**Peace River Area Monitoring Program**

# DECEMBER 2022

## Monthly Ambient Air Quality Monitoring Report

## PRAMP-202212

**Operation and Maintenance:**
Bureau Veritas Canada

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

January 18, 2023

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# LIST OF ACRONYMS

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

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January 18, 2023

**RE: PRAMP – December 2022 Monthly Ambient Air Quality Monitoring Report**

Enclosed is the December 2022 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

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This report has been prepared, reviewed and submitted by Michael Bisaga & Lily Lin of the PRAMP Airshed. This report is also submitted on behalf of the industrial member companies to satisfy the requirements of the facility operating approvals.

# NETWORK STATION SUMMARY

## Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986-C Station
- 842-B Station
- Reno-B Station
- AQHI Grimshaw
- Peace River Complex (PRC) Station

| Station ID | Station Name | Latitude | Longitude |
|---|---|---|---|
| 1562 | 986-C | 56.36980 | -116.92500 |
| 1561 | 842-B | 56.27406 | -116.98129 |
| 1563 | Reno-B | 55.890868 | -117.137080 |
| 1689 | AQHI-Grimshaw | 56.18657 | -117.604994 |
| 1698 | PRC | 56.38257 | -116.769283 |

## Listing of Intermittent Monitoring Stations

- VOC Canister Sampling Station
  - 986-C Station
  - 842-B Station
  - Reno-B Station

## Listing of PRAMP member with EPEA Facility Operating Approval

| Company | Facility | Approval No. |
|---|---|---|
| Canadian Natural Upgrading Limited | Peace River Complex | 1642-03-00 |

## Monitoring Notes during the Month of December 2022

### 986-C 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.
- No major operational issues were recorded this month.

### 842-B 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.
- No major operational issues were recorded this month.

### Reno-B 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.
- No major operational issues were recorded this month.

### PRC 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.
- No major operational issues were recorded this month.

### AQHI – Grimshaw Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and /or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable.
- **TRS**: On December 13, the CD Nova CDN-101 TRS convertor, s/n: 530, was removed and replaced by the CD Nova CDN-101 TRS convertor, s/n: 576.

## VOCs Canister Sampling Program

- The canister sampling program collects a 1-hour sample of air when the continuously measured non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger point is 0.3 ppm for non-methane hydrocarbons. The trigger point is based on real-time monitoring data that are averaged over a 5-minute period.
- The canister 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 both the PRC station and the AQHI-Grimshaw station.
- Sample analysis and analytical results were prepared and provided by InnoTech Alberta.
- There were no canister events recorded this month.

## 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

No deviations from authorized monitoring methods were recorded this month.

## Disclaimer

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

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, Technical Program Manager, PRAMP Airshed

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

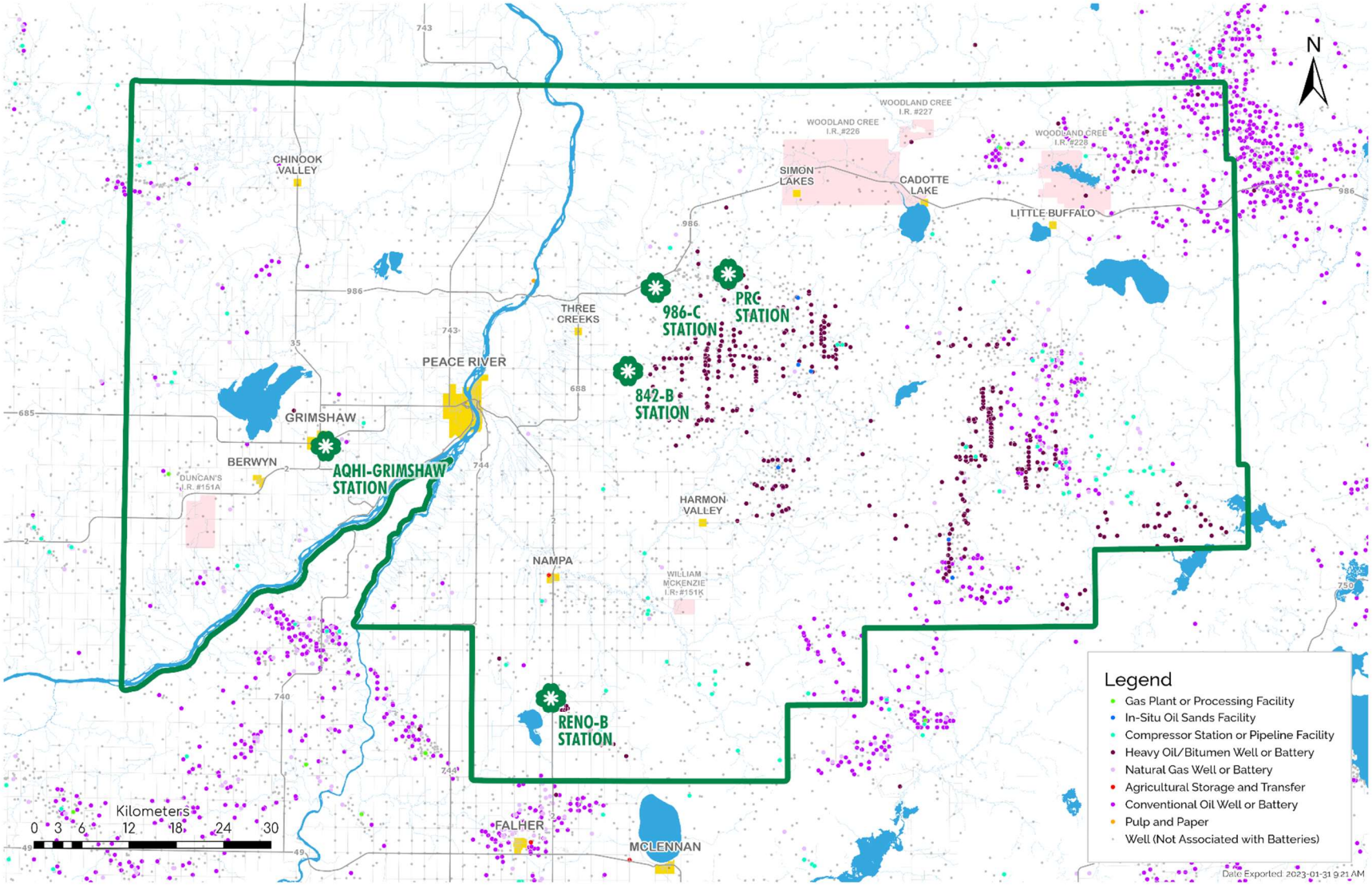
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all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

January 18, 2023

## Map of PRAMP Continuous Monitoring Network



# CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

## 986-C Station

**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **SO2** | **Thermo / 43iQTL** | **1193585646** | |

- A successful monthly calibration was performed on December 5.
- A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event.
- The analyzer failed the daily span check on December 17, likely as a result of the December 16‘s power failure. A repeat zero-span check was initiated on December 17 hour 6. The analyzer passed the check requirements. One hour of downtime was recorded due to the additional quality check.
- The analyzer spanned high on December 17 and onwards. The cause was likely the zero-span system was affected by the December 16‘s power failure. As the analyzer passed the January 2023 multi-point calibration requirements, data collected between December 17 and December 31 were considered valid.

| | | | |
|---|---|---|---|
| **TRS** | **Thermo / 43iQTL** | **1191833341** | |

- A successful monthly calibration was performed on December 5.
- A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event.
- The analyzer failed the daily span check on December 17, likely as a result of the December 16‘s power failure. A repeat zero-span check was initiated on December 17 hour 6. The analyzer passed the check requirements. One hour of downtime was recorded due to the additional quality check.

| | | | |
|---|---|---|---|
| **THC/CH4/NMHC** | **Thermo / 55i** | **1433563261** | |

- The analyzer started having bad injections on December 1. Following a successful shut-down calibration on December 5, the actuator was replaced, and the gas pressures were adjusted. The deionizer and desiccant for the hydrogen generator were also replaced. The analyzer was put offline overnight to stabilize. A successful post-repair calibration was completed on December 6. Data collected between December 1 and December 5 were reviewed and were discarded if data quality was affected by the injection issues. Hourly data collected on December 4 hour 5 was discarded as a result. A total of fifteen hours of downtime were recorded due to this event.
- A power outage occurred on December 16 between hour 13 and 17. Hourly data collected on December 16 hour 18 was discarded as the analyzer was recovering from the power outage. Six hours of downtime were recorded due to this event.
- Hourly data collected on December 20 between hour 2 and hour 10 were discarded as the analyzer was operating below the acceptable operating temperature range (station temperatures dropped below 15 degree Celsius). Nine hours of downtime were recorded as a result.

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **Relative Humidity (RH)** | **Rotronic / HC2-S3** | **20357528** | |
| • The RH sensor was checked on December 5. The sensor passed the check requirements.<br>• A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event.<br>• RH values were recorded at or near 100% for many hours, started December 30. The sensor passed the January 2023 check. Data were considered valid. | | | |
| **Barometric Pressure (BP)** | **MetOne / 092** | **Y23358** | |
| • The BP sensor was checked on December 5. The sensor passed the check requirements.<br>• A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event. | | | |
| **Ambient Temperature (AT)** | **Rotronic / HC2-S3** | **20357528** | |
| • The AT sensor was checked on December 5. The sensor passed the check requirements.<br>• A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event.<br>• Ambient temperatures fell below the thermometer minimum recordable range, which is -40 degree Celsius for a few hours on December 20 and December 21. Actual temperatures might be lower than the reported values. | | | |
| **Station Temperature (ST)** | **COMET** | **18961918** | |
| • A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event. | | | |
| **Precipitation (Precip)** | **RM Young / 52202** | **TB 16325** | |
| • The precipitation gauge was checked on December 5. The system passed the check requirements.<br>• A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event. | | | |
| **Wind Speed/Wind Direction (WS/ WD)** | **RM Young / 05305AQ** | **180340** | |
| • Wind direction data contained in this report represents where the wind is coming from.<br>• The annual wind system calibration was completed on August 5, 2022.<br>• The anemometer sensors were check on December 5. The wind system passed the check requirements.<br>• A power outage occurred on December 16 between hour 13 and 17. Five hours of downtime were recorded due to this event. | | | |

## Monitored Data Summary for 986-C 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 | 0.2 | 0 | 4 | December 2 at hour 23 | 12.4 | SSW | 0.7 | December 29 | 99.2 | 94.2 |
| TRS (ppb) | - | - | - | - | - | - | 0.38 | 0.02 | 1.05 | December 20 at hour 10 | 2.7 | ESE | 0.84 | December 29 | 99.2 | 94.2 |
| THC (ppm) | - | - | - | - | - | - | 2.10 | 1.96 | 2.96 | December 20 at hour 11 | 1.8 | ESE | 2.29 | December 31 | 96.0 | 90.7 |
| CH4 (ppm) | - | - | - | - | - | - | 2.10 | 1.96 | 2.96 | December 20 at hour 11 | 1.8 | ESE | 2.29 | December 31 | 96.0 | 90.7 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.00 | December 1 at hour 0 | 1 | ENE | 0.00 | December 1 | 96.0 | 90.7 |
| RH (%) | - | - | - | - | - | - | 81.9 | 40 | 100 | December 10 at hour 2 | 4.4 | NNW | 100.0 | December 31 | 99.3 | 99.3 |
| BP (millibar) | - | - | - | - | - | - | 943 | 918 | 973 | December 21 at hour 16 | 9.7 | S | 971 | December 21 | 99.3 | 99.3 |
| Ext. Temp. (°C) | - | - | - | - | - | - | -19.7 | -39.8 | -2.1 | December 4 at hour 6 | 12.5 | WNW | -5.5 | December 13 | 99.3 | 99.3 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.2 | 11.0 | 24.4 | December 6 at hour 12 | 7.8 | SSE | 24.1 | December 27 | 99.3 | 99.3 |
| Precipitation (mm)* | - | - | - | - | - | - | 3.0 | 0.0 | 1.5 | December 28 at hour 6 | 6.3 | NW | 1.5 | December 28 | 99.3 | 99.3 |
| WSV (km/hr) | - | - | - | - | - | - | 0.5 | 0.1 | 29.9 | December 5 at hour 11 | 29.9 | N | 18.7 | December 3 | 99.3 | 99.3 |
| WDV (sector) | - | - | - | - | - | - | 258 (WSW) | - | - | - | - | - | - | - | 99.3 | 99.3 |

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 986-C Station

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

## 842-B Station

**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **SO2** | **Thermo / 43iQTL** | **1200736629** | |
| • A successful monthly calibration was performed on December 6.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |
| **TRS** | **Thermo 43iQTL** | **1200736630** | |
| • The analyzer failed the daily span check requirements between December 1 and 3. This was related to low ambient temperatures and the lack of moisture in the sample air. The analyzer passed the daily span check on December 4 after the ambient temperatures rose above -10 degree Celsius. Data collected between December 1 and 3 were considered valid.<br>• The analyzer failed the as-found points check on December 6. The SO2 scrubber material were replaced, and then a successful post-repair calibration was completed. Data were invalidated back to the last valid zero-span check, which was December 5. Twenty-five hours of data were discarded.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event.<br>• Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain ambient humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. To minimize the impact by the ambient temperatures and humidity, a new batch of the SO2 scrubber beads was used in the field. The SO2 scrubber material is scheduled to be renewed periodically, as needed. | | | |
| **THC/CH4/NMHC** | **Thermo / 55i** | **12208316589** | |
| • A successful monthly calibration was performed on December 6.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **Relative Humidity (RH)** | **Rotronic / HC2A-S3** | **20370767** | |
| • The RH sensor was checked on December 6. The sensor passed the check requirements.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |
| **Barometric Pressure (BP)** | **MetOne / 092** | **Y23362** | |
| • The BP sensor was checked on December 6. The sensor passed the check requirements.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |
| **Ambient Temperature (AT)** | **Rotronic / HC2A-S3** | **20370767** | |
| • The temperature sensor was checked on December 6. The sensor passed the check requirements.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event.<br>• Ambient temperatures fell below the thermometer minimum recordable range, which is -40 degree Celsius for few hours on December 20 and December 21. Actual temperatures might be lower than the reported values. | | | |
| **Station Temperature (ST)** | **COMET** | **20790297** | |
| • A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |
| **Precipitation (Precip)** | **RM Young / 52202** | **TB 15878** | |
| • The precipitation gauge was checked on December 6. The system passed the check requirements.<br>• A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event. | | | |

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **Wind Speed/Wind Direction (WS/ WD)** | **RM Young / 05305AQ** | **174802** | |

- Wind direction data contained in this report represents where the wind is coming from.
- The annual wind system calibration was completed on August 3, 2022.
- A power outage occurred between December 16 hour 13 and December 17 hour 3. Fifteen hours of downtime were recorded due to this event.
- The anemometer sensors were check on December 6. Both the wind speed sensor and wind direction sensor passed the check requirements.

## Monitored Data Summary for 842-B 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 | 0.2 | 0 | 5 | December 2 at hour 22 | 11.6 | S | 0.7 | December 1 | 98.0 | 93.1 |
| TRS (ppb) | - | - | - | - | - | - | 0.43 | 0.15 | 0.85 | December 30 at hour 3 | 2.5 | NE | 0.56 | December 27 | 94.6 | 89.9 |
| THC (ppm) | - | - | - | - | - | - | 2.12 | 1.94 | 3.38 | December 30 at hour 4 | 2.5 | ENE | 2.45 | December 30 | 98.0 | 93.3 |
| CH4 (ppm) | - | - | - | - | - | - | 2.12 | 1.94 | 3.38 | December 30 at hour 4 | 2.5 | ENE | 2.45 | December 30 | 98.0 | 93.3 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.00 | December 1 at hour 0 | 1.2 | NNE | 0.00 | December 1 | 98.0 | 93.3 |
| RH (%) | - | - | - | - | - | - | 79.4 | 41 | 100 | December 13 at hour 18 | 5.1 | WSW | 95.0 | December 31 | 98.0 | 98.0 |
| BP (millibar) | - | - | - | - | - | - | 942 | 916 | 972 | December 21 at hour 17 | 5 | SSE | 970 | December 21 | 98.0 | 98.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | -19.4 | -39.7 | -2.0 | December 4 at hour 6 | 12 | NW | -5.6 | December 13 | 98.0 | 98.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.9 | 21.0 | 24.0 | December 21 at hour 21 | 5.5 | SSE | 23.6 | December 21 | 98.0 | 98.0 |
| Precipitation (mm)* | - | - | - | - | - | - | 3.0 | 0.0 | 0.9 | December 16 at hour 12 | 12.5 | N | 0.3 | December 4 | 98.0 | 98.0 |
| WSV (km/hr) | - | - | - | - | - | - | 0.7 | 0.1 | 23.9 | December 3 at hour 21 | 23.9 | WSW | 16.7 | December 3 | 98.0 | 98.0 |
| WDV (sector) | - | - | - | - | - | - | 192 (S) | - | - | - | - | - | - | - | 98.0 | 98.0 |

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 842-B Station

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

## Reno-B Station

**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **SO2** | **Thermo / 43iQTL** | **12101910505** | |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• A successful monthly calibration was performed on December 7. | | | |
| **TRS** | **Thermo / 43iQTL** | **12101910504** | |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The analyzer passed the as-found points check but failed the adjusted point check on December 7. The calibration was aborted. The SO2 scrubber material was renewed, and the adjusted point check was repeated without further issue. A successful post-repair calibration was then completed. Because the analyzer passed the as-found points check, data collected before December 7 were considered valid.<br>• Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain ambient humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. To minimize the impact by the ambient temperatures and humidity, a new batch of the SO2 scrubber beads was used in the field. The SO2 scrubber material is scheduled to be renewed periodically, as needed. | | | |
| **THC/CH4/NMHC** | **Thermo / 55i** | **12101910497** | |
| • The analyzer failed the daily span check, starting November 25. During the site visit, which was conducted on December 7, it was confirmed the issue was isolated in the span system. Data quality was not affected by the issue. No data were invalidated as a result. The issue was corrected on December 7.<br>• A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• A successful monthly calibration was performed on December 7. | | | |

| Parameter | Make / Model | Serial Number |
|---|---|---|
| **Relative Humidity (RH)** | **Rotronic / HC2-S3** | **20467597** |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The RH sensor was check on December 7. The sensor passed the check requirements. | | |
| **Barometric Pressure (BP)** | **MetOne / 092** | **A17940** |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The BP sensor was check on December 7. The sensor passed the check requirements. | | |
| **Ambient Temperature (AT)** | **Rotronic / HC2-S3** | **20467597** |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The AT sensor was check on December 7. The sensor passed the check requirements. | | |
| **Station Temperature (ST)** | **COMET** | **N/A** |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event. | | |
| **Precipitation (Precip)** | **RM Young / 5202** | **TB15877** |
| • A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The precipitation gauge was check on December 7. The sensor passed the check requirements. | | |
| **Wind Speed/Wind Direction (WS/ WD)** | **RM Young 05305AQ** | **174795** |
| • Wind direction data contained in this report represents where the wind is coming from.<br>• The annual wind system calibration was completed on November 23, 2022.<br>• A power outage occurred on December 6 between hour 11 and hour 18. The datalogger failed to restart correctly once the power was restored. This issue was corrected on December 7 hour 7. Twenty-one hours of downtime were recorded due to this event.<br>• The anemometer sensors were check on December 7. Both the wind speed sensor and wind direction sensor passed the check requirements. | | |

## Monitored Data Summary for Reno-B 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 | 0.2 | 0 | 8 | December 14 at hour 16 | 12.2 | SSE | 1.4 | December 14 | 97.2 | 92.3 |
| TRS (ppb) | - | - | - | - | - | - | 0.23 | 0.14 | 0.51 | December 5 at hour 6 | 8.6 | NE | 0.35 | December 21 | 97.2 | 91.9 |
| THC (ppm) | - | - | - | - | - | - | 2.11 | 1.99 | 2.82 | December 6 at hour 7 | 6.4 | E | 2.28 | December 20 | 97.2 | 92.3 |
| CH4 (ppm) | - | - | - | - | - | - | 2.11 | 1.99 | 2.82 | December 6 at hour 7 | 6.4 | E | 2.28 | December 20 | 97.2 | 92.3 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.01 | December 26 at hour 9 | 6.5 | NNE | 0.00 | December 26 | 97.2 | 92.3 |
| RH (%) | - | - | - | - | - | - | 74.9 | 48 | 99 | December 13 at hour 19 | 12.9 | W | 88.9 | December 30 | 97.2 | 97.2 |
| BP (millibar) | - | - | - | - | - | - | 942 | 914 | 973 | December 21 at hour 17 | 7.8 | S | 971 | December 21 | 97.2 | 97.2 |
| Ext. Temp. (°C) | - | - | - | - | - | - | -19.0 | -39.1 | -1.6 | December 13 at hour 14 | 14.5 | WNW | -4.7 | December 8 | 97.2 | 97.2 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.8 | 21.1 | 23.6 | December 21 at hour 3 | 5.3 | S | 23.2 | December 20 | 97.2 | 97.2 |
| Precipitation (mm)* | - | - | - | - | - | - | 1.2 | 0.0 | 0.2 | December 16 at hour 7 | 1.8 | SW | 0.6 | December 16 | 97.2 | 97.2 |
| WSV (km/hr) | - | - | - | - | - | - | 0.8 | 0.2 | 34.0 | December 4 at hour 13 | 34 | NW | 15.9 | December 9 | 97.2 | 97.2 |
| WDV (sector) | - | - | - | - | - | - | 172 (S) | - | - | - | - | - | - | - | 97.2 | 97.2 |

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 Reno-B Station

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

## PRC Station

**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **SO2** | **Thermo 43i** | **1034746225** | |
| • A successful monthly calibration was performed on December 14.<br>• No operational issues were recorded this month. | | | |
| **H2S** | **Thermo 450i** | **1308857354** | |
| • The analyzer failed the span check requirement on December 6. It was related to low ambient temperatures and the lack of moisture in the sample air. The span result passed on December 7 as the ambient temperatures rose. As the analyzer passed the daily zero-span check requirement on December 7, data collected on December 6 were considered valid.<br>• The analyzer failed due to low sample flow on December 13. The sample pump was replaced following by a successful post-repair calibration on December 14. Twenty-four hours of downtime were recorded due to this event.<br>• The new pump, which was installed on December 14 failed on December 20. The pump was repaired, and a post-repair calibration was completed on December 22. Fifty hours of downtime were recorded due to this event. | | | |
| **TRS** | **Thermo 450i** | **1034746224** | |
| • The analyzer spanned low in early the month. This was related to low ambient temperatures and the lack of moisture in the sample air. The span results improved as soon as the ambient temperatures rose.<br>• Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain ambient humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. To minimize the impact by the ambient temperatures and humidity, a new batch of the SO2 scrubber beads was used in the field. The SO2 scrubber material is scheduled to be renewed periodically, as needed.<br>• Following a successful shut-down calibration on December 14, the SO2 scrubber material was replaced, and a successful post-repair calibration was completed. One hour of downtime was recorded due to the maintenance performed on the scrubber material.<br>• The analyzer failed the daily span check on December 15 due to an incorrectly entered expected span value after the calibration on December 14. The value was updated on December 15. | | | |

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **THC/CH4/NMHC** | **Thermo / 55i** | **1022143392** | |
| • A successful monthly calibration was performed on December 14. Maintenance was also completed on the hydrogen generator, including desiccant and deionizer replacement. One hour of downtime was recorded due to the maintenance activity.<br>• No operational issues were recorded this month. | | | |
| **Relative Humidity (RH)** | **Rotronic C2-S3** | **20558318** | |
| • The RH sensor was checked on December 14. The sensor passed the check requirements.<br>• No operational issues were recorded this month. | | | |
| **Ambient Temperature (AT)** | **Rotronic C2-S3** | **20558318** | |
| • The AT sensor was checked on December 14. The sensor passed the check requirements.<br>• Ambient temperatures fell below the thermometer minimum recordable range, which is -40 degree Celsius for few hours on December 20 and December 21. Actual temperatures might be lower than the reported values. | | | |
| **Barometric Pressure (BP)** | **MetOne 092** | **B19577** | |
| • The BP sensor was checked on December 14. The sensor passed the check requirements.<br>• No operational issues were recorded this month. | | | |
| **Station Temperature (ST)** | **Canadian Natural** | **N/A** | |
| • No operational issues were recorded this month. | | | |
| **Wind Speed/Wind Direction (WS/ WD)** | **RM Young / 05305VK** | **129612** | |
| • Wind direction data contained in this report represents where the wind is coming from.<br>• The annual wind system calibration was completed on August 17, 2022.<br>• The anemometer sensors were check on December 14. Both the wind speed sensor and wind direction sensor passed the check requirements.<br>• No operational issues were recorded this month. | | | |

## Monitored Data Summary for Peace River Complex (PRC) 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 | 0.2 | 0 | 4 | December 2 at hour 23 | 15.8 | SSW | 0.5 | December 2 | 100.0 | 95.1 |
| H2S (ppb) | 10 | 3 | - | 0 | 0 | - | 0.0 | 0 | 1 | December 23 at hour 7 | 3.1 | NNE | 0.0 | December 23 | 90.1 | 85.7 |
| TRS (ppb) | - | - | - | - | - | - | 0.1 | 0 | 1 | December 2 at hour 23 | 15.8 | SSW | 0.5 | December 23 | 99.9 | 94.7 |
| THC (ppm) | - | - | - | - | - | - | 2.05 | 1.90 | 2.37 | December 31 at hour 8 | 4.3 | SSW | 2.26 | December 31 | 99.9 | 95.0 |
| CH4 (ppm) | - | - | - | - | - | - | 2.05 | 1.90 | 2.34 | December 31 at hour 8 | 4.3 | SSW | 2.25 | December 31 | 99.9 | 95.0 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.03 | December 31 at hour 8 | 4.3 | SSW | 0.01 | December 31 | 99.9 | 95.0 |
| RH (%) | - | - | - | - | - | - | 77.1 | 52 | 96 | December 16 at hour 6 | 6.3 | NNW | 91.3 | December 31 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 943 | 918 | 973 | December 21 at hour 18 | 8.8 | SSW | 971 | December 21 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | -19.8 | -39.6 | -2.7 | December 8 at hour 15 | 11.9 | SW | -5.7 | December 13 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 24.0 | 16.0 | 28.7 | December 3 at hour 19 | 23.9 | SW | 27.2 | December 9 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 1.8 | 0.2 | 24.6 | December 3 at hour 18 | 24.6 | SW | 19.0 | December 3 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 230 (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 Peace River Complex (PRC) Station

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

## AQHI – Grimshaw Station

**Equipment Operation Summary**

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **SO2** | **Teledyne / T100** | **722** | |
| • A successful monthly calibration was performed on December 13.<br>• No operational issues were identified this month. | | | |
| **TRS** | **Teledyne / T100U** | **132** | |
| • The analyzer spanned low in early the month. This was related to low ambient temperatures and the lack of moisture in the sample air. The span results improved as soon as the ambient temperatures rose.<br>• Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain ambient humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. To minimize the impact by the ambient temperatures and humidity, a new batch of the SO2 scrubber beads was used in the field. The SO2 scrubber material is scheduled to be renewed periodically, as needed.<br>• The TRS convertor temperature was found to be unstable on December 13. Following a successful shut-down calibration, the TRS convertor CD Nova CDN-101, s/n: 530, was removed and replaced by the CDN-101, s/n: 576. The SO2 scrubber material was also replaced. A successful post-repair calibration was completed afterwards. One hour of downtime was recorded due to this event. | | | |
| **NOx/NO/NO2** | **Teledyne / T200** | **837** | |
| • A successful monthly calibration was performed on December 13.<br>• No operational issues were identified this month. | | | |
| **O3** | **Teledyne / T400** | **824** | |
| • A successful monthly calibration was performed on December 13.<br>• No operational issues were identified this month. | | | |

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **THC/CH4/NMHC** | **Thermo / 55i** | **1191032505** | |
| • A successful monthly calibration was performed on December 13.<br>• No operational issues were identified this month. | | | |
| **PM2.5** | **Teledyne / T640** | **318** | |
| • A successful monthly calibration was performed on December 13.<br>• The link between the analyzer and the datalogger was lost after the calibration on December 13. The issue was fixed. One hour of data was lost due to this event. | | | |
| **Relative Humidity (RH)** | **Vaisala / HMP155** | **N2910506** | |
| • The RH sensor was checked on December 13. The sensor passed the check requirements.<br>• No operational issues were identified this month. | | | |
| **Barometric Pressure (BP)** | **MetOne / 092** | **A2397** | |
| • The BP sensor was checked on December 13. The sensor passed the check requirements.<br>• No operational issues were identified this month. | | | |
| **Ambient Temperature (AT)** | **Vaisala / HMP155** | **N2910506** | |
| • The AT sensor was checked on December 13. The sensor passed the check requirements.<br>• No operational issues were identified this month. | | | |
| **Station Temperature (ST)** | **COMET** | **N/A** | |
| • No operational issues were identified this month. | | | |

| Parameter | Make / Model | Serial Number | |
|---|---|---|---|
| **Wind Speed/Wind Direction (WS/ WD)** | **RM Young / 05305AQ** | **174801** | |

- Wind direction data contained in this report represents where the wind is coming from.
- The last annual wind system calibration was completed on July 12, 2022.
- The anemometer sensors were check on December 13. Both the wind speed sensor and wind direction sensor passed the check requirements.
- No operational issues were identified this month.

## Monitored Data Summary for AQHI - Grimshaw 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 | 0.1 | 0 | 3 | December 29 at hour 17 | 3.3 | NW | 0.9 | December 29 | 100.0 | 95.1 |
| TRS (ppb) | - | - | - | - | - | - | 0.27 | 0.01 | 1.42 | December 29 at hour 17 | 3.3 | NW | 0.45 | December 8 | 99.9 | 94.7 |
| NOx (ppb) | - | - | - | - | - | - | 11.9 | 1 | 126 | December 29 at hour 17 | 3.3 | NW | 30.3 | December 29 | 100.0 | 94.7 |
| NO (ppb) | - | - | - | - | - | - | 4.1 | 0 | 96 | December 29 at hour 17 | 3.3 | NW | 16.7 | December 29 | 100.0 | 94.7 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 7.8 | 0 | 38 | December 15 at hour 9 | 1.3 | WSW | 17.1 | December 20 | 100.0 | 94.7 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 19.6 | 0 | 37 | December 4 at hour 12 | 18.1 | NW | 33.6 | December 4 | 100.0 | 95.1 |
| THC (ppm) | - | - | - | - | - | - | 2.17 | 2.03 | 2.93 | December 22 at hour 0 | 0.7 | NNW | 2.45 | December 31 | 100.0 | 95.1 |
| CH4 (ppm) | - | - | - | - | - | - | 2.15 | 2.03 | 2.68 | December 22 at hour 0 | 0.7 | NNW | 2.34 | December 31 | 100.0 | 95.1 |
| NMHC (ppm) | - | - | - | - | - | - | 0.02 | 0.00 | 0.25 | December 22 at hour 0 | 0.7 | NNW | 0.11 | December 31 | 100.0 | 95.1 |
| PM2.5 (µg/m3) | 80 | 30 | - | 0 | 0 | - | 9.3 | 1.0 | 51.0 | December 31 at hour 0 | 2.5 | NW | 21.4 | December 31 | 99.9 | 99.7 |
| RH (%) | - | - | - | - | - | - | 76.4 | 41 | 94 | December 16 at hour 8 | 6.7 | ENE | 89.0 | December 30 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 945 | 918 | 975 | December 21 at hour 16 | 1 | SE | 973 | December 21 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | -19.4 | -38.8 | -0.3 | December 13 at hour 15 | 7.7 | WNW | -5.8 | December 13 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.4 | 21.2 | 23.7 | December 21 at hour 6 | 2.5 | NNW | 23.4 | December 21 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 7.2 | 0.3 | 32.9 | December 4 at hour 0 | 32.9 | W | 18.9 | December 3 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 313 (NW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

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

### Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances at AQHI - Grimshaw Station

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

# TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

# 986-C STATION

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## SULPHUR DIOXIDE ($SO_2$) in ppb

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

Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0 30-Day Exceedance: 0

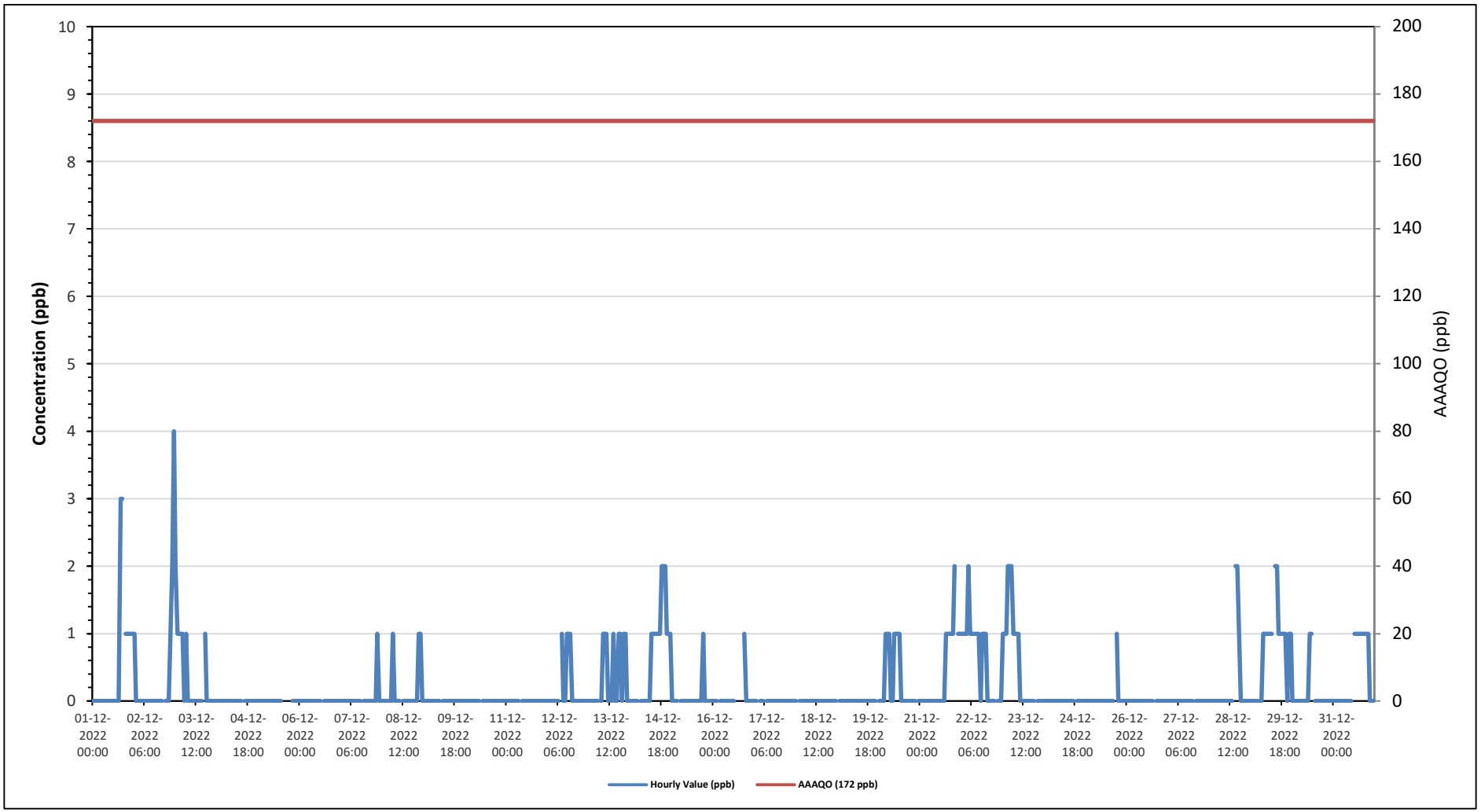
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 4 | ppb | on December 2 at hour 23 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.7 | ppb | on December 29 | Hours of Data: | 701 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 6 |
| Minimum Daily Value: | 0.0 | ppb | on December 4 | Hours of Calibration: | 37 |
| Monthly Average: | 0.2 | ppb | | Operational Uptime: | 99.2 |

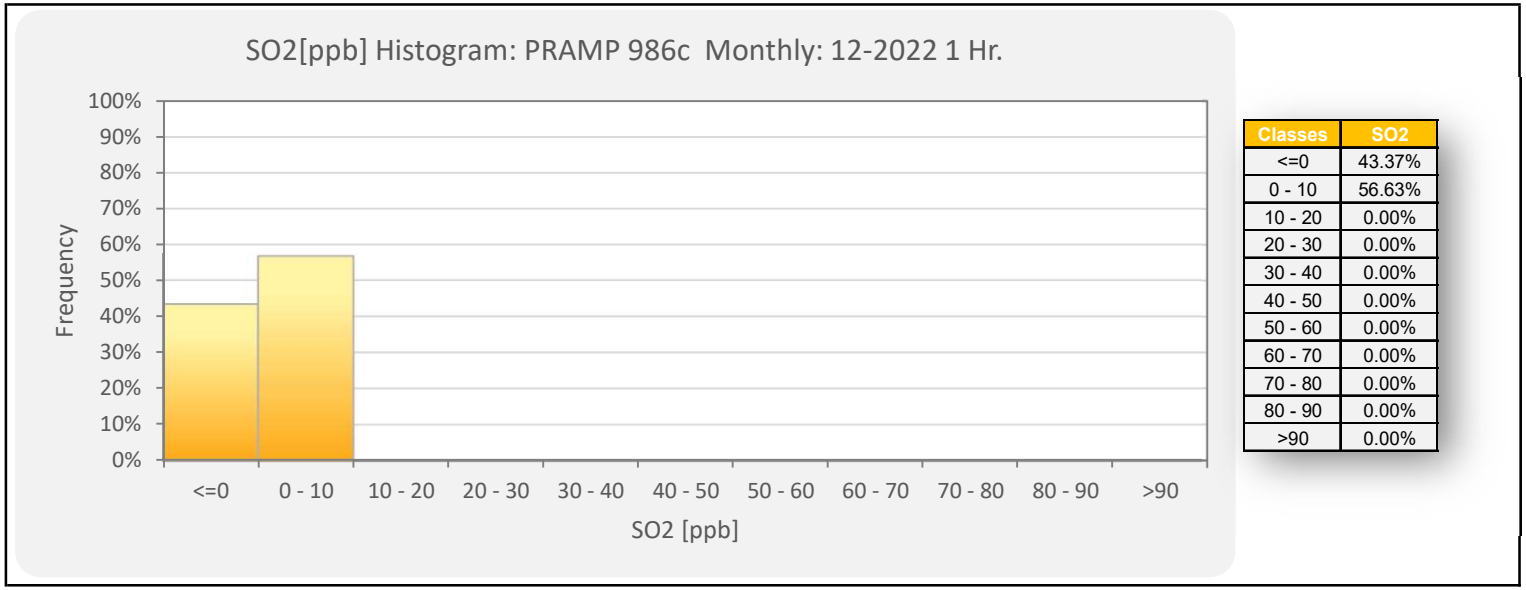
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

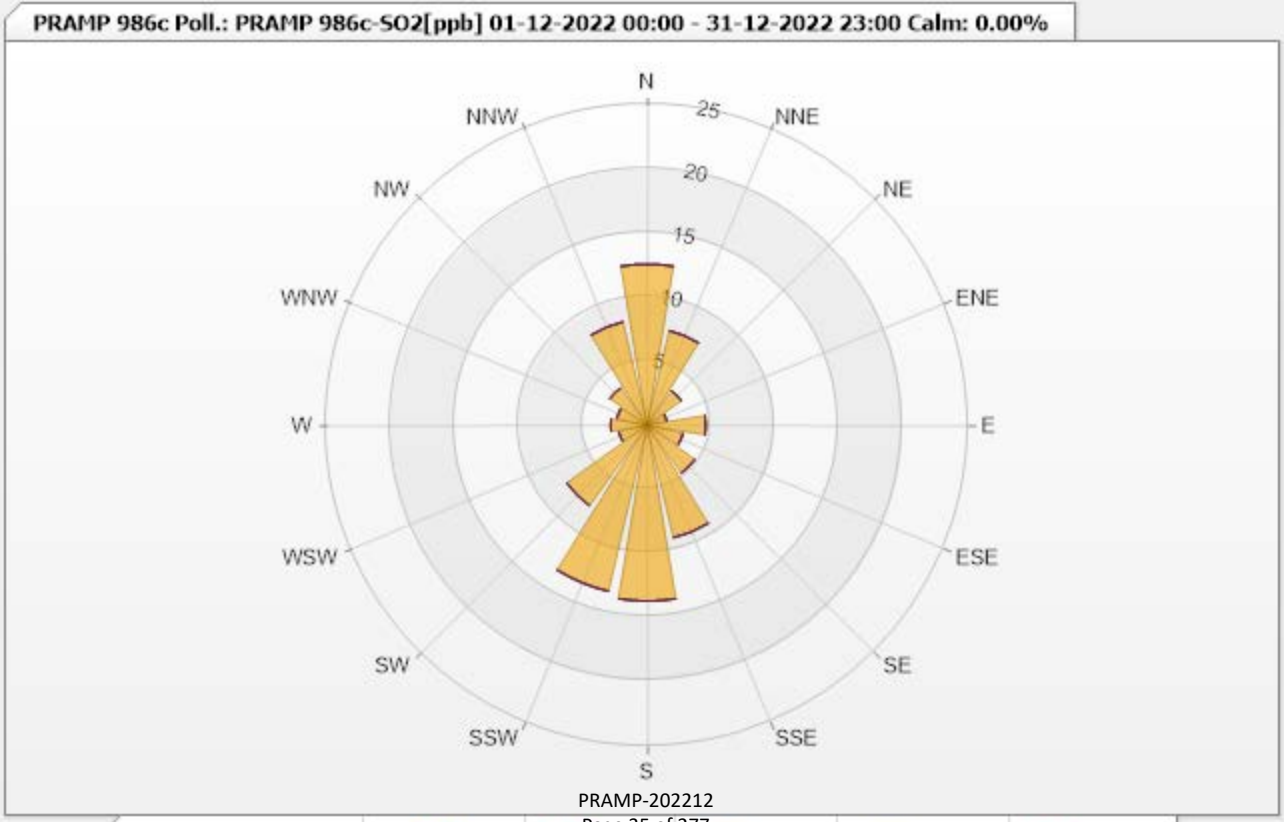





| Classes | SO2 |
|---|---|
| <=0 | 43.37% |
| 0 - 10 | 56.63% |
| 10 - 20 | 0.00% |
| 20 - 30 | 0.00% |
| 30 - 40 | 0.00% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.22% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|---|---|---|---|---|---|---|
| N | 12.55 | 0 | 0 | 0 | 0 | 12.55 |
| NNE | 7.56 | 0 | 0 | 0 | 0 | 7.56 |
| NE | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| ENE | 1.57 | 0 | 0 | 0 | 0 | 1.57 |
| E | 4.56 | 0 | 0 | 0 | 0 | 4.56 |
| ESE | 2.85 | 0 | 0 | 0 | 0 | 2.85 |
| SE | 4.56 | 0 | 0 | 0 | 0 | 4.56 |
| SSE | 8.99 | 0 | 0 | 0 | 0 | 8.99 |
| S | 13.69 | 0 | 0 | 0 | 0 | 13.69 |
| SSW | 13.27 | 0 | 0 | 0 | 0 | 13.27 |
| SW | 7.7 | 0 | 0 | 0 | 0 | 7.7 |
| WSW | 2.28 | 0 | 0 | 0 | 0 | 2.28 |
| W | 2.85 | 0 | 0 | 0 | 0 | 2.85 |
| WNW | 2.43 | 0 | 0 | 0 | 0 | 2.43 |
| NW | 3.57 | 0 | 0 | 0 | 0 | 3.57 |
| NNW | 8.27 | 0 | 0 | 0 | 0 | 8.27 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## TOTAL REDUCED SULPHUR (TRS) in ppb

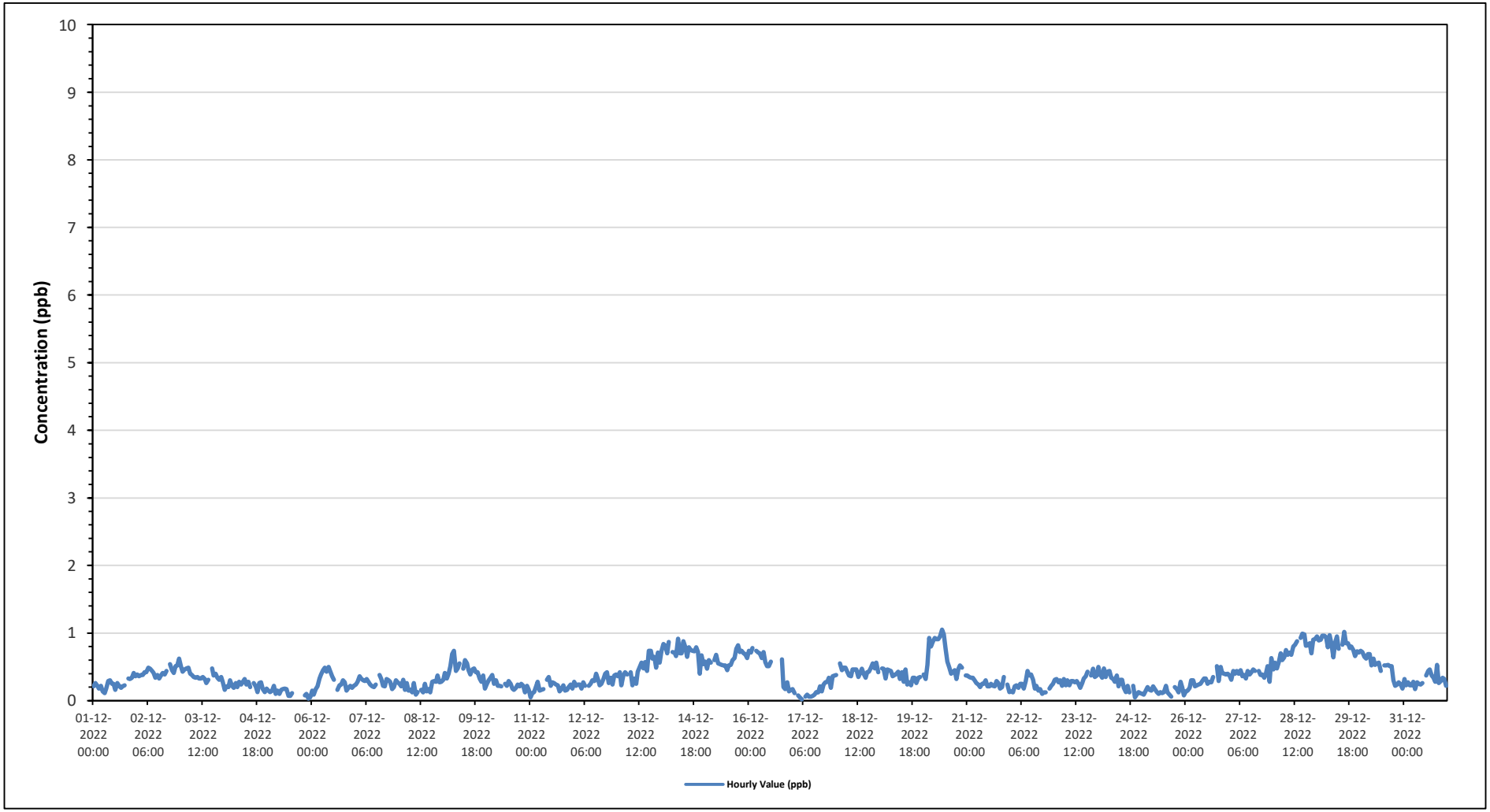
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1.05 | ppb | on December 20 at hour 10 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.84 | ppb | on December 29 | Hours of Data: | 701 |
| Minimum Hourly Value: | 0.02 | ppb | on December 17 at hour 5 | Hours of Missing Data: | 6 |
| Minimum Daily Value: | 0.12 | ppb | on December 5 | Hours of Calibration: | 37 |
| Monthly Average: | 0.38 | ppb | | Operational Uptime: | 99.2 |

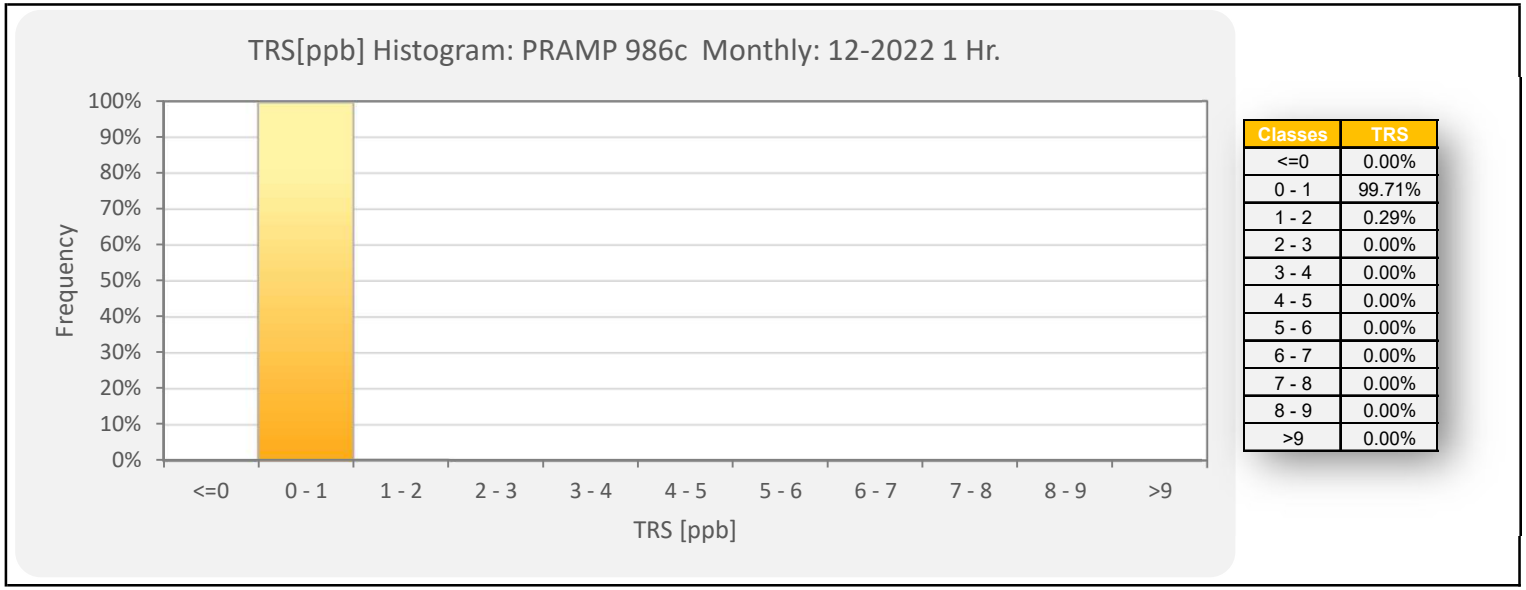
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 0.21 | 0.26 | 0.22 | 0.18 | 0.22 | 0.14 | 0.11 | 0.18 | 0.29 | 0.3 | 0.25 | 0.25 | 0.16 | 0.26 | 0.22 | 0.19 | 0.21 | 0.23 | S | 0.33 | 0.32 | 0.34 | 0.41 | 0.36 | 0.11 | 0.41 | 0.25 |
| Dec 2 | 0.39 | 0.36 | 0.38 | 0.38 | 0.42 | 0.42 | 0.49 | 0.47 | 0.44 | 0.41 | 0.34 | 0.38 | 0.33 | 0.37 | 0.41 | 0.39 | 0.44 | S | 0.54 | 0.45 | 0.41 | 0.51 | 0.52 | 0.62 | 0.33 | 0.62 | 0.43 |
| Dec 3 | 0.5 | 0.43 | 0.46 | 0.48 | 0.49 | 0.4 | 0.38 | 0.35 | 0.34 | 0.35 | 0.33 | 0.33 | 0.35 | 0.32 | 0.26 | 0.31 | S | 0.48 | 0.37 | 0.4 | 0.34 | 0.31 | 0.35 | 0.28 | 0.26 | 0.50 | 0.37 |
| Dec 4 | 0.16 | 0.21 | 0.2 | 0.3 | 0.22 | 0.19 | 0.26 | 0.2 | 0.28 | 0.24 | 0.28 | 0.32 | 0.24 | 0.28 | 0.2 | S | 0.26 | 0.21 | 0.13 | 0.26 | 0.27 | 0.17 | 0.13 | 0.18 | 0.13 | 0.32 | 0.23 |
| Dec 5 | 0.15 | 0.13 | 0.15 | 0.22 | 0.1 | 0.15 | 0.1 | 0.16 | 0.17 | 0.18 | 0.17 | 0.07 | 0.07 | 0.11 | S | C | C | C | C | C | 0.08 | 0.1 | 0.03 | 0.05 | 0.03 | 0.22 | 0.12 |
| Dec 6 | 0.15 | 0.09 | 0.17 | 0.21 | 0.33 | 0.39 | 0.45 | 0.49 | 0.43 | 0.5 | 0.44 | 0.36 | 0.31 | S | 0.16 | 0.23 | 0.24 | 0.3 | 0.27 | 0.15 | 0.19 | 0.22 | 0.19 | 0.22 | 0.09 | 0.50 | 0.28 |
| Dec 7 | 0.24 | 0.28 | 0.36 | 0.33 | 0.3 | 0.29 | 0.32 | 0.28 | 0.24 | 0.21 | 0.2 | 0.24 | S | 0.38 | 0.32 | 0.22 | 0.21 | 0.32 | 0.3 | 0.28 | 0.17 | 0.2 | 0.3 | 0.27 | 0.17 | 0.38 | 0.27 |
| Dec 8 | 0.25 | 0.21 | 0.31 | 0.16 | 0.26 | 0.15 | 0.16 | 0.12 | 0.26 | 0.09 | 0.13 | S | 0.16 | 0.12 | 0.25 | 0.14 | 0.17 | 0.12 | 0.28 | 0.29 | 0.28 | 0.37 | 0.27 | 0.28 | 0.09 | 0.37 | 0.21 |
| Dec 9 | 0.31 | 0.41 | 0.33 | 0.4 | 0.51 | 0.69 | 0.74 | 0.44 | 0.48 | 0.55 | S | 0.47 | 0.6 | 0.55 | 0.45 | 0.39 | 0.46 | 0.48 | 0.42 | 0.42 | 0.33 | 0.28 | 0.37 | 0.18 | 0.18 | 0.74 | 0.45 |
| Dec 10 | 0.25 | 0.3 | 0.34 | 0.38 | 0.25 | 0.3 | 0.22 | 0.22 | 0.21 | S | 0.25 | 0.22 | 0.29 | 0.25 | 0.18 | 0.16 | 0.19 | 0.24 | 0.21 | 0.25 | 0.22 | 0.12 | 0.22 | 0.16 | 0.12 | 0.38 | 0.24 |
| Dec 11 | 0.05 | 0.11 | 0.13 | 0.21 | 0.28 | 0.15 | 0.16 | 0.17 | S | 0.31 | 0.35 | 0.22 | 0.27 | 0.26 | 0.24 | 0.23 | 0.14 | 0.17 | 0.23 | 0.15 | 0.16 | 0.2 | 0.24 | 0.18 | 0.05 | 0.35 | 0.20 |
| Dec 12 | 0.28 | 0.22 | 0.24 | 0.24 | 0.18 | 0.27 | 0.22 | S | 0.22 | 0.25 | 0.3 | 0.29 | 0.4 | 0.32 | 0.23 | 0.25 | 0.32 | 0.4 | 0.42 | 0.26 | 0.34 | 0.24 | 0.37 | 0.39 | 0.18 | 0.42 | 0.29 |
| Dec 13 | 0.36 | 0.42 | 0.23 | 0.37 | 0.42 | 0.39 | S | 0.42 | 0.23 | 0.33 | 0.25 | 0.43 | 0.5 | 0.56 | 0.48 | 0.57 | 0.44 | 0.74 | 0.74 | 0.62 | 0.65 | 0.49 | 0.71 | 0.56 | 0.23 | 0.74 | 0.47 |
| Dec 14 | 0.73 | 0.84 | 0.81 | 0.7 | 0.87 | S | 0.72 | 0.71 | 0.66 | 0.92 | 0.7 | 0.7 | 0.88 | 0.8 | 0.65 | 0.79 | 0.75 | 0.74 | 0.73 | 0.79 | 0.72 | 0.4 | 0.67 | 0.54 | 0.40 | 0.92 | 0.73 |
| Dec 15 | 0.58 | 0.47 | 0.6 | 0.56 | S | 0.6 | 0.68 | 0.55 | 0.54 | 0.53 | 0.52 | 0.52 | 0.45 | 0.52 | 0.53 | 0.6 | 0.63 | 0.77 | 0.82 | 0.72 | 0.74 | 0.7 | 0.69 | 0.63 | 0.45 | 0.82 | 0.61 |
| Dec 16 | 0.74 | 0.71 | 0.78 | S | 0.74 | 0.71 | 0.7 | 0.63 | 0.72 | 0.57 | 0.51 | 0.51 | 0.58 | P | P | P | P | P | 0.61 | 0.2 | 0.17 | 0.27 | 0.14 | 0.16 | 0.14 | 0.78 | 0.53 |
| Dec 17 | 0.17 | 0.11 | S | 0.08 | 0.05 | 0.02 | NRM | 0.06 | 0.09 | 0.06 | 0.06 | 0.07 | 0.09 | 0.13 | 0.12 | 0.21 | 0.14 | 0.24 | 0.27 | 0.28 | 0.34 | 0.19 | 0.36 | 0.37 | **0.02** | 0.37 | 0.16 |
| Dec 18 | 0.38 | S | 0.55 | 0.45 | 0.49 | 0.49 | 0.43 | 0.37 | 0.36 | 0.46 | 0.46 | 0.46 | 0.35 | 0.4 | 0.47 | 0.4 | 0.34 | 0.42 | 0.43 | 0.49 | 0.55 | 0.48 | 0.56 | 0.42 | 0.34 | 0.56 | 0.44 |
| Dec 19 | S | 0.48 | 0.47 | 0.33 | 0.46 | 0.45 | 0.44 | 0.36 | 0.38 | 0.4 | 0.43 | 0.32 | 0.42 | 0.28 | 0.46 | 0.24 | 0.27 | 0.23 | 0.34 | 0.34 | 0.26 | 0.34 | 0.35 | S | 0.23 | 0.48 | 0.37 |
| Dec 20 | 0.39 | 0.32 | 0.53 | 0.93 | 0.8 | 0.87 | 0.93 | 0.91 | 0.91 | 0.95 | **1.05** | 0.98 | 0.77 | 0.58 | 0.49 | 0.4 | 0.42 | 0.45 | 0.32 | 0.47 | 0.52 | 0.49 | S | 0.37 | 0.32 | **1.05** | 0.65 |
| Dec 21 | 0.37 | 0.35 | 0.34 | 0.34 | 0.3 | 0.26 | 0.24 | 0.2 | 0.25 | 0.25 | 0.3 | 0.21 | 0.21 | 0.25 | 0.22 | 0.21 | 0.29 | 0.26 | 0.18 | 0.2 | 0.35 | S | 0.24 | 0.13 | 0.13 | 0.37 | 0.26 |
| Dec 22 | 0.14 | 0.12 | 0.21 | 0.23 | 0.19 | 0.25 | 0.25 | 0.18 | 0.29 | 0.44 | 0.37 | 0.39 | 0.31 | 0.18 | 0.22 | 0.15 | 0.17 | 0.1 | 0.12 | 0.12 | S | 0.18 | 0.22 | 0.25 | 0.10 | 0.44 | 0.22 |
| Dec 23 | 0.31 | 0.32 | 0.27 | 0.3 | 0.22 | 0.32 | 0.23 | 0.3 | 0.23 | 0.29 | 0.29 | 0.27 | 0.29 | 0.25 | 0.19 | 0.26 | 0.33 | 0.36 | 0.43 | S | 0.37 | 0.47 | 0.35 | 0.37 | 0.19 | 0.47 | 0.31 |
| Dec 24 | 0.5 | 0.39 | 0.34 | 0.48 | 0.35 | 0.43 | 0.44 | 0.34 | 0.32 | 0.28 | 0.37 | 0.21 | 0.31 | 0.31 | 0.19 | 0.13 | 0.22 | 0.12 | S | 0.22 | 0.05 | 0.09 | 0.13 | 0.11 | 0.05 | 0.50 | 0.28 |
| Dec 25 | 0.1 | 0.09 | 0.15 | 0.2 | 0.16 | 0.15 | 0.21 | 0.17 | 0.13 | 0.1 | 0.13 | 0.11 | 0.13 | 0.22 | 0.12 | 0.09 | 0.06 | S | 0.2 | 0.17 | 0.12 | 0.28 | 0.19 | 0.08 | 0.06 | 0.28 | 0.15 |
| Dec 26 | 0.14 | 0.15 | 0.19 | 0.3 | 0.3 | 0.21 | 0.23 | 0.24 | 0.25 | 0.29 | 0.33 | 0.33 | 0.25 | 0.28 | 0.27 | 0.35 | S | 0.51 | 0.29 | 0.5 | 0.41 | 0.4 | 0.39 | 0.4 | 0.14 | 0.51 | 0.30 |
| Dec 27 | 0.37 | 0.31 | 0.44 | 0.4 | 0.44 | 0.4 | 0.45 | 0.36 | 0.38 | 0.33 | 0.44 | 0.39 | 0.42 | 0.46 | 0.44 | S | 0.44 | 0.38 | 0.39 | 0.34 | 0.41 | 0.51 | 0.28 | 0.63 | 0.28 | 0.63 | 0.41 |
| Dec 28 | 0.46 | 0.56 | 0.48 | 0.56 | 0.7 | 0.6 | 0.64 | 0.75 | 0.68 | 0.71 | 0.68 | 0.8 | 0.83 | 0.88 | S | 0.93 | 0.99 | 0.98 | 0.81 | 0.82 | 0.85 | 0.7 | 0.9 | 0.91 | 0.46 | 0.99 | 0.75 |
| Dec 29 | 0.95 | 0.89 | 0.9 | 0.96 | 0.96 | 0.94 | 0.79 | 0.97 | 0.85 | 0.64 | 0.86 | 0.95 | 0.77 | S | 0.83 | 1.02 | 0.85 | 0.85 | 0.78 | 0.8 | 0.75 | 0.66 | 0.73 | 0.71 | 0.64 | 1.02 | **0.84** |
| Dec 30 | 0.74 | 0.72 | 0.65 | 0.62 | 0.69 | 0.69 | 0.52 | 0.62 | 0.53 | 0.55 | 0.56 | 0.44 | S | 0.52 | 0.52 | 0.53 | 0.51 | 0.51 | 0.3 | 0.22 | 0.24 | 0.27 | 0.24 | 0.18 | 0.18 | 0.74 | 0.49 |
| Dec 31 | 0.32 | 0.23 | 0.27 | 0.23 | 0.23 | 0.28 | 0.17 | 0.27 | 0.25 | 0.24 | 0.26 | S | 0.37 | 0.44 | 0.46 | 0.37 | 0.34 | 0.28 | 0.53 | 0.26 | 0.29 | 0.34 | 0.32 | 0.22 | 0.17 | 0.53 | 0.30 |
| Diurnal Maximum | 0.95 | 0.89 | 0.90 | 0.96 | 0.96 | 0.94 | 0.93 | 0.97 | 0.91 | 0.95 | 1.05 | 0.98 | 0.88 | 0.88 | 0.83 | 1.02 | 0.99 | 0.98 | 0.82 | 0.82 | 0.85 | 0.70 | 0.90 | 0.91 | | | |
| Diurnal Average | 0.36 | 0.35 | 0.38 | 0.38 | 0.40 | 0.39 | 0.40 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 | 0.38 | 0.37 | 0.34 | 0.36 | 0.36 | 0.40 | 0.41 | 0.37 | 0.36 | 0.34 | 0.36 | 0.34 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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*

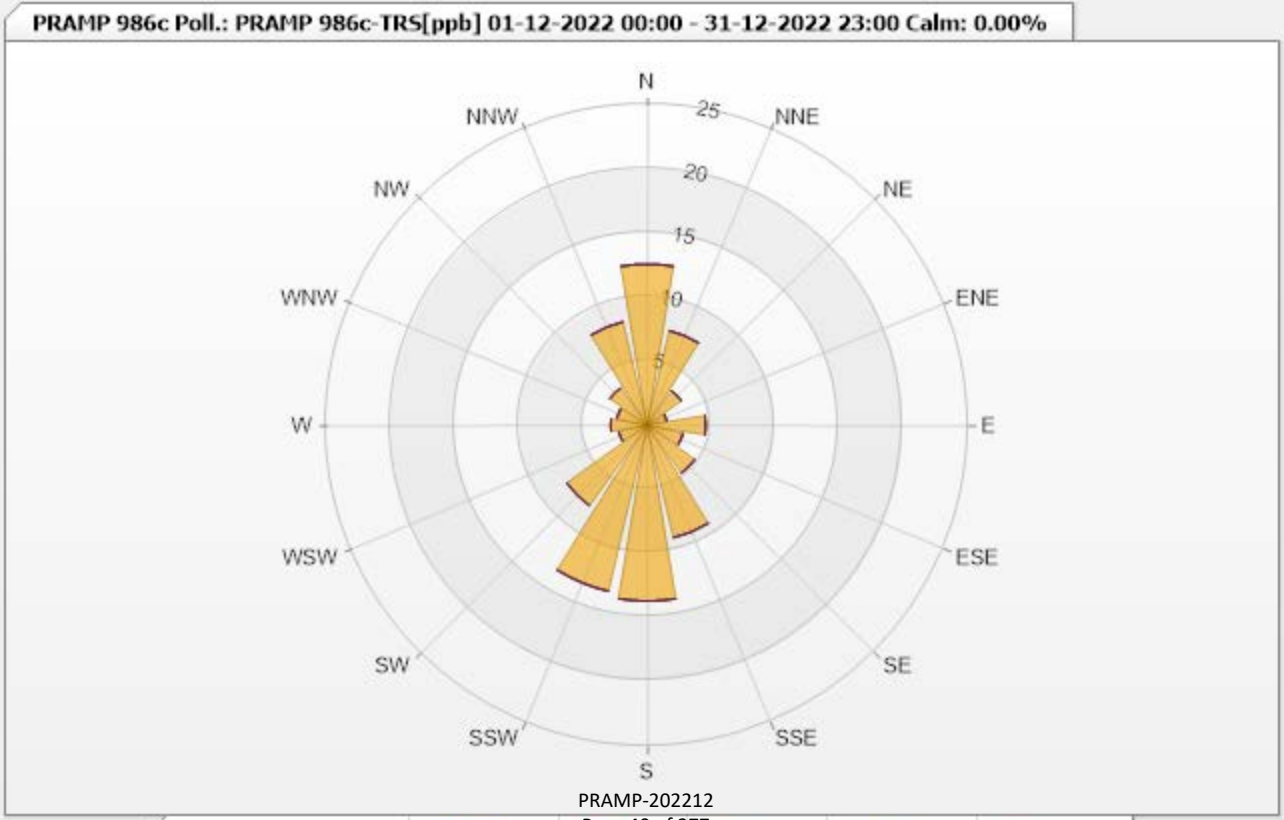





| Classes | TRS |
|---|---|
| <=0 | 0.00% |
| 0 - 1 | 99.71% |
| 1 - 2 | 0.29% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.22% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 12.55 | 0 | 0 | 0 | 0 | 12.55 |
| NNE | 7.56 | 0 | 0 | 0 | 0 | 7.56 |
| NE | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| ENE | 1.57 | 0 | 0 | 0 | 0 | 1.57 |
| E | 4.56 | 0 | 0 | 0 | 0 | 4.56 |
| ESE | 2.85 | 0 | 0 | 0 | 0 | 2.85 |
| SE | 4.56 | 0 | 0 | 0 | 0 | 4.56 |
| SSE | 8.99 | 0 | 0 | 0 | 0 | 8.99 |
| S | 13.69 | 0 | 0 | 0 | 0 | 13.69 |
| SSW | 13.27 | 0 | 0 | 0 | 0 | 13.27 |
| SW | 7.7 | 0 | 0 | 0 | 0 | 7.7 |
| WSW | 2.28 | 0 | 0 | 0 | 0 | 2.28 |
| W | 2.85 | 0 | 0 | 0 | 0 | 2.85 |
| WNW | 2.43 | 0 | 0 | 0 | 0 | 2.43 |
| NW | 3.57 | 0 | 0 | 0 | 0 | 3.57 |
| NNW | 8.27 | 0 | 0 | 0 | 0 | 8.27 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## TOTAL HYDROCARBONS (THC) in ppm

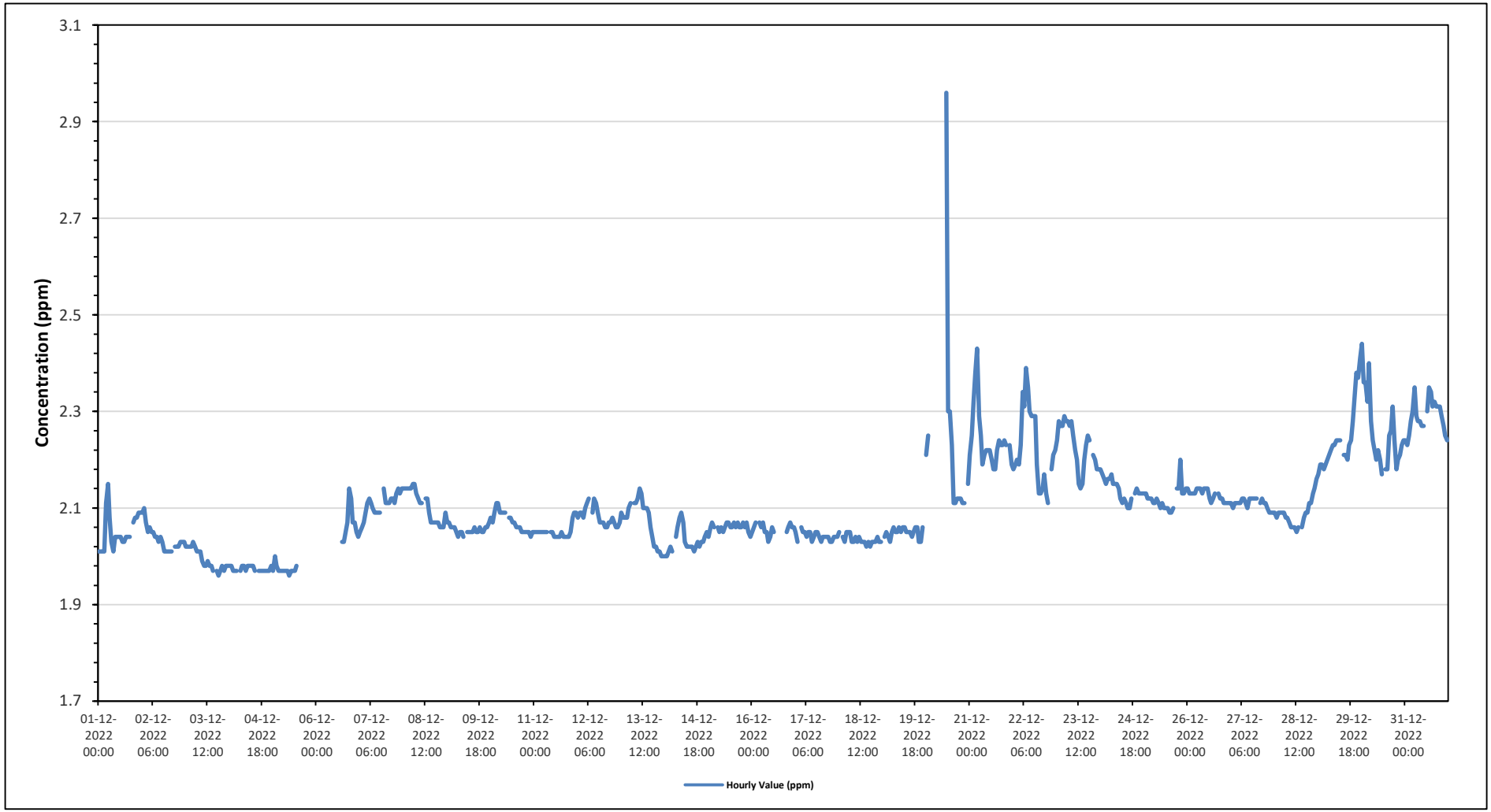
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.96 | ppm | on December 20 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.29 | ppm | on December 31 | Hours of Data: | 675 |
| Minimum Hourly Value: | 1.96 | ppm | on December 3 at hour 18 | Hours of Missing Data: | 30 |
| Minimum Daily Value: | 1.97 | ppm | on December 4 | Hours of Calibration: | 39 |
| Monthly Average: | 2.10 | ppm | | Operational Uptime: | 96.0 |

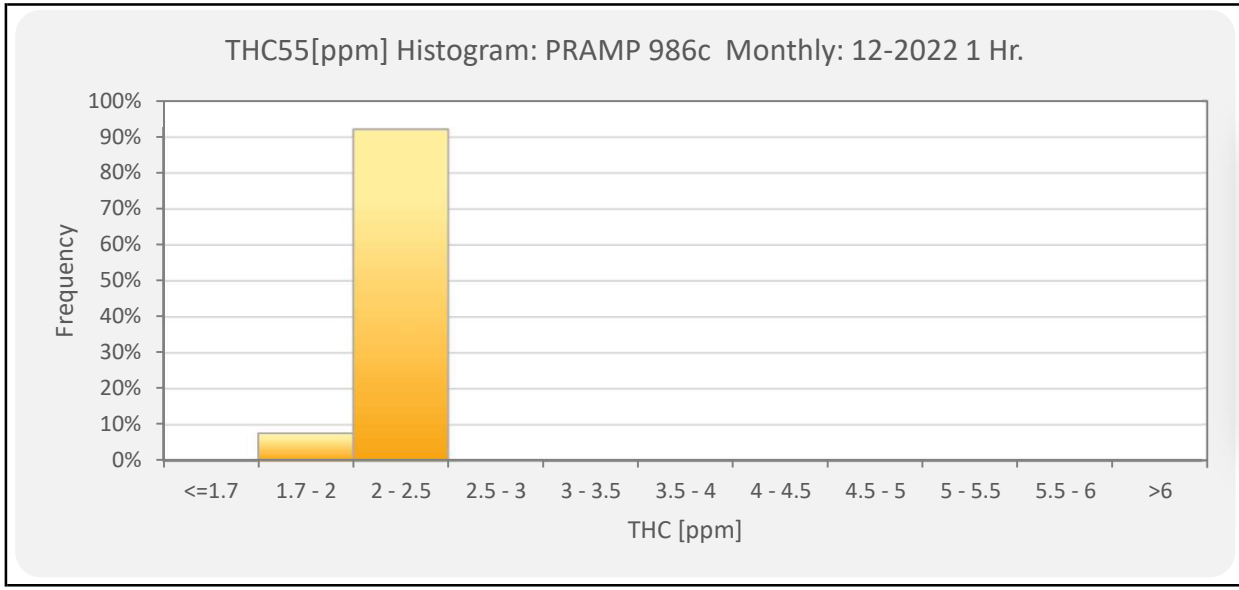
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 2.01 | 2.01 | 2.01 | 2.01 | 2.11 | 2.15 | 2.08 | 2.03 | 2.01 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | S | 2.07 | 2.08 | 2.08 | 2.09 | 2.09 | 2.01 | 2.15 | 2.05 |
| Dec 2 | 2.09 | 2.10 | 2.07 | 2.05 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | S | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.01 | 2.10 | 2.04 |
| Dec 3 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | **1.96** | 2.03 | 1.99 |
| Dec 4 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | X | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.97 |
| Dec 5 | 1.97 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | S | C | C | C | NRM | NRM | NRM | NRM | NRM | NRM | **1.96** | 2.00 | - |
| Dec 6 | NRM | NRM | NRM | NRM | NRM | NRM | NRM | NRM | C | C | C | C | 2.10 | S | 2.03 | 2.03 | 2.05 | 2.07 | 2.14 | 2.12 | 2.07 | 2.07 | 2.05 | 2.04 | 2.03 | 2.14 | - |
| Dec 7 | 2.05 | 2.06 | 2.07 | 2.09 | 2.11 | 2.12 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.14 | 2.11 | 2.11 | 2.11 | 2.12 | 2.12 | 2.11 | 2.13 | 2.14 | 2.13 | 2.14 | 2.05 | 2.14 | 2.11 |
| Dec 8 | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 | 2.15 | 2.15 | 2.13 | 2.12 | 2.11 | 2.11 | S | 2.12 | 2.12 | 2.09 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.09 | 2.06 | 2.15 | 2.11 |
| Dec 9 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.04 | 2.05 | 2.05 | 2.04 | S | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | 2.04 | 2.07 | 2.05 |
| Dec 10 | 2.08 | 2.07 | 2.09 | 2.11 | 2.11 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.04 | 2.11 | 2.07 |
| Dec 11 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | S | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.08 | 2.09 | 2.09 | 2.04 | 2.09 | 2.05 |
| Dec 12 | 2.08 | 2.09 | 2.09 | 2.08 | 2.10 | 2.11 | 2.12 | S | 2.09 | 2.12 | 2.11 | 2.09 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.12 | 2.08 |
| Dec 13 | 2.09 | 2.08 | 2.08 | 2.08 | 2.10 | 2.11 | S | 2.11 | 2.11 | 2.12 | 2.14 | 2.13 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.04 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | 2.14 | 2.07 |
| Dec 14 | 2.00 | 2.00 | 2.01 | 2.02 | 2.01 | S | 2.04 | 2.06 | 2.08 | 2.09 | 2.07 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.04 | 2.05 | 2.00 | 2.09 | 2.03 |
| Dec 15 | 2.04 | 2.06 | 2.07 | 2.06 | S | 2.06 | 2.05 | 2.06 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.07 | 2.05 | 2.04 | 2.04 | 2.07 | 2.06 |
| Dec 16 | 2.05 | 2.06 | 2.07 | S | 2.07 | 2.06 | 2.07 | 2.05 | 2.05 | 2.03 | 2.04 | 2.06 | 2.05 | P | P | P | P | P | X | 2.05 | 2.06 | 2.07 | 2.06 | 2.06 | 2.03 | 2.07 | - |
| Dec 17 | 2.05 | 2.03 | S | 2.06 | 2.05 | 2.05 | 2.04 | 2.05 | 2.05 | 2.03 | 2.04 | 2.05 | 2.05 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.03 | 2.06 | 2.04 |
| Dec 18 | 2.05 | S | 2.04 | 2.03 | 2.05 | 2.05 | 2.05 | 2.03 | 2.03 | 2.04 | 2.03 | 2.04 | 2.03 | 2.03 | 2.03 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.03 | 2.03 | 2.02 | 2.05 | 2.03 |
| Dec 19 | S | 2.04 | 2.05 | 2.04 | 2.03 | 2.05 | 2.06 | 2.05 | 2.05 | 2.06 | 2.05 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.06 | 2.06 | 2.03 | 2.03 | 2.06 | S | 2.03 | 2.06 | 2.05 |
| Dec 20 | 2.21 | 2.25 | X | X | X | X | X | X | X | X | X | **2.96** | 2.30 | 2.30 | 2.23 | 2.11 | 2.11 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | S | 2.15 | 2.11 | **2.96** | - |
| Dec 21 | 2.21 | 2.25 | 2.32 | 2.38 | 2.43 | 2.29 | 2.25 | 2.19 | 2.21 | 2.22 | 2.22 | 2.22 | 2.20 | 2.18 | 2.18 | 2.22 | 2.24 | 2.23 | 2.23 | 2.24 | 2.23 | S | 2.23 | 2.19 | 2.18 | 2.43 | 2.24 |
| Dec 22 | 2.18 | 2.19 | 2.20 | 2.19 | 2.23 | 2.34 | 2.31 | 2.39 | 2.35 | 2.30 | 2.29 | 2.29 | 2.29 | 2.19 | 2.13 | 2.13 | 2.14 | 2.17 | 2.13 | 2.11 | S | 2.18 | 2.21 | 2.22 | 2.11 | 2.39 | 2.22 |
| Dec 23 | 2.24 | 2.28 | 2.27 | 2.27 | 2.29 | 2.28 | 2.28 | 2.27 | 2.28 | 2.25 | 2.22 | 2.20 | 2.15 | 2.14 | 2.15 | 2.20 | 2.23 | 2.25 | 2.24 | S | 2.21 | 2.20 | 2.18 | 2.18 | 2.14 | 2.29 | 2.23 |
| Dec 24 | 2.18 | 2.17 | 2.16 | 2.15 | 2.16 | 2.16 | 2.17 | 2.15 | 2.15 | 2.15 | 2.14 | 2.12 | 2.11 | 2.12 | 2.11 | 2.10 | 2.10 | 2.12 | S | 2.13 | 2.14 | 2.13 | 2.13 | 2.13 | 2.10 | 2.18 | 2.14 |
| Dec 25 | 2.13 | 2.13 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | 2.12 | 2.11 | 2.10 | 2.11 | 2.10 | 2.10 | 2.10 | 2.09 | 2.09 | 2.10 | S | 2.14 | 2.14 | 2.20 | 2.13 | 2.13 | 2.14 | 2.09 | 2.20 | 2.12 |
| Dec 26 | 2.14 | 2.13 | 2.13 | 2.13 | 2.13 | 2.14 | 2.14 | 2.14 | 2.13 | 2.14 | 2.14 | 2.14 | 2.12 | 2.11 | 2.12 | 2.13 | S | 2.13 | 2.12 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.14 | 2.13 |
| Dec 27 | 2.11 | 2.10 | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.12 | 2.11 | 2.10 | 2.12 | 2.12 | 2.12 | 2.12 | 2.12 | S | 2.11 | 2.12 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.12 | 2.11 |
| Dec 28 | 2.09 | 2.08 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.08 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.06 | S | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.11 | 2.13 | 2.14 | 2.16 | 2.05 | 2.16 | 2.09 |
| Dec 29 | 2.17 | 2.19 | 2.19 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.23 | 2.24 | 2.24 | 2.24 | S | 2.21 | 2.21 | 2.20 | 2.23 | 2.24 | 2.28 | 2.33 | 2.38 | 2.37 | 2.41 | 2.17 | 2.41 | 2.24 |
| Dec 30 | 2.44 | 2.36 | 2.36 | 2.32 | 2.40 | 2.28 | 2.24 | 2.22 | 2.20 | 2.22 | 2.20 | 2.17 | S | 2.18 | 2.18 | 2.25 | 2.26 | 2.31 | 2.24 | 2.18 | 2.20 | 2.21 | 2.23 | 2.24 | 2.17 | 2.44 | 2.26 |
| Dec 31 | 2.24 | 2.23 | 2.25 | 2.28 | 2.30 | 2.35 | 2.29 | 2.28 | 2.28 | 2.27 | 2.27 | S | 2.30 | 2.35 | 2.34 | 2.31 | 2.32 | 2.31 | 2.31 | 2.31 | 2.29 | 2.27 | 2.25 | 2.24 | 2.23 | 2.35 | **2.29** |
| Diurnal Maximum | 2.44 | 2.36 | 2.36 | 2.38 | 2.43 | 2.35 | 2.31 | 2.39 | 2.35 | 2.30 | 2.29 | 2.96 | 2.30 | 2.35 | 2.34 | 2.31 | 2.32 | 2.31 | 2.31 | 2.31 | 2.33 | 2.38 | 2.37 | 2.41 | | | |
| Diurnal Average | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.13 | 2.11 | 2.11 | 2.11 | 2.10 | 2.10 | 2.12 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.10 | 2.10 | 2.10 | 2.11 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

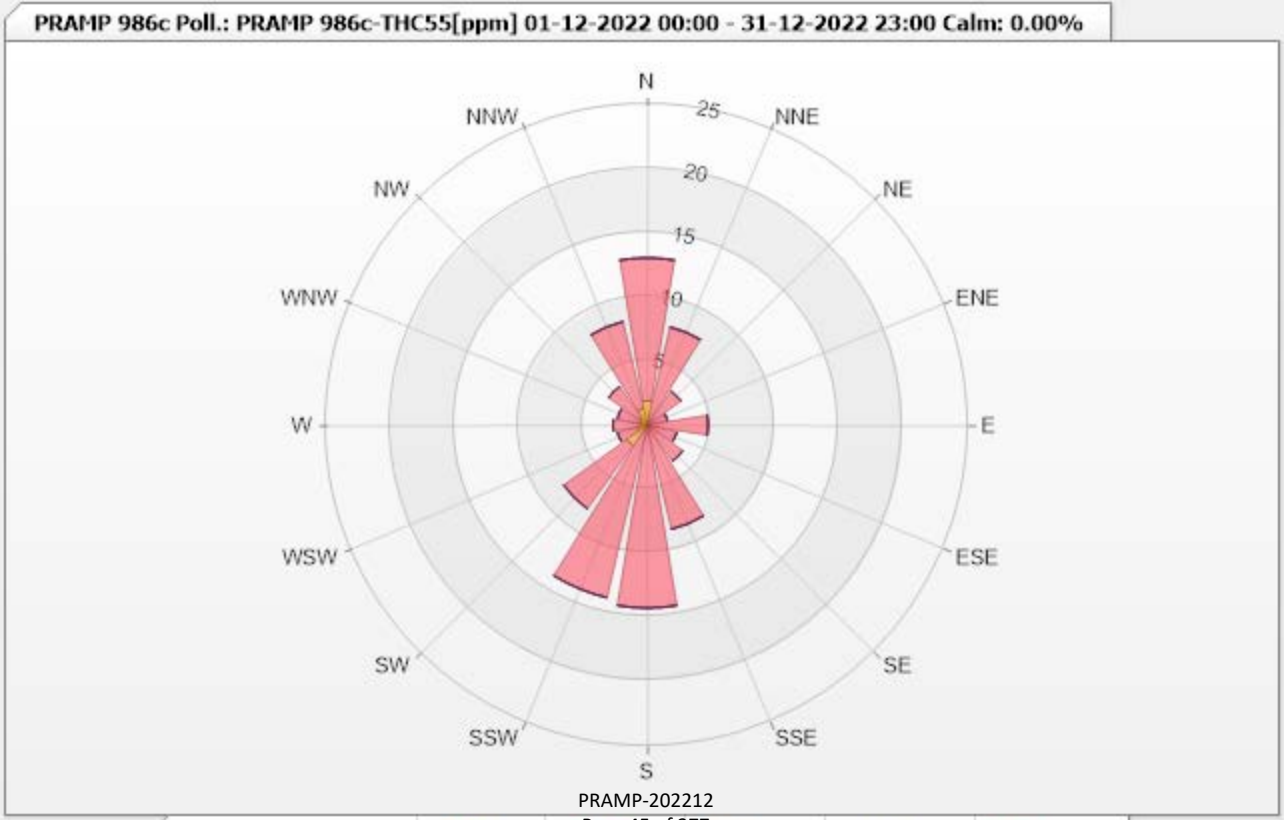





| Classes | THC55 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 7.70% |
| 2 - 2.5 | 92.15% |
| 2.5 - 3 | 0.15% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 90.73% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.93 | 11.11 | 0 | 0 | 0 | 13.04 |
| NNE | 0 | 7.85 | 0 | 0 | 0 | 7.85 |
| NE | 0 | 3.26 | 0 | 0 | 0 | 3.26 |
| ENE | 0 | 1.63 | 0 | 0 | 0 | 1.63 |
| E | 0 | 4.74 | 0 | 0 | 0 | 4.74 |
| ESE | 0 | 2.37 | 0 | 0 | 0 | 2.37 |
| SE | 0 | 3.41 | 0 | 0 | 0 | 3.41 |
| SSE | 0 | 8.3 | 0 | 0 | 0 | 8.3 |
| S | 0 | 14.22 | 0 | 0 | 0 | 14.22 |
| SSW | 0 | 13.78 | 0 | 0 | 0 | 13.78 |
| SW | 1.93 | 6.07 | 0 | 0 | 0 | 8 |
| WSW | 0.74 | 1.63 | 0 | 0 | 0 | 2.37 |
| W | 0.44 | 2.22 | 0 | 0 | 0 | 2.66 |
| WNW | 0.59 | 1.78 | 0 | 0 | 0 | 2.37 |
| NW | 0.74 | 2.96 | 0 | 0 | 0 | 3.7 |
| NNW | 1.33 | 6.96 | 0 | 0 | 0 | 8.29 |
| Summary | 7.7 | 92.29 | 0 | 0 | 0 | 100 |


PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
8 0-2
92 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## METHANE (CH4) in ppm

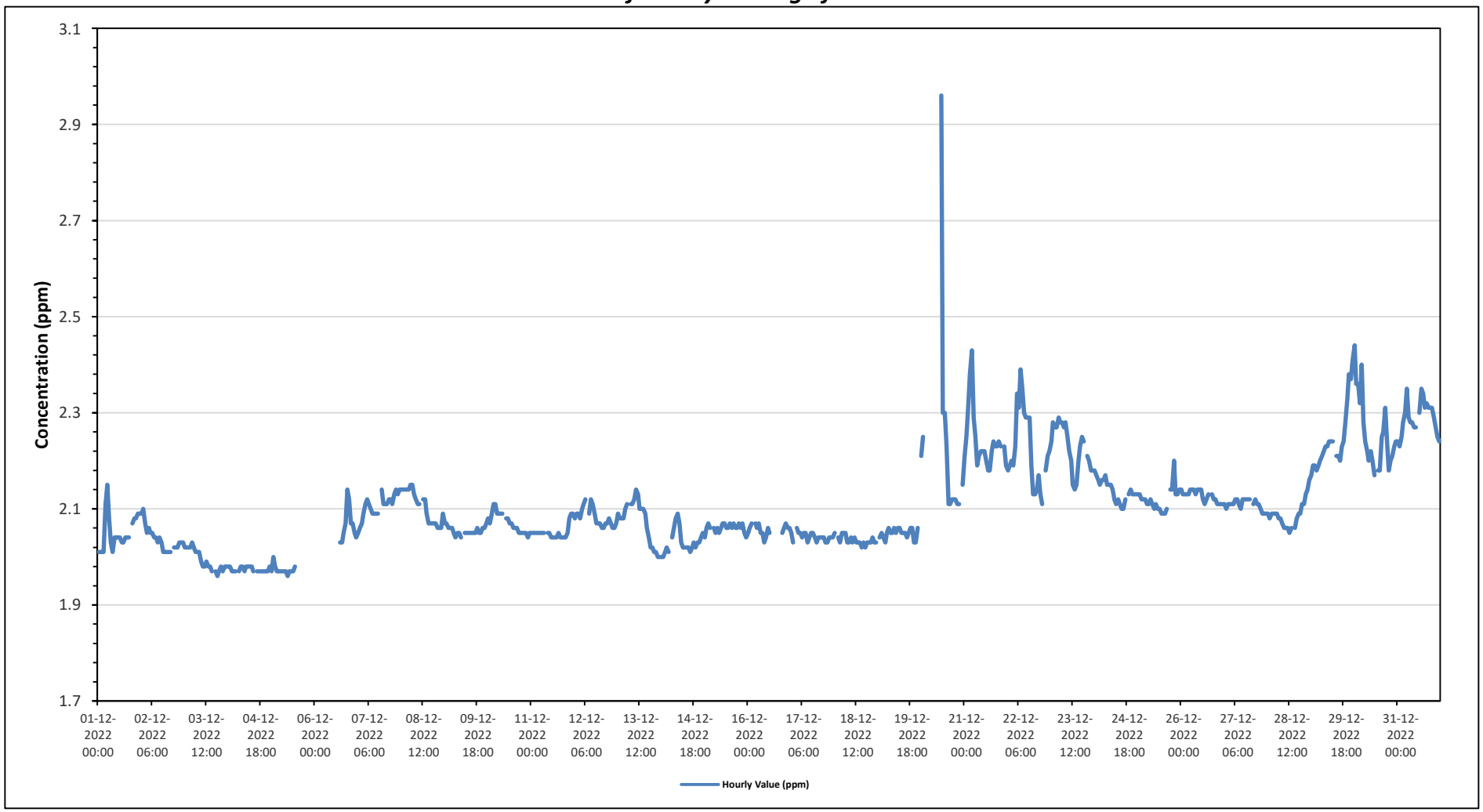
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.96 | ppm | on December 20 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.29 | ppm | on December 31 | Hours of Data: | 675 |
| Minimum Hourly Value: | 1.96 | ppm | on December 3 at hour 18 | Hours of Missing Data: | 30 |
| Minimum Daily Value: | 1.97 | ppm | on December 4 | Hours of Calibration: | 39 |
| Monthly Average: | 2.10 | ppm | | Operational Uptime: | 96.0 |

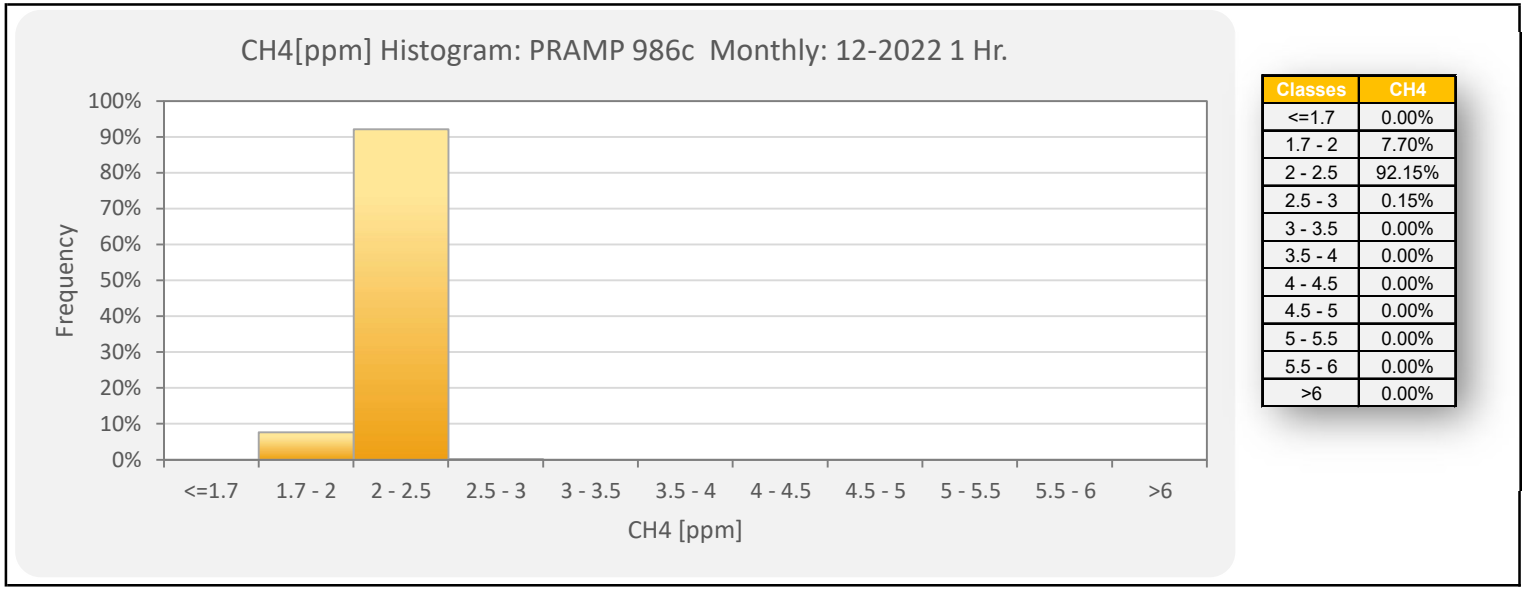
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 2.01 | 2.01 | 2.01 | 2.01 | 2.11 | 2.15 | 2.08 | 2.03 | 2.01 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | S | 2.07 | 2.08 | 2.08 | 2.09 | 2.09 | 2.01 | 2.15 | 2.05 |
| Dec 2 | 2.09 | 2.10 | 2.07 | 2.05 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | S | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.01 | 2.10 | 2.04 |
| Dec 3 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | **1.96** | 2.03 | 1.99 |
| Dec 4 | 1.98 | 1.98 | 1.97 | 1.97 | 1.97 | X | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.97 |
| Dec 5 | 1.97 | 2.00 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | S | C | C | C | NRM | NRM | NRM | NRM | NRM | NRM | **1.96** | 2.00 | - |
| Dec 6 | NRM | NRM | NRM | NRM | NRM | NRM | NRM | NRM | C | C | C | C | 2.10 | S | 2.03 | 2.03 | 2.05 | 2.07 | 2.14 | 2.12 | 2.07 | 2.07 | 2.05 | 2.04 | 2.03 | 2.14 | - |
| Dec 7 | 2.05 | 2.06 | 2.07 | 2.09 | 2.11 | 2.12 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.14 | 2.11 | 2.11 | 2.11 | 2.12 | 2.12 | 2.11 | 2.13 | 2.14 | 2.13 | 2.14 | 2.05 | 2.14 | 2.11 |
| Dec 8 | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 | 2.15 | 2.15 | 2.13 | 2.12 | 2.11 | 2.11 | S | 2.12 | 2.12 | 2.09 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.09 | 2.06 | 2.15 | 2.11 |
| Dec 9 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.04 | 2.05 | 2.05 | 2.04 | S | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | 2.04 | 2.07 | 2.05 |
| Dec 10 | 2.08 | 2.07 | 2.09 | 2.11 | 2.11 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.04 | 2.11 | 2.07 |
| Dec 11 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | S | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | 2.05 | 2.08 | 2.09 | 2.09 | 2.04 | 2.09 | 2.05 |
| Dec 12 | 2.08 | 2.09 | 2.09 | 2.08 | 2.10 | 2.11 | 2.12 | S | 2.09 | 2.12 | 2.11 | 2.09 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.12 | 2.08 |
| Dec 13 | 2.09 | 2.08 | 2.08 | 2.08 | 2.10 | 2.11 | S | 2.11 | 2.11 | 2.12 | 2.14 | 2.13 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.04 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | 2.14 | 2.07 |
| Dec 14 | 2.00 | 2.00 | 2.01 | 2.02 | 2.01 | S | 2.04 | 2.06 | 2.08 | 2.09 | 2.07 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.04 | 2.05 | 2.00 | 2.09 | 2.03 |
| Dec 15 | 2.04 | 2.06 | 2.07 | 2.06 | S | 2.06 | 2.05 | 2.06 | 2.05 | 2.06 | 2.07 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.07 | 2.05 | 2.04 | 2.04 | 2.07 | 2.06 |
| Dec 16 | 2.05 | 2.06 | 2.07 | S | 2.07 | 2.06 | 2.07 | 2.05 | 2.05 | 2.03 | 2.04 | 2.06 | 2.05 | P | P | P | P | P | X | 2.05 | 2.06 | 2.07 | 2.06 | 2.06 | 2.03 | 2.07 | - |
| Dec 17 | 2.05 | 2.03 | S | 2.06 | 2.05 | 2.05 | 2.04 | 2.05 | 2.05 | 2.03 | 2.04 | 2.05 | 2.05 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.03 | 2.06 | 2.04 |
| Dec 18 | 2.05 | S | 2.04 | 2.03 | 2.05 | 2.05 | 2.05 | 2.03 | 2.03 | 2.04 | 2.03 | 2.04 | 2.03 | 2.03 | 2.03 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.03 | 2.03 | 2.02 | 2.05 | 2.03 |
| Dec 19 | S | 2.04 | 2.05 | 2.04 | 2.03 | 2.05 | 2.06 | 2.05 | 2.05 | 2.06 | 2.05 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.06 | 2.06 | 2.03 | 2.03 | 2.06 | S | 2.03 | 2.06 | 2.05 |
| Dec 20 | 2.21 | 2.25 | X | X | X | X | X | X | X | X | X | **2.96** | 2.30 | 2.30 | 2.23 | 2.11 | 2.11 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | S | 2.15 | 2.11 | **2.96** | - |
| Dec 21 | 2.21 | 2.25 | 2.32 | 2.38 | 2.43 | 2.29 | 2.25 | 2.19 | 2.21 | 2.22 | 2.22 | 2.22 | 2.20 | 2.18 | 2.18 | 2.22 | 2.24 | 2.23 | 2.23 | 2.24 | 2.23 | S | 2.23 | 2.19 | 2.18 | 2.43 | 2.24 |
| Dec 22 | 2.18 | 2.19 | 2.20 | 2.19 | 2.23 | 2.34 | 2.31 | 2.39 | 2.35 | 2.30 | 2.29 | 2.29 | 2.29 | 2.19 | 2.13 | 2.13 | 2.14 | 2.17 | 2.13 | 2.11 | S | 2.18 | 2.21 | 2.22 | 2.11 | 2.39 | 2.22 |
| Dec 23 | 2.24 | 2.28 | 2.27 | 2.27 | 2.29 | 2.28 | 2.28 | 2.27 | 2.28 | 2.25 | 2.22 | 2.20 | 2.15 | 2.14 | 2.15 | 2.20 | 2.23 | 2.25 | 2.24 | S | 2.21 | 2.20 | 2.18 | 2.18 | 2.14 | 2.29 | 2.23 |
| Dec 24 | 2.18 | 2.17 | 2.16 | 2.15 | 2.16 | 2.16 | 2.17 | 2.15 | 2.15 | 2.15 | 2.14 | 2.12 | 2.11 | 2.12 | 2.11 | 2.10 | 2.10 | 2.12 | S | 2.13 | 2.14 | 2.13 | 2.13 | 2.13 | 2.10 | 2.18 | 2.14 |
| Dec 25 | 2.13 | 2.13 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | 2.12 | 2.11 | 2.10 | 2.11 | 2.10 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | S | 2.14 | 2.14 | 2.20 | 2.13 | 2.13 | 2.14 | 2.09 | 2.20 | 2.12 |
| Dec 26 | 2.14 | 2.13 | 2.13 | 2.13 | 2.13 | 2.14 | 2.14 | 2.14 | 2.13 | 2.14 | 2.14 | 2.14 | 2.12 | 2.11 | 2.12 | 2.13 | S | 2.13 | 2.12 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.14 | 2.13 |
| Dec 27 | 2.11 | 2.10 | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.12 | 2.11 | 2.10 | 2.12 | 2.12 | 2.12 | 2.12 | 2.12 | S | 2.11 | 2.12 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.12 | 2.11 |
| Dec 28 | 2.09 | 2.08 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.08 | 2.07 | 2.06 | 2.06 | 2.06 | 2.05 | 2.06 | S | 2.06 | 2.08 | 2.09 | 2.09 | 2.11 | 2.11 | 2.13 | 2.14 | 2.16 | 2.05 | 2.16 | 2.09 |
| Dec 29 | 2.17 | 2.19 | 2.19 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.23 | 2.24 | 2.24 | 2.24 | S | 2.21 | 2.21 | 2.20 | 2.23 | 2.24 | 2.28 | 2.33 | 2.38 | 2.37 | 2.41 | 2.17 | 2.41 | 2.24 |
| Dec 30 | 2.44 | 2.36 | 2.36 | 2.32 | 2.40 | 2.28 | 2.24 | 2.22 | 2.20 | 2.22 | 2.20 | 2.17 | S | 2.18 | 2.18 | 2.25 | 2.26 | 2.31 | 2.24 | 2.18 | 2.20 | 2.21 | 2.23 | 2.24 | 2.17 | 2.44 | 2.26 |
| Dec 31 | 2.24 | 2.23 | 2.25 | 2.28 | 2.30 | 2.35 | 2.29 | 2.28 | 2.28 | 2.27 | 2.27 | S | 2.30 | 2.35 | 2.34 | 2.31 | 2.32 | 2.31 | 2.31 | 2.31 | 2.29 | 2.27 | 2.25 | 2.24 | 2.23 | 2.35 | **2.29** |
| Diurnal Maximum | 2.44 | 2.36 | 2.36 | 2.38 | 2.43 | 2.35 | 2.31 | 2.39 | 2.35 | 2.30 | 2.29 | 2.96 | 2.30 | 2.35 | 2.34 | 2.31 | 2.32 | 2.31 | 2.31 | 2.31 | 2.33 | 2.38 | 2.37 | 2.41 | | | |
| Diurnal Average | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.13 | 2.11 | 2.11 | 2.11 | 2.10 | 2.10 | 2.12 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.10 | 2.10 | 2.10 | 2.11 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

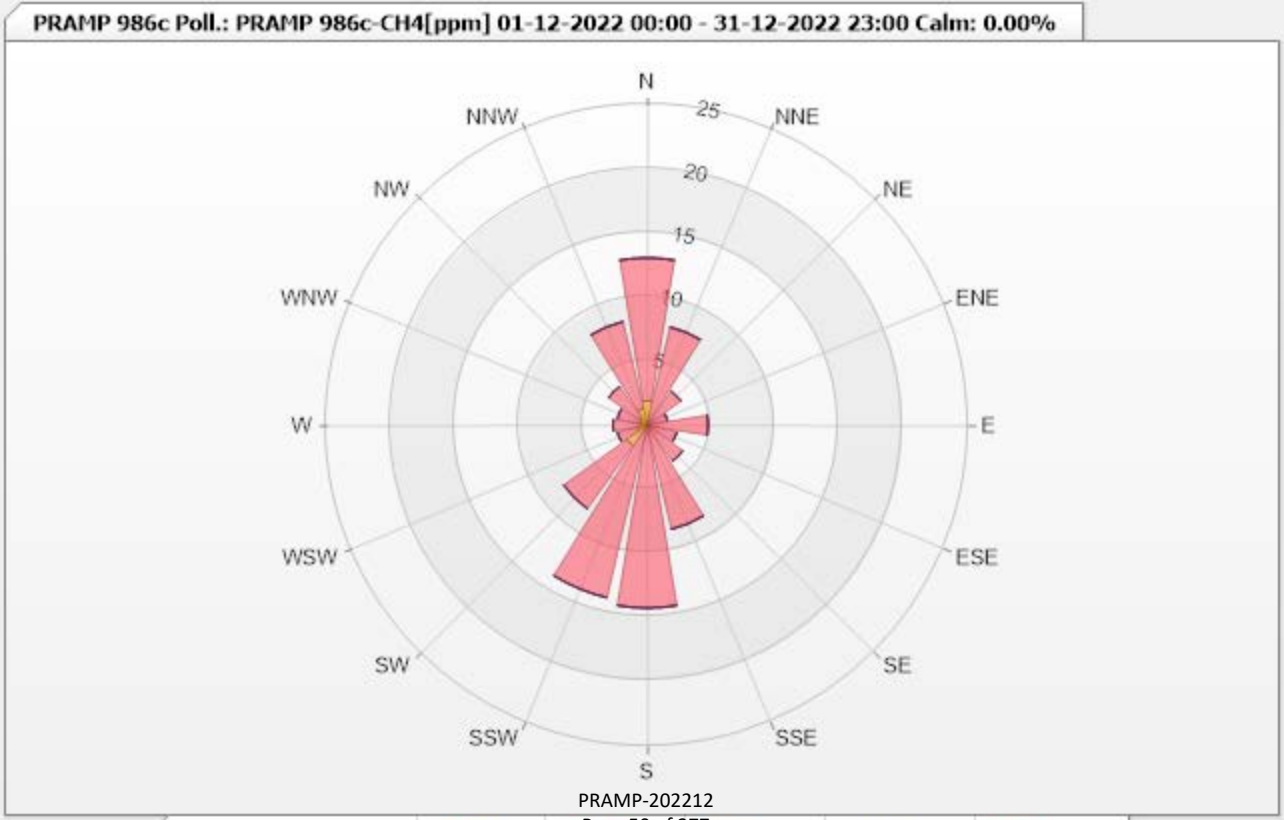





| Classes | CH4 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 7.70% |
| 2 - 2.5 | 92.15% |
| 2.5 - 3 | 0.15% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 90.73% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.93 | 11.11 | 0 | 0 | 0 | 13.04 |
| NNE | 0 | 7.85 | 0 | 0 | 0 | 7.85 |
| NE | 0 | 3.26 | 0 | 0 | 0 | 3.26 |
| ENE | 0 | 1.63 | 0 | 0 | 0 | 1.63 |
| E | 0 | 4.74 | 0 | 0 | 0 | 4.74 |
| ESE | 0 | 2.37 | 0 | 0 | 0 | 2.37 |
| SE | 0 | 3.41 | 0 | 0 | 0 | 3.41 |
| SSE | 0 | 8.3 | 0 | 0 | 0 | 8.3 |
| S | 0 | 14.22 | 0 | 0 | 0 | 14.22 |
| SSW | 0 | 13.78 | 0 | 0 | 0 | 13.78 |
| SW | 1.93 | 6.07 | 0 | 0 | 0 | 8 |
| WSW | 0.74 | 1.63 | 0 | 0 | 0 | 2.37 |
| W | 0.44 | 2.22 | 0 | 0 | 0 | 2.66 |
| WNW | 0.59 | 1.78 | 0 | 0 | 0 | 2.37 |
| NW | 0.74 | 2.96 | 0 | 0 | 0 | 3.7 |
| NNW | 1.33 | 6.96 | 0 | 0 | 0 | 8.29 |
| Summary | 7.7 | 92.29 | 0 | 0 | 0 | 100 |


PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
8 0-2
92 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## NON-METHANE HYDROCARBONS (NMHC) in ppm

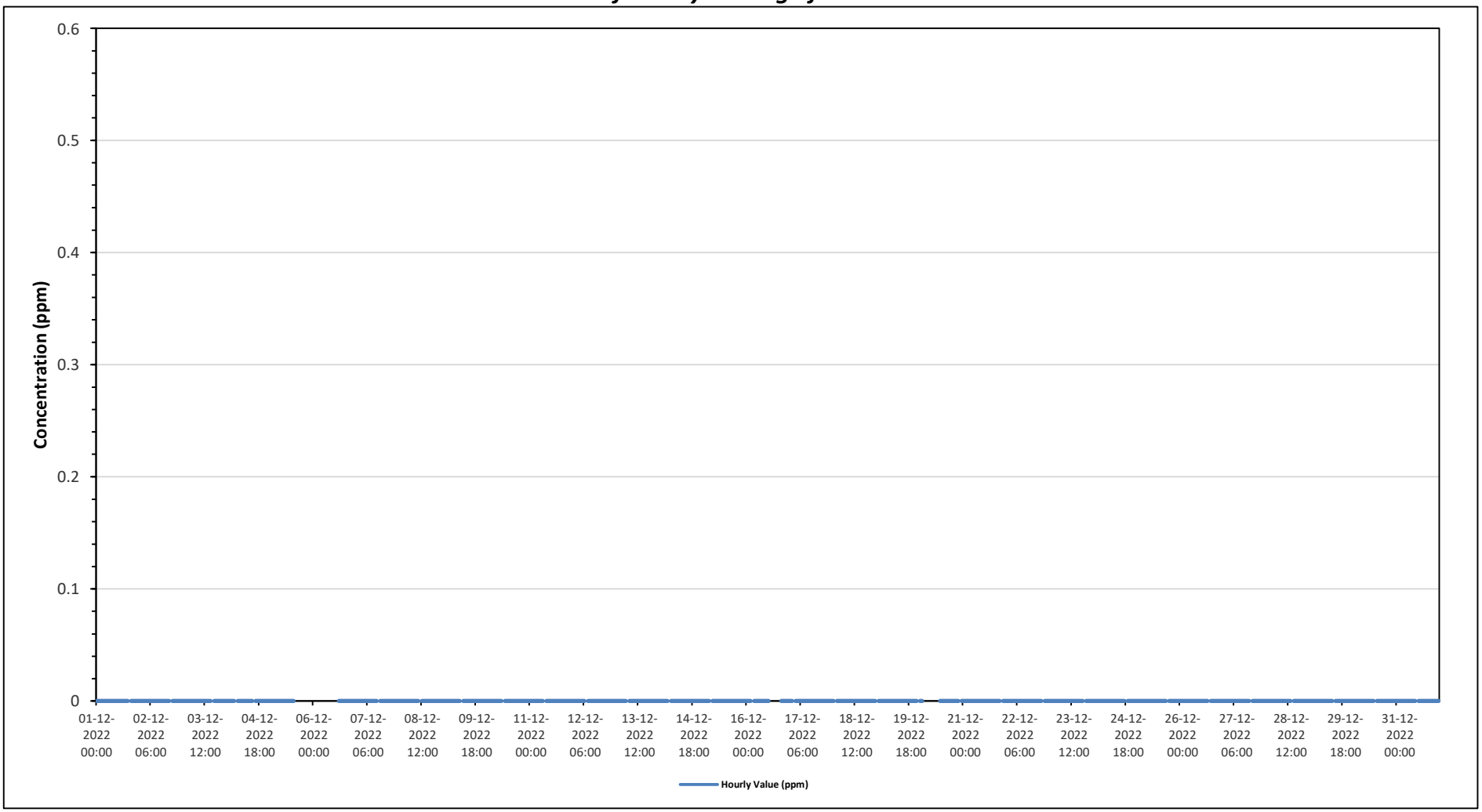
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on December 1 | Hours of Data: | 675 |
| Minimum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours of Missing Data: | 30 |
| Minimum Daily Value: | 0.00 | ppm | on December 1 | Hours of Calibration: | 39 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 96.0 |

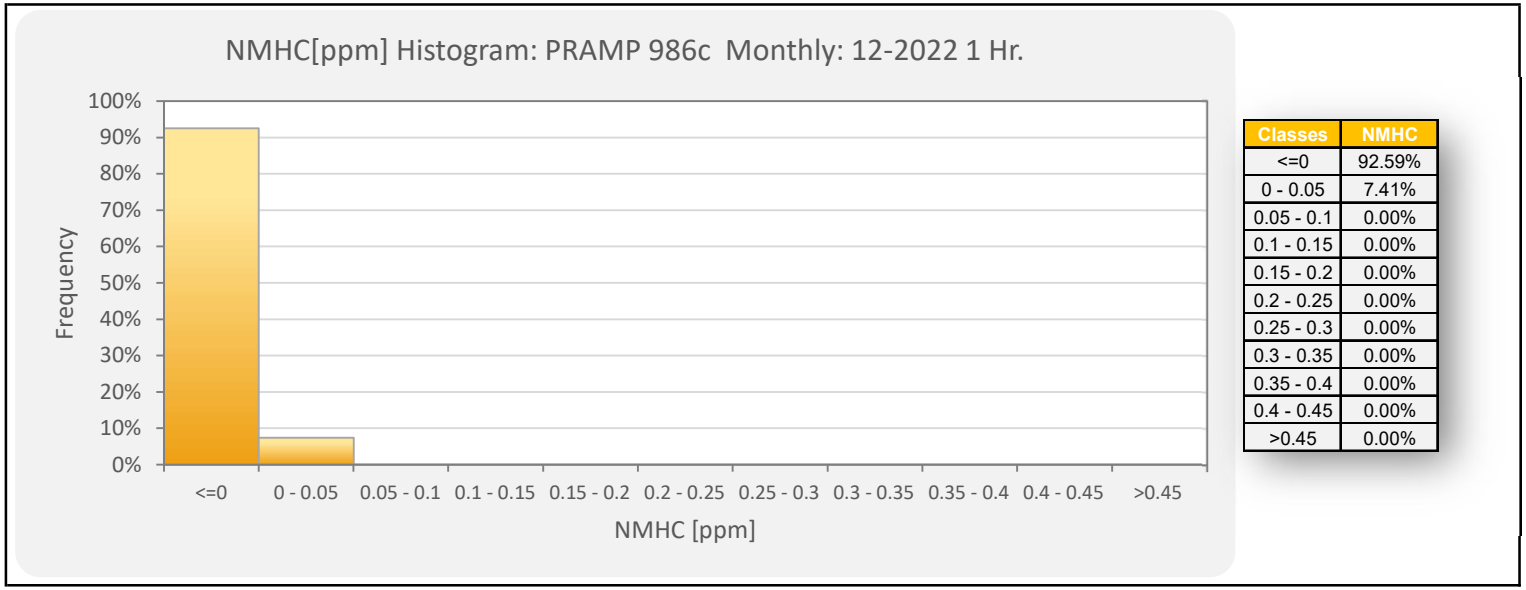
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

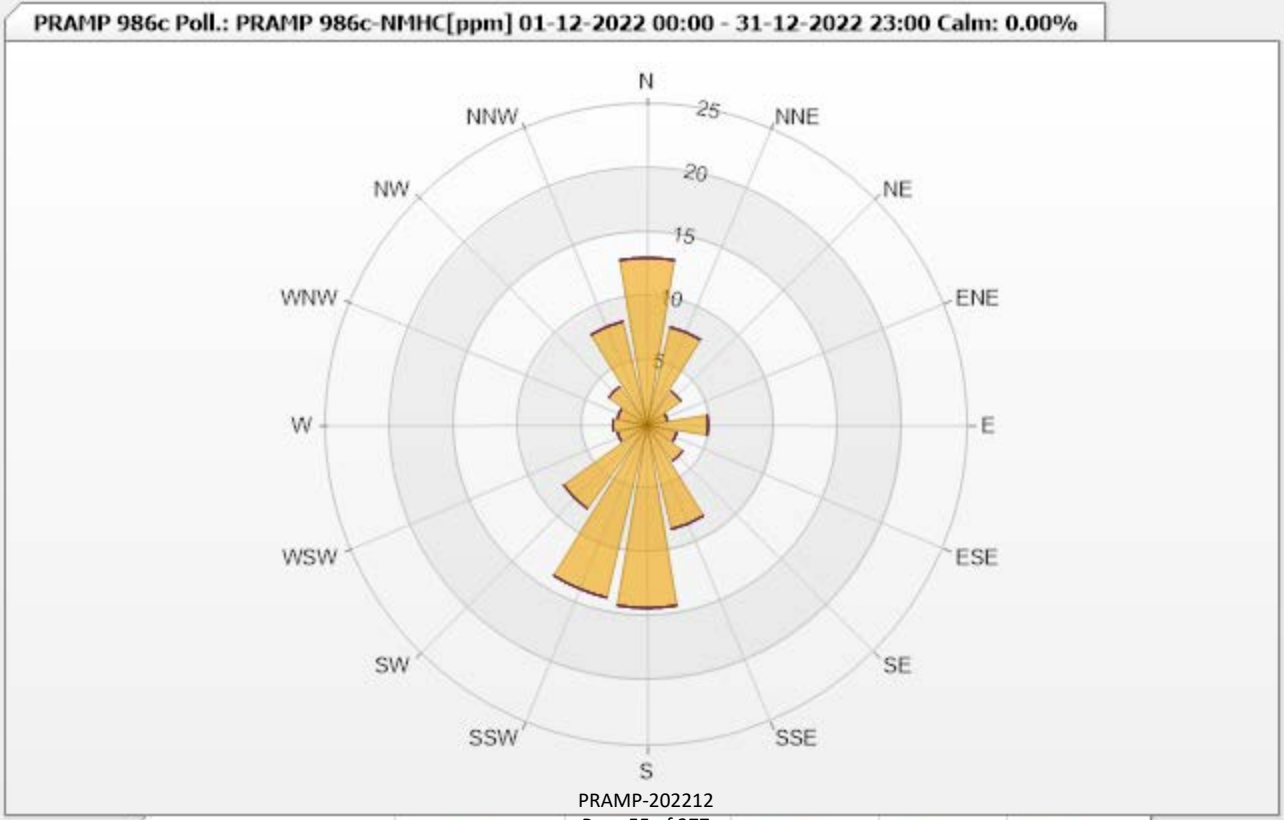





| Classes | NMHC |
|---|---|
| <=0 | 92.59% |
| 0 - 0.05 | 7.41% |
| 0.05 - 0.1 | 0.00% |
| 0.1 - 0.15 | 0.00% |
| 0.15 - 0.2 | 0.00% |
| 0.2 - 0.25 | 0.00% |
| 0.25 - 0.3 | 0.00% |
| 0.3 - 0.35 | 0.00% |
| 0.35 - 0.4 | 0.00% |
| 0.4 - 0.45 | 0.00% |
| >0.45 | 0.00% |

Wind: PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 90.73% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|---|---|---|---|---|---|---|
| N | 13.04 | 0 | 0 | 0 | 0 | 13.04 |
| NNE | 7.85 | 0 | 0 | 0 | 0 | 7.85 |
| NE | 3.26 | 0 | 0 | 0 | 0 | 3.26 |
| ENE | 1.63 | 0 | 0 | 0 | 0 | 1.63 |
| E | 4.74 | 0 | 0 | 0 | 0 | 4.74 |
| ESE | 2.37 | 0 | 0 | 0 | 0 | 2.37 |
| SE | 3.41 | 0 | 0 | 0 | 0 | 3.41 |
| SSE | 8.3 | 0 | 0 | 0 | 0 | 8.3 |
| S | 14.22 | 0 | 0 | 0 | 0 | 14.22 |
| SSW | 13.78 | 0 | 0 | 0 | 0 | 13.78 |
| SW | 8 | 0 | 0 | 0 | 0 | 8 |
| WSW | 2.37 | 0 | 0 | 0 | 0 | 2.37 |
| W | 2.67 | 0 | 0 | 0 | 0 | 2.67 |
| WNW | 2.37 | 0 | 0 | 0 | 0 | 2.37 |
| NW | 3.7 | 0 | 0 | 0 | 0 | 3.7 |
| NNW | 8.3 | 0 | 0 | 0 | 0 | 8.3 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-1
0 1-2
0 >2.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## RELATIVE HUMIDITY (RH) in %

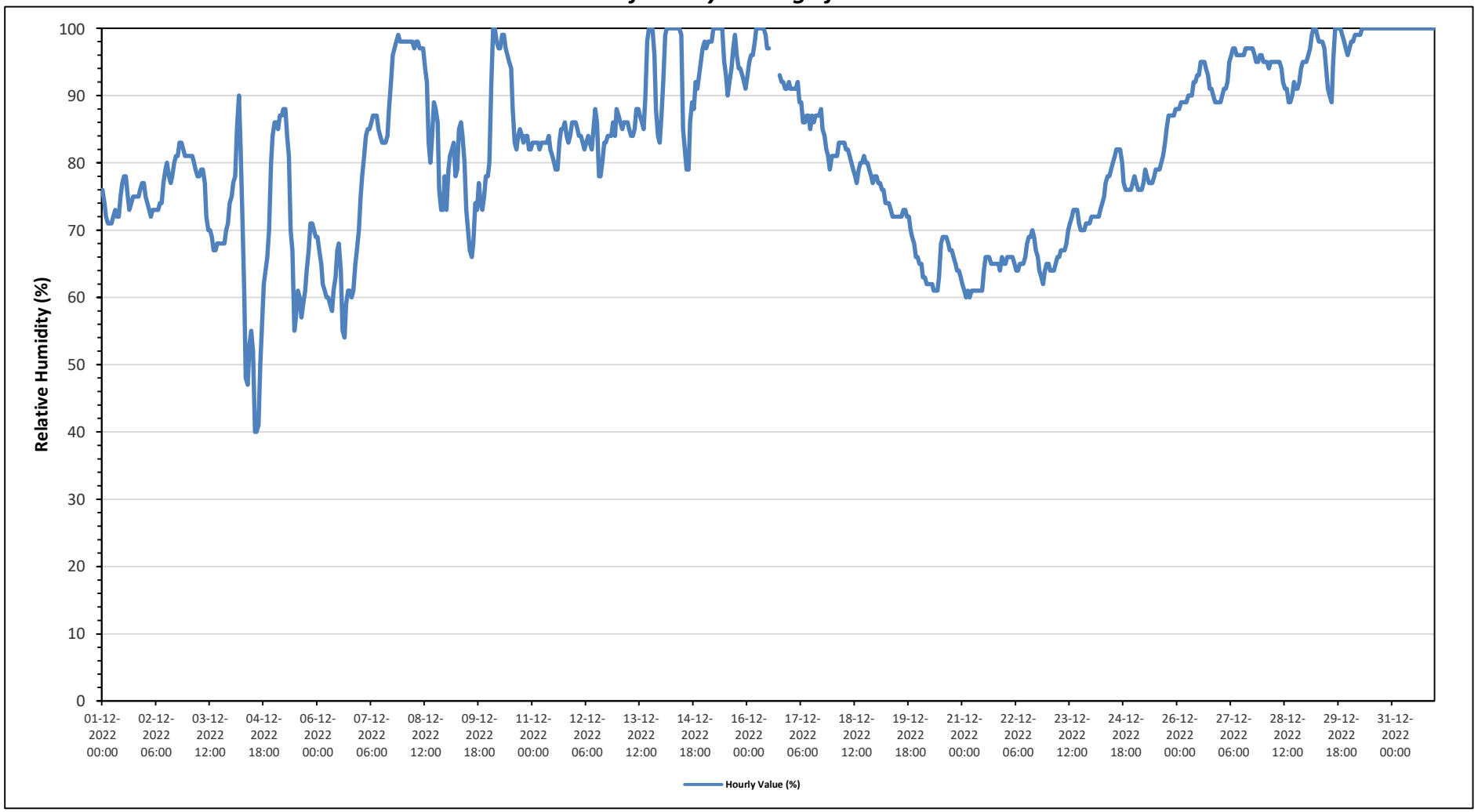
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 100 | % | on December 10 at hour 2 | Hours in Service: | 744 |
| Maximum Daily Value: | #### | % | on December 31 | Hours of Data: | 739 |
| Minimum Hourly Value: | 40 | % | on December 4 at hour 13 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 62.4 | % | on December 6 | Hours of Calibration: | 0 |
| Monthly Average: | 81.9 | % | | Operational Uptime: | 99.3 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 76 | 74 | 72 | 71 | 71 | 71 | 72 | 73 | 72 | 72 | 75 | 77 | 78 | 78 | 75 | 73 | 74 | 75 | 75 | 75 | 75 | 76 | 77 | 77 | 71 | 78 | 74.3 |
| Dec 2 | 75 | 74 | 73 | 72 | 73 | 73 | 73 | 73 | 74 | 74 | 77 | 79 | 80 | 78 | 77 | 78 | 80 | 81 | 81 | 83 | 83 | 82 | 81 | 81 | 72 | 83 | 77.3 |
| Dec 3 | 81 | 81 | 81 | 80 | 79 | 78 | 78 | 79 | 79 | 77 | 72 | 70 | 70 | 69 | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 70 | 71 | 74 | 67 | 81 | 73.5 |
| Dec 4 | 75 | 77 | 78 | 85 | 90 | 83 | 73 | 61 | 48 | 47 | 53 | 55 | 52 | **40** | **40** | 41 | 50 | 56 | 62 | 64 | 66 | 70 | 80 | 84 | **40** | 90 | 63.8 |
| Dec 5 | 86 | 86 | 85 | 87 | 87 | 88 | 88 | 84 | 81 | 70 | 67 | 55 | 57 | 61 | 60 | 57 | 59 | 61 | 64 | 67 | 71 | 71 | 70 | 69 | 55 | 88 | 72.1 |
| Dec 6 | 69 | 67 | 65 | 62 | 61 | 60 | 60 | 59 | 58 | 61 | 63 | 67 | 68 | 64 | 55 | 54 | 59 | 61 | 61 | 60 | 61 | 65 | 67 | 70 | 54 | 70 | 62.4 |
| Dec 7 | 75 | 78 | 81 | 84 | 85 | 85 | 86 | 87 | 87 | 87 | 85 | 84 | 83 | 83 | 83 | 84 | 88 | 92 | 96 | 97 | 98 | 99 | 98 | 98 | 75 | 99 | 87.6 |
| Dec 8 | 98 | 98 | 98 | 98 | 98 | 98 | 97 | 98 | 98 | 97 | 97 | 97 | 94 | 92 | 83 | 80 | 84 | 89 | 88 | 86 | 76 | 73 | 73 | 78 | 73 | 98 | 90.3 |
| Dec 9 | 73 | 79 | 81 | 82 | 83 | 78 | 79 | 85 | 86 | 84 | 80 | 73 | 70 | 67 | 66 | 68 | 74 | 73 | 77 | 74 | 73 | 75 | 78 | 78 | 66 | 86 | 76.5 |
| Dec 10 | 80 | 92 | **100** | **100** | 98 | 97 | 97 | 99 | 99 | 97 | 96 | 95 | 94 | 88 | 83 | 82 | 84 | 85 | 84 | 83 | 84 | 84 | 82 | 82 | 80 | **100** | 90.2 |
| Dec 11 | 83 | 83 | 83 | 83 | 82 | 83 | 83 | 83 | 83 | 84 | 82 | 81 | 80 | 79 | 79 | 83 | 85 | 85 | 86 | 84 | 83 | 84 | 86 | 86 | 79 | 86 | 83.0 |
| Dec 12 | 86 | 85 | 84 | 84 | 83 | 82 | 83 | 84 | 83 | 82 | 85 | 88 | 86 | 78 | 78 | 80 | 83 | 83 | 84 | 84 | 84 | 86 | 84 | 88 | 78 | 88 | 83.6 |
| Dec 13 | 87 | 86 | 85 | 86 | 86 | 86 | 85 | 84 | 84 | 85 | 88 | 88 | 87 | 86 | 85 | 90 | 98 | **100** | **100** | **100** | 96 | 88 | 84 | 83 | 83 | **100** | 88.6 |
| Dec 14 | 87 | 92 | 99 | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | 99 | 85 | 82 | 79 | 79 | 86 | 89 | 88 | 92 | 91 | 93 | 95 | 97 | 79 | **100** | 93.0 |
| Dec 15 | 98 | 97 | 98 | 98 | 98 | **100** | **100** | **100** | **100** | **100** | **100** | 95 | 93 | 90 | 92 | 94 | 97 | 99 | 96 | 94 | 94 | 93 | 92 | 91 | 90 | **100** | 96.2 |
| Dec 16 | 93 | 95 | 96 | 96 | 98 | **100** | **100** | **100** | **100** | **100** | 99 | 97 | 97 | **P** | **P** | **P** | **P** | **P** | 93 | 92 | 92 | 91 | 91 | 92 | 91 | **100** | 95.9 |
| Dec 17 | 91 | 91 | 91 | 91 | 92 | 89 | 89 | 86 | 86 | 87 | 87 | 85 | 87 | 86 | 87 | 87 | 87 | 88 | 85 | 84 | 82 | 81 | 79 | 81 | 79 | 92 | 86.6 |
| Dec 18 | 81 | 81 | 81 | 83 | 83 | 83 | 83 | 82 | 82 | 81 | 80 | 79 | 78 | 77 | 79 | 80 | 80 | 81 | 80 | 80 | 79 | 78 | 77 | 78 | 77 | 83 | 80.3 |
| Dec 19 | 78 | 77 | 77 | 76 | 76 | 74 | 74 | 74 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 73 | 73 | 72 | 72 | 70 | 69 | 68 | 66 | 66 | 66 | 78 | 72.5 |
| Dec 20 | 65 | 65 | 63 | 63 | 62 | 62 | 62 | 62 | 61 | 61 | 61 | 63 | 68 | 69 | 69 | 69 | 68 | 67 | 67 | 66 | 65 | 64 | 64 | 63 | 61 | 69 | 64.5 |
| Dec 21 | 62 | 61 | 60 | 61 | 60 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 64 | 66 | 66 | 66 | 65 | 65 | 65 | 65 | 65 | 64 | 66 | 65 | 60 | 66 | 63.0 |
| Dec 22 | 65 | 66 | 66 | 66 | 66 | 65 | 64 | 64 | 65 | 65 | 65 | 66 | 68 | 69 | 69 | 70 | 69 | 67 | 66 | 64 | 63 | 62 | 64 | 65 | 62 | 70 | 65.8 |
| Dec 23 | 65 | 64 | 64 | 64 | 65 | 66 | 66 | 67 | 67 | 67 | 68 | 70 | 71 | 72 | 73 | 73 | 73 | 71 | 70 | 70 | 70 | 71 | 71 | 71 | 64 | 73 | 68.7 |
| Dec 24 | 72 | 72 | 72 | 72 | 72 | 73 | 74 | 75 | 77 | 78 | 78 | 79 | 80 | 81 | 82 | 82 | 82 | 80 | 77 | 76 | 76 | 76 | 76 | 77 | 72 | 82 | 76.6 |
| Dec 25 | 78 | 77 | 76 | 76 | 76 | 77 | 79 | 78 | 77 | 77 | 77 | 78 | 79 | 79 | 79 | 80 | 81 | 83 | 85 | 87 | 87 | 87 | 87 | 88 | 76 | 88 | 80.3 |
| Dec 26 | 88 | 88 | 89 | 89 | 89 | 89 | 90 | 90 | 90 | 92 | 92 | 93 | 93 | 95 | 95 | 95 | 94 | 93 | 91 | 91 | 90 | 89 | 89 | 89 | 88 | 95 | 91.0 |
| Dec 27 | 89 | 90 | 91 | 91 | 92 | 95 | 96 | 97 | 97 | 96 | 96 | 96 | 96 | 96 | 97 | 97 | 97 | 97 | 97 | 96 | 95 | 95 | 96 | 96 | 89 | 97 | 95.0 |
| Dec 28 | 95 | 95 | 95 | 94 | 95 | 95 | 95 | 95 | 95 | 95 | 94 | 92 | 91 | 91 | 89 | 89 | 90 | 92 | 91 | 91 | 92 | 94 | 95 | 95 | 89 | 95 | 93.1 |
| Dec 29 | 95 | 96 | 97 | 99 | **100** | **100** | 99 | 98 | 98 | 98 | 97 | 94 | 91 | 90 | 89 | 95 | **100** | **100** | **100** | **100** | 99 | 98 | 97 | 96 | 89 | **100** | 96.9 |
| Dec 30 | 97 | 98 | 98 | 99 | 99 | 99 | 99 | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | 97 | **100** | 99.5 |
| Dec 31 | **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** | **100.0** |
| 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 | | | |
| Diurnal Average | 82.0 | 82.7 | 83.2 | 83.6 | 83.8 | 83.5 | 83.4 | 83.2 | 82.6 | 82.2 | 82.2 | 81.5 | 81.0 | 79.3 | 78.3 | 78.9 | 80.9 | 81.8 | 82.2 | 82.0 | 81.5 | 81.5 | 81.8 | 82.5 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - December 2022*

## Summary of Hourly Averages

## BAROMETRIC PRESSURE (BP) in millibar

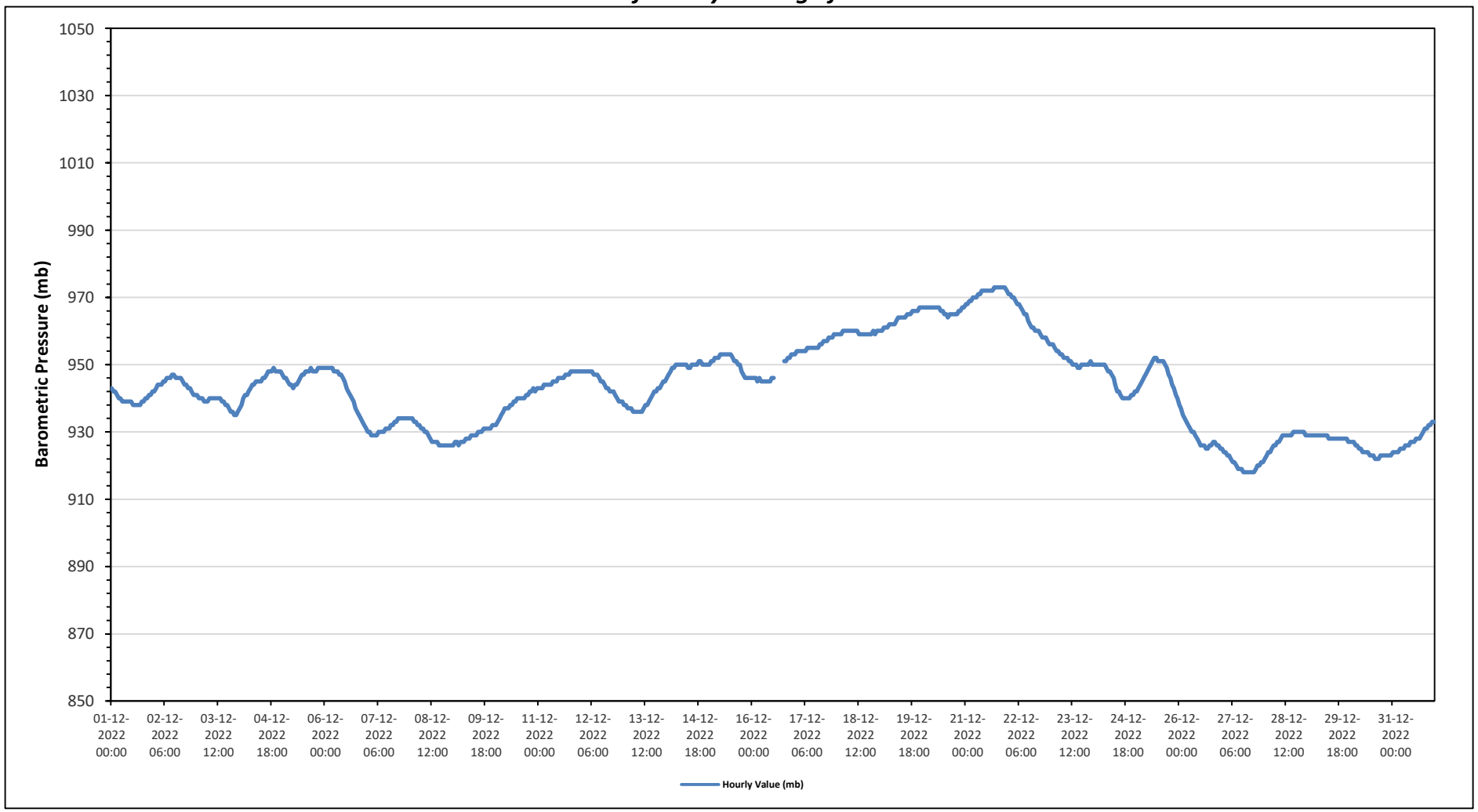
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 973 | mb | on December 21 at hour 16 | Hours in Service: | 744 |
| Maximum Daily Value: | 971 | mb | on December 21 | Hours of Data: | 739 |
| Minimum Hourly Value: | 918 | mb | on December 27 at hour 12 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 920 | mb | on December 27 | Hours of Calibration: | 0 |
| Monthly Average: | 943 | mb | | Operational Uptime: | 99.3 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 943 | 942 | 942 | 941 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 941 | 941 | 942 | 938 | 943 | 939.8 |
| Dec 2 | 942 | 943 | 944 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 946 | 946 | 946 | 946 | 945 | 944 | 944 | 943 | 943 | 942 | 941 | 941 | 941 | 947 | 944.4 |
| Dec 3 | 941 | 940 | 940 | 940 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 938 | 938 | 937 | 936 | 936 | 935 | 935 | 936 | 935 | 941 | 938.6 |
| Dec 4 | 937 | 938 | 940 | 941 | 941 | 942 | 943 | 944 | 944 | 945 | 945 | 945 | 945 | 946 | 946 | 947 | 948 | 948 | 948 | 949 | 948 | 948 | 948 | 948 | 937 | 949 | 944.8 |
| Dec 5 | 947 | 946 | 946 | 945 | 944 | 944 | 943 | 944 | 944 | 945 | 946 | 947 | 947 | 948 | 948 | 948 | 949 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 943 | 949 | 946.7 |
| Dec 6 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 947 | 947 | 946 | 945 | 943 | 942 | 941 | 940 | 939 | 937 | 936 | 935 | 934 | 933 | 932 | 931 | 931 | 949 | 942.4 |
| Dec 7 | 930 | 930 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 931 | 931 | 931 | 932 | 932 | 933 | 933 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 929 | 934 | 931.5 |
| Dec 8 | 934 | 934 | 933 | 933 | 932 | 932 | 931 | 931 | 930 | 930 | 929 | 928 | 927 | 927 | 927 | 927 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 934 | 928.9 |
| Dec 9 | 926 | 927 | 927 | 926 | 927 | 927 | 927 | 928 | 928 | 928 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 931 | 931 | 931 | 931 | 931 | 932 | 932 | 926 | 932 | 929.0 |
| Dec 10 | 932 | 933 | 934 | 935 | 936 | 937 | 937 | 937 | 938 | 938 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 942 | 942 | 943 | 942 | 943 | 932 | 943 | 938.7 |
| Dec 11 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 947 | 947 | 947 | 948 | 948 | 948 | 948 | 948 | 948 | 943 | 948 | 945.7 |
| Dec 12 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 945 | 945 | 944 | 943 | 943 | 942 | 942 | 942 | 941 | 940 | 939 | 939 | 939 | 939 | 948 | 944.5 |
| Dec 13 | 938 | 938 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 937 | 938 | 938 | 939 | 940 | 941 | 942 | 942 | 943 | 943 | 944 | 945 | 945 | 936 | 945 | 939.2 |
| Dec 14 | 946 | 947 | 948 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 949 | 950 | 950 | 950 | 950 | 951 | 951 | 950 | 950 | 950 | 950 | 946 | 951 | 949.5 |
| Dec 15 | 950 | 951 | 951 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 952 | 951 | 951 | 950 | 950 | 948 | 947 | 946 | 946 | 946 | 946 | 946 | 953 | 950.5 |
| Dec 16 | 946 | 946 | 946 | 945 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | P | P | P | P | P | 951 | 951 | 952 | 952 | 953 | 953 | 945 | 953 | 947.5 |
| Dec 17 | 953 | 954 | 954 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 956 | 956 | 957 | 957 | 957 | 958 | 958 | 958 | 959 | 959 | 953 | 959 | 955.7 |
| Dec 18 | 959 | 959 | 959 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 960 | 959 | 960 | 960 | 959 | 960 | 959.5 |
| Dec 19 | 960 | 960 | 961 | 961 | 961 | 962 | 962 | 962 | 962 | 963 | 964 | 964 | 964 | 964 | 964 | 965 | 965 | 965 | 966 | 966 | 966 | 966 | 967 | 967 | 960 | 967 | 963.6 |
| Dec 20 | 967 | 967 | 967 | 967 | 967 | 967 | 967 | 967 | 967 | 967 | 966 | 966 | 965 | 965 | 964 | 965 | 965 | 965 | 965 | 965 | 966 | 966 | 967 | 967 | 964 | 967 | 966.1 |
| Dec 21 | 968 | 968 | 969 | 969 | 970 | 970 | 970 | 971 | 971 | 972 | 972 | 972 | 972 | 972 | 972 | 972 | **973** | **973** | **973** | **973** | **973** | **973** | **973** | 972 | 968 | **973** | **971.4** |
| Dec 22 | 971 | 971 | 970 | 970 | 969 | 968 | 968 | 967 | 966 | 965 | 965 | 963 | 962 | 961 | 961 | 960 | 960 | 960 | 959 | 958 | 958 | 958 | 957 | 956 | 956 | 971 | 963.5 |
| Dec 23 | 956 | 956 | 955 | 954 | 954 | 953 | 953 | 952 | 952 | 952 | 951 | 951 | 950 | 950 | 950 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 951 | 950 | 949 | 956 | 951.6 |
| Dec 24 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 948 | 948 | 947 | 946 | 944 | 942 | 942 | 941 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 942 | 940 | 950 | 945.0 |
| Dec 25 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 952 | 951 | 951 | 951 | 951 | 950 | 949 | 947 | 946 | 944 | 943 | 941 | 940 | 940 | 952 | 947.2 |
| Dec 26 | 938 | 937 | 935 | 934 | 933 | 932 | 931 | 930 | 930 | 929 | 928 | 927 | 926 | 926 | 926 | 925 | 925 | 926 | 926 | 927 | 927 | 926 | 926 | 925 | 925 | 938 | 929.0 |
| Dec 27 | 925 | 924 | 924 | 923 | 923 | 922 | 921 | 921 | 920 | 919 | 919 | 919 | **918** | **918** | **918** | **918** | **918** | **918** | **918** | 919 | 920 | 920 | 921 | 921 | **918** | 925 | 920.3 |
| Dec 28 | 922 | 923 | 924 | 924 | 925 | 926 | 926 | 927 | 927 | 928 | 929 | 929 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 929 | 922 | 930 | 927.7 |
| Dec 29 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 927 | 927 | 929 | 928.5 |
| Dec 30 | 927 | 927 | 927 | 926 | 926 | 925 | 925 | 924 | 924 | 924 | 924 | 923 | 923 | 923 | 922 | 922 | 922 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 922 | 927 | 924.0 |
| Dec 31 | 924 | 924 | 924 | 924 | 925 | 925 | 925 | 926 | 926 | 926 | 927 | 927 | 927 | 928 | 928 | 928 | 929 | 930 | 931 | 931 | 932 | 932 | 933 | 933 | 924 | 933 | 927.7 |
| Diurnal Maximum | 971 | 971 | 970 | 970 | 970 | 970 | 970 | 971 | 971 | 972 | 972 | 972 | 972 | 972 | 972 | 972 | 973 | 973 | 973 | 973 | 973 | 973 | 973 | 972 | | | |
| Diurnal Average | 943 | 943 | 944 | 943 | 944 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

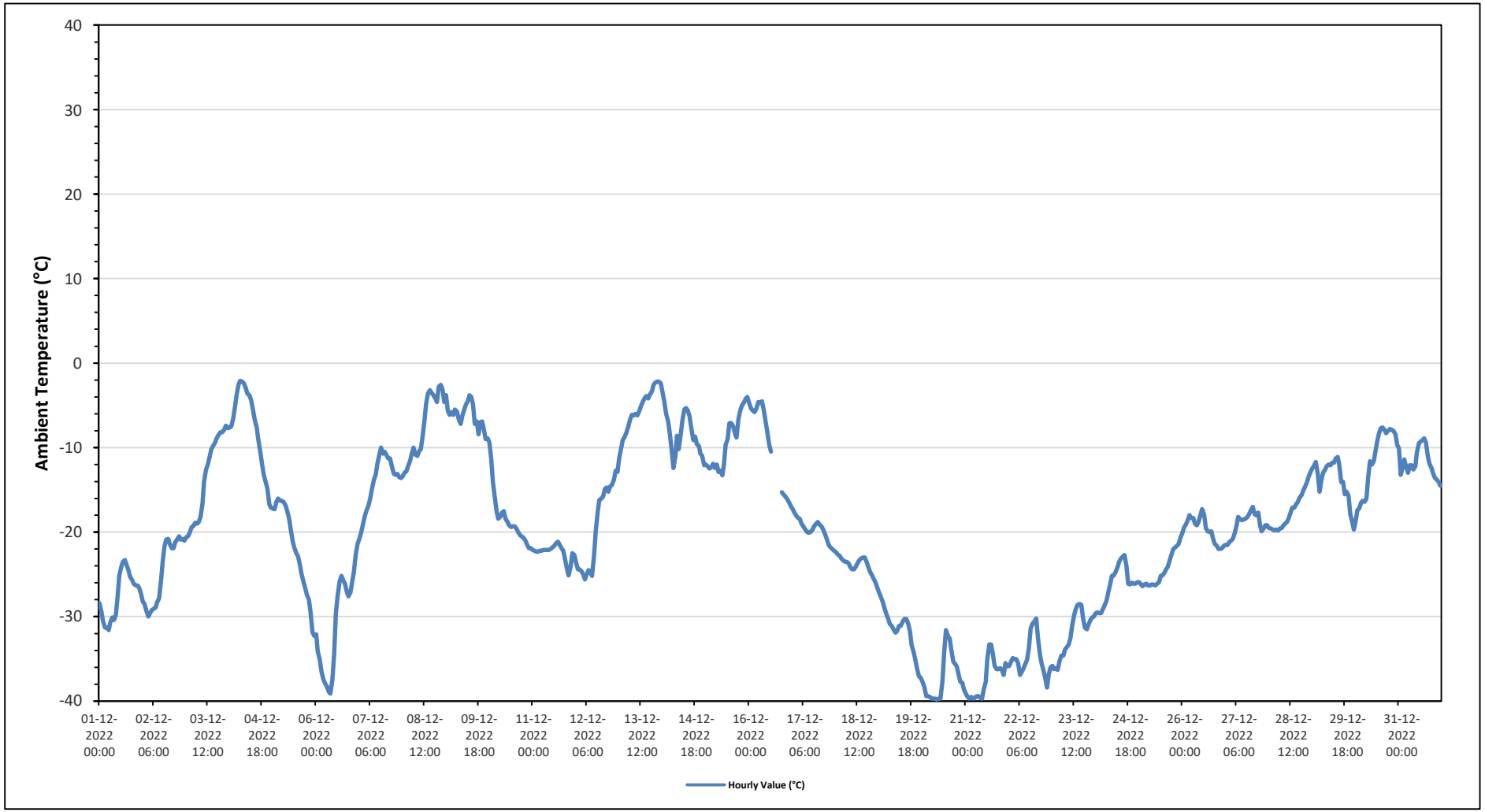
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | -2.1 | °C | on December 4 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | -5.5 | °C | on December 13 | Hours of Data: | 739 |
| Minimum Hourly Value: | -39.8 | °C | on December 20 at hour 8 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | -37.4 | °C | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | -19.7 | °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 | | | |
| Dec 1 | -28.4 | -29.4 | -30.5 | -31.3 | -31.3 | -31.6 | -30.7 | -30.1 | -30.4 | -29.8 | -27.7 | -25.1 | -24.2 | -23.5 | -23.3 | -23.8 | -24.5 | -25.3 | -25.7 | -26.1 | -26.3 | -26.3 | -26.6 | -27.3 | -31.6 | -23.3 | -27.5 |
| Dec 2 | -28.2 | -28.5 | -29.3 | -30 | -29.6 | -29.2 | -29.1 | -28.9 | -28.3 | -27.8 | -25.8 | -23.5 | -21.7 | -20.9 | -20.8 | -21.4 | -21.9 | -21.9 | -21.2 | -20.9 | -20.5 | -20.9 | -20.8 | -21 | -30.0 | -20.5 | -24.7 |
| Dec 3 | -20.6 | -20.5 | -20.1 | -19.4 | -19.3 | -18.9 | -19 | -18.8 | -18.2 | -16.6 | -14 | -12.6 | -12 | -11 | -10.2 | -9.8 | -9.4 | -8.9 | -8.5 | -8.2 | -8.2 | -7.9 | -7.4 | -7.7 | -20.6 | -7.4 | -13.6 |
| Dec 4 | -7.6 | -7.5 | -6.5 | -5.3 | -3.8 | -2.5 | **-2.1** | -2.2 | -2.4 | -3 | -3.6 | -3.8 | -4.4 | -5.5 | -6.7 | -7.6 | -9 | -10.3 | -11.9 | -13.2 | -14 | -14.8 | -16.7 | -17.1 | -17.1 | **-2.1** | -7.6 |
| Dec 5 | -17.2 | -17.3 | -16.4 | -16 | -16.3 | -16.3 | -16.4 | -16.8 | -17.5 | -18.3 | -19.7 | -21.1 | -21.8 | -22.5 | -22.9 | -23.8 | -25 | -25.9 | -26.7 | -27.4 | -28 | -29.6 | -31.8 | -32.3 | -32.3 | -16.0 | -22.0 |
| Dec 6 | -32.1 | -34.1 | -35.1 | -36.5 | -37.5 | -37.9 | -38.3 | -38.9 | -39.1 | -37.5 | -34.5 | -29.6 | -27.5 | -25.8 | -25.2 | -25.7 | -26.1 | -27.1 | -27.6 | -27.1 | -25.8 | -24.8 | -22.6 | -21.4 | -39.1 | -21.4 | -30.7 |
| Dec 7 | -20.8 | -20.1 | -19 | -18.1 | -17.4 | -16.9 | -15.9 | -14.9 | -13.8 | -13.2 | -12 | -10.9 | -10 | -10.7 | -10.5 | -10.9 | -11.3 | -11.3 | -12.2 | -13.1 | -13.2 | -13.1 | -13.5 | -13.6 | -20.8 | -10.0 | -14.0 |
| Dec 8 | -13.4 | -13 | -12.8 | -12.2 | -11.6 | -10.7 | -10 | -10.8 | -11 | -10.4 | -10.2 | -8.7 | -6.9 | -4.8 | -3.6 | -3.2 | -3.5 | -3.8 | -4.1 | -4.6 | -2.8 | -2.6 | -3.1 | -4.6 | -13.4 | -2.6 | -7.6 |
| Dec 9 | -3.8 | -5.6 | -6.1 | -5.8 | -6.1 | -5.5 | -5.7 | -6.6 | -7.2 | -6.3 | -5.5 | -4.9 | -4.5 | -3.8 | -4 | -4.9 | -7.2 | -6.9 | -8.4 | -7 | -6.9 | -8 | -9 | -8.9 | -9.0 | -3.8 | -6.2 |
| Dec 10 | -9.4 | -11.3 | -14.1 | -15.8 | -17.6 | -18.4 | -18.2 | -17.7 | -17.5 | -18.4 | -18.8 | -19.2 | -19.4 | -19.3 | -19.3 | -19.6 | -20 | -20.4 | -20.5 | -20.7 | -21 | -21.5 | -21.9 | -21.9 | -21.9 | -9.4 | -18.4 |
| Dec 11 | -22.1 | -22.2 | -22.3 | -22.3 | -22.2 | -22.2 | -22.1 | -22.1 | -22.1 | -22.1 | -22 | -21.8 | -21.6 | -21.3 | -21.1 | -21.5 | -21.9 | -22.2 | -23.2 | -24.4 | -25.1 | -24.1 | -22.5 | -22.7 | -25.1 | -21.1 | -22.4 |
| Dec 12 | -23.5 | -24.4 | -24.4 | -24.6 | -25 | -25.6 | -25 | -24.5 | -24.7 | -25.2 | -22.8 | -19.8 | -17.5 | -16.2 | -16 | -15.8 | -14.9 | -14.7 | -15.2 | -14.6 | -14.4 | -13.8 | -12.7 | -12.9 | -25.6 | -12.7 | -19.5 |
| Dec 13 | -11.2 | -10 | -9.1 | -8.7 | -8.2 | -7.5 | -6.7 | -6.1 | -6.2 | -6 | -6.2 | -5.7 | -5.1 | -4.6 | -4.1 | -3.9 | -4.2 | -3.7 | -3.3 | -2.6 | -2.3 | -2.2 | -2.2 | -2.4 | -11.2 | -2.2 | **-5.5** |
| Dec 14 | -3.5 | -4.6 | -6 | -6.9 | -8.2 | -10.3 | -12.4 | -11 | -8.6 | -10.2 | -8.4 | -6.9 | -5.5 | -5.3 | -5.6 | -6.3 | -7.9 | -9.1 | -8.7 | -9.6 | -9.8 | -10.7 | -11 | -12.1 | -12.4 | -3.5 | -8.3 |
| Dec 15 | -12 | -12.2 | -12.5 | -12.3 | -11.9 | -12.4 | -12 | -12.9 | -12.7 | -13.3 | -12.1 | -9.7 | -9 | -7.1 | -7.1 | -7.4 | -8.3 | -8.8 | -6.6 | -5.6 | -5 | -4.7 | -4.2 | -4 | -13.3 | -4.0 | -9.3 |
| Dec 16 | -4.7 | -5.4 | -5.6 | -5.8 | -5.4 | -4.6 | -4.7 | -4.5 | -5.5 | -6.8 | -8.1 | -9.7 | -10.5 | **P** | **P** | **P** | **P** | **P** | -15.3 | -15.5 | -15.8 | -16.1 | -16.5 | -16.9 | -16.9 | -4.5 | -9.3 |
| Dec 17 | -17.3 | -17.7 | -18 | -18.3 | -18.4 | -19 | -19.3 | -19.7 | -20 | -20.1 | -20 | -19.7 | -19.3 | -19 | -18.8 | -19.1 | -19.3 | -19.7 | -20.2 | -20.8 | -21.5 | -21.8 | -22 | -22.2 | -22.2 | -17.3 | -19.6 |
| Dec 18 | -22.4 | -22.6 | -22.8 | -23.1 | -23.3 | -23.5 | -23.5 | -23.7 | -24.1 | -24.4 | -24.4 | -24.1 | -23.7 | -23.3 | -23.1 | -23 | -23 | -23.5 | -24.1 | -24.7 | -25.1 | -25.5 | -26 | -26.6 | -26.6 | -22.4 | -23.9 |
| Dec 19 | -27.2 | -27.7 | -28.3 | -29.1 | -29.7 | -30.3 | -30.9 | -31.1 | -31.5 | -31.9 | -31.7 | -31.1 | -31.1 | -30.6 | -30.3 | -30.3 | -30.8 | -31.7 | -33.4 | -34.1 | -35 | -36.1 | -37.1 | -37.2 | -37.2 | -27.2 | -31.6 |
| Dec 20 | -37.7 | -38.3 | -39.4 | -39.4 | -39.5 | -39.7 | -39.7 | -39.7 | **-39.8** | -39.7 | -39.7 | -37.7 | -34.2 | -31.6 | -32.2 | -32.6 | -33.9 | -35.3 | -35.6 | -35.9 | -36.8 | -37.7 | -37.8 | -38.6 | **-39.8** | -31.6 | -37.2 |
| Dec 21 | -39.1 | -39.5 | -39.7 | -39.5 | -39.7 | -39.6 | -39.4 | -39.4 | -39.6 | -39.7 | -38.6 | -37.7 | -35 | -33.3 | -33.3 | -34.4 | -35.8 | -36.2 | -36.2 | -36.1 | -36.3 | -36.9 | -35.5 | -35.9 | -39.7 | -33.3 | -37.4 |
| Dec 22 | -35.8 | -35.4 | -34.9 | -35 | -35 | -35.5 | -36.9 | -36.5 | -36.1 | -35.6 | -35.1 | -33.7 | -31.4 | -30.8 | -30.6 | -30.2 | -32.5 | -34.5 | -35.5 | -36.4 | -37.3 | -38.4 | -36.8 | -36 | -38.4 | -30.2 | -34.8 |
| Dec 23 | -35.8 | -36.2 | -36.1 | -36.3 | -35.2 | -34.6 | -34.6 | -33.9 | -33.6 | -33.3 | -32.5 | -31 | -29.9 | -29.1 | -28.6 | -28.5 | -28.6 | -30.2 | -31.3 | -31.5 | -31 | -30.4 | -30.1 | -30 | -36.3 | -28.5 | -32.2 |
| Dec 24 | -29.6 | -29.5 | -29.6 | -29.6 | -29.1 | -28.6 | -28.1 | -27.1 | -26.1 | -25.2 | -25.1 | -24.7 | -24.1 | -23.5 | -23.1 | -22.9 | -22.7 | -24 | -26.1 | -26.2 | -26 | -26.1 | -26.1 | -25.9 | -29.6 | -22.7 | -26.2 |
| Dec 25 | -25.9 | -26.2 | -26.4 | -26.2 | -26.1 | -26.3 | -26.3 | -26.2 | -26.2 | -26.3 | -26.1 | -25.9 | -25.2 | -25.1 | -24.8 | -24.4 | -24.1 | -23.3 | -22.7 | -22 | -21.8 | -21.6 | -21.4 | -20.6 | -26.4 | -20.6 | -24.6 |
| Dec 26 | -20.1 | -19.4 | -19.1 | -18.5 | -18 | -18.3 | -18.3 | -19 | -19.2 | -18.8 | -17.9 | -17.3 | -17.9 | -19.5 | -19.9 | -20 | -19.9 | -20.7 | -21.4 | -21.6 | -22 | -22 | -21.9 | -21.6 | -22.0 | -17.3 | -19.7 |
| Dec 27 | -21.5 | -21.5 | -21.2 | -21 | -20.8 | -20.1 | -19.2 | -18.2 | -18.5 | -18.6 | -18.5 | -18.4 | -18.2 | -17.9 | -17.4 | -17 | -17.9 | -18 | -17.7 | -19.2 | -19.9 | -19.6 | -19.2 | -19.2 | -21.5 | -17.0 | -19.1 |
| Dec 28 | -19.5 | -19.6 | -19.7 | -19.8 | -19.7 | -19.8 | -19.6 | -19.5 | -19.2 | -19 | -18.8 | -18.3 | -17.7 | -17.1 | -17.1 | -16.7 | -16.4 | -15.9 | -15.6 | -15.1 | -14.6 | -14.1 | -13.5 | -12.9 | -19.8 | -12.9 | -17.5 |
| Dec 29 | -12.5 | -12.1 | -11.7 | -13.1 | -15.2 | -13.9 | -13 | -12.6 | -12.2 | -12 | -12.1 | -11.8 | -11.8 | -11.3 | -11.1 | -12 | -14.1 | -14 | -15.5 | -15.2 | -15.7 | -17.9 | -18.7 | -19.7 | -19.7 | -11.1 | -13.7 |
| Dec 30 | -18.7 | -17.4 | -17.2 | -16.5 | -16.3 | -16.4 | -16 | -13.5 | -11.6 | -12 | -11.6 | -10.4 | -9.2 | -8.3 | -7.7 | -7.6 | -7.9 | -8.3 | -8 | -7.8 | -7.9 | -8 | -8.4 | -9.7 | -18.7 | -7.6 | -11.5 |
| Dec 31 | -10.1 | -13.2 | -12.4 | -11.4 | -12.2 | -13 | -12.1 | -12.1 | -12.6 | -12.2 | -10.6 | -9.5 | -9.3 | -9.1 | -8.9 | -9.4 | -11.1 | -11.9 | -12.4 | -13.1 | -13.6 | -13.8 | -14.1 | -14.5 | -14.5 | -8.9 | -11.8 |
| Diurnal Maximum | -3.5 | -4.6 | -5.6 | -5.3 | -3.8 | -2.5 | -2.1 | -2.2 | -2.4 | -3.0 | -3.6 | -3.8 | -4.4 | -3.8 | -3.6 | -3.2 | -3.5 | -3.7 | -3.3 | -2.6 | -2.3 | -2.2 | -2.2 | -2.4 | | | |
| Diurnal Average | -20.4 | -20.7 | -20.8 | -20.9 | -21.0 | -20.9 | -20.8 | -20.6 | -20.5 | -20.4 | -19.8 | -18.8 | -18.1 | -17.7 | -17.6 | -17.8 | -18.4 | -18.9 | -19.2 | -19.4 | -19.5 | -19.7 | -19.7 | -19.9 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - December 2022*

## Summary of Hourly Averages

## STATION TEMPERATURE (ST) in Degree Celsius

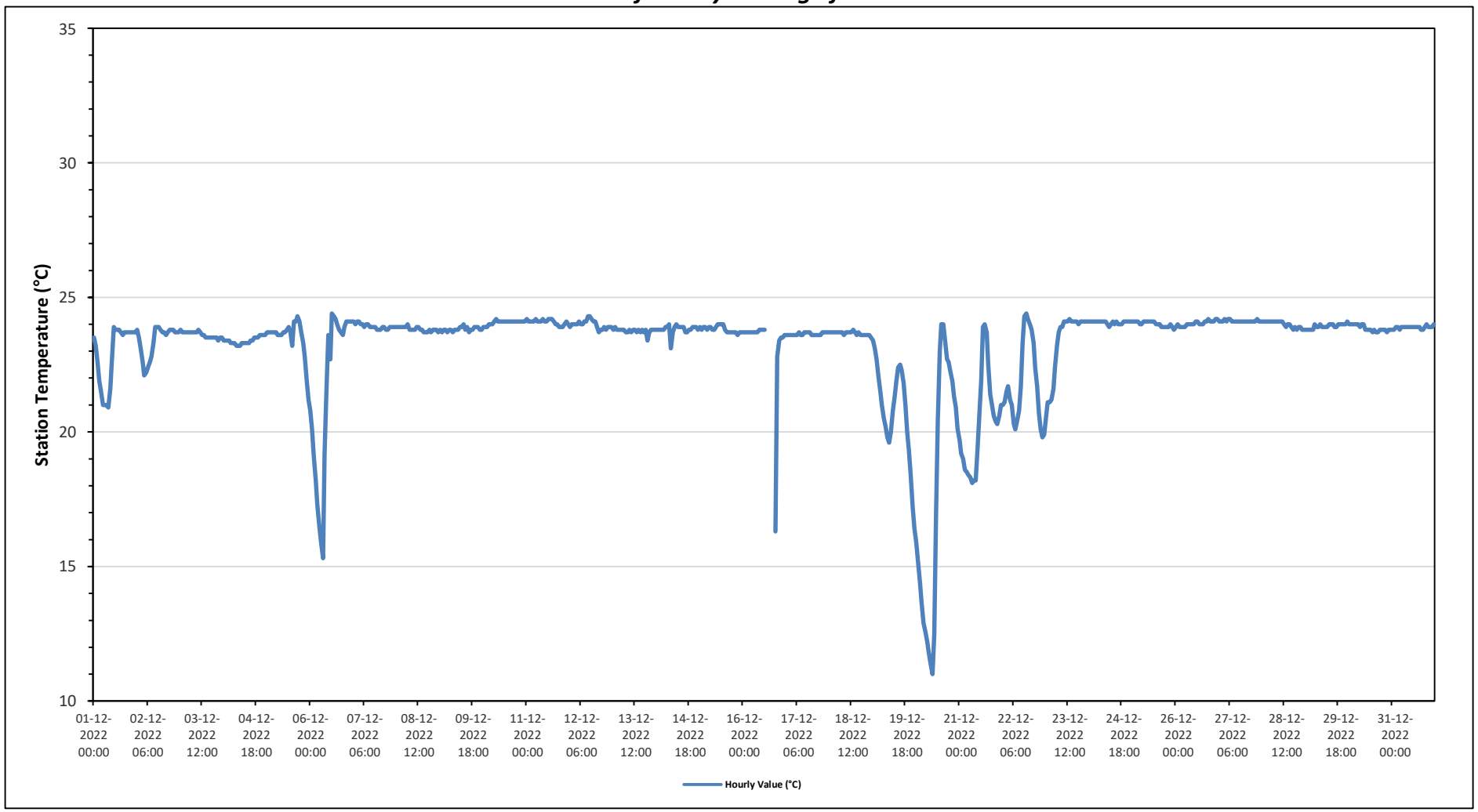
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.4 | °C | on December 6 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 24.1 | °C | on December 27 | Hours of Data: | 739 |
| Minimum Hourly Value: | 11.0 | °C | on December 20 at hour 9 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 17.8 | °C | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 23.2 | °C | | Operational Uptime: | 99.3 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 23.5 | 23.2 | 22.6 | 21.9 | 21.5 | 21.0 | 21.0 | 21.0 | 20.9 | 21.6 | 22.6 | 23.9 | 23.8 | 23.8 | 23.8 | 23.7 | 23.6 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 20.9 | 23.9 | 22.9 |
| Dec 2 | 23.8 | 23.5 | 23.1 | 22.6 | 22.1 | 22.2 | 22.4 | 22.6 | 22.8 | 23.3 | 23.9 | 23.9 | 23.9 | 23.8 | 23.7 | 23.7 | 23.6 | 23.7 | 23.8 | 23.8 | 23.8 | 23.7 | 23.7 | 23.7 | 22.1 | 23.9 | 23.4 |
| Dec 3 | 23.8 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.8 | 23.7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.5 | 23.4 | 23.8 | 23.6 |
| Dec 4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.3 | 23.3 | 23.3 | 23.2 | 23.2 | 23.2 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 23.5 | 23.5 | 23.5 | 23.6 | 23.6 | 23.6 | 23.6 | 23.2 | 23.6 | 23.4 |
| Dec 5 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.6 | 23.6 | 23.6 | 23.7 | 23.7 | 23.8 | 23.9 | 23.7 | 23.2 | 24.1 | 24.1 | 24.3 | 24.1 | 23.7 | 23.3 | 22.8 | 21.9 | 21.2 | 21.2 | 24.3 | 23.5 |
| Dec 6 | 20.8 | 20.1 | 19.1 | 18.2 | 17.3 | 16.5 | 15.9 | 15.3 | 19.2 | 21.7 | 23.6 | 22.7 | **24.4** | 24.3 | 24.2 | 24.0 | 23.8 | 23.7 | 23.6 | 23.9 | 24.1 | 24.1 | 24.1 | 24.1 | 15.3 | **24.4** | 21.6 |
| Dec 7 | 24.1 | 24.0 | 24.1 | 24.1 | 24.0 | 24.0 | 23.9 | 24.0 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 | 23.8 | 23.8 | 23.8 | 23.9 | 23.9 | 23.8 | 23.8 | 23.9 | 23.9 | 23.9 | 23.9 | 23.8 | 24.1 | 23.9 |
| Dec 8 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 24.0 | 23.8 | 23.8 | 23.8 | 23.8 | 23.9 | 23.9 | 23.8 | 23.8 | 23.7 | 23.7 | 23.7 | 23.8 | 23.7 | 23.8 | 23.8 | 23.8 | 23.7 | 23.7 | 24.0 | 23.8 |
| Dec 9 | 23.8 | 23.7 | 23.8 | 23.8 | 23.7 | 23.8 | 23.8 | 23.7 | 23.8 | 23.8 | 23.8 | 23.9 | 23.9 | 24.0 | 23.8 | 23.9 | 23.7 | 23.8 | 23.8 | 23.9 | 23.9 | 23.9 | 23.8 | 23.8 | 23.7 | 24.0 | 23.8 |
| Dec 10 | 23.9 | 23.9 | 23.9 | 24.0 | 24.0 | 24.0 | 24.1 | 24.2 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 23.9 | 24.2 | 24.1 |
| Dec 11 | 24.2 | 24.1 | 24.1 | 24.1 | 24.1 | 24.2 | 24.1 | 24.1 | 24.1 | 24.2 | 24.1 | 24.1 | 24.2 | 24.2 | 24.2 | 24.1 | 24.0 | 24.0 | 23.9 | 23.9 | 23.9 | 24.0 | 24.1 | 24.0 | 23.9 | 24.2 | 24.1 |
| Dec 12 | 23.9 | 24.0 | 24.0 | 24.0 | 24.0 | 24.1 | 24.0 | 24.0 | 24.1 | 24.1 | 24.3 | 24.3 | 24.2 | 24.1 | 24.1 | 23.9 | 23.7 | 23.8 | 23.8 | 23.9 | 23.8 | 23.9 | 23.9 | 23.9 | 23.7 | 24.3 | 24.0 |
| Dec 13 | 23.8 | 23.9 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.7 | 23.7 | 23.8 | 23.7 | 23.8 | 23.8 | 23.7 | 23.8 | 23.7 | 23.8 | 23.7 | 23.8 | 23.4 | 23.7 | 23.8 | 23.8 | 23.8 | 23.4 | 23.9 | 23.8 |
| Dec 14 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.9 | 23.9 | 24.0 | 23.1 | 23.7 | 23.9 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 | 23.7 | 23.7 | 23.8 | 23.8 | 23.9 | 23.9 | 23.9 | 23.8 | 23.1 | 24.0 | 23.8 |
| Dec 15 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.8 | 23.9 | 24.0 | 24.0 | 24.0 | 24.0 | 23.8 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.6 | 23.7 | 23.7 | 23.6 | 24.0 | 23.8 |
| Dec 16 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.8 | 23.8 | 23.8 | 23.8 | P | P | P | P | P | 16.3 | 22.8 | 23.4 | 23.5 | 23.5 | 23.6 | 16.3 | 23.8 | 23.2 |
| Dec 17 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.7 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 23.7 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 23.7 | 23.6 | 23.7 | 23.6 |
| Dec 18 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 23.6 | 23.7 | 23.7 | 23.7 | 23.7 | 23.8 | 23.7 | 23.6 | 23.7 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.5 | 23.5 | 23.8 | 23.7 |
| Dec 19 | 23.4 | 23.1 | 22.7 | 22.1 | 21.5 | 21.0 | 20.5 | 20.2 | 19.8 | 19.6 | 20.0 | 20.8 | 21.3 | 21.9 | 22.4 | 22.5 | 22.3 | 21.8 | 21.0 | 20.0 | 19.3 | 18.4 | 17.2 | 16.4 | 16.4 | 23.4 | 20.8 |
| Dec 20 | 15.9 | 15.2 | 14.4 | 13.7 | 12.9 | 12.6 | 12.2 | 11.8 | 11.4 | **11.0** | 12.5 | 16.9 | 20.4 | 23.0 | 24.0 | 24.0 | 23.4 | 22.7 | 22.6 | 22.2 | 21.9 | 21.3 | 20.9 | 20.1 | **11.0** | 24.0 | 17.8 |
| Dec 21 | 19.7 | 19.2 | 19.0 | 18.6 | 18.5 | 18.4 | 18.3 | 18.1 | 18.2 | 18.2 | 19.3 | 20.7 | 21.9 | 23.9 | 24.0 | 23.7 | 22.5 | 21.4 | 21.0 | 20.6 | 20.4 | 20.3 | 20.6 | 21.0 | 18.1 | 24.0 | 20.3 |
| Dec 22 | 21.0 | 21.1 | 21.5 | 21.7 | 21.2 | 21.0 | 20.3 | 20.1 | 20.4 | 20.8 | 21.7 | 23.3 | 24.3 | **24.4** | 24.2 | 24.0 | 23.8 | 23.3 | 22.4 | 21.7 | 20.7 | 20.1 | 19.8 | 19.9 | 19.8 | **24.4** | 21.8 |
| Dec 23 | 20.6 | 21.1 | 21.1 | 21.2 | 21.6 | 22.4 | 23.2 | 23.7 | 23.9 | 23.9 | 24.1 | 24.1 | 24.1 | 24.2 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 20.6 | 24.2 | 23.3 |
| Dec 24 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 23.9 | 24.0 | 24.1 | 24.0 | 24.1 | 24.0 | 24.0 | 24.0 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 23.9 | 24.1 | 24.1 |
| Dec 25 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 24.0 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 24.0 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 24.0 | 23.9 | 23.8 | 23.8 | 24.1 | 24.0 |
| Dec 26 | 23.9 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.1 | 24.1 | 24.0 | 24.0 | 24.0 | 24.1 | 24.1 | 24.2 | 24.1 | 24.1 | 24.1 | 24.2 | 24.2 | 23.9 | 24.2 | 24.0 |
| Dec 27 | 24.1 | 24.1 | 24.1 | 24.2 | 24.1 | 24.2 | 24.2 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.2 | 24.1 | 24.1 | 24.1 | 24.2 | **24.1** |
| Dec 28 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 23.9 | 24.0 | 24.0 | 23.9 | 23.8 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.8 | 23.8 | 24.1 | 24.0 |
| Dec 29 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 24.0 | 23.9 | 23.9 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 | 24.0 | 24.0 | 24.0 | 23.9 | 23.9 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.1 | 23.8 | 24.1 | 23.9 |
| Dec 30 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.9 | 24.0 | 24.0 | 23.8 | 23.8 | 23.8 | 23.8 | 23.7 | 23.8 | 23.7 | 23.7 | 23.8 | 23.8 | 23.8 | 23.8 | 23.7 | 23.8 | 23.8 | 23.7 | 24.0 | 23.9 |
| Dec 31 | 23.8 | 23.8 | 23.9 | 23.9 | 23.8 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.8 | 23.8 | 23.9 | 24.0 | 23.9 | 23.9 | 23.9 | 24.0 | 23.8 | 24.0 | 23.9 |
| Diurnal Maximum | 24.2 | 24.1 | 24.1 | 24.2 | 24.1 | 24.2 | 24.2 | 24.2 | 24.1 | 24.2 | 24.3 | 24.3 | 24.4 | 24.4 | 24.2 | 24.1 | 24.1 | 24.3 | 24.2 | 24.1 | 24.1 | 24.2 | 24.2 | 24.2 | | | |
| Diurnal Average | 23.2 | 23.1 | 23.0 | 22.9 | 22.7 | 22.7 | 22.7 | 22.6 | 22.7 | 22.9 | 23.1 | 23.4 | 23.7 | 23.8 | 23.8 | 23.8 | 23.7 | 23.6 | 23.3 | 23.4 | 23.4 | 23.3 | 23.2 | 23.2 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - December 2022*

## Summary of Hourly Averages

## PRECIPITATION in mm

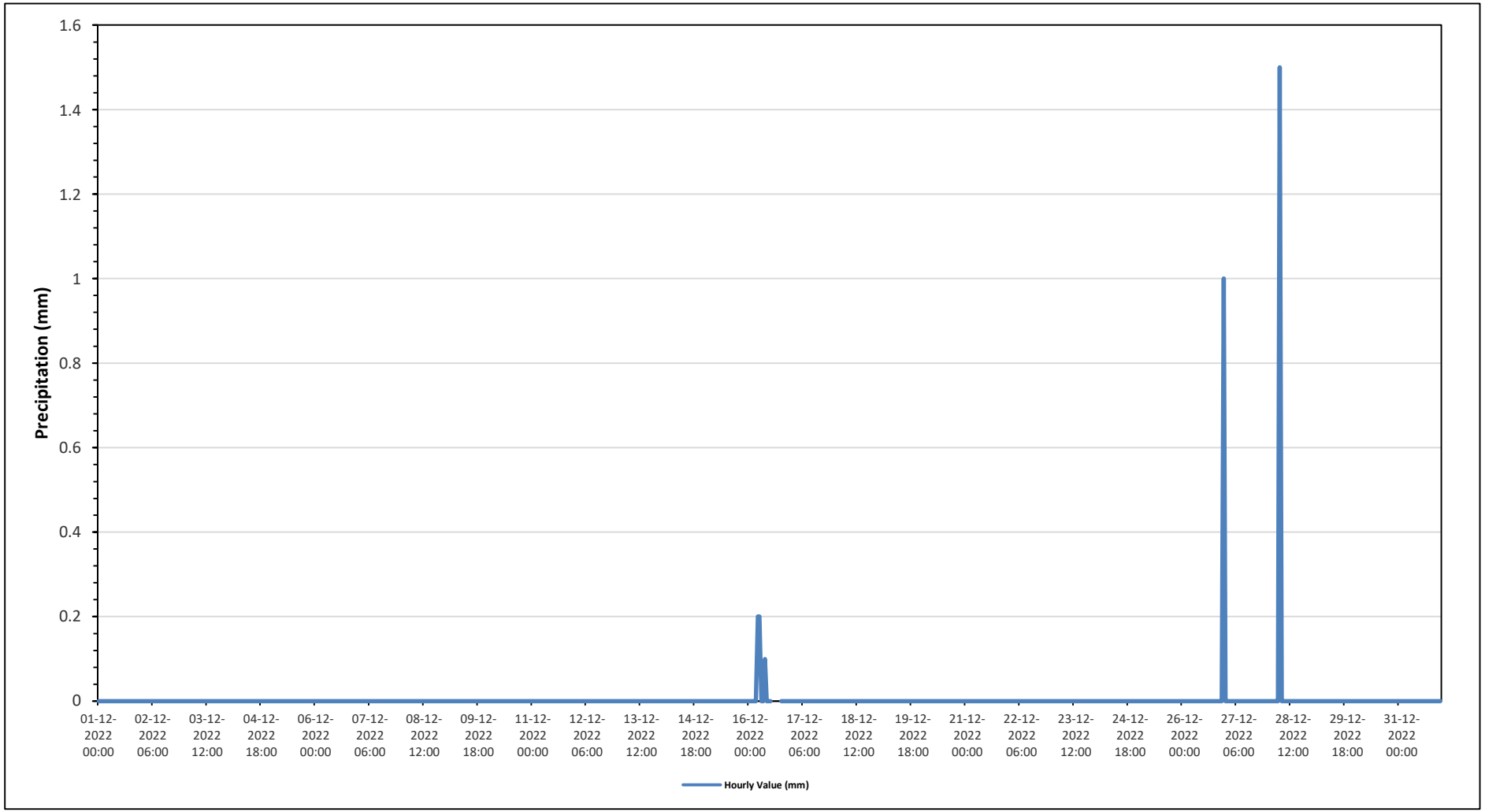
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1.5 | mm | on December 28 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.5 | mm | on December 28 | Hours of Data: | 739 |
| Minimum Hourly Value: | 0.0 | mm | on December 1 at hour 0 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 0.0 | mm | on December 1 | Hours of Calibration: | 0 |
| Monthly Total: | 3.0 | mm | | Operational Uptime: | 99.3 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Total |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 16 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0.1 | 0 | 0 | 0 | P | P | P | P | P | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.5 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 | 0.0 | 1.0 | 1.0 |
| Dec 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 |
| Dec 28 | 0 | 0 | 0 | 0 | 0 | 0 | **1.5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | **1.5** | **1.5** |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Diurnal Maximum | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 1.5 | 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 | 1.0 | | | |
| Diurnal Average | 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 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 986c Station - December 2022

## Summary of Hourly Averages

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

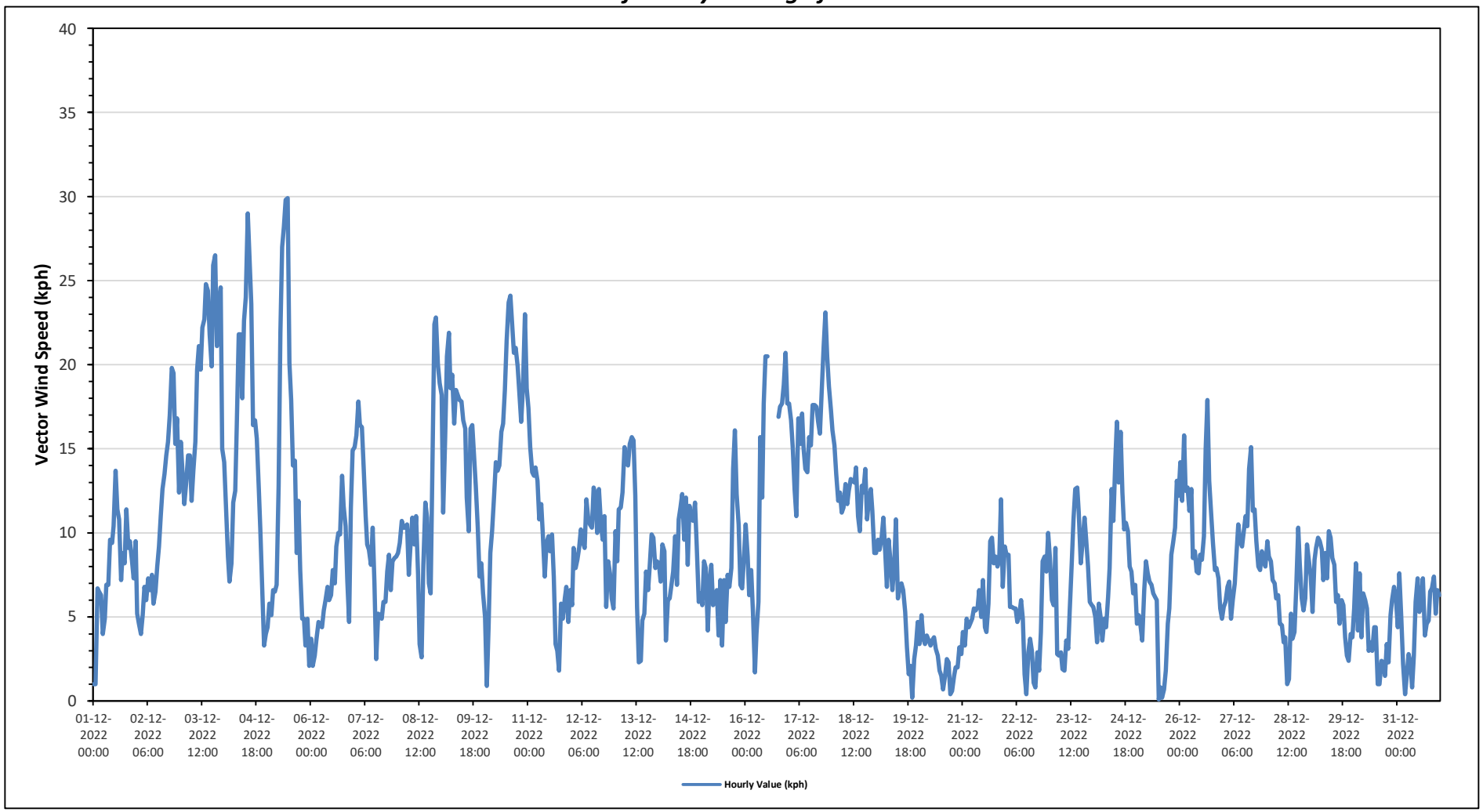
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 29.9 | kph | on December 5 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.7 | kph | on December 3 | Hours of Data: | 739 |
| Minimum Hourly Value: | 0.1 | kph | on December 25 at hour 12 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 1.3 | kph | on December 28 | Hours of Calibration: | 0 |
| Monthly Average: | 0.5 | kph | | Operational Uptime: | 99.3 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.0 | 1.0 | 6.7 | 6.5 | 6.3 | 4.0 | 4.9 | 6.9 | 6.9 | 9.6 | 9.4 | 10.4 | 13.7 | 11.4 | 10.8 | 7.2 | 8.8 | 8.2 | 11.4 | 9.1 | 9.5 | 8.4 | 7.3 | 9.5 | 1.0 | 13.7 | 6.9 |
| Dec 2 | 5.2 | 4.6 | 4.0 | 5.1 | 6.8 | 6.0 | 7.3 | 6.6 | 7.5 | 5.8 | 6.5 | 8.0 | 9.2 | 11.0 | 12.6 | 13.5 | 14.6 | 15.4 | 17.0 | 19.8 | 19.5 | 15.3 | 16.8 | 12.4 | 4.0 | 19.8 | 10.4 |
| Dec 3 | 15.4 | 13.8 | 11.7 | 12.9 | 14.6 | 14.6 | 11.9 | 13.7 | 15.4 | 19.7 | 21.1 | 19.7 | 22.2 | 22.7 | 24.8 | 24.4 | 21.8 | 19.9 | 25.9 | 26.5 | 21.1 | 23.6 | 24.6 | 15.0 | 11.7 | 26.5 | **18.7** |
| Dec 4 | 14.2 | 11.6 | 8.6 | 7.1 | 8.2 | 11.8 | 12.5 | 16.3 | 21.8 | 21.8 | 18.0 | 22.6 | 24.0 | 29.0 | 26.3 | 23.6 | 16.4 | 16.7 | 15.6 | 12.6 | 10.2 | 6.5 | 3.3 | 4.0 | 3.3 | 29.0 | 12.3 |
| Dec 5 | 4.4 | 5.8 | 5.1 | 6.6 | 6.5 | 6.9 | 12.8 | 21.9 | 27.0 | 28.2 | 29.8 | **29.9** | 20.1 | 17.9 | 14.0 | 14.3 | 8.8 | 11.9 | 7.8 | 4.9 | 4.9 | 3.3 | 4.9 | 2.1 | 2.1 | **29.9** | 11.8 |
| Dec 6 | 3.7 | 2.1 | 2.7 | 3.7 | 4.7 | 4.5 | 4.4 | 5.4 | 6.0 | 6.8 | 6.0 | 6.3 | 7.8 | 7.0 | 9.2 | 10.0 | 9.9 | 13.4 | 11.6 | 10.4 | 7.1 | 4.7 | 11.5 | 14.9 | 2.1 | 14.9 | 6.5 |
| Dec 7 | 15.1 | 15.8 | 17.8 | 16.4 | 16.3 | 13.9 | 11.0 | 9.3 | 9.0 | 8.1 | 10.3 | 7.0 | 2.5 | 5.2 | 5.1 | 4.9 | 5.9 | 5.9 | 7.7 | 8.7 | 6.6 | 8.3 | 8.5 | 8.6 | 2.5 | 17.8 | 4.8 |
| Dec 8 | 8.8 | 9.4 | 10.7 | 10.3 | 10.3 | 10.5 | 7.5 | 9.6 | 10.9 | 9.3 | 11.0 | 7.5 | 3.4 | 2.6 | 8.1 | 11.8 | 10.9 | 7.0 | 6.4 | 13.8 | 22.4 | 22.8 | 20.0 | 18.9 | 2.6 | 22.8 | 6.9 |
| Dec 9 | 18.2 | 11.2 | 15.7 | 20.5 | 21.9 | 18.6 | 19.4 | 16.5 | 18.5 | 18.2 | 17.9 | 17.8 | 16.7 | 16.2 | 12.1 | 10.1 | 16.2 | 16.4 | 14.6 | 12.8 | 10.3 | 7.4 | 8.2 | 6.4 | 6.4 | 21.9 | 14.9 |
| Dec 10 | 5.0 | 0.9 | 4.4 | 8.8 | 10.1 | 12.2 | 14.2 | 13.7 | 14.0 | 16.0 | 16.5 | 18.5 | 21.4 | 23.7 | 24.1 | 22.4 | 20.7 | 21.0 | 19.9 | 18.5 | 16.6 | 18.6 | 23.0 | 18.6 | 0.9 | 24.1 | 15.4 |
| Dec 11 | 17.4 | 15.1 | 13.6 | 13.4 | 13.9 | 13.1 | 10.8 | 11.7 | 10.0 | 7.4 | 9.4 | 9.8 | 8.9 | 9.9 | 7.4 | 3.4 | 3.0 | 1.8 | 5.8 | 4.9 | 6.1 | 6.8 | 4.7 | 6.6 | 1.8 | 17.4 | 5.8 |
| Dec 12 | 5.7 | 9.1 | 7.9 | 8.4 | 9.1 | 10.2 | 9.5 | 9.1 | 12.0 | 10.9 | 10.5 | 10.3 | 12.7 | 12.2 | 10.0 | 12.6 | 10.5 | 9.6 | 11.0 | 5.6 | 8.3 | 7.6 | 6.1 | 5.5 | 5.5 | 12.7 | 9.1 |
| Dec 13 | 10.1 | 8.3 | 11.4 | 11.5 | 12.4 | 15.1 | 14.2 | 14.0 | 15.3 | 15.7 | 15.5 | 12.2 | 5.6 | 2.3 | 2.4 | 4.8 | 5.2 | 7.7 | 6.6 | 7.9 | 9.9 | 9.7 | 7.9 | 8.3 | 2.3 | 15.7 | 7.9 |
| Dec 14 | 8.2 | 7.1 | 9.3 | 8.9 | 3.6 | 6.0 | 6.1 | 7.0 | 7.7 | 9.8 | 6.9 | 10.8 | 11.5 | 12.3 | 9.6 | 12.1 | 8.1 | 11.6 | 10.8 | 10.7 | 11.8 | 9.2 | 5.9 | 6.4 | 3.6 | 12.3 | 7.6 |
| Dec 15 | 5.7 | 8.3 | 7.9 | 4.2 | 7.1 | 8.1 | 5.7 | 6.0 | 6.6 | 3.9 | 7.2 | 3.3 | 7.2 | 4.7 | 7.5 | 6.8 | 7.9 | 13.8 | 16.1 | 12.3 | 10.5 | 6.9 | 6.7 | 8.5 | 3.3 | 16.1 | 7.2 |
| Dec 16 | 10.5 | 8.6 | 6.3 | 7.8 | 5.3 | 1.7 | 4.0 | 5.9 | 15.7 | 12.1 | 17.7 | 20.5 | 20.5 | **P** | **P** | **P** | **P** | **P** | 16.9 | 17.5 | 17.7 | 18.8 | 20.7 | 17.7 | 1.7 | 20.7 | 9.3 |
| Dec 17 | 17.7 | 16.7 | 15.0 | 12.6 | 11.0 | 16.8 | 15.3 | 17.1 | 15.0 | 13.8 | 13.6 | 15.7 | 15.2 | 17.6 | 17.6 | 17.5 | 16.6 | 15.9 | 18.7 | 21.1 | 23.1 | 20.5 | 18.7 | 17.3 | 11.0 | 23.1 | 16.2 |
| Dec 18 | 16.1 | 15.2 | 13.5 | 11.9 | 12.4 | 11.2 | 11.5 | 12.9 | 11.7 | 12.5 | 13.2 | 13.1 | 13.0 | 13.9 | 11.0 | 10.1 | 12.8 | 12.4 | 13.8 | 10.8 | 11.9 | 12.6 | 11.3 | 8.8 | 8.8 | 16.1 | 12.3 |
| Dec 19 | 8.8 | 9.6 | 9.0 | 9.7 | 10.9 | 8.7 | 6.8 | 9.6 | 8.2 | 6.6 | 8.0 | 10.8 | 6.1 | 6.7 | 7.0 | 6.6 | 5.3 | 3.2 | 1.6 | 2.1 | 0.2 | 2.5 | 3.3 | 4.7 | 0.2 | 10.9 | 5.5 |
| Dec 20 | 3.4 | 5.1 | 3.7 | 3.4 | 3.9 | 3.6 | 3.3 | 3.6 | 3.8 | 3.1 | 2.7 | 1.8 | 1.5 | 0.7 | 1.5 | 2.5 | 2.3 | 0.4 | 0.6 | 1.5 | 2.0 | 2.0 | 3.2 | 2.8 | 0.4 | 5.1 | 1.7 |
| Dec 21 | 4.1 | 3.3 | 4.9 | 4.4 | 4.6 | 4.9 | 5.5 | 5.4 | 5.6 | 6.6 | 5.0 | 7.2 | 4.4 | 4.1 | 5.8 | 9.5 | 9.7 | 8.2 | 8.6 | 8.0 | 8.4 | 12.0 | 6.8 | 9.2 | 3.3 | 12.0 | 6.4 |
| Dec 22 | 8.7 | 8.7 | 5.6 | 5.6 | 5.5 | 5.5 | 4.7 | 5.0 | 6.0 | 4.9 | 1.6 | 0.4 | 2.9 | 3.7 | 3.0 | 1.1 | 0.8 | 2.9 | 1.8 | 4.1 | 8.3 | 8.6 | 7.7 | 10.0 | 0.4 | 10.0 | 3.6 |
| Dec 23 | 8.5 | 6.0 | 5.7 | 9.1 | 2.8 | 2.7 | 2.9 | 1.9 | 1.8 | 3.6 | 3.1 | 5.4 | 8.2 | 10.8 | 12.6 | 12.7 | 11.2 | 8.2 | 9.4 | 10.9 | 9.7 | 8.0 | 5.9 | 5.7 | 1.8 | 12.7 | 3.9 |
| Dec 24 | 5.6 | 5.0 | 3.5 | 5.8 | 5.0 | 3.6 | 4.9 | 4.4 | 6.2 | 7.9 | 12.6 | 10.7 | 14.4 | 16.6 | 13.0 | 16.0 | 12.4 | 10.2 | 10.6 | 10.1 | 8.0 | 7.7 | 6.4 | 6.9 | 3.5 | 16.6 | 7.2 |
| Dec 25 | 4.6 | 5.1 | 4.5 | 3.6 | 6.6 | 8.3 | 7.6 | 7.1 | 6.9 | 6.4 | 6.2 | 6.0 | **0.1** | 0.8 | 0.2 | 0.7 | 1.8 | 4.6 | 5.5 | 8.7 | 9.4 | 10.3 | 13.1 | 12.2 | **0.1** | 13.1 | 2.5 |
| Dec 26 | 14.2 | 11.9 | 15.8 | 12.5 | 12.7 | 11.3 | 12.6 | 8.5 | 8.9 | 7.7 | 7.6 | 8.7 | 8.4 | 9.8 | 15.0 | 17.9 | 13.1 | 11.1 | 9.4 | 7.8 | 7.9 | 7.3 | 5.5 | 4.9 | 4.9 | 17.9 | 7.2 |
| Dec 27 | 5.6 | 5.9 | 6.8 | 7.1 | 4.9 | 6.0 | 7.0 | 8.8 | 10.5 | 9.5 | 9.2 | 10.1 | 11.0 | 10.4 | 13.8 | 15.1 | 11.3 | 11.4 | 9.5 | 8.0 | 7.8 | 8.9 | 8.4 | 8.0 | 4.9 | 15.1 | 8.2 |
| Dec 28 | 9.5 | 8.6 | 8.3 | 7.2 | 7.0 | 6.1 | 6.3 | 4.6 | 4.5 | 3.5 | 3.8 | 1.0 | 1.3 | 5.2 | 3.7 | 4.1 | 6.7 | 10.3 | 8.2 | 6.1 | 5.4 | 6.1 | 9.3 | 8.4 | 1.0 | 10.3 | **1.3** |
| Dec 29 | 7.4 | 5.3 | 8.4 | 9.1 | 9.7 | 9.5 | 9.0 | 7.2 | 8.8 | 7.3 | 10.1 | 9.7 | 8.5 | 8.1 | 5.9 | 6.3 | 4.6 | 6.0 | 5.7 | 3.8 | 2.7 | 2.4 | 4.0 | 3.8 | 2.4 | 10.1 | 6.0 |
| Dec 30 | 5.5 | 8.2 | 4.2 | 7.6 | 3.8 | 6.4 | 6.0 | 5.5 | 3.0 | 3.5 | 3.0 | 4.4 | 4.4 | 1.0 | 1.0 | 2.4 | 2.3 | 1.5 | 3.4 | 2.3 | 5.1 | 6.0 | 6.8 | 6.2 | 1.0 | 8.2 | 3.3 |
| Dec 31 | 4.4 | 7.6 | 4.9 | 2.2 | 0.4 | 1.4 | 2.8 | 2.3 | 0.8 | 2.7 | 5.9 | 7.3 | 5.3 | 6.1 | 7.3 | 3.9 | 4.6 | 4.8 | 6.5 | 6.7 | 7.4 | 5.2 | 6.6 | 6.3 | 0.4 | 7.6 | 3.9 |
| Diurnal Maximum | 18 | 17 | 18 | 21 | 22 | 19 | 19 | 22 | 27 | 28 | 30 | 30 | 24 | 29 | 26 | 24 | 22 | 21 | 26 | 27 | 23 | 24 | 25 | 19 | | | |
| Diurnal Average | 8.8 | 8.2 | 8.3 | 8.5 | 8.3 | 8.5 | 8.5 | 9.0 | 9.9 | 9.8 | 10.3 | 10.5 | 10.1 | 10.1 | 10.1 | 10.3 | 9.5 | 9.7 | 10.3 | 9.9 | 10.0 | 9.6 | 9.6 | 9.0 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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.

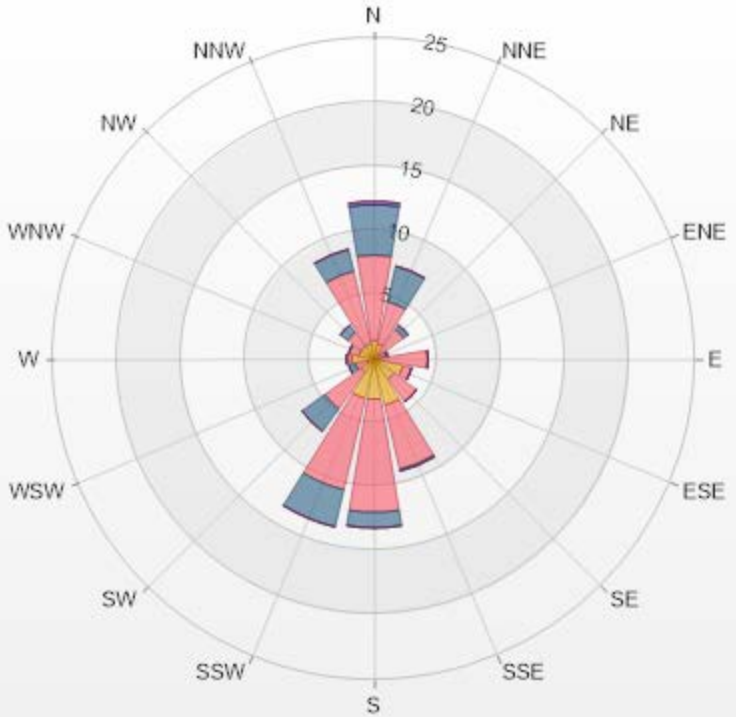
## *Timeseries Chart of Hourly Average for VWS - 986c Station*



Wind: PRAMP 986c Monitor: WDS [KPH] Monthly: 12-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 4.06% Valid Data: 99.33%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.49 | 6.63 | 3.92 | 0.27 | 0 | 12.31 |
| NNE | 1.22 | 3.38 | 2.84 | 0 | 0 | 7.44 |
| NE | 0.54 | 2.3 | 0.41 | 0 | 0 | 3.25 |
| ENE | 0.27 | 0.68 | 0.14 | 0 | 0 | 1.09 |
| E | 0.54 | 3.65 | 0 | 0 | 0 | 4.19 |
| ESE | 2.3 | 0.68 | 0 | 0 | 0 | 2.98 |
| SE | 1.89 | 2.17 | 0 | 0 | 0 | 4.06 |
| SSE | 3.65 | 5.14 | 0.14 | 0 | 0 | 8.93 |
| S | 3.11 | 8.8 | 1.22 | 0 | 0 | 13.13 |
| SSW | 3.11 | 7.31 | 2.98 | 0 | 0 | 13.4 |
| SW | 1.22 | 3.52 | 2.17 | 0 | 0 | 6.91 |
| WSW | 0.54 | 0.95 | 0.54 | 0 | 0 | 2.03 |
| W | 1.76 | 0.41 | 0 | 0 | 0 | 2.17 |
| WNW | 1.22 | 0.81 | 0 | 0 | 0 | 2.03 |
| NW | 1.22 | 1.35 | 0.68 | 0 | 0 | 3.25 |
| NNW | 1.22 | 5.82 | 1.76 | 0 | 0 | 8.8 |
| Summary | 25.3 | 53.6 | 16.8 | 0.27 | 0 | 95.97 |

PRAMP 986c 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 4.06% Calm Wind Avg Speed: 1.01(KPH)




| % Icon | Classes (KPH) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 1.8-6.0 | 54 | 6.0-15.0 | 17 | 15.0-29.0 | 0 | 29.0-39.0 | 0 | >39.0 |

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - December 2022*

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

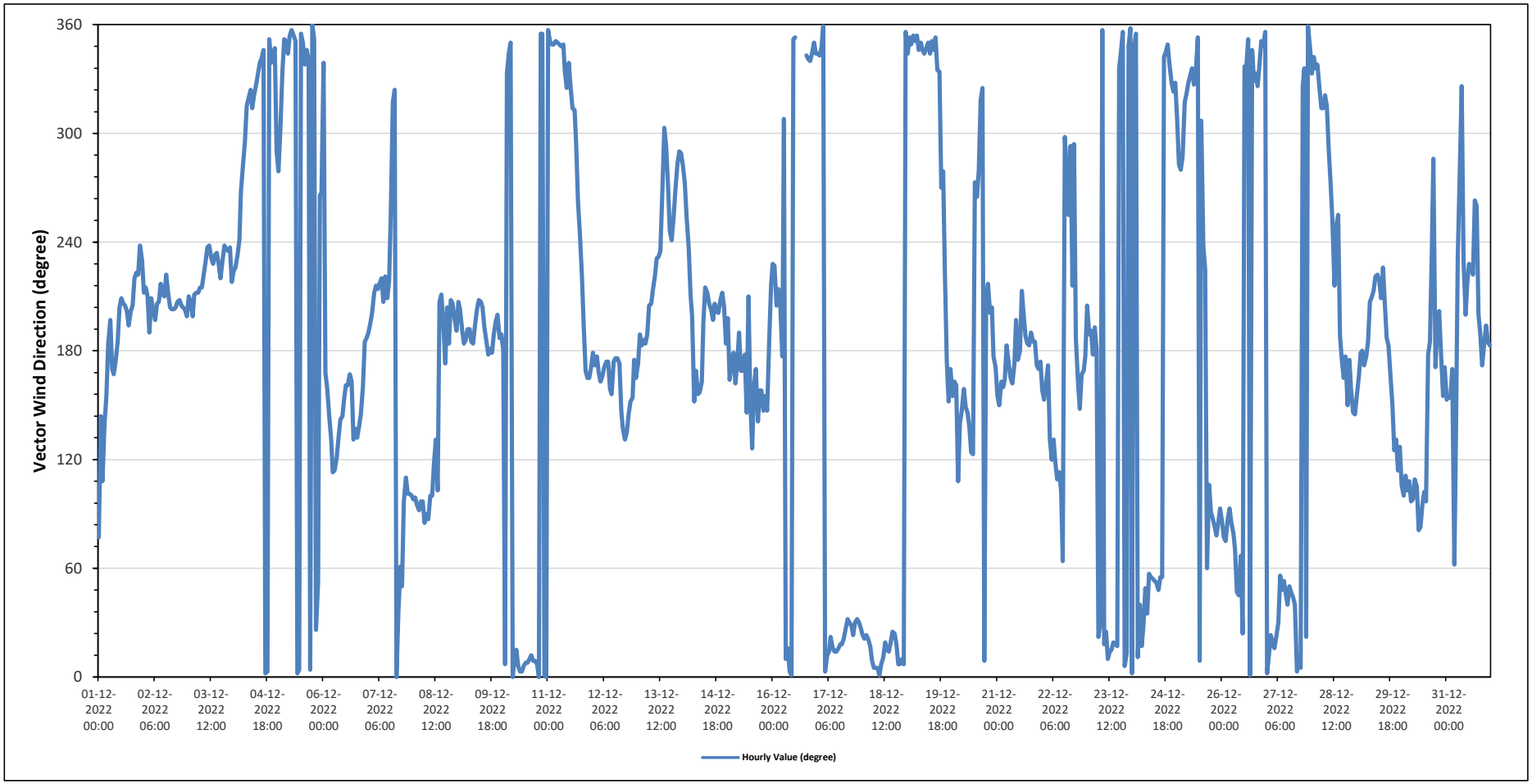
| | | | |
|---|---|---|---|
| Monthly Average: | 258 (WSW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 739 |
| | | Hours of Missing Data: | 5 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 99.3 |

| 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 |
| Dec 1 | ENE | SE | ESE | SE | SSE | S | SSW | SSE | SSE | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | 197 | SSW |
| Dec 2 | SSW | SSW | SSW | S | SSW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 206 | SSW |
| Dec 3 | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | 226 | SW |
| Dec 4 | SW | SW | SW | WSW | W | W | WNW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | N | N | NNW | NNW | NNW | WNW | 321 | NW |
| Dec 5 | W | WNW | NNW | N | N | NNW | N | N | N | N | N | N | N | N | NNW | NNW | NNW | N | N | N | NNE | NE | W | W | 352 | N |
| Dec 6 | NNW | SSE | SSE | SE | SE | ESE | ESE | ESE | SE | SE | SE | SSE | SSE | SSE | SSE | SSE | SE | SE | SE | SE | SE | SSE | S | S | 150 | SSE |
| Dec 7 | S | SSW | SSW | SSW | SW | SSW | SW | SW | SSW | SW | SSW | SW | WSW | NW | NW | N | NE | ENE | NE | E | ESE | E | E | E | 193 | S |
| Dec 8 | E | E | E | E | E | E | E | E | E | E | E | ESE | SE | ESE | SSW | SSW | SSW | S | SSW | S | SSW | SSW | SSW | S | 153 | SSE |
| Dec 9 | SSW | SSW | S | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | S | S | S | S | S | S | SSW | SSW | S | S | 192 | S |
| Dec 10 | S | N | NNW | NNW | N | N | N | NNE | N | N | N | N | N | N | N | NNE | N | N | N | N | N | N | N | N | 4 | N |
| Dec 11 | N | N | NNW | NNW | N | N | NNW | NNW | NNW | NNW | NW | NNW | NW | NW | NW | WNW | W | WSW | SW | S | SSE | SSE | SSE | S | 336 | NNW |
| Dec 12 | S | S | S | SSE | SSE | SSE | S | S | S | SSE | SSE | S | S | S | S | SE | SE | SE | SE | SE | SSE | SSE | S | SSE | 162 | SSE |
| Dec 13 | S | S | S | S | S | S | SSW | SSW | SSW | SW | SW | SW | SW | W | WNW | WNW | W | WSW | WSW | WSW | W | W | WNW | WNW | 224 | SW |
| Dec 14 | W | W | WSW | SW | SSW | SSW | SSE | SSE | SSE | SSE | SSE | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | 204 | SSW |
| Dec 15 | SSW | SSE | S | S | SSE | S | S | SSE | SSE | S | SE | SSW | SSE | SE | SSE | SSE | SE | SSE | SSE | SE | SSE | SE | S | SW | 165 | SSE |
| Dec 16 | SW | SW | SSW | SSW | SSW | S | NW | N | NNE | N | N | N | N | P | P | P | P | P | NNW | NNW | NNW | NNW | N | NNW | 341 | NNW |
| Dec 17 | NNW | NNW | NNW | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | 17 | NNE |
| Dec 18 | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | 13 | NNE |
| Dec 19 | NNW | N | NNW | N | N | N | NNW | N | NNW | NNW | NNW | N | NNW | N | NNW | N | NNW | NNW | W | W | SW | S | SSE | SSE | 347 | NNW |
| Dec 20 | SSE | SSE | SSE | ESE | SE | SE | SSE | SSE | SE | SE | ESE | ESE | W | W | W | NW | NW | N | SSW | SW | SSW | SSW | S | S | 160 | SSE |
| Dec 21 | SSE | SSE | SSE | SSE | SSE | S | S | SSE | SSE | S | SSW | S | S | SSW | SSW | S | S | S | S | S | S | S | SSE | S | 178 | S |
| Dec 22 | SSE | SSE | SSE | S | SE | ESE | SE | ESE | ESE | ESE | E | ENE | WNW | W | WSW | WNW | SW | WNW | S | SSE | SE | SSE | SSE | S | 156 | SSE |
| Dec 23 | SSW | S | S | S | S | S | NNE | NNE | N | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNW | NNW | N | N | NNE | NNW | N | 6 | N |
| Dec 24 | N | NNW | N | NNE | NE | NNE | NNE | NE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NNW | NNW | NNW | NNW | NNW | NW | NNW | 25 | NNE |
| Dec 25 | NW | W | W | WNW | NW | NW | NNW | NNW | NNW | NW | NNW | N | N | NW | SW | SW | ENE | ESE | E | E | E | ENE | E | E | 20 | NNE |
| Dec 26 | E | ENE | ENE | E | E | E | ENE | ENE | NE | NE | ENE | NNE | NNW | NNW | N | N | NNW | NNW | NNW | NW | NNW | N | NNW | N | 31 | NNE |
| Dec 27 | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | NE | NE | NE | NE | NE | NE | N | N | N | NW | NNW | NNE | N | NNW | 25 | NNE |
| Dec 28 | NNW | NNW | NNW | NNW | NW | NW | NW | NW | NW | WNW | W | WSW | SW | WSW | WSW | S | S | SSE | S | SSE | S | SSE | SE | SE | 251 | WSW |
| Dec 29 | SSE | SSE | S | S | S | S | S | SSW | SSW | SSW | SW | SW | SW | SSW | SW | SSW | S | S | SSE | SSE | SE | SE | ESE | SE | 189 | S |
| Dec 30 | ESE | E | ESE | ESE | ESE | E | E | ESE | ESE | E | E | E | E | E | S | S | SW | WNW | S | SSW | SSW | S | SSE | S | 125 | SE |
| Dec 31 | SSE | SSE | SSE | SSE | ENE | SE | SW | W | NW | SW | SSW | SW | SW | SW | SW | W | WSW | SSW | S | S | S | SSW | S | S | 199 | SSW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure |
| X | InValid Data (Machine Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | |

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*



peace river area monitoring program
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# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 29.9 | kph | on December 5 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.7 | kph | on December 3 | Hours of Data: | 739 |
| Minimum Hourly Value: | 0.1 | kph | on December 25 at hour 12 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 1.3 | kph | on December 28 | Hours of Calibration: | 0 |
| Monthly Average: | 0.5 | kph | | Operational Uptime: | 99.3 |

**WIND DIRECTION**

Monthly Average: 258 (WSW degree

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.0 | 1.0 | 6.7 | 6.5 | 6.3 | 4.0 | 4.9 | 6.9 | 6.9 | 9.6 | 9.4 | 10.4 | 13.7 | 11.4 | 10.8 | 7.2 | 8.8 | 8.2 | 11.4 | 9.1 | 9.5 | 8.4 | 7.3 | 9.5 | 1.0 | 13.7 | 6.9 |
| | ENE | SE | ESE | SE | SSE | S | SSW | SSE | SSE | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | | | |
| Dec 2 | 5.2 | 4.6 | 4.0 | 5.1 | 6.8 | 6.0 | 7.3 | 6.6 | 7.5 | 5.8 | 6.5 | 8.0 | 9.2 | 11.0 | 12.6 | 13.5 | 14.6 | 15.4 | 17.0 | 19.8 | 19.5 | 15.3 | 16.8 | 12.4 | 4.0 | 19.8 | 10.4 |
| | SSW | SSW | SSW | S | SSW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 3 | 15.4 | 13.8 | 11.7 | 12.9 | 14.6 | 14.6 | 11.9 | 13.7 | 15.4 | 19.7 | 21.1 | 19.7 | 22.2 | 22.7 | 24.8 | 24.4 | 21.8 | 19.9 | 25.9 | 26.5 | 21.1 | 23.6 | 24.6 | 15.0 | 11.7 | 26.5 | **18.7** |
| | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | | | |
| Dec 4 | 14.2 | 11.6 | 8.6 | 7.1 | 8.2 | 11.8 | 12.5 | 16.3 | 21.8 | 21.8 | 18.0 | 22.6 | 24.0 | 29.0 | 26.3 | 23.6 | 16.4 | 16.7 | 15.6 | 12.6 | 10.2 | 6.5 | 3.3 | 4.0 | 3.3 | 29.0 | 12.3 |
| | SW | SW | SW | WSW | W | W | WNW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | N | N | NNW | NNW | NNW | WNW | | | |
| Dec 5 | 4.4 | 5.8 | 5.1 | 6.6 | 6.5 | 6.9 | 12.8 | 21.9 | 27.0 | 28.2 | 29.8 | **29.9** | 20.1 | 17.9 | 14.0 | 14.3 | 8.8 | 11.9 | 7.8 | 4.9 | 4.9 | 3.3 | 4.9 | 2.1 | 2.1 | **29.9** | 11.8 |
| | W | WNW | NNW | N | N | NNW | N | N | N | N | N | N | N | N | NNW | NNW | NNW | N | N | N | NNE | NE | W | W | | | |
| Dec 6 | 3.7 | 2.1 | 2.7 | 3.7 | 4.7 | 4.5 | 4.4 | 5.4 | 6.0 | 6.8 | 6.0 | 6.3 | 7.8 | 7.0 | 9.2 | 10.0 | 9.9 | 13.4 | 11.6 | 10.4 | 7.1 | 4.7 | 11.5 | 14.9 | 2.1 | 14.9 | 6.5 |
| | NNW | SSE | SSE | SE | SE | ESE | ESE | ESE | SE | SE | SE | SSE | SSE | SSE | SSE | SSE | SE | SE | SE | SE | SE | SSE | S | S | | | |
| Dec 7 | 15.1 | 15.8 | 17.8 | 16.4 | 16.3 | 13.9 | 11.0 | 9.3 | 9.0 | 8.1 | 10.3 | 7.0 | 2.5 | 5.2 | 5.1 | 4.9 | 5.9 | 5.9 | 7.7 | 8.7 | 6.6 | 8.3 | 8.5 | 8.6 | 2.5 | 17.8 | 4.8 |
| | S | SSW | SSW | SSW | SW | SSW | SW | SW | SSW | SW | SSW | SW | WSW | NW | NW | N | NE | ENE | NE | E | ESE | E | E | E | | | |
| Dec 8 | 8.8 | 9.4 | 10.7 | 10.3 | 10.3 | 10.5 | 7.5 | 9.6 | 10.9 | 9.3 | 11.0 | 7.5 | 3.4 | 2.6 | 8.1 | 11.8 | 10.9 | 7.0 | 6.4 | 13.8 | 22.4 | 22.8 | 20.0 | 18.9 | 2.6 | 22.8 | 6.9 |
| | E | E | E | E | E | E | E | E | E | E | E | ESE | SE | ESE | SSW | SSW | SSW | S | SSW | S | SSW | SSW | SSW | S | | | |
| Dec 9 | 18.2 | 11.2 | 15.7 | 20.5 | 21.9 | 18.6 | 19.4 | 16.5 | 18.5 | 18.2 | 17.9 | 17.8 | 16.7 | 16.2 | 12.1 | 10.1 | 16.2 | 16.4 | 14.6 | 12.8 | 10.3 | 7.4 | 8.2 | 6.4 | 6.4 | 21.9 | 14.9 |
| | SSW | SSW | S | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | S | S | S | S | S | S | SSW | SSW | S | S | | | |
| Dec 10 | 5.0 | 0.9 | 4.4 | 8.8 | 10.1 | 12.2 | 14.2 | 13.7 | 14.0 | 16.0 | 16.5 | 18.5 | 21.4 | 23.7 | 24.1 | 22.4 | 20.7 | 21.0 | 19.9 | 18.5 | 16.6 | 18.6 | 23.0 | 18.6 | 0.9 | 24.1 | 15.4 |
| | S | N | NNW | NNW | N | N | N | NNE | N | N | N | N | N | N | N | NNE | N | N | N | N | N | N | N | N | | | |
| Dec 11 | 17.4 | 15.1 | 13.6 | 13.4 | 13.9 | 13.1 | 10.8 | 11.7 | 10.0 | 7.4 | 9.4 | 9.8 | 8.9 | 9.9 | 7.4 | 3.4 | 3.0 | 1.8 | 5.8 | 4.9 | 6.1 | 6.8 | 4.7 | 6.6 | 1.8 | 17.4 | 5.8 |
| | N | N | NNW | NNW | N | N | NNW | NNW | NNW | NNW | NW | NNW | NW | NW | NW | WNW | W | WSW | SW | S | SSE | SSE | SSE | S | | | |
| Dec 12 | 5.7 | 9.1 | 7.9 | 8.4 | 9.1 | 10.2 | 9.5 | 9.1 | 12.0 | 10.9 | 10.5 | 10.3 | 12.7 | 12.2 | 10.0 | 12.6 | 10.5 | 9.6 | 11.0 | 5.6 | 8.3 | 7.6 | 6.1 | 5.5 | 5.5 | 12.7 | 9.1 |
| | S | S | S | SSE | SSE | SSE | S | S | S | SSE | SSE | S | S | S | S | SE | SE | SE | SE | SE | SSE | SSE | S | SSE | | | |
| Dec 13 | 10.1 | 8.3 | 11.4 | 11.5 | 12.4 | 15.1 | 14.2 | 14.0 | 15.3 | 15.7 | 15.5 | 12.2 | 5.6 | 2.3 | 2.4 | 4.8 | 5.2 | 7.7 | 6.6 | 7.9 | 9.9 | 9.7 | 7.9 | 8.3 | 2.3 | 15.7 | 7.9 |
| | S | S | S | S | S | S | SSW | SSW | SSW | SW | SW | SW | SW | W | WNW | WNW | W | WSW | WSW | WSW | W | W | WNW | WNW | | | |
| Dec 14 | 8.2 | 7.1 | 9.3 | 8.9 | 3.6 | 6.0 | 6.1 | 7.0 | 7.7 | 9.8 | 6.9 | 10.8 | 11.5 | 12.3 | 9.6 | 12.1 | 8.1 | 11.6 | 10.8 | 10.7 | 11.8 | 9.2 | 5.9 | 6.4 | 3.6 | 12.3 | 7.6 |
| | W | W | WSW | SW | SSW | SSW | SSE | SSE | SSE | SSE | SSE | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | | | |
| Dec 15 | 5.7 | 8.3 | 7.9 | 4.2 | 7.1 | 8.1 | 5.7 | 6.0 | 6.6 | 3.9 | 7.2 | 3.3 | 7.2 | 4.7 | 7.5 | 6.8 | 7.9 | 13.8 | 16.1 | 12.3 | 10.5 | 6.9 | 6.7 | 8.5 | 3.3 | 16.1 | 7.2 |
| | SSW | SSE | S | S | SSE | S | S | SSE | SSE | S | SE | SSW | SSE | SE | SSE | SSE | SE | SSE | SSE | SE | SSE | SE | S | SW | | | |
| Dec 16 | 10.5 | 8.6 | 6.3 | 7.8 | 5.3 | 1.7 | 4.0 | 5.9 | 15.7 | 12.1 | 17.7 | 20.5 | 20.5 | **P** | **P** | **P** | **P** | **P** | 16.9 | 17.5 | 17.7 | 18.8 | 20.7 | 17.7 | 1.7 | 20.7 | 9.3 |
| | SW | SW | SSW | SSW | SSW | S | NW | N | NNE | N | N | N | N | **P** | **P** | **P** | **P** | **P** | NNW | NNW | NNW | NNW | N | NNW | | | |
| Dec 17 | 17.7 | 16.7 | 15.0 | 12.6 | 11.0 | 16.8 | 15.3 | 17.1 | 15.0 | 13.8 | 13.6 | 15.7 | 15.2 | 17.6 | 17.6 | 17.5 | 16.6 | 15.9 | 18.7 | 21.1 | 23.1 | 20.5 | 18.7 | 17.3 | 11.0 | 23.1 | 16.2 |
| | NNW | NNW | NNW | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | | | |
| Dec 18 | 16.1 | 15.2 | 13.5 | 11.9 | 12.4 | 11.2 | 11.5 | 12.9 | 11.7 | 12.5 | 13.2 | 13.1 | 13.0 | 13.9 | 11.0 | 10.1 | 12.8 | 12.4 | 13.8 | 10.8 | 11.9 | 12.6 | 11.3 | 8.8 | 8.8 | 16.1 | 12.3 |
| | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | | | |
| Dec 19 | 8.8 | 9.6 | 9.0 | 9.7 | 10.9 | 8.7 | 6.8 | 9.6 | 8.2 | 6.6 | 8.0 | 10.8 | 6.1 | 6.7 | 7.0 | 6.6 | 5.3 | 3.2 | 1.6 | 2.1 | 0.2 | 2.5 | 3.3 | 4.7 | 0.2 | 10.9 | 5.5 |
| | NNW | N | NNW | N | N | N | NNW | N | NNW | NNW | NNW | N | NNW | N | NNW | N | NNW | NNW | W | W | SW | S | SSE | SSE | | | |
| Dec 20 | 3.4 | 5.1 | 3.7 | 3.4 | 3.9 | 3.6 | 3.3 | 3.6 | 3.8 | 3.1 | 2.7 | 1.8 | 1.5 | 0.7 | 1.5 | 2.5 | 2.3 | 0.4 | 0.6 | 1.5 | 2.0 | 2.0 | 3.2 | 2.8 | 0.4 | 5.1 | 1.7 |
| | SSE | SSE | SSE | ESE | SE | SE | SSE | SSE | SE | SE | ESE | ESE | W | W | W | NW | NW | N | SSW | SW | SSW | SSW | S | S | | | |

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# *PEACE RIVER AREA MONITORING PROGRAM*

## *986c Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 29.9 | kph | on December 5 at hour 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.7 | kph | on December 3 | Hours of Data: | 739 |
| Minimum Hourly Value: | 0.1 | kph | on December 25 at hour 12 | Hours of Missing Data: | 5 |
| Minimum Daily Value: | 1.3 | kph | on December 28 | Hours of Calibration: | 0 |
| Monthly Average: | 0.5 | kph | | Operational Uptime: | 99.3 |

**WIND DIRECTION**

Monthly Average: 258 (WSW) degree

| 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 | | | |
| Dec 21 | 4.1 | 3.3 | 4.9 | 4.4 | 4.6 | 4.9 | 5.5 | 5.4 | 5.6 | 6.6 | 5.0 | 7.2 | 4.4 | 4.1 | 5.8 | 9.5 | 9.7 | 8.2 | 8.6 | 8.0 | 8.4 | 12.0 | 6.8 | 9.2 | 3.3 | 12.0 | 6.4 |
| | SSE | SSE | SSE | SSE | SSE | S | S | SSE | SSE | S | SSW | S | S | SSW | SSW | S | S | S | S | S | S | S | SSE | S | | | |
| Dec 22 | 8.7 | 8.7 | 5.6 | 5.6 | 5.5 | 5.5 | 4.7 | 5.0 | 6.0 | 4.9 | 1.6 | 0.4 | 2.9 | 3.7 | 3.0 | 1.1 | 0.8 | 2.9 | 1.8 | 4.1 | 8.3 | 8.6 | 7.7 | 10.0 | 0.4 | 10.0 | 3.6 |
| | SSE | SSE | SSE | S | SE | ESE | SE | ESE | ESE | ESE | E | ENE | WNW | W | WSW | WNW | SW | WNW | S | SSE | SE | SSE | SSE | S | | | |
| Dec 23 | 8.5 | 6.0 | 5.7 | 9.1 | 2.8 | 2.7 | 2.9 | 1.9 | 1.8 | 3.6 | 3.1 | 5.4 | 8.2 | 10.8 | 12.6 | 12.7 | 11.2 | 8.2 | 9.4 | 10.9 | 9.7 | 8.0 | 5.9 | 5.7 | 1.8 | 12.7 | 3.9 |
| | SSW | S | S | S | S | S | NNE | NNE | N | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNW | NNW | N | N | NNE | NNW | N | | | |
| Dec 24 | 5.6 | 5.0 | 3.5 | 5.8 | 5.0 | 3.6 | 4.9 | 4.4 | 6.2 | 7.9 | 12.6 | 10.7 | 14.4 | 16.6 | 13.0 | 16.0 | 12.4 | 10.2 | 10.6 | 10.1 | 8.0 | 7.7 | 6.4 | 6.9 | 3.5 | 16.6 | 7.2 |
| | N | NNW | N | NNE | NE | NNE | NNE | NE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NNW | NNW | NNW | NNW | NNW | NW | NNW | | | |
| Dec 25 | 4.6 | 5.1 | 4.5 | 3.6 | 6.6 | 8.3 | 7.6 | 7.1 | 6.9 | 6.4 | 6.2 | 6.0 | **0.1** | 0.8 | 0.2 | 0.7 | 1.8 | 4.6 | 5.5 | 8.7 | 9.4 | 10.3 | 13.1 | 12.2 | **0.1** | 13.1 | 2.5 |
| | NW | W | W | WNW | NW | NW | NNW | NNW | NNW | NW | NNW | N | N | NW | SW | SW | ENE | ESE | E | E | E | ENE | E | E | | | |
| Dec 26 | 14.2 | 11.9 | 15.8 | 12.5 | 12.7 | 11.3 | 12.6 | 8.5 | 8.9 | 7.7 | 7.6 | 8.7 | 8.4 | 9.8 | 15.0 | 17.9 | 13.1 | 11.1 | 9.4 | 7.8 | 7.9 | 7.3 | 5.5 | 4.9 | 4.9 | 17.9 | 7.2 |
| | E | ENE | ENE | E | E | E | ENE | ENE | NE | NE | ENE | NNE | NNW | NNW | N | N | NNW | NNW | NNW | NW | NNW | N | NNW | N | | | |
| Dec 27 | 5.6 | 5.9 | 6.8 | 7.1 | 4.9 | 6.0 | 7.0 | 8.8 | 10.5 | 9.5 | 9.2 | 10.1 | 11.0 | 10.4 | 13.8 | 15.1 | 11.3 | 11.4 | 9.5 | 8.0 | 7.8 | 8.9 | 8.4 | 8.0 | 4.9 | 15.1 | 8.2 |
| | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | NE | NE | NE | NE | NE | NE | N | N | N | NW | NNW | NNE | N | NNW | | | |
| Dec 28 | 9.5 | 8.6 | 8.3 | 7.2 | 7.0 | 6.1 | 6.3 | 4.6 | 4.5 | 3.5 | 3.8 | 1.0 | 1.3 | 5.2 | 3.7 | 4.1 | 6.7 | 10.3 | 8.2 | 6.1 | 5.4 | 6.1 | 9.3 | 8.4 | 1.0 | 10.3 | **1.3** |
| | NNW | NNW | NNW | NNW | NW | NW | NW | NW | NW | WNW | W | WSW | SW | WSW | WSW | S | S | SSE | S | SSE | S | SSE | SE | SE | | | |
| Dec 29 | 7.4 | 5.3 | 8.4 | 9.1 | 9.7 | 9.5 | 9.0 | 7.2 | 8.8 | 7.3 | 10.1 | 9.7 | 8.5 | 8.1 | 5.9 | 6.3 | 4.6 | 6.0 | 5.7 | 3.8 | 2.7 | 2.4 | 4.0 | 3.8 | 2.4 | 10.1 | 6.0 |
| | SSE | SSE | S | S | S | S | S | SSW | SSW | SSW | SW | SW | SW | SSW | SW | SSW | S | S | SSE | SSE | SE | SE | ESE | SE | | | |
| Dec 30 | 5.5 | 8.2 | 4.2 | 7.6 | 3.8 | 6.4 | 6.0 | 5.5 | 3.0 | 3.5 | 3.0 | 4.4 | 4.4 | 1.0 | 1.0 | 2.4 | 2.3 | 1.5 | 3.4 | 2.3 | 5.1 | 6.0 | 6.8 | 6.2 | 1.0 | 8.2 | 3.3 |
| | ESE | E | ESE | ESE | ESE | E | E | ESE | ESE | E | E | E | E | E | S | S | SW | WNW | S | SSW | SSW | S | SSE | S | | | |
| Dec 31 | 4.4 | 7.6 | 4.9 | 2.2 | 0.4 | 1.4 | 2.8 | 2.3 | 0.8 | 2.7 | 5.9 | 7.3 | 5.3 | 6.1 | 7.3 | 3.9 | 4.6 | 4.8 | 6.5 | 6.7 | 7.4 | 5.2 | 6.6 | 6.3 | 0.4 | 7.6 | 3.9 |
| | SSE | SSE | SSE | SSE | ENE | SE | SW | W | NW | SW | SSW | SW | SW | SW | SW | W | WSW | SSW | S | S | S | SSW | S | S | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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.

# 842-B STATION

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

### Summary of Hourly Averages

### SULPHUR DIOXIDE ($SO_2$) in ppb

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

Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0 30-Day Exceedance: 0

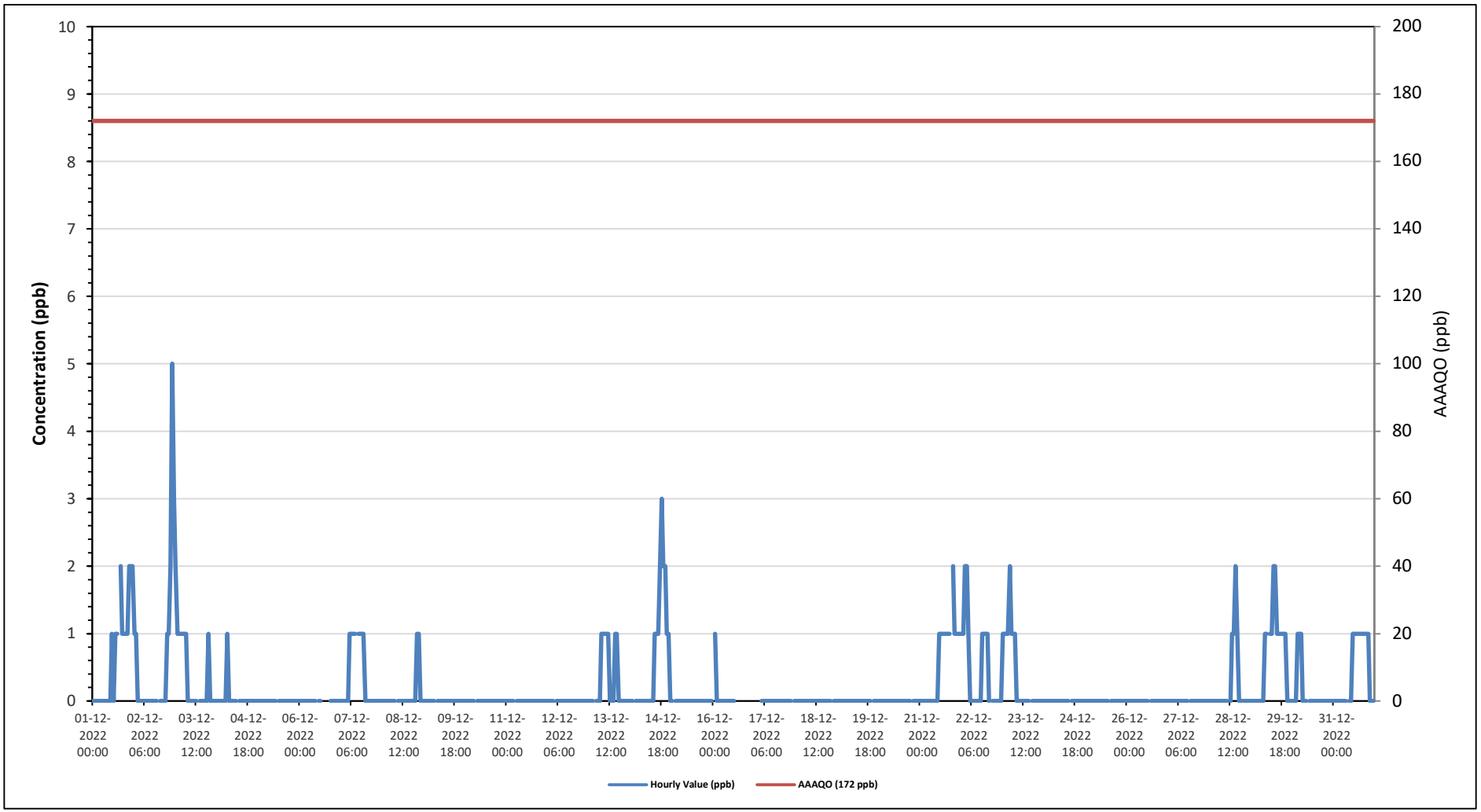
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 5 | ppb | on December 2 at hour 22 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.7 | ppb | on December 1 | Hours of Data: | 693 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.0 | ppb | on December 5 | Hours of Calibration: | 36 |
| Monthly Average: | 0.2 | ppb | | Operational Uptime: | 98.0 |

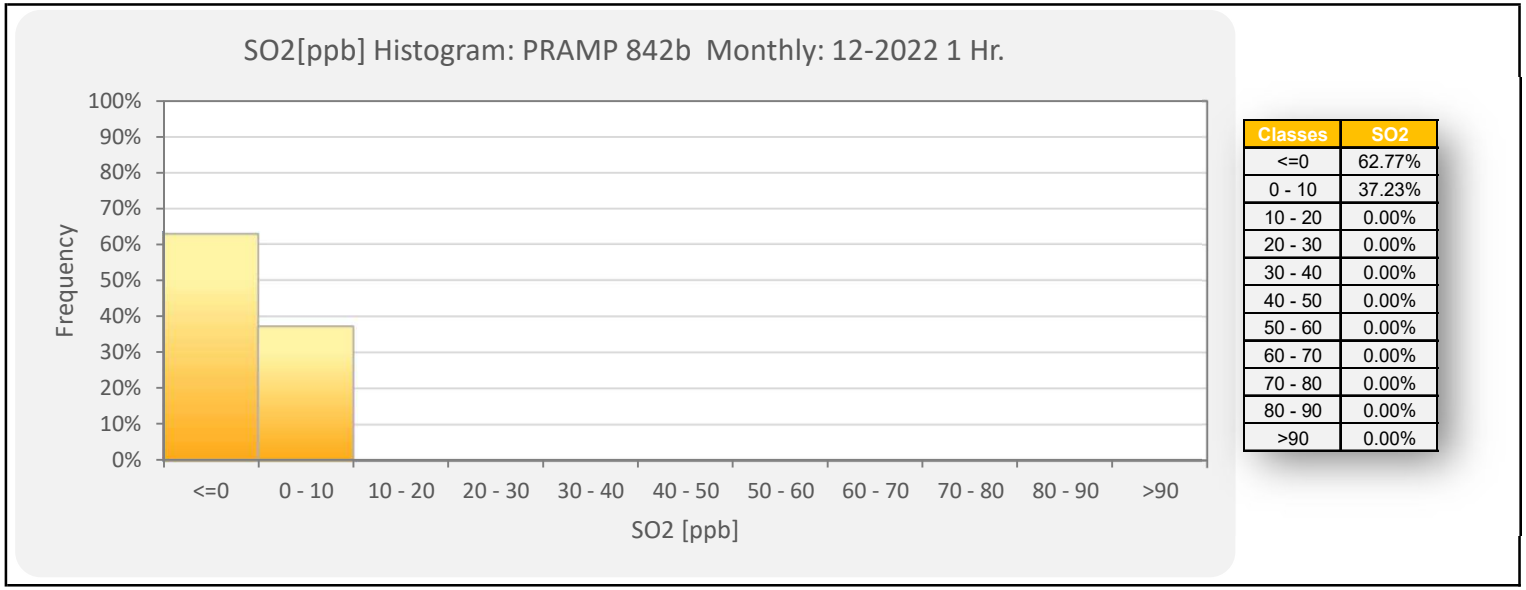
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

## *Timeseries Chart of Hourly Average for SO2 - 842b Station*

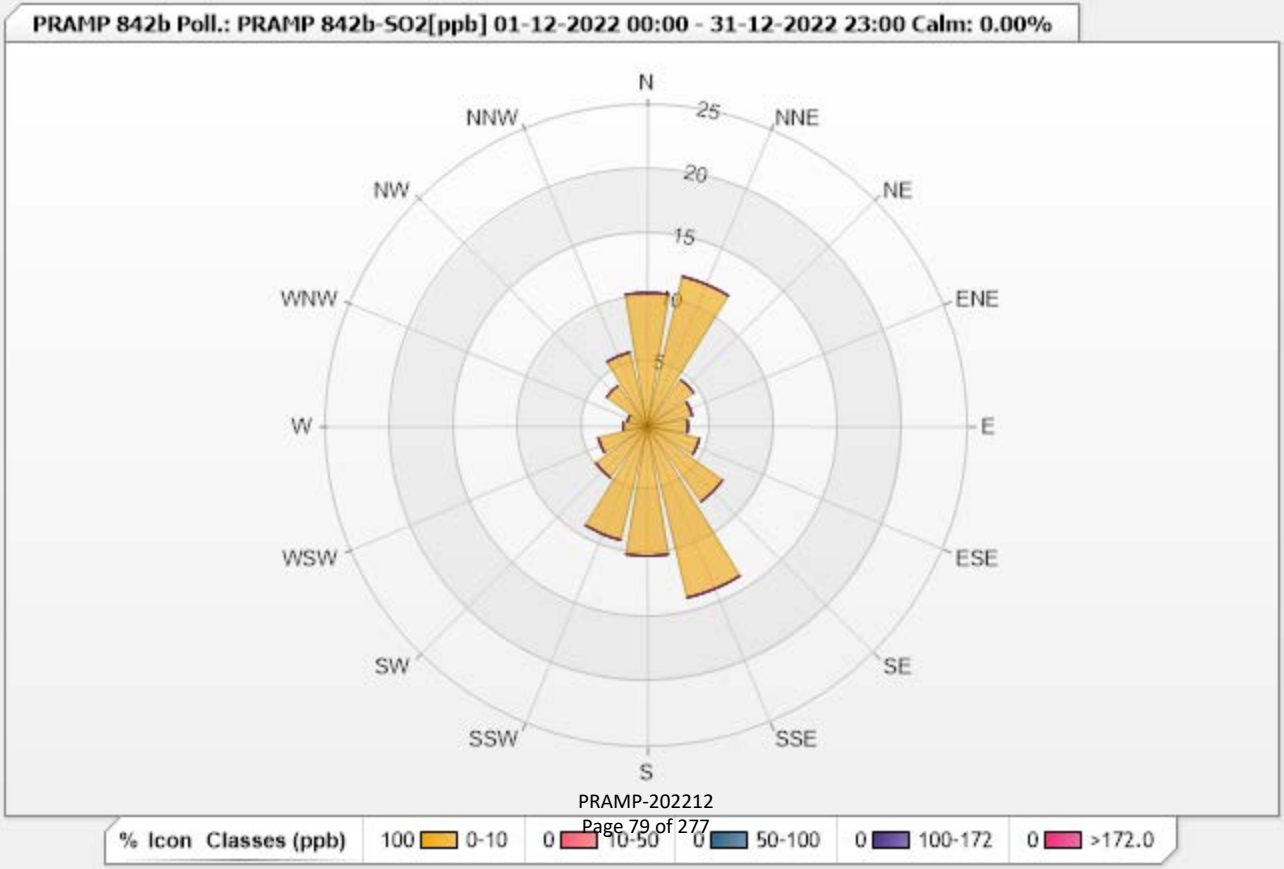





| Classes | SO2 |
|---|---|
| <=0 | 62.77% |
| 0 - 10 | 37.23% |
| 10 - 20 | 0.00% |
| 20 - 30 | 0.00% |
| 30 - 40 | 0.00% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.15% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|---|---|---|---|---|---|---|
| N | 10.39 | 0 | 0 | 0 | 0 | 10.39 |
| NNE | 11.98 | 0 | 0 | 0 | 0 | 11.98 |
| NE | 4.47 | 0 | 0 | 0 | 0 | 4.47 |
| ENE | 3.61 | 0 | 0 | 0 | 0 | 3.61 |
| E | 3.17 | 0 | 0 | 0 | 0 | 3.17 |
| ESE | 4.18 | 0 | 0 | 0 | 0 | 4.18 |
| SE | 7.22 | 0 | 0 | 0 | 0 | 7.22 |
| SSE | 13.71 | 0 | 0 | 0 | 0 | 13.71 |
| S | 10.1 | 0 | 0 | 0 | 0 | 10.1 |
| SSW | 9.09 | 0 | 0 | 0 | 0 | 9.09 |
| SW | 4.91 | 0 | 0 | 0 | 0 | 4.91 |
| WSW | 3.9 | 0 | 0 | 0 | 0 | 3.9 |
| W | 1.88 | 0 | 0 | 0 | 0 | 1.88 |
| WNW | 1.59 | 0 | 0 | 0 | 0 | 1.59 |
| NW | 3.9 | 0 | 0 | 0 | 0 | 3.9 |
| NNW | 5.92 | 0 | 0 | 0 | 0 | 5.92 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## TOTAL REDUCED SULPHUR (TRS) in ppb

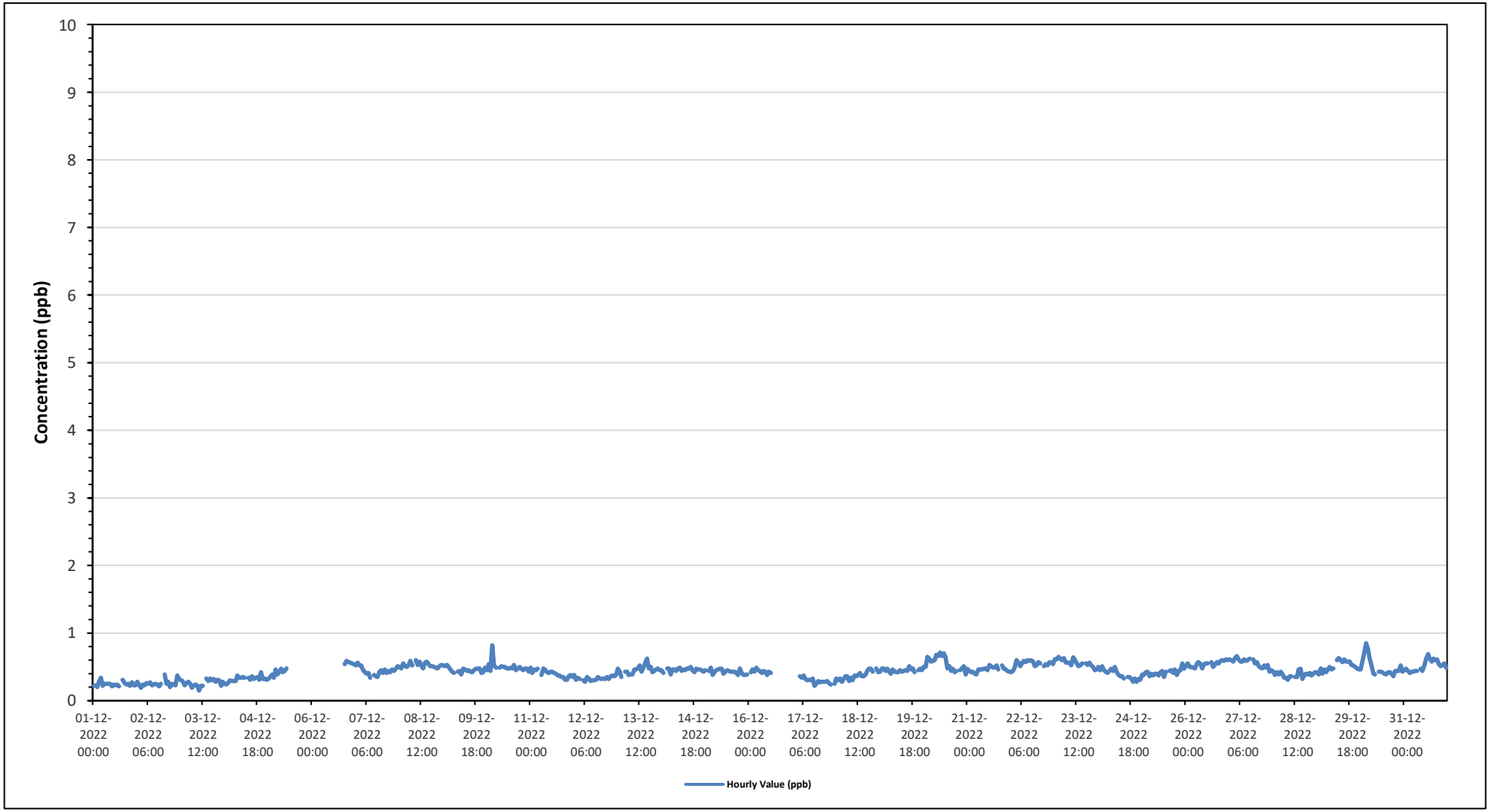
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.85 | ppb | on December 30 at hour 3 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.56 | ppb | on December 27 | Hours of Data: | 669 |
| Minimum Hourly Value: | 0.15 | ppb | on December 3 at hour 10 | Hours of Missing Data: | 40 |
| Minimum Daily Value: | 0.24 | ppb | on December 1 | Hours of Calibration: | 35 |
| Monthly Average: | 0.43 | ppb | | Operational Uptime: | 94.6 |

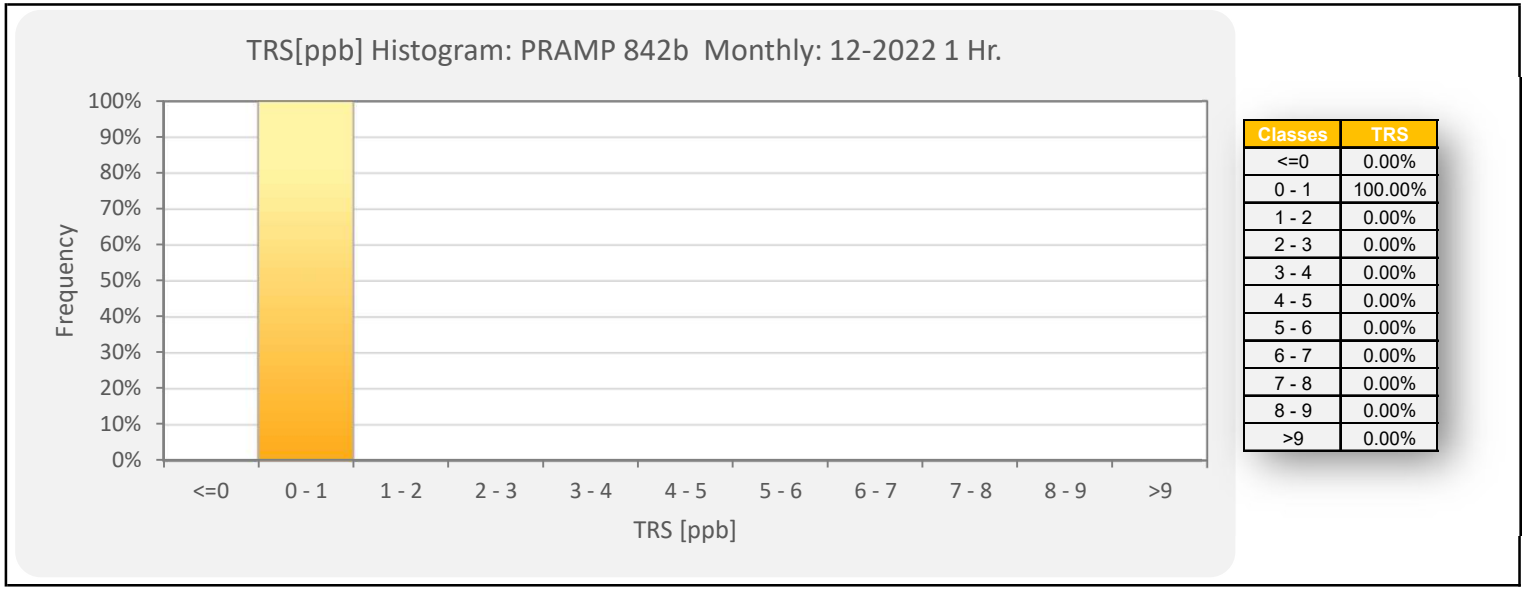
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.22 | 0.23 | 0.2 | 0.28 | 0.34 | 0.22 | 0.25 | 0.25 | 0.25 | 0.25 | 0.21 | 0.24 | 0.23 | 0.24 | 0.21 | S | 0.31 | 0.26 | 0.24 | 0.25 | 0.22 | 0.27 | 0.23 | 0.23 | 0.20 | 0.34 | 0.24 |
| Dec 2 | 0.28 | 0.24 | 0.19 | 0.24 | 0.23 | 0.26 | 0.25 | 0.27 | 0.23 | 0.24 | 0.25 | 0.24 | 0.21 | 0.25 | S | 0.39 | 0.25 | 0.28 | 0.2 | 0.25 | 0.24 | 0.23 | 0.37 | 0.32 | 0.19 | 0.39 | 0.26 |
| Dec 3 | 0.3 | 0.29 | 0.23 | 0.26 | 0.28 | 0.25 | 0.19 | 0.23 | 0.24 | 0.22 | 0.15 | 0.22 | 0.22 | S | 0.33 | 0.29 | 0.33 | 0.3 | 0.32 | 0.28 | 0.31 | 0.3 | 0.22 | 0.28 | **0.15** | 0.33 | 0.26 |
| Dec 4 | 0.25 | 0.24 | 0.27 | 0.3 | 0.29 | 0.29 | 0.29 | 0.37 | 0.34 | 0.34 | 0.35 | 0.34 | S | 0.34 | 0.31 | 0.36 | 0.32 | 0.34 | 0.35 | 0.31 | 0.42 | 0.32 | 0.33 | 0.31 | 0.24 | 0.42 | 0.32 |
| Dec 5 | 0.32 | 0.35 | 0.39 | 0.34 | 0.46 | 0.39 | 0.43 | 0.47 | 0.42 | 0.44 | 0.48 | S | X | X | X | X | X | X | X | X | X | X | X | X | 0.32 | 0.48 | - |
| Dec 6 | X | X | X | X | X | X | X | X | X | X | X | X | X | C | C | C | C | C | 0.54 | 0.59 | 0.57 | 0.56 | 0.55 | 0.54 | 0.54 | 0.59 | - |
| Dec 7 | 0.52 | 0.56 | 0.52 | 0.52 | 0.45 | 0.42 | 0.4 | 0.41 | 0.34 | S | 0.38 | 0.36 | 0.35 | 0.43 | 0.45 | 0.41 | 0.46 | 0.41 | 0.44 | 0.42 | 0.46 | 0.44 | 0.47 | 0.51 | 0.34 | 0.56 | 0.44 |
| Dec 8 | 0.5 | 0.48 | 0.55 | 0.51 | 0.5 | 0.52 | 0.59 | 0.52 | S | 0.6 | 0.53 | 0.58 | 0.52 | 0.48 | 0.56 | 0.58 | 0.54 | 0.51 | 0.51 | 0.5 | 0.49 | 0.48 | 0.51 | 0.53 | 0.48 | 0.60 | 0.53 |
| Dec 9 | 0.52 | 0.51 | 0.53 | 0.5 | 0.46 | 0.43 | 0.41 | S | 0.43 | 0.44 | 0.39 | 0.47 | 0.46 | 0.44 | 0.45 | 0.43 | 0.42 | 0.45 | 0.47 | 0.47 | 0.48 | 0.41 | 0.42 | 0.49 | 0.39 | 0.53 | 0.46 |
| Dec 10 | 0.45 | 0.54 | 0.44 | 0.82 | 0.52 | 0.49 | S | 0.49 | 0.51 | 0.5 | 0.5 | 0.48 | 0.47 | 0.49 | 0.48 | 0.53 | 0.45 | 0.48 | 0.5 | 0.47 | 0.45 | 0.48 | 0.47 | 0.43 | 0.43 | 0.82 | 0.50 |
| Dec 11 | 0.49 | 0.41 | 0.46 | 0.45 | 0.47 | S | 0.38 | 0.48 | 0.46 | 0.42 | 0.41 | 0.43 | 0.43 | 0.41 | 0.4 | 0.37 | 0.37 | 0.35 | 0.35 | 0.31 | 0.31 | 0.36 | 0.38 | 0.35 | 0.31 | 0.49 | 0.40 |
| Dec 12 | 0.38 | 0.31 | 0.34 | 0.32 | S | 0.3 | 0.28 | 0.35 | 0.33 | 0.29 | 0.3 | 0.3 | 0.31 | 0.35 | 0.33 | 0.32 | 0.33 | 0.32 | 0.35 | 0.32 | 0.36 | 0.37 | 0.36 | 0.38 | 0.28 | 0.38 | 0.33 |
| Dec 13 | 0.47 | 0.43 | 0.35 | S | 0.43 | 0.43 | 0.38 | 0.39 | 0.39 | 0.46 | 0.46 | 0.48 | 0.52 | 0.43 | 0.49 | 0.55 | 0.62 | 0.48 | 0.5 | 0.42 | 0.44 | 0.46 | 0.48 | 0.45 | 0.35 | 0.62 | 0.46 |
| Dec 14 | 0.45 | 0.41 | S | 0.48 | 0.48 | 0.39 | 0.46 | 0.46 | 0.44 | 0.48 | 0.49 | 0.44 | 0.46 | 0.45 | 0.48 | 0.47 | 0.5 | 0.45 | 0.42 | 0.47 | 0.46 | 0.46 | 0.45 | 0.43 | 0.39 | 0.50 | 0.46 |
| Dec 15 | 0.45 | S | 0.44 | 0.49 | 0.38 | 0.42 | 0.45 | 0.46 | 0.47 | 0.47 | 0.4 | 0.43 | 0.45 | 0.44 | 0.43 | 0.43 | 0.43 | 0.41 | 0.38 | 0.48 | 0.41 | 0.38 | 0.38 | 0.39 | 0.38 | 0.49 | 0.43 |
| Dec 16 | S | 0.42 | 0.46 | 0.43 | 0.49 | 0.45 | 0.44 | 0.41 | 0.44 | 0.43 | 0.38 | 0.43 | 0.41 | P | P | P | P | P | P | P | P | P | P | P | 0.38 | 0.49 | - |
| Dec 17 | P | P | P | P | 0.36 | 0.34 | 0.37 | 0.32 | 0.3 | 0.31 | 0.3 | 0.33 | 0.22 | 0.25 | 0.29 | 0.27 | 0.28 | 0.28 | 0.28 | 0.29 | 0.26 | 0.24 | S | 0.25 | 0.22 | 0.37 | 0.29 |
| Dec 18 | 0.33 | 0.3 | 0.33 | 0.28 | 0.32 | 0.36 | 0.36 | 0.29 | 0.34 | 0.3 | 0.37 | 0.36 | 0.38 | 0.41 | 0.36 | 0.36 | 0.39 | 0.44 | 0.47 | 0.47 | 0.43 | S | 0.48 | 0.42 | 0.28 | 0.48 | 0.37 |
| Dec 19 | 0.43 | 0.48 | 0.48 | 0.44 | 0.47 | 0.43 | 0.4 | 0.46 | 0.43 | 0.42 | 0.42 | 0.45 | 0.43 | 0.44 | 0.45 | 0.44 | 0.51 | 0.46 | 0.48 | 0.42 | S | 0.45 | 0.47 | 0.45 | 0.40 | 0.51 | 0.45 |
| Dec 20 | 0.5 | 0.5 | 0.65 | 0.62 | 0.58 | 0.59 | 0.6 | 0.68 | 0.66 | 0.71 | 0.66 | 0.7 | 0.64 | 0.48 | 0.51 | 0.44 | 0.47 | 0.42 | 0.44 | S | 0.45 | 0.48 | 0.51 | 0.39 | 0.39 | 0.71 | 0.55 |
| Dec 21 | 0.47 | 0.44 | 0.42 | 0.43 | 0.4 | 0.39 | 0.46 | 0.46 | 0.46 | 0.47 | 0.48 | 0.45 | 0.53 | 0.51 | 0.49 | 0.49 | 0.52 | 0.46 | S | 0.52 | 0.47 | 0.46 | 0.44 | 0.43 | 0.39 | 0.53 | 0.46 |
| Dec 22 | 0.42 | 0.44 | 0.49 | 0.6 | 0.56 | 0.51 | 0.55 | 0.59 | 0.57 | 0.6 | 0.59 | 0.6 | 0.58 | 0.51 | 0.52 | 0.57 | 0.55 | S | 0.51 | 0.54 | 0.52 | 0.57 | 0.56 | 0.54 | 0.42 | 0.60 | 0.54 |
| Dec 23 | 0.61 | 0.61 | 0.65 | 0.62 | 0.6 | 0.63 | 0.56 | 0.56 | 0.56 | 0.52 | 0.64 | 0.61 | 0.55 | 0.51 | 0.52 | 0.55 | S | 0.55 | 0.53 | 0.56 | 0.52 | 0.5 | 0.45 | 0.46 | 0.45 | 0.65 | 0.56 |
| Dec 24 | 0.5 | 0.45 | 0.51 | 0.45 | 0.43 | 0.41 | 0.44 | 0.47 | 0.44 | 0.5 | 0.42 | 0.38 | 0.36 | 0.36 | 0.33 | S | 0.35 | 0.35 | 0.33 | 0.28 | 0.33 | 0.28 | 0.32 | 0.31 | 0.28 | 0.51 | 0.39 |
| Dec 25 | 0.39 | 0.38 | 0.42 | 0.43 | 0.36 | 0.4 | 0.37 | 0.4 | 0.4 | 0.37 | 0.42 | 0.44 | 0.35 | 0.43 | S | 0.44 | 0.45 | 0.41 | 0.46 | 0.38 | 0.44 | 0.45 | 0.55 | 0.47 | 0.35 | 0.55 | 0.42 |
| Dec 26 | 0.51 | 0.55 | 0.5 | 0.5 | 0.49 | 0.48 | 0.55 | 0.57 | 0.54 | 0.48 | 0.54 | 0.55 | 0.55 | S | 0.57 | 0.5 | 0.53 | 0.57 | 0.55 | 0.59 | 0.6 | 0.59 | 0.61 | 0.6 | 0.48 | 0.61 | 0.54 |
| Dec 27 | 0.61 | 0.6 | 0.58 | 0.63 | 0.66 | 0.61 | 0.58 | 0.58 | 0.61 | 0.59 | 0.6 | 0.62 | S | 0.61 | 0.55 | 0.57 | 0.51 | 0.49 | 0.48 | 0.52 | 0.49 | 0.53 | 0.43 | 0.45 | 0.43 | 0.66 | **0.56** |
| Dec 28 | 0.43 | 0.38 | 0.42 | 0.39 | 0.43 | 0.4 | 0.34 | 0.34 | 0.31 | 0.36 | 0.36 | S | 0.35 | 0.35 | 0.46 | 0.47 | 0.32 | 0.38 | 0.4 | 0.39 | 0.41 | 0.37 | 0.4 | 0.42 | 0.31 | 0.47 | 0.39 |
| Dec 29 | 0.42 | 0.39 | 0.48 | 0.4 | 0.46 | 0.42 | 0.46 | 0.5 | 0.46 | 0.48 | S | 0.6 | 0.63 | 0.6 | 0.57 | 0.61 | 0.58 | 0.58 | 0.58 | 0.53 | 0.52 | 0.5 | 0.48 | 0.46 | 0.39 | 0.63 | 0.51 |
| Dec 30 | 0.46 | 0.58 | 0.72 | **0.85** | 0.77 | 0.62 | 0.52 | 0.4 | 0.39 | S | 0.43 | 0.43 | 0.42 | 0.4 | 0.39 | 0.42 | 0.42 | 0.4 | 0.36 | 0.44 | 0.44 | 0.44 | 0.52 | 0.43 | 0.36 | **0.85** | 0.49 |
| Dec 31 | 0.45 | 0.47 | 0.44 | 0.41 | 0.43 | 0.43 | 0.44 | 0.44 | S | 0.47 | 0.44 | 0.52 | 0.62 | 0.69 | 0.62 | 0.58 | 0.62 | 0.6 | 0.61 | 0.54 | 0.51 | 0.53 | 0.55 | 0.49 | 0.41 | 0.69 | 0.52 |
| Diurnal Maximum | 0.61 | 0.61 | 0.72 | 0.85 | 0.77 | 0.63 | 0.60 | 0.68 | 0.66 | 0.71 | 0.66 | 0.70 | 0.64 | 0.69 | 0.62 | 0.61 | 0.62 | 0.60 | 0.61 | 0.59 | 0.60 | 0.59 | 0.61 | 0.60 | | | |
| Diurnal Average | 0.43 | 0.43 | 0.45 | 0.46 | 0.45 | 0.42 | 0.42 | 0.44 | 0.42 | 0.43 | 0.43 | 0.45 | 0.43 | 0.43 | 0.44 | 0.46 | 0.44 | 0.42 | 0.43 | 0.43 | 0.43 | 0.43 | 0.44 | 0.42 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

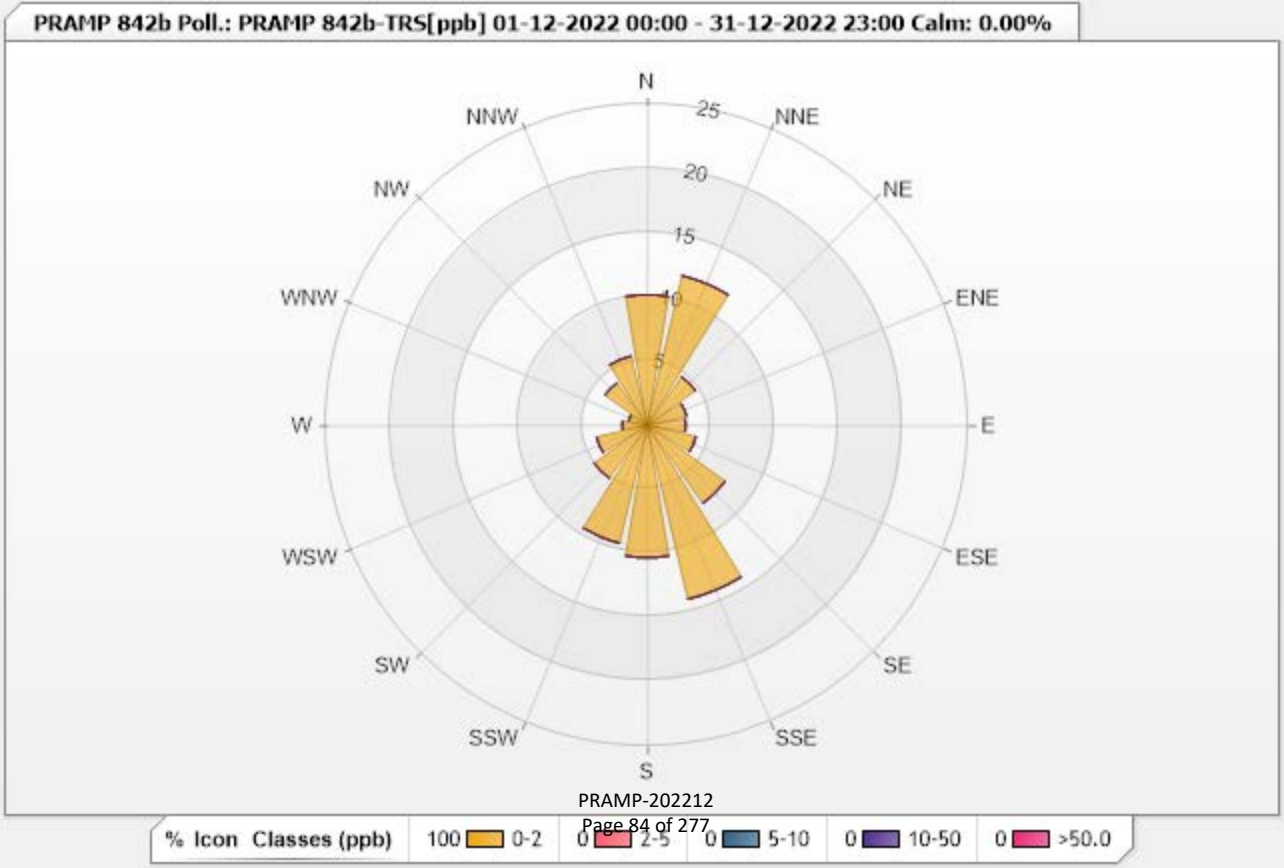





| Classes | TRS |
|---|---|
| <=0 | 0.00% |
| 0 - 1 | 100.00% |
| 1 - 2 | 0.00% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 89.92% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 10.16 | 0 | 0 | 0 | 0 | 10.16 |
| NNE | 11.96 | 0 | 0 | 0 | 0 | 11.96 |
| NE | 4.63 | 0 | 0 | 0 | 0 | 4.63 |
| ENE | 3.14 | 0 | 0 | 0 | 0 | 3.14 |
| E | 2.99 | 0 | 0 | 0 | 0 | 2.99 |
| ESE | 3.89 | 0 | 0 | 0 | 0 | 3.89 |
| SE | 7.47 | 0 | 0 | 0 | 0 | 7.47 |
| SSE | 13.9 | 0 | 0 | 0 | 0 | 13.9 |
| S | 10.31 | 0 | 0 | 0 | 0 | 10.31 |
| SSW | 9.42 | 0 | 0 | 0 | 0 | 9.42 |
| SW | 5.08 | 0 | 0 | 0 | 0 | 5.08 |
| WSW | 4.04 | 0 | 0 | 0 | 0 | 4.04 |
| W | 1.94 | 0 | 0 | 0 | 0 | 1.94 |
| WNW | 1.49 | 0 | 0 | 0 | 0 | 1.49 |
| NW | 4.04 | 0 | 0 | 0 | 0 | 4.04 |
| NNW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## TOTAL HYDROCARBONS (THC) in ppm

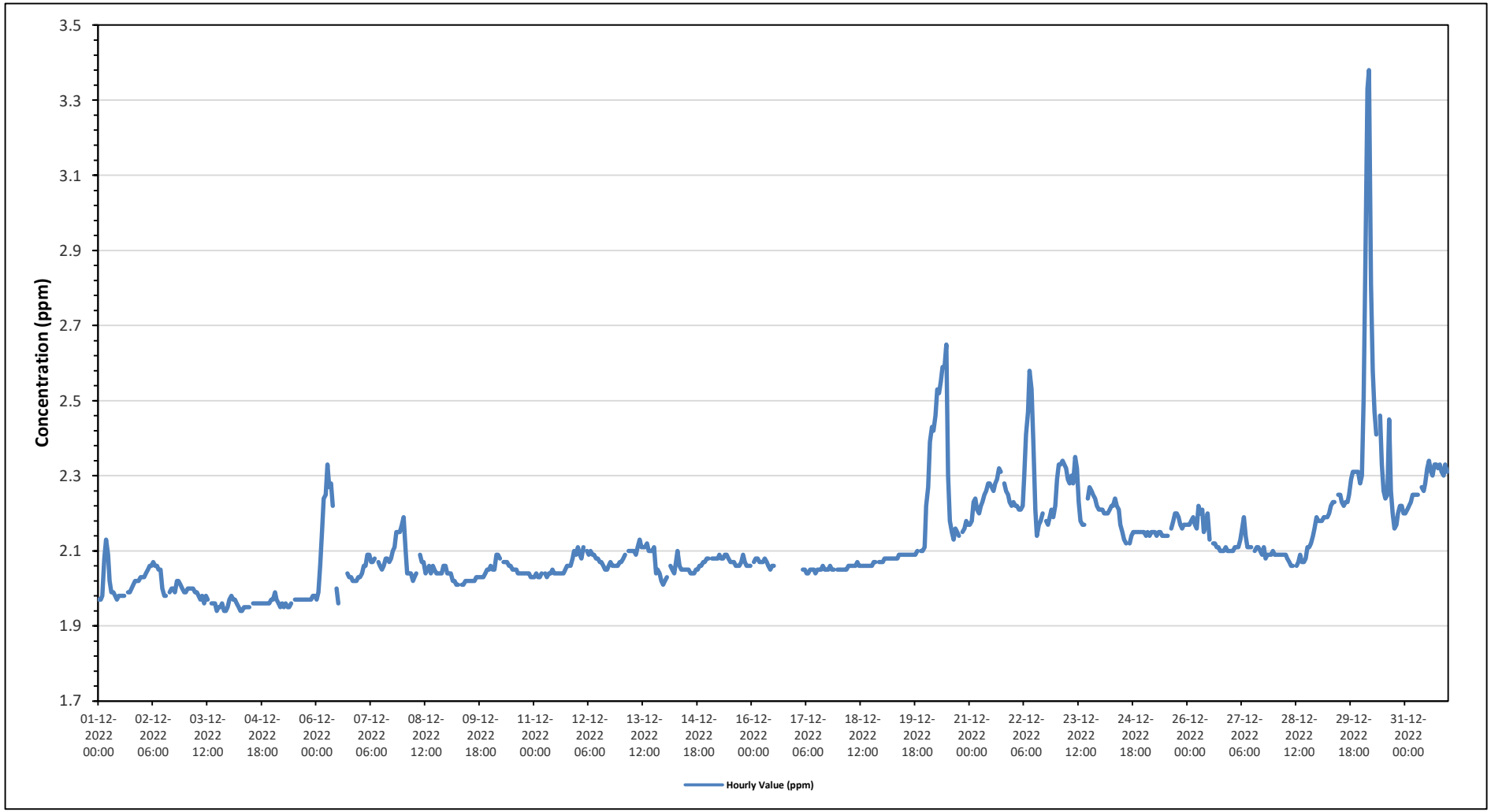
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.38 | ppm | on December 30 at hour 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.45 | ppm | on December 30 | Hours of Data: | 694 |
| Minimum Hourly Value: | 1.94 | ppm | on December 3 at hour 17 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.96 | ppm | on December 4 | Hours of Calibration: | 35 |
| Monthly Average: | 2.12 | ppm | | Operational Uptime: | 98.0 |

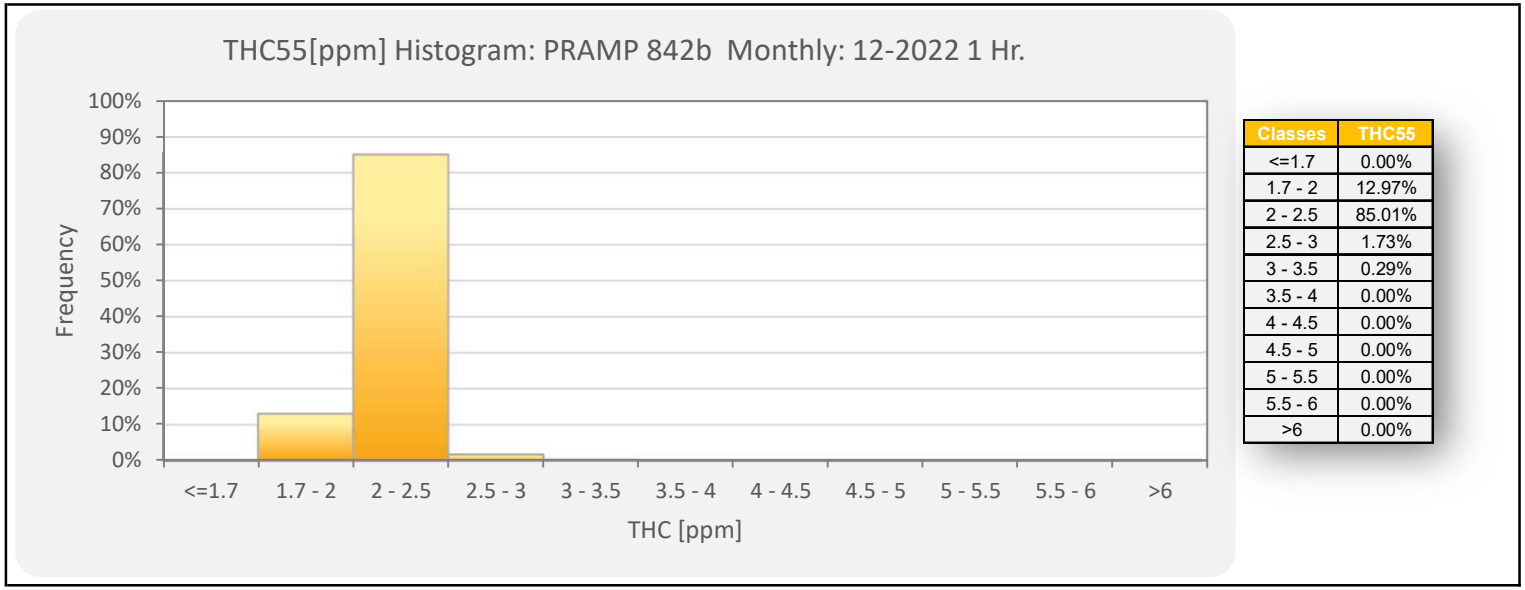
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.97 | 1.97 | 1.98 | 2.08 | 2.13 | 2.09 | 2.02 | 1.99 | 1.99 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 1.97 | 2.13 | 2.01 |
| Dec 2 | 2.03 | 2.03 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.00 | 1.98 | 1.98 | S | 1.99 | 2.00 | 2.00 | 1.99 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 2.07 | 2.02 |
| Dec 3 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.98 | 1.96 | 1.98 | 1.97 | S | 1.96 | 1.96 | 1.96 | 1.94 | 1.95 | 1.95 | 1.96 | 1.94 | 1.94 | 1.95 | **1.94** | 2.00 | 1.97 |
| Dec 4 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | **1.94** | 1.98 | 1.96 |
| Dec 5 | 1.97 | 1.99 | 1.97 | 1.96 | 1.95 | 1.96 | 1.95 | 1.96 | 1.95 | 1.95 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.95 | 1.99 | 1.97 |
| Dec 6 | 1.97 | 1.99 | 2.06 | 2.16 | 2.24 | 2.25 | 2.33 | 2.27 | 2.28 | 2.22 | S | 2.00 | 1.96 | C | C | C | C | 2.04 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.03 | 1.96 | 2.33 | 2.10 |
| Dec 7 | 2.03 | 2.04 | 2.06 | 2.06 | 2.09 | 2.09 | 2.07 | 2.07 | 2.08 | S | 2.07 | 2.06 | 2.05 | 2.06 | 2.08 | 2.08 | 2.07 | 2.08 | 2.10 | 2.11 | 2.15 | 2.15 | 2.15 | 2.17 | 2.03 | 2.17 | 2.09 |
| Dec 8 | 2.19 | 2.10 | 2.04 | 2.04 | 2.04 | 2.02 | 2.03 | 2.04 | S | 2.09 | 2.07 | 2.07 | 2.04 | 2.05 | 2.06 | 2.04 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.06 | 2.06 | 2.02 | 2.19 | 2.06 |
| Dec 9 | 2.04 | 2.04 | 2.04 | 2.02 | 2.02 | 2.01 | 2.01 | S | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.05 | 2.05 | 2.01 | 2.05 | 2.03 |
| Dec 10 | 2.06 | 2.05 | 2.05 | 2.09 | 2.09 | 2.08 | S | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.09 | 2.05 |
| Dec 11 | 2.03 | 2.04 | 2.03 | 2.03 | 2.04 | S | 2.04 | 2.03 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.06 | 2.06 | 2.08 | 2.10 | 2.09 | 2.03 | 2.10 | 2.05 |
| Dec 12 | 2.11 | 2.09 | 2.08 | 2.11 | S | 2.10 | 2.09 | 2.10 | 2.09 | 2.09 | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.05 | 2.11 | 2.08 |
| Dec 13 | 2.07 | 2.08 | 2.09 | S | 2.10 | 2.10 | 2.10 | 2.10 | 2.09 | 2.11 | 2.13 | 2.11 | 2.11 | 2.11 | 2.12 | 2.10 | 2.10 | 2.10 | 2.11 | 2.04 | 2.05 | 2.04 | 2.02 | 2.01 | 2.01 | 2.13 | 2.09 |
| Dec 14 | 2.02 | 2.03 | S | 2.06 | 2.05 | 2.04 | 2.07 | 2.10 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.02 | 2.10 | 2.05 |
| Dec 15 | 2.08 | S | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.08 | 2.08 | 2.09 | 2.09 | 2.08 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.07 | 2.09 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.09 | 2.07 |
| Dec 16 | S | 2.07 | 2.08 | 2.08 | 2.07 | 2.07 | 2.07 | 2.08 | 2.07 | 2.06 | 2.05 | 2.06 | 2.06 | P | P | P | P | P | P | P | P | P | P | P | 2.05 | 2.08 | - |
| Dec 17 | P | P | P | P | 2.05 | 2.05 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | S | 2.05 | 2.04 | 2.06 | 2.05 |
| Dec 18 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.07 | S | 2.07 | 2.07 | 2.05 | 2.07 | 2.06 |
| Dec 19 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | S | 2.10 | 2.10 | 2.11 | 2.07 | 2.11 | 2.09 |
| Dec 20 | 2.22 | 2.27 | 2.39 | 2.43 | 2.42 | 2.46 | 2.53 | 2.52 | 2.55 | 2.59 | 2.59 | 2.65 | 2.30 | 2.18 | 2.15 | 2.13 | 2.16 | 2.15 | 2.14 | S | 2.15 | 2.16 | 2.18 | 2.17 | 2.13 | 2.65 | 2.33 |
| Dec 21 | 2.17 | 2.18 | 2.23 | 2.24 | 2.21 | 2.20 | 2.22 | 2.23 | 2.25 | 2.26 | 2.28 | 2.28 | 2.27 | 2.26 | 2.28 | 2.29 | 2.32 | 2.31 | S | 2.28 | 2.26 | 2.25 | 2.23 | 2.22 | 2.17 | 2.32 | 2.25 |
| Dec 22 | 2.23 | 2.22 | 2.22 | 2.21 | 2.21 | 2.22 | 2.30 | 2.41 | 2.47 | 2.58 | 2.53 | 2.39 | 2.21 | 2.14 | 2.17 | 2.18 | 2.20 | S | 2.18 | 2.17 | 2.19 | 2.21 | 2.19 | 2.22 | 2.14 | 2.58 | 2.26 |
| Dec 23 | 2.29 | 2.33 | 2.33 | 2.34 | 2.33 | 2.32 | 2.29 | 2.28 | 2.30 | 2.28 | 2.35 | 2.32 | 2.23 | 2.18 | 2.17 | 2.17 | S | 2.24 | 2.27 | 2.26 | 2.25 | 2.24 | 2.22 | 2.21 | 2.17 | 2.35 | 2.27 |
| Dec 24 | 2.21 | 2.21 | 2.20 | 2.20 | 2.20 | 2.21 | 2.22 | 2.22 | 2.24 | 2.22 | 2.21 | 2.17 | 2.15 | 2.13 | 2.12 | S | 2.12 | 2.14 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2.12 | 2.24 | 2.18 |
| Dec 25 | 2.15 | 2.14 | 2.15 | 2.14 | 2.15 | 2.15 | 2.15 | 2.14 | 2.15 | 2.15 | 2.14 | 2.14 | 2.14 | 2.14 | S | 2.16 | 2.18 | 2.20 | 2.20 | 2.19 | 2.17 | 2.16 | 2.17 | 2.17 | 2.14 | 2.20 | 2.16 |
| Dec 26 | 2.17 | 2.17 | 2.18 | 2.19 | 2.17 | 2.16 | 2.22 | 2.20 | 2.21 | 2.15 | 2.17 | 2.20 | 2.13 | S | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.10 | 2.22 | 2.15 |
| Dec 27 | 2.10 | 2.10 | 2.11 | 2.11 | 2.11 | 2.13 | 2.16 | 2.19 | 2.14 | 2.11 | 2.11 | 2.11 | S | 2.10 | 2.11 | 2.11 | 2.10 | 2.09 | 2.11 | 2.08 | 2.09 | 2.09 | 2.09 | 2.10 | 2.08 | 2.19 | 2.11 |
| Dec 28 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.07 | 2.06 | 2.06 | S | 2.06 | 2.07 | 2.09 | 2.07 | 2.07 | 2.08 | 2.11 | 2.11 | 2.12 | 2.14 | 2.16 | 2.19 | 2.06 | 2.19 | 2.09 |
| Dec 29 | 2.18 | 2.18 | 2.18 | 2.19 | 2.19 | 2.19 | 2.20 | 2.22 | 2.23 | 2.23 | S | 2.25 | 2.25 | 2.23 | 2.22 | 2.23 | 2.23 | 2.25 | 2.29 | 2.31 | 2.31 | 2.31 | 2.31 | 2.28 | 2.18 | 2.31 | 2.24 |
| Dec 30 | 2.30 | 2.51 | 2.88 | 3.33 | **3.38** | 2.81 | 2.58 | 2.47 | 2.41 | S | 2.46 | 2.33 | 2.26 | 2.24 | 2.25 | 2.45 | 2.26 | 2.20 | 2.16 | 2.17 | 2.20 | 2.22 | 2.22 | 2.20 | 2.16 | **3.38** | **2.45** |
| Dec 31 | 2.20 | 2.21 | 2.22 | 2.23 | 2.25 | 2.25 | 2.25 | 2.25 | S | 2.27 | 2.26 | 2.28 | 2.32 | 2.34 | 2.31 | 2.30 | 2.33 | 2.33 | 2.32 | 2.33 | 2.31 | 2.30 | 2.33 | 2.31 | 2.20 | 2.34 | 2.28 |
| Diurnal Maximum | 2.30 | 2.51 | 2.88 | 3.33 | 3.38 | 2.81 | 2.58 | 2.52 | 2.55 | 2.59 | 2.59 | 2.65 | 2.32 | 2.34 | 2.31 | 2.45 | 2.33 | 2.33 | 2.32 | 2.33 | 2.31 | 2.31 | 2.33 | 2.31 | | | |
| Diurnal Average | 2.10 | 2.11 | 2.13 | 2.16 | 2.16 | 2.14 | 2.14 | 2.14 | 2.14 | 2.13 | 2.14 | 2.13 | 2.10 | 2.10 | 2.10 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

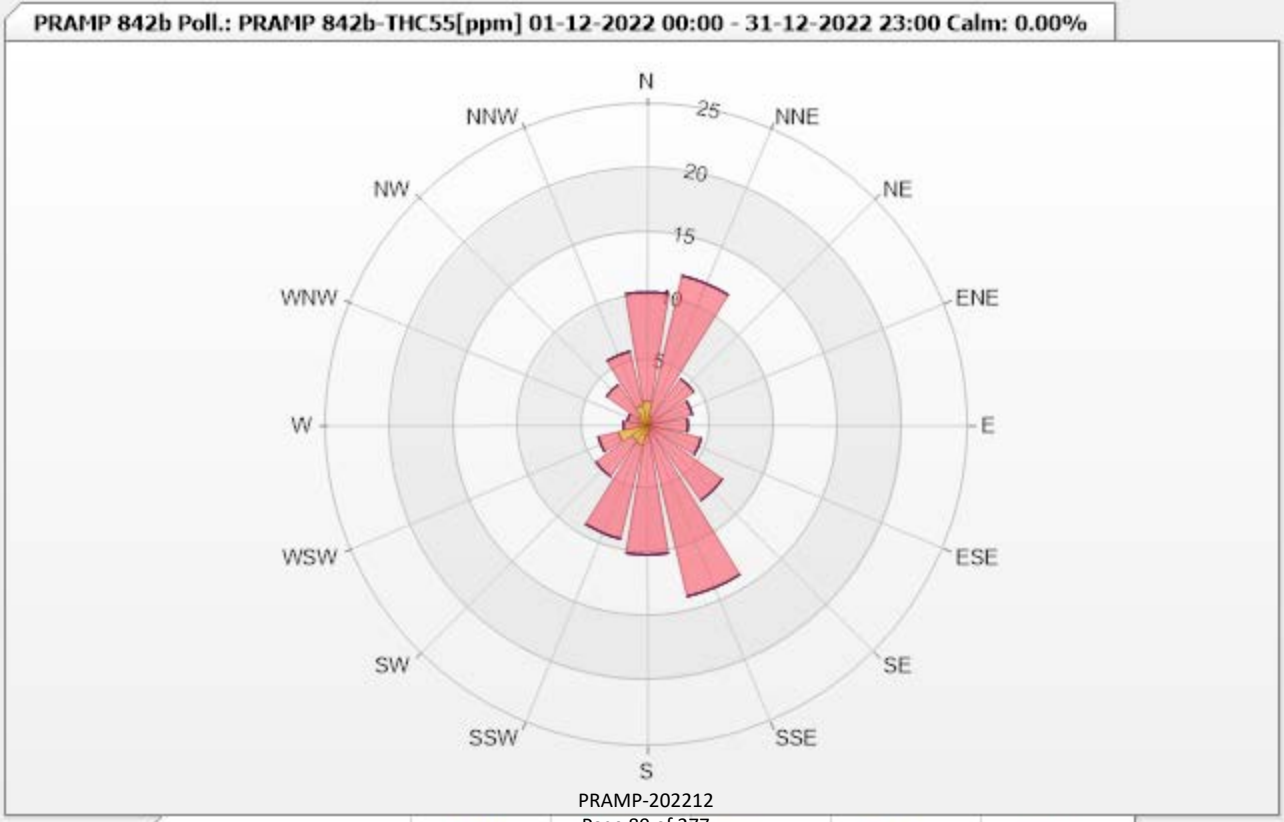





| Classes | THC55 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 12.97% |
| 2 - 2.5 | 85.01% |
| 2.5 - 3 | 1.73% |
| 3 - 3.5 | 0.29% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.87 | 8.5 | 0 | 0 | 0 | 10.37 |
| NNE | 0.72 | 11.24 | 0 | 0 | 0 | 11.96 |
| NE | 0 | 4.47 | 0 | 0 | 0 | 4.47 |
| ENE | 0.29 | 3.31 | 0 | 0 | 0 | 3.6 |
| E | 0 | 3.17 | 0 | 0 | 0 | 3.17 |
| ESE | 0.14 | 4.18 | 0 | 0 | 0 | 4.32 |
| SE | 0.29 | 6.92 | 0 | 0 | 0 | 7.21 |
| SSE | 0.43 | 13.26 | 0 | 0 | 0 | 13.69 |
| S | 0.72 | 9.37 | 0 | 0 | 0 | 10.09 |
| SSW | 1.59 | 7.49 | 0 | 0 | 0 | 9.08 |
| SW | 1.44 | 3.46 | 0 | 0 | 0 | 4.9 |
| WSW | 2.31 | 1.59 | 0 | 0 | 0 | 3.9 |
| W | 0.14 | 1.73 | 0 | 0 | 0 | 1.87 |
| WNW | 0.58 | 1.01 | 0 | 0 | 0 | 1.59 |
| NW | 0.86 | 3.03 | 0 | 0 | 0 | 3.89 |
| NNW | 1.59 | 4.32 | 0 | 0 | 0 | 5.91 |
| Summary | 12.97 | 87.05 | 0 | 0 | 0 | 100 |


PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
13 0-2
87 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## METHANE (CH4) in ppm

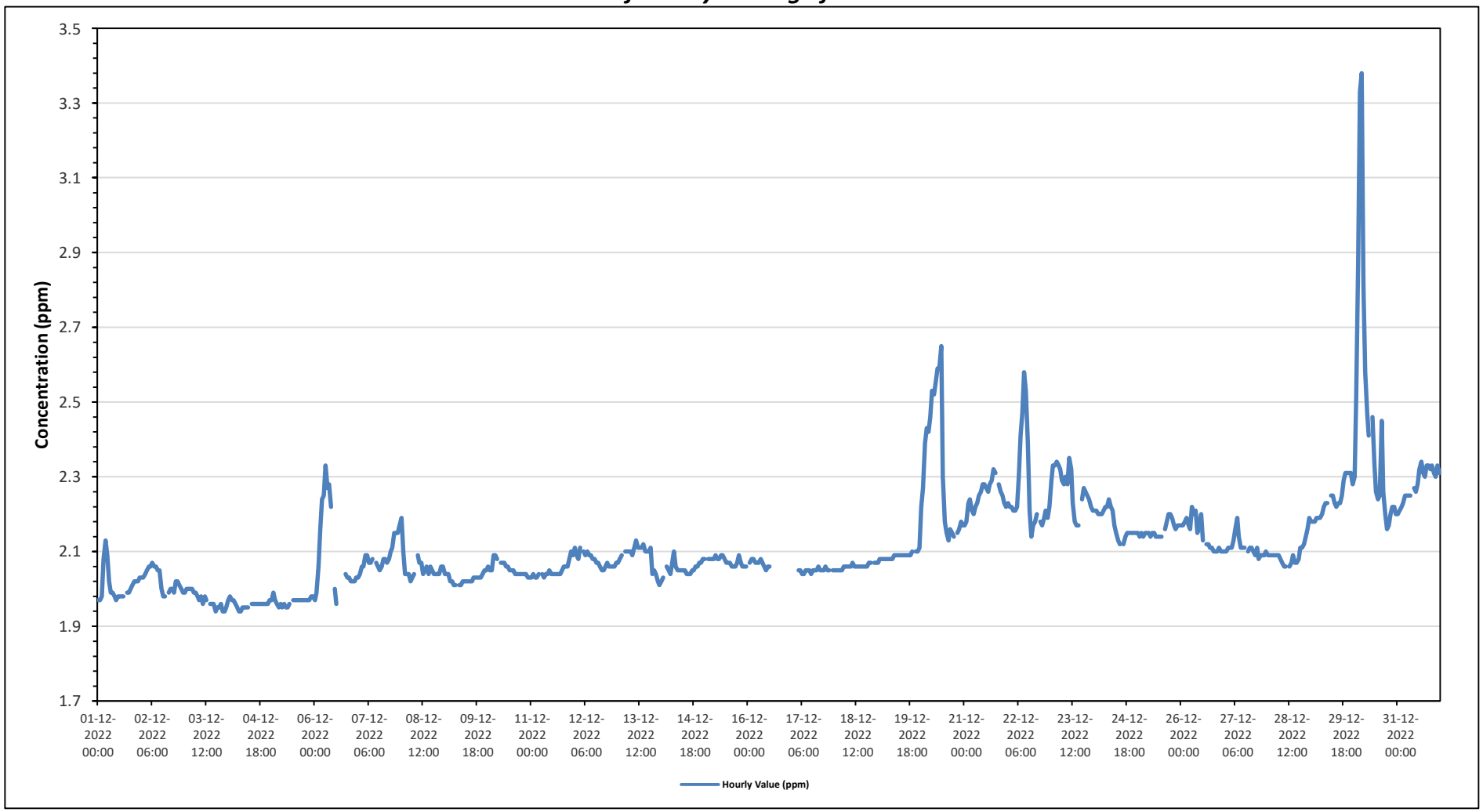
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3.38 | ppm | on December 30 at hour 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.45 | ppm | on December 30 | Hours of Data: | 694 |
| Minimum Hourly Value: | 1.94 | ppm | on December 3 at hour 17 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 1.96 | ppm | on December 4 | Hours of Calibration: | 35 |
| Monthly Average: | 2.12 | ppm | | Operational Uptime: | 98.0 |

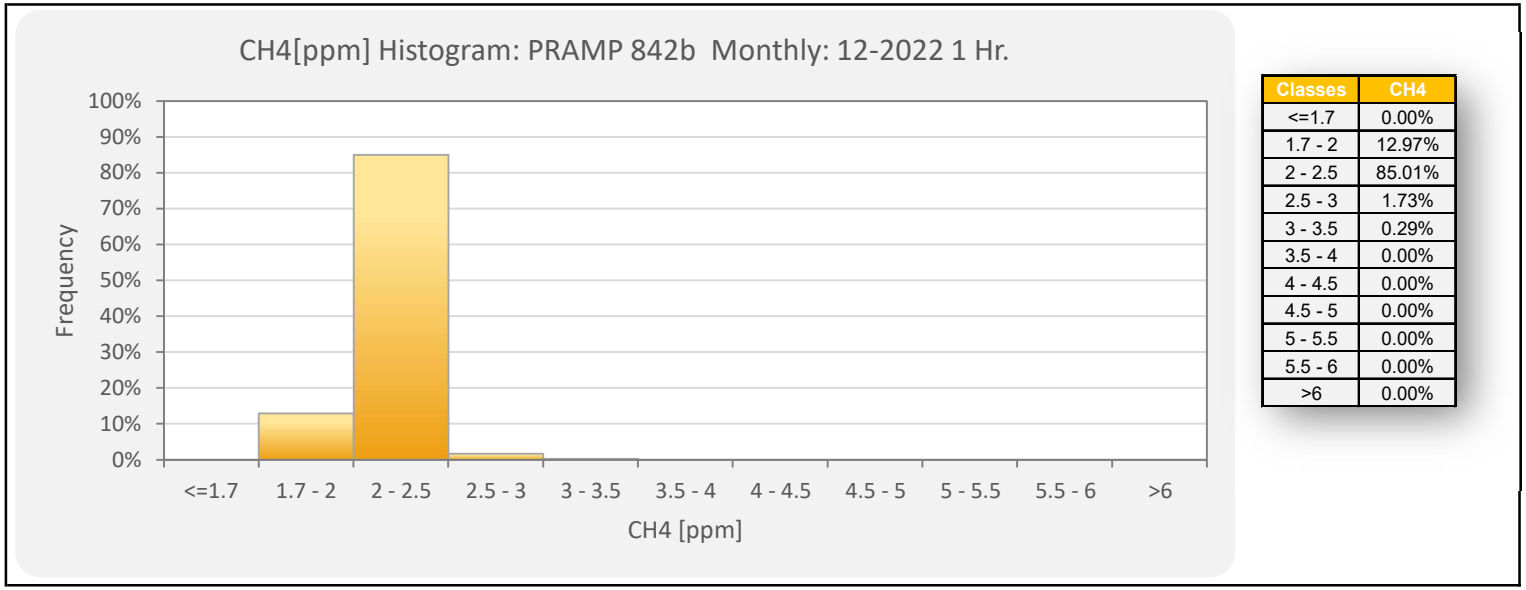
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.97 | 1.97 | 1.98 | 2.08 | 2.13 | 2.09 | 2.02 | 1.99 | 1.99 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 1.97 | 2.13 | 2.01 |
| Dec 2 | 2.03 | 2.03 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.00 | 1.98 | 1.98 | S | 1.99 | 2.00 | 2.00 | 1.99 | 2.02 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 2.07 | 2.02 |
| Dec 3 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.98 | 1.96 | 1.98 | 1.97 | S | 1.96 | 1.96 | 1.96 | 1.94 | 1.95 | 1.95 | 1.96 | 1.94 | 1.94 | 1.95 | **1.94** | 2.00 | 1.97 |
| Dec 4 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | **1.94** | 1.98 | 1.96 |
| Dec 5 | 1.97 | 1.99 | 1.97 | 1.96 | 1.95 | 1.96 | 1.95 | 1.96 | 1.95 | 1.95 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.95 | 1.99 | 1.97 |
| Dec 6 | 1.97 | 1.99 | 2.06 | 2.16 | 2.24 | 2.25 | 2.33 | 2.27 | 2.28 | 2.22 | S | 2.00 | 1.96 | C | C | C | C | 2.04 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.03 | 1.96 | 2.33 | 2.10 |
| Dec 7 | 2.03 | 2.04 | 2.06 | 2.06 | 2.09 | 2.09 | 2.07 | 2.07 | 2.08 | S | 2.07 | 2.06 | 2.05 | 2.06 | 2.08 | 2.08 | 2.07 | 2.08 | 2.10 | 2.11 | 2.15 | 2.15 | 2.15 | 2.17 | 2.03 | 2.17 | 2.09 |
| Dec 8 | 2.19 | 2.10 | 2.04 | 2.04 | 2.04 | 2.02 | 2.03 | 2.04 | S | 2.09 | 2.07 | 2.07 | 2.04 | 2.05 | 2.06 | 2.04 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.06 | 2.06 | 2.02 | 2.19 | 2.06 |
| Dec 9 | 2.04 | 2.04 | 2.04 | 2.02 | 2.02 | 2.01 | 2.01 | S | 2.01 | 2.01 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.05 | 2.05 | 2.01 | 2.05 | 2.03 |
| Dec 10 | 2.06 | 2.05 | 2.05 | 2.09 | 2.09 | 2.08 | S | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.03 | 2.03 | 2.09 | 2.05 |
| Dec 11 | 2.03 | 2.04 | 2.03 | 2.03 | 2.04 | S | 2.04 | 2.03 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.06 | 2.06 | 2.08 | 2.10 | 2.09 | 2.03 | 2.10 | 2.05 |
| Dec 12 | 2.11 | 2.09 | 2.08 | 2.11 | S | 2.10 | 2.09 | 2.10 | 2.09 | 2.09 | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.05 | 2.11 | 2.08 |
| Dec 13 | 2.07 | 2.08 | 2.09 | S | 2.10 | 2.10 | 2.10 | 2.10 | 2.09 | 2.11 | 2.13 | 2.11 | 2.11 | 2.11 | 2.12 | 2.10 | 2.10 | 2.10 | 2.11 | 2.04 | 2.05 | 2.04 | 2.02 | 2.01 | 2.01 | 2.13 | 2.09 |
| Dec 14 | 2.02 | 2.03 | S | 2.06 | 2.05 | 2.04 | 2.07 | 2.10 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.02 | 2.10 | 2.05 |
| Dec 15 | 2.08 | S | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.08 | 2.08 | 2.09 | 2.09 | 2.08 | 2.07 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.07 | 2.09 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.09 | 2.07 |
| Dec 16 | S | 2.07 | 2.08 | 2.08 | 2.07 | 2.07 | 2.07 | 2.08 | 2.07 | 2.06 | 2.05 | 2.06 | 2.06 | P | P | P | P | P | P | P | P | P | P | P | 2.05 | 2.08 | - |
| Dec 17 | P | P | P | P | 2.05 | 2.05 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | S | 2.05 | 2.04 | 2.06 | 2.05 |
| Dec 18 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.07 | S | 2.07 | 2.07 | 2.05 | 2.07 | 2.06 |
| Dec 19 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | S | 2.10 | 2.10 | 2.11 | 2.07 | 2.11 | 2.09 |
| Dec 20 | 2.22 | 2.27 | 2.39 | 2.43 | 2.42 | 2.46 | 2.53 | 2.52 | 2.55 | 2.59 | 2.59 | 2.65 | 2.30 | 2.18 | 2.15 | 2.13 | 2.16 | 2.15 | 2.14 | S | 2.15 | 2.16 | 2.18 | 2.17 | 2.13 | 2.65 | 2.33 |
| Dec 21 | 2.17 | 2.18 | 2.23 | 2.24 | 2.21 | 2.20 | 2.22 | 2.23 | 2.25 | 2.26 | 2.28 | 2.28 | 2.27 | 2.26 | 2.28 | 2.29 | 2.32 | 2.31 | S | 2.28 | 2.26 | 2.25 | 2.23 | 2.22 | 2.17 | 2.32 | 2.25 |
| Dec 22 | 2.23 | 2.22 | 2.22 | 2.21 | 2.21 | 2.22 | 2.30 | 2.41 | 2.47 | 2.58 | 2.53 | 2.39 | 2.21 | 2.14 | 2.17 | 2.18 | 2.20 | S | 2.18 | 2.17 | 2.19 | 2.21 | 2.19 | 2.22 | 2.14 | 2.58 | 2.26 |
| Dec 23 | 2.29 | 2.33 | 2.33 | 2.34 | 2.33 | 2.32 | 2.29 | 2.28 | 2.30 | 2.28 | 2.35 | 2.32 | 2.23 | 2.18 | 2.17 | 2.17 | S | 2.24 | 2.27 | 2.26 | 2.25 | 2.24 | 2.22 | 2.21 | 2.17 | 2.35 | 2.27 |
| Dec 24 | 2.21 | 2.21 | 2.20 | 2.20 | 2.20 | 2.21 | 2.22 | 2.22 | 2.24 | 2.22 | 2.21 | 2.17 | 2.15 | 2.13 | 2.12 | S | 2.12 | 2.14 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2.12 | 2.24 | 2.18 |
| Dec 25 | 2.15 | 2.14 | 2.15 | 2.14 | 2.15 | 2.15 | 2.15 | 2.14 | 2.15 | 2.15 | 2.14 | 2.14 | 2.14 | 2.14 | S | 2.16 | 2.18 | 2.20 | 2.20 | 2.19 | 2.17 | 2.16 | 2.17 | 2.17 | 2.14 | 2.20 | 2.16 |
| Dec 26 | 2.17 | 2.17 | 2.18 | 2.19 | 2.17 | 2.16 | 2.22 | 2.20 | 2.21 | 2.15 | 2.17 | 2.20 | 2.13 | S | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.10 | 2.22 | 2.15 |
| Dec 27 | 2.10 | 2.10 | 2.11 | 2.11 | 2.11 | 2.13 | 2.16 | 2.19 | 2.14 | 2.11 | 2.11 | 2.11 | S | 2.10 | 2.11 | 2.11 | 2.10 | 2.09 | 2.11 | 2.08 | 2.09 | 2.09 | 2.09 | 2.10 | 2.08 | 2.19 | 2.11 |
| Dec 28 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.07 | 2.06 | 2.06 | S | 2.06 | 2.07 | 2.09 | 2.07 | 2.07 | 2.08 | 2.11 | 2.11 | 2.12 | 2.14 | 2.16 | 2.19 | 2.06 | 2.19 | 2.09 |
| Dec 29 | 2.18 | 2.18 | 2.18 | 2.19 | 2.19 | 2.19 | 2.20 | 2.22 | 2.23 | 2.23 | S | 2.25 | 2.25 | 2.23 | 2.22 | 2.23 | 2.23 | 2.25 | 2.29 | 2.31 | 2.31 | 2.31 | 2.31 | 2.28 | 2.18 | 2.31 | 2.24 |
| Dec 30 | 2.30 | 2.51 | 2.88 | 3.33 | **3.38** | 2.81 | 2.58 | 2.47 | 2.41 | S | 2.46 | 2.33 | 2.26 | 2.24 | 2.25 | 2.45 | 2.26 | 2.20 | 2.16 | 2.17 | 2.20 | 2.22 | 2.22 | 2.20 | 2.16 | **3.38** | **2.45** |
| Dec 31 | 2.20 | 2.21 | 2.22 | 2.23 | 2.25 | 2.25 | 2.25 | 2.25 | S | 2.27 | 2.26 | 2.28 | 2.32 | 2.34 | 2.31 | 2.30 | 2.33 | 2.33 | 2.32 | 2.33 | 2.31 | 2.30 | 2.33 | 2.31 | 2.20 | 2.34 | 2.28 |
| Diurnal Maximum | 2.30 | 2.51 | 2.88 | 3.33 | 3.38 | 2.81 | 2.58 | 2.52 | 2.55 | 2.59 | 2.59 | 2.65 | 2.32 | 2.34 | 2.31 | 2.45 | 2.33 | 2.33 | 2.32 | 2.33 | 2.31 | 2.31 | 2.33 | 2.31 | | | |
| Diurnal Average | 2.10 | 2.11 | 2.13 | 2.16 | 2.16 | 2.14 | 2.14 | 2.14 | 2.14 | 2.13 | 2.14 | 2.13 | 2.10 | 2.10 | 2.10 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

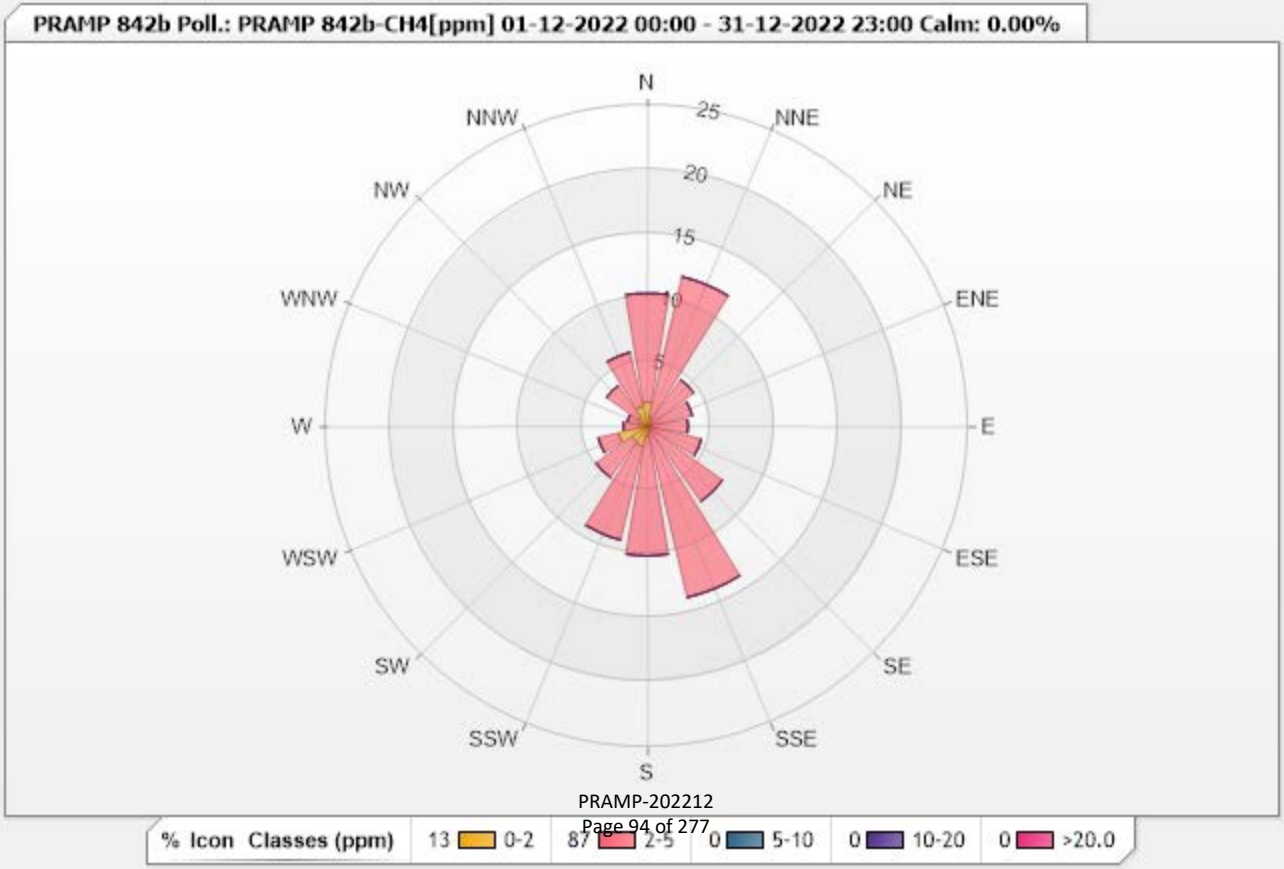





| Classes | CH4 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 12.97% |
| 2 - 2.5 | 85.01% |
| 2.5 - 3 | 1.73% |
| 3 - 3.5 | 0.29% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.87 | 8.5 | 0 | 0 | 0 | 10.37 |
| NNE | 0.72 | 11.24 | 0 | 0 | 0 | 11.96 |
| NE | 0 | 4.47 | 0 | 0 | 0 | 4.47 |
| ENE | 0.29 | 3.31 | 0 | 0 | 0 | 3.6 |
| E | 0 | 3.17 | 0 | 0 | 0 | 3.17 |
| ESE | 0.14 | 4.18 | 0 | 0 | 0 | 4.32 |
| SE | 0.29 | 6.92 | 0 | 0 | 0 | 7.21 |
| SSE | 0.43 | 13.26 | 0 | 0 | 0 | 13.69 |
| S | 0.72 | 9.37 | 0 | 0 | 0 | 10.09 |
| SSW | 1.59 | 7.49 | 0 | 0 | 0 | 9.08 |
| SW | 1.44 | 3.46 | 0 | 0 | 0 | 4.9 |
| WSW | 2.31 | 1.59 | 0 | 0 | 0 | 3.9 |
| W | 0.14 | 1.73 | 0 | 0 | 0 | 1.87 |
| WNW | 0.58 | 1.01 | 0 | 0 | 0 | 1.59 |
| NW | 0.86 | 3.03 | 0 | 0 | 0 | 3.89 |
| NNW | 1.59 | 4.32 | 0 | 0 | 0 | 5.91 |
| Summary | 12.97 | 87.05 | 0 | 0 | 0 | 100 |


PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
13 0-2
87 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - December 2022*

## Summary of Hourly Averages

## NON-METHANE HYDROCARBONS (NMHC) in ppm

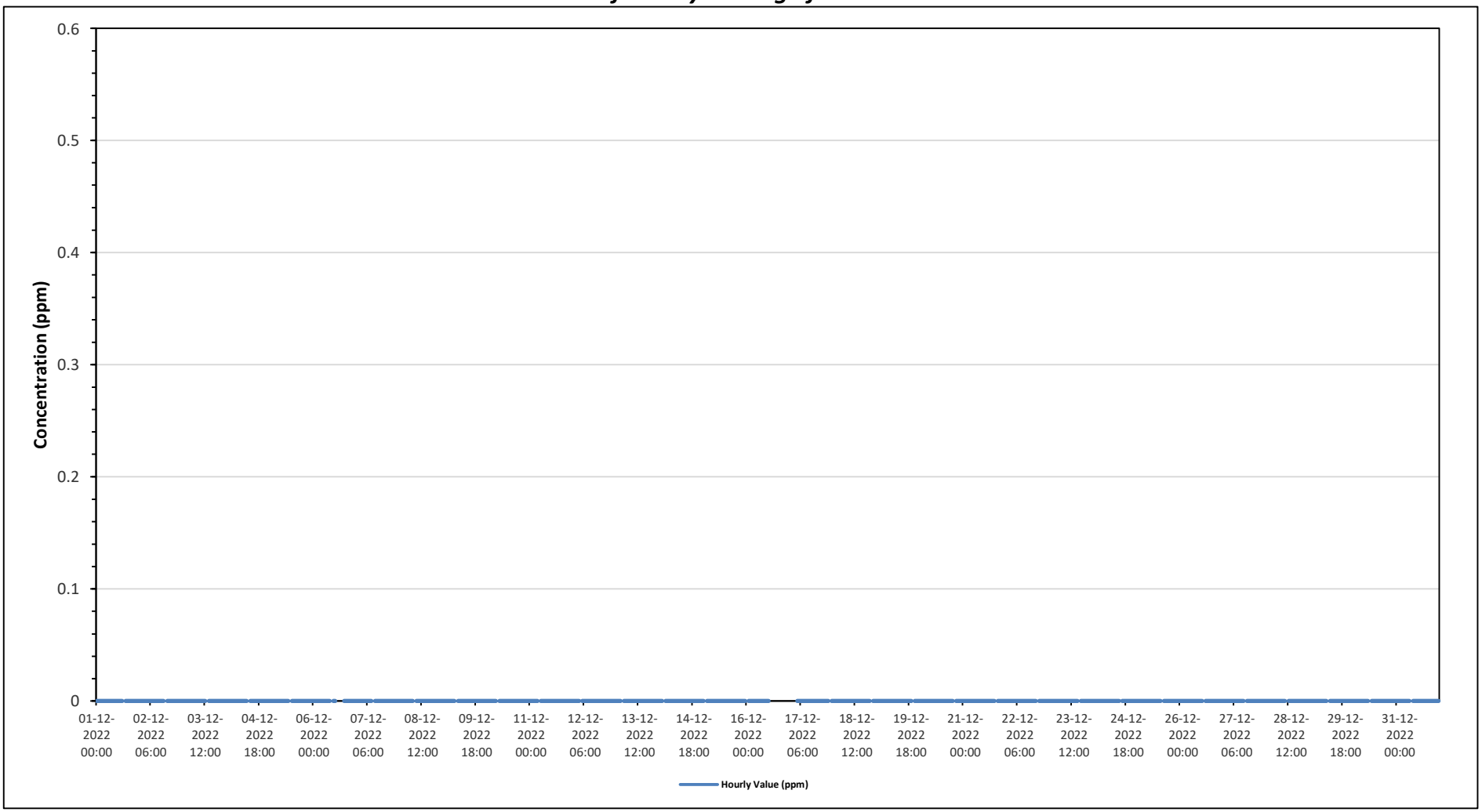
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on December 1 | Hours of Data: | 694 |
| Minimum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.00 | ppm | on December 1 | Hours of Calibration: | 35 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 98.0 |

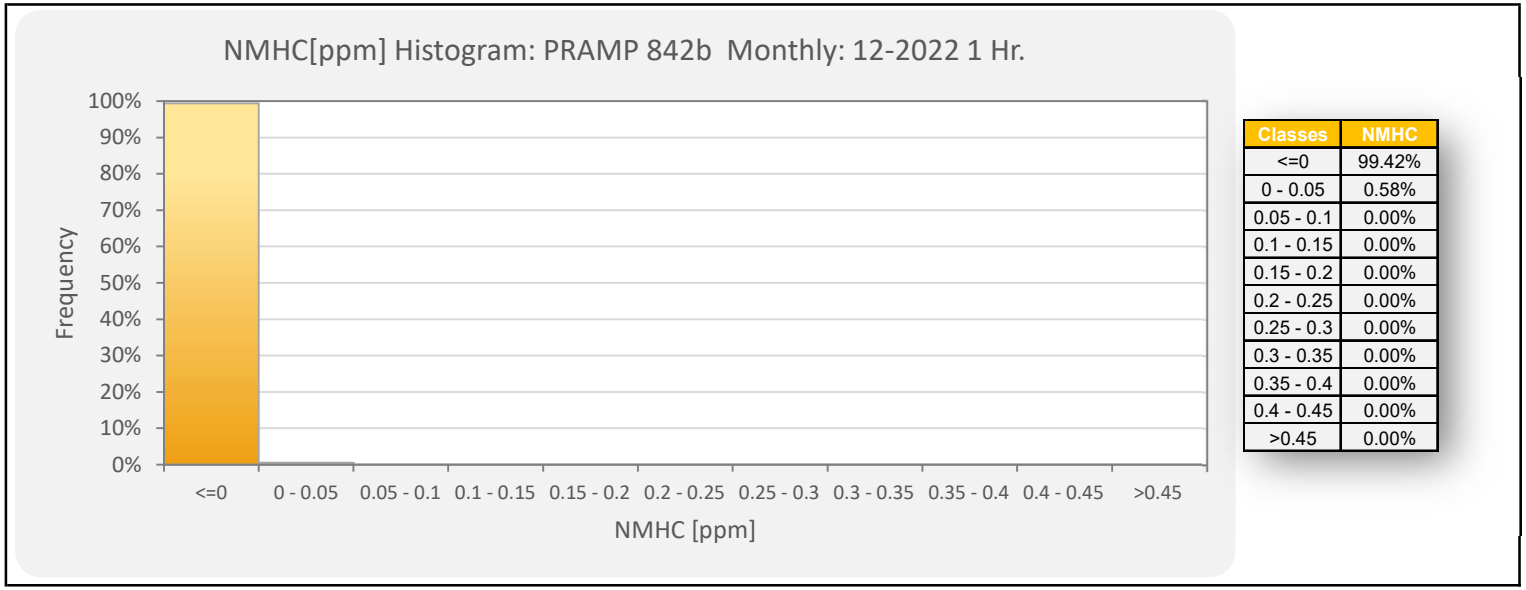
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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*

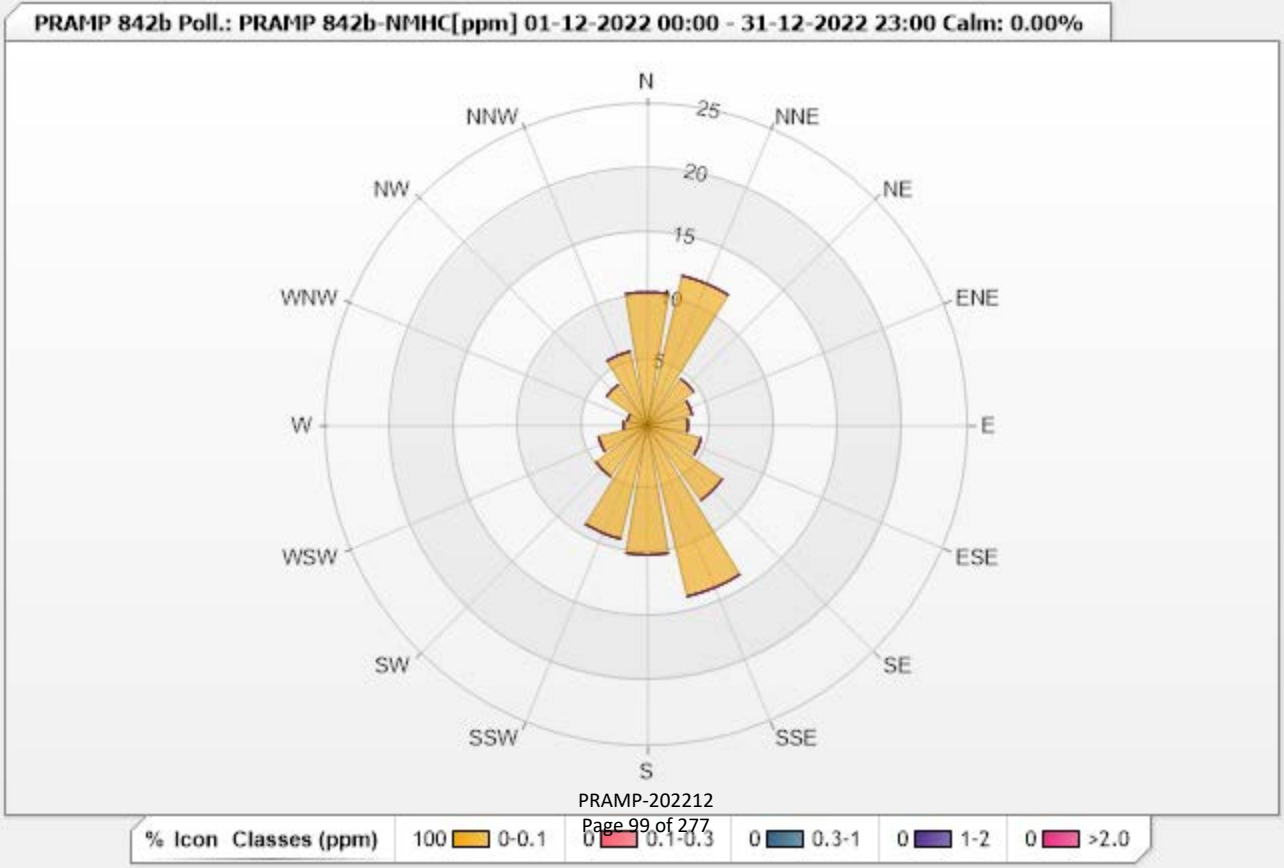





| Classes | NMHC |
|---|---|
| <=0 | 99.42% |
| 0 - 0.05 | 0.58% |
| 0.05 - 0.1 | 0.00% |
| 0.1 - 0.15 | 0.00% |
| 0.15 - 0.2 | 0.00% |
| 0.2 - 0.25 | 0.00% |
| 0.25 - 0.3 | 0.00% |
| 0.3 - 0.35 | 0.00% |
| 0.35 - 0.4 | 0.00% |
| 0.4 - 0.45 | 0.00% |
| >0.45 | 0.00% |

Wind: PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|---|---|---|---|---|---|---|
| N | 10.37 | 0 | 0 | 0 | 0 | 10.37 |
| NNE | 11.96 | 0 | 0 | 0 | 0 | 11.96 |
| NE | 4.47 | 0 | 0 | 0 | 0 | 4.47 |
| ENE | 3.6 | 0 | 0 | 0 | 0 | 3.6 |
| E | 3.17 | 0 | 0 | 0 | 0 | 3.17 |
| ESE | 4.32 | 0 | 0 | 0 | 0 | 4.32 |
| SE | 7.2 | 0 | 0 | 0 | 0 | 7.2 |
| SSE | 13.69 | 0 | 0 | 0 | 0 | 13.69 |
| S | 10.09 | 0 | 0 | 0 | 0 | 10.09 |
| SSW | 9.08 | 0 | 0 | 0 | 0 | 9.08 |
| SW | 4.9 | 0 | 0 | 0 | 0 | 4.9 |
| WSW | 3.89 | 0 | 0 | 0 | 0 | 3.89 |
| W | 1.87 | 0 | 0 | 0 | 0 | 1.87 |
| WNW | 1.59 | 0 | 0 | 0 | 0 | 1.59 |
| NW | 3.89 | 0 | 0 | 0 | 0 | 3.89 |
| NNW | 5.91 | 0 | 0 | 0 | 0 | 5.91 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-1
0 1-2
0 >2.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## RELATIVE HUMIDITY (RH) in %

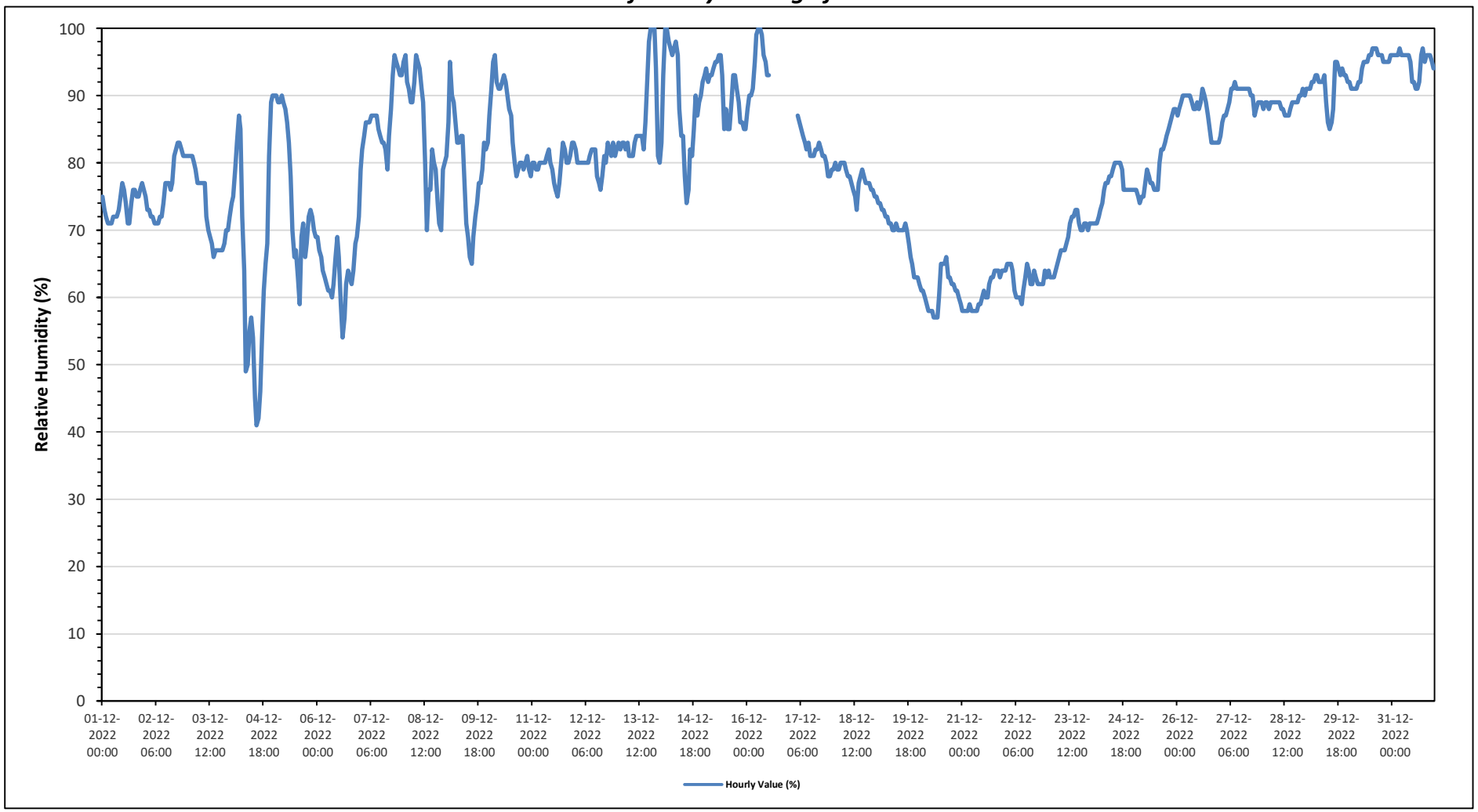
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 100 | % | on December 13 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 95.0 | % | on December 31 | Hours of Data: | 729 |
| Minimum Hourly Value: | 41 | % | on December 4 at hour 14 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 60.5 | % | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | 79.4 | % | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 75 | 73 | 72 | 71 | 71 | 71 | 72 | 72 | 72 | 73 | 75 | 77 | 76 | 74 | 71 | 71 | 74 | 76 | 76 | 75 | 75 | 76 | 77 | 76 | 71 | 77 | 73.8 |
| Dec 2 | 75 | 73 | 73 | 72 | 72 | 71 | 71 | 71 | 72 | 72 | 74 | 77 | 77 | 77 | 76 | 77 | 81 | 82 | 83 | 83 | 82 | 81 | 81 | 81 | 71 | 83 | 76.4 |
| Dec 3 | 81 | 81 | 81 | 80 | 79 | 77 | 77 | 77 | 77 | 77 | 72 | 70 | 69 | 68 | 66 | 67 | 67 | 67 | 67 | 67 | 68 | 70 | 70 | 72 | 66 | 81 | 72.8 |
| Dec 4 | 74 | 75 | 79 | 83 | 87 | 85 | 72 | 64 | 49 | 50 | 55 | 57 | 54 | 45 | **41** | 42 | 46 | 54 | 61 | 65 | 68 | 81 | 89 | 90 | **41** | 90 | 65.3 |
| Dec 5 | 90 | 90 | 89 | 89 | 90 | 89 | 88 | 86 | 83 | 78 | 70 | 66 | 67 | 63 | 59 | 69 | 71 | 66 | 68 | 72 | 73 | 72 | 70 | 69 | 59 | 90 | 76.1 |
| Dec 6 | 69 | 67 | 66 | 64 | 63 | 62 | 61 | 61 | 60 | 62 | 66 | 69 | 66 | 59 | 54 | 57 | 62 | 64 | 63 | 62 | 64 | 68 | 69 | 72 | 54 | 72 | 63.8 |
| Dec 7 | 79 | 82 | 84 | 86 | 86 | 86 | 87 | 87 | 87 | 87 | 85 | 84 | 83 | 83 | 82 | 79 | 84 | 88 | 93 | 96 | 95 | 94 | 93 | 93 | 79 | 96 | 86.8 |
| Dec 8 | 95 | 96 | 92 | 91 | 89 | 89 | 92 | 96 | 95 | 94 | 91 | 89 | 80 | 70 | 76 | 76 | 82 | 80 | 79 | 74 | 71 | 70 | 79 | 80 | 70 | 96 | 84.4 |
| Dec 9 | 81 | 86 | 95 | 90 | 89 | 86 | 83 | 83 | 84 | 84 | 77 | 71 | 69 | 66 | 65 | 69 | 72 | 74 | 77 | 77 | 79 | 83 | 82 | 83 | 65 | 95 | 79.4 |
| Dec 10 | 87 | 91 | 95 | 96 | 92 | 91 | 91 | 92 | 93 | 92 | 90 | 88 | 87 | 83 | 80 | 78 | 79 | 80 | 80 | 79 | 80 | 81 | 79 | 78 | 78 | 96 | 85.9 |
| Dec 11 | 80 | 80 | 79 | 79 | 80 | 80 | 80 | 80 | 81 | 82 | 80 | 79 | 77 | 76 | 75 | 77 | 80 | 83 | 82 | 80 | 80 | 81 | 83 | 83 | 75 | 83 | 79.9 |
| Dec 12 | 82 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 81 | 82 | 82 | 82 | 78 | 77 | 76 | 78 | 81 | 80 | 83 | 82 | 81 | 83 | 81 | 82 | 76 | 83 | 80.5 |
| Dec 13 | 83 | 82 | 83 | 83 | 82 | 83 | 81 | 81 | 81 | 83 | 84 | 84 | 84 | 84 | 82 | 86 | 92 | 98 | **100** | **100** | **100** | 94 | 81 | 80 | 80 | **100** | 86.3 |
| Dec 14 | 83 | 93 | **100** | **100** | 98 | 97 | 96 | 97 | 98 | 96 | 88 | 84 | 84 | 78 | 74 | 76 | 82 | 81 | 85 | 90 | 87 | 89 | 90 | 92 | 74 | **100** | 89.1 |
| Dec 15 | 93 | 94 | 92 | 93 | 93 | 94 | 95 | 95 | 96 | 96 | 93 | 85 | 88 | 85 | 85 | 89 | 93 | 93 | 91 | 89 | 86 | 86 | 85 | 85 | 85 | 96 | 90.6 |
| Dec 16 | 88 | 90 | 90 | 91 | 95 | 99 | **100** | **100** | 99 | 96 | 95 | 93 | 93 | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | 88 | **100** | - |
| Dec 17 | **P** | **P** | **P** | **P** | 87 | 86 | 85 | 84 | 83 | 82 | 83 | 81 | 81 | 81 | 82 | 82 | 83 | 82 | 81 | 81 | 80 | 78 | 78 | 79 | 78 | 87 | 82.0 |
| Dec 18 | 79 | 80 | 79 | 79 | 80 | 80 | 80 | 79 | 78 | 78 | 77 | 76 | 75 | 73 | 77 | 78 | 79 | 78 | 77 | 77 | 77 | 76 | 76 | 75 | 73 | 80 | 77.6 |
| Dec 19 | 75 | 74 | 74 | 73 | 73 | 72 | 72 | 71 | 71 | 70 | 70 | 71 | 70 | 70 | 70 | 70 | 71 | 70 | 68 | 66 | 65 | 63 | 63 | 63 | 63 | 75 | 69.8 |
| Dec 20 | 62 | 61 | 61 | 60 | 59 | 58 | 58 | 58 | 57 | 57 | 57 | 60 | 65 | 65 | 65 | 66 | 63 | 63 | 62 | 62 | 61 | 61 | 60 | 59 | 57 | 66 | 60.8 |
| Dec 21 | 58 | 58 | 58 | 58 | 59 | 58 | 58 | 58 | 58 | 59 | 59 | 60 | 61 | 60 | 60 | 62 | 63 | 63 | 64 | 64 | 64 | 63 | 64 | 64 | 58 | 64 | 60.5 |
| Dec 22 | 64 | 65 | 65 | 65 | 64 | 61 | 60 | 60 | 60 | 59 | 61 | 63 | 65 | 64 | 62 | 62 | 64 | 63 | 62 | 62 | 62 | 62 | 64 | 63 | 59 | 65 | 62.6 |
| Dec 23 | 64 | 63 | 63 | 63 | 64 | 65 | 66 | 67 | 67 | 67 | 68 | 69 | 71 | 72 | 72 | 73 | 73 | 71 | 70 | 70 | 71 | 71 | 70 | 71 | 63 | 73 | 68.4 |
| Dec 24 | 71 | 71 | 71 | 71 | 72 | 73 | 74 | 76 | 77 | 77 | 78 | 78 | 79 | 80 | 80 | 80 | 80 | 79 | 76 | 76 | 76 | 76 | 76 | 76 | 71 | 80 | 76.0 |
| Dec 25 | 76 | 76 | 75 | 74 | 75 | 75 | 77 | 79 | 78 | 77 | 77 | 76 | 76 | 76 | 80 | 82 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 88 | 74 | 88 | 79.7 |
| Dec 26 | 87 | 88 | 89 | 90 | 90 | 90 | 90 | 90 | 89 | 88 | 88 | 89 | 88 | 89 | 91 | 90 | 89 | 87 | 85 | 83 | 83 | 83 | 83 | 83 | 83 | 91 | 87.6 |
| Dec 27 | 84 | 86 | 87 | 87 | 88 | 89 | 91 | 91 | 92 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 90 | 90 | 87 | 88 | 89 | 89 | 89 | 84 | 92 | 89.4 |
| Dec 28 | 88 | 89 | 89 | 88 | 89 | 89 | 89 | 89 | 89 | 89 | 88 | 88 | 87 | 87 | 87 | 88 | 89 | 89 | 89 | 89 | 90 | 90 | 91 | 90 | 87 | 91 | 88.8 |
| Dec 29 | 91 | 91 | 91 | 92 | 92 | 93 | 93 | 92 | 92 | 92 | 93 | 89 | 86 | 85 | 86 | 88 | 95 | 95 | 94 | 93 | 94 | 93 | 93 | 92 | 85 | 95 | 91.5 |
| Dec 30 | 92 | 91 | 91 | 91 | 91 | 92 | 92 | 94 | 95 | 95 | 95 | 96 | 96 | 97 | 97 | 97 | 96 | 96 | 96 | 95 | 95 | 95 | 95 | 96 | 91 | 97 | 94.4 |
| Dec 31 | 96 | 96 | 96 | 96 | 97 | 96 | 96 | 96 | 96 | 96 | 95 | 92 | 92 | 91 | 91 | 92 | 96 | 97 | 95 | 96 | 96 | 96 | 95 | 94 | 91 | 97 | **95.0** |
| Diurnal Maximum | 96 | 96 | 100 | 100 | 98 | 99 | 100 | 100 | 99 | 96 | 95 | 96 | 96 | 97 | 97 | 97 | 96 | 98 | 100 | 100 | 100 | 96 | 95 | 96 | | | |
| Diurnal Average | 80.1 | 80.7 | 81.3 | 81.2 | 81.5 | 81.2 | 80.9 | 80.8 | 80.3 | 80.0 | 79.3 | 78.5 | 77.9 | 75.6 | 75.1 | 76.4 | 78.7 | 79.1 | 79.4 | 79.2 | 79.2 | 79.7 | 79.8 | 79.9 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## BAROMETRIC PRESSURE (BP) in millibar

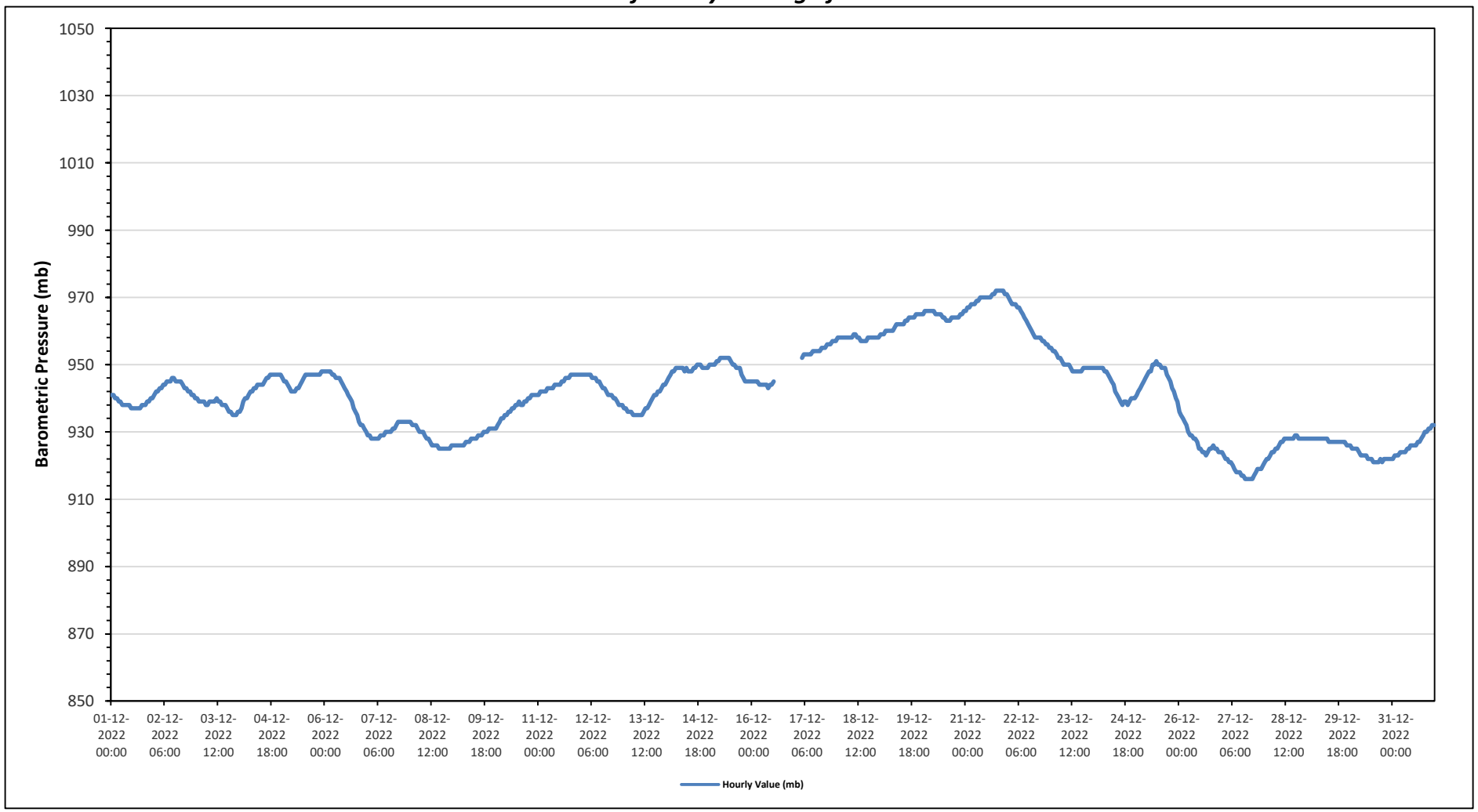
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 972 | mb | on December 21 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 970 | mb | on December 21 | Hours of Data: | 729 |
| Minimum Hourly Value: | 916 | mb | on December 27 at hour 13 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 919 | mb | on December 27 | Hours of Calibration: | 0 |
| Monthly Average: | 942 | mb | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 941 | 941 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 937 | 941 | 938.5 |
| Dec 2 | 941 | 942 | 942 | 943 | 943 | 944 | 944 | 945 | 945 | 945 | 946 | 946 | 945 | 945 | 945 | 945 | 944 | 943 | 943 | 942 | 942 | 941 | 941 | 940 | 940 | 946 | 943.4 |
| Dec 3 | 940 | 939 | 939 | 939 | 939 | 938 | 938 | 939 | 939 | 939 | 939 | 940 | 939 | 939 | 938 | 938 | 938 | 937 | 936 | 936 | 935 | 935 | 935 | 936 | 935 | 940 | 937.9 |
| Dec 4 | 936 | 937 | 939 | 940 | 940 | 941 | 942 | 942 | 943 | 943 | 944 | 944 | 944 | 944 | 945 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 936 | 947 | 943.5 |
| Dec 5 | 946 | 945 | 945 | 944 | 943 | 942 | 942 | 942 | 943 | 943 | 944 | 945 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 942 | 948 | 945.4 |
| Dec 6 | 948 | 948 | 948 | 948 | 947 | 947 | 946 | 946 | 946 | 945 | 944 | 943 | 942 | 941 | 940 | 939 | 937 | 936 | 935 | 933 | 932 | 932 | 931 | 930 | 930 | 948 | 941.0 |
| Dec 7 | 929 | 929 | 928 | 928 | 928 | 928 | 928 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 931 | 931 | 932 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 928 | 933 | 930.4 |
| Dec 8 | 933 | 932 | 932 | 932 | 931 | 930 | 930 | 930 | 929 | 928 | 928 | 927 | 926 | 926 | 926 | 926 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 926 | 925 | 933 | 927.8 |
| Dec 9 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 927 | 927 | 927 | 928 | 928 | 928 | 928 | 929 | 929 | 929 | 930 | 930 | 930 | 931 | 931 | 931 | 931 | 926 | 931 | 928.2 |
| Dec 10 | 931 | 932 | 933 | 934 | 934 | 935 | 935 | 936 | 936 | 937 | 937 | 938 | 938 | 939 | 938 | 938 | 939 | 939 | 940 | 940 | 941 | 941 | 941 | 941 | 931 | 941 | 937.2 |
| Dec 11 | 941 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 941 | 947 | 944.5 |
| Dec 12 | 947 | 947 | 947 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 945 | 944 | 943 | 943 | 942 | 941 | 941 | 941 | 940 | 940 | 939 | 938 | 938 | 938 | 938 | 947 | 943.3 |
| Dec 13 | 937 | 937 | 936 | 936 | 936 | 935 | 935 | 935 | 935 | 935 | 935 | 936 | 937 | 937 | 938 | 939 | 940 | 941 | 941 | 942 | 942 | 943 | 944 | 944 | 935 | 944 | 938.2 |
| Dec 14 | 945 | 946 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 948 | 949 | 948 | 948 | 948 | 949 | 949 | 950 | 950 | 950 | 949 | 949 | 949 | 949 | 945 | 950 | 948.5 |
| Dec 15 | 950 | 950 | 950 | 950 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 951 | 950 | 950 | 949 | 949 | 949 | 947 | 946 | 945 | 945 | 945 | 945 | 945 | 952 | 949.4 |
| Dec 16 | 945 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 943 | 944 | 944 | 945 | P | P | P | P | P | P | P | P | P | P | P | 943 | 945 | - |
| Dec 17 | P | P | P | P | 952 | 953 | 953 | 953 | 953 | 953 | 954 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 956 | 956 | 956 | 957 | 957 | 957 | 952 | 957 | 954.6 |
| Dec 18 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 959 | 959 | 958 | 958 | 957 | 957 | 957 | 957 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 957 | 959 | 957.9 |
| Dec 19 | 959 | 959 | 959 | 960 | 960 | 960 | 960 | 960 | 961 | 962 | 962 | 962 | 962 | 962 | 963 | 963 | 964 | 964 | 964 | 964 | 965 | 965 | 965 | 965 | 959 | 965 | 962.1 |
| Dec 20 | 965 | 966 | 966 | 966 | 966 | 966 | 966 | 965 | 965 | 965 | 965 | 964 | 964 | 963 | 963 | 963 | 964 | 964 | 964 | 964 | 964 | 965 | 965 | 966 | 963 | 966 | 964.8 |
| Dec 21 | 966 | 967 | 967 | 968 | 968 | 968 | 969 | 969 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 971 | 971 | **972** | **972** | **972** | **972** | **972** | 971 | 971 | 966 | **972** | **969.8** |
| Dec 22 | 970 | 969 | 968 | 968 | 968 | 967 | 967 | 966 | 965 | 964 | 963 | 962 | 961 | 960 | 959 | 958 | 958 | 958 | 958 | 957 | 957 | 956 | 956 | 955 | 955 | 970 | 962.1 |
| Dec 23 | 955 | 954 | 954 | 953 | 952 | 952 | 951 | 950 | 950 | 950 | 950 | 949 | 948 | 948 | 948 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 955 | 950.1 |
| Dec 24 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 947 | 946 | 945 | 944 | 942 | 941 | 940 | 939 | 938 | 939 | 939 | 938 | 939 | 940 | 940 | 940 | 938 | 949 | 943.6 |
| Dec 25 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 948 | 950 | 950 | 951 | 950 | 950 | 949 | 949 | 949 | 947 | 946 | 945 | 943 | 942 | 940 | 939 | 939 | 951 | 946.0 |
| Dec 26 | 936 | 935 | 934 | 933 | 932 | 930 | 929 | 929 | 928 | 928 | 927 | 925 | 925 | 924 | 924 | 923 | 924 | 925 | 925 | 926 | 925 | 925 | 924 | 924 | 923 | 936 | 927.5 |
| Dec 27 | 924 | 923 | 922 | 922 | 921 | 921 | 920 | 919 | 918 | 918 | 918 | 917 | 917 | **916** | **916** | **916** | **916** | **916** | 917 | 918 | 919 | 919 | 919 | 920 | **916** | 924 | 918.8 |
| Dec 28 | 921 | 922 | 922 | 923 | 924 | 924 | 925 | 925 | 926 | 927 | 927 | 928 | 928 | 928 | 928 | 928 | 928 | 929 | 929 | 928 | 928 | 928 | 928 | 928 | 921 | 929 | 926.3 |
| Dec 29 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 926 | 926 | 926 | 928 | 927.4 |
| Dec 30 | 926 | 925 | 925 | 925 | 925 | 924 | 923 | 923 | 923 | 923 | 922 | 922 | 922 | 921 | 921 | 921 | 921 | 922 | 921 | 922 | 922 | 922 | 922 | 922 | 921 | 926 | 922.7 |
| Dec 31 | 922 | 923 | 923 | 923 | 924 | 924 | 924 | 924 | 925 | 925 | 926 | 926 | 926 | 926 | 927 | 927 | 928 | 929 | 930 | 930 | 931 | 931 | 932 | 932 | 922 | 932 | 926.6 |
| Diurnal Maximum | 970 | 969 | 968 | 968 | 968 | 968 | 969 | 969 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 971 | 971 | 972 | 972 | 972 | 972 | 972 | 971 | 971 | | | |
| Diurnal Average | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

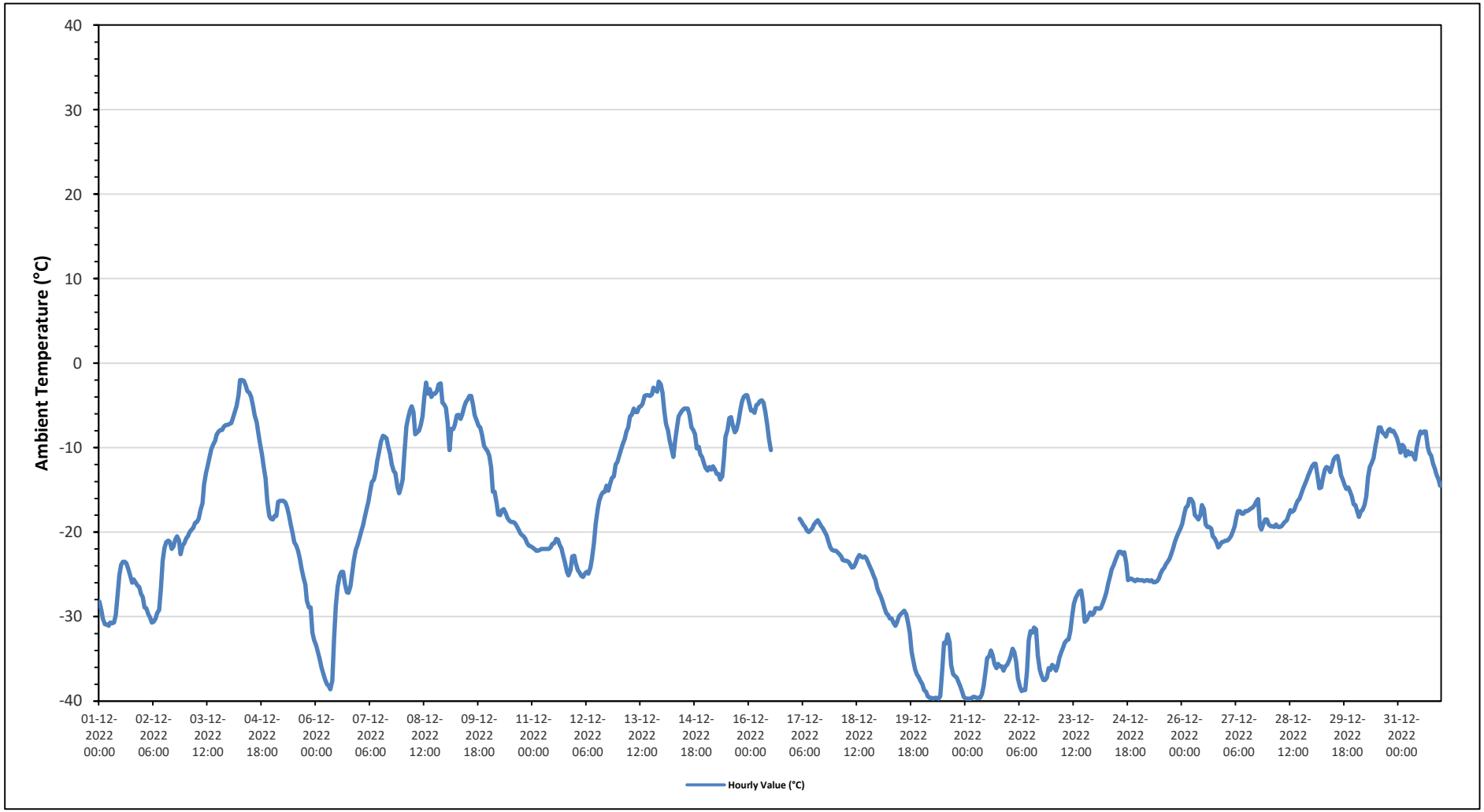
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | -2.0 | °C | on December 4 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | -5.6 | °C | on December 13 | Hours of Data: | 729 |
| Minimum Hourly Value: | -39.7 | °C | on December 20 at hour 6 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | -37.5 | °C | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | -19.4 | °C | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | -28.2 | -29.3 | -30.3 | -30.9 | -30.9 | -31.1 | -30.7 | -30.8 | -30.7 | -29.8 | -27.5 | -25.1 | -23.9 | -23.5 | -23.5 | -23.7 | -24.4 | -25.1 | -26 | -25.6 | -26 | -26.3 | -26.5 | -27.3 | -31.1 | -23.5 | -27.4 |
| Dec 2 | -27.7 | -28.9 | -29 | -29.7 | -30.1 | -30.7 | -30.6 | -30.2 | -29.6 | -29.2 | -26.7 | -23.4 | -21.9 | -21.2 | -21 | -21.1 | -22 | -21.7 | -20.9 | -20.5 | -21 | -22.6 | -21.6 | -21.3 | -30.7 | -20.5 | -25.1 |
| Dec 3 | -20.7 | -20.5 | -20 | -19.7 | -19.5 | -18.9 | -18.8 | -18.4 | -17.4 | -16.6 | -14.4 | -13 | -12.1 | -11 | -10.2 | -9.7 | -9.2 | -8.5 | -8.1 | -7.9 | -7.9 | -7.5 | -7.3 | -7.3 | -20.7 | -7.3 | -13.5 |
| Dec 4 | -7.2 | -7.1 | -6.4 | -5.8 | -5.1 | -3.8 | **-2** | **-2** | -2.1 | -2.7 | -3.3 | -3.5 | -4 | -5 | -6.2 | -7 | -8.2 | -9.5 | -10.8 | -12.3 | -13.6 | -16.3 | -18.1 | -18.4 | -18.4 | **-2.0** | -7.5 |
| Dec 5 | -18.5 | -18.1 | -18.1 | -16.4 | -16.3 | -16.3 | -16.3 | -16.5 | -17.1 | -18 | -19.1 | -20.2 | -21.2 | -21.6 | -22.2 | -23.1 | -24.3 | -25.4 | -26.2 | -28.1 | -28.9 | -28.9 | -31.9 | -32.8 | -32.8 | -16.3 | -21.9 |
| Dec 6 | -33.4 | -34.1 | -35 | -36 | -36.8 | -37.4 | -38 | -38.2 | -38.6 | -37.6 | -32.6 | -28.7 | -26.5 | -25.2 | -24.7 | -24.7 | -26.1 | -27.1 | -27.2 | -26.4 | -24.8 | -23.4 | -22.1 | -21.5 | -38.6 | -21.5 | -30.3 |
| Dec 7 | -20.8 | -20 | -19.2 | -18.2 | -17.3 | -16.4 | -15 | -14.1 | -13.8 | -12.9 | -11.6 | -10.4 | -9.3 | -8.6 | -8.7 | -8.9 | -9.9 | -10.7 | -12 | -12.8 | -13 | -14.6 | -15.4 | -14.7 | -20.8 | -8.6 | -13.7 |
| Dec 8 | -13.8 | -10.7 | -7.5 | -6.6 | -5.6 | -5.1 | -5.8 | -8.4 | -8.2 | -8 | -7.3 | -6.3 | -4 | -2.3 | -3.6 | -3.1 | -4 | -3.6 | -3.6 | -3.3 | -2.5 | -2.4 | -4.7 | -4.9 | -13.8 | -2.3 | -5.6 |
| Dec 9 | -5.3 | -7.2 | -10.3 | -7.8 | -7.8 | -7.3 | -6.2 | -6.1 | -6.6 | -6.1 | -5.2 | -4.6 | -4.3 | -3.9 | -3.9 | -4.9 | -6.2 | -6.8 | -7.4 | -7.6 | -8.5 | -9.8 | -10.1 | -10.4 | -10.4 | -3.9 | -6.8 |
| Dec 10 | -11 | -12.3 | -15.2 | -15.2 | -16.6 | -17.9 | -18 | -17.4 | -17.3 | -17.7 | -18.3 | -18.6 | -18.8 | -18.8 | -18.9 | -19.2 | -19.6 | -20.1 | -20.3 | -20.5 | -20.8 | -21.3 | -21.6 | -21.7 | -21.7 | -11.0 | -18.2 |
| Dec 11 | -21.8 | -22 | -22.2 | -22.2 | -22.1 | -22 | -22 | -22 | -22 | -22 | -21.8 | -21.4 | -21.3 | -20.8 | -20.9 | -21.5 | -21.9 | -22.8 | -23.6 | -24.7 | -25.1 | -24.5 | -22.9 | -22.8 | -25.1 | -20.8 | -22.3 |
| Dec 12 | -23.7 | -24.5 | -24.8 | -25.2 | -25.3 | -24.9 | -24.7 | -24.9 | -24.2 | -23.2 | -21.3 | -19 | -17.3 | -16.3 | -15.6 | -15.3 | -15.2 | -14.5 | -15.1 | -14.3 | -13.6 | -13.4 | -12 | -11.7 | -25.3 | -11.7 | -19.2 |
| Dec 13 | -11 | -10.2 | -9.6 | -9 | -8.1 | -7.6 | -6.3 | -6.1 | -5.4 | -5.8 | -5.8 | -5.2 | -5.1 | -4.8 | -3.9 | -3.8 | -3.8 | -3.9 | -3.7 | -2.9 | -3.2 | -3.4 | -2.2 | -2.5 | -11.0 | -2.2 | **-5.6** |
| Dec 14 | -3.5 | -5.6 | -7.2 | -8 | -9.1 | -10.2 | -11.1 | -9 | -7.7 | -6.3 | -5.9 | -5.6 | -5.4 | -5.4 | -5.4 | -6.1 | -7.6 | -7.9 | -8.4 | -10.1 | -9.9 | -10.8 | -11.1 | -11.9 | -11.9 | -3.5 | -7.9 |
| Dec 15 | -12.4 | -12.7 | -12.3 | -12.6 | -12.2 | -12.6 | -13.1 | -13.1 | -13.8 | -13.4 | -11.5 | -8.7 | -7.9 | -6.5 | -6.4 | -7.4 | -8.2 | -7.9 | -7 | -5.7 | -4.6 | -4 | -3.8 | -3.8 | -13.8 | -3.8 | -9.2 |
| Dec 16 | -4.6 | -5.6 | -5.6 | -5.9 | -5 | -4.8 | -4.5 | -4.4 | -4.7 | -5.8 | -7.2 | -9.1 | -10.3 | P | P | P | P | P | P | P | P | P | P | P | -10.3 | -4.4 | - |
| Dec 17 | P | P | P | P | -18.4 | -18.7 | -19.1 | -19.4 | -19.8 | -20 | -19.8 | -19.5 | -19.1 | -18.8 | -18.6 | -18.9 | -19.3 | -19.6 | -20 | -20.4 | -21.2 | -21.8 | -22.1 | -22.2 | -22.2 | -18.4 | -19.8 |
| Dec 18 | -22.2 | -22.4 | -22.6 | -22.9 | -23.3 | -23.4 | -23.4 | -23.5 | -23.8 | -24.2 | -24.1 | -23.7 | -23.1 | -22.7 | -22.9 | -23 | -22.9 | -23.1 | -23.6 | -24.1 | -24.6 | -25.1 | -25.7 | -26.6 | -26.6 | -22.2 | -23.6 |
| Dec 19 | -27.2 | -27.6 | -28.3 | -29 | -29.6 | -29.8 | -30.2 | -30.2 | -30.7 | -31.1 | -30.7 | -30 | -29.7 | -29.5 | -29.3 | -29.7 | -30.7 | -31.9 | -34.1 | -35.2 | -36.2 | -36.8 | -37.2 | -37.6 | -37.6 | -27.2 | -31.3 |
| Dec 20 | -38 | -38.7 | -38.9 | -39.4 | -39.6 | -39.6 | **-39.7** | -39.6 | -39.6 | **-39.7** | -39.4 | -36.2 | -33.1 | -33.2 | -32.1 | -33 | -35.7 | -36.8 | -37 | -37.2 | -37.7 | -38.2 | -38.9 | -39.5 | **-39.7** | -32.1 | -37.5 |
| Dec 21 | **-39.7** | **-39.7** | **-39.7** | **-39.7** | -39.5 | -39.5 | -39.6 | -39.6 | -39.6 | -39.2 | -38.2 | -36.4 | -34.9 | -34.7 | -34 | -34.6 | -35.6 | -36.1 | -35.6 | -35.9 | -35.9 | -36.4 | -35.9 | -35.7 | **-39.7** | -34.0 | -37.3 |
| Dec 22 | -35.2 | -34.7 | -33.8 | -34.2 | -35.3 | -37.3 | -38.3 | -38.8 | -38.7 | -38.7 | -36.5 | -32.8 | -31.7 | -31.9 | -31.3 | -31.5 | -34.6 | -36.3 | -36.9 | -37.5 | -37.5 | -37.2 | -36.1 | -36.3 | -38.8 | -31.3 | -35.5 |
| Dec 23 | -35.7 | -35.9 | -36.4 | -35.9 | -34.8 | -34.2 | -33.6 | -33.1 | -32.8 | -32.7 | -31.7 | -30 | -28.5 | -27.8 | -27.4 | -27 | -26.9 | -28.3 | -30.6 | -30.4 | -30 | -29.5 | -29.8 | -29.6 | -36.4 | -26.9 | -31.4 |
| Dec 24 | -29 | -29 | -29.1 | -29 | -28.4 | -27.8 | -27.1 | -26.1 | -25.2 | -24.4 | -23.9 | -23.3 | -22.7 | -22.3 | -22.3 | -22.6 | -22.4 | -23.7 | -25.7 | -25.5 | -25.5 | -25.7 | -25.8 | -25.6 | -29.1 | -22.3 | -25.5 |
| Dec 25 | -25.7 | -25.7 | -25.7 | -25.8 | -25.7 | -25.7 | -25.8 | -25.7 | -25.9 | -25.9 | -25.8 | -25.5 | -24.9 | -24.5 | -24.2 | -23.8 | -23.5 | -23.1 | -22.6 | -21.9 | -21.1 | -20.5 | -20.1 | -19.6 | -25.9 | -19.6 | -24.1 |
| Dec 26 | -19 | -18 | -17.1 | -16.9 | -16.1 | -16.1 | -16.5 | -18 | -18.2 | -18.5 | -18 | -16.8 | -17.3 | -19.1 | -19.4 | -19.4 | -19.6 | -20.5 | -20.7 | -21.2 | -21.8 | -21.5 | -21.2 | -21.1 | -21.8 | -16.1 | -18.8 |
| Dec 27 | -21 | -21 | -20.8 | -20.5 | -20 | -19.3 | -18.2 | -17.5 | -17.5 | -17.8 | -17.8 | -17.5 | -17.5 | -17.4 | -17.2 | -17.1 | -16.8 | -16.4 | -16.1 | -19.3 | -19.7 | -19 | -18.5 | -18.5 | -21.0 | -16.1 | -18.4 |
| Dec 28 | -19.1 | -19.3 | -19.3 | -19.4 | -19.1 | -19.4 | -19.4 | -19.3 | -19 | -18.8 | -18.6 | -18 | -17.4 | -17.6 | -17.4 | -16.8 | -16.3 | -16.1 | -15.4 | -14.9 | -14.3 | -13.8 | -13.3 | -12.7 | -19.4 | -12.7 | -17.3 |
| Dec 29 | -12.2 | -11.9 | -11.9 | -13.4 | -14.8 | -14.7 | -13.6 | -12.6 | -12.3 | -12.4 | -12.9 | -12.2 | -11.4 | -11.1 | -11 | -11.8 | -13.3 | -13.8 | -14.4 | -14.9 | -14.7 | -15.2 | -15.8 | -16.7 | -16.7 | -11.0 | -13.3 |
| Dec 30 | -16.8 | -17.5 | -18.2 | -17.5 | -17.4 | -16.8 | -15.8 | -13.5 | -12.3 | -11.8 | -11.2 | -9.9 | -8.8 | -7.6 | -7.6 | -8.2 | -8.4 | -8.7 | -8 | -7.8 | -8.1 | -8 | -8.4 | -8.9 | -18.2 | -7.6 | -11.6 |
| Dec 31 | -9.7 | -10.6 | -9.7 | -9.9 | -11 | -10.4 | -10.8 | -10.6 | -10.9 | -11.4 | -10 | -8.8 | -8.1 | -8.3 | -8.1 | -8.1 | -9.9 | -10.6 | -11 | -11.9 | -12.5 | -13.2 | -13.8 | -14.5 | -14.5 | -8.1 | -10.6 |
| Diurnal Maximum | -3.5 | -5.6 | -5.6 | -5.8 | -5.0 | -3.8 | -2.0 | -2.0 | -2.1 | -2.7 | -3.3 | -3.5 | -4.0 | -2.3 | -3.6 | -3.1 | -3.8 | -3.6 | -3.6 | -2.9 | -2.5 | -2.4 | -2.2 | -2.5 | | | |
| Diurnal Average | -20.5 | -20.7 | -20.8 | -20.8 | -20.7 | -20.6 | -20.5 | -20.3 | -20.2 | -20.1 | -19.3 | -18.2 | -17.5 | -17.4 | -17.3 | -17.5 | -18.2 | -18.7 | -19.1 | -19.4 | -19.5 | -19.7 | -19.8 | -19.9 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## STATION TEMPERATURE (ST) in Degree Celsius

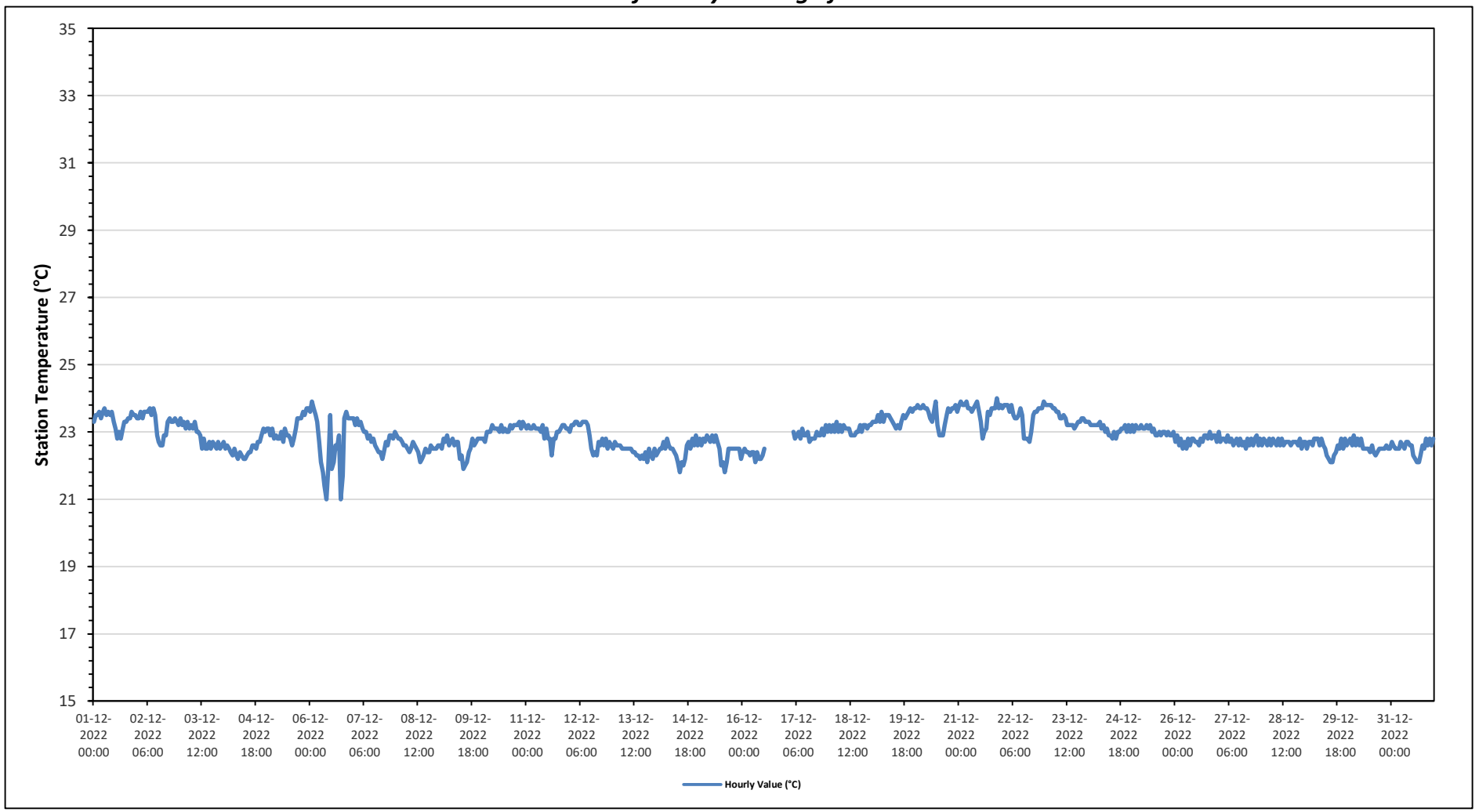
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.0 | °C | on December 21 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.6 | °C | on December 21 | Hours of Data: | 729 |
| Minimum Hourly Value: | 21.0 | °C | on December 6 at hour 9 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 22.4 | °C | on December 13 | Hours of Calibration: | 0 |
| Monthly Average: | 22.9 | °C | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 23.3 | 23.5 | 23.5 | 23.6 | 23.4 | 23.6 | 23.7 | 23.5 | 23.6 | 23.5 | 23.6 | 23.3 | 23.1 | 22.8 | 23.0 | 22.8 | 23.1 | 23.3 | 23.3 | 23.4 | 23.4 | 23.6 | 23.5 | 23.5 | 22.8 | 23.7 | 23.4 |
| Dec 2 | 23.4 | 23.4 | 23.6 | 23.4 | 23.6 | 23.6 | 23.6 | 23.7 | 23.5 | 23.7 | 23.5 | 22.9 | 22.7 | 22.6 | 22.6 | 22.9 | 22.9 | 23.3 | 23.4 | 23.3 | 23.3 | 23.4 | 23.3 | 23.2 | 22.6 | 23.7 | 23.3 |
| Dec 3 | 23.4 | 23.2 | 23.3 | 23.1 | 23.3 | 23.1 | 23.2 | 23.1 | 23.3 | 23.0 | 23.0 | 22.9 | 22.5 | 22.8 | 22.5 | 22.5 | 22.7 | 22.5 | 22.7 | 22.6 | 22.5 | 22.7 | 22.5 | 22.6 | 22.5 | 23.4 | 22.9 |
| Dec 4 | 22.7 | 22.5 | 22.6 | 22.5 | 22.4 | 22.3 | 22.5 | 22.3 | 22.2 | 22.4 | 22.3 | 22.2 | 22.2 | 22.3 | 22.4 | 22.4 | 22.6 | 22.6 | 22.5 | 22.7 | 22.7 | 22.9 | 23.1 | 23.0 | 22.2 | 23.1 | 22.5 |
| Dec 5 | 23.1 | 23.1 | 22.9 | 23.1 | 22.8 | 22.9 | 22.8 | 22.8 | 23.0 | 22.7 | 23.1 | 22.9 | 22.9 | 22.8 | 22.6 | 22.8 | 23.1 | 23.4 | 23.4 | 23.4 | 23.6 | 23.5 | 23.7 | 23.7 | 22.6 | 23.7 | 23.1 |
| Dec 6 | 23.6 | 23.9 | 23.7 | 23.5 | 23.3 | 22.7 | 22.1 | 21.8 | 21.4 | **21.0** | 21.9 | 23.5 | 21.9 | 22.1 | 22.6 | 22.5 | 22.9 | **21.0** | 21.7 | 23.4 | 23.6 | 23.4 | 23.4 | 23.4 | **21.0** | 23.9 | 22.7 |
| Dec 7 | 23.4 | 23.2 | 23.4 | 23.2 | 23.3 | 23.1 | 23.0 | 23.0 | 22.8 | 22.9 | 22.7 | 22.8 | 22.6 | 22.5 | 22.4 | 22.4 | 22.2 | 22.4 | 22.7 | 22.6 | 22.9 | 22.9 | 22.8 | 23.0 | 22.2 | 23.4 | 22.8 |
| Dec 8 | 22.9 | 22.8 | 22.8 | 22.7 | 22.6 | 22.6 | 22.5 | 22.4 | 22.5 | 22.7 | 22.6 | 22.5 | 22.4 | 22.1 | 22.2 | 22.3 | 22.5 | 22.4 | 22.4 | 22.6 | 22.5 | 22.5 | 22.5 | 22.6 | 22.1 | 22.9 | 22.5 |
| Dec 9 | 22.6 | 22.5 | 22.8 | 22.7 | 22.9 | 22.6 | 22.7 | 22.8 | 22.6 | 22.7 | 22.7 | 22.2 | 22.3 | 21.9 | 22.0 | 22.1 | 22.4 | 22.5 | 22.8 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 21.9 | 22.9 | 22.6 |
| Dec 10 | 22.8 | 22.7 | 23.0 | 23.0 | 23.0 | 23.2 | 23.1 | 23.1 | 23.1 | 23.0 | 23.2 | 23.0 | 23.1 | 23.0 | 23.0 | 23.2 | 23.1 | 23.2 | 23.2 | 23.2 | 23.3 | 23.1 | 23.3 | 23.2 | 22.7 | 23.3 | 23.1 |
| Dec 11 | 23.1 | 23.2 | 23.1 | 23.1 | 23.2 | 23.1 | 23.1 | 23.1 | 23.0 | 23.2 | 22.8 | 23.1 | 22.8 | 22.8 | 22.3 | 22.8 | 22.8 | 23.0 | 23.0 | 23.1 | 23.2 | 23.2 | 23.1 | 23.1 | 22.3 | 23.2 | 23.0 |
| Dec 12 | 23.0 | 23.2 | 23.2 | 23.3 | 23.3 | 23.2 | 23.2 | 23.3 | 23.3 | 23.3 | 23.2 | 22.9 | 22.5 | 22.3 | 22.4 | 22.3 | 22.7 | 22.6 | 22.8 | 22.6 | 22.8 | 22.5 | 22.7 | 22.6 | 22.3 | 23.3 | 22.9 |
| Dec 13 | 22.5 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.2 | 22.3 | 22.2 | 22.4 | 22.1 | 22.5 | 22.3 | 22.2 | 22.5 | 22.1 | 22.7 | 22.4 |
| Dec 14 | 22.3 | 22.4 | 22.5 | 22.5 | 22.7 | 22.5 | 22.8 | 22.6 | 22.5 | 22.5 | 22.4 | 22.3 | 22.1 | 21.8 | 22.1 | 22.0 | 22.2 | 22.6 | 22.7 | 22.5 | 22.8 | 22.6 | 22.9 | 22.6 | 21.8 | 22.9 | 22.5 |
| Dec 15 | 22.8 | 22.6 | 22.8 | 22.7 | 22.9 | 22.8 | 22.7 | 22.9 | 22.7 | 22.9 | 22.7 | 22.5 | 22.0 | 22.1 | 21.8 | 22.1 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.2 | 21.8 | 22.9 | 22.5 |
| Dec 16 | 22.4 | 22.5 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.1 | 22.4 | 22.2 | 22.2 | 22.3 | 22.5 | P | P | P | P | P | P | P | P | P | P | P | 22.1 | 22.5 | - |
| Dec 17 | P | P | P | P | 23.0 | 22.8 | 22.9 | 23.0 | 22.8 | 23.1 | 22.9 | 22.9 | 23.0 | 22.7 | 22.8 | 22.8 | 22.8 | 23.0 | 22.9 | 22.9 | 23.1 | 22.9 | 23.2 | 23.0 | 22.7 | 23.2 | 22.9 |
| Dec 18 | 23.2 | 23.0 | 23.2 | 23.0 | 23.3 | 23.0 | 23.2 | 23.0 | 23.2 | 23.1 | 23.1 | 23.1 | 22.9 | 22.9 | 22.9 | 23.0 | 23.0 | 23.2 | 23.0 | 23.2 | 23.2 | 23.1 | 23.2 | 23.2 | 22.9 | 23.3 | 23.1 |
| Dec 19 | 23.3 | 23.3 | 23.3 | 23.5 | 23.3 | 23.6 | 23.3 | 23.5 | 23.5 | 23.5 | 23.4 | 23.3 | 23.2 | 23.1 | 23.2 | 23.1 | 23.3 | 23.5 | 23.4 | 23.5 | 23.6 | 23.7 | 23.6 | 23.7 | 23.1 | 23.7 | 23.4 |
| Dec 20 | 23.7 | 23.8 | 23.7 | 23.7 | 23.8 | 23.7 | 23.7 | 23.6 | 23.4 | 23.3 | 23.6 | 23.9 | 23.2 | 22.9 | 22.9 | 22.9 | 23.2 | 23.5 | 23.7 | 23.6 | 23.7 | 23.7 | 23.8 | 23.6 | 22.9 | 23.9 | 23.5 |
| Dec 21 | 23.8 | 23.9 | 23.8 | 23.8 | 23.9 | 23.7 | 23.7 | 23.6 | 23.7 | 23.8 | 23.9 | 23.6 | 23.3 | 22.8 | 23.0 | 23.1 | 23.6 | 23.5 | 23.7 | 23.7 | 23.7 | **24.0** | 23.7 | 23.8 | 22.8 | **24.0** | **23.6** |
| Dec 22 | 23.7 | 23.8 | 23.8 | 23.8 | 23.6 | 23.8 | 23.5 | 23.4 | 23.4 | 23.5 | 23.7 | 23.5 | 22.8 | 22.8 | 22.8 | 22.7 | 23.0 | 23.5 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 23.9 | 22.7 | 23.9 | 23.5 |
| Dec 23 | 23.8 | 23.8 | 23.8 | 23.8 | 23.7 | 23.7 | 23.6 | 23.6 | 23.4 | 23.4 | 23.5 | 23.4 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.2 | 23.3 | 23.3 | 23.4 | 23.4 | 23.3 | 23.3 | 23.1 | 23.8 | 23.4 |
| Dec 24 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.3 | 23.1 | 23.2 | 23.0 | 23.1 | 22.9 | 22.9 | 22.8 | 23.0 | 22.8 | 23.0 | 23.0 | 23.1 | 23.1 | 23.2 | 23.0 | 23.2 | 23.0 | 22.8 | 23.3 | 23.1 |
| Dec 25 | 23.2 | 23.0 | 23.2 | 23.1 | 23.1 | 23.2 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.0 | 23.1 | 22.9 | 22.9 | 23.0 | 22.9 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 22.9 | 23.0 | 22.9 | 23.2 | 23.0 |
| Dec 26 | 22.7 | 22.9 | 22.6 | 22.8 | 22.5 | 22.7 | 22.5 | 22.8 | 22.6 | 22.8 | 22.8 | 22.7 | 22.7 | 22.6 | 22.8 | 22.7 | 22.9 | 22.9 | 22.8 | 23.0 | 22.8 | 22.9 | 22.9 | 22.7 | 22.5 | 23.0 | 22.8 |
| Dec 27 | 23.0 | 22.7 | 22.8 | 22.8 | 22.7 | 22.9 | 22.7 | 22.8 | 22.6 | 22.7 | 22.8 | 22.6 | 22.8 | 22.6 | 22.7 | 22.5 | 22.8 | 22.6 | 22.8 | 22.6 | 22.8 | 22.9 | 22.6 | 22.8 | 22.5 | 23.0 | 22.7 |
| Dec 28 | 22.6 | 22.8 | 22.7 | 22.6 | 22.8 | 22.6 | 22.8 | 22.7 | 22.6 | 22.8 | 22.6 | 22.8 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.8 | 22.5 | 22.7 | 22.5 | 22.8 | 22.7 |
| Dec 29 | 22.7 | 22.5 | 22.7 | 22.7 | 22.6 | 22.8 | 22.8 | 22.8 | 22.6 | 22.8 | 22.6 | 22.5 | 22.3 | 22.2 | 22.1 | 22.1 | 22.3 | 22.4 | 22.6 | 22.5 | 22.8 | 22.5 | 22.8 | 22.6 | 22.1 | 22.8 | 22.6 |
| Dec 30 | 22.7 | 22.8 | 22.6 | 22.9 | 22.6 | 22.8 | 22.6 | 22.8 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.6 | 22.4 | 22.3 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.3 | 22.9 | 22.6 |
| Dec 31 | 22.7 | 22.6 | 22.5 | 22.5 | 22.5 | 22.7 | 22.6 | 22.5 | 22.7 | 22.7 | 22.6 | 22.6 | 22.3 | 22.2 | 22.1 | 22.1 | 22.3 | 22.6 | 22.5 | 22.8 | 22.6 | 22.8 | 22.6 | 22.8 | 22.1 | 22.8 | 22.5 |
| Diurnal Maximum | 23.8 | 23.9 | 23.8 | 23.8 | 23.9 | 23.8 | 23.7 | 23.7 | 23.7 | 23.8 | 23.9 | 23.9 | 23.3 | 23.2 | 23.2 | 23.2 | 23.6 | 23.5 | 23.7 | 23.7 | 23.7 | 24.0 | 23.8 | 23.9 | | | |
| Diurnal Average | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.7 | 22.6 | 22.6 | 22.6 | 22.8 | 22.8 | 22.9 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

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



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

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

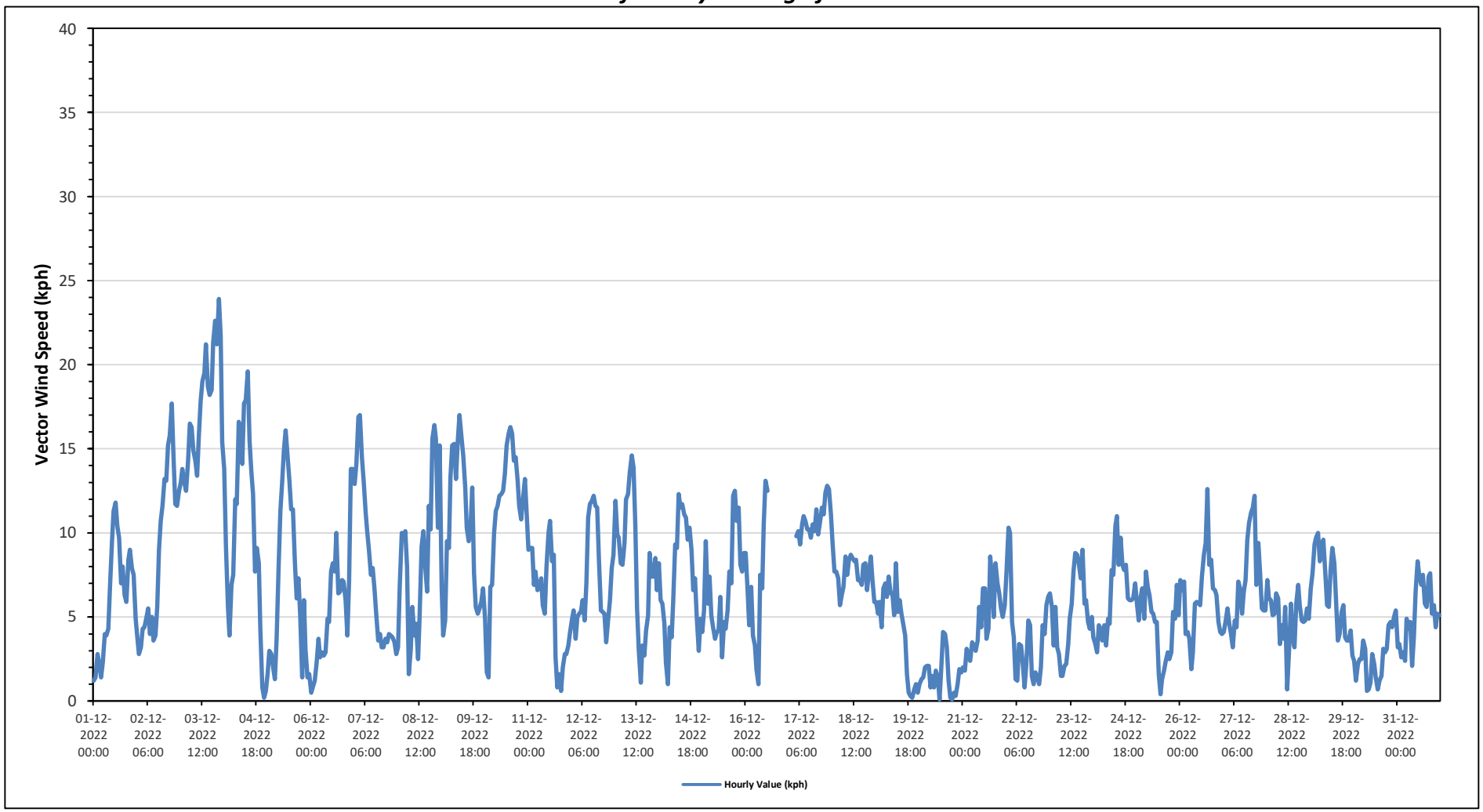
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.9 | kph | on December 3 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 16.7 | kph | on December 3 | Hours of Data: | 729 |
| Minimum Hourly Value: | 0.1 | kph | on December 20 at hour 11 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.4 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.7 | kph | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.2 | 1.4 | 2.8 | 2.3 | 1.4 | 2.3 | 4.0 | 3.9 | 4.3 | 6.9 | 9.6 | 11.3 | 11.8 | 10.4 | 9.7 | 7.0 | 8.0 | 6.3 | 5.9 | 8.4 | 9.0 | 7.9 | 7.5 | 4.9 | 1.2 | 11.8 | 5.0 |
| Dec 2 | 3.9 | 2.8 | 3.2 | 4.3 | 4.4 | 4.9 | 5.5 | 4.0 | 5.0 | 3.6 | 3.9 | 5.6 | 9.0 | 10.7 | 11.6 | 13.2 | 13.1 | 15.2 | 15.8 | 17.7 | 14.5 | 11.7 | 11.6 | 12.5 | 2.8 | 17.7 | 8.3 |
| Dec 3 | 13.0 | 13.8 | 13.0 | 12.5 | 14.3 | 16.5 | 16.3 | 14.9 | 14.3 | 13.4 | 15.8 | 17.8 | 19.0 | 19.5 | 21.2 | 18.7 | 18.2 | 18.5 | 21.3 | 22.6 | 21.2 | **23.9** | 21.7 | 15.4 | 12.5 | **23.9** | **16.7** |
| Dec 4 | 13.8 | 9.2 | 5.6 | 3.9 | 6.9 | 7.5 | 12.0 | 11.7 | 16.6 | 16.1 | 14.1 | 17.7 | 17.9 | 19.6 | 15.5 | 13.7 | 12.3 | 7.7 | 9.1 | 8.2 | 4.3 | 0.8 | 0.2 | 0.6 | 0.2 | 19.6 | 8.3 |
| Dec 5 | 1.6 | 3.0 | 2.8 | 2.0 | 1.3 | 3.7 | 8.0 | 11.3 | 13.0 | 14.9 | 16.1 | 14.5 | 13.1 | 11.4 | 11.4 | 8.2 | 6.1 | 7.3 | 5.1 | 1.4 | 6.0 | 3.1 | 1.4 | 1.6 | 1.3 | 16.1 | 6.6 |
| Dec 6 | 0.5 | 0.8 | 1.2 | 2.2 | 3.7 | 2.6 | 2.9 | 2.7 | 2.9 | 4.9 | 4.7 | 7.7 | 8.2 | 7.7 | 10.0 | 6.4 | 6.5 | 7.2 | 7.1 | 6.0 | 3.9 | 7.2 | 13.8 | 13.8 | 0.5 | 13.8 | 4.6 |
| Dec 7 | 12.9 | 14.1 | 16.9 | 17.0 | 14.5 | 13.1 | 11.2 | 10.1 | 9.0 | 7.5 | 7.9 | 6.7 | 5.2 | 3.6 | 4.0 | 3.2 | 3.2 | 3.7 | 3.5 | 4.0 | 3.9 | 3.8 | 3.5 | 2.8 | 2.8 | 17.0 | 5.3 |
| Dec 8 | 3.2 | 6.9 | 10.0 | 9.8 | 10.1 | 8.0 | 1.6 | 3.1 | 5.6 | 3.9 | 4.6 | 2.5 | 5.0 | 9.2 | 10.1 | 7.9 | 6.5 | 11.6 | 10.2 | 15.6 | 16.4 | 15.6 | 10.3 | 15.2 | 1.6 | 16.4 | 7.2 |
| Dec 9 | 6.8 | 3.9 | 4.8 | 9.5 | 9.1 | 13.3 | 15.2 | 15.3 | 13.2 | 15.4 | 17.0 | 15.7 | 14.6 | 12.7 | 10.3 | 9.5 | 10.3 | 12.7 | 7.6 | 5.6 | 5.2 | 5.5 | 5.9 | 6.7 | 3.9 | 17.0 | 9.8 |
| Dec 10 | 4.9 | 1.7 | 1.4 | 6.8 | 6.9 | 10.0 | 11.3 | 11.6 | 12.2 | 12.3 | 12.5 | 13.5 | 15.2 | 15.9 | 16.3 | 15.9 | 14.3 | 14.5 | 13.1 | 11.6 | 10.8 | 12.0 | 13.2 | 11.1 | 1.4 | 16.3 | 10.7 |
| Dec 11 | 9.0 | 9.1 | 9.1 | 6.9 | 7.7 | 6.6 | 6.7 | 7.3 | 5.7 | 5.2 | 8.0 | 10.0 | 10.7 | 8.3 | 8.7 | 2.6 | 0.8 | 1.6 | 0.6 | 2.0 | 2.8 | 2.8 | 3.3 | 4.1 | 0.6 | 10.7 | 4.2 |
| Dec 12 | 4.9 | 5.4 | 3.7 | 5.0 | 5.2 | 5.3 | 6.0 | 4.8 | 7.0 | 10.9 | 11.7 | 11.9 | 12.2 | 11.6 | 11.5 | 8.4 | 5.4 | 5.3 | 5.2 | 3.5 | 4.9 | 6.0 | 7.9 | 8.7 | 3.5 | 12.2 | 7.0 |
| Dec 13 | 11.9 | 9.9 | 9.7 | 8.2 | 8.1 | 9.4 | 12.0 | 12.3 | 13.6 | 14.6 | 13.9 | 10.5 | 5.5 | 3.0 | 1.1 | 3.3 | 2.7 | 4.2 | 5.1 | 8.8 | 7.4 | 7.4 | 8.5 | 6.6 | 1.1 | 14.6 | 6.5 |
| Dec 14 | 8.2 | 6.0 | 5.8 | 4.6 | 2.3 | 1.0 | 4.4 | 3.8 | 5.9 | 9.3 | 9.1 | 12.3 | 11.5 | 11.7 | 11.1 | 10.9 | 9.6 | 10.3 | 9.0 | 6.6 | 7.3 | 5.0 | 3.0 | 4.9 | 1.0 | 12.3 | 6.2 |
| Dec 15 | 4.1 | 5.4 | 9.5 | 5.8 | 7.4 | 5.1 | 4.4 | 3.7 | 4.1 | 4.2 | 6.2 | 2.6 | 4.7 | 4.3 | 5.4 | 7.7 | 7.0 | 12.2 | 12.5 | 10.7 | 11.5 | 8.1 | 7.7 | 8.8 | 2.6 | 12.5 | 6.5 |
| Dec 16 | 8.8 | 6.5 | 4.5 | 6.8 | 3.9 | 3.3 | 1.9 | 1.0 | 7.5 | 6.7 | 10.5 | 13.1 | 12.5 | P | P | P | P | P | P | P | P | P | P | P | 1.0 | 13.1 | - |
| Dec 17 | P | P | P | P | 9.8 | 10.1 | 9.3 | 10.5 | 11.0 | 10.7 | 10.2 | 10.2 | 9.7 | 10.5 | 10.1 | 11.4 | 9.9 | 10.6 | 11.5 | 11.1 | 12.4 | 12.8 | 12.6 | 11.1 | 9.3 | 12.8 | 10.7 |
| Dec 18 | 9.5 | 7.7 | 7.7 | 7.3 | 5.7 | 6.3 | 6.8 | 8.6 | 7.5 | 8.3 | 8.7 | 8.5 | 8.3 | 8.4 | 7.2 | 7.2 | 6.9 | 8.1 | 8.2 | 6.6 | 7.6 | 8.6 | 7.3 | 5.9 | 5.7 | 9.5 | 7.6 |
| Dec 19 | 5.9 | 5.2 | 5.9 | 4.4 | 6.7 | 7.0 | 6.2 | 7.4 | 6.4 | 6.4 | 5.1 | 8.2 | 5.3 | 6.0 | 5.2 | 4.6 | 3.9 | 1.6 | 0.5 | 0.3 | 0.2 | 0.7 | 1.0 | 0.5 | 0.2 | 8.2 | 4.2 |
| Dec 20 | 1.0 | 1.3 | 1.4 | 2.0 | 2.1 | 2.1 | 0.8 | 1.5 | 0.8 | 1.8 | 1.4 | **0.1** | 2.0 | 4.1 | 4.0 | 3.2 | 1.2 | 0.2 | **0.1** | 0.5 | 0.3 | 1.0 | 1.9 | 1.7 | **0.1** | 4.1 | **0.4** |
| Dec 21 | 2.0 | 1.8 | 3.1 | 2.6 | 2.4 | 3.5 | 3.3 | 3.0 | 3.6 | 5.6 | 4.4 | 6.7 | 6.7 | 3.7 | 4.3 | 8.6 | 7.3 | 5.0 | 8.2 | 7.0 | 6.4 | 5.5 | 5.0 | 5.7 | 1.8 | 8.6 | 4.4 |
| Dec 22 | 7.7 | 10.3 | 10.0 | 4.7 | 3.8 | 1.3 | 1.2 | 3.4 | 3.3 | 2.2 | 0.8 | 2.2 | 4.8 | 4.5 | 1.5 | 1.0 | 1.7 | 1.4 | 1.0 | 2.0 | 4.5 | 4.0 | 5.7 | 6.2 | 0.8 | 10.3 | 2.2 |
| Dec 23 | 6.4 | 5.6 | 3.3 | 5.6 | 3.2 | 2.8 | 1.5 | 1.5 | 2.1 | 2.2 | 3.4 | 4.9 | 5.8 | 7.7 | 8.8 | 8.7 | 8.2 | 7.3 | 9.0 | 5.8 | 6.0 | 4.7 | 4.3 | 5.0 | 1.5 | 9.0 | 2.9 |
| Dec 24 | 3.8 | 3.4 | 2.9 | 4.5 | 4.3 | 3.6 | 4.5 | 3.3 | 4.9 | 4.6 | 7.8 | 7.5 | 10.4 | 11.0 | 8.1 | 9.7 | 8.1 | 7.8 | 8.1 | 6.1 | 6.0 | 6.0 | 6.1 | 7.0 | 2.9 | 11.0 | 5.4 |
| Dec 25 | 5.8 | 4.8 | 6.1 | 6.7 | 4.9 | 7.7 | 6.8 | 6.3 | 5.3 | 5.2 | 4.7 | 4.7 | 1.6 | 0.4 | 1.3 | 1.8 | 2.4 | 2.9 | 2.5 | 2.9 | 5.3 | 4.9 | 6.9 | 5.1 | 0.4 | 7.7 | 2.5 |
| Dec 26 | 7.2 | 6.6 | 7.1 | 4.0 | 4.1 | 3.7 | 1.9 | 2.9 | 5.8 | 5.9 | 5.8 | 5.7 | 7.4 | 8.7 | 9.4 | 12.6 | 8.1 | 8.4 | 6.7 | 6.6 | 6.3 | 4.7 | 4.1 | 4.0 | 1.9 | 12.6 | 5.3 |
| Dec 27 | 4.1 | 4.7 | 5.5 | 4.6 | 4.0 | 3.2 | 4.8 | 4.4 | 7.1 | 6.7 | 5.2 | 6.5 | 7.2 | 9.6 | 10.6 | 11.2 | 11.5 | 12.2 | 6.9 | 9.4 | 7.6 | 5.5 | 5.4 | 5.4 | 3.2 | 12.2 | 6.5 |
| Dec 28 | 7.2 | 6.1 | 6.0 | 5.1 | 5.2 | 6.4 | 6.1 | 3.4 | 4.5 | 3.7 | 5.6 | 0.7 | 2.9 | 5.8 | 3.8 | 3.2 | 5.8 | 6.9 | 5.7 | 4.8 | 4.7 | 4.8 | 5.5 | 4.9 | 0.7 | 7.2 | 0.9 |
| Dec 29 | 6.7 | 7.6 | 9.3 | 9.7 | 10.0 | 8.3 | 9.2 | 9.6 | 7.6 | 5.7 | 5.6 | 7.8 | 9.1 | 8.2 | 5.9 | 3.6 | 4.0 | 5.3 | 5.7 | 3.8 | 3.6 | 3.6 | 4.2 | 2.7 | 2.7 | 10.0 | 6.0 |
| Dec 30 | 2.4 | 1.2 | 2.2 | 2.5 | 2.5 | 3.6 | 3.1 | 0.6 | 0.7 | 1.1 | 2.8 | 2.2 | 1.4 | 0.7 | 1.2 | 1.5 | 3.1 | 2.9 | 3.1 | 4.5 | 4.7 | 4.4 | 5.0 | 5.4 | 0.6 | 5.4 | 1.1 |
| Dec 31 | 3.2 | 3.4 | 2.6 | 2.9 | 2.4 | 4.9 | 4.3 | 4.7 | 2.1 | 3.8 | 6.5 | 8.3 | 7.4 | 6.9 | 7.5 | 5.8 | 5.6 | 7.4 | 7.6 | 5.2 | 5.7 | 4.4 | 5.2 | 5.1 | 2.1 | 8.3 | 4.9 |
| Diurnal Maximum | 14 | 14 | 17 | 17 | 15 | 17 | 16 | 15 | 17 | 16 | 17 | 18 | 19 | 20 | 21 | 19 | 18 | 19 | 21 | 23 | 21 | 24 | 22 | 15 | | | |
| Diurnal Average | 6.1 | 5.7 | 5.9 | 5.8 | 5.8 | 6.0 | 6.2 | 6.2 | 6.9 | 7.2 | 7.9 | 8.3 | 8.6 | 8.5 | 8.2 | 7.7 | 7.1 | 7.5 | 7.2 | 7.0 | 7.0 | 6.5 | 6.7 | 6.4 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

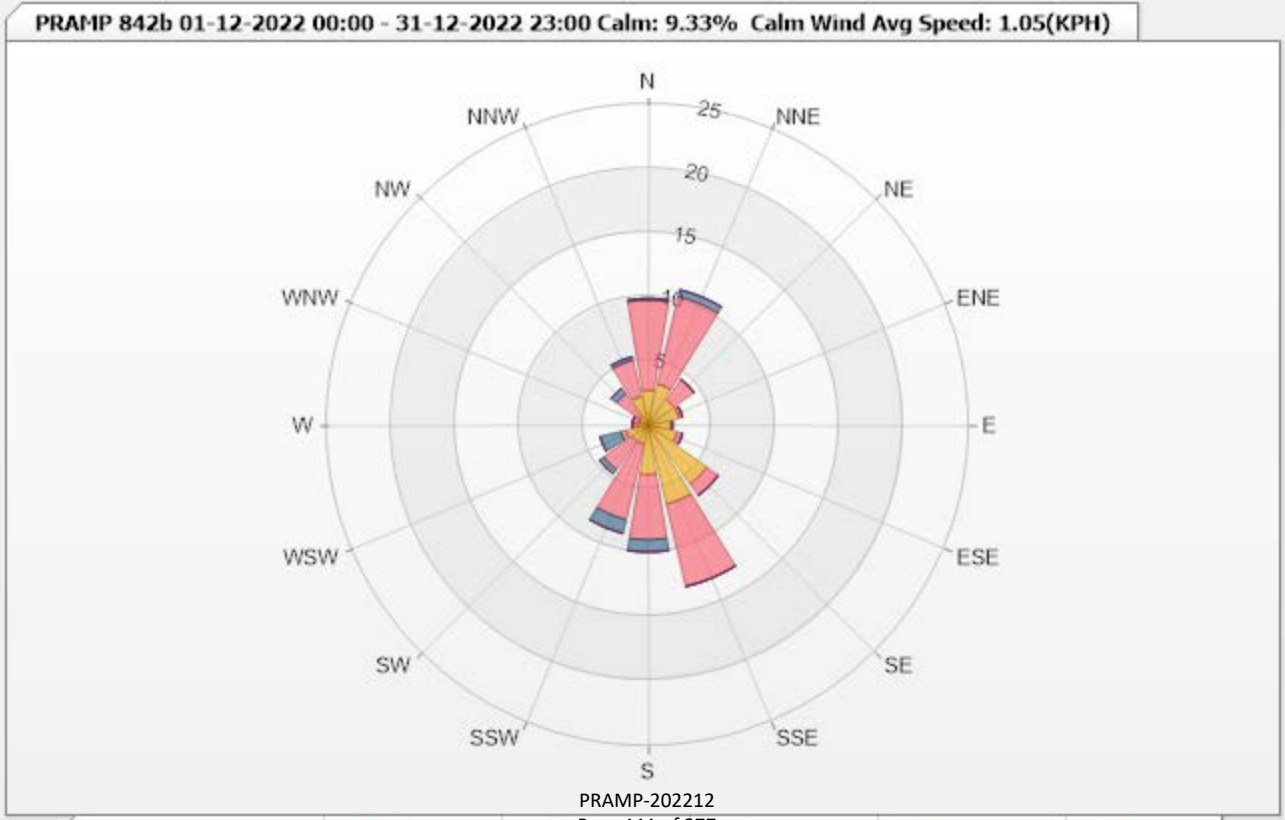
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



Wind: PRAMP 842b Monitor: WDS [KPH] Monthly: 12-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 9.33% Valid Data: 97.98%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|---|---|---|---|---|---|---|
| N | 2.74 | 7 | 0.14 | 0 | 0 | 9.88 |
| NNE | 3.29 | 7 | 0.55 | 0 | 0 | 10.84 |
| NE | 2.47 | 1.92 | 0 | 0 | 0 | 4.39 |
| ENE | 2.47 | 0.27 | 0 | 0 | 0 | 2.74 |
| E | 1.78 | 0.14 | 0 | 0 | 0 | 1.92 |
| ESE | 2.33 | 0.41 | 0 | 0 | 0 | 2.74 |
| SE | 5.62 | 1.1 | 0 | 0 | 0 | 6.72 |
| SSE | 6.31 | 6.58 | 0 | 0 | 0 | 12.89 |
| S | 3.84 | 5.08 | 0.96 | 0 | 0 | 9.88 |
| SSW | 1.51 | 6.04 | 1.1 | 0 | 0 | 8.65 |
| SW | 1.51 | 2.74 | 0.41 | 0 | 0 | 4.66 |
| WSW | 1.78 | 0.41 | 1.65 | 0 | 0 | 3.84 |
| W | 0.82 | 0.41 | 0 | 0 | 0 | 1.23 |
| WNW | 0.69 | 0.55 | 0 | 0 | 0 | 1.24 |
| NW | 0.82 | 2.19 | 0.55 | 0 | 0 | 3.56 |
| NNW | 2.33 | 2.88 | 0.27 | 0 | 0 | 5.48 |
| Summary | 40.31 | 44.72 | 5.63 | 0 | 0 | 90.66 |


PRAMP 842b 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 9.33% Calm Wind Avg Speed: 1.05(KPH)
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
% Icon Classes (KPH)
40 1.8-6.0
45 6.0-15.0
6 15.0-29.0
0 29.0-39.0
0 >39.0

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - December 2022*

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

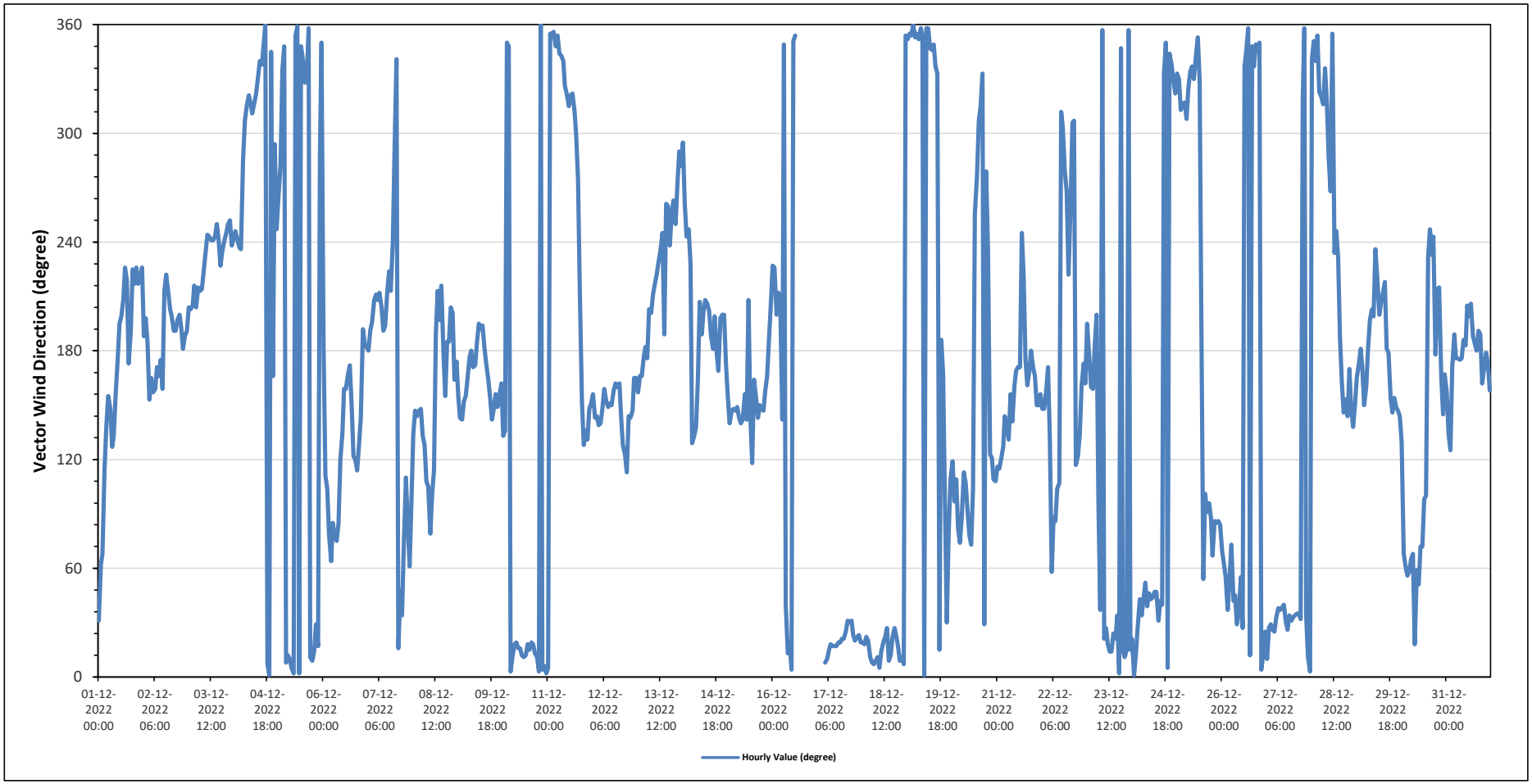
| | | | |
|---|---|---|---|
| Monthly Average: | 192 (S) | degree | |
| Hours in Service: | 744 | | |
| Hours of Data: | 729 | | |
| Hours of Missing Data: | 15 | | |
| Hours of Calibration: | 0 | | |
| Operational Uptime: | 98.0 | | |

| 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 |
| Dec 1 | NNE | ENE | ENE | ESE | SE | SSE | SE | SE | SE | SSE | S | SSW | SSW | SSW | SW | SW | S | S | SW | SW | SW | SW | SW | SW | 195 | SSW |
| Dec 2 | S | SSW | S | SSE | SSE | SSE | SSE | S | SSE | S | SSE | SSW | SW | SSW | SSW | SSW | S | S | SSW | SSW | S | S | S | S | 191 | S |
| Dec 3 | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | WSW | WSW | WSW | WSW | SW | 233 | SW |
| Dec 4 | WSW | WSW | WSW | SW | SW | WNW | NW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | N | N | NNW | SSE | WNW | WSW | 316 | NW |
| Dec 5 | W | W | NNW | NNW | N | NNE | N | N | N | N | N | N | NNW | NNW | NNW | NNW | N | NNE | N | NNE | NNE | NNE | WNW | N | 354 | N |
| Dec 6 | S | ESE | ESE | ENE | ENE | E | ENE | ENE | E | ESE | SE | SSE | SSE | SSE | S | SSE | ESE | ESE | ESE | SE | SE | S | S | S | 147 | SE |
| Dec 7 | S | S | SSW | SSW | SSW | SSW | SSW | SSW | S | SSW | SSW | SW | SSW | WSW | WNW | NNW | NNE | NE | NE | ENE | ESE | E | ENE | E | 198 | SSW |
| Dec 8 | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ENE | E | ESE | S | SSW | SSW | SW | S | SSE | S | S | SSW | SSW | SSE | S | 170 | SSE |
| Dec 9 | SSE | SE | SE | SSE | SSE | SSE | S | S | S | S | S | SSW | S | SSW | S | S | SSE | SSE | SE | SE | SSE | SSE | SSE | SSE | 170 | SSE |
| Dec 10 | SE | SE | N | NNW | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | 12 | NNE |
| Dec 11 | N | N | N | N | NNW | N | NNW | NNW | NNW | NW | NW | NW | NW | NW | NW | WNW | W | SSW | SSE | SE | SE | SE | SE | SSE | 338 | NNW |
| Dec 12 | SSE | SE | SE | SE | SE | SE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SE | SE | ESE | ESE | SE | SE | SE | SSE | SSE | 151 | SSE |
| Dec 13 | SSE | SSE | SSE | S | S | S | SSW | SSW | SSW | SW | SW | SW | SW | WSW | S | W | WSW | SW | WSW | W | WSW | W | WNW | W | 216 | SW |
| Dec 14 | WNW | W | WSW | WSW | SW | SE | SE | SE | SSE | SSW | S | SSW | SSW | SSW | SSW | S | S | SSW | S | SSE | SSW | SSW | SSW | S | 199 | SSW |
| Dec 15 | SSE | SE | SE | SE | SE | SSE | SE | SE | SE | SSE | SE | SSW | SE | ESE | SSE | SSE | SE | SSE | SE | SE | SSE | SSE | S | SSW | 154 | SSE |
| Dec 16 | SW | SW | SSW | SSW | SSW | SE | NNW | NE | NNE | NNE | N | N | N | P | P | P | P | P | P | P | P | P | P | P | - | - |
| Dec 17 | P | P | P | P | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | 21 | NNE |
| Dec 18 | NNE | NNE | NNE | NNE | NNE | N | N | N | NNE | N | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | N | NNE | N | N | 15 | NNE |
| Dec 19 | N | N | N | N | N | N | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNE | S | SSE | E | NNE | ENE | ESE | 354 | N |
| Dec 20 | ESE | E | ESE | E | ENE | E | ESE | ESE | E | ENE | ENE | ESE | WSW | W | NW | NW | NNW | NNE | W | SW | ESE | ESE | ESE | ESE | 66 | ENE |
| Dec 21 | ESE | ESE | ESE | SE | SE | SE | SE | SSE | SE | SSE | SSE | S | S | WSW | SW | S | SSE | SSE | S | S | SSE | SSE | SSE | SSE | 163 | SSE |
| Dec 22 | SE | SE | SSE | S | SE | ENE | E | E | ESE | ESE | NW | WNW | W | W | SW | W | NW | NW | ESE | ESE | SE | SSE | S | SSE | 157 | SSE |
| Dec 23 | SSW | S | SSE | SSE | S | SSW | E | NE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NE | N | NNW | NNE | NNE | NNE | N | NNE | 21 | NNE |
| Dec 24 | NNE | N | NNE | NNE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NNE | NE | NE | NNW | N | N | NNW | NNW | NNW | NW | 21 | NNE |
| Dec 25 | NNW | NNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | NNW | SSW | NE | E | E | E | E | ENE | E | E | E | E | 358 | N |
| Dec 26 | ENE | ENE | NE | NE | NE | ENE | NE | NE | NNE | NE | NE | NNE | NNW | NNW | N | NNE | NNW | NNW | NNW | NNW | N | N | NNE | NNE | 16 | NNE |
| Dec 27 | N | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | NE | NNE | NNE | NE | NNE | NNE | NE | NE | NE | NNE | NW | N | NE | NNE | N | 26 | NNE |
| Dec 28 | NNW | N | NNW | N | NW | NW | NW | NNW | NW | WNW | W | N | SW | WSW | SW | S | SSE | SE | SSE | SE | SSE | SSE | SE | SSE | 265 | W |
| Dec 29 | SSE | S | S | S | SSE | SSE | S | SSW | SSW | SSW | SW | SW | SSW | SSW | SSW | SW | S | S | SSE | SE | SSE | SSE | SE | SE | 182 | S |
| Dec 30 | SE | ENE | ENE | NE | ENE | ENE | ENE | NNE | ENE | NE | ENE | ENE | E | E | SW | WSW | SW | WSW | S | SSW | SSW | SSE | SE | SSE | 141 | SE |
| Dec 31 | SSE | SE | SE | S | S | S | S | S | S | S | S | SSW | SSW | SSW | S | S | S | S | S | SSE | S | S | S | SSE | 181 | S |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure |
| X | InValid Data (Machine Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | |

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*



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# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.9 | kph | on December 3 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 16.7 | kph | on December 3 | Hours of Data: | 729 |
| Minimum Hourly Value: | 0.1 | kph | on December 20 at hour 11 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.4 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.7 | kph | | Operational Uptime: | 98.0 |

**WIND DIRECTION**

Monthly Average: 192 (S) degree

| 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 | | | |
| Dec 1 | 1.2 | 1.4 | 2.8 | 2.3 | 1.4 | 2.3 | 4.0 | 3.9 | 4.3 | 6.9 | 9.6 | 11.3 | 11.8 | 10.4 | 9.7 | 7.0 | 8.0 | 6.3 | 5.9 | 8.4 | 9.0 | 7.9 | 7.5 | 4.9 | 1.2 | 11.8 | 5.0 |
| | NNE | ENE | ENE | ESE | SE | SSE | SE | SE | SE | SSE | S | SSW | SSW | SSW | SW | SW | S | S | SW | SW | SW | SW | SW | SW | | | |
| Dec 2 | 3.9 | 2.8 | 3.2 | 4.3 | 4.4 | 4.9 | 5.5 | 4.0 | 5.0 | 3.6 | 3.9 | 5.6 | 9.0 | 10.7 | 11.6 | 13.2 | 13.1 | 15.2 | 15.8 | 17.7 | 14.5 | 11.7 | 11.6 | 12.5 | 2.8 | 17.7 | 8.3 |
| | S | SSW | S | SSE | SSE | SSE | SSE | S | SSE | S | SSE | SSW | SW | SSW | SSW | SSW | S | S | SSW | SSW | S | S | S | S | | | |
| Dec 3 | 13.0 | 13.8 | 13.0 | 12.5 | 14.3 | 16.5 | 16.3 | 14.9 | 14.3 | 13.4 | 15.8 | 17.8 | 19.0 | 19.5 | 21.2 | 18.7 | 18.2 | 18.5 | 21.3 | 22.6 | 21.2 | **23.9** | 21.7 | 15.4 | 12.5 | **23.9** | **16.7** |
| | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | WSW | WSW | WSW | WSW | WSW | WSW | WSW | SW | SW | WSW | WSW | WSW | WSW | SW | | | |
| Dec 4 | 13.8 | 9.2 | 5.6 | 3.9 | 6.9 | 7.5 | 12.0 | 11.7 | 16.6 | 16.1 | 14.1 | 17.7 | 17.9 | 19.6 | 15.5 | 13.7 | 12.3 | 7.7 | 9.1 | 8.2 | 4.3 | 0.8 | 0.2 | 0.6 | 0.2 | 19.6 | 8.3 |
| | WSW | WSW | WSW | SW | SW | WNW | NW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | N | N | NNW | SSE | WNW | WSW | | | |
| Dec 5 | 1.6 | 3.0 | 2.8 | 2.0 | 1.3 | 3.7 | 8.0 | 11.3 | 13.0 | 14.9 | 16.1 | 14.5 | 13.1 | 11.4 | 11.4 | 8.2 | 6.1 | 7.3 | 5.1 | 1.4 | 6.0 | 3.1 | 1.4 | 1.6 | 1.3 | 16.1 | 6.6 |
| | W | W | NNW | NNW | N | NNE | N | N | N | N | N | N | NNW | NNW | NNW | NNW | N | NNE | N | NNE | NNE | NNE | WNW | N | | | |
| Dec 6 | 0.5 | 0.8 | 1.2 | 2.2 | 3.7 | 2.6 | 2.9 | 2.7 | 2.9 | 4.9 | 4.7 | 7.7 | 8.2 | 7.7 | 10.0 | 6.4 | 6.5 | 7.2 | 7.1 | 6.0 | 3.9 | 7.2 | 13.8 | 13.8 | 0.5 | 13.8 | 4.6 |
| | S | ESE | ESE | ENE | ENE | E | ENE | ENE | E | ESE | SE | SSE | SSE | SSE | S | SSE | ESE | ESE | ESE | SE | SE | S | S | S | | | |
| Dec 7 | 12.9 | 14.1 | 16.9 | 17.0 | 14.5 | 13.1 | 11.2 | 10.1 | 9.0 | 7.5 | 7.9 | 6.7 | 5.2 | 3.6 | 4.0 | 3.2 | 3.2 | 3.7 | 3.5 | 4.0 | 3.9 | 3.8 | 3.5 | 2.8 | 2.8 | 17.0 | 5.3 |
| | S | S | SSW | SSW | SSW | SSW | SSW | SSW | S | SSW | SSW | SW | SSW | WSW | WNW | NNW | NNE | NE | NE | ENE | ESE | E | ENE | E | | | |
| Dec 8 | 3.2 | 6.9 | 10.0 | 9.8 | 10.1 | 8.0 | 1.6 | 3.1 | 5.6 | 3.9 | 4.6 | 2.5 | 5.0 | 9.2 | 10.1 | 7.9 | 6.5 | 11.6 | 10.2 | 15.6 | 16.4 | 15.6 | 10.3 | 15.2 | 1.6 | 16.4 | 7.2 |
| | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ENE | E | ESE | S | SSW | SSW | SW | S | SSE | S | S | SSW | SSW | SSE | S | | | |
| Dec 9 | 6.8 | 3.9 | 4.8 | 9.5 | 9.1 | 13.3 | 15.2 | 15.3 | 13.2 | 15.4 | 17.0 | 15.7 | 14.6 | 12.7 | 10.3 | 9.5 | 10.3 | 12.7 | 7.6 | 5.6 | 5.2 | 5.5 | 5.9 | 6.7 | 3.9 | 17.0 | 9.8 |
| | SSE | SE | SE | SSE | SSE | SSE | S | S | S | S | S | SSW | S | SSW | S | S | SSE | SSE | SE | SE | SSE | SSE | SSE | SSE | | | |
| Dec 10 | 4.9 | 1.7 | 1.4 | 6.8 | 6.9 | 10.0 | 11.3 | 11.6 | 12.2 | 12.3 | 12.5 | 13.5 | 15.2 | 15.9 | 16.3 | 15.9 | 14.3 | 14.5 | 13.1 | 11.6 | 10.8 | 12.0 | 13.2 | 11.1 | 1.4 | 16.3 | 10.7 |
| | SE | SE | N | NNW | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | | | |
| Dec 11 | 9.0 | 9.1 | 9.1 | 6.9 | 7.7 | 6.6 | 6.7 | 7.3 | 5.7 | 5.2 | 8.0 | 10.0 | 10.7 | 8.3 | 8.7 | 2.6 | 0.8 | 1.6 | 0.6 | 2.0 | 2.8 | 2.8 | 3.3 | 4.1 | 0.6 | 10.7 | 4.2 |
| | N | N | N | N | NNW | N | NNW | NNW | NNW | NW | NW | NW | NW | NW | NW | WNW | W | SSW | SSE | SE | SE | SE | SE | SSE | | | |
| Dec 12 | 4.9 | 5.4 | 3.7 | 5.0 | 5.2 | 5.3 | 6.0 | 4.8 | 7.0 | 10.9 | 11.7 | 11.9 | 12.2 | 11.6 | 11.5 | 8.4 | 5.4 | 5.3 | 5.2 | 3.5 | 4.9 | 6.0 | 7.9 | 8.7 | 3.5 | 12.2 | 7.0 |
| | SSE | SE | SE | SE | SE | SE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SE | SE | ESE | ESE | SE | SE | SE | SSE | SSE | | | |
| Dec 13 | 11.9 | 9.9 | 9.7 | 8.2 | 8.1 | 9.4 | 12.0 | 12.3 | 13.6 | 14.6 | 13.9 | 10.5 | 5.5 | 3.0 | 1.1 | 3.3 | 2.7 | 4.2 | 5.1 | 8.8 | 7.4 | 7.4 | 8.5 | 6.6 | 1.1 | 14.6 | 6.5 |
| | SSE | SSE | SSE | S | S | S | SSW | SSW | SSW | SW | SW | SW | SW | WSW | S | W | WSW | SW | WSW | W | WSW | W | WNW | W | | | |
| Dec 14 | 8.2 | 6.0 | 5.8 | 4.6 | 2.3 | 1.0 | 4.4 | 3.8 | 5.9 | 9.3 | 9.1 | 12.3 | 11.5 | 11.7 | 11.1 | 10.9 | 9.6 | 10.3 | 9.0 | 6.6 | 7.3 | 5.0 | 3.0 | 4.9 | 1.0 | 12.3 | 6.2 |
| | WNW | W | WSW | WSW | SW | SE | SE | SE | SSE | SSW | S | SSW | SSW | SSW | SSW | S | S | SSW | S | SSE | SSW | SSW | SSW | S | | | |
| Dec 15 | 4.1 | 5.4 | 9.5 | 5.8 | 7.4 | 5.1 | 4.4 | 3.7 | 4.1 | 4.2 | 6.2 | 2.6 | 4.7 | 4.3 | 5.4 | 7.7 | 7.0 | 12.2 | 12.5 | 10.7 | 11.5 | 8.1 | 7.7 | 8.8 | 2.6 | 12.5 | 6.5 |
| | SSE | SE | SE | SE | SE | SSE | SE | SE | SE | SSE | SE | SSW | SE | ESE | SSE | SSE | SE | SSE | SE | SE | SSE | SSE | S | SSW | | | |
| Dec 16 | 8.8 | 6.5 | 4.5 | 6.8 | 3.9 | 3.3 | 1.9 | 1.0 | 7.5 | 6.7 | 10.5 | 13.1 | 12.5 | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | 1.0 | 13.1 | - |
| | SW | SW | SSW | SSW | SSW | SE | NNW | NE | NNE | NNE | N | N | N | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | | | |
| Dec 17 | **P** | **P** | **P** | **P** | 9.8 | 10.1 | 9.3 | 10.5 | 11.0 | 10.7 | 10.2 | 10.2 | 9.7 | 10.5 | 10.1 | 11.4 | 9.9 | 10.6 | 11.5 | 11.1 | 12.4 | 12.8 | 12.6 | 11.1 | 9.3 | 12.8 | 10.7 |
| | **P** | **P** | **P** | **P** | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | | | |
| Dec 18 | 9.5 | 7.7 | 7.7 | 7.3 | 5.7 | 6.3 | 6.8 | 8.6 | 7.5 | 8.3 | 8.7 | 8.5 | 8.3 | 8.4 | 7.2 | 7.2 | 6.9 | 8.1 | 8.2 | 6.6 | 7.6 | 8.6 | 7.3 | 5.9 | 5.7 | 9.5 | 7.6 |
| | NNE | NNE | NNE | NNE | NNE | N | N | N | NNE | N | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | N | NNE | N | N | | | |
| Dec 19 | 5.9 | 5.2 | 5.9 | 4.4 | 6.7 | 7.0 | 6.2 | 7.4 | 6.4 | 6.4 | 5.1 | 8.2 | 5.3 | 6.0 | 5.2 | 4.6 | 3.9 | 1.6 | 0.5 | 0.3 | 0.2 | 0.7 | 1.0 | 0.5 | 0.2 | 8.2 | 4.2 |
| | N | N | N | N | N | N | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNE | S | SSE | E | NNE | ENE | ESE | | | |
| Dec 20 | 1.0 | 1.3 | 1.4 | 2.0 | 2.1 | 2.1 | 0.8 | 1.5 | 0.8 | 1.8 | 1.4 | **0.1** | 2.0 | 4.1 | 4.0 | 3.2 | 1.2 | 0.2 | **0.1** | 0.5 | 0.3 | 1.0 | 1.9 | 1.7 | **0.1** | 4.1 | **0.4** |
| | ESE | E | ESE | E | ENE | E | ESE | ESE | E | ENE | ENE | ESE | WSW | W | NW | NW | NNW | NNE | W | SW | ESE | ESE | ESE | ESE | | | |

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# *PEACE RIVER AREA MONITORING PROGRAM*

## *842b Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.9 | kph | on December 3 at hour 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 16.7 | kph | on December 3 | Hours of Data: | 729 |
| Minimum Hourly Value: | 0.1 | kph | on December 20 at hour 11 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.4 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.7 | kph | | Operational Uptime: | 98.0 |

**WIND DIRECTION**

Monthly Average: 192 (S) degree

| 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 | | | |
| Dec 21 | 2.0 | 1.8 | 3.1 | 2.6 | 2.4 | 3.5 | 3.3 | 3.0 | 3.6 | 5.6 | 4.4 | 6.7 | 6.7 | 3.7 | 4.3 | 8.6 | 7.3 | 5.0 | 8.2 | 7.0 | 6.4 | 5.5 | 5.0 | 5.7 | 1.8 | 8.6 | 4.4 |
| | ESE | ESE | ESE | SE | SE | SE | SE | SSE | SE | SSE | SSE | S | S | WSW | SW | S | SSE | SSE | S | S | SSE | SSE | SSE | SSE | | | |
| Dec 22 | 7.7 | 10.3 | 10.0 | 4.7 | 3.8 | 1.3 | 1.2 | 3.4 | 3.3 | 2.2 | 0.8 | 2.2 | 4.8 | 4.5 | 1.5 | 1.0 | 1.7 | 1.4 | 1.0 | 2.0 | 4.5 | 4.0 | 5.7 | 6.2 | 0.8 | 10.3 | 2.2 |
| | SE | SE | SSE | S | SE | ENE | E | E | ESE | ESE | NW | WNW | W | W | SW | W | NW | NW | ESE | ESE | SE | SSE | S | SSE | | | |
| Dec 23 | 6.4 | 5.6 | 3.3 | 5.6 | 3.2 | 2.8 | 1.5 | 1.5 | 2.1 | 2.2 | 3.4 | 4.9 | 5.8 | 7.7 | 8.8 | 8.7 | 8.2 | 7.3 | 9.0 | 5.8 | 6.0 | 4.7 | 4.3 | 5.0 | 1.5 | 9.0 | 2.9 |
| | SSW | S | SSE | SSE | S | SSW | E | NE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NE | N | NNW | NNE | NNE | NNE | N | NNE | | | |
| Dec 24 | 3.8 | 3.4 | 2.9 | 4.5 | 4.3 | 3.6 | 4.5 | 3.3 | 4.9 | 4.6 | 7.8 | 7.5 | 10.4 | 11.0 | 8.1 | 9.7 | 8.1 | 7.8 | 8.1 | 6.1 | 6.0 | 6.0 | 6.1 | 7.0 | 2.9 | 11.0 | 5.4 |
| | NNE | N | NNE | NNE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NNE | NE | NE | NNW | N | N | NNW | NNW | NNW | NW | | | |
| Dec 25 | 5.8 | 4.8 | 6.1 | 6.7 | 4.9 | 7.7 | 6.8 | 6.3 | 5.3 | 5.2 | 4.7 | 4.7 | 1.6 | 0.4 | 1.3 | 1.8 | 2.4 | 2.9 | 2.5 | 2.9 | 5.3 | 4.9 | 6.9 | 5.1 | 0.4 | 7.7 | 2.5 |
| | NNW | NNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | N | NNW | SSW | NE | E | E | E | E | ENE | E | E | E | E | | | |
| Dec 26 | 7.2 | 6.6 | 7.1 | 4.0 | 4.1 | 3.7 | 1.9 | 2.9 | 5.8 | 5.9 | 5.8 | 5.7 | 7.4 | 8.7 | 9.4 | 12.6 | 8.1 | 8.4 | 6.7 | 6.6 | 6.3 | 4.7 | 4.1 | 4.0 | 1.9 | 12.6 | 5.3 |
| | ENE | ENE | NE | NE | NE | ENE | NE | NE | NNE | NE | NE | NNE | NNW | NNW | N | NNE | NNW | NNW | NNW | NNW | N | N | NNE | NNE | | | |
| Dec 27 | 4.1 | 4.7 | 5.5 | 4.6 | 4.0 | 3.2 | 4.8 | 4.4 | 7.1 | 6.7 | 5.2 | 6.5 | 7.2 | 9.6 | 10.6 | 11.2 | 11.5 | 12.2 | 6.9 | 9.4 | 7.6 | 5.5 | 5.4 | 5.4 | 3.2 | 12.2 | 6.5 |
| | N | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | NE | NNE | NNE | NE | NNE | NNE | NE | NE | NE | NNE | NW | N | NE | NNE | N | | | |
| Dec 28 | 7.2 | 6.1 | 6.0 | 5.1 | 5.2 | 6.4 | 6.1 | 3.4 | 4.5 | 3.7 | 5.6 | 0.7 | 2.9 | 5.8 | 3.8 | 3.2 | 5.8 | 6.9 | 5.7 | 4.8 | 4.7 | 4.8 | 5.5 | 4.9 | 0.7 | 7.2 | 0.9 |
| | NNW | N | NNW | N | NW | NW | NW | NNW | NW | WNW | W | N | SW | WSW | SW | S | SSE | SE | SSE | SE | SSE | SSE | SE | SSE | | | |
| Dec 29 | 6.7 | 7.6 | 9.3 | 9.7 | 10.0 | 8.3 | 9.2 | 9.6 | 7.6 | 5.7 | 5.6 | 7.8 | 9.1 | 8.2 | 5.9 | 3.6 | 4.0 | 5.3 | 5.7 | 3.8 | 3.6 | 3.6 | 4.2 | 2.7 | 2.7 | 10.0 | 6.0 |
| | SSE | S | S | S | SSE | SSE | S | SSW | SSW | SSW | SW | SW | SSW | SSW | SSW | SW | S | S | SSE | SE | SSE | SSE | SE | SE | | | |
| Dec 30 | 2.4 | 1.2 | 2.2 | 2.5 | 2.5 | 3.6 | 3.1 | 0.6 | 0.7 | 1.1 | 2.8 | 2.2 | 1.4 | 0.7 | 1.2 | 1.5 | 3.1 | 2.9 | 3.1 | 4.5 | 4.7 | 4.4 | 5.0 | 5.4 | 0.6 | 5.4 | 1.1 |
| | SE | ENE | ENE | NE | ENE | ENE | ENE | NNE | ENE | NE | ENE | ENE | E | E | SW | WSW | SW | WSW | S | SSW | SSW | SSE | SE | SSE | | | |
| Dec 31 | 3.2 | 3.4 | 2.6 | 2.9 | 2.4 | 4.9 | 4.3 | 4.7 | 2.1 | 3.8 | 6.5 | 8.3 | 7.4 | 6.9 | 7.5 | 5.8 | 5.6 | 7.4 | 7.6 | 5.2 | 5.7 | 4.4 | 5.2 | 5.1 | 2.1 | 8.3 | 4.9 |
| | SSE | SE | SE | S | S | S | S | S | S | S | S | SSW | SSW | SSW | S | S | S | S | S | SSE | S | S | S | SSE | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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.

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## 842b Station - December 2022

## Summary of Hourly Averages

## PRECIPITATION in mm

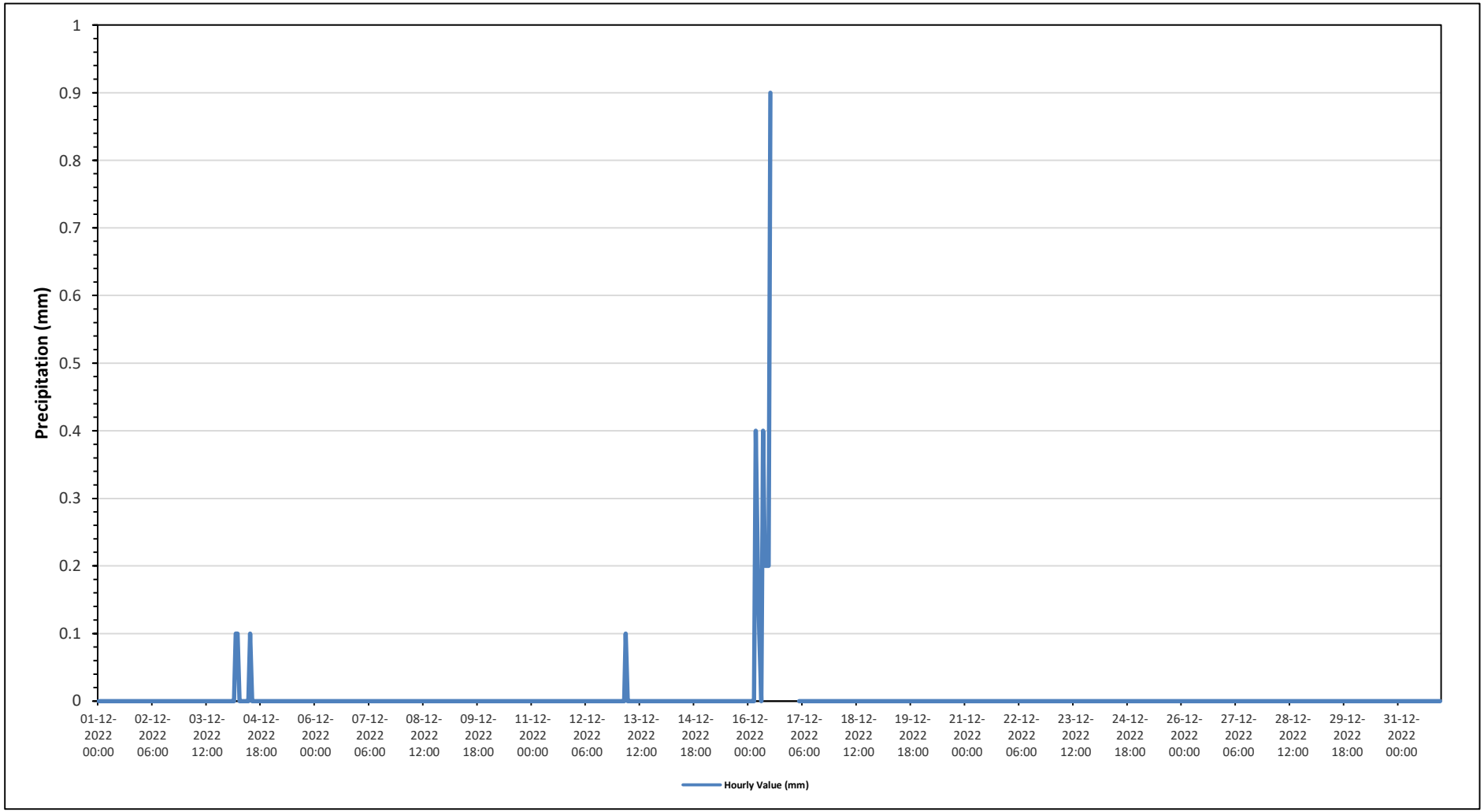
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.9 | mm | on December 16 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.3 | mm | on December 4 | Hours of Data: | 729 |
| Minimum Hourly Value: | 0.0 | mm | on December 1 at hour 0 | Hours of Missing Data: | 15 |
| Minimum Daily Value: | 0.0 | mm | on December 1 | Hours of Calibration: | 0 |
| Monthly Total: | 3.0 | mm | | Operational Uptime: | 98.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Total |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 4 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | **0.3** |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 13 | 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 | 0.1 | 0.1 |
| Dec 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 |
| Dec 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 |
| Dec 16 | 0 | 0 | 0 | 0 | 0.4 | 0.2 | 0.1 | 0 | 0.4 | 0.2 | 0.2 | 0.2 | **0.9** | P | P | P | P | P | P | P | P | P | P | P | 0.0 | **0.9** | - |
| Dec 17 | P | P | P | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Diurnal Maximum | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 | 0.1 | 0.0 | 0.4 | 0.2 | 0.2 | 0.2 | 0.9 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - 842b Station*



# RENO-B STATION

# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## SULPHUR DIOXIDE ($SO_2$) in ppb

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

Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0 30-Day Exceedance: 0

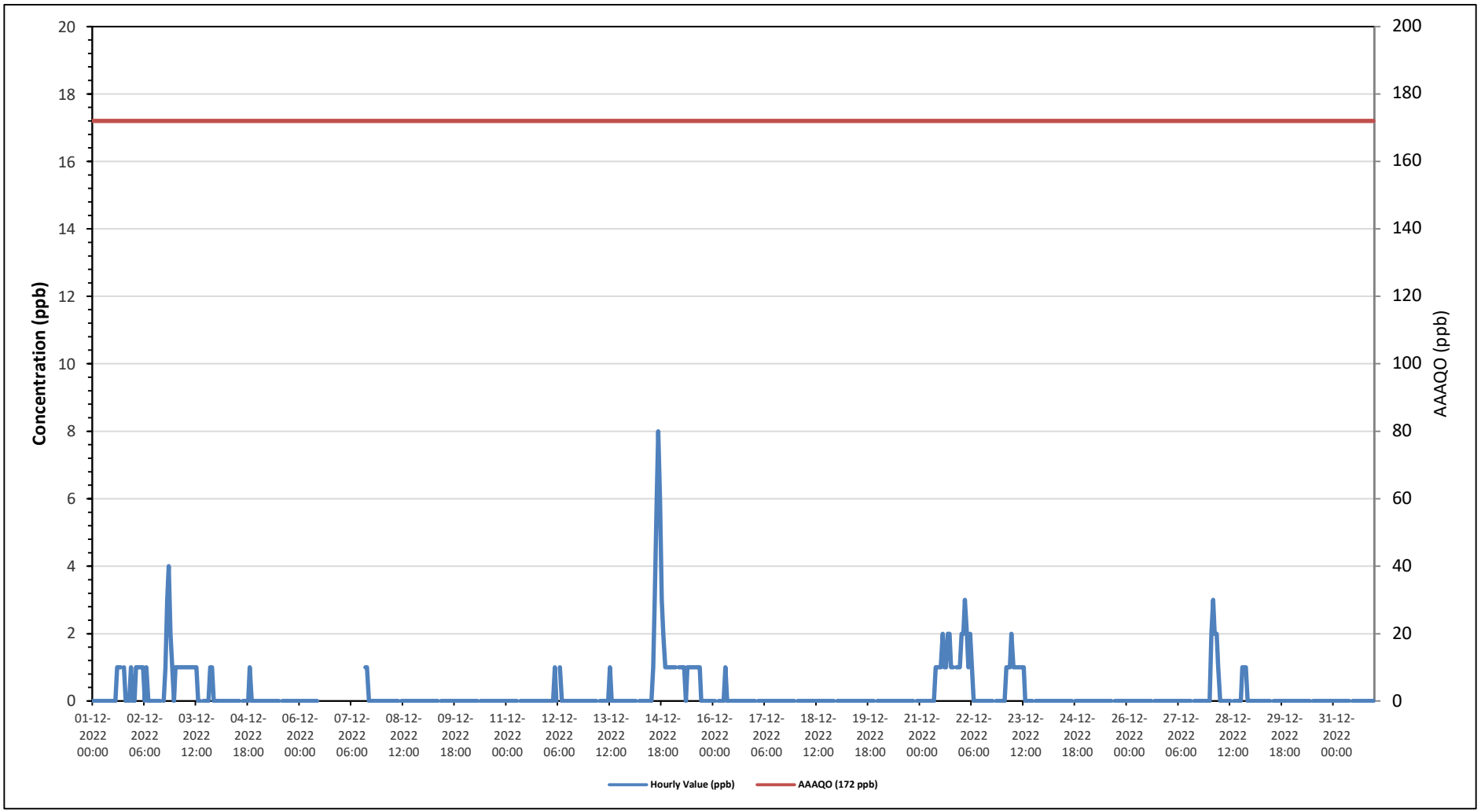
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 8 | ppb | on December 14 at hour 16 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.4 | ppb | on December 14 | Hours of Data: | 687 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.0 | ppb | on December 5 | Hours of Calibration: | 36 |
| Monthly Average: | 0.2 | ppb | | Operational Uptime: | 97.2 |

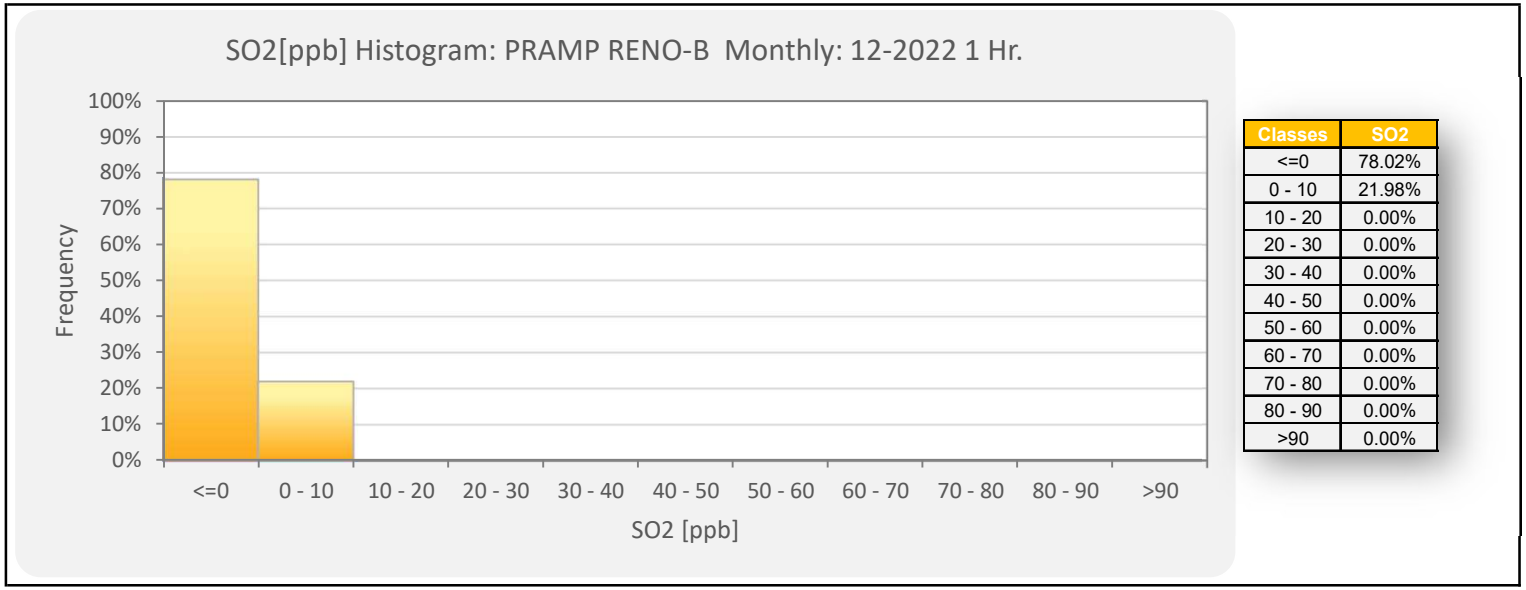
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | S | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.2 |
| Dec 2 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 3 | 4 | 2 | 1 | 0 | 0 | 4 | 0.7 |
| Dec 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.7 |
| Dec 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | P | P | P | P | P | P | P | P | K | K | K | K | K | 0 | 0 | - |
| Dec 7 | K | K | K | K | K | K | K | K | C | C | C | C | C | C | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | - |
| Dec 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 12 | 0 | 0 | 0 | 0 | 1 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 13 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 14 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 6 | 8 | 6 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 8 | 1.4 |
| Dec 15 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.7 |
| Dec 16 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 17 | 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 |
| Dec 18 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 |
| Dec 19 | 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 |
| Dec 20 | 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 |
| Dec 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | S | 1 | 1 | 1 | 0 | 2 | 0.7 |
| Dec 22 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 3 | 0.6 |
| Dec 23 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.5 |
| Dec 24 | 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 |
| Dec 25 | 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 |
| Dec 26 | 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 |
| Dec 27 | 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 |
| Dec 28 | 0 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 0.6 |
| Dec 29 | 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 |
| Dec 30 | 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 |
| Dec 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Diurnal Maximum | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 6 | 8 | 6 | 3 | 3 | 4 | 2 | 1 | 1 | | | |
| Diurnal Average | 0.1 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

## *Timeseries Chart of Hourly Average for SO2 - Reno-B Station*

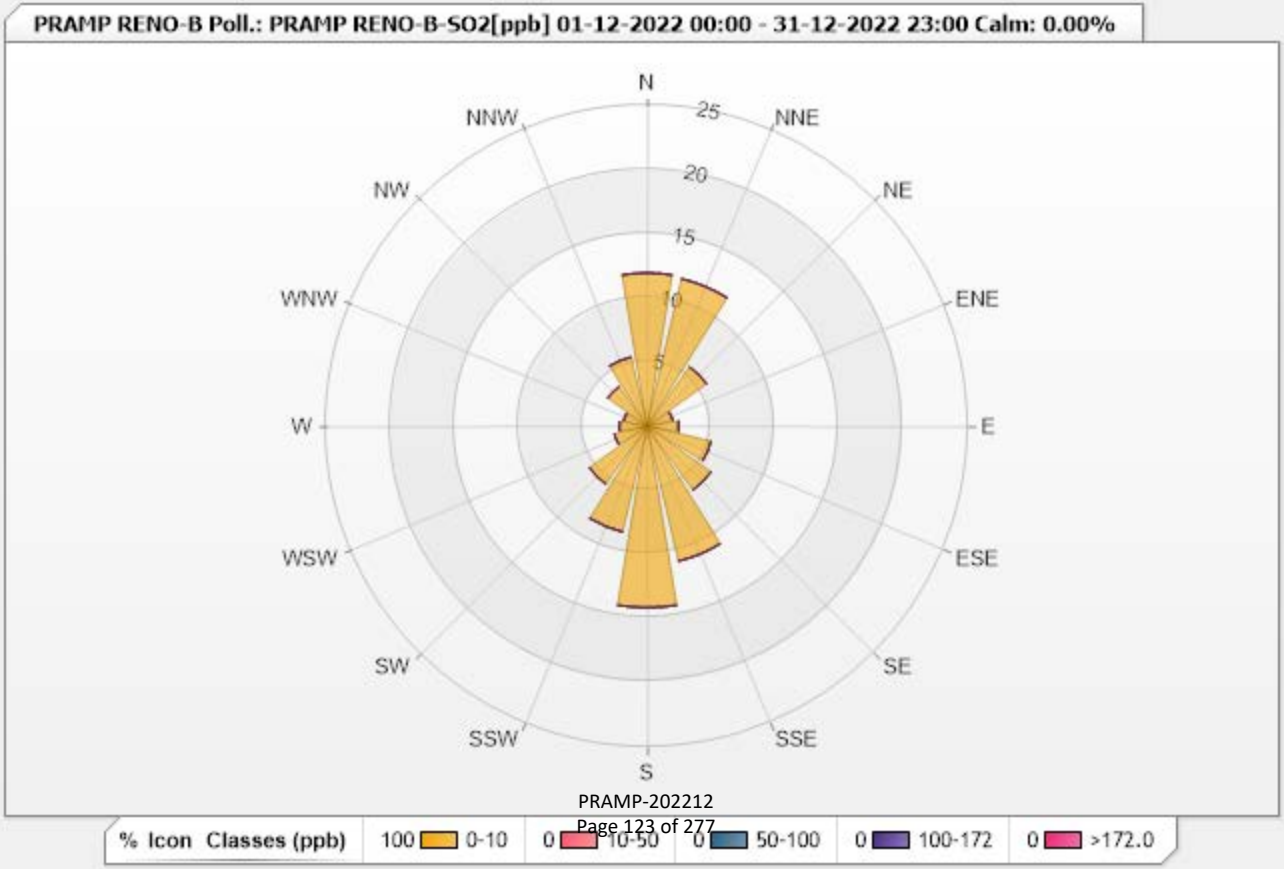





| Classes | SO2 |
|---|---|
| <=0 | 78.02% |
| 0 - 10 | 21.98% |
| 10 - 20 | 0.00% |
| 20 - 30 | 0.00% |
| 30 - 40 | 0.00% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: PRAMP RENO-B Poll.: PRAMP RENO-B-SO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|---|---|---|---|---|---|---|
| N | 11.94 | 0 | 0 | 0 | 0 | 11.94 |
| NNE | 11.79 | 0 | 0 | 0 | 0 | 11.79 |
| NE | 5.68 | 0 | 0 | 0 | 0 | 5.68 |
| ENE | 2.04 | 0 | 0 | 0 | 0 | 2.04 |
| E | 2.47 | 0 | 0 | 0 | 0 | 2.47 |
| ESE | 5.09 | 0 | 0 | 0 | 0 | 5.09 |
| SE | 6.11 | 0 | 0 | 0 | 0 | 6.11 |
| SSE | 10.77 | 0 | 0 | 0 | 0 | 10.77 |
| S | 14.12 | 0 | 0 | 0 | 0 | 14.12 |
| SSW | 8.44 | 0 | 0 | 0 | 0 | 8.44 |
| SW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| WSW | 2.62 | 0 | 0 | 0 | 0 | 2.62 |
| W | 2.18 | 0 | 0 | 0 | 0 | 2.18 |
| WNW | 1.89 | 0 | 0 | 0 | 0 | 1.89 |
| NW | 3.78 | 0 | 0 | 0 | 0 | 3.78 |
| NNW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP RENO-B Poll.: PRAMP RENO-B-SO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

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# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## TOTAL REDUCED SULPHUR (TRS) in ppb

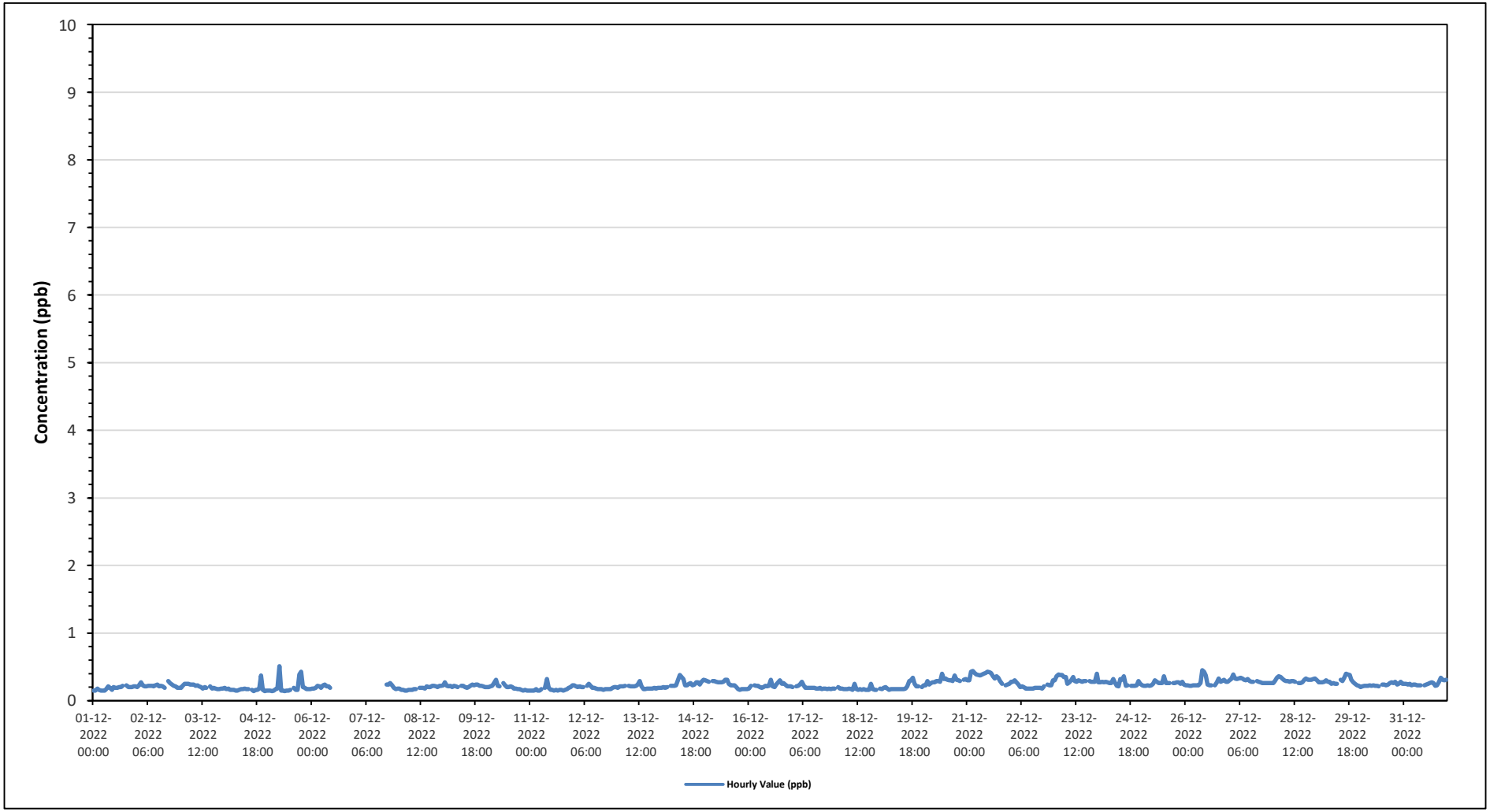
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.51 | ppb | on December 5 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.35 | ppb | on December 21 | Hours of Data: | 684 |
| Minimum Hourly Value: | 0.14 | ppb | on December 4 at hour 16 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.17 | ppb | on December 4 | Hours of Calibration: | 39 |
| Monthly Average: | 0.23 | ppb | | Operational Uptime: | 97.2 |

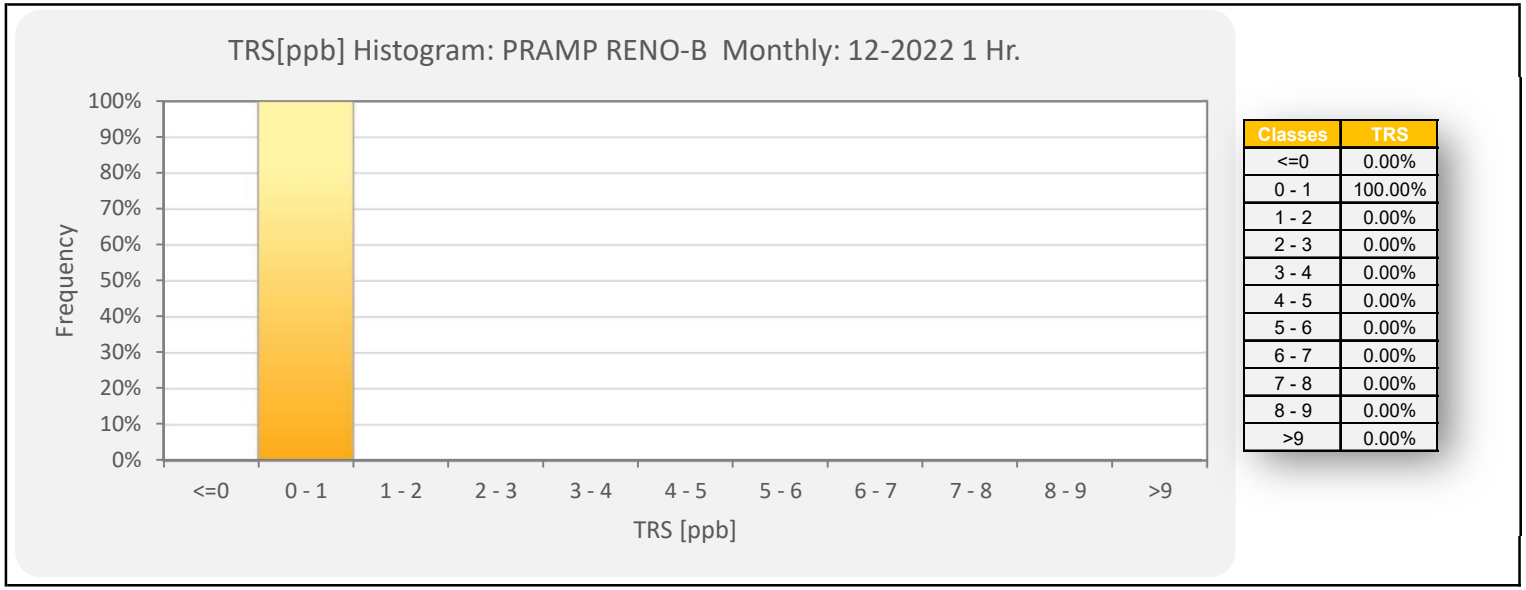
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.15 | 0.15 | 0.18 | 0.16 | 0.15 | 0.15 | 0.15 | 0.17 | 0.21 | 0.19 | 0.16 | 0.2 | 0.19 | 0.19 | 0.2 | 0.2 | 0.22 | S | 0.23 | 0.2 | 0.2 | 0.2 | 0.21 | 0.21 | 0.15 | 0.23 | 0.19 |
| Dec 2 | 0.2 | 0.23 | 0.27 | 0.23 | 0.21 | 0.21 | 0.22 | 0.22 | 0.22 | 0.21 | 0.23 | 0.24 | 0.21 | 0.22 | 0.21 | 0.19 | S | 0.29 | 0.26 | 0.24 | 0.22 | 0.21 | 0.19 | 0.19 | 0.19 | 0.29 | 0.22 |
| Dec 3 | 0.19 | 0.22 | 0.25 | 0.25 | 0.25 | 0.24 | 0.24 | 0.24 | 0.22 | 0.23 | 0.21 | 0.2 | 0.18 | 0.2 | 0.19 | S | 0.21 | 0.18 | 0.19 | 0.18 | 0.17 | 0.17 | 0.18 | 0.18 | 0.17 | 0.25 | 0.21 |
| Dec 4 | 0.19 | 0.17 | 0.18 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 0.17 | 0.17 | S | 0.16 | 0.14 | 0.16 | 0.16 | 0.18 | 0.37 | 0.16 | 0.14 | 0.15 | **0.14** | 0.37 | 0.17 |
| Dec 5 | 0.15 | 0.15 | 0.14 | 0.15 | 0.17 | 0.18 | **0.51** | 0.15 | 0.15 | 0.14 | 0.15 | 0.15 | 0.16 | S | 0.19 | 0.16 | 0.16 | 0.39 | 0.43 | 0.2 | 0.19 | 0.17 | 0.17 | 0.17 | **0.14** | **0.51** | 0.20 |
| Dec 6 | 0.18 | 0.18 | 0.19 | 0.22 | 0.21 | 0.19 | 0.23 | 0.24 | 0.21 | 0.21 | 0.19 | P | P | P | P | P | P | P | P | K | K | K | K | K | 0.18 | 0.24 | - |
| Dec 7 | K | K | K | K | K | K | K | K | C | C | C | C | C | C | C | C | C | 0.24 | 0.24 | 0.26 | 0.23 | 0.19 | 0.17 | 0.18 | 0.17 | 0.26 | - |
| Dec 8 | 0.18 | 0.16 | 0.16 | 0.15 | 0.15 | 0.16 | 0.16 | 0.16 | 0.17 | 0.17 | S | 0.19 | 0.19 | 0.19 | 0.18 | 0.21 | 0.2 | 0.2 | 0.22 | 0.22 | 0.21 | 0.2 | 0.22 | 0.22 | 0.15 | 0.22 | 0.19 |
| Dec 9 | 0.23 | 0.27 | 0.22 | 0.21 | 0.22 | 0.2 | 0.22 | 0.21 | 0.2 | S | 0.22 | 0.22 | 0.2 | 0.19 | 0.2 | 0.22 | 0.24 | 0.23 | 0.24 | 0.24 | 0.22 | 0.22 | 0.21 | 0.2 | 0.19 | 0.27 | 0.22 |
| Dec 10 | 0.2 | 0.2 | 0.21 | 0.22 | 0.26 | 0.31 | 0.22 | 0.21 | S | 0.26 | 0.23 | 0.2 | 0.2 | 0.21 | 0.2 | 0.18 | 0.18 | 0.17 | 0.17 | 0.16 | 0.15 | 0.16 | 0.15 | 0.15 | 0.15 | 0.31 | 0.20 |
| Dec 11 | 0.15 | 0.15 | 0.15 | 0.17 | 0.15 | 0.15 | 0.17 | S | 0.19 | 0.32 | 0.19 | 0.16 | 0.16 | 0.15 | 0.16 | 0.15 | 0.16 | 0.16 | 0.15 | 0.16 | 0.17 | 0.19 | 0.2 | 0.23 | 0.15 | 0.32 | 0.17 |
| Dec 12 | 0.23 | 0.21 | 0.2 | 0.21 | 0.2 | 0.2 | S | 0.22 | 0.25 | 0.22 | 0.19 | 0.19 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.19 | 0.2 | 0.2 | 0.16 | 0.25 | 0.19 |
| Dec 13 | 0.19 | 0.21 | 0.21 | 0.21 | 0.22 | S | 0.22 | 0.21 | 0.21 | 0.21 | 0.22 | 0.24 | 0.29 | 0.21 | 0.17 | 0.17 | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | 0.18 | 0.19 | 0.19 | 0.17 | 0.29 | 0.20 |
| Dec 14 | 0.19 | 0.2 | 0.19 | 0.2 | S | 0.22 | 0.22 | 0.22 | 0.23 | 0.31 | 0.38 | 0.35 | 0.32 | 0.23 | 0.23 | 0.25 | 0.26 | 0.23 | 0.24 | 0.27 | 0.27 | 0.24 | 0.28 | 0.31 | 0.19 | 0.38 | 0.25 |
| Dec 15 | 0.3 | 0.29 | 0.28 | S | 0.29 | 0.29 | 0.28 | 0.27 | 0.27 | 0.27 | 0.28 | 0.31 | 0.31 | 0.25 | 0.23 | 0.23 | 0.23 | 0.2 | 0.17 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.16 | 0.31 | 0.24 |
| Dec 16 | 0.18 | 0.22 | S | 0.23 | 0.22 | 0.22 | 0.2 | 0.19 | 0.2 | 0.22 | 0.21 | 0.22 | 0.31 | 0.21 | 0.2 | 0.24 | 0.27 | 0.3 | 0.25 | 0.26 | 0.24 | 0.21 | 0.21 | 0.21 | 0.18 | 0.31 | 0.23 |
| Dec 17 | 0.2 | S | 0.21 | 0.22 | 0.24 | 0.28 | 0.23 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.19 | 0.17 | 0.18 | 0.18 | 0.17 | 0.18 | 0.17 | 0.18 | 0.18 | 0.17 | 0.28 | 0.19 |
| Dec 18 | S | 0.2 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 | 0.18 | 0.17 | 0.16 | 0.25 | 0.17 | 0.16 | 0.17 | 0.16 | 0.17 | 0.16 | 0.16 | 0.16 | 0.25 | 0.17 | 0.16 | 0.16 | S | 0.16 | 0.25 | 0.18 |
| Dec 19 | 0.18 | 0.17 | 0.19 | 0.2 | 0.18 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.18 | 0.21 | 0.29 | 0.3 | 0.34 | 0.25 | 0.21 | 0.21 | S | 0.2 | 0.16 | 0.34 | 0.20 |
| Dec 20 | 0.23 | 0.23 | 0.29 | 0.24 | 0.26 | 0.27 | 0.27 | 0.29 | 0.29 | 0.28 | 0.4 | 0.32 | 0.33 | 0.31 | 0.3 | 0.3 | 0.29 | 0.37 | 0.31 | 0.3 | 0.29 | S | 0.31 | 0.32 | 0.23 | 0.40 | 0.30 |
| Dec 21 | 0.3 | 0.3 | 0.43 | 0.44 | 0.41 | 0.39 | 0.38 | 0.37 | 0.39 | 0.4 | 0.41 | 0.43 | 0.42 | 0.41 | 0.36 | 0.33 | 0.36 | 0.34 | 0.29 | 0.25 | S | 0.23 | 0.24 | 0.25 | 0.23 | 0.44 | **0.35** |
| Dec 22 | 0.28 | 0.28 | 0.3 | 0.27 | 0.24 | 0.2 | 0.21 | 0.2 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 0.19 | 0.18 | 0.21 | S | 0.24 | 0.23 | 0.23 | 0.3 | 0.18 | 0.30 | 0.22 |
| Dec 23 | 0.3 | 0.36 | 0.39 | 0.38 | 0.38 | 0.35 | 0.35 | 0.25 | 0.27 | 0.3 | 0.35 | 0.29 | 0.28 | 0.3 | 0.29 | 0.28 | 0.29 | 0.29 | S | 0.29 | 0.28 | 0.28 | 0.28 | 0.4 | 0.25 | 0.40 | 0.31 |
| Dec 24 | 0.27 | 0.27 | 0.28 | 0.27 | 0.28 | 0.27 | 0.26 | 0.26 | 0.32 | 0.27 | 0.22 | 0.21 | 0.32 | 0.31 | 0.36 | 0.22 | 0.23 | S | 0.22 | 0.22 | 0.22 | 0.23 | 0.29 | 0.25 | 0.21 | 0.36 | 0.26 |
| Dec 25 | 0.23 | 0.22 | 0.22 | 0.23 | 0.22 | 0.23 | 0.25 | 0.3 | 0.28 | 0.26 | 0.26 | 0.26 | 0.36 | 0.26 | 0.26 | 0.26 | S | 0.26 | 0.26 | 0.27 | 0.27 | 0.25 | 0.28 | 0.24 | 0.22 | 0.36 | 0.26 |
| Dec 26 | 0.23 | 0.23 | 0.22 | 0.22 | 0.23 | 0.23 | 0.23 | 0.23 | 0.26 | 0.45 | 0.43 | 0.37 | 0.24 | 0.23 | 0.23 | S | 0.23 | 0.27 | 0.33 | 0.28 | 0.29 | 0.31 | 0.28 | 0.28 | 0.22 | 0.45 | 0.27 |
| Dec 27 | 0.3 | 0.32 | 0.39 | 0.33 | 0.32 | 0.33 | 0.34 | 0.33 | 0.31 | 0.3 | 0.32 | 0.29 | 0.28 | 0.28 | S | 0.29 | 0.28 | 0.27 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.39 | 0.30 |
| Dec 28 | 0.26 | 0.29 | 0.34 | 0.36 | 0.35 | 0.33 | 0.3 | 0.29 | 0.29 | 0.28 | 0.29 | 0.29 | 0.28 | S | 0.26 | 0.26 | 0.27 | 0.31 | 0.33 | 0.31 | 0.31 | 0.31 | 0.32 | 0.33 | 0.26 | 0.36 | 0.30 |
| Dec 29 | 0.3 | 0.27 | 0.27 | 0.27 | 0.28 | 0.3 | 0.28 | 0.28 | 0.25 | 0.26 | 0.25 | 0.25 | S | 0.31 | 0.29 | 0.34 | 0.4 | 0.39 | 0.38 | 0.31 | 0.27 | 0.25 | 0.23 | 0.22 | 0.22 | 0.40 | 0.29 |
| Dec 30 | 0.2 | 0.21 | 0.22 | 0.22 | 0.22 | 0.23 | 0.22 | 0.23 | 0.22 | 0.22 | 0.21 | S | 0.24 | 0.24 | 0.23 | 0.24 | 0.26 | 0.27 | 0.26 | 0.28 | 0.24 | 0.25 | 0.28 | 0.25 | 0.20 | 0.28 | 0.24 |
| Dec 31 | 0.25 | 0.25 | 0.24 | 0.25 | 0.23 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 | S | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.26 | 0.22 | 0.23 | 0.27 | 0.34 | 0.31 | 0.3 | 0.31 | 0.22 | 0.34 | 0.26 |
| Diurnal Maximum | 0.30 | 0.36 | 0.43 | 0.44 | 0.41 | 0.39 | 0.51 | 0.37 | 0.39 | 0.45 | 0.43 | 0.43 | 0.42 | 0.41 | 0.36 | 0.34 | 0.40 | 0.39 | 0.43 | 0.31 | 0.37 | 0.31 | 0.32 | 0.40 | | | |
| Diurnal Average | 0.22 | 0.23 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.23 | 0.23 | 0.24 | 0.25 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 | 0.23 | 0.25 | 0.24 | 0.23 | 0.23 | 0.22 | 0.23 | 0.23 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*

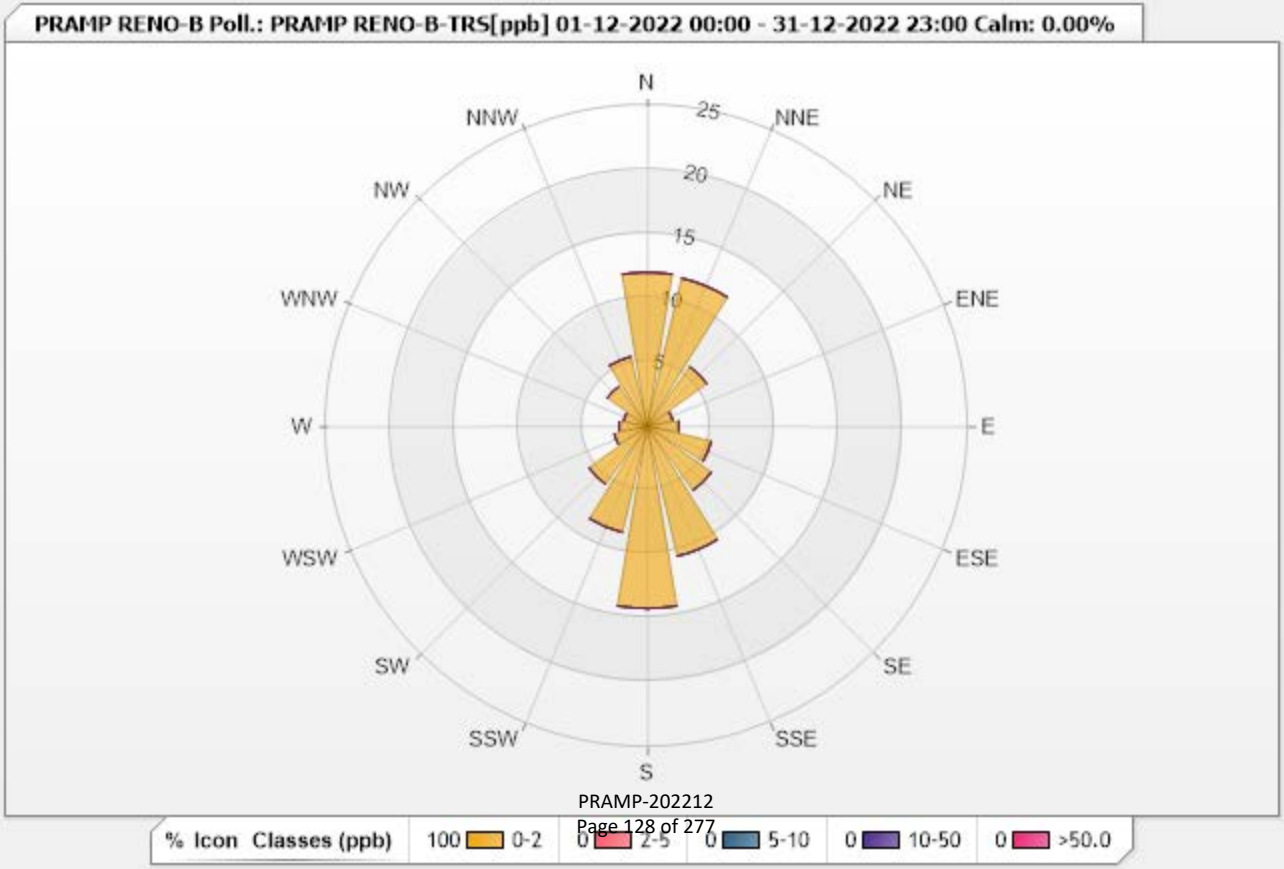





| Classes | TRS |
|---|---|
| <=0 | 0.00% |
| 0 - 1 | 100.00% |
| 1 - 2 | 0.00% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: PRAMP RENO-B Poll.: PRAMP RENO-B-TRS[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 11.99 | 0 | 0 | 0 | 0 | 11.99 |
| NNE | 11.84 | 0 | 0 | 0 | 0 | 11.84 |
| NE | 5.7 | 0 | 0 | 0 | 0 | 5.7 |
| ENE | 2.05 | 0 | 0 | 0 | 0 | 2.05 |
| E | 2.49 | 0 | 0 | 0 | 0 | 2.49 |
| ESE | 5.12 | 0 | 0 | 0 | 0 | 5.12 |
| SE | 6.14 | 0 | 0 | 0 | 0 | 6.14 |
| SSE | 10.38 | 0 | 0 | 0 | 0 | 10.38 |
| S | 14.18 | 0 | 0 | 0 | 0 | 14.18 |
| SSW | 8.48 | 0 | 0 | 0 | 0 | 8.48 |
| SW | 5.56 | 0 | 0 | 0 | 0 | 5.56 |
| WSW | 2.63 | 0 | 0 | 0 | 0 | 2.63 |
| W | 2.19 | 0 | 0 | 0 | 0 | 2.19 |
| WNW | 1.9 | 0 | 0 | 0 | 0 | 1.9 |
| NW | 3.8 | 0 | 0 | 0 | 0 | 3.8 |
| NNW | 5.56 | 0 | 0 | 0 | 0 | 5.56 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP RENO-B Poll.: PRAMP RENO-B-TRS[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

# PEACE RIVER AREA MONITORING PROGRAM

## Reno-B Station - December 2022

## Summary of Hourly Averages

## TOTAL HYDROCARBONS (THC) in ppm

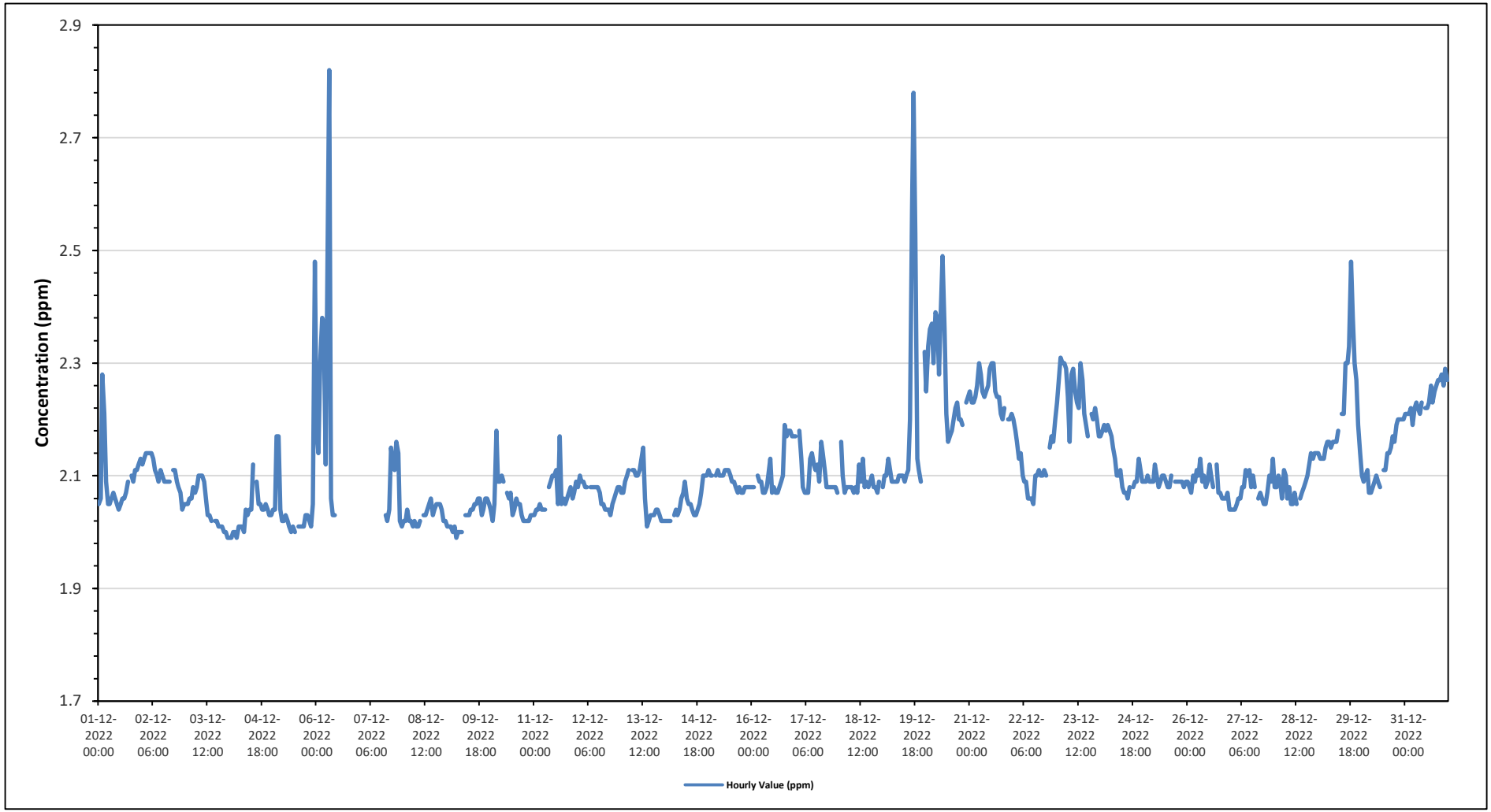
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.82 | ppm | on December 6 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.28 | ppm | on December 20 | Hours of Data: | 687 |
| Minimum Hourly Value: | 1.99 | ppm | on December 3 at hour 23 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 2.03 | ppm | on December 9 | Hours of Calibration: | 36 |
| Monthly Average: | 2.11 | ppm | | Operational Uptime: | 97.2 |

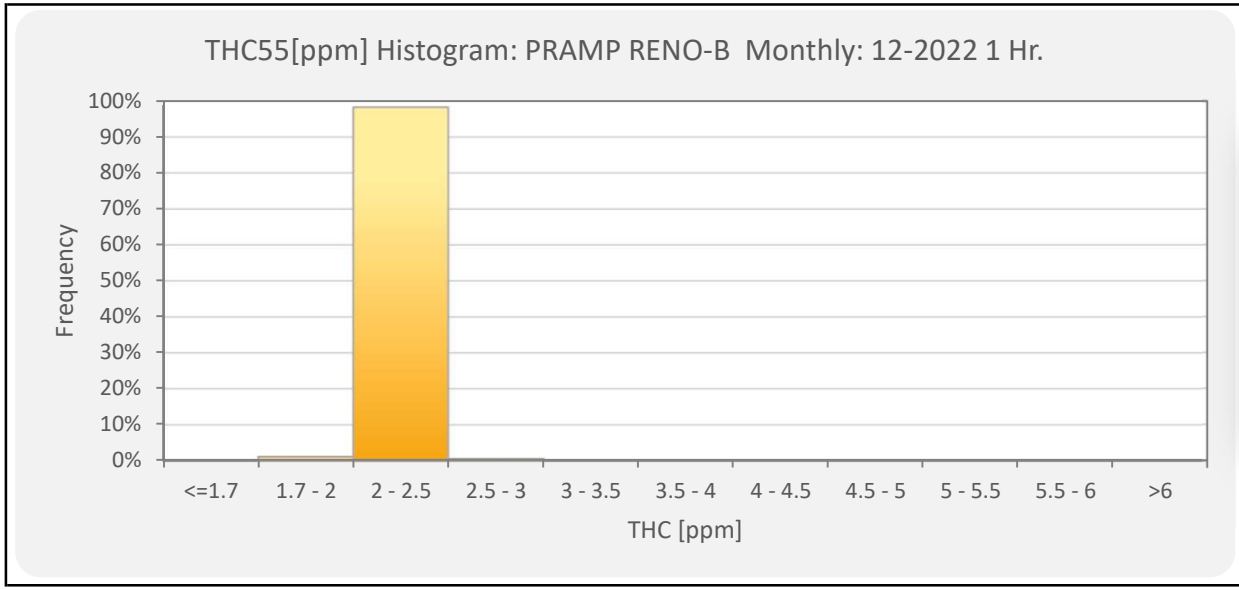
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 2.05 | 2.06 | 2.28 | 2.21 | 2.09 | 2.05 | 2.05 | 2.06 | 2.07 | 2.06 | 2.05 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.09 | S | 2.10 | 2.09 | 2.11 | 2.11 | 2.12 | 2.13 | 2.04 | 2.28 | 2.09 |
| Dec 2 | 2.12 | 2.13 | 2.14 | 2.14 | 2.14 | 2.14 | 2.13 | 2.11 | 2.10 | 2.09 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.11 | 2.09 | 2.08 | 2.07 | 2.04 | 2.05 | 2.04 | 2.14 | 2.10 |
| Dec 3 | 2.05 | 2.05 | 2.06 | 2.06 | 2.08 | 2.07 | 2.08 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.03 | 2.03 | 2.02 | S | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | **1.99** | 2.10 | 2.05 |
| Dec 4 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 2.01 | 2.01 | 2.01 | 2.00 | 2.04 | 2.03 | 2.04 | 2.04 | 2.12 | S | 2.09 | 2.05 | 2.05 | 2.04 | 2.04 | 2.05 | 2.04 | 2.03 | 2.03 | **1.99** | 2.12 | 2.03 |
| Dec 5 | 2.04 | 2.04 | 2.17 | 2.17 | 2.04 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.00 | 2.01 | 2.00 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.03 | 2.02 | 2.01 | 2.05 | 2.48 | 2.00 | 2.48 | 2.05 |
| Dec 6 | 2.18 | 2.14 | 2.30 | 2.38 | 2.37 | 2.12 | 2.48 | **2.82** | 2.06 | 2.03 | 2.03 | P | P | P | P | P | P | P | P | K | K | K | K | K | 2.03 | **2.82** | - |
| Dec 7 | K | K | K | K | K | K | K | K | C | C | C | C | C | C | 2.03 | 2.02 | 2.04 | 2.15 | 2.12 | 2.11 | 2.16 | 2.14 | 2.02 | 2.01 | 2.01 | 2.16 | - |
| Dec 8 | 2.02 | 2.02 | 2.04 | 2.02 | 2.02 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | S | 2.03 | 2.03 | 2.04 | 2.05 | 2.06 | 2.03 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.02 | 2.02 | 2.01 | 2.06 | 2.03 |
| Dec 9 | 2.01 | 2.01 | 2.01 | 2.00 | 2.01 | 1.99 | 2.00 | 2.00 | 2.00 | S | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.05 | 2.05 | 2.06 | 2.06 | 2.03 | 2.04 | 2.06 | 2.06 | 2.05 | **1.99** | 2.06 | 2.03 |
| Dec 10 | 2.04 | 2.02 | 2.05 | 2.18 | 2.09 | 2.09 | 2.10 | 2.09 | S | 2.07 | 2.06 | 2.07 | 2.03 | 2.04 | 2.06 | 2.05 | 2.05 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.02 | 2.18 | 2.05 |
| Dec 11 | 2.03 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | S | 2.08 | 2.09 | 2.10 | 2.10 | 2.11 | 2.05 | 2.17 | 2.05 | 2.06 | 2.05 | 2.06 | 2.07 | 2.08 | 2.06 | 2.07 | 2.09 | 2.03 | 2.17 | 2.07 |
| Dec 12 | 2.08 | 2.10 | 2.09 | 2.09 | 2.08 | 2.08 | S | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.03 | 2.05 | 2.06 | 2.07 | 2.08 | 2.08 | 2.03 | 2.10 | 2.07 |
| Dec 13 | 2.07 | 2.07 | 2.09 | 2.10 | 2.11 | S | 2.11 | 2.11 | 2.10 | 2.10 | 2.11 | 2.13 | 2.15 | 2.06 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.03 | 2.02 | 2.02 | 2.01 | 2.15 | 2.07 |
| Dec 14 | 2.02 | 2.02 | 2.02 | 2.02 | S | 2.03 | 2.04 | 2.03 | 2.04 | 2.06 | 2.07 | 2.09 | 2.06 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.07 | 2.10 | 2.10 | 2.10 | 2.02 | 2.10 | 2.05 |
| Dec 15 | 2.11 | 2.10 | 2.10 | S | 2.10 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.08 | 2.07 | 2.08 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.11 | 2.09 |
| Dec 16 | 2.08 | 2.08 | S | 2.10 | 2.09 | 2.09 | 2.07 | 2.07 | 2.08 | 2.10 | 2.13 | 2.07 | 2.08 | 2.07 | 2.07 | 2.08 | 2.09 | 2.10 | 2.19 | 2.17 | 2.18 | 2.18 | 2.17 | 2.17 | 2.07 | 2.19 | 2.11 |
| Dec 17 | 2.17 | S | 2.18 | 2.13 | 2.08 | 2.07 | 2.07 | 2.07 | 2.13 | 2.14 | 2.12 | 2.11 | 2.12 | 2.09 | 2.16 | 2.14 | 2.11 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.07 | 2.18 | 2.11 |
| Dec 18 | S | 2.16 | 2.10 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.08 | 2.07 | 2.12 | 2.09 | 2.13 | 2.08 | 2.09 | 2.08 | 2.09 | 2.10 | 2.08 | 2.08 | 2.07 | 2.09 | S | 2.07 | 2.16 | 2.09 |
| Dec 19 | 2.08 | 2.10 | 2.10 | 2.13 | 2.11 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.10 | 2.11 | 2.20 | 2.57 | 2.78 | 2.53 | 2.13 | 2.11 | 2.09 | S | 2.32 | 2.08 | 2.78 | 2.18 |
| Dec 20 | 2.25 | 2.33 | 2.36 | 2.37 | 2.30 | 2.39 | 2.38 | 2.28 | 2.39 | 2.49 | 2.36 | 2.21 | 2.16 | 2.17 | 2.18 | 2.20 | 2.22 | 2.23 | 2.20 | 2.20 | 2.19 | S | 2.23 | 2.24 | 2.16 | 2.49 | **2.28** |
| Dec 21 | 2.25 | 2.23 | 2.23 | 2.24 | 2.26 | 2.30 | 2.28 | 2.25 | 2.24 | 2.25 | 2.26 | 2.29 | 2.30 | 2.30 | 2.25 | 2.24 | 2.24 | 2.21 | 2.20 | 2.22 | S | 2.20 | 2.20 | 2.21 | 2.20 | 2.30 | 2.25 |
| Dec 22 | 2.20 | 2.18 | 2.16 | 2.13 | 2.14 | 2.10 | 2.09 | 2.09 | 2.06 | 2.06 | 2.06 | 2.05 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.11 | 2.10 | S | 2.15 | 2.17 | 2.16 | 2.20 | 2.05 | 2.20 | 2.12 |
| Dec 23 | 2.23 | 2.27 | 2.31 | 2.30 | 2.30 | 2.29 | 2.24 | 2.16 | 2.28 | 2.29 | 2.25 | 2.23 | 2.22 | 2.30 | 2.27 | 2.21 | 2.19 | 2.17 | S | 2.21 | 2.20 | 2.22 | 2.20 | 2.17 | 2.16 | 2.31 | 2.24 |
| Dec 24 | 2.17 | 2.18 | 2.19 | 2.18 | 2.19 | 2.18 | 2.17 | 2.15 | 2.13 | 2.10 | 2.10 | 2.11 | 2.08 | 2.07 | 2.07 | 2.06 | 2.08 | S | 2.08 | 2.09 | 2.09 | 2.13 | 2.11 | 2.09 | 2.06 | 2.19 | 2.12 |
| Dec 25 | 2.09 | 2.09 | 2.10 | 2.09 | 2.09 | 2.09 | 2.12 | 2.10 | 2.08 | 2.09 | 2.10 | 2.10 | 2.09 | 2.08 | 2.08 | 2.10 | S | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.09 | 2.08 | 2.12 | 2.09 |
| Dec 26 | 2.09 | 2.08 | 2.07 | 2.10 | 2.09 | 2.11 | 2.10 | 2.13 | 2.09 | 2.10 | 2.08 | 2.09 | 2.12 | 2.10 | 2.08 | S | 2.12 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.07 | 2.04 | 2.04 | 2.13 | 2.09 |
| Dec 27 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.06 | 2.08 | 2.08 | 2.11 | 2.10 | 2.11 | 2.08 | 2.10 | 2.08 | S | 2.06 | 2.07 | 2.06 | 2.05 | 2.05 | 2.07 | 2.10 | 2.09 | 2.13 | 2.04 | 2.13 | 2.07 |
| Dec 28 | 2.08 | 2.08 | 2.10 | 2.09 | 2.06 | 2.11 | 2.10 | 2.06 | 2.08 | 2.05 | 2.05 | 2.07 | 2.05 | S | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.14 | 2.13 | 2.14 | 2.14 | 2.05 | 2.14 | 2.09 |
| Dec 29 | 2.14 | 2.13 | 2.13 | 2.13 | 2.15 | 2.16 | 2.16 | 2.15 | 2.16 | 2.16 | 2.16 | 2.18 | S | 2.21 | 2.21 | 2.30 | 2.30 | 2.33 | 2.48 | 2.38 | 2.30 | 2.27 | 2.19 | 2.14 | 2.13 | 2.48 | 2.21 |
| Dec 30 | 2.10 | 2.09 | 2.10 | 2.11 | 2.07 | 2.07 | 2.08 | 2.09 | 2.10 | 2.09 | 2.08 | S | 2.11 | 2.11 | 2.14 | 2.14 | 2.15 | 2.17 | 2.16 | 2.19 | 2.20 | 2.20 | 2.20 | 2.20 | 2.07 | 2.20 | 2.13 |
| Dec 31 | 2.21 | 2.21 | 2.21 | 2.22 | 2.19 | 2.22 | 2.23 | 2.22 | 2.21 | 2.23 | S | 2.22 | 2.22 | 2.23 | 2.26 | 2.23 | 2.25 | 2.26 | 2.27 | 2.27 | 2.28 | 2.26 | 2.29 | 2.27 | 2.19 | 2.29 | 2.24 |
| Diurnal Maximum | 2.25 | 2.33 | 2.36 | 2.38 | 2.37 | 2.39 | 2.48 | 2.82 | 2.39 | 2.49 | 2.36 | 2.29 | 2.30 | 2.30 | 2.27 | 2.30 | 2.57 | 2.78 | 2.53 | 2.38 | 2.30 | 2.27 | 2.29 | 2.48 | | | |
| Diurnal Average | 2.10 | 2.10 | 2.13 | 2.13 | 2.12 | 2.11 | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.12 | 2.13 | 2.12 | 2.11 | 2.11 | 2.11 | 2.10 | 2.13 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*

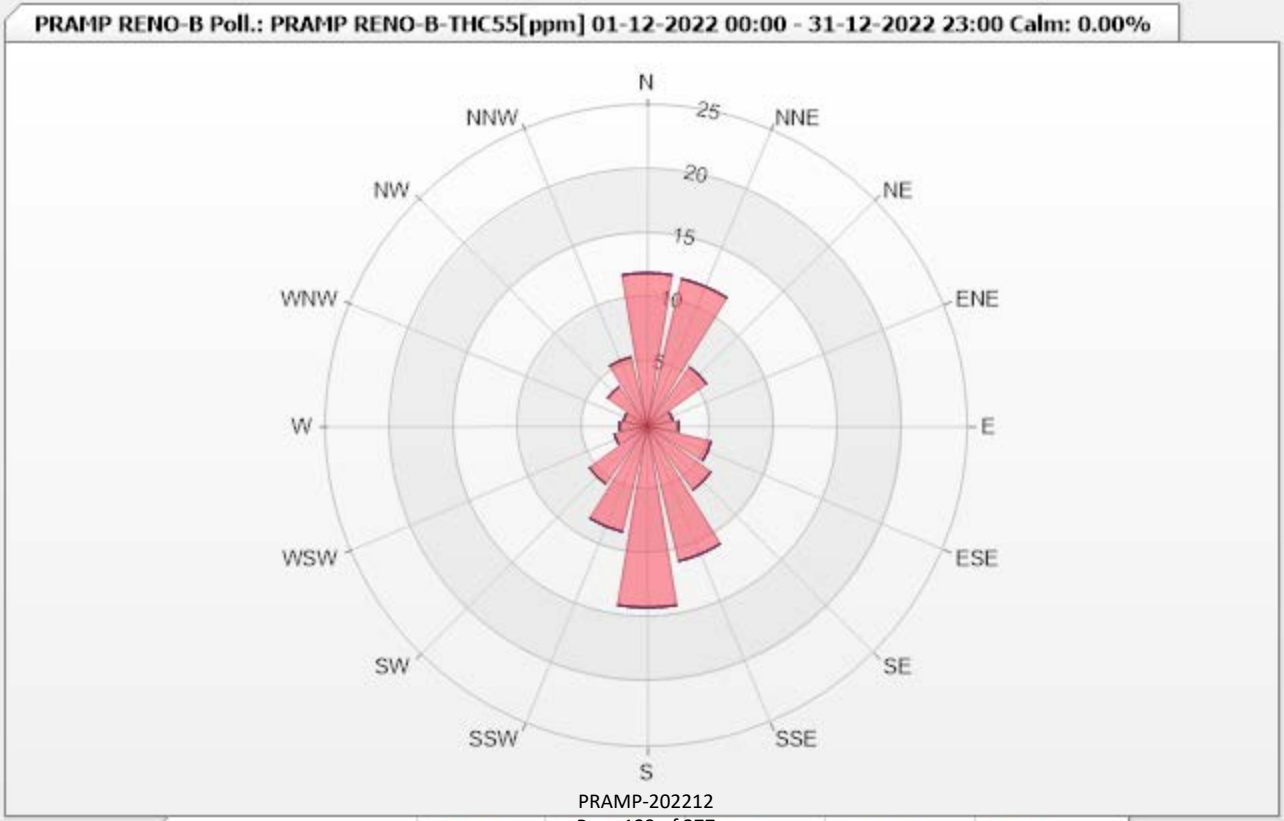





| Classes | THC55 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 1.16% |
| 2 - 2.5 | 98.25% |
| 2.5 - 3 | 0.58% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP RENO-B Poll.: PRAMP RENO-B-THC55[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|---|---|---|---|---|---|---|
| N | 0 | 11.94 | 0 | 0 | 0 | 11.94 |
| NNE | 0 | 11.79 | 0 | 0 | 0 | 11.79 |
| NE | 0 | 5.68 | 0 | 0 | 0 | 5.68 |
| ENE | 0 | 2.04 | 0 | 0 | 0 | 2.04 |
| E | 0 | 2.47 | 0 | 0 | 0 | 2.47 |
| ESE | 0 | 5.09 | 0 | 0 | 0 | 5.09 |
| SE | 0 | 6.11 | 0 | 0 | 0 | 6.11 |
| SSE | 0.15 | 10.63 | 0 | 0 | 0 | 10.78 |
| S | 0.15 | 13.97 | 0 | 0 | 0 | 14.12 |
| SSW | 0 | 8.44 | 0 | 0 | 0 | 8.44 |
| SW | 0 | 5.53 | 0 | 0 | 0 | 5.53 |
| WSW | 0.15 | 2.47 | 0 | 0 | 0 | 2.62 |
| W | 0.58 | 1.6 | 0 | 0 | 0 | 2.18 |
| WNW | 0.15 | 1.75 | 0 | 0 | 0 | 1.9 |
| NW | 0 | 3.78 | 0 | 0 | 0 | 3.78 |
| NNW | 0 | 5.53 | 0 | 0 | 0 | 5.53 |
| Summary | 1.18 | 98.82 | 0 | 0 | 0 | 100 |


PRAMP RENO-B Poll.: PRAMP RENO-B-THC55[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
1 0-2
99 2-5
0 5-10
0 10-40
0 >40.0

# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## METHANE (CH4) in ppm

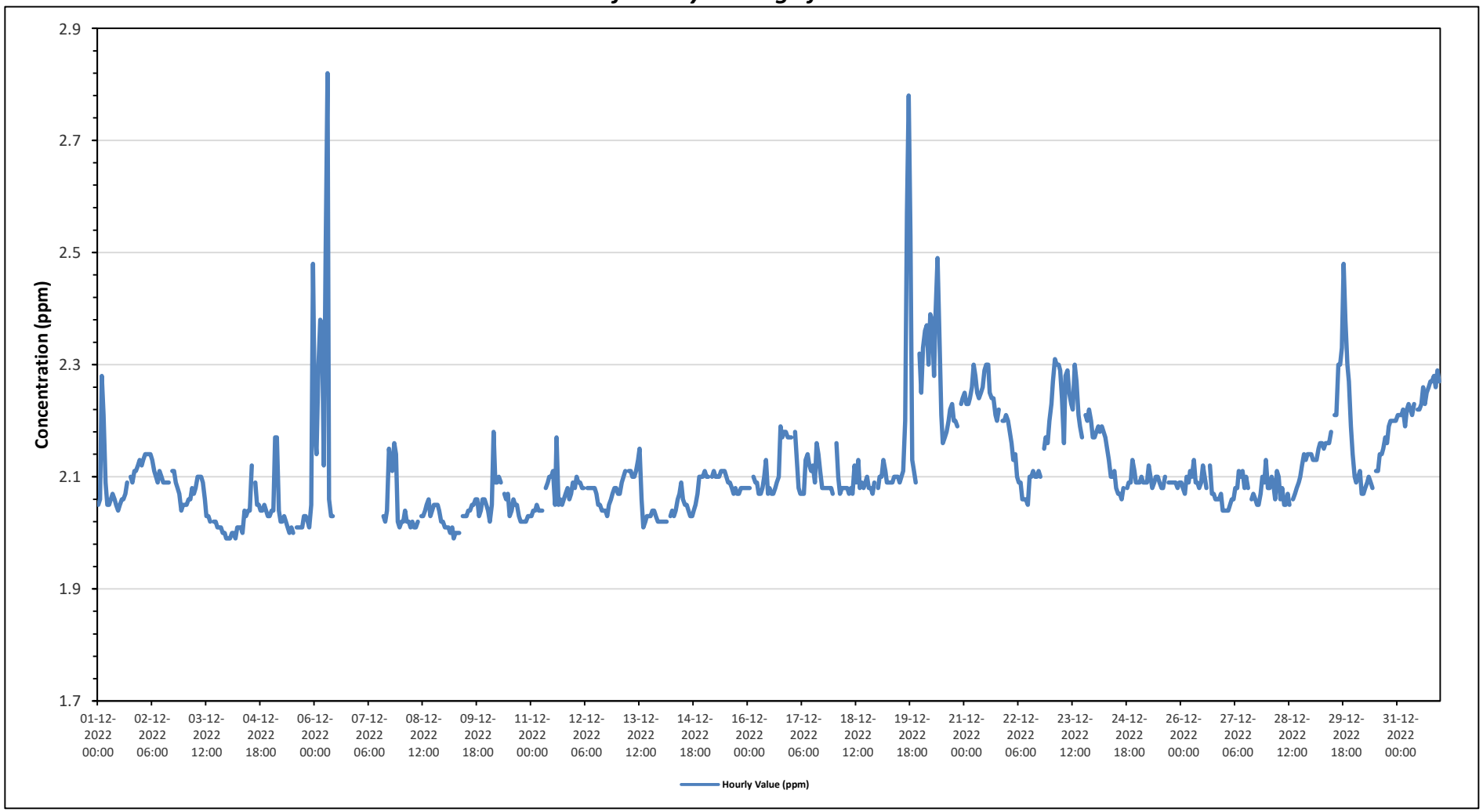
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.82 | ppm | on December 6 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.28 | ppm | on December 20 | Hours of Data: | 687 |
| Minimum Hourly Value: | 1.99 | ppm | on December 3 at hour 23 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 2.03 | ppm | on December 9 | Hours of Calibration: | 36 |
| Monthly Average: | 2.11 | ppm | | Operational Uptime: | 97.2 |

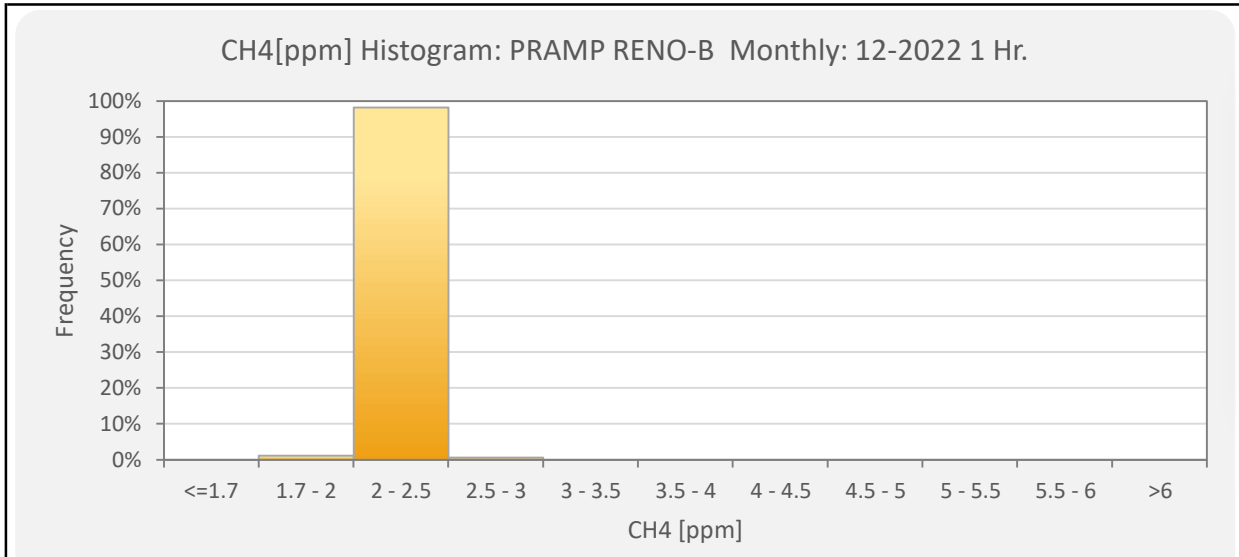
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 2.05 | 2.06 | 2.28 | 2.21 | 2.09 | 2.05 | 2.05 | 2.06 | 2.07 | 2.06 | 2.05 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.09 | S | 2.10 | 2.09 | 2.11 | 2.11 | 2.12 | 2.13 | 2.04 | 2.28 | 2.09 |
| Dec 2 | 2.12 | 2.13 | 2.14 | 2.14 | 2.14 | 2.14 | 2.13 | 2.11 | 2.10 | 2.09 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.11 | 2.09 | 2.08 | 2.07 | 2.04 | 2.05 | 2.04 | 2.14 | 2.10 |
| Dec 3 | 2.05 | 2.05 | 2.06 | 2.06 | 2.08 | 2.07 | 2.08 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.03 | 2.03 | 2.02 | S | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | **1.99** | 2.10 | 2.05 |
| Dec 4 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 2.01 | 2.01 | 2.01 | 2.00 | 2.04 | 2.03 | 2.04 | 2.04 | 2.12 | S | 2.09 | 2.05 | 2.05 | 2.04 | 2.04 | 2.05 | 2.04 | 2.03 | 2.03 | **1.99** | 2.12 | 2.03 |
| Dec 5 | 2.04 | 2.04 | 2.17 | 2.17 | 2.04 | 2.02 | 2.02 | 2.03 | 2.02 | 2.01 | 2.00 | 2.01 | 2.00 | S | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.03 | 2.02 | 2.01 | 2.05 | 2.48 | 2.00 | 2.48 | 2.05 |
| Dec 6 | 2.18 | 2.14 | 2.30 | 2.38 | 2.37 | 2.12 | 2.48 | **2.82** | 2.06 | 2.03 | 2.03 | P | P | P | P | P | P | P | P | K | K | K | K | K | 2.03 | **2.82** | - |
| Dec 7 | K | K | K | K | K | K | K | K | C | C | C | C | C | C | 2.03 | 2.02 | 2.04 | 2.15 | 2.12 | 2.11 | 2.16 | 2.14 | 2.02 | 2.01 | 2.01 | 2.16 | - |
| Dec 8 | 2.02 | 2.02 | 2.04 | 2.02 | 2.02 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | S | 2.03 | 2.03 | 2.04 | 2.05 | 2.06 | 2.03 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.02 | 2.02 | 2.01 | 2.06 | 2.03 |
| Dec 9 | 2.01 | 2.01 | 2.01 | 2.00 | 2.01 | 1.99 | 2.00 | 2.00 | 2.00 | S | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.05 | 2.05 | 2.06 | 2.06 | 2.03 | 2.04 | 2.06 | 2.06 | 2.05 | **1.99** | 2.06 | 2.03 |
| Dec 10 | 2.04 | 2.02 | 2.05 | 2.18 | 2.09 | 2.09 | 2.10 | 2.09 | S | 2.07 | 2.06 | 2.07 | 2.03 | 2.04 | 2.06 | 2.05 | 2.05 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.02 | 2.18 | 2.05 |
| Dec 11 | 2.03 | 2.04 | 2.04 | 2.05 | 2.04 | 2.04 | 2.04 | S | 2.08 | 2.09 | 2.10 | 2.10 | 2.11 | 2.05 | 2.17 | 2.05 | 2.06 | 2.05 | 2.06 | 2.07 | 2.08 | 2.06 | 2.07 | 2.09 | 2.03 | 2.17 | 2.07 |
| Dec 12 | 2.08 | 2.10 | 2.09 | 2.09 | 2.08 | 2.08 | S | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.03 | 2.05 | 2.06 | 2.07 | 2.08 | 2.08 | 2.03 | 2.10 | 2.07 |
| Dec 13 | 2.07 | 2.07 | 2.09 | 2.10 | 2.11 | S | 2.11 | 2.11 | 2.10 | 2.10 | 2.11 | 2.13 | 2.15 | 2.06 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.04 | 2.04 | 2.03 | 2.02 | 2.02 | 2.01 | 2.15 | 2.07 |
| Dec 14 | 2.02 | 2.02 | 2.02 | 2.02 | S | 2.03 | 2.04 | 2.03 | 2.04 | 2.06 | 2.07 | 2.09 | 2.06 | 2.05 | 2.05 | 2.04 | 2.03 | 2.03 | 2.04 | 2.05 | 2.07 | 2.10 | 2.10 | 2.10 | 2.02 | 2.10 | 2.05 |
| Dec 15 | 2.11 | 2.10 | 2.10 | S | 2.10 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.08 | 2.07 | 2.08 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.11 | 2.09 |
| Dec 16 | 2.08 | 2.08 | S | 2.10 | 2.09 | 2.09 | 2.07 | 2.07 | 2.08 | 2.10 | 2.13 | 2.07 | 2.08 | 2.07 | 2.07 | 2.08 | 2.09 | 2.10 | 2.19 | 2.17 | 2.18 | 2.18 | 2.17 | 2.17 | 2.07 | 2.19 | 2.11 |
| Dec 17 | 2.17 | S | 2.18 | 2.13 | 2.08 | 2.07 | 2.07 | 2.07 | 2.13 | 2.14 | 2.12 | 2.11 | 2.12 | 2.09 | 2.16 | 2.14 | 2.11 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.07 | 2.18 | 2.11 |
| Dec 18 | S | 2.16 | 2.10 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.08 | 2.07 | 2.12 | 2.09 | 2.13 | 2.08 | 2.09 | 2.08 | 2.09 | 2.10 | 2.08 | 2.08 | 2.07 | 2.09 | S | 2.07 | 2.16 | 2.09 |
| Dec 19 | 2.08 | 2.10 | 2.10 | 2.13 | 2.11 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.10 | 2.11 | 2.20 | 2.57 | 2.78 | 2.53 | 2.13 | 2.11 | 2.09 | S | 2.32 | 2.08 | 2.78 | 2.18 |
| Dec 20 | 2.25 | 2.33 | 2.36 | 2.37 | 2.30 | 2.39 | 2.38 | 2.28 | 2.39 | 2.49 | 2.36 | 2.21 | 2.16 | 2.17 | 2.18 | 2.20 | 2.22 | 2.23 | 2.20 | 2.20 | 2.19 | S | 2.23 | 2.24 | 2.16 | 2.49 | **2.28** |
| Dec 21 | 2.25 | 2.23 | 2.23 | 2.24 | 2.26 | 2.30 | 2.28 | 2.25 | 2.24 | 2.25 | 2.26 | 2.29 | 2.30 | 2.30 | 2.25 | 2.24 | 2.24 | 2.21 | 2.20 | 2.22 | S | 2.20 | 2.20 | 2.21 | 2.20 | 2.30 | 2.25 |
| Dec 22 | 2.20 | 2.18 | 2.16 | 2.13 | 2.14 | 2.10 | 2.09 | 2.09 | 2.06 | 2.06 | 2.06 | 2.05 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.11 | 2.10 | S | 2.15 | 2.17 | 2.16 | 2.20 | 2.05 | 2.20 | 2.12 |
| Dec 23 | 2.23 | 2.27 | 2.31 | 2.30 | 2.30 | 2.29 | 2.24 | 2.16 | 2.28 | 2.29 | 2.25 | 2.23 | 2.22 | 2.30 | 2.27 | 2.21 | 2.19 | 2.17 | S | 2.21 | 2.20 | 2.22 | 2.20 | 2.17 | 2.16 | 2.31 | 2.24 |
| Dec 24 | 2.17 | 2.18 | 2.19 | 2.18 | 2.19 | 2.18 | 2.17 | 2.15 | 2.13 | 2.10 | 2.10 | 2.11 | 2.08 | 2.07 | 2.07 | 2.06 | 2.08 | S | 2.08 | 2.09 | 2.09 | 2.13 | 2.11 | 2.09 | 2.06 | 2.19 | 2.12 |
| Dec 25 | 2.09 | 2.09 | 2.10 | 2.09 | 2.09 | 2.09 | 2.12 | 2.10 | 2.08 | 2.09 | 2.10 | 2.10 | 2.09 | 2.08 | 2.08 | 2.10 | S | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.08 | 2.09 | 2.08 | 2.12 | 2.09 |
| Dec 26 | 2.09 | 2.08 | 2.07 | 2.10 | 2.09 | 2.11 | 2.10 | 2.13 | 2.09 | 2.09 | 2.08 | 2.09 | 2.12 | 2.10 | 2.08 | S | 2.12 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.07 | 2.04 | 2.04 | 2.13 | 2.09 |
| Dec 27 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.06 | 2.08 | 2.08 | 2.11 | 2.10 | 2.11 | 2.08 | 2.10 | 2.08 | S | 2.06 | 2.07 | 2.06 | 2.05 | 2.05 | 2.07 | 2.10 | 2.09 | 2.13 | 2.04 | 2.13 | 2.07 |
| Dec 28 | 2.08 | 2.08 | 2.10 | 2.09 | 2.06 | 2.11 | 2.10 | 2.06 | 2.08 | 2.05 | 2.05 | 2.07 | 2.05 | S | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.14 | 2.13 | 2.14 | 2.14 | 2.05 | 2.14 | 2.09 |
| Dec 29 | 2.14 | 2.13 | 2.13 | 2.13 | 2.15 | 2.16 | 2.16 | 2.15 | 2.16 | 2.16 | 2.16 | 2.18 | S | 2.21 | 2.21 | 2.30 | 2.30 | 2.33 | 2.48 | 2.38 | 2.30 | 2.27 | 2.19 | 2.14 | 2.13 | 2.48 | 2.21 |
| Dec 30 | 2.10 | 2.09 | 2.10 | 2.11 | 2.07 | 2.07 | 2.08 | 2.09 | 2.10 | 2.09 | 2.08 | S | 2.11 | 2.11 | 2.14 | 2.14 | 2.15 | 2.17 | 2.16 | 2.19 | 2.20 | 2.20 | 2.20 | 2.20 | 2.07 | 2.20 | 2.13 |
| Dec 31 | 2.21 | 2.21 | 2.21 | 2.22 | 2.19 | 2.22 | 2.23 | 2.22 | 2.21 | 2.23 | S | 2.22 | 2.22 | 2.23 | 2.26 | 2.23 | 2.25 | 2.26 | 2.27 | 2.27 | 2.28 | 2.26 | 2.29 | 2.27 | 2.19 | 2.29 | 2.24 |
| Diurnal Maximum | 2.25 | 2.33 | 2.36 | 2.38 | 2.37 | 2.39 | 2.48 | 2.82 | 2.39 | 2.49 | 2.36 | 2.29 | 2.30 | 2.30 | 2.27 | 2.30 | 2.57 | 2.78 | 2.53 | 2.38 | 2.30 | 2.27 | 2.29 | 2.48 | | | |
| Diurnal Average | 2.10 | 2.10 | 2.13 | 2.13 | 2.12 | 2.11 | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.10 | 2.11 | 2.10 | 2.10 | 2.12 | 2.13 | 2.12 | 2.11 | 2.11 | 2.11 | 2.10 | 2.13 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*

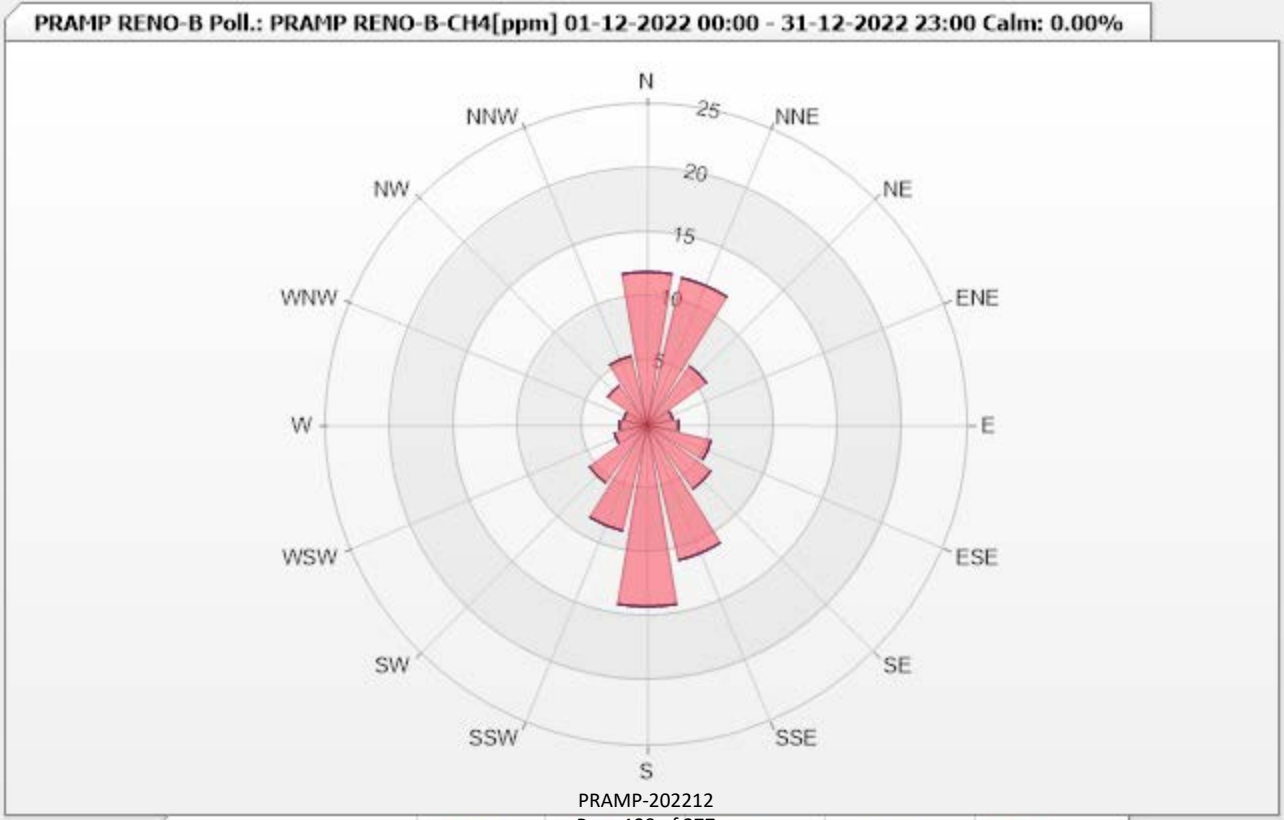





| Classes | CH4 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 1.16% |
| 2 - 2.5 | 98.25% |
| 2.5 - 3 | 0.58% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: PRAMP RENO-B Poll.: PRAMP RENO-B-CH4[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|---|---|---|---|---|---|---|
| N | 0 | 11.94 | 0 | 0 | 0 | 11.94 |
| NNE | 0 | 11.79 | 0 | 0 | 0 | 11.79 |
| NE | 0 | 5.68 | 0 | 0 | 0 | 5.68 |
| ENE | 0 | 2.04 | 0 | 0 | 0 | 2.04 |
| E | 0 | 2.47 | 0 | 0 | 0 | 2.47 |
| ESE | 0 | 5.09 | 0 | 0 | 0 | 5.09 |
| SE | 0 | 6.11 | 0 | 0 | 0 | 6.11 |
| SSE | 0.15 | 10.63 | 0 | 0 | 0 | 10.78 |
| S | 0.15 | 13.97 | 0 | 0 | 0 | 14.12 |
| SSW | 0 | 8.44 | 0 | 0 | 0 | 8.44 |
| SW | 0 | 5.53 | 0 | 0 | 0 | 5.53 |
| WSW | 0.15 | 2.47 | 0 | 0 | 0 | 2.62 |
| W | 0.58 | 1.6 | 0 | 0 | 0 | 2.18 |
| WNW | 0.15 | 1.75 | 0 | 0 | 0 | 1.9 |
| NW | 0 | 3.78 | 0 | 0 | 0 | 3.78 |
| NNW | 0 | 5.53 | 0 | 0 | 0 | 5.53 |
| Summary | 1.18 | 98.82 | 0 | 0 | 0 | 100 |


PRAMP RENO-B Poll.: PRAMP RENO-B-CH4[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
1 0-2
99 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Reno-B Station - December 2022

## Summary of Hourly Averages

## NON-METHANE HYDROCARBONS (NMHC) in ppm

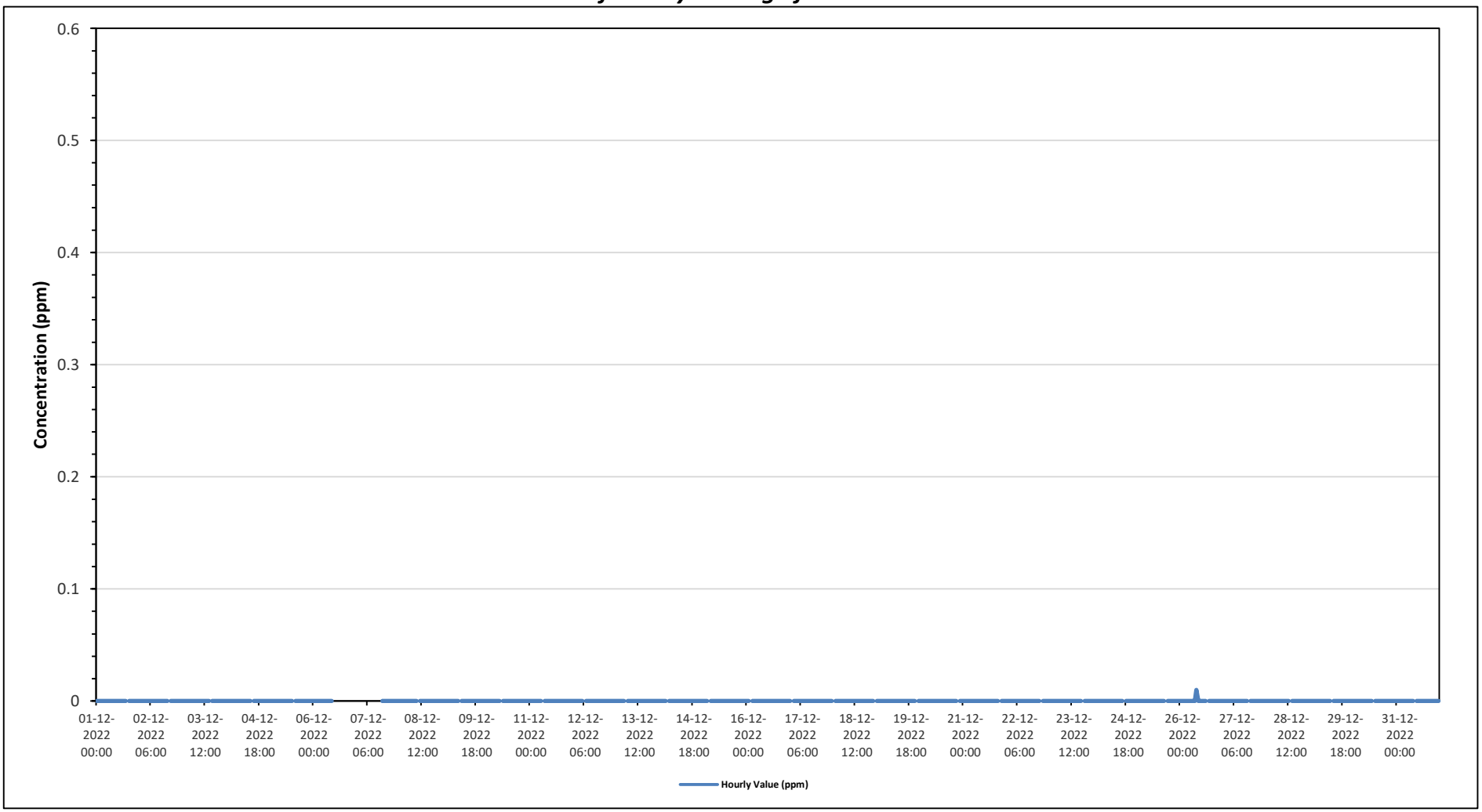
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.01 | ppm | on December 26 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on December 26 | Hours of Data: | 687 |
| Minimum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.00 | ppm | on December 1 | Hours of Calibration: | 36 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 97.2 |

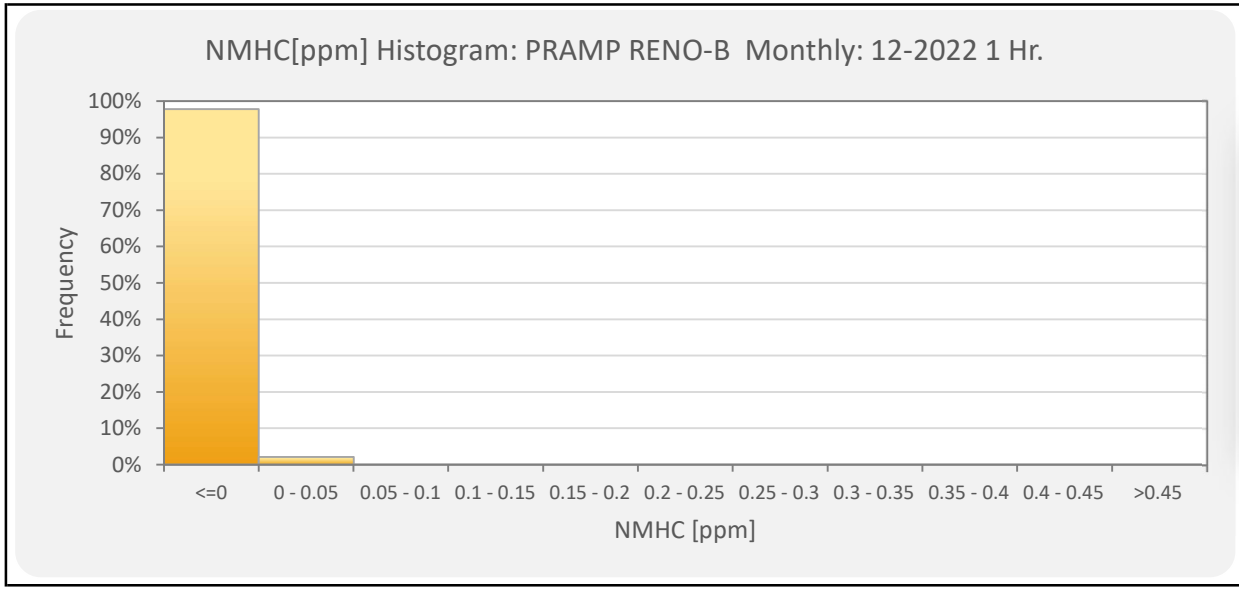
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | P | P | P | P | P | P | P | P | K | K | K | K | K | 0.00 | 0.00 | - |
| Dec 7 | K | K | K | K | K | K | K | K | C | C | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - |
| Dec 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 14 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 15 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 16 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 17 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 18 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Dec 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.01** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.01** | **0.00** |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 30 | 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 |
| Dec 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Maximum | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| 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 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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

## *Timeseries Chart of Hourly Average for NMHC - Reno-B Station*

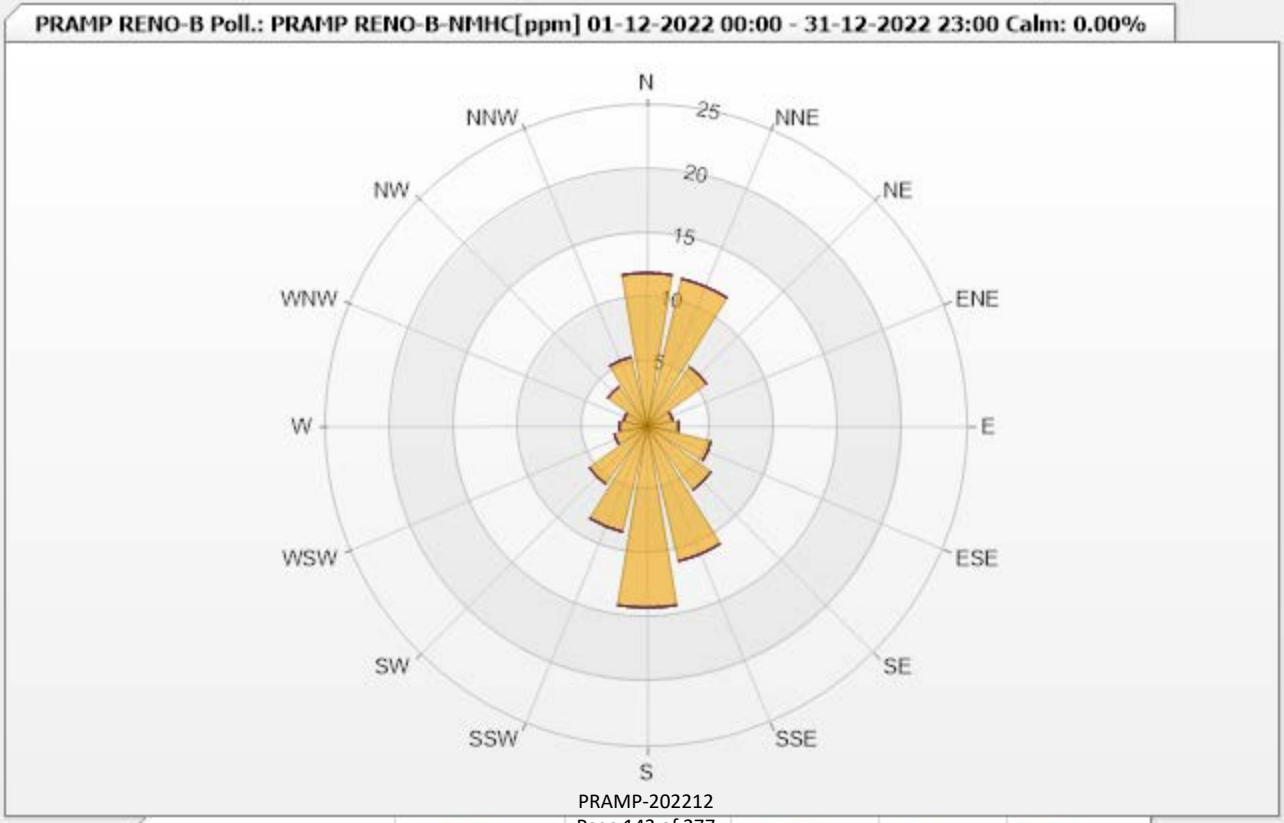





| Classes | NMHC |
|---|---|
| <=0 | 97.82% |
| 0 - 0.05 | 2.18% |
| 0.05 - 0.1 | 0.00% |
| 0.1 - 0.15 | 0.00% |
| 0.15 - 0.2 | 0.00% |
| 0.2 - 0.25 | 0.00% |
| 0.25 - 0.3 | 0.00% |
| 0.3 - 0.35 | 0.00% |
| 0.35 - 0.4 | 0.00% |
| 0.4 - 0.45 | 0.00% |
| >0.45 | 0.00% |

Wind: PRAMP RENO-B Poll.: PRAMP RENO-B-NMHC[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|---|---|---|---|---|---|---|
| N | 11.94 | 0 | 0 | 0 | 0 | 11.94 |
| NNE | 11.79 | 0 | 0 | 0 | 0 | 11.79 |
| NE | 5.68 | 0 | 0 | 0 | 0 | 5.68 |
| ENE | 2.04 | 0 | 0 | 0 | 0 | 2.04 |
| E | 2.47 | 0 | 0 | 0 | 0 | 2.47 |
| ESE | 5.09 | 0 | 0 | 0 | 0 | 5.09 |
| SE | 6.11 | 0 | 0 | 0 | 0 | 6.11 |
| SSE | 10.77 | 0 | 0 | 0 | 0 | 10.77 |
| S | 14.12 | 0 | 0 | 0 | 0 | 14.12 |
| SSW | 8.44 | 0 | 0 | 0 | 0 | 8.44 |
| SW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| WSW | 2.62 | 0 | 0 | 0 | 0 | 2.62 |
| W | 2.18 | 0 | 0 | 0 | 0 | 2.18 |
| WNW | 1.89 | 0 | 0 | 0 | 0 | 1.89 |
| NW | 3.78 | 0 | 0 | 0 | 0 | 3.78 |
| NNW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


PRAMP RENO-B Poll.: PRAMP RENO-B-NMHC[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-1
0 1-2
0 >2.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## RELATIVE HUMIDITY (RH) in %

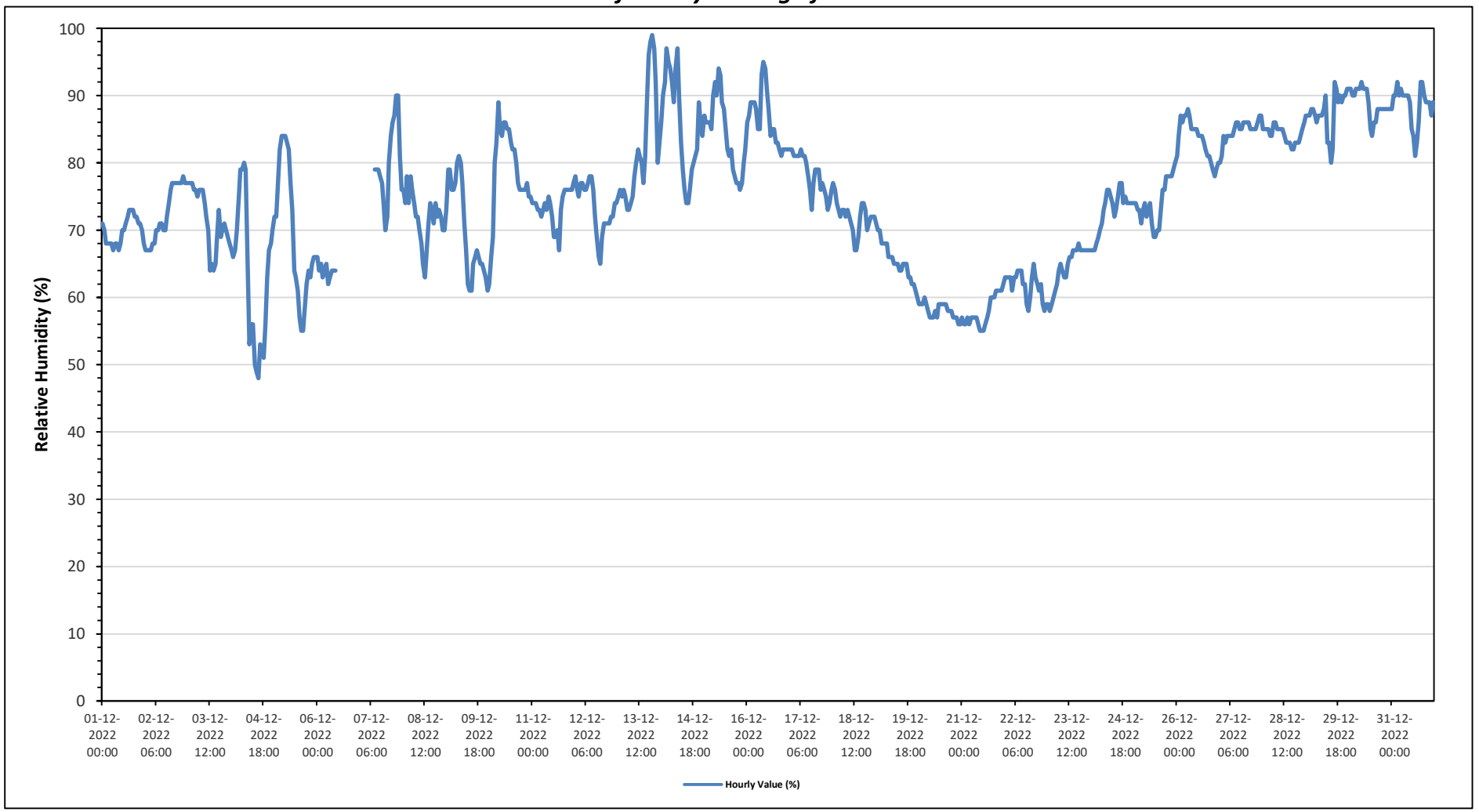
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 99 | % | on December 13 at hour 19 | Hours in Service: | 744 |
| Maximum Daily Value: | 88.9 | % | on December 30 | Hours of Data: | 723 |
| Minimum Hourly Value: | 48 | % | on December 4 at hour 15 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 57.8 | % | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | 74.9 | % | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 71 | 70 | 68 | 68 | 68 | 68 | 67 | 68 | 68 | 67 | 68 | 70 | 70 | 71 | 72 | 73 | 73 | 73 | 72 | 72 | 71 | 71 | 70 | 68 | 67 | 73 | 69.9 |
| Dec 2 | 67 | 67 | 67 | 67 | 68 | 68 | 70 | 70 | 71 | 71 | 70 | 70 | 72 | 74 | 76 | 77 | 77 | 77 | 77 | 77 | 77 | 78 | 77 | 77 | 67 | 78 | 72.6 |
| Dec 3 | 77 | 77 | 77 | 76 | 76 | 75 | 76 | 76 | 76 | 74 | 72 | 70 | 64 | 65 | 64 | 65 | 69 | 73 | 69 | 70 | 71 | 70 | 69 | 68 | 64 | 77 | 71.6 |
| Dec 4 | 67 | 66 | 67 | 70 | 75 | 79 | 79 | 80 | 79 | 65 | 53 | 56 | 56 | 50 | 49 | **48** | 53 | 52 | 51 | 56 | 63 | 67 | 68 | 70 | **48** | 80 | 63.3 |
| Dec 5 | 72 | 72 | 77 | 82 | 84 | 84 | 84 | 83 | 82 | 77 | 73 | 64 | 63 | 61 | 57 | 55 | 55 | 59 | 62 | 64 | 63 | 65 | 66 | 66 | 55 | 84 | 69.6 |
| Dec 6 | 66 | 64 | 65 | 63 | 64 | 65 | 62 | 63 | 64 | 64 | 64 | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **K** | **K** | **K** | **K** | **K** | 62 | 66 | - |
| Dec 7 | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | 79 | 79 | 79 | 78 | 77 | 74 | 70 | 72 | 80 | 84 | 86 | 87 | 90 | 90 | 81 | 76 | 70 | 90 | - |
| Dec 8 | 76 | 74 | 78 | 74 | 78 | 76 | 74 | 72 | 72 | 70 | 68 | 65 | 63 | 67 | 71 | 74 | 73 | 71 | 74 | 72 | 73 | 72 | 70 | 70 | 63 | 78 | 72.0 |
| Dec 9 | 73 | 79 | 79 | 76 | 76 | 77 | 80 | 81 | 80 | 77 | 71 | 67 | 62 | 61 | 61 | 65 | 66 | 67 | 66 | 65 | 65 | 64 | 63 | 61 | 61 | 81 | 70.1 |
| Dec 10 | 62 | 66 | 69 | 80 | 83 | 89 | 85 | 84 | 86 | 86 | 85 | 85 | 83 | 82 | 82 | 80 | 77 | 76 | 76 | 76 | 76 | 77 | 75 | 75 | 62 | 89 | 79.0 |
| Dec 11 | 74 | 74 | 74 | 73 | 73 | 72 | 73 | 74 | 73 | 75 | 74 | 72 | 69 | 69 | 70 | 67 | 73 | 75 | 76 | 76 | 76 | 76 | 76 | 77 | 67 | 77 | 73.4 |
| Dec 12 | 78 | 76 | 75 | 77 | 77 | 76 | 76 | 77 | 78 | 78 | 76 | 72 | 69 | 66 | 65 | 69 | 71 | 71 | 71 | 71 | 72 | 72 | 74 | 74 | 65 | 78 | 73.4 |
| Dec 13 | 75 | 76 | 75 | 76 | 75 | 73 | 73 | 74 | 75 | 78 | 80 | 82 | 81 | 80 | 77 | 81 | 89 | 96 | 98 | **99** | 97 | 92 | 80 | 83 | 73 | **99** | 81.9 |
| Dec 14 | 86 | 90 | 92 | 97 | 95 | 94 | 92 | 89 | 94 | 97 | 90 | 83 | 79 | 76 | 74 | 74 | 76 | 79 | 80 | 81 | 82 | 89 | 86 | 84 | 74 | 97 | 85.8 |
| Dec 15 | 87 | 86 | 86 | 86 | 85 | 90 | 92 | 90 | 94 | 93 | 89 | 88 | 85 | 82 | 81 | 82 | 79 | 78 | 77 | 77 | 76 | 77 | 80 | 82 | 76 | 94 | 84.3 |
| Dec 16 | 86 | 87 | 89 | 89 | 89 | 88 | 85 | 85 | 93 | 95 | 94 | 91 | 88 | 84 | 85 | 85 | 83 | 83 | 82 | 81 | 82 | 82 | 82 | 82 | 81 | 95 | 86.3 |
| Dec 17 | 82 | 82 | 81 | 81 | 81 | 81 | 82 | 81 | 81 | 80 | 78 | 76 | 73 | 77 | 79 | 79 | 79 | 76 | 77 | 76 | 75 | 73 | 74 | 76 | 73 | 82 | 78.3 |
| Dec 18 | 77 | 76 | 74 | 73 | 72 | 73 | 73 | 72 | 73 | 72 | 71 | 70 | 67 | 67 | 69 | 72 | 74 | 74 | 73 | 70 | 71 | 72 | 72 | 72 | 67 | 77 | 72.0 |
| Dec 19 | 71 | 70 | 70 | 68 | 68 | 68 | 68 | 66 | 66 | 66 | 65 | 65 | 65 | 64 | 64 | 65 | 65 | 65 | 63 | 63 | 62 | 62 | 61 | 60 | 60 | 71 | 65.4 |
| Dec 20 | 59 | 59 | 59 | 60 | 59 | 58 | 57 | 57 | 57 | 58 | 57 | 59 | 59 | 59 | 59 | 59 | 58 | 58 | 58 | 57 | 57 | 57 | 56 | 56 | 56 | 60 | 58.0 |
| Dec 21 | 57 | 56 | 56 | 57 | 56 | 57 | 57 | 57 | 57 | 56 | 55 | 55 | 55 | 56 | 57 | 58 | 60 | 60 | 60 | 61 | 61 | 61 | 61 | 62 | 55 | 62 | 57.8 |
| Dec 22 | 63 | 63 | 63 | 63 | 61 | 63 | 63 | 64 | 64 | 64 | 62 | 62 | 59 | 58 | 60 | 63 | 65 | 63 | 62 | 61 | 62 | 59 | 58 | 59 | 58 | 65 | 61.8 |
| Dec 23 | 59 | 58 | 59 | 60 | 61 | 62 | 64 | 65 | 64 | 63 | 63 | 65 | 66 | 66 | 67 | 67 | 67 | 68 | 67 | 67 | 67 | 67 | 67 | 67 | 58 | 68 | 64.4 |
| Dec 24 | 67 | 67 | 67 | 68 | 69 | 70 | 71 | 73 | 74 | 76 | 76 | 75 | 74 | 72 | 73 | 75 | 77 | 77 | 74 | 75 | 74 | 74 | 74 | 74 | 67 | 77 | 72.8 |
| Dec 25 | 74 | 74 | 73 | 73 | 71 | 73 | 74 | 72 | 73 | 74 | 71 | 69 | 69 | 70 | 70 | 73 | 76 | 76 | 78 | 78 | 78 | 78 | 79 | 80 | 69 | 80 | 74.0 |
| Dec 26 | 81 | 84 | 87 | 86 | 87 | 87 | 88 | 87 | 85 | 85 | 85 | 85 | 84 | 84 | 84 | 83 | 82 | 81 | 81 | 80 | 79 | 78 | 79 | 80 | 78 | 88 | 83.4 |
| Dec 27 | 80 | 81 | 84 | 83 | 84 | 84 | 84 | 84 | 85 | 86 | 86 | 85 | 85 | 86 | 86 | 86 | 86 | 85 | 85 | 85 | 85 | 86 | 87 | 87 | 80 | 87 | 84.8 |
| Dec 28 | 85 | 85 | 85 | 85 | 84 | 84 | 86 | 86 | 85 | 85 | 85 | 85 | 84 | 83 | 83 | 83 | 82 | 82 | 83 | 83 | 83 | 84 | 85 | 86 | 82 | 86 | 84.2 |
| Dec 29 | 87 | 87 | 87 | 88 | 88 | 87 | 86 | 87 | 87 | 87 | 88 | 90 | 83 | 83 | 80 | 82 | 92 | 91 | 89 | 90 | 89 | 90 | 90 | 91 | 80 | 92 | 87.5 |
| Dec 30 | 91 | 91 | 90 | 90 | 91 | 91 | 91 | 92 | 91 | 91 | 91 | 89 | 85 | 84 | 86 | 86 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 84 | 92 | **88.9** |
| Dec 31 | 88 | 90 | 90 | 92 | 90 | 91 | 90 | 90 | 90 | 90 | 89 | 85 | 84 | 81 | 83 | 86 | 92 | 92 | 90 | 89 | 89 | 89 | 87 | 89 | 81 | 92 | 88.6 |
| Diurnal Maximum | 91 | 91 | 92 | 97 | 95 | 94 | 92 | 92 | 94 | 97 | 94 | 91 | 88 | 86 | 86 | 86 | 92 | 96 | 98 | 99 | 97 | 92 | 90 | 91 | | | |
| Diurnal Average | 74.6 | 74.9 | 75.4 | 76.0 | 76.3 | 76.8 | 76.7 | 76.6 | 77.3 | 76.7 | 75.1 | 74.3 | 72.4 | 71.7 | 71.8 | 72.8 | 74.6 | 75.0 | 74.8 | 74.9 | 75.1 | 75.3 | 74.5 | 74.7 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*



# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## BAROMETRIC PRESSURE (BP) in millibar

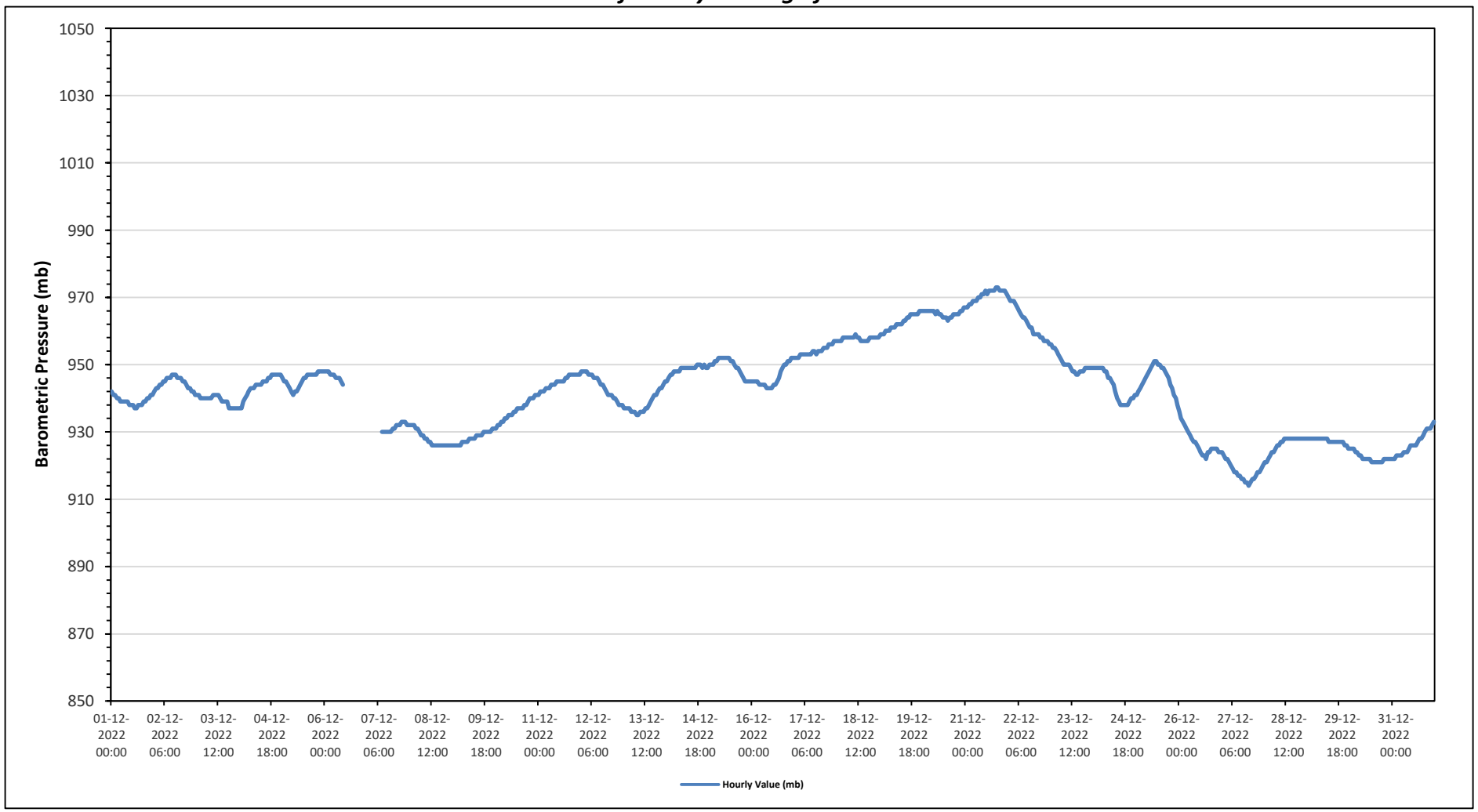
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 973 | mb | on December 21 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 971 | mb | on December 21 | Hours of Data: | 723 |
| Minimum Hourly Value: | 914 | mb | on December 27 at hour 15 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 918 | mb | on December 27 | Hours of Calibration: | 0 |
| Monthly Average: | 942 | mb | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 942 | 941 | 941 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 937 | 937 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 941 | 941 | 937 | 942 | 939.2 |
| Dec 2 | 942 | 943 | 943 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 945 | 944 | 943 | 943 | 942 | 942 | 941 | 941 | 947 | 944.5 |
| Dec 3 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 941 | 940 | 939 | 939 | 939 | 939 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 941 | 939.3 |
| Dec 4 | 937 | 937 | 939 | 940 | 941 | 942 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 937 | 947 | 943.8 |
| Dec 5 | 946 | 945 | 945 | 944 | 943 | 942 | 941 | 942 | 942 | 943 | 944 | 945 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 948 | 948 | 941 | 948 | 945.3 |
| Dec 6 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 944 | P | P | P | P | P | P | P | P | K | K | K | K | K | 944 | 948 | - |
| Dec 7 | K | K | K | K | K | K | K | K | 930 | 930 | 930 | 930 | 930 | 930 | 931 | 931 | 932 | 932 | 932 | 933 | 933 | 933 | 932 | 932 | 930 | 933 | - |
| Dec 8 | 932 | 932 | 932 | 931 | 931 | 930 | 929 | 929 | 928 | 928 | 927 | 927 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 932 | 927.8 |
| Dec 9 | 926 | 926 | 926 | 926 | 926 | 927 | 927 | 927 | 927 | 928 | 928 | 928 | 928 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 930 | 931 | 931 | 926 | 931 | 928.3 |
| Dec 10 | 931 | 932 | 932 | 933 | 933 | 934 | 934 | 935 | 935 | 935 | 936 | 936 | 937 | 937 | 937 | 937 | 938 | 938 | 939 | 940 | 940 | 940 | 941 | 941 | 931 | 941 | 936.3 |
| Dec 11 | 941 | 942 | 942 | 942 | 943 | 943 | 943 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 941 | 947 | 944.8 |
| Dec 12 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 944 | 944 | 943 | 942 | 941 | 941 | 941 | 940 | 940 | 939 | 938 | 938 | 938 | 938 | 948 | 943.5 |
| Dec 13 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 935 | 935 | 936 | 936 | 936 | 937 | 937 | 938 | 939 | 940 | 941 | 941 | 942 | 943 | 943 | 944 | 945 | 935 | 945 | 938.5 |
| Dec 14 | 945 | 946 | 947 | 947 | 948 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 950 | 950 | 950 | 949 | 950 | 949 | 949 | 945 | 950 | 948.5 |
| Dec 15 | 950 | 950 | 950 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 950 | 949 | 949 | 948 | 947 | 946 | 945 | 945 | 945 | 945 | 945 | 952 | 949.5 |
| Dec 16 | 945 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 944 | 944 | 945 | 946 | 948 | 949 | 950 | 950 | 951 | 951 | 952 | 952 | 943 | 952 | 946.3 |
| Dec 17 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 954 | 954 | 953 | 954 | 954 | 954 | 955 | 955 | 955 | 956 | 956 | 956 | 957 | 957 | 952 | 957 | 954.0 |
| Dec 18 | 957 | 957 | 957 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 959 | 958 | 958 | 957 | 957 | 957 | 957 | 957 | 958 | 958 | 958 | 958 | 958 | 958 | 957 | 959 | 957.7 |
| Dec 19 | 959 | 959 | 959 | 960 | 960 | 960 | 961 | 961 | 961 | 962 | 962 | 962 | 962 | 963 | 963 | 964 | 964 | 965 | 965 | 965 | 965 | 965 | 966 | 966 | 959 | 966 | 962.5 |
| Dec 20 | 966 | 966 | 966 | 966 | 966 | 966 | 966 | 965 | 966 | 965 | 965 | 964 | 964 | 964 | 963 | 964 | 964 | 965 | 965 | 965 | 965 | 966 | 966 | 967 | 963 | 967 | 965.2 |
| Dec 21 | 967 | 967 | 968 | 968 | 969 | 969 | 969 | 970 | 970 | 971 | 971 | 972 | 971 | 972 | 972 | 972 | 972 | 973 | 973 | 972 | 972 | 972 | 972 | 971 | 967 | 973 | 970.6 |
| Dec 22 | 970 | 969 | 969 | 969 | 968 | 967 | 966 | 965 | 964 | 964 | 963 | 962 | 961 | 961 | 959 | 959 | 959 | 959 | 958 | 958 | 957 | 957 | 957 | 956 | 956 | 970 | 962.4 |
| Dec 23 | 956 | 955 | 955 | 954 | 953 | 952 | 951 | 950 | 950 | 950 | 950 | 949 | 948 | 948 | 947 | 947 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 947 | 956 | 950.2 |
| Dec 24 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 946 | 946 | 945 | 944 | 942 | 940 | 939 | 938 | 938 | 938 | 938 | 938 | 939 | 940 | 940 | 941 | 938 | 949 | 943.4 |
| Dec 25 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 951 | 950 | 950 | 949 | 949 | 948 | 947 | 946 | 944 | 943 | 941 | 940 | 938 | 938 | 951 | 945.9 |
| Dec 26 | 936 | 934 | 933 | 932 | 931 | 930 | 929 | 928 | 927 | 927 | 926 | 925 | 924 | 923 | 923 | 922 | 924 | 924 | 925 | 925 | 925 | 925 | 924 | 924 | 922 | 936 | 926.9 |
| Dec 27 | 924 | 923 | 922 | 922 | 921 | 920 | 919 | 918 | 918 | 917 | 917 | 916 | 916 | 915 | 915 | 914 | 915 | 916 | 916 | 917 | 918 | 918 | 919 | 920 | 914 | 924 | 918.2 |
| Dec 28 | 921 | 921 | 922 | 923 | 924 | 924 | 925 | 926 | 926 | 927 | 927 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 921 | 928 | 926.3 |
| Dec 29 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 926 | 926 | 925 | 925 | 928 | 927.3 |
| Dec 30 | 925 | 925 | 925 | 924 | 924 | 923 | 923 | 922 | 922 | 922 | 922 | 922 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 922 | 922 | 922 | 922 | 922 | 921 | 925 | 922.3 |
| Dec 31 | 922 | 922 | 923 | 923 | 923 | 923 | 924 | 924 | 924 | 925 | 926 | 926 | 926 | 926 | 927 | 928 | 928 | 929 | 930 | 931 | 931 | 931 | 932 | 933 | 922 | 933 | 926.5 |
| Diurnal Maximum | 970 | 969 | 969 | 969 | 969 | 969 | 969 | 970 | 970 | 971 | 971 | 972 | 971 | 972 | 972 | 972 | 972 | 973 | 973 | 972 | 972 | 972 | 972 | 971 | | | |
| Diurnal Average | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Reno-B Station - December 2022

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

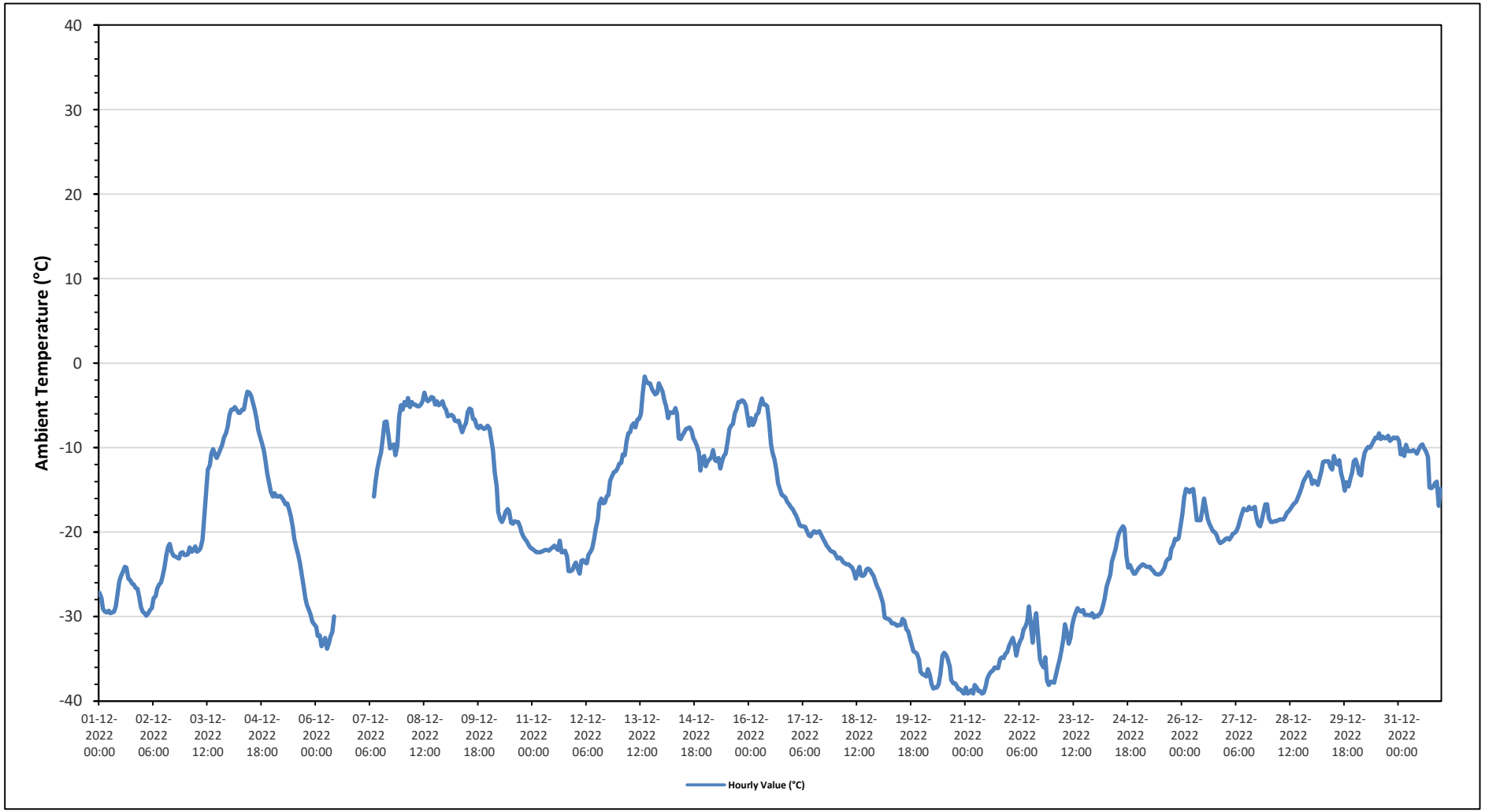
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | -1.6 | °C | on December 13 at hour 14 | Hours in Service: | 744 |
| Maximum Daily Value: | -4.7 | °C | on December 8 | Hours of Data: | 723 |
| Minimum Hourly Value: | -39.1 | °C | on December 20 at hour 23 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | -37.2 | °C | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | -19.0 | °C | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | -27.2 | -27.8 | -29.1 | -29.4 | -29.5 | -29.3 | -29.6 | -29.5 | -29.4 | -28.8 | -27.3 | -25.8 | -25.2 | -24.7 | -24.1 | -24.2 | -25.5 | -25.7 | -26.1 | -26.2 | -26.6 | -26.7 | -27.7 | -28.9 | -29.6 | -24.1 | -27.3 |
| Dec 2 | -29.4 | -29.6 | -29.9 | -29.6 | -29.2 | -29 | -27.8 | -27.6 | -26.7 | -26.2 | -26 | -25.2 | -24.2 | -22.8 | -21.7 | -21.4 | -22.4 | -22.8 | -22.9 | -23 | -23.1 | -22.5 | -22.4 | -22.7 | -29.9 | -21.4 | -25.3 |
| Dec 3 | -22.7 | -22.6 | -21.8 | -22.3 | -22.2 | -21.7 | -22.3 | -22.2 | -21.9 | -20.9 | -18.6 | -15.4 | -12.6 | -12.1 | -10.7 | -10.2 | -10.8 | -11.2 | -10.7 | -10.2 | -9.7 | -8.8 | -8.3 | -7.5 | -22.7 | -7.5 | -15.7 |
| Dec 4 | -6.1 | -5.5 | -5.5 | -5.2 | -5.5 | -5.9 | -5.9 | -5.5 | -5.5 | -4.2 | -3.4 | -3.5 | -3.9 | -4.7 | -5.5 | -6.7 | -7.9 | -8.7 | -9.5 | -10.3 | -11.6 | -13.1 | -14.3 | -15.2 | -15.2 | -3.4 | -7.2 |
| Dec 5 | -15.8 | -15.4 | -15.8 | -15.8 | -15.7 | -15.9 | -16.2 | -16.7 | -16.6 | -17.3 | -18.1 | -19.4 | -20.8 | -21.8 | -22.6 | -23.6 | -24.9 | -26.4 | -27.8 | -28.6 | -29.2 | -29.8 | -30.6 | -30.9 | -30.9 | -15.4 | -21.5 |
| Dec 6 | -31.2 | -32.3 | -32.2 | -33.5 | -33.1 | -32.5 | -33.8 | -33.2 | -32.4 | -31.8 | -30 | P | P | P | P | P | P | P | P | K | K | K | K | K | -33.8 | -30.0 | - |
| Dec 7 | K | K | K | K | K | K | K | K | -15.8 | -13.9 | -12.6 | -11.4 | -10.6 | -8.7 | -7 | -6.9 | -8.4 | -10.1 | -9.8 | -9.6 | -10.9 | -9.8 | -6.3 | -5 | -15.8 | -5.0 | - |
| Dec 8 | -5.5 | -4.6 | -5 | -4.1 | -5.2 | -4.6 | -4.9 | -4.9 | -5.1 | -5.1 | -4.9 | -4.5 | -3.5 | -4.2 | -4.5 | -4.3 | -4 | -4.1 | -4.9 | -4.5 | -5 | -4.8 | -4.5 | -5.2 | -5.5 | -3.5 | **-4.7** |
| Dec 9 | -5.5 | -6.3 | -6.2 | -6.1 | -6.3 | -6.8 | -6.9 | -6.8 | -7.6 | -8.2 | -7.5 | -7.1 | -5.8 | -5.4 | -5.5 | -6.6 | -6.7 | -7.5 | -7.7 | -7.4 | -7.6 | -7.8 | -7.7 | -7.4 | -8.2 | -5.4 | -6.9 |
| Dec 10 | -7.7 | -9 | -10.3 | -12.9 | -14.6 | -17.6 | -18.5 | -18.8 | -18.3 | -17.6 | -17.3 | -17.5 | -18.9 | -19 | -18.7 | -18.8 | -18.8 | -19.4 | -20.1 | -20.6 | -20.9 | -21.2 | -21.6 | -21.9 | -21.9 | -7.7 | -17.5 |
| Dec 11 | -22 | -22.2 | -22.4 | -22.4 | -22.4 | -22.3 | -22.2 | -22.1 | -22.1 | -22.2 | -22 | -21.8 | -21.6 | -21.9 | -22.1 | -21 | -22.4 | -22.4 | -22.2 | -22.9 | -24.6 | -24.6 | -24.5 | -23.9 | -24.6 | -21.0 | -22.5 |
| Dec 12 | -23.6 | -24.4 | -24.9 | -23.4 | -23.3 | -23.6 | -23.7 | -22.7 | -22.3 | -22 | -20.9 | -19.6 | -18.5 | -16.6 | -16 | -16.6 | -16.5 | -15.8 | -15.6 | -13.9 | -13.4 | -12.9 | -12.8 | -12.5 | -24.9 | -12.5 | -19.0 |
| Dec 13 | -11.9 | -11.8 | -10.8 | -10.9 | -9.3 | -8.3 | -8.2 | -7.4 | -7.1 | -7.6 | -6.7 | -6.6 | -6 | -3.6 | **-1.6** | -2.1 | -2.4 | -2.4 | -3.1 | -3.4 | -3.7 | -3.5 | -2.4 | -2.9 | -11.9 | **-1.6** | -6.0 |
| Dec 14 | -3.4 | -4.4 | -5.1 | -6.5 | -5.8 | -5.9 | -5.9 | -5.3 | -6 | -8.9 | -9 | -8.6 | -8.2 | -7.8 | -7.7 | -7.6 | -8 | -8.9 | -9.3 | -9.8 | -10.6 | -12.7 | -11.3 | -11 | -12.7 | -3.4 | -7.8 |
| Dec 15 | -12.2 | -11.6 | -11.4 | -11.1 | -10.3 | -11.5 | -11.6 | -11.2 | -12.5 | -11.5 | -11 | -10.7 | -9.3 | -7.8 | -7.4 | -7.2 | -5.9 | -5.5 | -4.6 | -4.6 | -4.4 | -4.5 | -5 | -6.1 | -12.5 | -4.4 | -8.7 |
| Dec 16 | -7.4 | -6.5 | -7.3 | -6.9 | -6.1 | -5.9 | -5 | -4.2 | -4.9 | -4.9 | -5.1 | -7.1 | -9.6 | -10.6 | -11.4 | -12.6 | -14.2 | -14.9 | -15.6 | -15.7 | -15.9 | -16.4 | -16.7 | -17 | -17.0 | -4.2 | -10.1 |
| Dec 17 | -17.3 | -17.7 | -18 | -18.6 | -19.2 | -19.3 | -19.3 | -19.4 | -19.9 | -20.4 | -20.5 | -20.1 | -19.9 | -20.1 | -20 | -19.9 | -20.4 | -20.8 | -21.2 | -21.6 | -21.9 | -22.2 | -22.3 | -22.4 | -22.4 | -17.3 | -20.1 |
| Dec 18 | -22.8 | -23.1 | -23 | -23.2 | -23.5 | -23.7 | -23.8 | -23.8 | -24 | -24.2 | -24.7 | -25.5 | -24.8 | -24.1 | -25.1 | -25.2 | -25 | -24.4 | -24.3 | -24.5 | -24.9 | -25.2 | -25.9 | -26.5 | -26.5 | -22.8 | -24.4 |
| Dec 19 | -26.9 | -27.6 | -28.4 | -30.1 | -30.2 | -30.3 | -30.4 | -30.8 | -30.8 | -30.9 | -31.1 | -31 | -31 | -30.3 | -30.5 | -31.5 | -31.7 | -32.5 | -33.3 | -34.1 | -34.2 | -34.4 | -35.1 | -36.5 | -36.5 | -26.9 | -31.4 |
| Dec 20 | -36.8 | -36.9 | -37.1 | -36.2 | -36.9 | -38 | -38.5 | -38.4 | -38.4 | -38 | -36.8 | -34.6 | -34.3 | -34.5 | -35 | -35.9 | -37.5 | -37.9 | -37.9 | -38.2 | -38.6 | -38.6 | -38.9 | **-39.1** | **-39.1** | -34.3 | -37.2 |
| Dec 21 | -38.4 | **-39.1** | -39 | -38.7 | **-39.1** | -38.1 | -38.4 | -38.8 | -38.8 | **-39.1** | -39 | -38.2 | -37.3 | -36.8 | -36.5 | -36.4 | -36 | -36.1 | -36.1 | -35 | -34.8 | -34.9 | -34.4 | -34.2 | **-39.1** | -34.2 | -37.2 |
| Dec 22 | -33.4 | -33 | -32.5 | -33.3 | -34.6 | -33.6 | -32.9 | -32.5 | -31.5 | -31.2 | -30.6 | -28.8 | -30.8 | -33.1 | -30.9 | -29.6 | -32.2 | -35 | -35.6 | -36 | -34.8 | -37.6 | -38.1 | -37.7 | -38.1 | -28.8 | -33.3 |
| Dec 23 | -37.7 | -37.8 | -36.8 | -36 | -35.1 | -34 | -32.6 | -30.9 | -31.9 | -33.2 | -32.5 | -31 | -30.1 | -29.5 | -29 | -29.3 | -29.4 | -29.2 | -29.8 | -29.8 | -29.8 | -29.9 | -29.6 | -30.1 | -37.8 | -29.0 | -31.9 |
| Dec 24 | -29.9 | -30 | -29.7 | -29.5 | -28.7 | -27.8 | -26.5 | -25.8 | -25 | -23.5 | -22.7 | -22 | -20.7 | -20.1 | -19.7 | -19.3 | -19.6 | -22.9 | -24.2 | -23.9 | -24.4 | -24.9 | -24.9 | -24.5 | -30.0 | -19.3 | -24.6 |
| Dec 25 | -24.2 | -24 | -23.8 | -23.9 | -24.1 | -24.1 | -24.1 | -24.4 | -24.6 | -24.9 | -25 | -25 | -24.9 | -24.6 | -24.2 | -23.5 | -23.2 | -23.1 | -22 | -21.5 | -20.8 | -20.9 | -20.7 | -19.2 | -25.0 | -19.2 | -23.4 |
| Dec 26 | -17.8 | -15.9 | -14.9 | -15 | -15.3 | -15 | -14.9 | -16.7 | -18.6 | -18.6 | -18.6 | -17.6 | -16 | -17.2 | -18.4 | -19 | -19.5 | -19.9 | -20 | -20.4 | -21 | -21.3 | -21.2 | -21 | -21.3 | -14.9 | -18.1 |
| Dec 27 | -20.8 | -20.7 | -20.9 | -20.6 | -20.2 | -20.1 | -19.8 | -19.4 | -18.5 | -17.8 | -17.2 | -17.4 | -17.4 | -17 | -17.3 | -17.2 | -17 | -18.2 | -19.1 | -19.3 | -18.7 | -17.6 | -16.7 | -16.7 | -20.9 | -16.7 | -18.6 |
| Dec 28 | -18.3 | -18.8 | -18.8 | -18.7 | -18.7 | -18.6 | -18.5 | -18.5 | -18.5 | -18.2 | -17.7 | -17.5 | -17.2 | -16.9 | -16.6 | -16.4 | -15.9 | -15.4 | -14.7 | -14.1 | -13.6 | -13.3 | -12.9 | -13.4 | -18.8 | -12.9 | -16.7 |
| Dec 29 | -14.3 | -13.9 | -14.1 | -14.4 | -13.6 | -12.8 | -11.7 | -11.6 | -11.6 | -11.6 | -12.3 | -12.6 | -11 | -11.8 | -12 | -11.5 | -13.1 | -13.9 | -15.1 | -14.1 | -14.6 | -13.7 | -13 | -11.6 | -15.1 | -11.0 | -12.9 |
| Dec 30 | -11.4 | -12.1 | -13.1 | -13.3 | -11.8 | -10.6 | -10.2 | -9.9 | -10 | -9.6 | -9.2 | -8.8 | -8.9 | -8.3 | -9 | -8.7 | -8.9 | -8.9 | -8.6 | -9.2 | -9 | -8.8 | -8.9 | -8.8 | -13.3 | -8.3 | -9.8 |
| Dec 31 | -9.2 | -10.8 | -10.2 | -11 | -9.7 | -10.4 | -10.4 | -10.4 | -10.3 | -10.5 | -10.7 | -10.2 | -9.8 | -9.6 | -10.1 | -10.4 | -11.1 | -14.7 | -14.8 | -14.6 | -14.2 | -14 | -16.9 | -14.9 | -16.9 | -9.2 | -11.6 |
| Diurnal Maximum | -3.4 | -4.4 | -5.0 | -4.1 | -5.2 | -4.6 | -4.9 | -4.2 | -4.9 | -4.2 | -3.4 | -3.5 | -3.5 | -3.6 | -1.6 | -2.1 | -2.4 | -2.4 | -3.1 | -3.4 | -3.7 | -3.5 | -2.4 | -2.9 | | | |
| Diurnal Average | -19.7 | -19.8 | -19.9 | -20.1 | -20.0 | -19.9 | -19.8 | -19.6 | -19.6 | -19.4 | -19.0 | -18.2 | -17.8 | -17.5 | -17.4 | -17.5 | -18.0 | -18.6 | -18.9 | -18.9 | -19.1 | -19.2 | -19.2 | -19.2 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*



# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## STATION TEMPERATURE (ST) in Degree Celsius

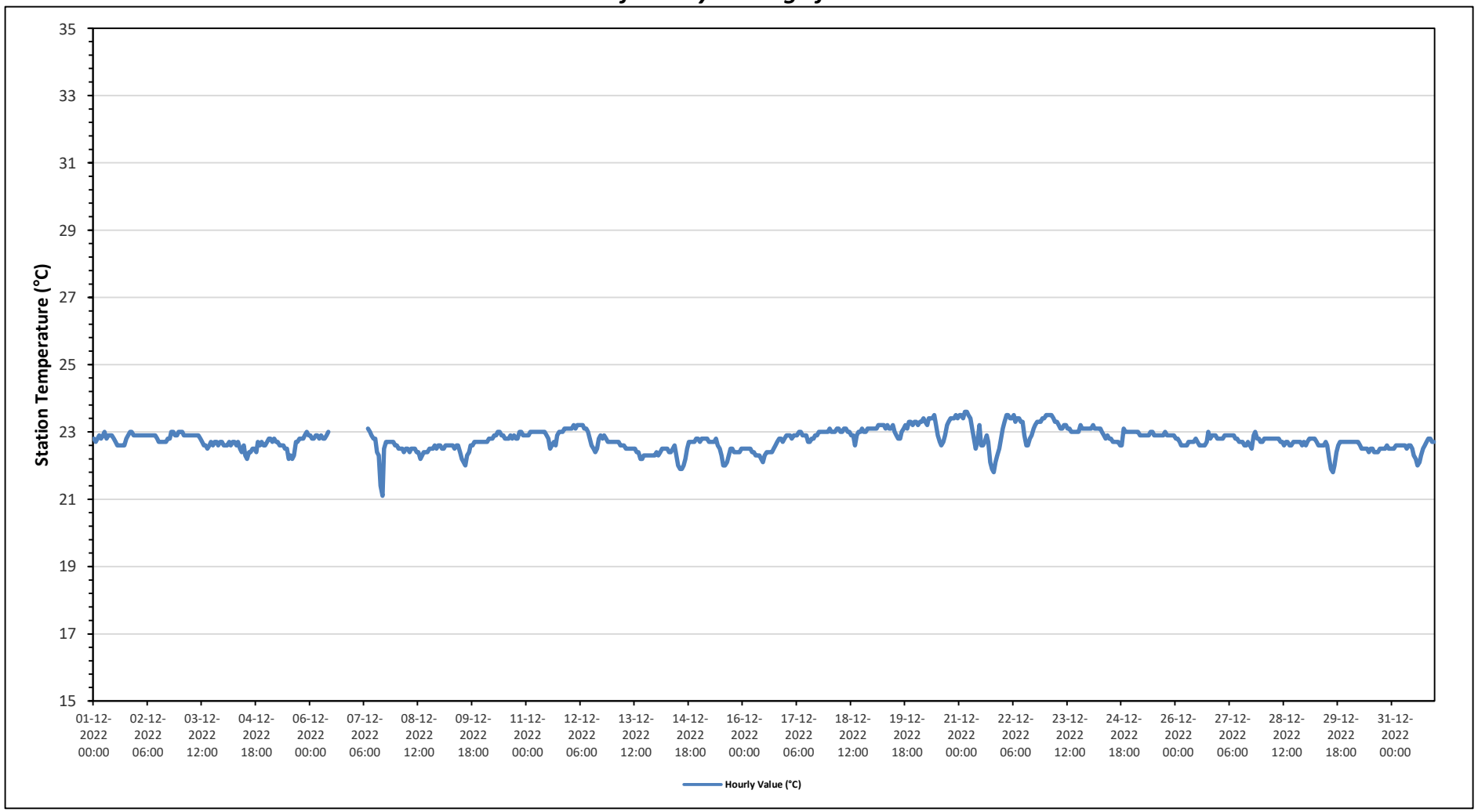
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.6 | °C | on December 21 at hour 3 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.2 | °C | on December 20 | Hours of Data: | 723 |
| Minimum Hourly Value: | 21.1 | °C | on December 7 at hour 16 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 22.4 | °C | on December 14 | Hours of Calibration: | 0 |
| Monthly Average: | 22.8 | °C | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 22.8 | 22.7 | 22.8 | 22.9 | 22.8 | 22.9 | 23.0 | 22.8 | 22.9 | 22.9 | 22.9 | 22.8 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.8 | 22.9 | 23.0 | 23.0 | 22.9 | 22.9 | 22.6 | 23.0 | 22.8 |
| Dec 2 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.8 | 23.0 | 23.0 | 22.9 | 22.9 | 23.0 | 22.7 | 23.0 | 22.9 |
| Dec 3 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.7 | 22.6 | 22.6 | 22.5 | 22.6 | 22.7 | 22.6 | 22.7 | 22.7 | 22.6 | 22.7 | 22.7 | 22.5 | 23.0 | 22.8 |
| Dec 4 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.7 | 22.7 | 22.6 | 22.7 | 22.5 | 22.4 | 22.6 | 22.3 | 22.2 | 22.4 | 22.4 | 22.5 | 22.5 | 22.4 | 22.7 | 22.6 | 22.7 | 22.6 | 22.6 | 22.2 | 22.7 | 22.6 |
| Dec 5 | 22.7 | 22.8 | 22.8 | 22.7 | 22.8 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.2 | 22.3 | 22.2 | 22.3 | 22.7 | 22.7 | 22.8 | 22.8 | 22.8 | 22.9 | 23.0 | 22.9 | 22.2 | 23.0 | 22.7 |
| Dec 6 | 22.9 | 22.8 | 22.8 | 22.9 | 22.9 | 22.8 | 22.9 | 22.8 | 22.8 | 22.9 | 23.0 | P | P | P | P | P | P | P | P | K | K | K | K | K | 22.8 | 23.0 | - |
| Dec 7 | K | K | K | K | K | K | K | K | 23.1 | 23.0 | 22.9 | 22.8 | 22.8 | 22.4 | 22.3 | 21.4 | **21.1** | 22.5 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | **21.1** | 23.1 | - |
| Dec 8 | 22.6 | 22.5 | 22.5 | 22.5 | 22.4 | 22.5 | 22.5 | 22.4 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.2 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.6 | 22.5 | 22.6 | 22.2 | 22.6 | 22.5 |
| Dec 9 | 22.6 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.6 | 22.6 | 22.4 | 22.2 | 22.1 | 22.0 | 22.3 | 22.4 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.0 | 22.7 | 22.5 |
| Dec 10 | 22.7 | 22.7 | 22.7 | 22.8 | 22.8 | 22.8 | 22.9 | 22.9 | 23.0 | 23.0 | 22.9 | 22.9 | 22.8 | 22.8 | 22.8 | 22.9 | 22.8 | 22.9 | 22.8 | 22.8 | 23.0 | 23.0 | 22.9 | 22.9 | 22.7 | 23.0 | 22.9 |
| Dec 11 | 22.9 | 22.9 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 22.9 | 22.8 | 22.5 | 22.6 | 22.7 | 22.6 | 22.9 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | 22.5 | 23.1 | 22.9 |
| Dec 12 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.1 | 23.0 | 22.8 | 22.6 | 22.5 | 22.4 | 22.5 | 22.8 | 22.9 | 22.8 | 22.9 | 22.8 | 22.7 | 22.7 | 22.7 | 22.4 | 23.2 | 22.9 |
| Dec 13 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.7 | 22.5 |
| Dec 14 | 22.4 | 22.3 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.5 | 22.6 | 22.3 | 22.0 | 21.9 | 21.9 | 22.0 | 22.2 | 22.5 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.8 | 21.9 | 22.8 | 22.4 |
| Dec 15 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.6 | 22.5 | 22.3 | 22.0 | 22.0 | 22.1 | 22.3 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.0 | 22.8 | 22.5 |
| Dec 16 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.2 | 22.1 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.7 | 22.8 | 22.1 | 22.8 | 22.5 |
| Dec 17 | 22.9 | 22.9 | 22.9 | 22.8 | 22.9 | 22.9 | 22.9 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.7 | 22.7 | 22.8 | 22.8 | 22.9 | 22.9 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 22.7 | 23.0 | 22.9 |
| Dec 18 | 23.1 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.0 | 23.0 | 23.1 | 23.1 | 23.0 | 23.0 | 22.9 | 22.9 | 22.6 | 22.9 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | 22.6 | 23.1 | 23.0 |
| Dec 19 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.2 | 23.1 | 23.1 | 23.2 | 23.0 | 22.9 | 22.8 | 22.8 | 23.0 | 23.1 | 23.2 | 23.1 | 23.3 | 23.3 | 23.2 | 23.3 | 22.8 | 23.3 | 23.1 |
| Dec 20 | 23.3 | 23.2 | 23.3 | 23.3 | 23.4 | 23.3 | 23.2 | 23.4 | 23.4 | 23.4 | 23.5 | 23.2 | 22.9 | 22.7 | 22.6 | 22.7 | 22.9 | 23.2 | 23.3 | 23.4 | 23.4 | 23.4 | 23.5 | 23.4 | 22.6 | 23.5 | **23.2** |
| Dec 21 | 23.5 | 23.5 | 23.4 | **23.6** | **23.6** | 23.5 | 23.4 | 23.1 | 22.8 | 22.5 | 22.7 | 23.2 | 22.6 | 22.6 | 22.7 | 22.9 | 22.7 | 22.1 | 21.9 | 21.8 | 22.1 | 22.3 | 22.5 | 22.8 | 21.8 | **23.6** | 22.8 |
| Dec 22 | 23.1 | 23.3 | 23.5 | 23.5 | 23.4 | 23.4 | 23.5 | 23.3 | 23.4 | 23.4 | 23.3 | 23.3 | 22.9 | 22.6 | 22.6 | 22.8 | 22.9 | 23.1 | 23.2 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 22.6 | 23.5 | 23.2 |
| Dec 23 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.3 | 23.3 | 23.2 | 23.1 | 23.1 | 23.2 | 23.2 | 23.1 | 23.1 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.2 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 23.5 | 23.2 |
| Dec 24 | 23.1 | 23.1 | 23.2 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 22.9 | 22.8 | 22.9 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 23.1 | 23.0 | 23.0 | 23.0 | 23.0 | 22.6 | 23.2 | 22.9 |
| Dec 25 | 23.0 | 23.0 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 |
| Dec 26 | 22.8 | 22.8 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 23.0 | 22.8 | 22.9 | 22.9 | 22.9 | 22.8 | 22.6 | 23.0 | 22.7 |
| Dec 27 | 22.8 | 22.8 | 22.8 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.7 | 22.6 | 22.5 | 22.9 | 23.0 | 22.8 | 22.8 | 22.7 | 22.5 | 23.0 | 22.8 |
| Dec 28 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 22.6 | 22.7 | 22.7 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.7 | 22.6 | 22.8 | 22.7 |
| Dec 29 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.2 | 21.9 | 21.8 | 22.0 | 22.4 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 21.8 | 22.8 | 22.6 |
| Dec 30 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.4 | 22.7 | 22.5 |
| Dec 31 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.6 | 22.6 | 22.5 | 22.3 | 22.2 | 22.0 | 22.1 | 22.3 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.7 | 22.7 | 22.0 | 22.8 | 22.5 |
| Diurnal Maximum | 23.5 | 23.5 | 23.5 | 23.6 | 23.6 | 23.5 | 23.5 | 23.4 | 23.4 | 23.4 | 23.5 | 23.3 | 23.1 | 23.1 | 23.0 | 23.0 | 23.0 | 23.2 | 23.3 | 23.4 | 23.4 | 23.4 | 23.5 | 23.4 | | | |
| Diurnal Average | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.6 | 22.5 | 22.5 | 22.5 | 22.6 | 22.7 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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-B Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Reno-B Station - December 2022

## Summary of Hourly Averages

## PRECIPITATION in mm

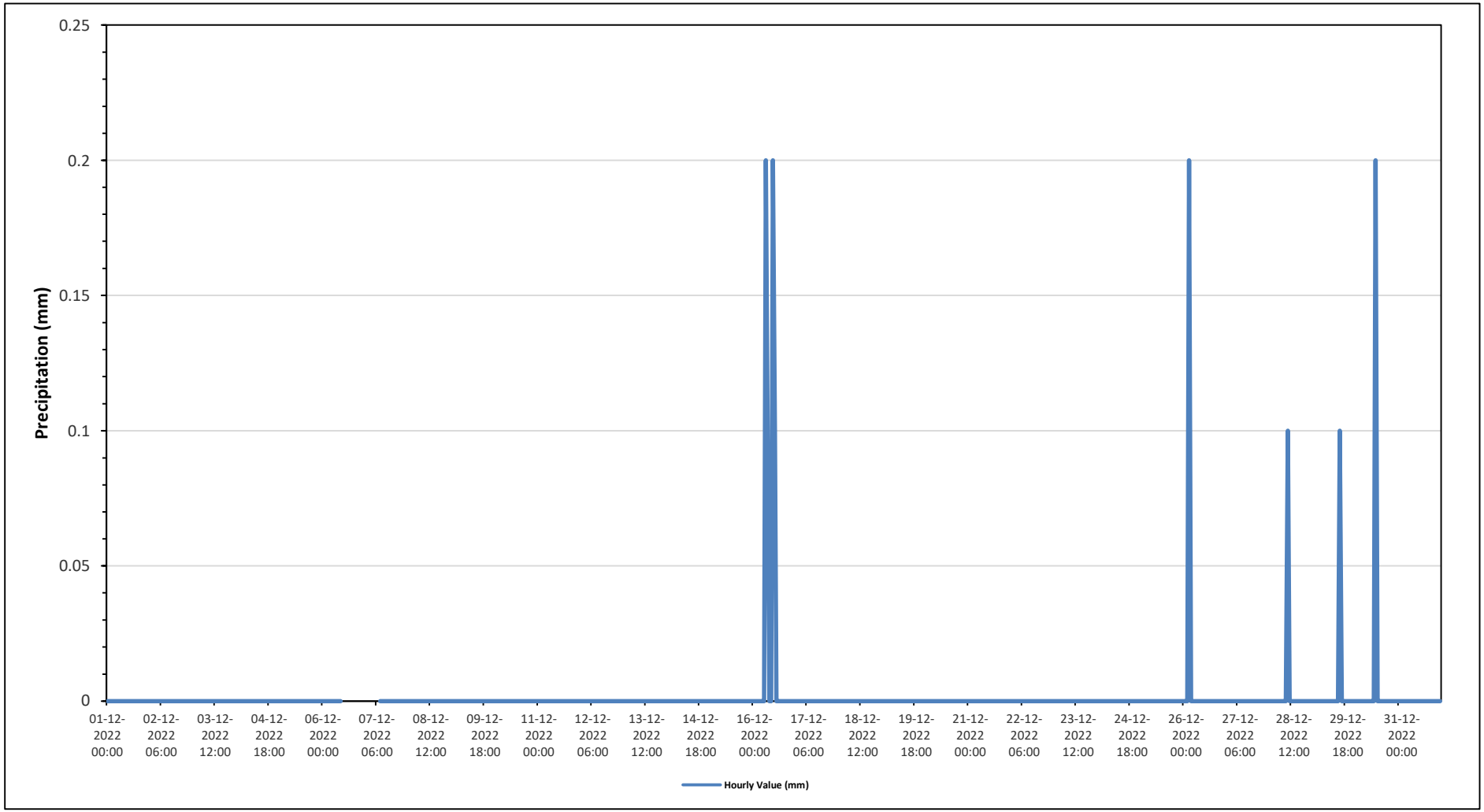
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.2 | mm | on December 16 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.6 | mm | on December 16 | Hours of Data: | 723 |
| Minimum Hourly Value: | 0.0 | mm | on December 1 at hour 0 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.0 | mm | on December 1 | Hours of Calibration: | 0 |
| Monthly Total: | 1.2 | mm | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Total |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | P | P | P | P | P | P | P | P | K | K | K | K | K | 0.0 | 0.0 | - |
| Dec 7 | K | K | K | K | K | K | K | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | - |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0 | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.6 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 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 |
| Dec 26 | 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 | 0.2 | 0.2 |
| Dec 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 |
| Dec 28 | 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 | 0.1 | 0.1 |
| Dec 29 | 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 | 0.1 | 0.1 |
| Dec 30 | 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 | 0.2 | 0.2 |
| Dec 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 |
| Diurnal Maximum | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Reno-B Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

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

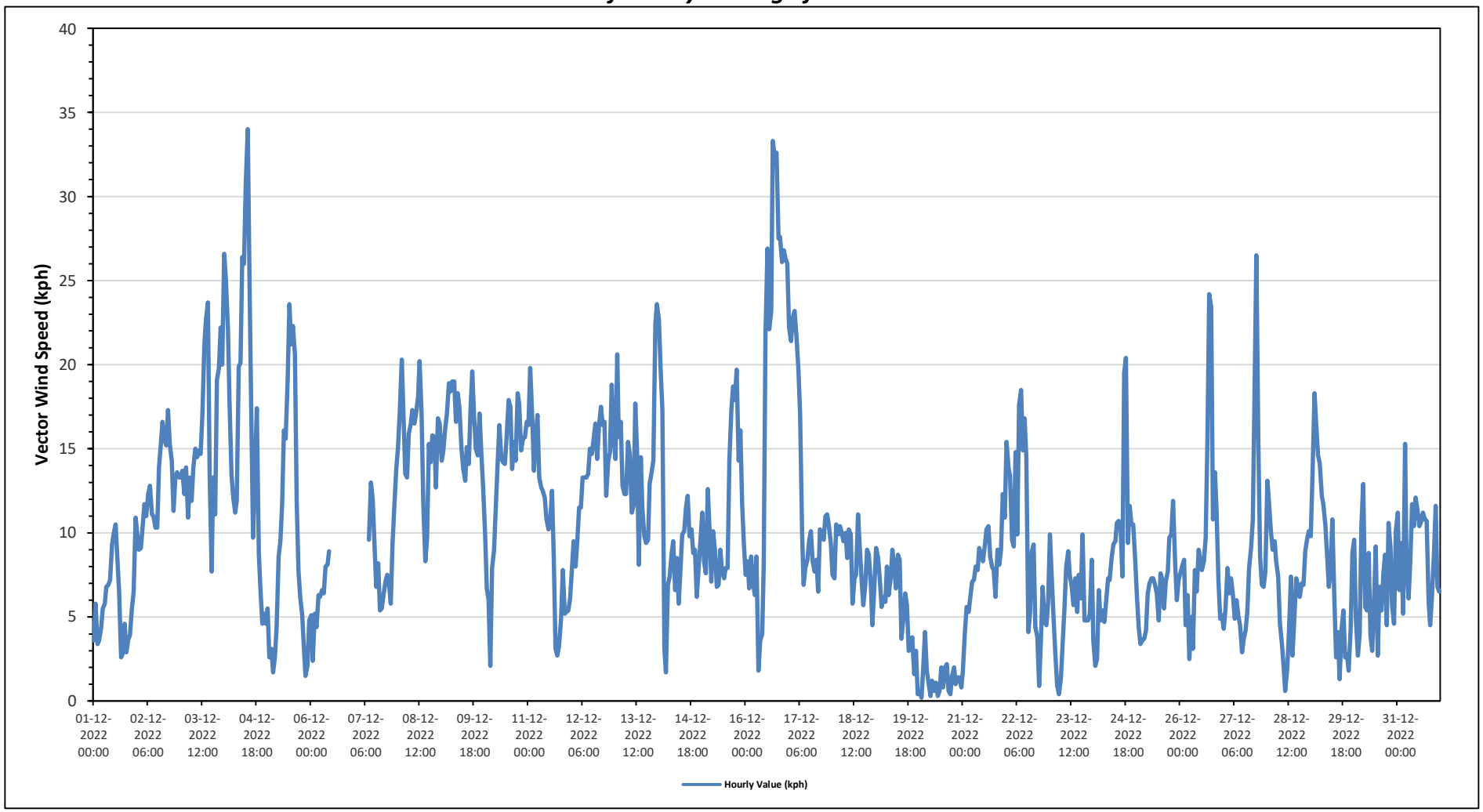
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 34.0 | kph | on December 4 at hour 13 | Hours in Service: | 744 |
| Maximum Daily Value: | 15.9 | kph | on December 9 | Hours of Data: | 723 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 1 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.2 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.8 | kph | | Operational Uptime: | 97.2 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 3.6 | 5.8 | 3.4 | 3.6 | 4.3 | 5.5 | 5.8 | 6.8 | 6.9 | 7.2 | 9.3 | 9.9 | 10.5 | 8.5 | 6.5 | 2.6 | 2.8 | 4.6 | 2.9 | 3.7 | 3.9 | 5.5 | 6.5 | 10.9 | 2.6 | 10.9 | 4.4 |
| Dec 2 | 10.0 | 9.0 | 9.1 | 10.4 | 11.7 | 11.0 | 12.3 | 12.8 | 11.1 | 11.0 | 10.3 | 10.3 | 13.9 | 15.2 | 16.6 | 15.5 | 15.2 | 17.3 | 15.3 | 14.3 | 11.3 | 13.2 | 13.6 | 13.3 | 9.0 | 17.3 | 11.8 |
| Dec 3 | 13.3 | 13.7 | 12.3 | 13.9 | 10.9 | 13.3 | 11.9 | 13.9 | 15.0 | 14.5 | 14.9 | 14.7 | 17.0 | 21.2 | 22.6 | 23.7 | 13.5 | 7.7 | 13.3 | 11.1 | 19.1 | 19.8 | 22.2 | 20.0 | 7.7 | 23.7 | 14.9 |
| Dec 4 | 26.6 | 25.0 | 22.1 | 17.9 | 13.5 | 12.1 | 11.2 | 11.9 | 19.9 | 20.1 | 26.4 | 26.0 | 30.8 | **34.0** | 24.9 | 17.0 | 9.7 | 13.8 | 17.4 | 8.8 | 6.8 | 4.6 | 5.2 | 4.6 | 4.6 | **34.0** | 13.9 |
| Dec 5 | 5.5 | 2.6 | 3.1 | 1.7 | 2.6 | 4.4 | 8.6 | 9.5 | 11.7 | 16.1 | 15.6 | 19.1 | 23.6 | 21.2 | 22.3 | 20.6 | 11.9 | 7.8 | 6.2 | 5.1 | 3.1 | 1.5 | 2.1 | 4.8 | 1.5 | 23.6 | 8.8 |
| Dec 6 | 5.1 | 2.4 | 5.2 | 4.4 | 6.3 | 6.2 | 6.6 | 6.4 | 8.0 | 8.1 | 8.9 | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **K** | **K** | **K** | **K** | **K** | 2.4 | 8.9 | - |
| Dec 7 | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | 9.6 | 13.0 | 12.0 | 9.4 | 6.8 | 8.2 | 5.4 | 5.5 | 6.3 | 7.1 | 7.5 | 7.0 | 5.8 | 9.3 | 11.8 | 13.8 | 5.4 | 13.8 | - |
| Dec 8 | 15.1 | 17.2 | 20.3 | 16.9 | 13.5 | 13.3 | 15.9 | 16.5 | 17.3 | 16.5 | 17.1 | 18.1 | 20.2 | 17.0 | 11.6 | 8.3 | 9.7 | 15.3 | 14.2 | 15.8 | 15.7 | 12.7 | 16.8 | 16.5 | 8.3 | 20.3 | 14.6 |
| Dec 9 | 14.3 | 14.8 | 16.2 | 17.1 | 18.9 | 18.4 | 19.0 | 19.0 | 16.6 | 18.3 | 17.4 | 15.0 | 13.8 | 13.1 | 15.1 | 14.1 | 17.3 | 19.6 | 17.0 | 15.0 | 14.6 | 17.1 | 14.8 | 12.8 | 12.8 | 19.6 | **15.9** |
| Dec 10 | 10.0 | 6.7 | 6.0 | 2.1 | 7.9 | 9.0 | 11.6 | 14.1 | 16.4 | 14.4 | 14.2 | 14.1 | 15.7 | 17.9 | 17.5 | 13.8 | 15.4 | 14.3 | 18.3 | 17.7 | 14.9 | 15.6 | 15.7 | 16.6 | 2.1 | 18.3 | 11.3 |
| Dec 11 | 16.4 | 19.8 | 16.9 | 13.7 | 15.5 | 17.0 | 13.3 | 12.7 | 12.5 | 12.1 | 10.8 | 10.2 | 10.5 | 12.5 | 8.5 | 3.1 | 2.7 | 3.3 | 4.9 | 7.8 | 5.2 | 5.3 | 5.4 | 6.1 | 2.7 | 19.8 | 7.0 |
| Dec 12 | 8.0 | 9.5 | 8.0 | 9.6 | 11.5 | 11.5 | 13.3 | 13.3 | 13.3 | 13.5 | 15.0 | 14.7 | 15.6 | 16.5 | 14.4 | 16.3 | 17.5 | 16.4 | 16.6 | 12.2 | 14.3 | 14.8 | 18.8 | 15.7 | 8.0 | 18.8 | 13.2 |
| Dec 13 | 14.4 | 20.6 | 15.7 | 16.6 | 12.8 | 12.3 | 12.3 | 15.4 | 14.7 | 11.2 | 11.6 | 17.7 | 14.8 | 8.1 | 14.5 | 11.5 | 9.8 | 9.4 | 9.6 | 12.9 | 13.6 | 14.3 | 22.4 | 23.6 | 8.1 | 23.6 | 7.9 |
| Dec 14 | 22.7 | 19.7 | 17.3 | 3.1 | 1.7 | 6.9 | 7.4 | 8.8 | 9.5 | 6.6 | 8.5 | 5.8 | 7.8 | 9.9 | 10.1 | 11.5 | 12.2 | 9.8 | 10.2 | 8.8 | 9.0 | 6.2 | 8.0 | 9.6 | 1.7 | 22.7 | 6.4 |
| Dec 15 | 11.2 | 8.3 | 7.6 | 12.6 | 10.2 | 7.1 | 10.1 | 8.9 | 6.8 | 6.9 | 9.0 | 7.7 | 7.3 | 7.9 | 7.9 | 14.3 | 17.3 | 18.7 | 17.9 | 19.7 | 14.3 | 16.1 | 11.7 | 9.3 | 6.8 | 19.7 | 10.4 |
| Dec 16 | 7.5 | 8.3 | 6.7 | 8.6 | 7.0 | 6.3 | 8.6 | 1.8 | 3.6 | 4.0 | 8.1 | 21.8 | 26.9 | 22.1 | 23.2 | 33.3 | 32.4 | 32.6 | 27.5 | 27.6 | 26.1 | 26.8 | 26.3 | 26.0 | 1.8 | 33.3 | 13.4 |
| Dec 17 | 22.2 | 21.4 | 22.8 | 23.2 | 21.8 | 19.8 | 17.1 | 10.0 | 6.9 | 7.9 | 8.4 | 9.5 | 10.1 | 8.3 | 7.7 | 8.4 | 6.5 | 10.2 | 10.0 | 9.6 | 11.0 | 11.1 | 10.4 | 9.3 | 6.5 | 23.2 | 11.5 |
| Dec 18 | 7.5 | 7.3 | 10.5 | 9.9 | 10.4 | 10.0 | 9.5 | 10.0 | 8.5 | 10.2 | 9.9 | 5.8 | 7.3 | 7.5 | 11.1 | 9.1 | 7.0 | 5.7 | 6.9 | 9.0 | 8.7 | 7.0 | 4.5 | 6.8 | 4.5 | 11.1 | 8.1 |
| Dec 19 | 9.1 | 8.5 | 7.4 | 5.6 | 6.2 | 5.9 | 8.0 | 6.3 | 7.3 | 9.0 | 8.0 | 6.7 | 8.7 | 8.4 | 3.7 | 4.8 | 6.4 | 5.7 | 3.0 | 3.1 | 3.8 | 1.6 | 3.0 | 0.4 | 0.4 | 9.1 | 5.4 |
| Dec 20 | 0.6 | **0.2** | 2.0 | 4.1 | 1.8 | 1.0 | 0.3 | 1.2 | 0.6 | 1.1 | 0.3 | 0.6 | 2.0 | 0.8 | 2.0 | 2.2 | 0.6 | 0.4 | 1.5 | 2.0 | 1.0 | 1.4 | 1.4 | 0.8 | **0.2** | 4.1 | **0.2** |
| Dec 21 | 1.8 | 4.1 | 5.6 | 5.3 | 6.1 | 7.1 | 7.2 | 8.0 | 7.8 | 9.1 | 8.7 | 8.3 | 9.3 | 10.2 | 10.4 | 8.6 | 8.0 | 7.8 | 6.2 | 9.0 | 8.1 | 9.0 | 12.3 | 10.9 | 1.8 | 12.3 | 7.6 |
| Dec 22 | 15.4 | 13.9 | 13.4 | 9.6 | 9.2 | 14.8 | 9.9 | 17.6 | 18.5 | 14.9 | 16.8 | 14.5 | 4.1 | 5.3 | 8.9 | 9.3 | 4.4 | 3.8 | 0.9 | 3.6 | 6.8 | 4.7 | 4.5 | 5.9 | 0.9 | 18.5 | 7.5 |
| Dec 23 | 9.9 | 7.1 | 4.8 | 2.7 | 0.9 | 0.4 | 1.4 | 3.2 | 5.5 | 8.0 | 8.9 | 7.5 | 6.8 | 5.7 | 7.3 | 5.3 | 7.5 | 6.1 | 9.9 | 4.8 | 4.8 | 4.8 | 5.2 | 8.4 | 0.4 | 9.9 | 3.3 |
| Dec 24 | 3.6 | 2.1 | 2.5 | 6.6 | 4.8 | 5.4 | 4.7 | 5.9 | 7.3 | 7.2 | 8.5 | 9.3 | 9.5 | 10.6 | 10.7 | 10.2 | 7.4 | 19.5 | 20.4 | 9.4 | 11.6 | 10.5 | 10.5 | 8.4 | 2.1 | 20.4 | 7.3 |
| Dec 25 | 6.2 | 4.4 | 3.4 | 3.6 | 3.7 | 4.2 | 6.4 | 7.0 | 7.3 | 7.3 | 6.9 | 6.4 | 4.8 | 7.6 | 7.3 | 5.5 | 7.1 | 7.7 | 9.7 | 9.9 | 11.9 | 8.3 | 6.0 | 7.2 | 3.4 | 11.9 | 5.3 |
| Dec 26 | 7.6 | 8.0 | 8.4 | 4.5 | 6.3 | 2.5 | 5.0 | 3.1 | 7.8 | 6.5 | 9.0 | 8.5 | 7.8 | 8.3 | 9.7 | 15.5 | 24.2 | 23.4 | 10.8 | 13.6 | 11.5 | 7.1 | 4.9 | 5.1 | 2.5 | 24.2 | 7.7 |
| Dec 27 | 4.3 | 5.5 | 7.9 | 6.4 | 7.3 | 6.4 | 4.9 | 6.0 | 5.1 | 4.5 | 2.9 | 3.7 | 4.2 | 5.3 | 7.9 | 9.1 | 10.8 | 18.5 | 26.5 | 15.3 | 8.6 | 6.9 | 6.8 | 7.7 | 2.9 | 26.5 | 7.5 |
| Dec 28 | 13.1 | 11.9 | 10.1 | 9.0 | 9.5 | 8.3 | 7.4 | 4.6 | 3.4 | 2.0 | 0.6 | 1.9 | 4.1 | 7.4 | 2.7 | 5.1 | 7.3 | 6.8 | 6.2 | 7.0 | 6.9 | 8.9 | 9.6 | 10.1 | 0.6 | 13.1 | 0.3 |
| Dec 29 | 9.8 | 13.5 | 18.3 | 16.6 | 14.6 | 14.1 | 12.2 | 11.7 | 10.5 | 8.7 | 6.8 | 7.8 | 10.8 | 6.1 | 2.6 | 4.1 | 1.3 | 4.3 | 5.4 | 2.6 | 2.8 | 1.8 | 4.3 | 8.8 | 1.3 | 18.3 | 7.0 |
| Dec 30 | 9.6 | 4.8 | 2.7 | 4.0 | 10.5 | 12.9 | 5.6 | 5.4 | 8.8 | 3.9 | 3.0 | 6.3 | 9.2 | 2.7 | 6.8 | 5.4 | 7.5 | 8.7 | 4.5 | 10.6 | 9.1 | 5.7 | 4.6 | 10.1 | 2.7 | 12.9 | 5.9 |
| Dec 31 | 11.2 | 6.6 | 9.4 | 5.2 | 15.3 | 7.8 | 6.1 | 8.4 | 11.7 | 10.4 | 12.1 | 11.3 | 10.4 | 10.7 | 11.2 | 10.8 | 10.7 | 5.9 | 4.5 | 6.2 | 8.7 | 11.6 | 6.8 | 6.5 | 4.5 | 15.3 | 8.4 |
| Diurnal Maximum | 27 | 25 | 23 | 23 | 22 | 20 | 19 | 19 | 20 | 20 | 26 | 26 | 31 | 34 | 25 | 33 | 32 | 33 | 28 | 28 | 26 | 27 | 26 | 26 | | | |
| Diurnal Average | 10.5 | 10.1 | 10.0 | 9.0 | 9.2 | 9.2 | 9.1 | 9.3 | 10.0 | 9.8 | 10.3 | 10.8 | 11.5 | 11.3 | 11.0 | 10.8 | 10.3 | 11.1 | 10.8 | 10.1 | 9.8 | 9.4 | 9.9 | 10.3 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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.

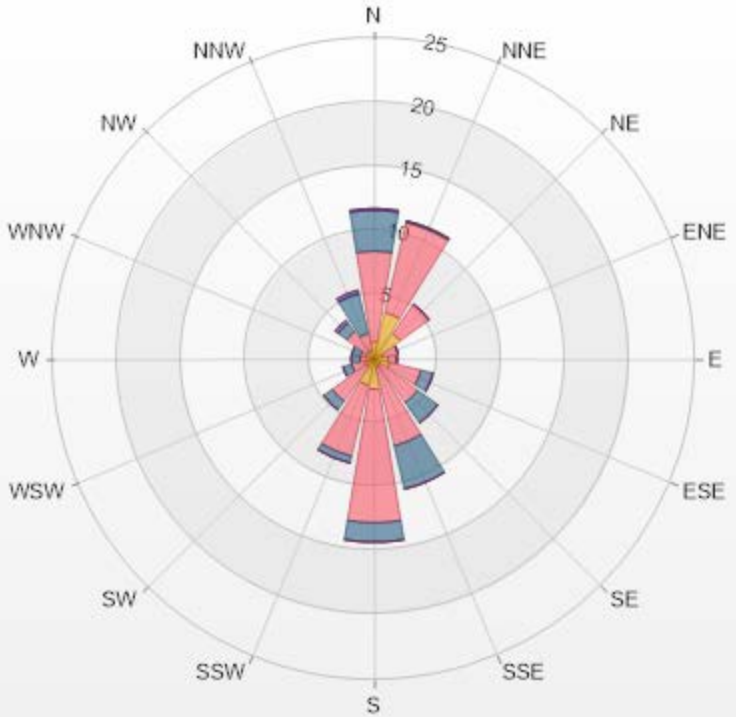
## *Timeseries Chart of Hourly Average for VWS - Reno-B Station*



Wind: PRAMP RENO-B Monitor: WDS [KPH] Monthly: 12-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 4.29% Valid Data: 97.18%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.38 | 7.05 | 3.18 | 0.14 | 0 | 11.75 |
| NNE | 3.73 | 7.19 | 0.14 | 0 | 0 | 11.06 |
| NE | 2.49 | 2.77 | 0 | 0 | 0 | 5.26 |
| ENE | 0.69 | 1.24 | 0 | 0 | 0 | 1.93 |
| E | 1.11 | 0.69 | 0 | 0 | 0 | 1.8 |
| ESE | 1.24 | 2.49 | 0.97 | 0 | 0 | 4.7 |
| SE | 0.55 | 3.6 | 1.94 | 0 | 0 | 6.09 |
| SSE | 0.69 | 6.22 | 3.46 | 0 | 0 | 10.37 |
| S | 2.35 | 10.37 | 1.52 | 0 | 0 | 14.24 |
| SSW | 2.07 | 5.67 | 0.55 | 0 | 0 | 8.29 |
| SW | 0.69 | 3.32 | 0.83 | 0 | 0 | 4.84 |
| WSW | 0.69 | 1.11 | 0.69 | 0 | 0 | 2.49 |
| W | 0.14 | 0.97 | 0.69 | 0 | 0 | 1.8 |
| WNW | 0.69 | 0.41 | 0.69 | 0 | 0 | 1.79 |
| NW | 0.69 | 1.94 | 0.83 | 0.28 | 0 | 3.74 |
| NNW | 0.69 | 1.38 | 3.18 | 0.28 | 0 | 5.53 |
| Summary | 19.89 | 56.42 | 18.67 | 0.7 | 0 | 95.68 |

PRAMP RENO-B 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 4.29% Calm Wind Avg Speed: 1.02(KPH)






| % Icon Classes (KPH) | 20 1.8-6.0 | 56 6.0-15.0 | 19 15.0-29.0 | 1 29.0-39.0 | 0 >39.0 |
|---|---|---|---|---|---|

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

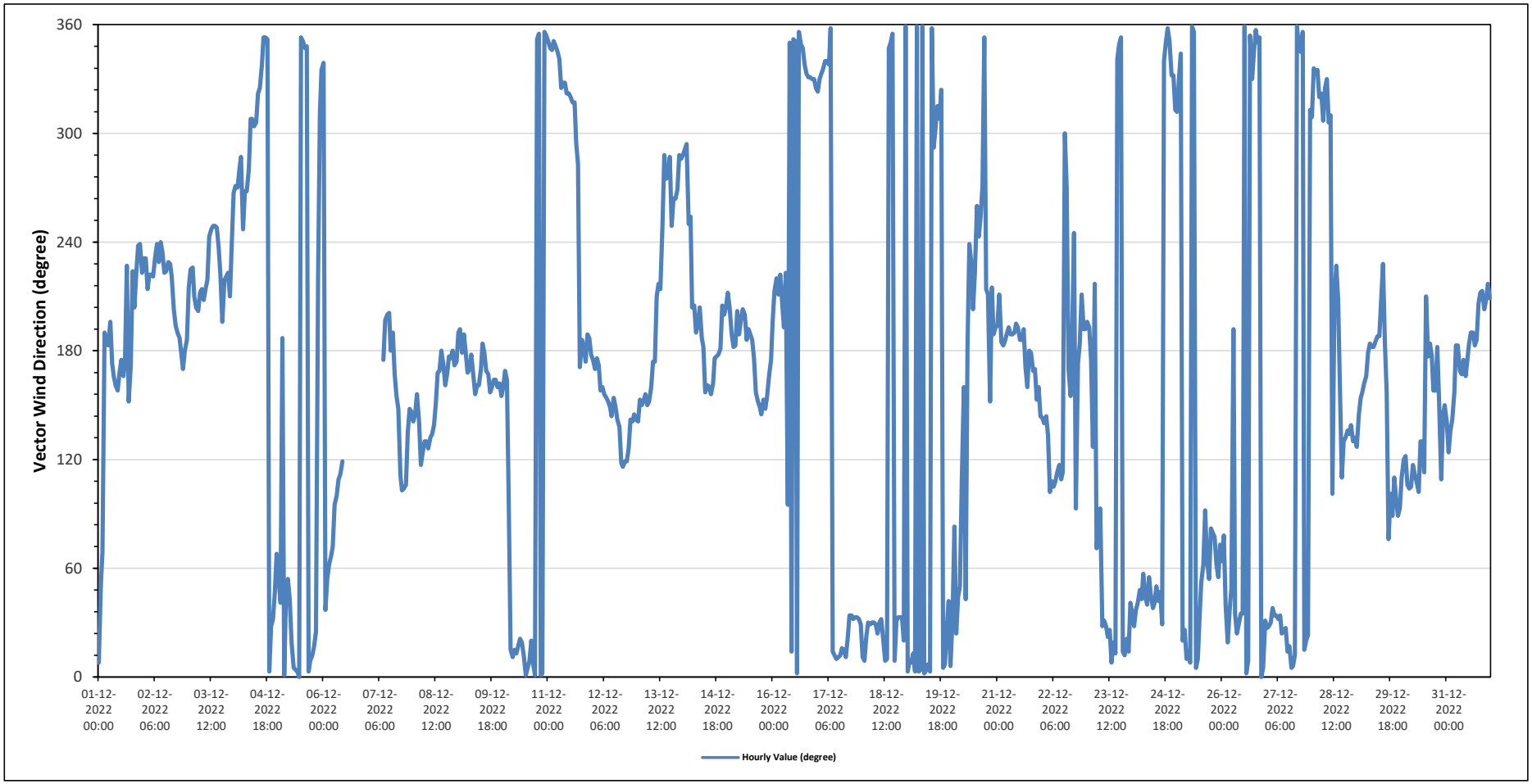
| | | | |
|---|---|---|---|
| Monthly Average: | 172 (S) | degree | |
| Hours in Service: | 744 | | |
| Hours of Data: | 723 | | |
| Hours of Missing Data: | 21 | | |
| Hours of Calibration: | 0 | | |
| Operational Uptime: | 97.2 | | |

| 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 |
| Dec 1 | N | NE | ENE | S | S | S | SSW | S | SSE | SSE | SSE | SSE | S | SSE | S | SW | SSE | S | SW | SSW | SW | SW | WSW | SW | 182 | S |
| Dec 2 | SW | SW | SSW | SW | SW | SW | SW | WSW | SW | WSW | SW | SW | SW | SW | SW | SW | SSW | SSW | S | S | S | SSE | S | S | 213 | SSW |
| Dec 3 | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | WSW | WSW | WSW | WSW | WSW | SW | SW | SSW | SW | SW | SW | SSW | WSW | 225 | SW |
| Dec 4 | W | W | W | W | WNW | WSW | W | W | W | NW | NW | WNW | NW | NW | NW | NNW | N | N | N | N | NNE | NNE | NE | ENE | 305 | WNW |
| Dec 5 | NE | NE | S | N | NE | NE | NE | NNE | N | N | N | N | N | N | NNW | NNW | N | N | NNE | NNE | NNE | SW | NW | NNW | 3 | N |
| Dec 6 | NNW | NE | NE | ENE | ENE | ENE | E | E | ESE | ESE | ESE | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **K** | **K** | **K** | **K** | **K** | - | - |
| Dec 7 | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | S | SSW | SSW | SSW | S | S | SSE | SSE | SE | ESE | ESE | ESE | ESE | SE | SE | SE | - | - |
| Dec 8 | SE | SE | SSE | SE | ESE | ESE | SE | SE | SE | SE | SE | SE | SSE | SSE | SSE | S | S | SSE | SSE | S | S | S | S | S | 152 | SSE |
| Dec 9 | S | S | S | S | S | SSE | SSE | S | SSE | SSE | SSE | SSE | SSE | S | S | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | 170 | SSE |
| Dec 10 | SSE | SSE | SSE | E | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | NNE | N | N | N | N | N | N | N | N | 9 | N |
| Dec 11 | N | NNW | NNW | N | NNW | NNW | NNW | NW | NNW | NNW | NW | NW | NW | NW | NW | WNW | W | S | S | S | S | S | S | S | 329 | NNW |
| Dec 12 | S | SSE | S | S | SSE | SSE | SSE | SSE | SSE | SSE | SE | SSE | SSE | SE | SE | ESE | ESE | ESE | ESE | SE | SE | SE | SE | SE | 144 | SE |
| Dec 13 | SE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | SSW | SW | SSW | WSW | WNW | W | W | WNW | WSW | W | W | W | WNW | WNW | 216 | SW |
| Dec 14 | WNW | WNW | WNW | WSW | WSW | SSW | SSW | S | SSW | SSW | S | S | SSE | SSE | SSE | SSE | SSE | S | S | S | S | SSW | SSW | SSW | 205 | SSW |
| Dec 15 | SSW | SSW | S | S | S | SSW | S | SSW | SSW | SSW | S | S | S | S | S | SSE | SSE | SSE | SE | SSE | SE | SSE | SSE | S | 172 | S |
| Dec 16 | SSW | SSW | SW | SSW | SW | SSW | S | SW | E | N | NNE | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | 335 | NNW |
| Dec 17 | NW | NNW | NNW | NNW | NNW | NNW | NNW | N | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NNE | NNE | NNE | NNE | NNE | 358 | N |
| Dec 18 | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | NNW | N | N | N | NNE | NNE | NNE | NNE | NNE | N | 19 | NNE |
| Dec 19 | N | N | N | NNE | N | N | N | N | N | N | N | N | N | N | WNW | WNW | NW | NW | NW | N | N | NNE | NE | N | 357 | N |
| Dec 20 | NNE | E | NNE | NE | NE | ESE | SSE | NE | S | WSW | SW | SSW | SW | WSW | WSW | WSW | W | N | SSW | SSW | SSE | SSW | S | S | 216 | SW |
| Dec 21 | SSW | SSW | S | S | S | S | S | S | S | S | SSW | S | S | S | S | S | SSE | S | S | SSE | SSE | SSE | SSE | SE | 179 | S |
| Dec 22 | SE | SE | SE | SE | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | WNW | W | SSE | SSE | SSW | WSW | E | S | S | SSW | S | S | 134 | SE |
| Dec 23 | SSW | S | S | SE | SW | ENE | E | E | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNW | NNW | N | NNE | NNE | NNE | NNE | NE | 21 | NNE |
| Dec 24 | NE | NNE | NE | NE | NE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NNE | NNW | N | N | N | NNW | NNW | NW | 17 | NNE |
| Dec 25 | NW | NNW | NNW | NNE | NNE | N | NNE | N | N | N | N | N | NE | NE | ENE | E | ENE | NE | E | E | ENE | ENE | NE | ENE | 40 | NE |
| Dec 26 | ENE | ENE | NE | NNE | NE | NE | S | NE | NNE | NNE | NE | NE | N | N | N | N | NNW | NNW | N | N | N | N | N | NNE | 8 | N |
| Dec 27 | NNE | NNE | NNE | NE | NE | NE | NNE | NE | NNE | NNE | NNE | NNE | NNE | N | N | NNE | N | NNW | NNW | N | NNE | NNE | NNE | NW | 8 | N |
| Dec 28 | NW | NNW | NNW | NNW | NW | NW | NW | NW | NNW | NW | NW | E | SSW | SW | SSW | SSE | ESE | SE | SE | SE | SE | SE | SE | SE | 322 | NW |
| Dec 29 | SE | SE | SSE | SSE | SSE | SSE | S | S | S | S | S | S | S | SSW | SW | S | SSE | ENE | E | E | ESE | E | E | E | 160 | SSE |
| Dec 30 | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | E | SE | SE | ESE | SSW | S | S | S | SSE | SSE | S | SSE | ESE | SE | SSE | 134 | SE |
| Dec 31 | SE | ESE | SE | SE | SSE | S | S | SSE | SSE | S | SSE | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SW | SSW | 178 | S |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | | | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** | Power Failure | |
| **X** | InValid Data (Machine Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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-B Station*



peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 34.0 | kph | on December 4 at hour 13 | Hours in Service: | 744 |
| Maximum Daily Value: | 15.9 | kph | on December 9 | Hours of Data: | 723 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 1 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.2 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.8 | kph | | Operational Uptime: | 97.2 |

**WIND DIRECTION**

Monthly Average: 172 (S) degree

| 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 | | | |
| Dec 1 | 3.6 | 5.8 | 3.4 | 3.6 | 4.3 | 5.5 | 5.8 | 6.8 | 6.9 | 7.2 | 9.3 | 9.9 | 10.5 | 8.5 | 6.5 | 2.6 | 2.8 | 4.6 | 2.9 | 3.7 | 3.9 | 5.5 | 6.5 | 10.9 | 2.6 | 10.9 | 4.4 |
| | N | NE | ENE | S | S | S | SSW | S | SSE | SSE | SSE | SSE | S | SSE | S | SW | SSE | S | SW | SSW | SW | SW | WSW | SW | | | |
| Dec 2 | 10.0 | 9.0 | 9.1 | 10.4 | 11.7 | 11.0 | 12.3 | 12.8 | 11.1 | 11.0 | 10.3 | 10.3 | 13.9 | 15.2 | 16.6 | 15.5 | 15.2 | 17.3 | 15.3 | 14.3 | 11.3 | 13.2 | 13.6 | 13.3 | 9.0 | 17.3 | 11.8 |
| | SW | SW | SSW | SW | SW | SW | SW | WSW | SW | WSW | SW | SW | SW | SW | SW | SW | SSW | SSW | S | S | S | SSE | S | S | | | |
| Dec 3 | 13.3 | 13.7 | 12.3 | 13.9 | 10.9 | 13.3 | 11.9 | 13.9 | 15.0 | 14.5 | 14.9 | 14.7 | 17.0 | 21.2 | 22.6 | 23.7 | 13.5 | 7.7 | 13.3 | 11.1 | 19.1 | 19.8 | 22.2 | 20.0 | 7.7 | 23.7 | 14.9 |
| | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | WSW | WSW | WSW | WSW | WSW | SW | SW | SSW | SW | SW | SW | SSW | WSW | | | |
| Dec 4 | 26.6 | 25.0 | 22.1 | 17.9 | 13.5 | 12.1 | 11.2 | 11.9 | 19.9 | 20.1 | 26.4 | 26.0 | 30.8 | **34.0** | 24.9 | 17.0 | 9.7 | 13.8 | 17.4 | 8.8 | 6.8 | 4.6 | 5.2 | 4.6 | 4.6 | **34.0** | 13.9 |
| | W | W | W | W | WNW | WSW | W | W | W | NW | NW | WNW | NW | NW | NW | NNW | N | N | N | N | NNE | NNE | NE | ENE | | | |
| Dec 5 | 5.5 | 2.6 | 3.1 | 1.7 | 2.6 | 4.4 | 8.6 | 9.5 | 11.7 | 16.1 | 15.6 | 19.1 | 23.6 | 21.2 | 22.3 | 20.6 | 11.9 | 7.8 | 6.2 | 5.1 | 3.1 | 1.5 | 2.1 | 4.8 | 1.5 | 23.6 | 8.8 |
| | NE | NE | S | N | NE | NE | NE | NNE | N | N | N | N | N | N | NNW | NNW | N | N | NNE | NNE | NNE | SW | NW | NNW | | | |
| Dec 6 | 5.1 | 2.4 | 5.2 | 4.4 | 6.3 | 6.2 | 6.6 | 6.4 | 8.0 | 8.1 | 8.9 | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **K** | **K** | **K** | **K** | **K** | 2.4 | 8.9 | - |
| | NNW | NE | NE | ENE | ENE | ENE | E | E | ESE | ESE | ESE | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **P** | **K** | **K** | **K** | **K** | **K** | | | |
| Dec 7 | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | 9.6 | 13.0 | 12.0 | 9.4 | 6.8 | 8.2 | 5.4 | 5.5 | 6.3 | 7.1 | 7.5 | 7.0 | 5.8 | 9.3 | 11.8 | 13.8 | 5.4 | 13.8 | - |
| | **K** | **K** | **K** | **K** | **K** | **K** | **K** | **K** | S | SSW | SSW | SSW | S | S | SSE | SSE | SE | ESE | ESE | ESE | ESE | SE | SE | SE | | | |
| Dec 8 | 15.1 | 17.2 | 20.3 | 16.9 | 13.5 | 13.3 | 15.9 | 16.5 | 17.3 | 16.5 | 17.1 | 18.1 | 20.2 | 17.0 | 11.6 | 8.3 | 9.7 | 15.3 | 14.2 | 15.8 | 15.7 | 12.7 | 16.8 | 16.5 | 8.3 | 20.3 | 14.6 |
| | SE | SE | SSE | SE | ESE | ESE | SE | SE | SE | SE | SE | SE | SSE | SSE | SSE | S | S | SSE | SSE | S | S | S | S | S | | | |
| Dec 9 | 14.3 | 14.8 | 16.2 | 17.1 | 18.9 | 18.4 | 19.0 | 19.0 | 16.6 | 18.3 | 17.4 | 15.0 | 13.8 | 13.1 | 15.1 | 14.1 | 17.3 | 19.6 | 17.0 | 15.0 | 14.6 | 17.1 | 14.8 | 12.8 | 12.8 | 19.6 | **15.9** |
| | S | S | S | S | S | SSE | SSE | S | SSE | SSE | SSE | SSE | SSE | S | S | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | | | |
| Dec 10 | 10.0 | 6.7 | 6.0 | 2.1 | 7.9 | 9.0 | 11.6 | 14.1 | 16.4 | 14.4 | 14.2 | 14.1 | 15.7 | 17.9 | 17.5 | 13.8 | 15.4 | 14.3 | 18.3 | 17.7 | 14.9 | 15.6 | 15.7 | 16.6 | 2.1 | 18.3 | 11.3 |
| | SSE | SSE | SSE | E | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | NNE | N | N | N | N | N | N | N | N | | | |
| Dec 11 | 16.4 | 19.8 | 16.9 | 13.7 | 15.5 | 17.0 | 13.3 | 12.7 | 12.5 | 12.1 | 10.8 | 10.2 | 10.5 | 12.5 | 8.5 | 3.1 | 2.7 | 3.3 | 4.9 | 7.8 | 5.2 | 5.3 | 5.4 | 6.1 | 2.7 | 19.8 | 7.0 |
| | N | NNW | NNW | N | NNW | NNW | NNW | NW | NNW | NNW | NW | NW | NW | NW | NW | WNW | W | S | S | S | S | S | S | S | | | |
| Dec 12 | 8.0 | 9.5 | 8.0 | 9.6 | 11.5 | 11.5 | 13.3 | 13.3 | 13.3 | 13.5 | 15.0 | 14.7 | 15.6 | 16.5 | 14.4 | 16.3 | 17.5 | 16.4 | 16.6 | 12.2 | 14.3 | 14.8 | 18.8 | 15.7 | 8.0 | 18.8 | 13.2 |
| | S | SSE | S | S | SSE | SSE | SSE | SSE | SSE | SSE | SE | SSE | SSE | SE | SE | ESE | ESE | ESE | ESE | SE | SE | SE | SE | SE | | | |
| Dec 13 | 14.4 | 20.6 | 15.7 | 16.6 | 12.8 | 12.3 | 12.3 | 15.4 | 14.7 | 11.2 | 11.6 | 17.7 | 14.8 | 8.1 | 14.5 | 11.5 | 9.8 | 9.4 | 9.6 | 12.9 | 13.6 | 14.3 | 22.4 | 23.6 | 8.1 | 23.6 | 7.9 |
| | SE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | SSW | SW | SSW | WSW | WNW | W | W | WNW | WSW | W | W | W | WNW | WNW | | | |
| Dec 14 | 22.7 | 19.7 | 17.3 | 3.1 | 1.7 | 6.9 | 7.4 | 8.8 | 9.5 | 6.6 | 8.5 | 5.8 | 7.8 | 9.9 | 10.1 | 11.5 | 12.2 | 9.8 | 10.2 | 8.8 | 9.0 | 6.2 | 8.0 | 9.6 | 1.7 | 22.7 | 6.4 |
| | WNW | WNW | WNW | WSW | WSW | SSW | SSW | S | SSW | SSW | S | S | SSE | SSE | SSE | SSE | SSE | S | S | S | S | SSW | SSW | SSW | | | |
| Dec 15 | 11.2 | 8.3 | 7.6 | 12.6 | 10.2 | 7.1 | 10.1 | 8.9 | 6.8 | 6.9 | 9.0 | 7.7 | 7.3 | 7.9 | 7.9 | 14.3 | 17.3 | 18.7 | 17.9 | 19.7 | 14.3 | 16.1 | 11.7 | 9.3 | 6.8 | 19.7 | 10.4 |
| | SSW | SSW | S | S | S | SSW | S | SSW | SSW | SSW | S | S | S | S | S | SSE | SSE | SSE | SE | SSE | SE | SSE | SSE | S | | | |
| Dec 16 | 7.5 | 8.3 | 6.7 | 8.6 | 7.0 | 6.3 | 8.6 | 1.8 | 3.6 | 4.0 | 8.1 | 21.8 | 26.9 | 22.1 | 23.2 | 33.3 | 32.4 | 32.6 | 27.5 | 27.6 | 26.1 | 26.8 | 26.3 | 26.0 | 1.8 | 33.3 | 13.4 |
| | SSW | SSW | SW | SSW | SW | SSW | S | SW | E | N | NNE | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | | | |
| Dec 17 | 22.2 | 21.4 | 22.8 | 23.2 | 21.8 | 19.8 | 17.1 | 10.0 | 6.9 | 7.9 | 8.4 | 9.5 | 10.1 | 8.3 | 7.7 | 8.4 | 6.5 | 10.2 | 10.0 | 9.6 | 11.0 | 11.1 | 10.4 | 9.3 | 6.5 | 23.2 | 11.5 |
| | NW | NNW | NNW | NNW | NNW | NNW | NNW | N | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NNE | NNE | NNE | NNE | NNE | | | |
| Dec 18 | 7.5 | 7.3 | 10.5 | 9.9 | 10.4 | 10.0 | 9.5 | 10.0 | 8.5 | 10.2 | 9.9 | 5.8 | 7.3 | 7.5 | 11.1 | 9.1 | 7.0 | 5.7 | 6.9 | 9.0 | 8.7 | 7.0 | 4.5 | 6.8 | 4.5 | 11.1 | 8.1 |
| | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | NNW | N | N | N | NNE | NNE | NNE | NNE | NNE | N | | | |
| Dec 19 | 9.1 | 8.5 | 7.4 | 5.6 | 6.2 | 5.9 | 8.0 | 6.3 | 7.3 | 9.0 | 8.0 | 6.7 | 8.7 | 8.4 | 3.7 | 4.8 | 6.4 | 5.7 | 3.0 | 3.1 | 3.8 | 1.6 | 3.0 | 0.4 | 0.4 | 9.1 | 5.4 |
| | N | N | N | NNE | N | N | N | N | N | N | N | N | N | N | WNW | WNW | NW | NW | NW | N | N | NNE | NE | N | | | |
| Dec 20 | 0.6 | **0.2** | 2.0 | 4.1 | 1.8 | 1.0 | 0.3 | 1.2 | 0.6 | 1.1 | 0.3 | 0.6 | 2.0 | 0.8 | 2.0 | 2.2 | 0.6 | 0.4 | 1.5 | 2.0 | 1.0 | 1.4 | 1.4 | 0.8 | **0.2** | 4.1 | **0.2** |
| | NNE | E | NNE | NE | NE | ESE | SSE | NE | S | WSW | SW | SSW | SW | WSW | WSW | WSW | W | N | SSW | SSW | SSE | SSW | S | S | | | |

peace river area monitoring program
pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Reno-B Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 34.0 | kph | on December 4 at hour 13 | Hours in Service: | 744 |
| Maximum Daily Value: | 15.9 | kph | on December 9 | Hours of Data: | 723 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 1 | Hours of Missing Data: | 21 |
| Minimum Daily Value: | 0.2 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 0.8 | kph | | Operational Uptime: | 97.2 |

**WIND DIRECTION**

Monthly Average: 172 (S) degree

| 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 | | | |
| Dec 21 | 1.8 | 4.1 | 5.6 | 5.3 | 6.1 | 7.1 | 7.2 | 8.0 | 7.8 | 9.1 | 8.7 | 8.3 | 9.3 | 10.2 | 10.4 | 8.6 | 8.0 | 7.8 | 6.2 | 9.0 | 8.1 | 9.0 | 12.3 | 10.9 | 1.8 | 12.3 | 7.6 |
| | SSW | SSW | S | S | S | S | S | S | S | S | SSW | S | S | S | S | S | SSE | S | S | SSE | SSE | SSE | SSE | SE | | | |
| Dec 22 | 15.4 | 13.9 | 13.4 | 9.6 | 9.2 | 14.8 | 9.9 | 17.6 | 18.5 | 14.9 | 16.8 | 14.5 | 4.1 | 5.3 | 8.9 | 9.3 | 4.4 | 3.8 | 0.9 | 3.6 | 6.8 | 4.7 | 4.5 | 5.9 | 0.9 | 18.5 | 7.5 |
| | SE | SE | SE | SE | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | WNW | W | SSE | SSE | SSW | WSW | E | S | S | SSW | S | S | | | |
| Dec 23 | 9.9 | 7.1 | 4.8 | 2.7 | 0.9 | 0.4 | 1.4 | 3.2 | 5.5 | 8.0 | 8.9 | 7.5 | 6.8 | 5.7 | 7.3 | 5.3 | 7.5 | 6.1 | 9.9 | 4.8 | 4.8 | 4.8 | 5.2 | 8.4 | 0.4 | 9.9 | 3.3 |
| | SSW | S | S | SE | SW | ENE | E | E | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNW | NNW | N | NNE | NNE | NNE | NNE | NE | | | |
| Dec 24 | 3.6 | 2.1 | 2.5 | 6.6 | 4.8 | 5.4 | 4.7 | 5.9 | 7.3 | 7.2 | 8.5 | 9.3 | 9.5 | 10.6 | 10.7 | 10.2 | 7.4 | 19.5 | 20.4 | 9.4 | 11.6 | 10.5 | 10.5 | 8.4 | 2.1 | 20.4 | 7.3 |
| | NE | NNE | NE | NE | NE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NNE | NNW | N | N | N | NNW | NNW | NW | | | |
| Dec 25 | 6.2 | 4.4 | 3.4 | 3.6 | 3.7 | 4.2 | 6.4 | 7.0 | 7.3 | 7.3 | 6.9 | 6.4 | 4.8 | 7.6 | 7.3 | 5.5 | 7.1 | 7.7 | 9.7 | 9.9 | 11.9 | 8.3 | 6.0 | 7.2 | 3.4 | 11.9 | 5.3 |
| | NW | NNW | NNW | NNE | NNE | N | NNE | N | N | N | N | N | NE | NE | ENE | E | ENE | NE | E | E | ENE | ENE | NE | ENE | | | |
| Dec 26 | 7.6 | 8.0 | 8.4 | 4.5 | 6.3 | 2.5 | 5.0 | 3.1 | 7.8 | 6.5 | 9.0 | 8.5 | 7.8 | 8.3 | 9.7 | 15.5 | 24.2 | 23.4 | 10.8 | 13.6 | 11.5 | 7.1 | 4.9 | 5.1 | 2.5 | 24.2 | 7.7 |
| | ENE | ENE | NE | NNE | NE | NE | S | NE | NNE | NNE | NE | NE | N | N | N | N | NNW | NNW | N | N | N | N | N | NNE | | | |
| Dec 27 | 4.3 | 5.5 | 7.9 | 6.4 | 7.3 | 6.4 | 4.9 | 6.0 | 5.1 | 4.5 | 2.9 | 3.7 | 4.2 | 5.3 | 7.9 | 9.1 | 10.8 | 18.5 | 26.5 | 15.3 | 8.6 | 6.9 | 6.8 | 7.7 | 2.9 | 26.5 | 7.5 |
| | NNE | NNE | NNE | NE | NE | NE | NNE | NE | NNE | NNE | NNE | NNE | NNE | N | N | NNE | N | NNW | NNW | N | NNE | NNE | NNE | NW | | | |
| Dec 28 | 13.1 | 11.9 | 10.1 | 9.0 | 9.5 | 8.3 | 7.4 | 4.6 | 3.4 | 2.0 | 0.6 | 1.9 | 4.1 | 7.4 | 2.7 | 5.1 | 7.3 | 6.8 | 6.2 | 7.0 | 6.9 | 8.9 | 9.6 | 10.1 | 0.6 | 13.1 | 0.3 |
| | NW | NNW | NNW | NNW | NW | NW | NW | NW | NNW | NW | NW | E | SSW | SW | SSW | SSE | ESE | SE | SE | SE | SE | SE | SE | SE | | | |
| Dec 29 | 9.8 | 13.5 | 18.3 | 16.6 | 14.6 | 14.1 | 12.2 | 11.7 | 10.5 | 8.7 | 6.8 | 7.8 | 10.8 | 6.1 | 2.6 | 4.1 | 1.3 | 4.3 | 5.4 | 2.6 | 2.8 | 1.8 | 4.3 | 8.8 | 1.3 | 18.3 | 7.0 |
| | SE | SE | SSE | SSE | SSE | SSE | S | S | S | S | S | S | S | SSW | SW | S | SSE | ENE | E | E | ESE | E | E | E | | | |
| Dec 30 | 9.6 | 4.8 | 2.7 | 4.0 | 10.5 | 12.9 | 5.6 | 5.4 | 8.8 | 3.9 | 3.0 | 6.3 | 9.2 | 2.7 | 6.8 | 5.4 | 7.5 | 8.7 | 4.5 | 10.6 | 9.1 | 5.7 | 4.6 | 10.1 | 2.7 | 12.9 | 5.9 |
| | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | E | SE | SE | ESE | SSW | S | S | S | SSE | SSE | S | SSE | ESE | SE | SSE | | | |
| Dec 31 | 11.2 | 6.6 | 9.4 | 5.2 | 15.3 | 7.8 | 6.1 | 8.4 | 11.7 | 10.4 | 12.1 | 11.3 | 10.4 | 10.7 | 11.2 | 10.8 | 10.7 | 5.9 | 4.5 | 6.2 | 8.7 | 11.6 | 6.8 | 6.5 | 4.5 | 15.3 | 8.4 |
| | SE | ESE | SE | SE | SSE | S | S | SSE | SSE | S | SSE | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | SW | SSW | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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.

# PRC STATION

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### SULPHUR DIOXIDE ($SO_2$) in ppb

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

Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0 30-Day Exceedance: 0

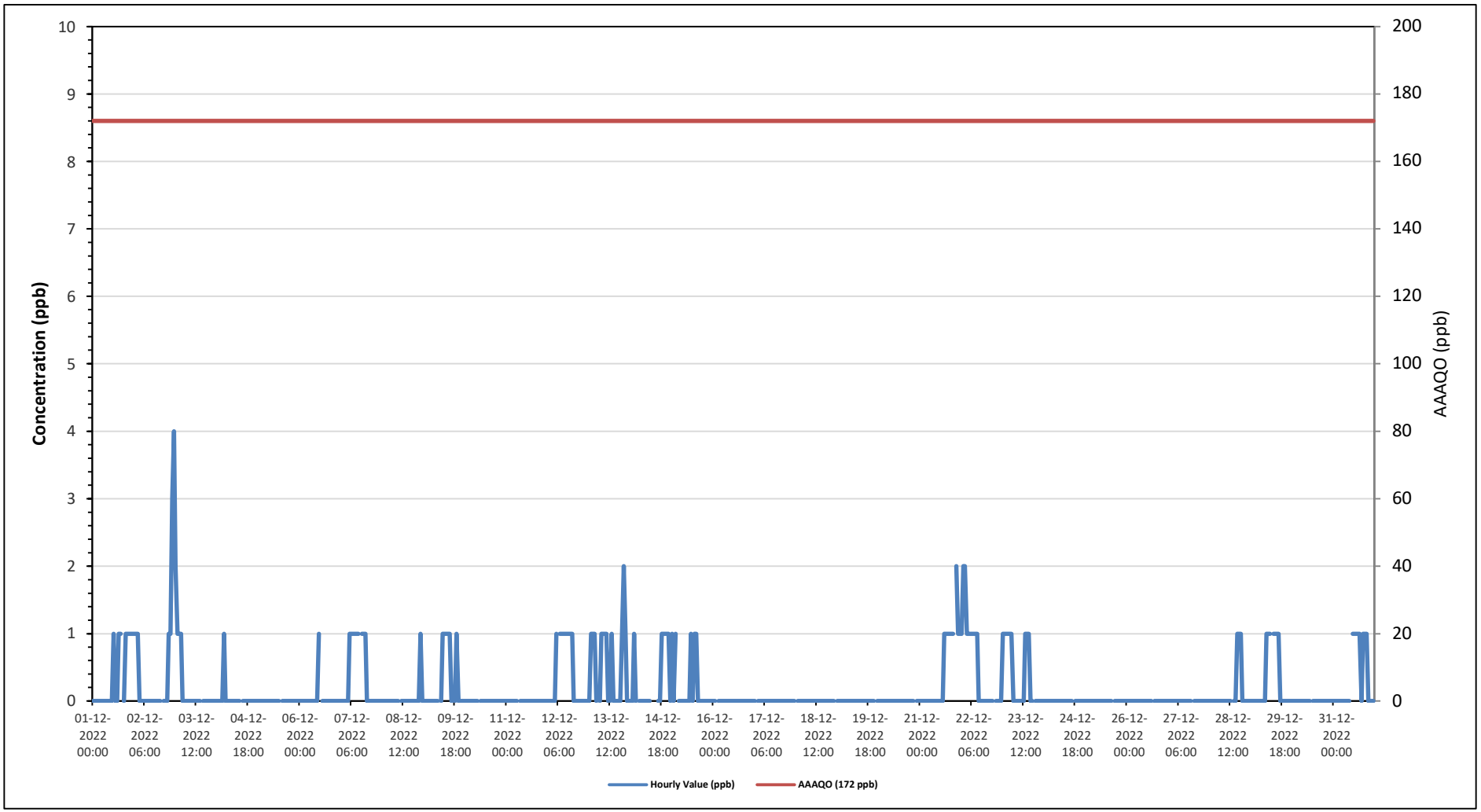
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 4 | ppb | on December 2 at hour 23 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.5 | ppb | on December 2 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 | ppb | on December 5 | Hours of Calibration: | 36 |
| Monthly Average: | 0.2 | ppb | | Operational Uptime: | 100.0 |

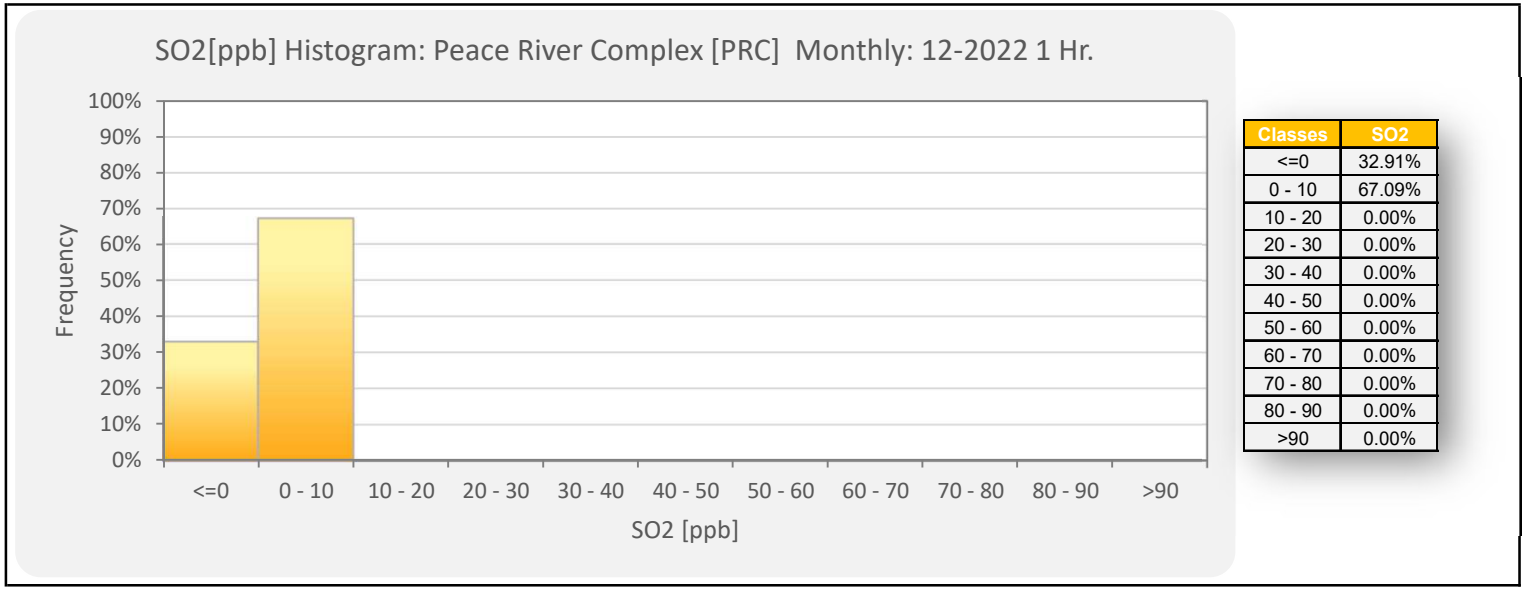
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



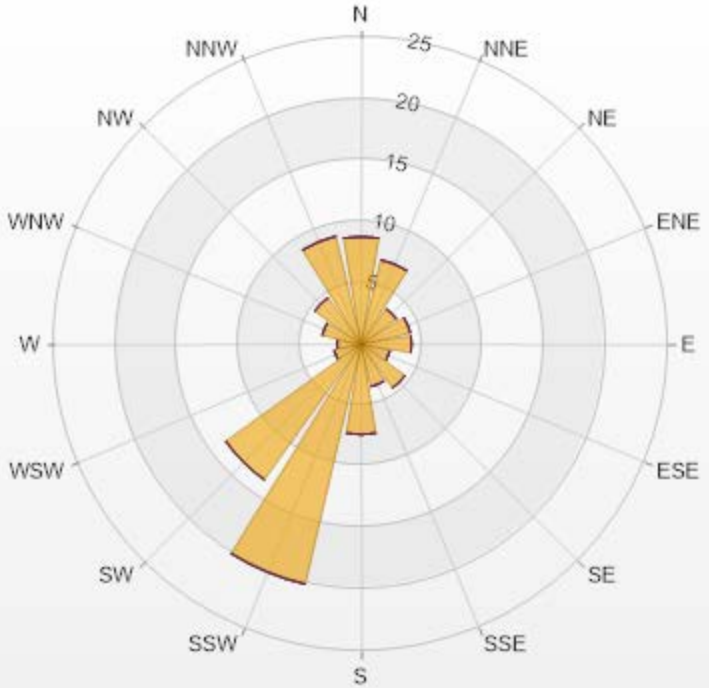



| Classes | SO2 |
|---|---|
| <=0 | 32.91% |
| 0 - 10 | 67.09% |
| 10 - 20 | 0.00% |
| 20 - 30 | 0.00% |
| 30 - 40 | 0.00% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-SO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|---|---|---|---|---|---|---|
| N | 8.76 | 0 | 0 | 0 | 0 | 8.76 |
| NNE | 7.06 | 0 | 0 | 0 | 0 | 7.06 |
| NE | 3.53 | 0 | 0 | 0 | 0 | 3.53 |
| ENE | 4.1 | 0 | 0 | 0 | 0 | 4.1 |
| E | 4.1 | 0 | 0 | 0 | 0 | 4.1 |
| ESE | 2.4 | 0 | 0 | 0 | 0 | 2.4 |
| SE | 4.38 | 0 | 0 | 0 | 0 | 4.38 |
| SSE | 3.53 | 0 | 0 | 0 | 0 | 3.53 |
| S | 7.34 | 0 | 0 | 0 | 0 | 7.34 |
| SSW | 20.06 | 0 | 0 | 0 | 0 | 20.06 |
| SW | 13.56 | 0 | 0 | 0 | 0 | 13.56 |
| WSW | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| W | 1.98 | 0 | 0 | 0 | 0 | 1.98 |
| WNW | 3.25 | 0 | 0 | 0 | 0 | 3.25 |
| NW | 4.66 | 0 | 0 | 0 | 0 | 4.66 |
| NNW | 9.04 | 0 | 0 | 0 | 0 | 9.04 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-SO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%






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

# PEACE RIVER AREA MONITORING PROGRAM

## *Peace River Complex (PRC) Station - December 2022*

### Summary of Hourly Averages

### HYDROGEN SULPHIDE ($H_2S$) in ppb

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

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

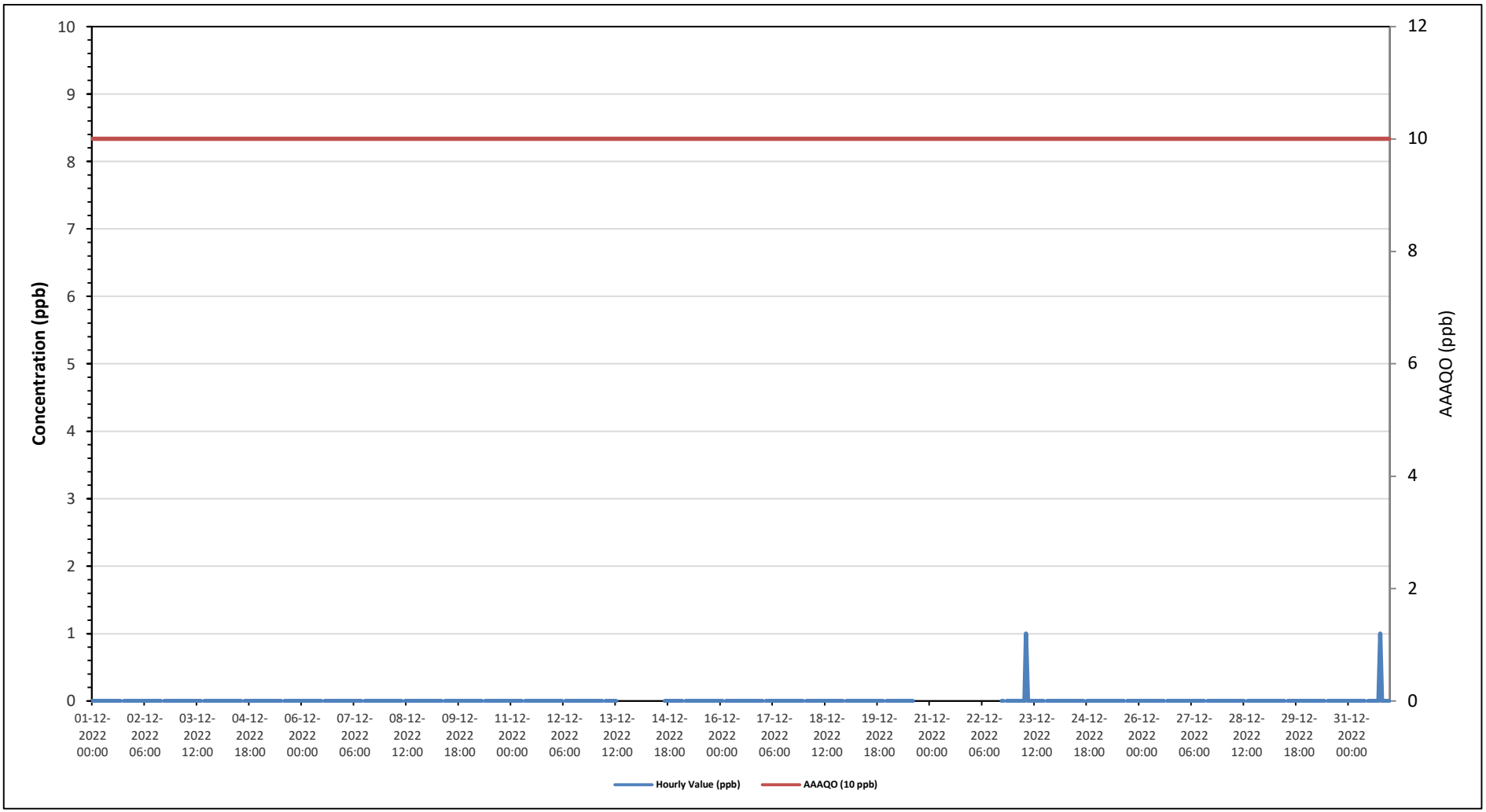
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on December 23 at hour 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.0 | ppb | on December 23 | Hours of Data: | 638 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 74 |
| Minimum Daily Value: | 0.0 | ppb | on December 1 | Hours of Calibration: | 32 |
| Monthly Average: | 0.0 | ppb | | Operational Uptime: | 90.1 |

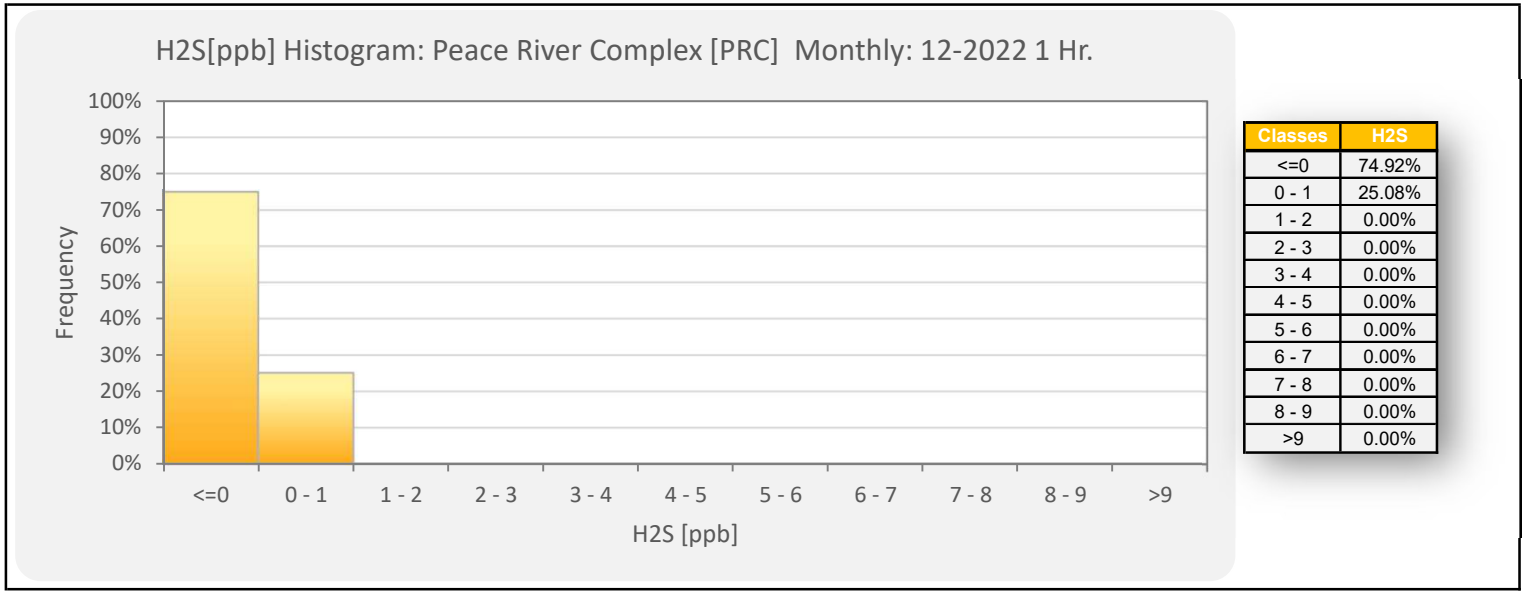
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11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

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 H2S - Peace River Complex (PRC) Station*



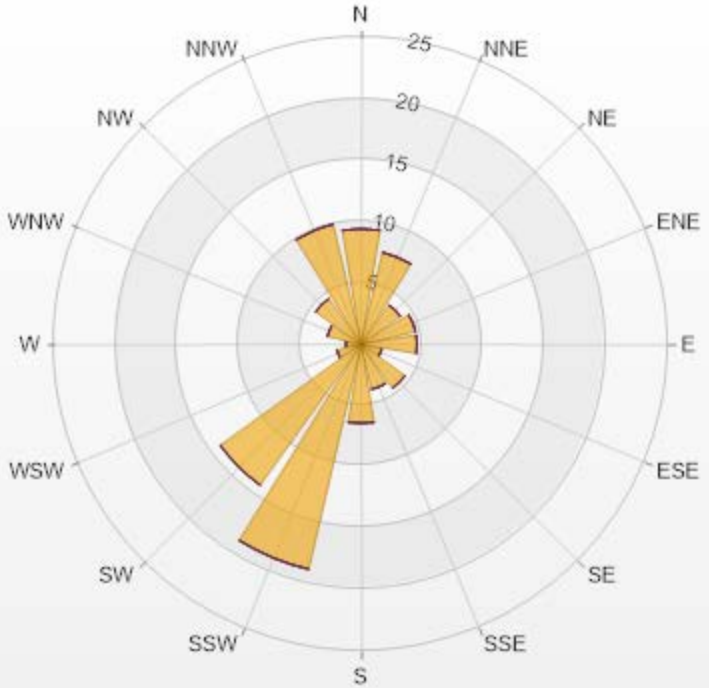



| Classes | H2S |
|---|---|
| <=0 | 74.92% |
| 0 - 1 | 25.08% |
| 1 - 2 | 0.00% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-H2S[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.75% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 9.4 | 0 | 0 | 0 | 0 | 9.4 |
| NNE | 7.68 | 0 | 0 | 0 | 0 | 7.68 |
| NE | 3.92 | 0 | 0 | 0 | 0 | 3.92 |
| ENE | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| E | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| ESE | 1.72 | 0 | 0 | 0 | 0 | 1.72 |
| SE | 4.39 | 0 | 0 | 0 | 0 | 4.39 |
| SSE | 3.76 | 0 | 0 | 0 | 0 | 3.76 |
| S | 6.43 | 0 | 0 | 0 | 0 | 6.43 |
| SSW | 18.81 | 0 | 0 | 0 | 0 | 18.81 |
| SW | 14.11 | 0 | 0 | 0 | 0 | 14.11 |
| WSW | 2.04 | 0 | 0 | 0 | 0 | 2.04 |
| W | 1.25 | 0 | 0 | 0 | 0 | 1.25 |
| WNW | 2.82 | 0 | 0 | 0 | 0 | 2.82 |
| NW | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| NNW | 10.03 | 0 | 0 | 0 | 0 | 10.03 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-H2S[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%






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

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Peace River Complex (PRC) Station - December 2022*

### Summary of Hourly Averages

### TOTAL REDUCED SULPHUR (TRS) in ppb

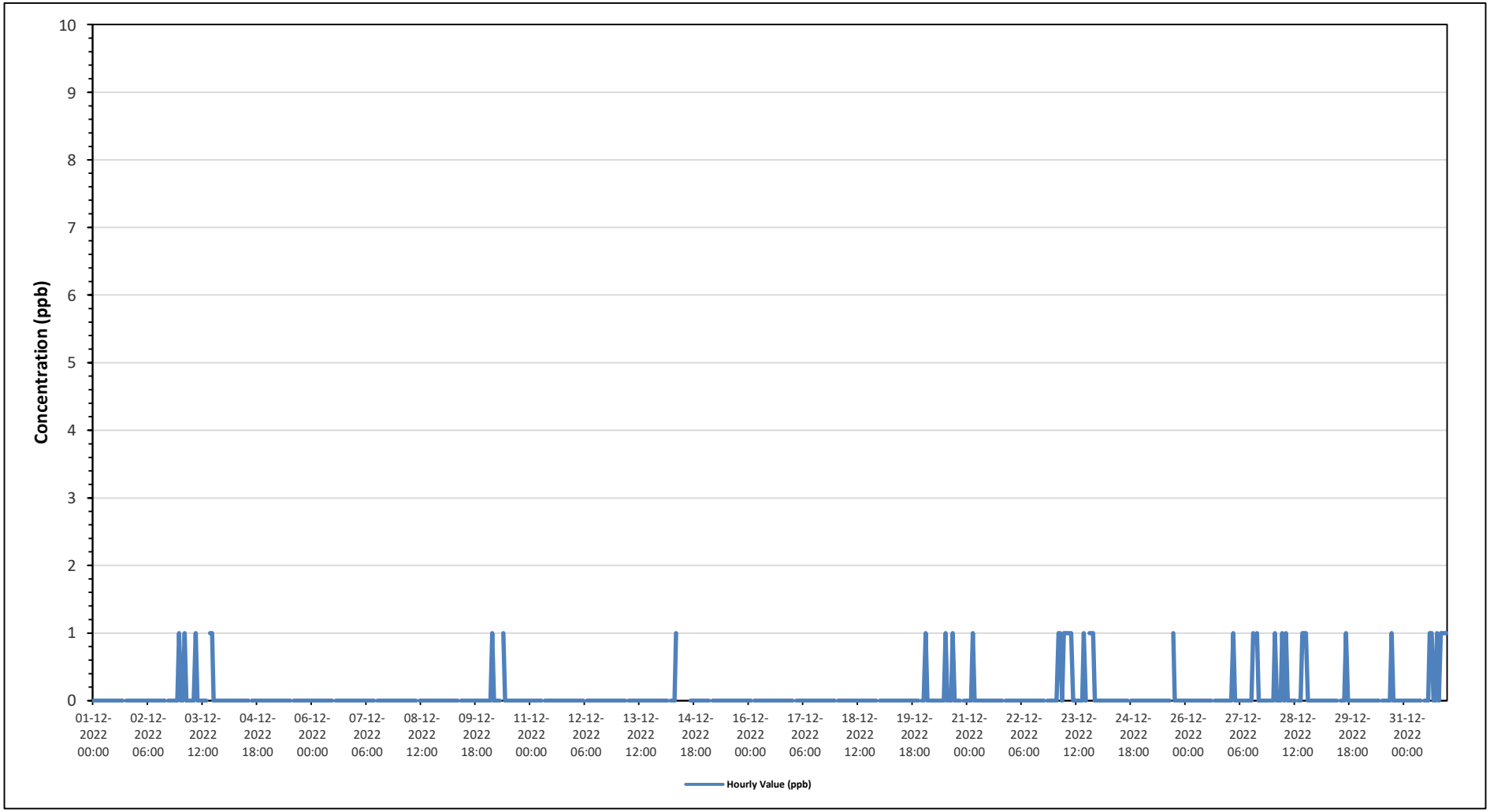
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1 | ppb | on December 2 at hour 23 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.5 | ppb | on December 23 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 0.0 | ppb | on December 1 | Hours of Calibration: | 38 |
| Monthly Average: | 0.1 | ppb | | Operational Uptime: | 99.9 |

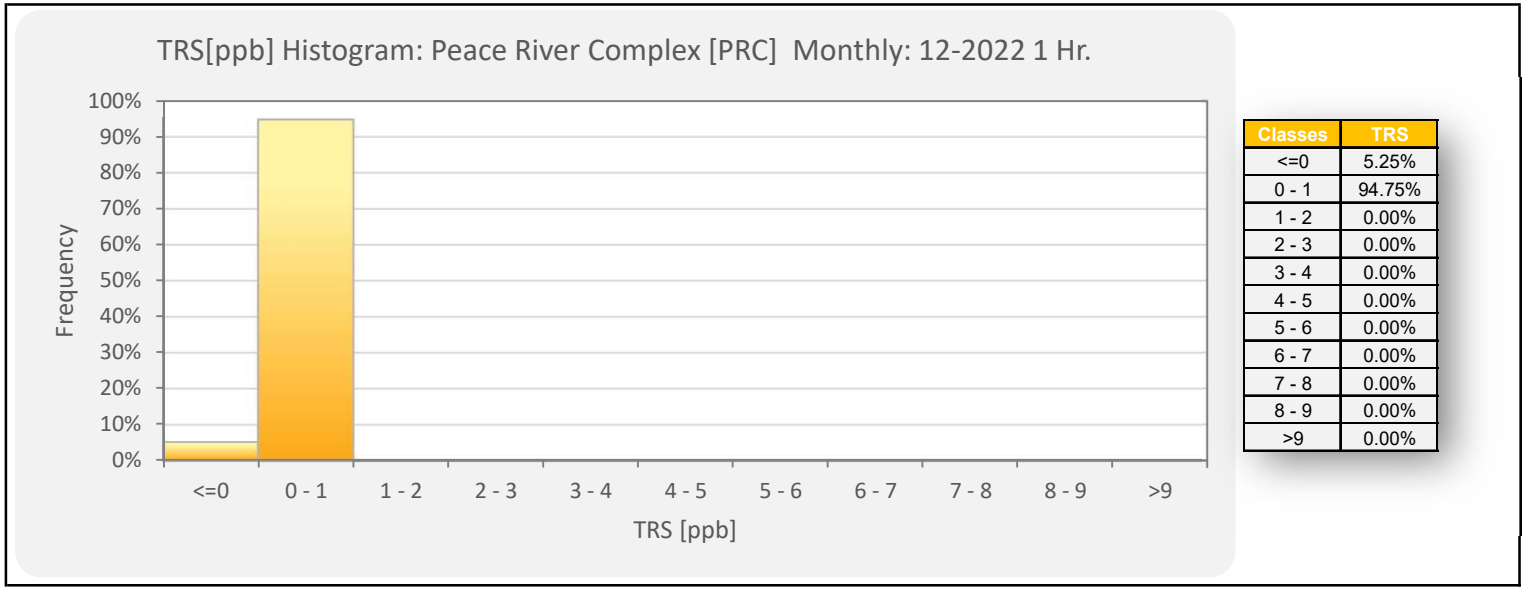
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 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 |
| Dec 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.0 |
| Dec 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 |
| Dec 4 | 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 |
| Dec 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 6 | 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 |
| Dec 7 | 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 |
| Dec 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 10 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 12 | 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 |
| Dec 13 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 14 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | C | C | C | NRM | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | - |
| Dec 15 | 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 |
| Dec 16 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 17 | 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 |
| Dec 18 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 |
| Dec 19 | 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 |
| Dec 20 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | 0.1 |
| Dec 21 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 22 | 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 |
| Dec 23 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | S | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0.5 |
| Dec 24 | 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 |
| Dec 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 26 | 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 |
| Dec 27 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 28 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 |
| Dec 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0.3 |
| Diurnal Maximum | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Diurnal Average | 0.00 | 0.07 | 0.10 | 0.10 | 0.00 | 0.07 | 0.03 | 0.07 | 0.10 | 0.07 | 0.00 | 0.00 | 0.04 | 0.04 | 0.04 | 0.07 | 0.17 | 0.14 | 0.07 | 0.03 | 0.07 | 0.07 | 0.03 | 0.07 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



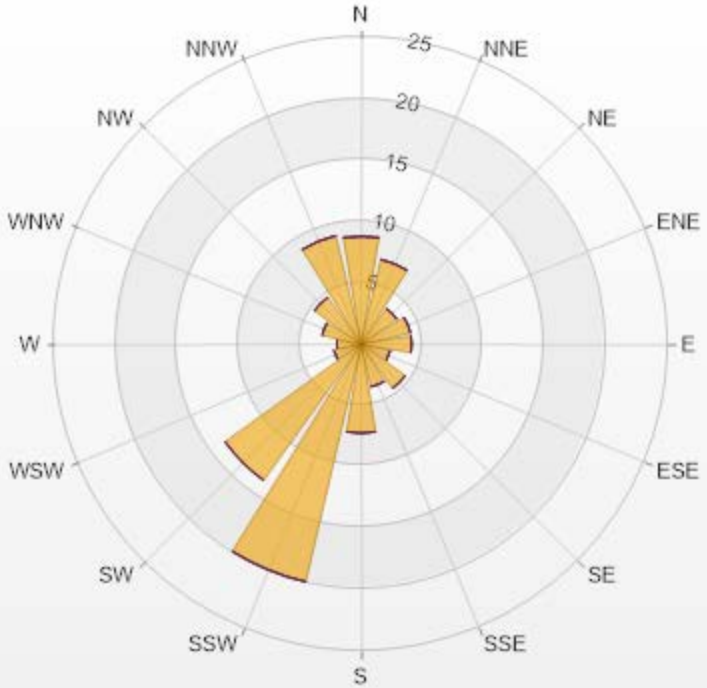



| Classes | TRS |
|---|---|
| <=0 | 5.25% |
| 0 - 1 | 94.75% |
| 1 - 2 | 0.00% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-TRS[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 8.79 | 0 | 0 | 0 | 0 | 8.79 |
| NNE | 7.09 | 0 | 0 | 0 | 0 | 7.09 |
| NE | 3.55 | 0 | 0 | 0 | 0 | 3.55 |
| ENE | 4.11 | 0 | 0 | 0 | 0 | 4.11 |
| E | 4.11 | 0 | 0 | 0 | 0 | 4.11 |
| ESE | 2.41 | 0 | 0 | 0 | 0 | 2.41 |
| SE | 4.4 | 0 | 0 | 0 | 0 | 4.4 |
| SSE | 3.55 | 0 | 0 | 0 | 0 | 3.55 |
| S | 7.23 | 0 | 0 | 0 | 0 | 7.23 |
| SSW | 19.86 | 0 | 0 | 0 | 0 | 19.86 |
| SW | 13.62 | 0 | 0 | 0 | 0 | 13.62 |
| WSW | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| W | 1.99 | 0 | 0 | 0 | 0 | 1.99 |
| WNW | 3.26 | 0 | 0 | 0 | 0 | 3.26 |
| NW | 4.68 | 0 | 0 | 0 | 0 | 4.68 |
| NNW | 9.08 | 0 | 0 | 0 | 0 | 9.08 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-TRS[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%






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

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### TOTAL HYDROCARBONS (THC) in ppm

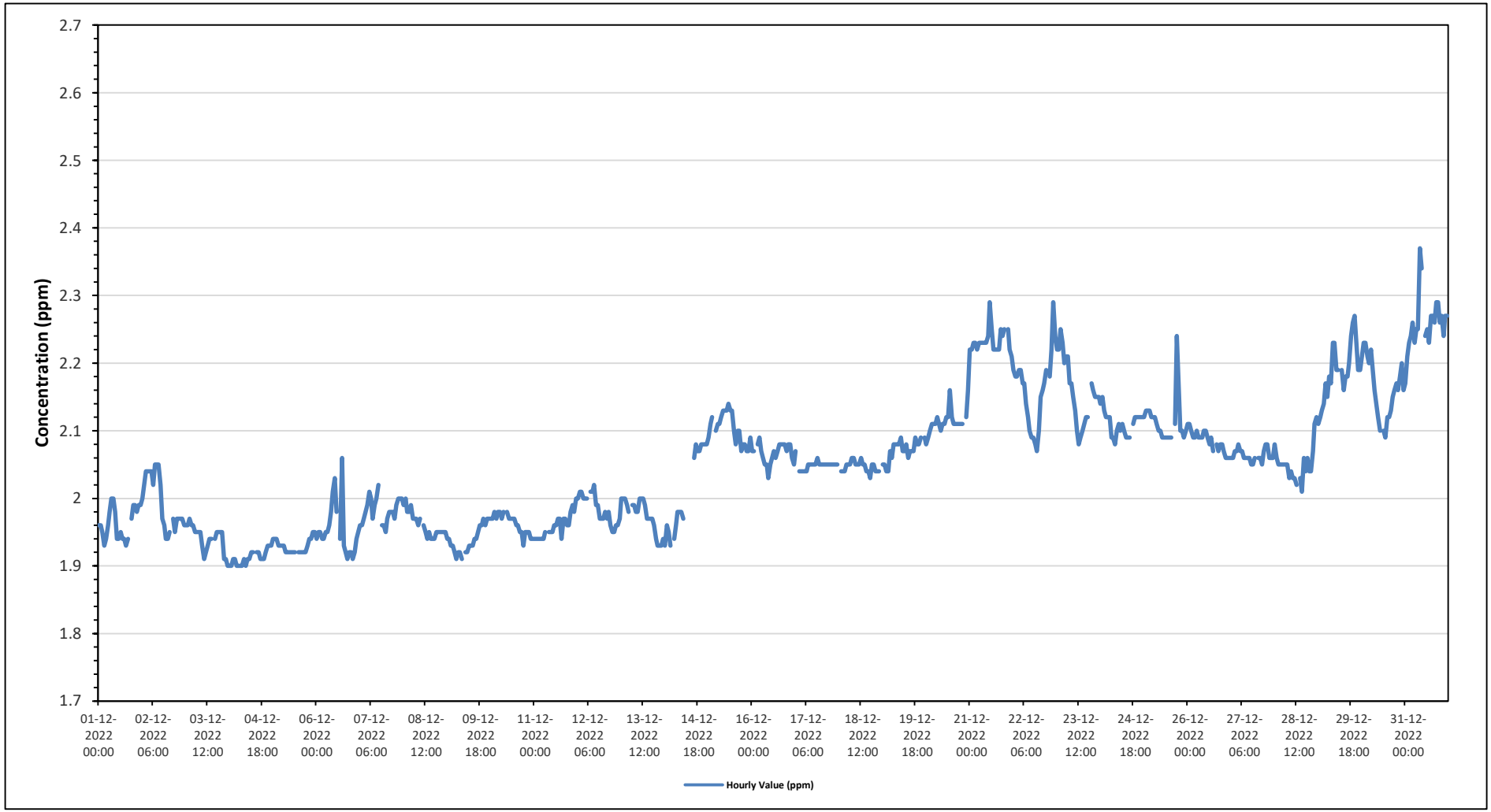
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.37 | ppm | on December 31 at hour 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.26 | ppm | on December 31 | Hours of Data: | 707 |
| Minimum Hourly Value: | 1.90 | ppm | on December 3 at hour 23 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.91 | ppm | on December 4 | Hours of Calibration: | 36 |
| Monthly Average: | 2.05 | ppm | | Operational Uptime: | 99.9 |

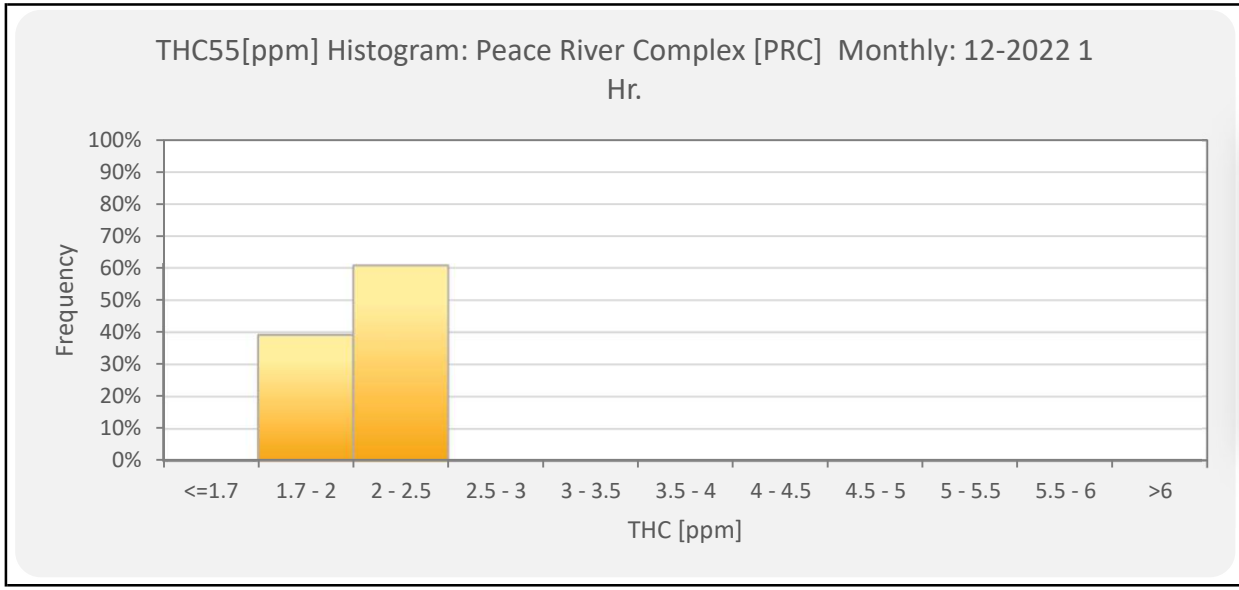
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.96 | 1.96 | 1.95 | 1.93 | 1.94 | 1.96 | 1.98 | 2.00 | 2.00 | 1.98 | 1.94 | 1.94 | 1.95 | 1.94 | 1.94 | 1.93 | 1.94 | S | 1.97 | 1.99 | 1.99 | 1.98 | 1.99 | 1.99 | 1.93 | 2.00 | 1.96 |
| Dec 2 | 2.00 | 2.02 | 2.04 | 2.04 | 2.04 | 2.04 | 2.02 | 2.05 | 2.05 | 2.05 | 2.02 | 1.97 | 1.96 | 1.94 | 1.94 | 1.95 | S | 1.97 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.94 | 2.05 | 2.00 |
| Dec 3 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.93 | 1.91 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.91 | 1.91 | 1.90 | **1.90** | 1.97 | 1.94 |
| Dec 4 | 1.90 | 1.90 | 1.91 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | 1.93 | 1.93 | **1.90** | 1.93 | 1.91 |
| Dec 5 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | 1.95 | 1.95 | 1.92 | 1.95 | 1.93 |
| Dec 6 | 1.94 | 1.95 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.98 | 2.01 | 2.03 | 1.98 | S | 1.94 | 2.06 | 1.93 | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | 1.92 | 1.94 | 1.95 | 1.91 | 2.06 | 1.95 |
| Dec 7 | 1.96 | 1.96 | 1.97 | 1.98 | 1.99 | 2.01 | 2.00 | 1.97 | 1.99 | 2.00 | 2.02 | S | 1.96 | 1.96 | 1.95 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.00 | 2.00 | 2.00 | 1.95 | 2.02 | 1.98 |
| Dec 8 | 1.99 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.96 | 1.95 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 2.00 | 1.96 |
| Dec 9 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | S | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.97 | 1.91 | 1.97 | 1.94 |
| Dec 10 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | S | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.93 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.98 | 1.96 |
| Dec 11 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.94 | 1.97 | 1.97 | 1.96 | 1.96 | 1.98 | 1.99 | 1.98 | 2.00 | 1.94 | 2.00 | 1.96 |
| Dec 12 | 2.00 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | S | 2.01 | 2.01 | 2.02 | 1.99 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.95 | 2.02 | 1.98 |
| Dec 13 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | S | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.00 | 2.00 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 2.00 | 1.97 |
| Dec 14 | 1.93 | 1.96 | 1.95 | 1.93 | S | 1.94 | 1.96 | 1.98 | 1.98 | 1.98 | 1.97 | Y | C | C | C | C | 2.06 | 2.08 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 1.93 | 2.08 | 2.01 |
| Dec 15 | 2.09 | 2.11 | 2.12 | S | 2.10 | 2.11 | 2.11 | 2.12 | 2.13 | 2.13 | 2.13 | 2.14 | 2.13 | 2.13 | 2.10 | 2.08 | 2.10 | 2.10 | 2.07 | 2.08 | 2.08 | 2.07 | 2.07 | 2.09 | 2.07 | 2.14 | 2.10 |
| Dec 16 | 2.07 | 2.07 | S | 2.08 | 2.09 | 2.07 | 2.06 | 2.05 | 2.05 | 2.03 | 2.05 | 2.06 | 2.07 | 2.06 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.08 | 2.08 | 2.06 | 2.05 | 2.03 | 2.09 | 2.07 |
| Dec 17 | 2.07 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.07 | 2.05 |
| Dec 18 | S | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | S | 2.03 | 2.06 | 2.05 |
| Dec 19 | 2.05 | 2.05 | 2.04 | 2.04 | 2.07 | 2.06 | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.07 | 2.07 | 2.08 | 2.06 | 2.07 | 2.07 | 2.07 | 2.09 | 2.08 | 2.08 | 2.09 | S | 2.09 | 2.04 | 2.09 | 2.07 |
| Dec 20 | 2.08 | 2.09 | 2.10 | 2.11 | 2.11 | 2.11 | 2.12 | 2.11 | 2.10 | 2.11 | 2.11 | 2.12 | 2.12 | 2.16 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | S | 2.12 | 2.16 | 2.08 | 2.16 | 2.11 |
| Dec 21 | 2.22 | 2.22 | 2.23 | 2.23 | 2.22 | 2.23 | 2.23 | 2.23 | 2.23 | 2.23 | 2.24 | 2.29 | 2.25 | 2.22 | 2.22 | 2.22 | 2.22 | 2.25 | 2.24 | 2.25 | S | 2.25 | 2.22 | 2.21 | 2.21 | 2.29 | 2.23 |
| Dec 22 | 2.19 | 2.18 | 2.18 | 2.19 | 2.19 | 2.17 | 2.17 | 2.14 | 2.12 | 2.10 | 2.09 | 2.09 | 2.08 | 2.07 | 2.10 | 2.15 | 2.16 | 2.17 | 2.19 | S | 2.18 | 2.22 | 2.29 | 2.24 | 2.07 | 2.29 | 2.16 |
| Dec 23 | 2.22 | 2.22 | 2.25 | 2.23 | 2.20 | 2.21 | 2.21 | 2.17 | 2.17 | 2.15 | 2.13 | 2.10 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.12 | S | 2.17 | 2.16 | 2.15 | 2.15 | 2.15 | 2.08 | 2.25 | 2.16 |
| Dec 24 | 2.14 | 2.15 | 2.13 | 2.12 | 2.12 | 2.12 | 2.09 | 2.09 | 2.08 | 2.10 | 2.11 | 2.10 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.12 | 2.12 | 2.12 | 2.12 | 2.12 | 2.08 | 2.15 | 2.11 |
| Dec 25 | 2.12 | 2.13 | 2.13 | 2.13 | 2.12 | 2.12 | 2.12 | 2.11 | 2.10 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.24 | 2.17 | 2.10 | 2.10 | 2.09 | 2.10 | 2.09 | 2.24 | 2.11 |
| Dec 26 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.09 | 2.08 | 2.09 | 2.07 | S | 2.08 | 2.07 | 2.08 | 2.08 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.11 | 2.09 |
| Dec 27 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.05 | 2.05 | 2.06 | S | 2.06 | 2.06 | 2.05 | 2.07 | 2.08 | 2.08 | 2.06 | 2.06 | 2.06 | 2.05 | 2.08 | 2.06 |
| Dec 28 | 2.08 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.03 | 2.04 | 2.03 | 2.03 | 2.02 | S | 2.03 | 2.01 | 2.06 | 2.04 | 2.06 | 2.04 | 2.04 | 2.07 | 2.11 | 2.12 | 2.01 | 2.12 | 2.05 |
| Dec 29 | 2.11 | 2.12 | 2.13 | 2.14 | 2.17 | 2.15 | 2.18 | 2.17 | 2.23 | 2.23 | 2.19 | 2.19 | S | 2.19 | 2.16 | 2.18 | 2.18 | 2.20 | 2.24 | 2.26 | 2.27 | 2.23 | 2.19 | 2.19 | 2.11 | 2.27 | 2.19 |
| Dec 30 | 2.21 | 2.23 | 2.23 | 2.21 | 2.20 | 2.22 | 2.19 | 2.16 | 2.14 | 2.12 | 2.10 | S | 2.10 | 2.09 | 2.12 | 2.12 | 2.13 | 2.15 | 2.16 | 2.17 | 2.16 | 2.18 | 2.20 | 2.16 | 2.09 | 2.23 | 2.16 |
| Dec 31 | 2.17 | 2.21 | 2.23 | 2.24 | 2.26 | 2.23 | 2.25 | 2.25 | **2.37** | 2.34 | S | 2.24 | 2.25 | 2.23 | 2.27 | 2.27 | 2.26 | 2.29 | 2.29 | 2.26 | 2.27 | 2.24 | 2.27 | 2.27 | 2.17 | **2.37** | **2.26** |
| Diurnal Maximum | 2.22 | 2.23 | 2.25 | 2.24 | 2.26 | 2.23 | 2.25 | 2.25 | 2.37 | 2.34 | 2.24 | 2.29 | 2.25 | 2.23 | 2.27 | 2.27 | 2.26 | 2.29 | 2.29 | 2.26 | 2.27 | 2.25 | 2.29 | 2.27 | | | |
| Diurnal Average | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



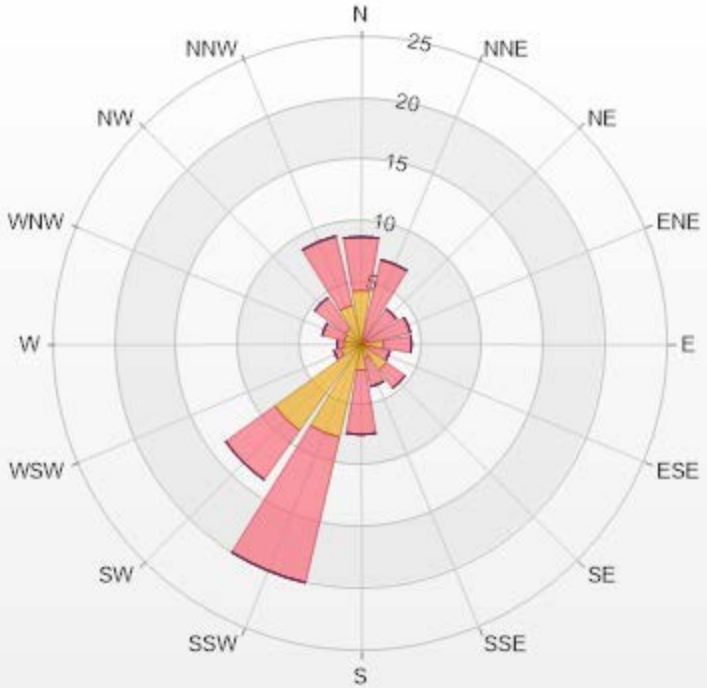



| Classes | THC55 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 39.18% |
| 2 - 2.5 | 60.82% |
| 2.5 - 3 | 0.00% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-THC55[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|---|---|---|---|---|---|---|
| N | 4.38 | 4.38 | 0 | 0 | 0 | 8.76 |
| NNE | 0.42 | 6.65 | 0 | 0 | 0 | 7.07 |
| NE | 0.14 | 3.39 | 0 | 0 | 0 | 3.53 |
| ENE | 0.57 | 3.54 | 0 | 0 | 0 | 4.11 |
| E | 1.84 | 2.26 | 0 | 0 | 0 | 4.1 |
| ESE | 0.28 | 2.12 | 0 | 0 | 0 | 2.4 |
| SE | 2.55 | 1.84 | 0 | 0 | 0 | 4.39 |
| SSE | 1.13 | 2.4 | 0 | 0 | 0 | 3.53 |
| S | 2.12 | 5.23 | 0 | 0 | 0 | 7.35 |
| SSW | 7.78 | 12.16 | 0 | 0 | 0 | 19.94 |
| SW | 8.63 | 4.95 | 0 | 0 | 0 | 13.58 |
| WSW | 1.7 | 0.57 | 0 | 0 | 0 | 2.27 |
| W | 1.41 | 0.57 | 0 | 0 | 0 | 1.98 |
| WNW | 1.41 | 1.84 | 0 | 0 | 0 | 3.25 |
| NW | 1.56 | 3.11 | 0 | 0 | 0 | 4.67 |
| NNW | 3.25 | 5.8 | 0 | 0 | 0 | 9.05 |
| Summary | 39.17 | 60.81 | 0 | 0 | 0 | 100 |

Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-THC55[ppm] 01-12-2022 00:00 - 31-12-2022 23:00
Calm: 0.00%




| % Icon | Classes (ppm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 0-2 | 61 | 2-5 | 0 | 5-10 | 0 | 10-40 | 0 | >40.0 |

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### METHANE (CH4) in ppm

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.34 | ppm | on December 31 at hour 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.25 | ppm | on December 31 | Hours of Data: | 707 |
| Minimum Hourly Value: | 1.90 | ppm | on December 3 at hour 23 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 1.91 | ppm | on December 4 | Hours of Calibration: | 36 |
| Monthly Average: | 2.05 | ppm | | Operational Uptime: | 99.9 |

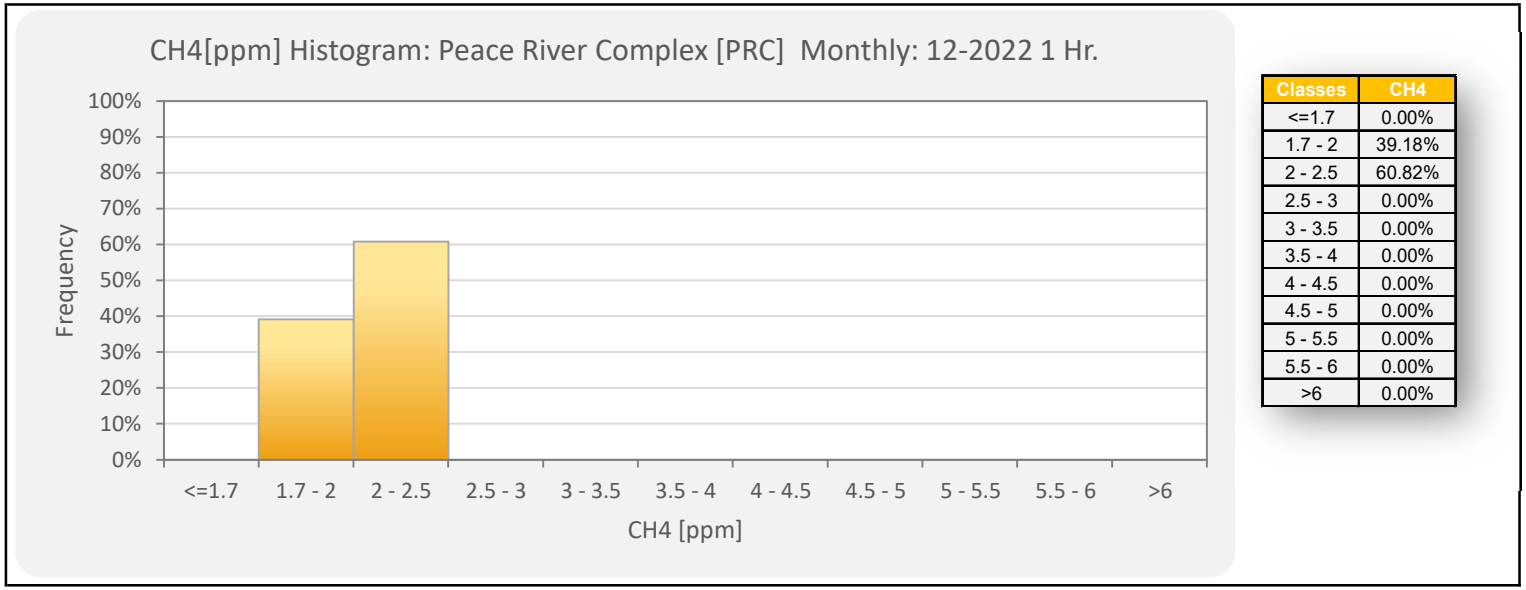
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 1.96 | 1.96 | 1.95 | 1.93 | 1.94 | 1.96 | 1.98 | 2.00 | 2.00 | 1.98 | 1.94 | 1.94 | 1.95 | 1.94 | 1.94 | 1.93 | 1.94 | S | 1.97 | 1.99 | 1.99 | 1.98 | 1.99 | 1.99 | 1.93 | 2.00 | 1.96 |
| Dec 2 | 2.00 | 2.02 | 2.04 | 2.04 | 2.04 | 2.04 | 2.02 | 2.05 | 2.05 | 2.05 | 2.02 | 1.97 | 1.96 | 1.94 | 1.94 | 1.95 | S | 1.97 | 1.95 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.94 | 2.05 | 2.00 |
| Dec 3 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.93 | 1.91 | 1.92 | 1.93 | 1.94 | 1.94 | S | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.91 | 1.91 | 1.90 | **1.90** | 1.97 | 1.94 |
| Dec 4 | 1.90 | 1.90 | 1.91 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.91 | 1.91 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | 1.93 | 1.93 | **1.90** | 1.93 | 1.91 |
| Dec 5 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.94 | 1.95 | 1.95 | 1.92 | 1.95 | 1.93 |
| Dec 6 | 1.94 | 1.95 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.98 | 2.01 | 2.03 | 1.98 | S | 1.94 | 2.06 | 1.93 | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | 1.92 | 1.94 | 1.95 | 1.91 | 2.06 | 1.95 |
| Dec 7 | 1.96 | 1.96 | 1.97 | 1.98 | 1.99 | 2.01 | 2.00 | 1.97 | 1.99 | 2.00 | 2.02 | S | 1.96 | 1.96 | 1.95 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.99 | 2.00 | 2.00 | 2.00 | 1.95 | 2.02 | 1.98 |
| Dec 8 | 1.99 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.96 | 1.95 | 1.94 | 1.95 | 1.94 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 2.00 | 1.96 |
| Dec 9 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.91 | 1.92 | 1.92 | 1.91 | S | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.97 | 1.91 | 1.97 | 1.94 |
| Dec 10 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.97 | 1.98 | S | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.95 | 1.95 | 1.93 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.98 | 1.96 |
| Dec 11 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | S | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.97 | 1.94 | 1.97 | 1.97 | 1.96 | 1.96 | 1.98 | 1.99 | 1.98 | 2.00 | 1.94 | 2.00 | 1.96 |
| Dec 12 | 2.00 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | S | 2.01 | 2.01 | 2.02 | 1.99 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | 1.95 | 2.02 | 1.98 |
| Dec 13 | 2.00 | 2.00 | 2.00 | 1.99 | 1.98 | S | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.00 | 2.00 | 1.99 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.94 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 2.00 | 1.97 |
| Dec 14 | 1.93 | 1.96 | 1.95 | 1.93 | S | 1.94 | 1.96 | 1.98 | 1.98 | 1.98 | 1.97 | Y | C | C | C | C | 2.06 | 2.08 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 1.93 | 2.08 | 2.01 |
| Dec 15 | 2.09 | 2.11 | 2.12 | S | 2.10 | 2.11 | 2.11 | 2.12 | 2.13 | 2.13 | 2.13 | 2.14 | 2.13 | 2.13 | 2.10 | 2.08 | 2.10 | 2.10 | 2.07 | 2.08 | 2.08 | 2.07 | 2.07 | 2.09 | 2.07 | 2.14 | 2.10 |
| Dec 16 | 2.07 | 2.07 | S | 2.08 | 2.09 | 2.07 | 2.06 | 2.05 | 2.05 | 2.03 | 2.05 | 2.06 | 2.07 | 2.06 | 2.07 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.08 | 2.08 | 2.06 | 2.05 | 2.03 | 2.09 | 2.07 |
| Dec 17 | 2.07 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.04 | 2.07 | 2.05 |
| Dec 18 | S | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | S | 2.03 | 2.06 | 2.05 |
| Dec 19 | 2.05 | 2.05 | 2.04 | 2.04 | 2.07 | 2.06 | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.07 | 2.07 | 2.08 | 2.06 | 2.07 | 2.07 | 2.07 | 2.09 | 2.08 | 2.08 | 2.09 | S | 2.09 | 2.04 | 2.09 | 2.07 |
| Dec 20 | 2.08 | 2.09 | 2.10 | 2.11 | 2.11 | 2.11 | 2.12 | 2.11 | 2.10 | 2.11 | 2.11 | 2.12 | 2.12 | 2.16 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | S | 2.12 | 2.16 | 2.08 | 2.16 | 2.11 |
| Dec 21 | 2.22 | 2.22 | 2.23 | 2.23 | 2.22 | 2.23 | 2.23 | 2.23 | 2.23 | 2.23 | 2.24 | 2.29 | 2.25 | 2.22 | 2.22 | 2.22 | 2.22 | 2.25 | 2.24 | 2.25 | S | 2.25 | 2.22 | 2.21 | 2.21 | 2.29 | 2.23 |
| Dec 22 | 2.19 | 2.18 | 2.18 | 2.19 | 2.19 | 2.17 | 2.17 | 2.14 | 2.12 | 2.10 | 2.09 | 2.09 | 2.08 | 2.07 | 2.10 | 2.15 | 2.16 | 2.17 | 2.19 | S | 2.18 | 2.22 | 2.29 | 2.24 | 2.07 | 2.29 | 2.16 |
| Dec 23 | 2.22 | 2.21 | 2.24 | 2.23 | 2.20 | 2.21 | 2.21 | 2.17 | 2.17 | 2.15 | 2.13 | 2.10 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.12 | S | 2.17 | 2.16 | 2.15 | 2.15 | 2.15 | 2.08 | 2.24 | 2.16 |
| Dec 24 | 2.14 | 2.15 | 2.13 | 2.12 | 2.12 | 2.12 | 2.09 | 2.09 | 2.08 | 2.10 | 2.11 | 2.10 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.12 | 2.12 | 2.12 | 2.12 | 2.12 | 2.08 | 2.15 | 2.11 |
| Dec 25 | 2.12 | 2.13 | 2.13 | 2.13 | 2.12 | 2.12 | 2.12 | 2.11 | 2.10 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | 2.09 | S | 2.11 | 2.24 | 2.17 | 2.10 | 2.10 | 2.09 | 2.10 | 2.09 | 2.24 | 2.11 |
| Dec 26 | 2.11 | 2.11 | 2.10 | 2.09 | 2.09 | 2.10 | 2.09 | 2.09 | 2.09 | 2.10 | 2.10 | 2.09 | 2.08 | 2.09 | 2.07 | S | 2.08 | 2.07 | 2.08 | 2.08 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.11 | 2.09 |
| Dec 27 | 2.06 | 2.06 | 2.07 | 2.07 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | 2.06 | 2.05 | 2.05 | 2.06 | S | 2.06 | 2.06 | 2.05 | 2.07 | 2.08 | 2.08 | 2.06 | 2.06 | 2.06 | 2.05 | 2.08 | 2.06 |
| Dec 28 | 2.08 | 2.06 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.03 | 2.04 | 2.03 | 2.03 | 2.02 | S | 2.03 | 2.01 | 2.06 | 2.04 | 2.06 | 2.04 | 2.04 | 2.07 | 2.11 | 2.12 | 2.01 | 2.12 | 2.05 |
| Dec 29 | 2.11 | 2.12 | 2.13 | 2.14 | 2.17 | 2.15 | 2.18 | 2.17 | 2.23 | 2.23 | 2.19 | 2.19 | S | 2.19 | 2.16 | 2.18 | 2.18 | 2.20 | 2.23 | 2.26 | 2.27 | 2.23 | 2.19 | 2.19 | 2.11 | 2.27 | 2.19 |
| Dec 30 | 2.21 | 2.23 | 2.23 | 2.21 | 2.20 | 2.22 | 2.19 | 2.16 | 2.14 | 2.12 | 2.10 | S | 2.10 | 2.09 | 2.12 | 2.12 | 2.13 | 2.15 | 2.16 | 2.17 | 2.16 | 2.18 | 2.20 | 2.16 | 2.09 | 2.23 | 2.16 |
| Dec 31 | 2.17 | 2.21 | 2.23 | 2.24 | 2.26 | 2.23 | 2.25 | 2.25 | **2.34** | 2.32 | S | 2.23 | 2.22 | 2.22 | 2.24 | 2.25 | 2.25 | 2.27 | 2.27 | 2.25 | 2.26 | 2.24 | 2.27 | 2.27 | 2.17 | **2.34** | **2.25** |
| Diurnal Maximum | 2.22 | 2.23 | 2.24 | 2.24 | 2.26 | 2.23 | 2.25 | 2.25 | 2.34 | 2.32 | 2.24 | 2.29 | 2.25 | 2.22 | 2.24 | 2.25 | 2.25 | 2.27 | 2.27 | 2.26 | 2.27 | 2.25 | 2.29 | 2.27 | | | |
| Diurnal Average | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.06 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.06 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



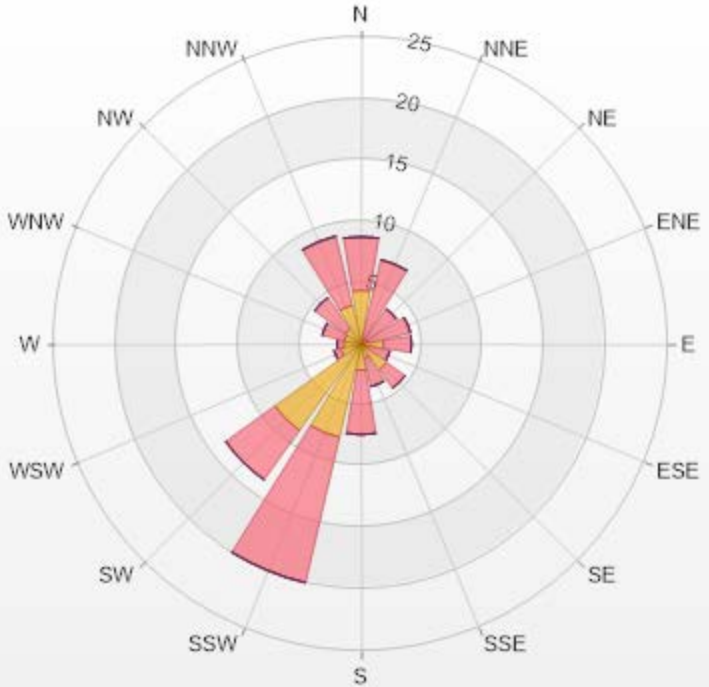



| Classes | CH4 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 39.18% |
| 2 - 2.5 | 60.82% |
| 2.5 - 3 | 0.00% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-CH4[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|---|---|---|---|---|---|---|
| N | 4.38 | 4.38 | 0 | 0 | 0 | 8.76 |
| NNE | 0.42 | 6.65 | 0 | 0 | 0 | 7.07 |
| NE | 0.14 | 3.39 | 0 | 0 | 0 | 3.53 |
| ENE | 0.57 | 3.54 | 0 | 0 | 0 | 4.11 |
| E | 1.84 | 2.26 | 0 | 0 | 0 | 4.1 |
| ESE | 0.28 | 2.12 | 0 | 0 | 0 | 2.4 |
| SE | 2.55 | 1.84 | 0 | 0 | 0 | 4.39 |
| SSE | 1.13 | 2.4 | 0 | 0 | 0 | 3.53 |
| S | 2.12 | 5.23 | 0 | 0 | 0 | 7.35 |
| SSW | 7.78 | 12.16 | 0 | 0 | 0 | 19.94 |
| SW | 8.63 | 4.95 | 0 | 0 | 0 | 13.58 |
| WSW | 1.7 | 0.57 | 0 | 0 | 0 | 2.27 |
| W | 1.41 | 0.57 | 0 | 0 | 0 | 1.98 |
| WNW | 1.41 | 1.84 | 0 | 0 | 0 | 3.25 |
| NW | 1.56 | 3.11 | 0 | 0 | 0 | 4.67 |
| NNW | 3.25 | 5.8 | 0 | 0 | 0 | 9.05 |
| Summary | 39.17 | 60.81 | 0 | 0 | 0 | 100 |

Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-CH4[ppm] 01-12-2022 00:00 - 31-12-2022 23:00
Calm: 0.00%




| % Icon | Classes (ppm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 0-2 | 61 | 2-5 | 0 | 5-10 | 0 | 10-20 | 0 | >20.0 |

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Peace River Complex (PRC) Station - December 2022*

### Summary of Hourly Averages

### NON-METHANE HYDROCARBONS (NMHC) in ppm

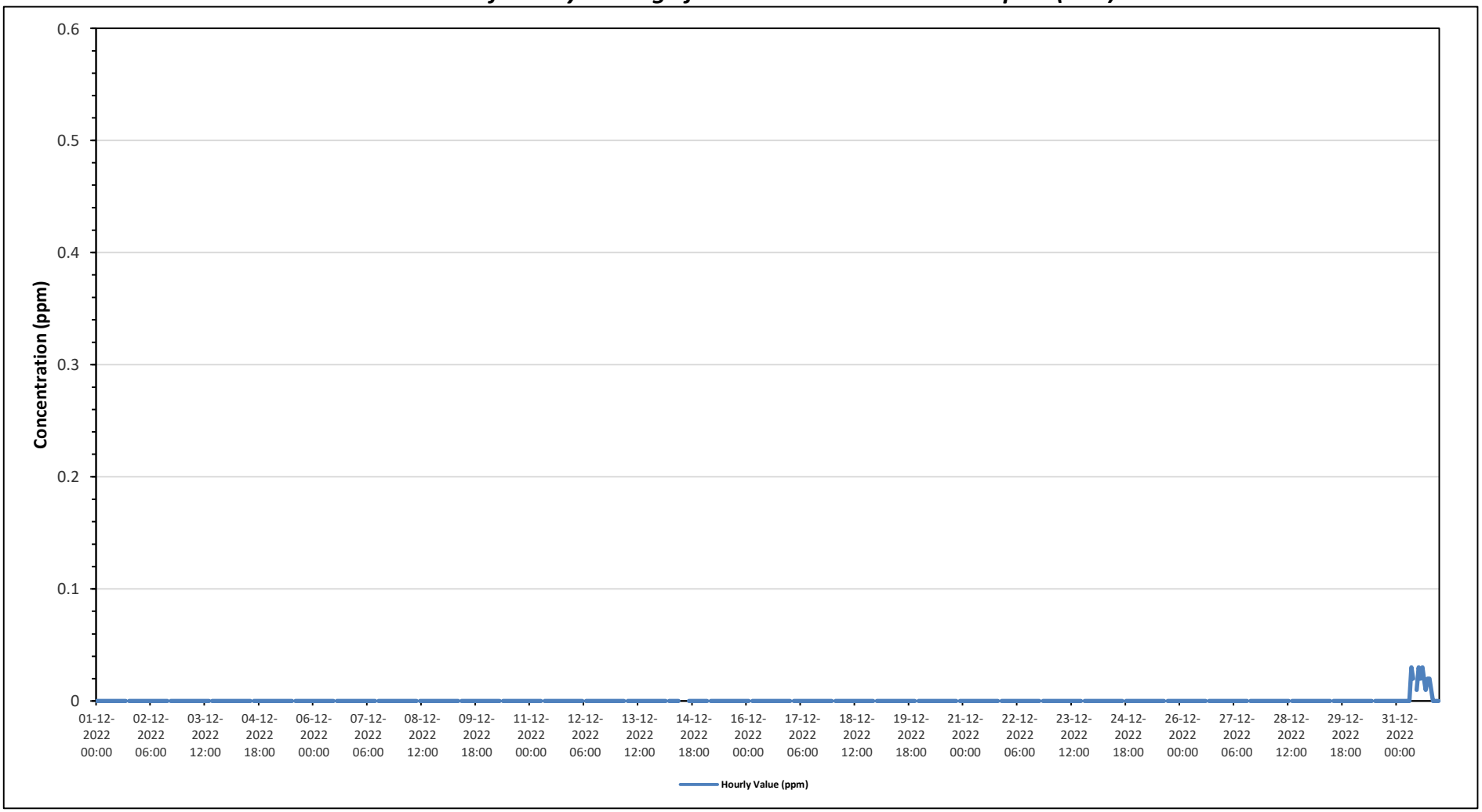
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.03 | ppm | on December 31 at hour 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.01 | ppm | on December 31 | Hours of Data: | 707 |
| Minimum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 0.00 | ppm | on December 1 | Hours of Calibration: | 36 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 99.9 |

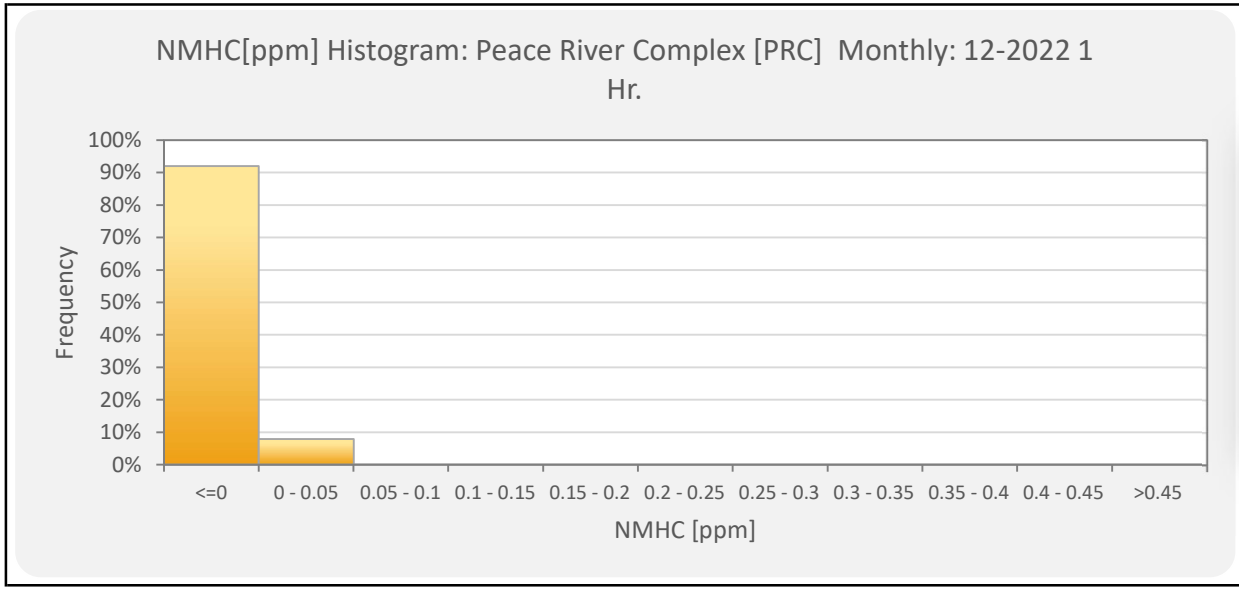
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 7 | 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 |
| Dec 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 14 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Y | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 15 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 16 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 17 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 18 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| Dec 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 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 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 30 | 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 |
| Dec 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.03** | 0.02 | S | 0.01 | **0.03** | 0.02 | **0.03** | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.03** | **0.01** |
| Diurnal Maximum | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.01 | 0.03 | 0.02 | 0.03 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 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 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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 - Peace River Complex (PRC) Station*

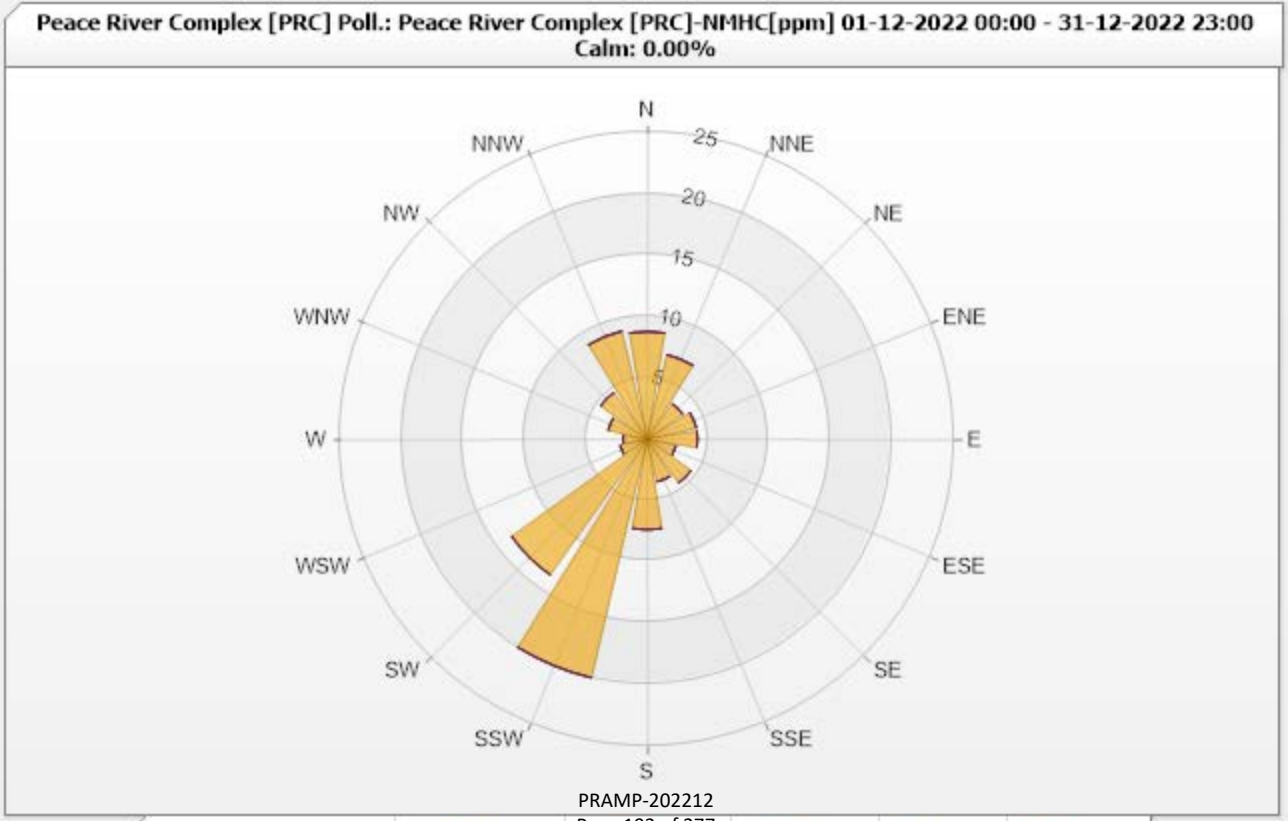





| Classes | NMHC |
|---|---|
| <=0 | 92.08% |
| 0 - 0.05 | 7.92% |
| 0.05 - 0.1 | 0.00% |
| 0.1 - 0.15 | 0.00% |
| 0.15 - 0.2 | 0.00% |
| 0.2 - 0.25 | 0.00% |
| 0.25 - 0.3 | 0.00% |
| 0.3 - 0.35 | 0.00% |
| 0.35 - 0.4 | 0.00% |
| 0.4 - 0.45 | 0.00% |
| >0.45 | 0.00% |

Wind: Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-NMHC[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.2 | 0.2-1 | 1-2 | >2.0 | Total |
|---|---|---|---|---|---|---|
| N | 8.77 | 0 | 0 | 0 | 0 | 8.77 |
| NNE | 7.07 | 0 | 0 | 0 | 0 | 7.07 |
| NE | 3.54 | 0 | 0 | 0 | 0 | 3.54 |
| ENE | 4.1 | 0 | 0 | 0 | 0 | 4.1 |
| E | 4.1 | 0 | 0 | 0 | 0 | 4.1 |
| ESE | 2.4 | 0 | 0 | 0 | 0 | 2.4 |
| SE | 4.38 | 0 | 0 | 0 | 0 | 4.38 |
| SSE | 3.54 | 0 | 0 | 0 | 0 | 3.54 |
| S | 7.36 | 0 | 0 | 0 | 0 | 7.36 |
| SSW | 19.94 | 0 | 0 | 0 | 0 | 19.94 |
| SW | 13.58 | 0 | 0 | 0 | 0 | 13.58 |
| WSW | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| W | 1.98 | 0 | 0 | 0 | 0 | 1.98 |
| WNW | 3.25 | 0 | 0 | 0 | 0 | 3.25 |
| NW | 4.67 | 0 | 0 | 0 | 0 | 4.67 |
| NNW | 9.05 | 0 | 0 | 0 | 0 | 9.05 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


Peace River Complex [PRC] Poll.: Peace River Complex [PRC]-NMHC[ppm] 01-12-2022 00:00 - 31-12-2022 23:00
Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.2
0 0.2-1
0 1-2
0 >2.0

# PEACE RIVER AREA MONITORING PROGRAM

## *Peace River Complex (PRC) Station - December 2022*

### Summary of Hourly Averages

### RELATIVE HUMIDITY (RH) in %

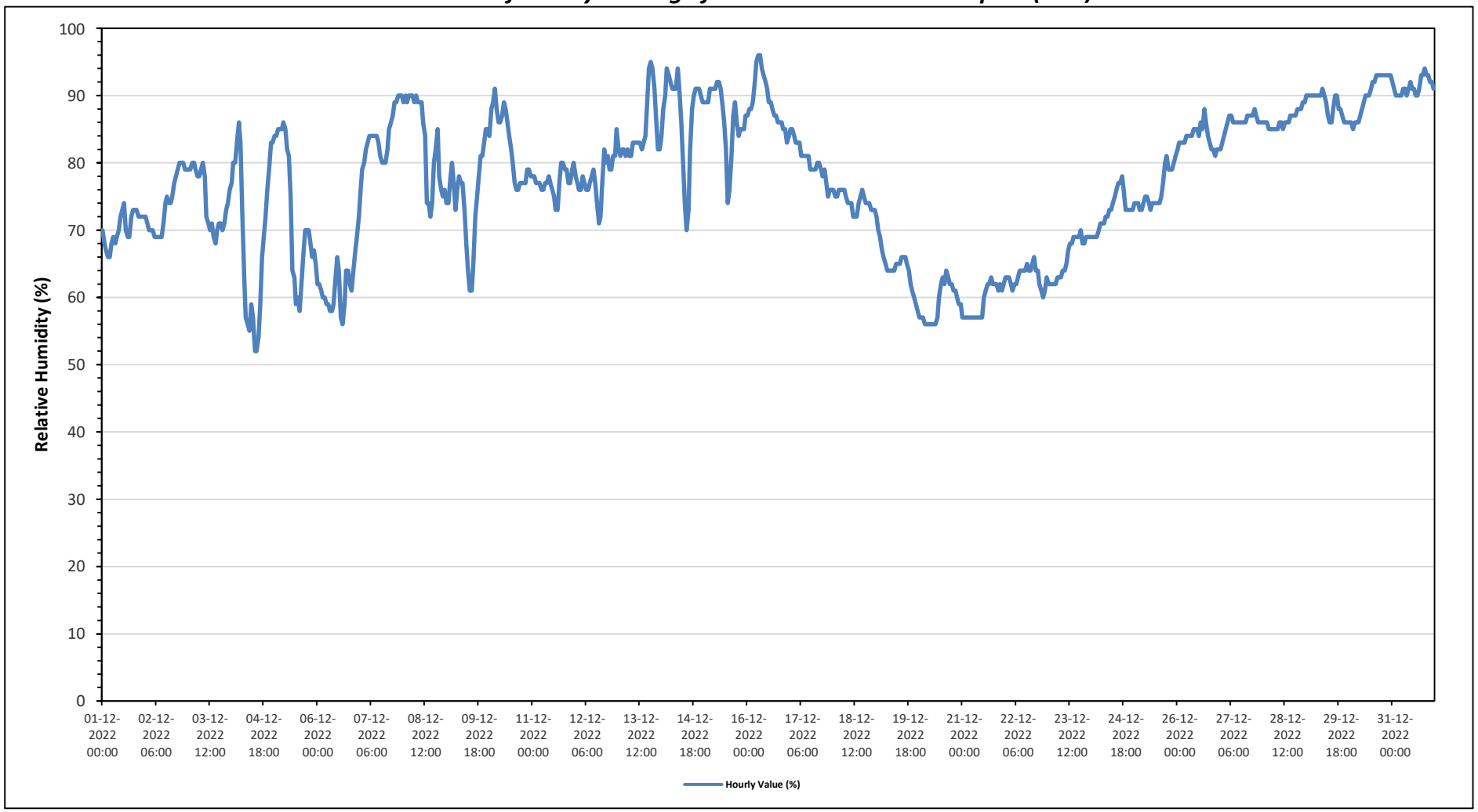
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 96 | % | on December 16 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 91.3 | % | on December 31 | Hours of Data: | 744 |
| Minimum Hourly Value: | 52 | % | on December 4 at hour 13 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 59.1 | % | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 77.1 | % | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 70 | 68 | 67 | 66 | 66 | 68 | 69 | 68 | 69 | 70 | 72 | 73 | 74 | 70 | 69 | 69 | 72 | 73 | 73 | 73 | 72 | 72 | 72 | 72 | 66 | 74 | 70.3 |
| Dec 2 | 72 | 71 | 70 | 70 | 70 | 69 | 69 | 69 | 69 | 69 | 71 | 74 | 75 | 74 | 74 | 75 | 77 | 78 | 79 | 80 | 80 | 80 | 79 | 79 | 69 | 80 | 73.9 |
| Dec 3 | 79 | 79 | 80 | 80 | 79 | 78 | 78 | 79 | 80 | 78 | 72 | 71 | 70 | 71 | 69 | 68 | 70 | 71 | 71 | 70 | 71 | 73 | 74 | 76 | 68 | 80 | 74.5 |
| Dec 4 | 77 | 80 | 80 | 83 | 86 | 83 | 73 | 63 | 57 | 56 | 55 | 59 | 57 | **52** | **52** | 54 | 59 | 66 | 69 | 72 | 76 | 79 | 83 | 83 | **52** | 86 | 68.9 |
| Dec 5 | 84 | 84 | 85 | 85 | 85 | 86 | 85 | 82 | 81 | 75 | 64 | 63 | 59 | 60 | 58 | 62 | 66 | 70 | 70 | 70 | 68 | 66 | 67 | 65 | 58 | 86 | 72.5 |
| Dec 6 | 62 | 62 | 61 | 60 | 60 | 59 | 59 | 58 | 58 | 59 | 63 | 66 | 64 | 57 | 56 | 59 | 64 | 64 | 62 | 61 | 64 | 67 | 69 | 72 | 56 | 72 | 61.9 |
| Dec 7 | 76 | 79 | 80 | 82 | 83 | 84 | 84 | 84 | 84 | 84 | 83 | 81 | 80 | 80 | 80 | 82 | 85 | 86 | 87 | 89 | 89 | 90 | 90 | 90 | 76 | 90 | 83.8 |
| Dec 8 | 89 | 90 | 89 | 90 | 90 | 90 | 89 | 90 | 89 | 89 | 89 | 86 | 84 | 74 | 74 | 72 | 74 | 80 | 82 | 85 | 78 | 76 | 75 | 76 | 72 | 90 | 83.3 |
| Dec 9 | 74 | 74 | 77 | 80 | 77 | 73 | 76 | 78 | 77 | 77 | 73 | 68 | 64 | 61 | 61 | 65 | 72 | 75 | 78 | 81 | 81 | 83 | 85 | 85 | 61 | 85 | 74.8 |
| Dec 10 | 84 | 88 | 89 | 91 | 88 | 86 | 86 | 87 | 89 | 88 | 86 | 84 | 82 | 80 | 77 | 76 | 76 | 77 | 77 | 77 | 77 | 79 | 79 | 78 | 76 | 91 | 82.5 |
| Dec 11 | 78 | 78 | 77 | 77 | 77 | 76 | 76 | 77 | 77 | 78 | 77 | 76 | 75 | 73 | 73 | 77 | 80 | 80 | 79 | 79 | 77 | 77 | 79 | 80 | 73 | 80 | 77.2 |
| Dec 12 | 78 | 77 | 76 | 76 | 78 | 77 | 76 | 76 | 77 | 78 | 79 | 77 | 74 | 71 | 72 | 77 | 82 | 80 | 81 | 79 | 79 | 81 | 81 | 85 | 71 | 85 | 77.8 |
| Dec 13 | 82 | 81 | 82 | 82 | 81 | 82 | 81 | 81 | 83 | 83 | 83 | 83 | 83 | 82 | 83 | 84 | 89 | 94 | 95 | 94 | 91 | 87 | 82 | 82 | 81 | 95 | 84.6 |
| Dec 14 | 84 | 88 | 90 | 94 | 93 | 92 | 91 | 91 | 91 | 94 | 91 | 86 | 80 | 74 | 70 | 73 | 82 | 88 | 90 | 91 | 91 | 91 | 90 | 89 | 70 | 94 | 87.3 |
| Dec 15 | 89 | 89 | 89 | 91 | 91 | 91 | 91 | 92 | 92 | 91 | 89 | 86 | 82 | 74 | 76 | 81 | 87 | 89 | 86 | 84 | 85 | 85 | 85 | 87 | 74 | 92 | 86.8 |
| Dec 16 | 87 | 88 | 88 | 89 | 92 | 95 | **96** | **96** | 94 | 93 | 92 | 91 | 89 | 89 | 88 | 87 | 87 | 86 | 86 | 86 | 85 | 85 | 83 | 84 | 83 | **96** | 89.0 |
| Dec 17 | 85 | 85 | 84 | 83 | 83 | 83 | 81 | 81 | 81 | 81 | 81 | 79 | 79 | 79 | 79 | 80 | 80 | 79 | 78 | 79 | 77 | 75 | 76 | 76 | 75 | 85 | 80.2 |
| Dec 18 | 76 | 75 | 75 | 76 | 76 | 76 | 76 | 75 | 74 | 74 | 74 | 72 | 72 | 72 | 74 | 75 | 76 | 75 | 74 | 74 | 74 | 73 | 73 | 73 | 72 | 76 | 74.3 |
| Dec 19 | 72 | 70 | 69 | 67 | 66 | 65 | 64 | 64 | 64 | 64 | 64 | 65 | 65 | 65 | 66 | 66 | 66 | 65 | 64 | 62 | 61 | 60 | 59 | 58 | 58 | 72 | 64.6 |
| Dec 20 | 57 | 57 | 57 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 57 | 60 | 62 | 63 | 62 | 64 | 63 | 62 | 62 | 61 | 61 | 60 | 59 | 59 | 56 | 64 | 59.1 |
| Dec 21 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 60 | 61 | 62 | 62 | 63 | 62 | 62 | 62 | 61 | 62 | 61 | 62 | 57 | 63 | 59.3 |
| Dec 22 | 63 | 63 | 63 | 62 | 61 | 62 | 62 | 63 | 64 | 64 | 64 | 64 | 65 | 64 | 64 | 65 | 66 | 64 | 64 | 62 | 61 | 60 | 61 | 63 | 60 | 66 | 63.1 |
| Dec 23 | 62 | 62 | 62 | 62 | 62 | 63 | 63 | 63 | 64 | 64 | 65 | 67 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 70 | 68 | 68 | 69 | 69 | 62 | 70 | 66.0 |
| Dec 24 | 69 | 69 | 69 | 69 | 70 | 71 | 71 | 71 | 72 | 72 | 73 | 73 | 74 | 75 | 76 | 77 | 77 | 78 | 76 | 73 | 73 | 73 | 73 | 73 | 69 | 78 | 72.8 |
| Dec 25 | 74 | 74 | 74 | 73 | 73 | 74 | 75 | 75 | 74 | 73 | 74 | 74 | 74 | 74 | 74 | 75 | 77 | 80 | 81 | 79 | 79 | 79 | 80 | 81 | 73 | 81 | 75.8 |
| Dec 26 | 82 | 83 | 83 | 83 | 83 | 84 | 84 | 84 | 84 | 85 | 85 | 85 | 84 | 86 | 85 | 88 | 86 | 84 | 83 | 82 | 82 | 81 | 82 | 82 | 81 | 88 | 83.8 |
| Dec 27 | 82 | 83 | 84 | 85 | 86 | 87 | 87 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 87 | 87 | 87 | 87 | 88 | 87 | 86 | 86 | 86 | 82 | 88 | 86.0 |
| Dec 28 | 86 | 86 | 86 | 85 | 85 | 85 | 85 | 85 | 85 | 86 | 86 | 85 | 86 | 86 | 86 | 87 | 87 | 87 | 87 | 88 | 88 | 88 | 89 | 89 | 85 | 89 | 86.4 |
| Dec 29 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 91 | 90 | 89 | 87 | 86 | 86 | 88 | 90 | 90 | 88 | 88 | 87 | 86 | 86 | 86 | 86 | 91 | 88.7 |
| Dec 30 | 86 | 86 | 85 | 86 | 86 | 86 | 87 | 88 | 89 | 90 | 90 | 90 | 91 | 92 | 92 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 85 | 93 | 90.0 |
| Dec 31 | 92 | 91 | 90 | 90 | 90 | 90 | 91 | 91 | 90 | 91 | 92 | 91 | 91 | 90 | 90 | 91 | 93 | 93 | 94 | 93 | 93 | 92 | 92 | 91 | 90 | 94 | **91.3** |
| Diurnal Maximum | 92 | 91 | 90 | 94 | 93 | 95 | 96 | 96 | 94 | 94 | 92 | 91 | 91 | 92 | 92 | 93 | 93 | 94 | 95 | 94 | 93 | 93 | 93 | 93 | | | |
| Diurnal Average | 77.4 | 77.6 | 77.7 | 78.1 | 78.1 | 78.0 | 77.7 | 77.4 | 77.3 | 77.3 | 76.7 | 76.2 | 75.4 | 73.8 | 73.6 | 75.1 | 77.3 | 78.2 | 78.3 | 78.2 | 77.7 | 77.7 | 77.8 | 78.2 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### BAROMETRIC PRESSURE (BP) in millibar

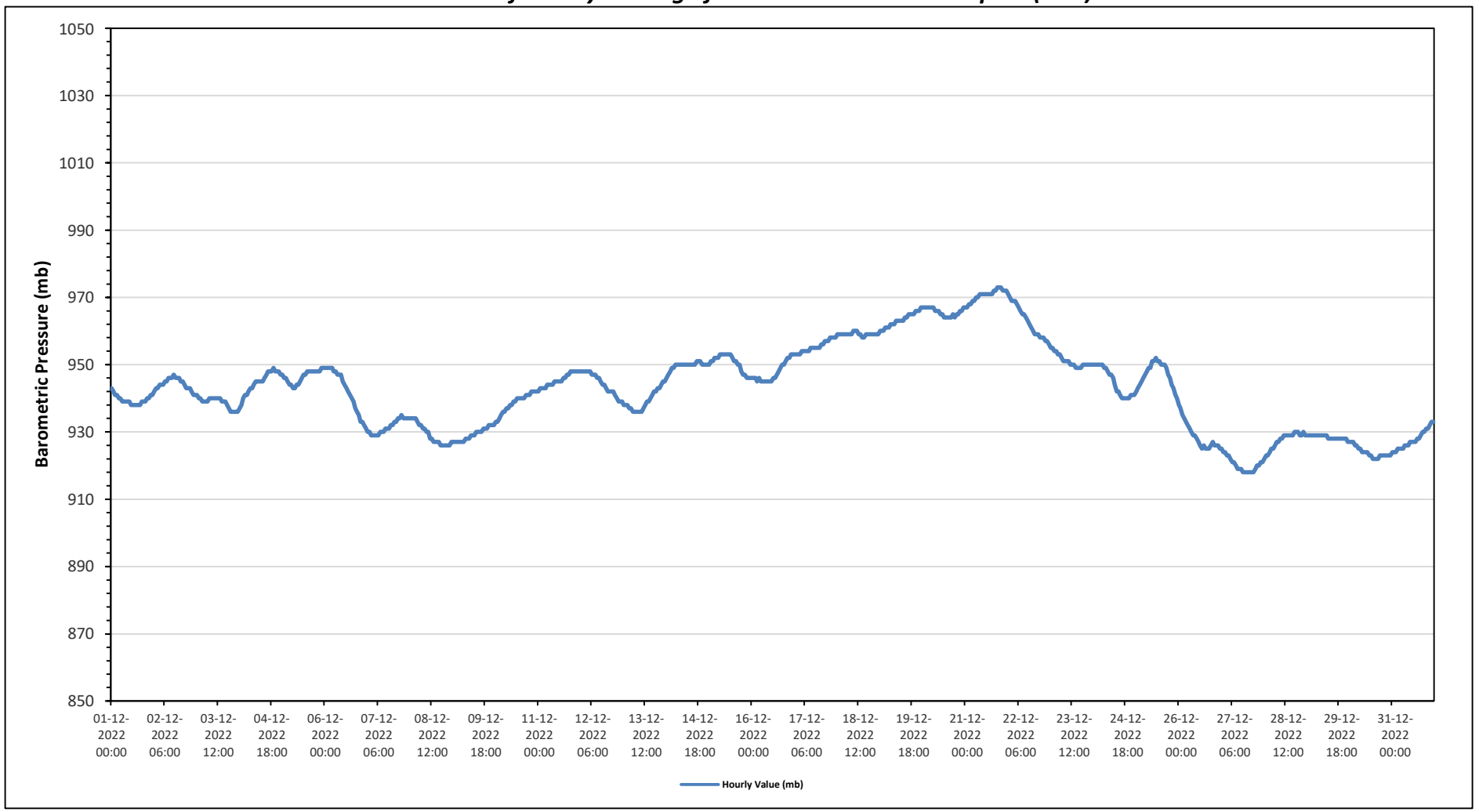
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 973 | mb | on December 21 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 971 | mb | on December 21 | Hours of Data: | 744 |
| Minimum Hourly Value: | 918 | mb | on December 27 at hour 12 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 920 | mb | on December 27 | Hours of Calibration: | 0 |
| Monthly Average: | 943 | mb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 943 | 942 | 941 | 941 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 939 | 940 | 940 | 941 | 941 | 938 | 943 | 939.5 |
| Dec 2 | 942 | 943 | 943 | 944 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 946 | 946 | 946 | 945 | 945 | 944 | 943 | 943 | 943 | 942 | 941 | 941 | 941 | 947 | 944.2 |
| Dec 3 | 941 | 940 | 940 | 939 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 938 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 941 | 938.7 |
| Dec 4 | 937 | 938 | 940 | 941 | 941 | 942 | 943 | 943 | 944 | 945 | 945 | 945 | 945 | 945 | 946 | 947 | 948 | 948 | 948 | 949 | 948 | 948 | 948 | 947 | 937 | 949 | 944.6 |
| Dec 5 | 947 | 946 | 946 | 945 | 944 | 944 | 943 | 943 | 944 | 944 | 945 | 946 | 947 | 947 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 949 | 949 | 943 | 949 | 946.4 |
| Dec 6 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 947 | 947 | 947 | 945 | 944 | 943 | 942 | 941 | 940 | 939 | 937 | 936 | 935 | 933 | 933 | 932 | 931 | 931 | 949 | 942.2 |
| Dec 7 | 930 | 930 | 929 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 931 | 931 | 931 | 932 | 932 | 933 | 933 | 934 | 934 | 935 | 934 | 934 | 934 | 934 | 929 | 935 | 931.5 |
| Dec 8 | 934 | 934 | 934 | 934 | 933 | 932 | 932 | 931 | 931 | 930 | 930 | 928 | 928 | 927 | 927 | 927 | 927 | 926 | 926 | 926 | 926 | 926 | 926 | 927 | 926 | 934 | 929.3 |
| Dec 9 | 927 | 927 | 927 | 927 | 927 | 927 | 927 | 928 | 928 | 928 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 931 | 931 | 931 | 932 | 932 | 932 | 932 | 927 | 932 | 929.2 |
| Dec 10 | 933 | 933 | 934 | 935 | 936 | 936 | 937 | 937 | 938 | 938 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 942 | 942 | 942 | 942 | 933 | 942 | 938.6 |
| Dec 11 | 942 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 947 | 947 | 948 | 948 | 948 | 948 | 948 | 948 | 942 | 948 | 945.4 |
| Dec 12 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 945 | 944 | 944 | 943 | 942 | 942 | 942 | 942 | 941 | 940 | 939 | 939 | 939 | 939 | 948 | 944.3 |
| Dec 13 | 938 | 938 | 938 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 937 | 938 | 939 | 939 | 940 | 941 | 942 | 942 | 943 | 943 | 944 | 945 | 945 | 936 | 945 | 939.3 |
| Dec 14 | 946 | 947 | 948 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 950 | 950 | 950 | 950 | 946 | 951 | 949.7 |
| Dec 15 | 950 | 951 | 951 | 952 | 952 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 952 | 951 | 951 | 950 | 950 | 948 | 947 | 947 | 946 | 946 | 946 | 946 | 953 | 950.5 |
| Dec 16 | 946 | 946 | 946 | 945 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 947 | 948 | 949 | 950 | 950 | 951 | 952 | 952 | 953 | 953 | 945 | 953 | 947.5 |
| Dec 17 | 953 | 953 | 953 | 953 | 954 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 955 | 955 | 955 | 956 | 956 | 957 | 957 | 957 | 958 | 958 | 958 | 958 | 953 | 958 | 955.3 |
| Dec 18 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 960 | 960 | 960 | 959 | 959 | 958 | 958 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 958 | 960 | 959.0 |
| Dec 19 | 960 | 960 | 960 | 961 | 961 | 961 | 962 | 962 | 962 | 963 | 963 | 963 | 963 | 963 | 964 | 964 | 965 | 965 | 965 | 965 | 966 | 966 | 966 | 967 | 960 | 967 | 963.2 |
| Dec 20 | 967 | 967 | 967 | 967 | 967 | 967 | 967 | 966 | 966 | 966 | 965 | 965 | 964 | 964 | 964 | 964 | 964 | 965 | 964 | 965 | 965 | 966 | 966 | 967 | 964 | 967 | 965.6 |
| Dec 21 | 967 | 967 | 968 | 968 | 969 | 969 | 970 | 970 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 972 | 972 | **973** | **973** | **973** | 972 | 972 | 972 | 967 | **973** | **970.6** |
| Dec 22 | 971 | 970 | 969 | 969 | 969 | 968 | 967 | 966 | 965 | 965 | 964 | 963 | 962 | 961 | 960 | 959 | 959 | 959 | 958 | 958 | 958 | 957 | 957 | 956 | 956 | 971 | 962.9 |
| Dec 23 | 955 | 955 | 954 | 954 | 953 | 953 | 952 | 951 | 951 | 951 | 951 | 950 | 950 | 950 | 949 | 949 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 955 | 951.1 |
| Dec 24 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 949 | 948 | 947 | 947 | 946 | 944 | 942 | 942 | 941 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 940 | 950 | 944.9 |
| Dec 25 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 949 | 951 | 951 | 952 | 951 | 951 | 950 | 950 | 950 | 949 | 947 | 946 | 944 | 943 | 941 | 940 | 940 | 952 | 947.0 |
| Dec 26 | 938 | 937 | 935 | 934 | 933 | 932 | 931 | 930 | 929 | 929 | 928 | 927 | 926 | 925 | 926 | 925 | 925 | 925 | 926 | 927 | 926 | 926 | 926 | 925 | 925 | 938 | 928.8 |
| Dec 27 | 925 | 924 | 924 | 923 | 923 | 922 | 921 | 921 | 920 | 919 | 919 | 919 | **918** | **918** | **918** | **918** | **918** | **918** | **918** | 919 | 920 | 920 | 921 | 921 | **918** | 925 | 920.3 |
| Dec 28 | 922 | 923 | 923 | 924 | 925 | 925 | 926 | 927 | 927 | 928 | 928 | 929 | 929 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 929 | 929 | 930 | 929 | 922 | 930 | 927.5 |
| Dec 29 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 927 | 927 | 929 | 928.5 |
| Dec 30 | 927 | 927 | 927 | 926 | 926 | 925 | 925 | 924 | 924 | 924 | 924 | 923 | 923 | 922 | 922 | 922 | 922 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 922 | 927 | 923.9 |
| Dec 31 | 924 | 924 | 924 | 925 | 925 | 925 | 925 | 926 | 926 | 926 | 927 | 927 | 927 | 927 | 928 | 928 | 929 | 930 | 930 | 931 | 931 | 932 | 933 | 933 | 924 | 933 | 927.6 |
| Diurnal Maximum | 971 | 970 | 969 | 969 | 969 | 969 | 970 | 970 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 972 | 972 | 973 | 973 | 973 | 972 | 972 | 972 | | | |
| Diurnal Average | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### AMBIENT TEMPERATURE (AT) in Degree Celsius

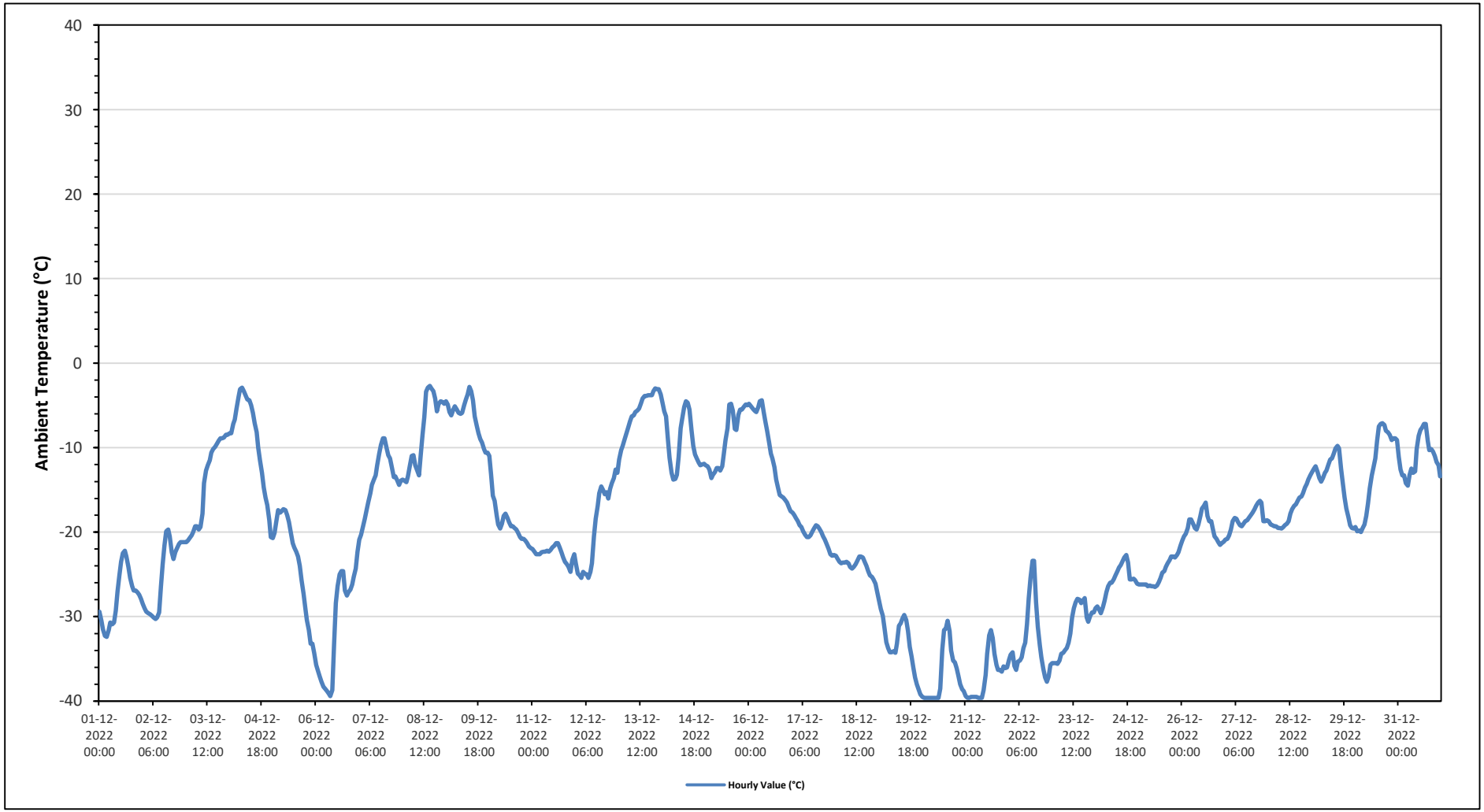
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | -2.7 | °C | on December 8 at hour 15 | Hours in Service: | 744 |
| Maximum Daily Value: | -5.7 | °C | on December 13 | Hours of Data: | 744 |
| Minimum Hourly Value: | -39.6 | °C | on December 20 at hour 1 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | -37.0 | °C | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | -19.8 | °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 | | | |
| Dec 1 | -29.4 | -30.5 | -31.5 | -32.3 | -32.4 | -31.6 | -30.7 | -30.9 | -30.7 | -29.3 | -27 | -25.2 | -23.5 | -22.5 | -22.2 | -22.9 | -24.1 | -25.4 | -26.4 | -26.9 | -26.9 | -27.1 | -27.4 | -27.9 | -32.4 | -22.2 | -27.7 |
| Dec 2 | -28.5 | -29 | -29.4 | -29.6 | -29.7 | -29.9 | -30.1 | -30.3 | -30.1 | -29.5 | -26.5 | -23.8 | -21.6 | -19.9 | -19.7 | -20.5 | -22.4 | -23.2 | -22.4 | -21.9 | -21.4 | -21.2 | -21.2 | -21.2 | -30.3 | -19.7 | -25.1 |
| Dec 3 | -21.2 | -21 | -20.7 | -20.4 | -20 | -19.3 | -19.3 | -19.7 | -19.4 | -17.8 | -14.2 | -12.7 | -12.1 | -11.5 | -10.6 | -10.2 | -9.9 | -9.6 | -9.2 | -8.9 | -8.9 | -8.8 | -8.5 | -8.5 | -21.2 | -8.5 | -14.3 |
| Dec 4 | -8.3 | -8.3 | -7.2 | -6.7 | -5.4 | -4 | -3.1 | -2.9 | -3.3 | -3.9 | -4.3 | -4.4 | -5 | -5.9 | -7.1 | -8.2 | -10 | -11.5 | -13 | -14.7 | -15.9 | -16.8 | -18.6 | -20.6 | -20.6 | -2.9 | -8.7 |
| Dec 5 | -20.7 | -20.1 | -18.7 | -17.4 | -17.7 | -17.5 | -17.3 | -17.4 | -18 | -18.8 | -20 | -21.3 | -21.8 | -22.3 | -22.9 | -24 | -25.7 | -27.3 | -29 | -30.4 | -31.6 | -33.2 | -33.2 | -34.3 | -34.3 | -17.3 | -23.4 |
| Dec 6 | -35.7 | -36.3 | -37.1 | -37.7 | -38.3 | -38.5 | -38.8 | -39.1 | -39.4 | -38.7 | -33.3 | -28.4 | -26.4 | -25 | -24.6 | -24.6 | -26.9 | -27.5 | -27.1 | -26.8 | -26.2 | -25.3 | -24.3 | -22.3 | -39.4 | -22.3 | -31.2 |
| Dec 7 | -20.9 | -20.3 | -19.3 | -18.4 | -17.4 | -16.4 | -15.4 | -14.4 | -13.8 | -13.3 | -12.1 | -10.7 | -9.7 | -8.9 | -8.9 | -10 | -10.9 | -11.3 | -12.3 | -13.5 | -13.4 | -13.9 | -14.4 | -13.9 | -20.9 | -8.9 | -13.9 |
| Dec 8 | -13.8 | -13.9 | -14.1 | -13.4 | -12.1 | -11 | -10.9 | -12.1 | -12.7 | -13.3 | -10.8 | -8.5 | -6.4 | -3.4 | -2.9 | **-2.7** | -3 | -3.3 | -4.2 | -5.7 | -4.8 | -4.5 | -4.6 | -4.8 | -14.1 | **-2.7** | -8.2 |
| Dec 9 | -4.5 | -4.9 | -5.8 | -6.2 | -5.5 | -5.1 | -5.5 | -5.9 | -6 | -5.9 | -5 | -4.3 | -3.7 | -2.8 | -3.3 | -4.4 | -6.3 | -7.4 | -8.3 | -9 | -9.4 | -10.2 | -10.6 | -10.6 | -10.6 | -2.8 | -6.3 |
| Dec 10 | -11 | -13.2 | -15.7 | -16.3 | -18 | -19.1 | -19.6 | -19 | -18.1 | -17.8 | -18.3 | -18.8 | -19.3 | -19.3 | -19.5 | -19.7 | -20.1 | -20.6 | -20.8 | -20.8 | -21 | -21.3 | -21.7 | -21.9 | -21.9 | -11.0 | -18.8 |
| Dec 11 | -22 | -22.3 | -22.6 | -22.6 | -22.6 | -22.4 | -22.3 | -22.3 | -22.2 | -22.3 | -22.1 | -21.8 | -21.6 | -21.3 | -21.3 | -21.8 | -22.4 | -23 | -23.5 | -23.8 | -24.1 | -24.7 | -23.3 | -22.6 | -24.7 | -21.3 | -22.5 |
| Dec 12 | -23.7 | -24.9 | -25.1 | -25.4 | -24.7 | -24.9 | -25 | -25.4 | -24.7 | -23.7 | -20.5 | -18.4 | -16.9 | -15.4 | -14.6 | -15 | -15.5 | -15.3 | -16 | -14.9 | -14.2 | -13.6 | -12.6 | -13 | -25.4 | -12.6 | -19.3 |
| Dec 13 | -11.4 | -10.3 | -9.8 | -9 | -8.3 | -7.6 | -6.9 | -6.3 | -6.2 | -5.8 | -5.6 | -5.4 | -4.8 | -4.2 | -3.9 | -3.9 | -3.8 | -3.8 | -3.8 | -3.3 | -3 | -3.1 | -3.1 | -3.7 | -11.4 | -3.0 | **-5.7** |
| Dec 14 | -4.7 | -5.7 | -6.3 | -9.2 | -11.2 | -13 | -13.8 | -13.7 | -13.2 | -11.1 | -7.7 | -6.6 | -5.2 | -4.5 | -4.7 | -5.5 | -7.9 | -9.8 | -10.8 | -11.3 | -11.8 | -12.1 | -12 | -11.9 | -13.8 | -4.5 | -9.3 |
| Dec 15 | -12.1 | -12.2 | -12.6 | -13.6 | -13.2 | -12.9 | -12.4 | -12.4 | -12.7 | -12.2 | -10.8 | -9.1 | -7.7 | -4.9 | -4.8 | -5.6 | -7.8 | -7.9 | -6.1 | -5.5 | -5.5 | -5.2 | -4.9 | -5 | -13.6 | -4.8 | -9.0 |
| Dec 16 | -4.8 | -5.1 | -5.4 | -5.6 | -5.8 | -5.2 | -4.5 | -4.4 | -5.7 | -6.9 | -8 | -9.4 | -10.7 | -11.3 | -12.3 | -13.8 | -14.7 | -15.6 | -15.8 | -15.9 | -16.2 | -16.5 | -17.1 | -17.5 | -17.5 | -4.4 | -10.3 |
| Dec 17 | -17.7 | -18 | -18.3 | -18.7 | -19.2 | -19.4 | -19.9 | -20.3 | -20.6 | -20.6 | -20.4 | -19.9 | -19.6 | -19.2 | -19.3 | -19.6 | -20 | -20.5 | -20.9 | -21.4 | -22 | -22.6 | -22.8 | -22.7 | -22.8 | -17.7 | -20.2 |
| Dec 18 | -22.8 | -23.1 | -23.5 | -23.7 | -23.6 | -23.6 | -23.5 | -23.7 | -24.1 | -24.3 | -24.1 | -23.8 | -23.4 | -22.9 | -22.9 | -23 | -23.5 | -24 | -24.6 | -25.1 | -25.3 | -25.6 | -26.1 | -27.1 | -27.1 | -22.8 | -24.1 |
| Dec 19 | -28.1 | -29.1 | -29.9 | -31.4 | -33 | -33.7 | -34.2 | -34.2 | -34.1 | -34.3 | -33.2 | -31.1 | -30.8 | -30.2 | -29.8 | -30.4 | -31.7 | -33.6 | -34.7 | -36 | -37.2 | -38 | -38.7 | -39.2 | -39.2 | -28.1 | -33.2 |
| Dec 20 | -39.5 | **-39.6** | **-39.6** | **-39.6** | **-39.6** | **-39.6** | **-39.6** | **-39.6** | **-39.6** | **-39.6** | -38.5 | -33.9 | -31.6 | -31.4 | -30.5 | -31.7 | -34 | -35.2 | -35.4 | -36.1 | -37 | -38 | -38.6 | -38.8 | **-39.6** | -30.5 | -36.9 |
| Dec 21 | -39.4 | **-39.6** | **-39.6** | -39.5 | -39.5 | -39.5 | -39.5 | **-39.6** | **-39.6** | **-39.6** | -38.7 | -36.9 | -34.4 | -32.2 | -31.6 | -32.5 | -34.4 | -35.7 | -36.3 | -36.3 | -36.5 | -35.9 | -36.1 | -36 | **-39.6** | -31.6 | -37.0 |
| Dec 22 | -35.1 | -34.5 | -34.2 | -35.8 | -36.3 | -35.3 | -35.2 | -34.8 | -33.7 | -33.1 | -30.9 | -27.8 | -25.4 | -23.4 | -23.4 | -28.3 | -31.2 | -33.4 | -34.8 | -36.2 | -37.2 | -37.7 | -37.1 | -35.7 | -37.7 | -23.4 | -32.9 |
| Dec 23 | -35.5 | -35.5 | -35.5 | -35.6 | -35.2 | -34.4 | -34.3 | -34 | -33.7 | -33.1 | -32 | -30.1 | -29 | -28.3 | -27.9 | -28 | -28.4 | -28.1 | -27.8 | -30.1 | -30.6 | -29.9 | -29.5 | -29.5 | -35.6 | -27.8 | -31.5 |
| Dec 24 | -29 | -28.8 | -29.2 | -29.6 | -28.9 | -28.1 | -27.1 | -26.4 | -26 | -26 | -25.6 | -25.1 | -24.6 | -24.2 | -23.9 | -23.4 | -23 | -22.7 | -23.6 | -25.6 | -25.6 | -25.5 | -25.7 | -26.1 | -29.6 | -22.7 | -26.0 |
| Dec 25 | -26.2 | -26.2 | -26.2 | -26.2 | -26.2 | -26.4 | -26.3 | -26.4 | -26.4 | -26.5 | -26.3 | -25.9 | -25.4 | -24.8 | -24.6 | -24.1 | -23.7 | -23.3 | -22.9 | -22.9 | -23 | -22.7 | -22.4 | -21.6 | -26.5 | -21.6 | -24.9 |
| Dec 26 | -21 | -20.5 | -20.2 | -19.5 | -18.5 | -18.5 | -19 | -19.5 | -19.7 | -19.1 | -18.1 | -17.2 | -16.9 | -16.5 | -18.1 | -18.7 | -18.7 | -19.6 | -20.5 | -20.8 | -21.2 | -21.5 | -21.3 | -21.1 | -21.5 | -16.5 | -19.4 |
| Dec 27 | -20.9 | -20.8 | -20.4 | -19.7 | -18.7 | -18.3 | -18.4 | -18.8 | -19.2 | -19.3 | -19 | -18.7 | -18.6 | -18.3 | -18 | -17.7 | -17.3 | -16.9 | -16.5 | -16.3 | -16.5 | -18.7 | -18.7 | -18.6 | -20.9 | -16.3 | -18.5 |
| Dec 28 | -18.7 | -19.1 | -19.2 | -19.3 | -19.3 | -19.5 | -19.5 | -19.6 | -19.4 | -19.2 | -19 | -18.7 | -17.8 | -17.3 | -16.9 | -16.7 | -16.3 | -15.9 | -15.8 | -15.4 | -14.7 | -14.3 | -13.8 | -13.3 | -19.6 | -13.3 | -17.4 |
| Dec 29 | -12.9 | -12.5 | -12.2 | -12.9 | -13.6 | -14 | -13.6 | -13 | -12.7 | -12 | -11.4 | -11.3 | -10.7 | -10.1 | -9.8 | -10.1 | -12.5 | -14.2 | -15.9 | -17.2 | -18.2 | -19.2 | -19.5 | -19.6 | -19.6 | -9.8 | -13.7 |
| Dec 30 | -19.4 | -19.9 | -19.8 | -20 | -19.6 | -19.1 | -18.1 | -16.6 | -14.8 | -13.3 | -12.3 | -11.3 | -9.2 | -7.5 | -7.2 | -7.1 | -7.3 | -8 | -8.2 | -8.5 | -9.1 | -8.9 | -8.9 | -9.1 | -20.0 | -7.1 | -12.6 |
| Dec 31 | -11.1 | -12.6 | -13.3 | -13.3 | -14.2 | -14.5 | -13.2 | -12.5 | -13 | -12.8 | -10.2 | -8.6 | -7.9 | -7.6 | -7.2 | -7.2 | -9.2 | -10.3 | -10.2 | -10.5 | -11 | -11.7 | -12.1 | -13.4 | -14.5 | -7.2 | -11.2 |
| Diurnal Maximum | -4.5 | -4.9 | -5.4 | -5.6 | -5.4 | -4.0 | -3.1 | -2.9 | -3.3 | -3.9 | -4.3 | -4.3 | -3.7 | -2.8 | -2.9 | -2.7 | -3.0 | -3.3 | -3.8 | -3.3 | -3.0 | -3.1 | -3.1 | -3.7 | | | |
| Diurnal Average | -21.0 | -21.2 | -21.4 | -21.6 | -21.5 | -21.4 | -21.2 | -21.1 | -21.1 | -20.7 | -19.5 | -18.4 | -17.5 | -16.7 | -16.6 | -17.1 | -18.1 | -18.8 | -19.3 | -19.7 | -20.0 | -20.2 | -20.3 | -20.4 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

### STATION TEMPERATURE (ST) in Degree Celsius

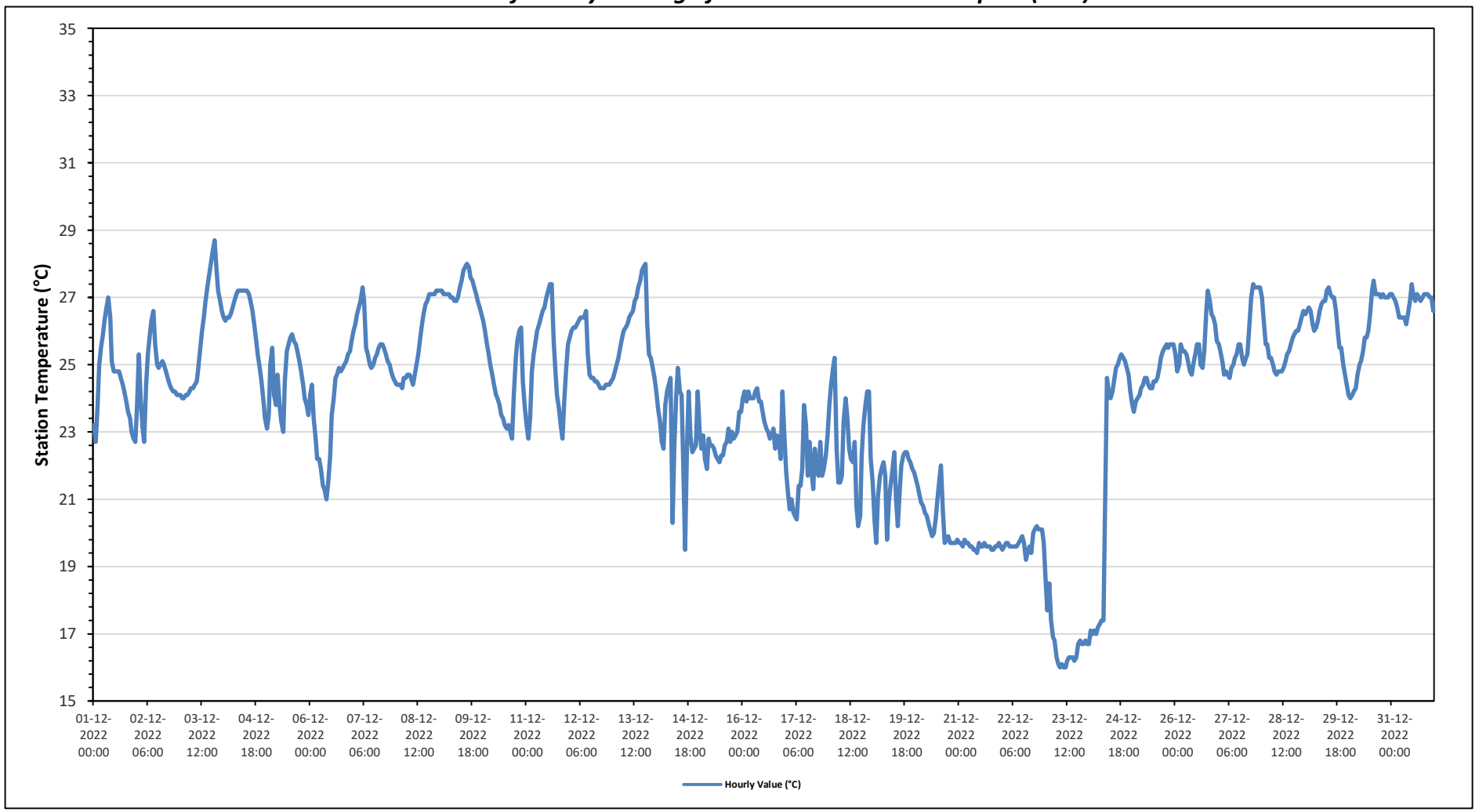
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 28.7 | °C | on December 3 at hour 19 | Hours in Service: | 744 |
| Maximum Daily Value: | 27.2 | °C | on December 9 | Hours of Data: | 744 |
| Minimum Hourly Value: | 16.0 | °C | on December 23 at hour 8 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 16.7 | °C | on December 23 | Hours of Calibration: | 0 |
| Monthly Average: | 24.0 | °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 23.2 | 22.7 | 23.7 | 25.0 | 25.5 | 25.9 | 26.3 | 26.7 | 27.0 | 26.4 | 25.1 | 24.8 | 24.8 | 24.8 | 24.8 | 24.6 | 24.4 | 24.2 | 23.9 | 23.6 | 23.4 | 23.0 | 22.8 | 22.7 | 22.7 | 27.0 | 24.6 |
| Dec 2 | 23.8 | 25.3 | 24.0 | 23.1 | 22.7 | 24.4 | 25.3 | 25.9 | 26.3 | 26.6 | 25.6 | 25.0 | 24.9 | 25.0 | 25.1 | 25.0 | 24.8 | 24.6 | 24.4 | 24.3 | 24.2 | 24.2 | 24.1 | 24.1 | 22.7 | 26.6 | 24.7 |
| Dec 3 | 24.1 | 24.0 | 24.0 | 24.1 | 24.1 | 24.2 | 24.3 | 24.3 | 24.4 | 24.5 | 24.9 | 25.5 | 26.0 | 26.4 | 26.9 | 27.3 | 27.7 | 28.0 | 28.4 | **28.7** | 27.8 | 27.2 | 26.9 | 26.6 | 24.0 | **28.7** | 25.8 |
| Dec 4 | 26.4 | 26.3 | 26.4 | 26.4 | 26.5 | 26.7 | 26.9 | 27.1 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.1 | 26.9 | 26.6 | 26.2 | 25.7 | 25.3 | 24.9 | 24.5 | 23.9 | 23.4 | 23.4 | 27.2 | 26.3 |
| Dec 5 | 23.1 | 23.5 | 25.0 | 25.5 | 24.1 | 23.8 | 24.7 | 23.8 | 23.3 | 23.0 | 24.5 | 25.4 | 25.6 | 25.8 | 25.9 | 25.7 | 25.6 | 25.4 | 25.1 | 24.8 | 24.4 | 24.0 | 23.8 | 23.5 | 23.0 | 25.9 | 24.6 |
| Dec 6 | 24.1 | 24.4 | 23.4 | 22.8 | 22.2 | 22.2 | 21.9 | 21.4 | 21.3 | 21.0 | 21.5 | 22.3 | 23.5 | 24.0 | 24.6 | 24.7 | 24.9 | 24.8 | 24.9 | 25.0 | 25.1 | 25.3 | 25.4 | 25.7 | 21.0 | 25.7 | 23.6 |
| Dec 7 | 26.0 | 26.2 | 26.5 | 26.7 | 26.9 | 27.3 | 26.9 | 25.5 | 25.3 | 25.0 | 24.9 | 25.0 | 25.2 | 25.3 | 25.5 | 25.6 | 25.6 | 25.5 | 25.3 | 25.1 | 25.0 | 24.8 | 24.6 | 24.5 | 24.5 | 27.3 | 25.6 |
| Dec 8 | 24.4 | 24.4 | 24.4 | 24.3 | 24.6 | 24.6 | 24.7 | 24.7 | 24.6 | 24.4 | 24.7 | 25.0 | 25.3 | 25.8 | 26.2 | 26.5 | 26.8 | 26.9 | 27.1 | 27.1 | 27.1 | 27.1 | 27.2 | 27.2 | 24.3 | 27.2 | 25.6 |
| Dec 9 | 27.2 | 27.2 | 27.1 | 27.1 | 27.1 | 27.1 | 27.0 | 27.0 | 26.9 | 26.9 | 27.0 | 27.3 | 27.5 | 27.8 | 27.9 | 28.0 | 27.9 | 27.6 | 27.5 | 27.3 | 27.1 | 26.9 | 26.7 | 26.5 | 26.5 | 28.0 | **27.2** |
| Dec 10 | 26.3 | 26.0 | 25.6 | 25.3 | 25.0 | 24.7 | 24.4 | 24.1 | 24.0 | 23.8 | 23.5 | 23.4 | 23.2 | 23.1 | 23.2 | 23.0 | 22.8 | 24.1 | 25.2 | 25.7 | 26.0 | 26.1 | 24.5 | 23.8 | 22.8 | 26.3 | 24.5 |
| Dec 11 | 23.2 | 22.8 | 23.4 | 24.8 | 25.3 | 25.7 | 26.0 | 26.2 | 26.4 | 26.6 | 26.7 | 27.0 | 27.2 | 27.4 | 27.4 | 25.7 | 24.8 | 24.1 | 23.7 | 23.2 | 22.8 | 23.9 | 24.9 | 25.6 | 22.8 | 27.4 | 25.2 |
| Dec 12 | 25.8 | 26.0 | 26.1 | 26.1 | 26.2 | 26.3 | 26.4 | 26.4 | 26.4 | 26.6 | 25.3 | 24.7 | 24.6 | 24.6 | 24.5 | 24.5 | 24.4 | 24.3 | 24.3 | 24.3 | 24.4 | 24.4 | 24.4 | 24.5 | 24.3 | 26.6 | 25.2 |
| Dec 13 | 24.6 | 24.8 | 25.0 | 25.2 | 25.5 | 25.8 | 26.0 | 26.1 | 26.2 | 26.4 | 26.5 | 26.6 | 26.9 | 27.0 | 27.3 | 27.5 | 27.8 | 27.9 | 28.0 | 26.2 | 25.3 | 25.2 | 24.9 | 24.6 | 24.6 | 28.0 | 26.1 |
| Dec 14 | 24.2 | 23.7 | 23.3 | 22.7 | 22.5 | 23.8 | 24.2 | 24.4 | 24.6 | 20.3 | 22.6 | 24.0 | 24.9 | 24.2 | 24.1 | 21.9 | 19.5 | 22.4 | 24.2 | 22.9 | 22.4 | 22.5 | 22.6 | 24.2 | 19.5 | 24.9 | 23.2 |
| Dec 15 | 23.0 | 22.5 | 22.9 | 22.2 | 21.9 | 22.8 | 22.6 | 22.6 | 22.5 | 22.3 | 22.2 | 22.1 | 22.3 | 22.3 | 22.6 | 22.7 | 23.1 | 22.7 | 23.0 | 22.8 | 22.9 | 23.0 | 23.6 | 23.6 | 21.9 | 23.6 | 22.7 |
| Dec 16 | 24.0 | 24.2 | 23.9 | 24.2 | 24.0 | 24.0 | 24.0 | 24.2 | 24.3 | 23.9 | 23.9 | 23.6 | 23.3 | 23.1 | 23.0 | 22.8 | 22.9 | 23.1 | 22.5 | 22.9 | 22.7 | 22.2 | 24.2 | 23.0 | 22.2 | 24.3 | 23.5 |
| Dec 17 | 21.8 | 21.2 | 20.7 | 21.0 | 20.6 | 20.5 | 20.4 | 21.4 | 21.4 | 21.9 | 23.8 | 23.2 | 21.7 | 22.7 | 21.9 | 21.3 | 22.5 | 21.9 | 21.7 | 22.7 | 21.7 | 21.9 | 22.3 | 22.9 | 20.4 | 23.8 | 21.8 |
| Dec 18 | 23.8 | 24.4 | 24.9 | 25.2 | 22.5 | 21.5 | 21.5 | 21.7 | 23.3 | 24.0 | 23.4 | 22.5 | 22.2 | 22.1 | 22.7 | 20.8 | 20.2 | 20.5 | 22.3 | 23.2 | 23.8 | 24.2 | 24.2 | 22.2 | 20.2 | 25.2 | 22.8 |
| Dec 19 | 21.5 | 20.4 | 19.7 | 21.1 | 21.7 | 21.9 | 22.1 | 21.7 | 19.8 | 20.9 | 21.4 | 21.9 | 22.4 | 21.0 | 20.2 | 21.3 | 22.0 | 22.3 | 22.4 | 22.4 | 22.2 | 22.1 | 21.9 | 21.8 | 19.7 | 22.4 | 21.5 |
| Dec 20 | 21.6 | 21.4 | 21.1 | 20.9 | 20.8 | 20.6 | 20.5 | 20.3 | 20.1 | 19.9 | 20.0 | 20.4 | 21.0 | 21.6 | 22.0 | 20.6 | 19.7 | 19.8 | 19.9 | 19.7 | 19.7 | 19.7 | 19.7 | 19.8 | 19.7 | 22.0 | 20.5 |
| Dec 21 | 19.7 | 19.7 | 19.6 | 19.8 | 19.7 | 19.7 | 19.6 | 19.6 | 19.5 | 19.5 | 19.4 | 19.7 | 19.6 | 19.6 | 19.7 | 19.6 | 19.6 | 19.6 | 19.5 | 19.5 | 19.6 | 19.6 | 19.7 | 19.6 | 19.4 | 19.8 | 19.6 |
| Dec 22 | 19.5 | 19.6 | 19.7 | 19.7 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.7 | 19.8 | 19.9 | 19.7 | 19.2 | 19.4 | 19.6 | 19.4 | 20.0 | 20.1 | 20.2 | 20.1 | 20.1 | 20.1 | 19.7 | 19.2 | 20.2 | 19.7 |
| Dec 23 | 18.5 | 17.7 | 18.5 | 17.4 | 16.9 | 16.8 | 16.3 | 16.1 | **16.0** | 16.1 | **16.0** | **16.0** | 16.2 | 16.3 | 16.3 | 16.3 | 16.2 | 16.3 | 16.7 | 16.8 | 16.7 | 16.7 | 16.8 | 16.7 | **16.0** | 18.5 | 16.7 |
| Dec 24 | 16.7 | 17.1 | 17.0 | 17.1 | 17.0 | 17.2 | 17.3 | 17.4 | 17.4 | 21.1 | 24.6 | 24.2 | 24.0 | 24.2 | 24.5 | 24.9 | 25.0 | 25.2 | 25.3 | 25.2 | 25.1 | 24.9 | 24.7 | 24.2 | 16.7 | 25.3 | 21.7 |
| Dec 25 | 23.8 | 23.6 | 23.9 | 24.0 | 24.1 | 24.3 | 24.4 | 24.6 | 24.6 | 24.4 | 24.3 | 24.3 | 24.5 | 24.5 | 24.6 | 24.9 | 25.2 | 25.4 | 25.5 | 25.6 | 25.5 | 25.6 | 25.6 | 25.6 | 23.6 | 25.6 | 24.7 |
| Dec 26 | 25.3 | 24.8 | 25.0 | 25.6 | 25.4 | 25.4 | 25.3 | 25.1 | 24.8 | 24.7 | 25.0 | 25.3 | 25.6 | 25.6 | 25.0 | 24.9 | 25.4 | 26.6 | 27.2 | 26.9 | 26.5 | 26.4 | 26.2 | 25.7 | 24.7 | 27.2 | 25.6 |
| Dec 27 | 25.6 | 25.4 | 25.1 | 24.7 | 24.8 | 24.7 | 24.6 | 24.9 | 25.0 | 25.2 | 25.3 | 25.6 | 25.6 | 25.2 | 25.0 | 25.2 | 25.3 | 26.2 | 27.0 | 27.4 | 27.3 | 27.3 | 27.3 | 27.3 | 24.6 | 27.4 | 25.7 |
| Dec 28 | 27.0 | 26.3 | 25.6 | 25.6 | 25.2 | 25.2 | 25.0 | 24.8 | 24.7 | 24.8 | 24.8 | 24.8 | 24.9 | 25.1 | 25.3 | 25.4 | 25.6 | 25.8 | 25.9 | 26.0 | 26.0 | 26.2 | 26.4 | 26.6 | 24.7 | 27.0 | 25.5 |
| Dec 29 | 26.5 | 26.6 | 26.7 | 26.6 | 26.2 | 26.0 | 26.1 | 26.3 | 26.6 | 26.8 | 26.9 | 26.9 | 27.2 | 27.3 | 27.1 | 27.0 | 27.0 | 26.6 | 26.0 | 25.5 | 25.5 | 25.0 | 24.7 | 24.4 | 24.4 | 27.3 | 26.3 |
| Dec 30 | 24.1 | 24.0 | 24.1 | 24.2 | 24.3 | 24.7 | 25.0 | 25.1 | 25.4 | 25.8 | 25.8 | 26.0 | 26.5 | 27.2 | 27.5 | 27.1 | 27.1 | 27.1 | 27.0 | 27.1 | 27.0 | 27.0 | 27.0 | 27.1 | 24.0 | 27.5 | 26.0 |
| Dec 31 | 27.1 | 27.0 | 26.9 | 26.7 | 26.4 | 26.4 | 26.4 | 26.4 | 26.2 | 26.5 | 26.9 | 27.4 | 27.1 | 26.9 | 27.1 | 27.0 | 26.9 | 27.0 | 27.1 | 27.1 | 27.1 | 27.0 | 27.0 | 26.6 | 26.2 | 27.4 | 26.8 |
| Diurnal Maximum | 27.2 | 27.2 | 27.1 | 27.1 | 27.1 | 27.3 | 27.0 | 27.1 | 27.2 | 27.2 | 27.2 | 27.4 | 27.5 | 27.8 | 27.9 | 28.0 | 27.9 | 28.0 | 28.4 | 28.7 | 27.8 | 27.3 | 27.3 | 27.3 | | | |
| Diurnal Average | 23.7 | 23.7 | 23.7 | 23.7 | 23.5 | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 24.0 | 24.1 | 24.2 | 24.3 | 24.3 | 24.1 | 24.1 | 24.3 | 24.4 | 24.3 | 24.2 | 24.1 | 24.1 | 24.0 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Peace River Complex (PRC) Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## Peace River Complex (PRC) Station - December 2022

### Summary of Hourly Averages

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

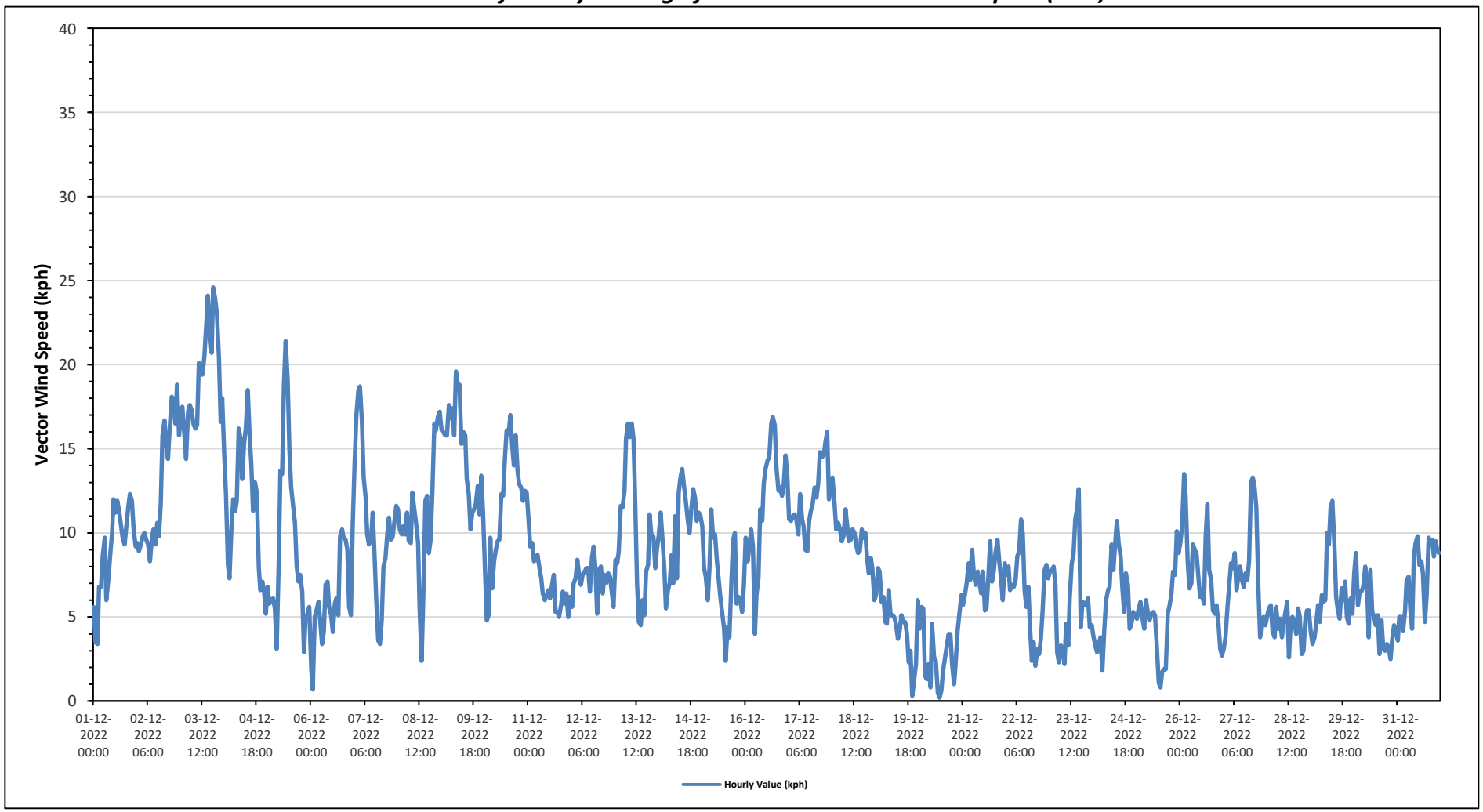
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.6 | kph | on December 3 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.0 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 11 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.6 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 1.8 | kph | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 5.6 | 3.5 | 3.4 | 6.8 | 6.8 | 8.7 | 9.7 | 6.0 | 7.2 | 8.6 | 10.0 | 12.0 | 11.2 | 11.9 | 11.3 | 10.4 | 9.7 | 9.3 | 10.4 | 11.6 | 12.3 | 11.9 | 10.2 | 9.2 | 3.4 | 12.3 | 7.8 |
| Dec 2 | 9.4 | 8.9 | 9.3 | 9.8 | 10.0 | 9.6 | 9.3 | 8.3 | 9.7 | 10.2 | 9.3 | 10.6 | 9.8 | 11.7 | 15.8 | 16.7 | 15.2 | 14.4 | 16.3 | 18.1 | 17.8 | 16.5 | 18.8 | 15.8 | 8.3 | 18.8 | 12.5 |
| Dec 3 | 16.9 | 17.5 | 15.9 | 14.4 | 17.2 | 17.6 | 17.3 | 16.5 | 16.2 | 16.4 | 20.1 | 19.6 | 19.4 | 20.5 | 22.0 | 24.1 | 22.1 | 20.7 | **24.6** | 23.9 | 23.0 | 20.4 | 16.6 | 18.0 | 14.4 | **24.6** | **19.0** |
| Dec 4 | 14.7 | 12.3 | 8.1 | 7.3 | 10.3 | 12.0 | 11.3 | 11.9 | 16.2 | 15.6 | 13.2 | 15.3 | 16.2 | 18.5 | 15.9 | 14.1 | 11.3 | 13.0 | 12.4 | 7.9 | 6.6 | 7.1 | 6.5 | 5.2 | 5.2 | 18.5 | 9.2 |
| Dec 5 | 6.8 | 5.8 | 6.0 | 6.1 | 5.5 | 3.1 | 8.0 | 13.7 | 13.5 | 18.8 | 21.4 | 19.1 | 14.9 | 12.7 | 11.7 | 10.6 | 8.0 | 7.1 | 7.5 | 6.5 | 2.9 | 4.9 | 5.2 | 5.6 | 2.9 | 21.4 | 8.2 |
| Dec 6 | 1.9 | 0.7 | 5.0 | 5.4 | 5.9 | 4.9 | 3.4 | 4.1 | 6.9 | 7.1 | 5.6 | 5.1 | 4.1 | 5.8 | 6.1 | 5.1 | 9.8 | 10.2 | 9.7 | 9.6 | 9.0 | 5.6 | 5.1 | 10.3 | 0.7 | 10.3 | 5.6 |
| Dec 7 | 14.2 | 17.0 | 18.5 | 18.7 | 16.7 | 13.3 | 12.1 | 9.9 | 9.3 | 9.6 | 11.2 | 8.8 | 6.1 | 3.6 | 3.4 | 4.8 | 8.0 | 8.5 | 9.9 | 10.9 | 9.6 | 9.7 | 10.7 | 11.6 | 3.4 | 18.7 | 5.1 |
| Dec 8 | 11.4 | 10.2 | 9.9 | 10.4 | 9.9 | 11.2 | 9.5 | 9.4 | 12.4 | 11.4 | 10.6 | 9.4 | 5.5 | 2.4 | 6.3 | 11.9 | 12.2 | 8.8 | 9.6 | 12.5 | 16.5 | 16.1 | 16.9 | 17.2 | 2.4 | 17.2 | 5.6 |
| Dec 9 | 16.1 | 16.0 | 15.8 | 15.8 | 17.6 | 16.8 | 17.4 | 15.8 | 19.6 | 18.8 | 18.8 | 15.3 | 16.0 | 15.8 | 13.2 | 12.3 | 10.2 | 11.2 | 11.4 | 11.7 | 12.8 | 11.1 | 13.4 | 11.2 | 10.2 | 19.6 | 14.7 |
| Dec 10 | 7.7 | 4.8 | 5.1 | 9.7 | 6.7 | 8.3 | 9.0 | 9.5 | 9.6 | 12.3 | 12.2 | 14.4 | 16.1 | 15.9 | 17.0 | 15.2 | 14.0 | 15.8 | 13.6 | 12.9 | 12.7 | 11.9 | 12.5 | 12.4 | 4.8 | 17.0 | 10.4 |
| Dec 11 | 10.9 | 9.2 | 9.4 | 8.3 | 8.4 | 8.7 | 8.0 | 7.3 | 6.4 | 6.0 | 6.3 | 6.6 | 6.1 | 6.9 | 7.5 | 5.3 | 5.3 | 5.0 | 5.7 | 6.5 | 5.8 | 6.4 | 5.0 | 6.2 | 5.0 | 10.9 | 4.4 |
| Dec 12 | 5.6 | 7.0 | 7.3 | 8.4 | 7.5 | 6.9 | 7.5 | 7.7 | 7.9 | 7.9 | 6.5 | 8.5 | 9.2 | 7.9 | 5.2 | 7.8 | 8.0 | 6.4 | 7.5 | 7.0 | 7.6 | 7.4 | 6.5 | 5.6 | 5.2 | 9.2 | 6.8 |
| Dec 13 | 8.4 | 8.2 | 8.9 | 11.6 | 11.5 | 12.5 | 15.6 | 16.5 | 15.7 | 16.5 | 15.6 | 11.6 | 7.0 | 4.7 | 4.5 | 6.0 | 5.1 | 7.7 | 8.1 | 11.1 | 9.7 | 9.8 | 7.9 | 9.0 | 4.5 | 16.5 | 8.6 |
| Dec 14 | 9.9 | 11.2 | 9.7 | 7.8 | 5.5 | 6.6 | 7.0 | 8.7 | 7.0 | 11.0 | 7.3 | 12.4 | 13.3 | 13.8 | 12.7 | 11.8 | 10.8 | 10.0 | 11.5 | 12.6 | 12.1 | 10.7 | 11.2 | 11.0 | 5.5 | 13.8 | 9.3 |
| Dec 15 | 10.4 | 7.9 | 7.4 | 6.0 | 8.0 | 11.4 | 9.7 | 9.9 | 8.4 | 7.3 | 6.2 | 5.3 | 4.3 | 2.4 | 4.4 | 3.8 | 7.0 | 9.6 | 10.0 | 5.8 | 6.2 | 5.9 | 5.3 | 6.9 | 2.4 | 11.4 | 6.5 |
| Dec 16 | 9.7 | 8.3 | 9.1 | 10.2 | 9.2 | 4.0 | 6.3 | 7.3 | 11.4 | 10.7 | 12.9 | 13.8 | 14.3 | 14.5 | 16.5 | 16.9 | 16.4 | 13.8 | 12.5 | 12.7 | 12.2 | 12.9 | 14.6 | 13.4 | 4.0 | 16.9 | 8.6 |
| Dec 17 | 10.8 | 10.7 | 11.0 | 11.1 | 10.8 | 9.9 | 12.3 | 10.8 | 10.4 | 9.0 | 8.9 | 10.7 | 11.3 | 11.7 | 12.7 | 12.1 | 12.9 | 14.8 | 14.5 | 14.6 | 15.4 | 16.0 | 12.0 | 13.0 | 8.9 | 16.0 | 11.5 |
| Dec 18 | 13.3 | 11.8 | 10.2 | 10.6 | 10.2 | 9.5 | 9.8 | 11.4 | 10.4 | 9.5 | 9.6 | 10.2 | 10.0 | 9.3 | 8.8 | 8.9 | 10.2 | 9.7 | 10.0 | 8.5 | 7.6 | 8.5 | 7.9 | 6.0 | 6.0 | 13.3 | 9.6 |
| Dec 19 | 6.3 | 7.9 | 7.7 | 5.9 | 6.2 | 4.7 | 4.6 | 6.6 | 5.1 | 5.1 | 5.0 | 4.6 | 3.7 | 4.2 | 5.1 | 4.7 | 4.7 | 4.0 | 2.3 | 3.0 | 0.3 | 1.3 | 2.2 | 6.0 | 0.3 | 7.9 | 3.7 |
| Dec 20 | 4.3 | 5.6 | 5.5 | 1.5 | 1.3 | 2.2 | 0.8 | 4.6 | 2.6 | 2.4 | 0.5 | **0.2** | 0.6 | 1.8 | 2.6 | 3.3 | 4.0 | 4.0 | 2.2 | 1.0 | 2.2 | 4.2 | 5.2 | 6.3 | **0.2** | 6.3 | **1.6** |
| Dec 21 | 5.7 | 6.3 | 7.0 | 8.2 | 7.2 | 9.0 | 7.5 | 6.9 | 7.7 | 7.1 | 6.4 | 7.7 | 5.4 | 5.5 | 7.5 | 9.5 | 7.1 | 7.7 | 8.8 | 9.6 | 8.3 | 7.3 | 6.0 | 8.2 | 5.4 | 9.6 | 7.3 |
| Dec 22 | 7.5 | 8.0 | 6.6 | 6.9 | 6.8 | 7.2 | 8.6 | 8.9 | 10.8 | 9.9 | 6.6 | 5.6 | 6.8 | 4.3 | 2.4 | 3.5 | 2.1 | 3.1 | 2.8 | 3.7 | 5.4 | 7.8 | 8.1 | 7.3 | 2.1 | 10.8 | 4.5 |
| Dec 23 | 7.7 | 7.8 | 8.0 | 6.9 | 2.9 | 2.3 | 3.3 | 3.1 | 2.2 | 4.6 | 3.3 | 6.1 | 8.2 | 8.7 | 10.8 | 11.5 | 12.6 | 4.4 | 5.9 | 5.8 | 5.7 | 6.1 | 4.4 | 4.5 | 2.2 | 12.6 | 2.8 |
| Dec 24 | 3.9 | 3.3 | 2.9 | 3.4 | 3.8 | 1.8 | 4.3 | 6.0 | 6.6 | 6.8 | 9.3 | 7.8 | 9.5 | 10.7 | 9.4 | 8.6 | 6.7 | 5.3 | 7.6 | 6.9 | 4.3 | 4.6 | 5.3 | 5.0 | 1.8 | 10.7 | 4.3 |
| Dec 25 | 4.9 | 5.5 | 5.9 | 5.0 | 4.3 | 6.0 | 5.3 | 4.8 | 5.2 | 5.3 | 5.1 | 3.3 | 1.1 | 0.8 | 1.7 | 1.9 | 1.9 | 5.2 | 5.6 | 6.3 | 7.7 | 7.5 | 10.1 | 8.8 | 0.8 | 10.1 | **1.6** |
| Dec 26 | 9.4 | 10.4 | 13.5 | 12.2 | 8.4 | 6.7 | 7.0 | 9.3 | 9.0 | 8.7 | 7.2 | 6.2 | 6.4 | 5.8 | 9.8 | 11.7 | 7.8 | 7.2 | 5.4 | 5.2 | 5.7 | 4.6 | 3.1 | 2.7 | 2.7 | 13.5 | 5.0 |
| Dec 27 | 3.1 | 3.8 | 5.6 | 6.9 | 8.2 | 7.9 | 8.8 | 6.6 | 7.4 | 8.0 | 7.2 | 6.8 | 7.6 | 7.2 | 8.3 | 13.0 | 13.3 | 12.7 | 11.5 | 6.8 | 3.8 | 4.8 | 5.0 | 4.5 | 3.1 | 13.3 | 6.7 |
| Dec 28 | 5.1 | 5.5 | 5.7 | 4.1 | 3.8 | 5.6 | 4.3 | 4.9 | 3.8 | 4.7 | 5.2 | 5.9 | 2.6 | 4.9 | 5.0 | 4.7 | 4.0 | 5.5 | 5.0 | 2.8 | 3.0 | 4.8 | 5.4 | 5.4 | 2.6 | 5.9 | 2.3 |
| Dec 29 | 4.1 | 3.4 | 3.8 | 4.5 | 5.7 | 4.7 | 6.3 | 5.9 | 6.0 | 10.0 | 9.3 | 11.5 | 11.9 | 9.3 | 6.2 | 5.4 | 4.9 | 6.7 | 6.0 | 7.1 | 5.0 | 4.6 | 6.1 | 5.2 | 3.4 | 11.9 | 5.9 |
| Dec 30 | 7.6 | 8.8 | 5.7 | 6.5 | 6.5 | 6.8 | 8.0 | 7.0 | 3.8 | 7.8 | 5.3 | 5.0 | 4.5 | 5.1 | 2.8 | 4.8 | 3.1 | 3.0 | 3.4 | 3.2 | 2.5 | 3.6 | 4.5 | 4.1 | 2.5 | 8.8 | 4.3 |
| Dec 31 | 3.6 | 5.0 | 5.0 | 4.2 | 5.4 | 7.2 | 7.4 | 5.4 | 4.3 | 8.6 | 9.4 | 9.8 | 8.1 | 8.3 | 7.6 | 4.7 | 6.3 | 9.7 | 9.3 | 9.6 | 8.6 | 9.5 | 8.9 | 8.8 | 3.6 | 9.8 | 7.1 |
| Diurnal Maximum | 17 | 18 | 19 | 19 | 18 | 18 | 17 | 17 | 20 | 19 | 21 | 20 | 19 | 21 | 22 | 24 | 22 | 21 | 25 | 24 | 23 | 20 | 19 | 18 | | | |
| Diurnal Average | 8.3 | 8.1 | 8.2 | 8.2 | 8.0 | 8.0 | 8.4 | 8.5 | 8.8 | 9.5 | 9.2 | 9.3 | 8.7 | 8.6 | 8.8 | 9.2 | 8.9 | 8.9 | 9.1 | 8.9 | 8.5 | 8.5 | 8.4 | 8.5 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

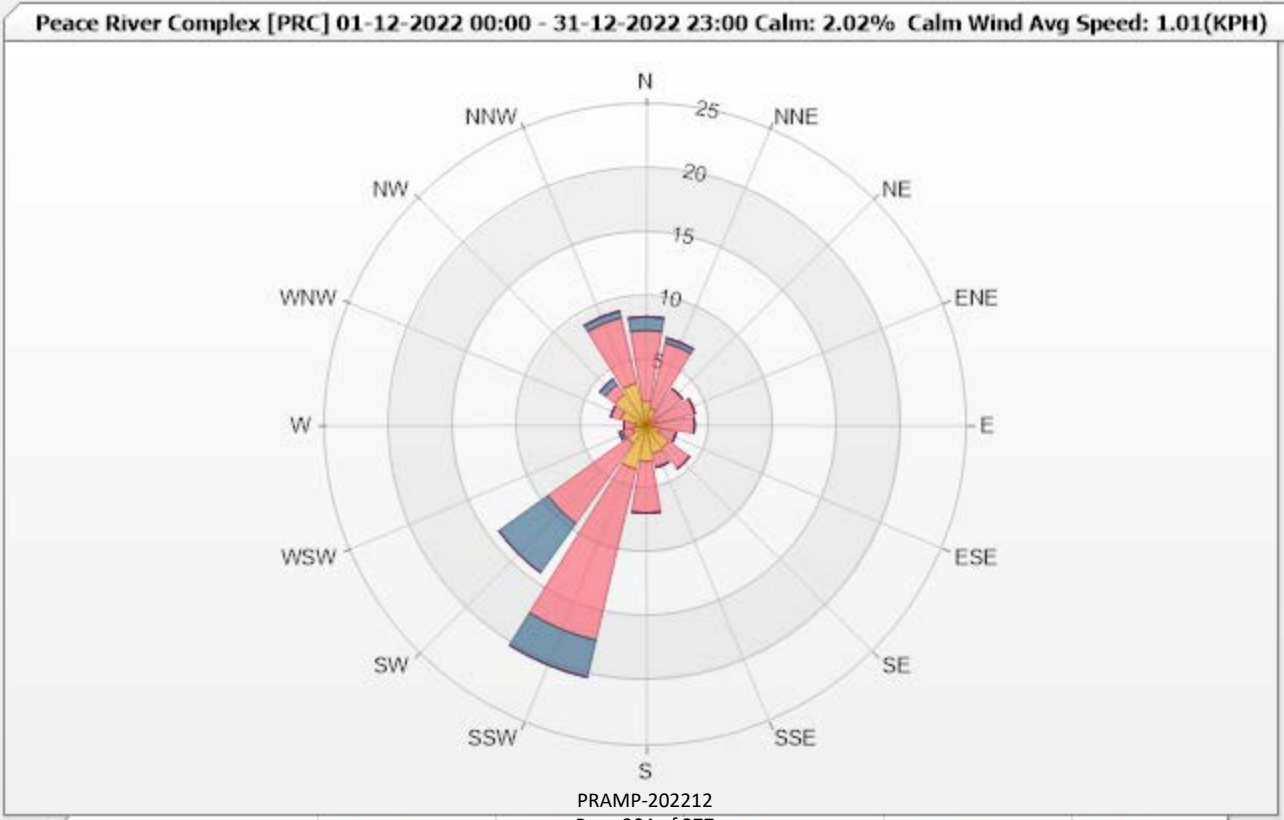
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

## *Timeseries Chart of Hourly Average for VWS - Peace River Complex (PRC) Station*



Wind: Peace River Complex [PRC] Monitor: WDS [KPH] Monthly: 12-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 2.02% Valid Data: 100.00%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|---|---|---|---|---|---|---|
| N | 1.88 | 5.51 | 1.08 | 0 | 0 | 8.47 |
| NNE | 1.34 | 5.24 | 0.4 | 0 | 0 | 6.98 |
| NE | 0.4 | 3.09 | 0 | 0 | 0 | 3.49 |
| ENE | 0.81 | 3.09 | 0 | 0 | 0 | 3.9 |
| E | 0.54 | 3.23 | 0 | 0 | 0 | 3.77 |
| ESE | 1.08 | 1.34 | 0 | 0 | 0 | 2.42 |
| SE | 2.15 | 2.02 | 0 | 0 | 0 | 4.17 |
| SSE | 2.28 | 1.08 | 0 | 0 | 0 | 3.36 |
| S | 2.82 | 4.03 | 0 | 0 | 0 | 6.85 |
| SSW | 3.49 | 13.71 | 2.96 | 0 | 0 | 20.16 |
| SW | 1.75 | 7.66 | 4.7 | 0 | 0 | 14.11 |
| WSW | 1.08 | 0.81 | 0.27 | 0 | 0 | 2.16 |
| W | 0.81 | 0.94 | 0 | 0 | 0 | 1.75 |
| WNW | 2.02 | 0.81 | 0 | 0 | 0 | 2.83 |
| NW | 2.96 | 0.94 | 0.54 | 0 | 0 | 4.44 |
| NNW | 3.36 | 5.24 | 0.54 | 0 | 0 | 9.14 |
| Summary | 28.77 | 58.74 | 10.49 | 0 | 0 | 98 |


Peace River Complex [PRC] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 2.02% Calm Wind Avg Speed: 1.01(KPH)
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (KPH)
29 1.8-6.0
59 6.0-15.0
10 15.0-29.0
0 29.0-39.0
0 >39.0

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *Peace River Complex (PRC) Station - December 2022*

## Summary of Hourly Averages

## WIND DIRECTION (VWD) in sector

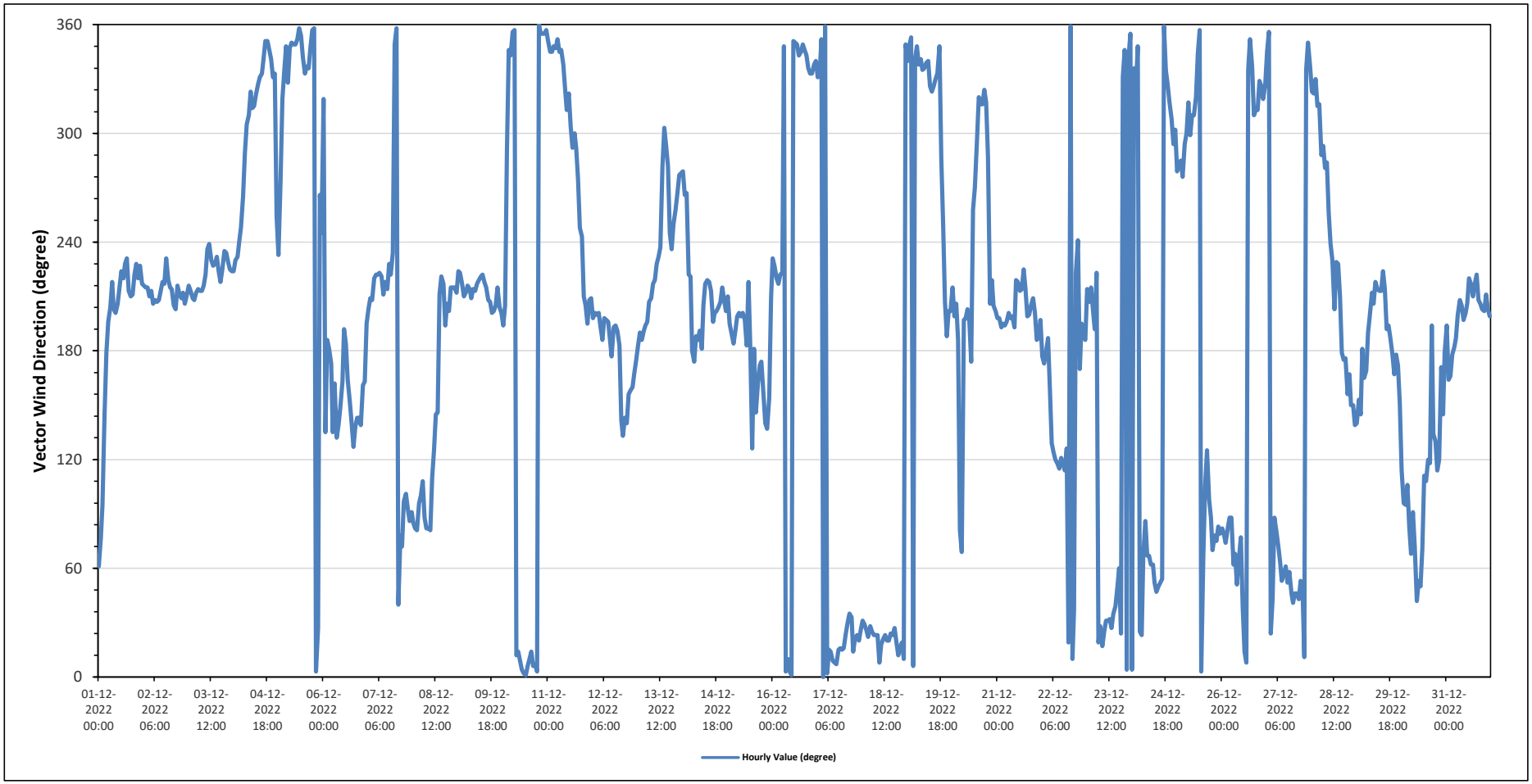
| | | | |
|---|---|---|---|
| Monthly Average: | 230 (SW) | degree | |
| | | Hours in Service: | 744 |
| | | Hours of Data: | 744 |
| | | Hours of Missing Data: | 0 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 100.0 |

| 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 |
| Dec 1 | ENE | ENE | E | SE | S | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SSW | SSW | SSW | SW | SW | SW | SW | SW | 211 | SSW |
| Dec 2 | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | 212 | SSW |
| Dec 3 | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | WSW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | 224 | SW |
| Dec 4 | SW | SW | SW | WSW | WSW | W | WNW | WNW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | N | N | NNW | NNW | NNW | NNW | WSW | 308 | NW |
| Dec 5 | SW | W | NW | NNW | NNW | NNW | NNW | N | NNW | NNW | N | N | N | NNW | NNW | NNW | NNW | NNW | N | N | N | NNE | W | WSW | 341 | NNW |
| Dec 6 | NW | SE | S | S | S | SE | SSE | SE | SE | SSE | SSE | S | S | SSE | SSE | SE | SE | SE | SE | SE | SE | SSE | SSE | SSW | 155 | SSE |
| Dec 7 | SSW | SSW | SSW | SW | SW | SW | SW | SW | SSW | SW | SSW | SW | SW | SW | NNW | N | NE | ENE | ENE | E | E | E | E | E | 192 | S |
| Dec 8 | E | E | E | E | E | ESE | E | E | E | E | ESE | SE | SE | SE | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 154 | SSE |
| Dec 9 | SW | SW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 214 | SSW |
| Dec 10 | SSW | SSW | WNW | NNW | NNW | N | N | NNE | NNE | N | N | N | N | N | N | NNE | N | N | N | N | N | N | N | N | 1 | N |
| Dec 11 | N | NNW | NNW | NNW | NNW | N | NNW | NNW | NNW | NW | NW | NW | WNW | WNW | WNW | WNW | W | WSW | WSW | SSW | SSW | SSW | SSW | SSW | 311 | NW |
| Dec 12 | SSW | SSW | SSW | SSW | S | S | SSW | SSW | SSW | S | S | S | SSW | S | S | SE | SE | SE | SE | SSE | SSE | SSE | SSE | S | 178 | S |
| Dec 13 | S | S | S | S | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | W | WNW | WNW | W | WSW | SW | WSW | WSW | W | W | W | 227 | SW |
| Dec 14 | W | W | W | SW | SW | S | S | S | S | S | S | SSW | SW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 211 | SSW |
| Dec 15 | SSW | SSW | S | S | S | SSW | SSW | SSW | SSW | SSW | S | SW | S | SE | S | SE | SSE | S | S | SSE | SE | SE | SSE | SSW | 184 | S |
| Dec 16 | SW | SW | SW | SW | SW | SW | NNW | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | 335 | NNW |
| Dec 17 | NNW | NNW | N | N | N | N | NNE | NNE | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NNE | NNE | NNE | NNE | NNE | NNE | 13 | NNE |
| Dec 18 | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNW | 21 | NNE |
| Dec 19 | NNW | NNW | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | NW | NW | NNW | NNW | NNW | WNW | WSW | SSW | S | SSW | SSW | 334 | NNW |
| Dec 20 | SSW | SSW | SSW | S | E | ENE | SSW | SSW | SSW | SSW | S | WSW | W | WNW | NW | NW | NW | NW | NW | WNW | SSW | SW | SSW | SSW | 227 | SW |
| Dec 21 | SSW | SSW | S | SSW | SSW | SSW | SSW | SSW | SSW | S | SW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | S | S | SSW | 202 | SSW |
| Dec 22 | S | S | S | S | SSE | SE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | SE | NNE | N | N | NE | SW | WSW | SSE | SSW | S | S | 148 | SE |
| Dec 23 | SSW | SSW | SSW | SSW | S | SW | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | ENE | NNE | NNW | NNW | N | NNW | N | 21 | NNE |
| Dec 24 | N | NNW | NW | NNW | NNE | NNE | ENE | E | ENE | ENE | ENE | ENE | NE | NE | NE | NE | NE | N | NNW | NW | NW | NW | WNW | WNW | 28 | NNE |
| Dec 25 | W | W | WNW | W | WNW | WNW | NW | WNW | NW | NW | NW | NNW | N | N | ENE | ESE | SE | E | E | ENE | ENE | ENE | E | ENE | 7 | N |
| Dec 26 | E | ENE | ENE | E | E | E | ENE | ENE | NE | ENE | ENE | NE | NNE | N | NNW | N | NNW | NW | NW | NW | NNW | NW | NW | NW | 37 | NE |
| Dec 27 | NNW | N | NNE | NE | E | E | ENE | ENE | NE | ENE | ENE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NNE | NNW | N | NNW | 46 | NE |
| Dec 28 | NW | NW | NNW | NW | NW | WNW | WNW | W | WNW | WSW | WSW | SW | SSW | SW | SW | SSW | S | S | S | SSE | SSE | SSE | SSE | SE | 237 | SW |
| Dec 29 | SE | SSE | SE | S | SSE | SSE | S | SSW | SSW | SSW | SW | SSW | SSW | SSW | SW | SSW | S | SSW | S | S | SSE | S | S | SSE | 193 | S |
| Dec 30 | ESE | E | E | ESE | E | ENE | E | ENE | NE | NE | NE | ENE | ESE | ESE | ESE | ESE | SSW | SE | SE | ESE | ESE | S | SE | S | 99 | E |
| Dec 31 | SSW | SSE | SSE | S | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 202 | SSW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Machine Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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 - Peace River Complex (PRC) Station*



peace river area monitoring program

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# *PEACE RIVER AREA MONITORING PROGRAM*

## *Peace River Complex (PRC) Station - December 2022*

### Summary of Hourly Averages

### VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.6 | kph | on December 3 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.0 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 11 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.6 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 1.8 | kph | | Operational Uptime: | 100.0 |

**WIND DIRECTION**

Monthly Average: 230 (SW) degree

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 5.6 | 3.5 | 3.4 | 6.8 | 6.8 | 8.7 | 9.7 | 6.0 | 7.2 | 8.6 | 10.0 | 12.0 | 11.2 | 11.9 | 11.3 | 10.4 | 9.7 | 9.3 | 10.4 | 11.6 | 12.3 | 11.9 | 10.2 | 9.2 | 3.4 | 12.3 | 7.8 |
| | ENE | ENE | E | SE | S | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SSW | SSW | SSW | SW | SW | SW | SW | SW | | | |
| Dec 2 | 9.4 | 8.9 | 9.3 | 9.8 | 10.0 | 9.6 | 9.3 | 8.3 | 9.7 | 10.2 | 9.3 | 10.6 | 9.8 | 11.7 | 15.8 | 16.7 | 15.2 | 14.4 | 16.3 | 18.1 | 17.8 | 16.5 | 18.8 | 15.8 | 8.3 | 18.8 | 12.5 |
| | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 3 | 16.9 | 17.5 | 15.9 | 14.4 | 17.2 | 17.6 | 17.3 | 16.5 | 16.2 | 16.4 | 20.1 | 19.6 | 19.4 | 20.5 | 22.0 | 24.1 | 22.1 | 20.7 | **24.6** | 23.9 | 23.0 | 20.4 | 16.6 | 18.0 | 14.4 | **24.6** | **19.0** |
| | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SW | WSW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | | | |
| Dec 4 | 14.7 | 12.3 | 8.1 | 7.3 | 10.3 | 12.0 | 11.3 | 11.9 | 16.2 | 15.6 | 13.2 | 15.3 | 16.2 | 18.5 | 15.9 | 14.1 | 11.3 | 13.0 | 12.4 | 7.9 | 6.6 | 7.1 | 6.5 | 5.2 | 5.2 | 18.5 | 9.2 |
| | SW | SW | SW | WSW | WSW | W | WNW | WNW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | N | N | NNW | NNW | NNW | NNW | WSW | | | |
| Dec 5 | 6.8 | 5.8 | 6.0 | 6.1 | 5.5 | 3.1 | 8.0 | 13.7 | 13.5 | 18.8 | 21.4 | 19.1 | 14.9 | 12.7 | 11.7 | 10.6 | 8.0 | 7.1 | 7.5 | 6.5 | 2.9 | 4.9 | 5.2 | 5.6 | 2.9 | 21.4 | 8.2 |
| | SW | W | NW | NNW | NNW | NNW | NNW | N | NNW | NNW | N | N | N | NNW | NNW | NNW | NNW | NNW | N | N | N | NNE | W | WSW | | | |
| Dec 6 | 1.9 | 0.7 | 5.0 | 5.4 | 5.9 | 4.9 | 3.4 | 4.1 | 6.9 | 7.1 | 5.6 | 5.1 | 4.1 | 5.8 | 6.1 | 5.1 | 9.8 | 10.2 | 9.7 | 9.6 | 9.0 | 5.6 | 5.1 | 10.3 | 0.7 | 10.3 | 5.6 |
| | NW | SE | S | S | S | SE | SSE | SE | SE | SSE | SSE | S | S | SSE | SSE | SE | SE | SE | SE | SE | SE | SSE | SSE | SSW | | | |
| Dec 7 | 14.2 | 17.0 | 18.5 | 18.7 | 16.7 | 13.3 | 12.1 | 9.9 | 9.3 | 9.6 | 11.2 | 8.8 | 6.1 | 3.6 | 3.4 | 4.8 | 8.0 | 8.5 | 9.9 | 10.9 | 9.6 | 9.7 | 10.7 | 11.6 | 3.4 | 18.7 | 5.1 |
| | SSW | SSW | SSW | SW | SW | SW | SW | SW | SSW | SW | SSW | SW | SW | SW | NNW | N | NE | ENE | ENE | E | E | E | E | E | | | |
| Dec 8 | 11.4 | 10.2 | 9.9 | 10.4 | 9.9 | 11.2 | 9.5 | 9.4 | 12.4 | 11.4 | 10.6 | 9.4 | 5.5 | 2.4 | 6.3 | 11.9 | 12.2 | 8.8 | 9.6 | 12.5 | 16.5 | 16.1 | 16.9 | 17.2 | 2.4 | 17.2 | 5.6 |
| | E | E | E | E | E | ESE | E | E | E | E | ESE | SE | SE | SE | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 9 | 16.1 | 16.0 | 15.8 | 15.8 | 17.6 | 16.8 | 17.4 | 15.8 | 19.6 | 18.8 | 18.8 | 15.3 | 16.0 | 15.8 | 13.2 | 12.3 | 10.2 | 11.2 | 11.4 | 11.7 | 12.8 | 11.1 | 13.4 | 11.2 | 10.2 | 19.6 | 14.7 |
| | SW | SW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 10 | 7.7 | 4.8 | 5.1 | 9.7 | 6.7 | 8.3 | 9.0 | 9.5 | 9.6 | 12.3 | 12.2 | 14.4 | 16.1 | 15.9 | 17.0 | 15.2 | 14.0 | 15.8 | 13.6 | 12.9 | 12.7 | 11.9 | 12.5 | 12.4 | 4.8 | 17.0 | 10.4 |
| | SSW | SSW | WNW | NNW | NNW | N | N | NNE | NNE | N | N | N | N | N | N | NNE | N | N | N | N | N | N | N | N | | | |
| Dec 11 | 10.9 | 9.2 | 9.4 | 8.3 | 8.4 | 8.7 | 8.0 | 7.3 | 6.4 | 6.0 | 6.3 | 6.6 | 6.1 | 6.9 | 7.5 | 5.3 | 5.3 | 5.0 | 5.7 | 6.5 | 5.8 | 6.4 | 5.0 | 6.2 | 5.0 | 10.9 | 4.4 |
| | N | NNW | NNW | NNW | NNW | N | NNW | NNW | NNW | NW | NW | NW | WNW | WNW | WNW | WNW | W | WSW | WSW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 12 | 5.6 | 7.0 | 7.3 | 8.4 | 7.5 | 6.9 | 7.5 | 7.7 | 7.9 | 7.9 | 6.5 | 8.5 | 9.2 | 7.9 | 5.2 | 7.8 | 8.0 | 6.4 | 7.5 | 7.0 | 7.6 | 7.4 | 6.5 | 5.6 | 5.2 | 9.2 | 6.8 |
| | SSW | SSW | SSW | SSW | S | S | SSW | SSW | SSW | S | S | S | SSW | S | S | SE | SE | SE | SE | SSE | SSE | SSE | SSE | S | | | |
| Dec 13 | 8.4 | 8.2 | 8.9 | 11.6 | 11.5 | 12.5 | 15.6 | 16.5 | 15.7 | 16.5 | 15.6 | 11.6 | 7.0 | 4.7 | 4.5 | 6.0 | 5.1 | 7.7 | 8.1 | 11.1 | 9.7 | 9.8 | 7.9 | 9.0 | 4.5 | 16.5 | 8.6 |
| | S | S | S | S | SSW | SSW | SSW | SSW | SW | SW | SW | SW | SW | W | WNW | WNW | W | WSW | SW | WSW | WSW | W | W | W | | | |
| Dec 14 | 9.9 | 11.2 | 9.7 | 7.8 | 5.5 | 6.6 | 7.0 | 8.7 | 7.0 | 11.0 | 7.3 | 12.4 | 13.3 | 13.8 | 12.7 | 11.8 | 10.8 | 10.0 | 11.5 | 12.6 | 12.1 | 10.7 | 11.2 | 11.0 | 5.5 | 13.8 | 9.3 |
| | W | W | W | SW | SW | S | S | S | S | S | S | SSW | SW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | | | |
| Dec 15 | 10.4 | 7.9 | 7.4 | 6.0 | 8.0 | 11.4 | 9.7 | 9.9 | 8.4 | 7.3 | 6.2 | 5.3 | 4.3 | 2.4 | 4.4 | 3.8 | 7.0 | 9.6 | 10.0 | 5.8 | 6.2 | 5.9 | 5.3 | 6.9 | 2.4 | 11.4 | 6.5 |
| | SSW | SSW | S | S | S | SSW | SSW | SSW | SSW | SSW | S | SW | S | SE | S | SE | SSE | S | S | SSE | SE | SE | SSE | SSW | | | |
| Dec 16 | 9.7 | 8.3 | 9.1 | 10.2 | 9.2 | 4.0 | 6.3 | 7.3 | 11.4 | 10.7 | 12.9 | 13.8 | 14.3 | 14.5 | 16.5 | 16.9 | 16.4 | 13.8 | 12.5 | 12.7 | 12.2 | 12.9 | 14.6 | 13.4 | 4.0 | 16.9 | 8.6 |
| | SW | SW | SW | SW | SW | SW | NNW | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | | | |
| Dec 17 | 10.8 | 10.7 | 11.0 | 11.1 | 10.8 | 9.9 | 12.3 | 10.8 | 10.4 | 9.0 | 8.9 | 10.7 | 11.3 | 11.7 | 12.7 | 12.1 | 12.9 | 14.8 | 14.5 | 14.6 | 15.4 | 16.0 | 12.0 | 13.0 | 8.9 | 16.0 | 11.5 |
| | NNW | NNW | N | N | N | N | NNE | NNE | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NE | NNE | NNE | NNE | NNE | NNE | NNE | | | |
| Dec 18 | 13.3 | 11.8 | 10.2 | 10.6 | 10.2 | 9.5 | 9.8 | 11.4 | 10.4 | 9.5 | 9.6 | 10.2 | 10.0 | 9.3 | 8.8 | 8.9 | 10.2 | 9.7 | 10.0 | 8.5 | 7.6 | 8.5 | 7.9 | 6.0 | 6.0 | 13.3 | 9.6 |
| | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNW | | | |
| Dec 19 | 6.3 | 7.9 | 7.7 | 5.9 | 6.2 | 4.7 | 4.6 | 6.6 | 5.1 | 5.1 | 5.0 | 4.6 | 3.7 | 4.2 | 5.1 | 4.7 | 4.7 | 4.0 | 2.3 | 3.0 | 0.3 | 1.3 | 2.2 | 6.0 | 0.3 | 7.9 | 3.7 |
| | NNW | NNW | N | N | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | NW | NW | NNW | NNW | NNW | WNW | WSW | SSW | S | SSW | SSW | | | | |
| Dec 20 | 4.3 | 5.6 | 5.5 | 1.5 | 1.3 | 2.2 | 0.8 | 4.6 | 2.6 | 2.4 | 0.5 | **0.2** | 0.6 | 1.8 | 2.6 | 3.3 | 4.0 | 4.0 | 2.2 | 1.0 | 2.2 | 4.2 | 5.2 | 6.3 | **0.2** | 6.3 | **1.6** |
| | SSW | SSW | SSW | S | E | ENE | SSW | SSW | SSW | SSW | S | WSW | W | WNW | NW | NW | NW | NW | NW | WNW | SSW | SW | SSW | SSW | | | |

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# *PEACE RIVER AREA MONITORING PROGRAM*

## *Peace River Complex (PRC) Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 24.6 | kph | on December 3 at hour 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 19.0 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.2 | kph | on December 20 at hour 11 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.6 | kph | on December 20 | Hours of Calibration: | 0 |
| Monthly Average: | 1.8 | kph | | Operational Uptime: | 100.0 |

**WIND DIRECTION**

Monthly Average: 230 (SW) degree

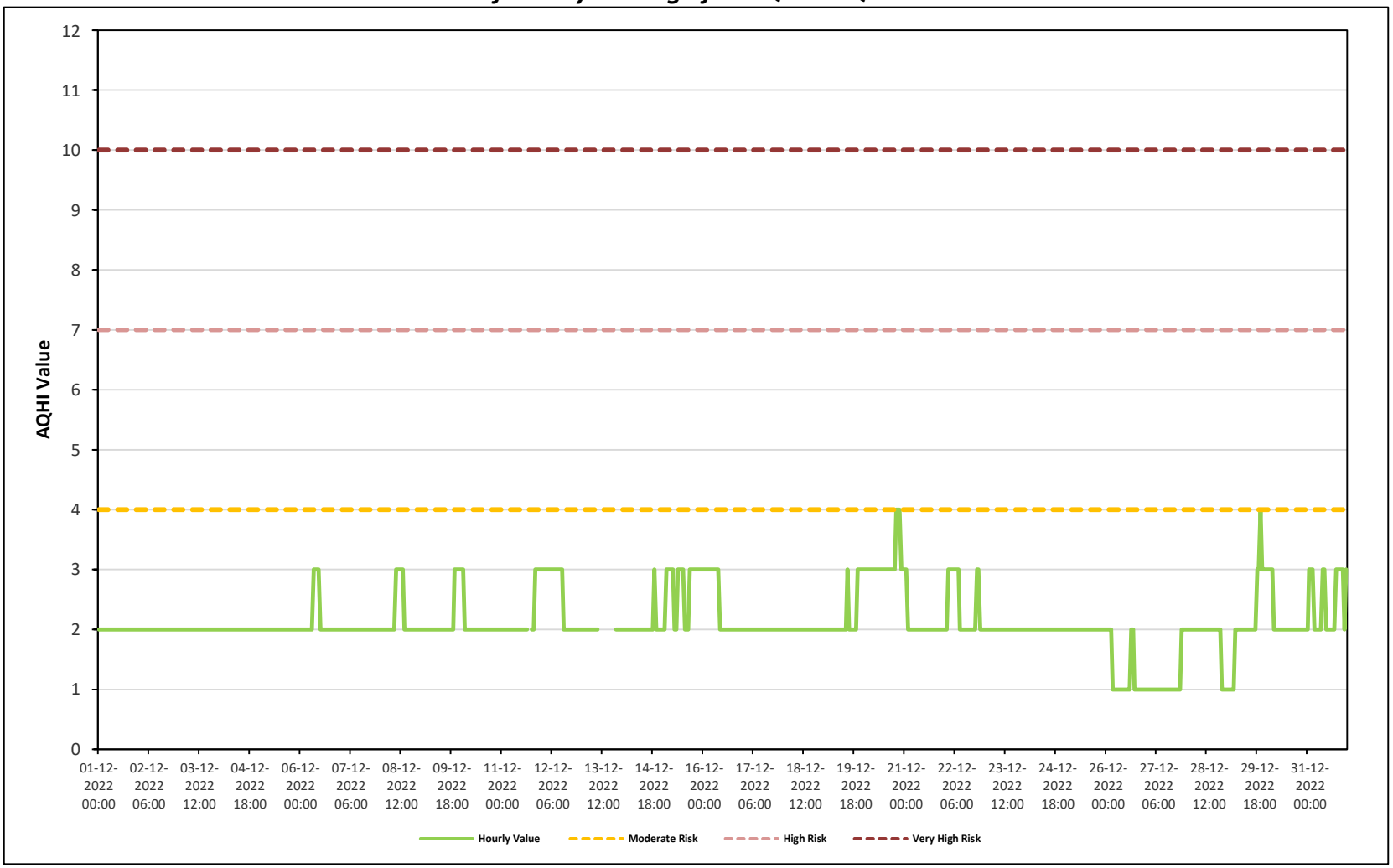
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 21 | 5.7 | 6.3 | 7.0 | 8.2 | 7.2 | 9.0 | 7.5 | 6.9 | 7.7 | 7.1 | 6.4 | 7.7 | 5.4 | 5.5 | 7.5 | 9.5 | 7.1 | 7.7 | 8.8 | 9.6 | 8.3 | 7.3 | 6.0 | 8.2 | 5.4 | 9.6 | 7.3 |
| | SSW | SSW | S | SSW | SSW | SSW | SSW | SSW | SSW | S | SW | SW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | S | S | SSW | | | |
| Dec 22 | 7.5 | 8.0 | 6.6 | 6.9 | 6.8 | 7.2 | 8.6 | 8.9 | 10.8 | 9.9 | 6.6 | 5.6 | 6.8 | 4.3 | 2.4 | 3.5 | 2.1 | 3.1 | 2.8 | 3.7 | 5.4 | 7.8 | 8.1 | 7.3 | 2.1 | 10.8 | 4.5 |
| | S | S | S | S | SSE | SE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | SE | NNE | N | N | NE | SW | WSW | SSE | SSW | S | S | | | |
| Dec 23 | 7.7 | 7.8 | 8.0 | 6.9 | 2.9 | 2.3 | 3.3 | 3.1 | 2.2 | 4.6 | 3.3 | 6.1 | 8.2 | 8.7 | 10.8 | 11.5 | 12.6 | 4.4 | 5.9 | 5.8 | 5.7 | 6.1 | 4.4 | 4.5 | 2.2 | 12.6 | 2.8 |
| | SSW | SSW | SSW | SSW | S | SW | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NE | NE | NE | ENE | NNE | NNW | NNW | N | NNW | N | | | |
| Dec 24 | 3.9 | 3.3 | 2.9 | 3.4 | 3.8 | 1.8 | 4.3 | 6.0 | 6.6 | 6.8 | 9.3 | 7.8 | 9.5 | 10.7 | 9.4 | 8.6 | 6.7 | 5.3 | 7.6 | 6.9 | 4.3 | 4.6 | 5.3 | 5.0 | 1.8 | 10.7 | 4.3 |
| | N | NNW | NW | NNW | NNE | NNE | ENE | E | ENE | ENE | ENE | ENE | NE | NE | NE | NE | NE | N | NNW | NW | NW | NW | WNW | WNW | | | |
| Dec 25 | 4.9 | 5.5 | 5.9 | 5.0 | 4.3 | 6.0 | 5.3 | 4.8 | 5.2 | 5.3 | 5.1 | 3.3 | 1.1 | 0.8 | 1.7 | 1.9 | 1.9 | 5.2 | 5.6 | 6.3 | 7.7 | 7.5 | 10.1 | 8.8 | 0.8 | 10.1 | **1.6** |
| | W | W | WNW | W | WNW | WNW | NW | WNW | NW | NW | NW | NNW | N | N | ENE | ESE | SE | E | E | ENE | ENE | ENE | E | ENE | | | |
| Dec 26 | 9.4 | 10.4 | 13.5 | 12.2 | 8.4 | 6.7 | 7.0 | 9.3 | 9.0 | 8.7 | 7.2 | 6.2 | 6.4 | 5.8 | 9.8 | 11.7 | 7.8 | 7.2 | 5.4 | 5.2 | 5.7 | 4.6 | 3.1 | 2.7 | 2.7 | 13.5 | 5.0 |
| | E | ENE | ENE | E | E | E | ENE | ENE | NE | ENE | ENE | NE | NNE | N | NNW | N | NNW | NW | NW | NW | NNW | NW | NW | NW | | | |
| Dec 27 | 3.1 | 3.8 | 5.6 | 6.9 | 8.2 | 7.9 | 8.8 | 6.6 | 7.4 | 8.0 | 7.2 | 6.8 | 7.6 | 7.2 | 8.3 | 13.0 | 13.3 | 12.7 | 11.5 | 6.8 | 3.8 | 4.8 | 5.0 | 4.5 | 3.1 | 13.3 | 6.7 |
| | NNW | N | NNE | NE | E | E | ENE | ENE | NE | ENE | ENE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NNE | NNW | N | NNW | | | |
| Dec 28 | 5.1 | 5.5 | 5.7 | 4.1 | 3.8 | 5.6 | 4.3 | 4.9 | 3.8 | 4.7 | 5.2 | 5.9 | 2.6 | 4.9 | 5.0 | 4.7 | 4.0 | 5.5 | 5.0 | 2.8 | 3.0 | 4.8 | 5.4 | 5.4 | 2.6 | 5.9 | 2.3 |
| | NW | NW | NNW | NW | NW | WNW | WNW | W | WNW | WSW | WSW | SW | SSW | SW | SW | SSW | S | S | S | SSE | SSE | SSE | SSE | SE | | | |
| Dec 29 | 4.1 | 3.4 | 3.8 | 4.5 | 5.7 | 4.7 | 6.3 | 5.9 | 6.0 | 10.0 | 9.3 | 11.5 | 11.9 | 9.3 | 6.2 | 5.4 | 4.9 | 6.7 | 6.0 | 7.1 | 5.0 | 4.6 | 6.1 | 5.2 | 3.4 | 11.9 | 5.9 |
| | SE | SSE | SE | S | SSE | SSE | S | SSW | SSW | SSW | SW | SSW | SSW | SSW | SW | SSW | S | SSW | S | S | SSE | S | S | SSE | | | |
| Dec 30 | 7.6 | 8.8 | 5.7 | 6.5 | 6.5 | 6.8 | 8.0 | 7.0 | 3.8 | 7.8 | 5.3 | 5.0 | 4.5 | 5.1 | 2.8 | 4.8 | 3.1 | 3.0 | 3.4 | 3.2 | 2.5 | 3.6 | 4.5 | 4.1 | 2.5 | 8.8 | 4.3 |
| | ESE | E | E | ESE | E | ENE | E | ENE | NE | NE | NE | ENE | ESE | ESE | ESE | ESE | SSW | SE | SE | ESE | ESE | S | SE | S | | | |
| Dec 31 | 3.6 | 5.0 | 5.0 | 4.2 | 5.4 | 7.2 | 7.4 | 5.4 | 4.3 | 8.6 | 9.4 | 9.8 | 8.1 | 8.3 | 7.6 | 4.7 | 6.3 | 9.7 | 9.3 | 9.6 | 8.6 | 9.5 | 8.9 | 8.8 | 3.6 | 9.8 | 7.1 |
| | SSW | SSE | SSE | S | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SW | SW | SSW | SW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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.

# AQHI GRIMSHAW STATION

## *Timeseries Chart of Hourly Average for AQHI - AQHI - Grimshaw Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### SULPHUR DIOXIDE ($SO_2$) in ppb

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

Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0 30-Day Exceedance: 0

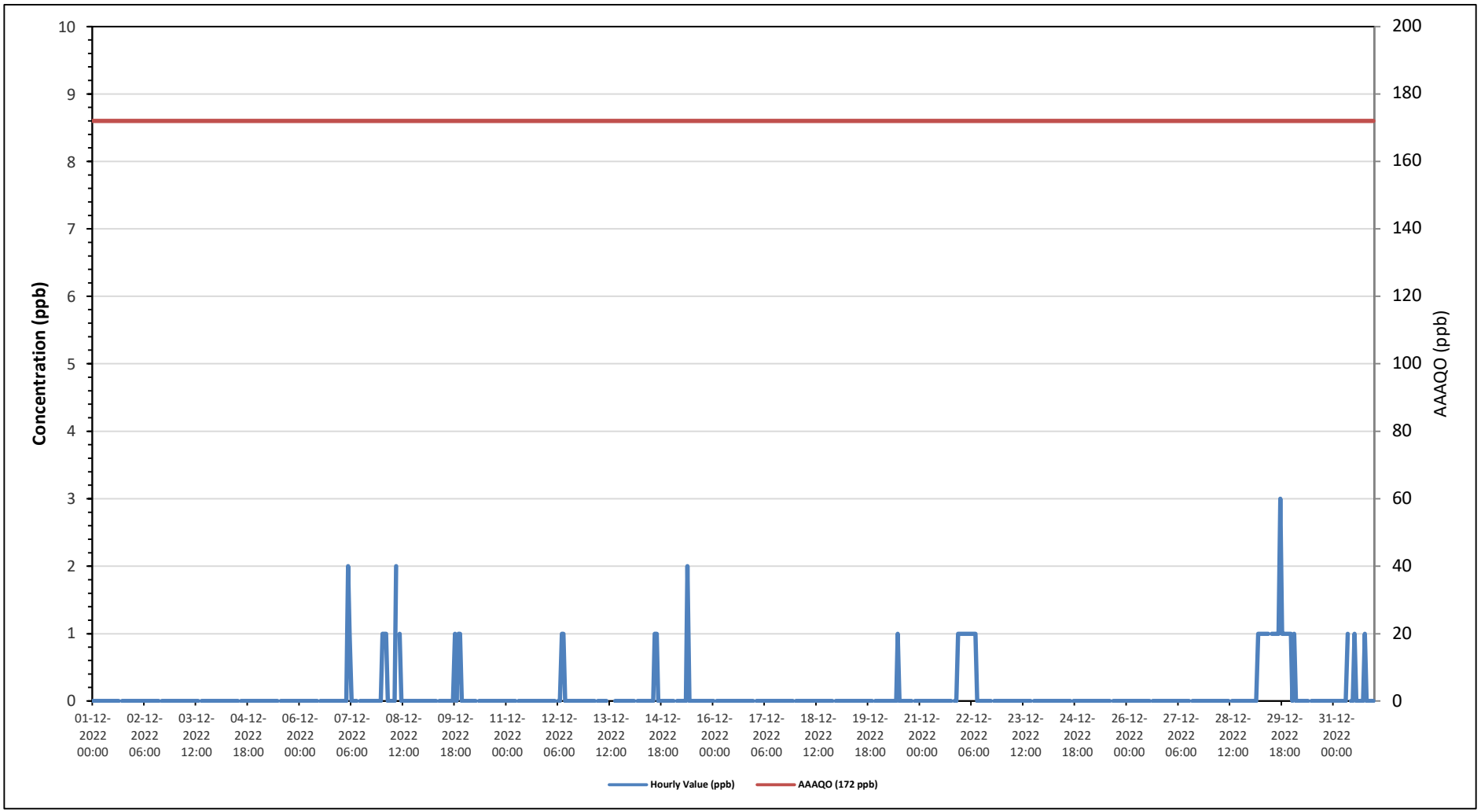
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 3 | ppb | on December 29 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.9 | ppb | on December 29 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 | ppb | on December 1 | Hours of Calibration: | 36 |
| Monthly Average: | 0.1 | ppb | | Operational Uptime: | 100.0 |

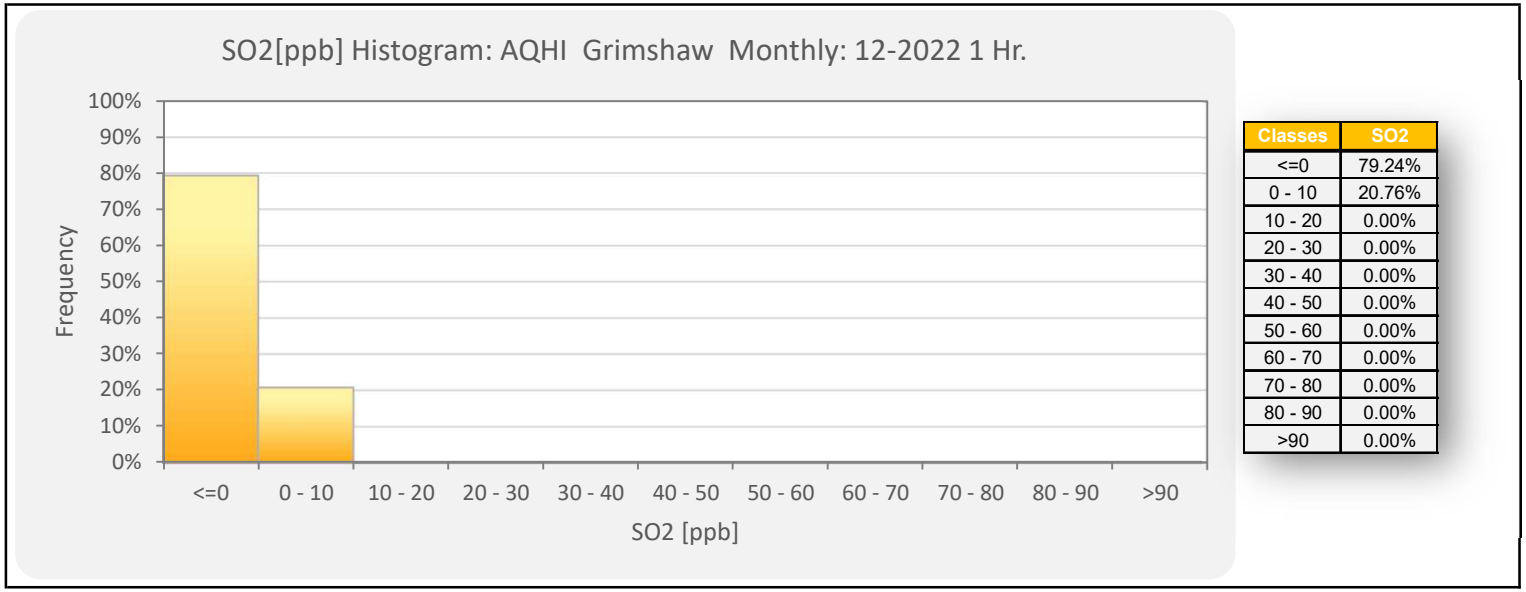
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 7 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.1 |
| Dec 8 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 |
| Dec 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 11 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 12 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 13 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 14 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Dec 15 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.1 |
| Dec 16 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 17 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 |
| Dec 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0.0 |
| Dec 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0.0 |
| Dec 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 1 | 0 | 1 | 0.1 |
| Dec 22 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.4 |
| Dec 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Dec 29 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0.9 |
| Dec 30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dec 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 |
| Diurnal Maximum | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| Diurnal Average | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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 - Grimshaw Station*

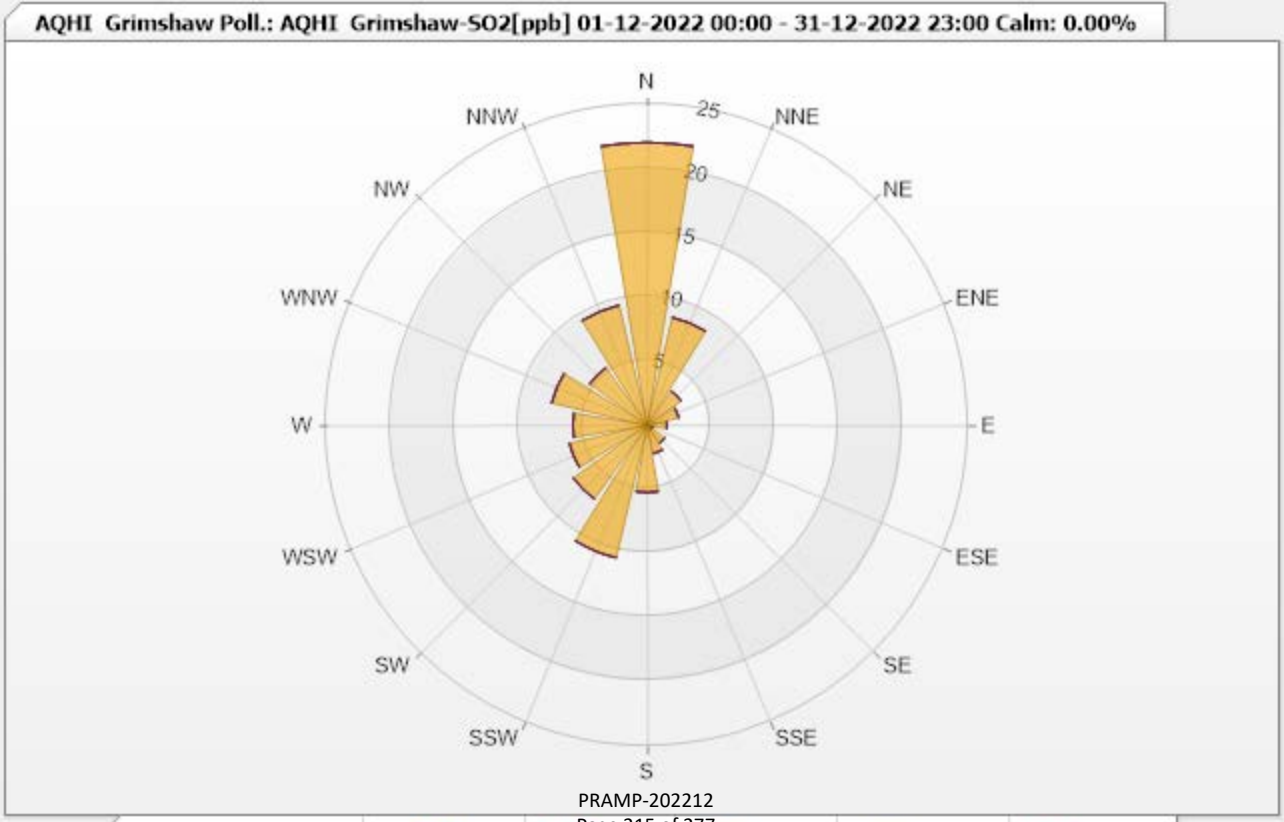





| Classes | SO2 |
|---|---|
| <=0 | 79.24% |
| 0 - 10 | 20.76% |
| 10 - 20 | 0.00% |
| 20 - 30 | 0.00% |
| 30 - 40 | 0.00% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-SO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppb]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|---|---|---|---|---|---|---|
| N | 22.03 | 0 | 0 | 0 | 0 | 22.03 |
| NNE | 8.62 | 0 | 0 | 0 | 0 | 8.62 |
| NE | 3.25 | 0 | 0 | 0 | 0 | 3.25 |
| ENE | 2.54 | 0 | 0 | 0 | 0 | 2.54 |
| E | 1.55 | 0 | 0 | 0 | 0 | 1.55 |
| ESE | 0.42 | 0 | 0 | 0 | 0 | 0.42 |
| SE | 1.69 | 0 | 0 | 0 | 0 | 1.69 |
| SSE | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| S | 5.23 | 0 | 0 | 0 | 0 | 5.23 |
| SSW | 10.59 | 0 | 0 | 0 | 0 | 10.59 |
| SW | 7.06 | 0 | 0 | 0 | 0 | 7.06 |
| WSW | 6.21 | 0 | 0 | 0 | 0 | 6.21 |
| W | 5.79 | 0 | 0 | 0 | 0 | 5.79 |
| WNW | 7.63 | 0 | 0 | 0 | 0 | 7.63 |
| NW | 5.51 | 0 | 0 | 0 | 0 | 5.51 |
| NNW | 9.6 | 0 | 0 | 0 | 0 | 9.6 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-SO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

## Summary of Hourly Averages

## TOTAL REDUCED SULPHUR (TRS) in ppb

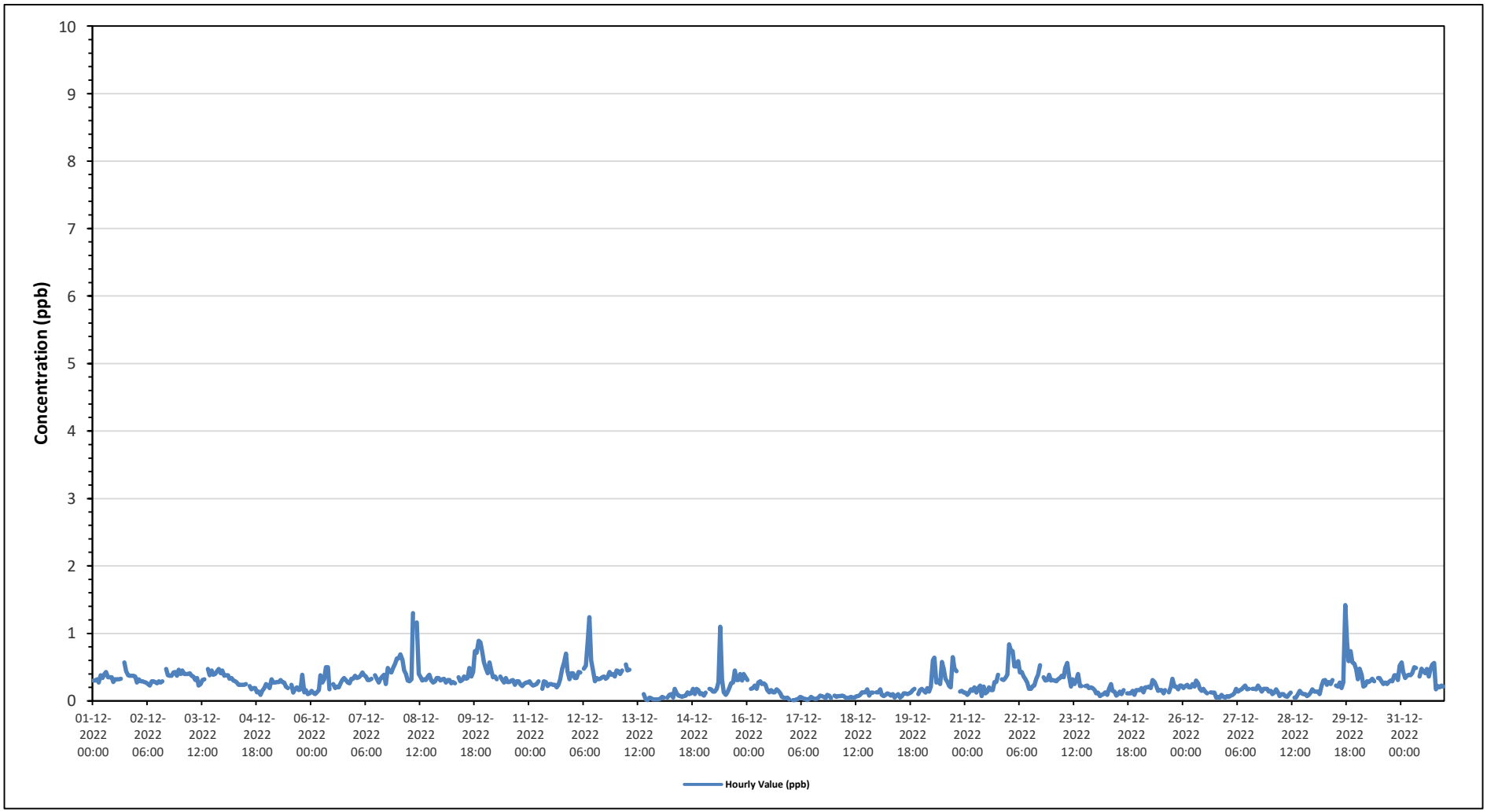
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 1.42 | ppb | on December 29 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.45 | ppb | on December 8 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0.01 | ppb | on December 13 at hour 17 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 0.04 | ppb | on December 17 | Hours of Calibration: | 38 |
| Monthly Average: | 0.27 | ppb | | Operational Uptime: | 99.9 |

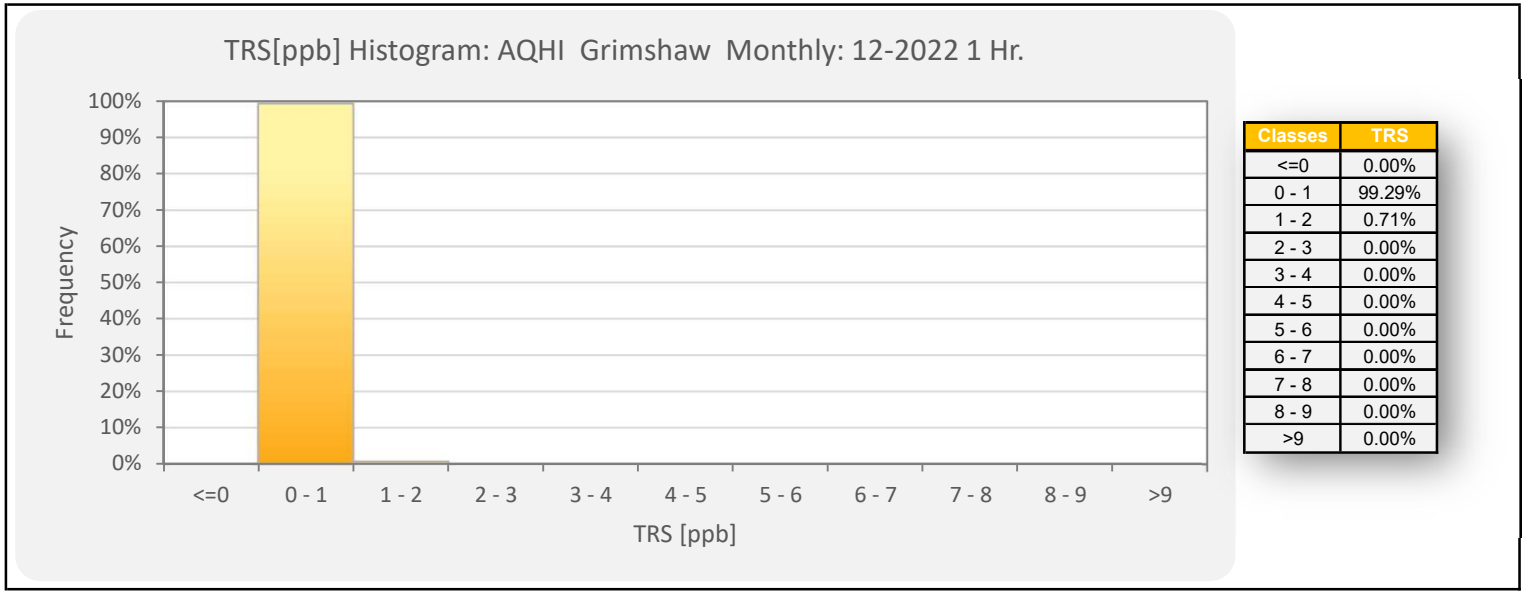
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.3 | 0.3 | 0.32 | 0.27 | 0.38 | 0.34 | 0.4 | 0.43 | 0.35 | 0.35 | 0.35 | 0.28 | 0.32 | 0.32 | 0.32 | 0.33 | S | 0.57 | 0.44 | 0.38 | 0.37 | 0.37 | 0.37 | 0.36 | 0.27 | 0.57 | 0.36 |
| Dec 2 | 0.27 | 0.32 | 0.29 | 0.29 | 0.28 | 0.27 | 0.25 | 0.23 | 0.29 | 0.29 | 0.28 | 0.26 | 0.29 | 0.27 | 0.29 | S | 0.47 | 0.38 | 0.37 | 0.37 | 0.42 | 0.43 | 0.37 | 0.46 | 0.23 | 0.47 | 0.32 |
| Dec 3 | 0.4 | 0.45 | 0.4 | 0.4 | 0.4 | 0.41 | 0.37 | 0.36 | 0.31 | 0.34 | 0.23 | 0.25 | 0.31 | 0.32 | S | 0.47 | 0.38 | 0.45 | 0.39 | 0.4 | 0.44 | 0.47 | 0.41 | 0.45 | 0.23 | 0.47 | 0.38 |
| Dec 4 | 0.37 | 0.38 | 0.38 | 0.33 | 0.34 | 0.3 | 0.29 | 0.27 | 0.24 | 0.24 | 0.24 | 0.24 | 0.25 | S | 0.22 | 0.17 | 0.19 | 0.19 | 0.13 | 0.14 | 0.09 | 0.15 | 0.19 | 0.25 | 0.09 | 0.38 | 0.24 |
| Dec 5 | 0.23 | 0.19 | 0.32 | 0.27 | 0.27 | 0.28 | 0.28 | 0.31 | 0.28 | 0.27 | 0.21 | 0.19 | S | 0.24 | 0.12 | 0.18 | 0.2 | 0.16 | 0.17 | 0.39 | 0.13 | 0.16 | 0.1 | 0.11 | 0.10 | 0.39 | 0.22 |
| Dec 6 | 0.15 | 0.12 | 0.1 | 0.13 | 0.16 | 0.38 | 0.27 | 0.32 | 0.5 | 0.5 | 0.17 | S | 0.25 | 0.19 | 0.21 | 0.2 | 0.26 | 0.31 | 0.34 | 0.31 | 0.27 | 0.26 | 0.33 | 0.33 | 0.10 | 0.50 | 0.26 |
| Dec 7 | 0.37 | 0.34 | 0.35 | 0.37 | 0.42 | 0.38 | 0.36 | 0.31 | 0.31 | 0.33 | S | 0.38 | 0.33 | 0.27 | 0.33 | 0.36 | 0.39 | 0.25 | 0.49 | 0.44 | 0.42 | 0.49 | 0.55 | 0.63 | 0.25 | 0.63 | 0.39 |
| Dec 8 | 0.63 | 0.69 | 0.61 | 0.45 | 0.4 | 0.3 | 0.29 | 0.32 | 1.3 | S | 1.16 | 0.4 | 0.36 | 0.3 | 0.32 | 0.31 | 0.36 | 0.39 | 0.3 | 0.27 | 0.29 | 0.34 | 0.34 | 0.3 | 0.27 | 1.30 | **0.45** |
| Dec 9 | 0.32 | 0.33 | 0.27 | 0.31 | 0.31 | 0.26 | 0.28 | 0.26 | S | 0.35 | 0.29 | 0.31 | 0.36 | 0.33 | 0.34 | 0.49 | 0.36 | 0.43 | 0.74 | 0.71 | 0.89 | 0.87 | 0.73 | 0.57 | 0.26 | 0.89 | 0.44 |
| Dec 10 | 0.48 | 0.41 | 0.57 | 0.45 | 0.35 | 0.36 | 0.32 | S | 0.36 | 0.31 | 0.27 | 0.34 | 0.28 | 0.28 | 0.3 | 0.31 | 0.24 | 0.29 | 0.29 | 0.25 | 0.22 | 0.25 | 0.27 | 0.27 | 0.22 | 0.57 | 0.32 |
| Dec 11 | 0.29 | 0.25 | 0.23 | 0.24 | 0.25 | 0.29 | S | 0.18 | 0.29 | 0.28 | 0.22 | 0.25 | 0.25 | 0.24 | 0.24 | 0.2 | 0.24 | 0.32 | 0.48 | 0.56 | 0.7 | 0.44 | 0.32 | 0.41 | 0.18 | 0.70 | 0.31 |
| Dec 12 | 0.41 | 0.34 | 0.34 | 0.43 | 0.42 | S | 0.48 | 0.52 | 0.86 | 1.24 | 0.6 | 0.44 | 0.29 | 0.34 | 0.32 | 0.33 | 0.35 | 0.36 | 0.33 | 0.35 | 0.43 | 0.39 | 0.4 | 0.36 | 0.29 | 1.24 | 0.45 |
| Dec 13 | 0.45 | 0.44 | 0.4 | 0.45 | S | 0.54 | 0.45 | 0.46 | C | C | C | NRM | C | C | C | 0.1 | 0.02 | 0.01 | 0.05 | 0.04 | 0.02 | 0.02 | 0.02 | 0.02 | **0.01** | 0.54 | - |
| Dec 14 | 0.03 | 0.06 | 0.05 | S | 0.05 | 0.09 | 0.1 | 0.05 | 0.18 | 0.11 | 0.08 | 0.07 | 0.06 | 0.07 | 0.08 | 0.13 | 0.1 | 0.11 | 0.18 | 0.1 | 0.18 | 0.16 | 0.1 | 0.11 | 0.03 | 0.18 | 0.10 |
| Dec 15 | 0.08 | 0.12 | S | 0.18 | 0.17 | 0.14 | 0.14 | 0.18 | 0.28 | 1.1 | 0.32 | 0.13 | 0.09 | 0.12 | 0.19 | 0.26 | 0.27 | 0.45 | 0.31 | 0.31 | 0.4 | 0.3 | 0.4 | 0.35 | 0.08 | 1.10 | 0.27 |
| Dec 16 | 0.31 | S | 0.18 | 0.19 | 0.23 | 0.18 | 0.27 | 0.29 | 0.25 | 0.26 | 0.24 | 0.16 | 0.13 | 0.16 | 0.13 | 0.13 | 0.17 | 0.15 | 0.11 | 0.06 | 0.05 | 0.04 | 0.05 | 0.02 | 0.02 | 0.31 | 0.16 |
| Dec 17 | S | 0.01 | 0.01 | 0.02 | 0.03 | 0.06 | 0.05 | 0.03 | 0.03 | 0.01 | 0.03 | 0.06 | 0.04 | 0.03 | 0.03 | 0.05 | 0.08 | 0.07 | 0.06 | 0.04 | 0.09 | 0.08 | 0.04 | S | **0.01** | 0.09 | 0.04 |
| Dec 18 | 0.08 | 0.06 | 0.07 | 0.07 | 0.08 | 0.07 | 0.05 | 0.04 | 0.05 | 0.06 | 0.05 | 0.05 | 0.07 | 0.07 | 0.09 | 0.13 | 0.13 | 0.13 | 0.17 | 0.08 | 0.12 | 0.12 | S | 0.13 | 0.04 | 0.17 | 0.09 |
| Dec 19 | 0.13 | 0.17 | 0.09 | 0.07 | 0.09 | 0.11 | 0.1 | 0.08 | 0.1 | 0.05 | 0.08 | 0.1 | 0.05 | 0.07 | 0.11 | 0.11 | 0.1 | 0.11 | 0.13 | 0.16 | 0.18 | S | 0.1 | 0.16 | 0.05 | 0.18 | 0.11 |
| Dec 20 | 0.18 | 0.15 | 0.12 | 0.19 | 0.14 | 0.21 | 0.6 | 0.64 | 0.27 | 0.3 | 0.25 | 0.58 | 0.48 | 0.33 | 0.28 | 0.22 | 0.2 | 0.65 | 0.48 | 0.44 | S | 0.14 | 0.15 | 0.12 | 0.12 | 0.65 | 0.31 |
| Dec 21 | 0.12 | 0.09 | 0.12 | 0.17 | 0.15 | 0.2 | 0.12 | 0.19 | 0.23 | 0.07 | 0.21 | 0.11 | 0.14 | 0.2 | 0.16 | 0.16 | 0.28 | 0.28 | 0.39 | S | 0.32 | 0.31 | 0.34 | 0.39 | 0.07 | 0.39 | 0.21 |
| Dec 22 | 0.84 | 0.75 | 0.74 | 0.51 | 0.51 | 0.59 | 0.42 | 0.43 | 0.36 | 0.32 | 0.27 | 0.18 | 0.18 | 0.22 | 0.23 | 0.33 | 0.39 | 0.53 | S | 0.35 | 0.3 | 0.31 | 0.39 | 0.3 | 0.18 | 0.84 | 0.41 |
| Dec 23 | 0.31 | 0.3 | 0.29 | 0.32 | 0.34 | 0.37 | 0.35 | 0.49 | 0.56 | 0.37 | 0.21 | 0.32 | 0.25 | 0.31 | 0.4 | 0.22 | 0.22 | S | 0.22 | 0.23 | 0.19 | 0.2 | 0.19 | 0.16 | 0.16 | 0.56 | 0.30 |
| Dec 24 | 0.11 | 0.12 | 0.07 | 0.09 | 0.1 | 0.13 | 0.09 | 0.18 | 0.25 | 0.15 | 0.14 | 0.08 | 0.1 | 0.14 | 0.1 | 0.16 | S | 0.11 | 0.11 | 0.11 | 0.15 | 0.09 | 0.16 | 0.16 | 0.07 | 0.25 | 0.13 |
| Dec 25 | 0.16 | 0.19 | 0.13 | 0.2 | 0.2 | 0.21 | 0.19 | 0.31 | 0.28 | 0.22 | 0.15 | 0.16 | 0.16 | 0.11 | 0.16 | S | 0.13 | 0.21 | 0.33 | 0.21 | 0.21 | 0.17 | 0.23 | 0.23 | 0.11 | 0.33 | 0.20 |
| Dec 26 | 0.19 | 0.22 | 0.24 | 0.2 | 0.2 | 0.25 | 0.21 | 0.3 | 0.26 | 0.18 | 0.15 | 0.18 | 0.14 | 0.11 | S | 0.13 | 0.12 | 0.12 | 0.05 | 0.06 | 0.05 | 0.09 | 0.06 | 0.05 | 0.05 | 0.30 | 0.15 |
| Dec 27 | 0.07 | 0.06 | 0.08 | 0.09 | 0.11 | 0.18 | 0.14 | 0.16 | 0.17 | 0.2 | 0.23 | 0.17 | 0.18 | S | 0.18 | 0.18 | 0.17 | 0.23 | 0.19 | 0.14 | 0.18 | 0.18 | 0.18 | 0.14 | 0.06 | 0.23 | 0.16 |
| Dec 28 | 0.15 | 0.1 | 0.12 | 0.17 | 0.12 | 0.07 | 0.1 | 0.1 | 0.07 | 0.06 | 0.09 | 0.12 | S | 0.05 | 0.05 | 0.1 | 0.15 | 0.11 | 0.1 | 0.1 | 0.07 | 0.09 | 0.12 | 0.17 | 0.05 | 0.17 | 0.10 |
| Dec 29 | 0.14 | 0.14 | 0.14 | 0.1 | 0.23 | 0.3 | 0.31 | 0.24 | 0.28 | 0.25 | 0.31 | S | 0.23 | 0.21 | 0.27 | 0.19 | 0.27 | **1.42** | 0.87 | 0.59 | 0.74 | 0.57 | 0.55 | 0.47 | 0.10 | **1.42** | 0.38 |
| Dec 30 | 0.32 | 0.48 | 0.39 | 0.21 | 0.23 | 0.29 | 0.28 | 0.3 | 0.33 | 0.29 | S | 0.34 | 0.34 | 0.29 | 0.25 | 0.27 | 0.25 | 0.28 | 0.3 | 0.29 | 0.38 | 0.38 | 0.31 | 0.52 | 0.21 | 0.52 | 0.32 |
| Dec 31 | 0.57 | 0.43 | 0.34 | 0.37 | 0.39 | 0.38 | 0.41 | 0.5 | 0.49 | S | 0.36 | 0.48 | 0.44 | 0.41 | 0.47 | 0.36 | 0.48 | 0.54 | 0.56 | 0.17 | 0.22 | 0.2 | 0.23 | 0.21 | 0.17 | 0.57 | 0.39 |
| Diurnal Maximum | 0.84 | 0.75 | 0.74 | 0.51 | 0.51 | 0.59 | 0.60 | 0.64 | 1.30 | 1.24 | 1.16 | 0.58 | 0.48 | 0.41 | 0.47 | 0.49 | 0.48 | 1.42 | 0.87 | 0.71 | 0.89 | 0.87 | 0.73 | 0.63 | | | |
| Diurnal Average | 0.28 | 0.27 | 0.26 | 0.25 | 0.25 | 0.26 | 0.27 | 0.28 | 0.33 | 0.30 | 0.26 | 0.24 | 0.23 | 0.21 | 0.22 | 0.23 | 0.24 | 0.32 | 0.30 | 0.27 | 0.28 | 0.27 | 0.27 | 0.27 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - AQHI - Grimshaw Station*

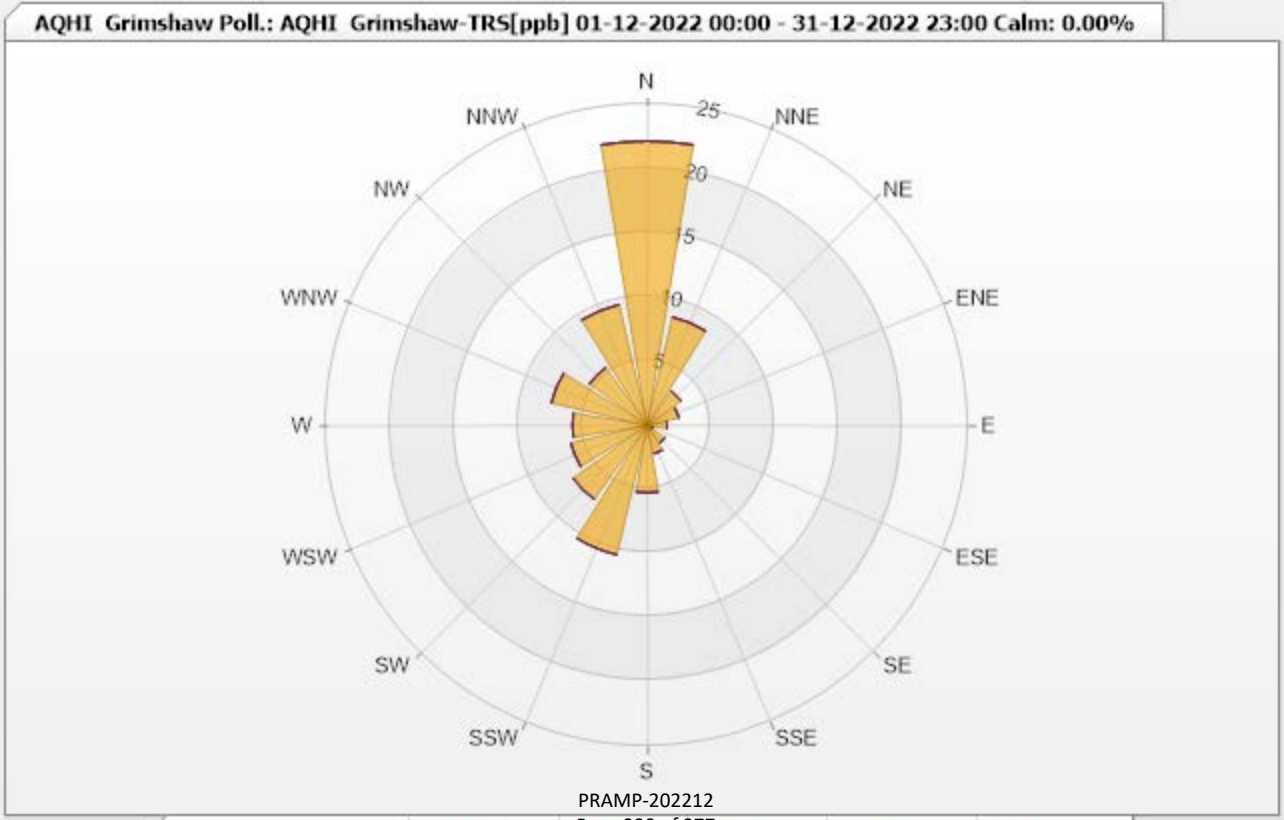





| Classes | TRS |
|---|---|
| <=0 | 0.00% |
| 0 - 1 | 99.29% |
| 1 - 2 | 0.71% |
| 2 - 3 | 0.00% |
| 3 - 4 | 0.00% |
| 4 - 5 | 0.00% |
| 5 - 6 | 0.00% |
| 6 - 7 | 0.00% |
| 7 - 8 | 0.00% |
| 8 - 9 | 0.00% |
| >9 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-TRS[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|---|---|---|---|---|---|---|
| N | 22.13 | 0 | 0 | 0 | 0 | 22.13 |
| NNE | 8.65 | 0 | 0 | 0 | 0 | 8.65 |
| NE | 3.26 | 0 | 0 | 0 | 0 | 3.26 |
| ENE | 2.55 | 0 | 0 | 0 | 0 | 2.55 |
| E | 1.56 | 0 | 0 | 0 | 0 | 1.56 |
| ESE | 0.43 | 0 | 0 | 0 | 0 | 0.43 |
| SE | 1.7 | 0 | 0 | 0 | 0 | 1.7 |
| SSE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| S | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| SSW | 10.35 | 0 | 0 | 0 | 0 | 10.35 |
| SW | 7.09 | 0 | 0 | 0 | 0 | 7.09 |
| WSW | 6.1 | 0 | 0 | 0 | 0 | 6.1 |
| W | 5.82 | 0 | 0 | 0 | 0 | 5.82 |
| WNW | 7.66 | 0 | 0 | 0 | 0 | 7.66 |
| NW | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| NNW | 9.65 | 0 | 0 | 0 | 0 | 9.65 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-TRS[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### OXIDES OF NITROGEN (NOx) in ppb

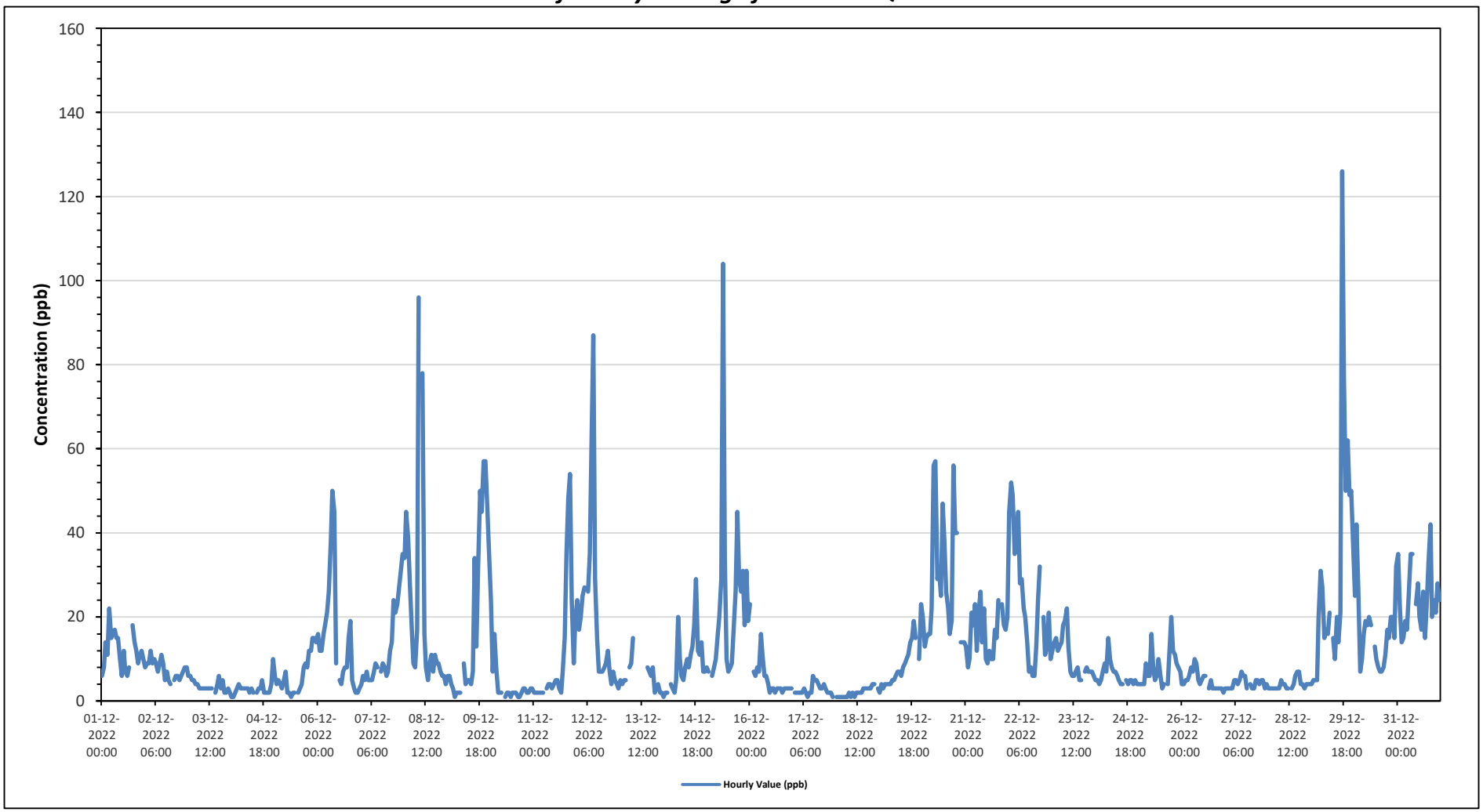
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 126 | ppb | on December 29 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 30.3 | ppb | on December 29 | Hours of Data: | 705 |
| Minimum Hourly Value: | 1 | ppb | on December 4 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 2.0 | ppb | on December 18 | Hours of Calibration: | 39 |
| Monthly Average: | 11.9 | ppb | | Operational Uptime: | 100.0 |

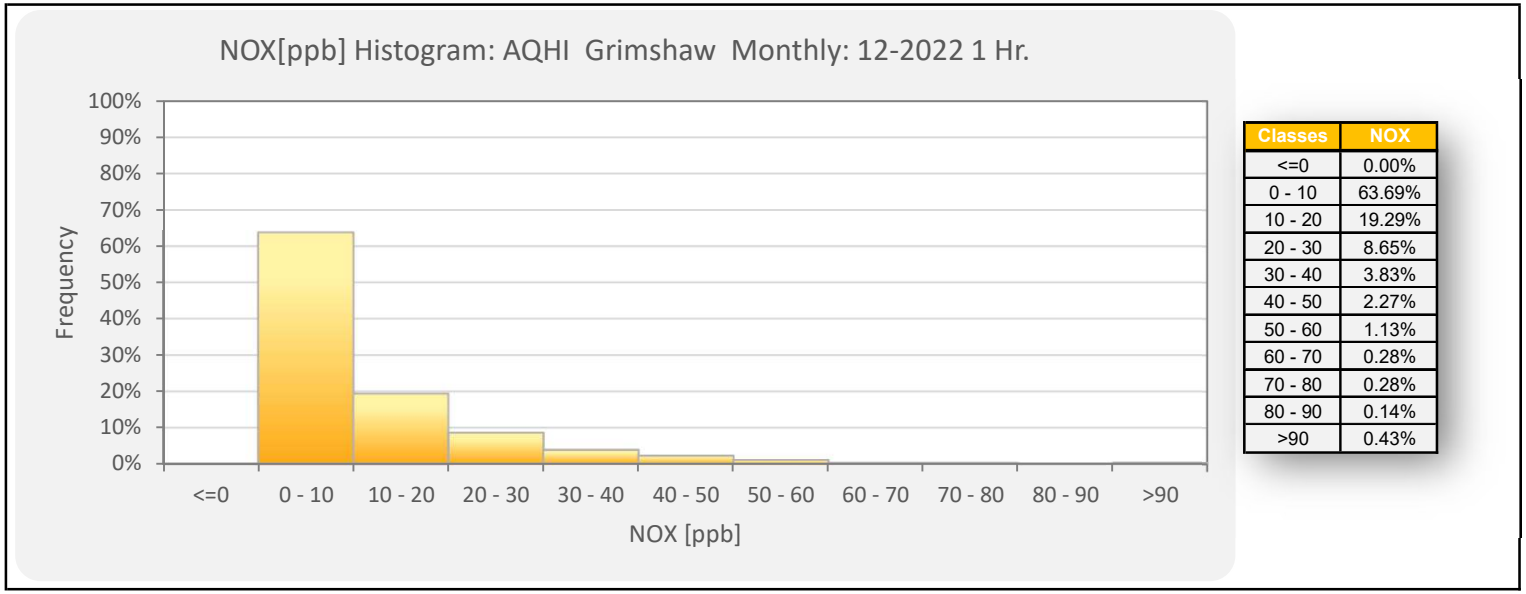
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 6 | 8 | 14 | 11 | 22 | 15 | 16 | 17 | 15 | 15 | 10 | 6 | 12 | 7 | 6 | 8 | S | 18 | 14 | 12 | 9 | 11 | 12 | 10 | 6 | 22 | 11.9 |
| Dec 2 | 8 | 9 | 9 | 12 | 9 | 10 | 9 | 7 | 9 | 11 | 9 | 5 | 7 | 5 | 4 | S | 5 | 6 | 6 | 5 | 6 | 7 | 8 | 8 | 4 | 12 | 7.6 |
| Dec 3 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | S | 2 | 4 | 6 | 3 | 5 | 2 | 2 | 3 | 2 | 2 | 6 | 3.6 |
| Dec 4 | 1 | 1 | 2 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | S | 2 | 3 | 3 | 5 | 2 | 2 | 2 | 2 | 4 | 10 | 1 | 10 | 3.0 |
| Dec 5 | 6 | 4 | 5 | 4 | 3 | 5 | 7 | 2 | 2 | 1 | 2 | 2 | S | 2 | 3 | 4 | 8 | 9 | 8 | 12 | 12 | 15 | 15 | 14 | 1 | 15 | 6.3 |
| Dec 6 | 16 | 12 | 12 | 16 | 18 | 21 | 26 | 38 | 50 | 45 | 9 | S | 5 | 4 | 7 | 8 | 8 | 15 | 19 | 5 | 3 | 2 | 2 | 3 | 2 | 50 | 15.0 |
| Dec 7 | 4 | 6 | 5 | 7 | 5 | 5 | 5 | 7 | 9 | 8 | S | 7 | 9 | 8 | 6 | 7 | 12 | 14 | 24 | 21 | 23 | 27 | 31 | 35 | 4 | 35 | 12.4 |
| Dec 8 | 34 | 45 | 39 | 28 | 18 | 9 | 8 | 17 | 96 | S | 78 | 16 | 8 | 5 | 9 | 11 | 7 | 11 | 9 | 9 | 7 | 6 | 6 | 4 | 4 | 96 | 20.9 |
| Dec 9 | 6 | 6 | 4 | 3 | 1 | 2 | 2 | 2 | S | 9 | 4 | 5 | 5 | 4 | 7 | 34 | 13 | 32 | 50 | 45 | 57 | 57 | 47 | 36 | 1 | 57 | 18.7 |
| Dec 10 | 24 | 7 | 16 | 8 | 2 | 2 | 2 | S | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 1 | 24 | 4.0 |
| Dec 11 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 4 | 4 | 3 | 4 | 5 | 5 | 3 | 2 | 7 | 15 | 35 | 48 | 54 | 24 | 9 | 19 | 2 | 54 | 11.1 |
| Dec 12 | 24 | 17 | 20 | 25 | 27 | S | 26 | 35 | 62 | 87 | 29 | 15 | 7 | 7 | 7 | 8 | 9 | 12 | 7 | 4 | 7 | 5 | 4 | 3 | 3 | 87 | 19.4 |
| Dec 13 | 5 | 4 | 5 | 5 | S | 8 | 9 | 15 | C | C | C | C | C | C | C | 8 | 7 | 6 | 8 | 2 | 3 | 4 | 2 | 2 | 2 | 15 | - |
| Dec 14 | 1 | 2 | 2 | S | 4 | 3 | 2 | 5 | 20 | 10 | 6 | 5 | 8 | 10 | 8 | 11 | 13 | 18 | 29 | 12 | 11 | 14 | 7 | 7 | 1 | 29 | 9.0 |
| Dec 15 | 8 | 7 | S | 6 | 8 | 10 | 16 | 20 | 29 | 104 | 34 | 10 | 7 | 8 | 9 | 18 | 26 | 45 | 29 | 26 | 31 | 18 | 31 | 19 | 6 | 104 | 22.6 |
| Dec 16 | 23 | S | 7 | 6 | 8 | 7 | 16 | 11 | 6 | 6 | 4 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 23 | 5.7 |
| Dec 17 | S | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 6 | 5 | 5 | 4 | 3 | 3 | 4 | 3 | 2 | 2 | 2 | 1 | S | 1 | 6 | 2.7 |
| Dec 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | S | 3 | 1 | 4 | 2.0 |
| Dec 19 | 2 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 7 | 7 | 6 | 8 | 9 | 10 | 11 | 14 | 15 | 19 | 15 | S | 10 | 23 | 2 | 23 | 8.5 |
| Dec 20 | 20 | 13 | 15 | 16 | 16 | 22 | 56 | 57 | 29 | 32 | 25 | 47 | 38 | 26 | 22 | 16 | 19 | 56 | 40 | 40 | S | 14 | 14 | 14 | 13 | 57 | 28.1 |
| Dec 21 | 13 | 8 | 10 | 21 | 18 | 23 | 12 | 21 | 26 | 14 | 22 | 10 | 9 | 12 | 10 | 10 | 17 | 15 | 24 | S | 23 | 18 | 17 | 20 | 8 | 26 | 16.2 |
| Dec 22 | 45 | 52 | 49 | 35 | 37 | 45 | 28 | 29 | 22 | 20 | 14 | 7 | 8 | 6 | 6 | 13 | 24 | 32 | S | 20 | 11 | 13 | 21 | 10 | 6 | 52 | 23.8 |
| Dec 23 | 12 | 14 | 15 | 12 | 13 | 14 | 18 | 19 | 22 | 13 | 7 | 6 | 6 | 7 | 8 | 5 | 5 | S | 7 | 8 | 7 | 7 | 7 | 6 | 5 | 22 | 10.3 |
| Dec 24 | 5 | 5 | 4 | 5 | 7 | 9 | 7 | 15 | 10 | 8 | 7 | 7 | 6 | 5 | 4 | 4 | S | 5 | 4 | 5 | 5 | 4 | 5 | 4 | 4 | 15 | 6.1 |
| Dec 25 | 4 | 4 | 4 | 4 | 9 | 6 | 6 | 16 | 8 | 5 | 6 | 10 | 6 | 3 | 4 | S | 4 | 11 | 20 | 12 | 11 | 9 | 8 | 7 | 3 | 20 | 7.7 |
| Dec 26 | 4 | 4 | 5 | 5 | 6 | 8 | 7 | 10 | 9 | 5 | 4 | 5 | 6 | 6 | S | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 10 | 4.9 |
| Dec 27 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 4 | 5 | 7 | 6 | 6 | 3 | S | 4 | 3 | 3 | 5 | 5 | 4 | 5 | 5 | 3 | 4 | 3 | 7 | 4.2 |
| Dec 28 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 4 | 4 | 3 | 3 | S | 3 | 4 | 6 | 7 | 7 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 7 | 3.9 |
| Dec 29 | 4 | 5 | 5 | 5 | 20 | 31 | 27 | 15 | 17 | 16 | 21 | S | 15 | 10 | 20 | 14 | 21 | **126** | 77 | 50 | 62 | 49 | 50 | 38 | 4 | **126** | **30.3** |
| Dec 30 | 25 | 42 | 27 | 7 | 10 | 16 | 19 | 18 | 20 | 18 | S | 13 | 10 | 8 | 7 | 7 | 8 | 11 | 17 | 15 | 20 | 20 | 15 | 32 | 7 | 42 | 16.7 |
| Dec 31 | 35 | 22 | 14 | 15 | 19 | 17 | 25 | 35 | 35 | S | 23 | 28 | 20 | 17 | 26 | 15 | 23 | 33 | 42 | 20 | 24 | 21 | 28 | 24 | 14 | 42 | 24.4 |
| Diurnal Maximum | 45 | 52 | 49 | 35 | 37 | 45 | 56 | 57 | 96 | 104 | 78 | 47 | 38 | 26 | 26 | 34 | 26 | 126 | 77 | 50 | 62 | 57 | 50 | 38 | | | |
| Diurnal Average | 11.7 | 10.6 | 10.2 | 9.3 | 10.1 | 10.4 | 12.4 | 14.6 | 18.0 | 16.4 | 12.3 | 8.6 | 8.0 | 6.8 | 7.3 | 8.3 | 9.6 | 18.1 | 17.1 | 14.0 | 14.2 | 12.4 | 12.4 | 12.3 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 NOx - AQHI - Grimshaw Station*

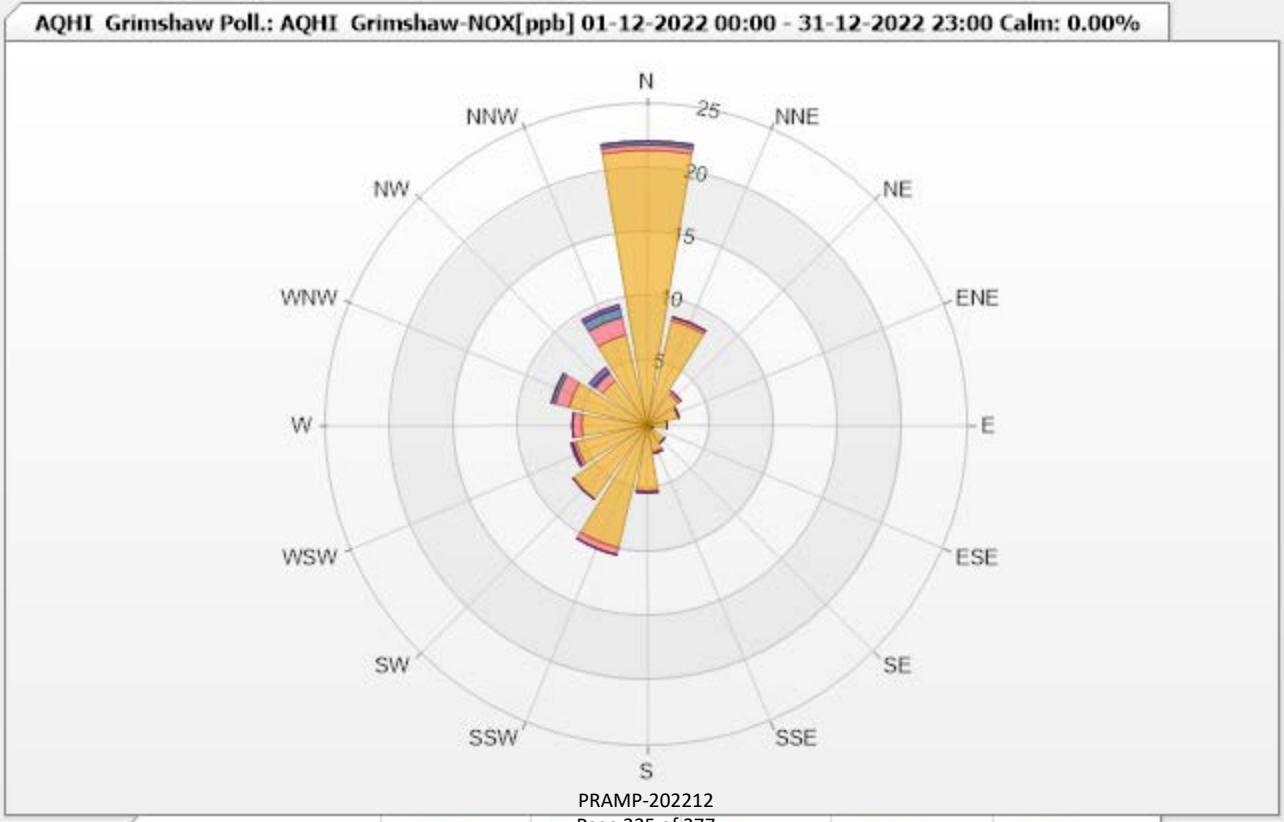





| Classes | NOX |
|---|---|
| <=0 | 0.00% |
| 0 - 10 | 63.69% |
| 10 - 20 | 19.29% |
| 20 - 30 | 8.65% |
| 30 - 40 | 3.83% |
| 40 - 50 | 2.27% |
| 50 - 60 | 1.13% |
| 60 - 70 | 0.28% |
| 70 - 80 | 0.28% |
| 80 - 90 | 0.14% |
| >90 | 0.43% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NOX[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|---|---|---|---|---|---|---|
| N | 21.42 | 0.43 | 0.28 | 0 | 0 | 22.13 |
| NNE | 8.37 | 0.28 | 0 | 0 | 0 | 8.65 |
| NE | 2.98 | 0.28 | 0 | 0 | 0 | 3.26 |
| ENE | 2.55 | 0 | 0 | 0 | 0 | 2.55 |
| E | 1.56 | 0 | 0 | 0 | 0 | 1.56 |
| ESE | 0.43 | 0 | 0 | 0 | 0 | 0.43 |
| SE | 1.7 | 0 | 0 | 0 | 0 | 1.7 |
| SSE | 2.13 | 0.14 | 0 | 0 | 0 | 2.27 |
| S | 5.11 | 0.14 | 0 | 0 | 0 | 5.25 |
| SSW | 9.79 | 0.57 | 0 | 0 | 0 | 10.36 |
| SW | 7.09 | 0 | 0 | 0 | 0 | 7.09 |
| WSW | 5.67 | 0.28 | 0 | 0.14 | 0 | 6.09 |
| W | 5.11 | 0.71 | 0 | 0 | 0 | 5.82 |
| WNW | 6.24 | 1.13 | 0.28 | 0 | 0 | 7.65 |
| NW | 4.26 | 0.71 | 0.14 | 0.43 | 0 | 5.54 |
| NNW | 7.23 | 1.42 | 0.71 | 0.28 | 0 | 9.64 |
| Summary | 91.64 | 6.09 | 1.41 | 0.85 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-NOX[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
92 0-30
6 30-50
1 50-76
1 76-159
0 >159.0

peace river area monitoring program pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *AQHI - Grimshaw Station - December 2022*

### Summary of Hourly Averages

### NITRIC OXIDE (NO) in ppb

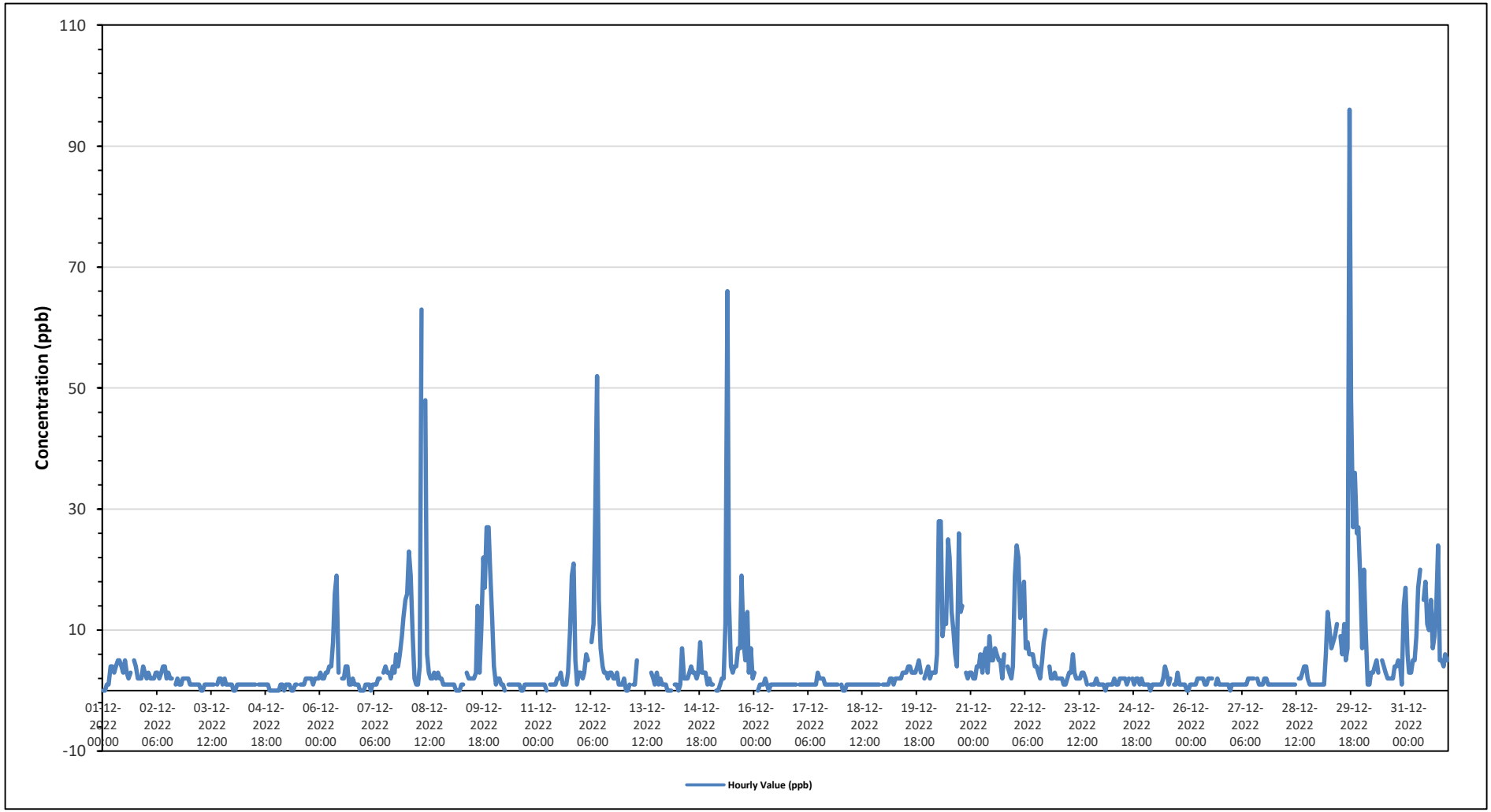
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 96 | ppb | on December 29 at hour 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 16.7 | ppb | on December 29 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 | ppb | on December 1 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.7 | ppb | on December 4 | Hours of Calibration: | 39 |
| Monthly Average: | 4.1 | ppb | | Operational Uptime: | 100.0 |

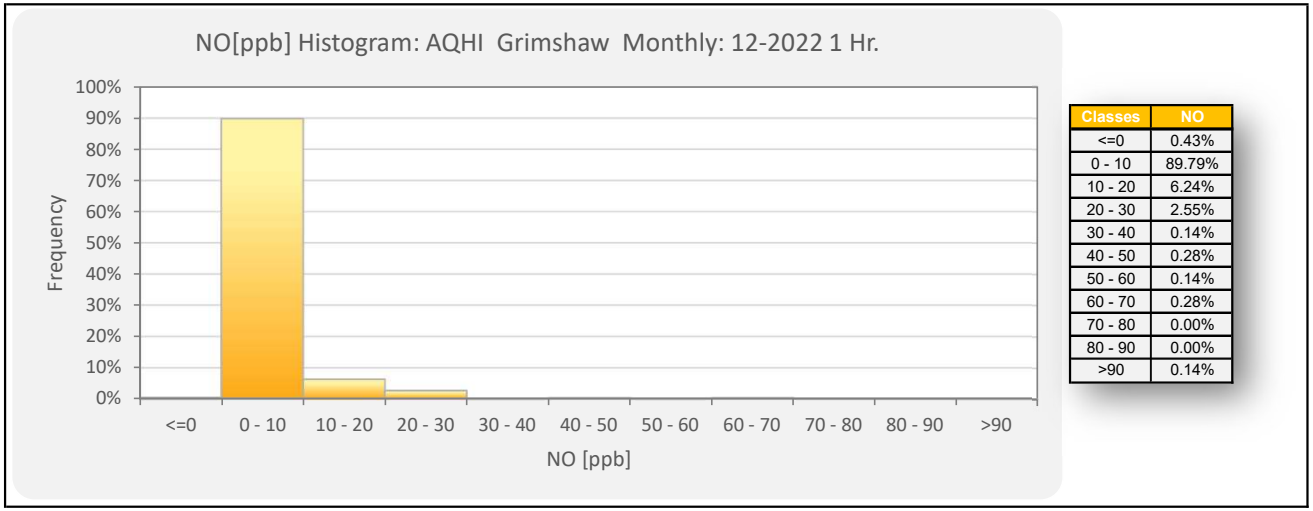
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 0 | 0 | 1 | 1 | 4 | 4 | 3 | 4 | 5 | 5 | 4 | 3 | 5 | 3 | 2 | 3 | S | 5 | 4 | 2 | 2 | 2 | 4 | 3 | 0 | 5 | 3.0 |
| Dec 2 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 4 | 4 | 2 | 3 | 2 | 2 | S | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 4 | 2.3 |
| Dec 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 2 | 1.0 |
| Dec 4 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0.7 |
| Dec 5 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | S | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 1.1 |
| Dec 6 | 3 | 2 | 2 | 3 | 3 | 4 | 4 | 8 | 16 | 19 | 3 | S | 2 | 2 | 4 | 4 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 19 | 3.7 |
| Dec 7 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | S | 3 | 4 | 3 | 3 | 2 | 4 | 3 | 6 | 4 | 6 | 9 | 12 | 15 | 0 | 15 | 3.7 |
| Dec 8 | 16 | 23 | 19 | 9 | 2 | 1 | 1 | 4 | 63 | S | 48 | 6 | 3 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 63 | 9.3 |
| Dec 9 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | S | 3 | 2 | 2 | 2 | 2 | 3 | 14 | 3 | 10 | 22 | 17 | 27 | 27 | 20 | 12 | 0 | 27 | 7.4 |
| Dec 10 | 4 | 1 | 2 | 2 | 1 | 1 | 0 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 4 | 1.1 |
| Dec 11 | 1 | 1 | 1 | 1 | 1 | 0 | S | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 3 | 10 | 19 | 21 | 5 | 1 | 3 | 0 | 21 | 3.5 |
| Dec 12 | 3 | 2 | 3 | 6 | 5 | S | 8 | 11 | 30 | 52 | 15 | 7 | 4 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 52 | 7.4 |
| Dec 13 | 2 | 0 | 0 | 1 | S | 1 | 1 | 5 | C | C | C | C | C | C | C | 3 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 0 | 5 | - |
| Dec 14 | 0 | 0 | 0 | S | 1 | 1 | 0 | 1 | 7 | 2 | 2 | 2 | 3 | 4 | 3 | 3 | 2 | 3 | 8 | 3 | 3 | 3 | 1 | 2 | 0 | 8 | 2.3 |
| Dec 15 | 1 | 1 | S | 0 | 0 | 1 | 2 | 2 | 11 | 66 | 15 | 4 | 3 | 4 | 4 | 7 | 7 | 19 | 8 | 5 | 13 | 3 | 7 | 2 | 0 | 66 | 8.0 |
| Dec 16 | 3 | S | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 1.0 |
| Dec 17 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 3 | 1.2 |
| Dec 18 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 0 | 1 | 0.9 |
| Dec 19 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 4 | 5 | 3 | S | 2 | 3 | 1 | 5 | 2.6 |
| Dec 20 | 4 | 2 | 3 | 3 | 3 | 6 | 28 | 28 | 9 | 12 | 11 | 25 | 22 | 13 | 10 | 6 | 4 | 26 | 13 | 14 | S | 3 | 2 | 3 | 2 | 28 | 10.9 |
| Dec 21 | 3 | 2 | 2 | 4 | 4 | 6 | 3 | 6 | 7 | 3 | 9 | 5 | 5 | 7 | 6 | 5 | 5 | 2 | 6 | S | 4 | 3 | 2 | 4 | 2 | 9 | 4.5 |
| Dec 22 | 19 | 24 | 22 | 12 | 14 | 18 | 7 | 8 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 5 | 8 | 10 | S | 4 | 2 | 2 | 3 | 2 | 2 | 24 | 8.3 |
| Dec 23 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 6 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | S | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 6 | 2.0 |
| Dec 24 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | S | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 0 | 2 | 1.4 |
| Dec 25 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 3 | 1 | 2 | S | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 4 | 1.3 |
| Dec 26 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | S | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 1.3 |
| Dec 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | S | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1.3 |
| Dec 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 3 | 4 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1.5 |
| Dec 29 | 1 | 1 | 1 | 1 | 6 | 13 | 10 | 7 | 8 | 9 | 11 | S | 9 | 6 | 11 | 5 | 7 | **96** | 48 | 27 | 36 | 26 | 27 | 18 | 1 | **96** | **16.7** |
| Dec 30 | 7 | 20 | 10 | 1 | 1 | 3 | 3 | 4 | 5 | 3 | S | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 4 | 4 | 5 | 4 | 1 | 14 | 1 | 20 | 4.7 |
| Dec 31 | 17 | 6 | 3 | 3 | 5 | 5 | 9 | 17 | 20 | S | 15 | 18 | 11 | 10 | 15 | 7 | 9 | 14 | 24 | 5 | 5 | 4 | 6 | 5 | **3** | 24 | 10.1 |
| Diurnal Maximum | 19 | 24 | 22 | 12 | 14 | 18 | 28 | 28 | 63 | 66 | 48 | 25 | 22 | 13 | 15 | 14 | 9 | 96 | 48 | 27 | 36 | 27 | 27 | 18 | | | |
| Diurnal Average | 3.2 | 3.3 | 2.8 | 2.1 | 2.2 | 2.8 | 3.4 | 4.2 | 7.3 | 7.3 | 5.9 | 4.0 | 3.8 | 3.3 | 3.4 | 3.1 | 2.8 | 7.5 | 6.2 | 4.4 | 5.0 | 3.7 | 3.5 | 3.4 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Grimshaw Station*

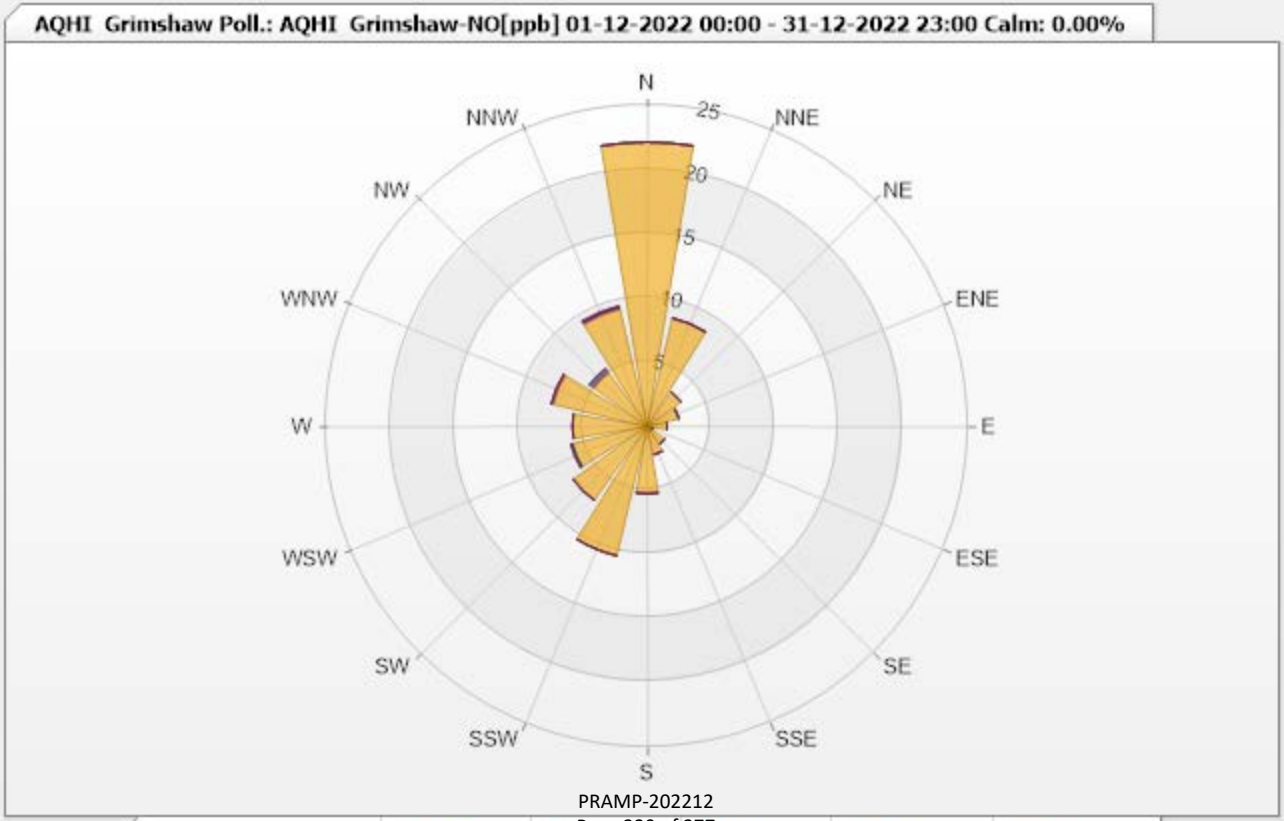





| Classes | NO |
|---|---|
| <=0 | 0.43% |
| 0 - 10 | 89.79% |
| 10 - 20 | 6.24% |
| 20 - 30 | 2.55% |
| 30 - 40 | 0.14% |
| 40 - 50 | 0.28% |
| 50 - 60 | 0.14% |
| 60 - 70 | 0.28% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.14% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NO[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|---|---|---|---|---|---|---|
| N | 22.13 | 0 | 0 | 0 | 0 | 22.13 |
| NNE | 8.65 | 0 | 0 | 0 | 0 | 8.65 |
| NE | 3.26 | 0 | 0 | 0 | 0 | 3.26 |
| ENE | 2.55 | 0 | 0 | 0 | 0 | 2.55 |
| E | 1.56 | 0 | 0 | 0 | 0 | 1.56 |
| ESE | 0.43 | 0 | 0 | 0 | 0 | 0.43 |
| SE | 1.7 | 0 | 0 | 0 | 0 | 1.7 |
| SSE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| S | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| SSW | 10.35 | 0 | 0 | 0 | 0 | 10.35 |
| SW | 7.09 | 0 | 0 | 0 | 0 | 7.09 |
| WSW | 5.96 | 0 | 0.14 | 0 | 0 | 6.1 |
| W | 5.82 | 0 | 0 | 0 | 0 | 5.82 |
| WNW | 7.52 | 0.14 | 0 | 0 | 0 | 7.66 |
| NW | 5.11 | 0.14 | 0.28 | 0 | 0 | 5.53 |
| NNW | 9.36 | 0.14 | 0 | 0.14 | 0 | 9.64 |
| Summary | 99.01 | 0.42 | 0.42 | 0.14 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-NO[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
99 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### NITROGEN DIOXIDE ($NO_2$) in ppb

**Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb**

Number of 1-Hour Exceedances: 0

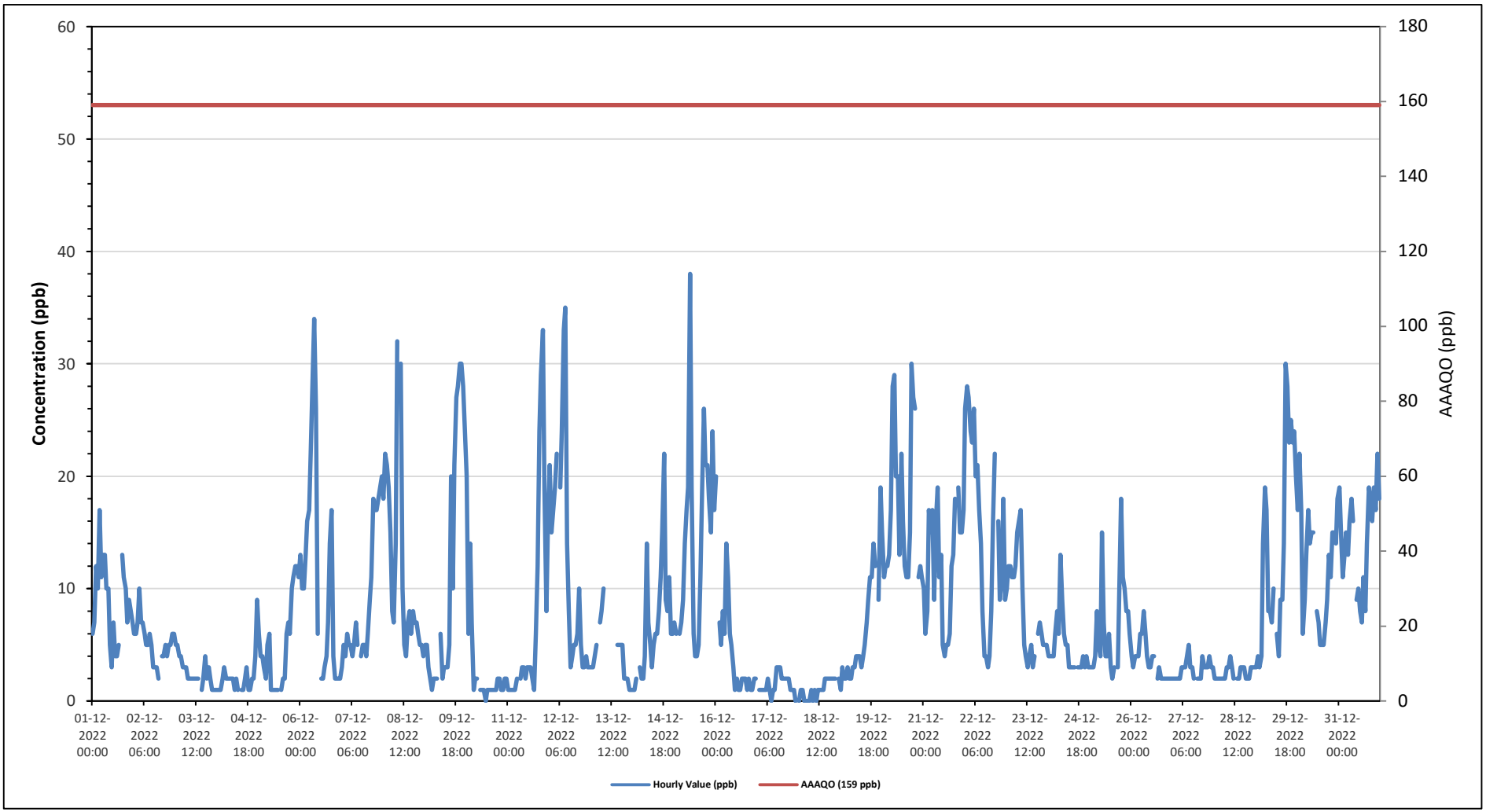
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 38 | ppb | on December 15 at hour 9 | Hours in Service: | 744 |
| Maximum Daily Value: | 17.1 | ppb | on December 20 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 | ppb | on December 10 at hour 11 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.0 | ppb | on December 18 | Hours of Calibration: | 39 |
| Monthly Average: | 7.8 | ppb | | Operational Uptime: | 100.0 |

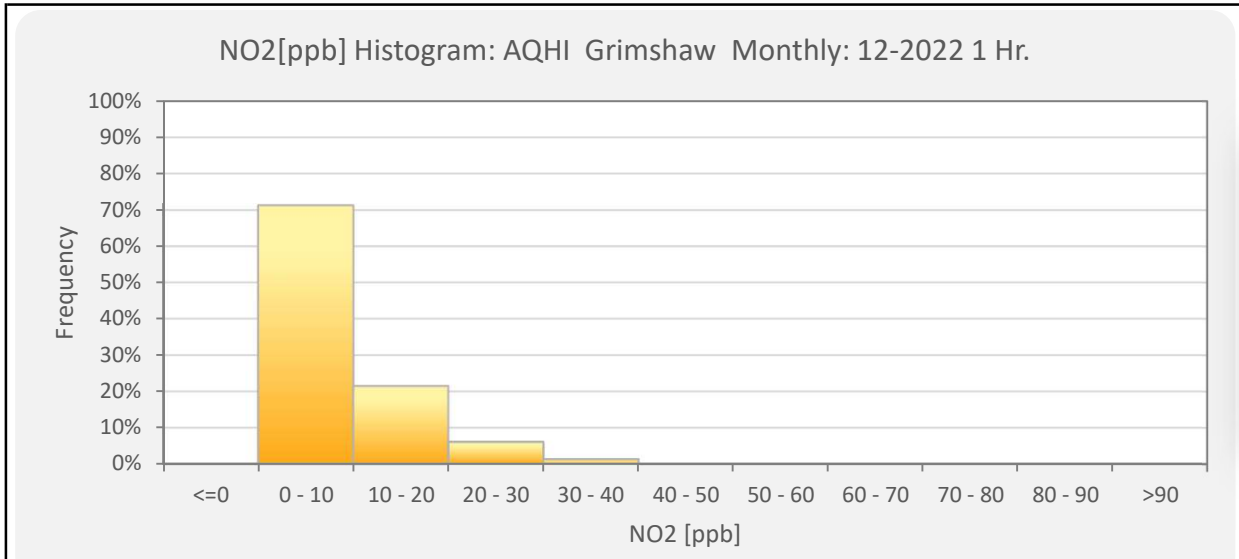
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 6 | 7 | 12 | 10 | 17 | 11 | 13 | 13 | 10 | 10 | 5 | 3 | 7 | 4 | 4 | 5 | S | 13 | 11 | 10 | 7 | 9 | 8 | 7 | 3 | 17 | 8.8 |
| Dec 2 | 6 | 6 | 7 | 10 | 7 | 7 | 6 | 5 | 5 | 6 | 5 | 3 | 3 | 3 | 2 | S | 4 | 4 | 5 | 4 | 5 | 5 | 6 | 6 | 2 | 10 | 5.2 |
| Dec 3 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 1 | 2 | 4 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 5 | 2.5 |
| Dec 4 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | S | 1 | 1 | 2 | 3 | 1 | 1 | 2 | 2 | 4 | 9 | 1 | 9 | 2.1 |
| Dec 5 | 6 | 4 | 4 | 3 | 2 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | S | 1 | 2 | 2 | 6 | 7 | 6 | 10 | 11 | 12 | 12 | 11 | 1 | 12 | 5.0 |
| Dec 6 | 13 | 10 | 10 | 13 | 16 | 17 | 22 | 29 | 34 | 26 | 6 | S | 2 | 2 | 3 | 4 | 7 | 14 | 17 | 4 | 2 | 2 | 2 | 2 | 2 | 34 | 11.2 |
| Dec 7 | 3 | 5 | 4 | 6 | 5 | 5 | 4 | 5 | 7 | 5 | S | 4 | 5 | 5 | 4 | 6 | 9 | 11 | 18 | 17 | 17 | 18 | 19 | 20 | 3 | 20 | 8.8 |
| Dec 8 | 18 | 22 | 21 | 19 | 15 | 8 | 7 | 14 | 32 | S | 30 | 10 | 5 | 4 | 7 | 8 | 6 | 8 | 7 | 7 | 6 | 5 | 5 | 4 | 4 | 32 | 11.7 |
| Dec 9 | 5 | 5 | 3 | 2 | 1 | 2 | 2 | 2 | S | 6 | 2 | 3 | 3 | 3 | 5 | 20 | 10 | 21 | 27 | 28 | 30 | 30 | 28 | 24 | 1 | 30 | 11.4 |
| Dec 10 | 20 | 6 | 14 | 7 | 1 | 2 | 2 | S | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | **0** | 20 | 3.1 |
| Dec 11 | 1 | 1 | 1 | 1 | 1 | 2 | S | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 1 | 6 | 12 | 24 | 29 | 33 | 19 | 8 | 16 | 1 | 33 | 7.7 |
| Dec 12 | 21 | 15 | 17 | 19 | 22 | S | 19 | 24 | 33 | 35 | 14 | 8 | 3 | 4 | 5 | 5 | 6 | 10 | 5 | 3 | 3 | 4 | 3 | 3 | 3 | 35 | 12.2 |
| Dec 13 | 3 | 3 | 4 | 5 | S | 7 | 8 | 10 | C | C | C | C | C | C | C | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 1 | 1 | 1 | 10 | - |
| Dec 14 | 1 | 1 | 2 | S | 3 | 2 | 2 | 4 | 14 | 7 | 5 | 3 | 5 | 6 | 6 | 8 | 11 | 15 | 22 | 9 | 8 | 11 | 6 | 6 | 1 | 22 | 6.8 |
| Dec 15 | 7 | 6 | S | 6 | 7 | 9 | 14 | 17 | 19 | **38** | 19 | 6 | 4 | 4 | 5 | 11 | 19 | 26 | 21 | 21 | 18 | 15 | 24 | 17 | 4 | **38** | 14.5 |
| Dec 16 | 20 | S | 7 | 5 | 8 | 6 | 14 | 11 | 6 | 5 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 20 | 4.6 |
| Dec 17 | S | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | S | **0** | 3 | 1.5 |
| Dec 18 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 2 | **0** | 2 | 1.0 |
| Dec 19 | 1 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 5 | 7 | 9 | 11 | 11 | 14 | 12 | S | 9 | 19 | 1 | 19 | 6.0 |
| Dec 20 | 15 | 11 | 12 | 12 | 13 | 17 | 28 | 29 | 20 | 20 | 13 | 22 | 16 | 12 | 11 | 11 | 15 | 30 | 27 | 26 | S | 11 | 12 | 11 | 11 | 30 | **17.1** |
| Dec 21 | 10 | 6 | 8 | 17 | 15 | 17 | 9 | 16 | 19 | 11 | 13 | 5 | 4 | 5 | 5 | 6 | 12 | 13 | 18 | S | 19 | 15 | 15 | 17 | 4 | 19 | 12.0 |
| Dec 22 | 26 | 28 | 27 | 24 | 23 | 26 | 20 | 21 | 17 | 14 | 8 | 4 | 4 | 3 | 4 | 8 | 16 | 22 | S | 16 | 9 | 11 | 18 | 9 | 3 | 28 | 15.6 |
| Dec 23 | 10 | 12 | 12 | 11 | 11 | 12 | 15 | 16 | 17 | 10 | 5 | 4 | 3 | 4 | 5 | 3 | 4 | S | 6 | 7 | 6 | 5 | 5 | 5 | 3 | 17 | 8.2 |
| Dec 24 | 4 | 4 | 4 | 4 | 6 | 8 | 6 | 13 | 9 | 6 | 5 | 5 | 3 | 3 | 3 | 3 | S | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 13 | 4.7 |
| Dec 25 | 3 | 3 | 3 | 4 | 8 | 5 | 4 | 15 | 7 | 4 | 4 | 6 | 3 | 2 | 3 | S | 3 | 10 | 18 | 11 | 10 | 8 | 8 | 6 | 2 | 18 | 6.4 |
| Dec 26 | 4 | 3 | 4 | 4 | 4 | 6 | 6 | 8 | 6 | 4 | 3 | 3 | 4 | 4 | S | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 8 | 3.6 |
| Dec 27 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 5 | 3 | 3 | 2 | S | 2 | 2 | 2 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 5 | 2.8 |
| Dec 28 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 2 | S | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 4 | 2.5 |
| Dec 29 | 3 | 4 | 3 | 4 | 14 | 19 | 17 | 8 | 8 | 7 | 10 | S | 6 | 4 | 9 | 9 | 14 | 30 | 28 | 23 | 25 | 23 | 24 | 20 | 3 | 30 | 13.6 |
| Dec 30 | 17 | 22 | 17 | 6 | 9 | 13 | 17 | 14 | 15 | 15 | S | 8 | 7 | 5 | 5 | 5 | 7 | 9 | 13 | 11 | 15 | 15 | 14 | 18 | 5 | 22 | 12.0 |
| Dec 31 | 19 | 15 | 11 | 13 | 15 | 13 | 16 | 18 | 16 | S | 9 | 10 | 8 | 7 | 11 | 8 | 14 | 19 | 18 | 16 | 19 | 17 | 22 | 18 | 7 | 22 | 14.4 |
| Diurnal Maximum | 26 | 28 | 27 | 24 | 23 | 26 | 28 | 29 | 34 | 38 | 30 | 22 | 16 | 12 | 11 | 20 | 19 | 30 | 28 | 29 | 33 | 30 | 28 | 24 | | | |
| Diurnal Average | 8.4 | 7.1 | 7.3 | 7.3 | 7.9 | 7.7 | 9.0 | 10.3 | 10.8 | 9.0 | 6.3 | 4.6 | 4.0 | 3.6 | 4.1 | 5.2 | 7.0 | 10.5 | 10.9 | 9.6 | 9.2 | 8.6 | 9.0 | 8.9 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 NO2 - AQHI - Grimshaw Station*

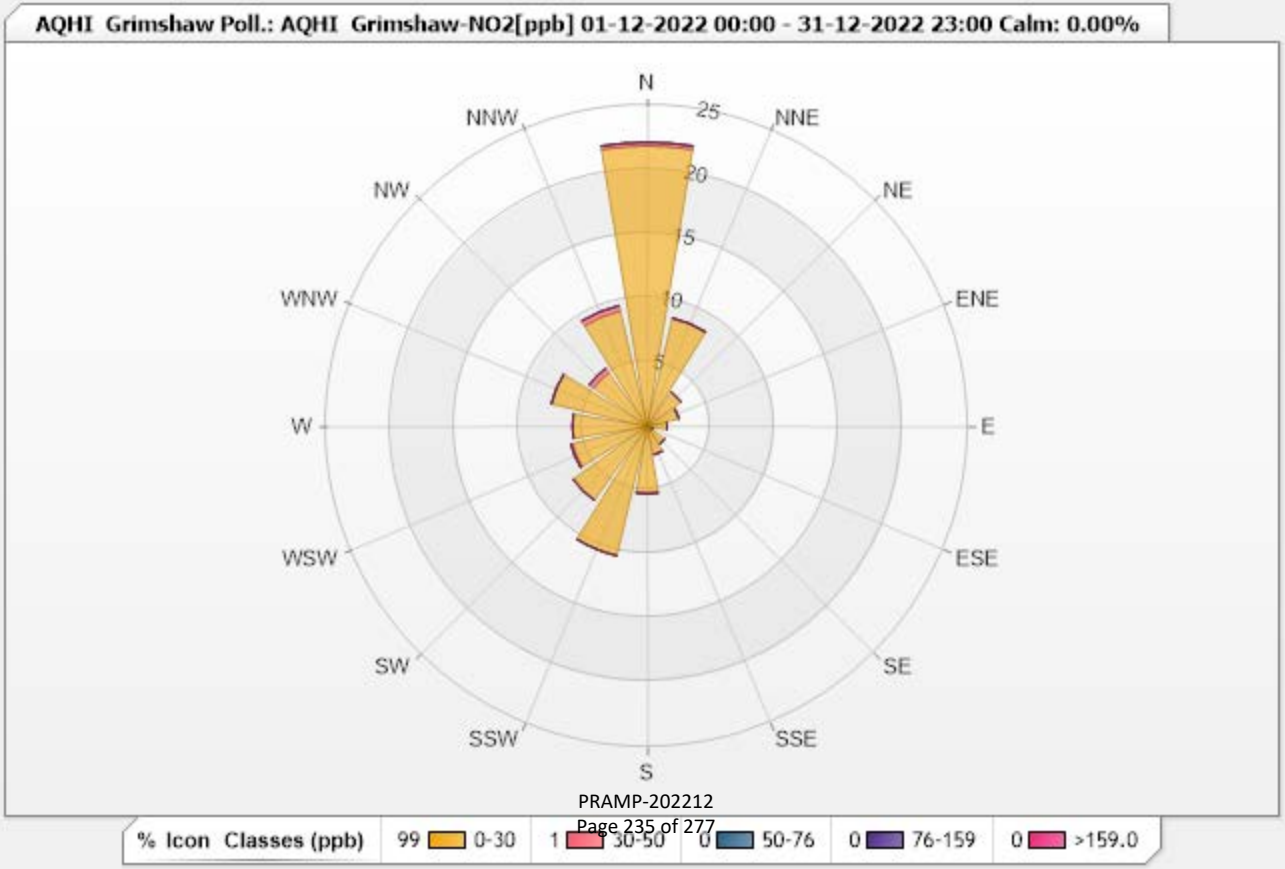





| Classes | NO2 |
|---|---|
| <=0 | 0.00% |
| 0 - 10 | 71.21% |
| 10 - 20 | 21.42% |
| 20 - 30 | 6.10% |
| 30 - 40 | 1.28% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NO2[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|---|---|---|---|---|---|---|
| N | 21.84 | 0.28 | 0 | 0 | 0 | 22.12 |
| NNE | 8.65 | 0 | 0 | 0 | 0 | 8.65 |
| NE | 3.26 | 0 | 0 | 0 | 0 | 3.26 |
| ENE | 2.55 | 0 | 0 | 0 | 0 | 2.55 |
| E | 1.56 | 0 | 0 | 0 | 0 | 1.56 |
| ESE | 0.43 | 0 | 0 | 0 | 0 | 0.43 |
| SE | 1.7 | 0 | 0 | 0 | 0 | 1.7 |
| SSE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| S | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| SSW | 10.35 | 0 | 0 | 0 | 0 | 10.35 |
| SW | 7.09 | 0 | 0 | 0 | 0 | 7.09 |
| WSW | 5.96 | 0.14 | 0 | 0 | 0 | 6.1 |
| W | 5.82 | 0 | 0 | 0 | 0 | 5.82 |
| WNW | 7.66 | 0 | 0 | 0 | 0 | 7.66 |
| NW | 5.11 | 0.43 | 0 | 0 | 0 | 5.54 |
| NNW | 9.22 | 0.43 | 0 | 0 | 0 | 9.65 |
| Summary | 98.72 | 1.28 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-NO2[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
99 0-30
1 30-50
0 50-76
0 76-159
0 >159.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### OZONE ($O_3$) in ppb

**Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb**

Number of 1-Hour Exceedances: 0

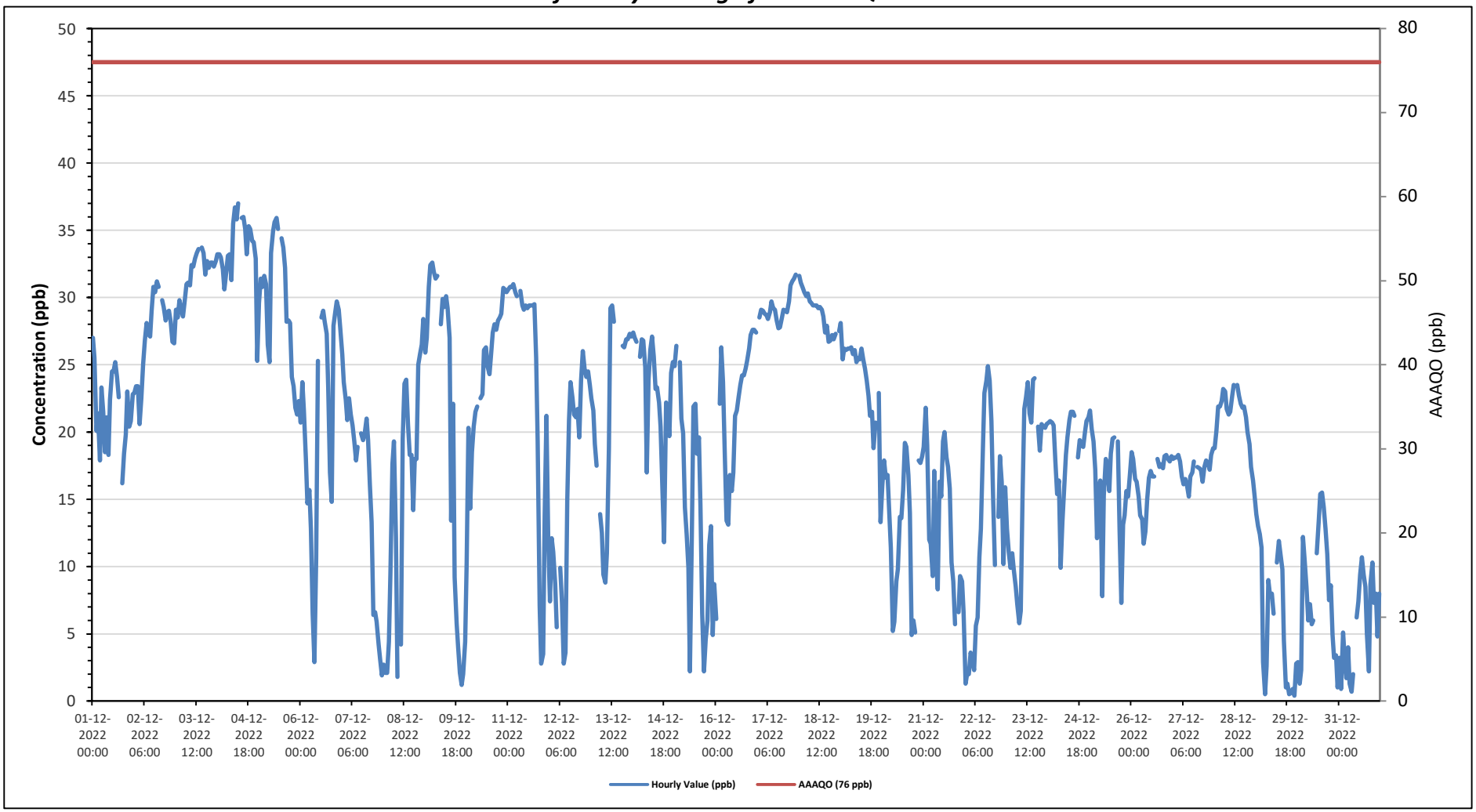
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 37 | ppb | on December 4 at hour 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 33.6 | ppb | on December 4 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0 | ppb | on December 29 at hour 22 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 5.6 | ppb | on December 31 | Hours of Calibration: | 36 |
| Monthly Average: | 19.6 | ppb | | Operational Uptime: | 100.0 |

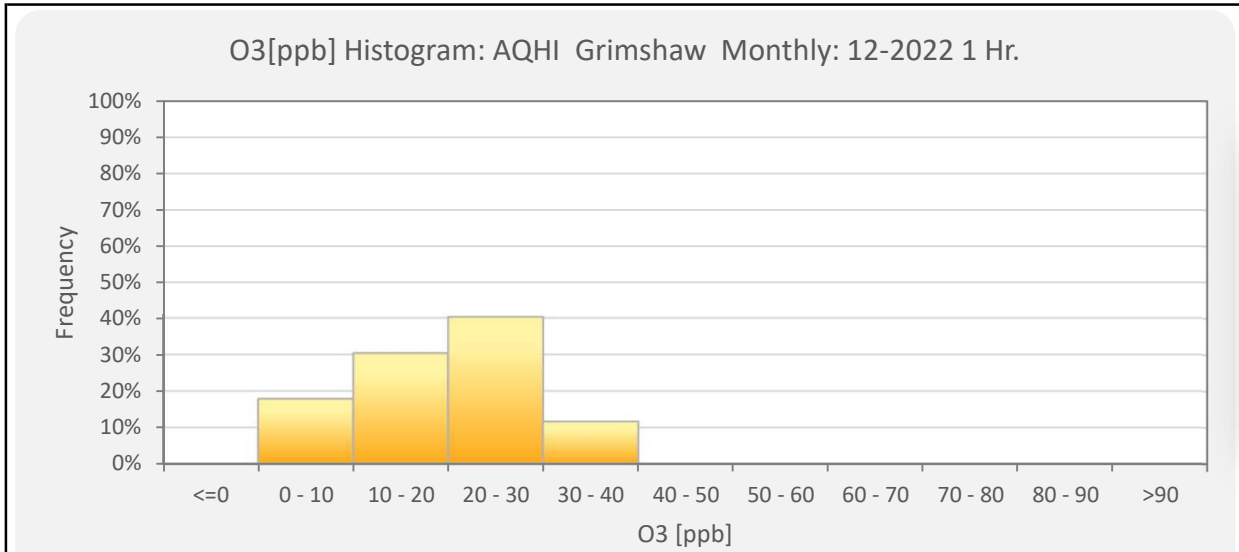
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 27 | 25.5 | 20.1 | 21.4 | 17.9 | 23.3 | 21.5 | 18.5 | 21.1 | 18.3 | 22.4 | 24.5 | 24.5 | 25.2 | 24.1 | 22.6 | S | 16.2 | 18.4 | 19.8 | 23 | 20.4 | 20.8 | 22.8 | 16.2 | 27.0 | 21.7 |
| Dec 2 | 22.9 | 23.4 | 23.4 | 20.6 | 22.5 | 25 | 26.8 | 28.1 | 27.3 | 27.1 | 29 | 30.8 | 30.4 | 31.2 | 30.8 | S | 29.8 | 29.3 | 28.3 | 28.9 | 29 | 28.2 | 26.7 | 26.6 | 20.6 | 31.2 | 27.2 |
| Dec 3 | 29.1 | 28.5 | 29.8 | 29.2 | 28.6 | 29.6 | 31 | 31.1 | 30.9 | 32.4 | 32.3 | 32.9 | 33.3 | 33.6 | S | 33.7 | 33.3 | 31.7 | 32.7 | 32.2 | 32.6 | 32.6 | 32.3 | 32.7 | 28.5 | 33.7 | 31.6 |
| Dec 4 | 33.2 | 33.2 | 33 | 32.1 | 30.6 | 31.8 | 33.1 | 33.2 | 31.3 | 35.5 | 36.7 | 35.8 | 37 | S | 35.9 | 36 | 35.1 | 33.2 | 35.3 | 35.1 | 34.2 | 34.1 | 32.9 | 25.3 | 25.3 | 37.0 | 33.6 |
| Dec 5 | 29.6 | 31.4 | 30.8 | 31.6 | 31 | 26.5 | 25.2 | 33.3 | 34.9 | 35.6 | 35.9 | 35.1 | S | 34.4 | 33.7 | 32.2 | 28.2 | 28.3 | 28.1 | 24.1 | 23.4 | 21.8 | 21.3 | 22.3 | 21.3 | 35.9 | 29.5 |
| Dec 6 | 20.7 | 23.7 | 21.6 | 18 | 14.7 | 15.7 | 12.8 | 6.5 | 2.9 | 10.6 | 25.3 | S | 28.5 | 29 | 28.2 | 27.3 | 23.3 | 17 | 14.8 | 27.9 | 28.9 | 29.7 | 29.1 | 27.7 | 2.9 | 29.7 | 21.0 |
| Dec 7 | 25.8 | 23.7 | 22.4 | 20.9 | 22.5 | 21.3 | 20.5 | 19.3 | 17.9 | 18.9 | S | 19.9 | 19.4 | 19.8 | 21 | 19.4 | 16.1 | 13.3 | 6.4 | 6.6 | 5.9 | 4.2 | 3.1 | 1.9 | 1.9 | 25.8 | 16.1 |
| Dec 8 | 2.7 | 2.1 | 2.1 | 4.4 | 9.5 | 17.6 | 19.3 | 12.2 | 1.8 | S | 4.2 | 19.5 | 23.6 | 23.9 | 20.6 | 18.3 | 18.3 | 14.2 | 18 | 18 | 25 | 25.8 | 26.5 | 28.4 | 1.8 | 28.4 | 15.5 |
| Dec 9 | 25.9 | 27 | 30.8 | 32.4 | 32.6 | 31.9 | 31.4 | 31.6 | S | 28 | 29.9 | 29.3 | 30.1 | 29.2 | 27 | 13.4 | 22.1 | 9.2 | 5.8 | 4 | 2.1 | 1.2 | 2 | 4.4 | 1.2 | 32.6 | 20.9 |
| Dec 10 | 10.3 | 20.3 | 14.3 | 18.5 | 20.4 | 21.5 | 21.9 | S | 22.5 | 22.8 | 26.1 | 26.3 | 24.9 | 24.3 | 25.7 | 27.4 | 28 | 27.6 | 28.3 | 28.5 | 28.8 | 30.7 | 30.6 | 30.4 | 10.3 | 30.7 | 24.4 |
| Dec 11 | 30.6 | 30.8 | 30.8 | 31 | 30.4 | 30.1 | S | 30.5 | 29.4 | 29.1 | 29.4 | 29.2 | 29.4 | 29.4 | 29.4 | 29.5 | 25.5 | 19.3 | 7.1 | 2.8 | 3.5 | 13.8 | 21.2 | 12.2 | 2.8 | 31.0 | 24.1 |
| Dec 12 | 7.4 | 12.1 | 11.1 | 8.7 | 5.5 | S | 9.9 | 7.3 | 2.8 | 3.6 | 14.9 | 20.9 | 23.7 | 22.5 | 21.3 | 21.1 | 21.7 | 19.6 | 23.8 | 26 | 24.7 | 24.1 | 24.5 | 23.5 | 2.8 | 26.0 | 16.6 |
| Dec 13 | 22.5 | 21.6 | 19.1 | 17.5 | S | 13.9 | 12.5 | 9.4 | 8.8 | 11 | 18.7 | 29.2 | 29.4 | 28.2 | C | C | C | C | 26.4 | 26.3 | 26.9 | 26.9 | 27.3 | 27.1 | 8.8 | 29.4 | 21.2 |
| Dec 14 | 27.4 | 27 | 26.7 | S | 25.6 | 26.9 | 26.8 | 24.8 | 17 | 23.9 | 26.1 | 27.1 | 25.6 | 23.2 | 23.3 | 22.2 | 20.4 | 15.4 | 11.8 | 22.2 | 21.6 | 19.7 | 24.4 | 25.2 | 11.8 | 27.4 | 23.2 |
| Dec 15 | 24.9 | 26.4 | S | 25.2 | 21 | 19.9 | 14.4 | 12.4 | 9.9 | 2.2 | 12.8 | 21.9 | 22.1 | 18.4 | 19.6 | 14.5 | 6.5 | 2.2 | 4.6 | 6 | 11.6 | 13 | 4.9 | 8.7 | 2.2 | 26.4 | 14.0 |
| Dec 16 | 6.1 | S | 22.1 | 26.3 | 23.7 | 18.4 | 13.4 | 13.1 | 16.8 | 15.6 | 17 | 21.2 | 21.6 | 22.6 | 23.5 | 24.2 | 24.2 | 24.7 | 25.3 | 26.2 | 27.2 | 27.6 | 27.6 | 27.4 | 6.1 | 27.6 | 21.6 |
| Dec 17 | S | 28.5 | 29.1 | 29 | 28.8 | 28.7 | 28.4 | 28.9 | 29.7 | 29.2 | 29.1 | 28.3 | 27.7 | 27.8 | 28.5 | 29.1 | 29 | 28.9 | 29.7 | 30.9 | 31.2 | 31.4 | 31.7 | S | 27.7 | 31.7 | 29.3 |
| Dec 18 | 31.6 | 31.1 | 30.7 | 30.4 | 30.1 | 30.3 | 29.7 | 29.6 | 29.4 | 29.4 | 29.4 | 29.2 | 29.3 | 29.1 | 28.6 | 27.4 | 27.9 | 26.7 | 26.8 | 27.2 | 26.9 | 27.3 | S | 27.5 | 26.7 | 31.6 | 28.9 |
| Dec 19 | 28.1 | 25.4 | 26.2 | 26.1 | 26.2 | 26.2 | 26.3 | 25.8 | 26.1 | 25.2 | 25.5 | 25.4 | 26.2 | 25.4 | 24.7 | 23.8 | 22.7 | 21.2 | 21.5 | 18.8 | 20.7 | S | 22.9 | 13.3 | 13.3 | 28.1 | 24.1 |
| Dec 20 | 16 | 17.9 | 16.6 | 16.8 | 13.9 | 11.4 | 5.2 | 5.9 | 8.9 | 9.8 | 13.7 | 13.6 | 15.7 | 19.2 | 18.9 | 16.8 | 14 | 4.9 | 6 | 5.1 | S | 17.9 | 17.7 | 18.2 | 4.9 | 19.2 | 13.2 |
| Dec 21 | 18.9 | 21.8 | 19 | 12 | 11.7 | 9.3 | 17.1 | 10.7 | 8.3 | 16.3 | 15.2 | 19.3 | 20 | 18.1 | 17.4 | 15.8 | 10.3 | 8.9 | 5.7 | S | 6.6 | 9.3 | 8.9 | 6.6 | 5.7 | 21.8 | 13.4 |
| Dec 22 | 1.3 | 2 | 2 | 3.6 | 3 | 2.3 | 5.6 | 6.2 | 10.7 | 12.8 | 18.7 | 22.9 | 23.8 | 24.9 | 23.8 | 20.8 | 14.9 | 10.1 | S | 13.7 | 18.2 | 16.3 | 10.2 | 15.9 | 1.3 | 24.9 | 12.3 |
| Dec 23 | 12.8 | 11.1 | 9.9 | 11 | 9.8 | 8.5 | 7.2 | 5.8 | 6.7 | 15.1 | 21.7 | 22.6 | 23.7 | 21.4 | 20.7 | 23.9 | 24 | S | 20.4 | 18.6 | 20.6 | 20.4 | 20.3 | 20.6 | 5.8 | 24.0 | 16.4 |
| Dec 24 | 20.7 | 20.8 | 20.7 | 20.5 | 17.8 | 15.4 | 16.4 | 9.9 | 13.3 | 15.8 | 18.3 | 19.6 | 20.9 | 21.5 | 21.5 | 21.2 | S | 18.1 | 19.4 | 19 | 18.9 | 20 | 20.8 | 21.1 | 9.9 | 21.5 | 18.8 |
| Dec 25 | 21.6 | 20.2 | 19.3 | 17.2 | 12.1 | 15.9 | 16.4 | 7.8 | 15.3 | 18 | 17.2 | 15.6 | 18.4 | 19.5 | 19.6 | S | 19.3 | 12.7 | 7.3 | 13.1 | 13.8 | 15.6 | 15.2 | 16.8 | 7.3 | 21.6 | 16.0 |
| Dec 26 | 18.5 | 18 | 16.5 | 16.3 | 15.2 | 13.8 | 13.5 | 11.7 | 12.6 | 15 | 16.6 | 17.1 | 16.7 | 16.7 | S | 18 | 17.4 | 17.6 | 17.3 | 18.2 | 18.3 | 18 | 17.8 | 18.2 | 11.7 | 18.5 | 16.5 |
| Dec 27 | 18 | 18.1 | 18.1 | 18.3 | 17.8 | 16.7 | 16.1 | 16.5 | 16 | 15.2 | 16.7 | 17 | 17.8 | S | 17.4 | 17.3 | 17.2 | 16.3 | 17.4 | 17.9 | 17.7 | 17.2 | 18.3 | 18.8 | 15.2 | 18.8 | 17.3 |
| Dec 28 | 18.8 | 20.1 | 21.9 | 21.9 | 22.3 | 23.2 | 23 | 21.7 | 21.3 | 21.5 | 22.7 | 23.5 | S | 23.5 | 22.7 | 22.1 | 21.8 | 21.9 | 21.1 | 20 | 19.1 | 17.4 | 16.4 | 15.3 | 15.3 | 23.5 | 21.0 |
| Dec 29 | 13.9 | 13 | 12.4 | 11.4 | 2.9 | 0.5 | 2.6 | 9 | 7.8 | 8 | 6.5 | S | 10.3 | 11.9 | 11 | 9.8 | 4.5 | 1 | 1.3 | 0.5 | 0.6 | 0.9 | 0.4 | 2.8 | 0.4 | 13.9 | 6.2 |
| Dec 30 | 2.9 | 1.3 | 2.3 | 12.2 | 10.4 | 8.5 | 6 | 7.2 | 5.7 | 6 | S | 11 | 13.4 | 15.4 | 15.5 | 14.4 | 12.8 | 10.9 | 7.5 | 8.6 | 4.9 | 3.2 | 3.4 | 1 | 1.0 | 15.5 | 8.0 |
| Dec 31 | 3.2 | 0.9 | 5.1 | 3.3 | 1.7 | 4 | 1.3 | 0.7 | 2 | S | 6.2 | 7.4 | 9.4 | 10.7 | 9.4 | 8.5 | 5 | 2.2 | 8.7 | 10.3 | 7.3 | 8 | 4.8 | 8 | 0.7 | 10.7 | 5.6 |
| Diurnal Maximum | 33 | 33 | 33 | 32 | 33 | 32 | 33 | 33 | 35 | 36 | 37 | 36 | 37 | 34 | 36 | 36 | 35 | 33 | 35 | 35 | 34 | 34 | 33 | 33 | | | |
| Diurnal Average | 19.1 | 20.2 | 19.6 | 19.6 | 18.7 | 18.9 | 17.8 | 17.0 | 16.3 | 19.0 | 21.3 | 23.3 | 23.3 | 23.4 | 23.0 | 21.8 | 20.5 | 17.3 | 17.5 | 18.6 | 19.1 | 19.2 | 18.8 | 18.4 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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 - Grimshaw Station*

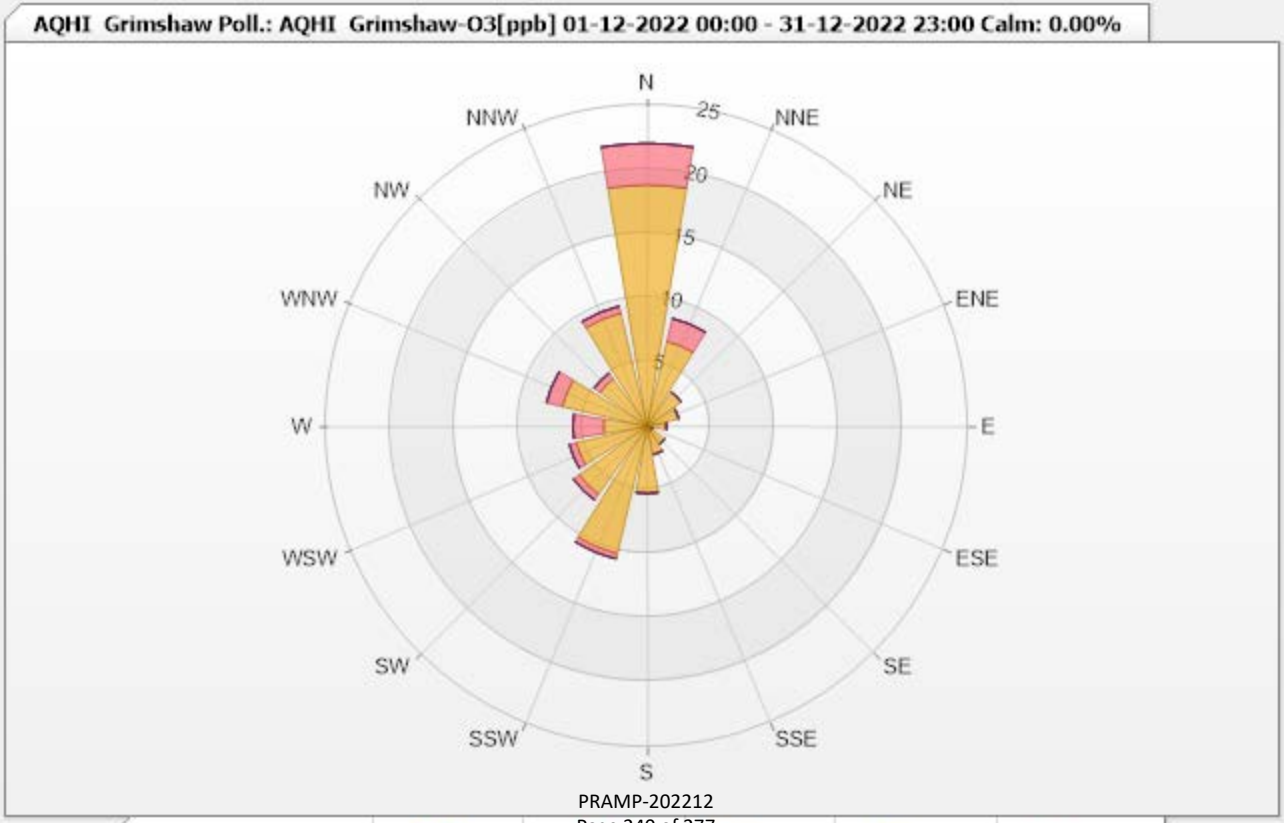





| Classes | O3 |
|---|---|
| <=0 | 0.00% |
| 0 - 10 | 17.80% |
| 10 - 20 | 30.37% |
| 20 - 30 | 40.25% |
| 30 - 40 | 11.58% |
| 40 - 50 | 0.00% |
| 50 - 60 | 0.00% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-O3[ppb] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppb]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|---|---|---|---|---|---|---|
| N | 18.79 | 3.25 | 0 | 0 | 0 | 22.04 |
| NNE | 6.78 | 1.84 | 0 | 0 | 0 | 8.62 |
| NE | 3.25 | 0 | 0 | 0 | 0 | 3.25 |
| ENE | 2.54 | 0 | 0 | 0 | 0 | 2.54 |
| E | 1.41 | 0.14 | 0 | 0 | 0 | 1.55 |
| ESE | 0.42 | 0 | 0 | 0 | 0 | 0.42 |
| SE | 1.69 | 0 | 0 | 0 | 0 | 1.69 |
| SSE | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| S | 5.23 | 0 | 0 | 0 | 0 | 5.23 |
| SSW | 10.17 | 0.42 | 0 | 0 | 0 | 10.59 |
| SW | 6.5 | 0.56 | 0 | 0 | 0 | 7.06 |
| WSW | 5.65 | 0.56 | 0 | 0 | 0 | 6.21 |
| W | 3.39 | 2.4 | 0 | 0 | 0 | 5.79 |
| WNW | 6.78 | 1.27 | 0 | 0 | 0 | 8.05 |
| NW | 4.52 | 0.56 | 0 | 0 | 0 | 5.08 |
| NNW | 9.04 | 0.56 | 0 | 0 | 0 | 9.6 |
| Summary | 88.42 | 11.56 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-O3[ppb] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppb)
88 0-30
12 30-50
0 50-76
0 76-159
0 >159.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### TOTAL HYDROCARBONS (THC) in ppm

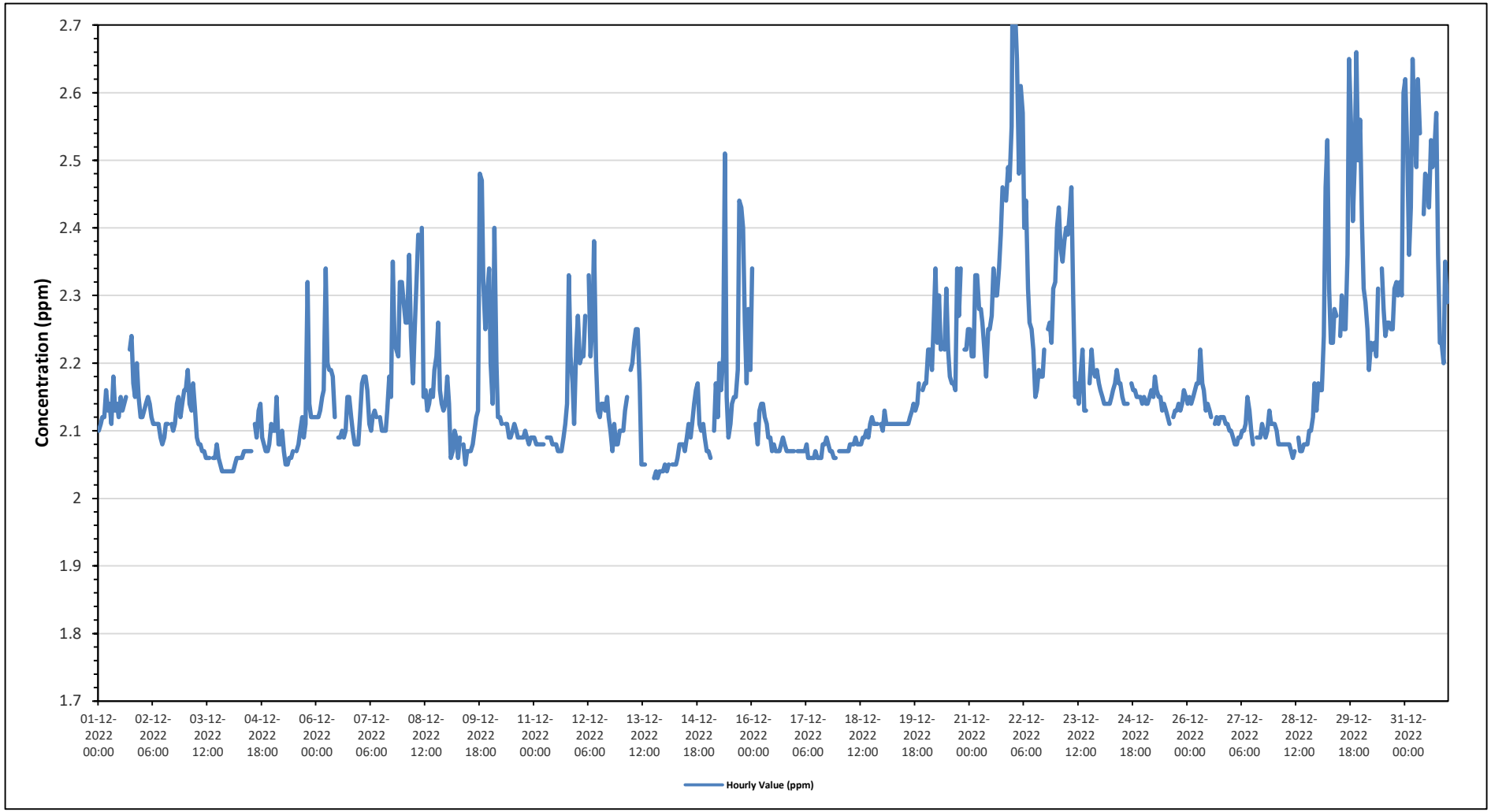
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.93 | ppm | on December 22 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.45 | ppm | on December 31 | Hours of Data: | 708 |
| Minimum Hourly Value: | 2.03 | ppm | on December 13 at hour 18 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 2.07 | ppm | on December 17 | Hours of Calibration: | 36 |
| Monthly Average: | 2.17 | ppm | | Operational Uptime: | 100.0 |

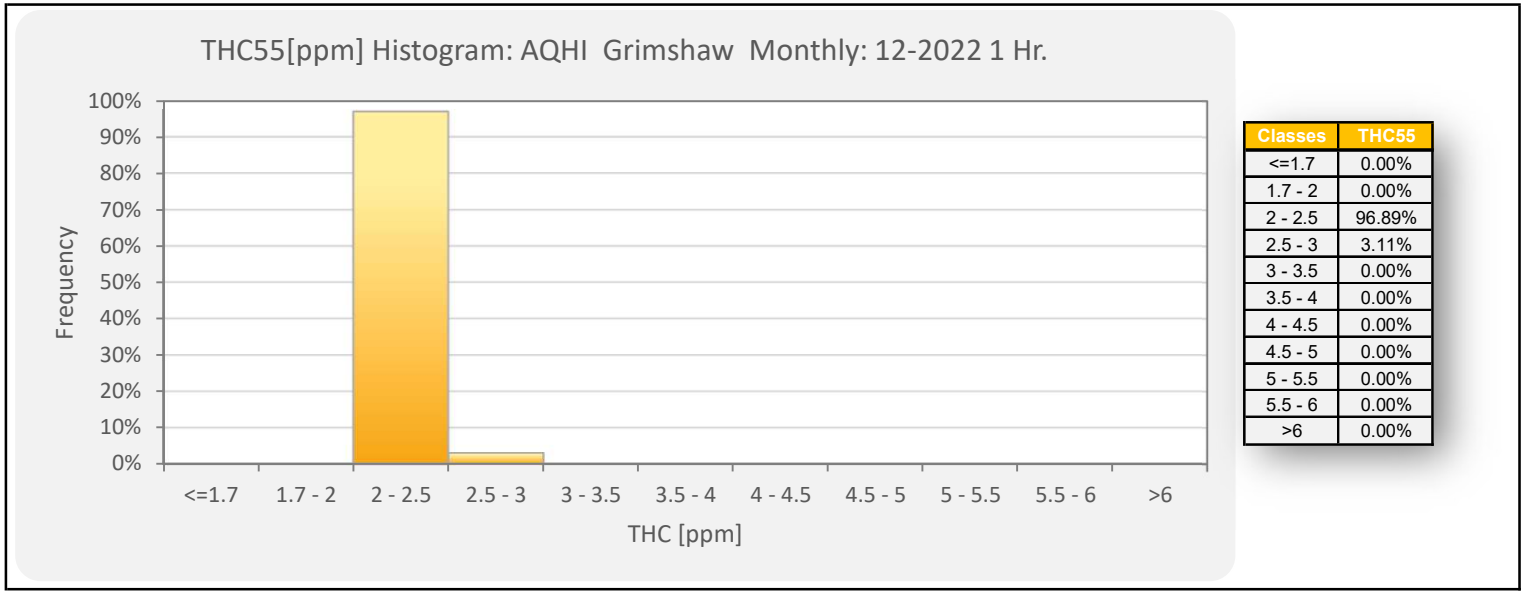
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 2.10 | 2.11 | 2.12 | 2.12 | 2.16 | 2.13 | 2.14 | 2.11 | 2.18 | 2.13 | 2.14 | 2.12 | 2.15 | 2.13 | 2.14 | 2.15 | S | 2.22 | 2.24 | 2.17 | 2.15 | 2.20 | 2.15 | 2.12 | 2.10 | 2.24 | 2.15 |
| Dec 2 | 2.12 | 2.13 | 2.14 | 2.15 | 2.14 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.09 | 2.08 | 2.09 | 2.11 | 2.11 | S | 2.11 | 2.10 | 2.11 | 2.14 | 2.15 | 2.12 | 2.14 | 2.16 | 2.08 | 2.16 | 2.12 |
| Dec 3 | 2.16 | 2.19 | 2.14 | 2.13 | 2.17 | 2.13 | 2.09 | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | S | 2.06 | 2.06 | 2.08 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.19 | 2.09 |
| Dec 4 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | S | 2.11 | 2.09 | 2.13 | 2.14 | 2.09 | 2.08 | 2.07 | 2.07 | 2.08 | 2.11 | 2.04 | 2.14 | 2.08 |
| Dec 5 | 2.10 | 2.10 | 2.15 | 2.08 | 2.08 | 2.10 | 2.07 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | S | 2.07 | 2.08 | 2.10 | 2.12 | 2.09 | 2.11 | 2.32 | 2.14 | 2.12 | 2.12 | 2.12 | 2.05 | 2.32 | 2.10 |
| Dec 6 | 2.12 | 2.12 | 2.13 | 2.15 | 2.16 | 2.34 | 2.20 | 2.19 | 2.19 | 2.18 | 2.12 | S | 2.09 | 2.09 | 2.10 | 2.09 | 2.10 | 2.15 | 2.15 | 2.12 | 2.10 | 2.08 | 2.08 | 2.08 | 2.08 | 2.34 | 2.14 |
| Dec 7 | 2.12 | 2.17 | 2.18 | 2.18 | 2.16 | 2.11 | 2.10 | 2.12 | 2.13 | 2.12 | S | 2.12 | 2.10 | 2.10 | 2.10 | 2.13 | 2.18 | 2.15 | 2.35 | 2.23 | 2.22 | 2.21 | 2.32 | 2.32 | 2.10 | 2.35 | 2.17 |
| Dec 8 | 2.29 | 2.26 | 2.26 | 2.36 | 2.24 | 2.17 | 2.24 | 2.31 | 2.39 | S | 2.40 | 2.15 | 2.16 | 2.13 | 2.14 | 2.16 | 2.15 | 2.19 | 2.21 | 2.26 | 2.16 | 2.14 | 2.13 | 2.14 | 2.13 | 2.40 | 2.22 |
| Dec 9 | 2.18 | 2.14 | 2.06 | 2.07 | 2.10 | 2.09 | 2.06 | 2.09 | S | 2.08 | 2.05 | 2.07 | 2.07 | 2.07 | 2.08 | 2.10 | 2.12 | 2.13 | 2.48 | 2.47 | 2.32 | 2.25 | 2.30 | 2.34 | 2.05 | 2.48 | 2.16 |
| Dec 10 | 2.20 | 2.14 | 2.40 | 2.20 | 2.12 | 2.12 | 2.11 | S | 2.11 | 2.11 | 2.09 | 2.09 | 2.10 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | 2.09 | 2.08 | 2.09 | 2.09 | 2.08 | 2.40 | 2.12 |
| Dec 11 | 2.09 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | S | 2.09 | 2.09 | 2.09 | 2.08 | 2.08 | 2.08 | 2.07 | 2.07 | 2.07 | 2.09 | 2.11 | 2.14 | 2.33 | 2.21 | 2.17 | 2.11 | 2.22 | 2.07 | 2.33 | 2.11 |
| Dec 12 | 2.27 | 2.20 | 2.21 | 2.21 | 2.27 | S | 2.33 | 2.21 | 2.26 | 2.38 | 2.20 | 2.13 | 2.12 | 2.14 | 2.14 | 2.13 | 2.15 | 2.12 | 2.10 | 2.07 | 2.11 | 2.08 | 2.08 | 2.10 | 2.07 | 2.38 | 2.17 |
| Dec 13 | 2.10 | 2.10 | 2.13 | 2.15 | S | 2.19 | 2.20 | 2.23 | 2.25 | 2.25 | 2.17 | 2.05 | 2.05 | 2.05 | C | C | C | C | 2.03 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | **2.03** | 2.25 | 2.11 |
| Dec 14 | 2.05 | 2.04 | 2.05 | S | 2.05 | 2.05 | 2.05 | 2.06 | 2.08 | 2.08 | 2.08 | 2.07 | 2.09 | 2.11 | 2.09 | 2.11 | 2.14 | 2.16 | 2.17 | 2.11 | 2.10 | 2.11 | 2.09 | 2.07 | 2.04 | 2.17 | 2.09 |
| Dec 15 | 2.07 | 2.06 | S | 2.10 | 2.17 | 2.12 | 2.20 | 2.16 | 2.21 | 2.51 | 2.15 | 2.09 | 2.11 | 2.14 | 2.15 | 2.15 | 2.19 | 2.44 | 2.43 | 2.40 | 2.26 | 2.17 | 2.28 | 2.19 | 2.06 | 2.51 | 2.21 |
| Dec 16 | 2.34 | S | 2.11 | 2.08 | 2.13 | 2.14 | 2.14 | 2.12 | 2.11 | 2.09 | 2.09 | 2.07 | 2.08 | 2.07 | 2.07 | 2.07 | 2.08 | 2.09 | 2.08 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.34 | 2.10 |
| Dec 17 | S | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.08 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.08 | 2.08 | 2.09 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | S | 2.06 | 2.09 | 2.07 |
| Dec 18 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.09 | 2.08 | 2.08 | 2.08 | 2.09 | 2.09 | 2.10 | 2.09 | 2.11 | 2.12 | 2.11 | 2.11 | 2.11 | S | 2.11 | 2.07 | 2.12 | 2.09 |
| Dec 19 | 2.10 | 2.13 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.13 | 2.14 | 2.13 | 2.14 | 2.17 | S | 2.16 | 2.17 | 2.10 | 2.17 | 2.12 |
| Dec 20 | 2.17 | 2.22 | 2.22 | 2.19 | 2.25 | 2.34 | 2.23 | 2.30 | 2.22 | 2.23 | 2.22 | 2.31 | 2.22 | 2.18 | 2.17 | 2.17 | 2.16 | 2.34 | 2.27 | 2.34 | S | 2.22 | 2.22 | 2.25 | 2.16 | 2.34 | 2.24 |
| Dec 21 | 2.25 | 2.21 | 2.21 | 2.33 | 2.33 | 2.28 | 2.28 | 2.26 | 2.22 | 2.18 | 2.25 | 2.25 | 2.27 | 2.34 | 2.30 | 2.30 | 2.34 | 2.39 | 2.46 | S | 2.44 | 2.49 | 2.47 | 2.55 | 2.18 | 2.55 | 2.32 |
| Dec 22 | **2.93** | 2.71 | 2.65 | 2.48 | 2.61 | 2.57 | 2.40 | 2.44 | 2.31 | 2.26 | 2.25 | 2.22 | 2.15 | 2.16 | 2.19 | 2.18 | 2.18 | 2.22 | S | 2.25 | 2.26 | 2.23 | 2.31 | 2.32 | 2.15 | **2.93** | 2.36 |
| Dec 23 | 2.40 | 2.43 | 2.37 | 2.35 | 2.38 | 2.40 | 2.39 | 2.42 | 2.46 | 2.30 | 2.15 | 2.17 | 2.14 | 2.18 | 2.22 | 2.13 | 2.13 | S | 2.17 | 2.22 | 2.19 | 2.18 | 2.19 | 2.17 | 2.13 | 2.46 | 2.27 |
| Dec 24 | 2.16 | 2.15 | 2.14 | 2.14 | 2.14 | 2.14 | 2.15 | 2.16 | 2.17 | 2.19 | 2.17 | 2.17 | 2.15 | 2.14 | 2.14 | 2.14 | S | 2.17 | 2.16 | 2.16 | 2.15 | 2.15 | 2.15 | 2.14 | 2.14 | 2.19 | 2.15 |
| Dec 25 | 2.15 | 2.14 | 2.14 | 2.15 | 2.16 | 2.15 | 2.18 | 2.16 | 2.15 | 2.15 | 2.13 | 2.14 | 2.13 | 2.12 | 2.11 | S | 2.12 | 2.13 | 2.13 | 2.14 | 2.13 | 2.14 | 2.16 | 2.15 | 2.11 | 2.18 | 2.14 |
| Dec 26 | 2.14 | 2.15 | 2.14 | 2.15 | 2.16 | 2.17 | 2.17 | 2.22 | 2.17 | 2.16 | 2.13 | 2.14 | 2.13 | 2.12 | S | 2.11 | 2.12 | 2.11 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.22 | 2.14 |
| Dec 27 | 2.10 | 2.09 | 2.08 | 2.08 | 2.09 | 2.09 | 2.10 | 2.10 | 2.11 | 2.15 | 2.13 | 2.10 | 2.08 | S | 2.09 | 2.09 | 2.09 | 2.11 | 2.10 | 2.09 | 2.10 | 2.13 | 2.11 | 2.11 | 2.08 | 2.15 | 2.10 |
| Dec 28 | 2.11 | 2.10 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.06 | 2.07 | S | 2.09 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.10 | 2.10 | 2.12 | 2.17 | 2.13 | 2.06 | 2.17 | 2.09 |
| Dec 29 | 2.17 | 2.16 | 2.16 | 2.24 | 2.46 | 2.53 | 2.31 | 2.23 | 2.23 | 2.28 | 2.27 | S | 2.24 | 2.30 | 2.25 | 2.25 | 2.36 | 2.65 | 2.55 | 2.41 | 2.49 | 2.66 | 2.50 | 2.56 | 2.16 | 2.66 | 2.36 |
| Dec 30 | 2.41 | 2.31 | 2.29 | 2.25 | 2.19 | 2.23 | 2.22 | 2.23 | 2.21 | 2.31 | S | 2.34 | 2.28 | 2.24 | 2.26 | 2.26 | 2.25 | 2.25 | 2.31 | 2.32 | 2.30 | 2.32 | 2.30 | 2.60 | 2.19 | 2.60 | 2.29 |
| Dec 31 | 2.62 | 2.51 | 2.36 | 2.43 | 2.65 | 2.54 | 2.49 | 2.62 | 2.54 | S | 2.42 | 2.48 | 2.47 | 2.43 | 2.53 | 2.49 | 2.52 | 2.57 | 2.36 | 2.23 | 2.23 | 2.20 | 2.35 | 2.29 | 2.20 | 2.65 | **2.45** |
| Diurnal Maximum | 2.93 | 2.71 | 2.65 | 2.48 | 2.65 | 2.57 | 2.49 | 2.62 | 2.54 | 2.51 | 2.42 | 2.48 | 2.47 | 2.43 | 2.53 | 2.49 | 2.52 | 2.65 | 2.55 | 2.47 | 2.49 | 2.66 | 2.50 | 2.60 | | | |
| Diurnal Average | 2.20 | 2.18 | 2.18 | 2.17 | 2.19 | 2.19 | 2.18 | 2.18 | 2.18 | 2.17 | 2.15 | 2.14 | 2.14 | 2.14 | 2.15 | 2.14 | 2.16 | 2.19 | 2.20 | 2.19 | 2.17 | 2.17 | 2.18 | 2.20 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - AQHI - Grimshaw Station*

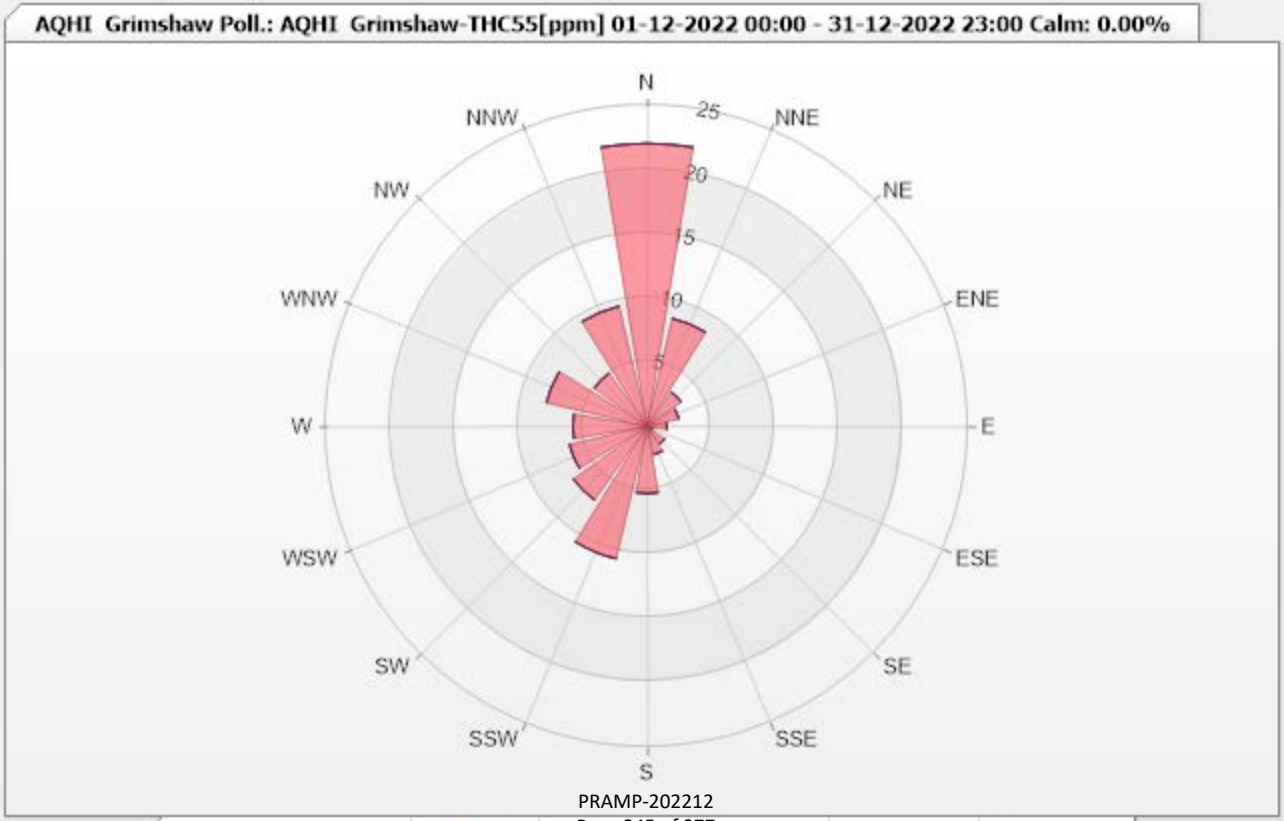





| Classes | THC55 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 0.00% |
| 2 - 2.5 | 96.89% |
| 2.5 - 3 | 3.11% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-THC55[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|---|---|---|---|---|---|---|
| N | 0 | 22.03 | 0 | 0 | 0 | 22.03 |
| NNE | 0 | 8.62 | 0 | 0 | 0 | 8.62 |
| NE | 0 | 3.25 | 0 | 0 | 0 | 3.25 |
| ENE | 0 | 2.54 | 0 | 0 | 0 | 2.54 |
| E | 0 | 1.55 | 0 | 0 | 0 | 1.55 |
| ESE | 0 | 0.42 | 0 | 0 | 0 | 0.42 |
| SE | 0 | 1.69 | 0 | 0 | 0 | 1.69 |
| SSE | 0 | 2.26 | 0 | 0 | 0 | 2.26 |
| S | 0 | 5.23 | 0 | 0 | 0 | 5.23 |
| SSW | 0 | 10.59 | 0 | 0 | 0 | 10.59 |
| SW | 0 | 7.06 | 0 | 0 | 0 | 7.06 |
| WSW | 0 | 6.21 | 0 | 0 | 0 | 6.21 |
| W | 0 | 5.79 | 0 | 0 | 0 | 5.79 |
| WNW | 0 | 8.05 | 0 | 0 | 0 | 8.05 |
| NW | 0 | 5.08 | 0 | 0 | 0 | 5.08 |
| NNW | 0 | 9.6 | 0 | 0 | 0 | 9.6 |
| Summary | 0 | 100 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-THC55[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
0 0-2
100 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### METHANE (CH4) in ppm

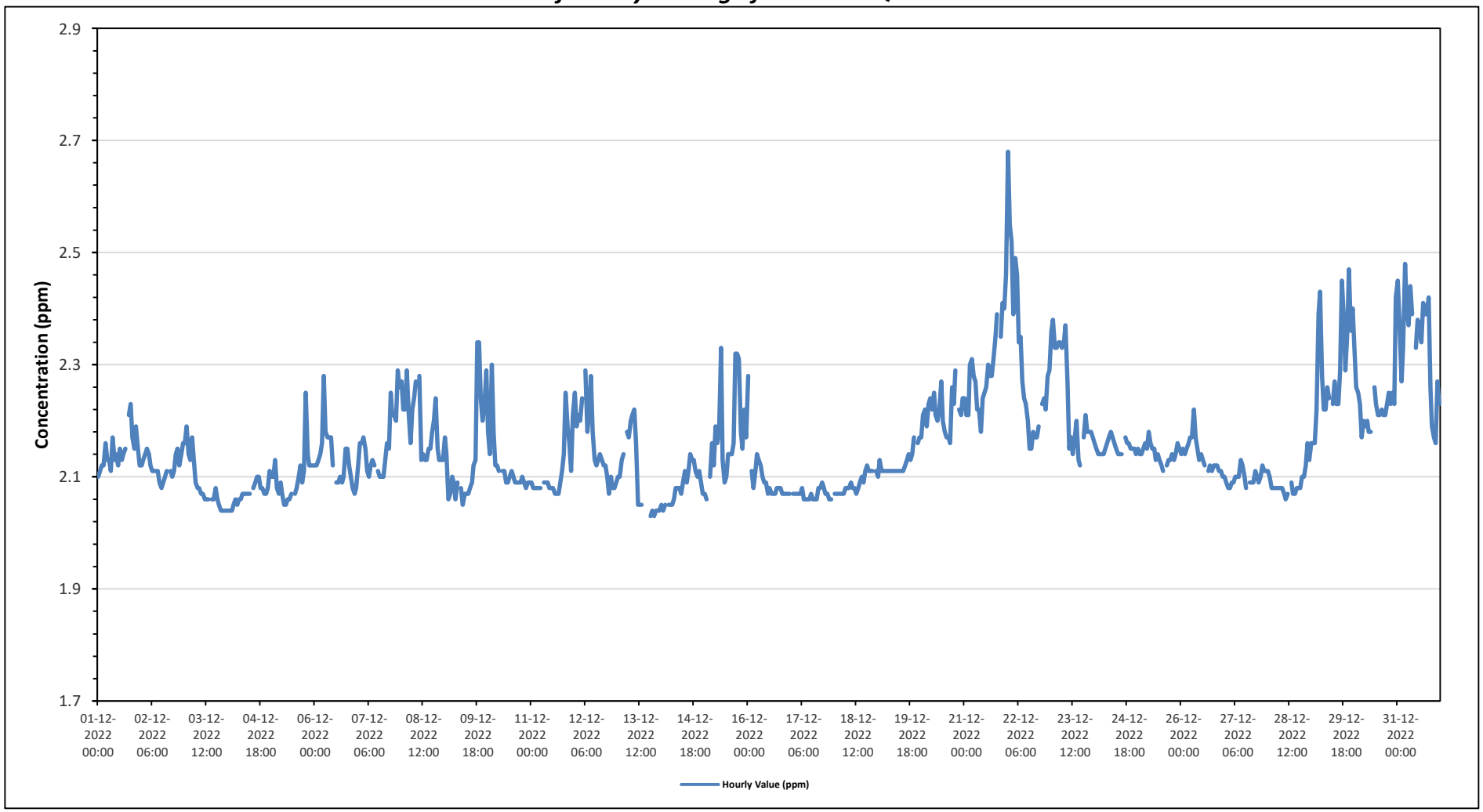
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 2.68 | ppm | on December 22 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.34 | ppm | on December 31 | Hours of Data: | 708 |
| Minimum Hourly Value: | 2.03 | ppm | on December 13 at hour 18 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 2.07 | ppm | on December 17 | Hours of Calibration: | 36 |
| Monthly Average: | 2.15 | ppm | | Operational Uptime: | 100.0 |

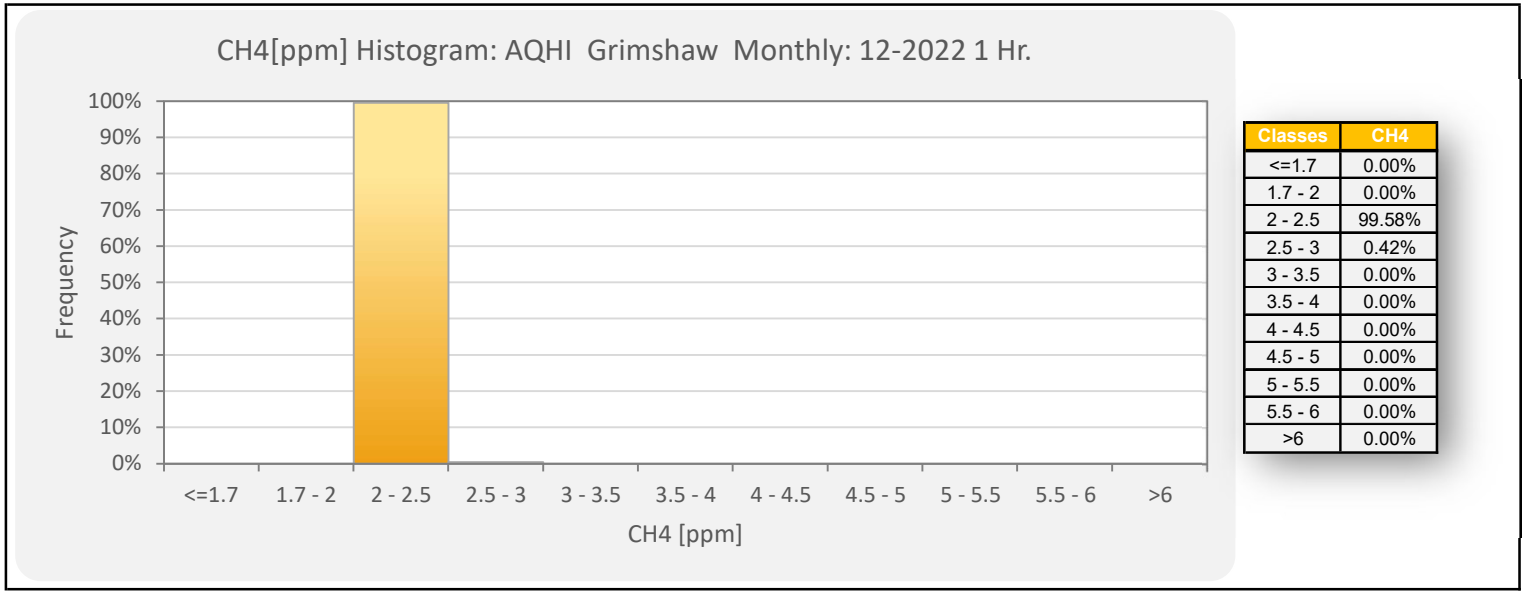
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 2.10 | 2.11 | 2.12 | 2.12 | 2.16 | 2.13 | 2.13 | 2.11 | 2.17 | 2.13 | 2.14 | 2.12 | 2.15 | 2.13 | 2.14 | 2.15 | S | 2.21 | 2.23 | 2.17 | 2.15 | 2.19 | 2.15 | 2.12 | 2.10 | 2.23 | 2.14 |
| Dec 2 | 2.12 | 2.13 | 2.14 | 2.15 | 2.14 | 2.12 | 2.11 | 2.11 | 2.11 | 2.11 | 2.09 | 2.08 | 2.09 | 2.10 | 2.11 | S | 2.11 | 2.10 | 2.11 | 2.14 | 2.15 | 2.12 | 2.14 | 2.16 | 2.08 | 2.16 | 2.12 |
| Dec 3 | 2.16 | 2.19 | 2.14 | 2.13 | 2.17 | 2.13 | 2.09 | 2.08 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | 2.06 | S | 2.06 | 2.06 | 2.08 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.19 | 2.09 |
| Dec 4 | 2.04 | 2.04 | 2.04 | 2.05 | 2.06 | 2.05 | 2.06 | 2.06 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | S | 2.08 | 2.09 | 2.10 | 2.10 | 2.08 | 2.08 | 2.07 | 2.07 | 2.08 | 2.11 | 2.04 | 2.11 | 2.07 |
| Dec 5 | 2.10 | 2.10 | 2.13 | 2.08 | 2.07 | 2.09 | 2.07 | 2.05 | 2.05 | 2.06 | 2.06 | 2.07 | S | 2.07 | 2.08 | 2.10 | 2.12 | 2.09 | 2.11 | 2.25 | 2.14 | 2.12 | 2.12 | 2.12 | 2.05 | 2.25 | 2.10 |
| Dec 6 | 2.12 | 2.12 | 2.13 | 2.14 | 2.16 | 2.28 | 2.18 | 2.17 | 2.17 | 2.17 | 2.12 | S | 2.09 | 2.09 | 2.10 | 2.09 | 2.10 | 2.15 | 2.15 | 2.12 | 2.10 | 2.08 | 2.07 | 2.08 | 2.07 | 2.28 | 2.13 |
| Dec 7 | 2.12 | 2.16 | 2.16 | 2.17 | 2.15 | 2.11 | 2.10 | 2.12 | 2.13 | 2.12 | S | 2.11 | 2.10 | 2.10 | 2.10 | 2.13 | 2.16 | 2.15 | 2.25 | 2.21 | 2.21 | 2.20 | 2.29 | 2.26 | 2.10 | 2.29 | 2.16 |
| Dec 8 | 2.27 | 2.22 | 2.22 | 2.29 | 2.21 | 2.16 | 2.22 | 2.24 | 2.27 | S | 2.28 | 2.13 | 2.14 | 2.13 | 2.13 | 2.15 | 2.15 | 2.18 | 2.20 | 2.24 | 2.15 | 2.13 | 2.13 | 2.13 | 2.13 | 2.29 | 2.19 |
| Dec 9 | 2.17 | 2.14 | 2.06 | 2.07 | 2.10 | 2.09 | 2.06 | 2.09 | S | 2.08 | 2.05 | 2.07 | 2.07 | 2.07 | 2.08 | 2.09 | 2.12 | 2.13 | 2.34 | 2.34 | 2.24 | 2.20 | 2.23 | 2.29 | 2.05 | 2.34 | 2.14 |
| Dec 10 | 2.18 | 2.14 | 2.30 | 2.18 | 2.12 | 2.12 | 2.11 | S | 2.11 | 2.11 | 2.09 | 2.09 | 2.10 | 2.11 | 2.10 | 2.09 | 2.09 | 2.09 | 2.09 | 2.10 | 2.09 | 2.08 | 2.09 | 2.09 | 2.08 | 2.30 | 2.12 |
| Dec 11 | 2.09 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | S | 2.09 | 2.09 | 2.09 | 2.08 | 2.08 | 2.08 | 2.07 | 2.07 | 2.07 | 2.09 | 2.11 | 2.14 | 2.25 | 2.19 | 2.16 | 2.11 | 2.21 | 2.07 | 2.25 | 2.11 |
| Dec 12 | 2.25 | 2.19 | 2.21 | 2.20 | 2.24 | S | 2.29 | 2.18 | 2.22 | 2.28 | 2.18 | 2.13 | 2.12 | 2.13 | 2.14 | 2.13 | 2.12 | 2.12 | 2.10 | 2.07 | 2.10 | 2.08 | 2.08 | 2.09 | 2.07 | 2.29 | 2.16 |
| Dec 13 | 2.10 | 2.10 | 2.13 | 2.14 | S | 2.18 | 2.17 | 2.20 | 2.21 | 2.22 | 2.16 | 2.05 | 2.05 | 2.05 | C | C | C | C | 2.03 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | **2.03** | 2.22 | 2.10 |
| Dec 14 | 2.05 | 2.04 | 2.05 | S | 2.05 | 2.05 | 2.05 | 2.06 | 2.08 | 2.08 | 2.08 | 2.07 | 2.09 | 2.11 | 2.09 | 2.11 | 2.14 | 2.13 | 2.13 | 2.11 | 2.10 | 2.11 | 2.09 | 2.07 | 2.04 | 2.14 | 2.08 |
| Dec 15 | 2.07 | 2.06 | S | 2.10 | 2.16 | 2.12 | 2.19 | 2.16 | 2.18 | 2.33 | 2.13 | 2.09 | 2.10 | 2.14 | 2.14 | 2.14 | 2.16 | 2.32 | 2.32 | 2.31 | 2.18 | 2.15 | 2.22 | 2.17 | 2.06 | 2.33 | 2.17 |
| Dec 16 | 2.28 | S | 2.11 | 2.08 | 2.11 | 2.14 | 2.13 | 2.12 | 2.10 | 2.09 | 2.09 | 2.07 | 2.08 | 2.07 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.28 | 2.10 |
| Dec 17 | S | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.08 | 2.06 | 2.06 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.06 | 2.08 | 2.08 | 2.09 | 2.08 | 2.07 | 2.07 | 2.06 | 2.06 | S | 2.06 | 2.09 | 2.07 |
| Dec 18 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.09 | 2.08 | 2.08 | 2.07 | 2.08 | 2.09 | 2.10 | 2.09 | 2.11 | 2.12 | 2.11 | 2.11 | 2.11 | S | 2.11 | 2.07 | 2.12 | 2.09 |
| Dec 19 | 2.10 | 2.13 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.11 | 2.12 | 2.13 | 2.14 | 2.13 | 2.14 | 2.17 | S | 2.16 | 2.17 | 2.10 | 2.17 | 2.12 |
| Dec 20 | 2.17 | 2.21 | 2.22 | 2.19 | 2.23 | 2.24 | 2.22 | 2.25 | 2.21 | 2.20 | 2.22 | 2.27 | 2.20 | 2.18 | 2.17 | 2.17 | 2.16 | 2.26 | 2.23 | 2.29 | S | 2.22 | 2.21 | 2.24 | 2.16 | 2.29 | 2.22 |
| Dec 21 | 2.24 | 2.21 | 2.21 | 2.30 | 2.31 | 2.28 | 2.27 | 2.22 | 2.22 | 2.18 | 2.24 | 2.25 | 2.26 | 2.30 | 2.28 | 2.28 | 2.31 | 2.35 | 2.39 | S | 2.35 | 2.41 | 2.40 | 2.46 | 2.18 | 2.46 | 2.29 |
| Dec 22 | **2.68** | 2.55 | 2.52 | 2.39 | 2.49 | 2.46 | 2.34 | 2.35 | 2.27 | 2.24 | 2.23 | 2.20 | 2.15 | 2.15 | 2.18 | 2.17 | 2.17 | 2.19 | S | 2.23 | 2.24 | 2.22 | 2.28 | 2.29 | 2.15 | **2.68** | 2.30 |
| Dec 23 | 2.36 | 2.38 | 2.33 | 2.33 | 2.34 | 2.34 | 2.33 | 2.34 | 2.37 | 2.27 | 2.15 | 2.17 | 2.14 | 2.17 | 2.20 | 2.13 | 2.12 | S | 2.17 | 2.21 | 2.18 | 2.18 | 2.18 | 2.17 | 2.12 | 2.38 | 2.24 |
| Dec 24 | 2.16 | 2.15 | 2.14 | 2.14 | 2.14 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.17 | 2.16 | 2.15 | 2.14 | 2.14 | 2.14 | S | 2.17 | 2.16 | 2.16 | 2.15 | 2.15 | 2.15 | 2.14 | 2.14 | 2.18 | 2.15 |
| Dec 25 | 2.15 | 2.14 | 2.14 | 2.15 | 2.16 | 2.15 | 2.18 | 2.16 | 2.15 | 2.15 | 2.13 | 2.14 | 2.13 | 2.12 | 2.11 | S | 2.12 | 2.13 | 2.13 | 2.14 | 2.13 | 2.14 | 2.16 | 2.15 | 2.11 | 2.18 | 2.14 |
| Dec 26 | 2.14 | 2.15 | 2.14 | 2.15 | 2.16 | 2.17 | 2.17 | 2.22 | 2.17 | 2.15 | 2.13 | 2.14 | 2.13 | 2.12 | S | 2.11 | 2.12 | 2.11 | 2.12 | 2.12 | 2.12 | 2.11 | 2.11 | 2.10 | 2.10 | 2.22 | 2.14 |
| Dec 27 | 2.10 | 2.09 | 2.08 | 2.08 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.13 | 2.12 | 2.10 | 2.08 | S | 2.09 | 2.09 | 2.09 | 2.11 | 2.10 | 2.09 | 2.10 | 2.12 | 2.11 | 2.11 | 2.08 | 2.13 | 2.10 |
| Dec 28 | 2.11 | 2.10 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.07 | 2.06 | 2.07 | S | 2.09 | 2.07 | 2.07 | 2.08 | 2.08 | 2.08 | 2.10 | 2.10 | 2.12 | 2.16 | 2.13 | 2.06 | 2.16 | 2.09 |
| Dec 29 | 2.16 | 2.16 | 2.16 | 2.22 | 2.39 | 2.43 | 2.28 | 2.22 | 2.22 | 2.26 | 2.24 | S | 2.23 | 2.27 | 2.23 | 2.23 | 2.29 | 2.45 | 2.39 | 2.29 | 2.36 | 2.47 | 2.36 | 2.40 | 2.16 | 2.47 | 2.29 |
| Dec 30 | 2.32 | 2.26 | 2.25 | 2.23 | 2.17 | 2.20 | 2.19 | 2.20 | 2.18 | 2.18 | S | 2.26 | 2.23 | 2.21 | 2.21 | 2.22 | 2.21 | 2.21 | 2.23 | 2.25 | 2.23 | 2.25 | 2.23 | 2.42 | 2.17 | 2.42 | 2.23 |
| Dec 31 | 2.45 | 2.37 | 2.27 | 2.33 | 2.48 | 2.40 | 2.37 | 2.44 | 2.39 | S | 2.33 | 2.38 | 2.37 | 2.34 | 2.41 | 2.39 | 2.39 | 2.42 | 2.26 | 2.19 | 2.17 | 2.16 | 2.27 | 2.23 | 2.16 | 2.48 | **2.34** |
| Diurnal Maximum | 2.68 | 2.55 | 2.52 | 2.39 | 2.49 | 2.46 | 2.37 | 2.44 | 2.39 | 2.33 | 2.33 | 2.38 | 2.37 | 2.34 | 2.41 | 2.39 | 2.39 | 2.45 | 2.39 | 2.34 | 2.36 | 2.47 | 2.40 | 2.46 | | | |
| Diurnal Average | 2.18 | 2.16 | 2.16 | 2.16 | 2.18 | 2.17 | 2.16 | 2.16 | 2.16 | 2.15 | 2.14 | 2.13 | 2.13 | 2.13 | 2.14 | 2.13 | 2.14 | 2.17 | 2.17 | 2.16 | 2.15 | 2.15 | 2.16 | 2.17 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure | |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | |

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 - AQHI - Grimshaw Station*

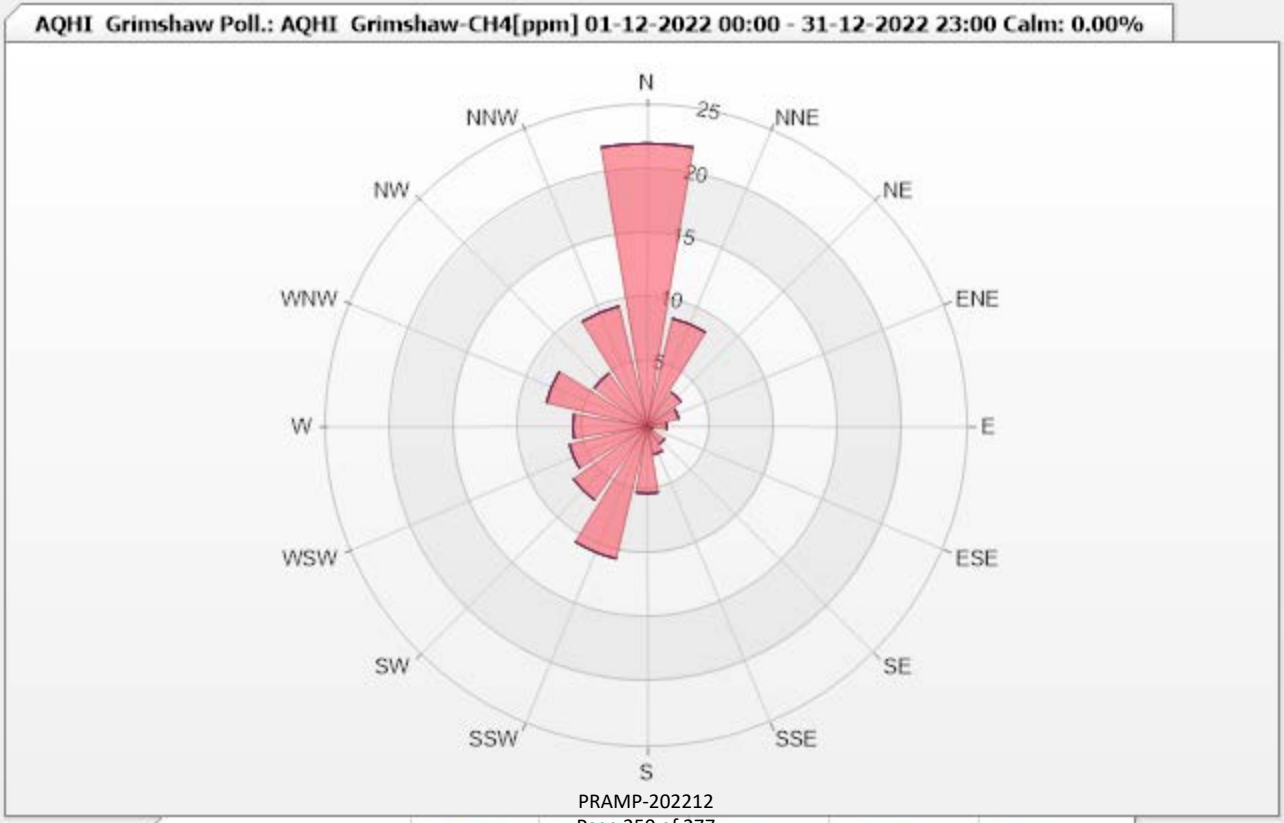





| Classes | CH4 |
|---|---|
| <=1.7 | 0.00% |
| 1.7 - 2 | 0.00% |
| 2 - 2.5 | 99.58% |
| 2.5 - 3 | 0.42% |
| 3 - 3.5 | 0.00% |
| 3.5 - 4 | 0.00% |
| 4 - 4.5 | 0.00% |
| 4.5 - 5 | 0.00% |
| 5 - 5.5 | 0.00% |
| 5.5 - 6 | 0.00% |
| >6 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-CH4[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|---|---|---|---|---|---|---|
| N | 0 | 22.03 | 0 | 0 | 0 | 22.03 |
| NNE | 0 | 8.62 | 0 | 0 | 0 | 8.62 |
| NE | 0 | 3.25 | 0 | 0 | 0 | 3.25 |
| ENE | 0 | 2.54 | 0 | 0 | 0 | 2.54 |
| E | 0 | 1.55 | 0 | 0 | 0 | 1.55 |
| ESE | 0 | 0.42 | 0 | 0 | 0 | 0.42 |
| SE | 0 | 1.69 | 0 | 0 | 0 | 1.69 |
| SSE | 0 | 2.26 | 0 | 0 | 0 | 2.26 |
| S | 0 | 5.23 | 0 | 0 | 0 | 5.23 |
| SSW | 0 | 10.59 | 0 | 0 | 0 | 10.59 |
| SW | 0 | 7.06 | 0 | 0 | 0 | 7.06 |
| WSW | 0 | 6.21 | 0 | 0 | 0 | 6.21 |
| W | 0 | 5.79 | 0 | 0 | 0 | 5.79 |
| WNW | 0 | 8.05 | 0 | 0 | 0 | 8.05 |
| NW | 0 | 5.08 | 0 | 0 | 0 | 5.08 |
| NNW | 0 | 9.6 | 0 | 0 | 0 | 9.6 |
| Summary | 0 | 100 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-CH4[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
0 0-2
100 2-5
0 5-10
0 10-20
0 >20.0

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### NON-METHANE HYDROCARBONS (NMHC) in ppm

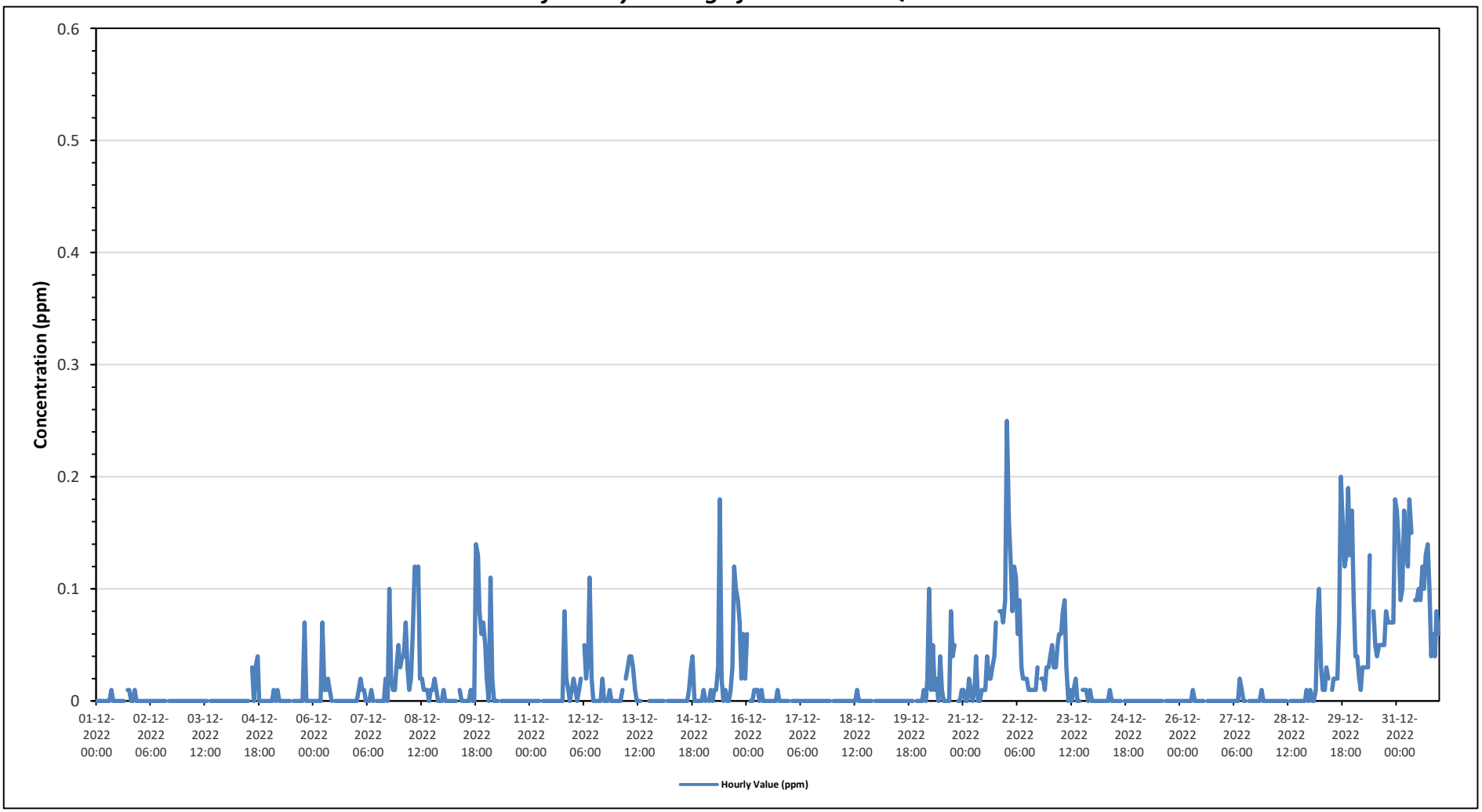
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 0.25 | ppm | on December 22 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.11 | ppm | on December 31 | Hours of Data: | 708 |
| Minimum Hourly Value: | 0.00 | ppm | on December 1 at hour 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.00 | ppm | on December 2 | Hours of Calibration: | 36 |
| Monthly Average: | 0.02 | ppm | | Operational Uptime: | 100.0 |

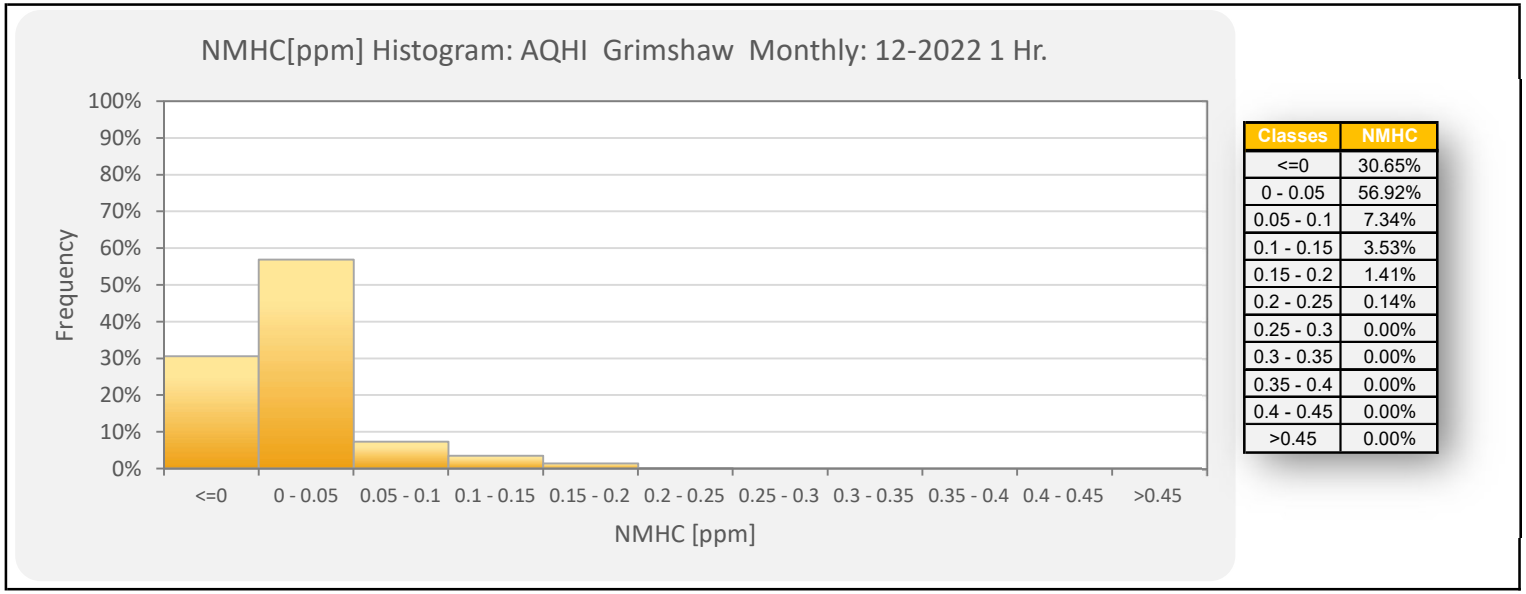
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Dec 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| Dec 5 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |
| Dec 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.01 |
| Dec 7 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.10 | 0.02 | 0.01 | 0.01 | 0.03 | 0.05 | 0.00 | 0.10 | 0.01 |
| Dec 8 | 0.03 | 0.04 | 0.04 | 0.07 | 0.03 | 0.01 | 0.02 | 0.06 | 0.12 | S | 0.12 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.03 |
| Dec 9 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.14 | 0.13 | 0.08 | 0.06 | 0.07 | 0.05 | 0.00 | 0.14 | 0.02 |
| Dec 10 | 0.02 | 0.00 | 0.11 | 0.02 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.01 |
| Dec 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.08 | 0.01 |
| Dec 12 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | S | 0.05 | 0.02 | 0.04 | 0.11 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.01 |
| Dec 13 | 0.00 | 0.00 | 0.00 | 0.01 | S | 0.02 | 0.03 | 0.04 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.01 |
| Dec 14 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| Dec 15 | 0.01 | 0.00 | S | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.03 | 0.18 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.12 | 0.10 | 0.09 | 0.07 | 0.02 | 0.06 | 0.02 | 0.00 | 0.18 | 0.03 |
| Dec 16 | 0.06 | S | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 |
| Dec 17 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 |
| Dec 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.01 | 0.00 |
| Dec 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 20 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.10 | 0.01 | 0.05 | 0.01 | 0.02 | 0.00 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.04 | 0.05 | S | 0.00 | 0.00 | 0.01 | 0.00 | 0.10 | 0.02 |
| Dec 21 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.04 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.04 | 0.02 | 0.02 | 0.03 | 0.04 | 0.07 | S | 0.08 | 0.08 | 0.07 | 0.09 | 0.00 | 0.09 | 0.03 |
| Dec 22 | 0.25 | 0.16 | 0.13 | 0.08 | 0.12 | 0.11 | 0.06 | 0.09 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | S | 0.02 | 0.02 | 0.01 | 0.03 | 0.03 | 0.01 | 0.25 | 0.06 |
| Dec 23 | 0.04 | 0.05 | 0.03 | 0.03 | 0.05 | 0.06 | 0.06 | 0.08 | 0.09 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | S | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.09 | 0.03 |
| Dec 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Dec 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dec 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Dec 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| Dec 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| Dec 29 | 0.01 | 0.00 | 0.00 | 0.01 | 0.08 | 0.10 | 0.03 | 0.01 | 0.01 | 0.03 | 0.02 | S | 0.01 | 0.02 | 0.02 | 0.02 | 0.07 | 0.20 | 0.16 | 0.12 | 0.13 | 0.19 | 0.13 | 0.17 | 0.00 | 0.20 | 0.07 |
| Dec 30 | 0.09 | 0.04 | 0.04 | 0.02 | 0.01 | 0.03 | 0.03 | 0.03 | 0.03 | 0.13 | S | 0.08 | 0.05 | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 | 0.18 | 0.01 | 0.18 | 0.06 |
| Dec 31 | 0.17 | 0.14 | 0.09 | 0.10 | 0.17 | 0.14 | 0.12 | 0.18 | 0.15 | S | 0.09 | 0.09 | 0.10 | 0.09 | 0.12 | 0.10 | 0.13 | 0.14 | 0.10 | 0.04 | 0.06 | 0.04 | 0.08 | 0.06 | 0.04 | 0.18 | 0.11 |
| Diurnal Maximum | 0.25 | 0.16 | 0.13 | 0.10 | 0.17 | 0.14 | 0.12 | 0.18 | 0.15 | 0.18 | 0.12 | 0.09 | 0.10 | 0.09 | 0.12 | 0.10 | 0.13 | 0.20 | 0.16 | 0.13 | 0.13 | 0.19 | 0.13 | 0.18 | | | |
| Diurnal Average | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - AQHI - Grimshaw Station*

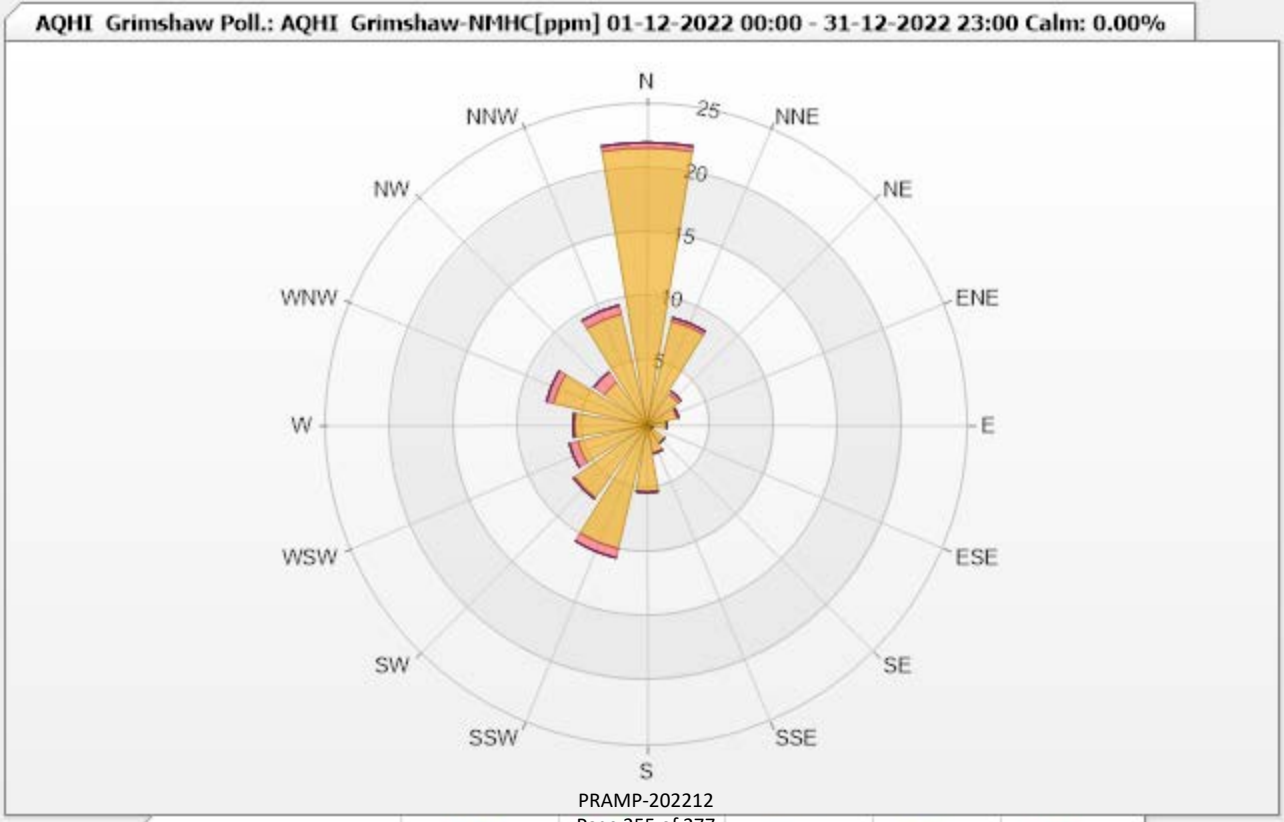





| Classes | NMHC |
|---|---|
| <=0 | 30.65% |
| 0 - 0.05 | 56.92% |
| 0.05 - 0.1 | 7.34% |
| 0.1 - 0.15 | 3.53% |
| 0.15 - 0.2 | 1.41% |
| 0.2 - 0.25 | 0.14% |
| 0.25 - 0.3 | 0.00% |
| 0.3 - 0.35 | 0.00% |
| 0.35 - 0.4 | 0.00% |
| 0.4 - 0.45 | 0.00% |
| >0.45 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NMHC[ppm] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|---|---|---|---|---|---|---|
| N | 21.61 | 0.42 | 0 | 0 | 0 | 22.03 |
| NNE | 8.33 | 0.28 | 0 | 0 | 0 | 8.61 |
| NE | 2.97 | 0.28 | 0 | 0 | 0 | 3.25 |
| ENE | 2.4 | 0.14 | 0 | 0 | 0 | 2.54 |
| E | 1.55 | 0 | 0 | 0 | 0 | 1.55 |
| ESE | 0.42 | 0 | 0 | 0 | 0 | 0.42 |
| SE | 1.69 | 0 | 0 | 0 | 0 | 1.69 |
| SSE | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| S | 5.23 | 0 | 0 | 0 | 0 | 5.23 |
| SSW | 9.89 | 0.71 | 0 | 0 | 0 | 10.6 |
| SW | 6.92 | 0.14 | 0 | 0 | 0 | 7.06 |
| WSW | 5.51 | 0.71 | 0 | 0 | 0 | 6.22 |
| W | 5.65 | 0.14 | 0 | 0 | 0 | 5.79 |
| WNW | 7.49 | 0.56 | 0 | 0 | 0 | 8.05 |
| NW | 4.1 | 0.99 | 0 | 0 | 0 | 5.09 |
| NNW | 8.9 | 0.71 | 0 | 0 | 0 | 9.61 |
| Summary | 94.92 | 5.08 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-NMHC[ppm] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ppm)
95 0-0.1
5 0.1-0.3
0 0.3-1
0 1-2
0 >2.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### PARTICULATE MATTER 2.5 ($PM_{2.5}$) in $\mu g/m^3$

**Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3**

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

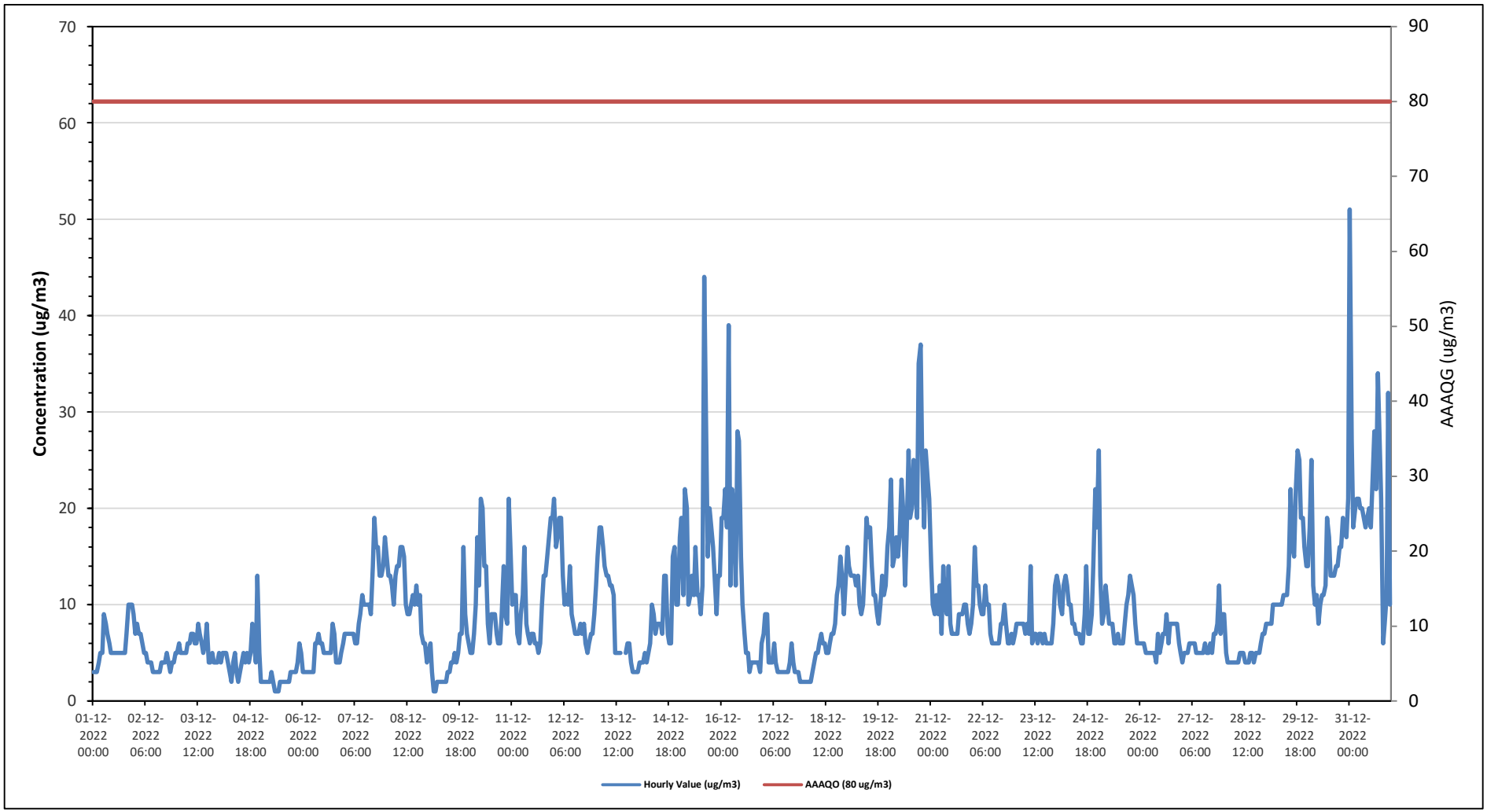
| | | | | |
|---|---|---|---|---|
| Maximum Hourly Value: | 51 | $\mu g/m^3$ on December 31 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 21.4 | $\mu g/m^3$ on December 31 | Hours of Data: | 742 |
| Minimum Hourly Value: | 1 | $\mu g/m^3$ on December 5 at hour 8 | Hours of Missing Data: | 1 |
| Minimum Daily Value: | 2.5 | $\mu g/m^3$ on December 5 | Hours of Calibration: | 1 |
| Monthly Average: | 9.3 | $\mu g/m^3$ | Operational Uptime: | 99.9 |

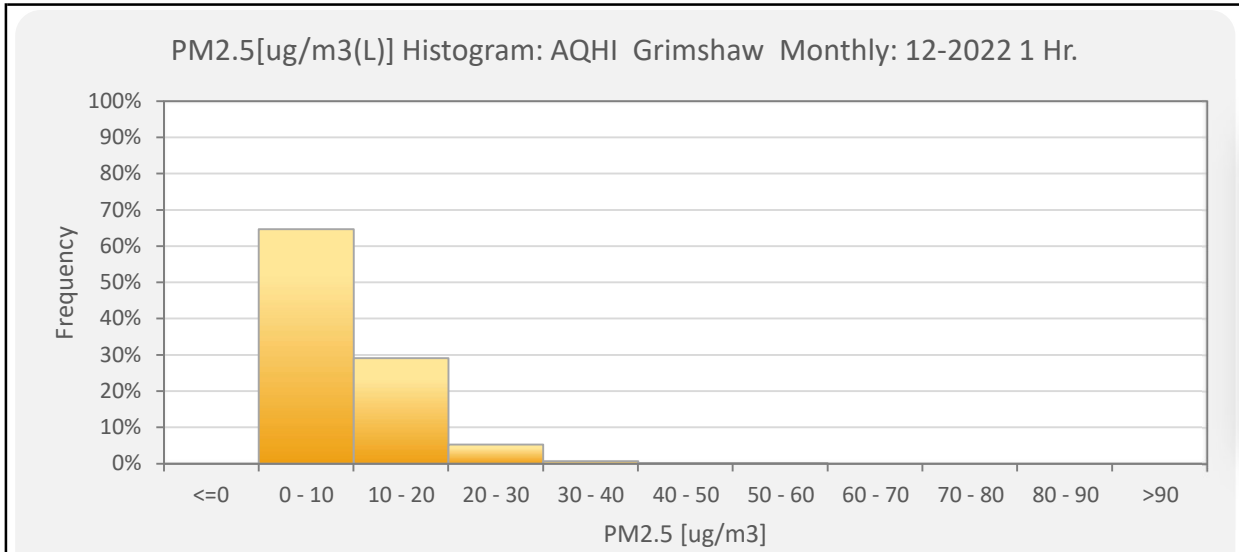
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Dec 1 | 3 | 3 | 3 | 4 | 5 | 5 | 9 | 8 | 7 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 10 | 10 | 10 | 9 | 3 | 10 | 6.0 |
| Dec 2 | 7 | 8 | 7 | 7 | 6 | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 4 | 3 | 4 | 4 | 5 | 3 | 8 | 4.5 |
| Dec 3 | 5 | 6 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 6 | 6 | 8 | 7 | 6 | 5 | 6 | 8 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 8 | 5.6 |
| Dec 4 | 5 | 4 | 5 | 5 | 5 | 4 | 3 | 2 | 4 | 5 | 3 | 2 | 3 | 4 | 5 | 4 | 5 | 4 | 5 | 8 | 6 | 4 | 13 | 5 | 2 | 13 | 4.7 |
| Dec 5 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 6 | 5 | 1 | 6 | 2.5 |
| Dec 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 6 | 7 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 8 | 7 | 4 | 4 | 4 | 5 | 6 | 3 | 8 | 4.8 |
| Dec 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 8 | 9 | 11 | 10 | 10 | 10 | 10 | 9 | 14 | 19 | 16 | 16 | 13 | 13 | 14 | 17 | 6 | 19 | 10.5 |
| Dec 8 | 15 | 13 | 13 | 12 | 10 | 13 | 14 | 14 | 16 | 16 | 15 | 10 | 9 | 9 | 10 | 11 | 10 | 12 | 10 | 11 | 7 | 6 | 6 | 4 | 4 | 16 | 11.1 |
| Dec 9 | 5 | 6 | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 4 | 5 | 7 | 7 | 16 | 9 | 7 | 6 | 1 | 16 | 4.5 |
| Dec 10 | 5 | 5 | 7 | 10 | 17 | 12 | 21 | 20 | 14 | 14 | 8 | 6 | 9 | 9 | 9 | 7 | 6 | 6 | 9 | 14 | 9 | 8 | 21 | 15 | 5 | 21 | 10.9 |
| Dec 11 | 10 | 11 | 11 | 7 | 6 | 9 | 11 | 16 | 8 | 7 | 6 | 7 | 7 | 6 | 6 | 5 | 6 | 10 | 13 | 13 | 15 | 17 | 19 | 19 | 5 | 19 | 10.2 |
| Dec 12 | 21 | 16 | 17 | 19 | 19 | 13 | 10 | 11 | 10 | 14 | 9 | 8 | 7 | 7 | 7 | 8 | 7 | 8 | 6 | 5 | 6 | 7 | 7 | 9 | 5 | 21 | 10.5 |
| Dec 13 | 12 | 15 | 18 | 18 | 16 | 14 | 13 | 13 | 12 | 12 | 11 | 5 | 5 | 5 | 5 | C | X | 5 | 6 | 6 | 4 | 3 | 3 | 3 | 3 | 18 | 9.3 |
| Dec 14 | 3 | 4 | 4 | 4 | 5 | 4 | 5 | 6 | 10 | 9 | 7 | 8 | 8 | 8 | 7 | 13 | 13 | 7 | 6 | 6 | 15 | 16 | 10 | 10 | 3 | 16 | 7.8 |
| Dec 15 | 17 | 19 | 11 | 22 | 20 | 10 | 11 | 13 | 11 | 16 | 11 | 11 | 9 | 12 | 44 | 29 | 15 | 20 | 18 | 16 | 13 | 9 | 13 | 13 | 9 | 44 | 16.0 |
| Dec 16 | 19 | 19 | 22 | 18 | 39 | 12 | 22 | 19 | 12 | 28 | 27 | 15 | 10 | 7 | 5 | 5 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 6 | 3 | 39 | 13.0 |
| Dec 17 | 7 | 9 | 9 | 4 | 4 | 4 | 6 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 6 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 9 | 4.0 |
| Dec 18 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 6 | 6 | 5 | 5 | 6 | 7 | 7 | 8 | 11 | 12 | 15 | 13 | 9 | 12 | 2 | 15 | 6.7 |
| Dec 19 | 16 | 14 | 13 | 13 | 13 | 12 | 13 | 10 | 9 | 10 | 14 | 19 | 17 | 18 | 14 | 11 | 11 | 9 | 8 | 10 | 13 | 11 | 12 | 16 | 8 | 19 | 12.8 |
| Dec 20 | 18 | 23 | 14 | 15 | 17 | 15 | 17 | 23 | 20 | 12 | 17 | 26 | 19 | 20 | 25 | 22 | 19 | 35 | 37 | 25 | 18 | 26 | 23 | 21 | 12 | 37 | 21.1 |
| Dec 21 | 14 | 10 | 9 | 11 | 9 | 12 | 7 | 14 | 10 | 9 | 14 | 8 | 7 | 7 | 7 | 7 | 9 | 9 | 9 | 10 | 10 | 8 | 7 | 8 | 7 | 14 | 9.4 |
| Dec 22 | 10 | 16 | 12 | 12 | 10 | 9 | 9 | 12 | 10 | 10 | 7 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 10 | 8 | 6 | 6 | 7 | 6 | 6 | 16 | 8.6 |
| Dec 23 | 7 | 8 | 8 | 8 | 8 | 8 | 7 | 8 | 7 | 14 | 6 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 6 | 6 | 6 | 8 | 12 | 6 | 14 | 7.5 |
| Dec 24 | 13 | 12 | 10 | 9 | 12 | 13 | 12 | 10 | 10 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 9 | 14 | 7 | 7 | 9 | 14 | 22 | 18 | 6 | 22 | 10.4 |
| Dec 25 | 26 | 13 | 8 | 9 | 12 | 10 | 8 | 8 | 8 | 6 | 6 | 7 | 6 | 6 | 6 | 8 | 10 | 11 | 13 | 12 | 11 | 8 | 6 | 6 | 6 | 26 | 9.3 |
| Dec 26 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 7 | 5 | 6 | 7 | 7 | 9 | 6 | 8 | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 9 | 6.3 |
| Dec 27 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 5 | 6 | 5 | 7 | 7 | 8 | 12 | 7 | 9 | 4 | 12 | 6.0 |
| Dec 28 | 9 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 6 | 7 | 7 | 4 | 9 | 4.9 |
| Dec 29 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 14 | 22 | 16 | 15 | 22 | 26 | 25 | 19 | 19 | 16 | 14 | 8 | 26 | 13.9 |
| Dec 30 | 14 | 18 | 25 | 12 | 10 | 11 | 8 | 10 | 11 | 11 | 12 | 19 | 17 | 13 | 13 | 13 | 14 | 14 | 16 | 16 | 19 | 18 | 17 | 21 | 8 | 25 | 14.7 |
| Dec 31 | **51** | 27 | 18 | 20 | 21 | 21 | 20 | 20 | 19 | 18 | 19 | 20 | 18 | 23 | 28 | 22 | 34 | 27 | 21 | 6 | 8 | 11 | 32 | 10 | 6 | **51** | **21.4** |
| Diurnal Maximum | 51 | 27 | 25 | 22 | 39 | 21 | 22 | 23 | 20 | 28 | 27 | 26 | 19 | 23 | 44 | 29 | 34 | 35 | 37 | 25 | 19 | 26 | 32 | 21 | | | |
| Diurnal Average | 11.1 | 10.2 | 9.3 | 9.1 | 10.0 | 8.5 | 9.1 | 9.6 | 8.7 | 9.3 | 8.7 | 8.4 | 7.8 | 8.0 | 9.4 | 8.8 | 9.0 | 10.1 | 10.0 | 9.3 | 9.4 | 9.4 | 10.5 | 9.8 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 PM2.5 - AQHI - Grimshaw Station*

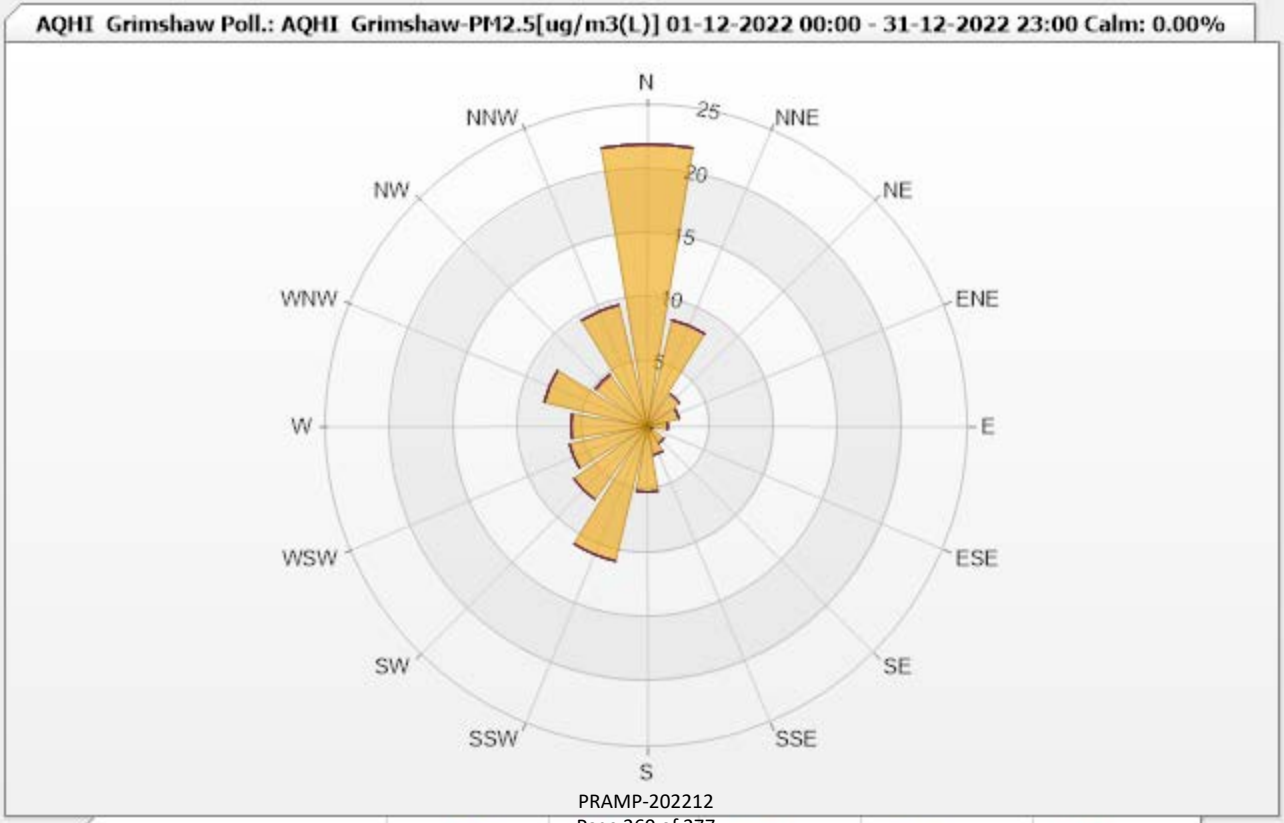





| Classes | PM2.5 |
|---|---|
| <=0 | 0.00% |
| 0 - 10 | 64.69% |
| 10 - 20 | 29.11% |
| 20 - 30 | 5.26% |
| 30 - 40 | 0.67% |
| 40 - 50 | 0.13% |
| 50 - 60 | 0.13% |
| 60 - 70 | 0.00% |
| 70 - 80 | 0.00% |
| 80 - 90 | 0.00% |
| >90 | 0.00% |

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-PM2.5[ug/m3(L)] Monthly: 12-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ug/m3(L)]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|---|---|---|---|---|---|---|
| N | 21.97 | 0 | 0 | 0 | 0 | 21.97 |
| NNE | 8.49 | 0 | 0 | 0 | 0 | 8.49 |
| NE | 3.1 | 0 | 0 | 0 | 0 | 3.1 |
| ENE | 2.56 | 0 | 0 | 0 | 0 | 2.56 |
| E | 1.62 | 0 | 0 | 0 | 0 | 1.62 |
| ESE | 0.4 | 0 | 0 | 0 | 0 | 0.4 |
| SE | 1.62 | 0 | 0 | 0 | 0 | 1.62 |
| SSE | 2.29 | 0 | 0 | 0 | 0 | 2.29 |
| S | 5.12 | 0 | 0 | 0 | 0 | 5.12 |
| SSW | 10.78 | 0 | 0 | 0 | 0 | 10.78 |
| SW | 7.01 | 0 | 0 | 0 | 0 | 7.01 |
| WSW | 6.2 | 0 | 0 | 0 | 0 | 6.2 |
| W | 5.93 | 0 | 0 | 0 | 0 | 5.93 |
| WNW | 8.22 | 0 | 0 | 0 | 0 | 8.22 |
| NW | 4.85 | 0.13 | 0 | 0 | 0 | 4.98 |
| NNW | 9.7 | 0 | 0 | 0 | 0 | 9.7 |
| Summary | 100 | 0.13 | 0 | 0 | 0 | 100 |


AQHI Grimshaw Poll.: AQHI Grimshaw-PM2.5[ug/m3(L)] 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (ug/m3(L))
100 0-50
0 50-80
0 80-120
0 120-240
0 >240.0

peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### RELATIVE HUMIDITY (RH) in %

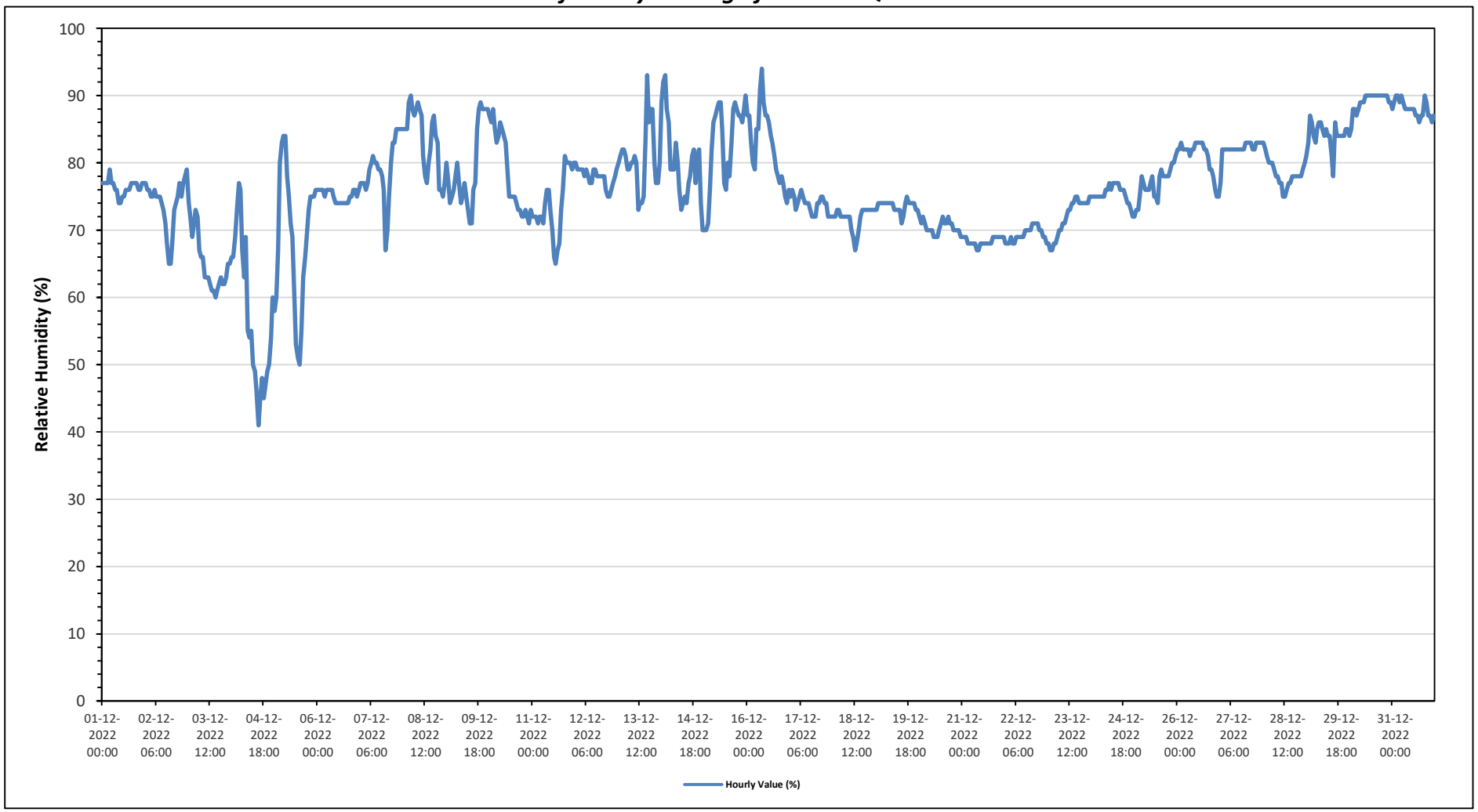
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 94 | % | on December 16 at hour 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 89.0 | % | on December 30 | Hours of Data: | 744 |
| Minimum Hourly Value: | 41 | % | on December 4 at hour 15 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 57.3 | % | on December 4 | Hours of Calibration: | 0 |
| Monthly Average: | 76.4 | % | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 77 | 77 | 77 | 77 | 79 | 77 | 77 | 76 | 76 | 74 | 74 | 75 | 75 | 76 | 76 | 76 | 77 | 77 | 77 | 77 | 76 | 76 | 77 | 77 | 74 | 79 | 76.4 |
| Dec 2 | 77 | 76 | 76 | 75 | 75 | 76 | 75 | 75 | 75 | 74 | 73 | 71 | 68 | 65 | 65 | 68 | 73 | 74 | 75 | 77 | 75 | 77 | 78 | 79 | 65 | 79 | 73.8 |
| Dec 3 | 74 | 72 | 69 | 71 | 73 | 72 | 67 | 66 | 66 | 63 | 63 | 63 | 62 | 61 | 61 | 60 | 61 | 62 | 63 | 62 | 62 | 63 | 65 | 65 | 60 | 74 | 65.3 |
| Dec 4 | 66 | 66 | 69 | 73 | 77 | 76 | 67 | 63 | 69 | 55 | 54 | 55 | 50 | 49 | 46 | **41** | 45 | 48 | 45 | 47 | 49 | 50 | 54 | 60 | **41** | 77 | 57.3 |
| Dec 5 | 58 | 60 | 67 | 80 | 83 | 84 | 84 | 78 | 75 | 71 | 69 | 60 | 53 | 51 | 50 | 55 | 63 | 66 | 69 | 73 | 75 | 75 | 75 | 76 | 50 | 84 | 68.8 |
| Dec 6 | 76 | 76 | 76 | 76 | 75 | 76 | 76 | 76 | 76 | 75 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 75 | 75 | 76 | 76 | 75 | 76 | 74 | 76 | 75.1 |
| Dec 7 | 77 | 77 | 77 | 76 | 77 | 79 | 80 | 81 | 80 | 80 | 79 | 79 | 78 | 76 | 67 | 70 | 75 | 80 | 83 | 83 | 85 | 85 | 85 | 85 | 67 | 85 | 78.9 |
| Dec 8 | 85 | 85 | 85 | 89 | 90 | 88 | 87 | 88 | 89 | 88 | 87 | 81 | 78 | 77 | 80 | 82 | 86 | 87 | 84 | 83 | 76 | 76 | 75 | 77 | 75 | 90 | 83.5 |
| Dec 9 | 80 | 77 | 74 | 75 | 76 | 78 | 80 | 77 | 74 | 75 | 77 | 75 | 73 | 71 | 71 | 76 | 77 | 85 | 88 | 89 | 88 | 88 | 88 | 88 | 71 | 89 | 79.2 |
| Dec 10 | 87 | 86 | 88 | 85 | 83 | 84 | 86 | 85 | 84 | 83 | 79 | 75 | 75 | 75 | 75 | 74 | 73 | 73 | 72 | 72 | 73 | 72 | 71 | 73 | 71 | 88 | 78.5 |
| Dec 11 | 72 | 72 | 72 | 71 | 72 | 72 | 71 | 74 | 76 | 76 | 73 | 70 | 66 | 65 | 67 | 68 | 73 | 76 | 81 | 80 | 80 | 80 | 79 | 80 | 65 | 81 | 73.6 |
| Dec 12 | 80 | 79 | 79 | 79 | 79 | 78 | 79 | 78 | 77 | 77 | 79 | 79 | 78 | 78 | 78 | 78 | 78 | 76 | 75 | 75 | 76 | 77 | 78 | 79 | 75 | 80 | 77.9 |
| Dec 13 | 80 | 81 | 82 | 82 | 81 | 79 | 79 | 80 | 80 | 81 | 80 | 73 | 74 | 74 | 75 | 83 | 93 | 86 | 88 | 88 | 80 | 77 | 77 | 80 | 73 | 93 | 80.5 |
| Dec 14 | 89 | 92 | 93 | 88 | 86 | 79 | 79 | 79 | 83 | 80 | 76 | 73 | 74 | 75 | 74 | 77 | 78 | 81 | 82 | 77 | 81 | 82 | 74 | 70 | 70 | 93 | 80.1 |
| Dec 15 | 70 | 70 | 71 | 76 | 82 | 86 | 87 | 88 | 89 | 89 | 85 | 77 | 76 | 80 | 78 | 83 | 88 | 89 | 88 | 87 | 87 | 86 | 88 | 90 | 70 | 90 | 82.9 |
| Dec 16 | 87 | 87 | 83 | 80 | 79 | 85 | 85 | 91 | **94** | 89 | 87 | 87 | 86 | 84 | 83 | 81 | 79 | 78 | 77 | 78 | 77 | 75 | 74 | 76 | 74 | **94** | 82.6 |
| Dec 17 | 75 | 76 | 75 | 73 | 74 | 75 | 76 | 75 | 74 | 74 | 74 | 73 | 72 | 72 | 72 | 74 | 74 | 75 | 75 | 74 | 74 | 72 | 72 | 72 | 72 | 76 | 73.8 |
| Dec 18 | 72 | 72 | 73 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 70 | 69 | 67 | 68 | 70 | 72 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 67 | 73 | 71.8 |
| Dec 19 | 73 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 73 | 73 | 73 | 73 | 71 | 72 | 74 | 75 | 74 | 74 | 74 | 74 | 73 | 73 | 71 | 75 | 73.5 |
| Dec 20 | 72 | 71 | 72 | 71 | 70 | 70 | 70 | 70 | 69 | 69 | 69 | 70 | 71 | 72 | 71 | 71 | 72 | 71 | 71 | 70 | 70 | 70 | 70 | 69 | 69 | 72 | 70.5 |
| Dec 21 | 69 | 69 | 69 | 68 | 68 | 68 | 68 | 68 | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 67 | 69 | 68.3 |
| Dec 22 | 68 | 68 | 68 | 69 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 70 | 70 | 70 | 70 | 71 | 71 | 71 | 71 | 70 | 70 | 69 | 69 | 68 | 68 | 71 | 69.3 |
| Dec 23 | 68 | 67 | 67 | 68 | 68 | 69 | 70 | 70 | 71 | 71 | 72 | 73 | 73 | 74 | 74 | 75 | 75 | 74 | 74 | 74 | 74 | 74 | 74 | 75 | 67 | 75 | 71.8 |
| Dec 24 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 76 | 76 | 77 | 76 | 77 | 77 | 77 | 77 | 76 | 76 | 76 | 75 | 74 | 74 | 73 | 72 | 72 | 77 | 75.4 |
| Dec 25 | 72 | 73 | 73 | 75 | 78 | 77 | 76 | 76 | 76 | 77 | 78 | 75 | 75 | 74 | 78 | 79 | 78 | 78 | 78 | 78 | 79 | 80 | 80 | 81 | 72 | 81 | 76.8 |
| Dec 26 | 82 | 82 | 83 | 82 | 82 | 82 | 82 | 81 | 82 | 82 | 83 | 83 | 83 | 83 | 83 | 82 | 82 | 81 | 79 | 79 | 78 | 76 | 75 | 75 | 75 | 83 | 80.9 |
| Dec 27 | 77 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 83 | 83 | 83 | 83 | 82 | 82 | 83 | 83 | 83 | 83 | 77 | 83 | 82.1 |
| Dec 28 | 83 | 82 | 81 | 80 | 80 | 80 | 79 | 78 | 78 | 77 | 77 | 75 | 75 | 76 | 77 | 77 | 78 | 78 | 78 | 78 | 78 | 78 | 79 | 80 | 75 | 83 | 78.4 |
| Dec 29 | 81 | 83 | 87 | 86 | 84 | 83 | 85 | 86 | 86 | 85 | 84 | 85 | 84 | 84 | 81 | 78 | 86 | 84 | 84 | 84 | 84 | 84 | 85 | 85 | 78 | 87 | 84.1 |
| Dec 30 | 84 | 85 | 88 | 88 | 87 | 88 | 89 | 89 | 89 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 89 | 89 | 84 | 90 | **89.0** |
| Dec 31 | 88 | 89 | 90 | 90 | 89 | 90 | 89 | 88 | 88 | 88 | 88 | 88 | 88 | 87 | 87 | 86 | 87 | 87 | 90 | 89 | 87 | 87 | 86 | 87 | 86 | 90 | 88.0 |
| Diurnal Maximum | 89 | 92 | 93 | 90 | 90 | 90 | 89 | 91 | 94 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 93 | 90 | 90 | 90 | 90 | 90 | 89 | 90 | | | |
| Diurnal Average | 76.6 | 76.8 | 77.3 | 77.6 | 78.0 | 78.1 | 77.9 | 77.7 | 77.9 | 76.9 | 76.2 | 74.7 | 73.8 | 73.6 | 73.3 | 74.2 | 76.1 | 76.7 | 77.0 | 76.8 | 76.5 | 76.4 | 76.2 | 76.8 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Grimshaw Station*



# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### BAROMETRIC PRESSURE (BP) in millibar

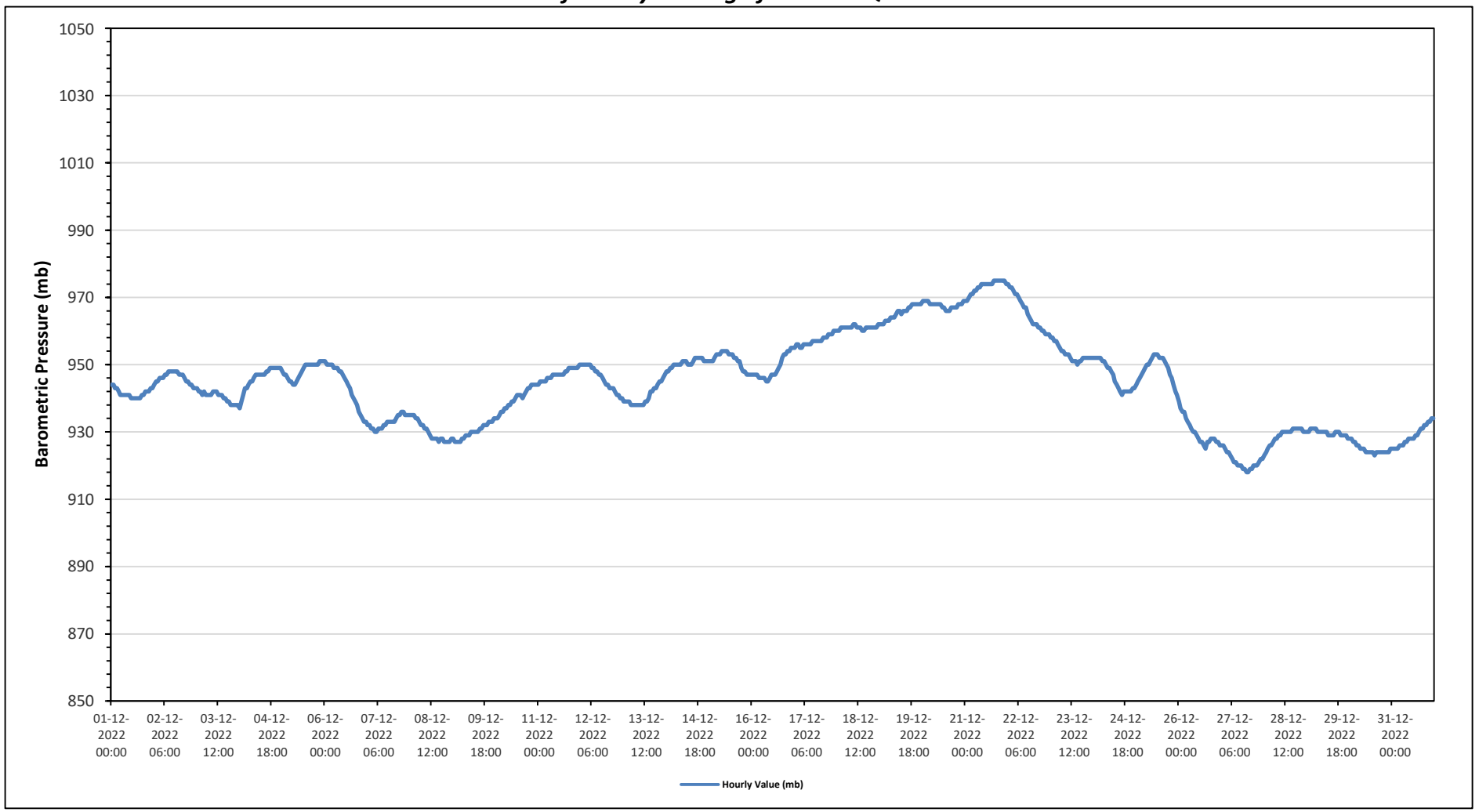
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 975 | mb | on December 21 at hour 16 | Hours in Service: | 744 |
| Maximum Daily Value: | 973 | mb | on December 21 | Hours of Data: | 744 |
| Minimum Hourly Value: | 918 | mb | on December 27 at hour 14 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 921 | mb | on December 27 | Hours of Calibration: | 0 |
| Monthly Average: | 945 | mb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 944 | 944 | 943 | 943 | 942 | 941 | 941 | 941 | 941 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 942 | 942 | 942 | 943 | 943 | 940 | 944 | 941.5 |
| Dec 2 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 945 | 945 | 944 | 944 | 943 | 943 | 943 | 948 | 946.0 |
| Dec 3 | 943 | 942 | 942 | 941 | 942 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 941 | 941 | 941 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 943 | 940.5 |
| Dec 4 | 937 | 939 | 941 | 943 | 943 | 944 | 945 | 945 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 937 | 949 | 946.0 |
| Dec 5 | 948 | 947 | 947 | 946 | 945 | 945 | 944 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 944 | 951 | 948.1 |
| Dec 6 | 951 | 950 | 950 | 950 | 950 | 949 | 949 | 949 | 948 | 948 | 947 | 946 | 945 | 944 | 943 | 941 | 940 | 939 | 938 | 936 | 935 | 934 | 933 | 933 | 933 | 951 | 943.7 |
| Dec 7 | 932 | 932 | 931 | 931 | 930 | 930 | 931 | 931 | 931 | 932 | 932 | 933 | 933 | 933 | 933 | 933 | 934 | 935 | 935 | 936 | 936 | 935 | 935 | 935 | 930 | 936 | 932.9 |
| Dec 8 | 935 | 935 | 935 | 934 | 934 | 933 | 932 | 932 | 931 | 931 | 930 | 929 | 928 | 928 | 928 | 928 | 927 | 928 | 928 | 927 | 927 | 927 | 927 | 928 | 927 | 935 | 930.1 |
| Dec 9 | 928 | 927 | 927 | 927 | 927 | 928 | 928 | 929 | 929 | 929 | 930 | 930 | 930 | 930 | 930 | 931 | 931 | 932 | 932 | 932 | 933 | 933 | 933 | 934 | 927 | 934 | 930.0 |
| Dec 10 | 934 | 934 | 935 | 936 | 936 | 937 | 937 | 938 | 938 | 939 | 939 | 940 | 941 | 941 | 941 | 940 | 941 | 942 | 943 | 943 | 944 | 944 | 944 | 944 | 934 | 944 | 939.6 |
| Dec 11 | 944 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 950 | 944 | 950 | 947.1 |
| Dec 12 | 950 | 950 | 950 | 950 | 950 | 950 | 949 | 949 | 948 | 948 | 947 | 947 | 946 | 945 | 944 | 944 | 943 | 943 | 943 | 942 | 941 | 941 | 940 | 940 | 940 | 950 | 945.8 |
| Dec 13 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 940 | 942 | 942 | 943 | 943 | 944 | 945 | 945 | 946 | 947 | 938 | 947 | 940.6 |
| Dec 14 | 948 | 948 | 949 | 949 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 950 | 950 | 950 | 951 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 951 | 948 | 952 | 950.5 |
| Dec 15 | 951 | 951 | 951 | 952 | 953 | 953 | 953 | 954 | 954 | 954 | 954 | 953 | 953 | 953 | 952 | 952 | 951 | 951 | 949 | 948 | 948 | 947 | 947 | 947 | 947 | 954 | 951.3 |
| Dec 16 | 947 | 947 | 947 | 947 | 946 | 946 | 946 | 946 | 945 | 945 | 946 | 947 | 947 | 947 | 948 | 949 | 950 | 952 | 953 | 953 | 954 | 954 | 955 | 955 | 945 | 955 | 948.8 |
| Dec 17 | 955 | 956 | 956 | 955 | 955 | 956 | 956 | 956 | 956 | 956 | 957 | 957 | 957 | 957 | 957 | 957 | 958 | 958 | 958 | 959 | 959 | 959 | 960 | 960 | 955 | 960 | 957.1 |
| Dec 18 | 960 | 960 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 962 | 962 | 961 | 961 | 961 | 960 | 960 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 962 | 960 | 962 | 961.0 |
| Dec 19 | 962 | 962 | 962 | 963 | 963 | 963 | 964 | 964 | 964 | 965 | 966 | 966 | 965 | 966 | 966 | 966 | 967 | 967 | 968 | 968 | 968 | 968 | 968 | 968 | 962 | 968 | 965.4 |
| Dec 20 | 969 | 969 | 969 | 969 | 968 | 968 | 968 | 968 | 968 | 968 | 968 | 967 | 967 | 966 | 966 | 966 | 967 | 967 | 967 | 967 | 968 | 968 | 968 | 969 | 966 | 969 | 967.7 |
| Dec 21 | 969 | 969 | 970 | 971 | 971 | 972 | 972 | 973 | 973 | 974 | 974 | 974 | 974 | 974 | 974 | 974 | **975** | **975** | **975** | **975** | **975** | **975** | **975** | 974 | 969 | **975** | **973.2** |
| Dec 22 | 974 | 973 | 973 | 972 | 971 | 971 | 970 | 969 | 968 | 967 | 967 | 965 | 964 | 963 | 962 | 962 | 962 | 961 | 961 | 960 | 960 | 959 | 959 | 959 | 959 | 974 | 965.5 |
| Dec 23 | 958 | 958 | 957 | 957 | 956 | 955 | 954 | 954 | 953 | 953 | 953 | 952 | 951 | 951 | 951 | 950 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 950 | 958 | 953.2 |
| Dec 24 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 950 | 949 | 949 | 948 | 947 | 945 | 944 | 943 | 942 | 941 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 941 | 952 | 946.5 |
| Dec 25 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 950 | 951 | 952 | 953 | 953 | 953 | 952 | 952 | 952 | 951 | 950 | 949 | 947 | 946 | 944 | 942 | 941 | 941 | 953 | 948.6 |
| Dec 26 | 939 | 937 | 936 | 936 | 934 | 933 | 932 | 931 | 930 | 930 | 929 | 928 | 927 | 927 | 926 | 925 | 927 | 927 | 928 | 928 | 928 | 927 | 927 | 926 | 925 | 939 | 929.9 |
| Dec 27 | 926 | 926 | 925 | 924 | 924 | 923 | 922 | 921 | 921 | 920 | 920 | 920 | 919 | 919 | **918** | **918** | 919 | 919 | 920 | 920 | 920 | 921 | 922 | 922 | **918** | 926 | 921.2 |
| Dec 28 | 923 | 924 | 925 | 926 | 926 | 927 | 928 | 928 | 929 | 929 | 930 | 930 | 930 | 930 | 930 | 930 | 931 | 931 | 931 | 931 | 931 | 931 | 930 | 930 | 923 | 931 | 928.8 |
| Dec 29 | 930 | 930 | 931 | 931 | 931 | 931 | 930 | 930 | 930 | 930 | 930 | 930 | 929 | 929 | 929 | 929 | 930 | 930 | 930 | 929 | 929 | 929 | 929 | 928 | 928 | 931 | 929.8 |
| Dec 30 | 928 | 928 | 927 | 927 | 926 | 926 | 925 | 925 | 925 | 924 | 924 | 924 | 924 | 924 | 923 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 925 | 923 | 928 | 924.9 |
| Dec 31 | 925 | 925 | 925 | 925 | 926 | 926 | 926 | 927 | 927 | 928 | 928 | 928 | 928 | 929 | 929 | 930 | 931 | 931 | 932 | 932 | 933 | 933 | 934 | 934 | 925 | 934 | 928.8 |
| Diurnal Maximum | 974 | 973 | 973 | 972 | 971 | 972 | 972 | 973 | 973 | 974 | 974 | 974 | 974 | 974 | 974 | 974 | 975 | 975 | 975 | 975 | 975 | 975 | 975 | 974 | | | |
| Diurnal Average | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 944 | 944 | 945 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - AQHI - Grimshaw Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

## Summary of Hourly Averages

## AMBIENT TEMPERATURE (AT) in Degree Celsius

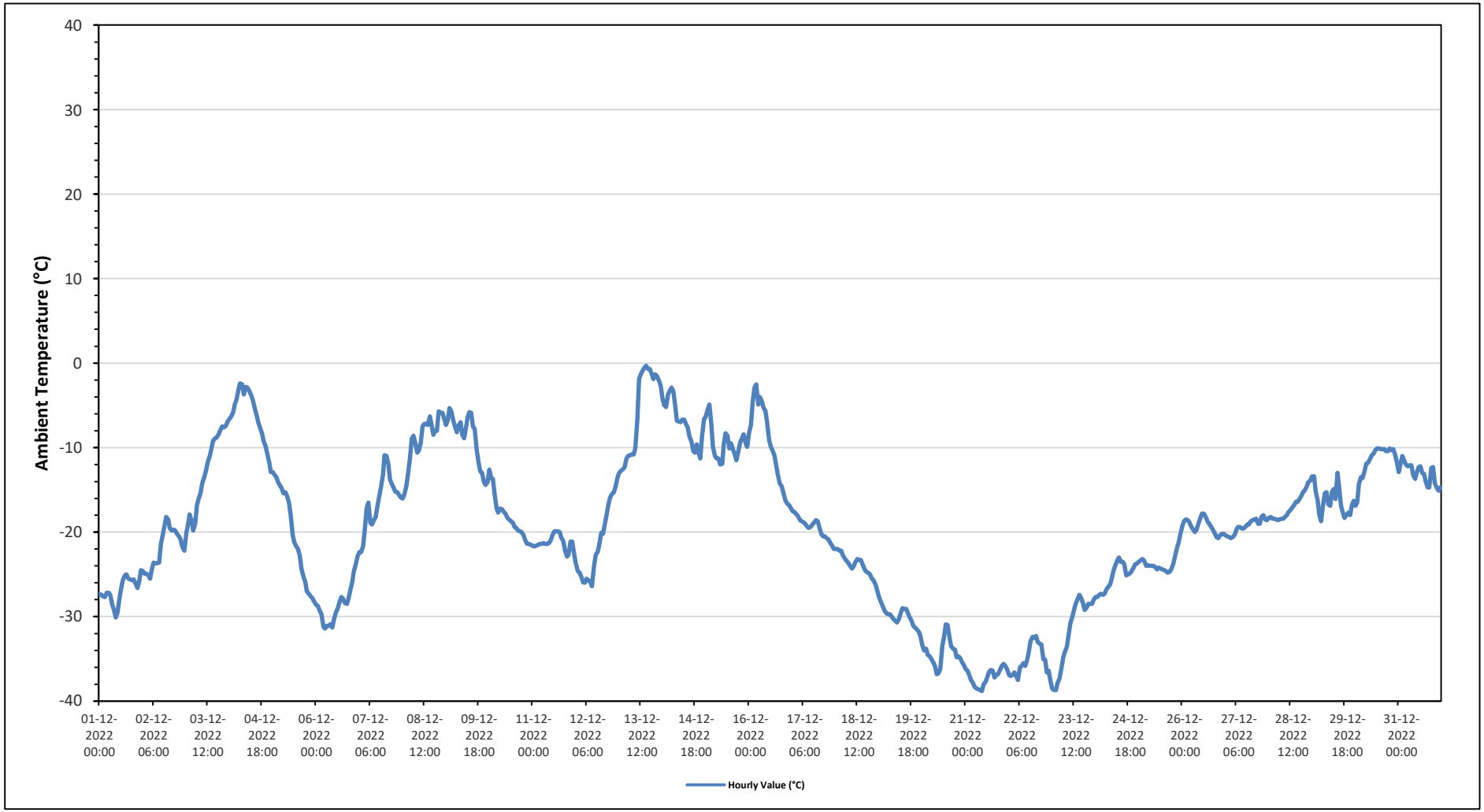
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | -0.3 | °C | on December 13 at hour 15 | Hours in Service: | 744 |
| Maximum Daily Value: | -5.8 | °C | on December 13 | Hours of Data: | 744 |
| Minimum Hourly Value: | -38.8 | °C | on December 21 at hour 9 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | -37.1 | °C | on December 21 | Hours of Calibration: | 0 |
| Monthly Average: | -19.4 | °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | -27.3 | -27.4 | -27.6 | -27.7 | -27.2 | -27.2 | -27.4 | -28.6 | -29.2 | -30.1 | -29.5 | -28 | -26.7 | -25.7 | -25.1 | -25 | -25.5 | -25.6 | -25.7 | -25.6 | -26.1 | -26.6 | -25.8 | -24.5 | -30.1 | -24.5 | -26.9 |
| Dec 2 | -24.6 | -24.9 | -24.9 | -25.1 | -25.5 | -24.4 | -23.6 | -23.7 | -23.7 | -23.6 | -21.4 | -20.4 | -19.3 | -18.2 | -18.5 | -19.5 | -19.8 | -19.7 | -19.8 | -20.2 | -20.5 | -20.9 | -21.8 | -22.2 | -25.5 | -18.2 | -21.9 |
| Dec 3 | -20.1 | -19.2 | -17.9 | -18.7 | -19.8 | -19 | -16.8 | -16 | -15.4 | -14.1 | -13.6 | -12.7 | -11.7 | -11 | -10.2 | -9.2 | -8.9 | -8.8 | -8.4 | -7.9 | -7.5 | -7.6 | -7.4 | -6.9 | -20.1 | -6.9 | -12.9 |
| Dec 4 | -6.6 | -6.3 | -5.8 | -4.9 | -4.3 | -3.1 | -2.4 | -2.5 | -3.7 | -2.8 | -2.9 | -3.3 | -3.8 | -4.4 | -5.3 | -6.2 | -7 | -7.6 | -8.3 | -9.3 | -9.8 | -10.7 | -11.8 | -12.9 | -12.9 | -2.4 | -6.1 |
| Dec 5 | -12.9 | -13.2 | -13.5 | -14.1 | -14.5 | -14.8 | -15.4 | -15.3 | -15.8 | -16.5 | -18 | -20.4 | -21.2 | -21.7 | -22 | -22.8 | -24.4 | -25.3 | -25.9 | -27 | -27.3 | -27.6 | -27.8 | -28.2 | -28.2 | -12.9 | -20.2 |
| Dec 6 | -28.6 | -28.7 | -29.3 | -29.7 | -31.2 | -31.4 | -31.1 | -31.1 | -30.9 | -31.3 | -30.3 | -29.5 | -29.1 | -28.2 | -27.7 | -27.9 | -28.4 | -28.5 | -27.9 | -26.8 | -25.9 | -24.7 | -23.8 | -22.9 | -31.4 | -22.9 | -28.5 |
| Dec 7 | -22.4 | -22.4 | -21.7 | -19.7 | -17.2 | -16.5 | -18.9 | -19.1 | -18.6 | -18.2 | -17.1 | -15.8 | -14.7 | -13.2 | -10.9 | -11 | -11.9 | -13.8 | -14.3 | -14.8 | -15.2 | -15.3 | -15.6 | -15.9 | -22.4 | -10.9 | -16.4 |
| Dec 8 | -16 | -15.5 | -14.5 | -13.2 | -11.3 | -9 | -8.6 | -9.4 | -10.6 | -10.3 | -9.4 | -7.5 | -7.2 | -7.2 | -7.3 | -6.3 | -7.2 | -8.5 | -8 | -8 | -5.7 | -5.9 | -5.9 | -6.6 | -16.0 | -5.7 | -9.1 |
| Dec 9 | -7.3 | -6.8 | -5.3 | -5.7 | -6.8 | -7.4 | -8.2 | -7.4 | -7 | -8.4 | -8.9 | -7.7 | -6.4 | -5.8 | -5.9 | -7.5 | -7.8 | -10.3 | -11.7 | -12.8 | -13 | -14.1 | -14.4 | -14.1 | -14.4 | -5.3 | -8.8 |
| Dec 10 | -12.6 | -13.6 | -13.7 | -15.5 | -17.2 | -17.7 | -17.2 | -17.3 | -17.6 | -17.8 | -18.3 | -18.5 | -18.7 | -18.9 | -19.4 | -19.5 | -19.8 | -19.9 | -20 | -20.4 | -21 | -21.4 | -21.4 | -21.5 | -21.5 | -12.6 | -18.3 |
| Dec 11 | -21.6 | -21.7 | -21.6 | -21.5 | -21.4 | -21.4 | -21.3 | -21.4 | -21.4 | -21.3 | -21 | -20.4 | -19.9 | -19.9 | -19.9 | -20 | -20.7 | -21 | -22.1 | -22.9 | -22.7 | -21.1 | -21.1 | -22.7 | -22.9 | -19.9 | -21.3 |
| Dec 12 | -23.7 | -24.6 | -24.8 | -25.3 | -25.9 | -26 | -25.5 | -25.7 | -25.9 | -26.4 | -24.1 | -22.7 | -22.3 | -21.5 | -20.1 | -20.2 | -19.1 | -18 | -16.8 | -15.9 | -15.5 | -15.3 | -14.6 | -13.6 | -26.4 | -13.6 | -21.4 |
| Dec 13 | -13 | -12.7 | -12.6 | -12.3 | -11.3 | -11 | -10.9 | -10.8 | -10.8 | -10.1 | -6.8 | -1.9 | -1.3 | -0.9 | -0.5 | **-0.3** | -0.7 | -0.7 | -1.4 | -1.9 | -1.3 | -1.6 | -2 | -2.7 | -13.0 | **-0.3** | **-5.8** |
| Dec 14 | -4.2 | -5 | -5.2 | -3.7 | -3.3 | -2.9 | -3.3 | -5.2 | -6.8 | -6.9 | -7 | -6.7 | -6.7 | -7.2 | -7.6 | -8.7 | -9.3 | -10.4 | -10.6 | -9.6 | -10.7 | -11.3 | -8.6 | -6.6 | -11.3 | -2.9 | -7.0 |
| Dec 15 | -6.4 | -5.5 | -4.9 | -7.3 | -9.9 | -11 | -11.3 | -11.3 | -12 | -11.9 | -9.6 | -8.3 | -8.6 | -10.1 | -9.5 | -10.2 | -10.8 | -11.5 | -10.4 | -9.4 | -8.9 | -8.4 | -9.5 | -9.9 | -12.0 | -4.9 | -9.4 |
| Dec 16 | -8.3 | -7.3 | -4.5 | -2.9 | -2.5 | -4.9 | -4 | -4.5 | -5.3 | -5.6 | -7 | -9.1 | -9.9 | -10.3 | -10.9 | -12.1 | -13.3 | -14.2 | -14.6 | -15.3 | -16.2 | -16.6 | -16.8 | -17.1 | -17.1 | -2.5 | -9.7 |
| Dec 17 | -17.5 | -17.6 | -17.8 | -18.1 | -18.5 | -18.7 | -18.8 | -19 | -19.3 | -19.5 | -19.4 | -19.1 | -18.9 | -18.6 | -18.7 | -19.4 | -20.2 | -20.5 | -20.5 | -20.7 | -20.9 | -21.3 | -21.6 | -22 | -22.0 | -17.5 | -19.4 |
| Dec 18 | -22 | -22 | -22.2 | -22.2 | -22.7 | -23.1 | -23.4 | -23.7 | -24 | -24.3 | -24 | -23.5 | -23.2 | -23.3 | -23.3 | -23.9 | -24.4 | -24.7 | -24.8 | -25 | -25.5 | -25.7 | -26.2 | -26.9 | -26.9 | -22.0 | -23.9 |
| Dec 19 | -27.7 | -28.2 | -28.8 | -29.3 | -29.6 | -29.7 | -29.7 | -30 | -30.3 | -30.5 | -30.7 | -30.3 | -29.6 | -29 | -29.1 | -29.1 | -29.6 | -30.1 | -30.5 | -31.1 | -31.3 | -31.5 | -31.8 | -32.3 | -32.3 | -27.7 | -30.0 |
| Dec 20 | -33.4 | -34 | -33.8 | -34.5 | -34.7 | -35 | -35.4 | -35.8 | -36.8 | -36.7 | -36.2 | -33.5 | -32.4 | -30.9 | -31 | -32.5 | -33.5 | -33.8 | -33.9 | -34.8 | -34.7 | -34.9 | -35.4 | -35.7 | -36.8 | -30.9 | -34.3 |
| Dec 21 | -36.2 | -36.4 | -36.9 | -37.5 | -37.9 | -38.3 | -38.5 | -38.6 | -38.7 | **-38.8** | -38 | -37.7 | -37.2 | -36.5 | -36.3 | -36.4 | -37.2 | -36.9 | -36.8 | -36.3 | -35.8 | -35.6 | -35.8 | -36.2 | **-38.8** | -35.6 | -37.1 |
| Dec 22 | -36.9 | -37 | -36.9 | -36.6 | -37 | -37.5 | -36 | -35.8 | -35.5 | -35.8 | -35.2 | -34.2 | -32.9 | -32.4 | -32.5 | -32.3 | -33 | -33.2 | -33.3 | -35 | -35.1 | -36.6 | -36.4 | -37.6 | -37.6 | -32.3 | -35.2 |
| Dec 23 | -38.5 | -38.7 | -38.7 | -37.9 | -37.3 | -36.2 | -34.8 | -34.2 | -33.6 | -32.2 | -30.8 | -30.1 | -29.3 | -28.5 | -28 | -27.4 | -27.8 | -28.4 | -29.2 | -28.9 | -28.5 | -28.5 | -28.5 | -28 | -38.7 | -27.4 | -31.8 |
| Dec 24 | -27.7 | -27.7 | -27.4 | -27.3 | -27.4 | -27.3 | -26.8 | -26.5 | -26.2 | -25.5 | -24.5 | -23.9 | -23.3 | -23 | -23.5 | -23.5 | -23.8 | -25.1 | -25 | -24.9 | -24.6 | -24.2 | -23.8 | -23.7 | -27.7 | -23.0 | -25.3 |
| Dec 25 | -23.5 | -23.3 | -23.2 | -23.4 | -24 | -23.9 | -24 | -24 | -24 | -24.1 | -24.4 | -24.2 | -24.3 | -24.4 | -24.5 | -24.6 | -24.8 | -24.7 | -24.4 | -23.8 | -22.9 | -21.9 | -21.3 | -20.2 | -24.8 | -20.2 | -23.7 |
| Dec 26 | -19.3 | -18.7 | -18.5 | -18.6 | -18.8 | -19.3 | -19.7 | -20 | -19.7 | -19 | -18.3 | -17.8 | -17.8 | -18.2 | -18.7 | -19 | -19.4 | -19.7 | -20.1 | -20.6 | -20.7 | -20.4 | -20.2 | -20.2 | -20.7 | -17.8 | -19.3 |
| Dec 27 | -20.4 | -20.5 | -20.6 | -20.7 | -20.6 | -20.3 | -19.7 | -19.4 | -19.4 | -19.6 | -19.6 | -19.4 | -19.1 | -19.1 | -18.7 | -18.6 | -18.5 | -18.4 | -19 | -19 | -18.2 | -18 | -18.5 | -18.6 | -20.7 | -18.0 | -19.3 |
| Dec 28 | -18.3 | -18.2 | -18.4 | -18.4 | -18.5 | -18.6 | -18.5 | -18.4 | -18.4 | -18.2 | -18 | -17.6 | -17.4 | -17.1 | -16.8 | -16.4 | -16.4 | -16.1 | -15.7 | -15.3 | -15 | -14.6 | -14.1 | -13.9 | -18.6 | -13.9 | -17.0 |
| Dec 29 | -13.4 | -13.4 | -15.1 | -16.2 | -18 | -18.7 | -16.9 | -15.4 | -15.3 | -16.7 | -16.9 | -15.2 | -14.9 | -16.1 | -13 | -14.6 | -16.9 | -17.7 | -18.3 | -18 | -17.7 | -18 | -16.8 | -16.3 | -18.7 | -13.0 | -16.2 |
| Dec 30 | -16.9 | -16.5 | -14.3 | -13.5 | -13.6 | -12.8 | -11.9 | -11.8 | -11.4 | -10.9 | -10.7 | -10.3 | -10.1 | -10.1 | -10.2 | -10.2 | -10.2 | -10.4 | -10.4 | -10.1 | -10.3 | -10.2 | -10.9 | -11.8 | -16.9 | -10.1 | -11.6 |
| Dec 31 | -12.9 | -11.9 | -11 | -11.5 | -12 | -12.2 | -12.1 | -12.1 | -13.2 | -13.7 | -13 | -12.3 | -12.2 | -13 | -13.1 | -14 | -14.7 | -14.7 | -12.4 | -12.3 | -14.2 | -14.7 | -15.1 | -14.7 | -15.1 | -11.0 | -13.0 |
| Diurnal Maximum | -4.2 | -5.0 | -4.5 | -2.9 | -2.5 | -2.9 | -2.4 | -2.5 | -3.7 | -2.8 | -2.9 | -1.9 | -1.3 | -0.9 | -0.5 | -0.3 | -0.7 | -0.7 | -1.4 | -1.9 | -1.3 | -1.6 | -2.0 | -2.7 | | | |
| Diurnal Average | -20.0 | -20.0 | -19.7 | -19.8 | -20.0 | -20.0 | -19.7 | -19.8 | -20.0 | -20.0 | -19.5 | -18.8 | -18.4 | -18.2 | -18.0 | -18.3 | -18.9 | -19.3 | -19.4 | -19.5 | -19.4 | -19.5 | -19.5 | -19.6 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - Grimshaw Station*



# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### STATION TEMPERATURE (ST) in Degree Celsius

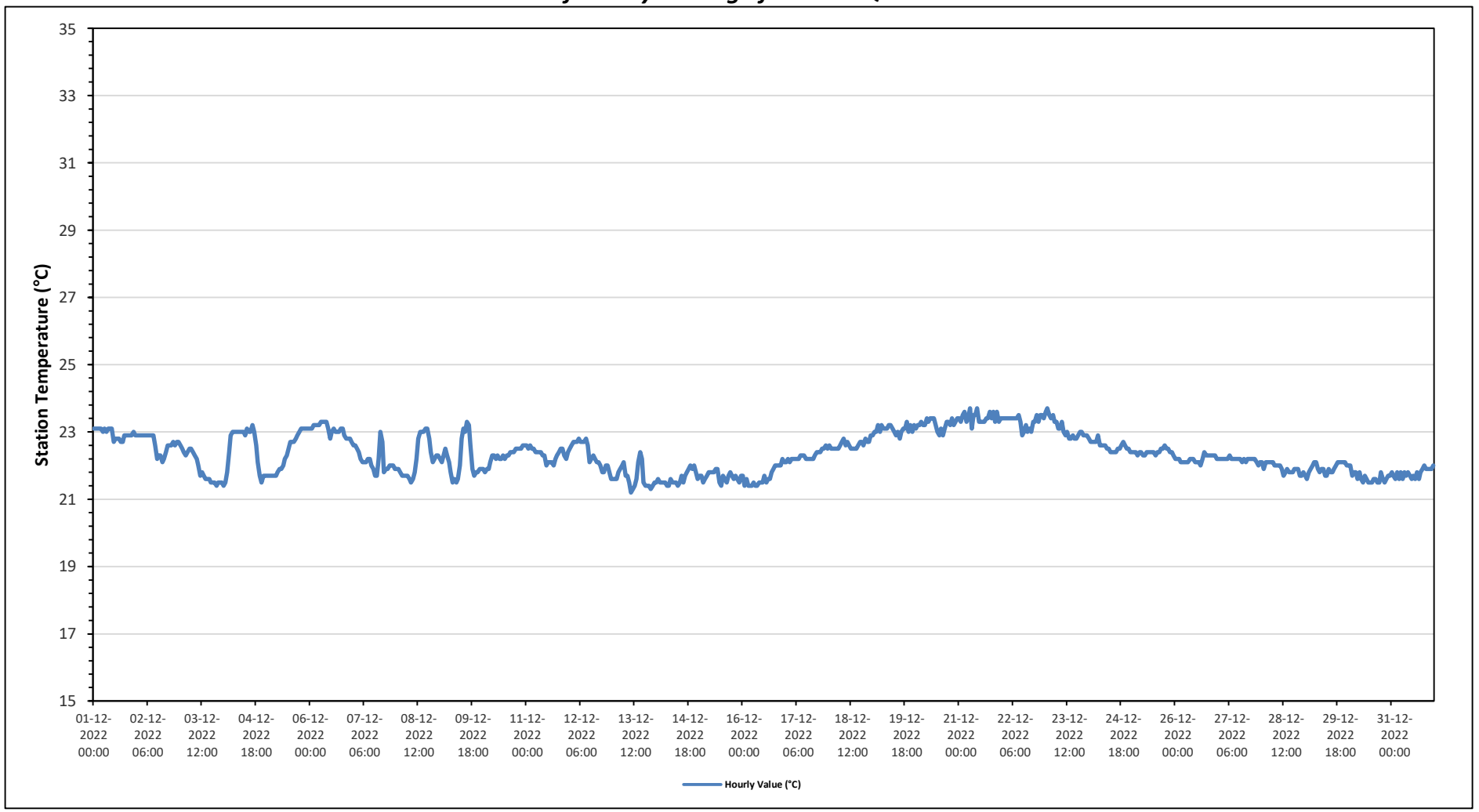
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 23.7 | °C | on December 21 at hour 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.4 | °C | on December 21 | Hours of Data: | 744 |
| Minimum Hourly Value: | 21.2 | °C | on December 13 at hour 10 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 21.6 | °C | on December 14 | Hours of Calibration: | 0 |
| Monthly Average: | 22.4 | °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 23.1 | 23.0 | 23.1 | 23.1 | 23.1 | 22.7 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 | 22.7 | 23.1 | 23.0 |
| Dec 2 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.6 | 22.2 | 22.3 | 22.3 | 22.1 | 22.2 | 22.4 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.7 | 22.7 | 22.1 | 22.9 | 22.7 |
| Dec 3 | 22.6 | 22.5 | 22.4 | 22.3 | 22.4 | 22.5 | 22.5 | 22.4 | 22.3 | 22.2 | 22.0 | 21.7 | 21.8 | 21.7 | 21.6 | 21.6 | 21.6 | 21.5 | 21.5 | 21.5 | 21.4 | 21.5 | 21.5 | 21.5 | 21.4 | 22.6 | 21.9 |
| Dec 4 | 21.4 | 21.5 | 21.8 | 22.4 | 22.9 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 22.9 | 23.1 | 23.0 | 23.0 | 23.2 | 23.0 | 22.6 | 22.1 | 21.7 | 21.5 | 21.7 | 21.7 | 21.4 | 23.2 | 22.5 |
| Dec 5 | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 21.8 | 21.9 | 21.9 | 22.0 | 22.2 | 22.3 | 22.5 | 22.7 | 22.7 | 22.7 | 22.8 | 22.9 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 21.7 | 23.1 | 22.4 |
| Dec 6 | 23.1 | 23.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.3 | 23.3 | 23.3 | 23.3 | 23.1 | 22.8 | 23.0 | 23.1 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 22.9 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 23.3 | 23.1 |
| Dec 7 | 22.6 | 22.6 | 22.5 | 22.4 | 22.2 | 22.1 | 22.1 | 22.1 | 22.2 | 22.2 | 22.0 | 21.9 | 21.7 | 21.7 | 22.2 | 23.0 | 22.7 | 21.8 | 21.9 | 21.9 | 22.0 | 22.0 | 22.0 | 21.9 | 21.7 | 23.0 | 22.2 |
| Dec 8 | 21.9 | 21.9 | 21.8 | 21.7 | 21.7 | 21.7 | 21.7 | 21.6 | 21.5 | 21.6 | 21.8 | 22.2 | 22.8 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 22.8 | 22.4 | 22.1 | 22.2 | 22.3 | 22.3 | 21.5 | 23.1 | 22.2 |
| Dec 9 | 22.2 | 22.1 | 22.3 | 22.5 | 22.3 | 22.1 | 21.8 | 21.5 | 21.6 | 21.5 | 21.6 | 22.0 | 22.8 | 23.1 | 23.0 | 23.3 | 23.2 | 22.6 | 21.9 | 21.7 | 21.8 | 21.8 | 21.9 | 21.9 | 21.5 | 23.3 | 22.2 |
| Dec 10 | 21.9 | 21.8 | 21.9 | 21.9 | 22.1 | 22.3 | 22.3 | 22.2 | 22.3 | 22.2 | 22.2 | 22.3 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 21.8 | 22.6 | 22.3 |
| Dec 11 | 22.6 | 22.5 | 22.6 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 22.2 | 22.3 | 22.4 | 22.5 | 22.5 | 22.3 | 22.2 | 22.4 | 22.0 | 22.6 | 22.3 |
| Dec 12 | 22.5 | 22.6 | 22.7 | 22.7 | 22.7 | 22.8 | 22.7 | 22.7 | 22.7 | 22.8 | 22.6 | 22.1 | 22.2 | 22.3 | 22.2 | 22.1 | 22.1 | 22.0 | 21.8 | 21.8 | 22.0 | 22.0 | 21.8 | 21.6 | 21.6 | 22.8 | 22.3 |
| Dec 13 | 21.6 | 21.6 | 21.6 | 21.8 | 21.9 | 22.0 | 22.1 | 21.7 | 21.7 | 21.5 | **21.2** | 21.3 | 21.4 | 21.6 | 22.1 | 22.4 | 22.2 | 21.5 | 21.4 | 21.4 | 21.4 | 21.3 | 21.4 | 21.5 | **21.2** | 22.4 | 21.7 |
| Dec 14 | 21.5 | 21.6 | 21.5 | 21.5 | 21.5 | 21.5 | 21.4 | 21.4 | 21.6 | 21.5 | 21.5 | 21.5 | 21.4 | 21.5 | 21.7 | 21.5 | 21.7 | 21.8 | 21.9 | 22.0 | 21.9 | 22.0 | 21.8 | 21.6 | 21.4 | 22.0 | 21.6 |
| Dec 15 | 21.7 | 21.7 | 21.5 | 21.6 | 21.7 | 21.8 | 21.8 | 21.8 | 21.8 | 21.9 | 21.9 | 21.5 | 21.4 | 21.7 | 21.6 | 21.5 | 21.7 | 21.8 | 21.7 | 21.6 | 21.7 | 21.6 | 21.5 | 21.7 | 21.4 | 21.9 | 21.7 |
| Dec 16 | 21.7 | 21.4 | 21.6 | 21.4 | 21.4 | 21.4 | 21.5 | 21.4 | 21.4 | 21.5 | 21.5 | 21.5 | 21.7 | 21.5 | 21.6 | 21.6 | 21.8 | 21.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.2 | 22.1 | 21.4 | 22.2 | 21.7 |
| Dec 17 | 22.1 | 22.2 | 22.1 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.5 | 22.1 | 22.6 | 22.3 |
| Dec 18 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.7 | 22.8 | 22.6 | 22.7 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.7 | 22.7 | 22.6 | 22.8 | 22.7 | 22.7 | 22.9 | 22.5 | 22.9 | 22.6 |
| Dec 19 | 22.9 | 23.0 | 23.0 | 23.2 | 23.0 | 23.2 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.1 | 23.0 | 22.9 | 23.0 | 22.8 | 23.0 | 23.1 | 23.1 | 23.3 | 23.0 | 23.2 | 23.0 | 23.2 | 22.8 | 23.3 | 23.1 |
| Dec 20 | 23.1 | 23.2 | 23.2 | 23.3 | 23.2 | 23.2 | 23.4 | 23.3 | 23.4 | 23.4 | 23.4 | 23.2 | 23.0 | 22.9 | 23.1 | 22.9 | 23.1 | 23.3 | 23.3 | 23.2 | 23.4 | 23.2 | 23.3 | 23.4 | 22.9 | 23.4 | 23.2 |
| Dec 21 | 23.4 | 23.3 | 23.5 | 23.6 | 23.3 | 23.4 | **23.7** | 23.1 | 23.5 | 23.5 | **23.7** | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 23.6 | 23.4 | 23.6 | 23.3 | 23.6 | 23.3 | 23.4 | 23.1 | **23.7** | **23.4** |
| Dec 22 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 23.3 | 22.9 | 23.0 | 23.2 | 23.0 | 23.1 | 23.0 | 23.3 | 23.3 | 23.5 | 23.3 | 23.5 | 23.5 | 23.4 | 22.9 | 23.5 | 23.3 |
| Dec 23 | 23.6 | **23.7** | 23.5 | 23.4 | 23.5 | 23.3 | 23.3 | 23.1 | 23.1 | 23.3 | 23.0 | 22.9 | 23.0 | 22.8 | 22.8 | 22.9 | 22.8 | 22.8 | 22.9 | 23.0 | 23.0 | 22.9 | 22.9 | 22.9 | 22.8 | **23.7** | 23.1 |
| Dec 24 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.9 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.7 | 22.6 | 22.5 | 22.5 | 22.4 | 22.4 | 22.9 | 22.6 |
| Dec 25 | 22.4 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.6 | 22.4 |
| Dec 26 | 22.2 | 22.2 | 22.2 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.2 | 22.2 | 22.2 | 22.1 | 22.1 | 22.1 | 22.0 | 22.2 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.0 | 22.4 | 22.2 |
| Dec 27 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.1 | 22.2 | 22.1 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.1 | 22.0 | 22.1 | 22.0 | 22.3 | 22.2 |
| Dec 28 | 22.1 | 21.9 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.7 | 21.8 | 21.9 | 21.8 | 21.8 | 21.8 | 21.9 | 21.9 | 21.9 | 21.7 | 21.7 | 21.8 | 21.7 | 22.1 | 21.9 |
| Dec 29 | 21.7 | 21.6 | 21.8 | 21.9 | 22.0 | 22.1 | 22.1 | 21.9 | 21.8 | 21.9 | 21.9 | 21.7 | 21.7 | 21.9 | 21.8 | 21.8 | 21.9 | 22.0 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 21.6 | 22.1 | 21.9 |
| Dec 30 | 22.0 | 22.0 | 21.7 | 21.8 | 21.8 | 21.6 | 21.8 | 21.6 | 21.5 | 21.7 | 21.6 | 21.5 | 21.5 | 21.5 | 21.6 | 21.6 | 21.5 | 21.5 | 21.8 | 21.6 | 21.5 | 21.6 | 21.7 | 21.7 | 21.5 | 22.0 | 21.7 |
| Dec 31 | 21.8 | 21.7 | 21.6 | 21.8 | 21.6 | 21.8 | 21.6 | 21.8 | 21.7 | 21.8 | 21.7 | 21.6 | 21.7 | 21.6 | 21.8 | 21.6 | 21.8 | 21.9 | 22.0 | 21.9 | 21.9 | 21.9 | 21.9 | 22.0 | 21.6 | 22.0 | 21.8 |
| Diurnal Maximum | 23.6 | 23.7 | 23.5 | 23.6 | 23.5 | 23.4 | 23.7 | 23.4 | 23.5 | 23.5 | 23.7 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 23.6 | 23.4 | 23.6 | 23.4 | 23.6 | 23.5 | 23.4 | | | |
| Diurnal Average | 22.4 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.3 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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 - AQHI - Grimshaw Station*



peace river area monitoring program pramp

# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

## Summary of Hourly Averages

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

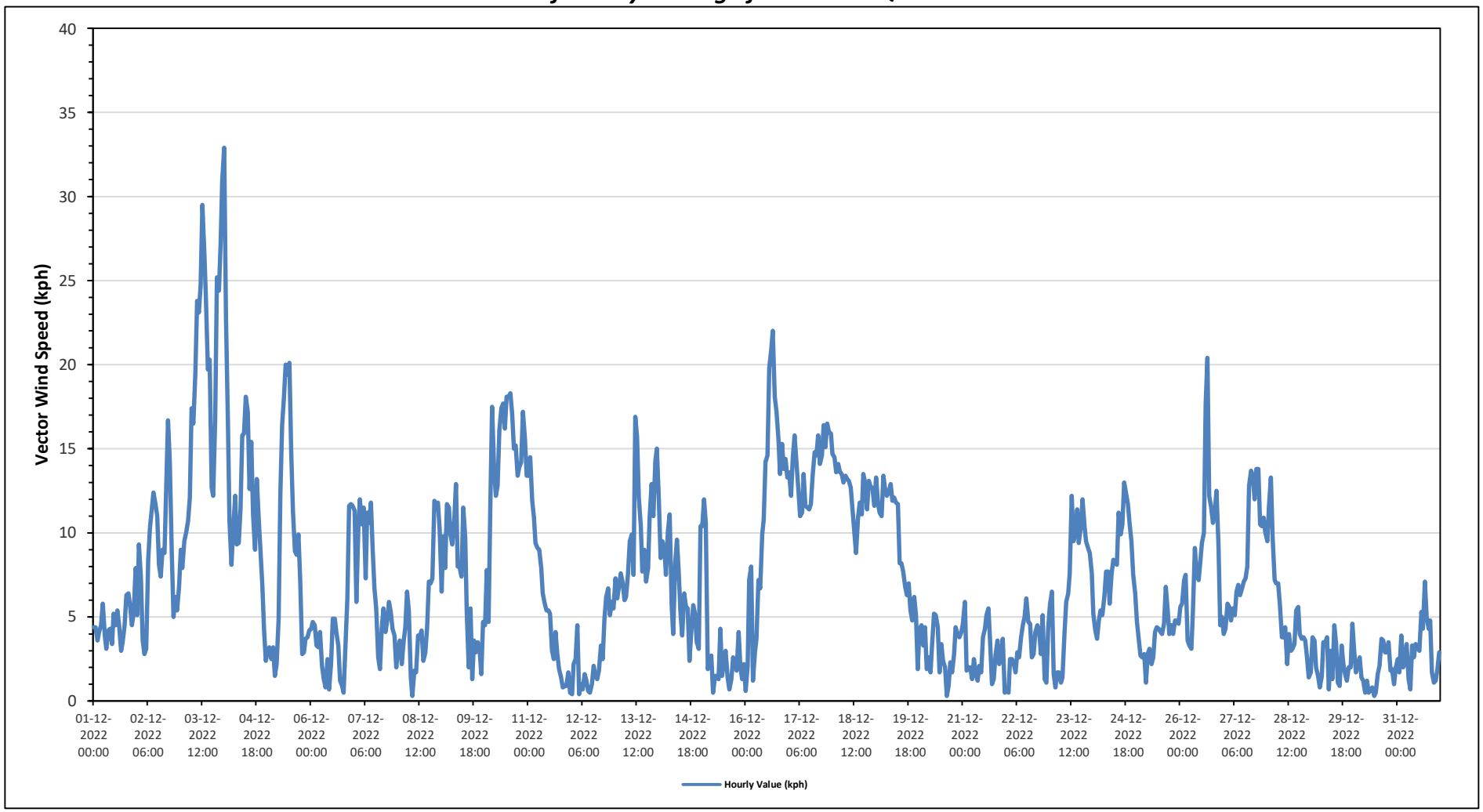
| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 32.9 | kph | on December 4 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.9 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.3 | kph | on December 8 at hour 8 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.8 | kph | on December 30 | Hours of Calibration: | 0 |
| Monthly Average: | 7.2 | kph | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 1 | 4.4 | 4.4 | 3.6 | 4.1 | 4.5 | 5.8 | 3.9 | 3.1 | 4.2 | 4.3 | 3.4 | 5.2 | 4.5 | 5.4 | 4.5 | 3.0 | 3.5 | 4.5 | 6.3 | 6.4 | 5.8 | 4.5 | 5.2 | 7.9 | 3.0 | 7.9 | 4.7 |
| Dec 2 | 5.1 | 9.3 | 7.3 | 3.6 | 2.8 | 3.1 | 8.4 | 10.3 | 11.5 | 12.4 | 11.7 | 11.0 | 8.1 | 7.4 | 9.0 | 8.8 | 12.8 | 16.7 | 14.3 | 8.8 | 5.0 | 6.2 | 5.4 | 6.8 | 2.8 | 16.7 | 8.6 |
| Dec 3 | 9.0 | 7.9 | 9.5 | 10.0 | 10.7 | 12.1 | 17.4 | 16.5 | 19.5 | 23.8 | 23.1 | 24.7 | 29.5 | 26.6 | 24.0 | 19.7 | 20.3 | 12.7 | 12.2 | 16.7 | 25.2 | 24.4 | 27.3 | 30.9 | 7.9 | 30.9 | **18.9** |
| Dec 4 | **32.9** | 22.9 | 16.4 | 10.7 | 8.1 | 10.3 | 12.2 | 9.3 | 9.4 | 11.4 | 15.8 | 15.9 | 18.1 | 17.2 | 12.6 | 15.4 | 11.1 | 9.0 | 13.2 | 10.7 | 9.1 | 6.9 | 4.2 | 2.4 | 2.4 | **32.9** | 12.7 |
| Dec 5 | 3.0 | 3.2 | 2.5 | 3.2 | 1.5 | 2.2 | 4.9 | 12.4 | 16.4 | 18.0 | 20.0 | 19.4 | 20.1 | 14.9 | 11.3 | 8.9 | 8.7 | 9.9 | 7.2 | 2.8 | 2.9 | 3.7 | 3.8 | 4.2 | 1.5 | 20.1 | 8.5 |
| Dec 6 | 4.3 | 4.7 | 4.5 | 3.3 | 3.2 | 4.1 | 2.1 | 1.3 | 0.8 | 2.5 | 0.7 | 2.2 | 4.9 | 4.9 | 4.1 | 3.3 | 1.2 | 0.9 | 0.5 | 3.5 | 6.1 | 11.6 | 11.7 | 11.6 | 0.5 | 11.7 | 4.1 |
| Dec 7 | 11.3 | 5.9 | 10.4 | 12.0 | 10.5 | 11.5 | 7.3 | 11.2 | 10.6 | 11.8 | 9.0 | 6.7 | 5.5 | 2.6 | 1.9 | 4.3 | 5.5 | 4.1 | 4.8 | 5.9 | 5.3 | 4.3 | 3.9 | 2.0 | 1.9 | 12.0 | 7.0 |
| Dec 8 | 3.1 | 3.6 | 2.2 | 3.5 | 4.4 | 6.5 | 5.4 | 1.4 | **0.3** | 1.8 | 1.7 | 3.9 | 3.8 | 4.2 | 2.4 | 2.9 | 4.4 | 7.1 | 7.0 | 7.3 | 11.9 | 11.7 | 11.8 | 10.2 | **0.3** | 11.9 | 5.1 |
| Dec 9 | 6.5 | 9.8 | 7.9 | 11.7 | 11.5 | 9.9 | 9.3 | 10.7 | 12.9 | 8.0 | 8.0 | 7.4 | 11.5 | 9.7 | 5.3 | 2.0 | 5.5 | 1.3 | 3.6 | 2.9 | 3.5 | 3.1 | 1.6 | 4.7 | 1.3 | 12.9 | 7.0 |
| Dec 10 | 4.5 | 7.8 | 4.7 | 11.6 | 17.5 | 13.8 | 12.2 | 12.8 | 16.1 | 17.4 | 17.7 | 16.2 | 18.1 | 18.1 | 18.3 | 17.1 | 15.0 | 15.2 | 13.4 | 13.9 | 14.2 | 17.2 | 15.6 | 13.4 | 4.5 | 18.3 | 14.2 |
| Dec 11 | 13.4 | 14.5 | 11.9 | 10.9 | 9.4 | 9.1 | 9.0 | 7.9 | 6.4 | 5.8 | 5.4 | 5.4 | 5.2 | 3.0 | 2.5 | 4.1 | 2.8 | 1.9 | 1.4 | 0.8 | 0.9 | 0.9 | 1.7 | 0.5 | 0.5 | 14.5 | 5.6 |
| Dec 12 | 0.4 | 2.2 | 2.5 | 4.5 | 0.4 | 1.0 | 0.7 | 1.6 | 1.2 | 0.6 | 0.5 | 1.0 | 2.1 | 1.5 | 1.3 | 1.8 | 3.3 | 2.5 | 4.9 | 6.2 | 6.7 | 5.1 | 5.9 | 5.5 | 0.4 | 6.7 | 2.6 |
| Dec 13 | 7.3 | 6.1 | 6.7 | 7.6 | 7.1 | 6.0 | 6.2 | 7.6 | 9.5 | 9.9 | 7.5 | 16.9 | 15.7 | 12.1 | 10.4 | 7.7 | 9.0 | 7.1 | 7.9 | 10.9 | 12.9 | 11.0 | 14.3 | 15.0 | 6.0 | 16.9 | 9.7 |
| Dec 14 | 11.9 | 8.5 | 9.5 | 9.1 | 7.5 | 10.1 | 11.1 | 5.7 | 4.0 | 8.2 | 9.6 | 7.7 | 5.3 | 3.9 | 6.4 | 5.6 | 5.5 | 2.4 | 4.3 | 5.7 | 5.2 | 3.5 | 3.1 | 10.4 | 2.4 | 11.9 | 6.8 |
| Dec 15 | 10.4 | 12.0 | 10.6 | 1.9 | 2.4 | 2.7 | 0.5 | 1.5 | 1.5 | 1.3 | 4.3 | 1.5 | 2.4 | 3.0 | 1.4 | 0.7 | 1.3 | 2.6 | 2.1 | 1.8 | 4.1 | 2.0 | 1.3 | 2.2 | 0.5 | 12.0 | 3.1 |
| Dec 16 | 0.6 | 2.1 | 7.2 | 8.0 | 1.2 | 2.9 | 3.7 | 7.2 | 6.7 | 9.9 | 10.8 | 14.2 | 14.6 | 19.8 | 20.9 | 22.0 | 18.1 | 17.2 | 15.5 | 13.5 | 15.3 | 13.8 | 14.4 | 13.3 | 0.6 | 22.0 | 11.4 |
| Dec 17 | 13.6 | 12.2 | 14.5 | 15.8 | 14.3 | 12.6 | 11.0 | 11.2 | 13.5 | 11.6 | 11.5 | 11.4 | 11.7 | 13.4 | 14.8 | 14.6 | 15.8 | 14.1 | 14.6 | 16.4 | 15.1 | 16.5 | 16.0 | 15.9 | 11.0 | 16.5 | 13.8 |
| Dec 18 | 14.7 | 14.5 | 13.6 | 14.1 | 13.6 | 13.5 | 13.0 | 13.4 | 13.2 | 13.1 | 12.7 | 11.4 | 9.9 | 8.8 | 10.9 | 11.8 | 11.1 | 13.5 | 12.9 | 11.4 | 13.1 | 12.7 | 12.7 | 11.6 | 8.8 | 14.7 | 12.6 |
| Dec 19 | 13.3 | 11.7 | 11.2 | 11.0 | 13.4 | 12.5 | 12.2 | 12.4 | 12.9 | 11.9 | 12.1 | 11.8 | 11.7 | 8.2 | 8.2 | 7.7 | 6.8 | 6.3 | 7.0 | 5.4 | 4.8 | 6.2 | 5.1 | 1.9 | 1.9 | 13.4 | 9.4 |
| Dec 20 | 4.3 | 4.5 | 3.3 | 4.4 | 1.9 | 2.6 | 1.7 | 3.3 | 5.2 | 5.1 | 4.4 | 1.7 | 3.4 | 2.4 | 2.0 | **0.3** | 0.9 | 2.3 | 1.7 | 2.8 | 4.4 | 4.0 | 3.8 | 4.1 | **0.3** | 5.2 | 3.1 |
| Dec 21 | 4.6 | 5.9 | 1.8 | 2.0 | 2.0 | 1.3 | 2.5 | 1.6 | 1.2 | 2.1 | 1.7 | 3.8 | 4.3 | 5.1 | 5.5 | 3.4 | 1.0 | 1.3 | 2.7 | 3.6 | 2.2 | 2.7 | 3.7 | 0.5 | 0.5 | 5.9 | 2.8 |
| Dec 22 | 0.7 | 0.5 | 2.5 | 2.5 | 2.2 | 1.7 | 2.9 | 2.6 | 3.8 | 4.5 | 5.0 | 6.1 | 4.7 | 4.6 | 2.6 | 2.8 | 4.1 | 4.5 | 4.2 | 2.8 | 5.1 | 1.3 | 1.1 | 4.3 | 0.5 | 6.1 | 3.2 |
| Dec 23 | 5.7 | 6.5 | 1.6 | 0.8 | 1.7 | 1.7 | 1.1 | 1.4 | 4.0 | 5.9 | 6.4 | 7.6 | 12.2 | 9.5 | 9.9 | 11.4 | 9.4 | 10.3 | 12.0 | 10.4 | 9.5 | 9.1 | 8.8 | 7.6 | 0.8 | 12.2 | 6.9 |
| Dec 24 | 5.2 | 4.2 | 3.7 | 4.8 | 5.4 | 5.1 | 6.2 | 7.7 | 7.7 | 5.8 | 7.6 | 8.4 | 8.2 | 8.1 | 11.2 | 9.9 | 10.5 | 13.0 | 12.4 | 11.7 | 10.5 | 9.5 | 7.5 | 6.4 | 3.7 | 13.0 | 7.9 |
| Dec 25 | 4.7 | 3.7 | 2.7 | 2.6 | 2.8 | 1.1 | 2.8 | 3.1 | 2.2 | 2.6 | 4.1 | 4.4 | 4.3 | 4.1 | 4.0 | 4.6 | 6.8 | 5.3 | 4.0 | 4.5 | 4.0 | 4.8 | 4.8 | 4.6 | 1.1 | 6.8 | 3.9 |
| Dec 26 | 5.6 | 5.8 | 7.2 | 7.5 | 3.6 | 3.3 | 3.1 | 5.3 | 9.1 | 7.5 | 7.2 | 8.2 | 9.4 | 10.0 | 17.7 | 20.4 | 12.2 | 11.5 | 10.6 | 11.4 | 12.5 | 9.3 | 4.5 | 5.0 | 3.1 | 20.4 | 8.7 |
| Dec 27 | 4.0 | 4.3 | 5.8 | 5.6 | 4.8 | 5.5 | 5.1 | 6.5 | 6.9 | 6.3 | 6.7 | 7.1 | 7.3 | 8.0 | 12.8 | 13.7 | 13.4 | 12.0 | 13.8 | 13.8 | 10.5 | 10.4 | 10.9 | 10.0 | 4.0 | 13.8 | 8.6 |
| Dec 28 | 9.5 | 11.5 | 13.3 | 9.7 | 7.2 | 7.0 | 7.0 | 5.7 | 3.8 | 3.8 | 4.4 | 2.2 | 4.0 | 3.0 | 3.1 | 3.4 | 5.4 | 5.6 | 4.0 | 3.7 | 3.8 | 3.6 | 2.6 | 1.4 | 1.4 | 13.3 | 5.4 |
| Dec 29 | 1.7 | 3.8 | 3.6 | 2.0 | 1.5 | 0.8 | 1.5 | 3.5 | 3.5 | 3.8 | 0.7 | 3.0 | 1.3 | 4.5 | 3.4 | 1.1 | 0.9 | 3.3 | 2.2 | 1.6 | 1.2 | 2.0 | 2.0 | 4.6 | 0.7 | 4.6 | 2.4 |
| Dec 30 | 3.0 | 1.7 | 2.2 | 2.6 | 1.4 | 1.2 | 0.5 | 1.2 | 0.5 | 0.7 | 0.8 | **0.3** | 0.5 | 1.6 | 2.1 | 3.7 | 3.6 | 2.9 | 2.9 | 3.5 | 1.8 | 1.9 | 1.0 | 2.0 | **0.3** | 3.7 | **1.8** |
| Dec 31 | 2.5 | 1.7 | 3.9 | 2.0 | 2.3 | 3.4 | 1.3 | 0.7 | 3.3 | 2.6 | 3.4 | 3.2 | 3.0 | 5.3 | 4.3 | 7.1 | 5.0 | 4.3 | 4.8 | 1.7 | 1.1 | 1.2 | 1.9 | 2.9 | 0.7 | 7.1 | 3.0 |
| Diurnal Maximum | 33 | 23 | 16 | 16 | 18 | 14 | 17 | 17 | 20 | 24 | 23 | 25 | 30 | 27 | 24 | 22 | 20 | 17 | 16 | 17 | 25 | 24 | 27 | 31 | | | |
| Diurnal Average | 7.1 | 7.0 | 6.7 | 6.6 | 5.8 | 5.9 | 6.0 | 6.5 | 7.2 | 7.6 | 7.7 | 8.1 | 8.6 | 8.1 | 8.0 | 7.8 | 7.6 | 7.3 | 7.4 | 7.2 | 7.5 | 7.3 | 7.0 | 7.2 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | |

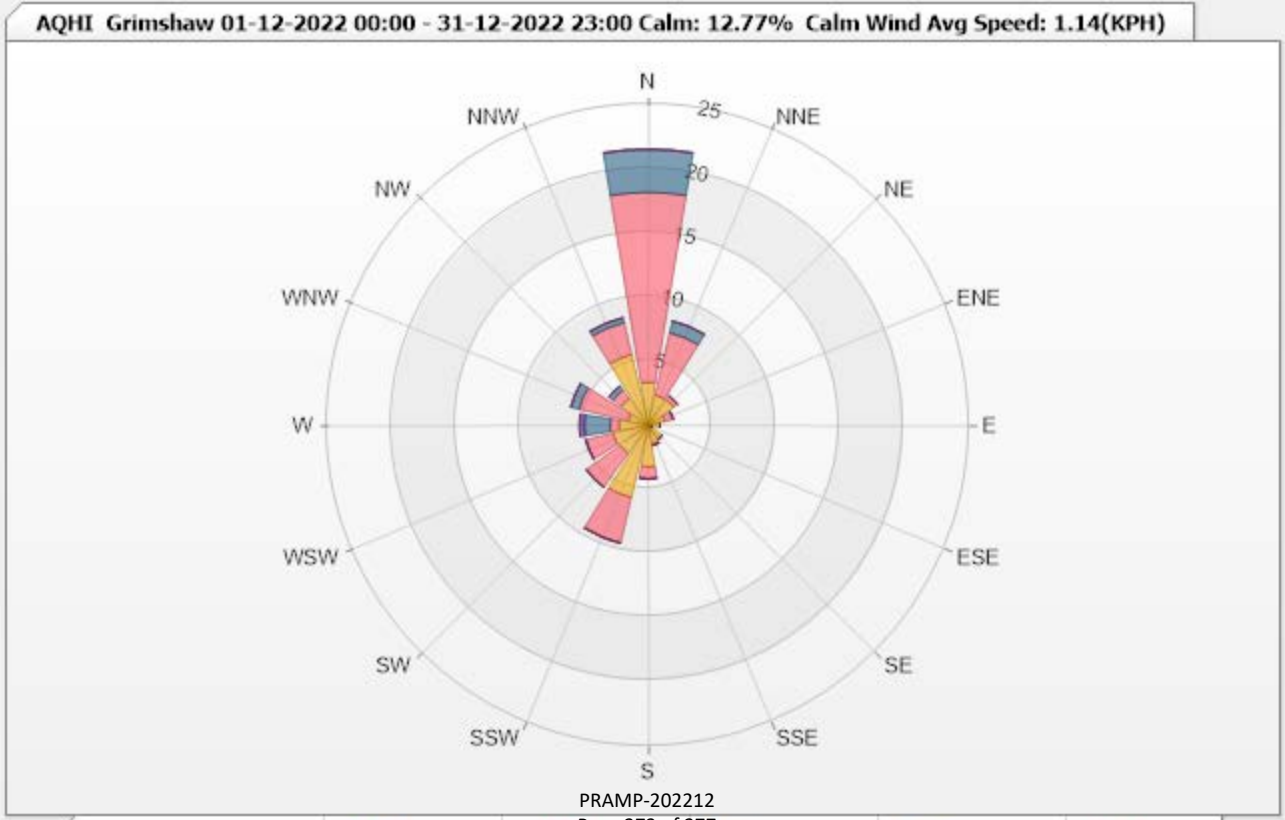
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

## *Timeseries Chart of Hourly Average for VWS - AQHI - Grimshaw Station*



Wind: AQHI Grimshaw Monitor: WDS [KPH] Monthly: 12-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 12.77% Valid Data: 100.00%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|---|---|---|---|---|---|---|
| N | 3.36 | 14.78 | 3.36 | 0 | 0 | 21.5 |
| NNE | 2.42 | 4.97 | 0.94 | 0 | 0 | 8.33 |
| NE | 2.42 | 0.4 | 0 | 0 | 0 | 2.82 |
| ENE | 1.34 | 0.67 | 0 | 0 | 0 | 2.01 |
| E | 0.94 | 0 | 0 | 0 | 0 | 0.94 |
| ESE | 0.27 | 0 | 0 | 0 | 0 | 0.27 |
| SE | 1.34 | 0 | 0 | 0 | 0 | 1.34 |
| SSE | 1.48 | 0.13 | 0 | 0 | 0 | 1.61 |
| S | 3.23 | 0.94 | 0 | 0 | 0 | 4.17 |
| SSW | 5.78 | 3.63 | 0 | 0 | 0 | 9.41 |
| SW | 2.69 | 3.23 | 0 | 0 | 0 | 5.92 |
| WSW | 2.82 | 2.15 | 0 | 0 | 0 | 4.97 |
| W | 2.28 | 0.67 | 2.02 | 0.4 | 0 | 5.37 |
| WNW | 1.61 | 3.9 | 0.67 | 0 | 0 | 6.18 |
| NW | 2.55 | 0.81 | 0.4 | 0 | 0 | 3.76 |
| NNW | 5.65 | 2.55 | 0.4 | 0 | 0 | 8.6 |
| Summary | 40.18 | 38.83 | 7.79 | 0.4 | 0 | 87.2 |


AQHI Grimshaw 01-12-2022 00:00 - 31-12-2022 23:00 Calm: 12.77% Calm Wind Avg Speed: 1.14(KPH)
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
10
5
% Icon Classes (KPH)
40 1.8-6.0
39 6.0-15.0
8 15.0-29.0
0 29.0-39.0
0 >39.0

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# PEACE RIVER AREA MONITORING PROGRAM

## AQHI - Grimshaw Station - December 2022

### Summary of Hourly Averages

### WIND DIRECTION (VWD) in sector

Monthly Average: 313 (NW) degree

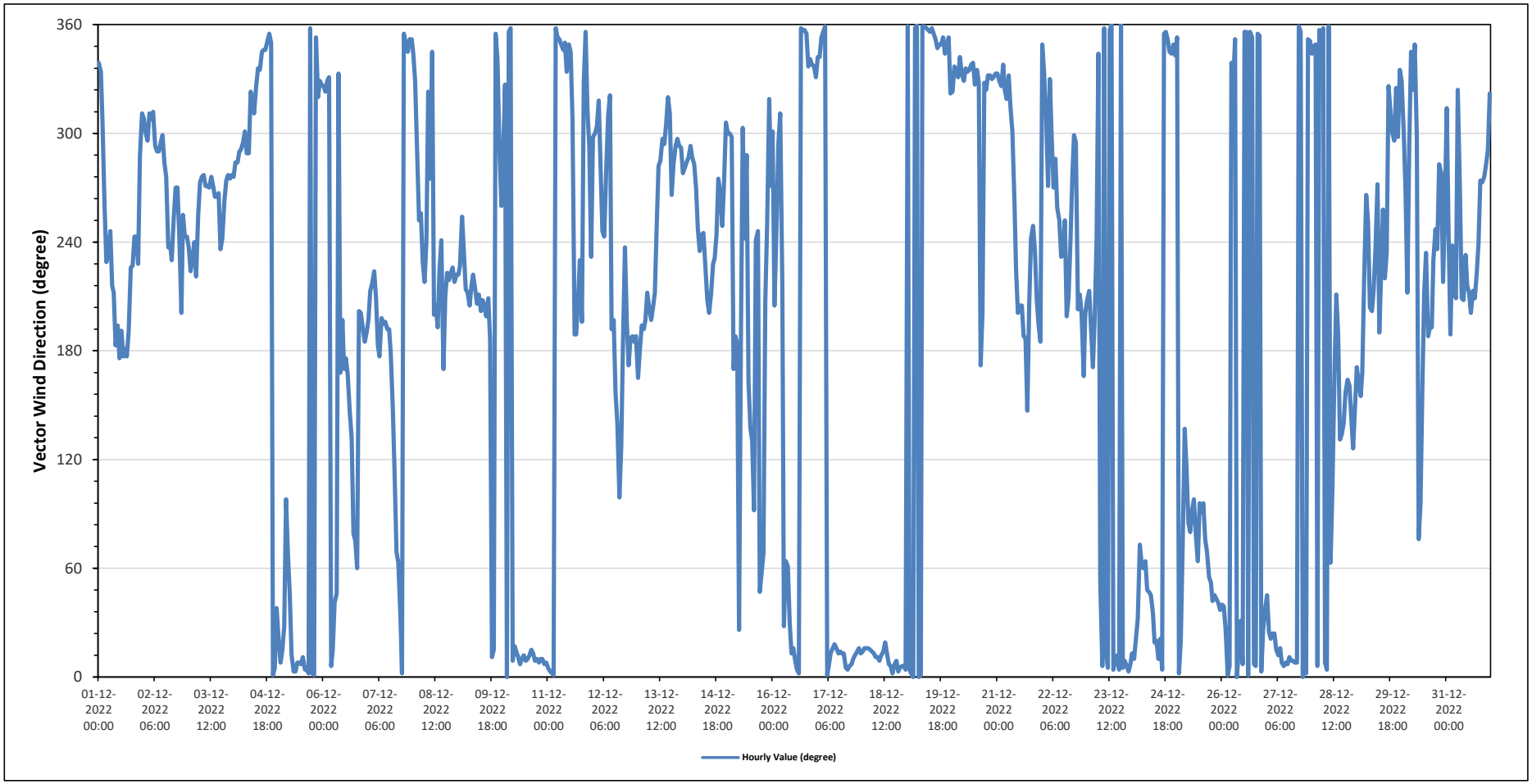
| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Operational Uptime: | 100.0 |

| 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 |
| Dec 1 | NNW | NNW | NW | WSW | SW | SW | WSW | SW | SSW | S | SSW | S | S | S | S | S | S | SW | SW | WSW | WSW | SW | WNW | NW | 228 | SW |
| Dec 2 | NW | WNW | WNW | NW | NW | NW | WNW | WNW | WNW | WNW | WNW | WNW | W | SW | WSW | SW | WSW | W | W | WSW | SSW | WSW | WSW | WSW | 273 | W |
| Dec 3 | SW | SW | SW | WSW | SW | WSW | W | W | W | W | W | W | W | W | W | W | W | SW | WSW | W | W | W | W | W | 260 | WSW |
| Dec 4 | W | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | N | N | N | N | N | NE | 323 | NW |
| Dec 5 | NNE | N | NNE | NNE | E | ENE | NE | NNE | N | N | N | N | N | NNE | N | N | N | N | N | N | N | NW | NNW | NW | 9 | N |
| Dec 6 | NW | NW | NNW | NNW | N | NNE | NE | NE | NNW | SSE | SSW | SSE | S | SSE | SE | SE | ENE | ENE | ENE | SSW | SSW | S | S | S | 137 | SE |
| Dec 7 | SSW | SSW | SW | SW | SSW | S | S | SSW | SSW | SSW | S | S | S | SE | ESE | ENE | ENE | NE | N | N | NNW | NNW | N | N | 188 | S |
| Dec 8 | NNW | NNW | WNW | WSW | WSW | SW | SW | WSW | NW | W | NNW | SSW | SSW | S | SW | WSW | SSE | SSW | SW | SW | SW | SW | SW | SW | 239 | WSW |
| Dec 9 | SW | SW | WSW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | NNE | NNE | N | NNW | WNW | WSW | 228 | SW |
| Dec 10 | WNW | NW | N | N | N | N | NNE | NNE | NNE | N | N | NNE | N | N | NNE | NNE | NNE | N | N | N | N | N | N | N | 5 | N |
| Dec 11 | N | N | N | N | N | N | N | NNW | NNW | N | NNW | NNW | NNW | NW | S | S | SSW | SW | SSW | NNW | N | NW | WNW | SW | 327 | NW |
| Dec 12 | WNW | WNW | WNW | NW | W | WSW | WSW | W | NW | NW | S | SSW | SSE | SE | E | SE | S | SW | SSW | S | S | S | S | S | 221 | SW |
| Dec 13 | SSE | S | SSW | S | SSW | SSW | SSW | SSW | SSW | SSW | WSW | W | WNW | WNW | WNW | WNW | NW | NW | W | W | WNW | WNW | WNW | WNW | 253 | WSW |
| Dec 14 | W | W | WNW | WNW | WNW | WNW | W | W | WSW | SW | WSW | WSW | SW | SSW | SSW | SSW | SW | SW | WSW | W | W | WSW | W | NW | 257 | WSW |
| Dec 15 | WNW | WNW | WNW | SSE | S | S | NNE | S | WNW | WSW | WNW | SSE | SE | SE | E | WSW | WSW | NE | NE | ENE | SSW | WSW | NW | W | 234 | SW |
| Dec 16 | WNW | SSW | WSW | WNW | NW | SW | NNE | ENE | ENE | NNE | NNE | NNE | N | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | 349 | NNW |
| Dec 17 | NNW | NNW | N | N | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | NNE | NNE | NNE | NNE | 7 | N |
| Dec 18 | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | N | N | N | N | N | N | N | N | N | N | 10 | N |
| Dec 19 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | NNW | NNW | NNW | N | NNW | NNW | N | NW | 354 | N |
| Dec 20 | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | NNW | NNW | S | SSW | NNW | NW | NNW | NNW | NNW | NNW | NNW | 329 | NNW |
| Dec 21 | NNW | NNW | NW | NNW | NW | NW | NNW | NW | WNW | W | SW | SSW | SSW | SSW | S | S | SE | SSW | WSW | WSW | SW | SSW | SSW | S | 249 | WSW |
| Dec 22 | NNW | NNW | NW | W | NNW | WNW | W | WNW | WSW | WSW | SW | SW | WSW | SSW | SSW | WSW | W | WNW | WNW | SSW | SSW | SSW | SSE | SSW | 257 | WSW |
| Dec 23 | SSW | SSW | S | S | SSW | WSW | NNW | NE | N | N | NNE | N | N | N | N | N | NNE | N | N | N | N | N | N | N | 358 | N |
| Dec 24 | NNE | N | NNE | NNE | ENE | ENE | ENE | ENE | NE | NE | NE | NE | NNE | NNE | N | NNE | N | N | N | N | NNW | NNW | NNW | NNW | 21 | NNE |
| Dec 25 | N | N | NNE | ENE | SE | ESE | E | E | E | E | ENE | ENE | E | E | E | ENE | ENE | NE | NE | NE | NE | NE | NE | NE | 66 | ENE |
| Dec 26 | NE | NE | NNE | N | N | NNW | NNW | N | N | NNE | NNE | N | N | N | N | N | N | N | N | N | N | N | NNE | NE | 7 | N |
| Dec 27 | NE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | NNE | N | N | N | N | N | N | N | N | N | N | N | 10 | N |
| Dec 28 | NNW | NNW | NNW | N | N | N | N | N | N | N | ENE | ESE | SSE | SSW | S | SE | SE | SE | SSE | SSE | SSE | SE | SE | SE | 89 | E |
| Dec 29 | S | SSE | SSE | SSE | SW | W | WSW | SSW | SSW | SSW | SW | W | S | SW | WSW | SW | SW | NW | NW | WNW | WNW | NW | WNW | NNW | 242 | WSW |
| Dec 30 | NNW | WNW | W | SSW | WNW | NNW | NW | NNW | WNW | ENE | E | SSE | SSW | SW | S | S | S | SW | WSW | SW | W | W | SW | WSW | 253 | WSW |
| Dec 31 | NW | WSW | S | SW | SSW | SSW | NW | W | SSW | SSW | SW | SW | SSW | SSW | SSW | SSW | SW | WSW | W | W | W | W | WNW | NW | 243 | WSW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance | | |
| K | Collection Error | N | No Data (Machine Not in Service) | Y | Routine Maintenance | P | Power Failure |
| X | InValid Data (Machine Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | |

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 - Grimshaw Station*



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# *PEACE RIVER AREA MONITORING PROGRAM*

## *AQHI - Grimshaw Station - December 2022*

### Summary of Hourly Averages

### VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 32.9 | kph | on December 4 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.9 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.3 | kph | on December 8 at hour 8 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.8 | kph | on December 30 | Hours of Calibration: | 0 |
| Monthly Average: | 7.2 | kph | | Operational Uptime: | 100.0 |

**WIND DIRECTION**

Monthly Average: 313 (NW) degree

| 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 | | | |
| Dec 1 | 4.4 | 4.4 | 3.6 | 4.1 | 4.5 | 5.8 | 3.9 | 3.1 | 4.2 | 4.3 | 3.4 | 5.2 | 4.5 | 5.4 | 4.5 | 3.0 | 3.5 | 4.5 | 6.3 | 6.4 | 5.8 | 4.5 | 5.2 | 7.9 | 3.0 | 7.9 | 4.7 |
| | NNW | NNW | NW | WSW | SW | SW | WSW | SW | SSW | S | SSW | S | S | S | S | S | S | SW | SW | WSW | WSW | SW | WNW | NW | | | |
| Dec 2 | 5.1 | 9.3 | 7.3 | 3.6 | 2.8 | 3.1 | 8.4 | 10.3 | 11.5 | 12.4 | 11.7 | 11.0 | 8.1 | 7.4 | 9.0 | 8.8 | 12.8 | 16.7 | 14.3 | 8.8 | 5.0 | 6.2 | 5.4 | 6.8 | 2.8 | 16.7 | 8.6 |
| | NW | WNW | WNW | NW | NW | NW | WNW | WNW | WNW | WNW | WNW | WNW | W | SW | WSW | SW | WSW | W | W | WSW | SSW | WSW | WSW | WSW | | | |
| Dec 3 | 9.0 | 7.9 | 9.5 | 10.0 | 10.7 | 12.1 | 17.4 | 16.5 | 19.5 | 23.8 | 23.1 | 24.7 | 29.5 | 26.6 | 24.0 | 19.7 | 20.3 | 12.7 | 12.2 | 16.7 | 25.2 | 24.4 | 27.3 | 30.9 | 7.9 | 30.9 | **18.9** |
| | SW | SW | SW | WSW | SW | WSW | W | W | W | W | W | W | W | W | W | W | W | SW | WSW | W | W | W | W | W | | | |
| Dec 4 | **32.9** | 22.9 | 16.4 | 10.7 | 8.1 | 10.3 | 12.2 | 9.3 | 9.4 | 11.4 | 15.8 | 15.9 | 18.1 | 17.2 | 12.6 | 15.4 | 11.1 | 9.0 | 13.2 | 10.7 | 9.1 | 6.9 | 4.2 | 2.4 | 2.4 | **32.9** | 12.7 |
| | W | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | N | N | N | N | N | NE | | | |
| Dec 5 | 3.0 | 3.2 | 2.5 | 3.2 | 1.5 | 2.2 | 4.9 | 12.4 | 16.4 | 18.0 | 20.0 | 19.4 | 20.1 | 14.9 | 11.3 | 8.9 | 8.7 | 9.9 | 7.2 | 2.8 | 2.9 | 3.7 | 3.8 | 4.2 | 1.5 | 20.1 | 8.5 |
| | NNE | N | NNE | NNE | E | ENE | NE | NNE | N | N | N | N | N | NNE | N | N | N | N | N | N | N | NW | NNW | NW | | | |
| Dec 6 | 4.3 | 4.7 | 4.5 | 3.3 | 3.2 | 4.1 | 2.1 | 1.3 | 0.8 | 2.5 | 0.7 | 2.2 | 4.9 | 4.9 | 4.1 | 3.3 | 1.2 | 0.9 | 0.5 | 3.5 | 6.1 | 11.6 | 11.7 | 11.6 | 0.5 | 11.7 | 4.1 |
| | NW | NW | NNW | NNW | N | NNE | NE | NE | NNW | SSE | SSW | SSE | S | SSE | SE | SE | ENE | ENE | ENE | SSW | SSW | S | S | S | | | |
| Dec 7 | 11.3 | 5.9 | 10.4 | 12.0 | 10.5 | 11.5 | 7.3 | 11.2 | 10.6 | 11.8 | 9.0 | 6.7 | 5.5 | 2.6 | 1.9 | 4.3 | 5.5 | 4.1 | 4.8 | 5.9 | 5.3 | 4.3 | 3.9 | 2.0 | 1.9 | 12.0 | 7.0 |
| | SSW | SSW | SW | SW | SSW | S | S | SSW | SSW | SSW | S | S | S | SE | ESE | ENE | ENE | NE | N | N | NNW | NNW | N | N | | | |
| Dec 8 | 3.1 | 3.6 | 2.2 | 3.5 | 4.4 | 6.5 | 5.4 | 1.4 | **0.3** | 1.8 | 1.7 | 3.9 | 3.8 | 4.2 | 2.4 | 2.9 | 4.4 | 7.1 | 7.0 | 7.3 | 11.9 | 11.7 | 11.8 | 10.2 | **0.3** | 11.9 | 5.1 |
| | NNW | NNW | WNW | WSW | WSW | SW | SW | WSW | NW | W | NNW | SSW | SSW | S | SW | WSW | SSE | SSW | SW | SW | SW | SW | SW | SW | SW | | | |
| Dec 9 | 6.5 | 9.8 | 7.9 | 11.7 | 11.5 | 9.9 | 9.3 | 10.7 | 12.9 | 8.0 | 8.0 | 7.4 | 11.5 | 9.7 | 5.3 | 2.0 | 5.5 | 1.3 | 3.6 | 2.9 | 3.5 | 3.1 | 1.6 | 4.7 | 1.3 | 12.9 | 7.0 |
| | SW | SW | WSW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | S | NNE | NNE | N | NNW | WNW | WSW | | | |
| Dec 10 | 4.5 | 7.8 | 4.7 | 11.6 | 17.5 | 13.8 | 12.2 | 12.8 | 16.1 | 17.4 | 17.7 | 16.2 | 18.1 | 18.1 | 18.3 | 17.1 | 15.0 | 15.2 | 13.4 | 13.9 | 14.2 | 17.2 | 15.6 | 13.4 | 4.5 | 18.3 | 14.2 |
| | WNW | NW | N | N | N | N | NNE | NNE | NNE | N | N | NNE | N | N | NNE | NNE | NNE | N | N | N | N | N | N | N | | | |
| Dec 11 | 13.4 | 14.5 | 11.9 | 10.9 | 9.4 | 9.1 | 9.0 | 7.9 | 6.4 | 5.8 | 5.4 | 5.4 | 5.2 | 3.0 | 2.5 | 4.1 | 2.8 | 1.9 | 1.4 | 0.8 | 0.9 | 0.9 | 1.7 | 0.5 | 0.5 | 14.5 | 5.6 |
| | N | N | N | N | N | N | N | NNW | NNW | N | NNW | NNW | NNW | NW | S | S | SSW | SW | SSW | NNW | N | NW | WNW | SW | | | |
| Dec 12 | 0.4 | 2.2 | 2.5 | 4.5 | 0.4 | 1.0 | 0.7 | 1.6 | 1.2 | 0.6 | 0.5 | 1.0 | 2.1 | 1.5 | 1.3 | 1.8 | 3.3 | 2.5 | 4.9 | 6.2 | 6.7 | 5.1 | 5.9 | 5.5 | 0.4 | 6.7 | 2.6 |
| | WNW | WNW | WNW | NW | W | WSW | WSW | W | NW | NW | S | SSW | SSE | SE | E | SE | S | SW | SSW | S | S | S | S | S | | | |
| Dec 13 | 7.3 | 6.1 | 6.7 | 7.6 | 7.1 | 6.0 | 6.2 | 7.6 | 9.5 | 9.9 | 7.5 | 16.9 | 15.7 | 12.1 | 10.4 | 7.7 | 9.0 | 7.1 | 7.9 | 10.9 | 12.9 | 11.0 | 14.3 | 15.0 | 6.0 | 16.9 | 9.7 |
| | SSE | S | SSW | S | SSW | SSW | SSW | SSW | SSW | SSW | WSW | W | WNW | WNW | WNW | WNW | NW | NW | W | W | WNW | WNW | WNW | WNW | | | |
| Dec 14 | 11.9 | 8.5 | 9.5 | 9.1 | 7.5 | 10.1 | 11.1 | 5.7 | 4.0 | 8.2 | 9.6 | 7.7 | 5.3 | 3.9 | 6.4 | 5.6 | 5.5 | 2.4 | 4.3 | 5.7 | 5.2 | 3.5 | 3.1 | 10.4 | 2.4 | 11.9 | 6.8 |
| | W | W | WNW | WNW | WNW | WNW | W | W | WSW | SW | WSW | WSW | SW | SSW | SSW | SSW | SW | SW | WSW | W | W | WSW | W | NW | | | |
| Dec 15 | 10.4 | 12.0 | 10.6 | 1.9 | 2.4 | 2.7 | 0.5 | 1.5 | 1.5 | 1.3 | 4.3 | 1.5 | 2.4 | 3.0 | 1.4 | 0.7 | 1.3 | 2.6 | 2.1 | 1.8 | 4.1 | 2.0 | 1.3 | 2.2 | 0.5 | 12.0 | 3.1 |
| | WNW | WNW | WNW | SSE | S | S | NNE | S | WNW | WSW | WNW | SSE | SE | SE | E | WSW | WSW | NE | NE | ENE | SSW | WSW | NW | W | | | |
| Dec 16 | 0.6 | 2.1 | 7.2 | 8.0 | 1.2 | 2.9 | 3.7 | 7.2 | 6.7 | 9.9 | 10.8 | 14.2 | 14.6 | 19.8 | 20.9 | 22.0 | 18.1 | 17.2 | 15.5 | 13.5 | 15.3 | 13.8 | 14.4 | 13.3 | 0.6 | 22.0 | 11.4 |
| | WNW | SSW | WSW | WNW | NW | SW | NNE | ENE | ENE | NNE | NNE | NNE | N | N | N | N | N | N | N | NNW | NNW | NNW | NNW | NNW | | | |
| Dec 17 | 13.6 | 12.2 | 14.5 | 15.8 | 14.3 | 12.6 | 11.0 | 11.2 | 13.5 | 11.6 | 11.5 | 11.4 | 11.7 | 13.4 | 14.8 | 14.6 | 15.8 | 14.1 | 14.6 | 16.4 | 15.1 | 16.5 | 16.0 | 15.9 | 11.0 | 16.5 | 13.8 |
| | NNW | NNW | N | N | N | N | N | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | N | NNE | NNE | NNE | NNE | | | |
| Dec 18 | 14.7 | 14.5 | 13.6 | 14.1 | 13.6 | 13.5 | 13.0 | 13.4 | 13.2 | 13.1 | 12.7 | 11.4 | 9.9 | 8.8 | 10.9 | 11.8 | 11.1 | 13.5 | 12.9 | 11.4 | 13.1 | 12.7 | 12.7 | 11.6 | 8.8 | 14.7 | 12.6 |
| | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | NNE | NNE | NNE | NNE | N | N | N | N | N | N | N | N | N | N | | | |
| Dec 19 | 13.3 | 11.7 | 11.2 | 11.0 | 13.4 | 12.5 | 12.2 | 12.4 | 12.9 | 11.9 | 12.1 | 11.8 | 11.7 | 8.2 | 8.2 | 7.7 | 6.8 | 6.3 | 7.0 | 5.4 | 4.8 | 6.2 | 5.1 | 1.9 | 1.9 | 13.4 | 9.4 |
| | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | NNW | NNW | NNW | N | NNW | NNW | N | NW | | | |
| Dec 20 | 4.3 | 4.5 | 3.3 | 4.4 | 1.9 | 2.6 | 1.7 | 3.3 | 5.2 | 5.1 | 4.4 | 1.7 | 3.4 | 2.4 | 2.0 | **0.3** | 0.9 | 2.3 | 1.7 | 2.8 | 4.4 | 4.0 | 3.8 | 4.1 | **0.3** | 5.2 | 3.1 |
| | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | NNW | NNW | S | SSW | NNW | NW | NNW | NNW | NNW | NNW | NNW | | | |

peace river area monitoring program
pramp

# *PEACE RIVER AREA MONITORING PROGRAM*

## *AQHI - Grimshaw Station - December 2022*

## Summary of Hourly Averages

## VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

**WIND SPEED**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Hourly Value: | 32.9 | kph | on December 4 at hour 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 18.9 | kph | on December 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.3 | kph | on December 8 at hour 8 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.8 | kph | on December 30 | Hours of Calibration: | 0 |
| Monthly Average: | 7.2 | kph | | Operational Uptime: | 100.0 |

**WIND DIRECTION**

Monthly Average: 313 (NW) degree

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average |
| Dec 21 | 4.6 | 5.9 | 1.8 | 2.0 | 2.0 | 1.3 | 2.5 | 1.6 | 1.2 | 2.1 | 1.7 | 3.8 | 4.3 | 5.1 | 5.5 | 3.4 | 1.0 | 1.3 | 2.7 | 3.6 | 2.2 | 2.7 | 3.7 | 0.5 | 0.5 | 5.9 | 2.8 |
| | NNW | NNW | NW | NNW | NW | NW | NNW | NW | WNW | W | SW | SSW | SSW | SSW | S | S | SE | SSW | WSW | WSW | SW | SSW | SSW | S | | | |
| Dec 22 | 0.7 | 0.5 | 2.5 | 2.5 | 2.2 | 1.7 | 2.9 | 2.6 | 3.8 | 4.5 | 5.0 | 6.1 | 4.7 | 4.6 | 2.6 | 2.8 | 4.1 | 4.5 | 4.2 | 2.8 | 5.1 | 1.3 | 1.1 | 4.3 | 0.5 | 6.1 | 3.2 |
| | NNW | NNW | NW | W | NNW | WNW | W | WNW | WSW | WSW | SW | SW | WSW | SSW | SSW | WSW | W | WNW | WNW | SSW | SSW | SSW | SSE | SSW | | | |
| Dec 23 | 5.7 | 6.5 | 1.6 | 0.8 | 1.7 | 1.7 | 1.1 | 1.4 | 4.0 | 5.9 | 6.4 | 7.6 | 12.2 | 9.5 | 9.9 | 11.4 | 9.4 | 10.3 | 12.0 | 10.4 | 9.5 | 9.1 | 8.8 | 7.6 | 0.8 | 12.2 | 6.9 |
| | SSW | SSW | S | S | SSW | WSW | NNW | NE | N | N | NNE | N | N | N | N | N | NNE | N | N | N | N | N | N | N | | | |
| Dec 24 | 5.2 | 4.2 | 3.7 | 4.8 | 5.4 | 5.1 | 6.2 | 7.7 | 7.7 | 5.8 | 7.6 | 8.4 | 8.2 | 8.1 | 11.2 | 9.9 | 10.5 | 13.0 | 12.4 | 11.7 | 10.5 | 9.5 | 7.5 | 6.4 | 3.7 | 13.0 | 7.9 |
| | NNE | N | NNE | NNE | ENE | ENE | ENE | ENE | NE | NE | NE | NE | NNE | NNE | N | NNE | N | N | N | N | NNW | NNW | NNW | NNW | | | |
| Dec 25 | 4.7 | 3.7 | 2.7 | 2.6 | 2.8 | 1.1 | 2.8 | 3.1 | 2.2 | 2.6 | 4.1 | 4.4 | 4.3 | 4.1 | 4.0 | 4.6 | 6.8 | 5.3 | 4.0 | 4.5 | 4.0 | 4.8 | 4.8 | 4.6 | 1.1 | 6.8 | 3.9 |
| | N | N | NNE | ENE | SE | ESE | E | E | E | E | ENE | ENE | E | E | E | ENE | ENE | NE | NE | NE | NE | NE | NE | NE | | | |
| Dec 26 | 5.6 | 5.8 | 7.2 | 7.5 | 3.6 | 3.3 | 3.1 | 5.3 | 9.1 | 7.5 | 7.2 | 8.2 | 9.4 | 10.0 | 17.7 | 20.4 | 12.2 | 11.5 | 10.6 | 11.4 | 12.5 | 9.3 | 4.5 | 5.0 | 3.1 | 20.4 | 8.7 |
| | NE | NE | NNE | N | N | NNW | NNW | N | N | NNE | NNE | N | N | N | N | N | N | N | N | N | N | N | NNE | NE | | | |
| Dec 27 | 4.0 | 4.3 | 5.8 | 5.6 | 4.8 | 5.5 | 5.1 | 6.5 | 6.9 | 6.3 | 6.7 | 7.1 | 7.3 | 8.0 | 12.8 | 13.7 | 13.4 | 12.0 | 13.8 | 13.8 | 10.5 | 10.4 | 10.9 | 10.0 | 4.0 | 13.8 | 8.6 |
| | NE | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | N | NNE | N | N | N | N | N | N | N | N | N | N | N | | | |
| Dec 28 | 9.5 | 11.5 | 13.3 | 9.7 | 7.2 | 7.0 | 7.0 | 5.7 | 3.8 | 3.8 | 4.4 | 2.2 | 4.0 | 3.0 | 3.1 | 3.4 | 5.4 | 5.6 | 4.0 | 3.7 | 3.8 | 3.6 | 2.6 | 1.4 | 1.4 | 13.3 | 5.4 |
| | NNW | NNW | NNW | N | N | N | N | N | N | N | ENE | ESE | SSE | SSW | S | SE | SE | SE | SSE | SSE | SSE | SE | SE | SE | | | |
| Dec 29 | 1.7 | 3.8 | 3.6 | 2.0 | 1.5 | 0.8 | 1.5 | 3.5 | 3.5 | 3.8 | 0.7 | 3.0 | 1.3 | 4.5 | 3.4 | 1.1 | 0.9 | 3.3 | 2.2 | 1.6 | 1.2 | 2.0 | 2.0 | 4.6 | 0.7 | 4.6 | 2.4 |
| | S | SSE | SSE | SSE | SW | W | WSW | SSW | SSW | SSW | SW | W | S | SW | WSW | SW | SW | NW | NW | WNW | WNW | NW | WNW | NNW | | | |
| Dec 30 | 3.0 | 1.7 | 2.2 | 2.6 | 1.4 | 1.2 | 0.5 | 1.2 | 0.5 | 0.7 | 0.8 | **0.3** | 0.5 | 1.6 | 2.1 | 3.7 | 3.6 | 2.9 | 2.9 | 3.5 | 1.8 | 1.9 | 1.0 | 2.0 | **0.3** | 3.7 | **1.8** |
| | NNW | WNW | W | SSW | WNW | NNW | NW | NNW | WNW | ENE | E | SSE | SSW | SW | S | S | S | SW | WSW | SW | W | W | SW | WSW | | | |
| Dec 31 | 2.5 | 1.7 | 3.9 | 2.0 | 2.3 | 3.4 | 1.3 | 0.7 | 3.3 | 2.6 | 3.4 | 3.2 | 3.0 | 5.3 | 4.3 | 7.1 | 5.0 | 4.3 | 4.8 | 1.7 | 1.1 | 1.2 | 1.9 | 2.9 | 0.7 | 7.1 | 3.0 |
| | NW | WSW | S | SW | SSW | SSW | NW | W | SSW | SSW | SW | SW | SSW | SSW | SSW | SSW | SW | WSW | W | W | W | W | WNW | NW | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Monthly Calibration | **S** | Daily Zero-Span Check | **Q** | Quality Assurance | |
| **K** | Collection Error | **N** | No Data (Machine Not in Service) | **Y** | Routine Maintenance | **P** Power Failure |
| **X** | InValid Data (Equipment Malfunction /Recovery) | **NRM** | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | |

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.

# END OF REPORT

This page, 277 of 277, ends the December  2022 Monthly Ambient Air Quality Monitoring Report.

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring Calibration Report

## - 842b STATION-

## CAL-PRAMP-202212-01561

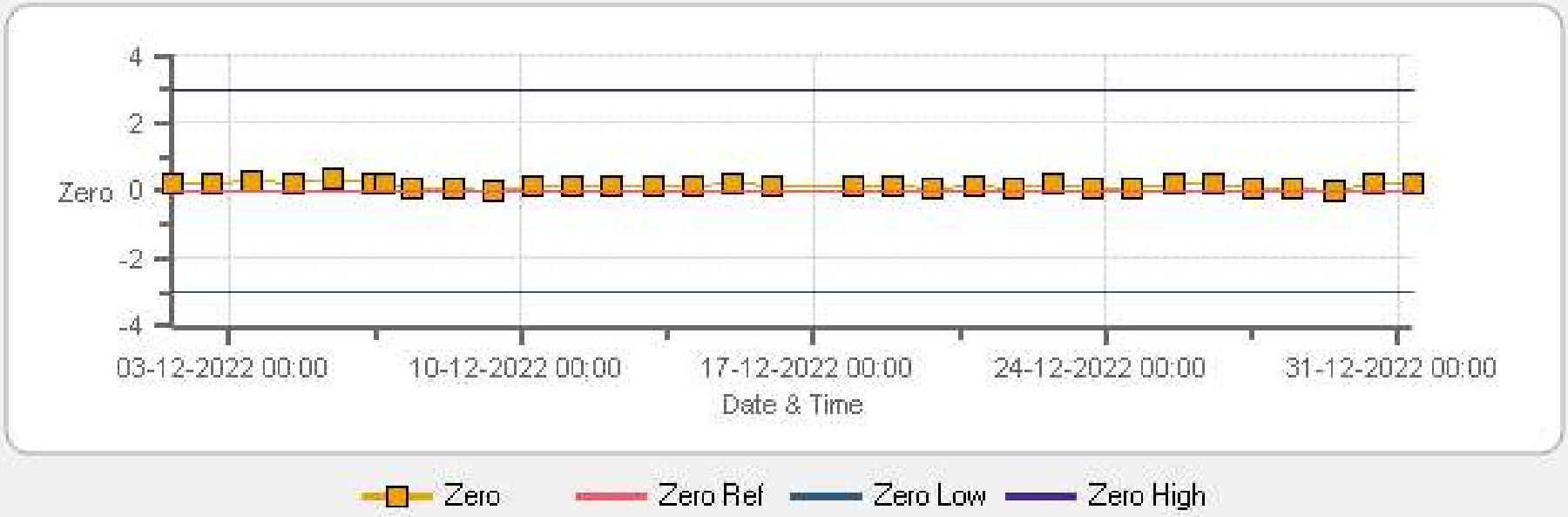
**Operation and Maintenance:**
Bureau Veritas Canada

**Data Validation and Report:**
Bureau Veritas Canada

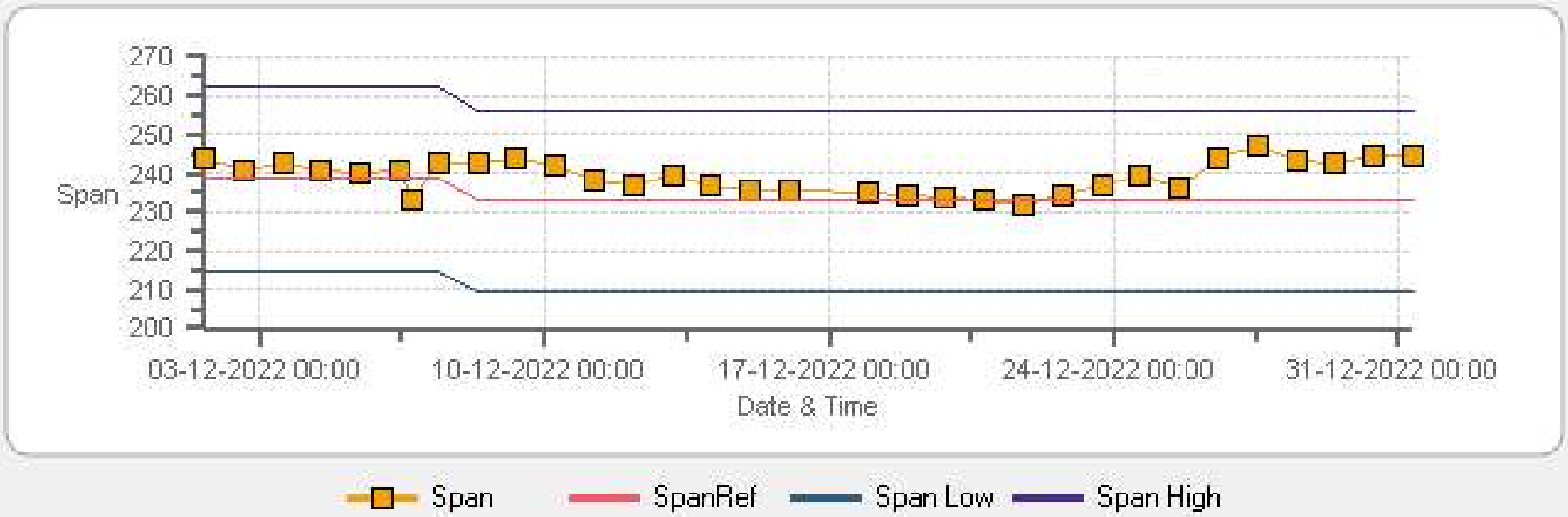
January 17, 2023

# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

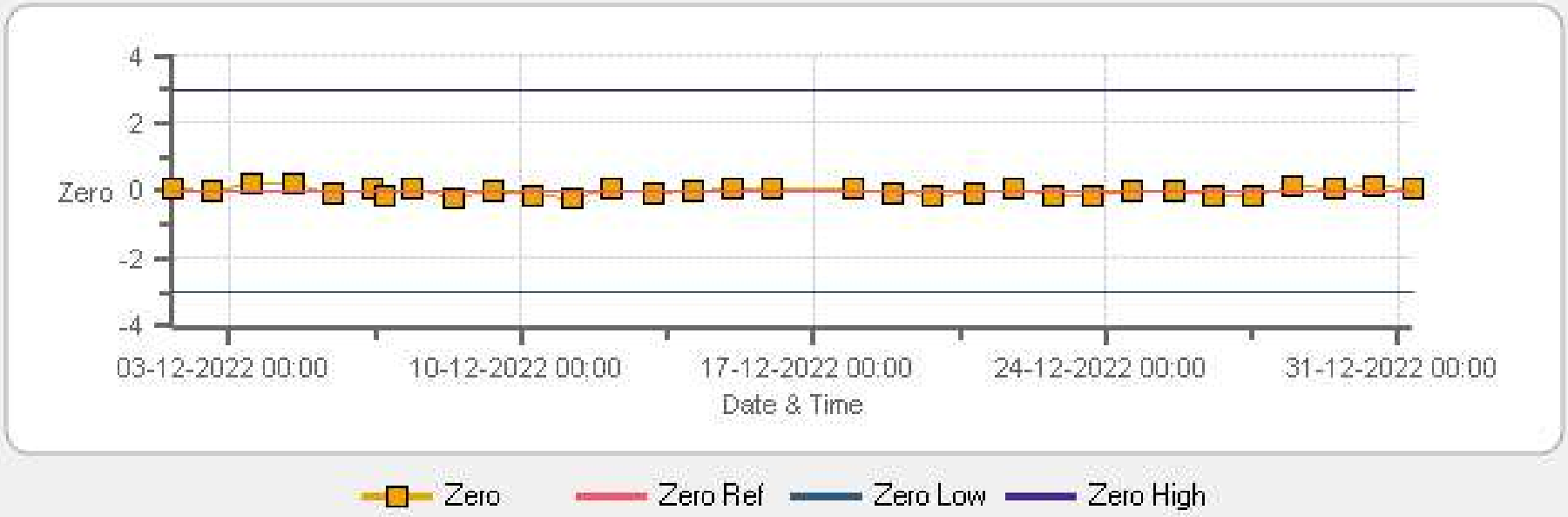
SO2[ppb] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Zero



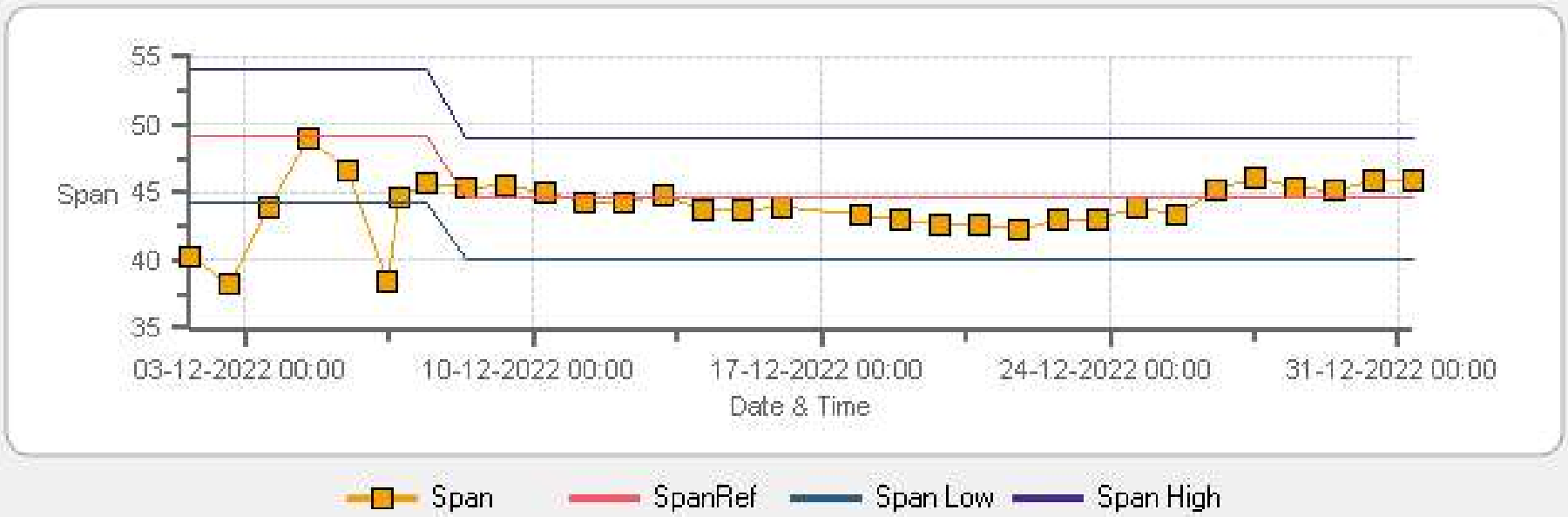

SO2[ppb] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Span



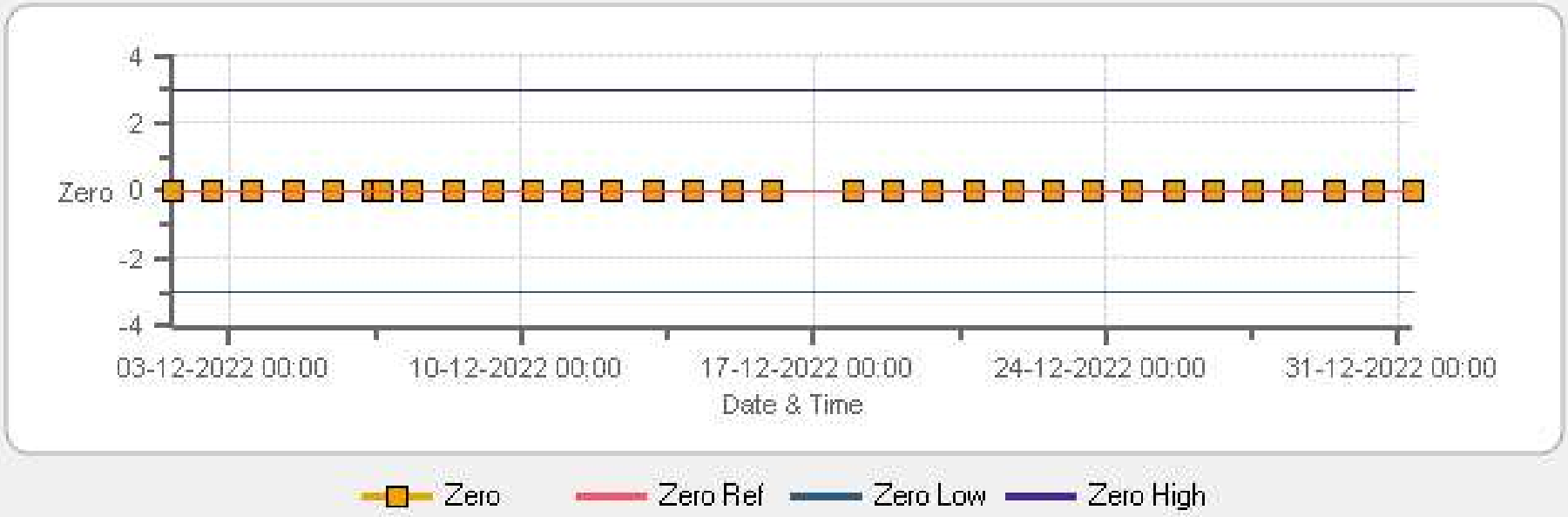
TRS[ppb] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Zero



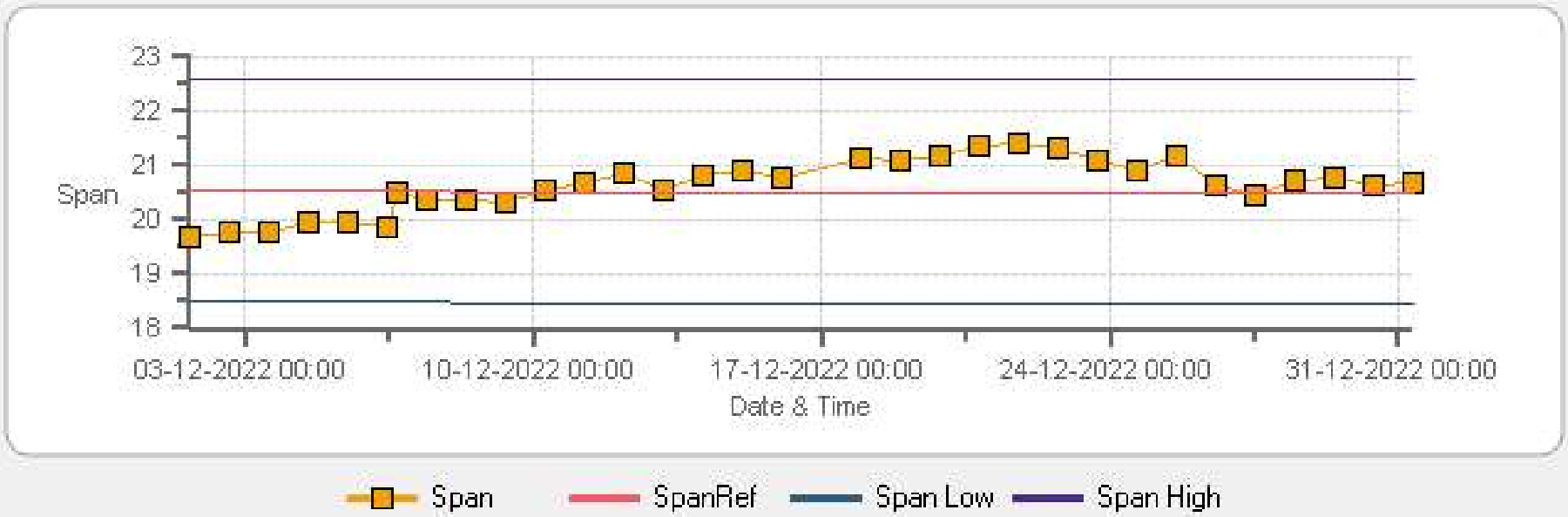

TRS[ppb] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Span



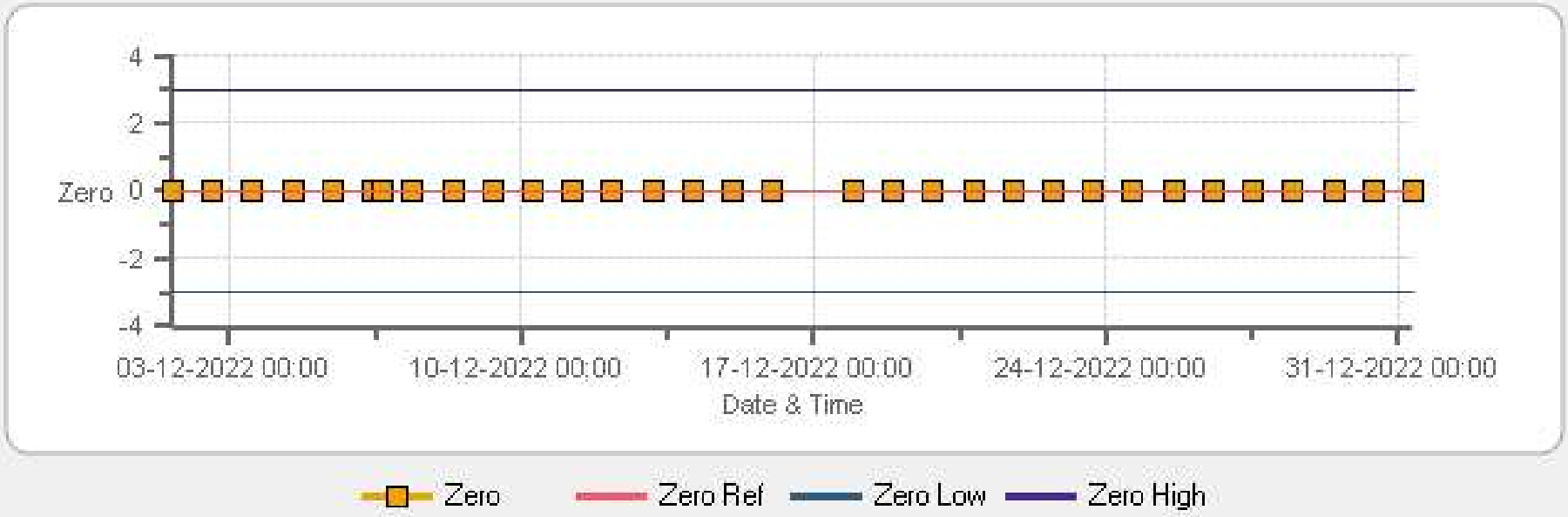
THC55[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Zero



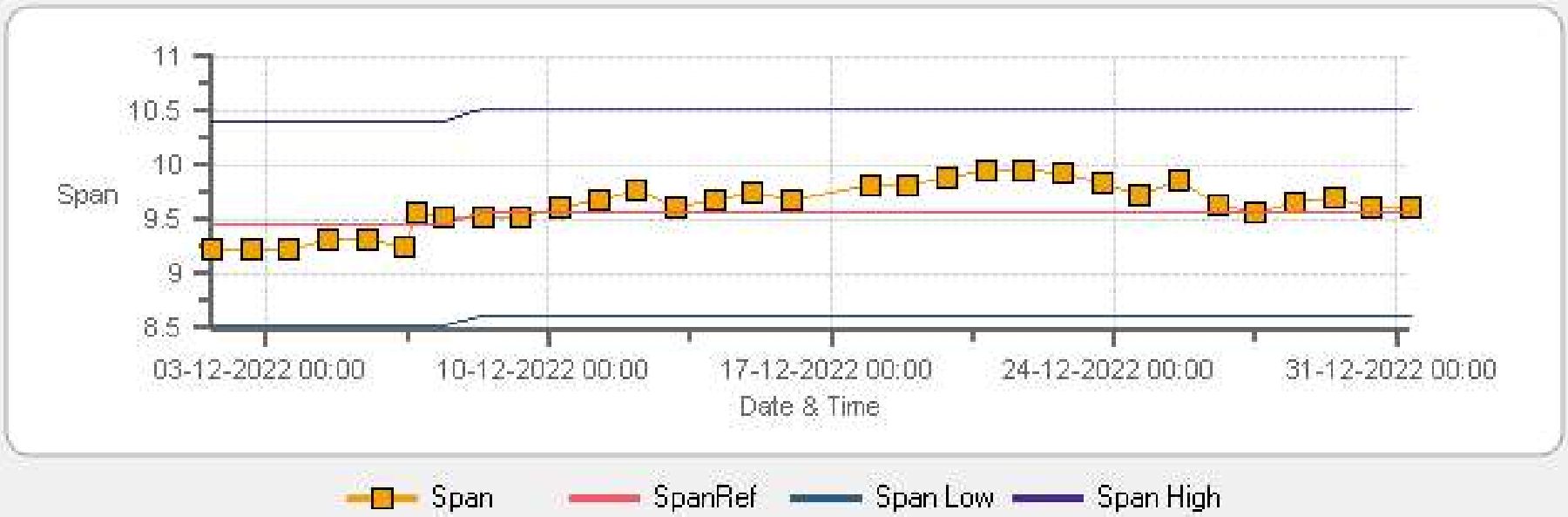

THC55[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Span



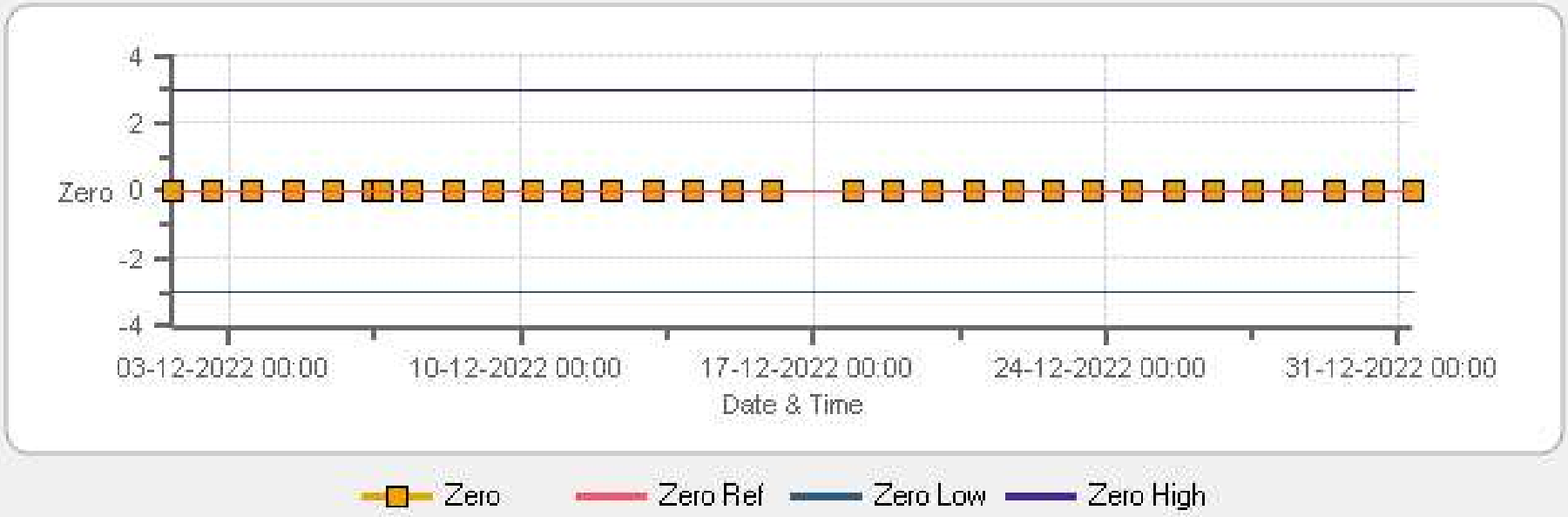
CH4[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Zero



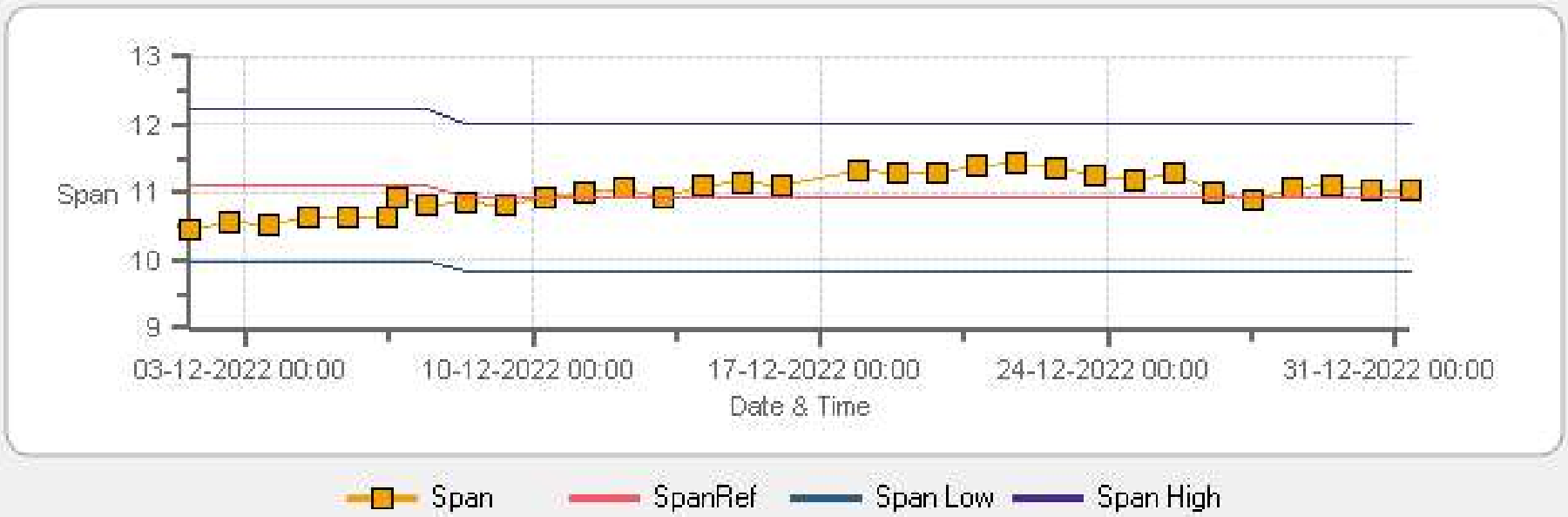

CH4[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Zero




NMHC[ppm] Calibration: PRAMP 842b Monthly: 12-2022 Type: SpanAndZero - Span



# MULTI-POINT CALIBRATION RECORDS

# SO2 Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 06-Dec-2022 | PREVIOUS CALIBRATION DATE: | 08-Nov-2022 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 0.999 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.2 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 941 |
| PURPOSE | Routine | START TIME (MST): | 13:24 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 17:53 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 500 ppb |
| SERIAL # | 1200736629 | FLOW (mL/min) | 424 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 8.2 | BKG/OFFSET | 8.4 |
| COEF/SLOPE | 1.114 | COEF/SLOPE | 1.103 |
| Expected (reference) Value | 238.8 | Expected (reference) Value | 233 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0001923 | HIGH ID | n/a |
| CONC (ppm): | 25.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1850 | LOW ID | n/a |
| EXPIRY DATE | 02-Nov-2025 | EXPIRY DATE | n/a |

**CALIBRATION PARAMETERS:**

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

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

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

**CALIBRATION:**

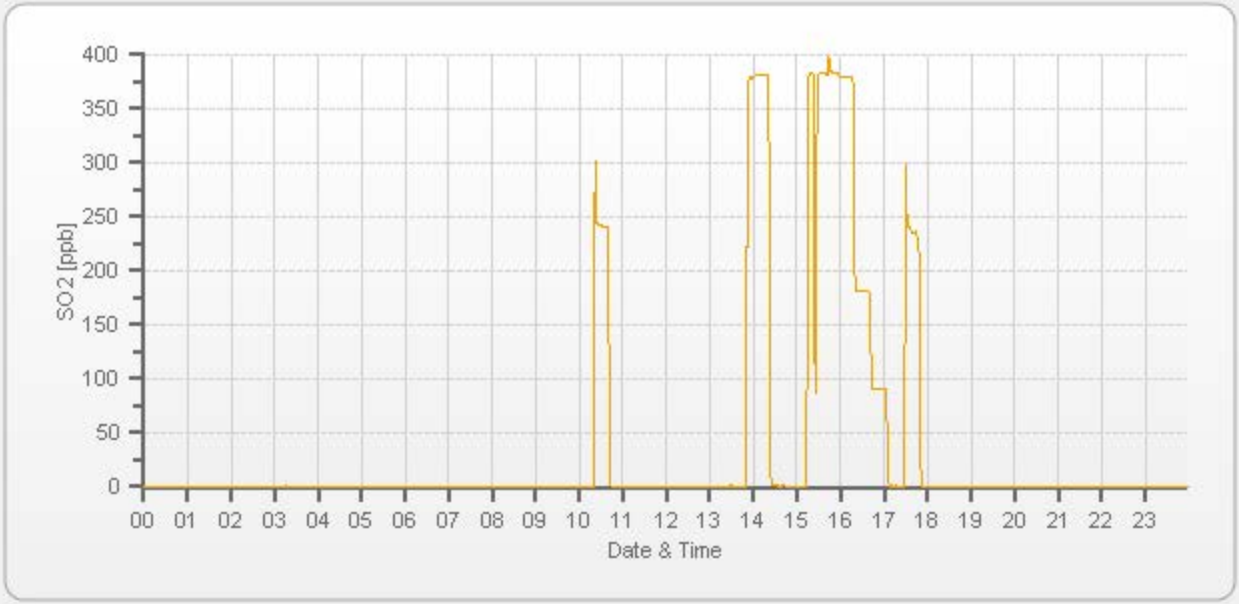
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4002 | | 4002 | 0.00 | 0.3 | 0 | | |
| 3942 | 60.50 | 4002 | 379.45 | 382 | 379.7 | 0.994 | 0.999 |
| 3976 | 28.70 | 4005 | 179.87 | n/a | 181.6 | n/a | 0.990 |
| 3988 | 14.30 | 4002 | 89.69 | n/a | 91.1 | n/a | 0.984 |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 1.000 | 0.2% |

**COMMENTS:**

Sample filter changed.
15:22 = Calibration paused to confirm TRS reading. Adjusted high restarted


SO2[ppb] Station: PRAMP 842b Daily: 06-12-2022 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
SO2 [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2 [ppb]

# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 06-Dec-2022 | PREVIOUS CALIBRATION DATE: | 08-Nov-2022 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.2 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 941 |
| PURPOSE | Removal/Shut-down | START TIME (MST): | 13:24 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 14:26 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 100 ppb |
| SERIAL # | 1200736630 | FLOW (mL/min) | 375 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 14 | BKG/OFFSET | n/a |
| COEF/SLOPE | 0.969 | COEF/SLOPE | n/a |
| Expected (reference) Value | 49.22 | Expected (reference) Value | n/a |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1400 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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 | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4002 | | 4002 | 0.00 | 0 | n/a | | |
| 3969 | 33.20 | 4002 | 78.06 | 65.97 | n/a | **1.183** | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | **0.845** | 0.0% |

**COMMENTS:**

TRS Converter CDNOVA CDN #583
Fails at High point, calibration terminated.


Shaping a world of trust

# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 06-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.7 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 940 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 14:43 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 17:53 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 100 ppb |
| SERIAL # | 1200736630 | FLOW (mL/min) | 375 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 14 | BKG/OFFSET | 12.8 |
| COEF/SLOPE | 0.969 | COEF/SLOPE | 0.869 |
| Expected (reference) Value | 49.22 | Expected (reference) Value | 44.6 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1400 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 15:28 | SO2 Conc (ppb) | 380 |
| END TIME: | 15:43 | Analyzer Response (ppb) | 0.2 |

**CALIBRATION:**

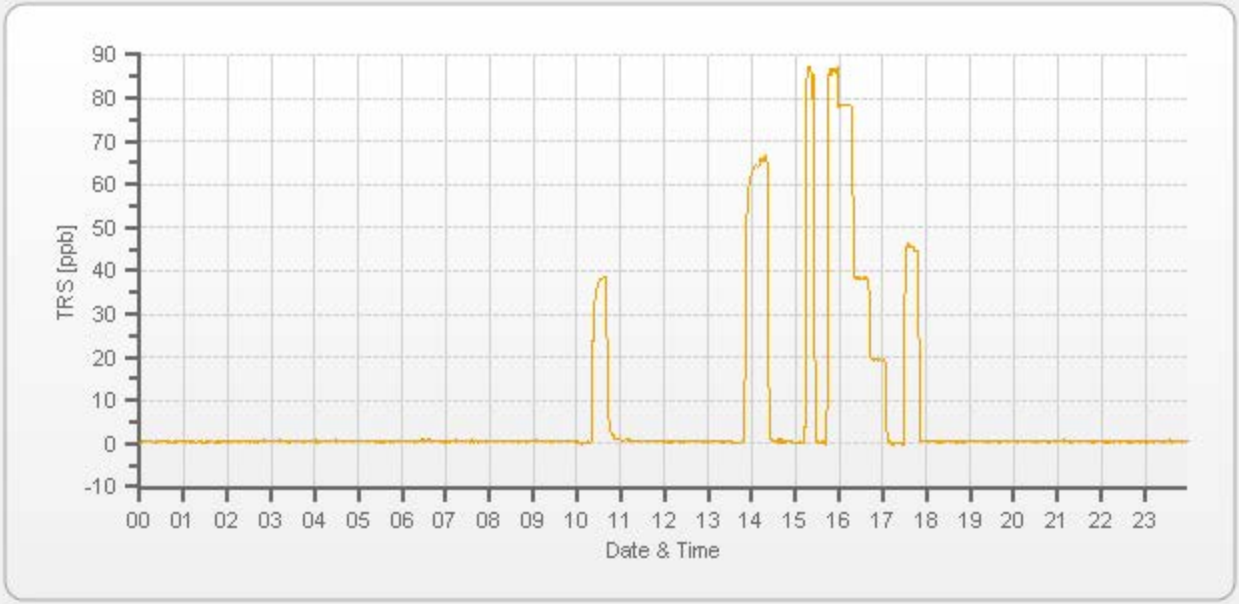
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4002 | | 4002 | 0.00 | n/a | 0 | | |
| 3969 | 33.20 | 4002 | 78.06 | n/a | 78.1 | n/a | 1.000 |
| 3989 | 16.20 | 4005 | 38.06 | n/a | 38.26 | n/a | 0.995 |
| 3994 | 8.10 | 4002 | 19.05 | n/a | 19.22 | n/a | 0.991 |

**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

TRS Converter CDNOVA CDN #583
Replaced scrubber beads (new batch)


TRS[ppb] Station: PRAMP 842b Daily: 06-12-2022 Type: AVG 1 Min. [1 Min.]
TRS [ppb]
90
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
TRS [ppb]

# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 06-Dec-2022 | PREVIOUS CALIBRATION DATE: | 08-Nov-2022 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.2 |
| LOCATION: | 842b | BAROMETRIC (mBar): | 941 |
| PURPOSE | Routine | START TIME (MST): | 13:24 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:54 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 12208316589 | 1148 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | 0.999 | 1.003 | 1.001 |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 900 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Aug-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.46 | 11.11 | 20.55 | | 9.57 | 10.94 | 20.52 |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3000 | | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | |
| 2927 | 72.00 | 2999 | 14.60 | 13.40 | 28.00 | 14.02 | 13.00 | 27.02 | 14.61 | 13.39 | 28.00 | 1.041 | 1.031 | 1.036 | 0.999 | 1.001 | 1.000 |
| 2963 | 36.00 | 2999 | 7.30 | 6.70 | 14.00 | n/a | n/a | n/a | 7.31 | 6.73 | 14.04 | n/a | n/a | n/a | 0.998 | 0.996 | 0.997 |
| 2981 | 18.00 | 2999 | 3.65 | 3.35 | 7.00 | n/a | n/a | n/a | 3.64 | 3.39 | 7.04 | n/a | n/a | n/a | 1.003 | 0.988 | 0.994 |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 1.001 | 0.0% |
| NMHC | 1.000 | 0.998 | 0.1% |
| THC | 1.000 | 1.000 | 0.1% |

**Comments:**

**14:52= datalogger restart. Adjusted high restarted.**

**Use Zero Chrom?** **No**

Station: PRAMP 842b Daily: 06-12-2022 Type: AVG 1 Min. [1 Min.]



# Meteorological System Checklist

| | | | |
|---|---|---|---|
| Date: | December 6, 2022 | | |
| Technician: | Chris Wesson | | |
| Station: | PRAMP 842b | | |
| **Unit:** | **Make:** | **Model:** | **Serial #:** |
| Precipitation Sampler: | RM Young | 52202 | TB 15878 |
| Temperature Sensor: | Rotronic | HC2A-S3 | 20370767 |
| Barometric Pressure Sensor: | MetOne | 92 | Y23362 |
| Relative Humidity Sensor: | Rotronic | HC2A-S3 | 20370767 |
| Anemometer: | RM Young | 05305AQ | 174802 |

**PRECIPITATION SENSOR CHECK**

| **Checklist:** | **Reply:** | **Comments:** |
|---|---|---|
| Previous check date: | November 8, 2022 | No tip test, ambient temps too low |
| Is the sensor Level? | yes | |
| Is the heater operating properly? | yes | |
| Are the bucket drain holes clean? | no | Blocked by ice - ice cleared |
| Is the screen on the housing? (screen should be on between July and September | no | |
| Is the housing clean? | yes | |
| Is the area around the housing clean and free from obstacles? | yes | |

**AMBIENT TEMPERATURE SENSOR CHECK**

| | |
|---|---|
| Previous check date: | November 8, 2022 |
| Parameter: | Temperature @ 2 metres |
| Reference Thermometer ID: | F.S. 11745843 expires June 14, 2023 |
| Reference Temperature (°C): | -25.5 |
| Station - Ambient Temperature (°C): | -25.1 |
| Temperature Difference (°C): | -0.4 |

**BAROMETRIC PRESSURE SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 8, 2022 | |
| Reference Barometer ID: | BRUNTON #05535, Expire: Feb 27, 2023 | |
| Reference Pressure - Units/Reading: | millibar | 938.4 |
| Station Pressure - Units/Reading: | millibar | 938.2 |
| Pressure Tolerance +/- 15% of error: | 798 - 1079 | 0.02% |

**RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 8, 2022 | |
| Reference Hygrometer ID: | F.S. 11745843 expires June 14, 2023 | |
| Reference Hygrometer % RH- Reading: | 61.90 | |
| Station Hygrometer % RH- Reading: | 59.90 | |
| RH Tolerance +/- 15% of difference: | 52.62 - 71.19 | 3.2% |

**ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK**

| WIND SPEED | | WIND DIRECTION | |
|---|---|---|---|
| Previous check date: | September 7, 2022 | Previous check date: | September 7, 2022 |
| Wind Speed Observed (kph): | 0~5 | Wind Direction Observed: | SE |
| Wind speed on Data Logger (kph): | 3.4 | Wind Direction on Data Logger: | SE |
| | | Wind Direction Pass/Fail?: | Pass |

Comments

Too cold for tip test

# Meteorological Sensor Audit/Calibration

**Location Information**

| | | | |
|---|---|---|---|
| **Company:** | PRAMP | **Performed By:** | Limin Li |
| **Audit Location:** | 842b | **Reviewed By:** | Chris Wesson |
| **Audit Date:** | August 3, 2022 | **Start/End Time (mst):** | 16:30/17:58 |
| **Calibration Purpose:** | routine annual | **Weather Conditions:** | Mainly sunny |

**Wind Sensor Information**

| **Sensor ID Data:** | | **Sensor Outputs:** | |
|---|---|---|---|
| **Sensor Make:** | RM Young | **Velocity Voltage Output Range:** | n/a |
| **Sensor Model:** | 05305AQ | **Velocity Unit Output Range:** | 0-200 |
| **Serial #:** | 174802 | **Direction Voltage Output Range:** | n/a |
| **Previous Cal/Audit Date:** | July 4, 2022 | **Direction Unit Output Range:** | 0-360 |

**Wind Calibrator Information**

**Calibrator I.D. and Expiry Date:** RM Young 18802 id# CA03309 expires June 07, 2023

**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 | 18.3 | 18.3 | 1.007 |
| 2000 | 36.9 | 36.7 | 36.7 | 1.004 |
| 3000 | 55.3 | 55.1 | 55.1 | 1.003 |
| 4000 | 73.7 | 73.6 | 73.6 | 1.002 |
| 5000 | 92.2 | 92.0 | 92.0 | 1.002 |
| 6000 | 110.6 | 110.5 | 110.5 | 1.001 |
| 7000 | 129.0 | 128.9 | 128.9 | 1.001 |
| 8000 | 147.4 | 147.3 | 147.3 | 1.001 |
| 9000 | 165.9 | 165.8 | 165.8 | 1.000 |
| 10000 | 184.3 | 184.2 | 184.2 | 1.001 |
| | | **The audit meets AMD requirements.** | **Average Correction Factor=** | **1.002** |

**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 | 355 | 1.0 | 0.0 | 0.5 |
| 30 | 330 | 29 | 334 | 1.0 | -4.0 | 2.5 |
| 60 | 300 | 58 | 305 | 2.0 | -5.0 | 3.5 |
| 90 | 270 | 88 | 275 | 2.0 | -5.0 | 3.5 |
| 120 | 240 | 119 | 244 | 1.0 | -4.0 | 2.5 |
| 150 | 210 | 149 | 212 | 1.0 | -2.0 | 1.5 |
| 180 | 180 | 180 | 180 | 0.0 | 0.0 | 0.0 |
| 210 | 150 | 211 | 150 | -1.0 | 0.0 | 0.5 |
| 240 | 120 | 243 | 119 | -3.0 | 1.0 | 2.0 |
| 270 | 90 | 275 | 88 | -5.0 | 2.0 | 3.5 |
| 300 | 60 | 305 | 59 | -5.0 | 1.0 | 3.0 |
| 330 | 30 | 333 | 30 | -3.0 | 0.0 | 1.5 |
| 355 | 0 | 355 | 1 | 0.0 | 1.0 | 0.5 |
| **The audit meets AMD requirements.** | | | **Average Absolute Degrees Difference=** | | | **1.9** |

**Comments:**

Physical inspection completed. No issues.

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring Calibration Report

## - 986c STATION-

## CAL-PRAMP-202212-01562

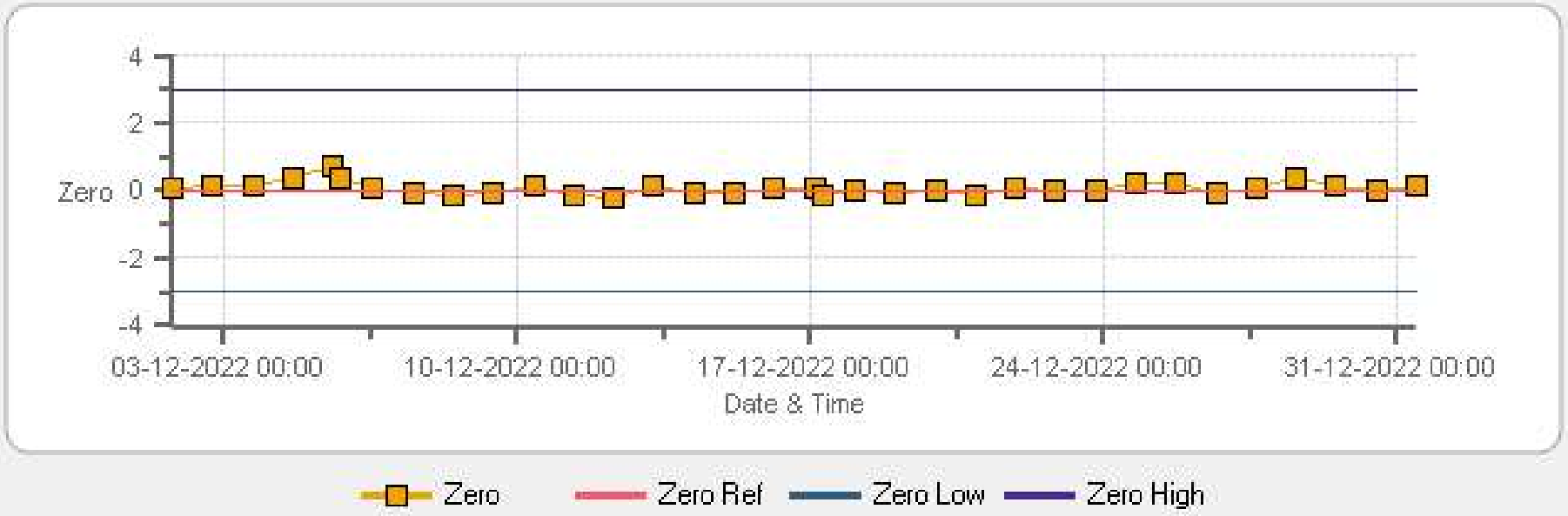
**Operation and Maintenance:**
Bureau Veritas Canada

**Data Validation and Report:**
Bureau Veritas Canada

January 17, 2023

# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

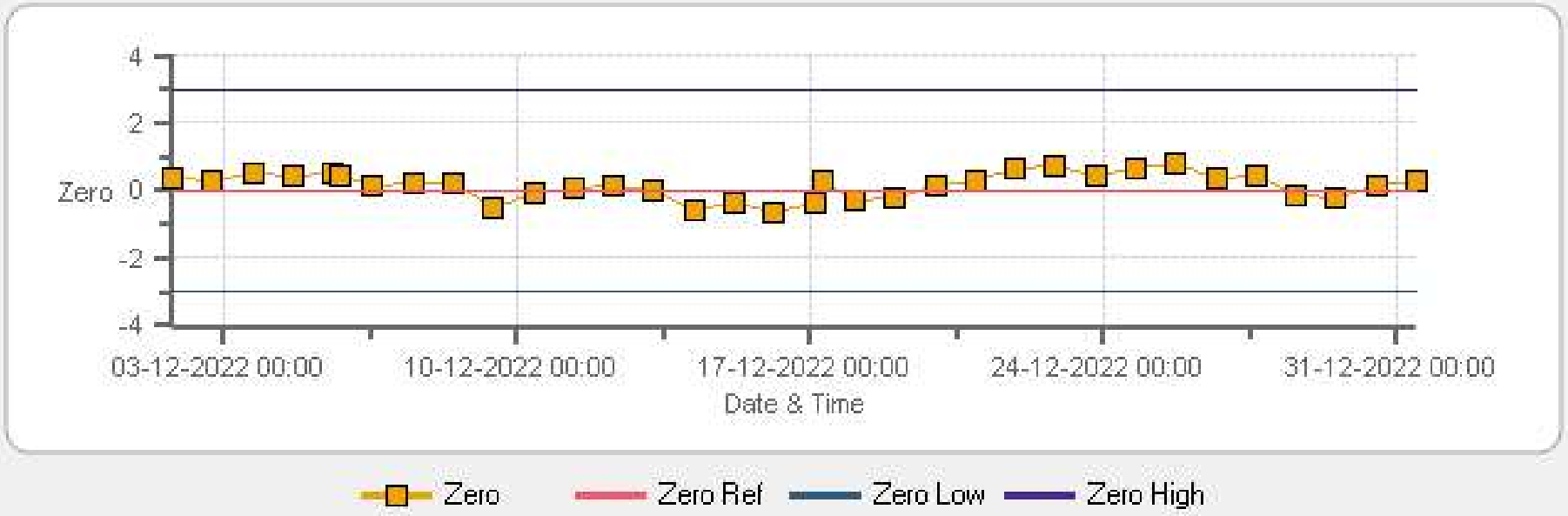
SO2[ppb] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Zero



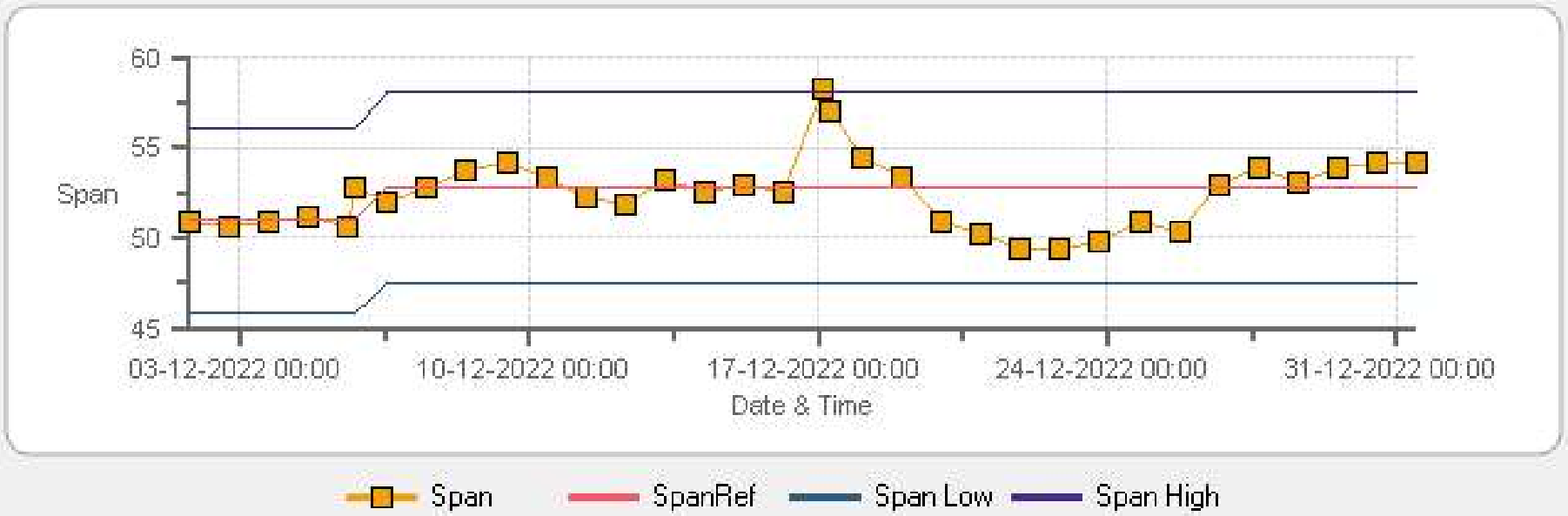

SO2[ppb] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Span



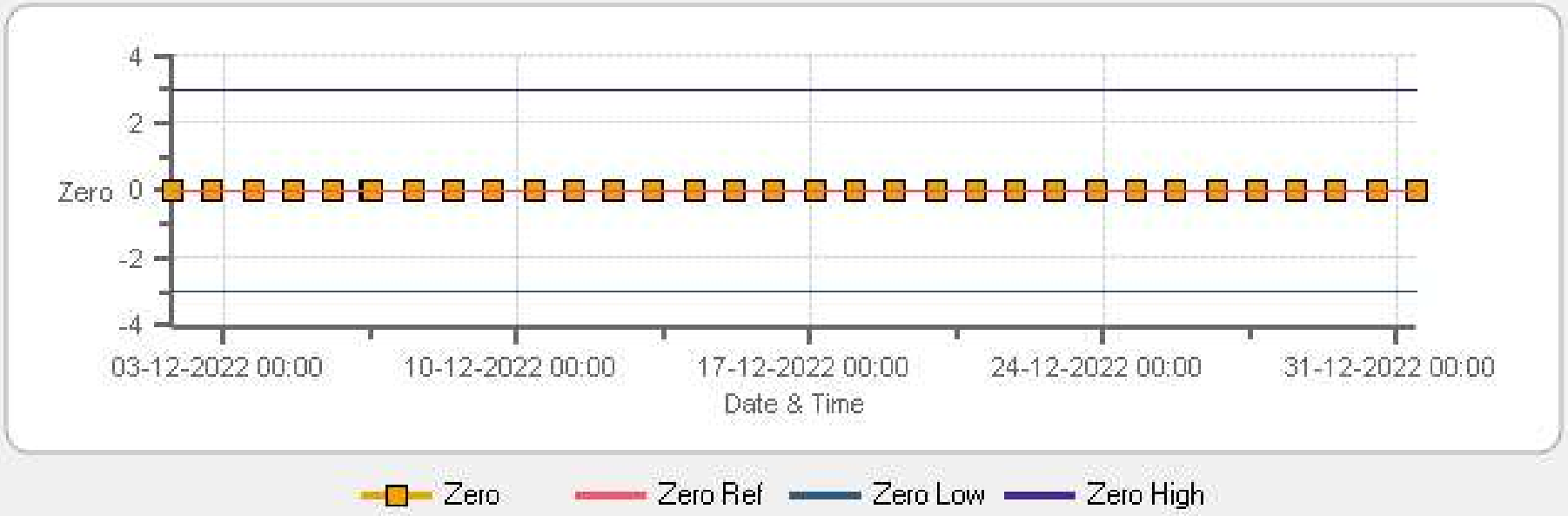
TRS[ppb] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Zero



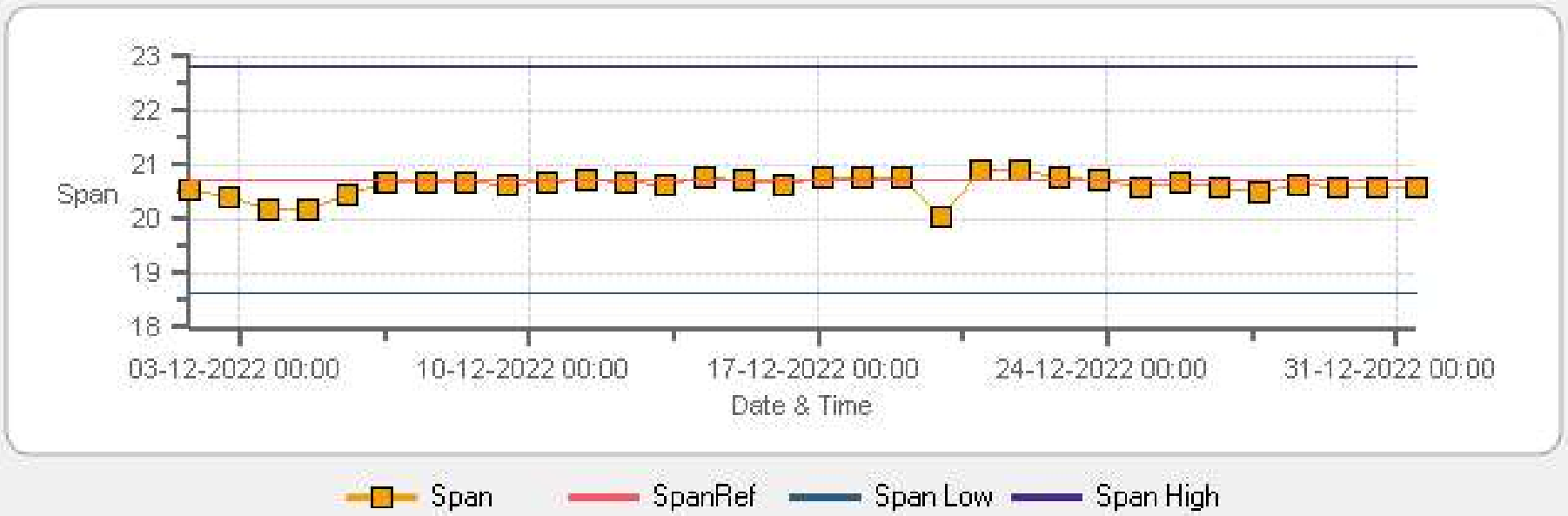

TRS[ppb] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Span



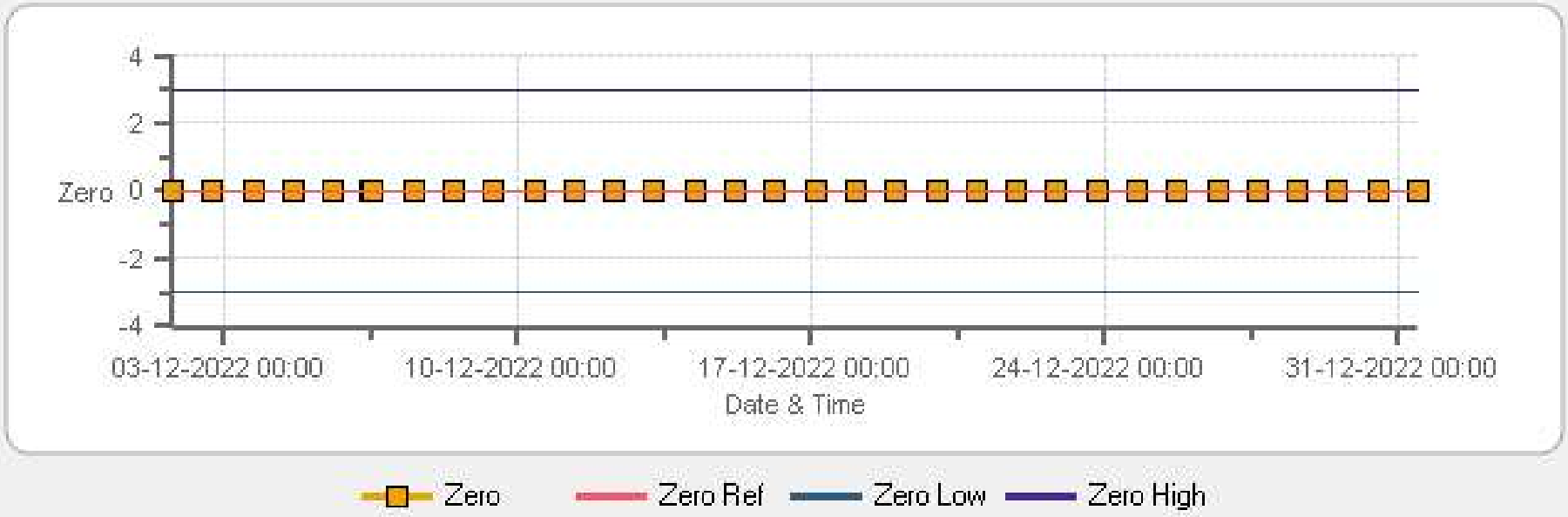
THC55[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Zero



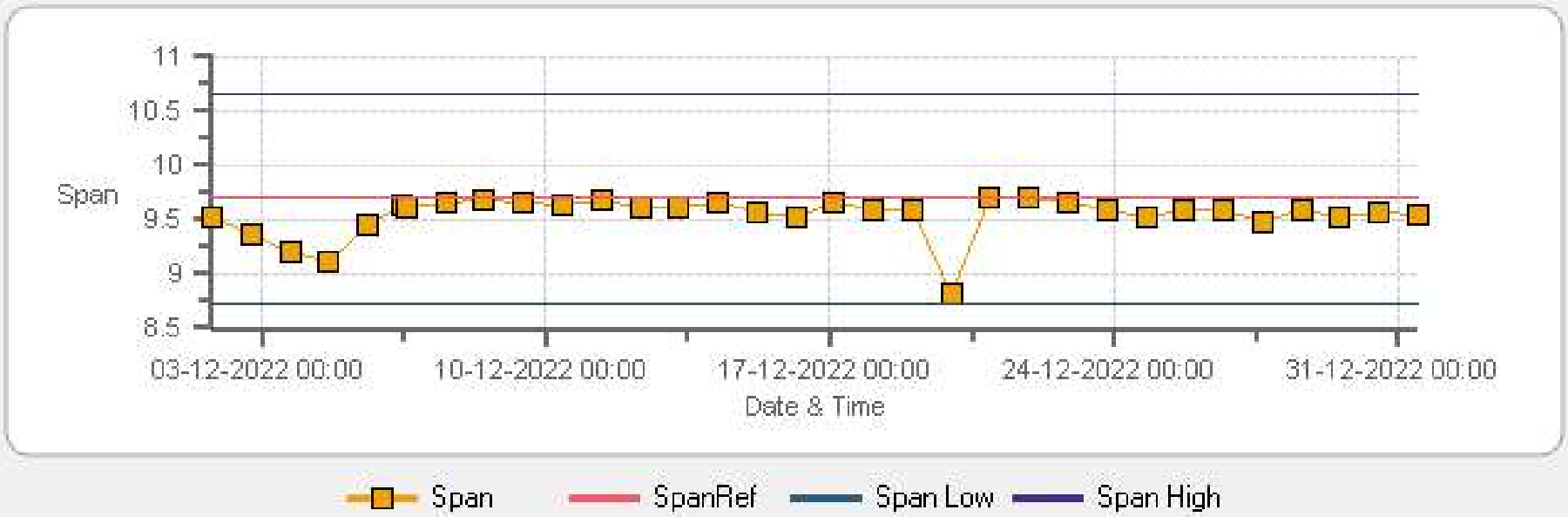

THC55[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Span



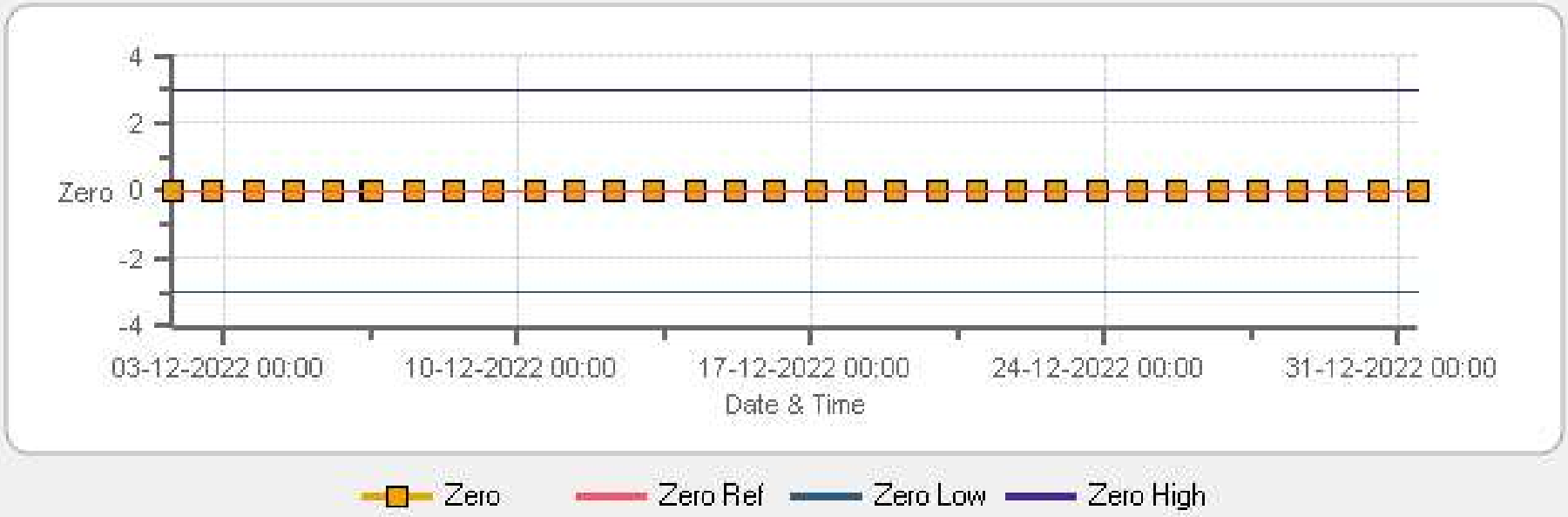
CH4[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Zero



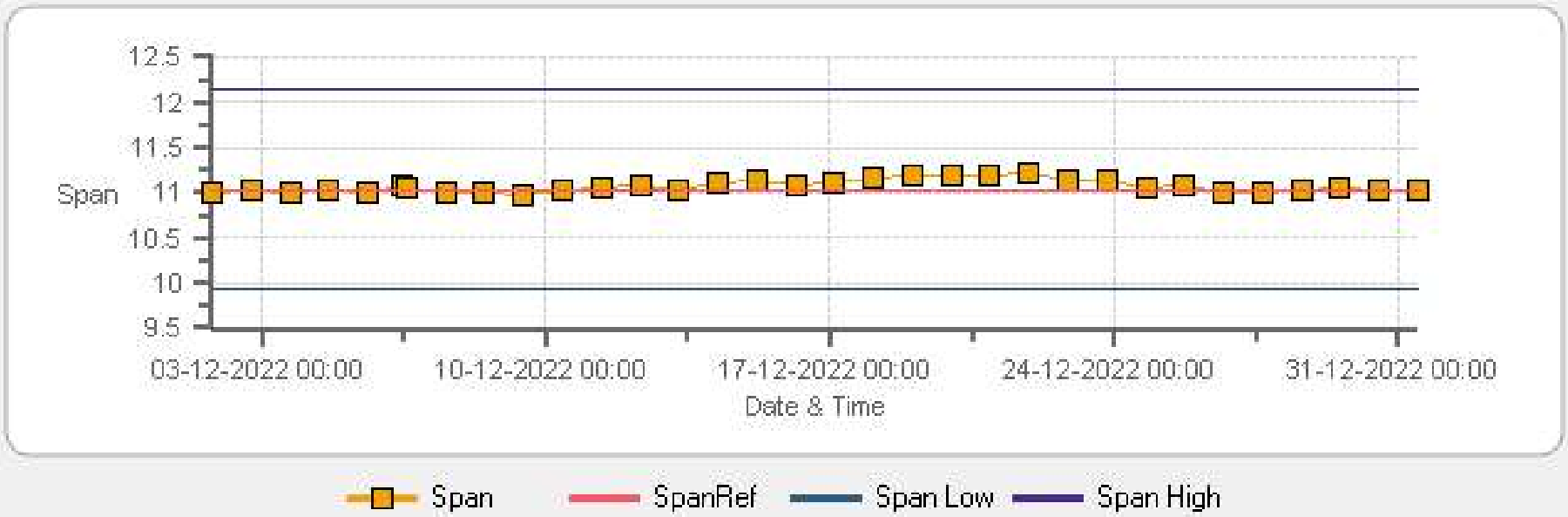

CH4[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Zero




NMHC[ppm] Calibration: PRAMP 986c Monthly: 12-2022 Type: SpanAndZero - Span



# MULTI-POINT CALIBRATION RECORDS

# SO2 Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 05-Dec-2022 | PREVIOUS CALIBRATION DATE: | 09-Nov-2022 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.0 |
| LOCATION: | 986c | BAROMETRIC (mBar): | 948 |
| PURPOSE | Routine | START TIME (MST): | 15:06 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 19:25 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 500 ppb |
| SERIAL # | 1193585646 | FLOW (mL/min) | 431 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 15.8 | BKG/OFFSET | 16.2 |
| COEF/SLOPE | 1.057 | COEF/SLOPE | 1.061 |
| Expected (reference) Value | 278.5 | Expected (reference) Value | 275.8 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0001923 | HIGH ID | n/a |
| CONC (ppm): | 25.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1600 | LOW ID | n/a |
| EXPIRY DATE | 02-Nov-2025 | EXPIRY DATE | n/a |

**CALIBRATION PARAMETERS:**

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

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

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

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4000 | | 4000 | 0.00 | 0.2 | 0 | | |
| 3938 | 60.50 | 3998 | 379.83 | 376.5 | 380.1 | 1.009 | 0.999 |
| 3974 | 28.70 | 4003 | 179.96 | n/a | 182.5 | n/a | 0.986 |
| 3986 | 14.30 | 4000 | 89.73 | n/a | 91 | n/a | 0.986 |

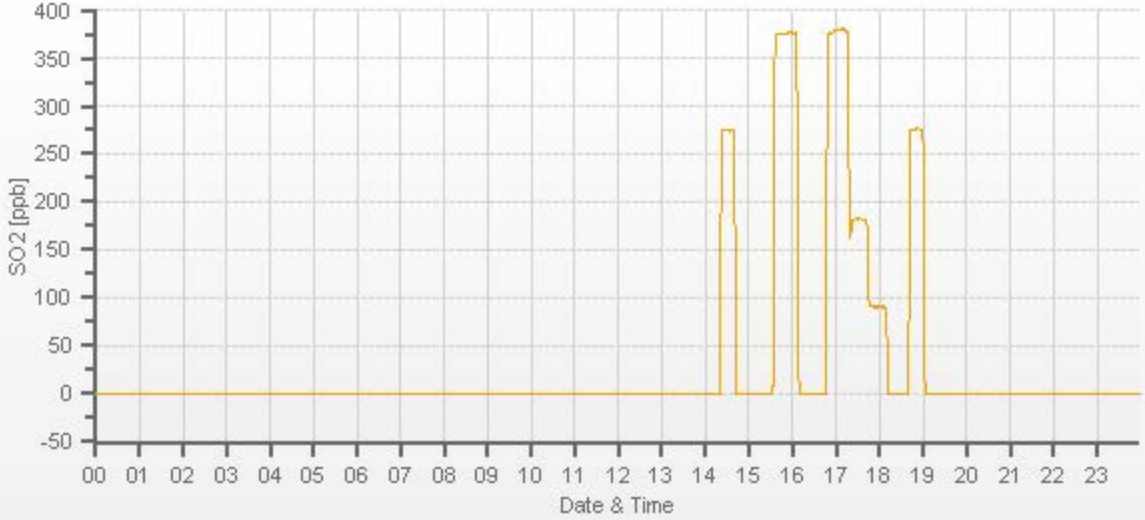
**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 1.000 | 0.2% |

**COMMENTS:**

Sample filter changed.

SO2[ppb] Station: PRAMP 986c Daily: 05-12-2022 Type: AVG 1 Min. [1 Min.]



# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 05-Dec-2022 | PREVIOUS CALIBRATION DATE: | 14-Nov-2022 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.0 |
| LOCATION: | 986C | BAROMETRIC (mBar): | 948 |
| PURPOSE | Routine | START TIME (MST): | 15:06 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 19:25 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 100 ppb |
| SERIAL # | 1191833341 | FLOW (mL/min) | 425 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 13.9 | BKG/OFFSET | 14.8 |
| COEF/SLOPE | 0.896 | COEF/SLOPE | 0.93 |
| Expected (reference) Value | 50.97 | Expected (reference) Value | 52.75 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 07:52 | SO2 Conc (ppb) | 380 |
| END TIME: | 08:07 | Analyzer Response (ppb) | 0.0 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4000 | | 4000 | 0.00 | 0.57 | 0 | | |
| 3965 | 33.10 | 3998 | 77.91 | 75.27 | 77.84 | 1.043 | 1.001 |
| 3987 | 16.20 | 4003 | 38.08 | n/a | 38.36 | n/a | 0.993 |
| 3992 | 8.10 | 4000 | 19.06 | n/a | 19.08 | n/a | 0.999 |

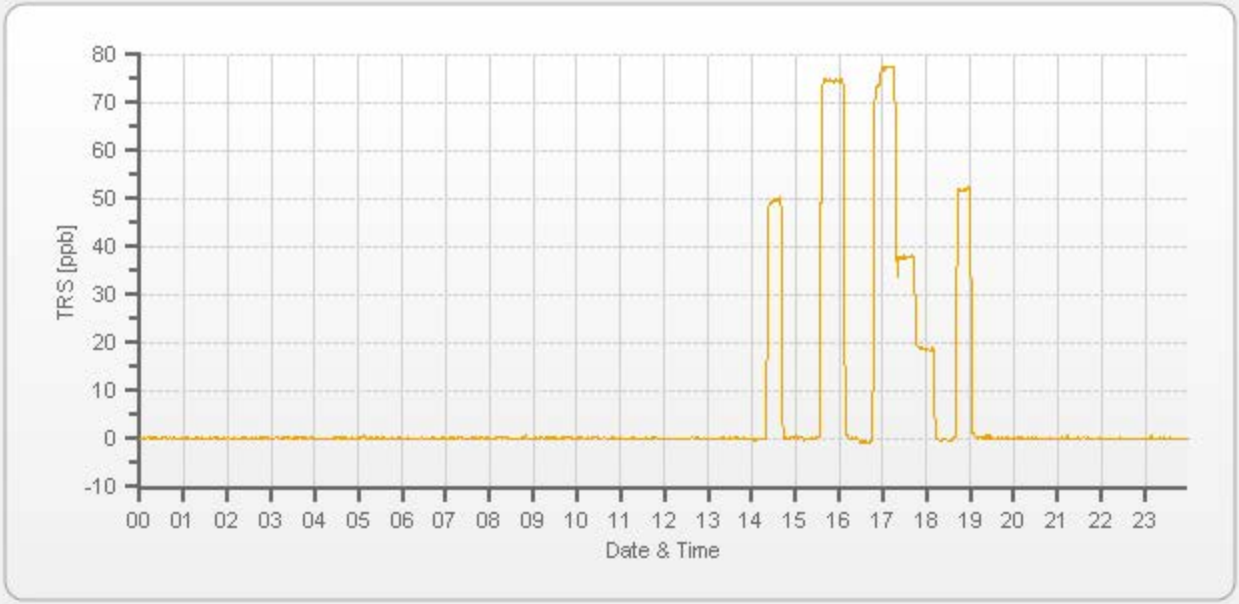
**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

TRS Converter BV's CDNOVA CDN #552

TRS[ppb] Station: PRAMP 986c Daily: 05-12-2022 Type: AVG 1 Min. [1 Min.]



# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 05-Dec-2022 | PREVIOUS CALIBRATION DATE: | 09-Nov-2022 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.0 |
| LOCATION: | 986C | BAROMETRIC (mBar): | 948 |
| PURPOSE | Removal/Shut-down | START TIME (MST): | 15:06 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 17:28 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 1433563261 | 1165 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | 0.999 | 1.000 | 0.999 |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 900 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Aug-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.70 | 11.03 | 20.73 | | n/a | n/a | n/a |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3000 | | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a | | | | | | |
| 2927 | 72.00 | 2999 | 14.60 | 13.40 | 28.00 | 14.56 | 13.55 | 28.12 | n/a | n/a | n/a | 1.003 | 0.989 | 0.996 | n/a | n/a | n/a |
| 2963 | 36.00 | 2999 | 7.30 | 6.70 | 14.00 | 7.34 | 6.73 | 14.07 | n/a | n/a | n/a | 0.994 | 0.996 | 0.995 | n/a | n/a | n/a |
| 2982 | 18.00 | 3000 | 3.65 | 3.35 | 7.00 | 3.68 | 3.30 | 6.99 | n/a | n/a | n/a | 0.991 | 1.015 | 1.001 | n/a | n/a | n/a |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 0.997 | 0.1% |
| NMHC | 1.000 | 1.013 | -0.2% |
| THC | 1.000 | 1.005 | 0.0% |

**Comments:**

**SHutdown due to bad injections.**

**Bad injections affect start of high point and low point.**

**Use Zero Chrom?** **No**


Station: PRAMP 986c Daily: 05-12-2022 Type: AVG 1 Min. [1 Min.]
Value
16
14
12
10
8
6
4
2
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
CH4 [ppm]
NMHC [ppm]

# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 06-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 18.7 |
| LOCATION: | 986C | BAROMETRIC (mBar): | 947 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 08:16 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 11:16 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 1433563261 | 1167 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | n/a | n/a | n/a |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 900 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Aug-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.70 | 11.03 | 20.73 | | n/a | n/a | n/a |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3000 | | 3000 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a | 0.00 | 0.00 | 0.00 | | | | | | |
| 2927 | 72.00 | 2999 | 14.60 | 13.40 | 28.00 | n/a | n/a | n/a | 14.59 | 13.41 | 28.00 | n/a | n/a | n/a | 1.000 | 0.999 | 1.000 |
| 2963 | 36.00 | 2999 | 7.30 | 6.70 | 14.00 | n/a | n/a | n/a | 7.36 | 6.68 | 14.04 | n/a | n/a | n/a | 0.992 | 1.003 | 0.997 |
| 2982 | 18.00 | 3000 | 3.65 | 3.35 | 7.00 | n/a | n/a | n/a | 3.68 | 3.28 | 6.97 | n/a | n/a | n/a | 0.991 | 1.021 | 1.004 |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 0.999 | 0.1% |
| NMHC | 1.000 | 1.002 | -0.2% |
| THC | 1.000 | 1.001 | 0.0% |

**Comments:**

**Sample filter changed**

**Use Zero Chrom?** **No**

Station: PRAMP 986c Daily: 06-12-2022 Type: AVG 1 Min. [1 Min.]



# Meteorological System Checklist

| | |
|---|---|
| Date: | December 5, 2022 |
| Technician: | Chris Wesson |
| Station: | PRAMP 986c |

| Unit: | Make: | Model: | Serial #: |
|---|---|---|---|
| Precipitation Sampler: | RM Young | 52202 | TB 16325 |
| Temperature Sensor: | Rotronic | HC2-S3 | 20357528 |
| Barometric Pressure Sensor: | MetOne | 092 | Y23358 |
| Relative Humidity Sensor: | Rotronic | HC2-S3 | 20357528 |
| Anemometer: | RM Young | 05305AQ | 180340 |

**PRECIPITATION SENSOR CHECK**

| Checklist: | Reply: | Comments: |
|---|---|---|
| Previous check date: | November 9, 2022 | No tip test - ambient temps too low |
| Is the sensor Level? | yes | |
| Is the heater operating properly? | yes | |
| Are the bucket drain holes clean? | yes | |
| Is the screen on the housing? (screen should be on between July and September | no | |
| Is the housing clean? | yes | |
| Is the area around the housing clean and free from obstacles? | yes | |

**AMBIENT TEMPERATURE SENSOR CHECK**

| | |
|---|---|
| Previous check date: | November 9, 2022 |
| Parameter: | Temperature @ 2 metres |
| Reference Thermometer ID: | F.S. 160348895 expires Sep 4, 2022 |
| Reference Temperature (°C): | -25.3 |
| Station - Ambient Temperature (°C): | -25.1 |
| Temperature Difference (°C): | -0.2 |

**BAROMETRIC PRESSURE SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 9, 2022 | |
| Reference Barometer ID: | Brunton 05535 Expires Feb 22, 2023 | |
| Reference Pressure - Units/Reading: | millibar | 947.9 |
| Station Pressure - Units/Reading: | millibar | 948.5 |
| Pressure Tolerance +/- 15% of error: | 806 - 1090 | -0.06% |

**RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 9, 2022 | |
| Reference Hygrometer ID: | F.S. 160348895 expires Sep 4, 2022 | |
| Reference Hygrometer % RH- Reading: | 62.40 | |
| Station Hygrometer % RH- Reading: | 59.80 | |
| RH Tolerance +/- 15% of difference: | 53.04 - 71.76 | 4.2% |

**ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK**

| WIND SPEED | | WIND DIRECTION | |
|---|---|---|---|
| Previous check date: | November 9, 2022 | Previous check date: | November 9, 2022 |
| Wind Speed Observed (kph): | 5~10 | Wind Direction Observed: | N |
| Wind speed on Data Logger (kph): | 6.6 | Wind Direction on Data Logger: | N |
| | | Wind Direction Pass/Fail?: | Pass |

Comments

No issues

# Meteorological Sensor Audit/Calibration

**Location Information**

| | | | |
|---|---|---|---|
| **Company:** | PRAMP | **Performed By:** | Limin Li |
| **Audit Location:** | 986C | **Reviewed By:** | Chris Wesson |
| **Audit Date:** | August 5, 2022 | **Start/End Time (mst):** | 09:37/10:32 |
| **Calibration Purpose:** | routine annual | **Weather Conditions:** | A few clouds |

**Wind Sensor Information**

| **Sensor ID Data:** | | **Sensor Outputs:** | |
|---|---|---|---|
| **Sensor Make:** | RM Young | **Velocity Voltage Output Range:** | n/a |
| **Sensor Model:** | 05305AQ | **Velocity Unit Output Range:** | 0-180 |
| **Serial #:** | 180340 | **Direction Voltage Output Range:** | n/a |
| **Previous Cal/Audit Date:** | July 3, 2021 | **Direction Unit Output Range:** | 0-360 |

**Wind Calibrator Information**

**Calibrator I.D. and Expiry Date:** RM Young 18802 id# CA03309 expires June 07, 2023

**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 | 18.3 | 18.3 | 1.007 |
| 2000 | 36.9 | 36.7 | 36.7 | 1.004 |
| 3000 | 55.3 | 55.1 | 55.1 | 1.003 |
| 4000 | 73.7 | 73.6 | 73.6 | 1.002 |
| 5000 | 92.2 | 92.0 | 92.0 | 1.002 |
| 6000 | 110.6 | 110.5 | 110.5 | 1.001 |
| 7000 | 129.0 | 128.9 | 128.9 | 1.001 |
| 8000 | 147.4 | 147.3 | 147.3 | 1.001 |
| 9000 | 165.9 | 165.8 | 165.8 | 1.000 |
| 10000 | 184.3 | 184.2 | 184.2 | 1.001 |
| | | **The audit meets AMD requirements.** | **Average Correction Factor=** | **1.002** |

**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 | 2 | 354 | 2.0 | 1.0 | 1.5 |
| 30 | 330 | 32 | 333 | -2.0 | -3.0 | 2.5 |
| 60 | 300 | 61 | 303 | -1.0 | -3.0 | 2.0 |
| 90 | 270 | 90 | 273 | 0.0 | -3.0 | 1.5 |
| 120 | 240 | 120 | 242 | 0.0 | -2.0 | 1.0 |
| 150 | 210 | 150 | 210 | 0.0 | 0.0 | 0.0 |
| 180 | 180 | 180 | 179 | 0.0 | 1.0 | 0.5 |
| 210 | 150 | 210 | 149 | 0.0 | 1.0 | 0.5 |
| 240 | 120 | 242 | 120 | -2.0 | 0.0 | 1.0 |
| 270 | 90 | 273 | 90 | -3.0 | 0.0 | 1.5 |
| 300 | 60 | 303 | 61 | -3.0 | -1.0 | 2.0 |
| 330 | 30 | 332 | 32 | -2.0 | -2.0 | 2.0 |
| 355 | 0 | 354 | 2 | 1.0 | 2.0 | 1.5 |
| **The audit meets AMD requirements.** | | | **Average Absolute Degrees Difference=** | | | **1.3** |

**Comments:**

Magnetic declination = 15Deg(E)

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring Calibration Report

## - RENO STATION-

## CAL-PRAMP-202212-01563

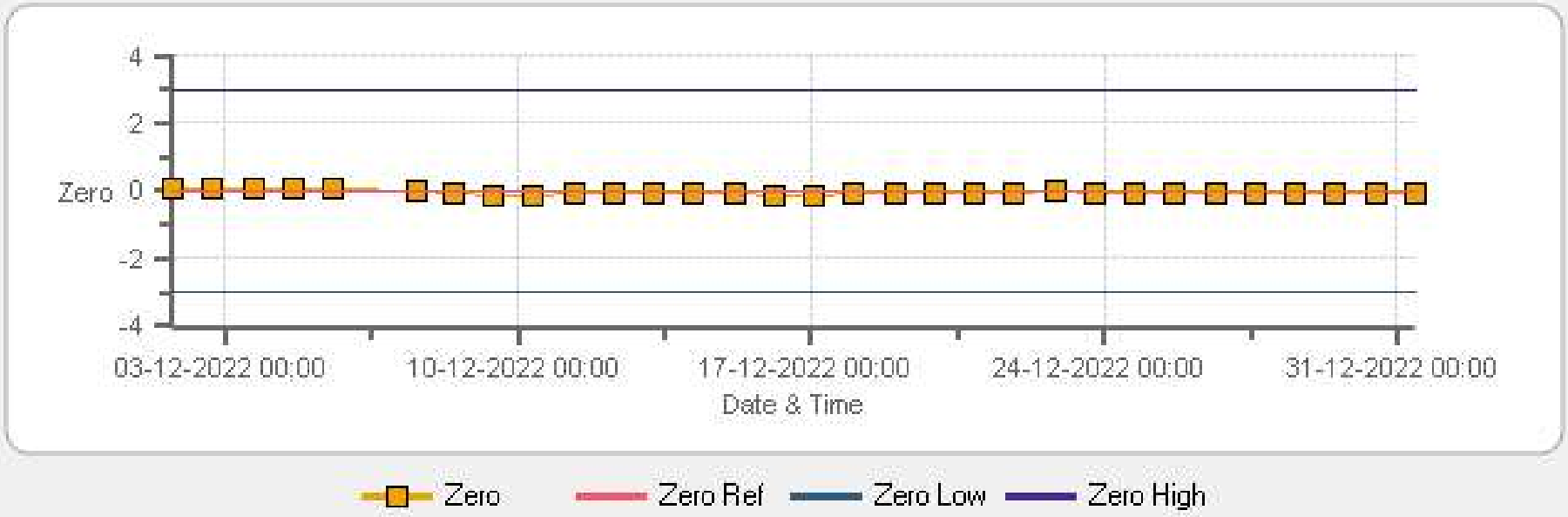
**Operation and Maintenance:**
Bureau Veritas Canada

**Data Validation and Report:**
Bureau Veritas Canada

January 19, 2023

# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

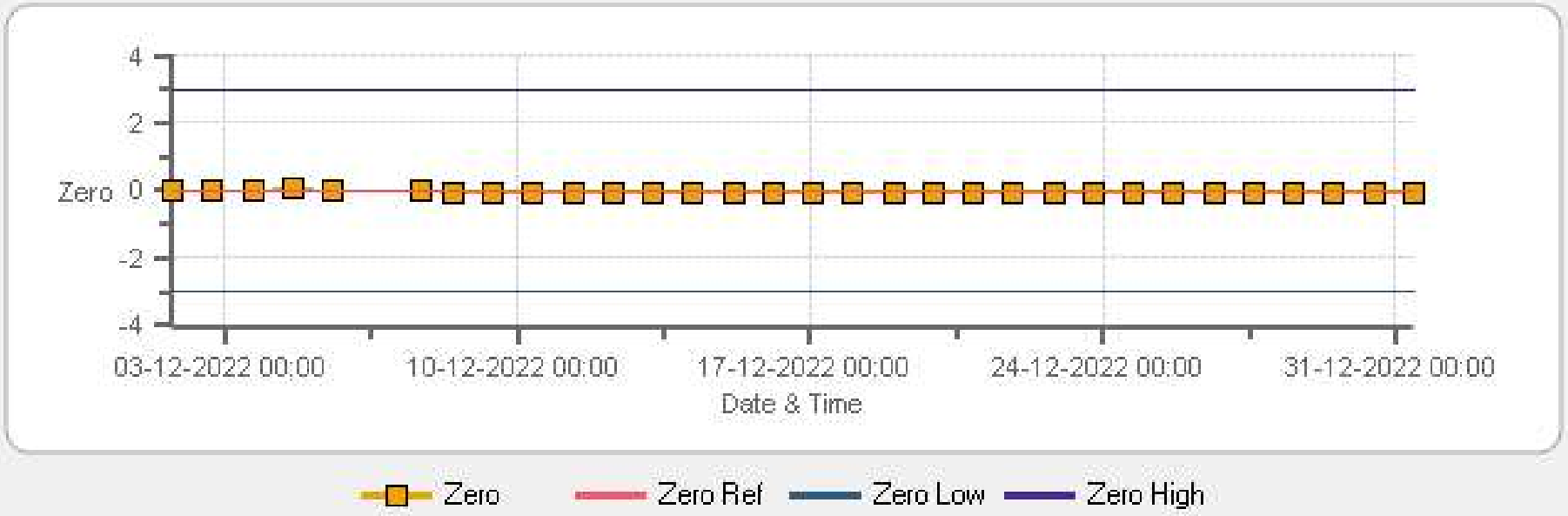
SO2[ppb] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Zero



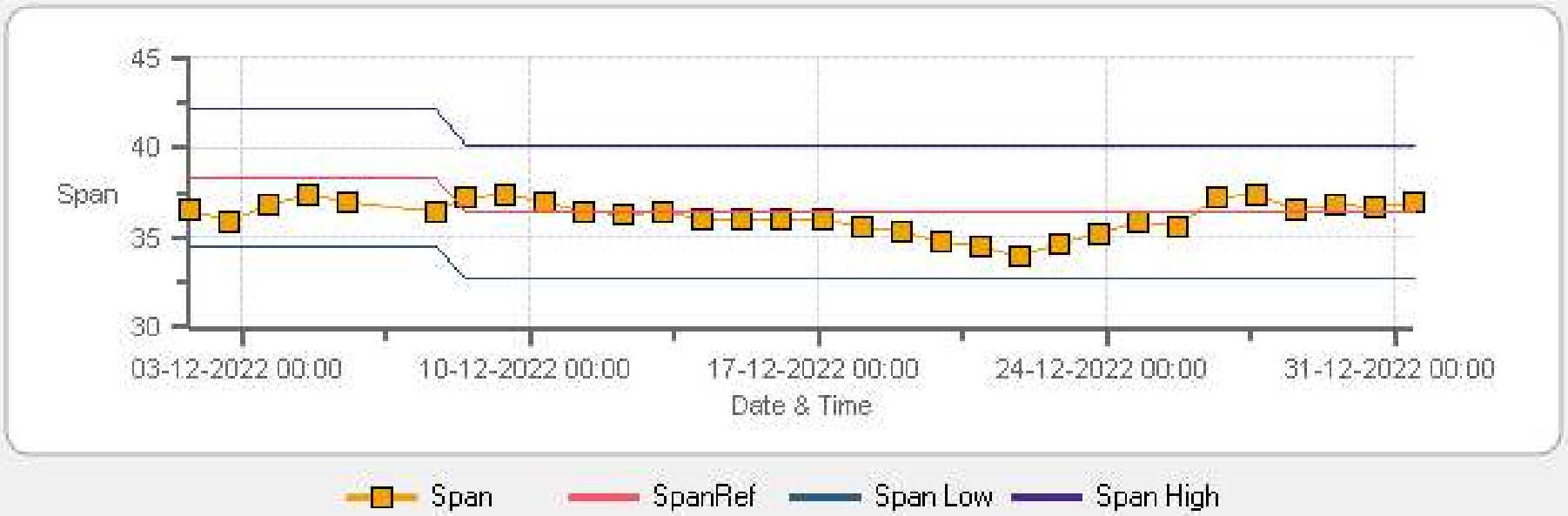

SO2[ppb] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Span



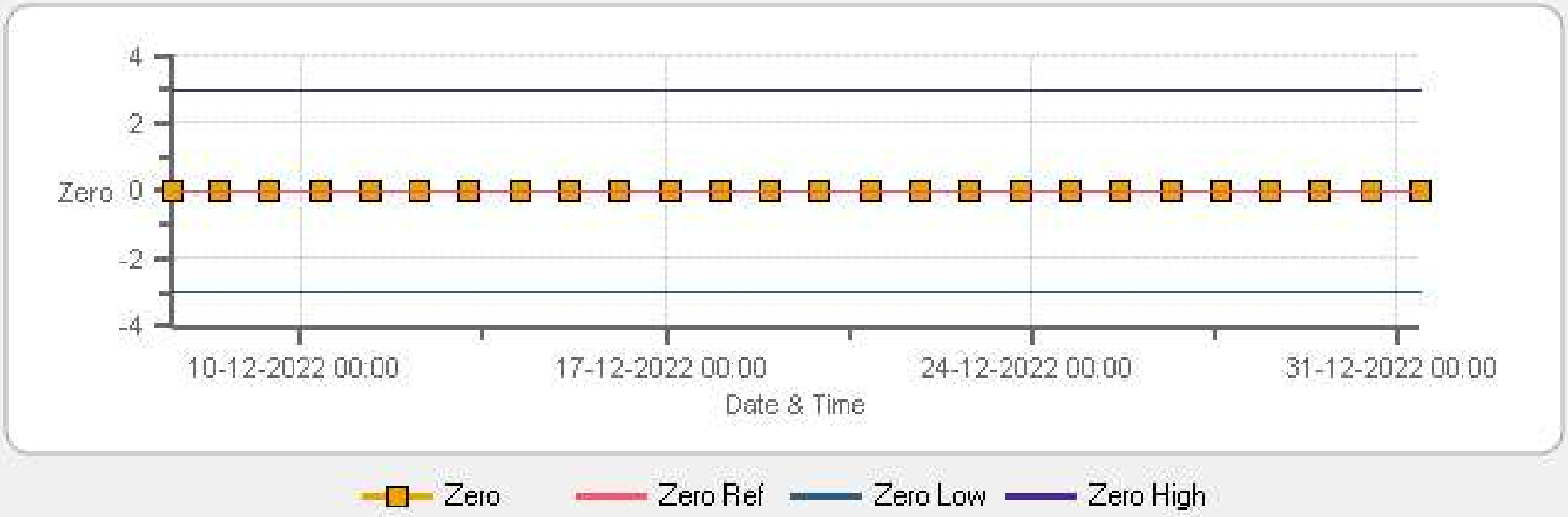
TRS[ppb] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Zero



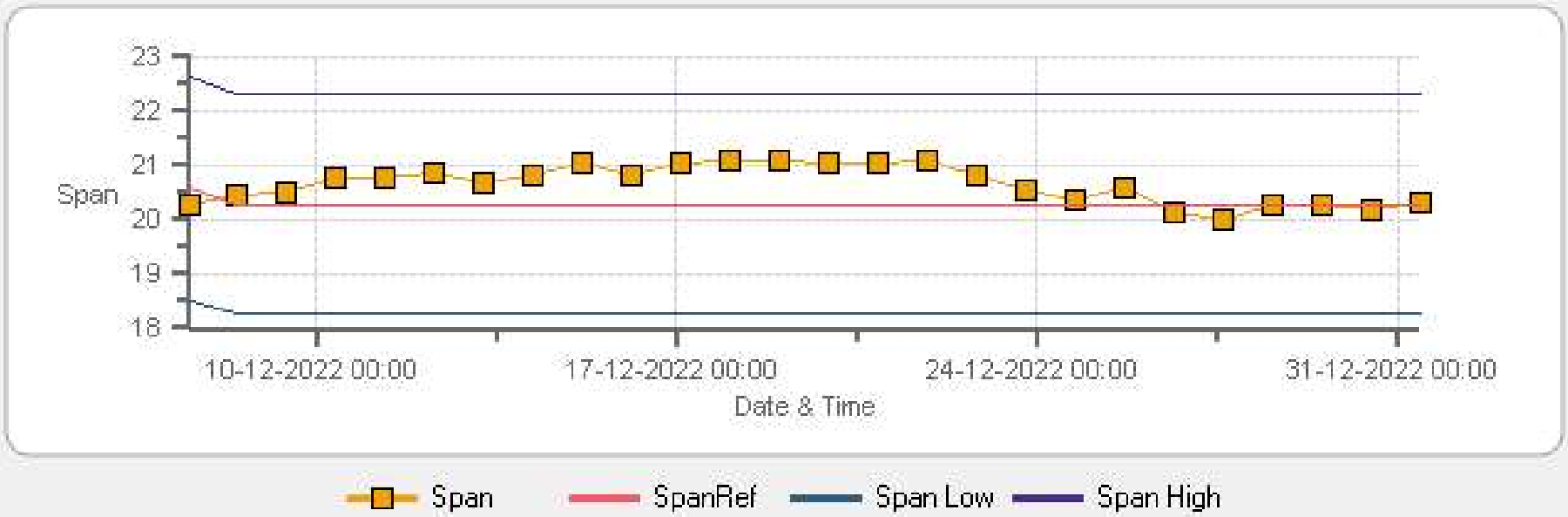

TRS[ppb] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Span



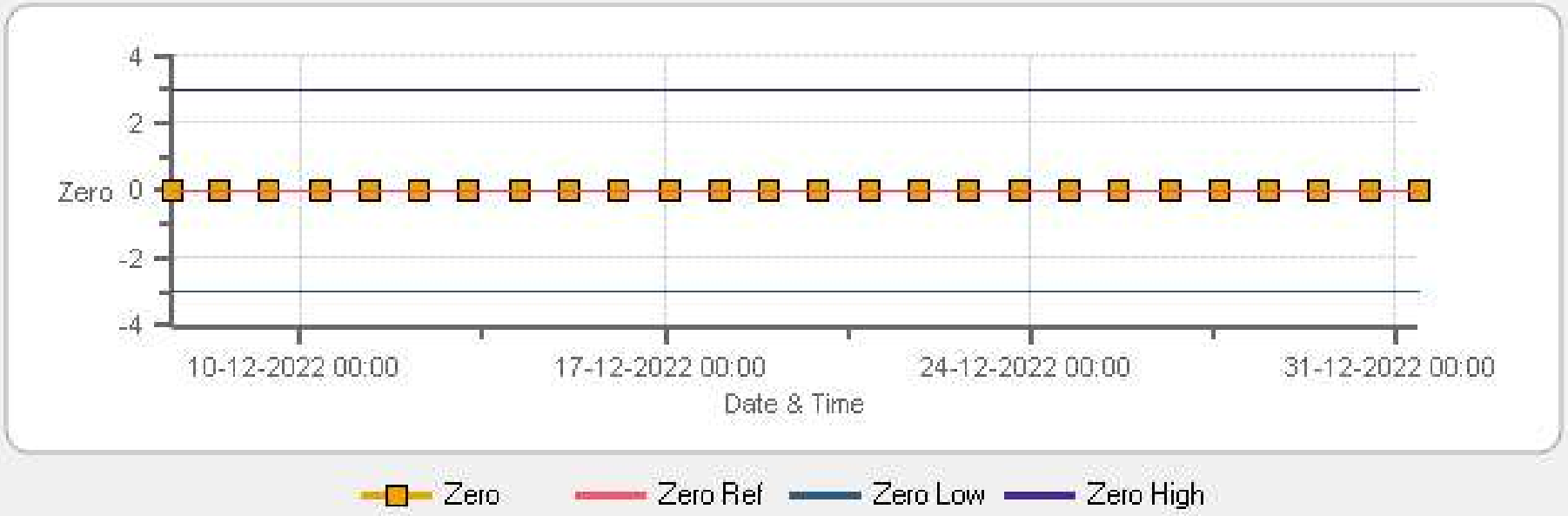
THC55[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Zero



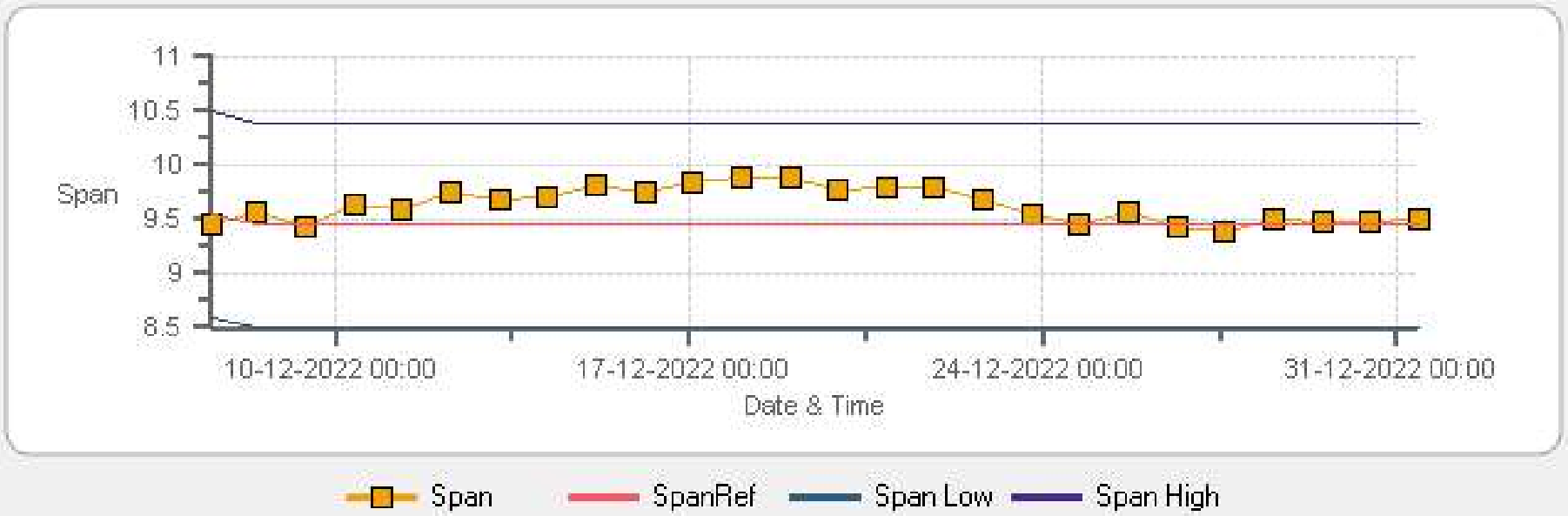

THC55[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Span



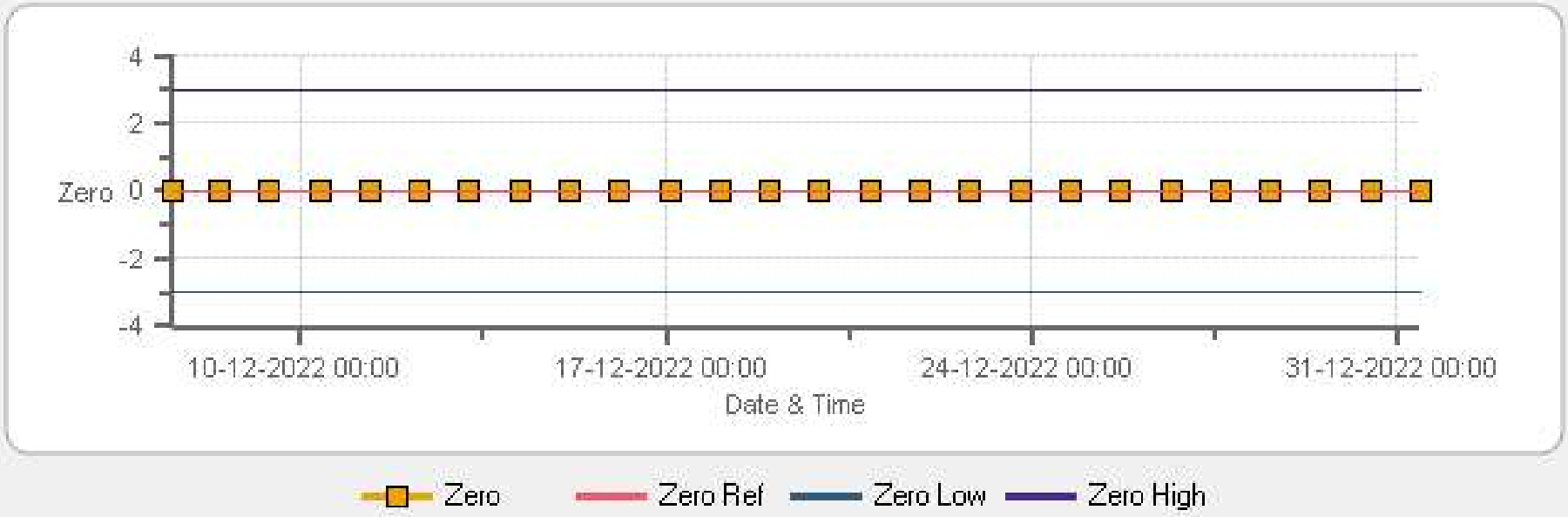
CH4[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Zero



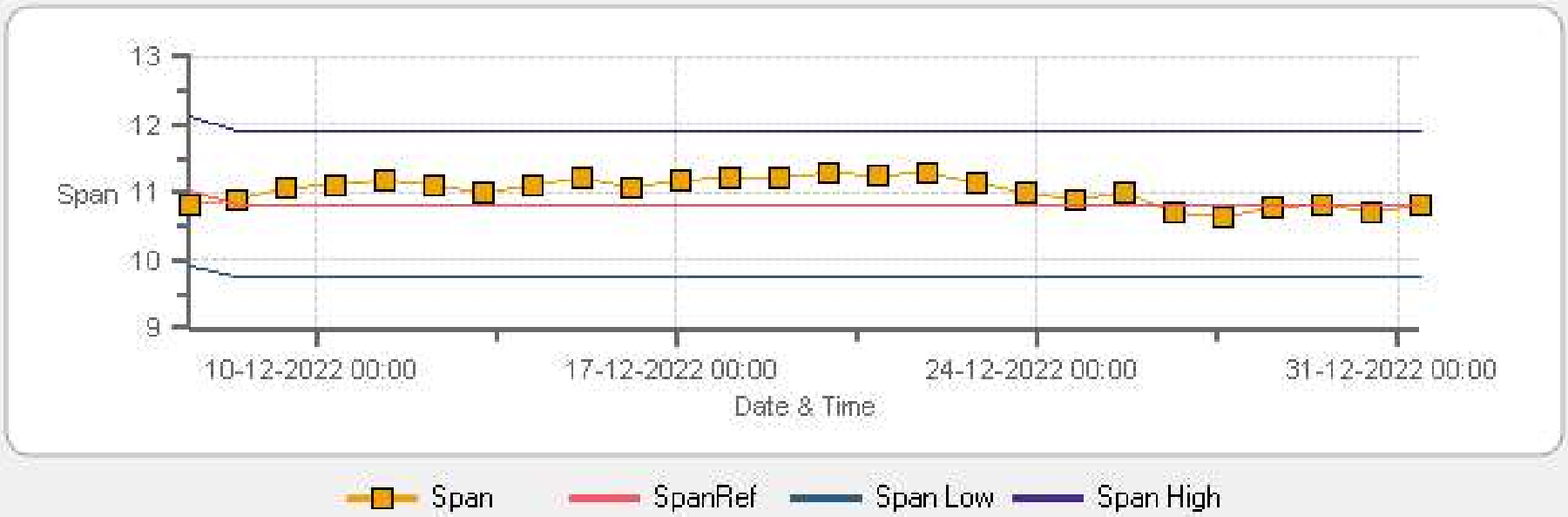

CH4[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Zero




NMHC[ppm] Calibration: PRAMP RENO-B Monthly: 12-2022 Type: SpanAndZero - Span



# MULTI-POINT CALIBRATION RECORDS

# SO2 Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 07-Dec-2022 | PREVIOUS CALIBRATION DATE: | 23-Nov-2022 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.1 |
| LOCATION: | Reno-B | BAROMETRIC (mBar): | 930 |
| PURPOSE | Routine | START TIME (MST): | 08:30 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 13:27 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 500 ppb |
| SERIAL # | 12101910505 | FLOW (mL/min) | 438 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 1 | BKG/OFFSET | 1.17 |
| COEF/SLOPE | 0.922 | COEF/SLOPE | 0.931 |
| Expected (reference) Value | 218.2 | Expected (reference) Value | 219.8 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0001923 | HIGH ID | n/a |
| CONC (ppm): | 25.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1700 | LOW ID | n/a |
| EXPIRY DATE | 02-Nov-2025 | EXPIRY DATE | n/a |

**CALIBRATION PARAMETERS:**

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

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

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

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4003 | | 4003 | 0.00 | 0 | 0 | | |
| 3940 | 60.60 | 4001 | 380.17 | 375.9 | 380.1 | 1.011 | 1.000 |
| 3970 | 28.70 | 3999 | 180.14 | n/a | 180.7 | n/a | 0.997 |
| 3990 | 14.30 | 4004 | 89.64 | n/a | 90.4 | n/a | 0.992 |

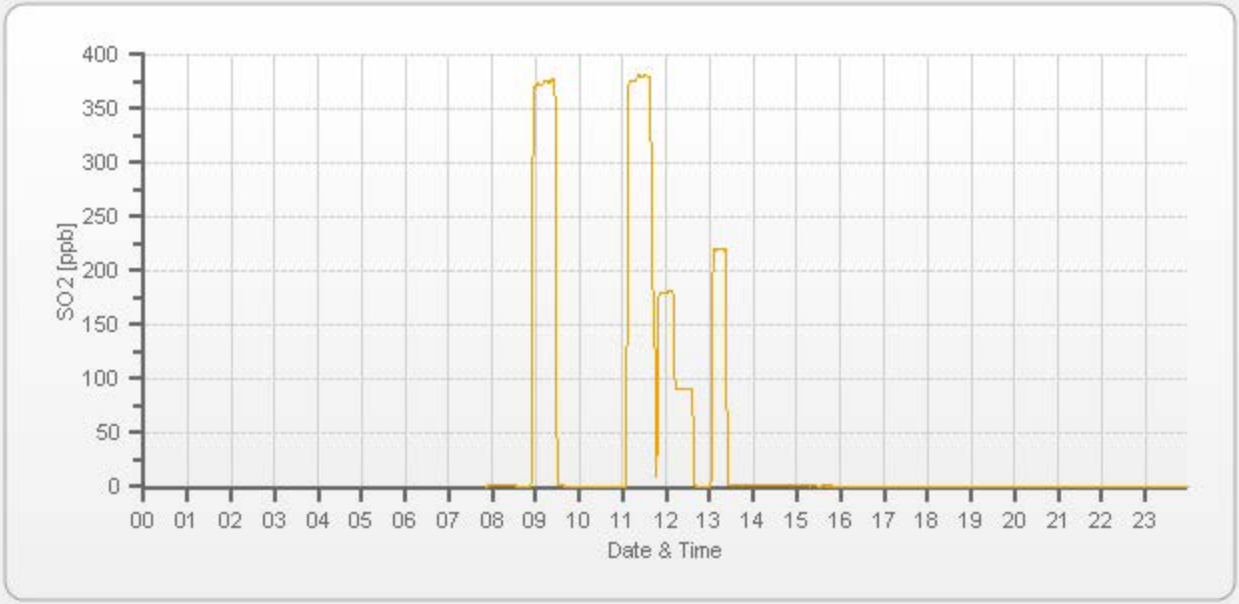
**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

sample filter changed
11:44-11:48 = calibrator error. Midpoint restarted.

SO2[ppb] Station: PRAMP RENO-B Daily: 07-12-2022 Type: AVG 1 Min. [1 Min.]



# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 07-Dec-2022 | PREVIOUS CALIBRATION DATE: | 23-Nov-2022 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.1 |
| LOCATION: | Reno-B | BAROMETRIC (mBar): | 930 |
| PURPOSE | Routine | START TIME (MST): | 08:30 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:41 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43iQTL | RANGE | 100 ppb |
| SERIAL # | 12101910504 | FLOW (mL/min) | 396 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 0.86 | BKG/OFFSET | 0.95 |
| COEF/SLOPE | 0.888 | COEF/SLOPE | 0.864 |
| Expected (reference) Value | 38.35 | Expected (reference) Value | 36.41 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1100 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 14:11 | SO2 Conc (ppb) | 380 |
| END TIME: | 14:26 | Analyzer Response (ppb) | 0.0 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4003 | | 4003 | 0.00 | 0.04 | 0 | | |
| 3968 | 33.20 | 4001 | 78.08 | 76.46 | 78.06 | 1.022 | 1.000 |
| 3989 | 16.20 | 4005 | 38.06 | n/a | 38.17 | n/a | 0.997 |
| 3990 | 8.10 | 3998 | 19.06 | n/a | 19.09 | n/a | 0.999 |

**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

TRS Converter CDNOVA CDN-101 #590.
11:44-11:48 = calibrator error. Midpoint restarted.
Fails at low on 1st attempt, then very slow to return to zero. Changed scrubber beads (13:22-13:36) and repeated calibration from adjusted zero.


TRS[ppb] Station: PRAMP RENO-B Daily: 07-12-2022 Type: AVG 1 Min. [1 Min.]
TRS [ppb]
90
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
TRS [ppb]

# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 07-Dec-2022 | PREVIOUS CALIBRATION DATE: | 23-Nov-2022 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 23.1 |
| LOCATION: | Reno | BAROMETRIC (mBar): | 930 |
| PURPOSE | Routine | START TIME (MST): | 08:30 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 13:18 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 12101910497 | 1072 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | 1.001 | 0.998 | 1.000 |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 900 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Aug-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.55 | 11.03 | 20.57 | | 9.45 | 10.83 | 20.28 |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3000 | | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | |
| 2927 | 72.00 | 2999 | 14.60 | 13.40 | 28.00 | 14.65 | 13.25 | 27.91 | 14.58 | 13.40 | 27.97 | 0.996 | 1.012 | 1.003 | 1.001 | 1.000 | 1.001 |
| 2963 | 36.00 | 2999 | 7.30 | 6.70 | 14.00 | n/a | n/a | n/a | 7.27 | 6.74 | 14.00 | n/a | n/a | n/a | 1.004 | 0.994 | 1.000 |
| 2982 | 18.00 | 3000 | 3.65 | 3.35 | 7.00 | n/a | n/a | n/a | 3.62 | 3.42 | 7.03 | n/a | n/a | n/a | 1.008 | 0.979 | 0.995 |

**LINEAR REGRESSION ANALYSIS:**

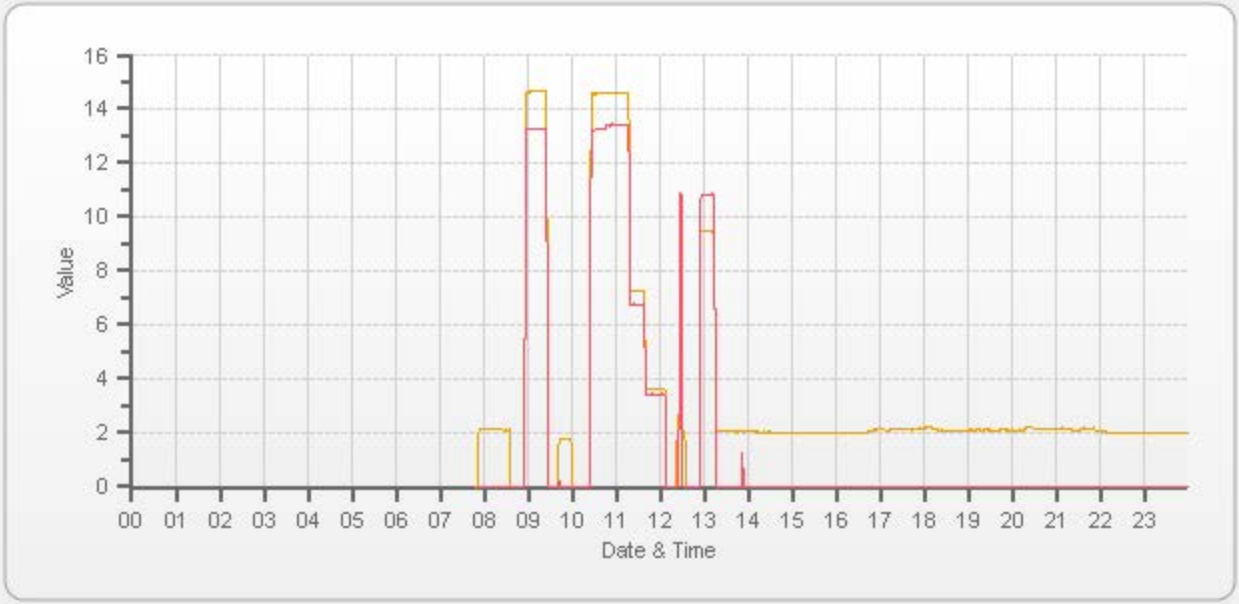
| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 0.999 | -0.1% |
| NMHC | 1.000 | 0.998 | 0.2% |
| THC | 1.000 | 0.999 | 0.0% |

**Comments:**

**09:42-09:59 = user error. Adjusted zero restarted.**

**Use Zero Chrom?** **No**

Station: PRAMP RENO-B Daily: 07-12-2022 Type: AVG 1 Min. [1 Min.]



# Meteorological System Checklist

| | | | |
|---|---|---|---|
| Date: | December 7, 2022 | | |
| Technician: | Chris Wesson | | |
| Station: | PRAMP Reno-B | | |
| **Unit:** | **Make:** | **Model:** | **Serial #:** |
| Precipitation Sampler: | RM Young | 52202 | TB 15877 |
| Temperature Sensor: | Rotronic | HC2-S3 | 20467597 |
| Barometric Pressure Sensor: | MetOne | 92 | A17940 |
| Relative Humidity Sensor: | Rotronic | HC2-S3 | 20467597 |
| Anemometer: | RM Young | 05305AQ | 174795 |

**PRECIPITATION SENSOR CHECK**

| **Checklist:** | **Reply:** | **Comments:** |
|---|---|---|
| Previous check date: | November 23, 2022 | Tip test 14:17-14:20 |
| Is the sensor Level? | yes | |
| Is the heater operating properly? | yes | |
| Are the bucket drain holes clean? | yes | |
| Is the screen on the housing? (screen should be on between July and September | no | |
| Is the housing clean? | yes | |
| Is the area around the housing clean and free from obstacles? | yes | |

**TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 ml)**

| **# of Tips** | **Data Logger Response (ml):** | **Manual Specification = +/- 0.1 ml** |
|---|---|---|
| **10** | 1.00 | |

**AMBIENT TEMPERATURE SENSOR CHECK**

| | |
|---|---|
| Previous check date: | November 23, 2022 |
| Parameter: | Temperature @ 2 metres |
| Reference Thermometer ID: | FS 160459244 expires June 14, 2023 |
| Reference Temperature ($^{o}$C): | -7.4 |
| Station - Ambient Temperature ($^{o}$C): | -7.1 |
| Temperature Difference ($^{o}$C): | -0.3 |

**BAROMETRIC PRESSURE SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 23, 2022 | |
| Reference Barometer ID: | Brunton 05535 expires Feb 22, 2023 | |
| Reference Pressure - Units/Reading: | millibar | 930.6 |
| Station Pressure - Units/Reading: | millibar | 930.5 |
| Pressure Tolerance +/- 15% of error: | 791 - 1070 | 0.01% |

**RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK**

| | | |
|---|---|---|
| Previous check date: | November 23, 2022 | |
| Reference Hygrometer ID: | FS 160459244 expires June 14, 2023 | |
| Reference Hygrometer % RH- Reading: | 73.10 | |
| Station Hygrometer % RH- Reading: | 71.10 | |
| RH Tolerance +/- 15% of difference: | 62.14 - 84.07 | 2.7% |

**ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK**

| WIND SPEED | | WIND DIRECTION | |
|---|---|---|---|
| Previous check date: | November 23, 2022 | Previous check date: | November 23, 2022 |
| Wind Speed Observed (kph): | 0~5 | Wind Direction Observed: | SE |
| Wind speed on Data Logger (kph): | 3.1 | Wind Direction on Data Logger: | SE |
| | | Wind Direction Pass/Fail?: | Pass |

Comments

No issues

# Meteorological Sensor Audit/Calibration

**Location Information**

| | | | |
|---|---|---|---|
| **Company:** | PRAMP | **Performed By:** | Chris Wesson |
| **Audit Location:** | Reno-B | **Reviewed By:** | Limin Li |
| **Audit Date:** | November 23, 2022 | **Start/End Time (mst):** | 15:40 / 16:44 |
| **Calibration Purpose:** | installation | **Weather Conditions:** | Mainly cloudy with clear breaks |

**Wind Sensor Information**

| **Sensor ID Data:** | | **Sensor Outputs:** | |
|---|---|---|---|
| **Sensor Make:** | RM Young | **Velocity Voltage Output Range:** | n/a |
| **Sensor Model:** | 05305AQ | **Velocity Unit Output Range:** | 0-200 |
| **Serial #:** | 174795 | **Direction Voltage Output Range:** | n/a |
| **Previous Cal/Audit Date:** | n/a | **Direction Unit Output Range:** | 0-360 |

**Wind Calibrator Information**

**Calibrator I.D. and Expiry Date:** RM Young 18802 id# R9133 expires Oct 18, 2024

**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 | 18.3 | 18.3 | 1.007 |
| 2000 | 36.9 | 36.7 | 36.7 | 1.004 |
| 3000 | 55.3 | 55.1 | 55.1 | 1.003 |
| 4000 | 73.7 | 73.6 | 73.6 | 1.002 |
| 5000 | 92.2 | 92.0 | 92.0 | 1.002 |
| 6000 | 110.6 | 110.5 | 110.5 | 1.001 |
| 7000 | 129.0 | 128.9 | 128.9 | 1.001 |
| 8000 | 147.4 | 147.3 | 147.3 | 1.001 |
| 9000 | 165.9 | 165.8 | 165.8 | 1.000 |
| 10000 | 184.3 | 184.2 | 184.2 | 1.001 |
| | | **The audit meets AMD requirements.** | **Average Correction Factor=** | **1.002** |

**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 | 28 | 327 | 2.0 | 3.0 | 2.5 |
| 60 | 300 | 58 | 298 | 2.0 | 2.0 | 2.0 |
| 90 | 270 | 89 | 271 | 1.0 | -1.0 | 1.0 |
| 120 | 240 | 119 | 238 | 1.0 | 2.0 | 1.5 |
| 150 | 210 | 149 | 208 | 1.0 | 2.0 | 1.5 |
| 180 | 180 | 179 | 178 | 1.0 | 2.0 | 1.5 |
| 210 | 150 | 208 | 149 | 2.0 | 1.0 | 1.5 |
| 240 | 120 | 237 | 119 | 3.0 | 1.0 | 2.0 |
| 270 | 90 | 267 | 89 | 3.0 | 1.0 | 2.0 |
| 300 | 60 | 297 | 58 | 3.0 | 2.0 | 2.5 |
| 330 | 30 | 329 | 28 | 1.0 | 2.0 | 1.5 |
| 355 | 0 | 353 | 0 | 2.0 | 0.0 | 1.0 |
| **The audit meets AMD requirements.** | | | **Average Absolute Degrees Difference=** | | | **1.7** |

**Comments:**

Declination = 15 deg East
Output via RMY 32400 serial interface

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring Calibration Report

## - AQHI - GRIMSHAW STATION-

## CAL-PRAMP-202212-01689

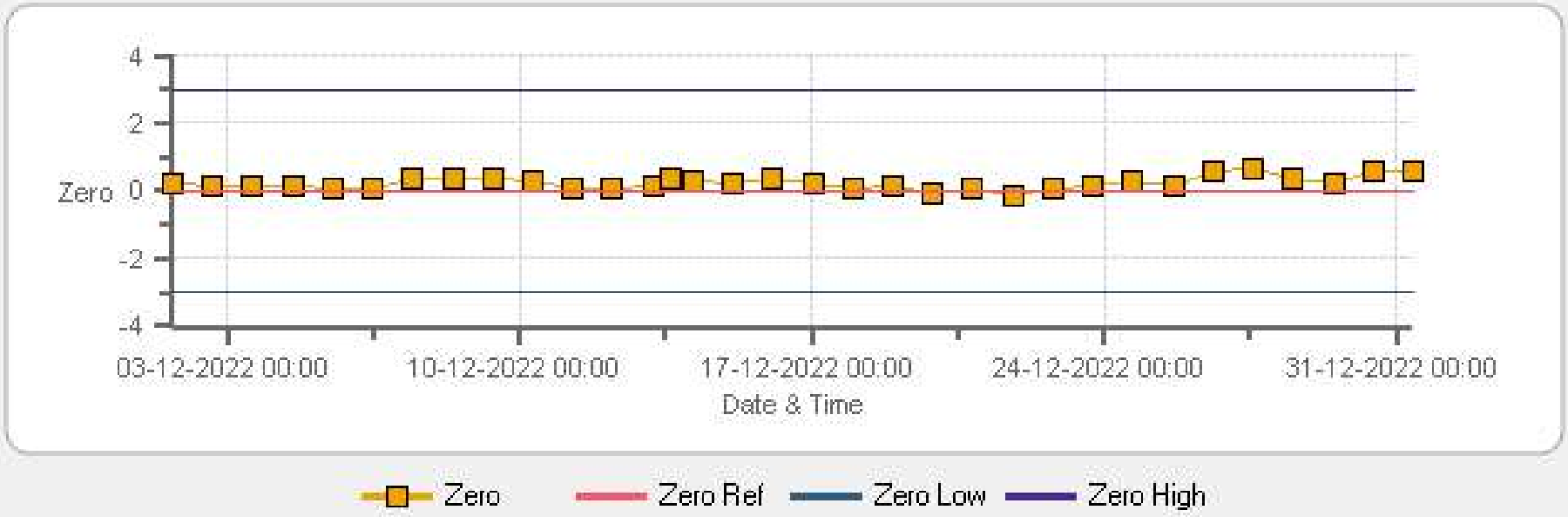
**Operation and Maintenance:**
Bureau Veritas Canada

**Data Validation and Report:**
Bureau Veritas Canada

January 17, 2023

# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

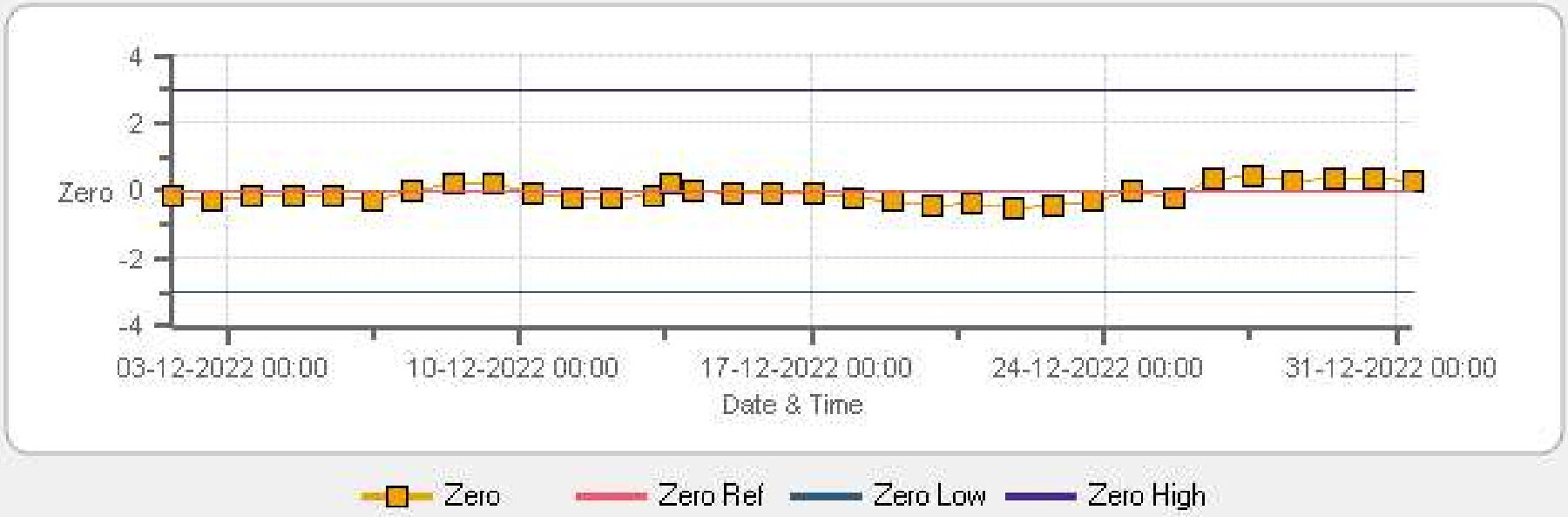
SO2[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero



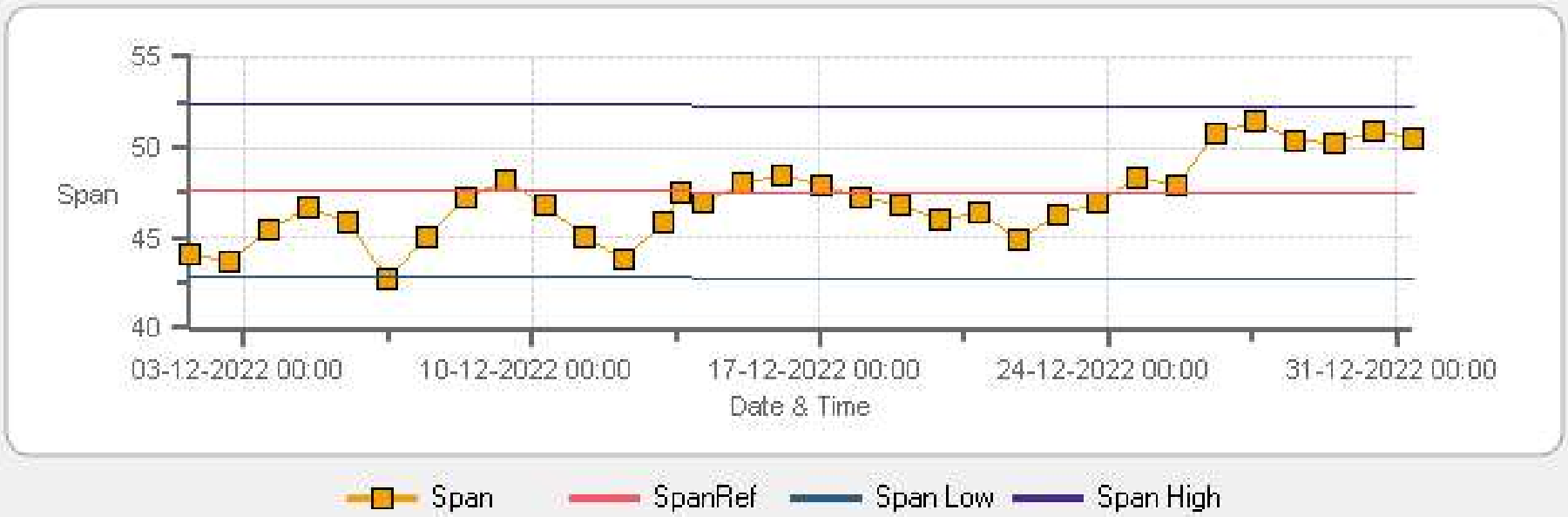

SO2[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span



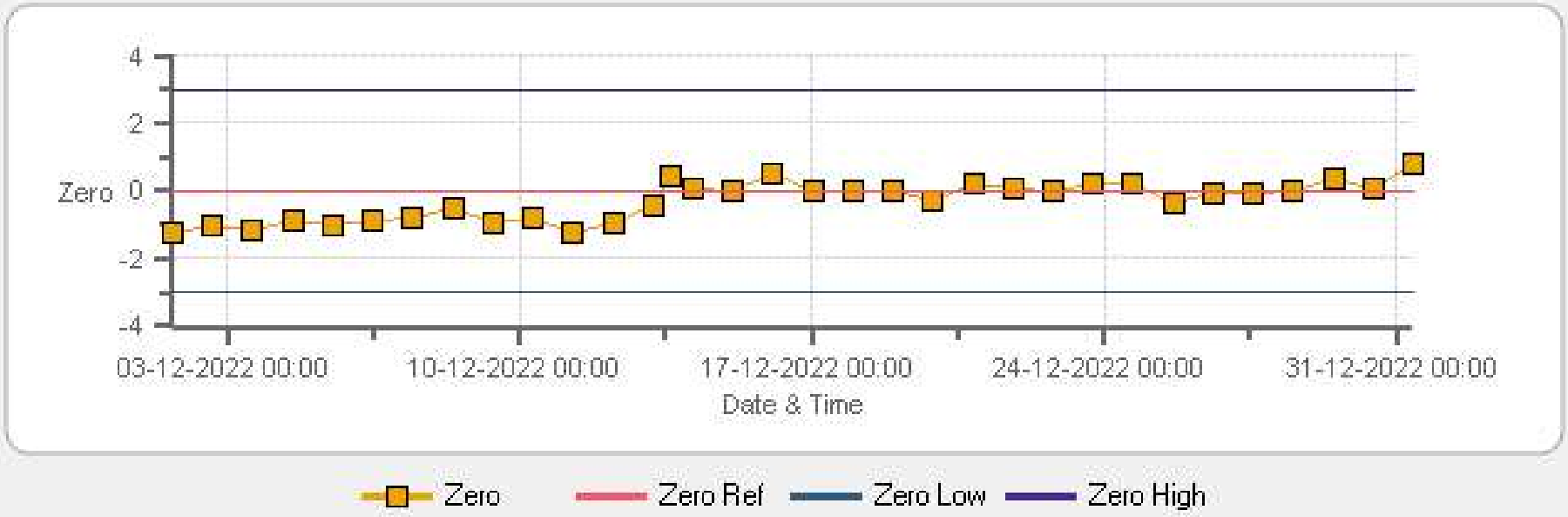
TRS[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero




TRS[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span



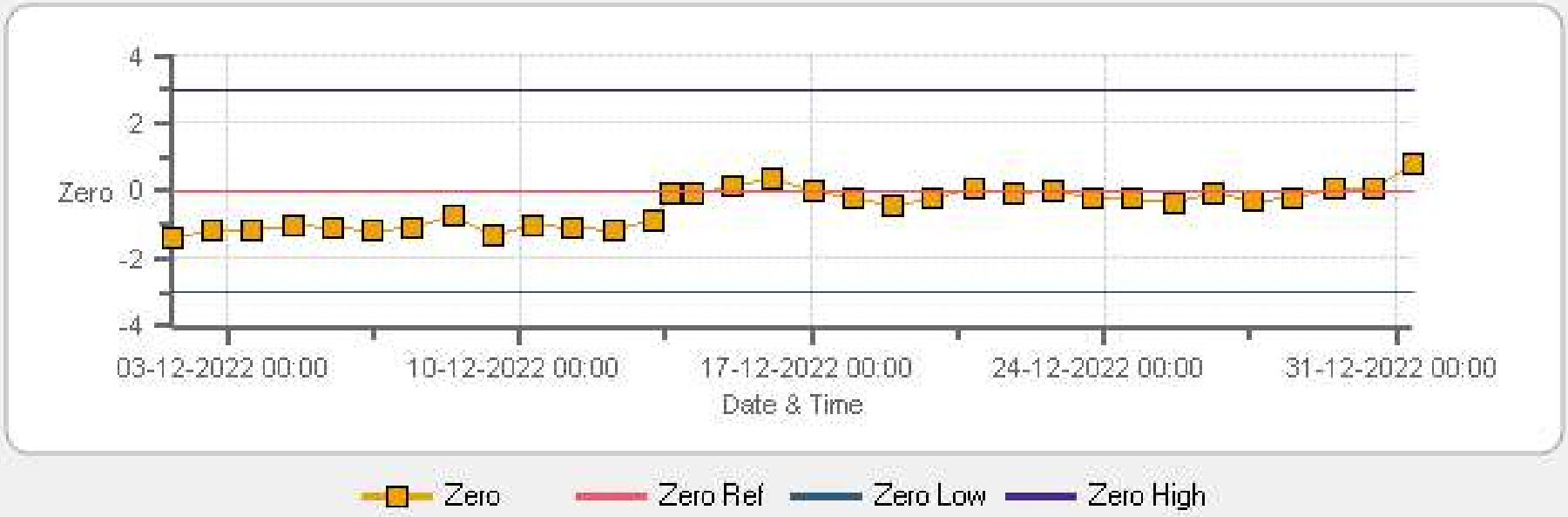
NOX[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero



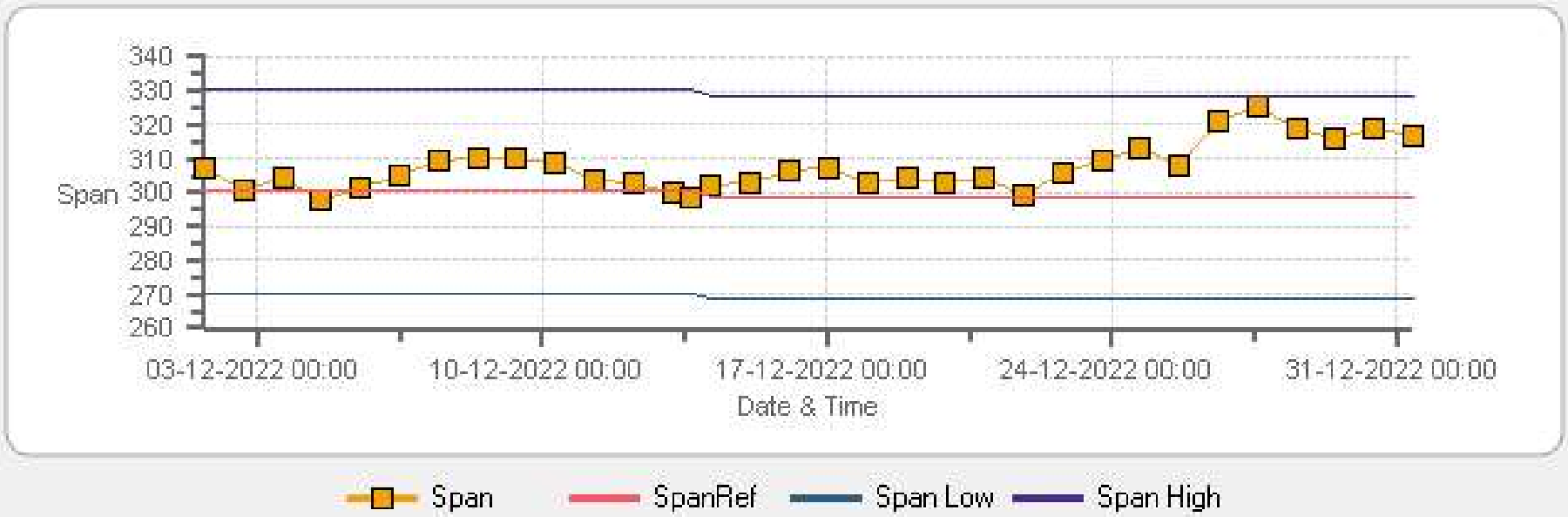

NOX[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span

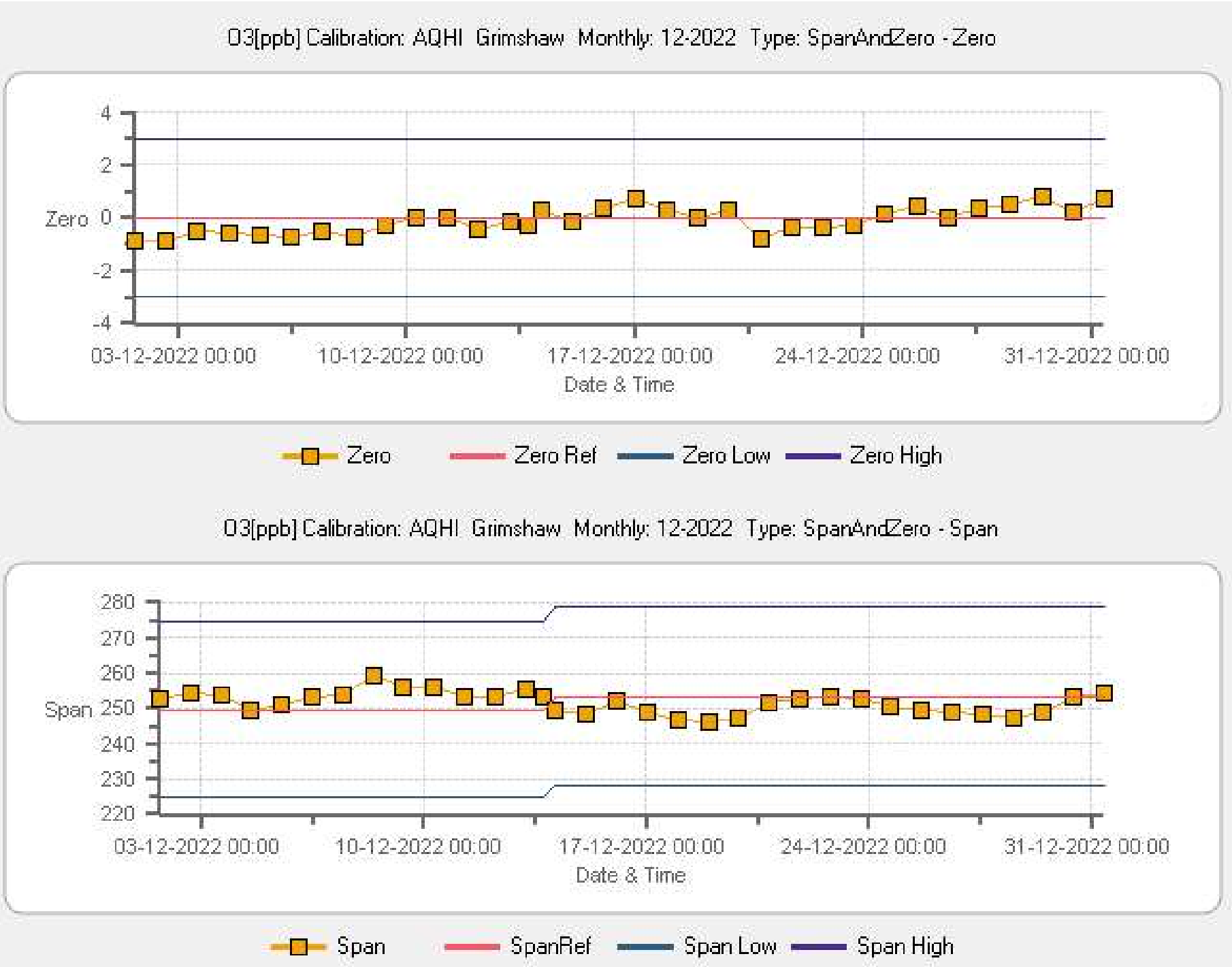


NO2[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero

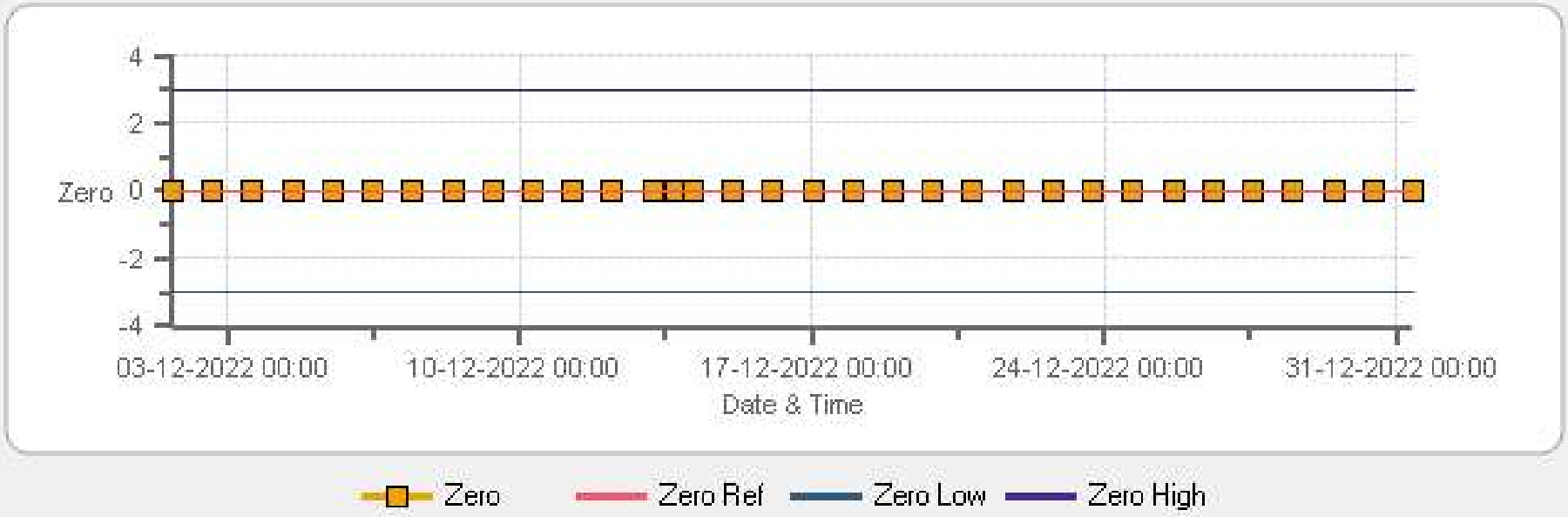



NO2[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span

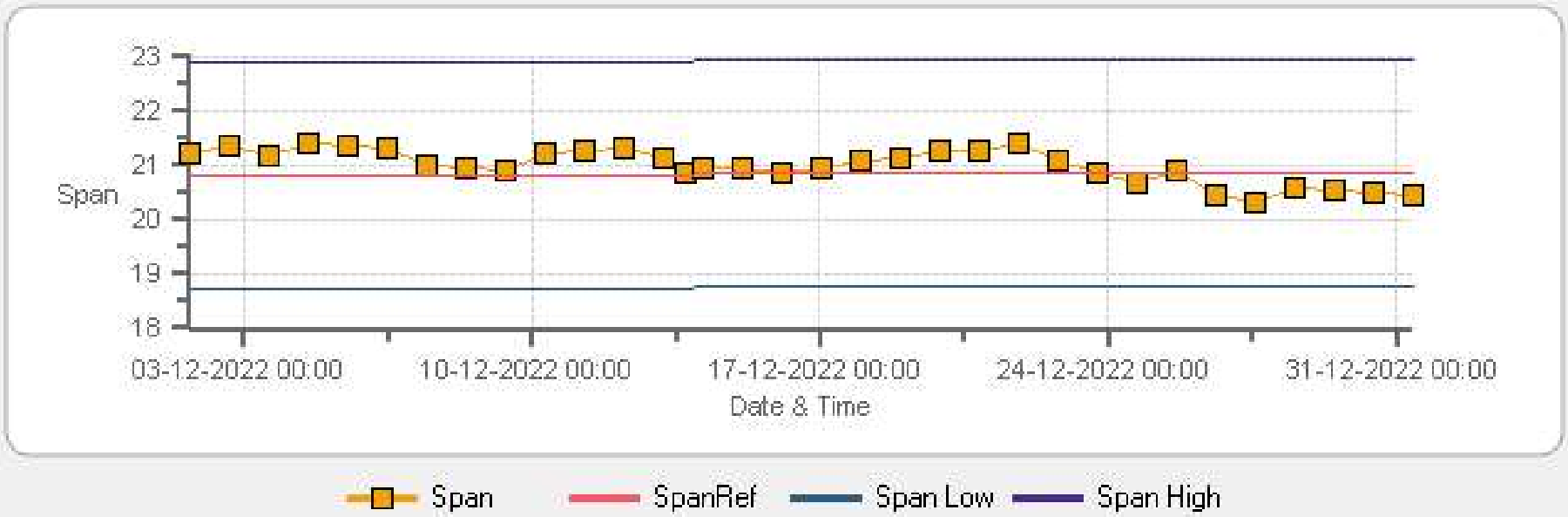



O3[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
03-12-2022 00:00
10-12-2022 00:00
17-12-2022 00:00
24-12-2022 00:00
31-12-2022 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
O3[ppb] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span
280
270
260
Span 250
240
230
220
03-12-2022 00:00
10-12-2022 00:00
17-12-2022 00:00
24-12-2022 00:00
31-12-2022 00:00
Date & Time
Span
SpanRef
Span Low
Span High

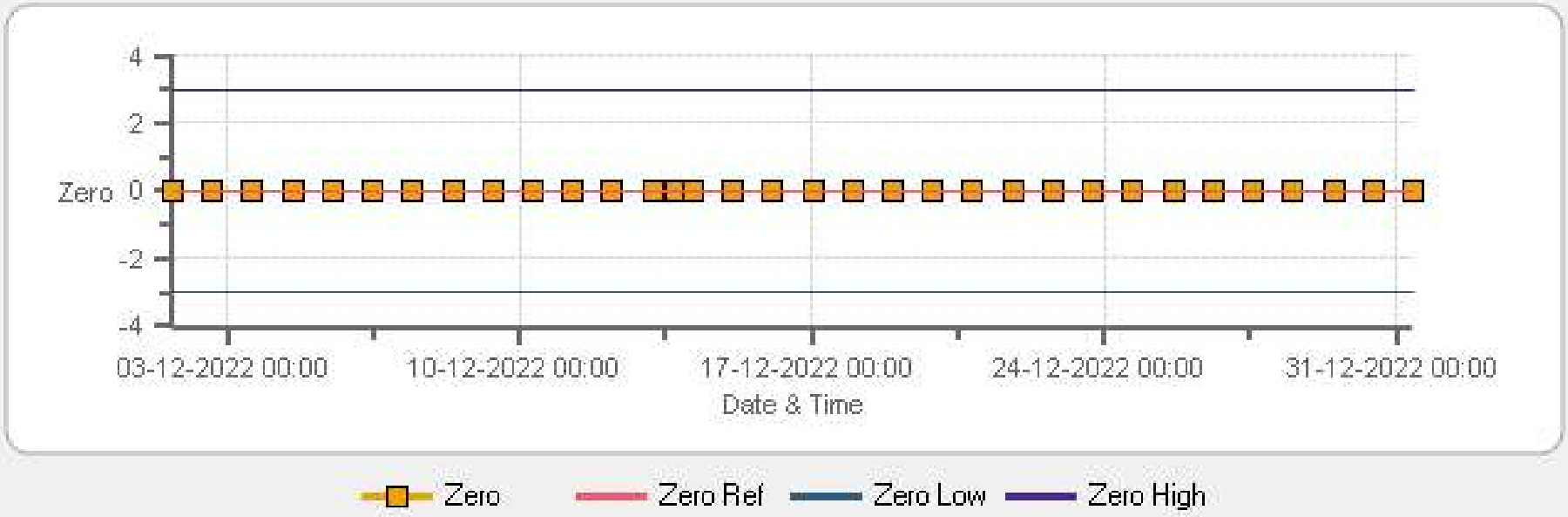
THC55[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero



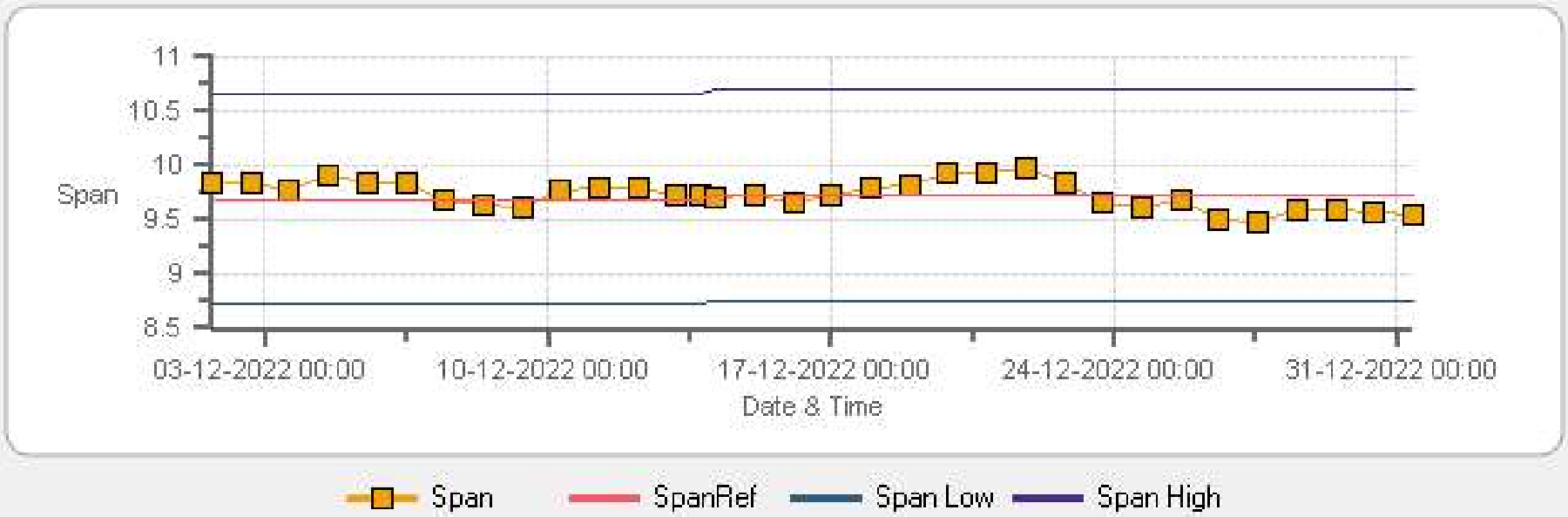

THC55[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span



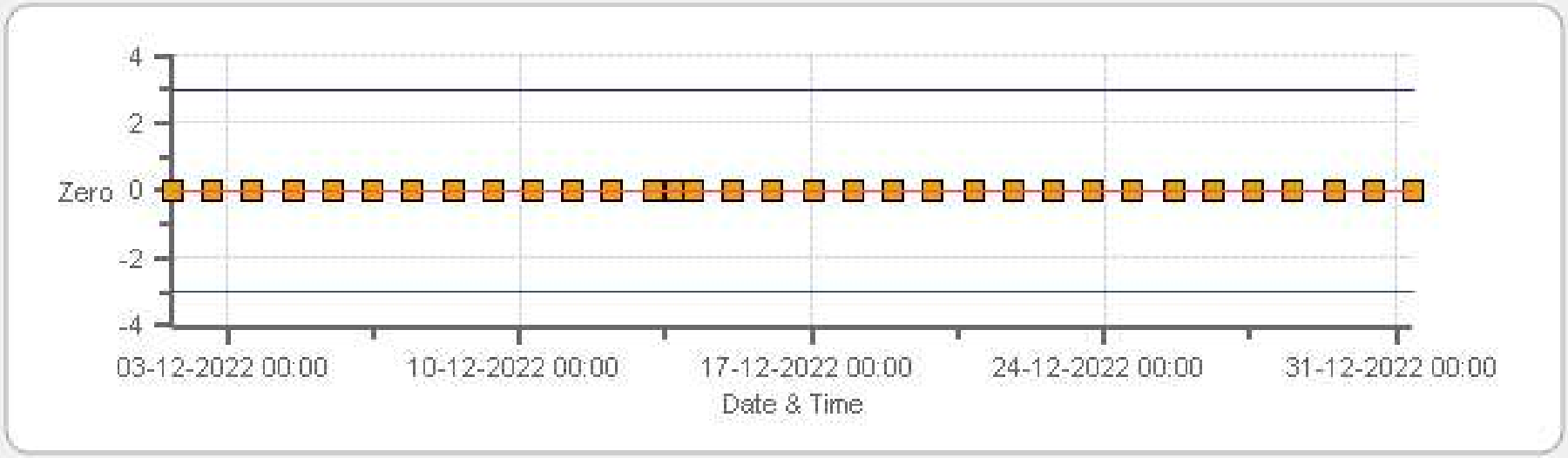
CH4[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero



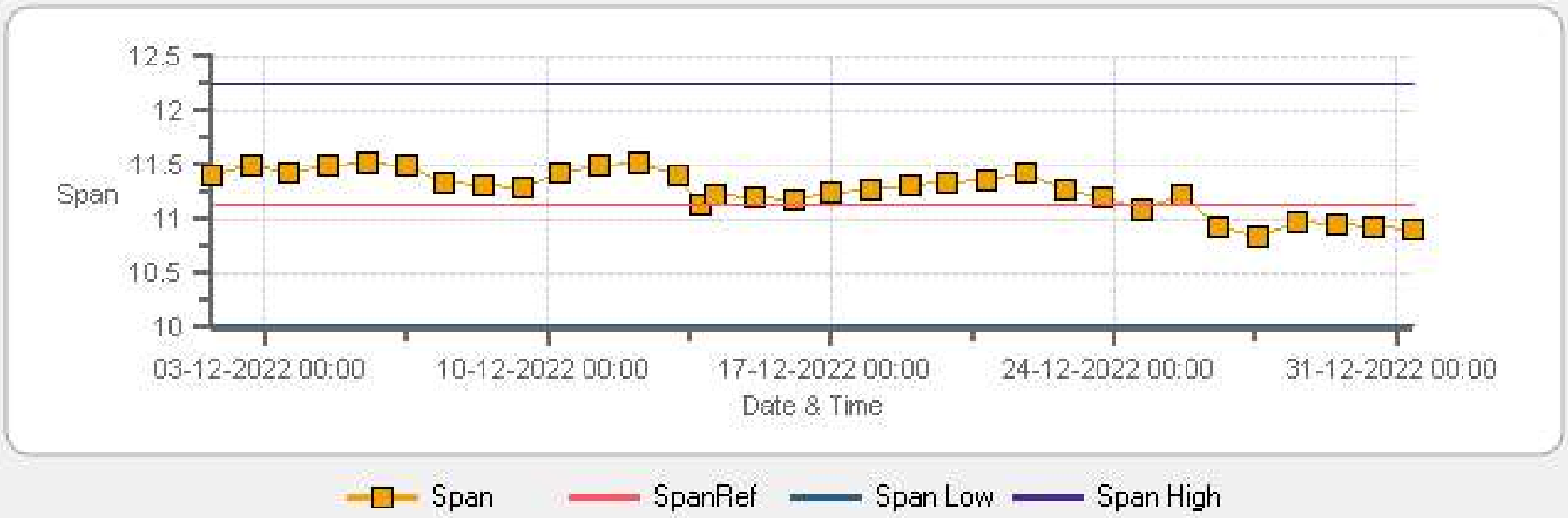

CH4[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span



NMHC[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Zero




NMHC[ppm] Calibration: AQHI Grimshaw Monthly: 12-2022 Type: SpanAndZero - Span



# MULTI-POINT CALIBRATION RECORDS

# SO2 Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | 24-Nov-2022 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.2 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 938 |
| PURPOSE | Routine | START TIME (MST): | 11:03 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:04 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Teledyne T100 | RANGE | 500 ppb |
| SERIAL # | 722 | FLOW (mL/min) | 525 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 27.9 | BKG/OFFSET | 27.6 |
| COEF/SLOPE | 0.922 | COEF/SLOPE | 0.922 |
| Expected (reference) Value | 266.2 | Expected (reference) Value | 262.5 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0001923 | HIGH ID | n/a |
| CONC (ppm): | 25.1 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1700 | LOW ID | n/a |
| EXPIRY DATE | 02-Nov-2025 | EXPIRY DATE | n/a |

**CALIBRATION PARAMETERS:**

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

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

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

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4000 | | 4000 | 0.00 | 0.2 | 0 | | |
| 3939 | 60.60 | 4000 | 380.27 | 378.4 | 380.5 | 1.005 | 0.999 |
| 3967 | 28.70 | 3996 | 180.27 | n/a | 179.2 | n/a | 1.006 |
| 3984 | 14.30 | 3998 | 89.78 | n/a | 89.9 | n/a | 0.999 |

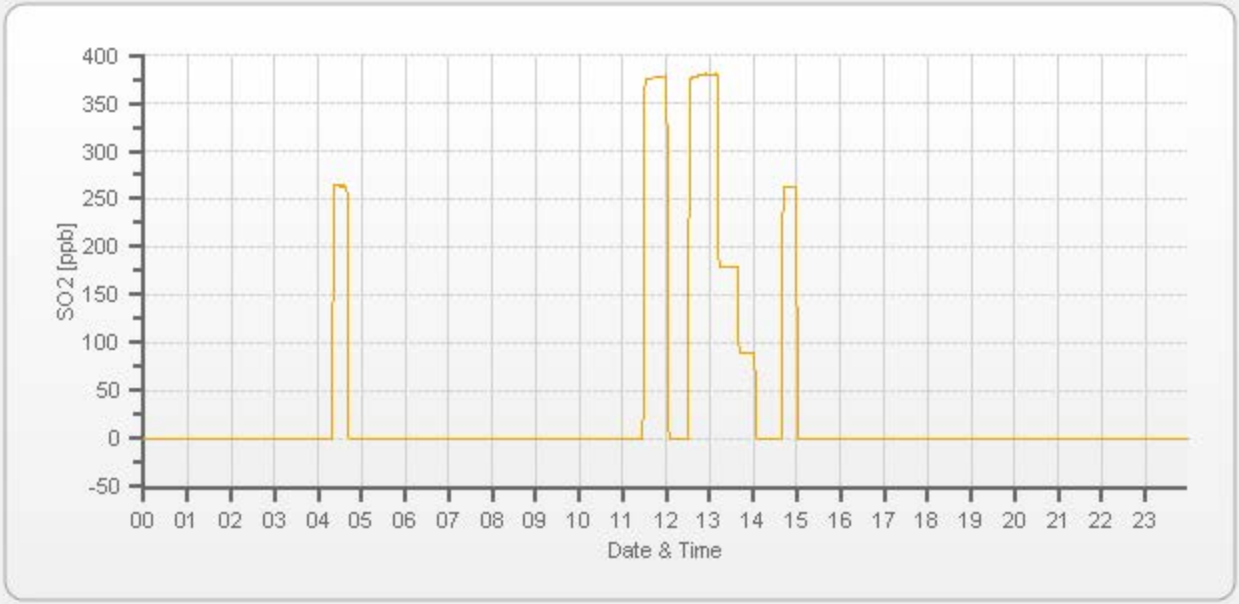
**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

Sample filter changed.

SO2[ppb] Station: AQHI Grimshaw Daily: 13-12-2022 Type: AVG 1 Min. [1 Min.]



# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | 24-Nov-2022 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 0.999 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.0 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 938 |
| PURPOSE | Removal/Shut-down | START TIME (MST): | 08:32 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 11:02 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Teledyne T100U | RANGE | 100 ppb |
| SERIAL # | 132 | FLOW (mL/min) | 513 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 29.1 | BKG/OFFSET | n/a |
| COEF/SLOPE | 1.179 | COEF/SLOPE | n/a |
| Expected (reference) Value | 47.68 | Expected (reference) Value | n/a |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 09:00 | SO2 Conc (ppb) | 380 |
| END TIME: | 09:15 | Analyzer Response (ppb) | 0.0 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4000 | | 4000 | 0.00 | -0.19 | n/a | | |
| 3964 | 33.10 | 3997 | 77.93 | 75.82 | n/a | 1.025 | n/a |
| 3982 | 16.20 | 3998 | 38.13 | 37.25 | n/a | 1.018 | n/a |
| 3990 | 8.10 | 3998 | 19.06 | 18.51 | n/a | 1.020 | n/a |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 0.975 | -0.1% |

**COMMENTS:**

Converter, CDNova CDN-101 #530
Shutdown to replace converter due to unstable temp

# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.4 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 939 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 12:05 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:04 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Teledyne T100U | RANGE | 100 ppb |
| SERIAL # | 132 | FLOW (mL/min) | 539 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 29.1 | BKG/OFFSET | 27.9 |
| COEF/SLOPE | 1.179 | COEF/SLOPE | 1.203 |
| Expected (reference) Value | 47.68 | Expected (reference) Value | 47.51 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 11:34 | SO2 Conc (ppb) | 380 |
| END TIME: | 11:49 | Analyzer Response (ppb) | 0.1 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4000 | | 4000 | 0.00 | n/a | 0 | | |
| 3967 | 33.10 | 4000 | 77.87 | n/a | 77.97 | n/a | 0.999 |
| 3980 | 16.20 | 3996 | 38.15 | n/a | 37.54 | n/a | 1.016 |
| 3990 | 8.10 | 3998 | 19.06 | n/a | 18.73 | n/a | 1.018 |

**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

Converter, CDNova CDN-101 #576
Exchanged converter, replaced scrubber beads


TRS[ppb] Station: AQHI Grimshaw Daily: 13-12-2022 Type: AVG 1 Min. [1 Min.]
TRS [ppb]
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
TRS [ppb]

# NOx Calibration by Dilution/Gas-Phase Titration

**CALIBRATION:**

| | | | | **ANALYZER:** | | | |
|---|---|---|---|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | 24-Nov-2022 | MAKE/MODEL: | Teledyne T200 | PREVIOUS CF. | |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.0 | SERIAL #: | 837 | NOx | 1.001 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 938 | FLOW (mL/min) | 442 | NO | 1.000 |
| PURPOSE | Routine | START TIME (MST): | 08:32 | RANGE (ppb) | 500 | NO2 | 1.001 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 15:04 | GPT FOR O3? | | Yes | |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | EY 0001013 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | NO/NOx (PPM): | 49.2 | 49.4 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 1800 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | n/a | EXPIRY DATE | 11-Nov-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION SETTINGS:**

| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
|---|---|---|---|---|---|---|---|
| BKG/OFFSET: | 2 | -0.6 | n/a | BKG/OFFSET: | 0.4 | -0.5 | n/a |
| SLOPE/COEF/CE: | 1.099 | 1.099 | 0.995 | SLOPE/COEF/CE: | 1.145 | 1.141 | 0.997 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
|---|---|---|---|---|---|---|---|
| | 303.3 | 3.0 | 300.4 | | 301.8 | 3.1 | 298.7 |

**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 (mL/min) | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 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 |
| 4998 | | 4998 | 0.0 | 0.0 | 0.0 | 0.1 | 0.9 | 0.7 | 0.0 | 0.0 | 0.0 | | | | | | |
| 4960 | 40.10 | 5000 | 394.6 | 396.2 | 1.6 | 380.9 | 382.1 | 1.2 | 394.7 | 395.5 | 0.8 | 1.036 | 1.039 | | 1.000 | 1.002 | |
| 4982 | 18.30 | 5000 | 180.1 | 180.8 | 0.7 | n/a | n/a | n/a | 180.2 | 180.9 | 0.7 | n/a | n/a | | 0.999 | 0.999 | |
| 4991 | 9.10 | 5000 | 89.5 | 89.9 | 0.4 | n/a | n/a | n/a | 89.0 | 89.9 | 0.9 | n/a | n/a | | 1.006 | 1.000 | |

**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 | 40.10 | 5000 | 0 | 393.4 | 395.5 | 2.1 | | | | |
| AS-FOUND HIGH | 40.10 | 5000 | 255 | 138.2 | 397.4 | 259.3 | 255.2 | 257.2 | 0.992 | 100.78% |
| ADJUSTED HIGH | 40.10 | 5000 | 255 | 136.5 | 394.8 | 258.3 | 256.9 | 256.2 | 1.003 | 99.73% |
| MID | 40.10 | 5000 | 155 | 238.4 | 394.5 | 156.1 | 155 | 154 | 1.006 | 99.35% |
| LOW | 40.10 | 5000 | 55 | 338.4 | 394.8 | 56.5 | 55 | 54.4 | 1.011 | 98.91% |
| NO2 COEF/CONVERTER EFFICIENCY ADJUSTED | | | | | | | | | AVERAGE: | 99.33% |

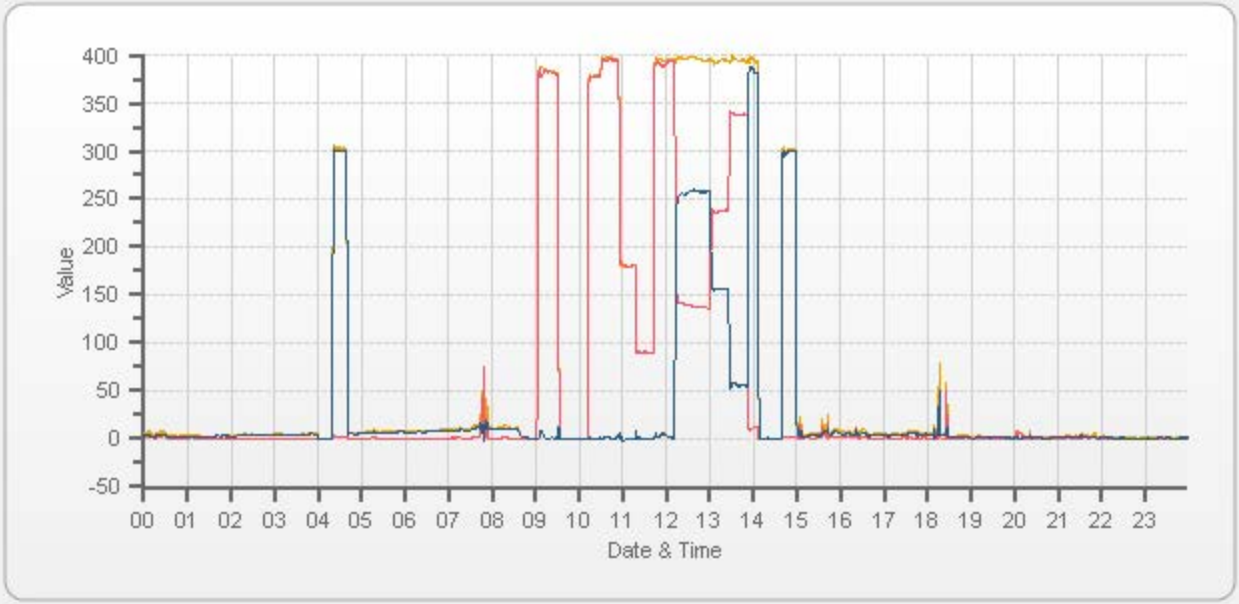
**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| NO | 1.000 | 1.001 | -0.04% |
| NOx | 1.000 | 0.998 | 0.03% |
| NO2 | 1.000 | 1.000 | -0.14% |

**COMMENTS:**

Extra GPT point for O3: Setpoint = 370, NO drop (O3) = 381.5

Station: AQHI Grimshaw Daily: 13-12-2022 Type: AVG 1 Min. [1 Min.]



# Ozone Calibration by Direct GPT

| | | | |
|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | 24-Nov-2022 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 0.999 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.1 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 940 |
| PURPOSE | Routine | START TIME (MST): | 14:23 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 17:55 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Teledyne T400 | RANGE | 500 ppb |
| SERIAL # | 824 | FLOW (mL/min) | 767 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -1.7 | BKG/OFFSET | -1.7 |
| COEF/SLOPE | 1.044 | COEF/SLOPE | 1.035 |
| Expected (reference) Value | 249.7 | Expected (reference) Value | 253.4 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 26701218 | ID: | 4568 |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | n/a |
| | CALIBRATION METHOD: | Direct GPT | |
| GPT DATE: | 13-Dec-2022 | GPT END TIME: | 14:10 |

**CALIBRATION PARAMETERS:**

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

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 5000 | | 5000 | 0.0 | -0.4 | 0.0 | | |
| 5000 | | 5000 | 381.5 | 386.2 | 381.3 | 0.987 | 1.001 |
| 5000 | | 5000 | 155.0 | n/a | 155.9 | n/a | 0.994 |
| 5000 | | 5000 | 55.0 | n/a | 55.5 | n/a | 0.991 |

**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

Sample filter changed


O3[ppb] Station: AQHI Grimshaw Daily: 13-12-2022 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
400
350
300
250
200
150
100
50
0
-50
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 13-Dec-2022 | PREVIOUS CALIBRATION DATE: | 24-Nov-2022 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 22.1 |
| LOCATION: | Grimshaw | BAROMETRIC (mBar): | 940 |
| PURPOSE | Routine | START TIME (MST): | 14:28 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 17:56 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 1191032505 | 1134 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | 1.001 | 0.998 | 0.999 |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 58100720 | ID: | 4568 | CYLINDER (psi): | 900 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 18-Aug-2029 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.69 | 11.14 | 20.83 | | 9.73 | 11.13 | 20.87 |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3252 | | 3252 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | |
| 3173 | 78.00 | 3251 | 14.59 | 13.39 | 27.98 | 14.80 | 13.78 | 28.58 | 14.58 | 13.39 | 27.97 | 0.986 | 0.972 | 0.979 | 1.001 | 1.000 | 1.000 |
| 3213 | 39.00 | 3252 | 7.29 | 6.69 | 13.99 | n/a | n/a | n/a | 7.34 | 6.75 | 14.10 | n/a | n/a | n/a | 0.993 | 0.992 | 0.992 |
| 3230 | 19.50 | 3249 | 3.65 | 3.35 | 7.00 | n/a | n/a | n/a | 3.71 | 3.43 | 7.13 | n/a | n/a | n/a | 0.984 | 0.977 | 0.982 |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 0.998 | 0.2% |
| NMHC | 1.000 | 0.998 | 0.2% |
| THC | 1.000 | 0.998 | 0.2% |

**Comments:**

**No issues**

**Use Zero Chrom?** **Yes**

Station: AQHI Grimshaw Daily: 13-12-2022 Type: AVG 1 Min. [1 Min.]



# Teledyne T640 Audit/Calibration

| | | | | | |
|---|---|---|---|---|---|
| **Date/Previous Audit Date:** | December 13, 2022 | November 24, 2022 | **Weather Conditions:** | Cloudy/Overcast | |
| **Company:** | PRAMP | | **Start Time (mst):** | 15:21 | |
| **Station:** | Grimshaw | | **End Time (mst):** | 15:50 | |
| **Parameter:** | PM 2.5 | | **Performed By/Reviewer:** | Chris Wesson | Limin Li |

**Instrument Data:**

| | | | |
|---|---|---|---|
| **Make/Model:** | Teledyne T640 | **Serial Number:** | 318 |
| **Owner:** | PRAMP | **Alarms (detail in comments):** | No |

**Reference Standards/I.D./Expiry Date:**

**Flow Standard:** DeltaCal DC1 S/N 206578 / Sept 21, 2023 **Temperature:** DeltaCal DC1 S/N 206578 / Sept 21, 2023

**Digital Manometer:** DeltaCal DC1 S/N 206578 / Sept 21, 2023 **Pressure:** DeltaCal DC1 S/N 206578 / Sept 21, 2023

**DIAGNOSTICS:**

| | | | | | |
|---|---|---|---|---|---|
| Ambient Pressure (mmHg) | 707.4 | Ambient Temp (°C) | 0.3 | ASC Heater Duty (%) | 0.0 |
| Box Temp (°C) | 26.3 | Current PMT HV (V) | 1536 | LED Temp (°C) | 34.46 |
| P3 Value | 48 | PMT Setting (V) | 1542 | Pump PWM (%) | 39 |
| Sample Flow (L/min) | 5.02 | Sample RH (%RH) | 16.9 | Sample Temp (°C) | 24.2 |

| **Item:** | **As-found** | | **As-left** | | **Tolerance** |
|---|---|---|---|---|---|
| | **Reference** | **T640x** | **Reference** | **T640x** | |
| Zero Test (Leak Check) | PM10 | 0.0 | 0 | 0.0 | 0.0 to 0.2 |
| | PM2.5 | 0.0 | 0 | 0.0 | |
| Ambient Pressure (mmHg) | 707.0 | 707.4 | n/a | n/a | +/- 10 mm Hg |
| Ambient Temperature (°C) | 0.50 | 0.3 | n/a | | +/- 2°C |
| Sample Flow (L/min) | 5.09 | 5 | 4.95 | 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 |

**Comments:**

No issues


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# Meteorological System Checklist

| | | | |
|---|---|---|---|
| Date: | December 13, 2022 | | |
| Technician: | Chris Wesson | | |
| Station: | PRAMP Grimshaw | | |
| **Unit:** | **Make:** | **Model:** | **Serial #:** |
| Temperature Sensor: | Vaisala | HMP155 | N2910506 |
| Barometric Pressure Sensor: | MetOne | 92 | A2397 |
| Relative Humidity Sensor: | Vaisala | HMP155 | N2910506 |
| Anemometer: | RM Young | 05305AQ | 174801 |
| **AMBIENT TEMPERATURE SENSOR CHECK** | | | |
| Previous check date: | November 24, 2022 | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | FS 160459244 expires June 14, 2023 | | |
| Reference Temperature (°C): | -0.4 | | |
| Station - Ambient Temperature (°C): | -0.2 | | |
| Temperature Difference (°C): | -0.2 | | |
| **BAROMETRIC PRESSURE SENSOR CHECK** | | | |
| Previous check date: | November 24, 2022 | | |
| Reference Barometer ID: | BRUNTON #05535, Expire: Feb 22, 2023 | | |
| Reference Pressure - Units/Reading: | millibar | 940.7 | |
| Station Pressure - Units/Reading: | millibar | 940.7 | |
| Pressure Tolerance +/- 15% of error: | 800 - 1082 | 0.00% | |
| **RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK** | | | |
| Previous check date: | November 24, 2022 | | |
| Reference Hygrometer ID: | FS 160459244 expires June 14, 2023 | | |
| Reference Hygrometer % RH- Reading: | 78.60 | | |
| Station Hygrometer % RH- Reading: | 77.20 | | |
| RH Tolerance +/- 15% of difference: | 66.81 - 90.39 | 1.8% | |
| **ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK** | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | November 24, 2022 | Previous check date: | November 24, 2022 |
| Wind Speed Observed (kph): | 10~20 | Wind Direction Observed: | W |
| Wind speed on Data Logger (kph): | 12.1 | Wind Direction on Data Logger: | W |
| | | Wind Direction Pass/Fail?: | Pass |

Comments

No issues

# Meteorological Sensor Audit/Calibration

**Location Information**

| | | | |
|---|---|---|---|
| **Company:** | Bureau Veritas | **Performed By:** | Ferdinand Roy |
| **Audit Location:** | Grimshaw | **Reviewed By:** | Chris Wesson |
| **Audit Date:** | July 12, 2022 | **Start/End Time (mst):** | 13:57 / 16:52 |
| **Calibration Purpose:** | routine annual | **Weather Conditions:** | Cloudy/Overcast |

**Wind Sensor Information**

| **Sensor ID Data:** | | **Sensor Outputs:** | |
|---|---|---|---|
| **Sensor Make:** | RM Young | **Velocity Voltage Output Range:** | n/a |
| **Sensor Model:** | 05305AQ | **Velocity Unit Output Range:** | 0-200 |
| **Serial #:** | 174801 | **Direction Voltage Output Range:** | n/a |
| **Previous Cal/Audit Date:** | n/a | **Direction Unit Output Range:** | 0-360 |

**Wind Calibrator Information**

**Calibrator I.D. and Expiry Date:** RM Young 18801 id# CA01648 expires August 6, 2022

**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 | 18.3 | 18.3 | 1.007 |
| 2000 | 36.9 | 36.7 | 36.7 | 1.004 |
| 3000 | 55.3 | 55.1 | 55.1 | 1.003 |
| 4000 | 73.7 | 73.6 | 73.6 | 1.002 |
| 5000 | 92.2 | 92.0 | 92.0 | 1.002 |
| 6000 | 110.6 | 110.5 | 110.5 | 1.001 |
| 7000 | 129.0 | 128.9 | 128.9 | 1.001 |
| 8000 | 147.4 | 147.3 | 147.3 | 1.001 |
| 9000 | 165.9 | 165.8 | 165.8 | 1.000 |
| 10000 | 184.3 | 184.2 | 184.2 | 1.001 |
| | | **The audit meets AMD requirements.** | **Average Correction Factor=** | **1.002** |

**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 | 0.2 | 0.8 | 0.5 |
| 30 | 330 | 27 | 331 | 3.3 | -0.6 | 2.0 |
| 60 | 300 | 56 | 300 | 3.8 | -0.3 | 2.1 |
| 90 | 270 | 87 | 268 | 2.8 | 1.9 | 2.3 |
| 120 | 240 | 117 | 236 | 3.3 | 4.0 | 3.7 |
| 150 | 210 | 147 | 204 | 2.6 | 5.6 | 4.1 |
| 180 | 180 | 177 | 175 | 3.3 | 4.6 | 4.0 |
| 210 | 150 | 207 | 145 | 3.1 | 4.8 | 4.0 |
| 240 | 120 | 238 | 115 | 2.4 | 5.0 | 3.7 |
| 270 | 90 | 270 | 85 | 0.3 | 5.1 | 2.7 |
| 300 | 60 | 300 | 57 | -0.3 | 3.1 | 1.7 |
| 330 | 30 | 330 | 26 | -0.3 | 3.6 | 2.0 |
| 355 | 0 | 354 | 0 | 0.8 | 0.1 | 0.5 |
| **The audit meets AMD requirements.** | | | **Average Absolute Degrees Difference=** | | | **2.5** |

**Comments:**

Output via RMY32400 serial interface

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring Calibration Report

## - PEACE RIVER COMPLEX (PRC) STATION-

## CAL-PRAMP-202212-01698

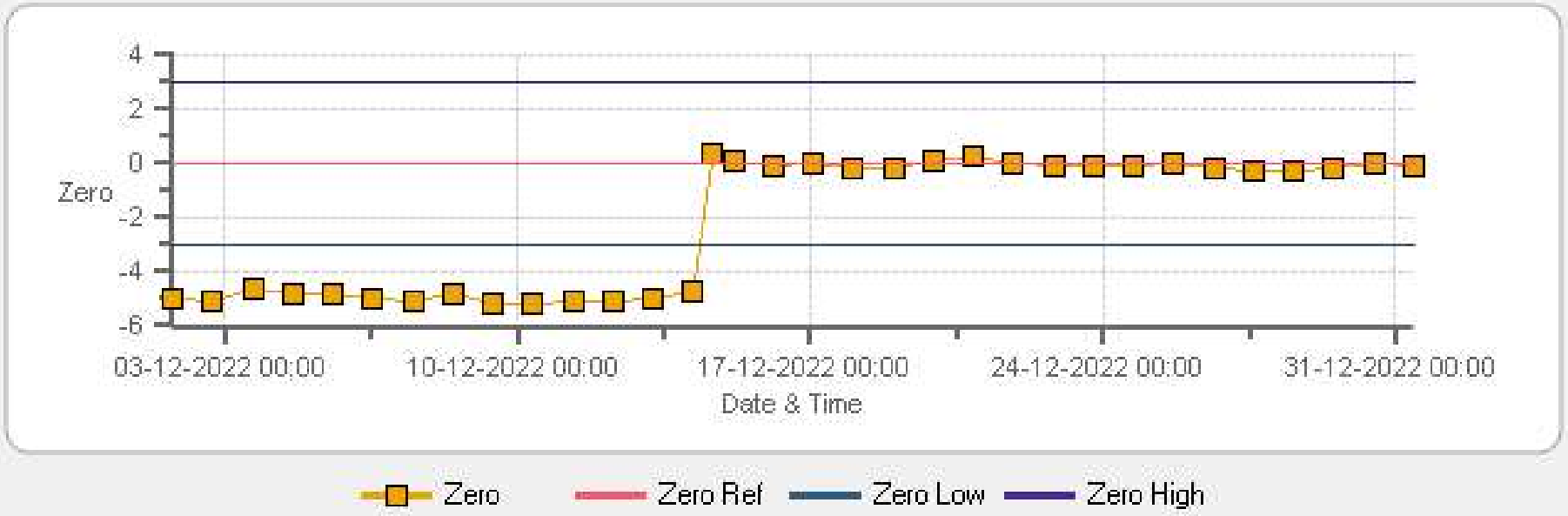
**Operation and Maintenance:**
Bureau Veritas Canada

**Data Validation and Report:**
Bureau Veritas Canada

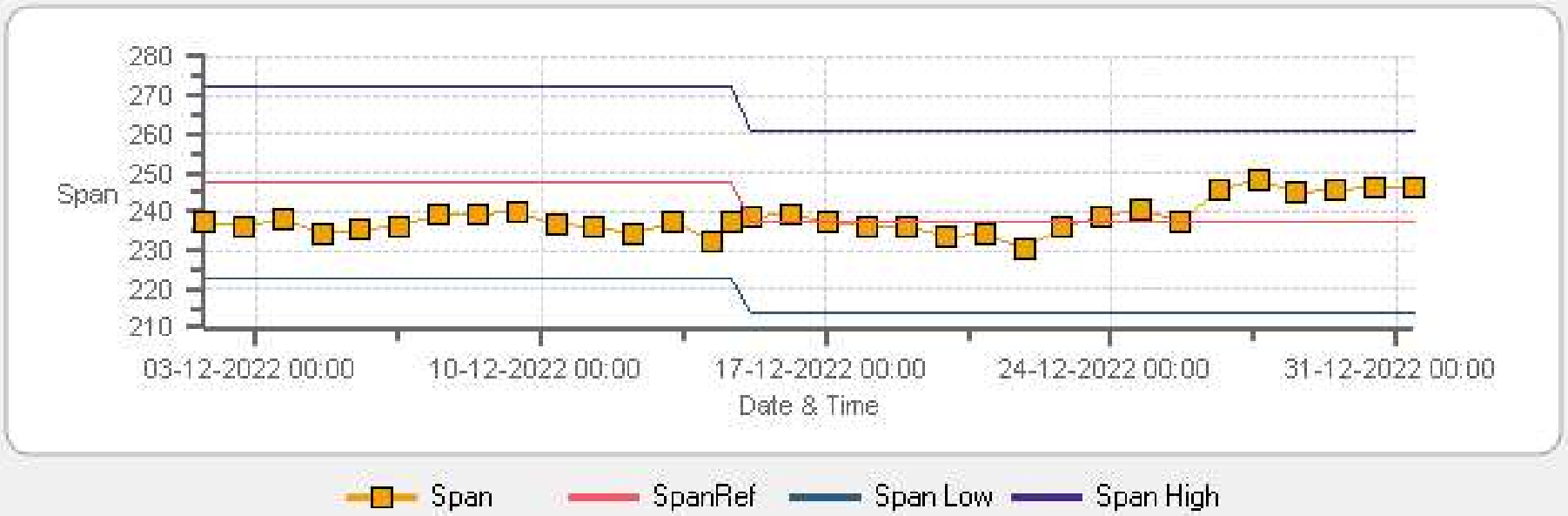
January 17, 2023

# DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

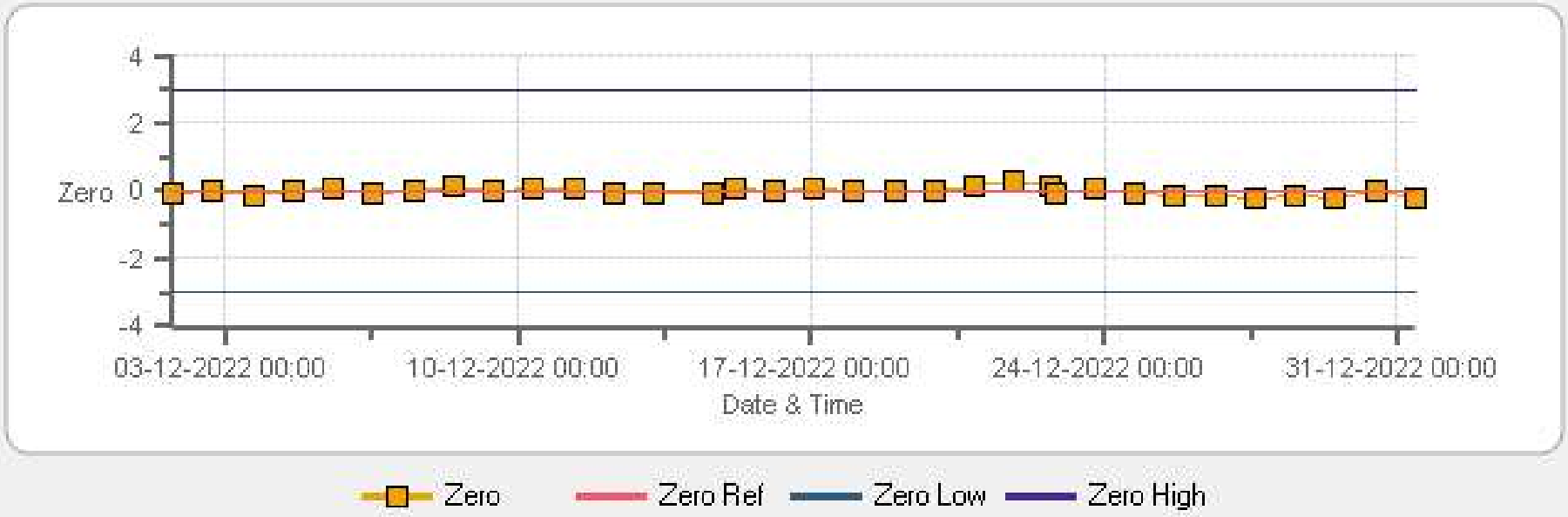
SO2[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero



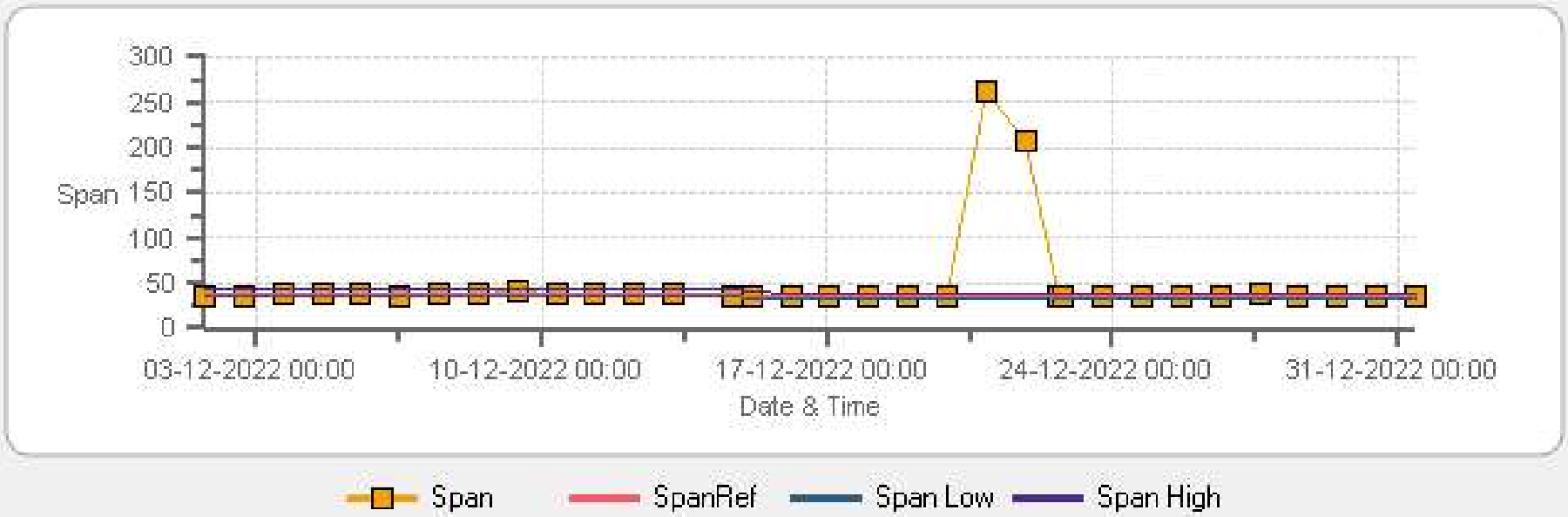

SO2[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



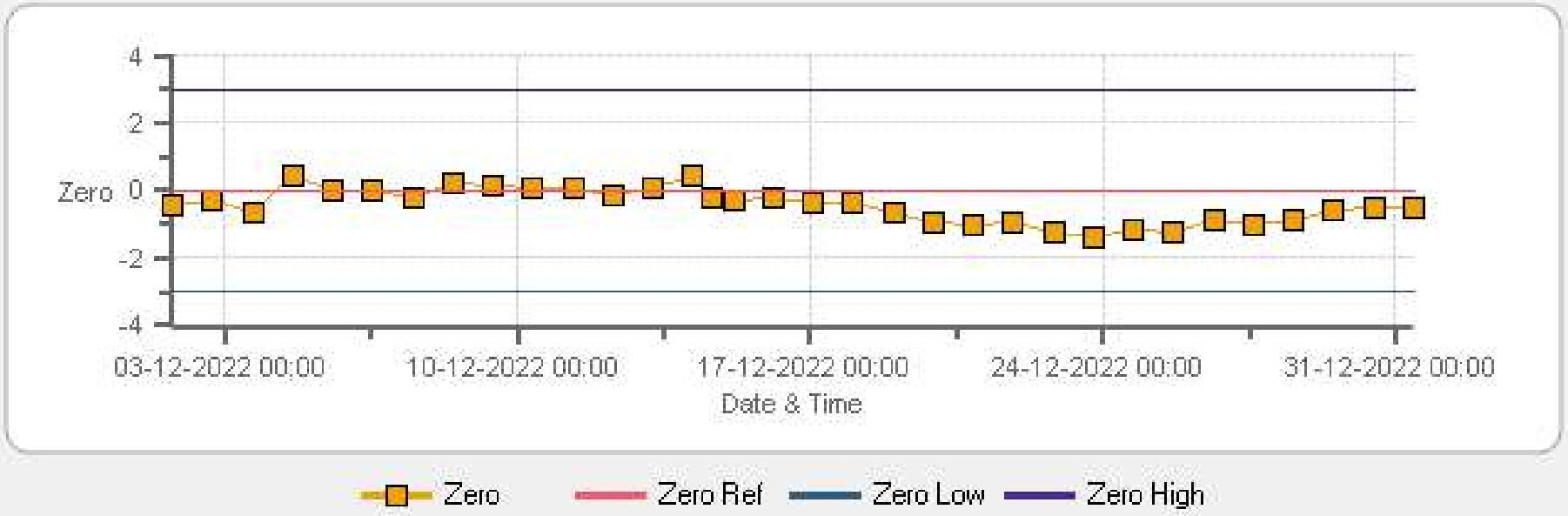
H2S[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero



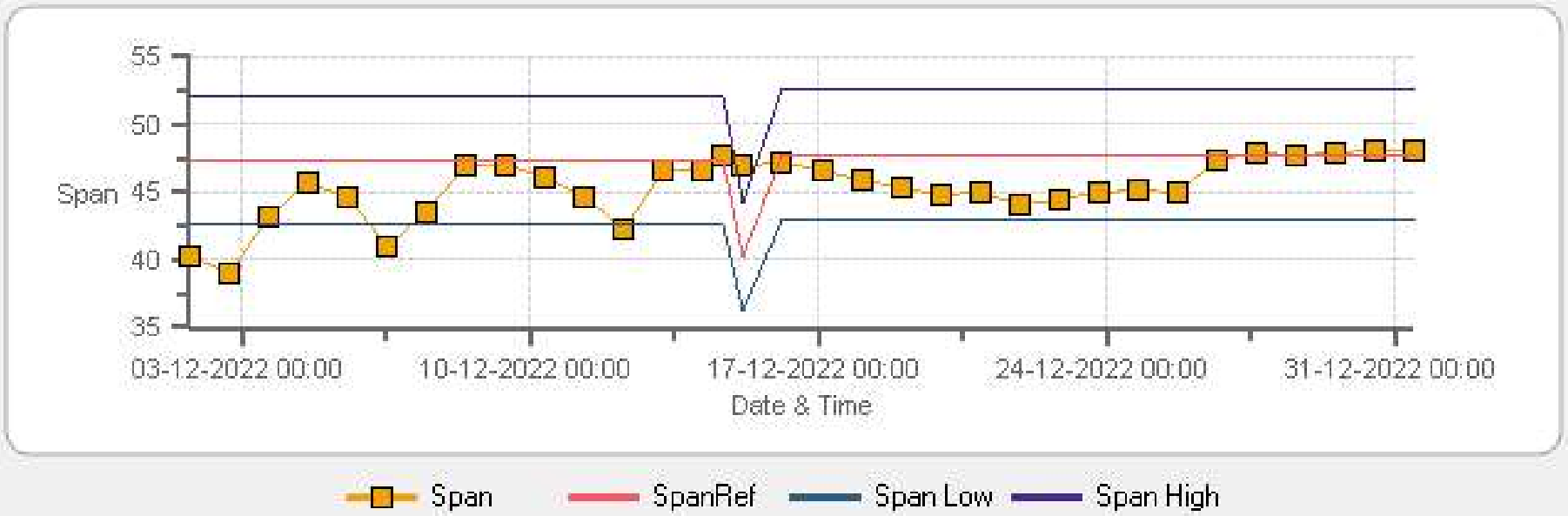

H2S[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



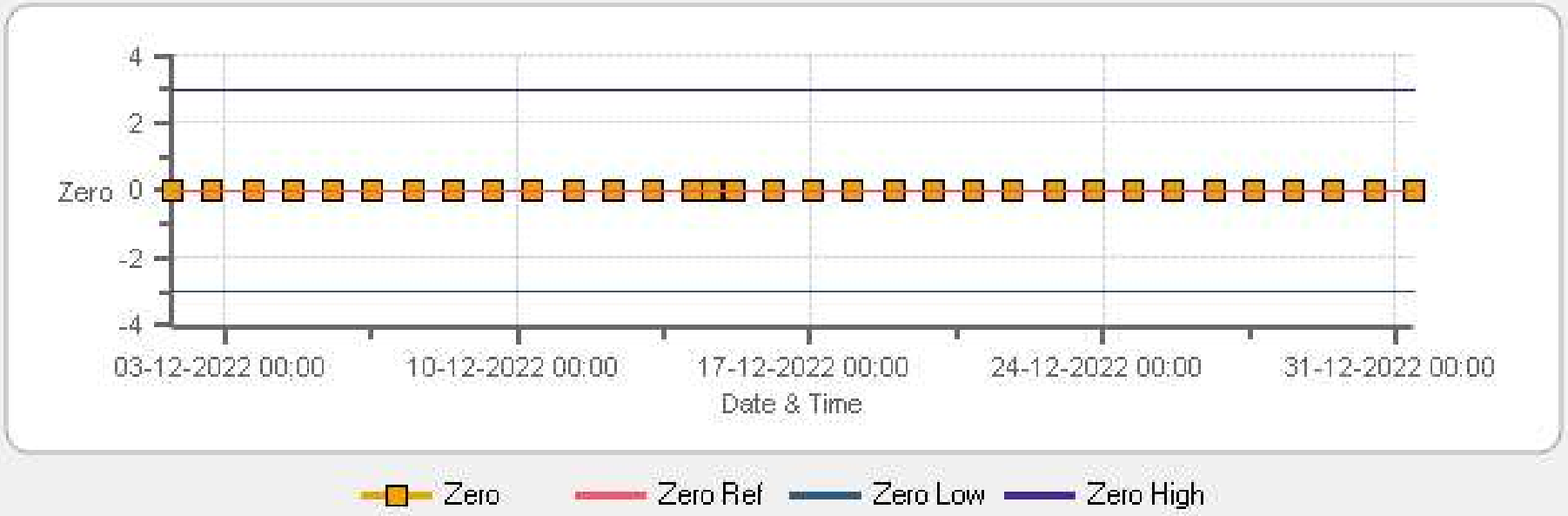
TRS[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero



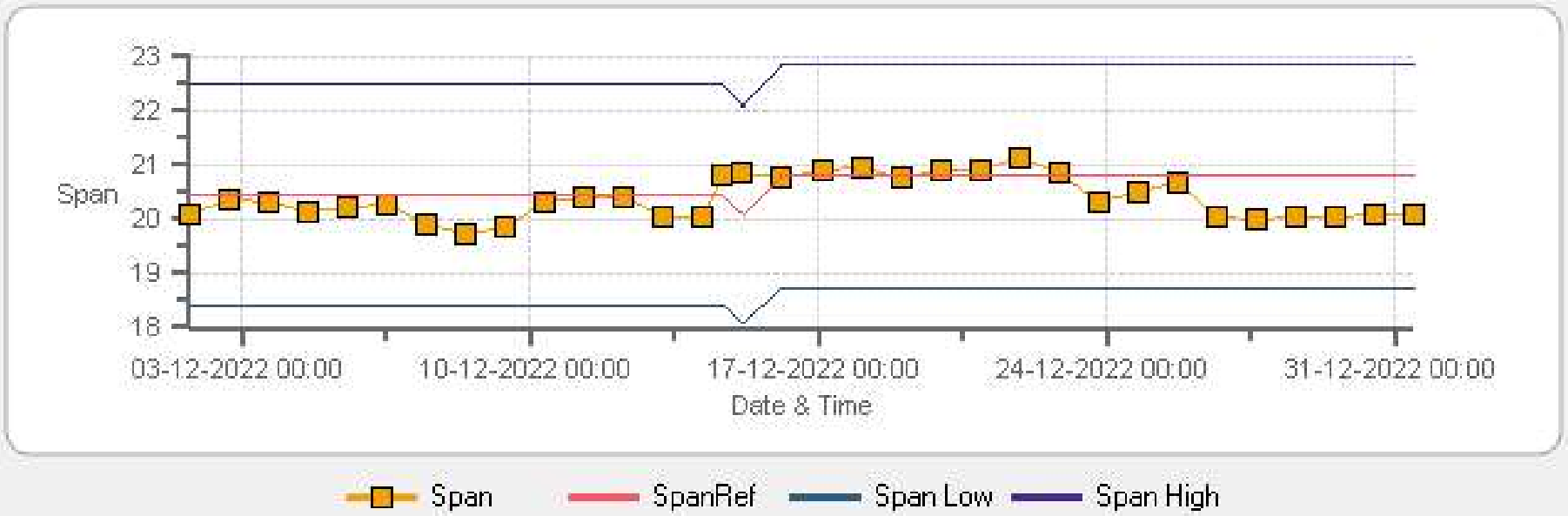

TRS[ppb] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



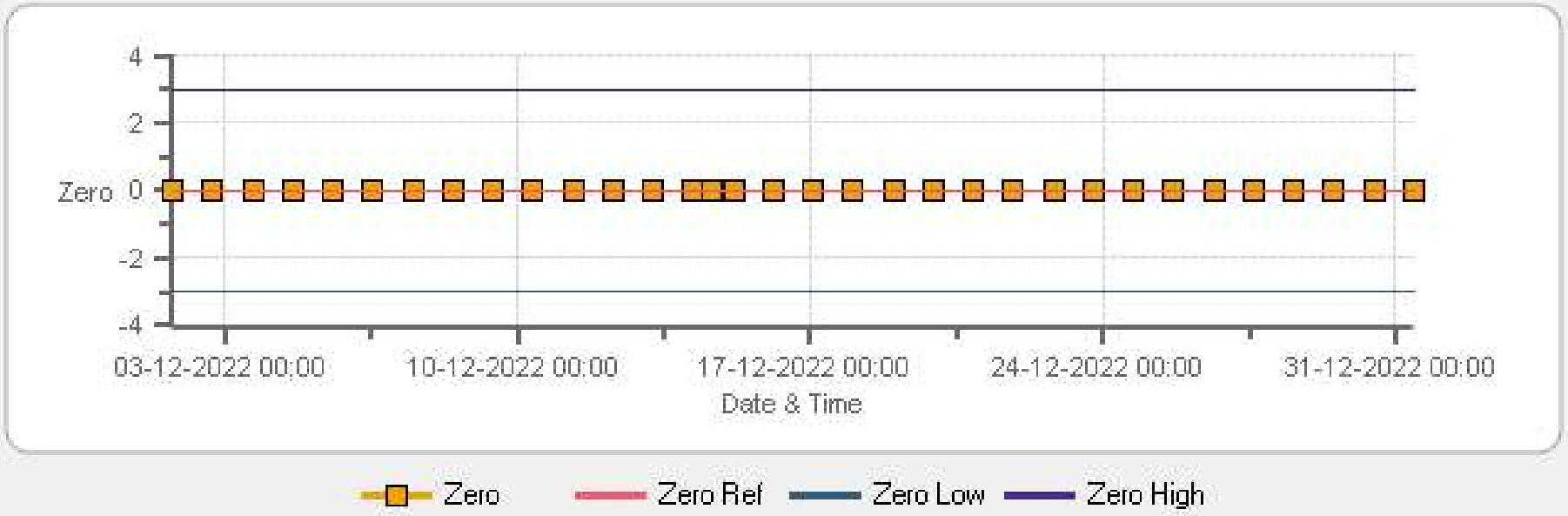
THC55[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero



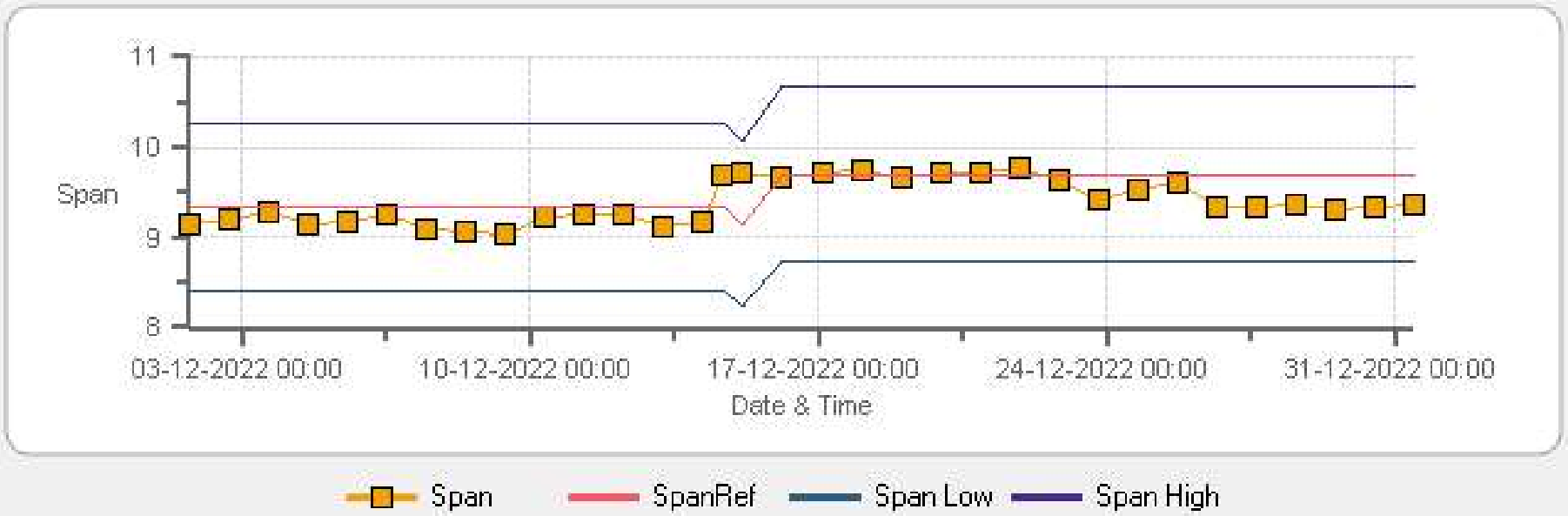

THC55[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



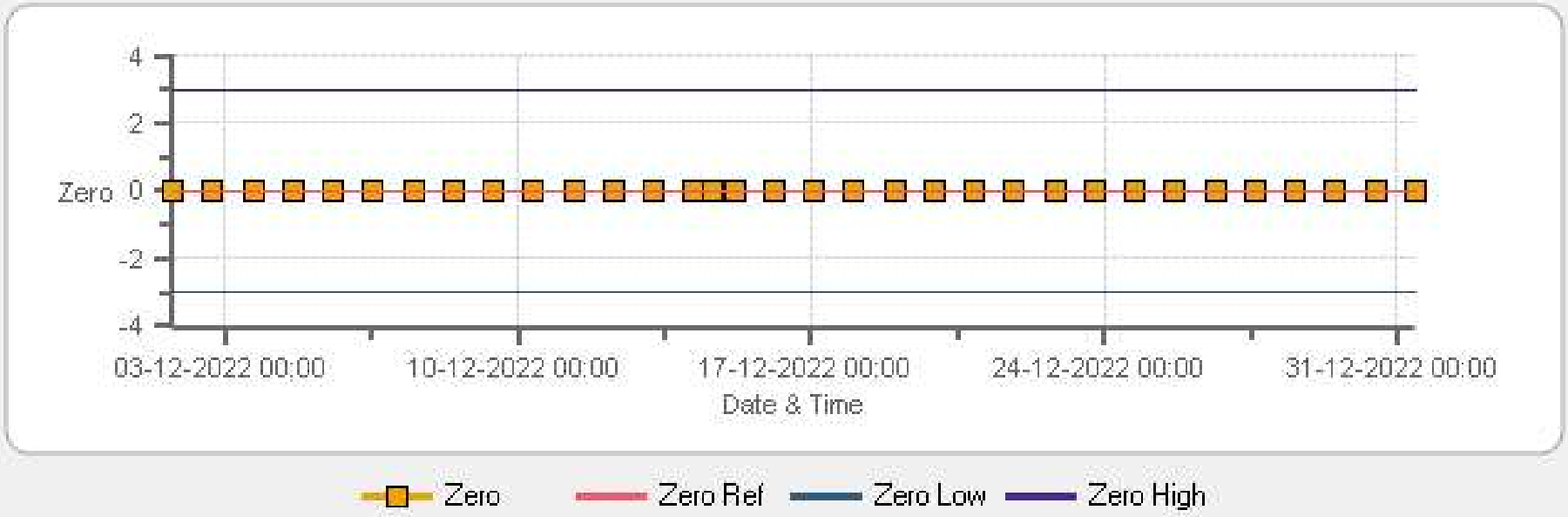
CH4[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero



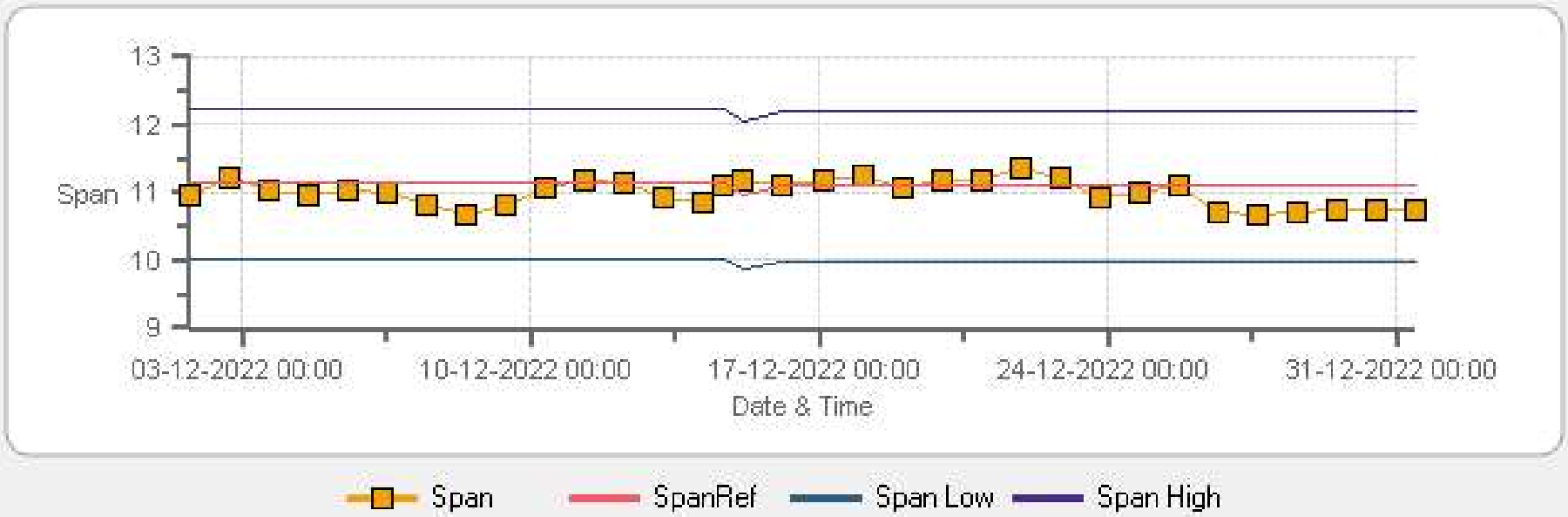

CH4[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



NMHC[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Zero




NMHC[ppm] Calibration: Peace River Complex [PRC] Monthly: 12-2022 Type: SpanAndZero - Span



# MULTI-POINT CALIBRATION RECORDS

# SO2 Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 14-Dec-2022 | PREVIOUS CALIBRATION DATE: | 13-Nov-2022 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 1.000 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 25.4 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 950 |
| PURPOSE | Routine | START TIME (MST): | 12:18 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:11 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 43i | RANGE | 500 ppb |
| SERIAL # | 1034746225 | FLOW (mL/min) | 441 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 23.7 | BKG/OFFSET | 19.1 |
| COEF/SLOPE | 1.091 | COEF/SLOPE | 1.095 |
| Expected (reference) Value | 247.4 | Expected (reference) Value | 237.4 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0001923 | HIGH ID | n/a |
| CONC (ppm): | 25.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1800 | LOW ID | n/a |
| EXPIRY DATE | 02-Nov-2025 | EXPIRY DATE | n/a |

**CALIBRATION PARAMETERS:**

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

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

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

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4001 | | 4001 | 0.00 | -4.9 | 0 | | |
| 3941 | 60.60 | 4002 | 380.07 | 373.3 | 380.5 | 1.005 | 0.999 |
| 3970 | 28.70 | 3999 | 180.14 | n/a | 180.9 | n/a | 0.996 |
| 3986 | 14.30 | 4000 | 89.73 | n/a | 90.9 | n/a | 0.987 |

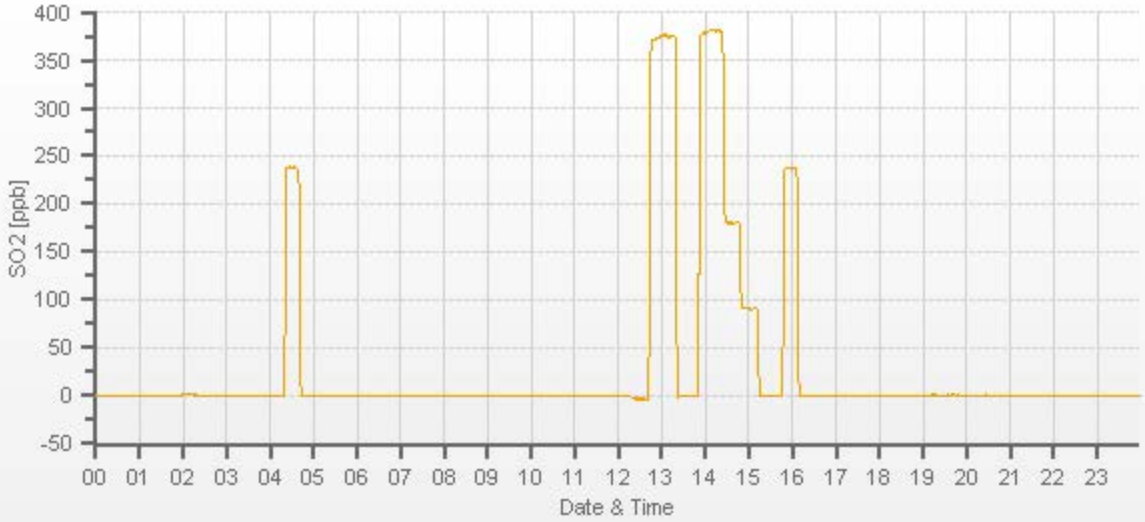
**LINEAR REGRESSION ANALYSIS:**

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

**COMMENTS:**

Sample filter changed.

SO2[ppb] Station: Peace River Complex [PRC] Daily: 14-12-2022 Type: AVG 1 Min. [1 Min.]



# H2S Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 14-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | H2S | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.3 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 950 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 13:21 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:11 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | 1308857354 | FLOW (mL/min) | 958 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 13.4 | BKG/OFFSET | 13.7 |
| COEF/SLOPE | 1.003 | COEF/SLOPE | 0.994 |
| Expected (reference) Value | 38.6 | Expected (reference) Value | 35 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1600 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 13:02 | SO2 Conc (ppb) | 380 |
| END TIME: | 13:17 | Analyzer Response (ppb) | 0.0 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4001 | | 4001 | 0.00 | n/a | 0 | | |
| 3969 | 33.20 | 4002 | 78.06 | n/a | 77.9 | n/a | 1.002 |
| 3983 | 16.20 | 3999 | 38.12 | n/a | 38.3 | n/a | 0.995 |
| 3992 | 8.10 | 4000 | 19.06 | n/a | 19.2 | n/a | 0.992 |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 0.997 | 0.1% |

**COMMENTS:**

Sample filter changed
Post-repair after replace sample pump and scrubber beads

H2S[ppb] Station: Peace River Complex [PRC] Daily: 14-12-2022 Type: AVG 1 Min. [1 Min.]



# H2S Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 22-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | H2S | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 19.6 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 960 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 14:17 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:46 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | 1308857354 | FLOW (mL/min) | 975 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 13.7 | BKG/OFFSET | 13.9 |
| COEF/SLOPE | 0.994 | COEF/SLOPE | 1.001 |
| Expected (reference) Value | 35 | Expected (reference) Value | 35 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1600 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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 | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 3998 | | 3998 | 0.00 | n/a | 0 | | |
| 3965 | 33.20 | 3998 | 78.14 | n/a | 78.2 | n/a | 0.999 |
| 3982 | 16.10 | 3998 | 37.89 | n/a | 37.5 | n/a | 1.011 |
| 3991 | 8.10 | 3999 | 19.06 | n/a | 18.3 | n/a | 1.042 |

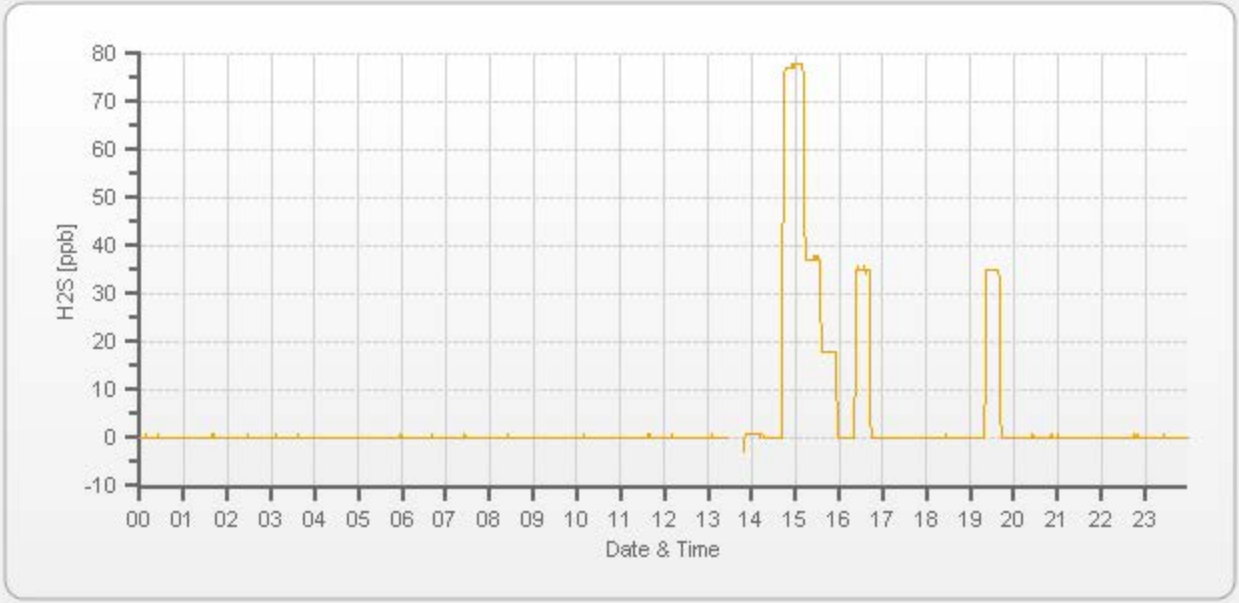
**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 1.004 | -0.4% |

**COMMENTS:**

Sample filter changed
Post-repair after sample pump repair

H2S[ppb] Station: Peace River Complex [PRC] Daily: 22-12-2022 Type: AVG 1 Min. [1 Min.]



# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 14-Dec-2022 | PREVIOUS CALIBRATION DATE: | 13-Nov-2022 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 21.5 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 950 |
| PURPOSE | Removal/Shut-down | START TIME (MST): | 09:49 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 11:52 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | 1034746224 | FLOW (mL/min) | 726 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 23.2 | BKG/OFFSET | n/a |
| COEF/SLOPE | 1.002 | COEF/SLOPE | n/a |
| Expected (reference) Value | 47.32 | Expected (reference) Value | n/a |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1600 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 10:08 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:23 | Analyzer Response (ppb) | 0.1 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4001 | | 4001 | 0.00 | 0.31 | n/a | | |
| 3969 | 33.10 | 4002 | 77.83 | 75.06 | n/a | 1.041 | n/a |
| 3987 | 16.20 | 4003 | 38.08 | 36.81 | n/a | 1.043 | n/a |
| 3994 | 8.10 | 4002 | 19.05 | 18.73 | n/a | 1.034 | n/a |

**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 0.960 | 0.3% |

**COMMENTS:**

TRS Converter CDNOVA CDN-101 #506.
Shutdown to change scrubber beads

# TRS Analyzer Calibration by Dilution

| | | | |
|---|---|---|---|
| DATE: | 14-Dec-2022 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 24.3 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 950 |
| PURPOSE | Install/Post-Repair | START TIME (MST): | 13:21 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:11 |

**ANALYZER:**

| | | | |
|---|---|---|---|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | 1034746224 | FLOW (mL/min) | 727 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 23.2 | BKG/OFFSET | 24.2 |
| COEF/SLOPE | 1.002 | COEF/SLOPE | 1.009 |
| Expected (reference) Value | 47.32 | Expected (reference) Value | 47.77 |

**CALIBRATION SYSTEM:**

| | | | |
|---|---|---|---|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | Sabio | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | M701 |
| ID: | 58100720 | ID: | 4568 |
| MFC CALIBRATION DATE: | 15-Sep-2022 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY0002519 | HIGH ID | n/a |
| CONC (ppm): | 9.41 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1600 | LOW ID | n/a |
| EXPIRY DATE | 10-Nov-2023 | 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: | 13:02 | SO2 Conc (ppb) | 380 |
| END TIME: | 13:17 | Analyzer Response (ppb) | 0.0 |

**CALIBRATION:**

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|---|---|---|---|---|---|---|---|
| | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 4001 | | 4001 | 0.00 | n/a | 0 | | |
| 3969 | 33.20 | 4002 | 78.06 | n/a | 77.96 | n/a | 1.001 |
| 3983 | 16.20 | 3999 | 38.12 | n/a | 38.52 | n/a | 0.990 |
| 3992 | 8.10 | 4000 | 19.06 | n/a | 19.26 | n/a | 0.989 |

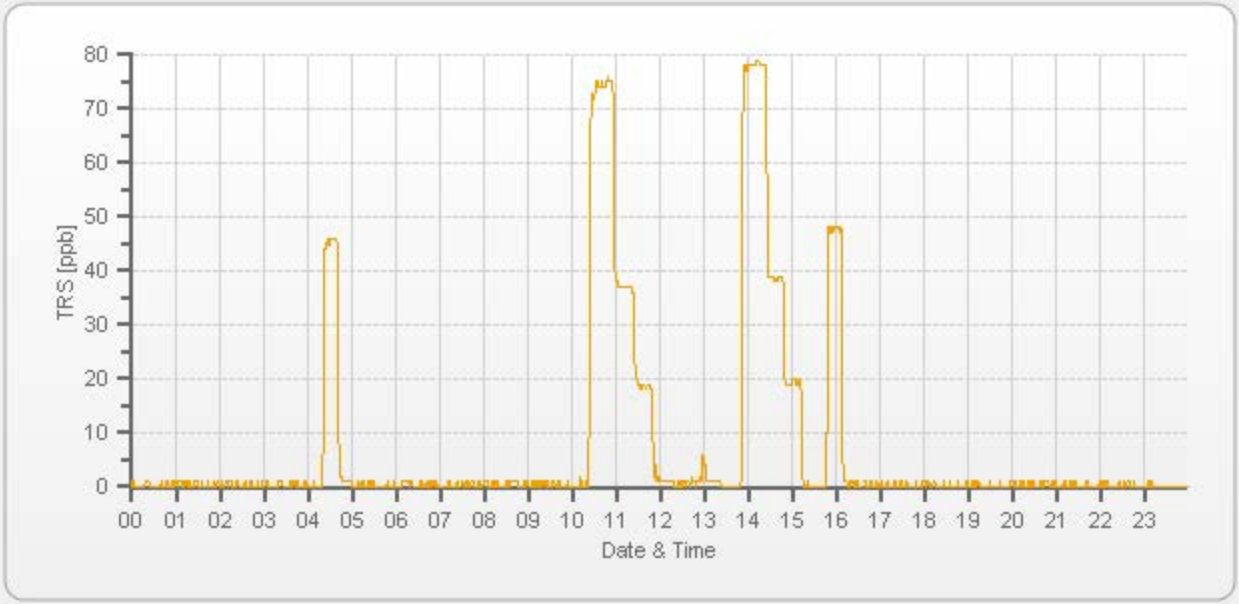
**LINEAR REGRESSION ANALYSIS:**

| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| VALUE | 1.000 | 0.998 | 0.2% |

**COMMENTS:**

TRS Converter CDNOVA CDN-101 #506.
Post-repair after scrubber beads changed

TRS[ppb] Station: Peace River Complex [PRC] Daily: 14-12-2022 Type: AVG 1 Min. [1 Min.]



# Methane/Non-Methane Analyzer Calibration by Dilution

**CALIBRATION:**

| | | | |
|---|---|---|---|
| DATE: | 14-Dec-2022 | PREVIOUS CALIBRATION DATE: | 13-Nov-2022 |
| CLIENT: | PRAMP | TEMPERATURE (°C): | 25.4 |
| LOCATION: | Peace River Compliance | BAROMETRIC (mBar): | 950 |
| PURPOSE | Routine | START TIME (MST): | 12:18 |
| PERFORMED BY: | Chris Wesson | END TIME (MST): | 16:11 |

**ANALYZER:**

| VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
|---|---|---|---|
| | Thermo 55i | 1022143392 | 1093 |
| PARAMETER: | CH4 | NMHC | THC |
| RANGE (ppm): | 20 | 20 | 40 |
| PREVIOUS CF: | 1.002 | 0.999 | 1.001 |

**CALIBRATION SYSTEM:**

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | | FLOWMETERS (if applicable): | |
|---|---|---|---|---|---|---|---|---|
| MAKE: | Sabio | MAKE: | Teledyne | CYLINDER ID: | LL28583 | | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | M701 | $CH_4/C_3H_8$ (ppm): | 608.0 | 203.0 | HIGH EXPIRY: | n/a |
| ID: | 26701218 | ID: | 4568 | CYLINDER (psi): | 800 | | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 13-Sep-2022 | OXIDIZER ID: | Internal | EXPIRY DATE | 22-Dec-2028 | | LOW EXPIRY: | n/a |

**CALIBRATION PARAMETERS:**

| POINT (CH4/NMHC) | HIGH | MID | LOW | CH4 EQUIVILANCE | |
|---|---|---|---|---|---|
| TARGET | 14 | 7 | 3.5 | $C_3H_8$ as $CH_4$ | 558.3 |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as $CH_4$ | 1166.3 |

**EXPECTED (REFERENCE) VALUE:**

| INITIAL | CH4 | NMHC | THC | FINAL | CH4 | NMHC | THC |
|---|---|---|---|---|---|---|---|
| | 9.34 | 11.14 | 20.47 | | 9.70 | 11.10 | 20.80 |

**CALIBRATION:**

| FLOW RATE (mL/min) | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC | CH4 | NMHC | THC |
| 3000 | | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | |
| 2928 | 72.00 | 3000 | 14.59 | 13.40 | 27.99 | 13.72 | 13.07 | 26.79 | 14.61 | 13.41 | 28.01 | 1.064 | 1.025 | 1.045 | 0.999 | 0.999 | 0.999 |
| 2963 | 36.00 | 2999 | 7.30 | 6.70 | 14.00 | n/a | n/a | n/a | 7.37 | 6.76 | 14.13 | n/a | n/a | n/a | 0.990 | 0.991 | 0.991 |
| 2983 | 18.00 | 3001 | 3.65 | 3.35 | 7.00 | n/a | n/a | n/a | 3.70 | 3.38 | 7.09 | n/a | n/a | n/a | 0.986 | 0.991 | 0.987 |

**LINEAR REGRESSION ANALYSIS:**

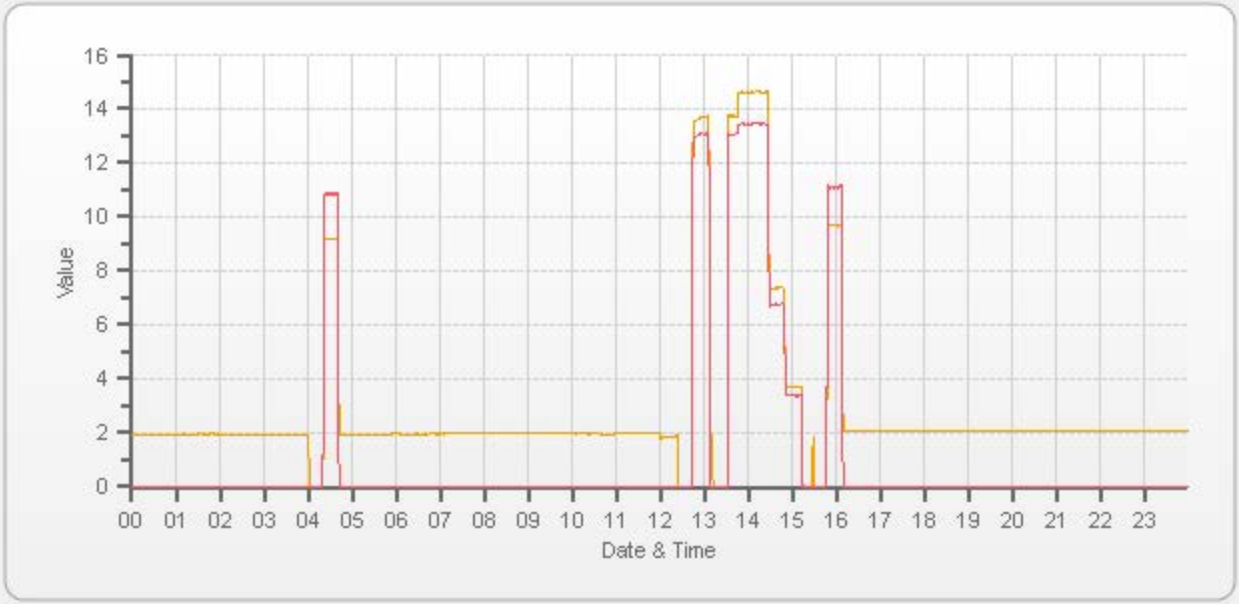
| | CORRELATION | SLOPE | INTERCEPT |
|---|---|---|---|
| CH4 | 1.000 | 1.001 | 0.2% |
| NMHC | 1.000 | 1.001 | 0.1% |
| THC | 1.000 | 1.000 | 0.1% |

**Comments:**

**Sample filter changed**

**Use Zero Chrom?** **No**

Station: Peace River Complex [PRC] Daily: 14-12-2022 Type: AVG 1 Min. [1 Min.]



# Meteorological System Checklist

| | | | |
|---|---|---|---|
| Date: | December 14, 2022 | | |
| Technician: | Chris Wesson | | |
| Station: | Peace River Compliance | | |
| **Unit:** | **Make:** | **Model:** | **Serial #:** |
| Temperature Sensor: | Rotronic | HC2-S3 | 20558318 |
| Barometric Pressure Sensor: | MetOne | 092 | B19577 |
| Relative Humidity Sensor: | Rotronic | HC2-S3 | 20558318 |
| Anemometer: | RM Young | 05305VK | 129612 |
| **AMBIENT TEMPERATURE SENSOR CHECK** | | | |
| Previous check date: | November 13, 2022 | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | FS #160459244 expires June 14, 2023 | | |
| Reference Temperature ($^{o}$C): | -4.1 | | |
| Station - Ambient Temperature ($^{o}$C): | -4.5 | | |
| Temperature Difference ($^{o}$C): | 0.4 | | |
| **BAROMETRIC PRESSURE SENSOR CHECK** | | | |
| Previous check date: | November 13, 2022 | | |
| Reference Barometer ID: | Brunton #05535 expires Feb 22, 2023 | | |
| Reference Pressure - Units/Reading: | millibar | 947.5 | |
| Station Pressure - Units/Reading: | millibar | 950 | |
| Pressure Tolerance +/- 15% of error: | 805 - 1090 | -0.26% | |
| **RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK** | | | |
| Previous check date: | November 13, 2022 | | |
| Reference Hygrometer ID: | FS #160459244 expires June 14, 2023 | | |
| Reference Hygrometer % RH- Reading: | 71.20 | | |
| Station Hygrometer % RH- Reading: | 73.00 | | |
| RH Tolerance +/- 15% of difference: | 60.52 - 81.88 | -2.5% | |

| **ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK** | | | |
|---|---|---|---|
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | November 13, 2022 | Previous check date: | November 13, 2022 |
| Wind Speed Observed (kph): | 10~20 | Wind Direction Observed: | SW |
| Wind speed on Data Logger (kph): | 17.7 | Wind Direction on Data Logger: | SW |
| | | Wind Direction Pass/Fail?: | Pass |

Comments

No issues.

# Meteorological Sensor Audit/Calibration

**Location Information**

| | | | |
|---|---|---|---|
| **Company:** | PRAMP | **Performed By:** | Ferdinand Roy |
| **Audit Location:** | Peace River Compliance | **Reviewed By:** | Chris Wesson |
| **Audit Date:** | August 17, 2022 | **Start/End Time (mst):** | 8:15/9:20 |
| **Calibration Purpose:** | routine annual | **Weather Conditions:** | Mainly clear |

**Wind Sensor Information**

| **Sensor ID Data:** | | **Sensor Outputs:** | |
|---|---|---|---|
| **Sensor Make:** | RM Young | **Velocity Voltage Output Range:** | 0-1 |
| **Sensor Model:** | 05305VK | **Velocity Unit Output Range:** | 0-200 |
| **Serial #:** | 129612 | **Direction Voltage Output Range:** | 0-1 |
| **Previous Cal/Audit Date:** | June 16, 2021 | **Direction Unit Output Range:** | 0-360 |

**Wind Calibrator Information**

**Calibrator I.D. and Expiry Date:** RM Young 18802 id# CA03309 expires June 7, 2023

**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 | 37.0 | 0.998 |
| 3000 | 55.3 | 55.4 | 55.4 | 0.998 |
| 4000 | 73.7 | 73.9 | 73.9 | 0.998 |
| 5000 | 92.2 | 92.4 | 92.4 | 0.997 |
| 6000 | 110.6 | 110.9 | 110.9 | 0.997 |
| 7000 | 129.0 | 129.5 | 129.5 | 0.996 |
| 8000 | 147.4 | 148.0 | 148.0 | 0.996 |
| 9000 | 165.9 | 166.6 | 166.6 | 0.996 |
| 10000 | 184.3 | 185.1 | 185.2 | 0.995 |
| | | **The audit meets AMD requirements.** | **Average Correction Factor=** | **0.997** |

**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 | 29 | 329 | 1.0 | 1.0 | 1.0 |
| 60 | 300 | 59 | 300 | 1.0 | 0.0 | 0.5 |
| 90 | 270 | 89 | 271 | 1.0 | -1.0 | 1.0 |
| 120 | 240 | 119 | 241 | 1.0 | -1.0 | 1.0 |
| 150 | 210 | 151 | 212 | -1.0 | -2.0 | 1.5 |
| 180 | 180 | 181 | 181 | -1.0 | -1.0 | 1.0 |
| 210 | 150 | 211 | 151 | -1.0 | -1.0 | 1.0 |
| 240 | 120 | 241 | 120 | -1.0 | 0.0 | 0.5 |
| 270 | 90 | 271 | 89 | -1.0 | 1.0 | 1.0 |
| 300 | 60 | 300 | 59 | 0.0 | 1.0 | 0.5 |
| 330 | 30 | 329 | 29 | 1.0 | 1.0 | 1.0 |
| 355 | 0 | 354 | 1 | 1.0 | 1.0 | 1.0 |
| **The audit meets AMD requirements.** | | | **Average Absolute Degrees Difference=** | | | **0.9** |

**Comments:**

Physical inspection completed - no issues.

List of SOPs

| MONITOR | SOP |
|---|---|
| SULPHUR DIOXIDE ($SO_2$) | Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring |
| HYDROGEN SULPHIDE ($H_2S$) | Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring |
| TOTAL REDUCED SULPHUR (TRS) | Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring |
| TOTAL HYDROCARBONS (THC), METHANE (CH4), NON-METHANE(NMHC) | Bureau Veritas EMS SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring |
| OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE ($NO_2$) | Bureau Veritas EMS SOP-00213: Ambient $NO/NO_2/NOx$ Monitoring |
| OZONE (O3) | Bureau Veritas EMS SOP-00212: Ambient O3 Monitoring |
| PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$) | Bureau Veritas EMS SOP-00015: Teledyne API PM Monitor Model T640 |
| WIND SPEED (WS) & WIND DIRECTION (WD) | Bureau Veritas EMS SOP-00013: RM Young Wind Monitor Calibration |

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Monthly Ambient Air Quality Monitoring Integrated Sampling Report

## PRAMP-202212-INTEGRATED

January 19, 2023

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Phone #: 780-226-7068 / 587-225-2248
E-mail: pramptech@prampairshed.ca
www.prampairshed.ca

**January 19, 2023**

Alberta Environment and Protected Areas (EPA)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6

**RE: PRAMP –December 2022 Monthly Ambient Air Quality Monitoring Integrated Sampling Report**

Enclosed is the December 2022 Monthly Ambient Air Quality Monitoring Integrated Sampling Report for the Peace River Area Monitoring Program's (PRAMP) regional air quality monitoring network. This report summarizes monitoring data for samples collected using integrated methods, including volatile organic compounds (NMHC canister sampling program), hydrogen sulphide, and sulphur dioxide (passive sampling program).

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. This report is also submitted on behalf of the industrial member companies to satisfy the requirements of the facility Operating Approvals.

## NETWORK STATION SUMMARY

### Listing of Integrated Sampling Stations

- 986-C Station
- 842-B Station
- Reno-B Station
- Peace River Complex (PRC) Station

| Station Name | 986-C | 842-B | Reno-B | PRC |
|---|---|---|---|---|
| Station ID | 1562 | 1561 | 1563 | 1698 |
| Coordinates | 56.36980, -116.92500 | 56.27406, -116.98129 | 55.86936, -117.05739 | 56.38257, -116.769283 |
| NMHC Canister (VOCs) | √ | √ | √ | |
| Passives: 2-Month exposure (PACs) | √ | | | |
| Passives: 1-Month Exposure ($H_2S$, $SO_2$) | | | | √ |

### Listing of Passives: 1-Month Exposure Sampling Sites

| Site ID | Latitude | Longitude |
|---|---|---|
| 1 | 56.377841 | -116.787142 |
| 2 | 56.378638 | -116.780496 |
| 3 | 56.382958 | -116.783813 |
| 4 | 56.377044 | -116.794220 |
| 7 | 56.384796 | -116.780488 |
| 8 | 56.388710 | -116.771234 |
| 9 | 56.388943 | -116.756205 |
| 10 | 56.388642 | -116.797817 |
| 11 | 56.383771 | -116.841165 |
| 12 | 56.388962 | -116.885263 |
| 13 | 56.390972 | -116.822083 |
| 14 | 56.424825 | -116.853181 |

### List of Contractors who performed the air monitoring activities

| Sampling Program | Monitoring Activities Conducted By | Sample Analysis Conducted By | Data/Report Prepared By | Electronic Submission Conducted By |
|---|---|---|---|---|
| NMHC Canister (VOCs) | Bureau Veritas | InnoTech Alberta Inc | PRAMP | PRAMP |
| Passives: PACs | PRAMP | ECCC | AEP | AEP |
| Passives: $H_2S$, $SO_2$ | PRAMP | Bureau Veritas | PRAMP | PRAMP |

## Monitoring Notes during the Month of December 2022

- **NMHC Canister Sampling Program - Volatile Organic Compounds (VOCs)**
  - The canister sampling program collects a 1-hour sample of air when the continuously measured non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger point is 0.3 ppm for non-methane hydrocarbons. The trigger point is based on real-time monitoring data that are averaged over a 5-minute period.
  - There were no canister events recorded this month.

- **Passive Polycyclic Aromatic Compounds (PACs) Sampling Program**
  - The PAC sampling program began in December 2019, and is designed to collect a 2-month integrated sample.
  - The sample media for sampling period of November and December were installed on October 27. They were replaced on January 4, 2023.

- **Passives $H_2S$, $SO_2$ Sampling Program**
  - The passive sample filters were installed at the stations on December 1 and were removed on December 30.

## 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

There were no deviations from authorized monitoring methods.

## Certification

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



Lily Lin, Technical Program Manager, PRAMP Airshed

The 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 ETS as required by the AMD.



Michael Bisaga, Technical Program Manager, PRAMP Airshed

January 19, 2023

# INTEGRATED SAMPLING RESULTS SUMMARY

- **Passive analytical results**

| | $H_2S$ | | $SO_2$ | |
|---|---|---|---|---|
| **Minimum (ppb)** | 0.18 | #7 | 0.3 | #9 |
| **Maximum (ppb)** | 0.29 | #8 | 0.8 | #4 |
| **Average (ppb)** | 0.22 | - | 0.45 | - |

# ANALYTICAL SAMPLING RESULTS

# Passives

*PEACE RIVER AREA MONITORING PROGRAM*

*PRC Site - December 2022*

**Passive Results**

| | $H_2S$ | | $SO_2$ | |
|---|---|---|---|---|
| **Minimum (ppb)** | 0.18 | #7 | 0.3 | #9 |
| **Maximum (ppb)** | 0.29 | #8 | 0.8 | #4 |
| **Average (ppb)** | 0.22 | - | 0.45 | - |

| No. | Calculated Value | Calculated Value |
|---|---|---|
| 1 | 0.19 | 0.5 |
| 2 | 0.19 | 0.5 |
| 3 | 0.23 | 0.5 |
| 4 | 0.22 | 0.8 |
| 7 | 0.18 | 0.5 |
| 8 | 0.29 | 0.5 |
| 9 | 0.19 | 0.3 |
| 10 | 0.23 | 0.5 |
| 11 | 0.21 | 0.3 |
| 12 | 0.19 | 0.3 |
| 13 | 0.22 | 0.4 |
| 14 | 0.24 | 0.3 |
| **Reportable Detection Limit (RDL)** | **0.02** | **0.1** |

End of Report

**Peace River Area Monitoring Program**

# DECEMBER 2022

## Ambient Air Monitoring

## Certified Laboratory Analysis Report

## LAB-PRAMP-202212

**Operation and Maintenance:**
Bureau Veritas Canada

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

January 17, 2023

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# Passive Sampling Analytical Results

6744 - 50 St. Edmonton AB Canada T6B 3M9

Ph (780) 378-8500, Toll free (800) 386-7247, Fax (780) 378-8699

Bureau Veritas Job Number:

# PASSIVE AIR CHAIN OF CUSTODY



| Invoice To | Report To | Service Requested | Company Name |
|---|---|---|---|
| Company Name | Name & Email Address | ☐ RUSH (Please contact for TAT) | Peace River |
| Contact Name | | ☐ REGULAR | Project Name/LSD |
| Address | | | Peace River |
| City/Postal Code | | | |
| Phone/Fax# | | | |

## ANALYTICAL INFORMATION

| Sample ID or Location (LSD) | Sample Start Date (DD/MM/YY) | Time (24 hrs) (HH:MM) | Sample End Date (DD/MM/YY) | Time (HH:MM) | Volume (m3) *PM/TSP Only* | Analysis Required: SO2 | H2S | NO2 | O3 | NH3 | PM2.5 | PM10 | TSP | Dustfall | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01/12/22 | 8:00 am | 30/12/22 | | | X | X | | | | | | | | | | | |
| 2 | | | | | | X | X | | | | | | | | | | | |
| 3 | | | | | | X | X | | | | | | | | | | | |
| 4 | | | | | | X | X | | | | | | | | | | | |
| 7 | | | | | | X | X | | | | | | | | | | | |
| 8 | | | | | | X | X | | | | | | | | | | | |
| 9 | | | | | | X | X | | | | | | | | | | | |
| 10 | | | | | | X | X | | | | | | | | | | | |
| 11 | | | | | | X | X | | | | | | | | | | | |
| 12 | | | | | | X | X | | | | | | | | | | | |
| 13 | | | | | | X | X | | | | | | | | | | | |
| 14 | | 1200 | | | | X | X | | | | | | | | | | | |
| Blank | | | | | | X | X | | | | | | | | | | | |
| Blank | | | | | | X | X | | | | | | | | | | | |
| | | | | | | X | X | | | | | | | | | | | |

Notes/Comments: Client 12521 / Scenario 18009

Sampled By Bo Guerin Phone/Email 6181880 Received By _____ Date/Time _____ Project # AB 23-01-06

Date Shipped _____ Signature _____ PO# 10130

1450
1425

PTC FCD-00457/4 Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at http://www.bvlabs.com/terms-and-conditions.

Your Project #: 2022/12/01 - 2022/12/30
Site Location: PEACE RIVER COMPLEX

**Attention: Michael and Lily**

Peace River Area Monitoring Program Committee
Three Creeks
Suite 91, 305 –
4625 Varsity Drive NW
Calgary, AB
CANADA T3A0Z9

**Report Date: 2023/01/17**
Report #: R3289222
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BUREAU VERITAS JOB #: C301371**
**Received: 2023/01/06, 10:30**

Sample Matrix: Air
# Samples Received: 12

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Analytical Method |
|---|---|---|---|---|---|
| H2S Passive Analysis | 12 | 2023/01/13 | 2023/01/17 | PTC SOP-00150 | Passive H2S in ATM |
| SO2 Passive Analysis | 12 | 2023/01/10 | 2023/01/17 | PTC SOP-00149 | Passive SO2 in ATM |

This report shall not be reproduced except in full, without the written approval of the laboratory.
Results relate only to the items tested.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key



Belma Elefante
Customer Service Associate
17 Jan 2023 14:39:12

Please direct all questions regarding this Certificate of Analysis to:
Customer Service Passives,
Email: PassiveAir@bureauveritas.com
Phone# (780) 378-8500

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Branko Banjac, General Manager responsible for Alberta Petroleum laboratory operations.



Bureau Veritas Edmonton: 6744 - 50th Street T6B 3M9 Telephone (780) 378-8500 Fax (780) 378-8699

Bureau Veritas Job #: C301371
Report Date: 2023/01/17

Peace River Area Monitoring Program Committee
Client Project #: 2022/12/01 - 2022/12/30
Site Location: PEACE RIVER COMPLEX
Sampler Initials: BG

## RESULTS OF CHEMICAL ANALYSES OF AIR

| Bureau Veritas ID | | BJZ403 | BJZ404 | BJZ405 | BJZ406 | BJZ407 | BJZ408 | BJZ409 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | | |
| | UNITS | 1 | 2 | 3 | 4 | 7 | 8 | 9 | RDL | QC Batch |
| **Passive Monitoring** | | | | | | | | | | |
| Calculated H2S | ppb | 0.19 | 0.19 | 0.23 | 0.22 | 0.18 | 0.29 | 0.19 | 0.02 | A853370 |
| Calculated SO2 | ppb | 0.5 | 0.5 | 0.5 | 0.8 | 0.5 | 0.5 | 0.3 | 0.1 | A850114 |
| RDL = Reportable Detection Limit | | | | | | | | | | |

| Bureau Veritas ID | | BJZ410 | BJZ411 | BJZ412 | BJZ413 | BJZ414 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | 2022/12/01 08:00 | | |
| | UNITS | 10 | 11 | 12 | 13 | 14 | RDL | QC Batch |
| **Passive Monitoring** | | | | | | | | |
| Calculated H2S | ppb | 0.23 | 0.21 | 0.19 | 0.22 | 0.24 | 0.02 | A853370 |
| Calculated SO2 | ppb | 0.5 | 0.3 | 0.3 | 0.4 | 0.3 | 0.1 | A850114 |
| RDL = Reportable Detection Limit | | | | | | | | |

## GENERAL COMMENTS

**Results relate only to the items tested.**



Bureau Veritas Edmonton: 6744 - 50th Street T6B 3M9 Telephone (780) 378-8500 Fax (780) 378-8699

Bureau Veritas Job #: C301371
Report Date: 2023/01/17

Peace River Area Monitoring Program Committee
Client Project #: 2022/12/01 - 2022/12/30
Site Location: PEACE RIVER COMPLEX
Sampler Initials: BG

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A850114 | OZ | Spiked Blank | Calculated SO2 | | | 101 | % | 90 - 110 |
| A850114 | OZ | Method Blank | Calculated SO2 | | <0.1 | | ppb | |
| A853370 | YYA | Spiked Blank | Calculated H2S | | | 99 | % | 90 - 110 |

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Bureau Veritas Job #: C301371
Report Date: 2023/01/17

Peace River Area Monitoring Program Committee
Client Project #: 2022/12/01 - 2022/12/30
Site Location: PEACE RIVER COMPLEX
Sampler Initials: BG

## VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Yang Liu

Yang Liu, Analyst II

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.


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End of Report