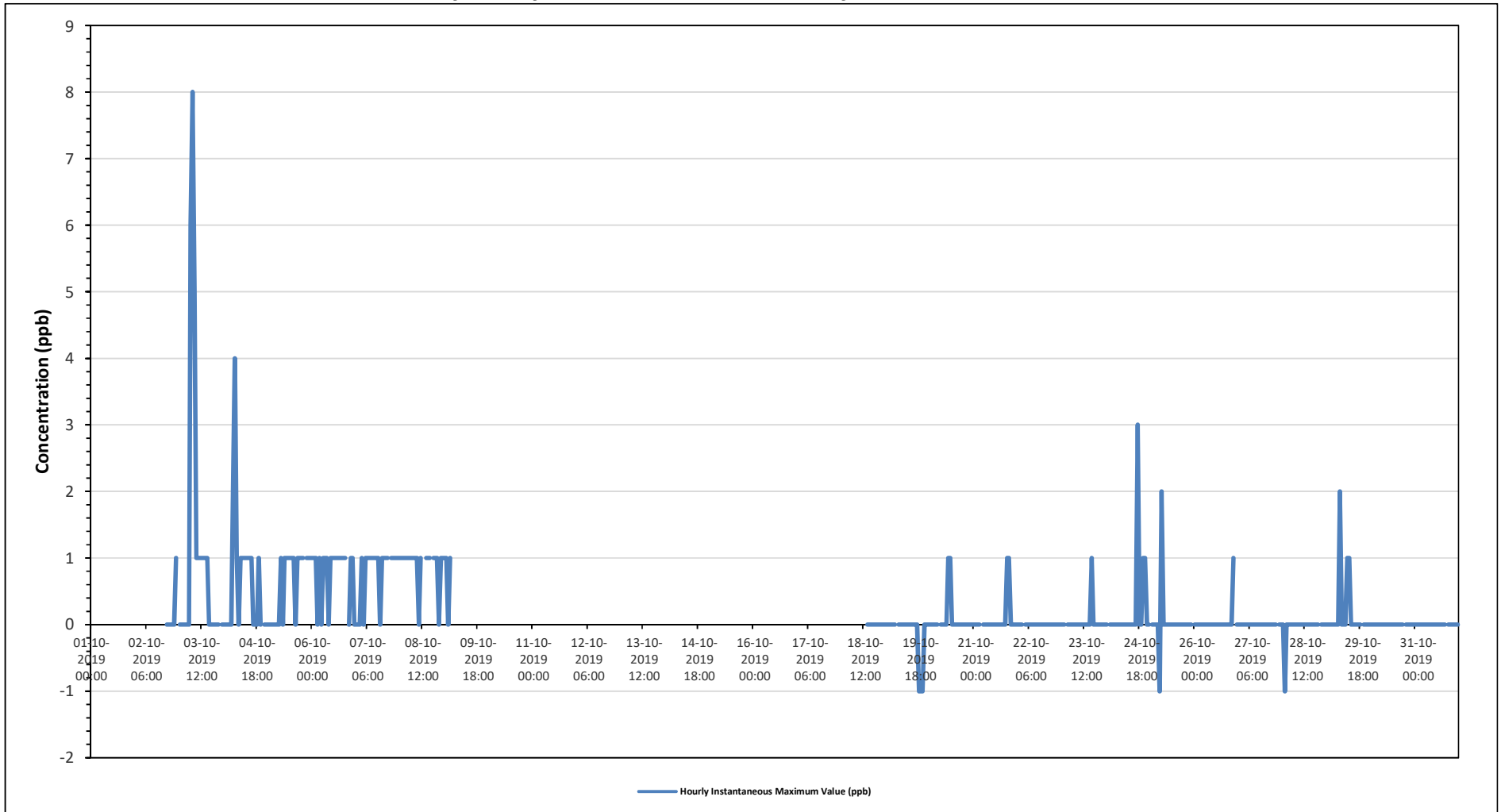
| | | | |
|-----------------------|---------------------------------|------------------------|------|
| Maximum Hourly Value: | 8 ppb on October 3 at hour 7 | Hours in Service: | 710 |
| Maximum Daily Value: | 1.1 ppb on October 3 | Hours of Data: | 454 |
| Minimum Hourly Value: | -1 ppb on October 19 at hour 18 | Hours of Missing Data: | 228 |
| Minimum Daily Value: | -0.1 ppb on October 19 | Hours of Calibration: | 28 |
| Monthly Average: | 0.3 ppb | Operational Uptime: | 67.9 |

| 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 | | | |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | - | | |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct 3 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 8 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 0 | 8 | 1.1 | |
| Oct 4 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 4 | 0.7 | |
| Oct 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 0 | 1 | 0.6 | |
| Oct 6 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.8 | |
| Oct 7 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.8 | | |
| Oct 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | Y | Y | 1 | 1 | 1 | S | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.9 | |
| Oct 9 | 1 | 1 | 0 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 0 | 1 | - |
| Oct 10 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 11 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 12 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 13 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 14 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 15 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 16 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 17 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| Oct 18 | X | X | X | X | X | X | X | X | X | C1 | C1 | C1 | C1 | C1 | | | | | | | | | | | | | | | | |
| Oct 19 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | -1 | 0 | -0.1 | |
| Oct 20 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Oct 21 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Oct 22 | 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 | 0 | 0.0 |
| Oct 23 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | |
| Oct 24 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0.2 | |
| Oct 25 | S | 0 | 0 | 0 | 0 | -1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | -1 | 0.0 | |
| Oct 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 0 | 1 | 0.0 | |
| Oct 27 | 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 | 0 | 0.0 |
| Oct 28 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 0 | 0 | 0 | -1 | 0 | 0.0 | |
| Oct 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.2 | |
| Oct 30 | 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 | 0 | 0.0 |
| Oct 31 | 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 | 0 | 0.0 |
| Diurnal Maximum | 1 | 1 | 1 | 1 | 1 | 2 | 6 | 8 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Diurnal Average | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.8 | 0.8 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | | | | | |

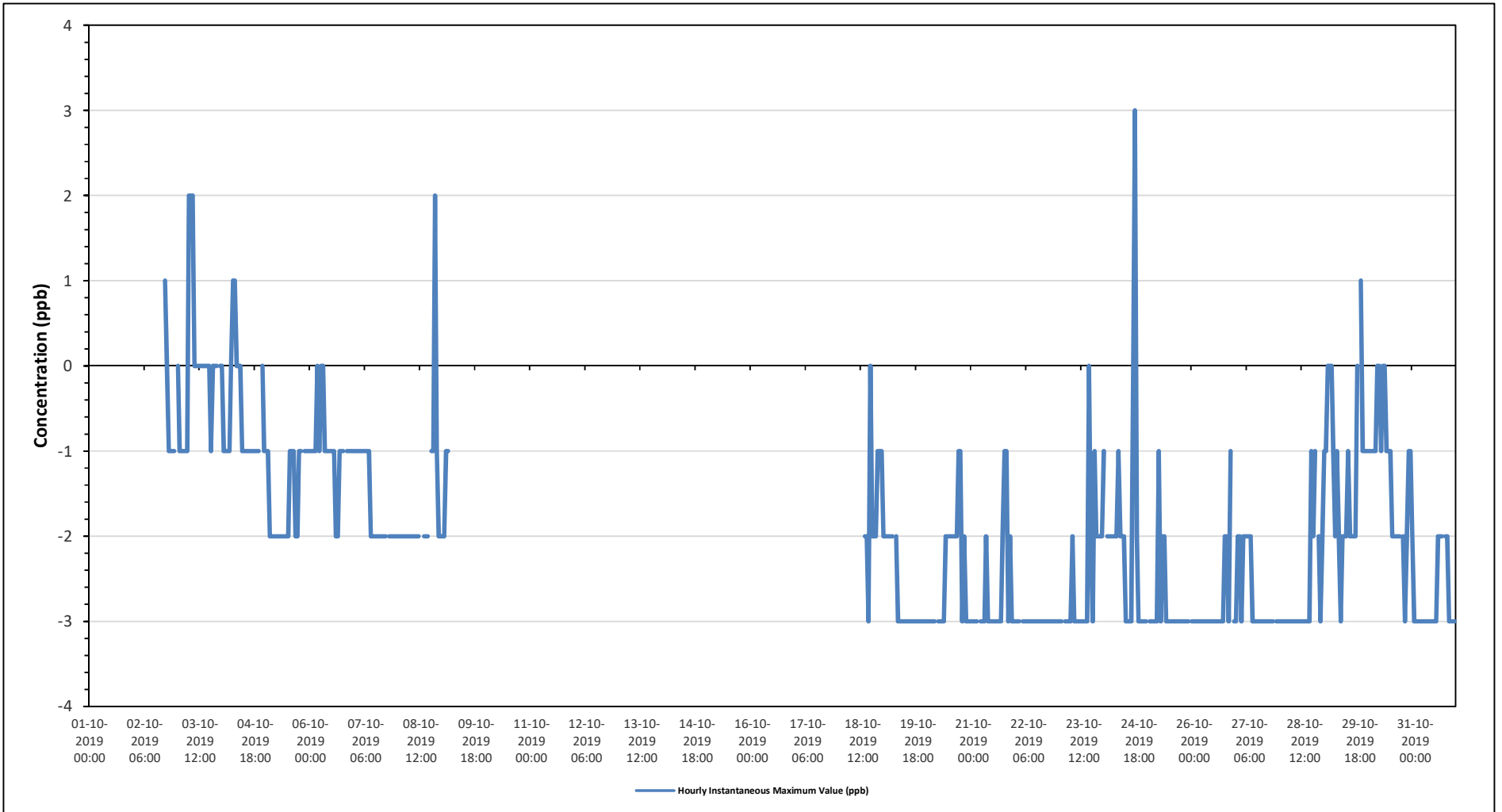
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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 NO - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Instantaneous Maximum for NO2 - AQHI - Cadotte Lake Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Instantaneous Maximums

OZONE (O₃) in ppb

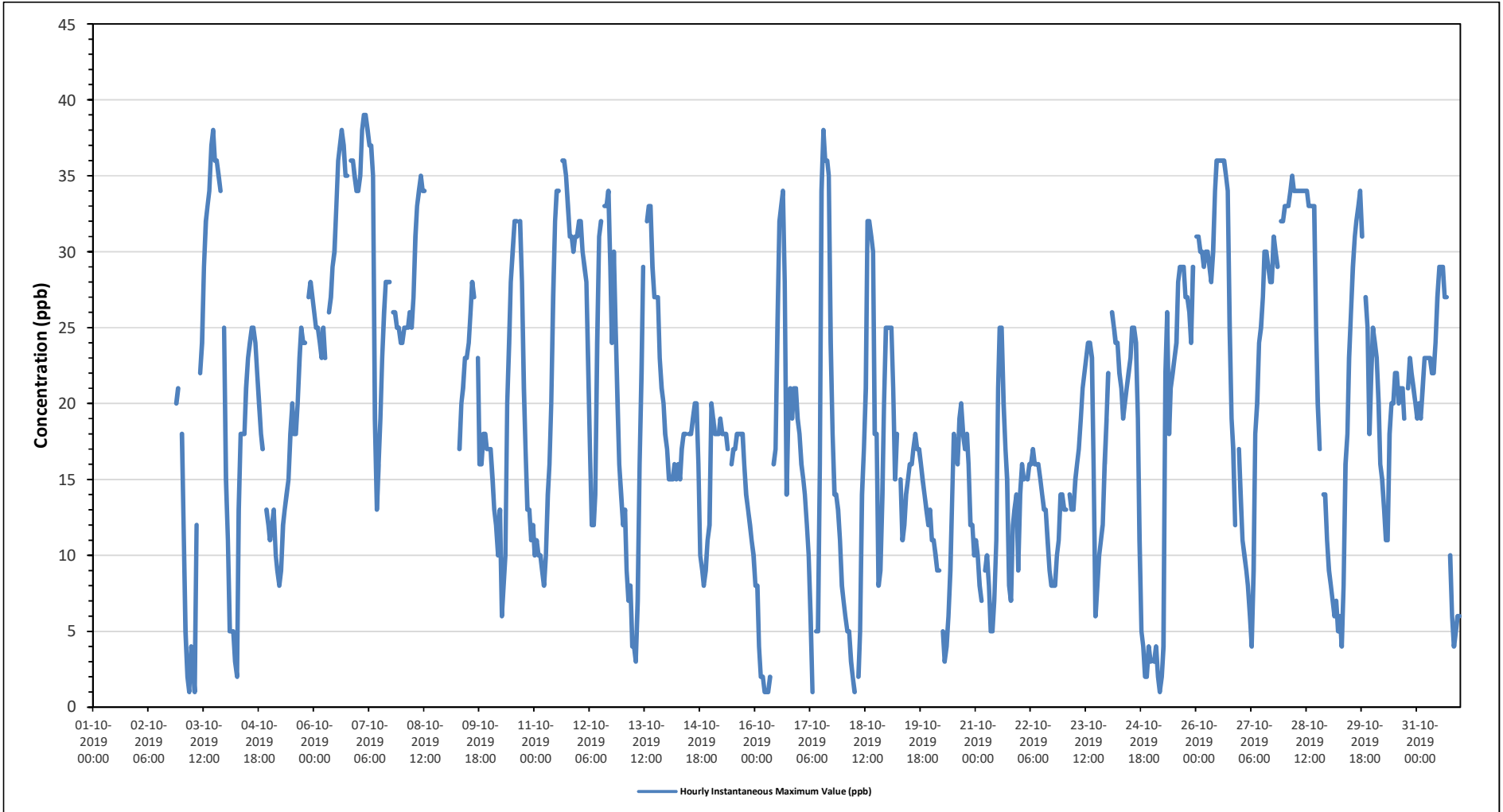
| | | | |
|-----------------------|-------------------------------|------------------------|------|
| Maximum Hourly Value: | 39 ppb on October 7 at hour 3 | Hours in Service: | 703 |
| Maximum Daily Value: | 30.7 ppb on October 6 | Hours of Data: | 649 |
| Minimum Hourly Value: | 1 ppb on October 3 at hour 4 | Hours of Missing Data: | 20 |
| Minimum Daily Value: | 12.0 ppb on October 21 | Hours of Calibration: | 34 |
| Monthly Average: | 19.5 ppb | Operational Uptime: | 97.2 |

| 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 | |
| Oct 1 | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 21 | - | |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 38 | 21.5 | |
| Oct 3 | 18 | 12 | 5 | 2 | 1 | 4 | 3 | 1 | 12 | S1 | 22 | 24 | 29 | 32 | 33 | 34 | 37 | 38 | 36 | 36 | 35 | 34 | S | 25 | 2 | 25 | 15.5 | |
| Oct 4 | 15 | 11 | 5 | 5 | 5 | 3 | 2 | 13 | 18 | 18 | 18 | 21 | 23 | 24 | 25 | 25 | 24 | 22 | 20 | 18 | 17 | S | 13 | 12 | 8 | 28 | 17.3 | |
| Oct 5 | 11 | 12 | 13 | 10 | 9 | 8 | 9 | 12 | 13 | 14 | 15 | 18 | 20 | 18 | 18 | 20 | 23 | 25 | 24 | 24 | S | 27 | 28 | 27 | 23 | 38 | 30.7 | |
| Oct 6 | 26 | 25 | 25 | 24 | 23 | 25 | 23 | S1 | 26 | 27 | 29 | 30 | 33 | 36 | 37 | 38 | 37 | 35 | 35 | S | 36 | 36 | 35 | 34 | 13 | 39 | 28.6 | |
| Oct 7 | 34 | 35 | 38 | 39 | 39 | 38 | 37 | 37 | 35 | 19 | 13 | 16 | 19 | 23 | 26 | 28 | 28 | 28 | S | 26 | 26 | 25 | 25 | 24 | 24 | 35 | - | |
| Oct 8 | 24 | 25 | 25 | 25 | 26 | 25 | 27 | 31 | 33 | 34 | 35 | 34 | 34 | C1 | C1 | C1 | Y | C1 | C1 | C1 | X | X | X | X | 16 | 28 | - | |
| Oct 9 | X | X | X | X | X | X | X | X | 17 | 20 | 21 | 23 | 23 | 24 | 26 | 28 | 27 | S | 23 | 16 | 16 | 18 | 18 | 17 | 17 | 6 | 32 | 18.1 |
| Oct 10 | 17 | 15 | 13 | 12 | 10 | 13 | 6 | 8 | 10 | 20 | 24 | 28 | 30 | 32 | 32 | S | 32 | 28 | 21 | 17 | 13 | 13 | 11 | 12 | 8 | 36 | 23.4 | |
| Oct 11 | 10 | 11 | 10 | 10 | 9 | 8 | 10 | 14 | 16 | 20 | 27 | 32 | 34 | 34 | S | 36 | 36 | 35 | 33 | 31 | 31 | 30 | 31 | 31 | 12 | 34 | 25.0 | |
| Oct 12 | 32 | 32 | 30 | 29 | 28 | 23 | 17 | 12 | 12 | 14 | 24 | 31 | 32 | S | 33 | 33 | 34 | 29 | 24 | 30 | 25 | 20 | 16 | 14 | 3 | 33 | 18.4 | |
| Oct 13 | 12 | 13 | 9 | 7 | 8 | 4 | 4 | 3 | 7 | 16 | 22 | 29 | S | 32 | 33 | 33 | 29 | 27 | 27 | 27 | 23 | 21 | 20 | 18 | 8 | 20 | 15.1 | |
| Oct 14 | 17 | 15 | 15 | 15 | 16 | 15 | 16 | 15 | 17 | 18 | 18 | S | 18 | 18 | 19 | 20 | 20 | 16 | 10 | 9 | 8 | 9 | 11 | 12 | 10 | 20 | 16.6 | |
| Oct 15 | 20 | 19 | 18 | 18 | 18 | 19 | 18 | 18 | 18 | 17 | S | 16 | 17 | 17 | 18 | 18 | 18 | 18 | 16 | 14 | 13 | 12 | 11 | 10 | 1 | 34 | 15.2 | |
| Oct 16 | 8 | 8 | 4 | 2 | 2 | 1 | 1 | 1 | 2 | S | 16 | 17 | 25 | 32 | 33 | 34 | 28 | 14 | 20 | 21 | 19 | 21 | 19 | 1 | 38 | 17.3 | | |
| Oct 17 | 18 | 16 | 15 | 14 | 12 | 10 | 6 | 1 | S | 5 | 5 | 16 | 34 | 38 | 36 | 35 | 24 | 18 | 14 | 14 | 13 | 11 | 8 | 1 | 32 | 14.1 | | |
| Oct 18 | 7 | 6 | 5 | 5 | 3 | 2 | 1 | S | 2 | 5 | 14 | 17 | 21 | 32 | 32 | 31 | 30 | 18 | 18 | 8 | 9 | 14 | 20 | 25 | 11 | 25 | 16.5 | |
| Oct 19 | 25 | 25 | 25 | 21 | 15 | 18 | S | 15 | 11 | 12 | 14 | 15 | 16 | 16 | 17 | 18 | 17 | 17 | 16 | 15 | 14 | 13 | 12 | 13 | 3 | 20 | 12.3 | |
| Oct 20 | 11 | 11 | 10 | 9 | 9 | S | 5 | 3 | 4 | 6 | 9 | 14 | 18 | 17 | 16 | 19 | 20 | 18 | 17 | 18 | 16 | 12 | 12 | 10 | 5 | 25 | 12.0 | |
| Oct 21 | 11 | 10 | 8 | 7 | S | 9 | 10 | 8 | 5 | 5 | 7 | 11 | 21 | 25 | 25 | 20 | 17 | 15 | 8 | 7 | 12 | 13 | 14 | 9 | 8 | 17 | 13.3 | |
| Oct 22 | 14 | 16 | 15 | S | 15 | 16 | 16 | 17 | 16 | 16 | 16 | 15 | 14 | 13 | 13 | 11 | 9 | 8 | 8 | 8 | 10 | 11 | 14 | 14 | 6 | 24 | 16.0 | |
| Oct 23 | 13 | 13 | S | 14 | 13 | 13 | 15 | 16 | 17 | 19 | 21 | 22 | 23 | 24 | 24 | 23 | 16 | 6 | 8 | 10 | 11 | 12 | 16 | 19 | 2 | 26 | 17.1 | |
| Oct 24 | 22 | S | 26 | 25 | 24 | 24 | 22 | 21 | 19 | 20 | 21 | 22 | 23 | 25 | 25 | 24 | 19 | 11 | 5 | 4 | 2 | 2 | 4 | 3 | 1 | 29 | 19.1 | |
| Oct 25 | S | 3 | 4 | 2 | 1 | 2 | 4 | 22 | 26 | 18 | 21 | 22 | 23 | 24 | 28 | 29 | 29 | 29 | 27 | 27 | 26 | 24 | 29 | S | 12 | 36 | 29.2 | |
| Oct 26 | 31 | 31 | 30 | 30 | 29 | 30 | 30 | 29 | 28 | 30 | 34 | 36 | 36 | 36 | 36 | 36 | 35 | 34 | 25 | 19 | 17 | 12 | S | 17 | 4 | 32 | 21.0 | |
| Oct 27 | 14 | 11 | 10 | 9 | 8 | 6 | 4 | 9 | 18 | 20 | 24 | 25 | 27 | 30 | 30 | 29 | 28 | 28 | 31 | 30 | 29 | S | 32 | 32 | 11 | 35 | 29.3 | |
| Oct 28 | 33 | 33 | 33 | 34 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 25 | 20 | 17 | S | 14 | 14 | 11 | 4 | 34 | 18.5 | |
| Oct 29 | 9 | 8 | 7 | 6 | 7 | 5 | 6 | 4 | 8 | 16 | 18 | 23 | 26 | 29 | 31 | 32 | 33 | 34 | 31 | S | 27 | 25 | 18 | 22 | 11 | 25 | 19.5 | |
| Oct 30 | 25 | 24 | 23 | 20 | 16 | 15 | 13 | 11 | 11 | 18 | 20 | 20 | 22 | 22 | 20 | 21 | 21 | 19 | S | 21 | 23 | 22 | 21 | 20 | 4 | 29 | 19.3 | |
| Oct 31 | 19 | 20 | 19 | 21 | 23 | 23 | 23 | 23 | 22 | 24 | 27 | 29 | 29 | 29 | 29 | 27 | 27 | S | 10 | 6 | 4 | 5 | 6 | 6 | 18.4 | 17.0 | 16.3 | |
| Diurnal Maximum | 34 | 35 | 38 | 39 | 39 | 38 | 37 | 37 | 35 | 34 | 35 | 36 | 36 | 38 | 37 | 38 | 37 | 38 | 37 | 38 | 36 | 36 | 36 | 34 | 18.4 | 17.0 | 16.3 | |
| Diurnal Average | 18.4 | 17.0 | 16.3 | 15.4 | 15.0 | 14.6 | 13.4 | 14.6 | 16.4 | 17.9 | 20.3 | 22.8 | 25.2 | 26.6 | 27.0 | 27.2 | 26.5 | 23.1 | 20.2 | 18.2 | 18.4 | 17.7 | 17.9 | 17.2 | | | | |

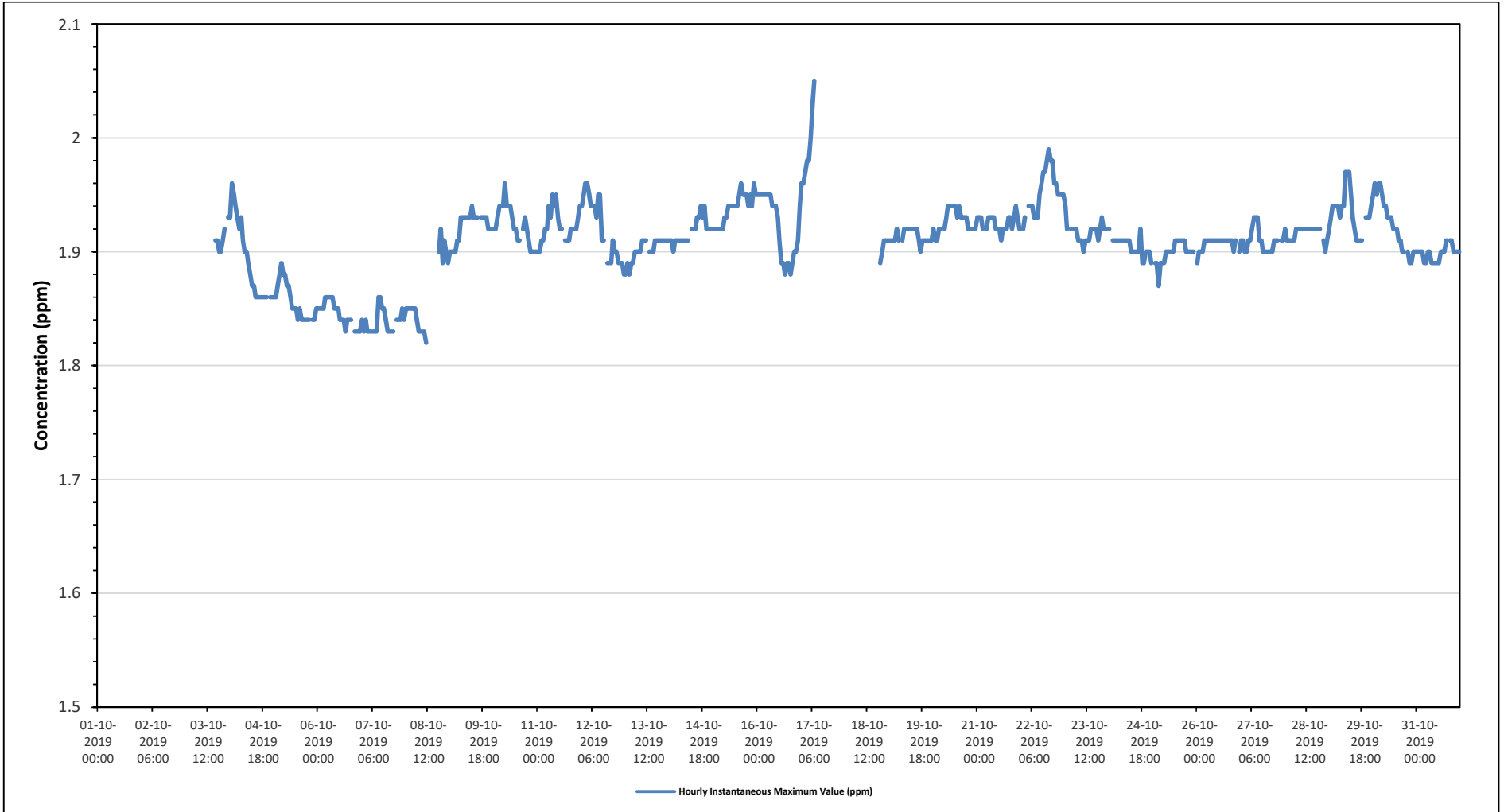
| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| C | Calibration | S | Daily Zero/Span | Q | Quality Assurance | C1 | Repeat Calibration | S1 | Repeat Daily Zero/Span |
| G | Out for Repair | 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.

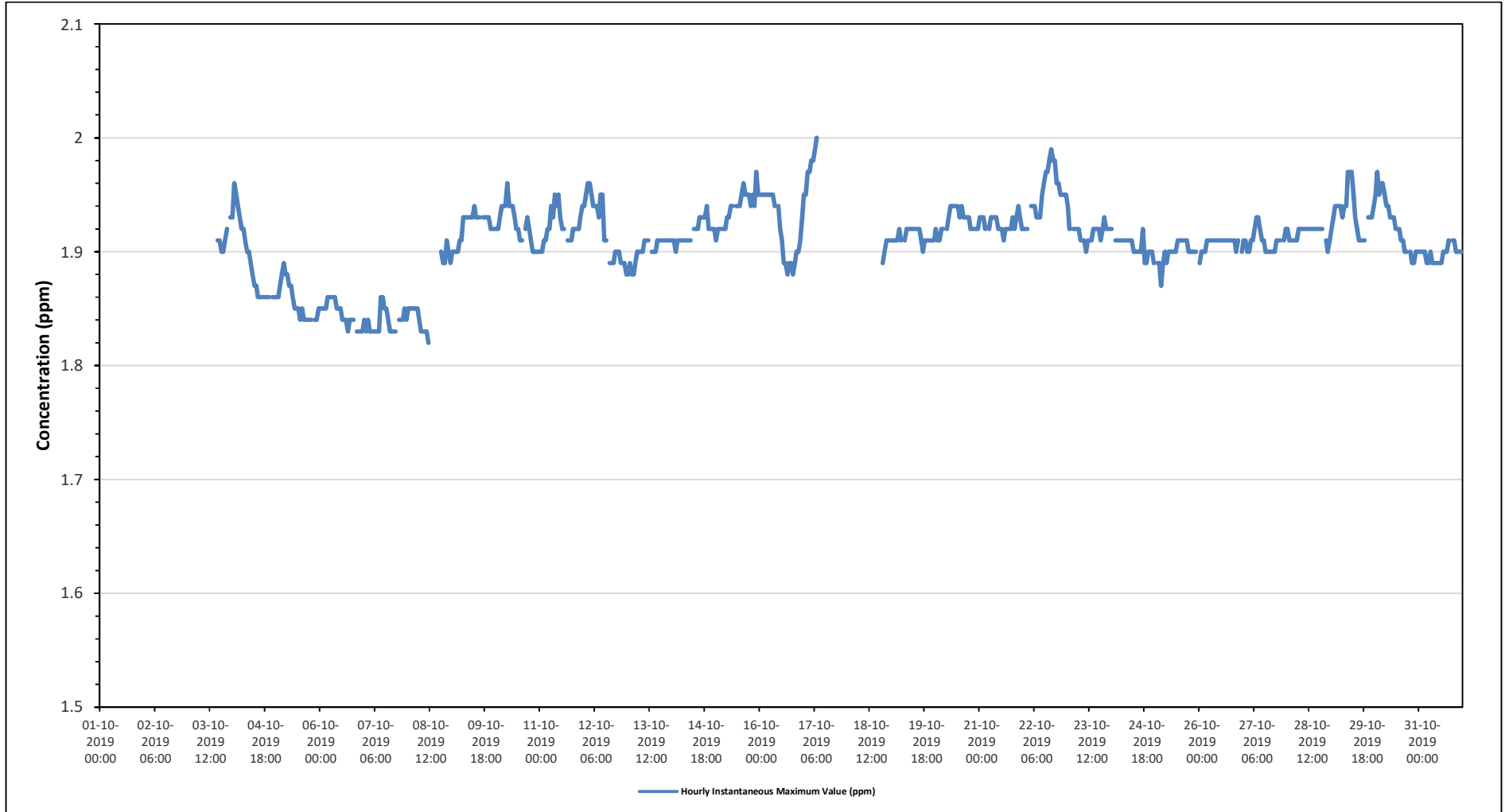
Timeseries Chart of Hourly Instantaneous Maximum for O3 - AQHI - Cadotte Lake Station



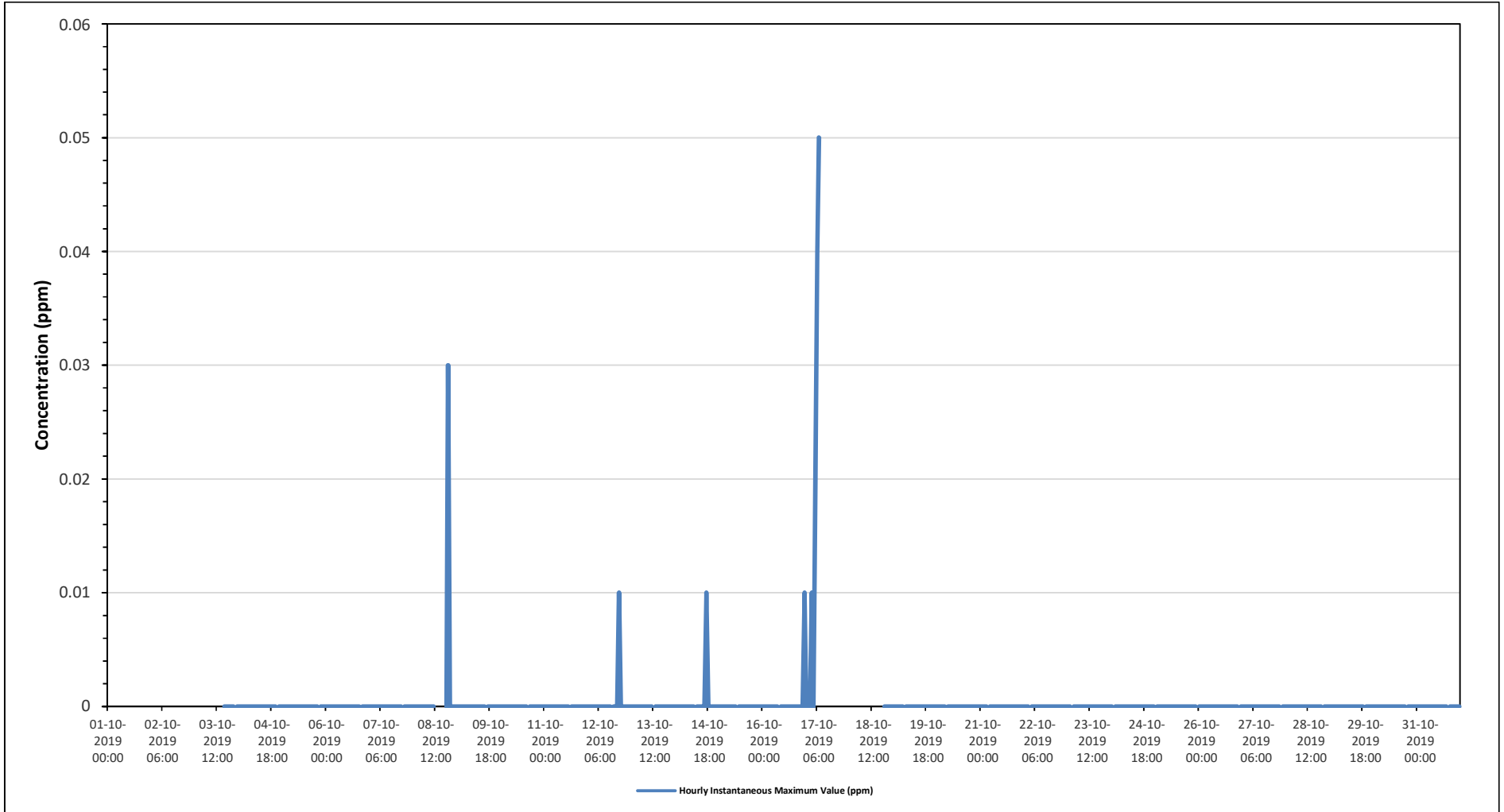
Timeseries Chart of Hourly Instantaneous Maximum for THC - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Instantaneous Maximum for CH4 - AQHI - Cadotte Lake Station



Timeseries Chart of Hourly Instantaneous Maximum for NMHC - AQHI - Cadotte Lake Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - October 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/hr

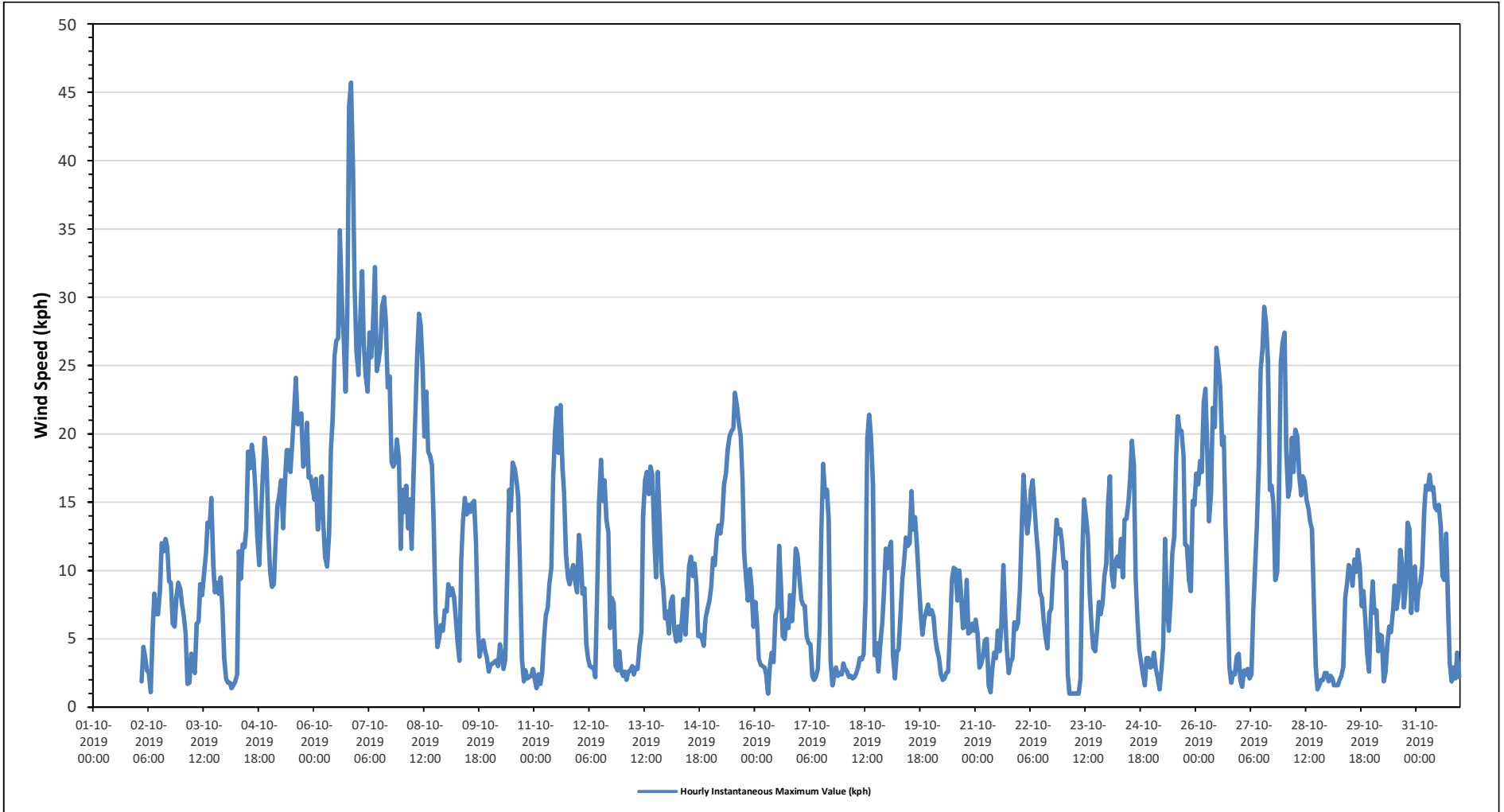
| | | | | |
|-----------------------|----------|-------------------------|------------------------|-------|
| Maximum Hourly Value: | 45.7 kph | on October 6 at hour 20 | Hours in Service: | 718 |
| Maximum Daily Value: | 24.4 kph | on October 7 | Hours of Data: | 718 |
| Minimum Hourly Value: | 1.0 kph | on October 16 at hour 7 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 4.5 kph | on October 21 | Hours of Calibration: | 0 |
| Monthly Average: | 10.4 kph | | 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 |
| Oct 1 | | | 1.9 | 4.4 | 3.7 | 2.7 | 2.5 | 1.1 | 5.6 | 8.3 | 6.8 | 6.8 | 8.7 | 12.0 | 11.4 | 12.3 | 11.7 | 9.2 | 9.1 | 6.1 | 5.9 | 8.0 | 9.1 | 8.7 | 1.1 | 12.3 | 7.1 |
| Oct 2 | | | | | | | | | | | | | | | | | | | | | | | | | 1.7 | 15.3 | 7.6 |
| Oct 3 | 7.5 | 6.8 | 5.4 | 1.7 | 1.8 | 3.9 | 3.1 | 2.5 | 6.1 | 6.3 | 9.0 | 8.2 | 9.8 | 11.3 | 13.5 | 13.2 | 15.3 | 10.5 | 8.4 | 9.1 | 8.3 | 9.5 | 7.1 | 3.6 | 1.4 | 19.7 | 11.0 |
| Oct 4 | 2.1 | 1.8 | 1.8 | 1.4 | 1.6 | 1.9 | 2.4 | 11.4 | 9.4 | 11.9 | 11.7 | 13.0 | 18.7 | 17.5 | 19.2 | 18.2 | 15.9 | 12.6 | 10.4 | 14.1 | 16.9 | 19.7 | 18.1 | 12.6 | 8.8 | 24.1 | 16.9 |
| Oct 5 | 9.9 | 8.8 | 9.0 | 12.3 | 14.7 | 15.5 | 16.6 | 13.1 | 16.2 | 18.8 | 18.8 | 17.2 | 19.3 | 21.6 | 24.1 | 20.7 | 21.3 | 21.5 | 17.6 | 18.0 | 20.8 | 16.8 | 16.9 | 16.1 | 10.3 | 45.7 | 23.8 |
| Oct 6 | 15.2 | 16.7 | 13.0 | 14.8 | 16.9 | 13.4 | 10.9 | 10.3 | 12.7 | 18.9 | 21.0 | 25.7 | 26.8 | 27.0 | 34.9 | 29.8 | 27.0 | 23.1 | 28.3 | 44.0 | 45.7 | 39.3 | 30.7 | 26.0 | 11.6 | 32.2 | 24.4 |
| Oct 7 | 24.3 | 28.4 | 31.9 | 26.6 | 24.3 | 23.1 | 27.4 | 25.6 | 28.0 | 32.2 | 24.6 | 25.3 | 26.3 | 29.4 | 30.0 | 28.2 | 23.4 | 24.2 | 18.0 | 17.6 | 17.9 | 19.6 | 18.2 | 11.6 | 4.4 | 28.8 | 15.8 |
| Oct 8 | 15.9 | 14.3 | 16.2 | 13.1 | 15.2 | 11.6 | 17.0 | 21.7 | 25.5 | 28.8 | 27.9 | 24.7 | 19.8 | 23.1 | 18.7 | 18.4 | 17.7 | 13.5 | 6.9 | 4.4 | 5.1 | 6.0 | 5.6 | 7.1 | 2.6 | 15.3 | 8.7 |
| Oct 9 | 7.0 | 9.0 | 8.2 | 8.7 | 8.1 | 6.6 | 4.8 | 3.4 | 10.8 | 13.7 | 15.3 | 14.1 | 14.8 | 14.3 | 14.9 | 15.1 | 12.0 | 5.7 | 3.7 | 4.5 | 4.9 | 4.1 | 3.6 | 2.6 | 1.9 | 17.9 | 6.9 |
| Oct 10 | 3.1 | 3.2 | 3.3 | 3.4 | 3.0 | 4.6 | 3.9 | 2.8 | 3.5 | 9.6 | 15.9 | 14.4 | 17.9 | 17.5 | 16.6 | 15.4 | 10.1 | 3.5 | 1.9 | 2.7 | 2.1 | 2.2 | 2.3 | 2.8 | 1.4 | 22.1 | 10.4 |
| Oct 11 | 2.1 | 1.4 | 2.4 | 1.7 | 2.5 | 5.0 | 6.7 | 7.3 | 9.0 | 10.2 | 16.7 | 20.1 | 21.9 | 18.6 | 22.1 | 17.6 | 15.7 | 11.2 | 9.5 | 9.0 | 10.0 | 10.4 | 9.2 | 8.4 | 2.2 | 18.1 | 8.1 |
| Oct 12 | 12.6 | 11.3 | 8.3 | 8.7 | 4.6 | 3.6 | 3.0 | 2.9 | 2.9 | 2.2 | 8.4 | 14.9 | 18.1 | 15.1 | 16.6 | 13.7 | 12.8 | 5.8 | 8.0 | 7.6 | 3.0 | 2.7 | 4.1 | 2.7 | 2.0 | 17.6 | 8.7 |
| Oct 13 | 2.3 | 2.6 | 2.0 | 2.6 | 2.7 | 3.0 | 2.4 | 2.9 | 2.8 | 4.5 | 5.5 | 14.0 | 16.6 | 17.2 | 15.6 | 17.0 | 12.5 | 9.5 | 17.2 | 13.5 | 9.9 | 8.6 | 6.5 | 2.0 | 4.5 | 11.0 | 7.0 |
| Oct 14 | 7.0 | 5.4 | 7.7 | 8.1 | 5.6 | 4.8 | 5.9 | 4.9 | 6.2 | 7.9 | 5.3 | 7.9 | 10.3 | 11.0 | 9.6 | 10.5 | 9.0 | 5.2 | 5.3 | 5.0 | 4.5 | 6.5 | 7.2 | 7.8 | 5.9 | 23.0 | 14.6 |
| Oct 15 | 8.8 | 10.9 | 10.4 | 12.5 | 13.3 | 12.7 | 13.7 | 16.3 | 17.1 | 18.8 | 19.8 | 20.2 | 20.4 | 23.0 | 22.1 | 20.9 | 19.8 | 16.7 | 11.3 | 9.4 | 7.8 | 10.1 | 8.8 | 5.9 | 1.0 | 11.8 | 5.9 |
| Oct 16 | 7.7 | 5.9 | 3.5 | 3.1 | 3.0 | 2.9 | 2.4 | 1.0 | 3.1 | 4.0 | 3.3 | 6.7 | 7.3 | 11.8 | 8.6 | 5.2 | 5.0 | 6.4 | 5.8 | 8.2 | 6.3 | 8.4 | 11.6 | 11.2 | 2.0 | 10.2 | 6.0 |
| Oct 17 | 9.6 | 7.9 | 7.5 | 7.4 | 5.2 | 4.7 | 4.6 | 2.3 | 2.0 | 2.2 | 2.8 | 5.8 | 13.1 | 17.8 | 15.4 | 15.9 | 13.7 | 3.4 | 1.6 | 2.4 | 2.9 | 2.3 | 2.5 | 2.4 | 1.6 | 17.8 | 6.5 |
| Oct 18 | 3.2 | 2.8 | 2.6 | 2.2 | 2.3 | 2.1 | 2.2 | 2.5 | 3.0 | 3.6 | 3.5 | 3.9 | 7.8 | 19.6 | 21.4 | 19.8 | 16.3 | 3.8 | 4.7 | 2.6 | 4.7 | 6.1 | 8.3 | 11.6 | 2.1 | 21.4 | 6.7 |
| Oct 19 | 10.2 | 11.7 | 12.1 | 3.8 | 2.1 | 4.1 | 4.2 | 6.6 | 9.3 | 10.7 | 12.4 | 11.8 | 12.0 | 15.8 | 13.0 | 13.9 | 11.8 | 9.1 | 6.8 | 5.3 | 6.4 | 7.0 | 7.5 | 6.8 | 2.1 | 15.8 | 8.9 |
| Oct 20 | 7.1 | 6.6 | 5.0 | 4.2 | 3.6 | 2.4 | 2.0 | 2.1 | 2.5 | 2.6 | 5.9 | 9.4 | 10.2 | 10.1 | 7.8 | 10.0 | 8.3 | 5.8 | 5.9 | 9.3 | 5.4 | 5.5 | 6.1 | 5.6 | 2.0 | 10.2 | 6.0 |
| Oct 21 | 6.4 | 5.4 | 2.9 | 3.2 | 3.7 | 4.9 | 5.0 | 1.6 | 1.1 | 2.7 | 4.0 | 3.6 | 5.6 | 4.1 | 6.1 | 10.4 | 6.4 | 4.1 | 2.5 | 3.3 | 3.6 | 6.2 | 5.7 | 6.2 | 1.1 | 10.4 | 4.5 |
| Oct 22 | 8.7 | 13.1 | 17.0 | 14.7 | 12.7 | 13.8 | 15.9 | 16.6 | 14.5 | 12.6 | 11.2 | 8.4 | 8.0 | 6.2 | 5.2 | 4.3 | 6.9 | 7.2 | 9.8 | 11.5 | 13.7 | 12.7 | 13.0 | 12.0 | 4.3 | 17.0 | 11.2 |
| Oct 23 | 10.2 | 10.6 | 2.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.1 | 11.2 | 15.2 | 13.9 | 12.6 | 8.3 | 5.8 | 4.3 | 4.1 | 5.6 | 7.7 | 6.8 | 7.6 | 9.6 | 10.5 | 1.0 | 15.2 | 6.4 |
| Oct 24 | 14.8 | 16.9 | 9.7 | 8.8 | 10.6 | 11.0 | 10.3 | 12.3 | 9.5 | 13.7 | 13.8 | 14.9 | 16.8 | 19.5 | 17.7 | 9.3 | 6.4 | 4.2 | 3.3 | 2.3 | 1.6 | 3.6 | 3.6 | 2.9 | 1.6 | 19.5 | 9.9 |
| Oct 25 | 3.0 | 4.0 | 2.8 | 2.2 | 1.3 | 2.7 | 4.5 | 12.3 | 7.5 | 5.6 | 7.7 | 11.3 | 12.5 | 18.4 | 21.3 | 20.2 | 20.2 | 18.4 | 11.9 | 11.8 | 9.3 | 8.5 | 15.1 | 14.8 | 1.3 | 21.3 | 10.3 |
| Oct 26 | 17.1 | 16.3 | 18.0 | 17.2 | 22.3 | 23.3 | 18.6 | 13.6 | 15.6 | 21.9 | 20.5 | 26.3 | 25.0 | 23.5 | 19.2 | 19.8 | 13.4 | 8.5 | 2.9 | 1.8 | 2.5 | 2.4 | 3.7 | 3.9 | 1.8 | 26.3 | 14.9 |
| Oct 27 | 2.0 | 1.5 | 2.7 | 2.4 | 2.8 | 2.1 | 2.4 | 7.1 | 10.0 | 13.3 | 17.6 | 24.7 | 26.3 | 29.3 | 28.2 | 25.3 | 15.9 | 16.2 | 14.9 | 9.3 | 9.9 | 15.3 | 25.2 | 26.7 | 1.5 | 29.3 | 13.8 |
| Oct 28 | 27.4 | 18.9 | 15.4 | 16.1 | 19.7 | 17.2 | 20.3 | 19.8 | 17.0 | 15.5 | 16.9 | 16.5 | 15.2 | 14.5 | 13.6 | 13.0 | 7.7 | 3.0 | 1.3 | 1.6 | 2.0 | 2.0 | 2.5 | 2.5 | 1.3 | 27.4 | 12.5 |
| Oct 29 | 1.9 | 2.3 | 2.1 | 1.6 | 1.6 | 1.6 | 2.0 | 2.3 | 2.9 | 8.0 | 9.0 | 10.4 | 10.0 | 8.9 | 10.8 | 9.9 | 11.5 | 10.2 | 7.4 | 8.5 | 6.4 | 3.9 | 2.6 | 6.8 | 1.6 | 11.5 | 5.9 |
| Oct 30 | 9.2 | 6.9 | 7.1 | 4.1 | 5.3 | 5.2 | 1.9 | 2.6 | 4.6 | 5.9 | 5.5 | 7.1 | 8.9 | 7.2 | 8.1 | 11.5 | 10.4 | 7.3 | 8.7 | 13.5 | 13.0 | 6.9 | 10.0 | 10.3 | 1.9 | 13.5 | 7.6 |
| Oct 31 | 7.1 | 8.6 | 9.1 | 10.4 | 14.3 | 16.2 | 15.9 | 17.0 | 15.9 | 16.1 | 14.6 | 14.4 | 14.8 | 13.2 | 9.6 | 9.3 | 12.7 | 7.3 | 3.2 | 1.9 | 2.9 | 2.1 | 4.0 | 2.2 | 1.9 | 17.0 | 10.1 |
| Diurnal Maximum | 27.4 | 28.4 | 31.9 | 26.6 | 24.3 | 23.3 | 27.4 | 25.6 | 28.0 | 32.2 | 27.9 | 26.3 | 26.8 | 29.4 | 34.9 | 29.8 | 27.0 | 24.2 | 28.3 | 44.0 | 45.7 | 39.3 | 30.7 | 26.7 | | | |
| Diurnal Average | 9.1 | 9.0 | 8.0 | 7.4 | 7.7 | 7.6 | 7.8 | 8.2 | 9.2 | 11.1 | 12.2 | 13.9 | 15.2 | 16.4 | 16.1 | 15.2 | 13.3 | 9.8 | 8.1 | 9.0 | 8.8 | 8.8 | 9.4 | 8.6 | | | |

| | | | | | | | | | |
|---|----------------|---|---------------------|---|-------------------|----|----------------------------|----|------------------------|
| 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 - AQHI - Cadotte Lake Station



END OF REPORT

This report, 279 of 279 ends the October 2019 Monthly Ambient Air Quality Monitoring Report.



Peace River Area Monitoring Program

OCTOBER 2019
Ambient Air Monitoring Calibration Report
- 842b STATION-
CAL-PRAMP-201910-01561

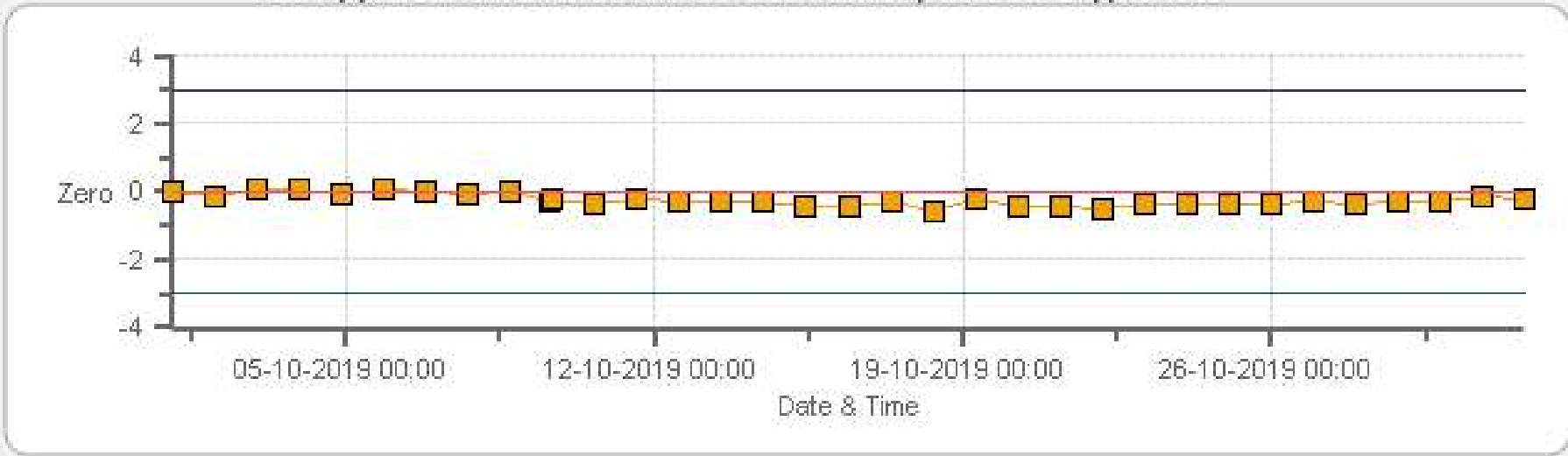
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

November 15, 2019

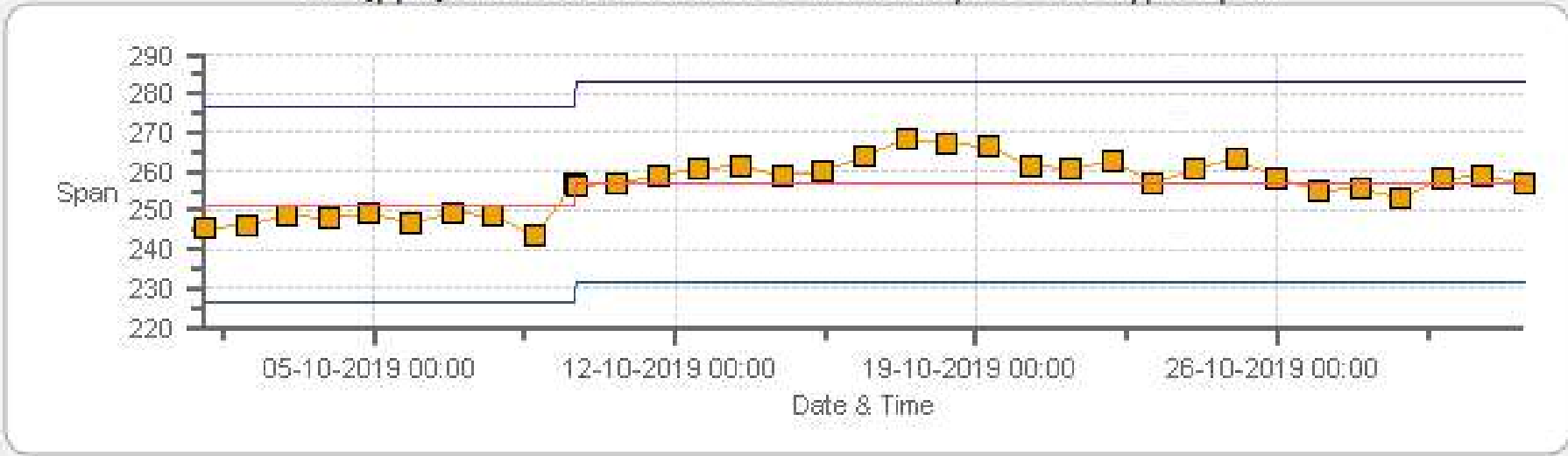
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP 842b Monthly: 10-2019 Type: Zero



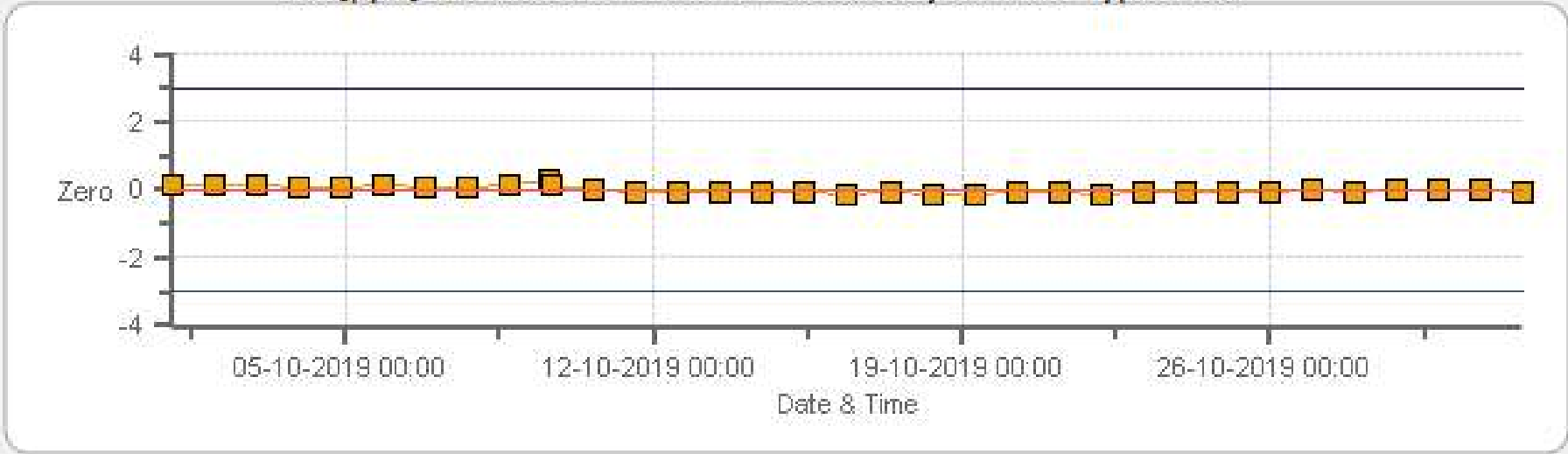
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP 842b Monthly: 10-2019 Type: Span

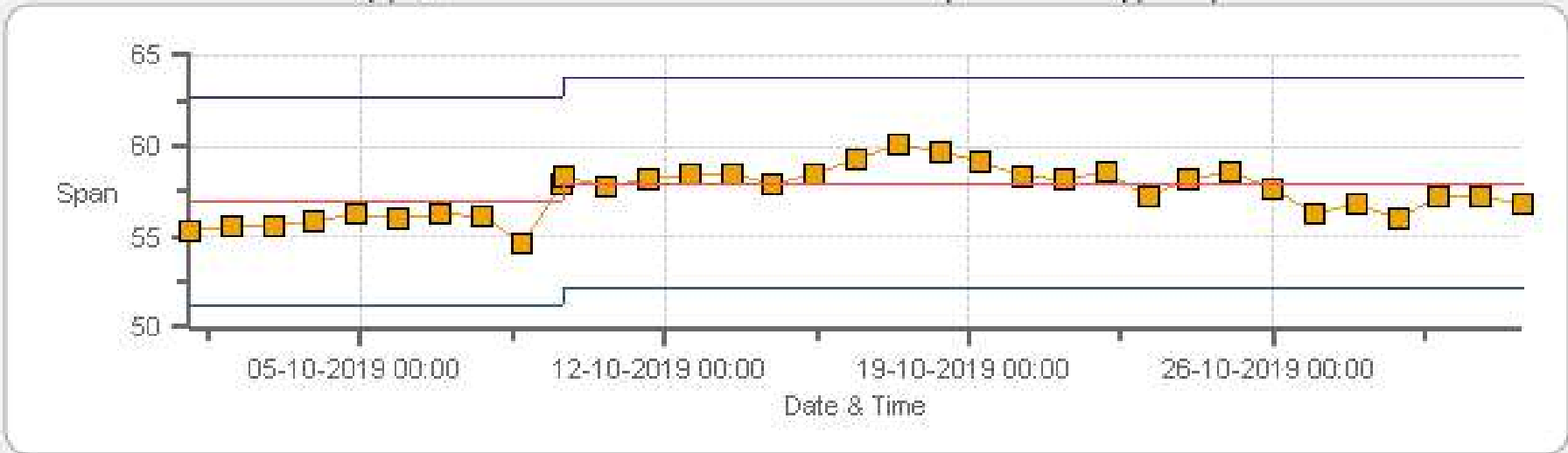


Span SpanRef Span Low Span High

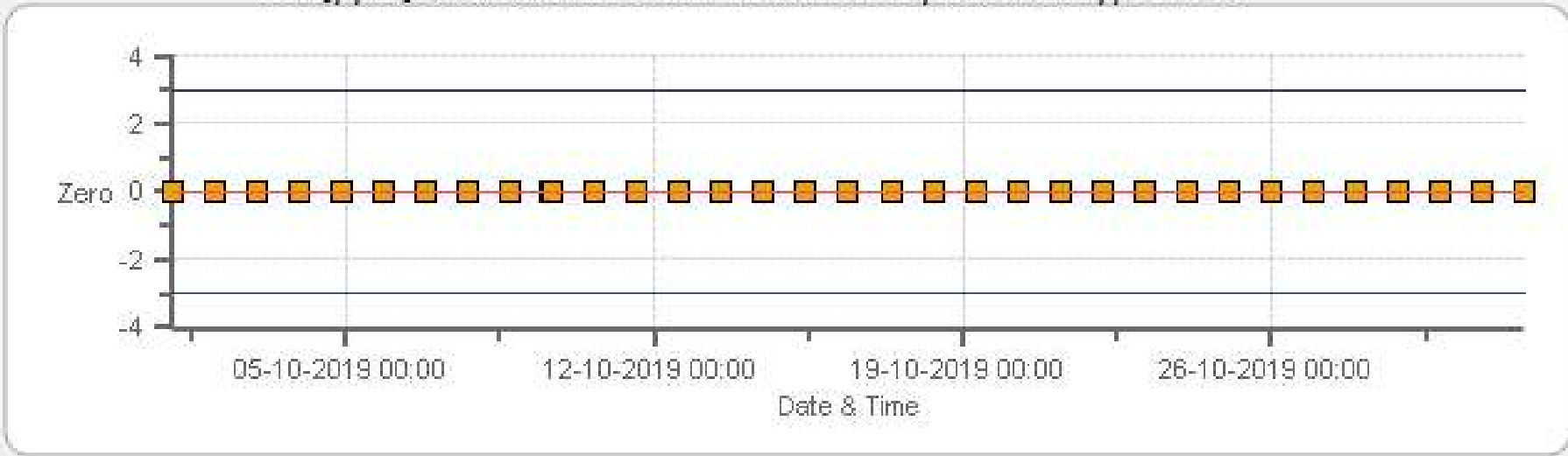
TRS [ppb] Calibration: PRAMP 842b Monthly: 10-2019 Type: Zero



TRS [ppb] Calibration: PRAMP 842b Monthly: 10-2019 Type: Span

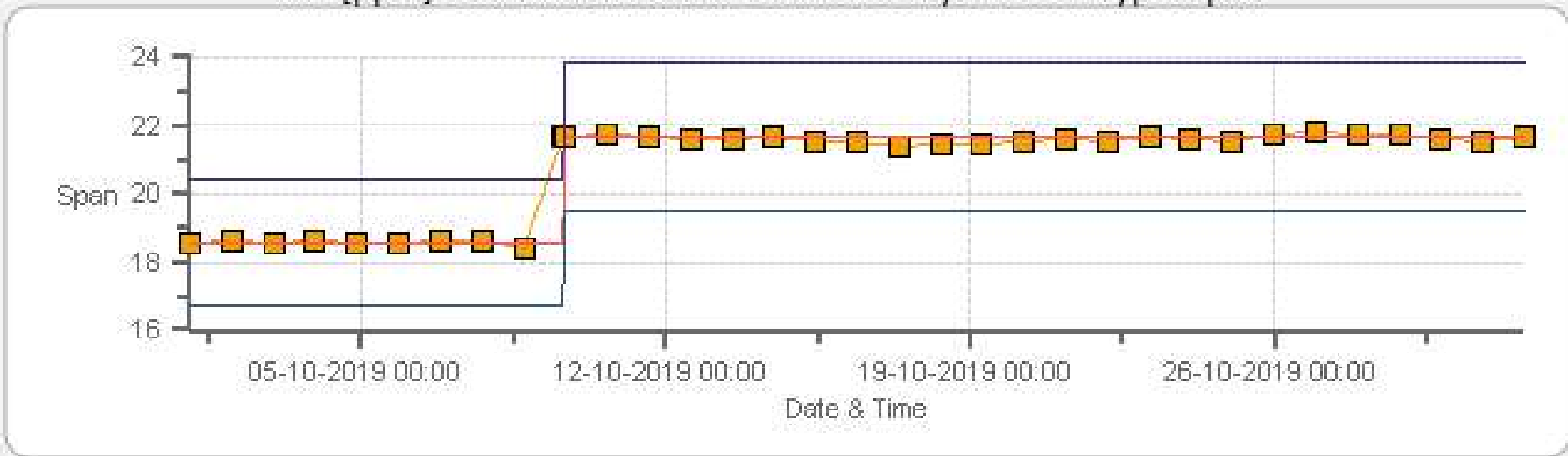


THC [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Zero



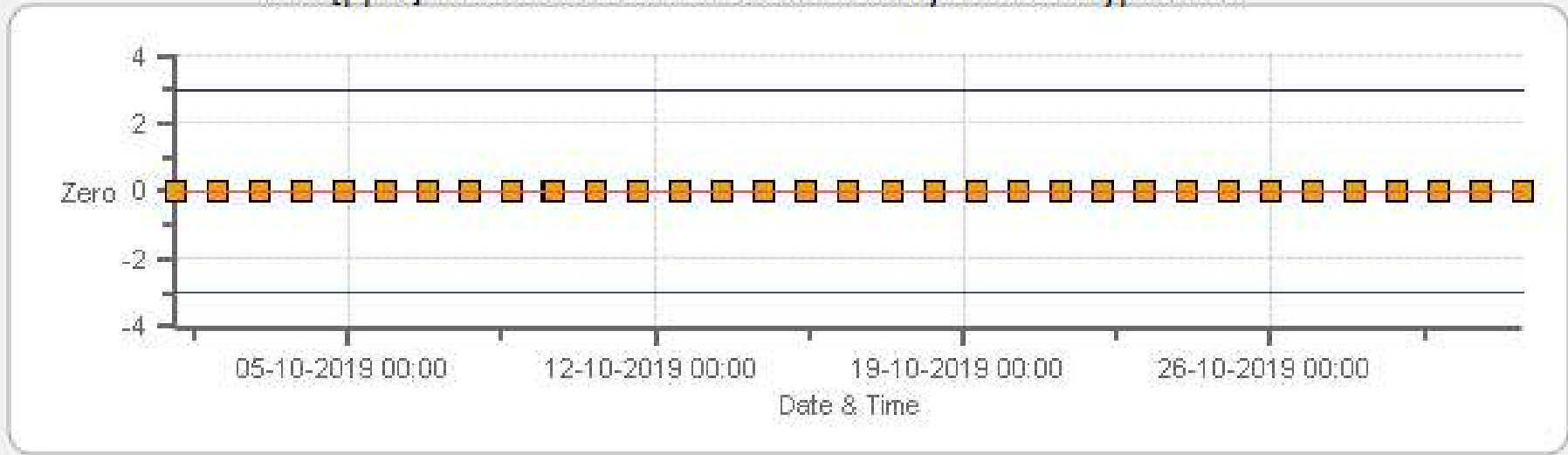
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

THC [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Span



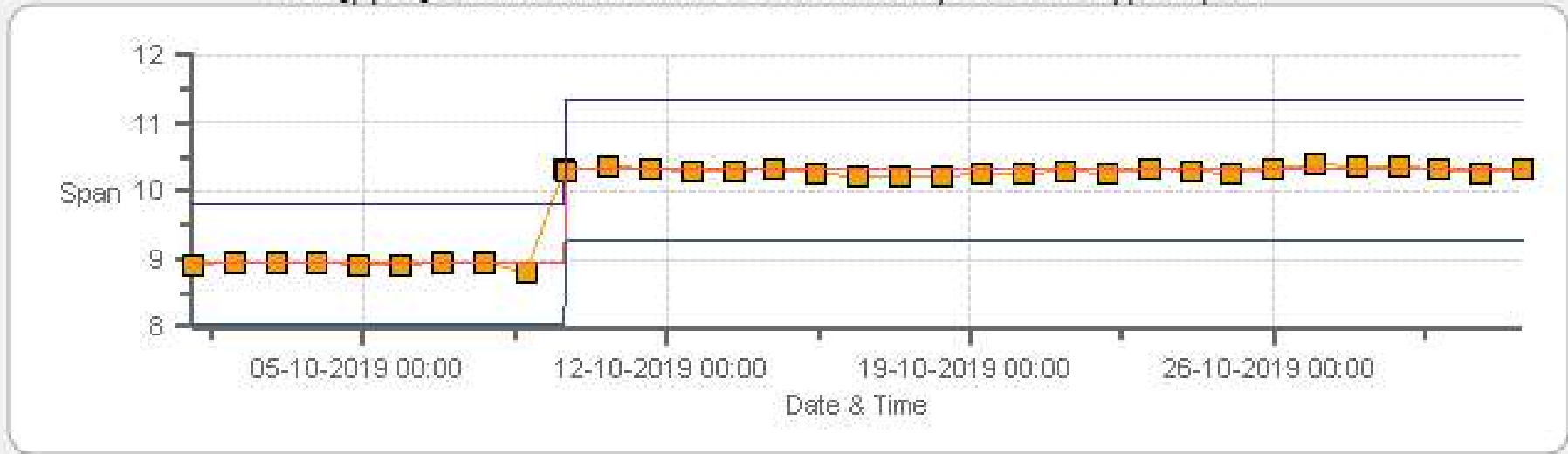
■ Span
 — SpanRef
 — Span Low
 — Span High

CH4 [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Zero



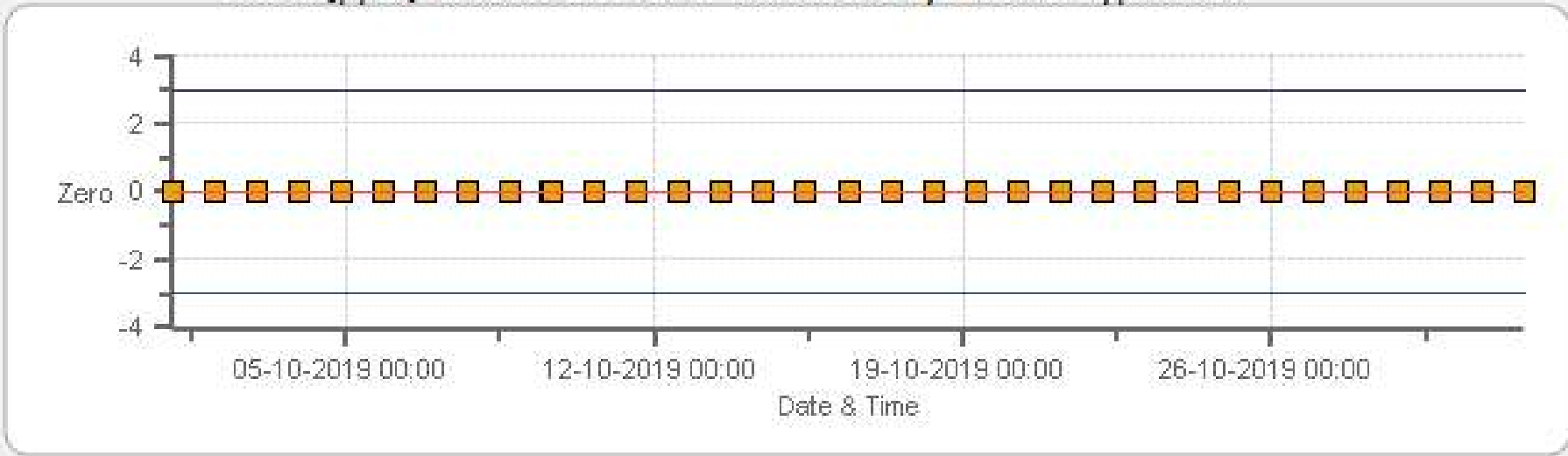
Zero Zero Ref Zero Low Zero High

CH4 [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Span



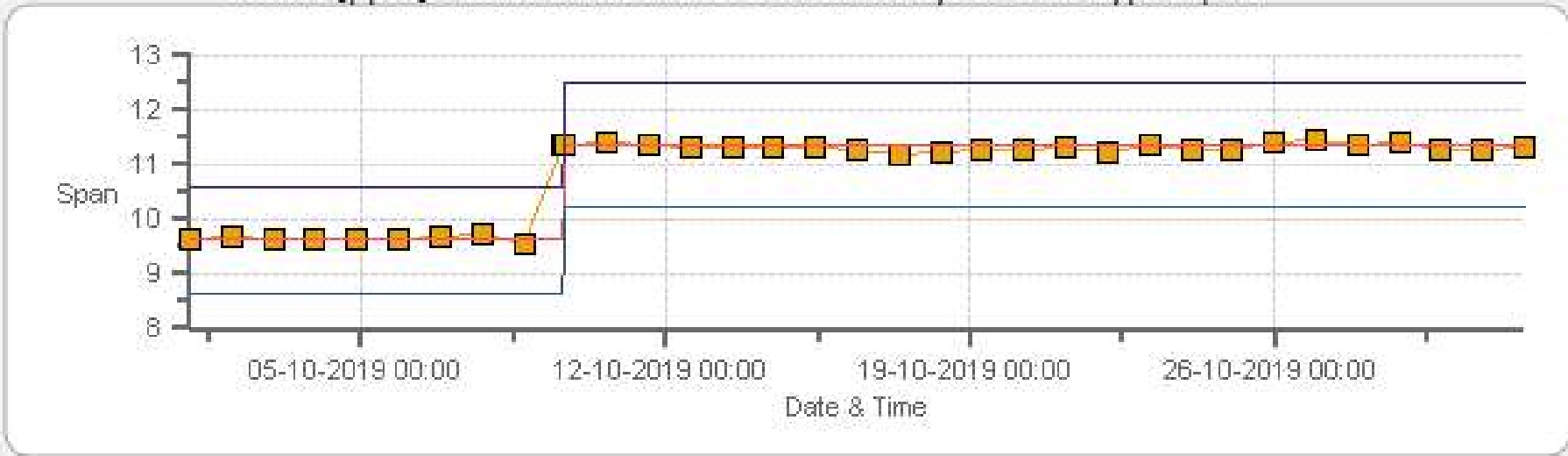
Span SpanRef Span Low Span High

NMHC [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Zero



Zero Zero Ref Zero Low Zero High

NMHC [ppm] Calibration: PRAMP 842b Monthly: 10-2019 Type: Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS



SO2 Analyzer Calibration by Dilution

| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 09-Oct-2019 | PREVIOUS CALIBRATION DATE: | 12-Sep-2019 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.5 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 950 |
| PURPOSE: | Routine | START TIME (MST): | 11:13 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:29 |

ANALYZER:

| | | | |
|----------------------------|------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43i | RANGE | 500 ppb |
| SERIAL # | 835033373 | FLOW (mL/min) | 424 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 14.5 | BKG/OFFSET | 15.7 |
| COEF/SLOPE | 1.004 | COEF/SLOPE | 1.066 |
| Expected (reference) Value | 251.5 | Expected (reference) Value | 257 |

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: | LL19664 | HIGH ID | n/a |
| CONC (ppm): | 24.20 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1800 | LOW ID | n/a |
| EXPIRY DATE | 03-Jul-2023 | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 4001 | 62.80 | 4001 | 0.00 | 0.1 | 0 | 1.057 | 0.999 |
| 3940 | 62.80 | 4003 | 379.67 | 359.4 | 380 | 1.057 | 0.999 |
| 3971 | 29.73 | 4001 | 179.80 | n/a | 179 | n/a | 1.004 |
| 3986 | 14.83 | 4001 | 89.68 | n/a | 89.6 | n/a | 1.001 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.1% |

COMMENTS:

Sample filter changed



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 09-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.5 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 950 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 11:13 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:29 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 100 ppb |
| SERIAL # | 1162460023 | FLOW (mL/min) | 408 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 2.77 | BKG/OFFSET | 2.99 |
| COEF/SLOPE | 0.892 | COEF/SLOPE | 0.915 |
| Expected (reference) Value | n/a | Expected (reference) Value | 57.92 |

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: | EY0000644 | HIGH ID | n/a |
| CONC (ppm): | 10.00 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1850 | LOW ID | n/a |
| EXPIRY DATE | 16-Jul-2022 | 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: | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 4001 | 31.20 | 4001 | 0.00 | n/a | 0 | n/a | 1.000 |
| 3972 | 31.20 | 4003 | 77.94 | n/a | 77.9 | n/a | 1.000 |
| 3986 | 15.20 | 4001 | 37.99 | n/a | 37.67 | n/a | 1.008 |
| 3993 | 7.61 | 4001 | 19.02 | n/a | 18.48 | n/a | 1.029 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.002 | -0.3% |

COMMENTS:

Sample filter changed. Post-repair calibration after replacing/peaking thermocouple.



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 09-Oct-2019 | PREVIOUS CALIBRATION DATE: | 12-Sep-2019 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.5 | | Thermo 55i | 1505664392 | 1242 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 950 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE: | Routine | START TIME (MST): | 11:13 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:17 | PREVIOUS CF: | 0.999 | 1.002 | 1.000 |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|-----------|---|---------------|-----------------------------|-----|
| MAKE: | Sabio | MAKE: | Terledyne | CYLINDER ID: | LL107207 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 600.0 207.0 | HIGH EXPIRY: | n/a |
| ID: | 26801218 | ID: | 134 | CYLINDER (psi): | 900 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jun-2019 | OXIDIZER ID: | Internal | EXPIRY DATE: | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH ₄ EQUIVILANCE | |
|-------------------------------|---------|-------|-------|--|--------|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 569.3 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1169.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|------|------|-------|-----------------|------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | | 8.94 | 9.62 | | 18.56 | | 10.32 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|--------------|--------------|-----------------|--------------|--------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3111 | X | 3111 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 3037 | 74.20 | 3111 | 14.31 | 13.58 | 27.89 | 14.04 | 13.51 | 27.48 | 14.32 | 13.58 | 27.90 | 1.019 | 1.005 | 1.015 | 0.999 | 1.000 | 1.000 |
| 3076 | 37.10 | 3113 | 7.15 | 6.78 | 13.93 | n/a | n/a | n/a | 7.13 | 6.77 | 13.90 | n/a | n/a | n/a | 1.003 | 1.002 | 1.003 |
| 3092 | 18.60 | 3111 | 3.59 | 3.40 | 6.99 | n/a | n/a | n/a | 3.53 | 3.41 | 6.94 | n/a | n/a | n/a | 1.016 | 0.998 | 1.007 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: Sample filter changed |
|-----------------------------|-------------|-------|-----------|------------------------------------|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH ₄ | 1.000 | 1.002 | -0.1% | |
| NMHC | 1.000 | 1.000 | 0.0% | |
| THC | 1.000 | 1.001 | -0.1% | |



Meteorological System Checklist

| | | | |
|--|------------------------|--------------------------------|--------------------|
| Date: | October 9, 2019 | | |
| Technician: | Chris Wesson | | |
| Reviewer: | Wunmi Adekanmbi | | |
| Station: | PRAMP 842b | | |
| 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: | September 12, 2019 | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | FS 181341226 | | |
| Reference Temperature (°C): | 3.4 | | |
| Station - Ambient Temperature (°C): | 3.5 | | |
| Temperature Difference (°C): | -0.1 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Previous check date: | n/a | | |
| Reference Barometer ID: | Brunton 05490 | | |
| Reference Pressure - Units/Reading: | millibar | | 951.6 |
| Station Pressure - Units/Reading: | millibar | | 950.7 |
| Pressure Tolerance +/- 15% of error: | 809 - 1094 | | 0.09% |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Previous check date: | n/a | | |
| Reference Hygrometer ID: | FS 181341226 | | |
| Reference Hygrometer % RH- Reading: | 37.40 | | |
| Station Hygrometer % RH- Reading: | 39.30 | | |
| RH Tolerance +/- 15% of difference: | 31.79 - 43.01 | | -5.1% |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | n/a - install | Previous check date: | September 12, 2019 |
| Wind Speed Observed (kph): | 10-20 | Wind Direction Observed: | SW |
| Wind speed on Data Logger (kph): | 18.3 | Wind Direction on Data Logger: | SW |
| | | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
| | | | |



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: Oct03, 2019
 Physical inspection completed, bearings replaced. Tower extended +1.25m. Alignment checked: declination +15Deg



Peace River Area Monitoring Program

OCTOBER 2019
Ambient Air Monitoring Calibration Report
- 986c STATION-
CAL-PRAMP-201910-01562

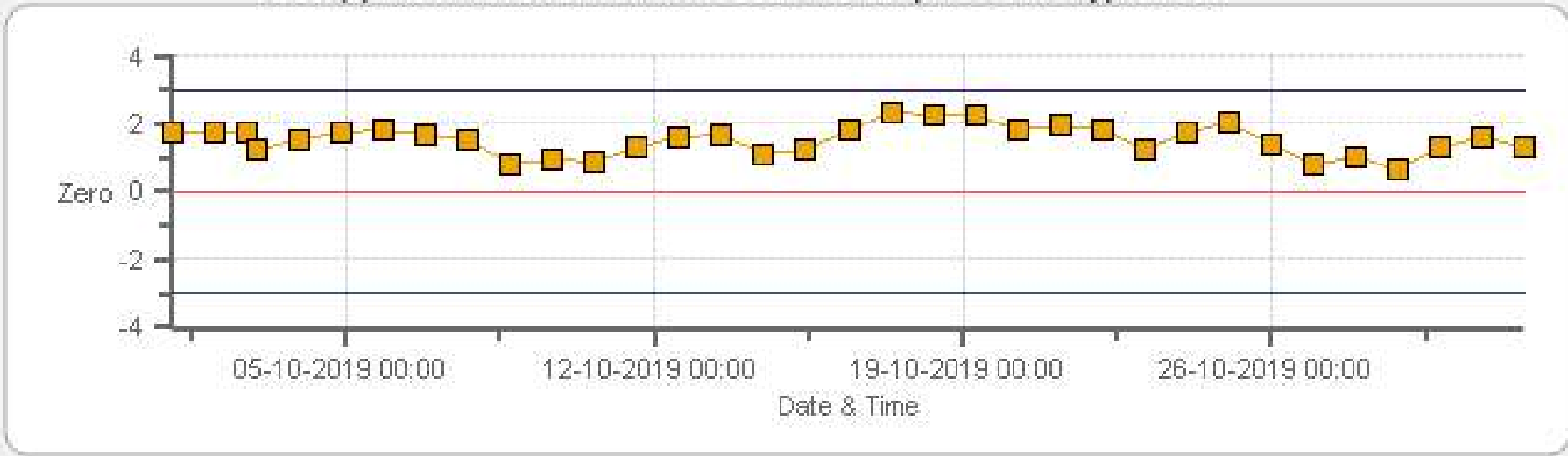
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

November 15, 2019

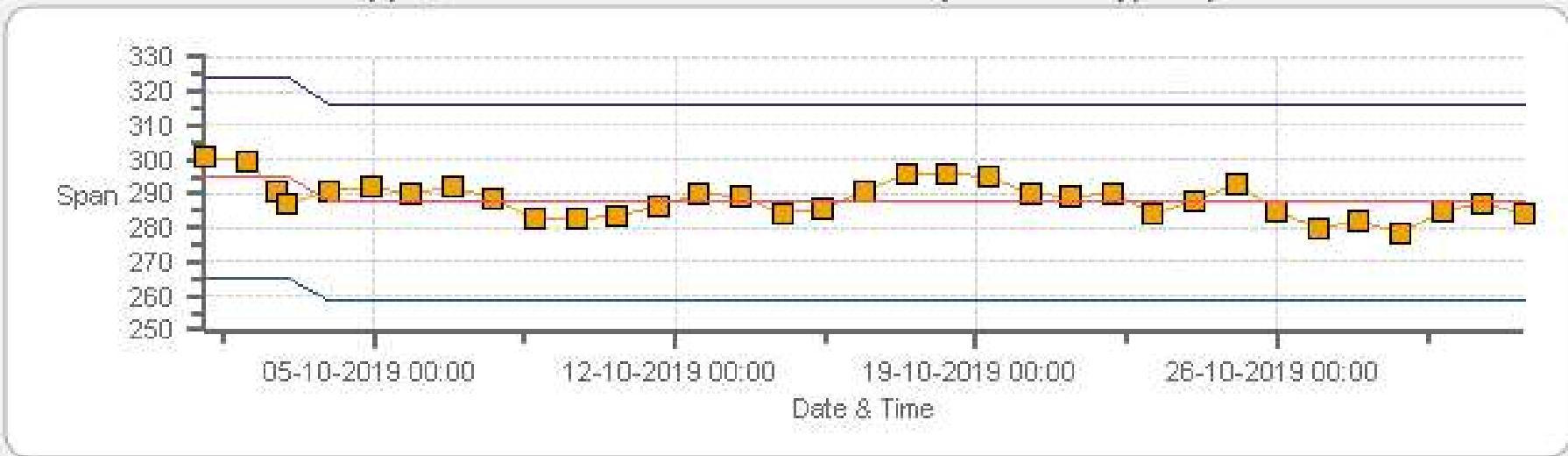
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP 986c Monthly: 10-2019 Type: Zero



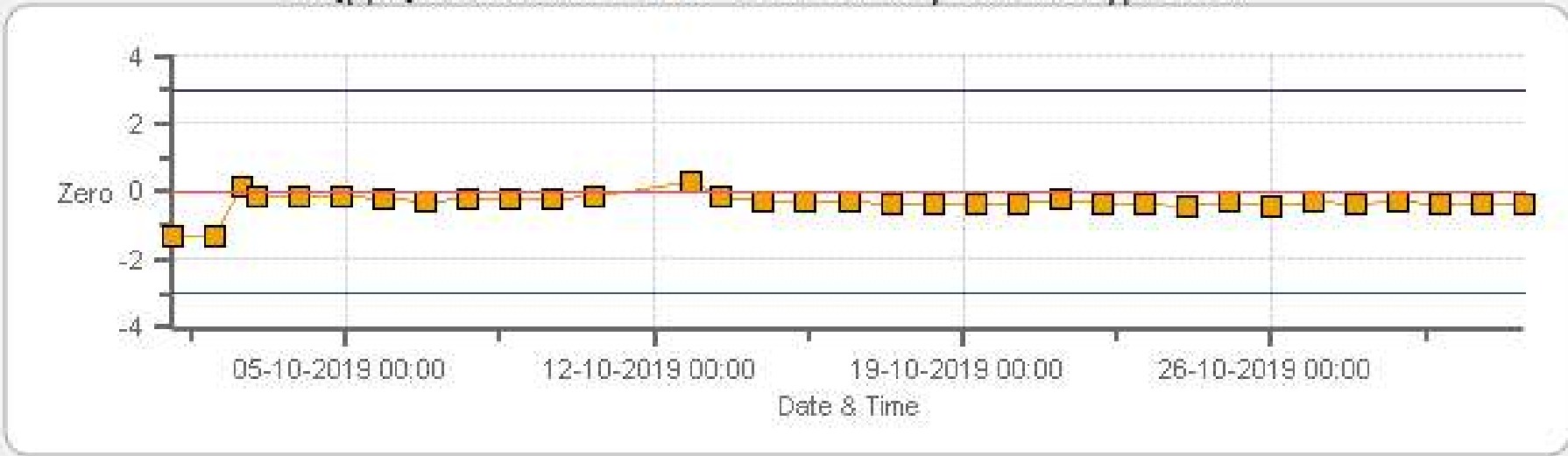
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP 986c Monthly: 10-2019 Type: Span



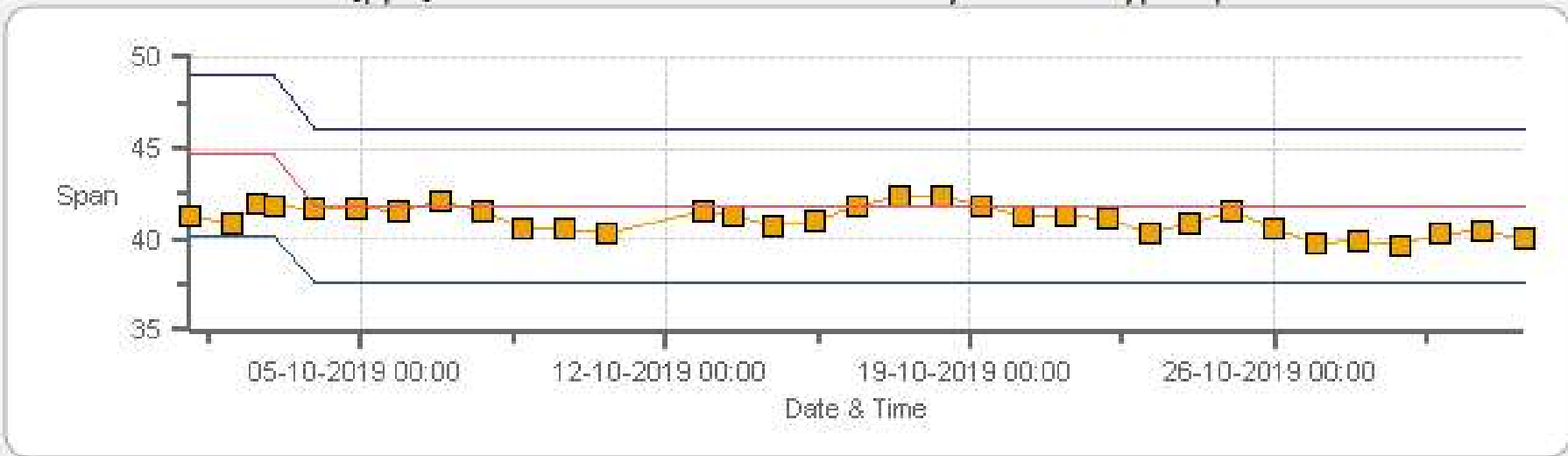
Span SpanRef Span Low Span High

TRS [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



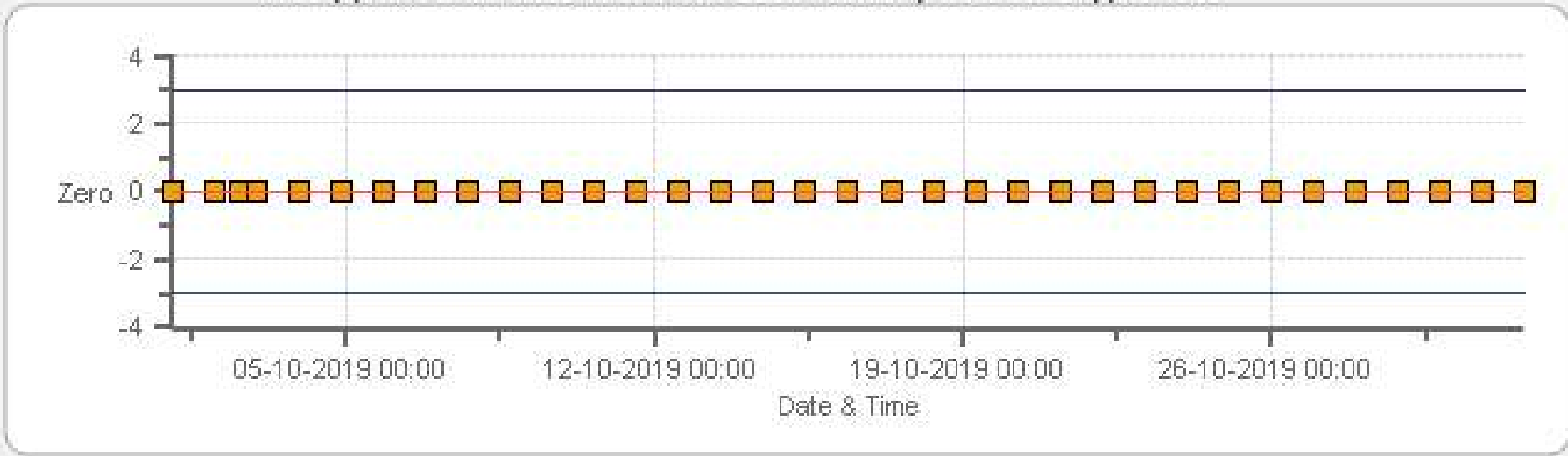
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



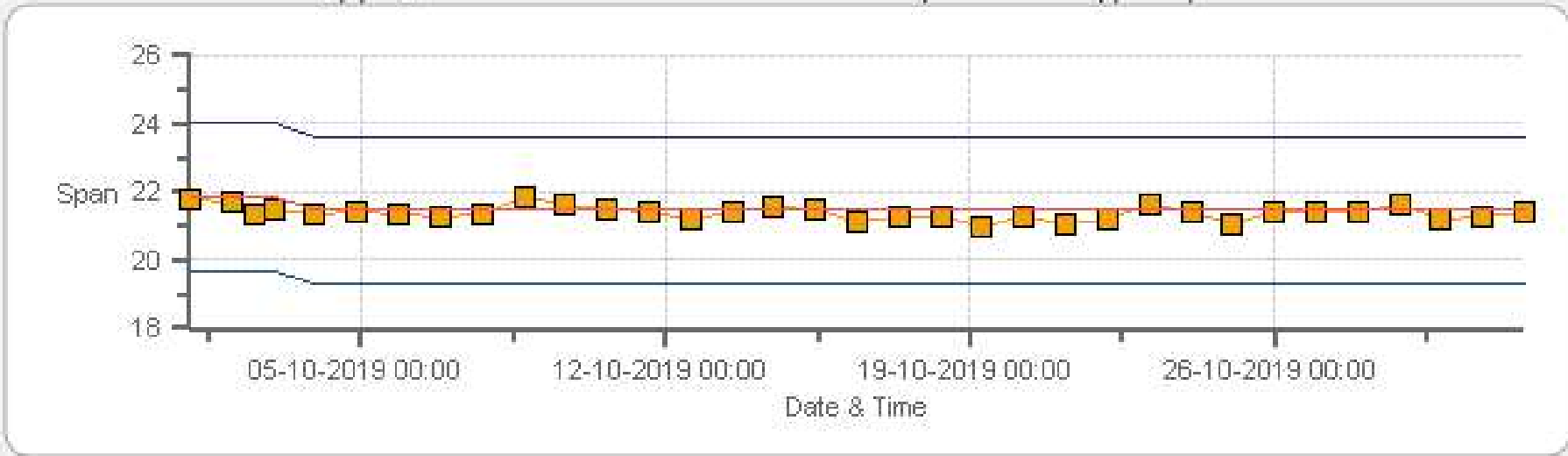
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Zero



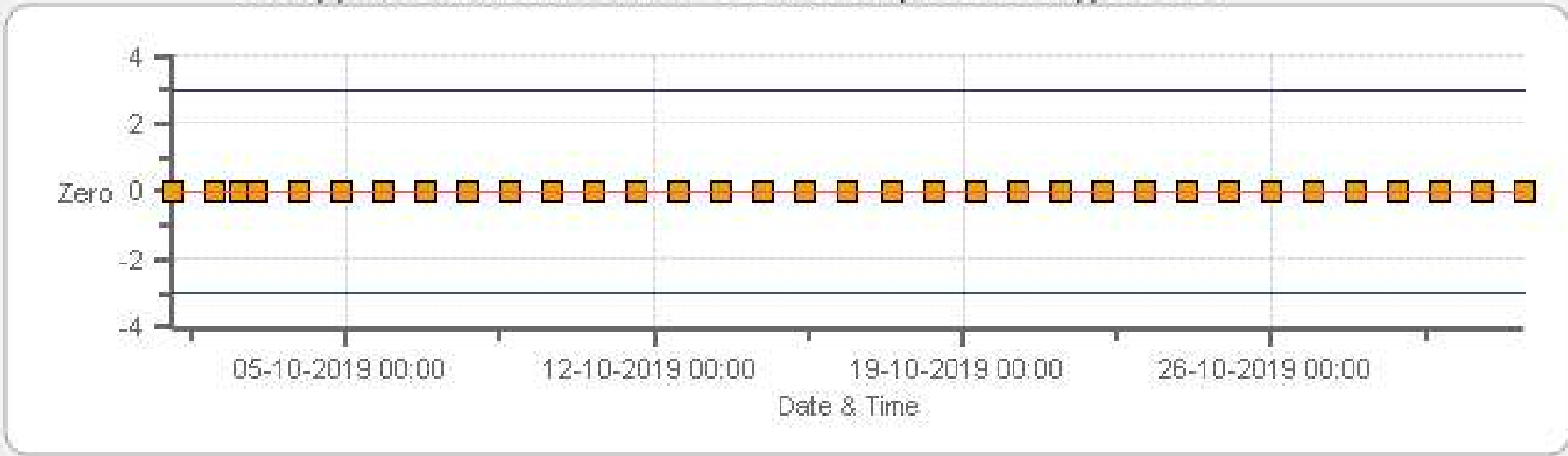
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Span



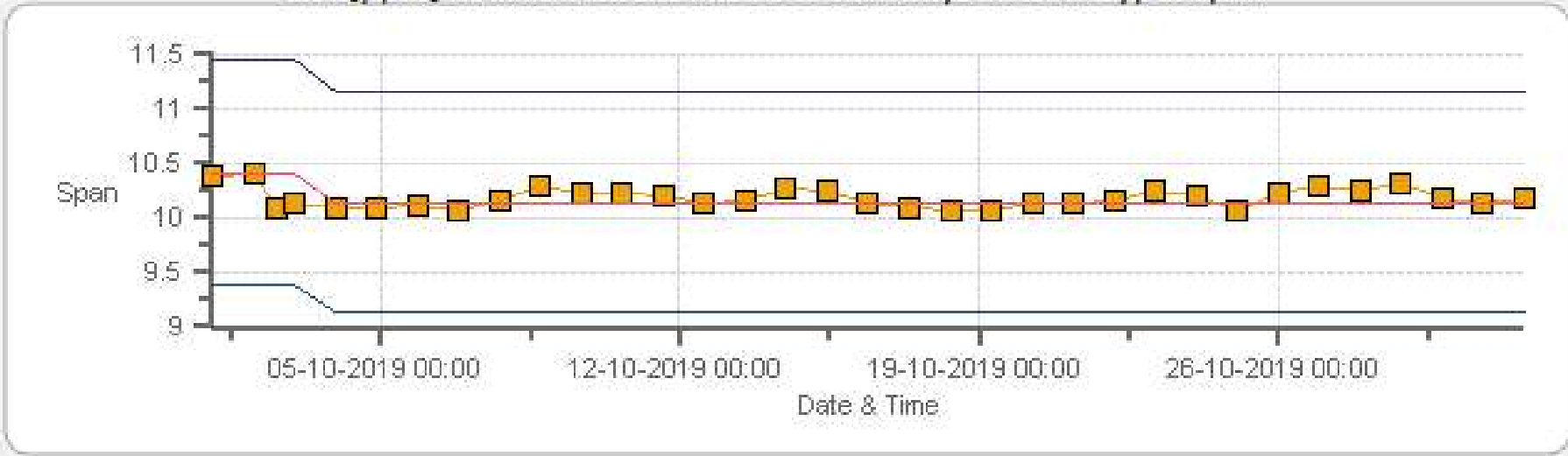
Span Span Ref Span Low Span High

CH4 [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Zero



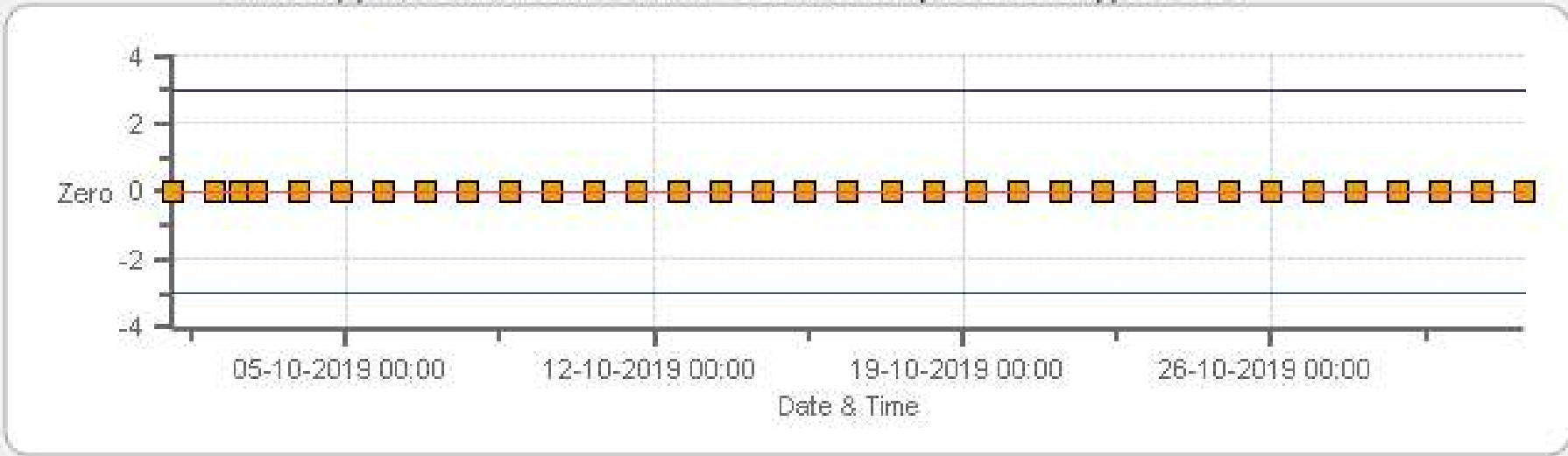
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

CH4 [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Span



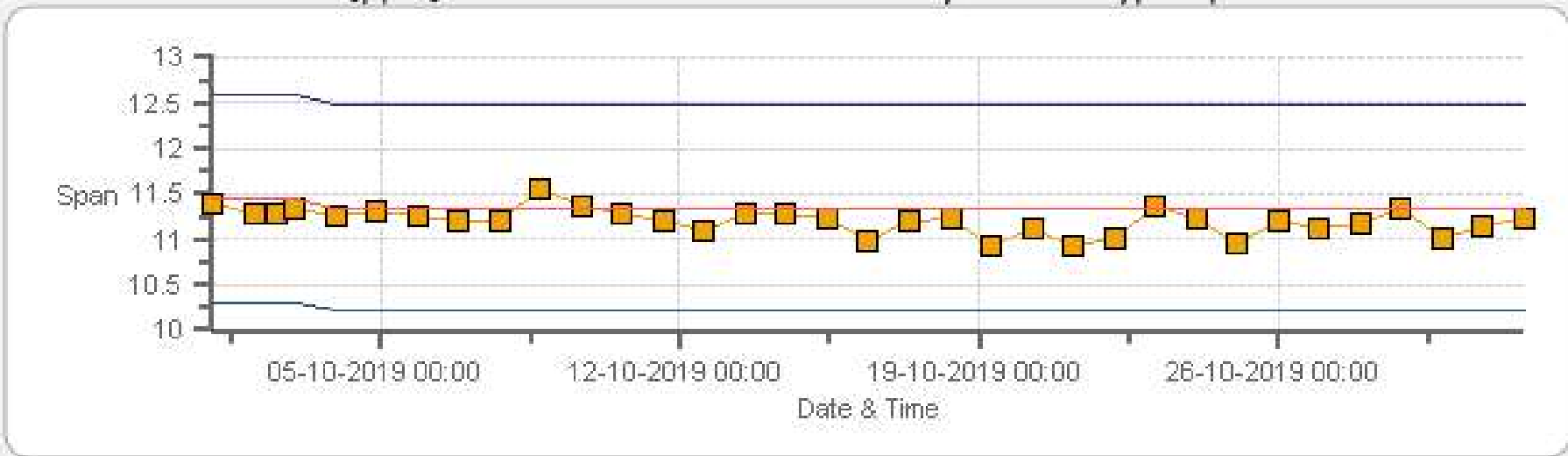
■ Span
 — SpanRef
 — Span Low
 — Span High

NMHC [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Zero



■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

NMHC [ppm] Calibration: PRAMP 986c Monthly: 10-2019 Type: Span



■ Span
 — SpanRef
 — Span Low
 — Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|---------------|-----------------------------|-------------|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | 04-Sep-2019 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.5 |
| LOCATION: | 986c | BAROMETRIC (mBar): | 940 |
| PURPOSE: | Routine | START TIME (MST): | 13:04 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 18:26 |

ANALYZER:

| | | | |
|----------------------------|----------|----------------------------|---------|
| MAKE/MODEL | API 100A | RANGE | 500 ppb |
| SERIAL # | 1298 | FLOW (mL/min) | 616 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 92.7 | BKG/OFFSET | 93.5 |
| COEF/SLOPE | 0.88 | COEF/SLOPE | 0.852 |
| Expected (reference) Value | 295 | Expected (reference) Value | 288 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | EnviroNics | MAKE: | API |
| MODEL: | 6100 | MODEL: | T701 |
| ID: | 5212 | ID: | 74 |
| MFC CALIBRATION DATE: | 19-Jul-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL104183 | HIGH ID | n/a |
| CONC (ppm): | 49.50 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 700 | LOW ID | n/a |
| EXPIRY DATE | 24-Oct-2020 | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5996 | 46.02 | 5996 | 0.00 | 0.9 | 0 | 0.975 | 1.000 |
| 5950 | 46.02 | 5996 | 379.87 | 390.6 | 379.8 | 0.975 | 1.000 |
| 5977 | 21.81 | 5999 | 179.92 | n/a | 179.7 | n/a | 1.001 |
| 5986 | 10.88 | 5997 | 89.83 | n/a | 90.8 | n/a | 0.989 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.999 | 0.1% |

COMMENTS:

Sample filter changed. Stopped "as found high" point at 14:01 due to slow analyzer response. Restarted at 14:06.



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------|-----------------------------|-------------|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | 19-Sep-2019 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.5 |
| LOCATION: | 986c | BAROMETRIC (mBar): | 940 |
| PURPOSE: | Routine | START TIME (MST): | 09:25 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 15:11 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 100 ppb |
| SERIAL # | 1152940011 | FLOW (mL/min) | 480 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 3.55 | BKG/OFFSET | 2.32 |
| COEF/SLOPE | 0.929 | COEF/SLOPE | 0.917 |
| Expected (reference) Value | 44.62 | Expected (reference) Value | 41.83 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | EnviroNics | MAKE: | API |
| MODEL: | 6100 | MODEL: | T701 |
| ID: | 4760 | ID: | 74 |
| MFC CALIBRATION DATE: | 18-Jul-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL119420 | HIGH ID | n/a |
| CONC (ppm): | 10.20 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 300 | LOW ID | n/a |
| EXPIRY DATE | 16-May-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: | 10:05 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:23 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7485 | 57.19 | 7485 | 0.00 | -1.25 | 0 | 0.975 | 1.000 |
| 7429 | 57.19 | 7486 | 77.92 | 78.7 | 77.9 | 0.975 | 1.000 |
| 7460 | 27.86 | 7488 | 37.95 | n/a | 37.51 | n/a | 1.012 |
| 7474 | 13.93 | 7488 | 18.98 | n/a | 18.54 | n/a | 1.024 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.3% |

COMMENTS:

| |
|------------------------|
| Sample filter changed. |
|------------------------|



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------------|-----------------------------|-------------|
| DATE: | 12-Oct-2019 | PREVIOUS CALIBRATION DATE: | 02-Oct-2019 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.2 |
| LOCATION: | 986c | BAROMETRIC (mBar): | 938 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 12:26 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 20:26 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 100 ppb |
| SERIAL # | 1152940011 | FLOW (mL/min) | 479 |
| INITIAL | | FINAL | |
| BKG/OFFSET | n/a | BKG/OFFSET | 2.47 |
| COEF/SLOPE | n/a | COEF/SLOPE | 0.942 |
| Expected (reference) Value | n/a | Expected (reference) Value | 41.83 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | EnviroNics | MAKE: | API |
| MODEL: | 6100 | MODEL: | T701 |
| ID: | 4760 | ID: | 74 |
| MFC CALIBRATION DATE: | 18-Jul-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL119420 | HIGH ID | n/a |
| CONC (ppm): | 10.20 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 270 | LOW ID | n/a |
| EXPIRY DATE | 16-May-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: | 17:42 | SO2 Conc (ppb) | 380 |
| END TIME: | 18:00 | Analyzer Response (ppb) | 0.1 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7487 | 57.19 | 7487 | 0.00 | n/a | 0 | n/a | 1.000 |
| 7429 | 57.19 | 7486 | 77.92 | n/a | 77.9 | n/a | 1.000 |
| 7459 | 27.86 | 7487 | 37.96 | n/a | 37.43 | n/a | 1.014 |
| 7472 | 13.94 | 7486 | 19.00 | n/a | 18.55 | n/a | 1.024 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.3% |

COMMENTS:

| |
|--|
| Replaced Thermal Oxidizer due to unstable temperature. |
|--|



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | 04-Sep-2019 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.5 | | Thermo 55i | 1022143392 | 974.44 |
| LOCATION: | 986c | BAROMETRIC (mBar): | 940 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Routine | START TIME (MST): | 09:25 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 13:46 | PREVIOUS CF: | 0.998 | 1.000 | 0.999 |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|------|---|---------------|-----------------------------|-----|
| MAKE: | EnviroNics | MAKE: | API | CYLINDER ID: | LL43221 | HIGH ID: | n/a |
| MODEL: | 6100 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 595.0 206.0 | HIGH EXPIRY: | n/a |
| ID: | 5212 | ID: | 74 | CYLINDER (psi): | 1400 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jul-2019 | OXIDIZER ID: | n/a | EXPIRY DATE | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH4 EQUIVILANCE | |
|-------------------------|---------|-------|-------|--|--------|
| POINT (CH4/NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 566.5 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1161.5 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
| | 10.42 | 11.44 | 21.86 | | 10.14 | 11.34 | 21.47 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|--------------|--------------|--------------|--------------|--------------|
| (mL/min) | | | 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 |
| 3145 | X | 3145 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 3077 | 70.47 | 3147 | 13.32 | 12.69 | 26.01 | 13.57 | 12.68 | 26.26 | 13.33 | 12.67 | 26.00 | 0.982 | 1.000 | 0.990 | 1.000 | 1.001 | 1.000 |
| 3110 | 37.91 | 3148 | 7.16 | 6.82 | 13.99 | n/a | n/a | n/a | 7.22 | 6.85 | 14.08 | n/a | n/a | n/a | 0.992 | 0.996 | 0.993 |
| 3132 | 16.22 | 3149 | 3.07 | 2.92 | 5.98 | n/a | n/a | n/a | 3.11 | 2.93 | 6.05 | n/a | n/a | n/a | 0.986 | 0.996 | 0.989 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: Sample filter changed. |
|-----------------------------|-------------|-------|-----------|-------------------------------------|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH4 | 1.000 | 1.000 | 0.1% | |
| NMHC | 1.000 | 1.000 | 0.1% | |
| THC | 1.000 | 0.999 | 0.1% | |



Meteorological System Checklist

| | | | |
|--|---|--------------------------------|-------------------|
| Date: | October 2, 2019 | | |
| Technician: | Ferdinand Roy | | |
| Reviewer: | Wunmi Adekanmbi | | |
| Station: | PRAMP 986c | | |
| Unit: | Make: | Model: | Serial #: |
| Temperature Sensor: | RM Young | 43182VC | 030978 |
| Barometric Pressure Sensor: | MetOne | 090D | F3845 |
| Relative Humidity Sensor: | RM Young | 43182VC | 030978 |
| Anemometer: | RM Young | 05305VK | 129612 |
| AMBIENT TEMPERATURE SENSOR CHECK | | | |
| Previous check date: | September 4, 2019 | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | F.S. 160459244 expires Jun 19, 2020 | | |
| Reference Temperature (°C): | 10.7 | | |
| Station - Ambient Temperature (°C): | 11.1 | | |
| Temperature Difference (°C): | -0.4 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Previous check date: | September 4, 2019 | | |
| Reference Barometer ID: | Reference Barometer ID: F.S. 10528 expires January 23, 2020 | | |
| Reference Pressure - Units/Reading: | millibar | 940 | |
| Station Pressure - Units/Reading: | millibar | 942.2 | |
| Pressure Tolerance +/- 15% of error: | 799 - 1081 | -0.23% | |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Previous check date: | September 4, 2019 | | |
| Reference Hygrometer ID: | F.S. 160459244 expires Jun 19, 2020 | | |
| Reference Hygrometer % RH- Reading: | 51.35 | | |
| Station Hygrometer % RH- Reading: | 51.80 | | |
| RH Tolerance +/- 15% of difference: | 43.65 - 59.05 | -0.9% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | September 4, 2019 | Previous check date: | September 4, 2019 |
| Wind Speed Observed (kph): | 5-10 | Wind Direction Observed: | SW |
| Wind speed on Data Logger (kph): | 6.1 | Wind Direction on Data Logger: | SW |
| | | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
| | | | |



Meteorological Sensor Audit/Calibration

Location Information

| | | | |
|----------------------|----------------|-----------------------|-----------------------|
| Company: | PRAMP | Performed By: | Chris Wesson |
| Audit Location: | 986b | Reviewed By: | Rob Fisher |
| Audit Date: | April 24, 2019 | Start/End Time (mst): | 09:58/11:59 |
| Calibration Purpose: | routine annual | Weather Conditions: | Mix of sun and clouds |

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|---------------|---------------------------------|-----------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | 0-1V |
| Sensor Model: | 05305VK | Velocity Unit Output Range: | 0-200 kph |
| Serial #: | 129612 | Direction Voltage Output Range: | 0-1V |
| Previous Cal/Audit Date: | April 4, 2018 | Direction Unit Output Range: | 0-360 DEG |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires October 3, 2019

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 | 0.1 | 0.1 | - |
| 1000 | 18.4 | 18.5 | 18.5 | 0.996 |
| 2000 | 36.9 | 36.9 | 36.8 | 1.000 |
| 3000 | 55.3 | 55.3 | 55.3 | 1.000 |
| 4000 | 73.7 | 73.7 | 73.7 | 1.000 |
| 5000 | 92.2 | 92.2 | 92.2 | 0.999 |
| 6000 | 110.6 | 110.7 | 110.7 | 0.999 |
| 7000 | 129.0 | 129.2 | 129.2 | 0.999 |
| 8000 | 147.4 | 147.7 | 147.7 | 0.998 |
| 9000 | 165.9 | 166.2 | 166.2 | 0.998 |
| 10000 | 184.3 | 184.9 | 184.8 | 0.997 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 0.999 |

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 | 0 | 353 | 0.0 | 2.0 | 1.0 |
| 30 | 330 | 29 | 330 | 1.0 | 0.0 | 0.5 |
| 60 | 300 | 60 | 301 | 0.0 | -1.0 | 0.5 |
| 90 | 270 | 91 | 272 | -1.0 | -2.0 | 1.5 |
| 120 | 240 | 121 | 242 | -1.0 | -2.0 | 1.5 |
| 150 | 210 | 152 | 212 | -2.0 | -2.0 | 2.0 |
| 180 | 180 | 182 | 181 | -2.0 | -1.0 | 1.5 |
| 210 | 150 | 214 | 150 | -4.0 | 0.0 | 2.0 |
| 240 | 120 | 244 | 121 | -4.0 | -1.0 | 2.5 |
| 270 | 90 | 273 | 90 | -3.0 | 0.0 | 1.5 |
| 300 | 60 | 302 | 60 | -2.0 | 0.0 | 1.0 |
| 330 | 30 | 330 | 29 | 0.0 | 1.0 | 0.5 |
| 355 | 0 | 353 | 0 | 2.0 | 0.0 | 1.0 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 1.3 |

Comments:

Physical inspection completed. No issues.



Peace River Area Monitoring Program

OCTOBER 2019
Ambient Air Monitoring Calibration Report
- RENO STATION-
CAL-PRAMP-201910-01563

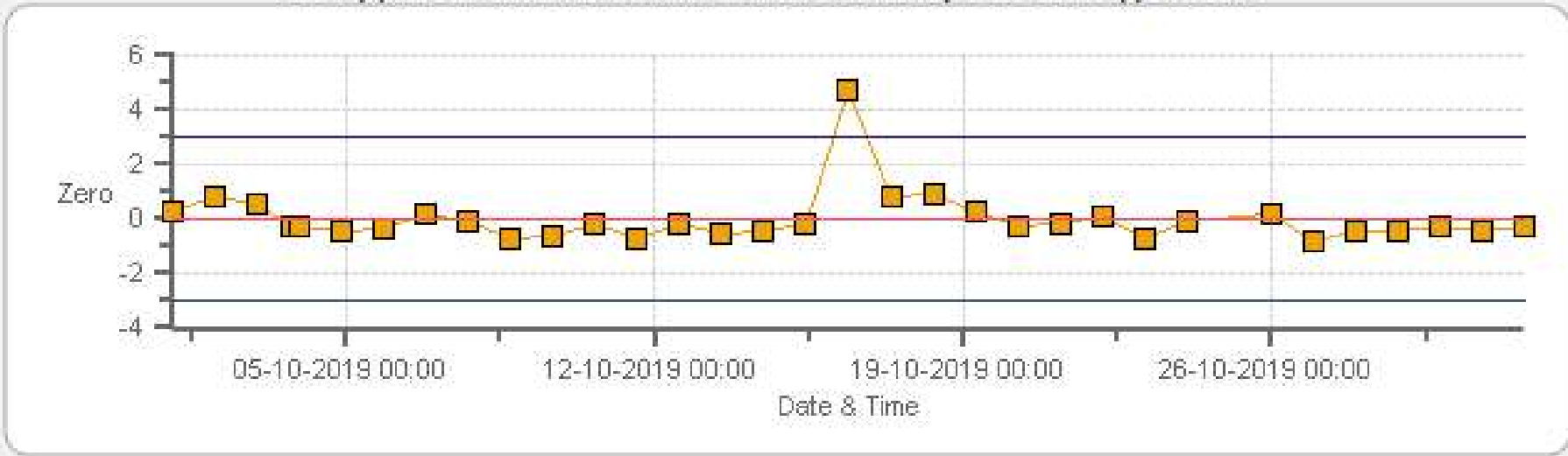
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

November 15, 2019

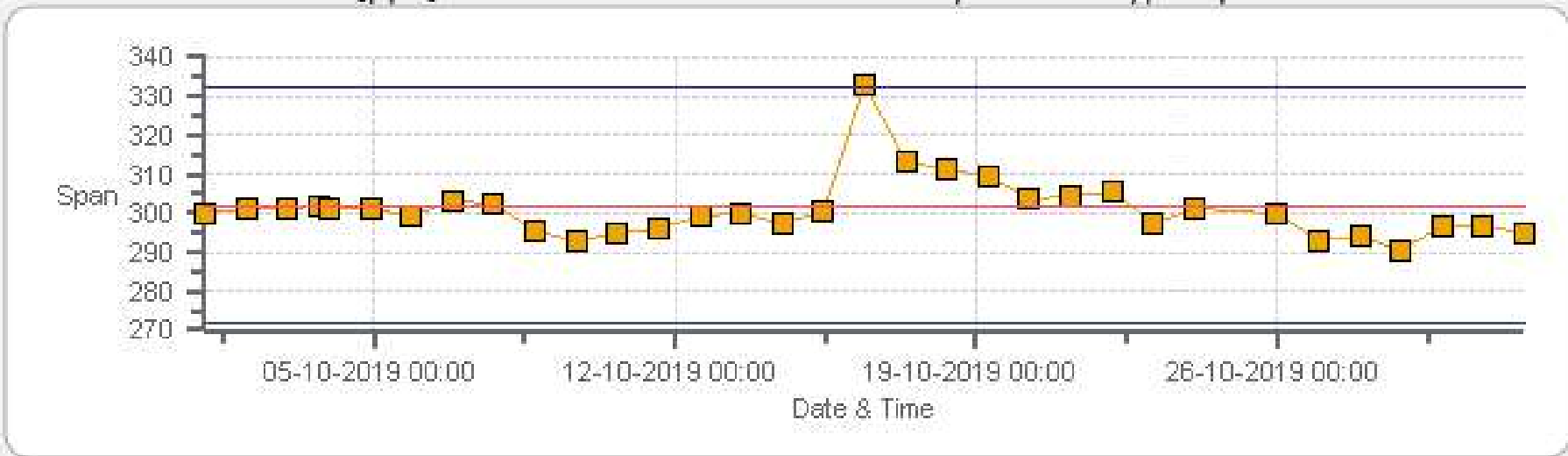
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



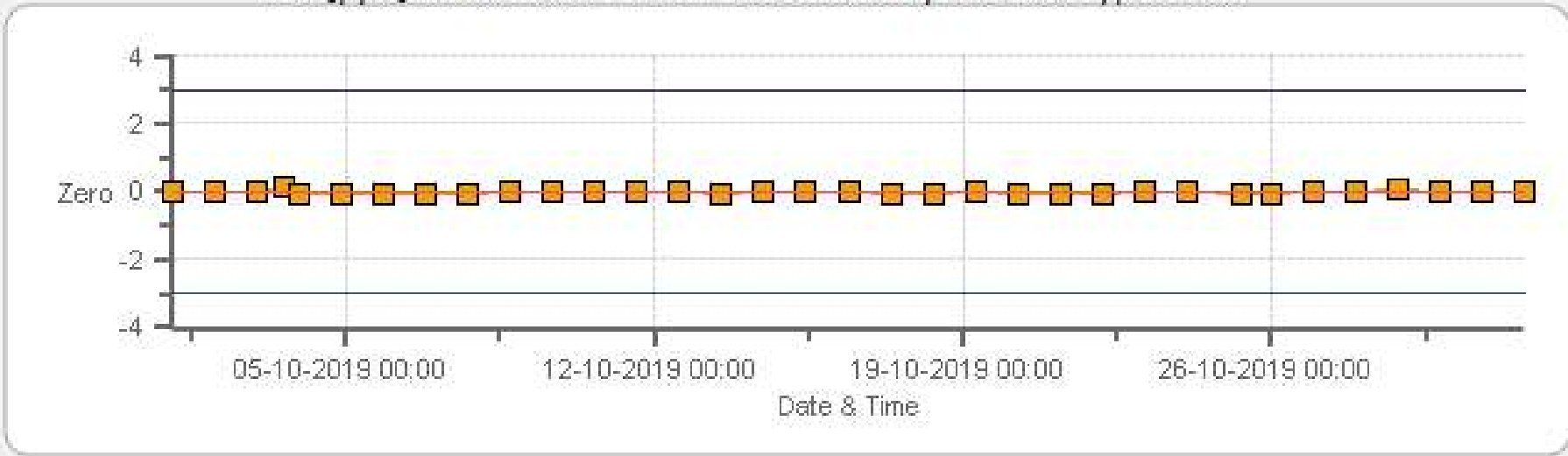
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

SO2 [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



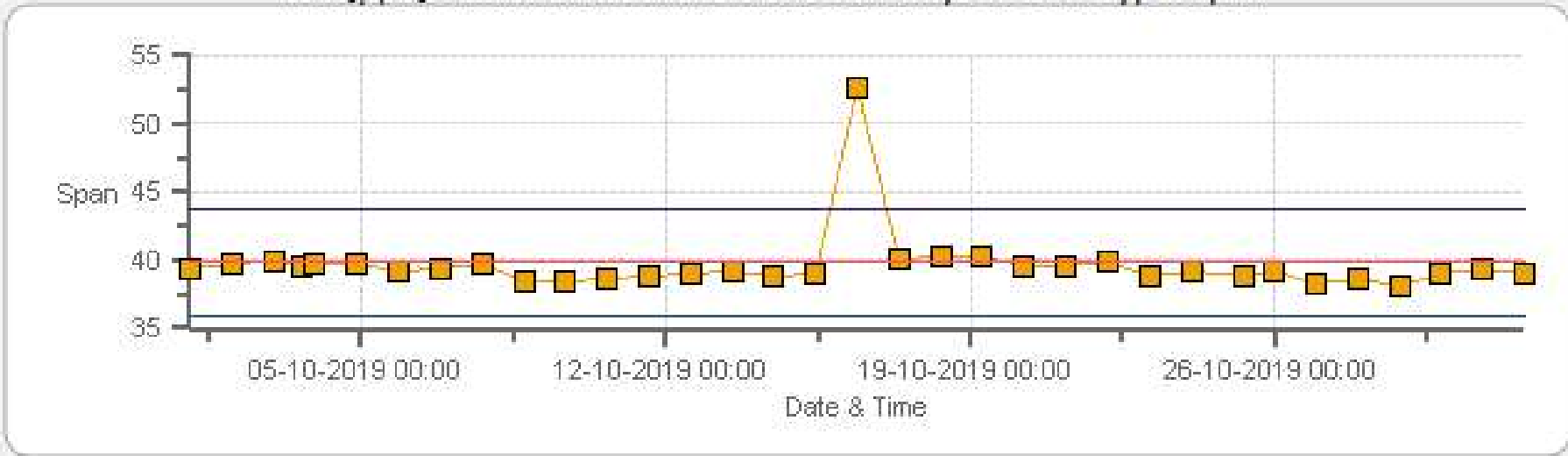
■ Span
 — SpanRef
 — Span Low
 — Span High

TRS [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



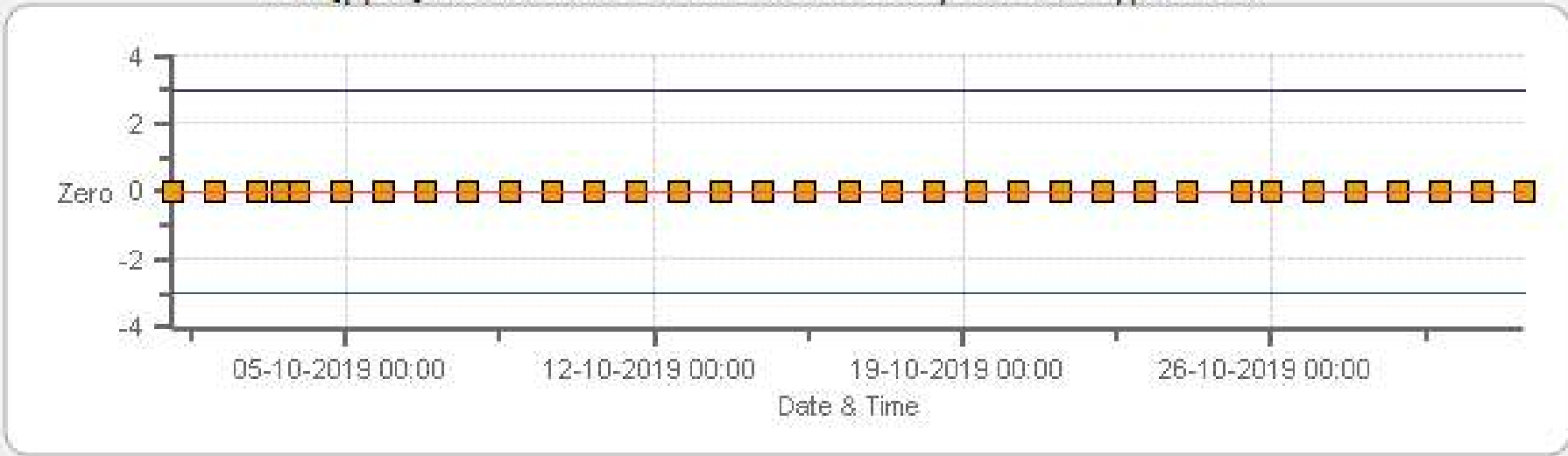
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



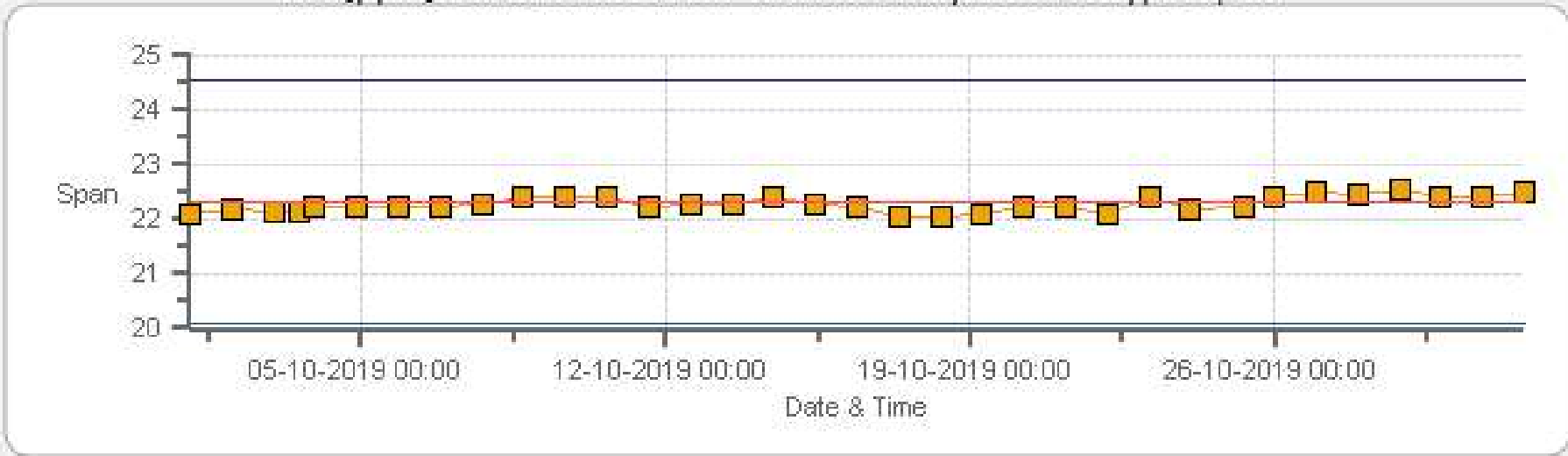
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



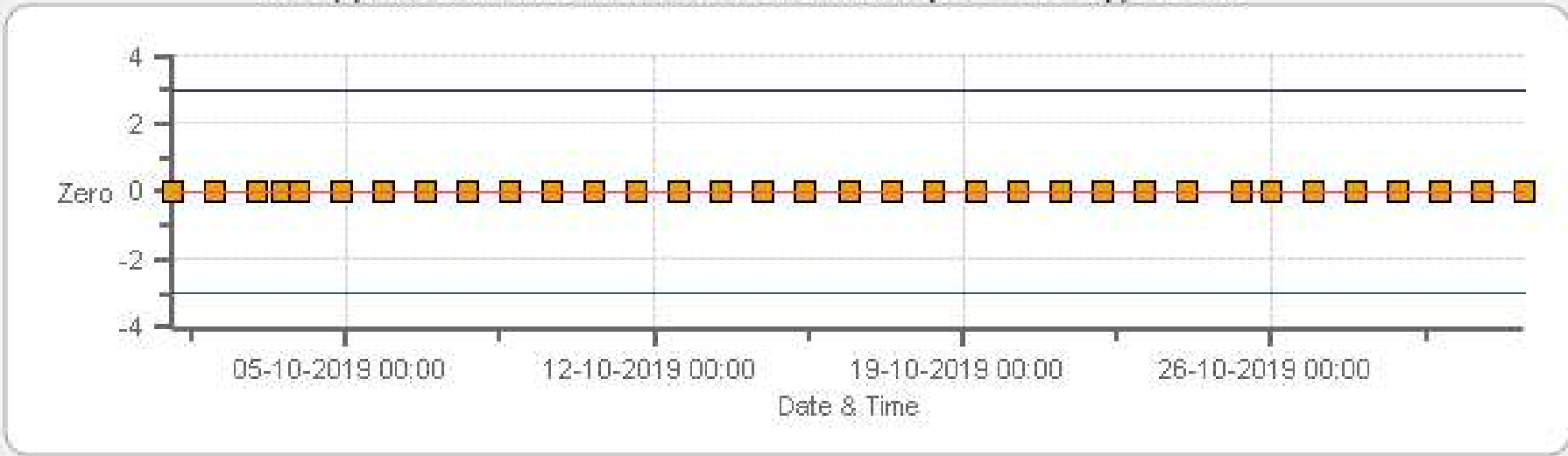
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



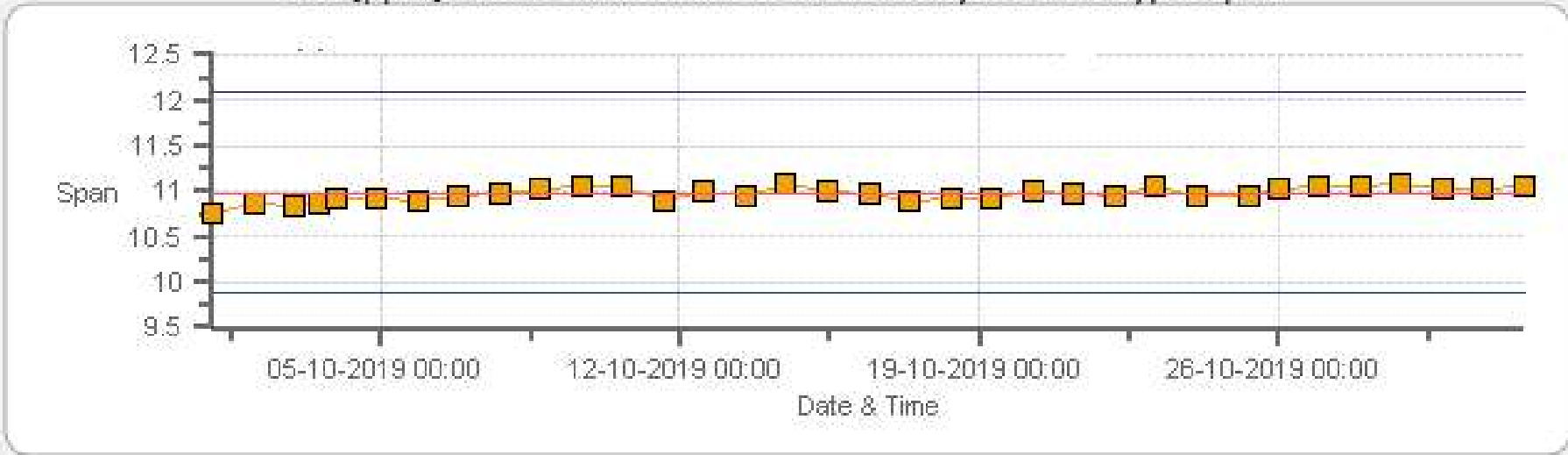
Span Span Ref Span Low Span High

CH4 [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



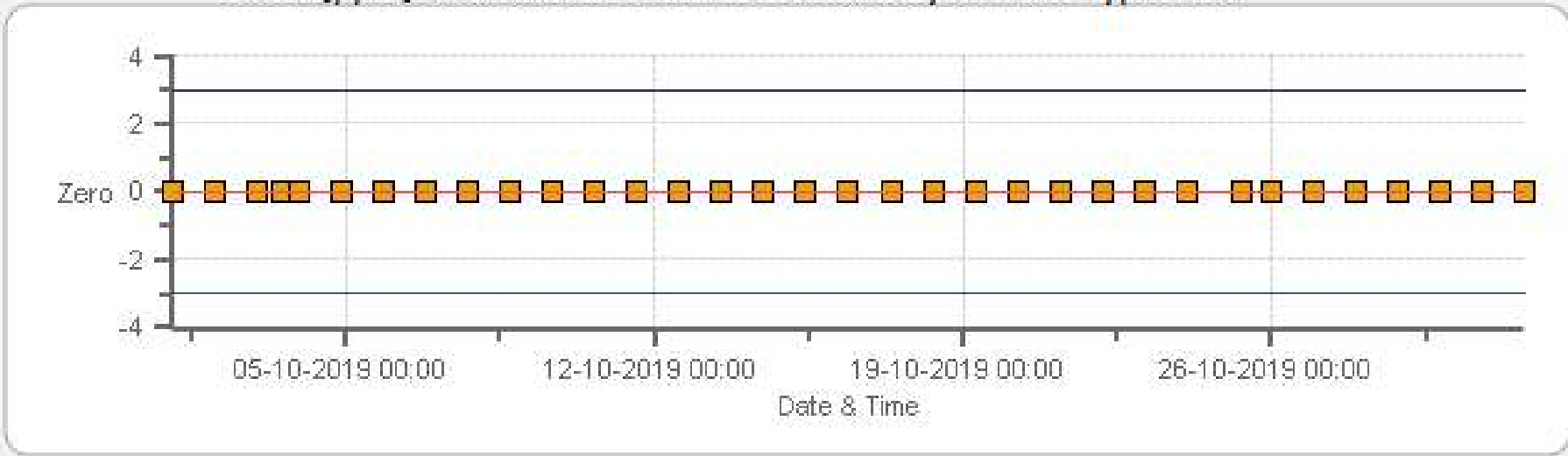
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

CH4 [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



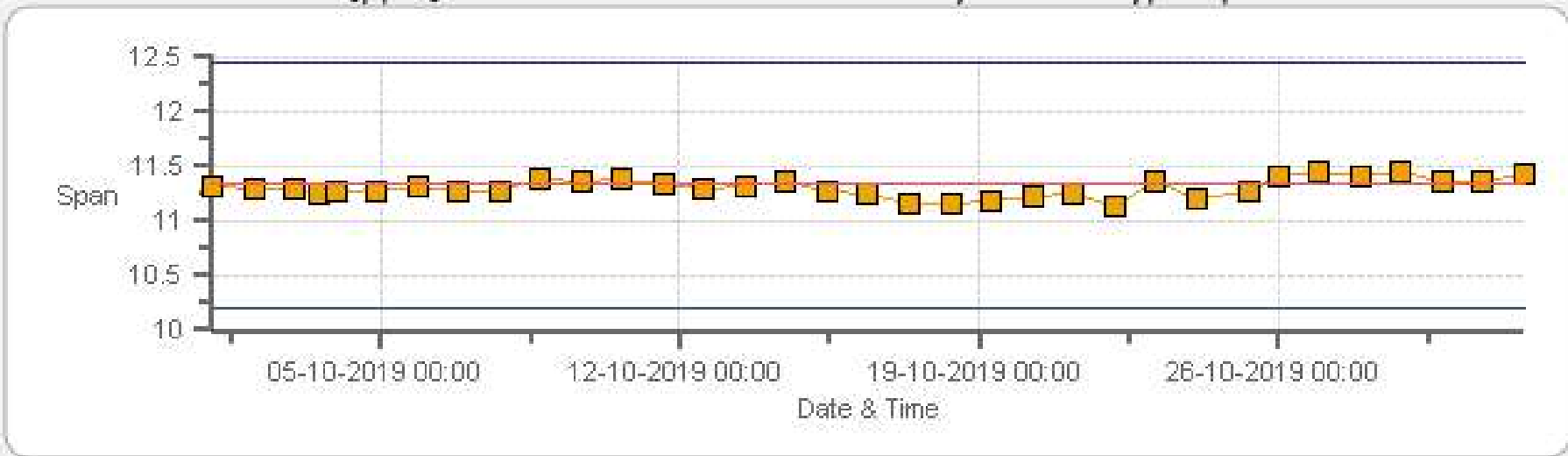
■ Span
 — SpanRef
 — Span Low
 — Span High

NMHC [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Zero



■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

NMHC [ppm] Calibration: PRAMP Reno Monthly: 10-2019 Type: Span



■ Span
 — SpanRef
 — Span Low
 — Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|---------------|-----------------------------|-------------|
| DATE: | 03-Oct-2019 | PREVIOUS CALIBRATION DATE: | 18-Sep-2019 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.8 |
| LOCATION: | Reno | BAROMETRIC (mBar): | 933 |
| PURPOSE: | Routine | START TIME (MST): | 12:40 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 17:34 |

ANALYZER:

| | | | |
|----------------------------|----------|----------------------------|---------|
| MAKE/MODEL | API 100A | RANGE | 500 ppb |
| SERIAL # | 841 | FLOW (mL/min) | 644 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 54.3 | BKG/OFFSET | 56.5 |
| COEF/SLOPE | 1.068 | COEF/SLOPE | 1.065 |
| Expected (reference) Value | 302 | Expected (reference) Value | 302 |

CALIBRATION SYSTEM:

| | | | |
|-------------------------|-------------|------------------------------------|------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | EnviroNics | MAKE: | API |
| MODEL: | 6100 | MODEL: | T701 |
| ID: | 5212 | ID: | 74 |
| MFC CALIBRATION DATE: | 19-Jul-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL104183 | HIGH ID | n/a |
| CONC (ppm): | 49.50 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 700 | LOW ID | n/a |
| EXPIRY DATE | 24-Oct-2020 | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5995 | 46.05 | 5995 | 0.00 | 1.3 | 0 | 1.001 | 1.000 |
| 5951 | 46.05 | 5997 | 380.13 | 381.1 | 380.1 | 1.001 | 1.000 |
| 5976 | 21.80 | 5998 | 179.93 | n/a | 178.9 | n/a | 1.006 |
| 5986 | 10.88 | 5997 | 89.80 | n/a | 89.9 | n/a | 0.999 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.000 | 0.0% |

COMMENTS:

| |
|------------------------|
| Sample filter changed. |
|------------------------|



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------|-----------------------------|-------------|
| DATE: | 03-Oct-2019 | PREVIOUS CALIBRATION DATE: | 11-Sep-2019 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 1.001 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.1 |
| LOCATION: | Reno | BAROMETRIC (mBar): | 933 |
| PURPOSE: | Routine | START TIME (MST): | 09:09 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 14:59 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 100 ppb |
| SERIAL # | 1162460022 | FLOW (mL/min) | 405 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 2.29 | BKG/OFFSET | 2.3 |
| COEF/SLOPE | 0.967 | COEF/SLOPE | 0.956 |
| Expected (reference) Value | 39.82 | Expected (reference) Value | 39.82 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | EnviroNics | MAKE: | API |
| MODEL: | 6100 | MODEL: | T701 |
| ID: | 4760 | ID: | 74 |
| MFC CALIBRATION DATE: | 18-Jul-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL119420 | HIGH ID | n/a |
| CONC (ppm): | 10.20 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 300 | LOW ID | n/a |
| EXPIRY DATE | 16-May-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: | 09:46 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:04 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7487 | 57.21 | 7487 | 0.00 | -0.03 | 0 | 0.976 | 1.000 |
| 7430 | 57.21 | 7487 | 77.94 | 79.84 | 77.91 | 0.976 | 1.000 |
| 7460 | 27.86 | 7488 | 37.95 | n/a | 37.6 | n/a | 1.009 |
| 7473 | 13.94 | 7487 | 18.99 | n/a | 18.53 | n/a | 1.025 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.3% |

COMMENTS:

Operator error - Started calibrator at 11:49 for "adjusted high" point with cal gas valve closed. Restarted at 11:53. Sample filter changed.



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 03-Oct-2019 | PREVIOUS CALIBRATION DATE: | 11-Sep-2019 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.1 | | Thermo 55i | 1314057759 | 1254 |
| LOCATION: | Reno | BAROMETRIC (mBar): | 933 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Routine | START TIME (MST): | 09:09 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Ferdinand Roy | END TIME (MST): | 13:23 | PREVIOUS CF: | 1.001 | 1.000 | 1.000 |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|------|---|---------------|-----------------------------|-----|
| MAKE: | EnviroNics | MAKE: | API | CYLINDER ID: | LL43221 | HIGH ID: | n/a |
| MODEL: | 6100 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 595.0 206.0 | HIGH EXPIRY: | n/a |
| ID: | 5212 | ID: | 74 | CYLINDER (psi): | 1400 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jul-2019 | OXIDIZER ID: | n/a | EXPIRY DATE | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH4 EQUIVILANCE | |
|-------------------------|---------|-------|-------|--|--------|
| POINT (CH4/NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 566.5 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1161.5 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
| | 10.98 | 11.33 | 22.31 | | 10.98 | 11.33 | 22.31 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|--------------|--------------|--------------|--------------|--------------|
| (mL/min) | | | 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 |
| 3145 | X | 3145 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 3077 | 70.48 | 3148 | 13.32 | 12.68 | 26.01 | 13.27 | 12.68 | 25.94 | 13.36 | 12.68 | 26.04 | 1.004 | 1.000 | 1.003 | 0.997 | 1.000 | 0.999 |
| 3111 | 37.92 | 3149 | 7.17 | 6.82 | 13.99 | n/a | n/a | n/a | 7.16 | 6.82 | 13.98 | n/a | n/a | n/a | 1.001 | 1.000 | 1.001 |
| 3131 | 16.25 | 3148 | 3.07 | 2.92 | 5.99 | n/a | n/a | n/a | 3.06 | 2.92 | 5.99 | n/a | n/a | n/a | 1.004 | 1.001 | 1.001 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: Sample filter changed. |
|-----------------------------|-------------|-------|-----------|-------------------------------------|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH4 | 1.000 | 1.003 | -0.1% | |
| NMHC | 1.000 | 1.000 | 0.0% | |
| THC | 1.000 | 1.001 | 0.0% | |



Meteorological System Checklist

| | | | |
|--|-------------------------------------|--------------------------------|--------------------|
| Date: | October 3, 2019 | | |
| Technician: | Ferdinand Roy | | |
| 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: | September 11, 2019 | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | F.S. 160459244 expires Jun 19, 2020 | | |
| Reference Temperature (°C): | 11.4 | | |
| Station - Ambient Temperature (°C): | 11.0 | | |
| Temperature Difference (°C): | 0.4 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Previous check date: | September 11, 2019 | | |
| Reference Barometer ID: | F.S. 10528 expires January 23, 2020 | | |
| Reference Pressure - Units/Reading: | millibar | 934 | |
| Station Pressure - Units/Reading: | millibar | 934.7 | |
| Pressure Tolerance +/- 15% of error: | 794 - 1074 | -0.07% | |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Previous check date: | September 11, 2019 | | |
| Reference Hygrometer ID: | F.S. 160459244 expires Jun 19, 2020 | | |
| Reference Hygrometer % RH- Reading: | 57.00 | | |
| Station Hygrometer % RH- Reading: | 54.00 | | |
| RH Tolerance +/- 15% of difference: | 48.45 - 65.55 | 5.3% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | September 11, 2019 | Previous check date: | September 11, 2019 |
| Wind Speed Observed (kph): | 5-10 | Wind Direction Observed: | SE |
| Wind speed on Data Logger (kph): | 8 | Wind Direction on Data Logger: | SE |
| | | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
| | | | |



Meteorological Sensor Audit/Calibration

Location Information

| | | | |
|----------------------|----------------|-----------------------|-----------------------|
| Company: | PRAMP | Performed By: | Chris Wesson |
| Audit Location: | Reno | Reviewed By: | Rob Fisher |
| Audit Date: | April 24, 2019 | Start/End Time (mst): | 15:13 / 16:06 |
| Calibration Purpose: | routine annual | Weather Conditions: | Mix of sun and clouds |

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|---------------|---------------------------------|-----------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | 0-1V |
| Sensor Model: | 05305VK | Velocity Unit Output Range: | 0-200 kph |
| Serial #: | 149769 | Direction Voltage Output Range: | 0-1V |
| Previous Cal/Audit Date: | April 5, 2018 | Direction Unit Output Range: | 0-360 DEG |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires October 3, 2019

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 | 0.0 | 0.0 | - |
| 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 | 92.2 | 92.2 | 0.999 |
| 6000 | 110.6 | 110.6 | 110.6 | 1.000 |
| 7000 | 129.0 | 129.2 | 129.2 | 0.999 |
| 8000 | 147.4 | 147.8 | 147.6 | 0.998 |
| 9000 | 165.9 | 166.2 | 166.2 | 0.998 |
| 10000 | 184.3 | 184.8 | 184.8 | 0.997 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 1.000 |

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 | 0 | 354 | 0.0 | 1.0 | 0.5 |
| 30 | 330 | 29 | 329 | 1.0 | 1.0 | 1.0 |
| 60 | 300 | 60 | 299 | 0.0 | 1.0 | 0.5 |
| 90 | 270 | 90 | 269 | 0.0 | 1.0 | 0.5 |
| 120 | 240 | 120 | 239 | 0.0 | 1.0 | 0.5 |
| 150 | 210 | 150 | 210 | 0.0 | 0.0 | 0.0 |
| 180 | 180 | 179 | 179 | 1.0 | 1.0 | 1.0 |
| 210 | 150 | 209 | 150 | 1.0 | 0.0 | 0.5 |
| 240 | 120 | 239 | 120 | 1.0 | 0.0 | 0.5 |
| 270 | 90 | 269 | 90 | 1.0 | 0.0 | 0.5 |
| 300 | 60 | 300 | 60 | 0.0 | 0.0 | 0.0 |
| 330 | 30 | 329 | 30 | 1.0 | 0.0 | 0.5 |
| 355 | 0 | 354 | 0 | 1.0 | 0.0 | 0.5 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 0.5 |

Comments:

Physical inspection completed. No issues.



Peace River Area Monitoring Program

OCTOBER 2019
Ambient Air Monitoring Calibration Report
- AQHI - CADOTTE LAKE STATION-
CAL-PRAMP-201910-01651

Operation and Maintenance:

Bureau Veritas Canada

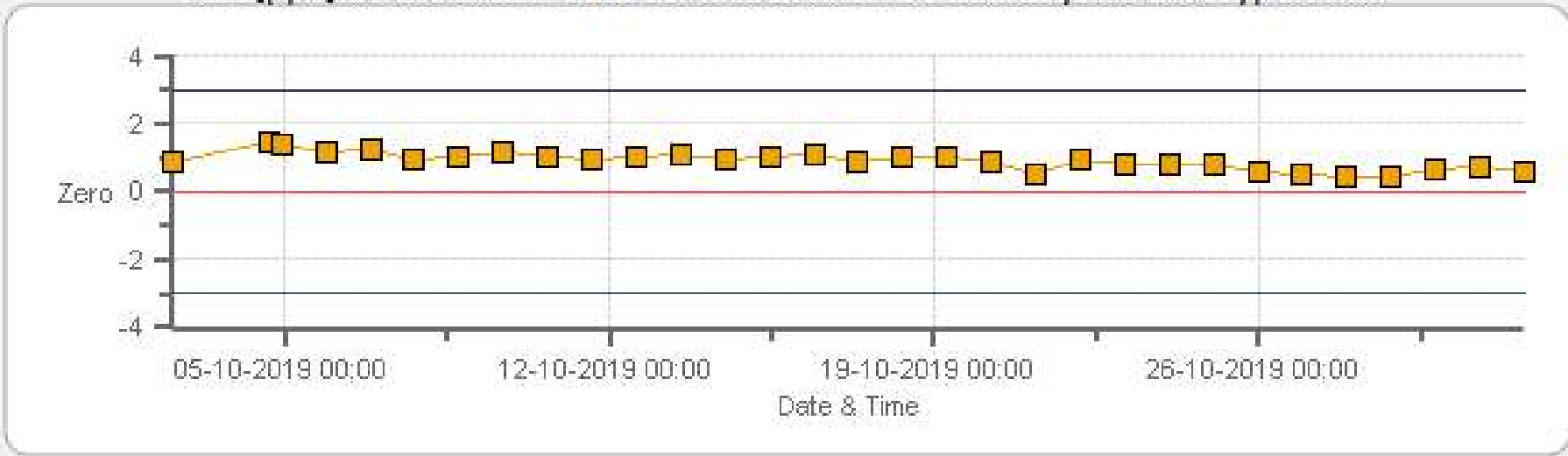
Data Validation and Report:

Bureau Veritas Canada

November 28, 2019

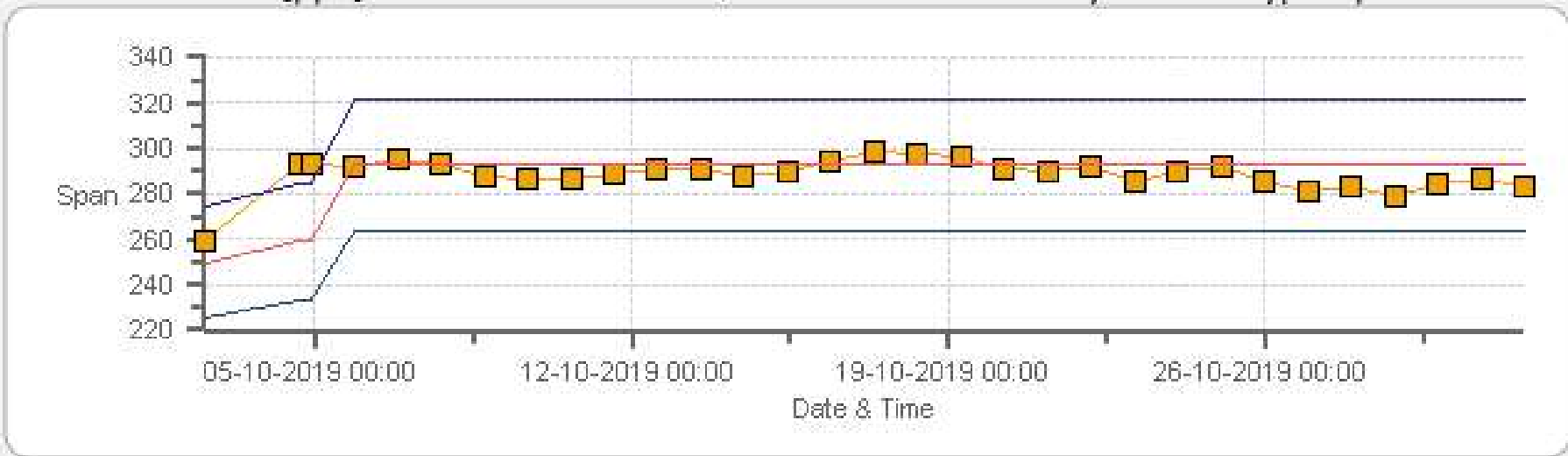
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



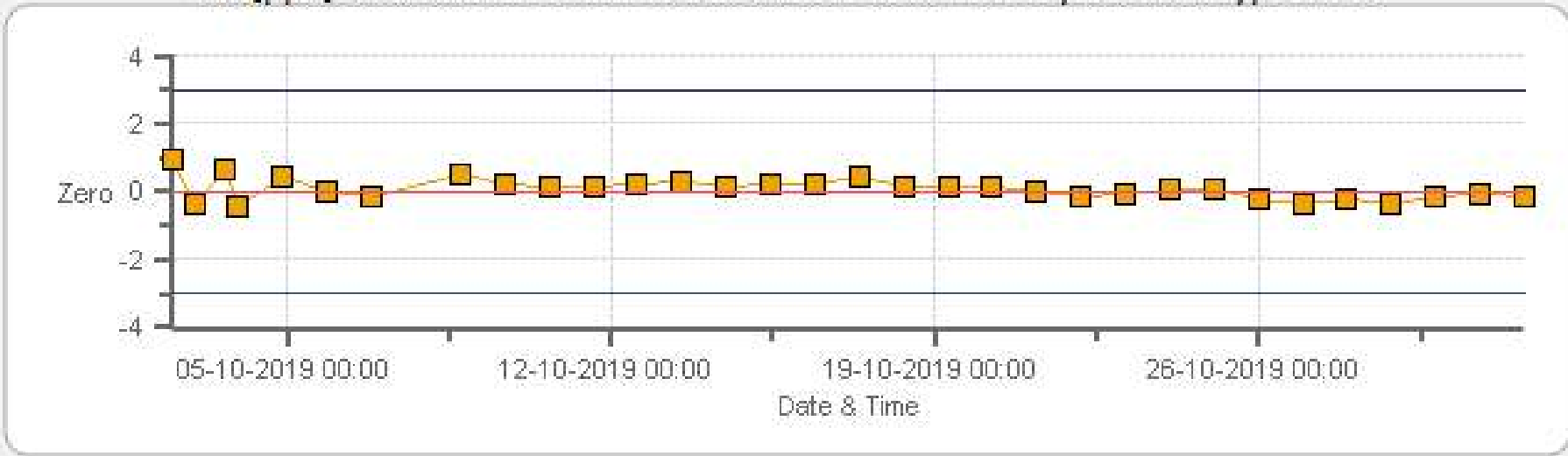
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



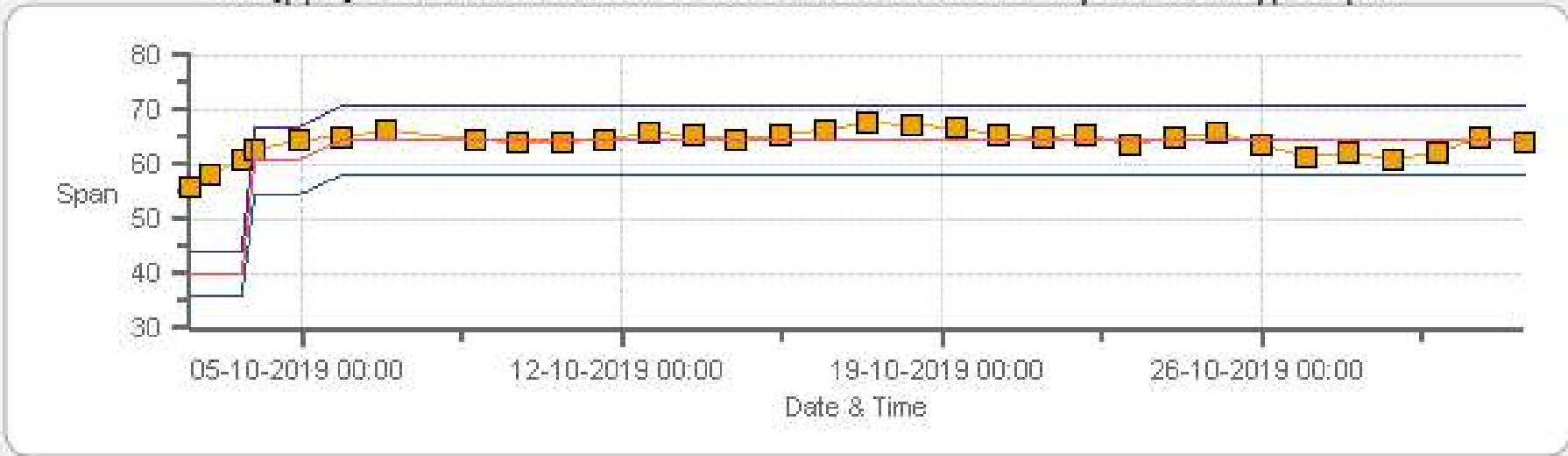
Span SpanRef Span Low Span High

TRS [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



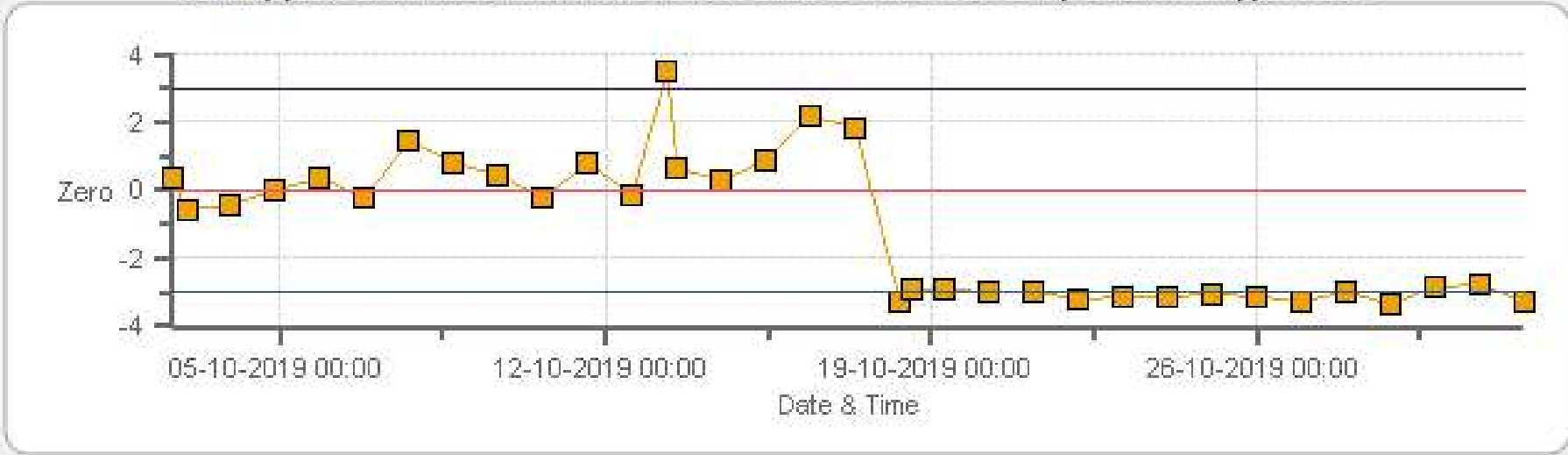
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



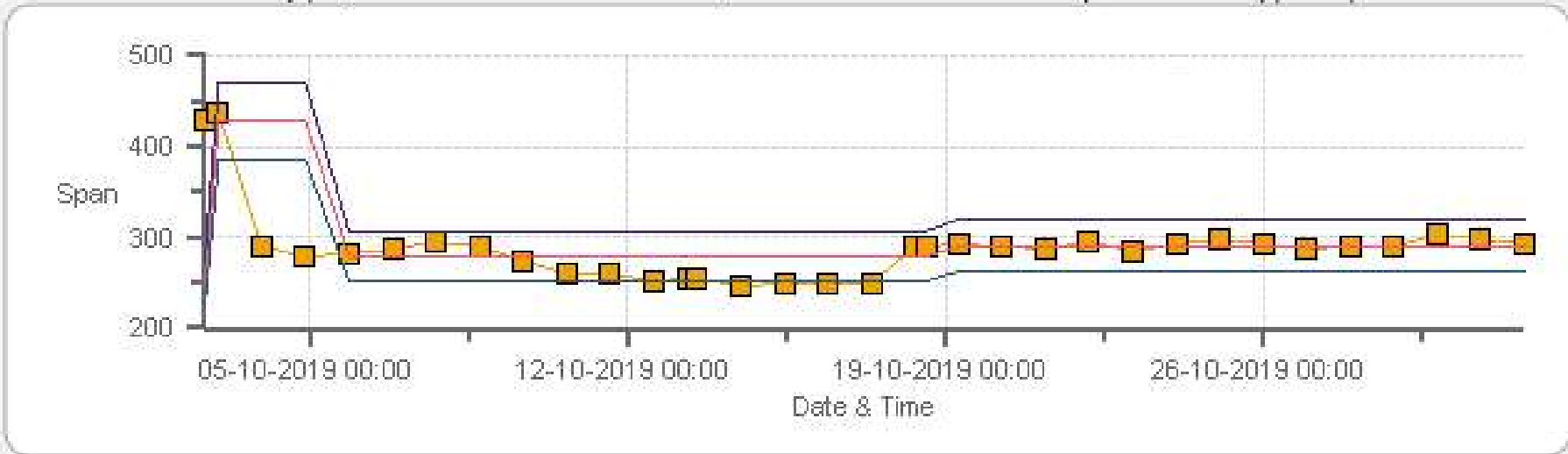
Span Span Ref Span Low Span High

NOx [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



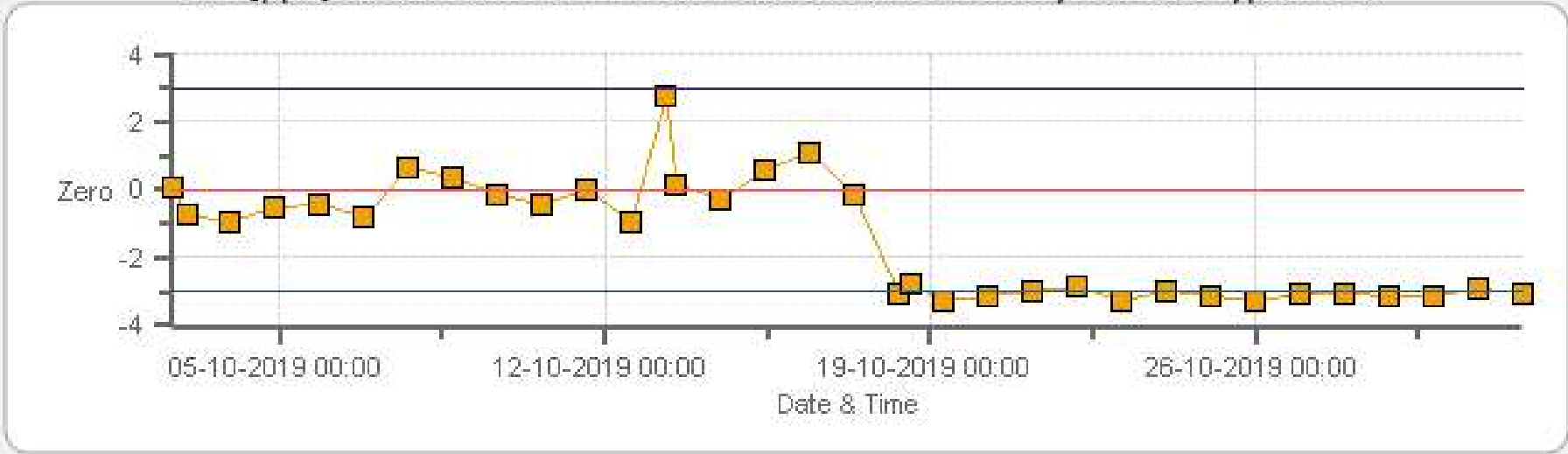
Zero Zero Ref Zero Low Zero High

NOx [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



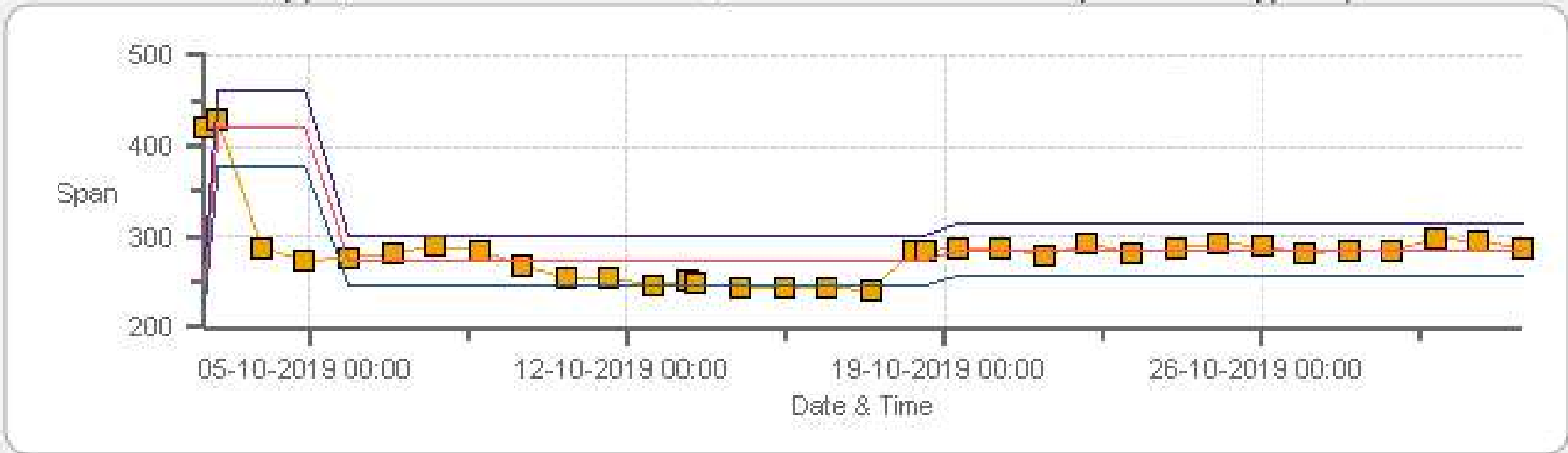
Span SpanRef Span Low Span High

NO2 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



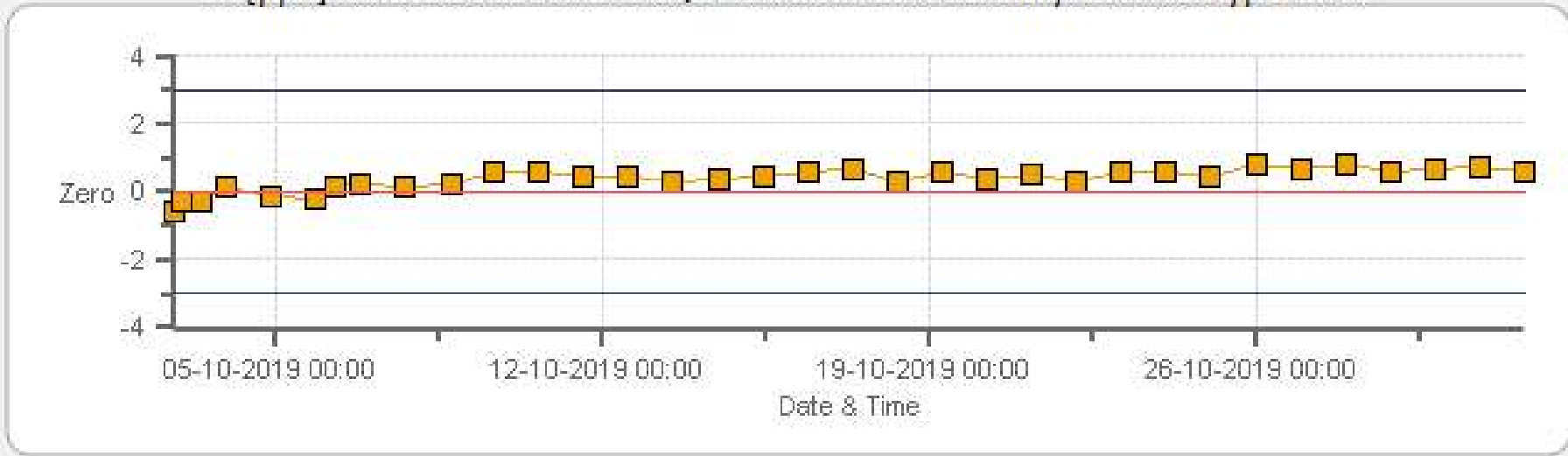
Zero Zero Ref Zero Low Zero High

NO2 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



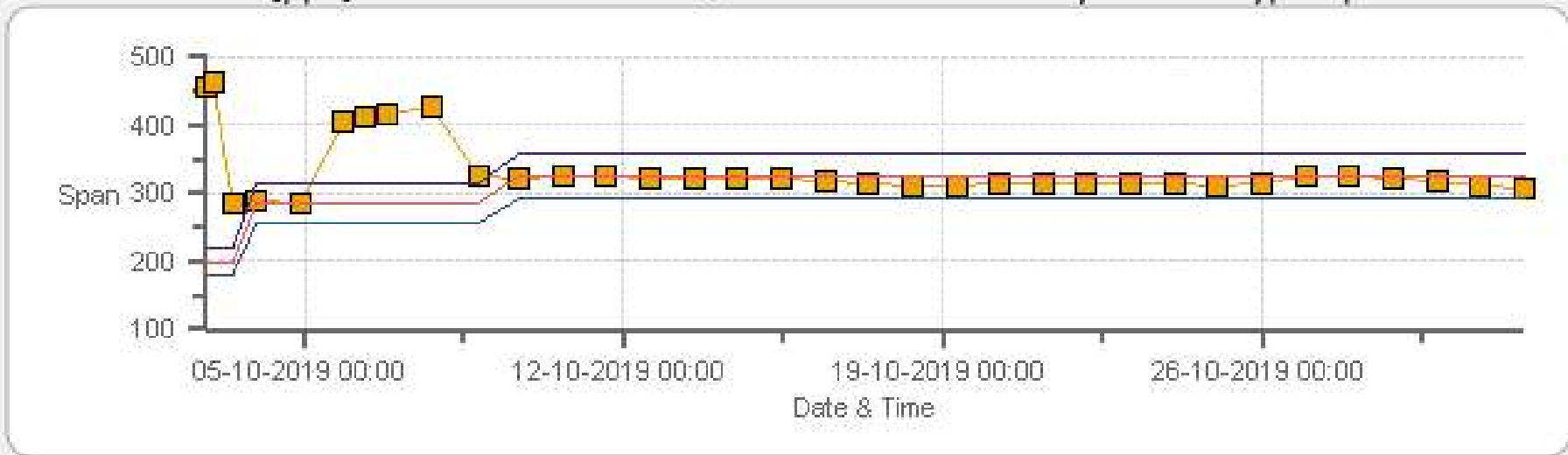
Span SpanRef Span Low Span High

O3 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



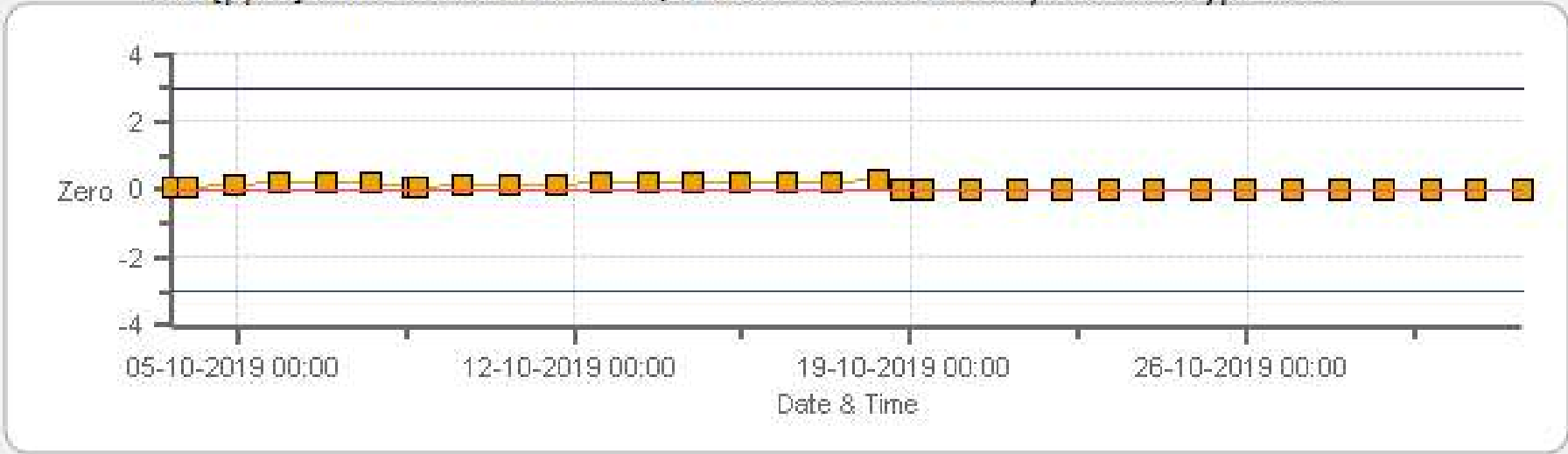
Zero Zero Ref Zero Low Zero High

O3 [ppb] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



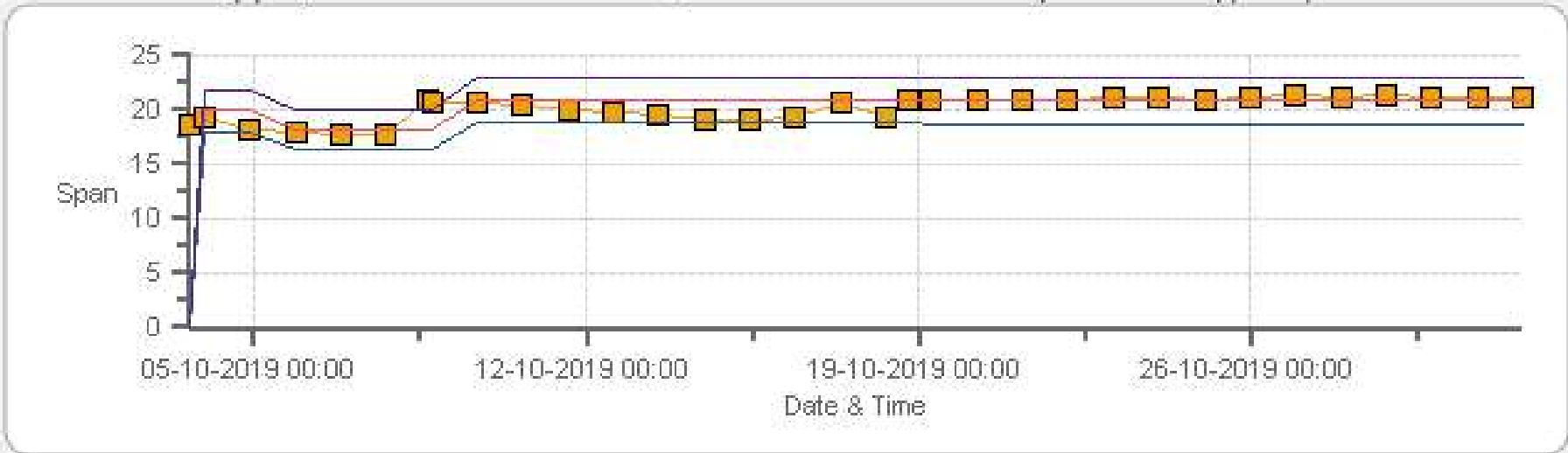
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



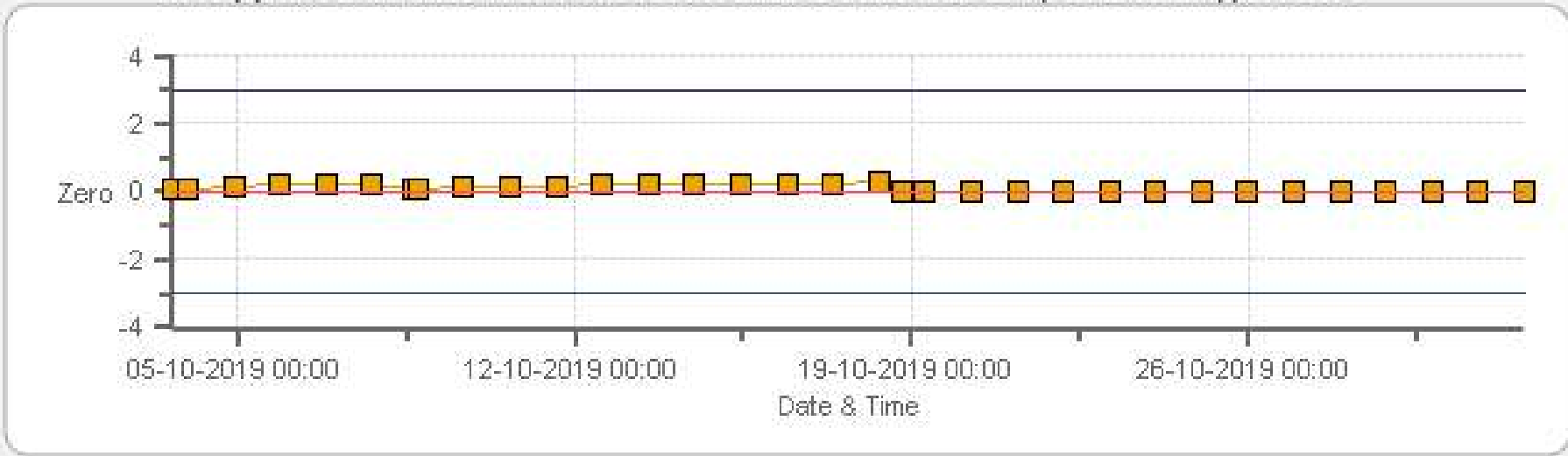
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



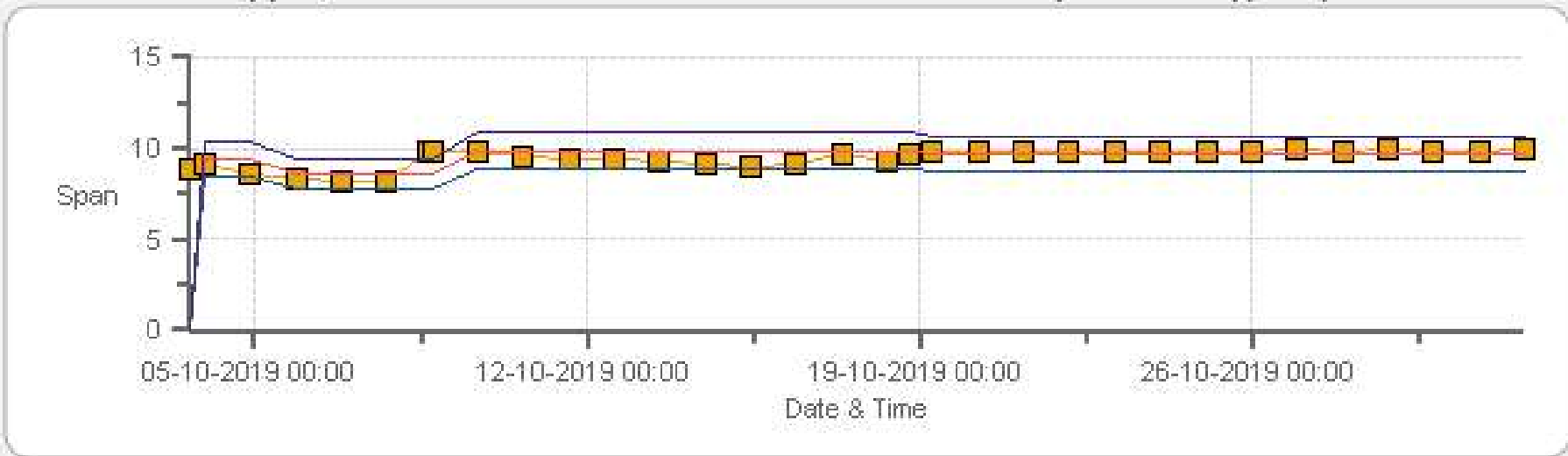
Span Span Ref Span Low Span High

CH4 [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



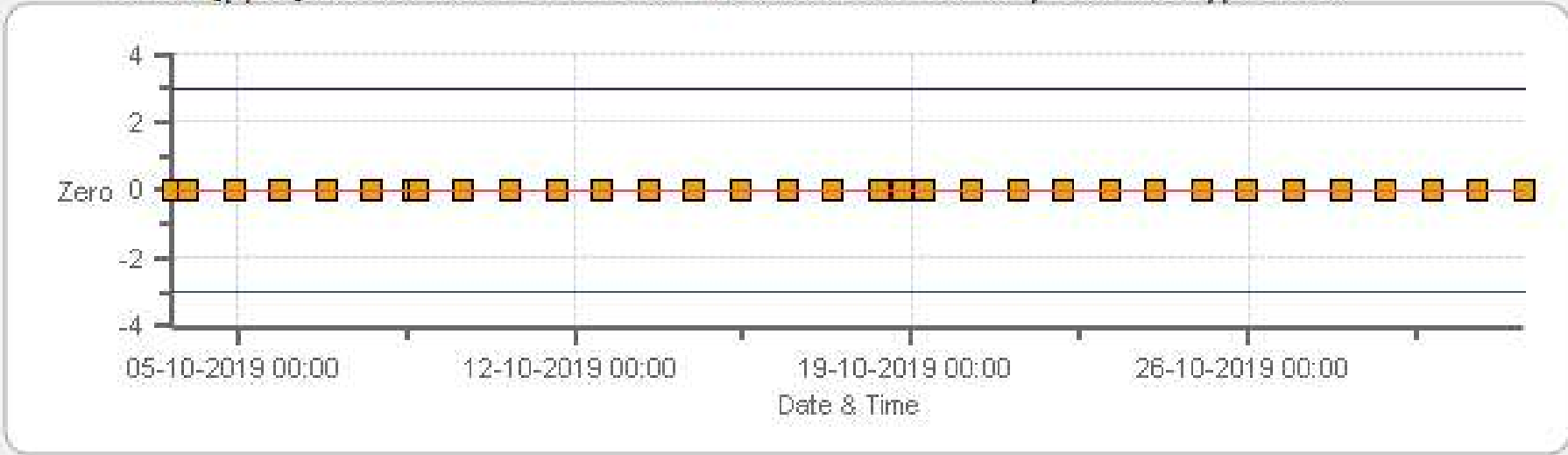
Zero Zero Ref Zero Low Zero High

CH4 [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



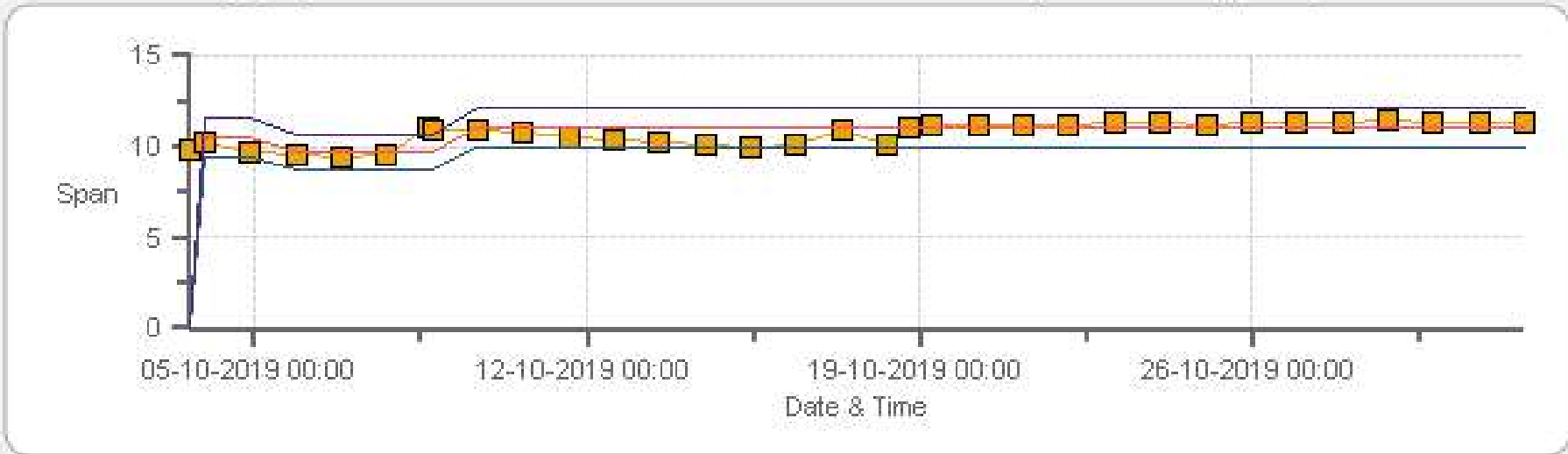
Span SpanRef Span Low Span High

NMHC [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Zero



■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

NMHC [ppm] Calibration: PRAMP AQHI-Cadotte Lake Monthly: 10-2019 Type: Span



■ Span
 — SpanRef
 — Span Low
 — Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.8 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 944 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 10:42 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 13:34 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T100 | RANGE | 500 ppb |
| SERIAL # | 722 | FLOW (mL/min) | 543 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 30.1 | BKG/OFFSET | 20.7 |
| COEF/SLOPE | 1.044 | COEF/SLOPE | 0.922 |
| Expected (reference) Value | n/a | Expected (reference) Value | 258.9 |

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): | 49.50 | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5016 | 39.10 | 5016 | 0.00 | n/a | 0 | n/a | 1.000 |
| 4978 | 39.10 | 5017 | 385.78 | n/a | 385.7 | n/a | 1.000 |
| 5000 | 17.80 | 5018 | 175.59 | n/a | 176 | n/a | 0.998 |
| 5008 | 8.90 | 5017 | 87.81 | n/a | 87.8 | n/a | 1.000 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.000 | 0.0% |

COMMENTS:

| |
|-----|
| n/a |
|-----|

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 04-Oct-2019 | PREVIOUS CALIBRATION DATE: | 02-Oct-2019 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.2 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 937 |
| PURPOSE: | Repeat | START TIME (MST): | 11:45 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:20 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T100 | RANGE | 500 ppb |
| SERIAL # | 722 | FLOW (mL/min) | 539 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 20.7 | BKG/OFFSET | 18.8 |
| COEF/SLOPE | 0.922 | COEF/SLOPE | 0.953 |
| Expected (reference) Value | 258.9 | Expected (reference) Value | 293 |

CALIBRATION SYSTEM:

| | | | |
|-------------------------|-------------|------------------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 4010 | MODEL: | T701 |
| ID: | 8400311 | ID: | 134 |
| MFC CALIBRATION DATE: | 05-Apr-2019 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL19664 | HIGH ID | n/a |
| CONC (ppm): | 24.20 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1800 | LOW ID | n/a |
| EXPIRY DATE | 03-Jul-2023 | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 4000 | 62.80 | 4000 | 0.00 | -0.4 | 0 | 1.044 | 1.000 |
| 3937 | 62.80 | 4000 | 379.94 | 363.5 | 379.9 | 1.044 | 1.000 |
| 3970 | 29.70 | 4000 | 179.69 | n/a | 179.1 | n/a | 1.003 |
| 3985 | 14.90 | 4000 | 90.15 | n/a | 89.2 | n/a | 1.011 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.1% |

COMMENTS:

Repeat calibration following repairs to the IZS system (no effect on sample path).
 Found significant leak in IZS circuit. Problem limited to zero/span system only - normal sample unaffected.
 As-found showed analyzer not affected by repair. Completed repeat calibration to reset EV.



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 03-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.5 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 943 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 11:52 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:49 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T100U | RANGE | 100 ppb |
| SERIAL # | 132 | FLOW (mL/min) | 519 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 18.4 | BKG/OFFSET | 18.1 |
| COEF/SLOPE | 1.062 | COEF/SLOPE | 1.072 |
| Expected (reference) Value | n/a | Expected (reference) Value | 64.49 |

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: | EY0000644 | HIGH ID | n/a |
| CONC (ppm): | 10.00 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1800 | LOW ID | n/a |
| EXPIRY DATE | 16-Jul-2022 | 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: | 12:35 | SO2 Conc (ppb) | 380 |
| END TIME: | 12:50 | Analyzer Response (ppb) | 0.3 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 4000 | 31.16 | 4000 | 0.00 | n/a | 0 | n/a | 1.000 |
| 3972 | 31.16 | 4003 | 77.82 | n/a | 77.82 | n/a | 1.000 |
| 3987 | 15.59 | 4003 | 38.94 | n/a | 39.4 | n/a | 0.988 |
| 3995 | 7.80 | 4002 | 19.48 | n/a | 19.5 | n/a | 0.999 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | 0.1% |

COMMENTS:

Converter: CDNova CDN-101 #530



TRS Analyzer Calibration by Dilution

| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 08-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.4 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 951 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 15:17 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 18:28 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T100U | RANGE | 100 ppb |
| SERIAL # | 132 | FLOW (mL/min) | 522 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -30.8 | BKG/OFFSET | 16.6 |
| COEF/SLOPE | 0.802 | COEF/SLOPE | 1.062 |
| Expected (reference) Value | 64.49 | Expected (reference) Value | 64.66 |

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: | EY0000644 | HIGH ID | n/a |
| CONC (ppm): | 10.00 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1800 | LOW ID | n/a |
| EXPIRY DATE | 16-Jul-2022 | 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: | 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 | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 4001 | 31.21 | 4001 | 0.00 | n/a | 0 | n/a | 1.000 |
| 3970 | 31.21 | 4002 | 77.99 | n/a | 77.99 | n/a | 1.000 |
| 3985 | 15.22 | 4001 | 38.05 | n/a | 38.07 | n/a | 1.000 |
| 3993 | 7.62 | 4000 | 19.05 | n/a | 18.95 | n/a | 1.005 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.000 | 0.0% |

COMMENTS:

| |
|--------------------------------------|
| Post-repair following analyzer reset |
|--------------------------------------|



NOx Calibration by Dilution/Gas-Phase Titration

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------------|----------------------------|--------|---------------|---------------|--------------|-----|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a | MAKE/MODEL: | Teledyne T200 | PREVIOUS CF. | |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.1 | SERIAL #: | 837 | NOx | n/a |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 944.00 | FLOW (mL/min) | 500 | NO | n/a |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 10:42 | RANGE (ppb) | 500 | NO2 | n/a |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:43 | GPT FOR O3? | Yes | | |

| CALIBRATION SYSTEM: | | | | | | | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL48147 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 50.5 50.6 | HIGH EXPIRY: | n/a |
| ID: | 26801218 | ID: | 134 | CYLINDER (psi): | 1700 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jun-2019 | OXIDIZER ID: | n/a | EXPIRY DATE | 20-Aug-2026 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|-------|-----|----------------|-------|-------|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 3.5 | -4.1 | n/a | BKG/OFFSET: | 2.6 | -1.5 | n/a |
| SLOPE/COEF/CE: | 1.006 | 0.999 | 1 | SLOPE/COEF/CE: | 0.981 | 0.978 | 0.985 |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----|-----|-----|-------|-----|----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | n/a | n/a | n/a | | 428 | 8 | 420.1 |

| CALIBRATION PARAMETERS: | | | | |
|-------------------------|-----------------|------------------|-----------|----------|
| POINT | NO TARGET (PPB) | NO2 TARGET (PPB) | NO2 RANGE | O3 POINT |
| HIGH | 395 | 250 | 240-275 | n/a |
| MID | 180 | 154 | 150-157 | Mid |
| LOW | 90 | 54 | 50-58 | Low |
| EXTRA 1 | n/a | 340 | 300-370 | High |

| NO/NOx CALIBRATION: | | | | | | | | | | | | | | | | | |
|---------------------|-----------------|-------|---------------------|-------|-----|-------------------|-----|-----|-----------------|-------|------|-------------------------|----------------|----------------|----------------|----------------|----------------|
| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 |
| 5016 | 5016 | 5016 | 0.0 | 0.0 | 0.0 | n/a | n/a | n/a | 0.0 | 0.0 | 0.0 | n/a | n/a | n/a | n/a | n/a | n/a |
| 4978 | 39.10 | 5017 | 393.6 | 394.4 | 0.8 | n/a | n/a | n/a | 393.5 | 394.6 | 1.1 | n/a | n/a | n/a | 1.000 | 0.999 | n/a |
| 5000 | 17.80 | 5018 | 179.1 | 179.5 | 0.4 | n/a | n/a | n/a | 180.0 | 181.0 | -1.0 | n/a | n/a | n/a | 0.995 | 0.992 | n/a |
| 5008 | 8.90 | 5017 | 89.6 | 89.8 | 0.2 | n/a | n/a | n/a | 89.8 | 90.1 | 0.3 | n/a | n/a | n/a | 0.998 | 0.996 | n/a |

| GPT CALIBRATION: | | | | | | | | | | |
|--|------------|-------|-------------|-----------------|-------|-------|-------------------------|----------------|------------------|------------------|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | |
| REFERENCE | 39.10 | 5018 | 0 | 395.3 | 395.8 | 0.6 | n/a | n/a | n/a | n/a |
| AS-FOUND HIGH | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| ADJUSTED HIGH | 39.10 | 5018 | 250 | 131.5 | 396.5 | 265.0 | 263.8 | 264.4 | 0.998 | 100.23% |
| MID | 39.10 | 5018 | 145 | 242.4 | 396.4 | 154.0 | 152.9 | 153.4 | 0.997 | 100.33% |
| LOW | 39.10 | 5018 | 54 | 339.9 | 395.4 | 55.5 | 55.4 | 54.9 | 1.009 | 99.10% |
| NO2 COEF/CONVERTER EFFICIENCY ADJUSTED | | | | | | | | | AVERAGE: | 99.88% |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|-----------|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 1.000 | 0.06% | |
| NOx | 1.000 | 1.000 | 0.08% | |
| NO2 | 1.000 | 1.005 | -0.12% | |

Additional GPT point for O3 (high): O3 setpoint 320 = O3 conc of 342ppb
Perm oven temp adjusted: 48-72hrs needed for stability



NOx Calibration by Dilution/Gas-Phase Titration

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------------|----------------------------|--------|---------------|---------------|--------------|-----|
| DATE: | 18-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a | MAKE/MODEL: | Teledyne T200 | PREVIOUS CF. | |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.0 | SERIAL #: | 837 | NOx | n/a |
| LOCATION: | Cadotte Lake | BAROMETRIC (mBar): | 925.00 | FLOW (mL/min) | 437 | NO | n/a |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 08:47 | RANGE (ppb) | 500 | NO2 | n/a |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 13:38 | GPT FOR O3? | No | | |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL48147 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 50.5 50.6 | HIGH EXPIRY: | n/a |
| ID: | 26801218 | ID: | 134 | CYLINDER (psi): | 1700 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jun-2019 | OXIDIZER ID: | n/a | EXPIRY DATE | 20-Aug-2026 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|-------|-------|----------------|-------|-------|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 2.6 | -1.5 | n/a | BKG/OFFSET: | 6.7 | 0 | n/a |
| SLOPE/COEF/CE: | 0.981 | 0.978 | 0.985 | SLOPE/COEF/CE: | 1.005 | 1.002 | 0.991 |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----|-----|-----|-------|-----|----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | n/a | n/a | n/a | | 291 | 5 | 285.4 |

| CALIBRATION PARAMETERS: | | | | |
|-------------------------|-----------------|------------------|-----------|----------|
| POINT | NO TARGET (PPB) | NO2 TARGET (PPB) | NO2 RANGE | O3 POINT |
| HIGH | 380 | 250 | 230-265 | n/a |
| MID | 180 | 125 | 115-150 | n/a |
| LOW | 90 | 45 | 40-55 | n/a |
| EXTRA 1 | n/a | n/a | n/a | n/a |

| NO/NOx CALIBRATION: | | | | | | | | | | | | | | | | | | |
|---------------------|-----------------|-------|---------------------|-------|-----|-------------------|-----|-----|-----------------|-------|------|-------------------------|----------------|----------------|----------------|----------------|----------------|--|
| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | | |
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | |
| 5015 | 5015 | 5015 | 0.0 | 0.0 | 0.0 | n/a | n/a | n/a | 0.0 | 0.0 | 0.0 | n/a | n/a | n/a | n/a | n/a | n/a | |
| 4978 | 39.10 | 5017 | 393.6 | 394.4 | 0.8 | n/a | n/a | n/a | 393.6 | 394.4 | 0.8 | n/a | n/a | n/a | 1.000 | 1.000 | n/a | |
| 5000 | 17.80 | 5018 | 179.1 | 179.5 | 0.4 | n/a | n/a | n/a | 179.6 | 177.7 | -1.9 | n/a | n/a | n/a | 0.997 | 1.010 | n/a | |
| 5007 | 8.90 | 5016 | 89.6 | 89.8 | 0.2 | n/a | n/a | n/a | 89.7 | 89.1 | -0.6 | n/a | n/a | n/a | 0.999 | 1.008 | n/a | |

| GPT CALIBRATION: | | | | | | | | | | |
|--|------------|-------|-------------|-----------------|-------|-------|-------------------------|----------------|------------------|------------------|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | |
| REFERENCE | 39.10 | 5017 | 0 | 394.2 | 393.7 | -0.5 | n/a | n/a | n/a | n/a |
| AS-FOUND HIGH | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| ADJUSTED HIGH | 39.10 | 5017 | 250 | 137.1 | 394.0 | 256.9 | 257.1 | 257.4 | 0.999 | 100.12% |
| MID | 39.10 | 5017 | 125 | 266.5 | 394.0 | 127.5 | 127.7 | 128 | 0.998 | 100.23% |
| LOW | 39.10 | 5017 | 45 | 349.8 | 393.5 | 43.8 | 44.4 | 44.3 | 1.002 | 99.77% |
| NO2 COEF/CONVERTER EFFICIENCY ADJUSTED | | | | | | | | | AVERAGE: | 100.04% |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|--|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 1.000 | 0.03% | |
| NOx | 1.000 | 1.000 | -0.14% | |
| NO2 | 1.000 | 1.002 | -0.02% | Post-repair following changes to exhaust tubing. |



Ozone Calibration by Direct GPT

| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 02-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.3 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 944 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 17:48 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 20:28 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T400 | RANGE | 500 ppb |
| SERIAL # | 824 | FLOW (mL/min) | 832 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -1.2 | BKG/OFFSET | -0.9 |
| COEF/SLOPE | 1.02 | COEF/SLOPE | 1.037 |
| Expected (reference) Value | n/a | Expected (reference) Value | 285.5 |

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 METHOD: | | Direct GPT | |
| GPT DATE: | 02-Oct-2019 | GPT END TIME: | 16:43 |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|----------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5016 | 5016 | 5016 | 0.0 | n/a | 0.0 | n/a | n/a |
| 5016 | 5016 | 5016 | 342.0 | n/a | 342.0 | n/a | 1.000 |
| 5016 | 5016 | 5016 | 152.9 | n/a | 151.4 | n/a | 1.010 |
| 5016 | 5016 | 5016 | 55.4 | n/a | 54.7 | n/a | 1.013 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.1% |

COMMENTS:

n/a



Ozone Calibration by Direct GPT

| | | | |
|---------------|-------------------|-----------------------------|-------------|
| DATE: | 08-Oct-2019 | PREVIOUS CALIBRATION DATE: | 02-Oct-2019 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.3 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 950 |
| PURPOSE | Removal/Shut-down | START TIME (MST): | 13:23 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:13 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T400 | RANGE | 500 ppb |
| SERIAL # | 824 | FLOW (mL/min) | 487 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -0.9 | BKG/OFFSET | n/a |
| COEF/SLOPE | 1.037 | COEF/SLOPE | n/a |
| Expected (reference) Value | 285.5 | Expected (reference) Value | n/a |

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 METHOD: | | Direct GPT | |
| GPT DATE: | 08-Oct-2019 | GPT END TIME: | 13:24 |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|----------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5017 | 5017 | 5017 | 0.0 | 0.1 | n/a | 0.950 | n/a |
| 5017 | 5017 | 5017 | 353.4 | 372.0 | n/a | 0.950 | n/a |
| 5017 | 5017 | 5017 | 176.6 | 189.7 | n/a | 0.931 | n/a |
| 5017 | 5017 | 5017 | 86.6 | 94.6 | n/a | 0.916 | n/a |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.050 | 0.4% |

COMMENTS:

Shut-down due to sample flow warning



Ozone Calibration by Direct GPT

| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 08-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.0 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 952 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 16:45 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 19:32 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T400 | RANGE | 500 ppb |
| SERIAL # | 824 | FLOW (mL/min) | 840 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -0.9 | BKG/OFFSET | -1.3 |
| COEF/SLOPE | 1.037 | COEF/SLOPE | 0.954 |
| Expected (reference) Value | n/a | Expected (reference) Value | 326 |

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 METHOD: | | Direct GPT | |
| GPT DATE: | 08-Oct-2019 | GPT END TIME: | 13:24 |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|----------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5017 | 5017 | 5017 | 0.0 | n/a | 0.0 | n/a | n/a |
| 5017 | 5017 | 5017 | 353.4 | n/a | 353.4 | n/a | 1.000 |
| 5017 | 5017 | 5017 | 176.6 | n/a | 176.4 | n/a | 1.001 |
| 5017 | 5017 | 5017 | 86.6 | n/a | 90.0 | n/a | 0.962 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.997 | 0.3% |

COMMENTS:

Post-repair following pump replacement.



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------------|----------------------------|-------|--------------|------------|------------|---------------|
| DATE: | 03-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.7 | | Thermo 55i | 1501663728 | 1152 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 943 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 12:58 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:25 | PREVIOUS CF: | n/a | n/a | n/a |

| 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 ₃ H ₈ (ppm): | 600.0 207.0 | HIGH EXPIRY: | n/a |
| ID: | 26801218 | ID: | .134 | CYLINDER (psi): | 900 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 19-Jun-2019 | OXIDIZER ID: | Internal | EXPIRY DATE: | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH4 EQUIVILANCE | |
|-------------------------|---------|-------|-------|--|--------|
| POINT (CH4/NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 569.3 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1169.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----|------|-----|-------|-----|------|------|
| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
| | n/a | n/a | n/a | | n/a | 8.57 | 9.72 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|------|-----|-----------------|-------|-------|-------------------------|--------------|--------------|--------------|--------------|--------------|
| (mL/min) | | | 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 |
| 3111 | X | 3111 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 3037 | 74.20 | 3111 | 14.31 | 13.58 | 27.89 | n/a | n/a | n/a | 14.32 | 13.58 | 27.90 | n/a | n/a | n/a | 0.999 | 1.000 | 1.000 |
| 3076 | 37.10 | 3113 | 7.15 | 6.78 | 13.93 | n/a | n/a | n/a | 6.98 | 6.69 | 13.67 | n/a | n/a | n/a | 1.024 | 1.014 | 1.019 |
| 3093 | 18.50 | 3111 | 3.57 | 3.39 | 6.95 | n/a | n/a | n/a | 3.41 | 3.29 | 6.70 | n/a | n/a | n/a | 1.046 | 1.029 | 1.038 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: n/a |
|-----------------------------|-------------|-------|-----------|------------------|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH4 | 1.000 | 1.003 | -0.5% | |
| NMHC | 1.000 | 1.000 | -0.3% | |
| THC | 1.000 | 1.002 | -0.4% | |



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 08-Oct-2019 | PREVIOUS CALIBRATION DATE: | 03-Oct-2019 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.6 | | Thermo 55i | 1501663728 | 1170 |
| LOCATION: | AQHI | BAROMETRIC (mBar): | 950 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Repeat | START TIME (MST): | 12:01 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:57 | PREVIOUS CF: | 0.999 | 1.000 | 1.000 |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | EnviroNics | MAKE: | Teledyne | CYLINDER ID: | LL107207 | HIGH ID: | n/a |
| MODEL: | 2000 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 600.0 207.0 | HIGH EXPIRY: | n/a |
| ID: | 1991 | ID: | .134 | CYLINDER (psi): | 900 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 17-May-2019 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH ₄ EQUIVILANCE | |
|-------------------------------|---------|-------|-------|--|--------|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 569.3 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1169.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|------|-------|-------|-----------------|-------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 8.57 | 9.72 | 18.20 | | 9.87 | 11.04 | 20.91 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|--------------|--------------|-----------------|--------------|--------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3002 | X | 3002 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 2932 | 71.84 | 3004 | 14.35 | 13.61 | 27.96 | 13.74 | 13.96 | 27.70 | 14.36 | 13.59 | 27.94 | 1.044 | 0.975 | 1.010 | 0.999 | 1.002 | 1.001 |
| 2966 | 35.90 | 3002 | 7.17 | 6.81 | 13.98 | n/a | n/a | n/a | 7.07 | 6.70 | 13.76 | n/a | n/a | n/a | 1.015 | 1.016 | 1.016 |
| 2984 | 17.94 | 3002 | 3.59 | 3.40 | 6.99 | n/a | n/a | n/a | 3.48 | 3.31 | 6.79 | n/a | n/a | n/a | 1.030 | 1.028 | 1.029 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: Repeat calibration due to zero drift. Adjusted IZS pressures. |
|-----------------------------|-------------|-------|-----------|--|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH ₄ | 1.000 | 1.002 | -0.3% | |
| NMHC | 1.000 | 1.000 | -0.3% | |
| THC | 1.000 | 1.001 | -0.3% | |



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|-------------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 17-Oct-2019 | PREVIOUS CALIBRATION DATE: | 03-Oct-2019 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.0 | | Thermo 55i | 1501663728 | 1115 |
| LOCATION: | Cadotte Lake | BAROMETRIC (mBar): | 924 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE: | Removal/Shut-down | START TIME (MST): | 09:36 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 11:15 | PREVIOUS CF: | 0.999 | 1.002 | 1.001 |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | EnviroNics | MAKE: | Teledyne | CYLINDER ID: | LL107207 | HIGH ID: | n/a |
| MODEL: | 2000 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 600.0 207.0 | HIGH EXPIRY: | n/a |
| ID: | 1991 | ID: | .134 | CYLINDER (psi): | 900 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 17-May-2019 | OXIDIZER ID: | Internal | EXPIRY DATE: | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH ₄ EQUIVILANCE | |
|-------------------------------|---------|-------|-------|--|--------|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | | |
| TARGET | 14 | 7 | 3.5 | C ₃ H ₈ as CH ₄ | 569.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as CH ₄ | 1169.3 |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|-------|-------|-------|-----------------|------|-----|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 9.87 | 11.04 | 20.91 | | n/a | n/a | n/a |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|------|-----|-------------------------|--------------|--------------|-----------------|--------------|--------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3000 | X | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a | X | X | X | X | X | X |
| 2931 | 71.81 | 3003 | 14.35 | 13.61 | 27.96 | 14.16 | 13.47 | 27.63 | n/a | n/a | n/a | 1.013 | 1.010 | 1.012 | n/a | n/a | n/a |
| 2966 | 35.90 | 3002 | 7.17 | 6.81 | 13.98 | 6.95 | 6.62 | 13.57 | n/a | n/a | n/a | 1.032 | 1.028 | 1.030 | n/a | n/a | n/a |
| 2986 | 17.91 | 3004 | 3.58 | 3.39 | 6.97 | 3.43 | 3.27 | 6.69 | n/a | n/a | n/a | 1.043 | 1.038 | 1.042 | n/a | n/a | n/a |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: 08:46 - 09:36 Chromatograms recorded prior to calibration. Shut-down due to drifting span |
|-----------------------------|-------------|-------|-----------|---|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH ₄ | 1.000 | 0.988 | -0.3% | |
| NMHC | 1.000 | 1.000 | -0.3% | |
| THC | 1.000 | 0.990 | -0.3% | |



Methane/Non-Methane Analyzer Calibration by Dilution

| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|---------------------|----------------------------|-------|--------------|------------|------------|---------------|
| DATE: | 18-Oct-2019 | PREVIOUS CALIBRATION DATE: | n/a | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.5 | | Thermo 55i | 1501663728 | 1154 |
| LOCATION: | Cadotte Lake | BAROMETRIC (mBar): | 927 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 16:41 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 19:00 | PREVIOUS CF: | n/a | n/a | n/a |


| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | EnviroNics | MAKE: | Teledyne | CYLINDER ID: | LL107207 | HIGH ID: | n/a |
| MODEL: | 2000 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 600.0 207.0 | HIGH EXPIRY: | n/a |
| ID: | 1991 | ID: | .134 | CYLINDER (psi): | 900 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 17-May-2019 | OXIDIZER ID: | Internal | EXPIRY DATE: | 18-Oct-2025 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | CH ₄ EQUIVILANCE | |
|-------------------------------|---------|-------|-------|--|--------|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | C ₃ H ₈ as CH ₄ | 569.3 |
| TARGET | 14 | 7 | 3.5 | THC as CH ₄ | 1169.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|------|-----|-------|-----------------|------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | n/a | n/a | n/a | | n/a | 9.75 | 11.16 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|------|-----|-----------------|-------|-------|-------------------------|--------------|--------------|-----------------|--------------|--------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3000 | X | 3000 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 2928 | 71.82 | 3000 | 14.36 | 13.63 | 27.99 | n/a | n/a | n/a | 14.35 | 13.62 | 27.97 | n/a | n/a | n/a | 1.001 | 1.001 | 1.001 |
| 2966 | 35.89 | 3002 | 7.17 | 6.81 | 13.98 | n/a | n/a | n/a | 7.05 | 6.70 | 13.75 | n/a | n/a | n/a | 1.018 | 1.016 | 1.017 |
| 2983 | 17.96 | 3001 | 3.59 | 3.41 | 7.00 | n/a | n/a | n/a | 3.47 | 3.27 | 6.74 | n/a | n/a | n/a | 1.035 | 1.042 | 1.038 |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: n/a |
|-----------------------------|-------------|-------|-----------|------------------|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH ₄ | 1.000 | 1.001 | -0.4% | |
| NMHC | 1.000 | 1.000 | -0.4% | |
| THC | 1.000 | 1.001 | -0.4% | |

|  <h2 style="margin: 0;">Teledyne T640 Audit/Calibration</h2> | | | | | |
|---|---|--------------------|--|--|--|
| Date/Previous Audit Date: | October 2, 2019 | n/a | Weather Conditions: | | Mix of sun and clouds |
| Company: | PRAMP | | Start Time (mst): | | 18:10 |
| Station: | AQHI | | End Time (mst): | | 18:48 |
| Parameter: | PM 2.5 | | Performed By/Reviewer: | | Chris Wesson Wunmi Adekanmbi |
| Instrument Data: | | | | | |
| Make/Model: | Teledyne T640 | | Serial Number: | | 318 |
| Owner: | PRAMP | | Alarms (detail in comments): | | No |
| Reference Standards/I.D./Expiry Date: | | | | | |
| Flow Standard: Maxxam ID #3 expires May 23, 2020 | | | Temperature: F.S. 181341226 expires June 07, 2020 | | |
| Digital Manometer: Dwyer 475 Mark III id# 1 expires Jan 17, 2020 | | | Pressure: Brunton 05490 expires Jan 16, 2020 | | |
| DIAGNOSTICS: | | | | | |
| Ambient Pressure (mmHg) | 705.7 | Ambient Temp (°C) | 12.5 | ASC Heater Duty (%) | 0.0 |
| Box Temp (°C) | 27.5 | Current PMT HV (V) | 1543 | LED Temp (°C) | 35.70 |
| P3 Value | 47 | PMT Setting (V) | 1548 | Pump PWM (%) | 42 |
| Sample Flow (L/min) | 5.00 | Sample RH (%RH) | 22.9 | Sample Temp (°C) | 25.5 |
| Monthly Audit/Calibration: | | | | | |
| Item: | As-found | | As-left | | Tolerance |
| | Reference | T640x | Reference | T640x | |
| Zero Test (Leak Check) | PM10 | 0.0 | PM10 | 0.0 | 0.0 to 0.2 |
| | PM2.5 | 0.0 | PM2.5 | 0.0 | |
| Ambient Pressure (mmHg) | 706.9 | 705.7 | 706.9 | 707.7 | +/- 10 mm Hg |
| Ambient Temperature (°C) | 12.50 | 12.2 | n/a | | +/- 2°C |
| Sample Flow (L/min) | 4.69 | 4.96 | 14.94 | 5.01 | +/-5% of T640x (e.g., 4.75 – 5.25 lpm) |
| Additional Monthly Maintenance : | | | | | Completed |
| | | | | Inlet cleaned? | Yes |
| | | | | Sample tubing inspected (inner and outer)? | Yes |
| Quarterly Audit/Calibration: | | | | | |
| SpanDust™ Standard | Peak at Channel | | Lot No: | | Expiry: |
| | 11.3 | | 1001028-050-011 | | 12-2019 |
| Item: | Verification: | | Calibration (if needed): | | Tolerance |
| | Reference | T640x | Reference | T640x | |
| Peak Channel | 11.3 | 11.1 | 11.3 | 11.1 | ± 0.5 |
| PMT Setting (V) | n/a | 1548 | n/a | 1549 | n/a |
| Peak Channel Counts: | n/a | 2935 | n/a | 2701 | n/a |
| Additional Checks and Maintenance: | | | | | Completed |
| Every 6 Months | 1. Clean Optical Chamber | | | | No |
| | 2. Clean RH Sensor | | | | No |
| | 3. Clean Temp Sensor | | | | No |
| Every 12 months <small>(or if valve or pump PWM value approaches 80%)</small> | 1. New internal Disposable Filter Unit (DFU) [inside front panel] | | | | No |
| Comments: | | | | | |
| | | | | | |



Meteorological Sensor Audit/Calibration

Location Information

| | | | |
|----------------------|-----------------|-----------------------|-----------------|
| Company: | PRAMP | Performed By: | Chris Wesson |
| Audit Location: | BV Edmonton Lab | Reviewed By: | Wunmi Adekanmbi |
| Audit Date: | June 28, 2019 | Start/End Time (mst): | 13:03 / 13:22 |
| Calibration Purpose: | installation | Weather Conditions: | n/a - in shop |

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|-----------------------------------|---------------------------------|-----------------|
| Sensor Make: | MetOne | Velocity Voltage Output Range: | n/a (frequency) |
| Sensor Model: | Speed: 010C / Direction: 020C | Velocity Unit Output Range: | 0-160 kph |
| Serial #: | Speed: W15277 / Direction: W16102 | Direction Voltage Output Range: | 0-5 v |
| Previous Cal/Audit Date: | n/a or unknown | Direction Unit Output Range: | 0-360 deg |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18811 #R9133 Expires: Jun 07, 2020

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 | 0.0 | 0.0 | - |
| 50 | 5.8 | 5.6 | 5.8 | 1.012 |
| 100 | 10.6 | 10.5 | 10.5 | 1.006 |
| 200 | 20.1 | 20.2 | 20.2 | 0.997 |
| 300 | 29.7 | 29.6 | 29.8 | 1.001 |
| 400 | 39.3 | 39.3 | 39.3 | 1.000 |
| 500 | 48.9 | 48.7 | 48.7 | 1.004 |
| 600 | 58.5 | 58.2 | 58.4 | 1.003 |
| 700 | 68.1 | 67.9 | 68.0 | 1.002 |
| 800 | 77.7 | 77.3 | 77.8 | 1.002 |
| 900 | 87.3 | 86.7 | 87.3 | 1.003 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 1.003 |

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 | 0 | 354 | 0.0 | 1.3 | 0.7 |
| 30 | 330 | 32 | 329 | -1.7 | 0.9 | 1.3 |
| 60 | 300 | 62 | 299 | -1.9 | 1.1 | 1.5 |
| 90 | 270 | 91 | 269 | -1.1 | 1.5 | 1.3 |
| 120 | 240 | 121 | 239 | -1.0 | 0.9 | 1.0 |
| 150 | 210 | 151 | 210 | -0.8 | 0.4 | 0.6 |
| 180 | 180 | 180 | 180 | 0.1 | -0.3 | 0.2 |
| 210 | 150 | 210 | 151 | 0.5 | -0.8 | 0.7 |
| 240 | 120 | 239 | 122 | 0.6 | -1.9 | 1.3 |
| 270 | 90 | 269 | 92 | 1.0 | -1.7 | 1.4 |
| 300 | 60 | 299 | 62 | 0.8 | -1.8 | 1.3 |
| 330 | 30 | 329 | 32 | 0.7 | -1.6 | 1.2 |
| 355 | 0 | 354 | 1 | 1.3 | 1.1 | 1.2 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 1.0 |

Comments:



Meteorological System Checklist

| | | | |
|--|------------------------|--------------------------------|------------------|
| Date: | October 2, 2019 | | |
| Technician: | Chris Wesson | | |
| Reviewer: | Wunmi Adekanmbi | | |
| Station: | PRAMP AQHI | | |
| Unit: | Make: | Model: | Serial #: |
| Temperature Sensor: | Vaisala | HMP155 | N2910506 |
| Relative Humidity Sensor: | Vaisala | HMP155 | N2910506 |
| Anemometer: | MetOne | 010C / 020C | W15277 / WW16102 |
| AMBIENT TEMPERATURE SENSOR CHECK | | | |
| Previous check date: | n/a | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | FS 181341226 | | |
| Reference Temperature (°C): | 14.9 | | |
| Station - Ambient Temperature (°C): | 15.1 | | |
| Temperature Difference (°C): | -0.3 | | |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Previous check date: | n/a | | |
| Reference Hygrometer ID: | FS 181341226 | | |
| Reference Hygrometer % RH- Reading: | 41.92 | | |
| Station Hygrometer % RH- Reading: | 42.20 | | |
| RH Tolerance +/- 15% of difference: | 35.63 - 48.21 | -0.7% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | n/a | Previous check date: | n/a |
| Wind Speed Observed (kph): | 5-10 | Wind Direction Observed: | SE |
| Wind speed on Data Logger (kph): | 6.9 | Wind Direction on Data Logger: | SE |
| | | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
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