Peace River Area Monitoring Program

DECEMBER 2020

Monthly Ambient Air Quality Monitoring Report

PRAMP-202012

Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Peace River Area Monitoring Program

January 13, 2021

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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 13, 2021

RE: PRAMP – December 2020 Monthly Ambient Air Quality Monitoring Report

Enclosed is the December 2020 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Peace River Area Monitoring Program (PRAMP) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

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

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986c Station
- 842b Station
- Reno Station
- AQHI Cadotte Lake

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

Listing of Intermittent Monitoring Stations

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

Monitoring Notes during the Month of December 2020

986c Station

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **All parameters:** Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result.

842b Station

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement, except THC/CH4/NMHC (87.5%). **AEP reference #: 374751**.
- The BV-supplied AQM trailer and all monitoring equipment were replaced with the PRAMP-owned trailer on December 15.

- **SO2:** The BV-supplied Thermo 43i analyzer, s/n: 835033373, was removed on December 15. The PRAMP-owned Thermo 43iQTL SO2 analyzer, s/n: 1200736629, was installed on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition.
- **TRS:**
  - The BV-supplied Thermo 43i-TLE TRS analyzer, s/n: 1162460023, was removed on December 15. The PRAMP-owned Thermo 43iQTL TRS analyzer, s/n: 1200736630, was installed on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition.
  - The analyzer spanned outside the acceptable limits on December 20 due to permeation tube issues. A repeat zero-span check was completed on December 21 hour 9 to assess span responses. The permeation tube was replaced and was followed by a successful repeat multi-point calibration on December 22. Eight hours of downtime were recorded due to additional quality checks and maintenance.
- **THC/CH4/NMHC:**
  - The BV-supplied Thermo 55i HC analyzer, s/n: 1314057759, was removed on December 15. The PRAMP-owned Thermo 55i HC analyzer, s/n: 1501663728, was installed on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition.
  - Sporadic injection issues started on December 20 hour 19. The actuator was replaced and the gas pressure was adjusted on December 22. A successful post-repair calibration was completed afterwards. Forty-eight hours of downtime were recorded due to the analyzer failure and additional quality checks and maintenance.
- **RH/AT:** The BV-supplied Campbell Scientific HMP45C sensor, s/n: C2608, was removed on December 15. The PRAMP-owned Rotronic HC2-S3 sensor, s/n: 20370767, was installed on December 16. Twenty-nine hours of downtime were recorded due to trailer and equipment transition.
- **BP:** The BV-supplied MetOne 092 sensor, s/n: K12864, was removed on December 15. The PRAMP-owned MetOne 092, s/n: Y23362 sensor, was installed on December 16. Twenty-nine hours of downtime were recorded due to trailer and equipment transition.
- **Precipitation:** The channel was put offline between December 15 and 16 for the trailer and equipment transition. Thirty hours of downtime were recorded.
- **WS/WD:** The BV-supplied RM Young 05305VK sensor, s/n: 124638, was removed on December 15. The PRAMP-owned RM Young 05305AQ sensor, s/n: 174802, was installed on December 16. Twenty-eight hours of downtime were recorded due to trailer and equipment transition.

Reno Station

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **SO2:** The analyzer showed a positive zero drift after the monthly calibration on November 3. The drift continued appearing after the December calibration. An as found points check was performed on December 23 in response to daily zero drift. This confirmed that the daily zero results were inaccurate and should not used for baseline corrections. As found zero results, which was obtained on December 23, were used for baseline correction. Maintenance has been scheduled to correct the issue in January 2021. Two hours of downtime were recorded due to the as found points check.
- **TRS:**

- The analyzer failed the low point calibration check on December 1. Based on the change in response between calibration attempts, it was presumed that the scrubber beads were reacting adversely to the very dry air which was produced by the zero-air generator. As the initial as found high point was acceptable and given daily span checks had been within the acceptable range, it was considered that the preceding data were valid. Maintenance was performed on December 1, including the scrubber material renewal and the TRS converter replacement. The analyzer was allowed time to stabilized. A successful post-repair calibration was completed on December 3. Forty-eight hours of data were discarded due to this maintenance event.
- The analyzer failed the daily span check on December 13. An as found points check was completed on December 14, and the results met the AMD requirements. The span responses continued to drift. The issue appeared to be isolated to the zero-span system and did not impact analyzer performance. Another zero-span check was conducted on December 18 hour 7 as part of monitoring span response. The drift will be corrected in the January 2021 monthly calibration. Three hours of downtime were recorded due to additional quality checks.

AQHI – Cadotte Lake Station

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable**.**
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **Ozone:**
  - The channel was put offline while the glass manifold was cleaned on December 16 hour 15. One hour of downtime was recorded due to this event.
  - A repeat zero-span check was completed on December 21 hour 8 to assess span response after a biased low drift. The check results were within the acceptable range. One hour of downtime was recorded due to this additional quality check.
- **WS/WD:** Both WS and WD data appeared atypical, starting December 27 hour 19. Upon arrival on December 30, it was found that the blade was unbalanced due to ice causing reduced sensitivity of the sensors. The blade was de-iced. The wind speed response was tested afterwards. The test results were accurate and stable. Seventy-two hours of data collected between December 27 hour 19 and December 30 hour 19 were discarded due to this event.
- **RH/TPX:** Both RH and TPX channels were put offline while troubleshooting was being performed on the wind system on December 30 hour 18. One hour of downtime was recorded as a result.

VOCs Canister Sampling program:

- The canister sampling program collects a 1-hour sample of air when the continuously measured methane (CH4) and/or non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger points are 5.5 ppm for methane and 0.3 ppm for non-methane hydrocarbons. Both trigger points are based on real-time monitoring data that are averaged over a 5-minute period.
- Canisters sample collection systems are in place at Station 986c, 842b, and the Reno Station; a canister sample collection system is not part of the suite of instruments currently deployed at the AQHI-Cadotte Lake Station.
- Sample analysis and analytical results were prepared and provided by InnoTech Alberta.

- In December, one NMHC-triggered event was recorded at the Reno station.

Station	Parameter	Date	Time	Concentration (ppm)
Reno	Non-methane HC	Dec 3	15:55	0.91

- Non-methane Hydrocarbon-triggered sample was collected at the Reno station on December 3.

Sample Date/Time	2020-12-03 @15:55					
Canister Sample	Non-methane Hydrocarbon					
Canister ID	32201					
Method	NA-025	Method	NA-024		Method	AC-058
Maximum Reading (ppmv)	2.5 Methane	Maximum Reading (ppbv)	2.5	Carbonyl sulphide	Maximum Reading (ppbv)	133 Ethanol

- Blank sample was collected at the Reno station on December 3.

Sample Date/Time	2020-12-03 @15:55					
Canister Sample	Blank					
Canister ID	32266					
Method	NA-025	Method	NA-024		Method	AC-058
Maximum Reading (ppmv)	-	Maximum Reading (ppbv)	-		Maximum Reading (ppbv)	0.43 1-Butene/Isobutylene

Revisions to Alberta's Ambient Air Quality Data Warehouse

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

Deviations from Authorized Monitoring Methods

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

Disclaimer

Baseline correction 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 Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

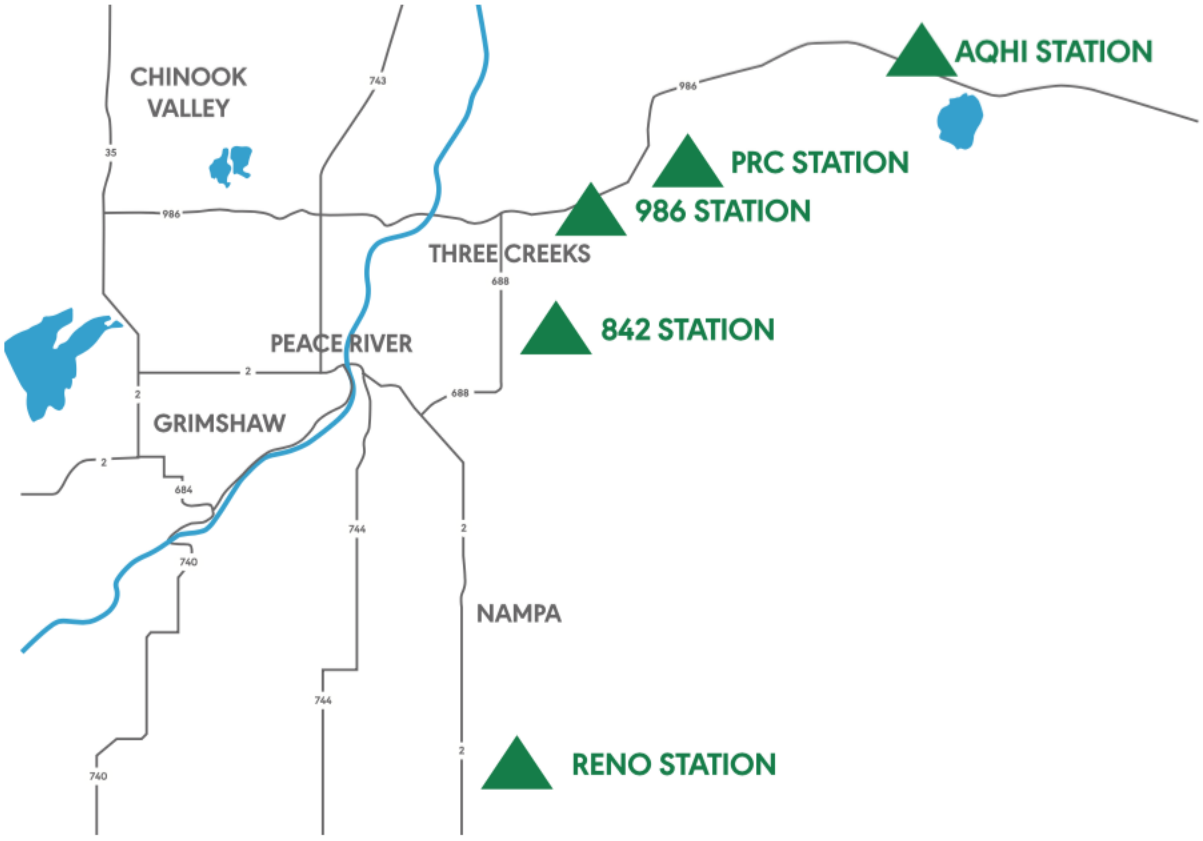
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD. Uploading of VOC data from the canister sampling program was not required at the time of completing this report.



Michael Bisaga, Technical Program Manager, PRAMP Airshed

January 13, 2021

Map of PRAMP Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

986c Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Thermo 43iQTL**	**119358646**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • A successful monthly calibration was performed on December 15.			
TRS	**Thermo 43iQTL**	**1191833341**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • A successful monthly calibration was performed on December 15.			
THC/CH4/NMHC	**Thermo 55i**	**119358652**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • A successful monthly calibration was performed on December 15.			
Relative Humidity (RH)	**Rotronic HC2-S3**	**Y23358**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • The RH sensor was checked on December 15. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne 092**	**F3845**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • The BP sensor was checked on December 15. The sensor passed the check requirements.			
Ambient Temperature (AT)	**Rotronic HC2-S3**	**2057528**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • The AT sensor was checked on December 15. The sensor passed the check requirements.			

Parameter	Make / Model	Serial Number	
Station Temperature (ST)	**Bureau Veritas Canada**	**N/A**	
• Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • No issue was identified this month.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young 05305L**	**174795**	
• Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on July 16, 2020. • Hourly data collected on December 12 hour 8 is missing due to a data polling error. One hour of downtime was recorded as a result. • The anemometer sensor was checked on December 15. The sensor passed the check requirements.			

Monitored Data Summary for 986c Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.1	0	1	December 1 at hour 3	11.1	WSW	0.7	December 29	99.9	94.7
TRS (ppb)	10	3	-	-	-	-	0.10	0.00	0.49	December 26 at hour 2	7.4	ENE	0.33	December 26	99.9	94.7
THC (ppm)	-	-	-	-	-	-	2.00	1.91	2.37	December 13 at hour 6	4.7	ESE	2.11	December 13	99.9	94.9
CH4 (ppm)	-	-	-	-	-	-	2.00	1.91	2.37	December 13 at hour 6	4.7	ESE	2.11	December 13	99.9	94.9
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	December 1 at hour 0	12.4	WNW	0.00	December 1	99.9	94.9
RH (%)	-	-	-	-	-	-	79.0	34	100	December 10 at hour 2	5.5	WSW	94.8	December 26	99.9	99.9
BP (millibar)	-	-	-	-	-	-	940	917	960	December 12 at hour 17	12.5	N	954	December 12	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	-7.6	-26.7	8.6	December 7 at hour 14	33.1	WSW	6.2	December 7	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	22.0	21.4	22.6	December 17 at hour 11	17.7	NNW	22.5	December 17	99.9	99.9
WSV (km/hr)	-	-	-	-	-	-	5.6	0.0	42.5	December 24 at hour 0	42.5	WSW	21.6	December 7	99.9	99.9
WDV (sector)	-	-	-	-	-	-	218 (SW)	-	-	-	-	-	-	-	99.9	99.9

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

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances at 986c Station

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

842b Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Thermo 43i / Thermo 43iQTL**	**835033373 / 1200736629**	
• Following a successful shut down calibration on December 15, the BV-supplied Thermo 43i analyzer, s/n: 835033373, was removed. The PRAMP-owned Thermo 43iQTL analyzer, s/n: 1200736629, was installed followed by an installation calibration on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition.			
TRS	**Thermo 43i-TLE / Thermo 43iQTL**	**1162460023 / 1200736630**	
• Following a successful shut down calibration on December 15, the BV-supplied Thermo 43i-TLE analyzer, s/n: 1162460023, was removed. The PRAMP-owned Thermo 43iQTL analyzer, s/n: 1200736630, was installed followed by an installation calibration on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition. • The analyzer spanned outside the acceptable limits on December 20 due to permeation tube issues. A repeat zero-span check was completed on December 21 hour 9 to assess span responses. The permeation tube was replaced and was followed by a successful repeat multi-point calibration on December 22. Eight hours of downtime were recorded due to additional quality checks and maintenance.			
THC/CH4/NMHC	**Thermo 55i**	**1314057759 / 1501663728**	
• Following a successful shut down calibration on December 15, the BV-supplied Thermo 55i HC analyzer, s/n: 1314057759, was removed. The PRAMP-owned Thermo 55i HC analyzer, s/n: 1501663728, was installed followed by a successful installation calibration on December 17. Forty-five hours of downtime were recorded due to trailer and equipment transition. • Sporadic injection issues started on December 20 hour 19. The actuator was replaced and the gas pressure was adjusted on December 22. A successful post-repair calibration was completed afterwards. Forty-eight hours of downtime were recorded due to the analyzer failure and additional quality checks and maintenance.			
Relative Humidity (RH)	**Campbell Scientific HMP45C / Rotronic HC2-S3**	**C2608 / 20370767**	
• Following a shut down audit on December 15, the BV-supplied Campbell Scientific HMP45C sensor, s/n: C2608, was removed. The PRAMP-owned Rotronic HC2-S3 sensor, s/n: 20370767, was installed followed by a sensor audit on December 16. Twenty-nine hours of downtime were recorded due to trailer and equipment transition.			

Parameter	Make / Model	Serial Number	
Barometric Pressure (BP)	**MetOne 92 /**	**K12864 / Y23362**	
• Following a shut down audit on December 15, the BV-supplied MetOne 092 sensor, s/n: K12864, was removed on December 15. The PRAMP-owned MetOne 092, s/n: Y23362 sensor, was installed followed by a sensor audit on December 16. Twenty-nine hours of downtime were recorded due to trailer and equipment transition.			
Station Temperature (ST)	**Bureau Veritas Canada**	**N/A**	
• No issue was identified this month.			
Ambient Temperature (AT)	**Campbell Scientific HMP45C / Rotronic HC2-S3**	**C2608 /20370767**	
• Following a shut down audit on December 15, the BV-supplied Campbell Scientific HMP45C sensor, s/n: C2608, was removed. The PRAMP-owned Rotronic HC2-S3 sensor, s/n: 20370767, was installed followed by a sensor audit on December 16. Twenty-nine hours of downtime were recorded due to trailer and equipment transition.			
Precipitation (Precip)	**RM Young 5202**	**TB1877**	
• The precipitation gauge system was removed after a successful shut down audit was completed on December 15 for the trailer and equipment transition. The system was installed on the new PRAMP-owned trailer on December 16. A sensor audit/check was completed afterwards. Thirty hours of downtime were recorded.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young 5305VK / RM Young 05305AQ**	**124638 / 174802**	
• Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on December 16, 2020. • Following a successful shut down calibration on December 15, the BV-supplied RM Young 05305VK sensor, s/n: 124638, was removed on December 15. The PRAMP-owned RM Young 05305AQ sensor, s/n: 174802, was installed followed by a successful installation calibration on December 16. Twenty-eight hours of downtime were recorded due to trailer and equipment transition.			

Monitored Data Summary for 842b Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	December 2 at hour 16	12.8	SSE	0.3	December 3	94.0	89.0
TRS (ppb)	10	3	-	-	-	-	0.55	0.27	1.88	December 22 at hour 18	6.2	S	1.06	December 21	92.9	88.0
THC (ppm)	-	-	-	-	-	-	1.93	1.80	2.40	December 13 at hour 6	3	ENE	2.12	December 13	87.5	82.8
CH4 (ppm)	-	-	-	-	-	-	1.93	1.80	2.40	December 13 at hour 6	3	ENE	2.12	December 13	87.5	82.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.03	December 8 at hour 16	13.5	SW	0.00	December 8	87.5	82.8
RH (%)	-	-	-	-	-	-	74.6	35	95	December 20 at hour 4	1.1	SE	89.4	December 26	96.1	96.1
BP (millibar)	-	-	-	-	-	-	940	916	960	December 12 at hour 16	5.1	NNW	955	December 12	96.1	96.1
Ext. Temp. (°C)	-	-	-	-	-	-	-7.4	-28.3	8.5	December 5 at hour 13	6.3	SSE	5.5	December 7	96.1	96.1
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	17.3	23.3	December 17 at hour 19	2.4	NE	22.8	December 27	96.1	96.1
Precipitation (mm)*	-	-	-	-	-	-	1.5	0.0	0.3	December 7 at hour 8	10.6	SSE	0.7	December 7	96.0	96.0
WSV (km/hr)	-	-	-	-	-	-	5.1	0.2	38.5	December 7 at hour 15	38.5	WSW	19.2	December 7	96.2	96.0
WDV (sector)	-	-	-	-	-	-	213 (SSW)	-	-	-	-	-	-	-	96.2	96.0

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 842b Station

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

Reno Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**API / 100A**	**1502**	
• A successful monthly calibration was performed on December 1. • The analyzer showed a positive zero drift after the monthly calibration on November 3. The drift continued appearing after the December calibration. An as found points check was performed on December 23 in response to daily zero drift. This confirmed that the daily zero results were inaccurate and should not used for baseline corrections. As found zero results, which was obtained on December 23, were used for baseline correction. Maintenance has been scheduled to correct the issue in January 2021. Two hours of downtime were recorded due to the as found points check.			
TRS	**Thermo 43i-TLE**	**1162460022**	
• The analyzer failed the low point calibration check on December 1. Based on the change in response between calibration attempts, it was presumed that the scrubber beads were reacting adversely to the very dry air which was produced by the zero-air generator. As the initial as found high point was acceptable and given daily span checks had been within the acceptable range, it was considered that the preceding data were valid. Maintenance was performed on December 1, including the scrubber material renewal and the TRS converter replacement (CD Nova CDN-101, s/n: 516 was replaced to s/n: 522). The analyzer was allowed time to stabilized. A successful post-repair calibration was completed on December 3. Forty-eight hours of data were discarded due to this maintenance event. • The analyzer failed the daily span check on December 13. An as found points check was completed on December 14, and the results met the AMD requirements. The span responses continued to drift. The issue appeared to be isolated to the zero-span system and did not impact analyzer performance. Another zero-span check was conducted on December 18 hour 7 as part of monitoring span response. The drift will be corrected in the January 2021 monthly calibration. Three hours of downtime were recorded due to additional quality checks.			
THC/CH4/NMHC	**Thermo / 55i**	**1505664392**	
• A successful monthly calibration was performed on December 1. • The analyzer failed the daily zero check on December 27 due to a datalogger error. A successful repeat zero-span check was completed on December 28. One hour of downtime was recorded due to the additional quality check.			

Parameter	Make / Model	Serial Number	
Relative Humidity (RH)	**RM Young / 43172VC**	**60837897**	
• No issue was identified this month. • The RH sensor was checked on December 1. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne / 92**	**R12877**	
• No issue was identified this month. • The BP sensor was checked on December 1. The sensor passed the check requirements.			
Ambient Temperature (AT)	**RM Young / 43172VC**	**60837897**	
• No issue was identified this month. • The AT sensor was checked on December 1. The sensor passed the check requirements.			
Station Temperature (ST)	**Bureau Veritas Canada**	**N/A**	
• No issue was identified this month.			
Precipitation (Precip)	**RM Young 5202**	**TB1588**	
• No issue was identified this month. • The rain gauge sensor was checked on December 1. The sensor passed the check requirements.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**149769**	
• Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on June 17, 2020. • The anemometer was checked on December 1. The system passed the check requirements.			

Monitored Data Summary for Reno Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.4	0	2	December 20 at hour 8	7.2	W	1.7	December 30	99.7	94.7
TRS (ppb)	10	3	-	-	-	-	0.18	0.02	0.98	December 5 at hour 21	4.7	S	0.31	December 27	93.1	87.5
THC (ppm)	-	-	-	-	-	-	2.00	1.91	3.00	December 29 at hour 16	3	S	2.20	December 30	100.0	95.3
CH4 (ppm)	-	-	-	-	-	-	2.00	1.91	3.00	December 29 at hour 16	3	S	2.20	December 30	100.0	95.3
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.77	December 3 at hour 16	0.5	S	0.04	December 3	100.0	95.3
RH (%)	-	-	-	-	-	-	71.3	37	100	December 20 at hour 5	6.4	SSW	86.3	December 31	100.0	100.0
BP (millibar)	-	-	-	-	-	-	936	912	955	December 12 at hour 16	6.6	NW	949	December 12	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-7.6	-26.2	7.8	December 7 at hour 12	17.7	SW	5.5	December 7	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	21.7	19.6	25.3	December 1 at hour 13	11.2	SW	23.4	December 1	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	1.7	0.0	0.5	December 16 at hour 13	1.3	ENE	0.6	December 16	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.7	0.0	20.7	December 23 at hour 16	20.7	WSW	10.3	December 7	100.0	100.0
WDV (sector)	-	-	-	-	-	-	223 (SW)	-	-	-	-	-	-	-	100.0	100.0

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

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

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

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

AQHI – Cadotte Lake Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Teledyne / T100**	**722**	
• A successful monthly calibration was performed on December 16.			
TRS	**Thermo 43i-TLE**	**1152940011**	
• A successful monthly calibration was performed on December 16.			
NOx/NO/NO2	**Teledyne / T200**	**837**	
• A successful monthly calibration was performed on December 16.			
O3	**Teledyne / T400**	**824**	
• A successful monthly calibration was performed on December 16. • The channel was put offline while the glass manifold was cleaned on December 16 hour 15. One hour of downtime was recorded due to this event. • A repeat zero-span check was completed on December 21 hour 8 to assess span response after a biased low drift. The check results were within the acceptable range. One hour of downtime was recorded due to this additional quality check.			
THC/CH4/NMHC	**Thermo / 55i**	**1191032505**	
• A successful monthly calibration was performed on December 16.			
PM 2.5	**Teledyne / T640**	**318**	
• A successful monthly calibration/audit was performed on December 16.			

Parameter	Make / Model	Serial Number	
Relative Humidity (RH)	**Vaisala / HMP155**	**N2910506**	
• The sensor was checked on December 16. The sensor passed the check requirements. • The channel was put offline while troubleshooting was being performed on the wind system on December 30 hour 18. One hour of downtime was recorded as a result.			
Ambient Temperature (AT)	**Vaisala / HMP155**	**N2910506**	
• The sensor was checked on December 16. The sensor passed the check requirements. • The channel was put offline while troubleshooting was being performed on the wind system on December 30 hour 18. One hour of downtime was recorded as a result.			
Station Temperature (ST)	**Bureau Veritas Canada**	**N/A**	
• No issue was identified this month.			
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 annual wind system calibration was completed on June 18, 2020. • The anemometer sensors were checked on December 16. The sensors passed the check requirements. • Both WS and WD data appeared atypical, starting December 27 hour 19. Upon arrival on December 30, it was found that the blade was unbalanced due to ice causing reduced sensitivity of the sensors. The blade was de-iced. The wind speed response was tested afterwards. The test results were accurate and stable. Seventy-two hours of data collected between December 27 hour 19 and December 30 hour 19 were discarded due to this event.			

Monitored Data Summary for AQHI - Cadotte Lake Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	December 17 at hour 3	6	NNE	0.2	December 17	100.0	94.9
TRS (ppb)	10	3	-	-	-	-	0.54	0.31	2.60	December 21 at hour 11	0.4	NNW	1.71	December 21	100.0	94.9
NOx (ppb)	-	-	-	-	-	-	1.8	0	32	December 29 at hour 14	n/a	n/a	5.1	December 30	100.0	94.6
NO (ppb)	-	-	-	-	-	-	0.3	0	22	December 29 at hour 14	n/a	n/a	2.4	December 29	100.0	94.6
NO2 (ppb)	159	-	-	0	-	-	1.5	0	10	December 19 at hour 18	2.1	ESE	3.1	December 30	100.0	94.6
O3 (ppb)	76	-	-	0	-	-	23.7	1	45	December 2 at hour 13	10.2	WSW	41.6	December 7	99.7	94.9
THC (ppm)	-	-	-	-	-	-	1.94	1.82	2.09	December 21 at hour 23	0.5	NW	2.03	December 30	100.0	95.1
CH4 (ppm)	-	-	-	-	-	-	1.94	1.82	2.06	December 25 at hour 20	1.4	W	2.03	December 30	100.0	95.1
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.07	December 21 at hour 23	0.5	NW	0.01	December 21	100.0	95.1
PM2.5 (µg/m3)	80	30	-	0	0	-	5.3	0.3	71.4	December 20 at hour 10	9.3	W	25.5	December 25	100.0	99.7
RH (%)	-	-	-	-	-	-	76.6	34	97	December 4 at hour 2	1	E	90.6	December 26	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	-10.0	-30.2	9.8	December 7 at hour 0	17.6	SW	7.2	December 7	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	22.8	20.9	24.4	December 13 at hour 6	0.7	NNE	23.5	December 24	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.2	0.0	23.6	December 7 at hour 13	23.6	WSW	13.5	December 7	90.2	90.2
WDV (sector)	-	-	-	-	-	-	252 (WSW)	-	-	-	-	-	-	-	90.2	90.2

1- Date/ Time given is the first minimum and maximum value that was recorded
n/a: Valid data not available

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

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

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986c STATION

PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

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

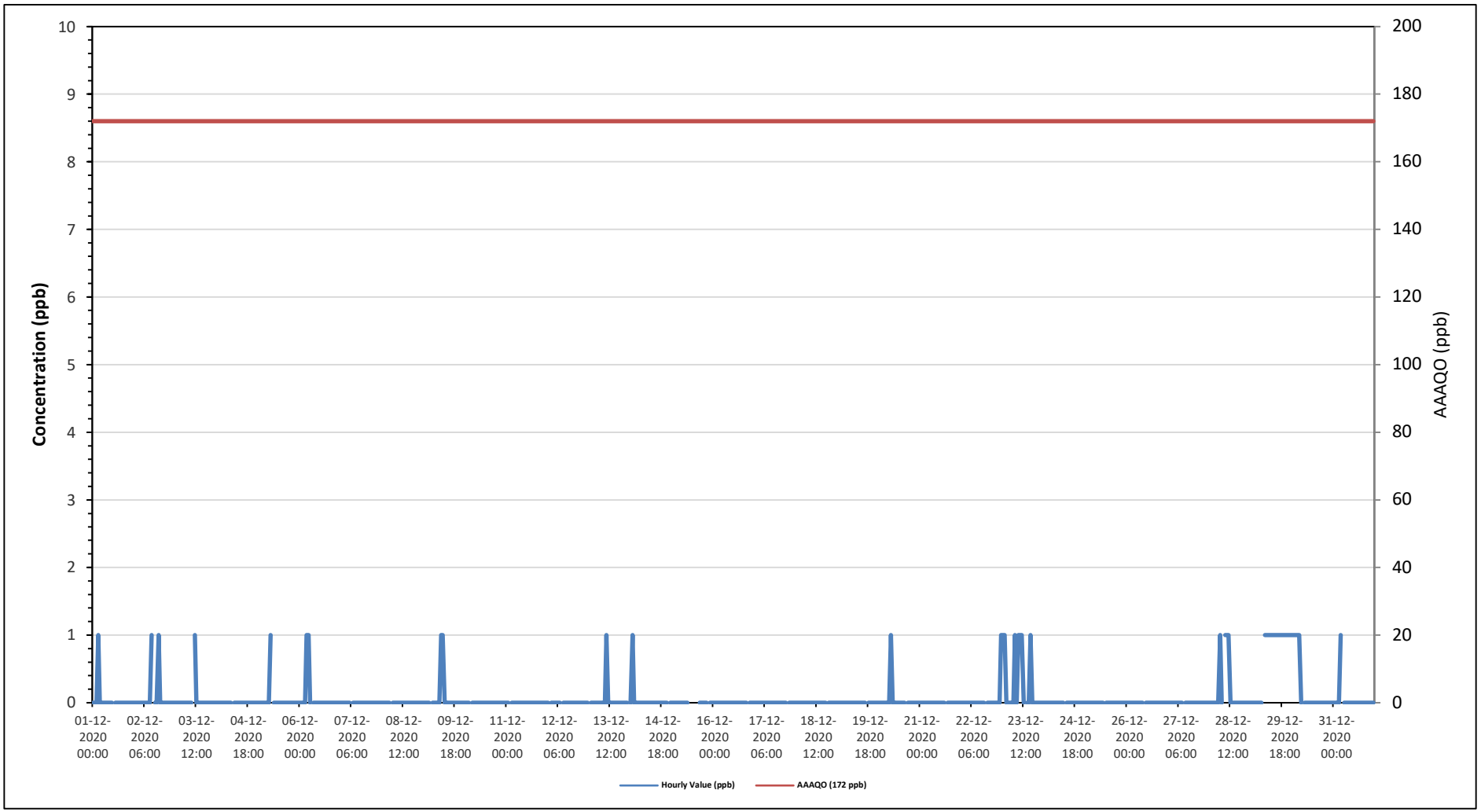
Maximum Hourly Value:	1	ppb	on December 1 at hour 3	Hours in Service:	744
Maximum Daily Value:	0.7	ppb	on December 29	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on December 4	Hours of Calibration:	38
Monthly Average:	0.1	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	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 2	0	0	0	0	0	0	0	0	0	0	1	S	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 3	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 4	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 5	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 6	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 7	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 8	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 9	0	0	0	0	S	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 10	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 11	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 12	0	S	0	0	0	0	0	0	K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Dec 13	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Dec 14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.0
Dec 15	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	S	0	0	0	0	-
Dec 16	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 17	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 18	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 19	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 20	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0
Dec 21	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 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	1	0.0
Dec 23	1	1	0	0	0	0	0	1	0	1	1	1	0	S	0	0	1	0	0	0	0	0	0	0	0	1	0.3
Dec 24	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Dec 25	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 26	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 27	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 28	0	0	0	0	0	0	1	0	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Dec 29	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	**0.7**
Dec 30	1	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Dec 31	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Diurnal Average	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1			

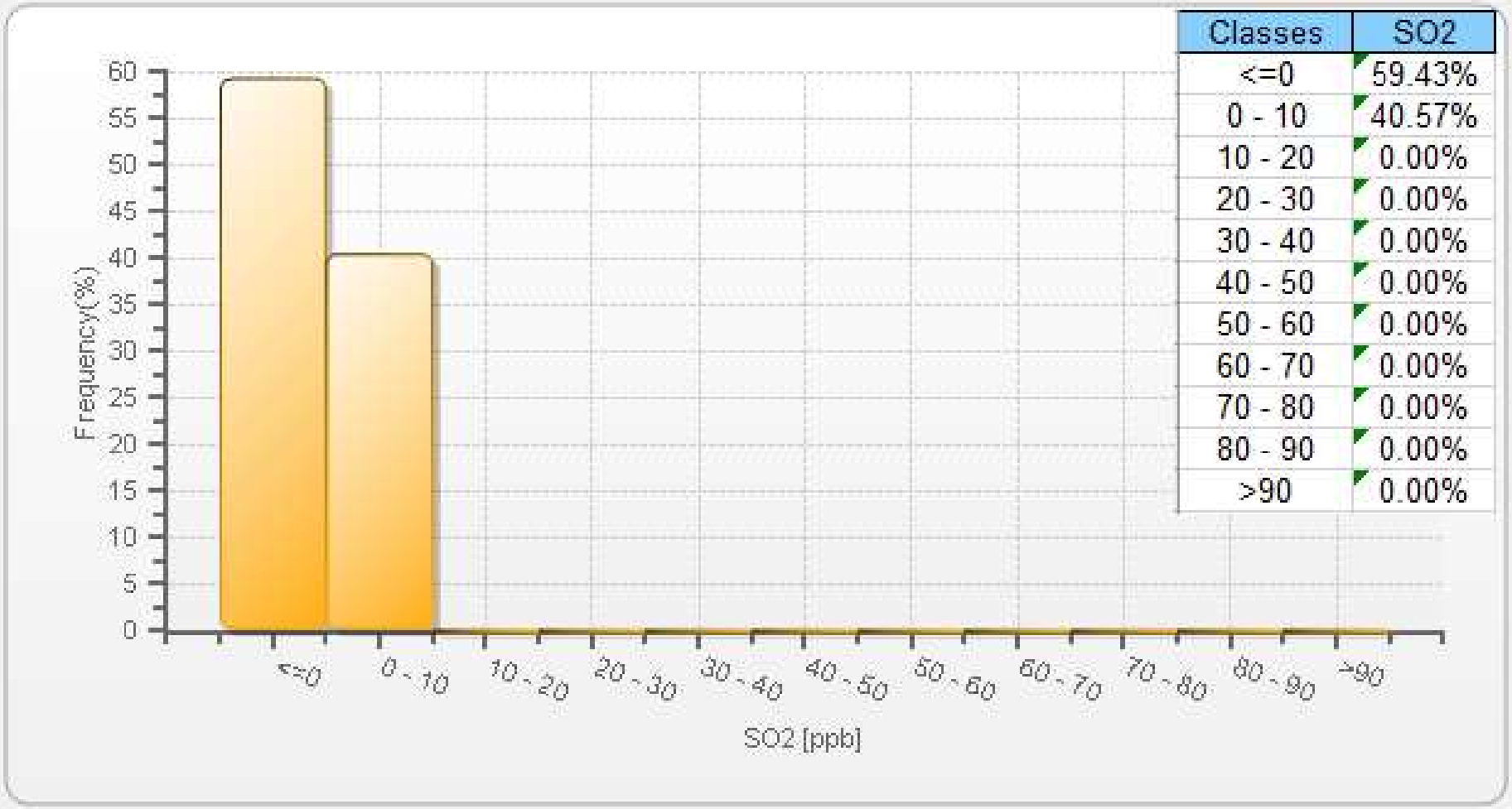
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 - 986c Station



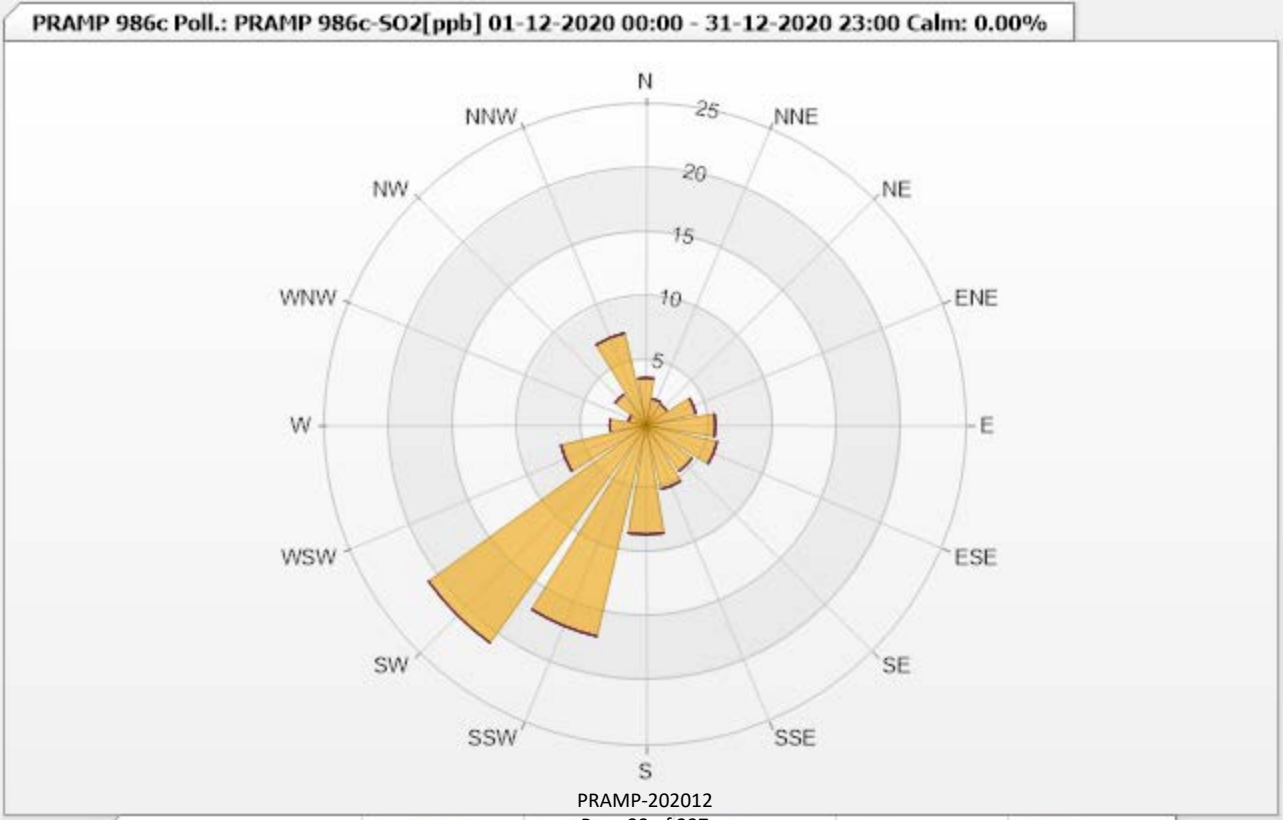
SO2[ppb] Histogram: PRAMP 986c Monthly: 12-2020 1 Hr.



Classes	SO2
<=0	59.43%
0 - 10	40.57%
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: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.69	0	0	0	0	3.69
NNE	2.13	0	0	0	0	2.13
NE	1.99	0	0	0	0	1.99
ENE	3.97	0	0	0	0	3.97
E	5.39	0	0	0	0	5.39
ESE	5.67	0	0	0	0	5.67
SE	4.4	0	0	0	0	4.4
SSE	5.11	0	0	0	0	5.11
S	8.51	0	0	0	0	8.51
SSW	16.88	0	0	0	0	16.88
SW	20.85	0	0	0	0	20.85
WSW	6.81	0	0	0	0	6.81
W	2.84	0	0	0	0	2.84
WNW	1.42	0	0	0	0	1.42
NW	2.98	0	0	0	0	2.98
NNW	7.38	0	0	0	0	7.38
Summary	100	0	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] 01-12-2020 00:00 - 31-12-2020 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

986c Station - December 2020

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

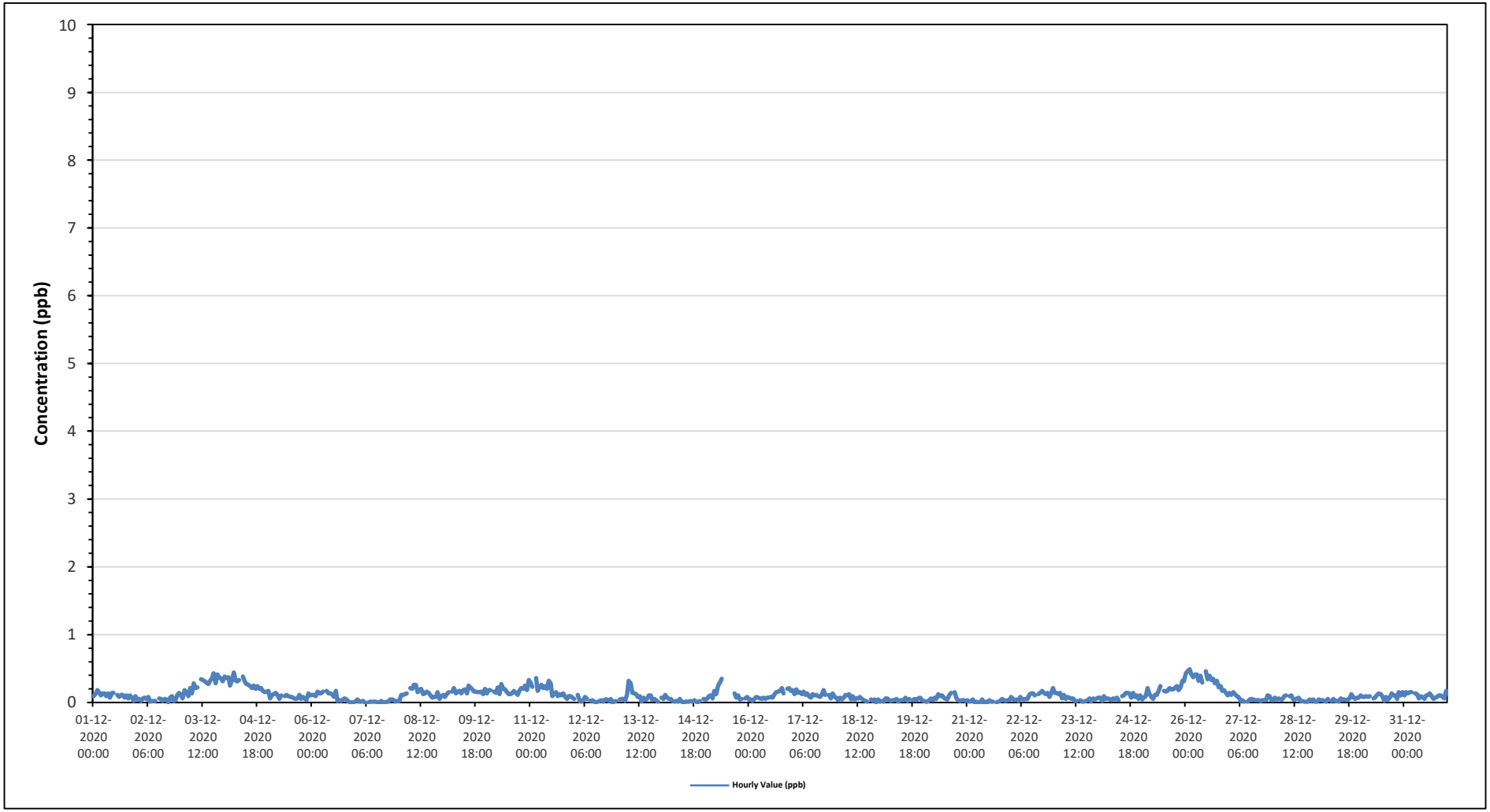
Maximum Hourly Value:	0.49	ppb	on December 26 at hour 2	Hours in Service:	744
Maximum Daily Value:	0.33	ppb	on December 26	Hours of Data:	705
Minimum Hourly Value:	0.00	ppb	on December 2 at hour 17	Hours of Missing Data:	1
Minimum Daily Value:	0.01	ppb	on December 7	Hours of Calibration:	38
Monthly Average:	0.10	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	0.09	0.12	0.18	0.15	0.1	0.13	0.13	0.09	0.13	0.07	0.14	0.14	S	0.11	0.08	0.11	0.11	0.07	0.1	0.06	0.1	0.07	0.02	0.09	0.02	0.18	0.10
Dec 2	0.04	0.05	0.02	0.06	0.07	0.05	0.08	0.01	0.02	0.02	0.02	S	0.06	0.05	0.02	0.05	0.04	0	0.07	0.09	0.02	0.03	0.11	0.14	**0.00**	0.14	0.05
Dec 3	0.1	0.06	0.18	0.15	0.09	0.21	0.13	0.28	0.21	0.22	S	0.34	0.33	0.31	0.29	0.27	0.32	0.36	0.43	0.28	0.41	0.37	0.35	0.31	0.06	0.43	0.26
Dec 4	0.38	0.36	0.37	0.25	0.33	0.44	0.32	0.31	0.33	S	0.38	0.31	0.27	0.26	0.24	0.21	0.25	0.2	0.24	0.2	0.21	0.17	0.15	0.16	0.15	0.44	0.28
Dec 5	0.17	0.06	0.11	0.12	0.14	0.11	0.05	0.1	S	0.09	0.11	0.09	0.08	0.08	0.06	0.05	0.06	0.11	0.05	0.08	0.05	0.03	0.13	0.1	0.03	0.17	0.09
Dec 6	0.11	0.11	0.09	0.16	0.13	0.13	0.16	S	0.17	0.13	0.13	0.12	0.08	0.17	0.02	0.03	0.02	0.04	0.06	0.04	0.01	0	0	0	**0.00**	0.17	0.08
Dec 7	0.02	0.04	0.01	0.01	0.02	0	S	0	0.01	0.01	0.01	0.01	0	0	0.02	0	0	0.01	0.01	0.04	0.04	0.03	0.01	0.02	**0.00**	0.04	0.01
Dec 8	0.02	0.11	0.11	0.12	0.13	S	0.21	0.2	0.26	0.26	0.15	0.18	0.2	0.12	0.13	0.16	0.14	0.11	0.07	0.08	0.08	0.15	0.05	0.09	0.02	0.26	0.14
Dec 9	0.11	0.08	0.12	0.15	S	0.16	0.21	0.13	0.16	0.17	0.13	0.18	0.19	0.13	0.25	0.22	0.19	0.16	0.16	0.15	0.15	0.16	0.12	0.2	0.08	0.25	0.16
Dec 10	0.13	0.18	0.18	S	0.16	0.14	0.22	0.12	0.27	0.2	0.19	0.15	0.12	0.12	0.14	0.17	0.14	0.11	0.18	0.21	0.2	0.25	0.18	0.33	0.11	0.33	0.18
Dec 11	0.29	0.23	S	0.36	0.17	0.22	0.26	0.21	0.24	0.2	0.32	0.28	0.09	0.12	0.15	0.09	0.12	0.1	0.13	0.08	0.05	0.09	0.09	0.07	0.05	0.36	0.17
Dec 12	0.05	S	0.11	0.02	0.01	0.03	0.08	0.05	K	0.02	0.03	0.01	0	0.01	0.02	0.03	0.01	0.04	0.04	0.02	0.05	0	0.01	0.02	**0.00**	0.11	0.03
Dec 13	S	0.04	0.05	0.05	0.02	0.12	0.32	0.28	0.14	0.13	0.12	0.08	0.09	0.01	0.07	0.03	0.05	0.1	0.1	0.03	0.05	0.03	0.01	S	0.01	0.32	0.09
Dec 14	0.07	0.05	0.11	0.07	0.05	0.05	0.02	0.01	0.02	0.01	0.05	0.01	0	0.01	0.01	0.01	0.02	0.01	0.03	0.01	0	0.02	S	0.05	**0.00**	0.11	0.03
Dec 15	0.04	0.05	0.09	0.1	0.06	0.17	0.12	0.25	0.29	0.35	C	C	C	C	C	C	0.13	0.07	0.1	0.04	0.05	S	0.06	0.08	0.04	0.35	-
Dec 16	0.04	0.04	0.02	0.05	0.08	0.07	0.06	0.05	0.07	0.05	0.07	0.07	0.08	0.07	0.12	0.15	0.16	0.17	0.21	0.13	S	0.2	0.21	0.17	0.02	0.21	0.10
Dec 17	0.18	0.12	0.19	0.14	0.15	0.12	0.16	0.11	0.13	0.09	0.07	0.12	0.1	0.11	0.09	0.08	0.11	0.18	0.11	S	0.11	0.06	0.13	0.08	0.06	0.19	0.12
Dec 18	0.07	0.03	0.07	0.04	0.07	0.11	0.1	0.12	0.04	0.09	0.04	0.06	0.06	0.08	0.05	0.03	0.02	0.01	S	0.04	0.02	0.04	0	0.04	**0.00**	0.12	0.05
Dec 19	0.01	0.02	0.01	0.06	0.06	0.03	0.02	0.03	0.03	0.05	0.01	0.03	0.03	0.03	0.07	0.02	0.05	S	0.03	0.05	0.03	0.06	0.07	0.03	0.01	0.07	0.04
Dec 20	0.02	0.01	0.01	0.03	0.06	0.03	0.07	0.05	0.12	0.09	0.1	0.07	0.05	0.04	0.11	0.14	S	0.15	0.06	0.03	0.02	0.03	0.03	0.02	0.01	0.15	0.06
Dec 21	0.03	0.01	0.02	0.04	0	0.01	0	0	0.04	0	0.01	0	0.03	0.01	0.01	S	0	0.01	0.02	0.05	0.03	0.02	0.03	0.03	**0.00**	0.05	0.02
Dec 22	0.08	0.05	0.03	0.04	0.02	0.08	0.05	0.04	0.05	0.05	0.11	0.13	0.13	0.1	S	0.12	0.14	0.17	0.14	0.12	0.14	0.08	0.14	0.21	0.02	0.21	0.10
Dec 23	0.14	0.14	0.12	0.14	0.06	0.11	0.05	0.08	0.07	0.05	0.06	0.02	0.02	S	0.03	0.01	0.01	0.02	0.03	0.06	0.01	0.06	0.04	0.06	0.01	0.14	0.06
Dec 24	0.07	0.07	0.02	0.09	0.05	0.06	0.05	0.03	0.06	0.04	0.07	0.03	S	0.09	0.1	0.14	0.14	0.13	0.07	0.14	0.08	0.1	0.05	0.1	0.02	0.14	0.08
Dec 25	0.04	0.07	0.09	0.21	0.12	0.08	0.05	0.11	0.11	0.17	0.24	S	0.17	0.16	0.17	0.21	0.19	0.19	0.21	0.24	0.18	0.22	0.32	0.31	0.04	0.32	0.17
Dec 26	0.43	0.46	**0.49**	0.42	0.37	0.41	0.41	0.32	0.39	0.29	S	0.46	0.34	0.39	0.33	0.35	0.28	0.32	0.22	0.24	0.17	0.18	0.14	0.1	0.10	**0.49**	**0.33**
Dec 27	0.14	0.11	0.15	0.12	0.09	0.08	0.02	0.03	0.01	S	0.01	0.04	0.05	0.04	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.1	0.09	0.03	0.01	0.15	0.06
Dec 28	0.03	0.07	0.04	0.06	0.04	0.04	0.09	0.1	S	0.09	0.1	0.04	0.04	0.06	0.07	0.02	0.02	0.01	0.01	0.01	0.04	0.02	0.04	0.01	0.01	0.10	0.05
Dec 29	0.01	0.04	0.03	0.03	0.02	0.01	0.05	S	0.02	0.05	0.02	0.02	0.01	0.06	0.04	0.04	0.03	0.04	0.06	0.12	0.08	0.05	0.07	0.07	0.01	0.12	0.04
Dec 30	0.1	0.08	0.08	0.09	0.08	0.09	S	0.06	0.07	0.11	0.13	0.12	0.09	0.02	0.08	0.04	0.07	0.13	0.1	0.1	0.05	0.15	0.1	0.15	0.02	0.15	0.09
Dec 31	0.1	0.15	0.13	0.15	0.15	S	0.13	0.12	0.06	0.09	0.08	0.05	0.1	0.11	0.13	0.09	0.05	0.07	0.08	0.1	0.1	0.08	0.06	0.17	0.05	0.17	0.10
Diurnal Maximum	0.43	0.46	0.49	0.42	0.37	0.44	0.41	0.32	0.39	0.35	0.38	0.46	0.34	0.39	0.33	0.35	0.32	0.36	0.43	0.28	0.41	0.37	0.35	0.33			
Diurnal Average	0.10	0.10	0.11	0.12	0.10	0.11	0.12	0.11	0.13	0.11	0.10	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.10	0.09	0.10	0.09	0.11			

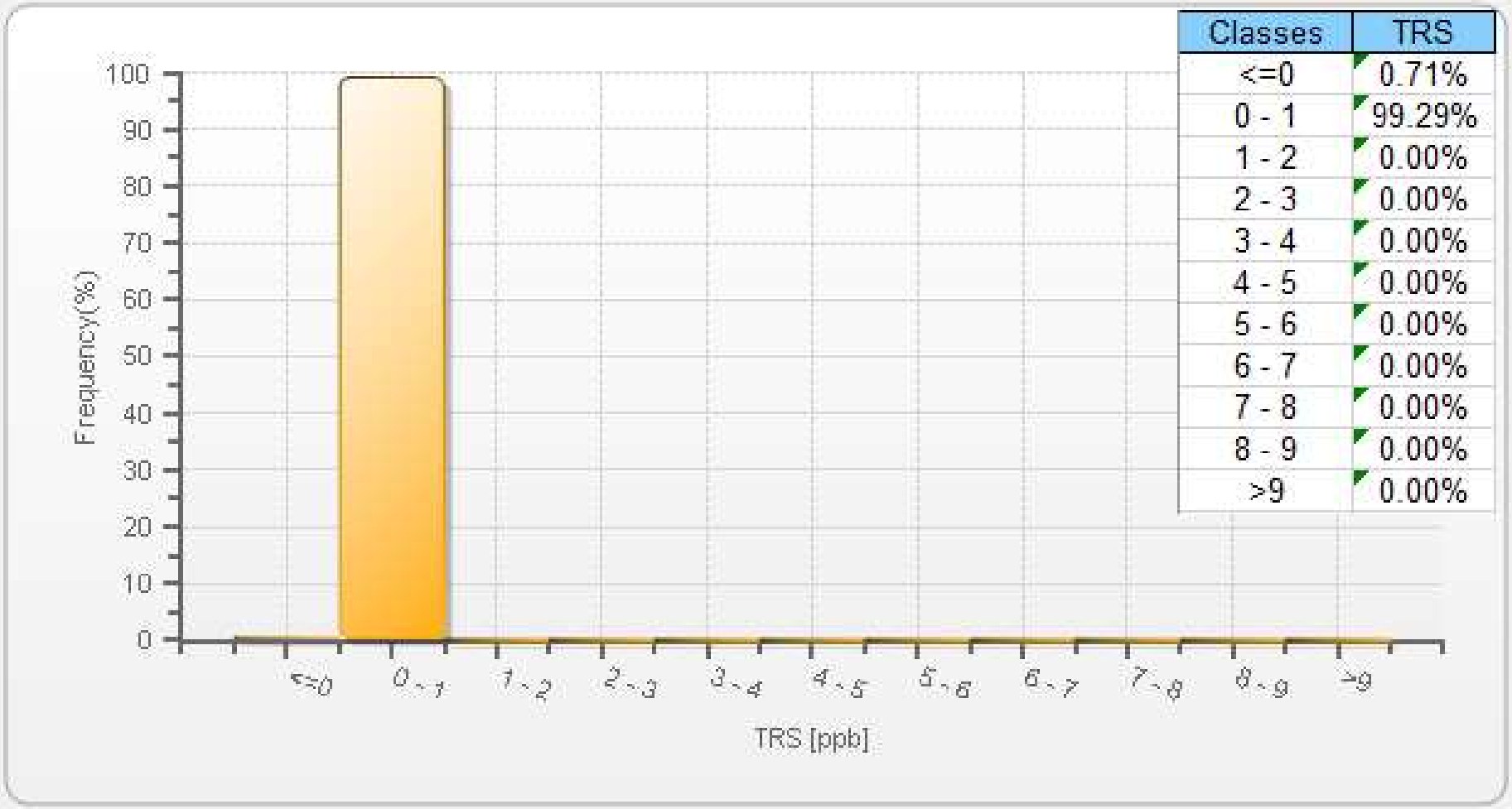
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 TRS - 986c Station



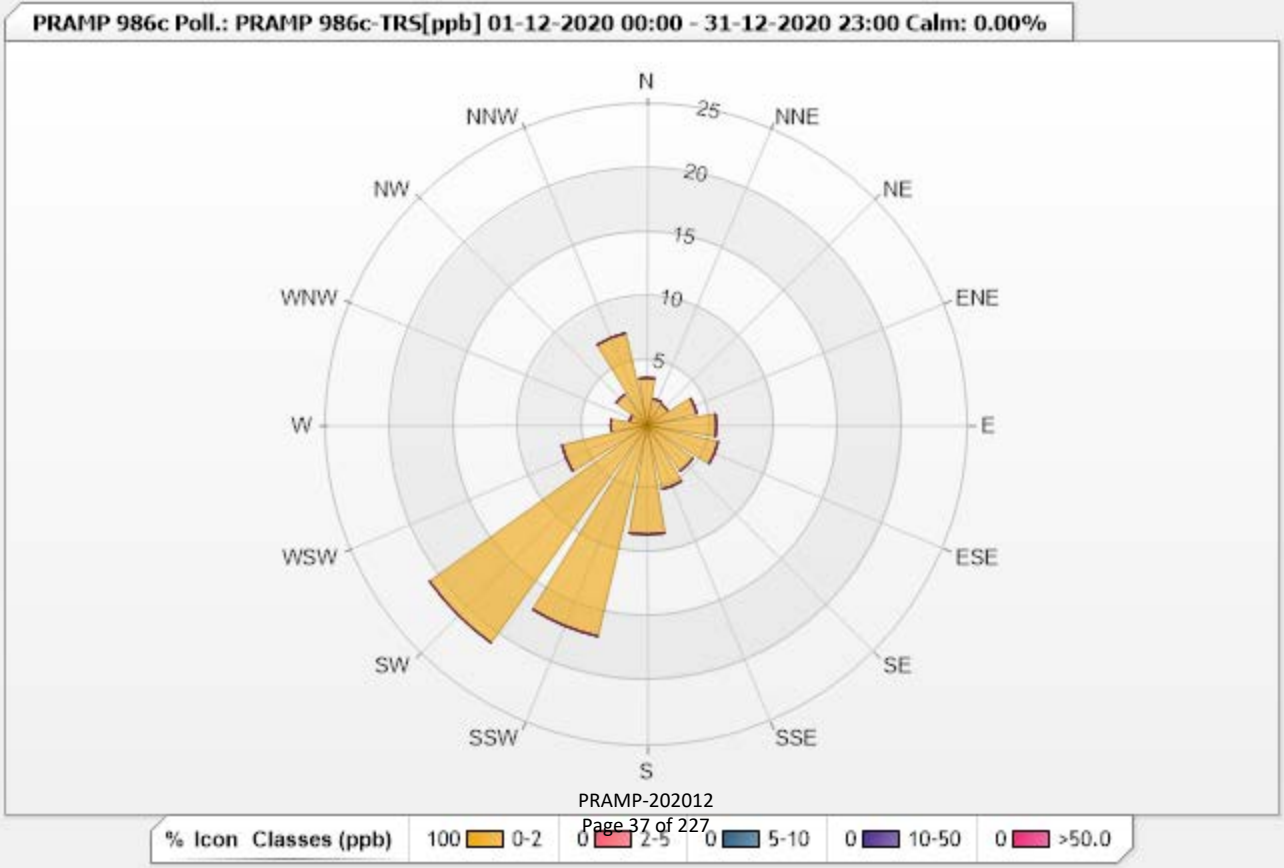
TRS[ppb] Histogram: PRAMP 986c Monthly: 12-2020 1 Hr.



Classes	TRS
<=0	0.71%
0 - 1	99.29%
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 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 12-2020 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	3.69	0	0	0	0	3.69
NNE	2.13	0	0	0	0	2.13
NE	1.99	0	0	0	0	1.99
ENE	3.97	0	0	0	0	3.97
E	5.39	0	0	0	0	5.39
ESE	5.67	0	0	0	0	5.67
SE	4.4	0	0	0	0	4.4
SSE	5.11	0	0	0	0	5.11
S	8.51	0	0	0	0	8.51
SSW	16.88	0	0	0	0	16.88
SW	20.85	0	0	0	0	20.85
WSW	6.81	0	0	0	0	6.81
W	2.84	0	0	0	0	2.84
WNW	1.42	0	0	0	0	1.42
NW	2.98	0	0	0	0	2.98
NNW	7.38	0	0	0	0	7.38
Summary	100	0	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] 01-12-2020 00:00 - 31-12-2020 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 2020

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

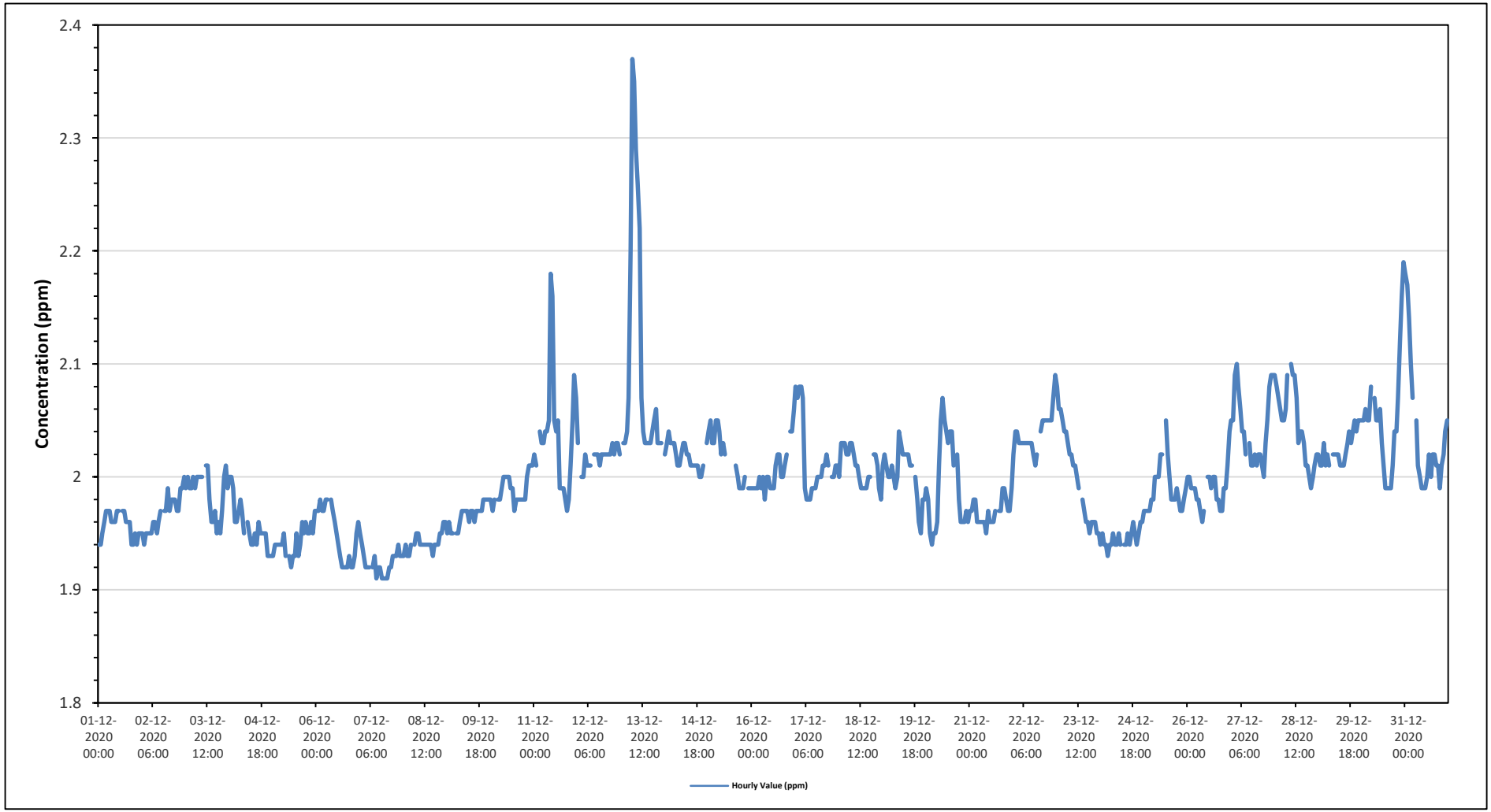
Maximum Hourly Value:	2.37	ppm	on December 13 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.11	ppm	on December 13	Hours of Data:	706
Minimum Hourly Value:	1.91	ppm	on December 7 at hour 9	Hours of Missing Data:	1
Minimum Daily Value:	1.92	ppm	on December 7	Hours of Calibration:	37
Monthly Average:	2.00	ppm		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.97	S	1.97	1.97	1.96	1.96	1.96	1.94	1.94	1.95	1.94	1.95	1.95	1.94	1.97	1.96
Dec 2	1.95	1.94	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.96	1.97	S	1.97	1.97	1.99	1.97	1.98	1.98	1.98	1.97	1.97	1.99	1.99	2.00	1.94	2.00	1.97
Dec 3	1.99	2.00	1.99	1.99	2.00	1.99	2.00	2.00	2.00	2.00	S	2.01	2.01	1.98	1.96	1.96	1.97	1.95	1.96	1.95	1.97	2.00	2.01	1.99	1.95	2.01	1.99
Dec 4	2.00	2.00	1.99	1.96	1.96	1.97	1.98	1.97	1.95	S	1.96	1.95	1.94	1.94	1.95	1.94	1.96	1.95	1.95	1.95	1.95	1.93	1.93	1.93	1.93	2.00	1.96
Dec 5	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.93	S	1.93	1.92	1.93	1.93	1.95	1.93	1.94	1.96	1.95	1.96	1.95	1.95	1.96	1.95	1.97	1.92	1.97	1.94
Dec 6	1.97	1.97	1.98	1.97	1.97	1.98	1.98	S	1.98	1.97	1.96	1.95	1.94	1.93	1.92	1.92	1.92	1.92	1.93	1.92	1.92	1.93	1.95	1.96	1.92	1.98	1.95
Dec 7	1.95	1.94	1.93	1.92	1.92	1.92	S	1.92	1.93	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.93	1.93	1.94	1.93	1.93	**1.91**	1.95	1.92
Dec 8	1.93	1.94	1.93	1.93	1.94	S	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.95	1.96	1.96	1.93	1.96	1.94
Dec 9	1.95	1.96	1.95	1.95	S	1.95	1.95	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.95	1.98	1.97
Dec 10	1.98	1.97	1.98	S	1.98	1.98	1.99	2.00	2.00	2.00	2.00	1.99	1.99	1.97	1.98	1.98	1.98	1.98	1.98	1.98	2.00	2.01	2.01	2.01	1.97	2.01	1.99
Dec 11	2.02	2.01	S	2.04	2.03	2.03	2.04	2.04	2.05	2.18	2.16	2.05	2.04	2.05	1.99	1.99	1.99	1.98	1.97	1.98	2.01	2.05	2.09	2.07	1.97	2.18	2.04
Dec 12	2.03	S	2.00	2.00	2.02	2.01	2.01	2.01	K	2.02	2.02	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.02	2.03	2.03	2.02	2.00	2.03	2.02
Dec 13	S	2.03	2.03	2.04	2.07	2.20	**2.37**	2.35	2.29	2.26	2.22	2.07	2.04	2.03	2.03	2.03	2.03	2.04	2.05	2.06	2.03	2.03	2.03	S	2.03	**2.37**	**2.11**
Dec 14	2.02	2.03	2.04	2.03	2.03	2.03	2.02	2.01	2.01	2.02	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.00	2.01	S	2.03	2.00	2.04	2.02
Dec 15	2.04	2.05	2.03	2.03	2.05	2.05	2.04	2.02	2.03	2.02	C	C	C	C	C	2.01	2.00	1.99	1.99	1.99	2.00	S	1.99	1.99	1.99	2.05	2.02
Dec 16	1.99	1.99	1.99	1.99	2.00	1.99	2.00	1.98	2.00	2.00	1.99	1.99	1.99	2.01	2.02	2.02	2.00	2.00	2.01	2.02	S	2.04	2.04	2.06	1.98	2.06	2.01
Dec 17	2.08	2.07	2.08	2.08	2.07	1.99	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.02	2.01	S	2.00	2.00	2.01	2.01	1.98	2.08	2.02
Dec 18	2.00	2.03	2.03	2.03	2.02	2.02	2.03	2.03	2.02	2.01	2.01	2.00	1.99	1.99	1.99	1.99	2.00	2.00	S	2.02	2.02	2.01	1.99	1.98	1.98	2.03	2.01
Dec 19	2.01	2.02	2.01	2.00	2.00	2.01	2.00	1.99	2.00	2.04	2.03	2.02	2.02	2.02	2.02	2.01	2.01	S	2.00	1.98	1.96	1.95	1.98	1.98	1.95	2.04	2.00
Dec 20	1.99	1.98	1.95	1.94	1.95	1.95	1.96	2.01	2.05	2.07	2.05	2.04	2.03	2.04	2.04	2.01	S	2.02	1.98	1.96	1.96	1.96	1.97	1.96	1.94	2.07	1.99
Dec 21	1.97	1.97	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.95	1.97	1.96	1.96	1.96	1.97	S	1.97	1.97	1.99	1.99	1.98	1.97	1.97	1.99	1.95	1.99	1.97
Dec 22	2.02	2.04	2.04	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.01	2.02	S	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.07	2.09	2.01	2.09	2.04
Dec 23	2.08	2.06	2.06	2.05	2.04	2.04	2.03	2.02	2.02	2.01	2.01	2.00	1.99	S	1.98	1.97	1.96	1.96	1.95	1.96	1.96	1.96	1.95	1.95	1.95	2.08	2.00
Dec 24	1.94	1.95	1.94	1.94	1.93	1.94	1.94	1.95	1.94	1.94	1.95	1.94	S	1.94	1.94	1.95	1.94	1.95	1.96	1.95	1.94	1.95	1.96	1.96	1.93	1.96	1.95
Dec 25	1.97	1.97	1.97	1.97	1.98	1.98	2.00	2.00	2.00	2.02	2.02	S	2.05	2.02	2.00	1.98	1.98	1.98	1.99	1.98	1.97	1.97	1.98	1.99	1.97	2.05	1.99
Dec 26	2.00	2.00	1.99	1.99	1.99	1.98	1.98	1.97	1.96	1.97	S	2.00	2.00	1.99	2.00	2.00	1.98	1.98	1.97	1.97	1.99	1.99	2.01	2.04	1.96	2.04	1.99
Dec 27	2.05	2.05	2.09	2.10	2.08	2.06	2.04	2.04	2.02	S	2.03	2.01	2.01	2.02	2.01	2.02	2.02	2.01	2.00	2.03	2.05	2.08	2.09	2.09	2.00	2.10	2.04
Dec 28	2.09	2.08	2.07	2.06	2.05	2.05	2.06	2.09	S	2.10	2.09	2.09	2.07	2.03	2.04	2.04	2.03	2.01	2.01	2.00	1.99	2.00	2.01	2.02	1.99	2.10	2.05
Dec 29	2.02	2.01	2.01	2.03	2.01	2.02	2.01	S	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	2.03	2.04	2.03	2.04	2.05	2.04	2.05	2.05	2.01	2.05	2.02
Dec 30	2.05	2.05	2.06	2.05	2.05	2.08	S	2.07	2.05	2.05	2.06	2.03	2.01	1.99	1.99	1.99	1.99	2.01	2.04	2.04	2.07	2.12	2.16	2.19	1.99	2.19	2.05
Dec 31	2.18	2.17	2.14	2.10	2.07	S	2.05	2.01	2.00	1.99	1.99	1.99	2.00	2.02	2.00	2.02	2.02	2.01	2.01	1.99	2.01	2.02	2.04	2.05	1.99	2.18	2.04
Diurnal Maximum	2.18	2.17	2.14	2.10	2.08	2.20	2.37	2.35	2.29	2.26	2.22	2.09	2.07	2.05	2.04	2.04	2.05	2.05	2.05	2.06	2.07	2.12	2.16	2.19			
Diurnal Average	2.00	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.00	2.01	2.01	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.99	2.00	2.00	2.01			

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



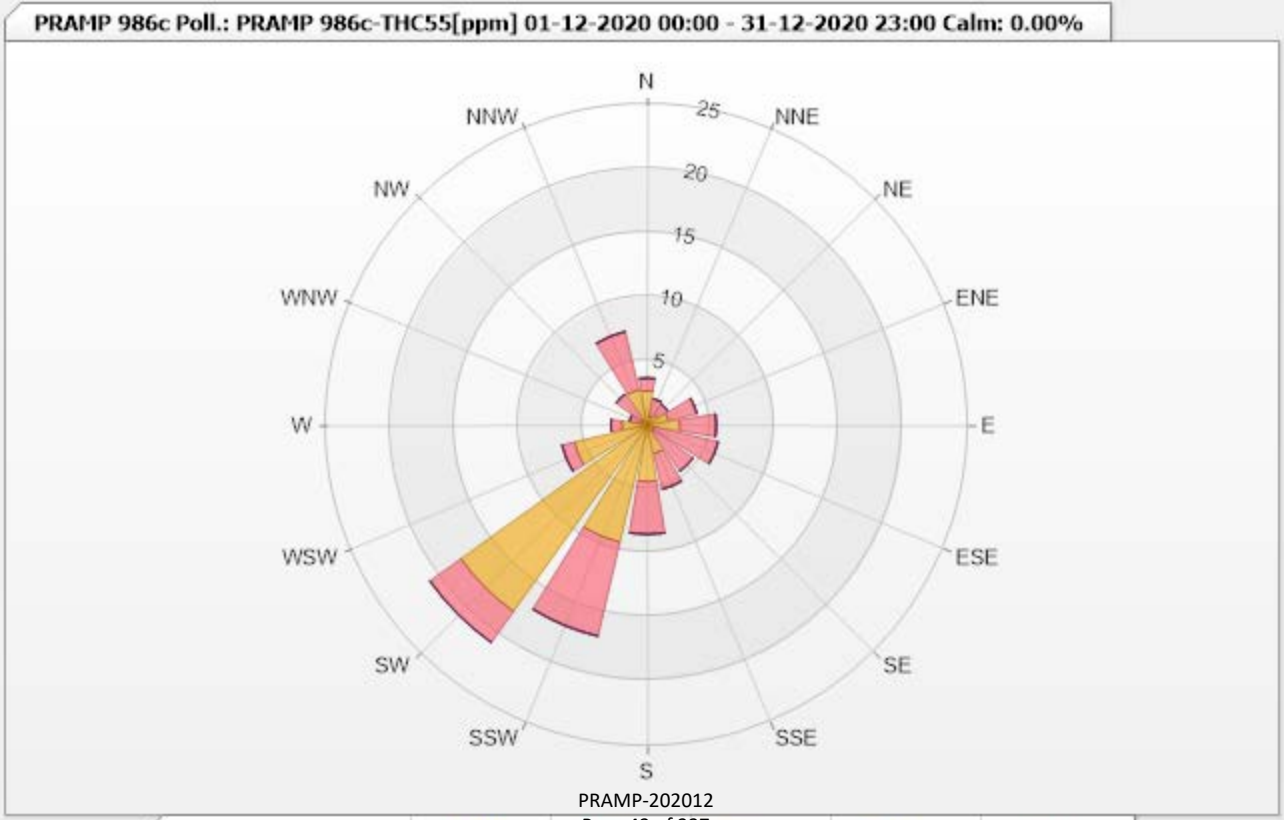
THC55[ppm] Histogram: PRAMP 986c Monthly: 12-2020 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	55.38%
2 - 2.5	44.62%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	2.69	0.99	0	0	0	3.68
NNE	0.71	1.42	0	0	0	2.13
NE	0.99	0.99	0	0	0	1.98
ENE	1.7	2.27	0	0	0	3.97
E	2.55	2.83	0	0	0	5.38
ESE	0.57	5.1	0	0	0	5.67
SE	0.57	3.82	0	0	0	4.39
SSE	2.27	2.83	0	0	0	5.1
S	4.39	4.11	0	0	0	8.5
SSW	9.35	7.51	0	0	0	16.86
SW	17.85	2.97	0	0	0	20.82
WSW	5.81	0.99	0	0	0	6.8
W	1.98	0.85	0	0	0	2.83
WNW	0.57	0.85	0	0	0	1.42
NW	0.42	2.55	0	0	0	2.97
NNW	2.83	4.67	0	0	0	7.5
Summary	55.25	44.75	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] 01-12-2020 00:00 - 31-12-2020 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)
55 0-2
45 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 2020

Summary of Hourly Averages

METHANE (CH4) in ppm

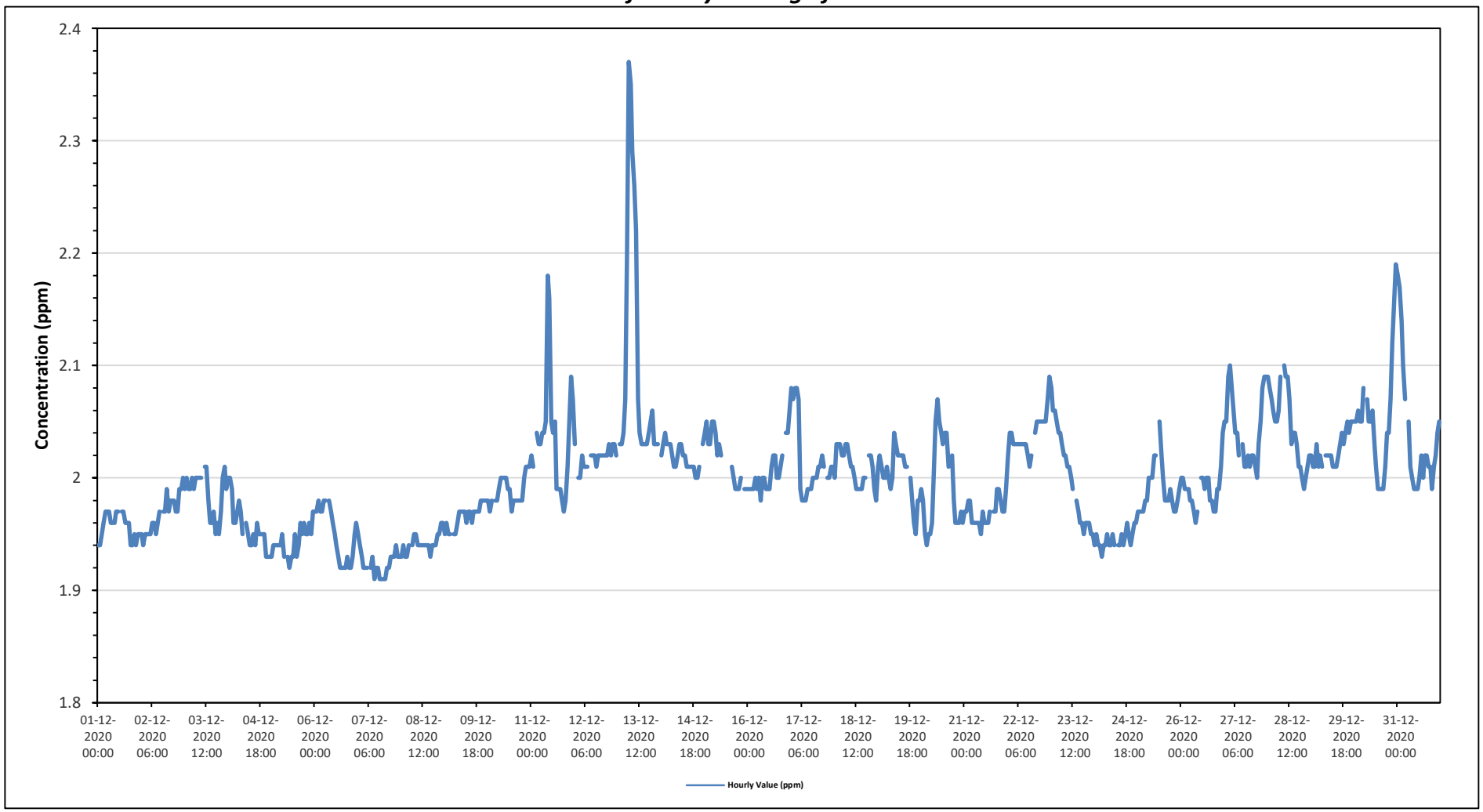
Maximum Hourly Value:	2.37	ppm	on December 13 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.11	ppm	on December 13	Hours of Data:	706
Minimum Hourly Value:	1.91	ppm	on December 7 at hour 9	Hours of Missing Data:	1
Minimum Daily Value:	1.92	ppm	on December 7	Hours of Calibration:	37
Monthly Average:	2.00	ppm		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.97	S	1.97	1.97	1.96	1.96	1.96	1.94	1.94	1.95	1.94	1.95	1.95	1.94	1.97	1.96
Dec 2	1.95	1.94	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.96	1.97	S	1.97	1.97	1.99	1.97	1.98	1.98	1.98	1.97	1.97	1.99	1.99	2.00	1.94	2.00	1.97
Dec 3	1.99	2.00	1.99	1.99	2.00	1.99	2.00	2.00	2.00	2.00	S	2.01	2.01	1.98	1.96	1.96	1.97	1.95	1.96	1.95	1.97	2.00	2.01	1.99	1.95	2.01	1.99
Dec 4	2.00	2.00	1.99	1.96	1.96	1.97	1.98	1.97	1.95	S	1.96	1.95	1.94	1.94	1.95	1.94	1.96	1.95	1.95	1.95	1.95	1.93	1.93	1.93	1.93	2.00	1.96
Dec 5	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.93	S	1.93	1.92	1.93	1.93	1.95	1.93	1.94	1.96	1.95	1.96	1.95	1.95	1.96	1.95	1.97	1.92	1.97	1.94
Dec 6	1.97	1.97	1.98	1.97	1.97	1.98	1.98	S	1.98	1.97	1.96	1.95	1.94	1.93	1.92	1.92	1.92	1.92	1.93	1.92	1.92	1.93	1.95	1.96	1.92	1.98	1.95
Dec 7	1.95	1.94	1.93	1.92	1.92	1.92	S	1.92	1.93	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.93	1.93	1.94	1.93	1.93	**1.91**	1.95	1.92
Dec 8	1.93	1.94	1.93	1.93	1.94	S	1.94	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.95	1.96	1.96	1.93	1.96	1.94
Dec 9	1.95	1.96	1.95	1.95	S	1.95	1.95	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.95	1.98	1.97
Dec 10	1.98	1.97	1.98	S	1.98	1.98	1.99	2.00	2.00	2.00	2.00	1.99	1.99	1.97	1.98	1.98	1.98	1.98	1.98	1.98	2.00	2.01	2.01	2.01	1.97	2.01	1.99
Dec 11	2.02	2.01	S	2.04	2.03	2.03	2.04	2.04	2.05	2.18	2.16	2.05	2.04	2.05	1.99	1.99	1.99	1.98	1.97	1.98	2.01	2.05	2.09	2.07	1.97	2.18	2.04
Dec 12	2.03	S	2.00	2.00	2.02	2.01	2.01	2.01	K	2.02	2.02	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.02	2.03	2.03	2.02	2.00	2.03	2.02
Dec 13	S	2.03	2.03	2.04	2.07	2.20	**2.37**	2.35	2.29	2.26	2.22	2.07	2.04	2.03	2.03	2.03	2.03	2.04	2.05	2.06	2.03	2.03	2.03	S	2.03	**2.37**	**2.11**
Dec 14	2.02	2.03	2.04	2.03	2.03	2.03	2.02	2.01	2.01	2.02	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.00	2.01	S	2.03	2.00	2.04	2.02
Dec 15	2.04	2.05	2.03	2.03	2.05	2.05	2.04	2.02	2.03	2.02	C	C	C	C	C	2.01	2.00	1.99	1.99	1.99	2.00	S	1.99	1.99	1.99	2.05	2.02
Dec 16	1.99	1.99	1.99	1.99	2.00	1.99	2.00	1.98	2.00	2.00	1.99	1.99	1.99	2.01	2.02	2.02	2.00	2.00	2.01	2.02	S	2.04	2.04	2.06	1.98	2.06	2.01
Dec 17	2.08	2.07	2.08	2.08	2.07	1.99	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.02	2.01	S	2.00	2.00	2.01	2.01	1.98	2.08	2.02
Dec 18	2.00	2.03	2.03	2.03	2.02	2.02	2.03	2.03	2.02	2.01	2.01	2.00	1.99	1.99	1.99	1.99	2.00	2.00	S	2.02	2.02	2.01	1.99	1.98	1.98	2.03	2.01
Dec 19	2.01	2.02	2.01	2.00	2.00	2.01	2.00	1.99	2.00	2.04	2.03	2.02	2.02	2.02	2.02	2.01	2.01	S	2.00	1.98	1.96	1.95	1.98	1.98	1.95	2.04	2.00
Dec 20	1.99	1.98	1.95	1.94	1.95	1.95	1.96	2.01	2.05	2.07	2.05	2.04	2.03	2.04	2.04	2.01	S	2.02	1.98	1.96	1.96	1.96	1.97	1.96	1.94	2.07	1.99
Dec 21	1.97	1.97	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.95	1.97	1.96	1.96	1.96	1.97	S	1.97	1.97	1.99	1.99	1.98	1.97	1.97	1.99	1.95	1.99	1.97
Dec 22	2.02	2.04	2.04	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.01	2.02	S	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.07	2.09	2.01	2.09	2.04
Dec 23	2.08	2.06	2.06	2.05	2.04	2.04	2.03	2.02	2.02	2.01	2.01	2.00	1.99	S	1.98	1.97	1.96	1.96	1.95	1.96	1.96	1.96	1.95	1.95	1.95	2.08	2.00
Dec 24	1.94	1.95	1.94	1.94	1.93	1.94	1.94	1.95	1.94	1.94	1.95	1.94	S	1.94	1.94	1.95	1.94	1.95	1.96	1.95	1.94	1.95	1.96	1.96	1.93	1.96	1.95
Dec 25	1.97	1.97	1.97	1.97	1.98	1.98	2.00	2.00	2.00	2.02	2.02	S	2.05	2.02	2.00	1.98	1.98	1.98	1.99	1.98	1.97	1.97	1.98	1.99	1.97	2.05	1.99
Dec 26	2.00	2.00	1.99	1.99	1.99	1.98	1.98	1.97	1.96	1.97	S	2.00	2.00	1.99	2.00	2.00	1.98	1.98	1.97	1.97	1.99	1.99	2.01	2.04	1.96	2.04	1.99
Dec 27	2.05	2.05	2.09	2.10	2.08	2.06	2.04	2.04	2.02	S	2.03	2.01	2.01	2.02	2.01	2.02	2.02	2.01	2.00	2.03	2.05	2.08	2.09	2.09	2.00	2.10	2.04
Dec 28	2.09	2.08	2.07	2.06	2.05	2.05	2.06	2.09	S	2.10	2.09	2.09	2.07	2.03	2.04	2.04	2.03	2.01	2.01	2.00	1.99	2.00	2.01	2.02	1.99	2.10	2.05
Dec 29	2.02	2.01	2.01	2.03	2.01	2.02	2.01	S	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	2.03	2.04	2.03	2.04	2.05	2.04	2.05	2.05	2.01	2.05	2.02
Dec 30	2.05	2.05	2.06	2.05	2.05	2.08	S	2.07	2.05	2.05	2.06	2.03	2.01	1.99	1.99	1.99	1.99	2.01	2.04	2.04	2.07	2.12	2.16	2.19	1.99	2.19	2.05
Dec 31	2.18	2.17	2.14	2.10	2.07	S	2.05	2.01	2.00	1.99	1.99	1.99	2.00	2.02	2.00	2.02	2.02	2.01	2.01	1.99	2.01	2.02	2.04	2.05	1.99	2.18	2.04
Diurnal Maximum	2.18	2.17	2.14	2.10	2.08	2.20	2.37	2.35	2.29	2.26	2.22	2.09	2.07	2.05	2.04	2.04	2.05	2.05	2.05	2.06	2.07	2.12	2.16	2.19			
Diurnal Average	2.00	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.00	2.01	2.01	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.99	2.00	2.00	2.01			

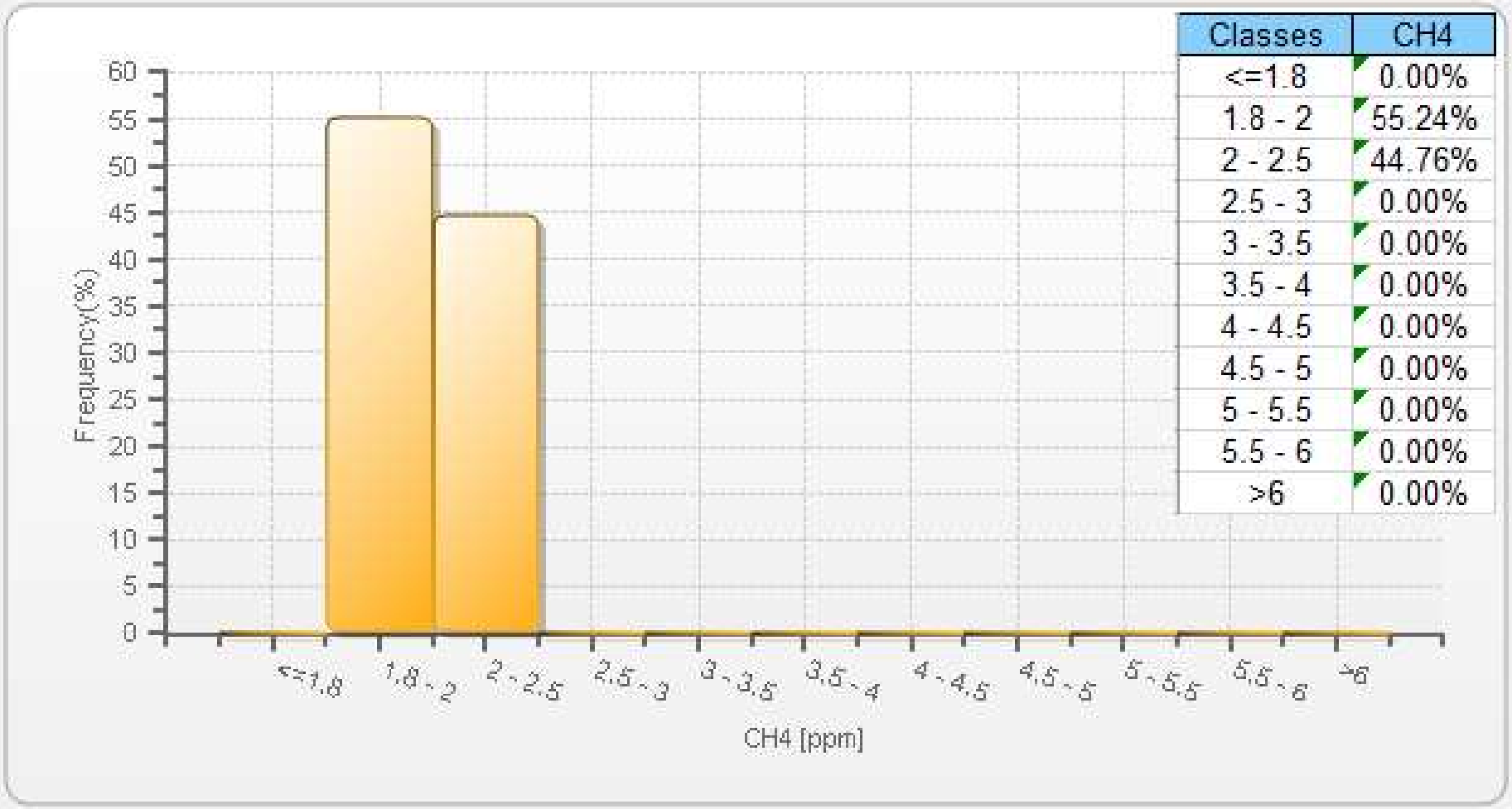
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



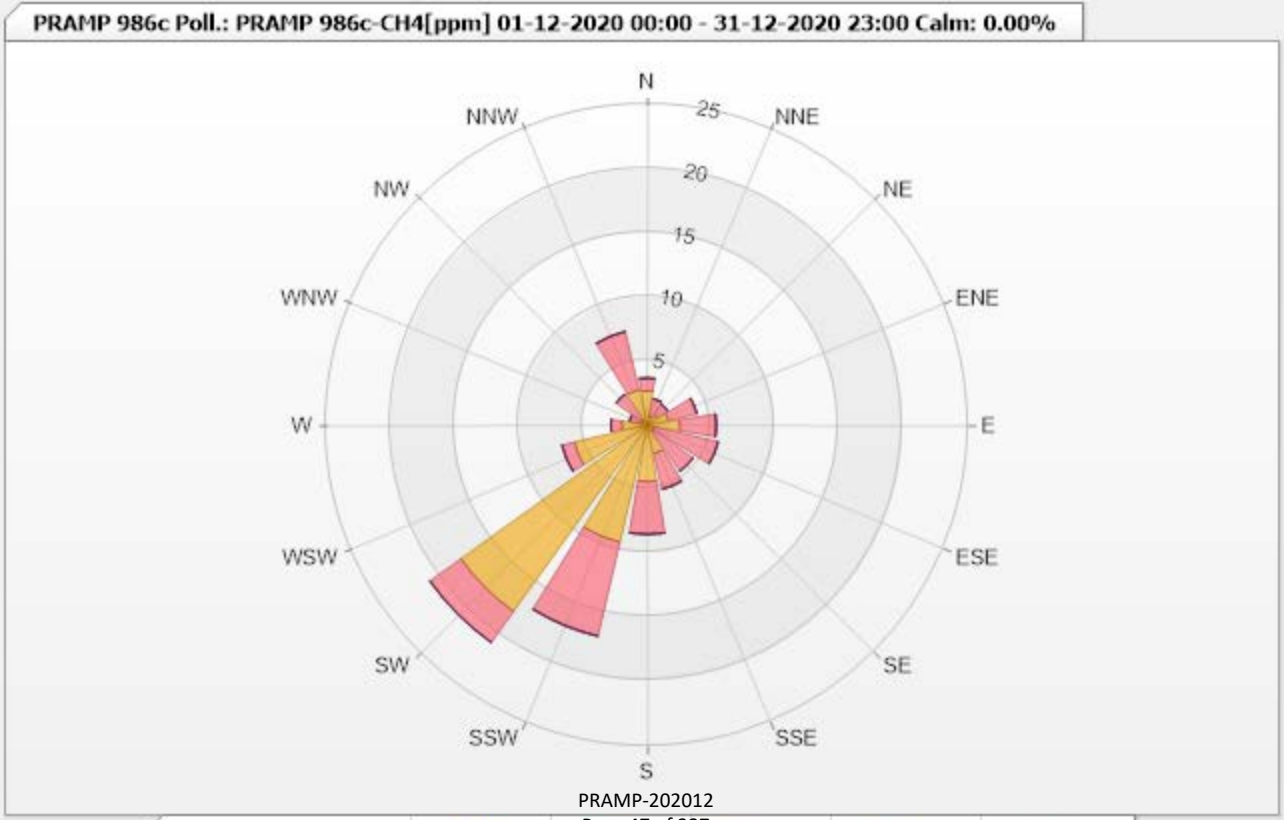
CH4[ppm] Histogram: PRAMP 986c Monthly: 12-2020 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	55.24%
2 - 2.5	44.76%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	2.69	0.99	0	0	0	3.68
NNE	0.71	1.42	0	0	0	2.13
NE	0.99	0.99	0	0	0	1.98
ENE	1.7	2.27	0	0	0	3.97
E	2.55	2.83	0	0	0	5.38
ESE	0.57	5.1	0	0	0	5.67
SE	0.57	3.82	0	0	0	4.39
SSE	2.27	2.83	0	0	0	5.1
S	4.39	4.11	0	0	0	8.5
SSW	9.35	7.51	0	0	0	16.86
SW	17.85	2.97	0	0	0	20.82
WSW	5.81	0.99	0	0	0	6.8
W	1.98	0.85	0	0	0	2.83
WNW	0.57	0.85	0	0	0	1.42
NW	0.42	2.55	0	0	0	2.97
NNW	2.83	4.67	0	0	0	7.5
Summary	55.25	44.75	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] 01-12-2020 00:00 - 31-12-2020 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)
55 0-2
45 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 2020

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

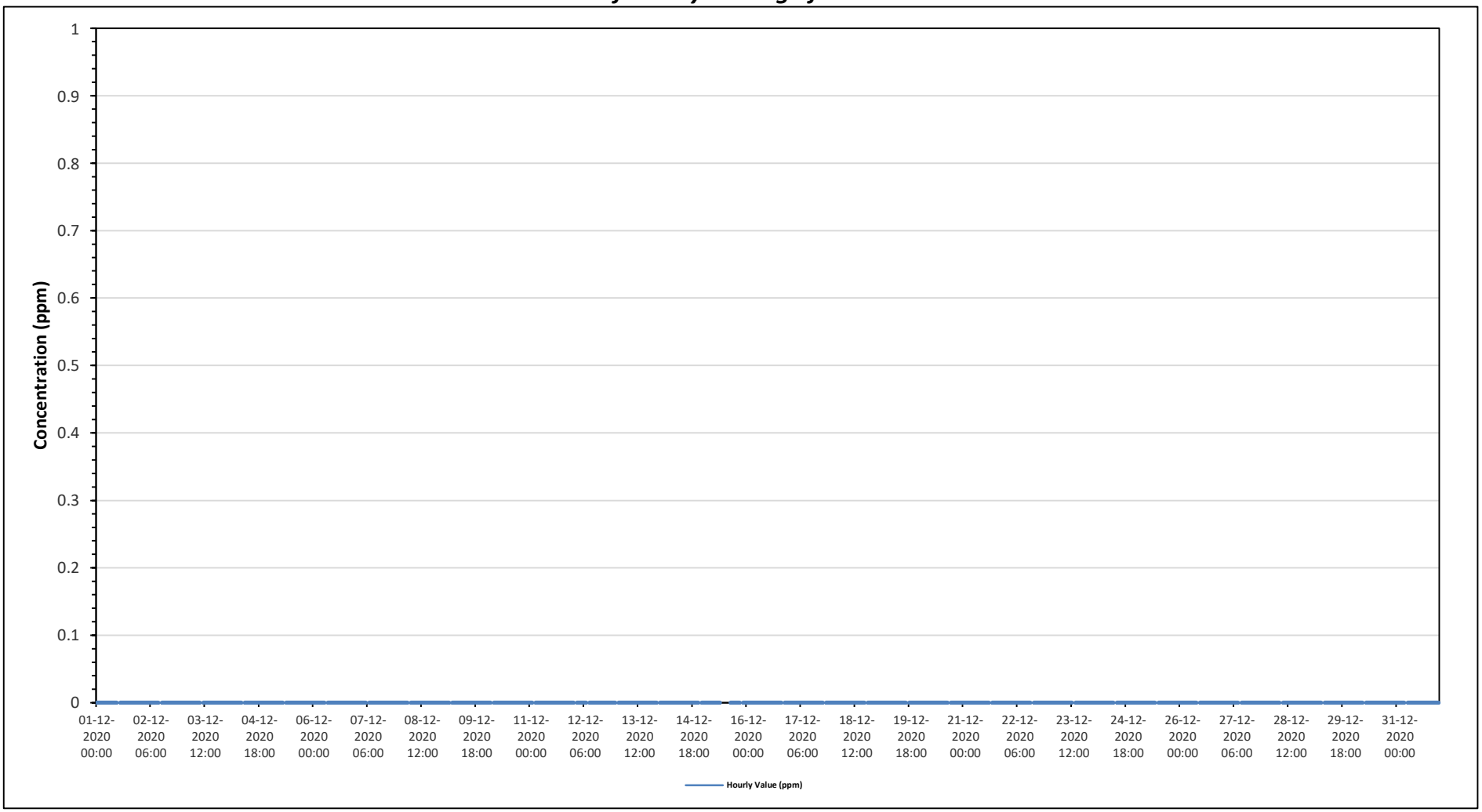
Maximum Hourly Value:	0.00	ppm	on December 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on December 1	Hours of Data:	706
Minimum Hourly Value:	0.00	ppm	on December 1 at hour 0	Hours of Missing Data:	1
Minimum Daily Value:	0.00	ppm	on December 1	Hours of Calibration:	37
Monthly Average:	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	S	0.00	0.00	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 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 13	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Dec 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Dec 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Dec 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Dec 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 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	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	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	S	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 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	S	0.00	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 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	S	0.00	0.00	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 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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			

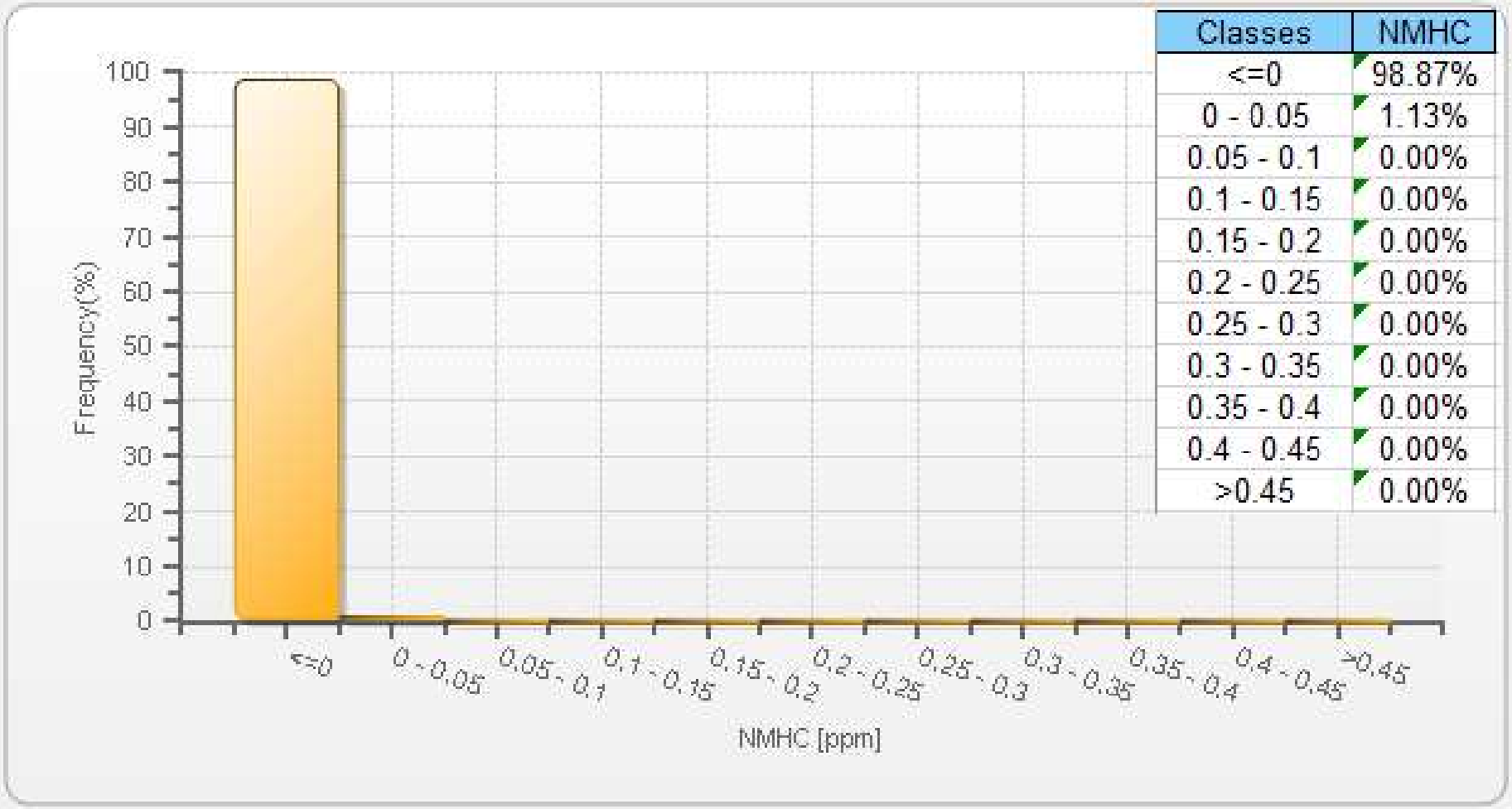
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



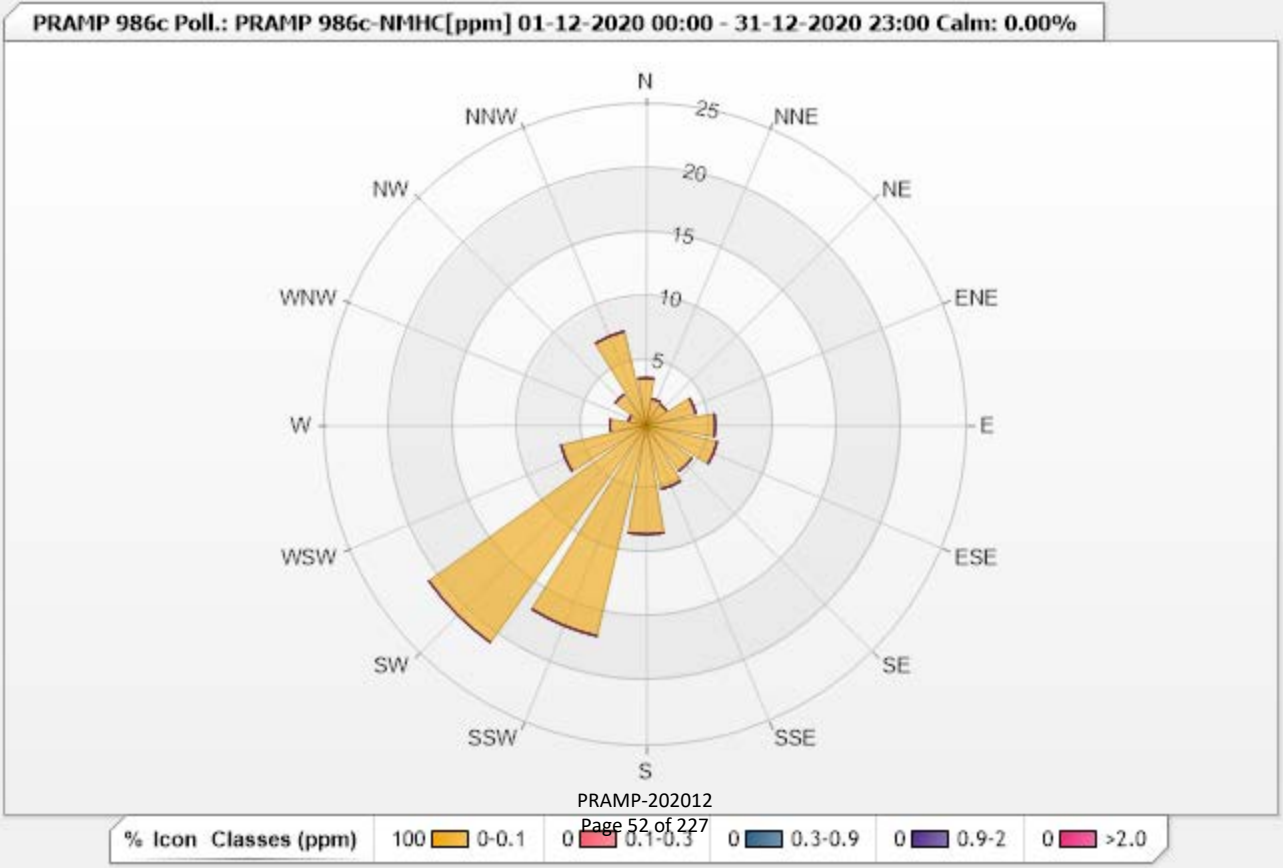
NMHC[ppm] Histogram: PRAMP 986c Monthly: 12-2020 1 Hr.



Classes	NMHC
<=0	98.87%
0 - 0.05	1.13%
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: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.68	0	0	0	0	3.68
NNE	2.12	0	0	0	0	2.12
NE	1.98	0	0	0	0	1.98
ENE	3.97	0	0	0	0	3.97
E	5.38	0	0	0	0	5.38
ESE	5.67	0	0	0	0	5.67
SE	4.39	0	0	0	0	4.39
SSE	5.1	0	0	0	0	5.1
S	8.5	0	0	0	0	8.5
SSW	16.86	0	0	0	0	16.86
SW	20.82	0	0	0	0	20.82
WSW	6.8	0	0	0	0	6.8
W	2.83	0	0	0	0	2.83
WNW	1.42	0	0	0	0	1.42
NW	2.97	0	0	0	0	2.97
NNW	7.51	0	0	0	0	7.51
Summary	100	0	0	0	0	100


PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] 01-12-2020 00:00 - 31-12-2020 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 0.3-0.9
0 0.9-2
0 >2.0

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PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

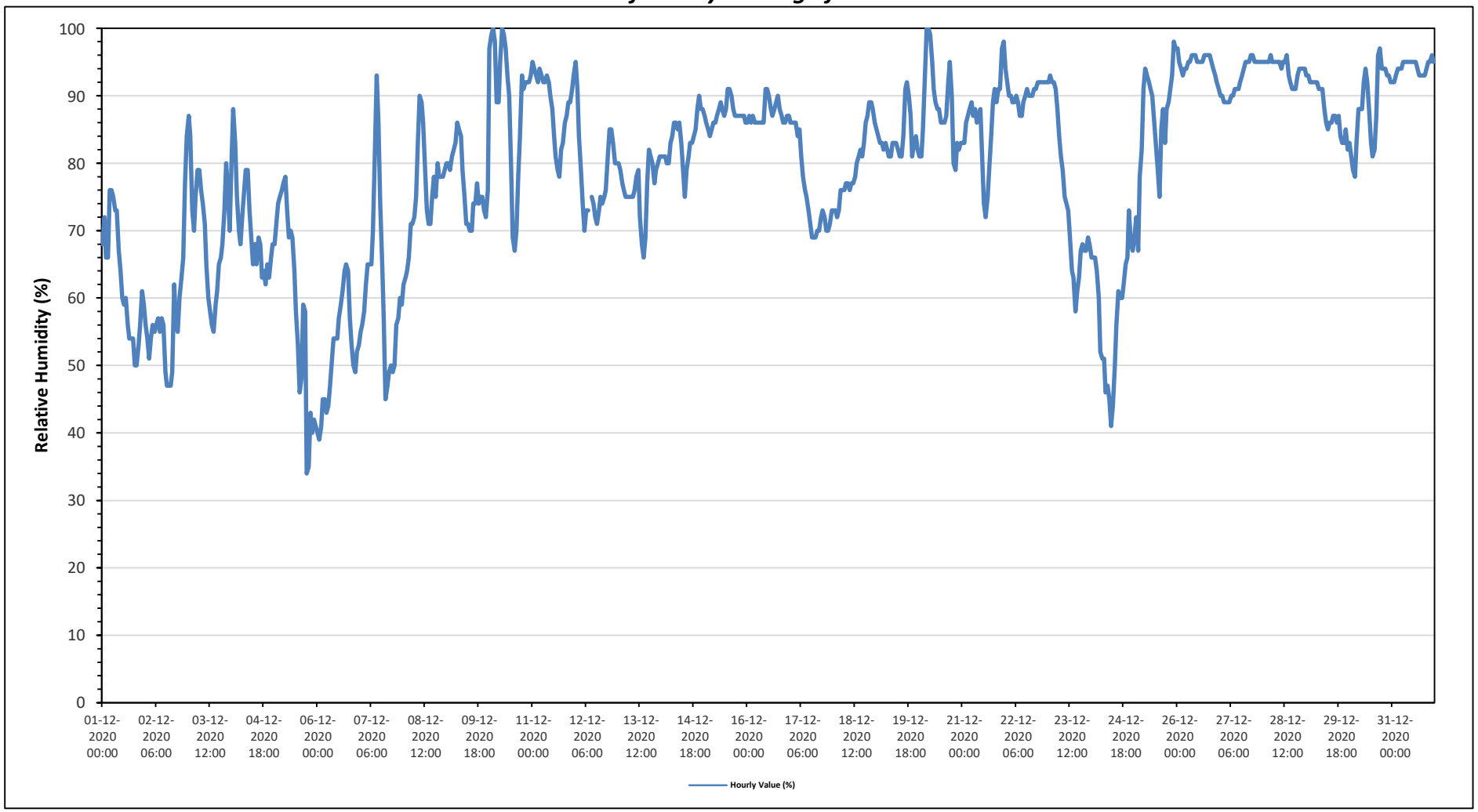
Maximum Hourly Value:	100	%	on December 10 at hour 2	Hours in Service:	744
Maximum Daily Value:	94.8	%	on December 26	Hours of Data:	743
Minimum Hourly Value:	34	%	on December 5 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	51.7	%	on December 6	Hours of Calibration:	0
Monthly Average:	79.0	%		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	68	72	66	66	76	76	75	73	73	67	64	60	59	60	56	54	54	54	50	50	53	56	61	59	50	76	62.6
Dec 2	56	54	51	54	56	55	56	57	55	57	56	49	47	47	47	49	62	56	55	60	63	66	77	84	47	84	57.0
Dec 3	87	84	73	70	75	79	79	76	74	71	65	60	58	56	55	59	61	65	66	68	73	80	76	70	55	87	70.0
Dec 4	81	88	83	75	70	68	72	76	79	79	73	69	65	68	65	69	68	63	64	62	65	63	66	68	62	88	70.8
Dec 5	68	71	74	75	76	77	78	73	69	70	69	64	58	53	46	48	59	58	**34**	35	43	40	42	41	**34**	78	59.2
Dec 6	40	39	41	45	45	43	44	47	51	54	54	54	57	59	61	64	65	64	57	53	50	49	52	53	39	65	51.7
Dec 7	55	56	58	62	65	65	65	70	82	93	86	74	65	57	45	47	49	50	49	50	56	57	60	59	45	93	61.5
Dec 8	62	63	64	66	71	71	72	75	83	90	89	86	79	73	71	71	75	78	75	80	78	78	78	79	62	90	75.3
Dec 9	80	80	79	81	82	83	86	85	84	79	75	71	71	70	70	74	74	77	74	75	75	73	72	76	70	86	76.9
Dec 10	97	99	**100**	98	89	89	95	**100**	99	97	93	90	79	69	67	70	78	84	93	91	92	92	92	93	67	**100**	89.4
Dec 11	95	94	93	92	94	93	92	92	93	92	90	88	84	81	79	78	82	83	86	87	89	89	91	93	78	95	88.8
Dec 12	95	91	84	79	74	70	73	73		75	74	72	71	73	75	74	75	76	81	85	85	83	80	80	70	95	78.2
Dec 13	80	79	77	76	75	75	75	75	75	76	78	79	72	68	66	69	77	82	81	80	77	79	80	81	66	82	76.3
Dec 14	81	81	81	80	80	83	84	86	86	85	86	83	79	75	79	81	83	83	84	85	88	90	88	88	75	90	83.3
Dec 15	87	86	85	84	85	86	86	87	88	89	88	87	88	91	91	90	88	87	87	87	87	87	87	86	84	91	87.3
Dec 16	86	87	86	87	86	86	86	86	86	86	91	91	90	88	87	88	89	90	88	87	86	86	87	87	86	91	87.4
Dec 17	86	86	86	86	84	85	81	78	76	75	73	71	69	69	69	70	70	72	73	72	70	70	71	73	69	86	75.6
Dec 18	73	73	72	73	76	76	76	77	77	76	77	77	78	80	81	82	81	83	86	87	89	89	88	86	72	89	79.7
Dec 19	85	84	83	83	82	83	82	81	81	83	83	83	82	81	81	84	91	92	90	87	81	83	84	82	81	92	83.8
Dec 20	81	81	85	93	**100**	**100**	99	95	91	89	88	88	86	86	86	87	92	95	90	80	79	83	82	83	79	**100**	88.3
Dec 21	83	83	86	87	88	89	87	88	86	87	88	81	74	72	75	79	84	89	91	89	91	91	97	98	72	98	86.0
Dec 22	94	92	90	90	89	89	90	89	87	87	89	90	91	90	90	90	91	91	92	92	92	92	92	92	87	94	90.5
Dec 23	92	93	92	92	91	88	84	81	79	75	74	73	69	64	63	58	61	63	67	68	67	67	69	68	58	93	74.9
Dec 24	66	66	66	64	60	52	51	51	46	47	45	41	44	50	56	61	60	60	62	65	66	73	68	67	41	73	57.8
Dec 25	69	72	67	78	82	91	94	93	92	91	90	86	83	79	75	85	88	83	88	89	91	93	98	97	67	98	85.6
Dec 26	97	95	94	93	94	94	95	95	96	96	96	95	95	95	95	96	96	96	96	95	94	93	92	91	91	97	**94.8**
Dec 27	90	90	89	89	89	89	90	90	91	91	91	92	93	94	95	95	95	96	96	95	95	95	95	95	89	96	92.5
Dec 28	95	95	95	95	96	95	95	95	95	95	94	95	95	96	93	92	91	91	91	93	94	94	94	94	91	96	94.1
Dec 29	93	93	92	92	92	92	92	91	91	91	88	86	85	86	86	87	87	86	87	84	83	83	85	82	82	93	88.1
Dec 30	83	81	79	78	83	88	88	88	92	94	92	88	83	81	82	87	96	97	94	94	94	93	93	92	78	97	88.3
Dec 31	92	92	93	94	94	94	95	95	95	95	95	95	95	95	94	93	93	93	93	94	95	95	96	95	92	96	94.2
Diurnal Maximum	97	99	100	98	100	100	99	100	99	97	96	95	95	96	95	96	96	97	96	95	95	95	98	98			
Diurnal Average	80.5	80.6	79.5	79.9	80.6	80.8	81.2	81.2	81.7	81.7	80.5	78.0	75.6	74.4	73.6	75.2	77.9	78.6	78.1	78.0	78.7	79.4	80.4	80.4			

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 RH - 986c Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

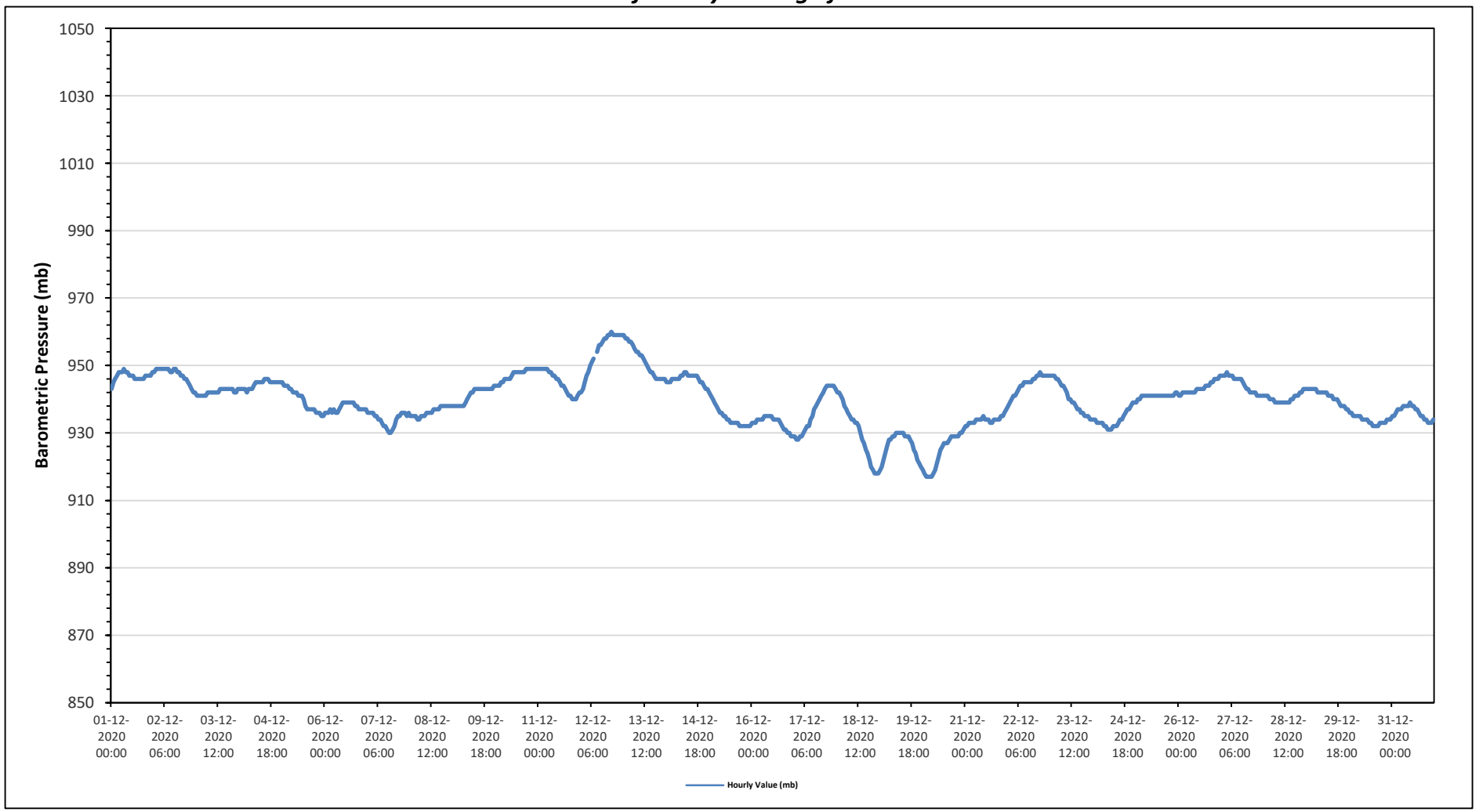
Maximum Hourly Value:	960	mb	on December 12 at hour 17	Hours in Service:	744
Maximum Daily Value:	954	mb	on December 12	Hours of Data:	743
Minimum Hourly Value:	917	mb	on December 20 at hour 2	Hours of Missing Data:	1
Minimum Daily Value:	924	mb	on December 20	Hours of Calibration:	0
Monthly Average:	940	mb		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	943	945	946	947	948	948	948	949	948	948	947	947	947	946	946	946	946	946	946	947	947	947	947	948	943	949	946.8
Dec 2	948	949	949	949	949	949	949	949	949	948	948	949	949	948	948	947	947	946	946	945	944	943	942	942	942	949	947.2
Dec 3	941	941	941	941	941	941	942	942	942	942	942	942	942	943	943	943	943	943	943	943	943	942	942	943	941	943	942.1
Dec 4	943	943	943	943	942	943	943	943	944	945	945	945	945	945	946	946	946	945	945	945	945	945	945	945	942	946	944.4
Dec 5	945	944	944	944	943	943	942	942	942	941	941	941	940	938	937	937	937	937	937	936	936	936	935	935	935	945	939.7
Dec 6	936	936	936	937	936	937	936	936	937	938	939	939	939	939	939	939	939	938	938	937	937	937	937	937	936	939	937.5
Dec 7	936	936	936	936	935	935	934	934	933	932	932	931	930	930	931	932	934	935	935	936	936	936	935	936	930	936	934.0
Dec 8	935	935	935	935	934	934	935	935	935	936	936	936	936	937	937	937	937	938	938	938	938	938	938	938	934	938	936.3
Dec 9	938	938	938	938	938	938	938	939	940	941	942	942	943	943	943	943	943	943	943	943	943	943	943	944	938	944	941.1
Dec 10	944	944	944	945	945	946	946	946	946	947	948	948	948	948	948	948	948	949	949	949	949	949	949	949	944	949	947.2
Dec 11	949	949	949	949	949	949	948	948	947	947	946	946	945	944	944	943	942	941	941	940	940	940	941	942	940	949	945.0
Dec 12	942	943	945	947	948	950	951	952	K	954	956	956	957	958	958	959	959	**960**	959	959	959	959	959	959	942	**960**	**954.3**
Dec 13	959	958	958	957	957	956	955	954	954	953	953	952	951	950	949	948	948	947	946	946	946	946	946	946	946	959	951.5
Dec 14	945	945	945	946	946	946	946	946	947	947	948	948	947	947	947	947	947	947	946	945	945	944	943	943	943	948	946.0
Dec 15	942	941	940	939	938	937	936	936	935	935	934	934	933	933	933	933	933	932	932	932	932	932	932	932	932	942	934.8
Dec 16	933	933	933	934	934	934	934	935	935	935	935	935	934	934	934	934	933	932	931	931	930	930	929	929	929	935	933.0
Dec 17	929	928	928	929	929	930	931	932	932	934	935	937	938	939	940	941	942	943	944	944	944	944	944	943	928	944	936.7
Dec 18	942	942	941	940	938	937	936	935	934	934	933	933	932	930	928	927	925	924	922	920	919	918	918	918	918	942	930.3
Dec 19	919	920	922	924	926	928	928	929	929	930	930	930	930	930	929	929	929	928	927	925	924	922	921	920	919	930	926.2
Dec 20	919	918	**917**	**917**	**917**	**917**	918	919	921	923	925	926	927	927	927	928	929	929	929	929	929	930	930	931	**917**	931	924.3
Dec 21	932	932	933	933	933	933	934	934	934	934	935	934	934	934	933	933	934	934	934	934	935	935	936	937	932	937	933.9
Dec 22	938	939	940	941	941	942	943	944	944	945	945	945	945	945	946	946	947	947	948	947	947	947	947	947	938	948	944.4
Dec 23	947	947	947	946	946	945	944	944	943	942	940	940	939	939	938	937	937	936	936	935	935	935	934	934	934	947	940.3
Dec 24	934	934	933	933	933	933	932	932	931	931	931	932	932	932	933	934	934	935	936	937	937	938	939	939	931	939	934.0
Dec 25	939	940	940	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	942	942	939	942	940.9
Dec 26	941	941	942	942	942	942	942	942	942	942	943	943	943	943	943	944	944	944	945	945	946	946	946	947	941	947	943.3
Dec 27	947	947	947	948	947	947	947	946	946	946	946	946	945	944	943	943	942	942	942	942	941	941	941	941	941	948	944.5
Dec 28	941	941	941	940	940	940	939	939	939	939	939	939	939	939	939	940	940	941	941	941	942	942	943	943	939	943	940.3
Dec 29	943	943	943	943	943	943	942	942	942	942	942	942	941	941	941	940	940	940	939	938	938	938	937	937	937	943	940.8
Dec 30	936	936	935	935	935	935	935	934	934	934	934	933	933	932	932	932	932	933	933	933	933	934	934	934	932	936	933.8
Dec 31	935	935	936	937	937	937	938	938	938	938	939	938	938	937	937	936	935	935	934	934	933	933	933	934	933	939	936.0
Diurnal Maximum	959	958	958	957	957	956	955	954	954	954	956	956	957	958	958	959	959	960	959	959	959	959	959	959			
Diurnal Average	939	939	940	940	940	940	940	940	939	940	940	940	940	940	940	940	940	940	940	939	939	939	939	939			

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 2020

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

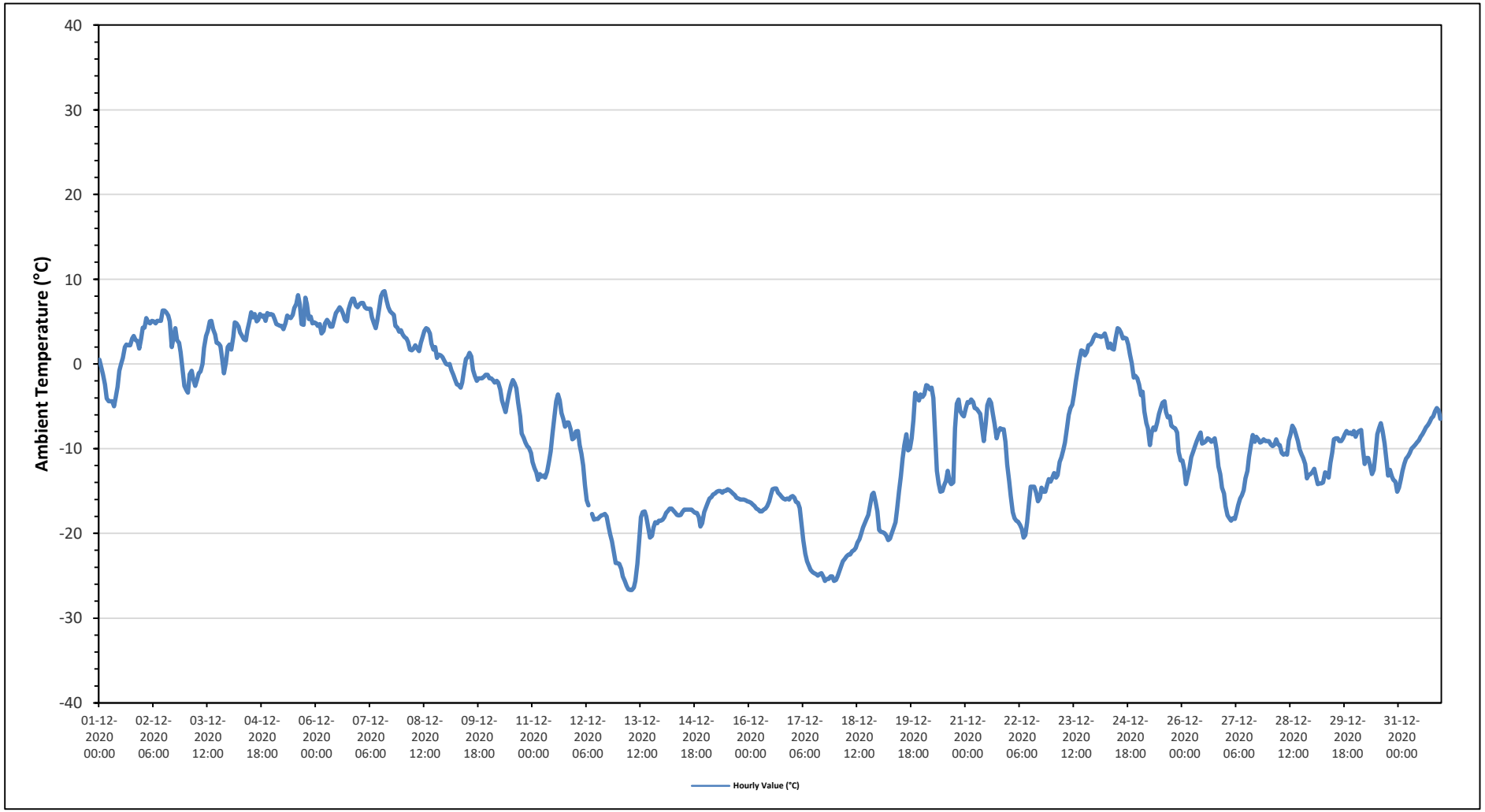
Maximum Hourly Value:	8.6	°C	on December 7 at hour 14	Hours in Service:	744
Maximum Daily Value:	6.2	°C	on December 7	Hours of Data:	743
Minimum Hourly Value:	-26.7	°C	on December 13 at hour 6	Hours of Missing Data:	1
Minimum Daily Value:	-22.5	°C	on December 17	Hours of Calibration:	0
Monthly Average:	-7.6	°C		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	0.5	-0.5	-1.2	-2.4	-4.1	-4.4	-4.4	-4.4	-5	-3.9	-2.7	-0.8	0	0.7	2	2.3	2.2	2.2	3	3.3	2.8	2.7	1.8	2.9	-5.0	3.3	-0.3
Dec 2	4.3	4.3	5.4	4.9	4.8	5.1	5	4.8	5.1	5.1	5.1	6.3	6.3	6.1	5.7	5	2	3.1	4.2	2.8	2.5	1.4	-0.7	-2.6	-2.6	6.3	4.0
Dec 3	-3.1	-3.4	-1.2	-0.8	-1.8	-2.6	-1.9	-1.1	-0.9	0	1.9	3.3	3.9	5	5.1	4.1	3.5	2.5	2.4	2.1	0.6	-1.1	0.2	2	-3.4	5.1	0.8
Dec 4	2.3	1.7	3.2	4.9	4.8	4.4	3.7	3.3	2.9	2.8	4	5	6.1	5.5	5.9	5	5.2	5.9	5.6	5.7	5.1	6	5.8	5.9	1.7	6.1	4.6
Dec 5	5.8	5.3	4.7	4.6	4.5	4.5	4.1	4.8	5.7	5.5	5.4	5.8	6.6	7.1	8.1	7	4.7	4.6	7.8	7.1	5.3	5.6	4.8	4.9	4.1	8.1	5.6
Dec 6	4.8	4.5	4.7	3.6	3.9	4.8	5.2	4.9	4.4	4.4	5.2	6	6.3	6.7	6.4	5.9	5.2	5	6.4	7.2	7.7	7.7	6.9	6.7	3.6	7.7	5.6
Dec 7	7	7.2	7.2	6.7	6.5	6.5	6.5	5.5	4.8	4.2	5.1	6.6	8	8.5	**8.6**	7.5	6.7	6.2	6	5.8	4.5	4.3	3.8	4	3.8	**8.6**	**6.2**
Dec 8	3.5	3.2	3	2.6	1.7	1.6	1.8	2.2	1.8	1.5	2.5	3.2	3.9	4.2	4.1	3.6	2.4	1.7	2	0.7	1.1	1	0.8	0.4	0.4	4.2	2.3
Dec 9	0	-0.1	0	-0.7	-1.3	-1.8	-2.4	-2.5	-2.8	-2.2	-0.6	0.6	0.8	1.3	0.9	-0.7	-1.4	-2	-1.7	-1.7	-1.7	-1.5	-1.3	-1.3	-2.8	1.3	-1.0
Dec 10	-1.7	-1.7	-1.9	-2.2	-2	-2.2	-3	-4.3	-5	-5.7	-4.4	-3.5	-2.5	-1.9	-2.3	-2.9	-4.6	-6.2	-8.2	-8.7	-9.3	-9.7	-9.9	-10.5	-10.5	-1.7	-4.8
Dec 11	-11.6	-12.3	-12.8	-13.7	-13	-13.3	-13.2	-13.4	-12.7	-11.6	-10.3	-8.3	-6.2	-4.4	-3.6	-4.3	-5.8	-6.5	-7.4	-6.9	-6.9	-7.7	-8.9	-8.7	-13.7	-3.6	-9.3
Dec 12	-8	-7.9	-9.6	-10.6	-12	-14.3	-16.1	-16.7	K	-17.7	-18.4	-18.3	-18.3	-18.1	-17.9	-17.8	-17.7	-18	-19.1	-20.1	-20.9	-22.3	-23.5	-23.5	-23.5	-7.9	-16.8
Dec 13	-23.6	-24.2	-25.1	-25.6	-26.2	-26.6	**-26.7**	**-26.7**	-26.4	-25.6	-23.6	-20.9	-18.1	-17.5	-17.4	-18	-19.3	-20.5	-20.3	-19.3	-18.7	-18.8	-18.5	-18.5	**-26.7**	-17.4	-21.9
Dec 14	-18.4	-18.1	-17.6	-17.3	-17.1	-17.1	-17.3	-17.6	-17.8	-17.9	-17.8	-17.5	-17.2	-17.2	-17.2	-17.2	-17.2	-17.4	-17.6	-17.6	-18.1	-19.2	-18.8	-17.5	-19.2	-17.1	-17.7
Dec 15	-17	-16.4	-15.9	-15.7	-15.4	-15.3	-15.1	-15	-15	-15.2	-15	-15	-14.8	-14.9	-15.1	-15.3	-15.5	-15.8	-15.9	-16	-16	-16	-16.1	-16.2	-17.0	-14.8	-15.6
Dec 16	-16.3	-16.4	-16.6	-16.8	-17.1	-17.2	-17.4	-17.4	-17.2	-17.1	-16.8	-16.2	-15.4	-14.8	-14.7	-14.7	-15.2	-15.4	-15.7	-15.9	-16	-15.9	-16	-15.7	-17.4	-14.7	-16.2
Dec 17	-15.6	-15.8	-16.3	-16.4	-17	-18.9	-20.8	-22.4	-23.3	-23.8	-24.3	-24.6	-24.7	-24.8	-25	-24.8	-24.7	-25.1	-25.6	-25.4	-25.4	-25.1	-25.1	-25.6	-25.6	-15.6	-22.5
Dec 18	-25.5	-25.1	-24.4	-23.8	-23.3	-23	-22.7	-22.5	-22.5	-22.1	-22	-21.7	-21.1	-20.7	-20.1	-19.3	-18.8	-18.3	-17.8	-16.7	-15.4	-15.2	-16.3	-17.4	-25.5	-15.2	-20.7
Dec 19	-19.6	-19.8	-19.9	-20	-20.3	-20.8	-20.6	-20	-19.4	-18.7	-17.2	-15	-13.3	-11.2	-9.6	-8.3	-10.2	-10	-8.8	-6.6	-3.4	-3.7	-4.3	-3.6	-20.8	-3.4	-13.5
Dec 20	-3.9	-3.6	-2.5	-2.6	-3	-2.8	-4	-8.3	-12.6	-14.1	-15.1	-15	-14.3	-13.8	-12.6	-13.9	-14.2	-14	-7.6	-4.7	-4.2	-5.6	-6	-6.2	-15.1	-2.5	-8.5
Dec 21	-5.2	-4.5	-4.6	-4.2	-4.5	-5.2	-5.3	-5.6	-5.9	-7.5	-9.1	-7	-4.9	-4.2	-4.6	-5.9	-7.1	-8.8	-8.1	-7.6	-7.7	-7.7	-9.2	-11.9	-11.9	-4.2	-6.5
Dec 22	-13.9	-15.6	-17.5	-18.2	-18.5	-18.6	-19	-19.5	-20.5	-20.2	-18.7	-16.5	-14.5	-14.5	-14.5	-15.2	-16.2	-15.8	-14.6	-15.1	-15.1	-14.3	-13.6	-13.9	-20.5	-13.6	-16.4
Dec 23	-13.4	-12.9	-13.4	-13.1	-11.6	-11	-10.1	-9.3	-7.6	-6	-5.2	-4.8	-3.6	-2.1	-0.8	0.6	1.6	1.5	1	1.4	2.2	2.3	2.6	3.2	-13.4	3.2	-4.5
Dec 24	3.5	3.3	3.3	3.2	3.3	3.6	2.9	1.9	2.4	1.8	1.7	3	4.2	4.1	3.7	3	3.1	3	2.3	1.1	0.1	-1.6	-1.4	-1.7	-1.7	4.2	2.2
Dec 25	-2.4	-3.7	-3.3	-5.6	-7	-7.6	-9.6	-8.1	-7.5	-7.8	-6.9	-5.9	-5.2	-4.6	-4.4	-5.7	-6.3	-6.2	-7.3	-7.5	-7.6	-8.1	-10.4	-11.4	-11.4	-2.4	-6.7
Dec 26	-11.4	-12.4	-14.2	-13.1	-12.3	-11	-10.3	-9.7	-9.1	-8.6	-8.1	-9.4	-9.3	-9.1	-8.8	-8.9	-9.2	-9	-8.8	-10.2	-12.1	-13	-14.6	-15.3	-15.3	-8.1	-10.7
Dec 27	-16.8	-17.9	-18.2	-18.5	-18.2	-18.3	-17.5	-16.7	-15.9	-15.5	-14.9	-13.5	-12.6	-11	-9.5	-8.4	-9.2	-8.6	-8.9	-9.3	-9.2	-8.9	-9.1	-9.1	-18.5	-8.4	-13.2
Dec 28	-9.1	-9.5	-9.7	-9.5	-8.9	-9.5	-9.6	-10.5	-10.7	-10.6	-10.7	-9	-8.3	-7.3	-7.7	-8.4	-9.1	-10.1	-10.7	-11.1	-11.8	-13.5	-13.1	-13	-13.5	-7.3	-10.1
Dec 29	-12.8	-12.4	-13.2	-14.2	-14.1	-14.1	-14	-12.8	-12.9	-13.4	-11.7	-10.5	-8.9	-8.8	-8.8	-9.1	-9.1	-8.8	-8.3	-7.9	-8.2	-8.1	-8.3	-7.9	-14.2	-7.9	-10.8
Dec 30	-8.6	-8.1	-7.9	-7.8	-9.8	-11.8	-11.1	-11.1	-11.9	-13	-12.5	-10.6	-8.3	-7.6	-7	-7.9	-9.4	-11	-13.2	-12.5	-13.3	-13.7	-13.9	-15.1	-15.1	-7.0	-10.7
Dec 31	-14.6	-13.7	-12.6	-11.8	-11.2	-10.9	-10.5	-10	-9.8	-9.5	-9.3	-9	-8.6	-8.3	-7.9	-7.5	-7.2	-6.9	-6.4	-6.2	-5.6	-5.2	-5.5	-6.5	-14.6	-5.2	-8.9
Diurnal Maximum	7.0	7.2	7.2	6.7	6.5	6.5	6.5	5.5	5.7	5.5	5.4	6.6	8.0	8.5	8.6	7.5	6.7	6.2	7.8	7.2	7.7	7.7	6.9	6.7			
Diurnal Average	-7.8	-8.0	-8.0	-8.2	-8.4	-8.6	-8.8	-9.0	-8.8	-9.1	-8.5	-7.5	-6.6	-6.1	-5.8	-6.1	-6.8	-7.1	-6.8	-6.8	-6.9	-7.3	-7.7	-7.8			

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 AT - 986c Station



PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

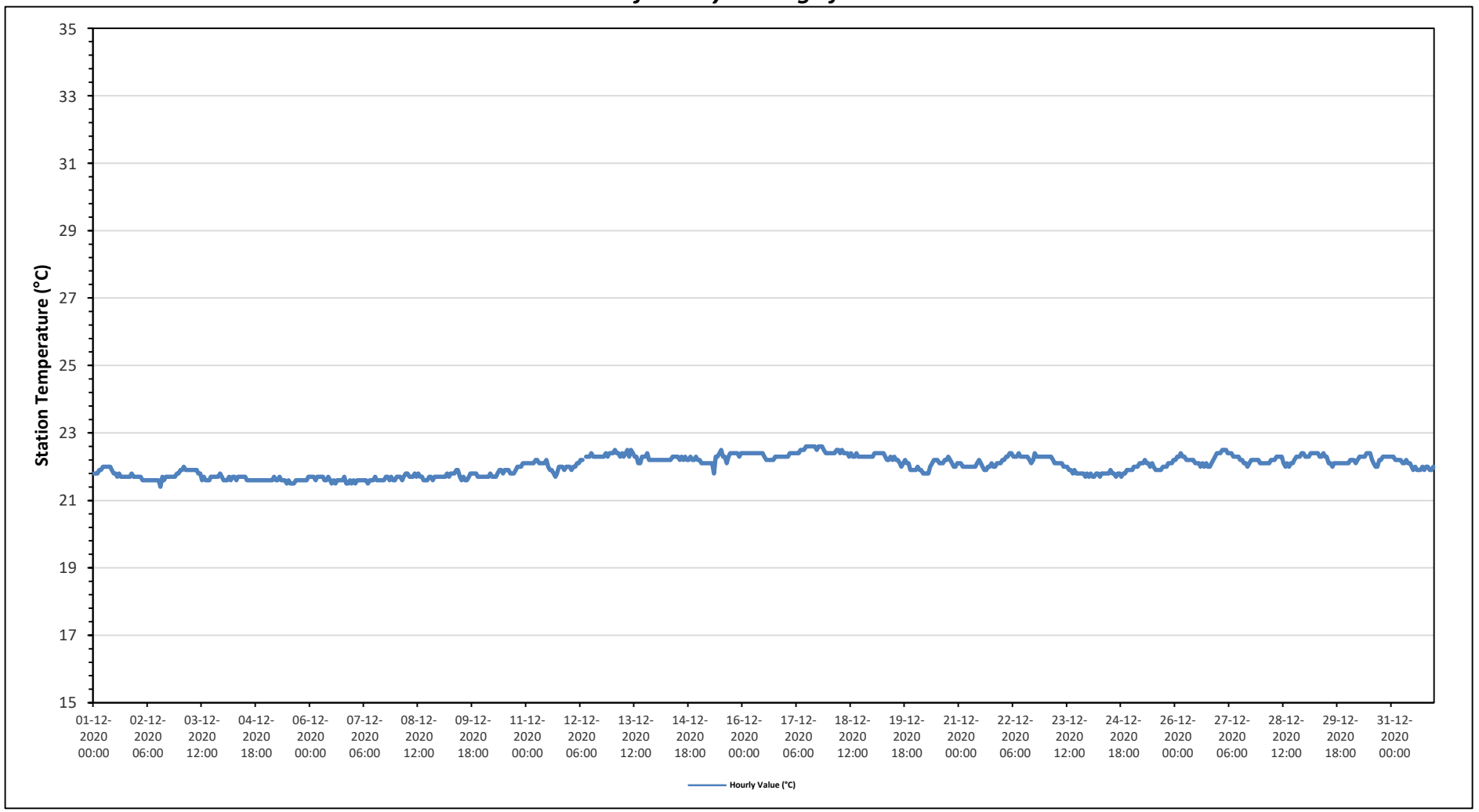
Maximum Hourly Value:	22.6	°C	on December 17 at hour 11	Hours in Service:	744
Maximum Daily Value:	22.5	°C	on December 17	Hours of Data:	743
Minimum Hourly Value:	21.4	°C	on December 2 at hour 13	Hours of Missing Data:	1
Minimum Daily Value:	21.6	°C	on December 5	Hours of Calibration:	0
Monthly Average:	22.0	°C		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	21.8	21.8	21.8	21.9	21.9	22.0	22.0	22.0	22.0	22.0	21.9	21.8	21.8	21.7	21.8	21.7	21.7	21.7	21.7	21.7	21.7	21.8	21.7	21.7	21.7	22.0	21.8
Dec 2	21.7	21.7	21.7	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	**21.4**	21.7	21.6	21.7	21.7	21.7	21.7	21.7	21.7	21.8	21.8	**21.4**	21.8	21.7
Dec 3	21.9	21.9	22.0	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.6	21.7	21.6	21.6	21.6	21.7	21.7	21.7	21.7	21.7	21.8	21.7	21.6	22.0	21.8
Dec 4	21.6	21.6	21.6	21.7	21.6	21.7	21.7	21.6	21.7	21.7	21.7	21.7	21.7	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.7	21.6
Dec 5	21.6	21.6	21.6	21.6	21.7	21.6	21.6	21.7	21.6	21.6	21.6	21.5	21.6	21.5	21.5	21.5	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.7	21.5	21.7	21.6
Dec 6	21.7	21.7	21.7	21.6	21.7	21.7	21.7	21.7	21.6	21.6	21.7	21.6	21.5	21.6	21.5	21.6	21.6	21.6	21.6	21.7	21.5	21.5	21.6	21.5	21.5	21.7	21.6
Dec 7	21.6	21.5	21.6	21.6	21.6	21.6	21.6	21.6	21.5	21.6	21.6	21.6	21.7	21.6	21.6	21.6	21.6	21.6	21.7	21.7	21.6	21.7	21.6	21.6	21.5	21.7	21.6
Dec 8	21.7	21.7	21.7	21.6	21.7	21.8	21.8	21.7	21.7	21.7	21.8	21.7	21.8	21.7	21.7	21.6	21.6	21.6	21.7	21.7	21.6	21.7	21.7	21.7	21.6	21.8	21.7
Dec 9	21.7	21.7	21.7	21.7	21.8	21.7	21.8	21.8	21.8	21.9	21.9	21.7	21.6	21.7	21.6	21.6	21.7	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.6	21.9	21.7
Dec 10	21.7	21.7	21.7	21.7	21.8	21.7	21.7	21.7	21.8	21.9	21.9	21.8	21.9	21.9	21.9	21.8	21.8	21.8	21.9	22.0	22.0	22.0	22.1	22.1	21.7	22.1	21.8
Dec 11	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.1	22.1	22.1	22.1	22.2	22.0	21.9	21.9	21.8	21.7	21.8	22.0	22.0	22.0	21.9	22.0	22.0	21.7	22.2	22.0
Dec 12	22.0	21.9	22.0	22.0	22.1	22.1	22.2	22.2	K	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.4	22.3	22.4	22.4	21.9	22.4	22.2
Dec 13	22.4	22.5	22.4	22.4	22.3	22.4	22.3	22.4	22.5	22.3	22.5	22.4	22.3	22.3	22.1	22.1	22.3	22.3	22.3	22.4	22.2	22.2	22.2	22.2	22.1	22.5	22.3
Dec 14	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.3	22.2	22.2	22.3	22.2	22.2	22.3	22.2	22.2	22.3	22.2
Dec 15	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.1	21.8	22.3	22.3	22.4	22.5	22.3	22.3	22.1	22.3	22.4	22.4	22.4	22.4	22.4	22.3	22.4	21.8	22.5	22.2
Dec 16	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.4	22.3
Dec 17	22.3	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.5	**22.6**	**22.6**	**22.6**	**22.6**	**22.6**	**22.6**	22.5	**22.6**	**22.6**	**22.6**	22.5	22.4	22.4	22.3	**22.6**	**22.5**
Dec 18	22.4	22.4	22.4	22.4	22.5	22.5	22.4	22.5	22.4	22.4	22.4	22.3	22.4	22.3	22.3	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.5	22.4
Dec 19	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.2	22.2	22.3	22.2	22.3	22.2	22.2	22.1	22.0	22.1	22.2	22.1	22.1	21.9	21.9	21.9	21.9	22.4	22.2
Dec 20	21.9	22.0	21.9	21.9	21.8	21.8	21.8	21.8	22.0	22.1	22.2	22.2	22.2	22.1	22.1	22.1	22.2	22.2	22.3	22.2	22.1	22.0	22.0	22.1	21.8	22.3	22.0
Dec 21	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.1	22.2	22.1	22.0	21.9	21.9	22.0	22.0	22.1	22.0	22.0	22.1	22.1	22.1	21.9	22.2	22.0
Dec 22	22.2	22.2	22.3	22.3	22.4	22.4	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.3	22.3	22.2	22.1	22.2	22.4	22.3	22.3	22.3	22.3	22.3	22.1	22.4	22.3
Dec 23	22.3	22.3	22.3	22.3	22.2	22.1	22.1	22.1	22.1	22.1	22.0	22.0	22.0	21.9	21.9	21.8	21.9	21.8	21.8	21.8	21.8	21.8	21.7	21.8	21.7	22.3	22.0
Dec 24	21.7	21.8	21.7	21.7	21.8	21.8	21.7	21.8	21.8	21.8	21.8	21.8	21.9	21.8	21.8	21.7	21.8	21.8	21.7	21.8	21.8	21.9	21.9	21.9	21.7	21.9	21.8
Dec 25	21.9	22.0	22.0	22.0	22.1	22.1	22.1	22.2	22.1	22.1	22.0	22.1	22.0	21.9	21.9	21.9	21.9	22.0	22.0	22.0	22.1	22.1	22.1	22.2	21.9	22.2	22.0
Dec 26	22.2	22.3	22.3	22.4	22.3	22.3	22.2	22.2	22.2	22.2	22.2	22.1	22.1	22.1	22.0	22.1	22.0	22.1	22.0	22.0	22.1	22.2	22.3	22.4	22.0	22.4	22.2
Dec 27	22.4	22.4	22.5	22.5	22.5	22.4	22.4	22.4	22.3	22.3	22.3	22.3	22.2	22.2	22.1	22.1	22.0	22.1	22.2	22.2	22.2	22.2	22.2	22.1	22.0	22.5	22.3
Dec 28	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.1	22.0	22.1	22.0	22.1	22.1	22.2	22.3	22.3	22.3	22.4	22.4	22.0	22.4	22.2
Dec 29	22.3	22.3	22.3	22.4	22.4	22.4	22.4	22.4	22.3	22.3	22.4	22.3	22.3	22.1	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.4	22.2
Dec 30	22.1	22.2	22.2	22.2	22.1	22.2	22.3	22.3	22.3	22.3	22.4	22.4	22.4	22.2	22.1	22.0	22.0	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.0	22.4	22.2
Dec 31	22.3	22.3	22.2	22.2	22.2	22.2	22.1	22.1	22.2	22.1	22.1	22.0	21.9	22.0	21.9	21.9	21.9	22.0	21.9	22.0	22.0	21.9	21.9	22.0	21.9	22.3	22.1
Diurnal Maximum	22.4	22.5	22.5	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.6	22.6	22.5	22.4	22.4			
Diurnal Average	22.0	22.0	22.0	22.0	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.0	22.0	22.0	21.9	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0			

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 - 986c Station



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PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

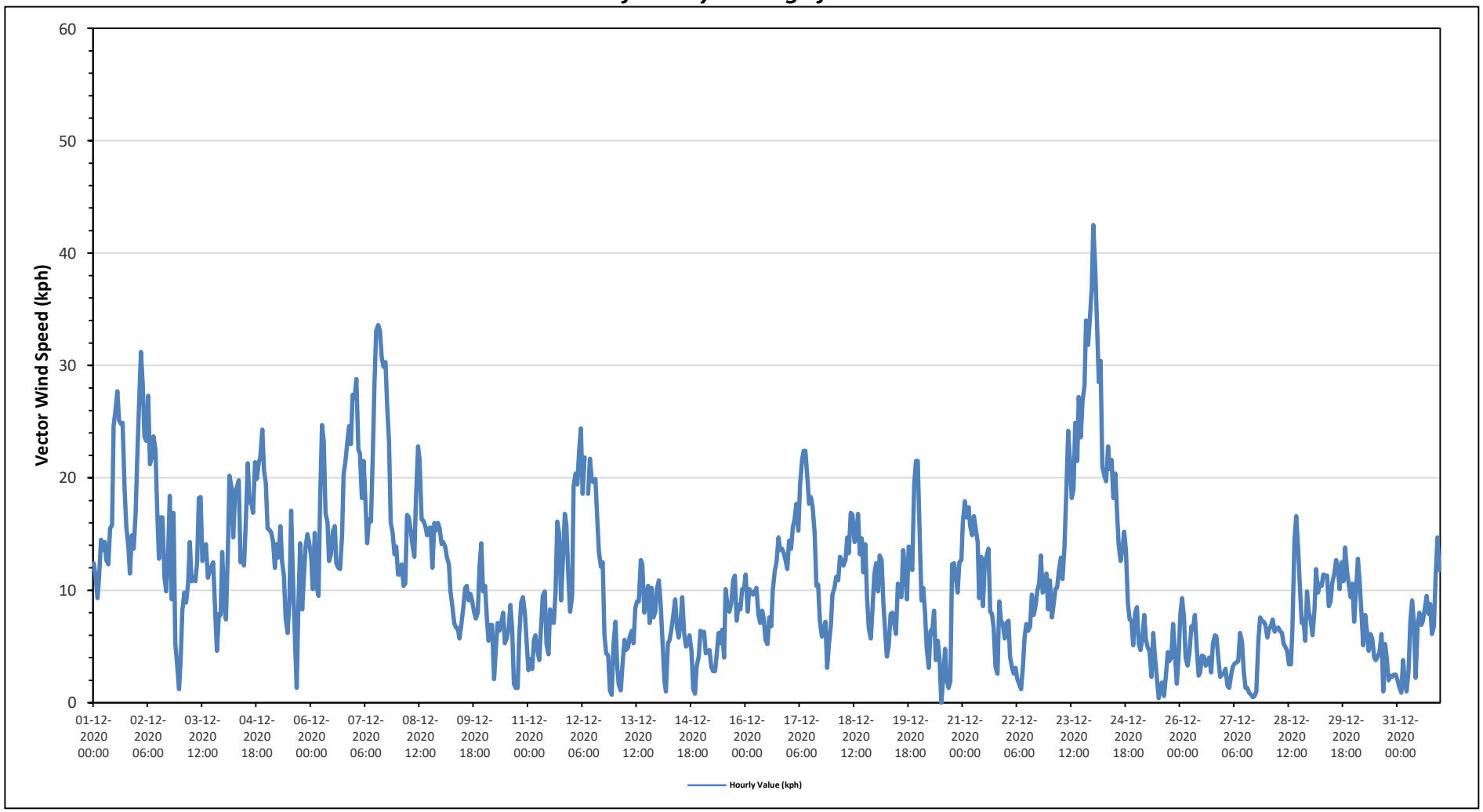
Maximum Hourly Value:	42.5	kph	on December 24 at hour 0	Hours in Service:	744
Maximum Daily Value:	21.6	kph	on December 7	Hours of Data:	743
Minimum Hourly Value:	0.0	kph	on December 20 at hour 12	Hours of Missing Data:	1
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	0
Monthly Average:	5.6	kph		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	12.4	11.3	9.3	11.1	14.5	13.6	14.3	12.7	12.3	15.5	15.8	24.6	26.1	27.7	25.1	24.8	24.9	18.9	15.6	13.9	11.5	14.9	13.7	16.9	9.3	27.7	15.6
Dec 2	21.5	26.2	31.2	28.4	23.7	23.3	27.3	21.2	21.9	23.7	22.5	17.0	12.8	16.5	16.5	11.1	9.9	13.0	18.4	9.2	16.9	5.3	3.5	1.2	1.2	31.2	16.6
Dec 3	4.1	8.2	9.8	8.9	10.6	14.3	10.8	11.1	10.8	12.5	18.2	18.3	12.6	13.2	14.1	11.1	11.7	12.2	12.5	8.2	4.6	7.9	7.8	13.4	4.1	18.3	10.0
Dec 4	8.8	7.4	13.8	20.2	19.2	14.7	18.9	19.1	19.8	12.5	13.1	12.2	16.0	21.3	17.8	17.8	16.9	21.4	19.9	21.4	21.8	24.3	20.6	19.5	7.4	24.3	17.0
Dec 5	15.5	15.4	15.1	14.3	12.0	14.1	12.9	15.7	12.5	11.3	7.5	6.2	9.1	17.1	11.2	5.7	1.3	8.9	14.2	8.3	11.3	13.8	15.0	14.2	1.3	17.1	10.4
Dec 6	12.9	10.1	15.1	10.4	9.5	17.6	24.7	23.2	16.9	16.0	12.6	13.2	15.2	15.7	12.4	12.0	11.9	14.9	20.3	21.6	23.2	24.6	23.0	27.4	9.5	27.4	16.7
Dec 7	27.1	28.8	22.5	22.2	18.2	21.5	17.5	14.2	16.3	16.1	21.6	28.3	33.1	33.6	33.1	30.7	29.9	30.3	26.3	23.3	16.0	15.2	13.2	13.9	13.2	33.6	**21.6**
Dec 8	11.4	11.4	12.3	10.4	10.6	16.7	16.5	15.3	14.1	13.0	18.4	22.8	21.6	16.3	16.2	15.7	14.9	15.5	15.6	12.0	16.0	15.3	16.0	15.5	10.4	22.8	15.1
Dec 9	14.1	14.3	13.9	12.9	12.3	9.9	8.7	7.1	6.7	6.6	5.7	7.1	8.4	10.2	10.4	9.1	9.7	9.0	8.1	7.5	8.0	12.1	14.2	9.9	5.7	14.3	9.5
Dec 10	10.4	7.6	5.5	6.9	6.9	2.1	4.8	7.1	6.4	7.2	8.0	5.3	5.7	6.6	8.7	6.6	1.7	1.3	1.3	5.9	8.9	9.4	7.9	5.3	1.3	10.4	1.5
Dec 11	2.9	3.9	3.0	5.6	6.0	4.6	3.8	7.0	9.5	9.9	5.2	4.3	8.3	7.2	7.1	9.8	16.1	15.1	9.1	12.5	16.8	15.9	11.3	8.1	2.9	16.8	5.2
Dec 12	9.4	19.3	20.4	19.4	22.4	24.4	18.6	21.8	K	18.6	21.7	19.7	19.6	19.9	16.5	13.4	12.1	12.5	6.0	4.4	4.2	1.1	0.7	5.2	0.7	24.4	14.0
Dec 13	7.2	3.2	1.6	1.1	3.4	5.6	4.7	4.9	5.9	6.4	5.3	8.4	9.0	9.0	12.7	12.3	8.0	9.2	10.4	7.1	10.2	7.6	8.1	10.1	1.1	12.7	6.8
Dec 14	10.9	8.8	5.7	2.0	1.0	5.3	5.6	6.7	7.7	9.2	6.7	5.8	7.0	9.4	6.1	5.0	5.2	6.0	4.6	1.2	0.8	3.3	4.1	6.4	0.8	10.9	2.7
Dec 15	6.0	6.3	4.4	4.5	4.7	3.2	2.8	2.8	4.4	6.2	5.3	6.5	4.0	10.1	8.6	8.1	8.9	10.9	11.3	7.3	8.7	8.3	10.1	10.1	2.8	11.3	4.7
Dec 16	11.4	8.1	10.1	9.9	9.6	9.9	10.2	7.8	7.1	8.2	7.5	5.6	5.2	7.6	6.8	10.0	11.7	12.5	14.7	13.6	13.7	13.3	12.7	11.9	5.2	14.7	8.4
Dec 17	14.4	13.7	15.6	16.3	17.7	15.3	19.4	21.6	22.4	22.4	20.0	17.7	18.3	17.4	15.1	10.4	10.5	7.2	5.9	6.5	7.2	3.1	5.2	7.0	3.1	22.4	12.4
Dec 18	9.6	10.2	11.2	10.9	13.0	12.7	12.2	12.7	14.7	13.3	16.9	16.7	14.3	14.7	16.8	13.2	14.6	11.6	14.1	9.3	6.6	5.7	8.1	11.4	5.7	16.9	10.8
Dec 19	12.4	9.9	13.1	12.7	8.9	6.0	4.1	5.0	7.9	8.0	7.1	6.1	10.6	9.5	9.4	13.6	11.7	9.2	13.9	12.9	11.8	19.4	21.5	21.5	4.1	21.5	5.6
Dec 20	15.6	9.1	10.2	8.0	4.8	3.1	6.4	6.1	8.2	3.8	5.5	3.9	**0.0**	2.0	4.8	2.0	1.3	1.9	12.3	12.4	11.3	9.8	12.5	12.7	**0.0**	15.6	4.6
Dec 21	16.1	17.9	16.5	17.4	15.7	14.9	16.6	15.5	14.3	9.3	13.0	8.6	12.7	13.0	13.7	8.1	7.9	6.6	3.2	2.6	9.0	7.3	7.0	5.7	2.6	17.9	9.1
Dec 22	7.1	7.3	4.1	3.1	2.6	3.1	2.1	1.7	1.2	3.1	5.8	7.0	6.4	6.8	9.6	7.8	8.5	10.0	10.6	13.1	9.8	10.1	11.5	8.3	1.2	13.1	4.3
Dec 23	10.9	7.6	8.8	10.1	10.3	11.8	12.9	11.0	13.8	18.5	24.2	21.8	18.2	19.0	24.9	21.5	27.2	23.6	26.8	28.2	34.0	31.8	34.0	37.0	7.6	37.0	19.3
Dec 24	**42.5**	38.4	33.6	28.5	30.4	21.0	20.2	19.7	22.8	20.8	21.6	18.2	20.4	17.2	14.1	12.6	13.7	15.2	13.6	8.8	7.4	7.3	5.1	8.0	5.1	**42.5**	18.4
Dec 25	8.5	5.3	4.7	5.6	7.8	5.6	4.9	4.6	2.3	6.2	4.0	2.3	0.4	1.5	1.8	0.6	2.3	4.5	3.7	4.0	7.0	4.1	1.7	4.1	0.4	8.5	**0.5**
Dec 26	7.9	9.3	7.4	4.0	3.3	4.4	6.8	6.5	7.8	5.0	2.4	2.7	4.2	4.1	3.3	3.6	4.0	2.7	5.3	6.0	5.9	3.8	2.3	2.5	2.3	9.3	3.4
Dec 27	2.6	3.0	1.5	1.3	2.4	3.2	3.5	3.6	3.7	6.2	5.4	2.7	1.3	1.3	0.9	0.7	0.5	0.6	1.0	5.5	7.6	7.3	7.2	6.9	0.5	7.6	2.3
Dec 28	5.8	6.5	6.8	7.4	6.3	6.6	6.7	6.4	6.2	5.2	5.0	4.6	3.4	3.4	6.7	14.4	16.6	13.5	10.6	7.1	7.4	5.5	9.9	8.1	3.4	16.6	7.1
Dec 29	7.3	6.0	8.3	11.9	9.8	10.6	10.4	11.4	11.3	11.3	8.6	9.0	10.7	11.5	12.7	12.0	10.1	12.5	10.8	13.8	11.8	10.6	9.4	10.6	6.0	13.8	10.2
Dec 30	7.2	9.9	12.8	10.7	8.0	5.1	7.8	6.3	4.6	6.1	5.7	4.0	3.8	4.1	4.5	6.1	1.0	5.2	4.0	2.0	2.4	2.3	2.5	2.5	1.0	12.8	4.7
Dec 31	1.9	1.4	0.9	3.8	1.6	1.0	2.9	7.2	9.1	7.2	2.2	6.8	8.0	6.9	7.3	8.4	9.5	7.9	8.8	6.1	6.8	11.3	14.7	11.8	0.9	14.7	3.4
Diurnal Maximum	43	38	34	29	30	24	27	23	23	24	24	28	33	34	33	31	30	30	27	28	34	32	34	37			
Diurnal Average	11.5	11.2	11.3	11.0	10.6	10.5	10.9	10.9	10.8	10.9	11.0	10.9	11.2	12.1	11.9	10.9	10.8	11.1	11.4	10.2	10.9	10.7	10.8	11.2			

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.

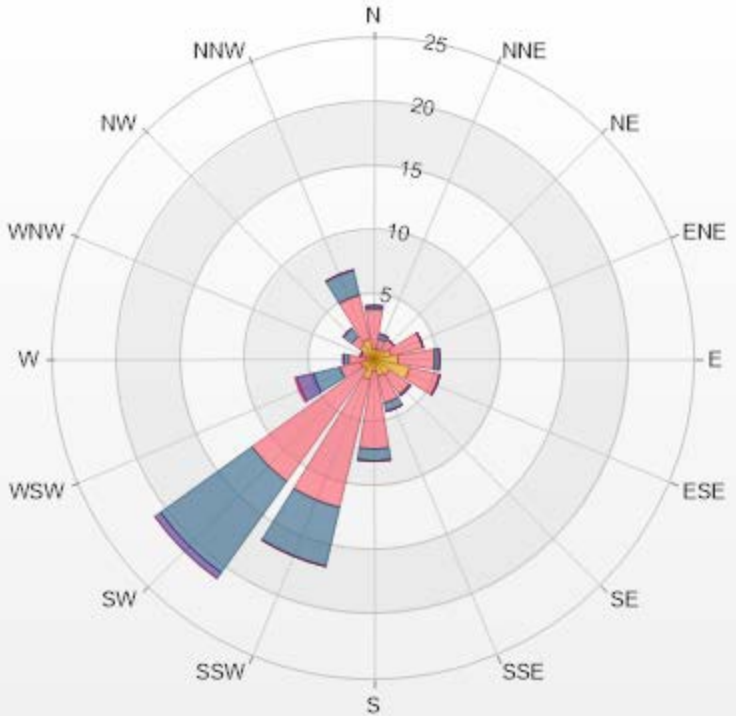
Timeseries Chart of Hourly Average for VWS - 986c Station



Wind: PRAMP 986c Monitor: WDS [KPH] Monthly: 12-2020 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 4.58% Valid Data: 99.87%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.81	3.1	0.27	0	0	4.18
NNE	0.81	0.81	0.4	0	0	2.02
NE	0.94	0.94	0	0	0	1.88
ENE	1.35	2.56	0	0	0	3.91
E	1.88	2.83	0.4	0	0	5.11
ESE	2.83	2.42	0	0	0	5.25
SE	1.48	1.88	0.13	0	0	3.49
SSE	1.35	2.15	0.67	0	0	4.17
S	0.94	6.06	0.94	0	0	7.94
SSW	1.62	10.23	4.71	0	0	16.56
SW	0.94	10.77	8.75	0.54	0	21
WSW	1.08	1.62	2.15	1.35	0.13	6.33
W	0.67	1.35	0.4	0	0	2.42
WNW	0.27	0.81	0	0	0	1.08
NW	1.35	0.81	0.81	0	0	2.97
NNW	1.62	3.5	2.02	0	0	7.14
Summary	19.94	51.84	21.65	1.89	0.13	95.45

PRAMP 986c 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 4.58% Calm Wind Avg Speed: 1.11(KPH)



% Icon Classes (KPH)	20	1.8-6.0	52	6.0-15.0	22	15.0-29.0	2	29.0-39.0	0	>39.0

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PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

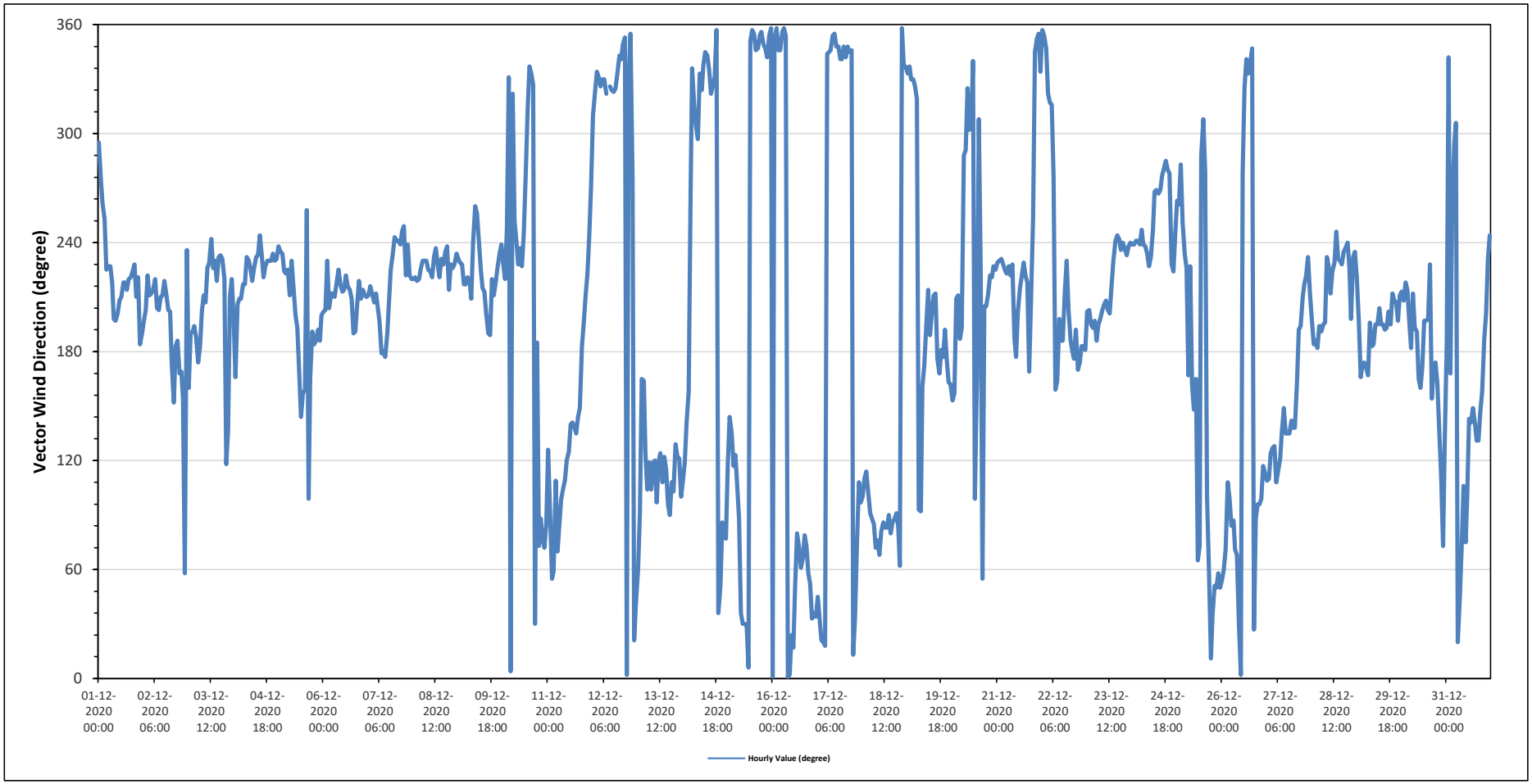
Monthly Average:	218 (SW)	degree	
Hours in Service:	744		
Hours of Data:	743		
Hours of Missing Data:	1		
Hours of Calibration:	0		
Operational Uptime:	99.9		

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	WNW	W	W	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SW	SW	SW	SW	SSW	SW	S	S	219	SW
Dec 2	SSW	SSW	SW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	S	SSE	S	S	SSE	SSE	SSE	ENE	SW	203	SSW
Dec 3	SSE	S	S	SSW	S	S	S	SSW	SSW	SSW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	ESE	SE	SSW	SW	211	SSW
Dec 4	SSW	SSE	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	225	SW
Dec 5	SW	SW	SW	SW	SW	SW	SSW	SW	SSW	SSW	S	SSE	SE	SSE	SSE	WSW	E	SSE	S	S	S	S	S	SSW	203	SSW
Dec 6	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SW	SW	SSW	SSW	S	S	SSW	SW	SSW	SSW	SSW	SSW	212	SSW
Dec 7	SSW	SW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	SW	221	SW
Dec 8	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	228	SW
Dec 9	SW	SW	SW	SW	SW	SW	SW	SSW	WSW	WSW	WSW	WSW	SW	SSW	SSW	SSW	S	S	SW	SSW	SW	SW	SW	WSW	222	SW
Dec 10	SW	SW	WSW	NNW	N	NW	WSW	WSW	SW	SW	SW	WSW	W	NW	NNW	NNW	NW	NNE	S	ENE	E	ENE	ENE	E	280	W
Dec 11	SE	E	NE	ENE	ESE	ENE	E	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SW	WSW	W	152	SSE
Dec 12	NW	NW	NNW	NNW	NW	NNW	NNW	NW	K	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	N	NNW	N	W	NNE	NE	332	NNW
Dec 13	ENE	E	SSE	SSE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	E	E	ESE	ESE	SE	ESE	ESE	E	111	ESE
Dec 14	ESE	ESE	SE	SSE	W	NNW	NW	WNW	WNW	NNW	NW	NNW	NNW	NNW	NNW	NW	NW	NNW	N	NE	NE	E	ENE	ENE	352	N
Dec 15	ESE	SE	SE	ESE	ESE	ESE	E	NE	NNE	NNE	NNE	N	N	N	N	NNW	NNW	N	N	NNW	NNW	NNW	N	N	11	NNE
Dec 16	N	N	N	NNW	NNW	N	N	N	N	N	NNE	NNE	NE	E	ENE	ENE	ENE	ENE	ENE	ENE	NE	NNE	NE	NE	31	NNE
Dec 17	NE	NNE	NNE	NNE	NNE	NNW	NNW	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNE	NNE	ENE	ESE	E	1	N
Dec 18	E	ESE	ESE	ESE	E	E	E	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	ENE	N	NNW	NNW	81	E
Dec 19	NNW	NNW	NNW	NNW	NW	NW	E	E	SSE	S	SSW	SSW	S	SSW	SSW	SSW	S	SSE	S	S	S	S	SSE	SSE	191	S
Dec 20	SSE	SSE	SSW	SSW	S	S	WNW	WNW	NW	WNW	NW	NNW	E	SSE	NW	SW	NE	SSW	SSW	SSW	SW	SW	SW	SW	222	SW
Dec 21	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	S	SSW	SSW	SW	SW	SW	SW	SSE	SSW	WSW	NNW	N	N	NNW	226	SW
Dec 22	N	N	NNW	NW	NW	NW	W	SSE	SSE	SSW	S	S	SSW	SW	SSW	S	S	S	S	SSE	S	S	S	S	194	SSW
Dec 23	SSW	SSW	SSW	S	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	WSW	224	SW
Dec 24	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	W	W	W	W	W	W	WNW	W	W	SW	SW	WSW	248	WSW
Dec 25	W	W	W	WSW	SW	SW	SSE	SW	SSE	SE	SSE	ENE	ENE	WNW	NW	W	E	NE	NNE	NE	NE	NE	ENE	NE	231	SW
Dec 26	NE	ENE	ENE	ESE	E	E	E	ENE	ENE	NNE	N	W	NW	NNW	NNW	NNW	NNW	NNE	E	E	E	E	ESE	ESE	62	ENE
Dec 27	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE	SE	SSE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SW	SW	SW	SSW	168	SSE
Dec 28	SSW	S	S	S	SSW	S	SSW	SSW	SW	SW	SSW	SW	SW	WSW	SW	SW	SW	SW	SW	WSW	SW	SSW	SW	SW	218	SW
Dec 29	SW	SSW	SSE	S	S	S	SSE	SSW	S	S	SSW	SSW	SSW	SSW	SSW	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	193	S
Dec 30	SSW	SSW	SW	SSW	SSW	S	SSW	S	S	SSE	SSE	S	SSW	SSW	SSW	SW	SSE	SSE	S	SSE	SE	ESE	ENE	SE	193	S
Dec 31	S	NNW	SSE	W	WNW	NW	NNE	NE	ENE	ESE	ENE	E	SE	SE	SSE	SE	SE	SE	SE	SSE	S	SSW	SW	WSW	154	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 (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



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PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	42.5	kph	on December 24 at hour 0	Hours in Service:	744
Maximum Daily Value:	21.6	kph	on December 7	Hours of Data:	743
Minimum Hourly Value:	0.0	kph	on December 20 at hour 12	Hours of Missing Data:	1
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	0
Monthly Average:	5.6	kph		Operational Uptime:	99.9

WIND DIRECTION

Monthly Average: 218 (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 1	12.4	11.3	9.3	11.1	14.5	13.6	14.3	12.7	12.3	15.5	15.8	24.6	26.1	27.7	25.1	24.8	24.9	18.9	15.6	13.9	11.5	14.9	13.7	16.9	9.3	27.7	15.6
	WNW	W	W	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SW	SW	SW	SW	SSW	SW	S	S			
Dec 2	21.5	26.2	31.2	28.4	23.7	23.3	27.3	21.2	21.9	23.7	22.5	17.0	12.8	16.5	16.5	11.1	9.9	13.0	18.4	9.2	16.9	5.3	3.5	1.2	1.2	31.2	16.6
	SSW	SSW	SW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	S	SSE	S	S	SSE	SSE	SSE	ENE	SW			
Dec 3	4.1	8.2	9.8	8.9	10.6	14.3	10.8	11.1	10.8	12.5	18.2	18.3	12.6	13.2	14.1	11.1	11.7	12.2	12.5	8.2	4.6	7.9	7.8	13.4	4.1	18.3	10.0
	SSE	S	S	SSW	S	S	S	SSW	SSW	SSW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	ESE	SE	SSW	SW			
Dec 4	8.8	7.4	13.8	20.2	19.2	14.7	18.9	19.1	19.8	12.5	13.1	12.2	16.0	21.3	17.8	17.8	16.9	21.4	19.9	21.4	21.8	24.3	20.6	19.5	7.4	24.3	17.0
	SSW	SSE	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW			
Dec 5	15.5	15.4	15.1	14.3	12.0	14.1	12.9	15.7	12.5	11.3	7.5	6.2	9.1	17.1	11.2	5.7	1.3	8.9	14.2	8.3	11.3	13.8	15.0	14.2	1.3	17.1	10.4
	SW	SW	SW	SW	SW	SW	SSW	SW	SSW	SSW	S	SSE	SE	SSE	SSE	WSW	E	SSE	S	S	S	S	S	SSW			
Dec 6	12.9	10.1	15.1	10.4	9.5	17.6	24.7	23.2	16.9	16.0	12.6	13.2	15.2	15.7	12.4	12.0	11.9	14.9	20.3	21.6	23.2	24.6	23.0	27.4	9.5	27.4	16.7
	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SW	SW	SSW	SSW	S	S	SSW	SW	SSW	SSW	SSW	SSW			
Dec 7	27.1	28.8	22.5	22.2	18.2	21.5	17.5	14.2	16.3	16.1	21.6	28.3	33.1	33.6	33.1	30.7	29.9	30.3	26.3	23.3	16.0	15.2	13.2	13.9	13.2	33.6	**21.6**
	SSW	SW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	SW			
Dec 8	11.4	11.4	12.3	10.4	10.6	16.7	16.5	15.3	14.1	13.0	18.4	22.8	21.6	16.3	16.2	15.7	14.9	15.5	15.6	12.0	16.0	15.3	16.0	15.5	10.4	22.8	15.1
	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW			
Dec 9	14.1	14.3	13.9	12.9	12.3	9.9	8.7	7.1	6.7	6.6	5.7	7.1	8.4	10.2	10.4	9.1	9.7	9.0	8.1	7.5	8.0	12.1	14.2	9.9	5.7	14.3	9.5
	SW	SW	SW	SW	SW	SW	SW	SSW	WSW	WSW	WSW	WSW	SW	SSW	SSW	SSW	S	S	SW	SSW	SW	SW	SW	WSW			
Dec 10	10.4	7.6	5.5	6.9	6.9	2.1	4.8	7.1	6.4	7.2	8.0	5.3	5.7	6.6	8.7	6.6	1.7	1.3	1.3	5.9	8.9	9.4	7.9	5.3	1.3	10.4	1.5
	SW	SW	WSW	NNW	N	NW	WSW	WSW	SW	SW	SW	WSW	W	NW	NNW	NNW	NW	NNE	S	ENE	E	ENE	ENE	E			
Dec 11	2.9	3.9	3.0	5.6	6.0	4.6	3.8	7.0	9.5	9.9	5.2	4.3	8.3	7.2	7.1	9.8	16.1	15.1	9.1	12.5	16.8	15.9	11.3	8.1	2.9	16.8	5.2
	SE	E	NE	ENE	ESE	ENE	E	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SW	WSW	W			
Dec 12	9.4	19.3	20.4	19.4	22.4	24.4	18.6	21.8	**K**	18.6	21.7	19.7	19.6	19.9	16.5	13.4	12.1	12.5	6.0	4.4	4.2	1.1	0.7	5.2	0.7	24.4	14.0
	NW	NW	NNW	NNW	NW	NNW	NNW	NW	**K**	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	N	NNW	N	W	NNE	NE			
Dec 13	7.2	3.2	1.6	1.1	3.4	5.6	4.7	4.9	5.9	6.4	5.3	8.4	9.0	9.0	12.7	12.3	8.0	9.2	10.4	7.1	10.2	7.6	8.1	10.1	1.1	12.7	6.8
	ENE	E	SSE	SSE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	E	E	ESE	ESE	SE	ESE	ESE	E			
Dec 14	10.9	8.8	5.7	2.0	1.0	5.3	5.6	6.7	7.7	9.2	6.7	5.8	7.0	9.4	6.1	5.0	5.2	6.0	4.6	1.2	0.8	3.3	4.1	6.4	0.8	10.9	2.7
	ESE	ESE	SE	SSE	W	NNW	NW	WNW	WNW	NNW	NW	NNW	NNW	NNW	NNW	NW	NW	NNW	N	NE	NE	E	ENE	ENE			
Dec 15	6.0	6.3	4.4	4.5	4.7	3.2	2.8	2.8	4.4	6.2	5.3	6.5	4.0	10.1	8.6	8.1	8.9	10.9	11.3	7.3	8.7	8.3	10.1	10.1	2.8	11.3	4.7
	ESE	SE	SE	ESE	ESE	ESE	E	NE	NNE	NNE	NNE	N	N	N	N	NNW	NNW	N	N	NNW	NNW	NNW	N	N			
Dec 16	11.4	8.1	10.1	9.9	9.6	9.9	10.2	7.8	7.1	8.2	7.5	5.6	5.2	7.6	6.8	10.0	11.7	12.5	14.7	13.6	13.7	13.3	12.7	11.9	5.2	14.7	8.4
	N	N	N	NNW	NNW	N	N	N	N	N	NNE	NNE	NE	E	ENE	ENE	ENE	ENE	ENE	ENE	NE	NNE	NE	NE			
Dec 17	14.4	13.7	15.6	16.3	17.7	15.3	19.4	21.6	22.4	22.4	20.0	17.7	18.3	17.4	15.1	10.4	10.5	7.2	5.9	6.5	7.2	3.1	5.2	7.0	3.1	22.4	12.4
	NE	NNE	NNE	NNE	NNE	NNW	NNW	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNE	NNE	ENE	ESE	E			
Dec 18	9.6	10.2	11.2	10.9	13.0	12.7	12.2	12.7	14.7	13.3	16.9	16.7	14.3	14.7	16.8	13.2	14.6	11.6	14.1	9.3	6.6	5.7	8.1	11.4	5.7	16.9	10.8
	E	ESE	ESE	ESE	E	E	E	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	ENE	N	NNW	NNW			
Dec 19	12.4	9.9	13.1	12.7	8.9	6.0	4.1	5.0	7.9	8.0	7.1	6.1	10.6	9.5	9.4	13.6	11.7	9.2	13.9	12.9	11.8	19.4	21.5	21.5	4.1	21.5	5.6
	NNW	NNW	NNW	NNW	NW	NW	E	E	SSE	S	SSW	SSW	S	SSW	SSW	SSW	S	SSE	S	S	SSE	S	S	SSE			
Dec 20	15.6	9.1	10.2	8.0	4.8	3.1	6.4	6.1	8.2	3.8	5.5	3.9	**0.0**	2.0	4.8	2.0	1.3	1.9	12.3	12.4	11.3	9.8	12.5	12.7	**0.0**	15.6	4.6
	SSE	SSE	SSW	SSW	S	S	WNW	WNW	NW	WNW	NW	NNW	E	SSE	NW	SW	NE	SSW	SSW	SSW	SW	SW	SW	SW			

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PEACE RIVER AREA MONITORING PROGRAM

986c Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	42.5	kph	on December 24 at hour 0	Hours in Service:	744
Maximum Daily Value:	21.6	kph	on December 7	Hours of Data:	743
Minimum Hourly Value:	0.0	kph	on December 20 at hour 12	Hours of Missing Data:	1
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	0
Monthly Average:	5.6	kph		Operational Uptime:	99.9

WIND DIRECTION

Monthly Average: 218 (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	16.1	17.9	16.5	17.4	15.7	14.9	16.6	15.5	14.3	9.3	13.0	8.6	12.7	13.0	13.7	8.1	7.9	6.6	3.2	2.6	9.0	7.3	7.0	5.7	2.6	17.9	9.1
	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	S	SSW	SSW	SW	SW	SW	SW	SSE	SSW	WSW	NNW	N	N	NNW			
Dec 22	7.1	7.3	4.1	3.1	2.6	3.1	2.1	1.7	1.2	3.1	5.8	7.0	6.4	6.8	9.6	7.8	8.5	10.0	10.6	13.1	9.8	10.1	11.5	8.3	1.2	13.1	4.3
	N	N	NNW	NW	NW	NW	W	SSE	SSE	SSW	S	S	SSW	SW	SSW	S	S	S	S	SSE	S	S	S	S			
Dec 23	10.9	7.6	8.8	10.1	10.3	11.8	12.9	11.0	13.8	18.5	24.2	21.8	18.2	19.0	24.9	21.5	27.2	23.6	26.8	28.2	34.0	31.8	34.0	37.0	7.6	37.0	19.3
	SSW	SSW	SSW	S	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	WSW			
Dec 24	**42.5**	38.4	33.6	28.5	30.4	21.0	20.2	19.7	22.8	20.8	21.6	18.2	20.4	17.2	14.1	12.6	13.7	15.2	13.6	8.8	7.4	7.3	5.1	8.0	5.1	**42.5**	18.4
	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	W	W	W	W	W	W	WNW	W	W	SW	SW	WSW			
Dec 25	8.5	5.3	4.7	5.6	7.8	5.6	4.9	4.6	2.3	6.2	4.0	2.3	0.4	1.5	1.8	0.6	2.3	4.5	3.7	4.0	7.0	4.1	1.7	4.1	0.4	8.5	**0.5**
	W	W	W	WSW	SW	SW	SSE	SW	SSE	SE	SSE	ENE	ENE	WNW	NW	W	E	NE	NNE	NE	NE	NE	ENE	NE			
Dec 26	7.9	9.3	7.4	4.0	3.3	4.4	6.8	6.5	7.8	5.0	2.4	2.7	4.2	4.1	3.3	3.6	4.0	2.7	5.3	6.0	5.9	3.8	2.3	2.5	2.3	9.3	3.4
	NE	ENE	ENE	ESE	E	E	E	ENE	ENE	NNE	N	W	NW	NNW	NNW	NNW	NNW	NNE	E	E	E	E	ESE	ESE			
Dec 27	2.6	3.0	1.5	1.3	2.4	3.2	3.5	3.6	3.7	6.2	5.4	2.7	1.3	1.3	0.9	0.7	0.5	0.6	1.0	5.5	7.6	7.3	7.2	6.9	0.5	7.6	2.3
	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE	SE	SSE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SW	SW	SW	SSW			
Dec 28	5.8	6.5	6.8	7.4	6.3	6.6	6.7	6.4	6.2	5.2	5.0	4.6	3.4	3.4	6.7	14.4	16.6	13.5	10.6	7.1	7.4	5.5	9.9	8.1	3.4	16.6	7.1
	SSW	S	S	S	SSW	S	SSW	SSW	SW	SW	SSW	SW	SW	WSW	SW	SW	SW	SW	SW	WSW	SW	SSW	SW	SW			
Dec 29	7.3	6.0	8.3	11.9	9.8	10.6	10.4	11.4	11.3	11.3	8.6	9.0	10.7	11.5	12.7	12.0	10.1	12.5	10.8	13.8	11.8	10.6	9.4	10.6	6.0	13.8	10.2
	SW	SSW	SSE	S	S	S	SSE	SSW	S	S	SSW	SSW	SSW	SSW	SSW	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW			
Dec 30	7.2	9.9	12.8	10.7	8.0	5.1	7.8	6.3	4.6	6.1	5.7	4.0	3.8	4.1	4.5	6.1	1.0	5.2	4.0	2.0	2.4	2.3	2.5	2.5	1.0	12.8	4.7
	SSW	SSW	SW	SSW	SSW	S	SSW	S	S	SSE	SSE	S	SSW	SSW	SSW	SW	SSE	SSE	S	SSE	SE	ESE	ENE	SE			
Dec 31	1.9	1.4	0.9	3.8	1.6	1.0	2.9	7.2	9.1	7.2	2.2	6.8	8.0	6.9	7.3	8.4	9.5	7.9	8.8	6.1	6.8	11.3	14.7	11.8	0.9	14.7	3.4
	S	NNW	SSE	W	WNW	NW	NNE	NE	ENE	ESE	ENE	E	SE	SE	SSE	SE	SE	SE	SE	SSE	S	SSW	SW	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 (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.

842b STATION

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PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

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

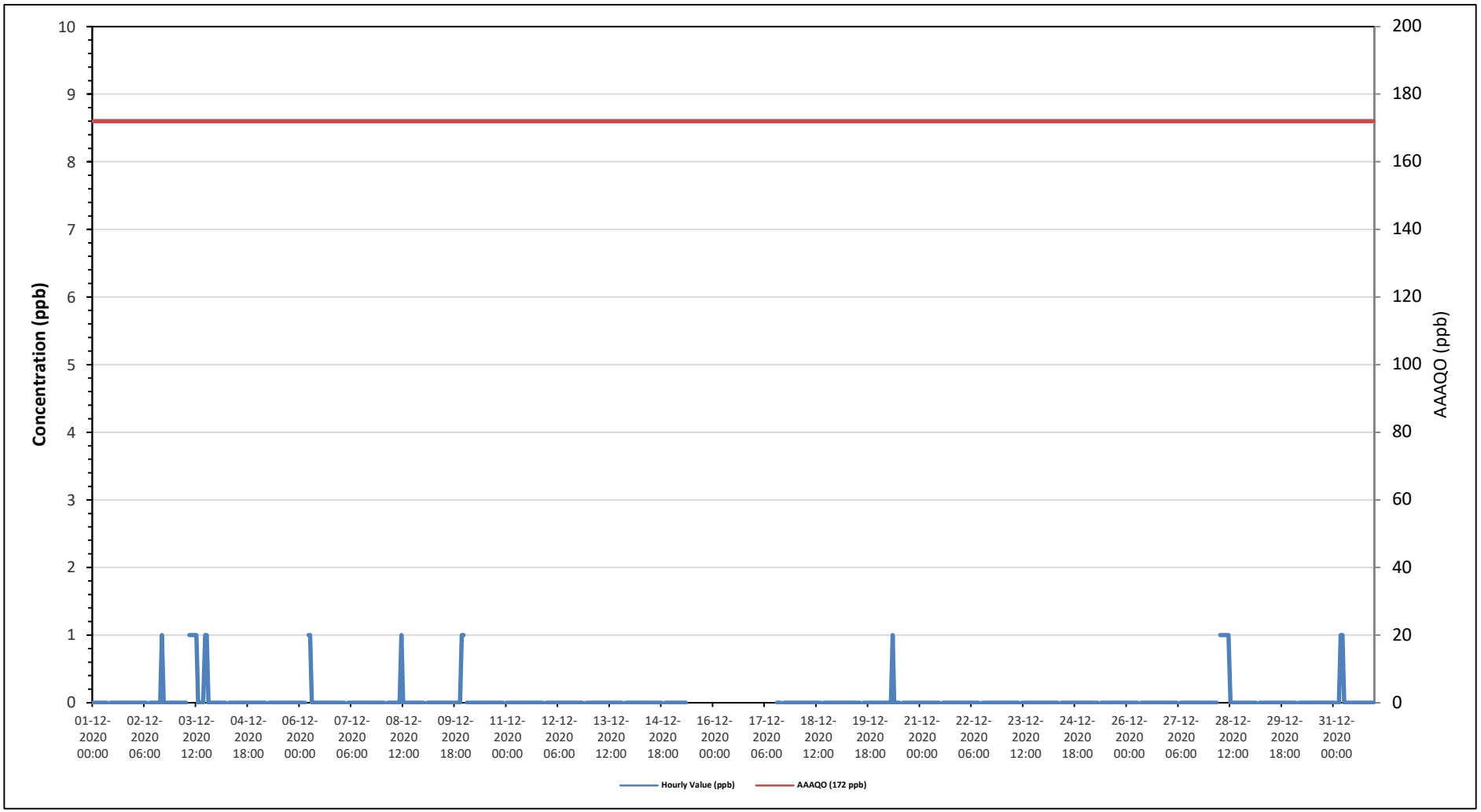
Maximum Hourly Value:	1	ppb	on December 2 at hour 16	Hours in Service:	744
Maximum Daily Value:	0.3	ppb	on December 3	Hours of Data:	662
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	45
Minimum Daily Value:	0.0	ppb	on December 1	Hours of Calibration:	37
Monthly Average:	0.0	ppb		Operational Uptime:	94.0

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	S	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	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0
Dec 3	0	0	0	0	0	0	0	S	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0.3
Dec 4	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 5	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 6	0	0	0	0	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 7	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 8	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 9	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1
Dec 10	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 11	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 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Dec 13	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 14	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 15	0	0	0	0	0	0	0	0	0	C	C	C	N	N	N	N	N	N	N	N	N	N	N	N	0	0	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Dec 17	N	N	N	N	N	N	N	N	N	C	C	C	C	0	0	0	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Dec 20	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 21	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Dec 22	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 23	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 24	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 25	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 26	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 27	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 28	0	0	0	0	0	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Dec 29	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 30	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 31	0	0	S	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	1	1			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

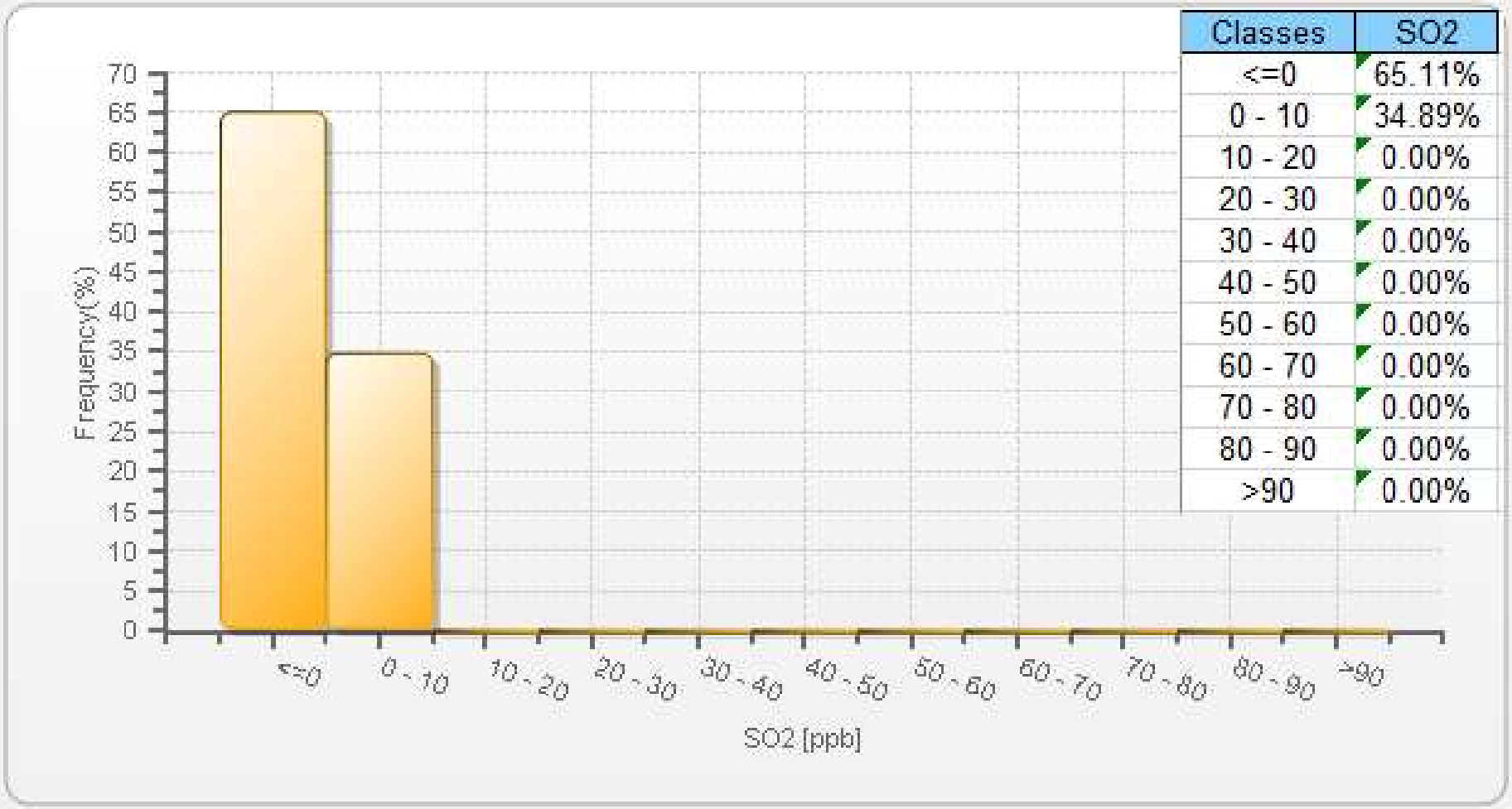
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



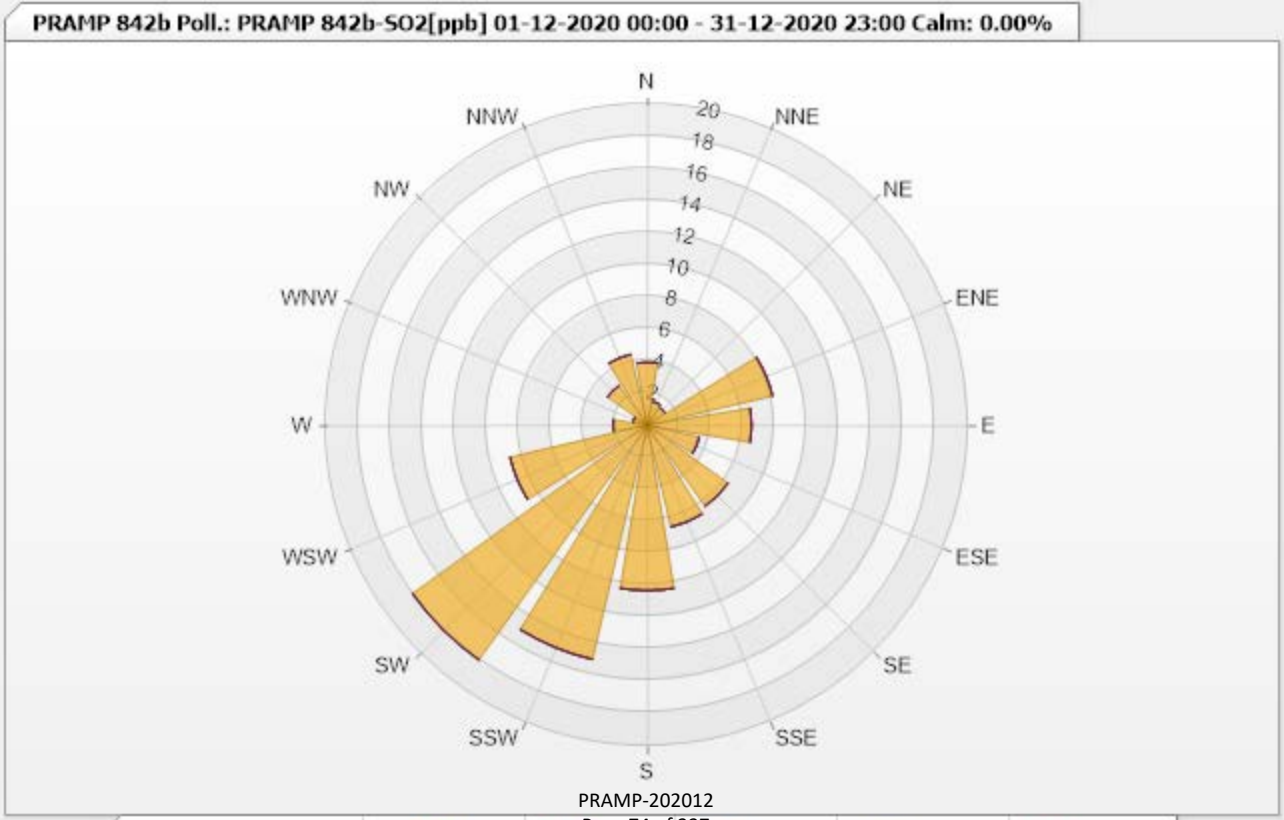
SO2[ppb] Histogram: PRAMP 842b Monthly: 12-2020 1 Hr.



Classes	SO2
<=0	65.11%
0 - 10	34.89%
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: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 88.84% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.93	0	0	0	0	3.93
NNE	1.51	0	0	0	0	1.51
NE	1.36	0	0	0	0	1.36
ENE	8.02	0	0	0	0	8.02
E	6.51	0	0	0	0	6.51
ESE	3.33	0	0	0	0	3.33
SE	6.2	0	0	0	0	6.2
SSE	6.51	0	0	0	0	6.51
S	10.29	0	0	0	0	10.29
SSW	14.98	0	0	0	0	14.98
SW	18	0	0	0	0	18
WSW	8.77	0	0	0	0	8.77
W	2.12	0	0	0	0	2.12
WNW	0.91	0	0	0	0	0.91
NW	3.03	0	0	0	0	3.03
NNW	4.54	0	0	0	0	4.54
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
% 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 2020

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

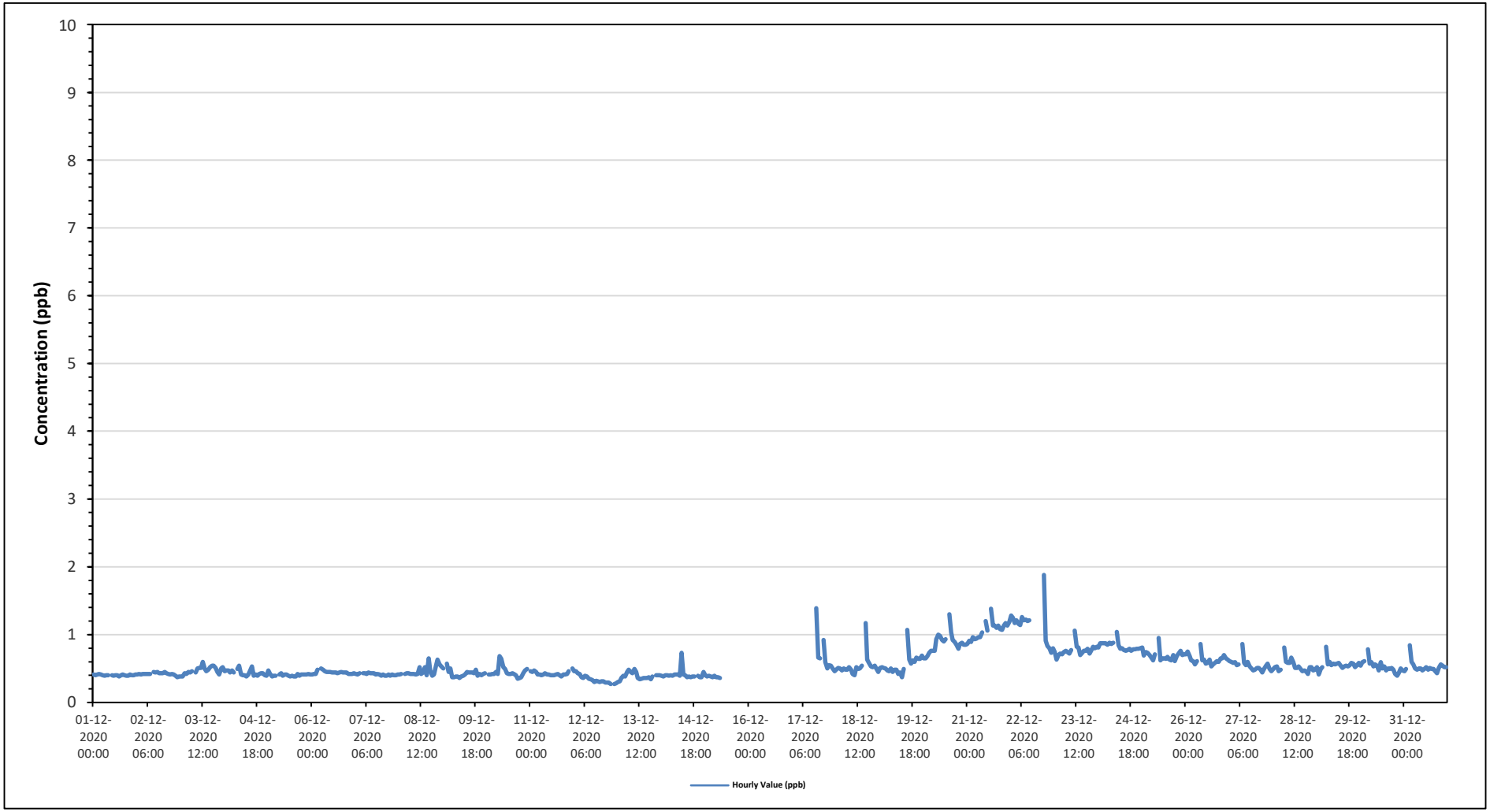
Maximum Hourly Value:	1.88	ppb	on December 22 at hour 18	Hours in Service:	744
Maximum Daily Value:	1.06	ppb	on December 21	Hours of Data:	655
Minimum Hourly Value:	0.27	ppb	on December 12 at hour 20	Hours of Missing Data:	53
Minimum Daily Value:	0.34	ppb	on December 12	Hours of Calibration:	36
Monthly Average:	0.55	ppb		Operational Uptime:	92.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	0.41	0.4	0.41	0.42	0.41	0.4	0.39	0.4	0.4	S	0.4	0.39	0.4	0.4	0.38	0.4	0.41	0.4	0.39	0.39	0.41	0.4	0.4	0.41	0.38	0.42	0.40
Dec 2	0.41	0.42	0.41	0.42	0.42	0.42	0.42	0.42	S	0.45	0.44	0.45	0.43	0.43	0.43	0.45	0.43	0.42	0.41	0.42	0.41	0.39	0.37	0.38	0.37	0.45	0.42
Dec 3	0.38	0.38	0.43	0.42	0.45	0.44	0.46	S	0.44	0.5	0.51	0.51	0.6	0.49	0.46	0.48	0.52	0.54	0.54	0.51	0.45	0.41	0.5	0.52	0.38	0.60	0.48
Dec 4	0.46	0.47	0.47	0.44	0.47	0.44	S	0.49	0.54	0.41	0.4	0.4	0.38	0.41	0.47	0.53	0.39	0.41	0.39	0.42	0.43	0.43	0.4	0.39	0.38	0.54	0.44
Dec 5	0.47	0.42	0.38	0.39	0.39	S	0.41	0.43	0.39	0.41	0.41	0.39	0.38	0.39	0.38	0.38	0.42	0.39	0.41	0.41	0.41	0.41	0.42	0.41	0.38	0.47	0.40
Dec 6	0.41	0.42	0.42	0.48	S	0.5	0.48	0.46	0.45	0.45	0.45	0.44	0.44	0.44	0.43	0.44	0.45	0.44	0.44	0.44	0.42	0.42	0.42	0.43	0.41	0.50	0.44
Dec 7	0.42	0.41	0.43	S	0.43	0.43	0.42	0.44	0.43	0.43	0.43	0.41	0.42	0.41	0.39	0.41	0.39	0.39	0.41	0.39	0.41	0.4	0.4	0.41	0.39	0.44	0.41
Dec 8	0.41	0.42	S	0.42	0.43	0.43	0.42	0.42	0.42	0.41	0.42	0.52	0.42	0.44	0.52	0.4	0.65	0.47	0.39	0.41	0.54	0.63	0.56	0.53	0.39	0.65	0.46
Dec 9	0.5	S	0.57	0.45	0.5	0.37	0.37	0.38	0.38	0.36	0.38	0.39	0.41	0.45	0.44	0.44	0.44	0.43	0.48	0.39	0.42	0.4	0.42	0.43	0.36	0.57	0.43
Dec 10	S	0.41	0.41	0.42	0.42	0.45	0.42	0.68	0.64	0.52	0.49	0.43	0.42	0.42	0.43	0.42	0.4	0.35	0.36	0.37	0.43	0.47	0.49	S	0.35	0.68	0.45
Dec 11	0.46	0.45	0.47	0.45	0.41	0.41	0.4	0.41	0.43	0.41	0.41	0.4	0.4	0.4	0.41	0.42	0.4	0.38	0.41	0.41	0.42	0.46	S	0.5	0.38	0.50	0.42
Dec 12	0.46	0.46	0.43	0.42	0.37	0.36	0.39	0.38	0.35	0.34	0.33	0.3	0.32	0.31	0.3	0.31	0.31	0.29	0.29	0.29	0.27	S	0.27	0.28	0.27	0.46	0.34
Dec 13	0.3	0.31	0.36	0.39	0.38	0.45	0.48	0.45	0.43	0.49	0.45	0.36	0.34	0.35	0.36	0.36	0.36	0.37	0.34	0.38	S	0.4	0.4	0.4	0.30	0.49	0.39
Dec 14	0.39	0.38	0.4	0.4	0.39	0.4	0.39	0.41	0.41	0.41	0.39	0.73	0.41	0.4	0.37	0.38	0.37	0.38	0.38	S	0.39	0.37	0.37	0.45	0.37	0.73	0.41
Dec 15	0.4	0.38	0.39	0.38	0.37	0.39	0.37	0.37	0.36	C	C	C	N	N	N	N	N	N	N	N	N	N	N	N	0.36	0.40	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Dec 17	N	N	N	N	N	N	N	N	N	C	C	C	C	1.39	0.66	0.65	S	0.92	0.59	0.5	0.55	0.54	0.5	0.46	0.46	1.39	-
Dec 18	0.48	0.51	0.5	0.47	0.5	0.48	0.48	0.52	0.48	0.42	0.4	0.52	0.49	0.5	0.54	S	1.17	0.63	0.58	0.53	0.52	0.54	0.5	0.45	0.40	1.17	0.53
Dec 19	0.51	0.52	0.51	0.5	0.47	0.46	0.5	0.45	0.48	0.48	0.42	0.44	0.37	0.49	S	1.07	0.63	0.57	0.62	0.6	0.66	0.64	0.64	0.69	0.37	1.07	0.55
Dec 20	0.65	0.65	0.68	0.73	0.76	0.76	0.76	0.93	1	0.98	0.92	0.9	0.93	S	1.3	1.03	0.92	0.89	0.85	0.79	0.86	0.88	0.85	0.85	0.65	1.30	0.86
Dec 21	0.86	0.91	0.89	0.96	0.93	0.94	0.96	0.96	1.03	NRM	1.2	1.06	S	1.38	1.13	1.13	1.1	1.13	1.08	1.07	1.13	1.17	1.13	1.19	0.86	1.38	**1.06**
Dec 22	1.28	1.25	1.17	1.21	1.16	1.14	1.26	1.21	1.22	1.2	1.21	NRM	NRM	NRM	NRM	NRM	NRM	NRM	**1.88**	0.91	0.83	0.8	0.73	0.8	0.73	**1.88**	-
Dec 23	0.74	0.63	0.7	0.72	0.71	0.74	0.76	0.74	0.72	0.77	S	1.06	0.82	0.81	0.7	0.73	0.76	0.76	0.79	0.72	0.76	0.82	0.8	0.82	0.63	1.06	0.76
Dec 24	0.81	0.87	0.87	0.87	0.87	0.85	0.88	0.86	0.88	S	1.04	0.84	0.79	0.8	0.77	0.76	0.77	0.79	0.76	0.78	0.78	0.79	0.79	0.8	0.76	1.04	0.83
Dec 25	0.81	0.69	0.74	0.73	0.7	0.66	0.62	0.71	S	0.95	0.62	0.65	0.65	0.64	0.67	0.63	0.62	0.7	0.61	0.68	0.72	0.76	0.7	0.71	0.61	0.95	0.69
Dec 26	0.71	0.75	0.68	0.62	0.61	0.56	0.61	S	0.86	0.62	0.63	0.57	0.58	0.63	0.53	0.56	0.58	0.61	0.6	0.65	0.65	0.7	0.65	0.63	0.53	0.86	0.63
Dec 27	0.61	0.6	0.58	0.59	0.55	0.56	S	0.86	0.58	0.55	0.6	0.53	0.5	0.47	0.48	0.51	0.51	0.48	0.44	0.5	0.54	0.57	0.49	0.46	0.44	0.86	0.55
Dec 28	0.49	0.52	0.53	0.46	0.48	S	0.81	0.6	0.58	0.58	0.66	0.59	0.51	0.51	0.53	0.49	0.46	0.47	0.46	0.42	0.52	0.52	0.47	0.48	0.42	0.81	0.53
Dec 29	0.52	0.41	0.49	0.52	S	0.82	0.56	0.6	0.55	0.57	0.56	0.57	0.58	0.54	0.51	0.53	0.54	0.53	0.55	0.58	0.57	0.52	0.55	0.58	0.41	0.82	0.55
Dec 30	0.54	0.59	0.61	S	0.78	0.57	0.59	0.53	0.56	0.54	0.47	0.59	0.5	0.53	0.47	0.5	0.49	0.51	0.48	0.42	0.39	0.43	0.5	0.47	0.39	0.78	0.52
Dec 31	0.46	0.49	S	0.84	0.6	0.56	0.5	0.48	0.5	0.5	0.47	0.49	0.52	0.48	0.51	0.49	0.49	0.46	0.43	0.51	0.56	0.54	0.52	0.52	0.43	0.84	0.52
Diurnal Maximum	1.28	1.25	1.17	1.21	1.16	1.14	1.26	1.21	1.22	1.20	1.21	1.06	0.93	1.39	1.30	1.13	1.17	1.13	1.88	1.07	1.13	1.17	1.13	1.19			
Diurnal Average	0.55	0.54	0.55	0.56	0.55	0.56	0.56	0.58	0.57	0.55	0.56	0.55	0.50	0.55	0.54	0.55	0.55	0.54	0.56	0.53	0.55	0.56	0.54	0.55			

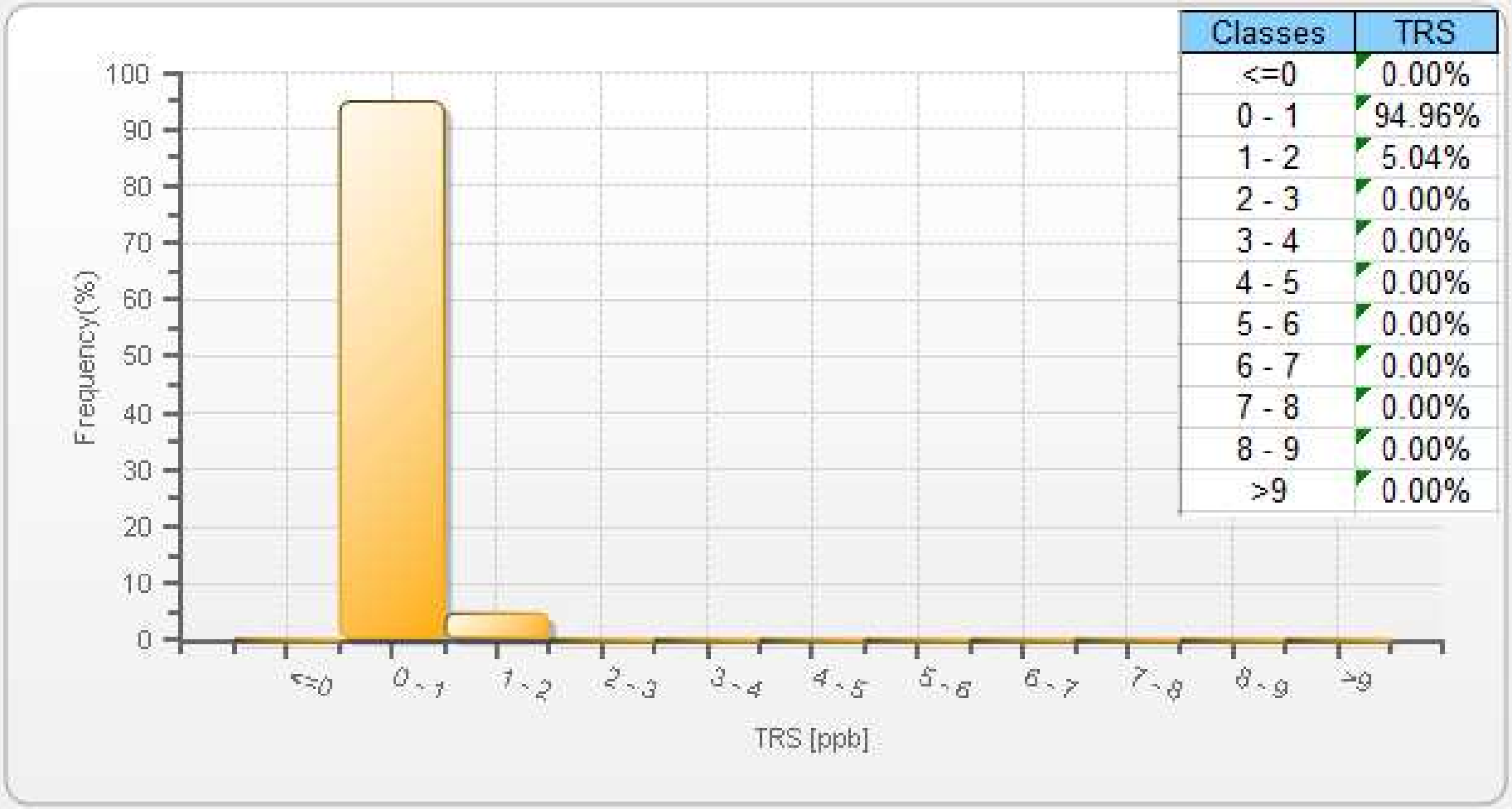
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



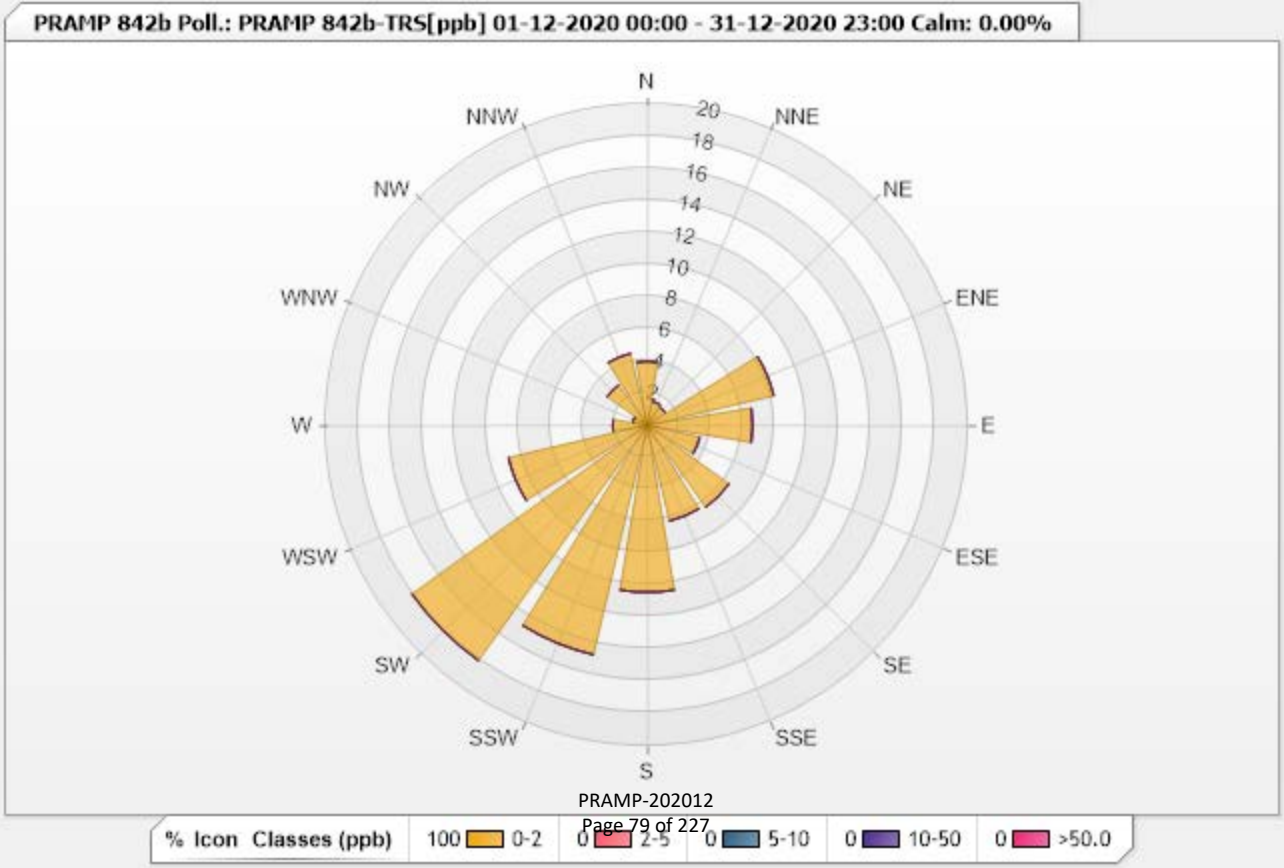
TRS[ppb] Histogram: PRAMP 842b Monthly: 12-2020 1 Hr.



Classes	TRS
<=0	0.00%
0 - 1	94.96%
1 - 2	5.04%
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: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 87.90% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.98	0	0	0	0	3.98
NNE	1.53	0	0	0	0	1.53
NE	1.38	0	0	0	0	1.38
ENE	8.1	0	0	0	0	8.1
E	6.57	0	0	0	0	6.57
ESE	3.36	0	0	0	0	3.36
SE	6.27	0	0	0	0	6.27
SSE	6.12	0	0	0	0	6.12
S	10.4	0	0	0	0	10.4
SSW	14.68	0	0	0	0	14.68
SW	18.04	0	0	0	0	18.04
WSW	8.87	0	0	0	0	8.87
W	2.14	0	0	0	0	2.14
WNW	0.92	0	0	0	0	0.92
NW	3.06	0	0	0	0	3.06
NNW	4.59	0	0	0	0	4.59
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-2
0 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

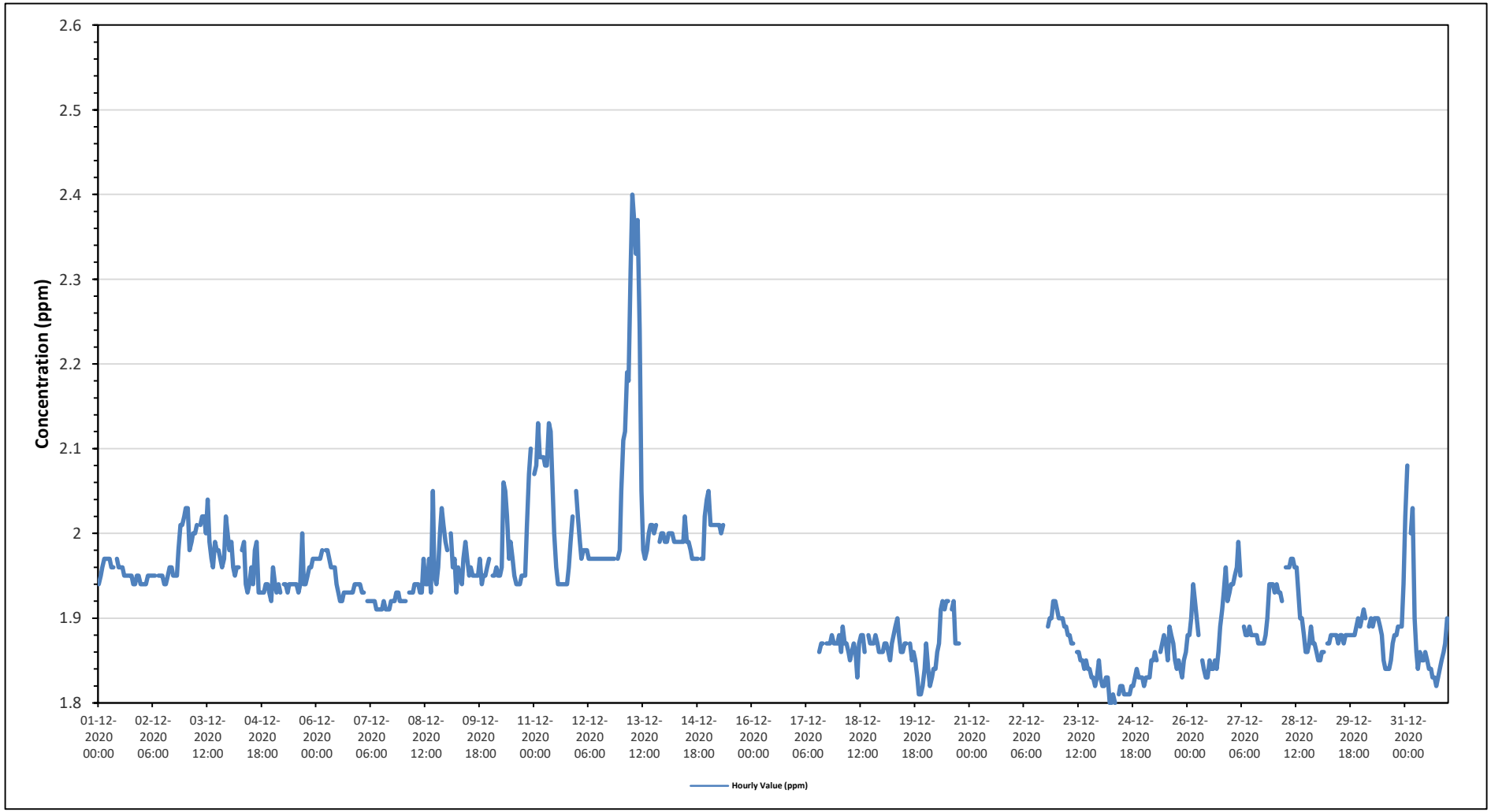
Maximum Hourly Value:	2.40	ppm	on December 13 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.12	ppm	on December 13	Hours of Data:	616
Minimum Hourly Value:	1.80	ppm	on December 24 at hour 5	Hours of Missing Data:	93
Minimum Daily Value:	1.82	ppm	on December 24	Hours of Calibration:	35
Monthly Average:	1.93	ppm		Operational Uptime:	87.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.96	1.96	S	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.94	1.94	1.97	1.96
Dec 2	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.96	1.95	1.95	1.95	1.98	2.01	2.01	2.02	1.94	2.02	1.96
Dec 3	2.03	2.03	1.98	1.99	2.00	2.00	2.01	S	2.01	2.02	2.02	2.00	2.04	1.99	1.97	1.96	1.99	1.98	1.98	1.97	1.96	1.97	2.02	2.00	1.96	2.04	2.00
Dec 4	1.98	1.99	1.96	1.95	1.96	1.96	S	1.98	1.99	1.94	1.93	1.94	1.96	1.94	1.98	1.99	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.92	1.92	1.99	1.95
Dec 5	1.96	1.94	1.93	1.94	1.93	S	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.94	2.00	1.94	1.94	1.95	1.96	1.96	1.97	1.97	1.93	2.00	1.95
Dec 6	1.97	1.97	1.97	1.98	S	1.98	1.98	1.97	1.96	1.96	1.96	1.94	1.93	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.92	1.98	1.95
Dec 7	1.94	1.93	1.93	S	1.92	1.92	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.91	1.94	1.92
Dec 8	1.92	1.92	S	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	1.97	1.94	1.94	1.97	1.93	2.05	1.95	1.94	1.96	2.00	2.03	2.01	1.99	1.92	2.05	1.96
Dec 9	1.98	S	2.00	1.96	1.97	1.93	1.96	1.95	1.94	1.97	1.99	1.97	1.95	1.96	1.95	1.95	1.95	1.95	1.97	1.94	1.95	1.95	1.96	1.97	1.93	2.00	1.96
Dec 10	S	1.95	1.95	1.96	1.95	1.95	1.96	2.06	2.05	2.02	1.97	1.99	1.97	1.95	1.94	1.94	1.94	1.95	1.95	1.95	2.01	2.07	2.10	S	1.94	2.10	1.98
Dec 11	2.07	2.08	2.13	2.09	2.09	2.09	2.08	2.08	2.13	2.12	2.06	2.00	1.96	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.99	2.02	S	2.05	1.94	2.13	2.03
Dec 12	2.02	1.99	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.97	1.98	1.97	2.02	1.97
Dec 13	2.05	2.11	2.12	2.19	2.18	2.31	**2.40**	2.37	2.33	2.37	2.24	2.05	1.98	1.97	1.98	2.00	2.01	2.01	2.00	2.01	S	1.99	2.00	2.00	1.97	**2.40**	**2.12**
Dec 14	1.99	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.02	1.99	1.99	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	2.02	2.04	1.97	2.04	1.99
Dec 15	2.05	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.01	C	C	C	N	N	N	N	N	N	N	N	N	N	N	N	2.00	2.05	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Dec 17	N	N	N	N	N	N	N	N	N	C	C	C	C	1.86	1.87	1.87	S	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.86	1.88	-
Dec 18	1.88	1.86	1.89	1.87	1.87	1.86	1.85	1.86	1.87	1.86	1.83	1.87	1.88	1.88	1.86	S	1.88	1.87	1.87	1.87	1.88	1.87	1.86	1.86	1.83	1.89	1.87
Dec 19	1.86	1.87	1.87	1.86	1.85	1.87	1.88	1.89	1.90	1.88	1.86	1.86	1.87	1.87	S	1.87	1.85	1.86	1.85	1.83	1.81	1.81	1.82	1.84	1.81	1.90	1.86
Dec 20	1.87	1.84	1.82	1.83	1.84	1.84	1.86	1.87	1.91	1.92	1.91	1.92	1.92	S	1.91	1.92	1.87	1.87	1.87	X	X	X	X	X	1.82	1.92	1.88
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	X	NRM	NRM	NRM	NRM	1.89	1.90	1.90	1.92	1.92	1.89	1.92	-
Dec 23	1.91	1.90	1.90	1.90	1.89	1.89	1.88	1.88	1.87	1.87	S	1.86	1.86	1.85	1.85	1.84	1.85	1.84	1.84	1.83	1.83	1.82	1.83	1.85	1.82	1.91	1.86
Dec 24	1.83	1.82	1.82	1.83	1.83	1.80	1.80	1.81	1.80	S	1.81	1.82	1.82	1.81	1.81	1.81	1.81	1.82	1.82	1.83	1.84	1.83	1.83	1.83	1.80	1.84	1.82
Dec 25	1.82	1.83	1.83	1.83	1.85	1.85	1.86	1.85	S	1.86	1.87	1.88	1.87	1.85	1.89	1.88	1.87	1.85	1.84	1.85	1.84	1.83	1.85	1.86	1.82	1.89	1.85
Dec 26	1.88	1.88	1.90	1.94	1.92	1.90	1.88	S	1.85	1.84	1.83	1.83	1.85	1.84	1.84	1.85	1.84	1.86	1.89	1.91	1.93	1.96	1.92	1.93	1.83	1.96	1.88
Dec 27	1.94	1.94	1.95	1.96	1.99	1.95	S	1.89	1.88	1.88	1.89	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.88	1.90	1.94	1.94	1.94	1.87	1.99	1.91
Dec 28	1.93	1.94	1.93	1.93	1.92	S	1.96	1.96	1.96	1.97	1.97	1.96	1.96	1.93	1.90	1.90	1.88	1.86	1.86	1.87	1.89	1.87	1.87	1.86	1.86	1.97	1.92
Dec 29	1.85	1.85	1.86	1.86	S	1.87	1.87	1.88	1.88	1.88	1.88	1.87	1.88	1.88	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.89	1.85	1.90	1.88
Dec 30	1.90	1.91	1.90	S	1.89	1.90	1.89	1.90	1.90	1.90	1.89	1.88	1.85	1.84	1.84	1.84	1.85	1.87	1.88	1.88	1.89	1.89	1.89	1.94	1.84	1.94	1.88
Dec 31	2.02	2.08	S	2.00	2.03	1.90	1.86	1.84	1.86	1.85	1.85	1.86	1.85	1.84	1.84	1.83	1.83	1.82	1.83	1.84	1.85	1.86	1.87	1.90	1.82	2.08	1.88
Diurnal Maximum	2.07	2.11	2.13	2.19	2.18	2.31	2.40	2.37	2.33	2.37	2.24	2.05	2.04	1.99	1.98	2.00	2.05	2.01	2.00	2.01	2.01	2.07	2.10	2.05			
Diurnal Average	1.94	1.94	1.94	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.93	1.93			

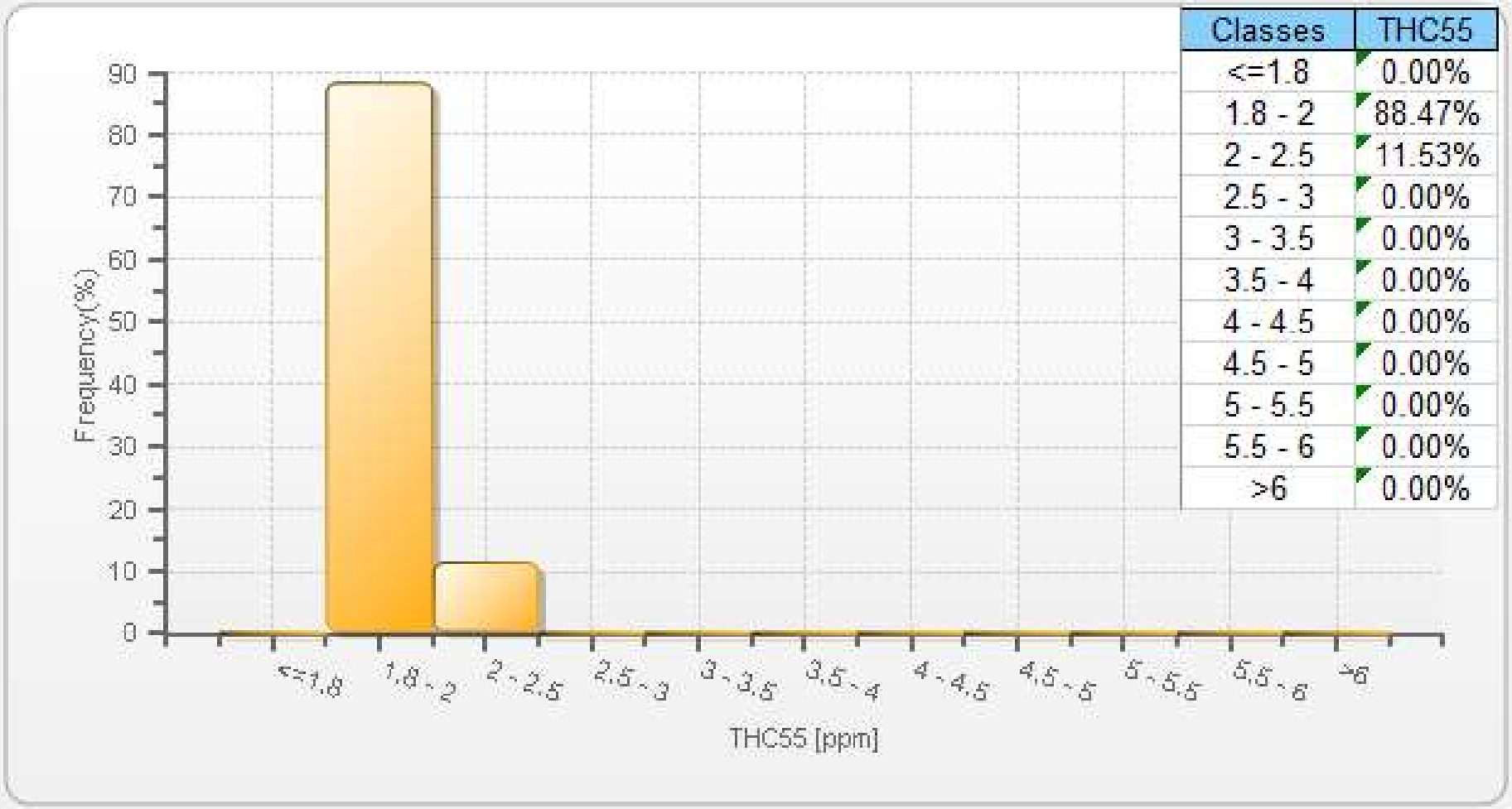
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



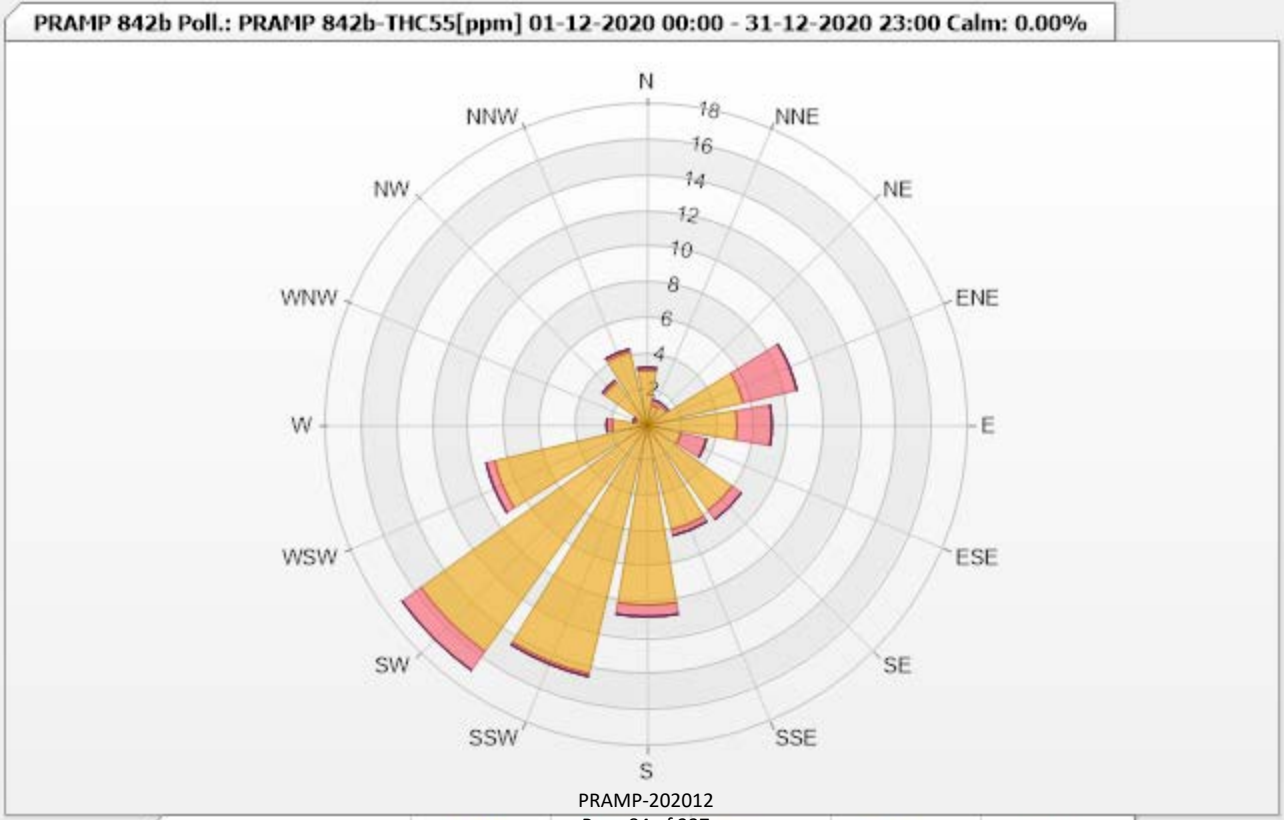
THC55[ppm] Histogram: PRAMP 842b Monthly: 12-2020 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	88.47%
2 - 2.5	11.53%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 82.66% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.09	0.16	0	0	0	3.25
NNE	1.14	0.33	0	0	0	1.47
NE	1.3	0.16	0	0	0	1.46
ENE	5.53	3.09	0	0	0	8.62
E	5.04	1.95	0	0	0	6.99
ESE	1.95	1.46	0	0	0	3.41
SE	5.85	0.65	0	0	0	6.5
SSE	6.02	0.33	0	0	0	6.35
S	10.08	0.65	0	0	0	10.73
SSW	14.31	0.16	0	0	0	14.47
SW	15.61	1.3	0	0	0	16.91
WSW	8.78	0.49	0	0	0	9.27
W	1.95	0.33	0	0	0	2.28
WNW	0.65	0.16	0	0	0	0.81
NW	2.93	0.16	0	0	0	3.09
NNW	4.23	0.16	0	0	0	4.39
Summary	88.46	11.54	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
88 0-2
12 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 2020

Summary of Hourly Averages

METHANE (CH4) in ppm

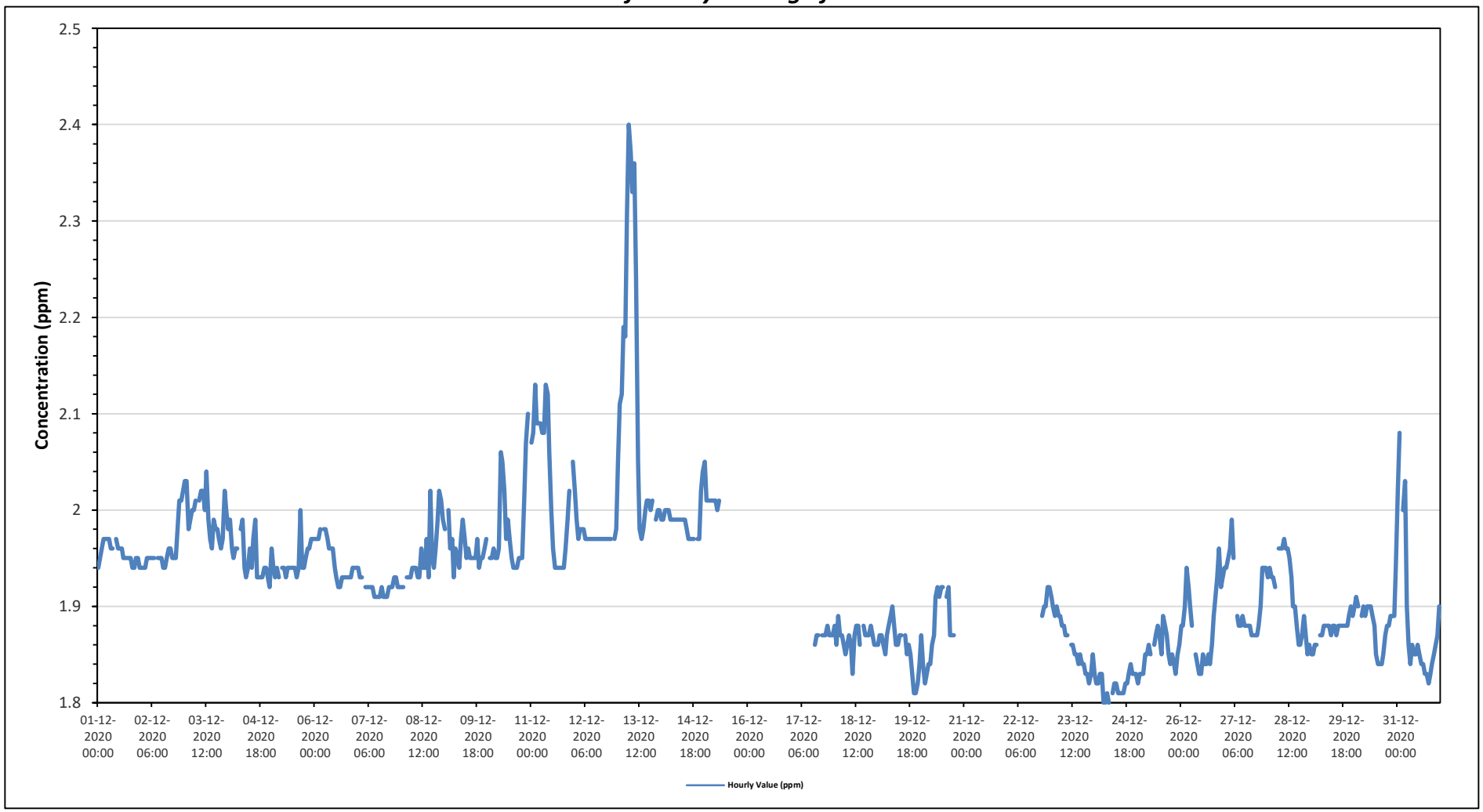
Maximum Hourly Value:	2.40	ppm	on December 13 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.12	ppm	on December 13	Hours of Data:	616
Minimum Hourly Value:	1.80	ppm	on December 24 at hour 5	Hours of Missing Data:	93
Minimum Daily Value:	1.82	ppm	on December 24	Hours of Calibration:	35
Monthly Average:	1.93	ppm		Operational Uptime:	87.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.96	1.96	S	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.94	1.94	1.97	1.96
Dec 2	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.96	1.95	1.95	1.95	1.98	2.01	2.01	2.02	1.94	2.02	1.96
Dec 3	2.03	2.03	1.98	1.99	2.00	2.00	2.01	S	2.01	2.02	2.02	2.00	2.04	1.99	1.97	1.96	1.99	1.98	1.98	1.97	1.96	1.97	2.02	2.00	1.96	2.04	2.00
Dec 4	1.98	1.99	1.96	1.95	1.96	1.96	S	1.98	1.99	1.94	1.93	1.94	1.96	1.94	1.97	1.99	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.92	1.92	1.99	1.95
Dec 5	1.96	1.94	1.93	1.94	1.93	S	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.94	2.00	1.94	1.94	1.95	1.96	1.96	1.97	1.97	1.93	2.00	1.95
Dec 6	1.97	1.97	1.97	1.98	S	1.98	1.98	1.97	1.96	1.96	1.96	1.94	1.93	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.92	1.98	1.95
Dec 7	1.94	1.93	1.93	S	1.92	1.92	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.91	1.94	1.92
Dec 8	1.92	1.92	S	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	1.96	1.94	1.94	1.97	1.93	2.02	1.95	1.94	1.96	1.99	2.02	2.01	1.99	1.92	2.02	1.95
Dec 9	1.98	S	2.00	1.96	1.97	1.93	1.96	1.95	1.94	1.97	1.99	1.97	1.95	1.96	1.95	1.95	1.95	1.95	1.97	1.94	1.95	1.95	1.96	1.97	1.93	2.00	1.96
Dec 10	S	1.95	1.95	1.96	1.95	1.95	1.96	2.06	2.05	2.02	1.97	1.99	1.97	1.95	1.94	1.94	1.94	1.95	1.95	1.95	2.01	2.07	2.10	S	1.94	2.10	1.98
Dec 11	2.07	2.08	2.13	2.09	2.09	2.09	2.08	2.08	2.13	2.12	2.06	2.00	1.96	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.99	2.02	S	2.05	1.94	2.13	2.03
Dec 12	2.02	1.99	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.97	1.98	1.97	2.02	1.97
Dec 13	2.05	2.11	2.12	2.19	2.18	2.31	**2.40**	2.37	2.33	2.36	2.24	2.05	1.98	1.97	1.98	2.00	2.01	2.01	2.00	2.01	S	1.99	2.00	2.00	1.97	**2.40**	**2.12**
Dec 14	1.99	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	2.02	2.04	1.97	2.04	1.99
Dec 15	2.05	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.01	C	C	C	N	N	N	N	N	N	N	N	N	N	N	N	2.00	2.05	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Dec 17	N	N	N	N	N	N	N	N	N	C	C	C	C	1.86	1.87	1.87	S	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.86	1.88	-
Dec 18	1.88	1.86	1.89	1.87	1.87	1.86	1.85	1.86	1.87	1.86	1.83	1.87	1.88	1.88	1.86	S	1.88	1.87	1.87	1.87	1.88	1.87	1.86	1.86	1.83	1.89	1.87
Dec 19	1.86	1.87	1.87	1.86	1.85	1.87	1.88	1.89	1.90	1.88	1.86	1.86	1.87	1.87	S	1.87	1.85	1.86	1.85	1.83	1.81	1.81	1.82	1.84	1.81	1.90	1.86
Dec 20	1.87	1.84	1.82	1.83	1.84	1.84	1.86	1.87	1.91	1.92	1.91	1.92	1.92	S	1.91	1.92	1.87	1.87	1.87	X	X	X	X	X	1.82	1.92	1.88
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	X	NRM	NRM	NRM	NRM	1.89	1.90	1.90	1.92	1.92	1.89	1.92	-
Dec 23	1.91	1.90	1.89	1.90	1.89	1.89	1.88	1.88	1.87	1.87	S	1.86	1.86	1.85	1.85	1.84	1.85	1.84	1.84	1.83	1.83	1.82	1.83	1.85	1.82	1.91	1.86
Dec 24	1.83	1.82	1.82	1.83	1.83	1.80	1.80	1.81	1.80	S	1.81	1.82	1.82	1.81	1.81	1.81	1.81	1.82	1.82	1.83	1.84	1.83	1.83	1.83	1.80	1.84	1.82
Dec 25	1.82	1.83	1.83	1.83	1.85	1.85	1.86	1.85	S	1.86	1.87	1.88	1.87	1.85	1.89	1.88	1.87	1.85	1.84	1.85	1.84	1.83	1.85	1.86	1.82	1.89	1.85
Dec 26	1.88	1.88	1.90	1.94	1.92	1.90	1.88	S	1.85	1.84	1.83	1.83	1.85	1.84	1.84	1.85	1.84	1.86	1.89	1.91	1.93	1.96	1.92	1.93	1.83	1.96	1.88
Dec 27	1.94	1.94	1.95	1.96	1.99	1.95	S	1.89	1.88	1.88	1.89	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.88	1.90	1.94	1.94	1.94	1.87	1.99	1.91
Dec 28	1.93	1.94	1.93	1.93	1.92	S	1.96	1.96	1.96	1.97	1.96	1.96	1.95	1.93	1.90	1.90	1.88	1.86	1.86	1.87	1.89	1.87	1.85	1.86	1.85	1.97	1.91
Dec 29	1.85	1.85	1.86	1.86	S	1.87	1.87	1.88	1.88	1.88	1.88	1.87	1.88	1.88	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.89	1.85	1.90	1.88
Dec 30	1.90	1.91	1.90	S	1.89	1.90	1.89	1.90	1.90	1.90	1.89	1.88	1.85	1.84	1.84	1.84	1.85	1.87	1.88	1.88	1.89	1.89	1.89	1.94	1.84	1.94	1.88
Dec 31	2.02	2.08	S	2.00	2.03	1.90	1.86	1.84	1.86	1.85	1.85	1.86	1.85	1.84	1.84	1.83	1.83	1.82	1.83	1.84	1.85	1.86	1.87	1.90	1.82	2.08	1.88
Diurnal Maximum	2.07	2.11	2.13	2.19	2.18	2.31	2.40	2.37	2.33	2.36	2.24	2.05	2.04	1.99	1.98	2.00	2.02	2.01	2.00	2.01	2.01	2.07	2.10	2.05			
Diurnal Average	1.94	1.94	1.94	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.93	1.93			

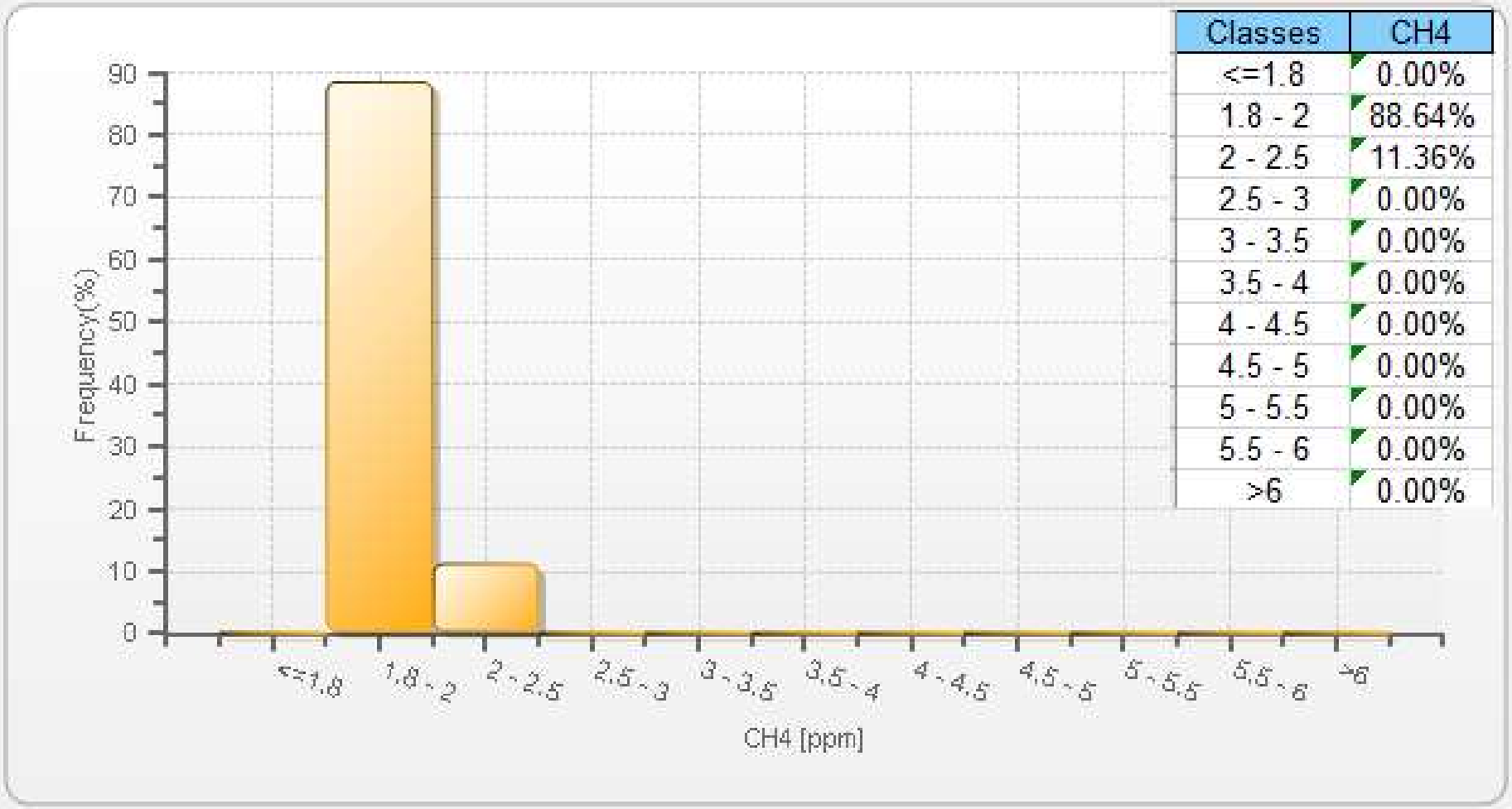
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



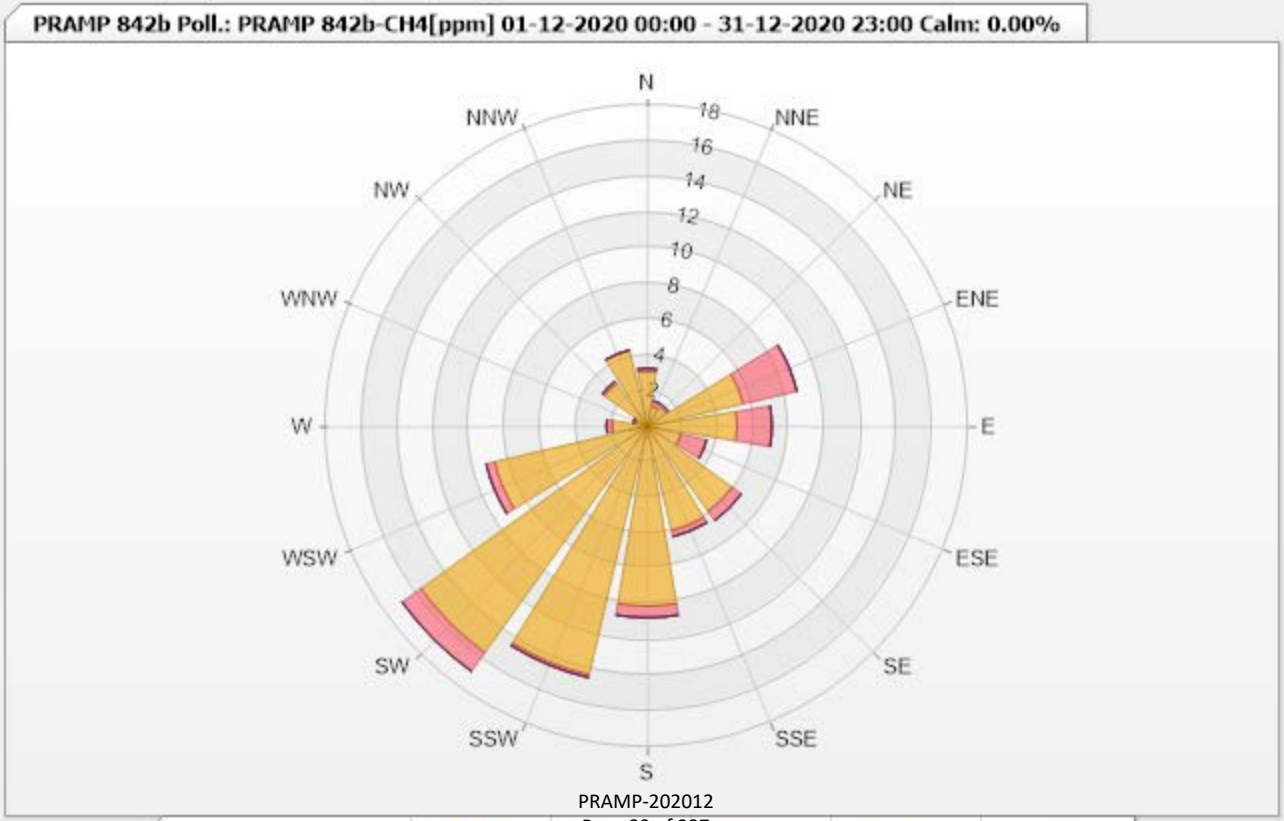
CH4[ppm] Histogram: PRAMP 842b Monthly: 12-2020 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	88.64%
2 - 2.5	11.36%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 82.66% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.09	0.16	0	0	0	3.25
NNE	1.14	0.33	0	0	0	1.47
NE	1.3	0.16	0	0	0	1.46
ENE	5.53	3.09	0	0	0	8.62
E	5.04	1.95	0	0	0	6.99
ESE	1.95	1.46	0	0	0	3.41
SE	5.85	0.65	0	0	0	6.5
SSE	6.02	0.33	0	0	0	6.35
S	10.08	0.65	0	0	0	10.73
SSW	14.31	0.16	0	0	0	14.47
SW	15.61	1.3	0	0	0	16.91
WSW	8.78	0.49	0	0	0	9.27
W	1.95	0.33	0	0	0	2.28
WNW	0.65	0.16	0	0	0	0.81
NW	2.93	0.16	0	0	0	3.09
NNW	4.39	0	0	0	0	4.39
Summary	88.62	11.38	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
89 0-2
11 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 2020

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

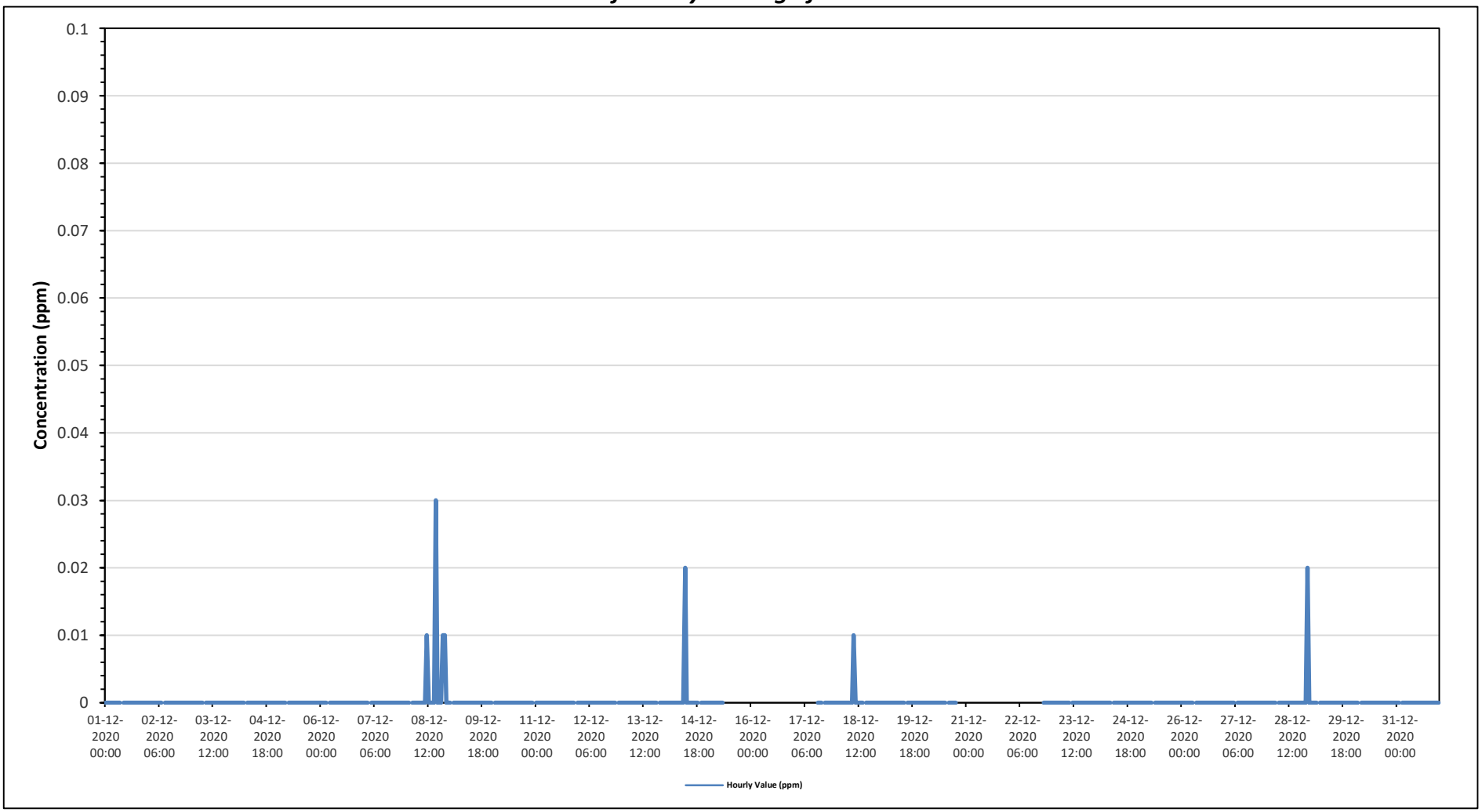
Maximum Hourly Value:	0.03	ppm	on December 8 at hour 16	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on December 8	Hours of Data:	616
Minimum Hourly Value:	0.00	ppm	on December 1 at hour 0	Hours of Missing Data:	93
Minimum Daily Value:	0.00	ppm	on December 1	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	87.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	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 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	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	**0.03**	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	**0.03**	**0.00**
Dec 9	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Dec 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Dec 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Dec 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Dec 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Dec 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	N	N	N	N	N	N	N	N	N	N	N	N	0.00	0.00	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Dec 17	N	N	N	N	N	N	N	N	N	C	C	C	C	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Dec 18	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 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	S	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 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	S	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	0.00	0.00	0.00
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	X	NRM	NRM	NRM	NRM	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	S	0.00	0.00	0.00	0.00	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 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	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 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00
Dec 29	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.02	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.02	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			

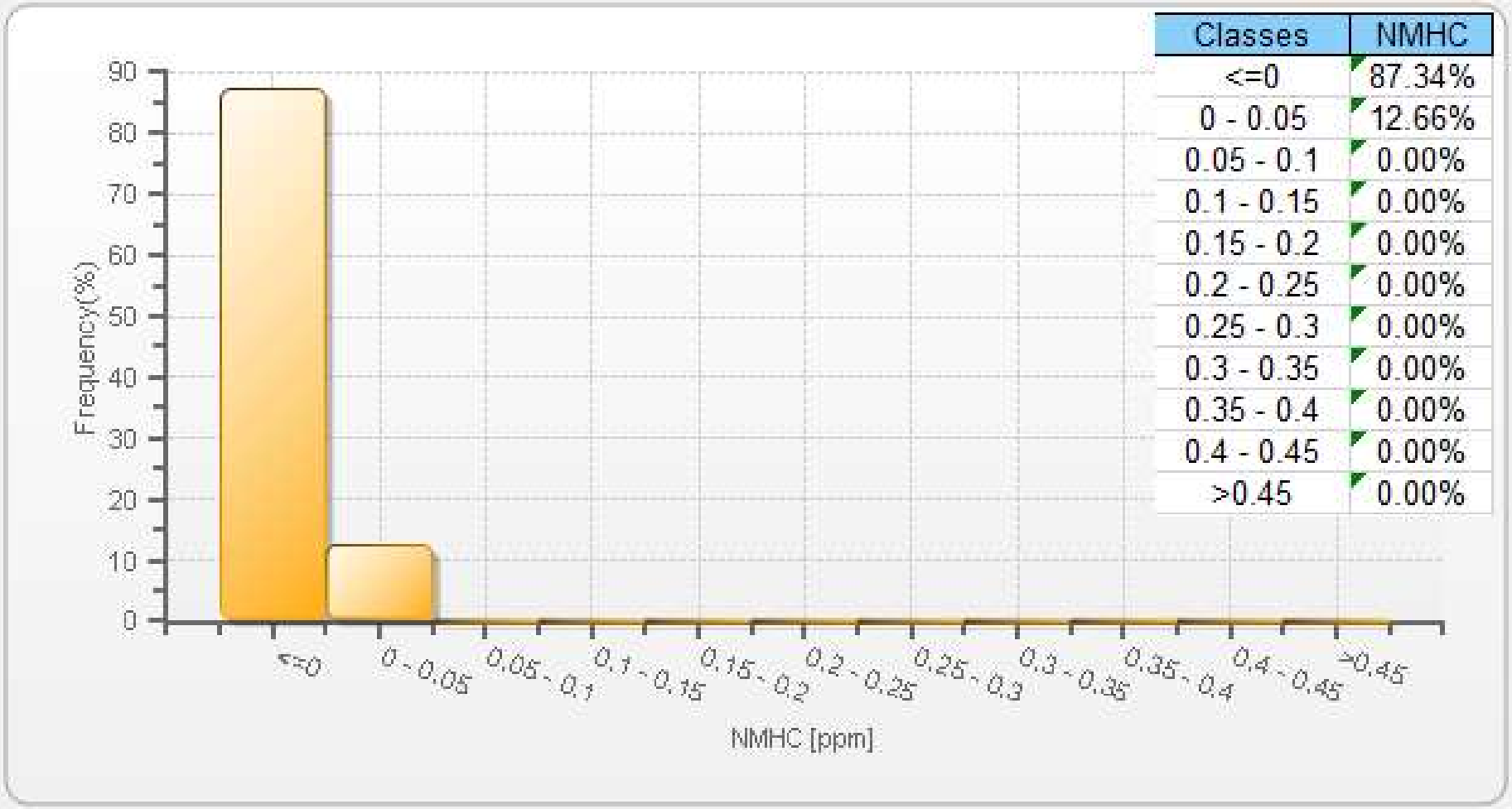
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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



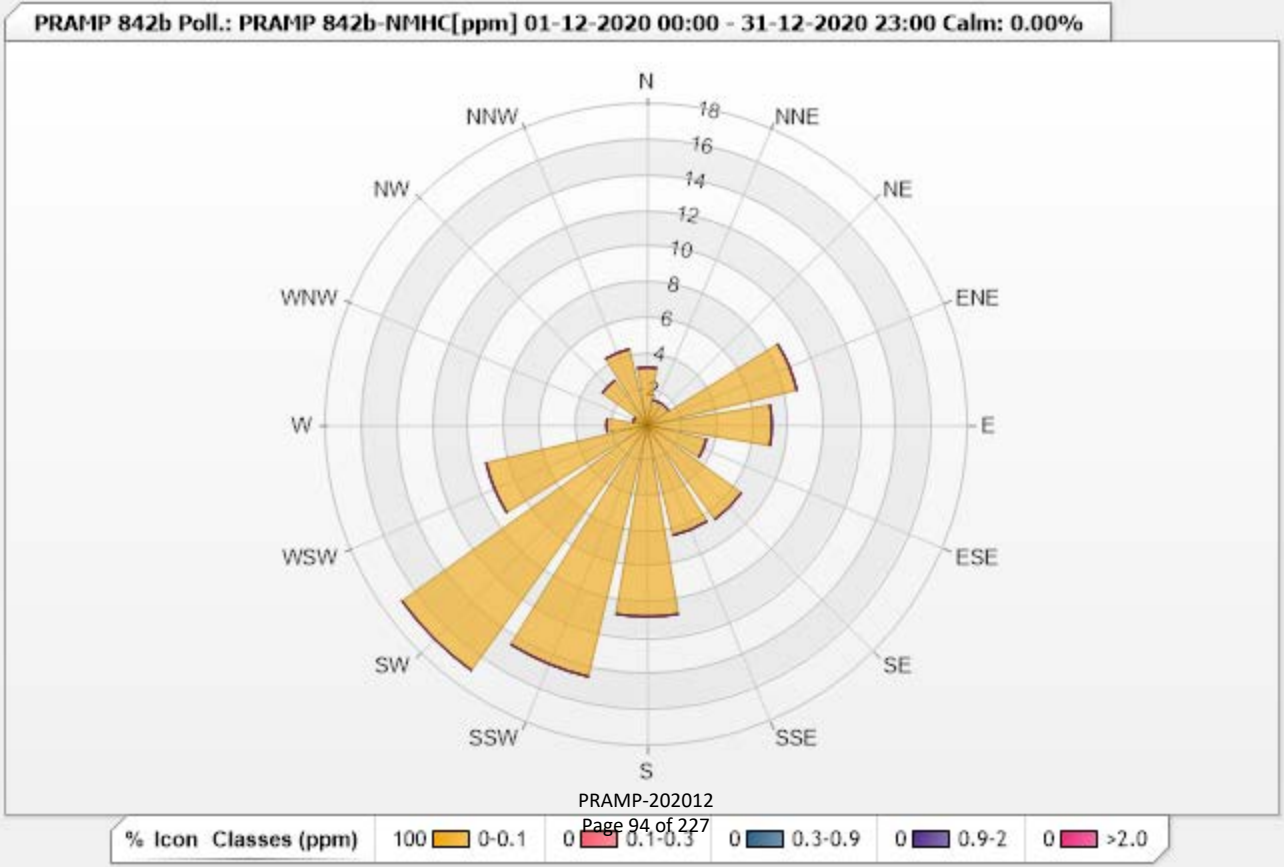
NMHC[ppm] Histogram: PRAMP 842b Monthly: 12-2020 1 Hr.



Classes	NMHC
<=0	87.34%
0 - 0.05	12.66%
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: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 82.66% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.25	0	0	0	0	3.25
NNE	1.46	0	0	0	0	1.46
NE	1.46	0	0	0	0	1.46
ENE	8.62	0	0	0	0	8.62
E	6.99	0	0	0	0	6.99
ESE	3.41	0	0	0	0	3.41
SE	6.5	0	0	0	0	6.5
SSE	6.34	0	0	0	0	6.34
S	10.73	0	0	0	0	10.73
SSW	14.47	0	0	0	0	14.47
SW	16.91	0	0	0	0	16.91
WSW	9.27	0	0	0	0	9.27
W	2.28	0	0	0	0	2.28
WNW	0.81	0	0	0	0	0.81
NW	3.09	0	0	0	0	3.09
NNW	4.39	0	0	0	0	4.39
Summary	100	0	0	0	0	100


PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

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PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

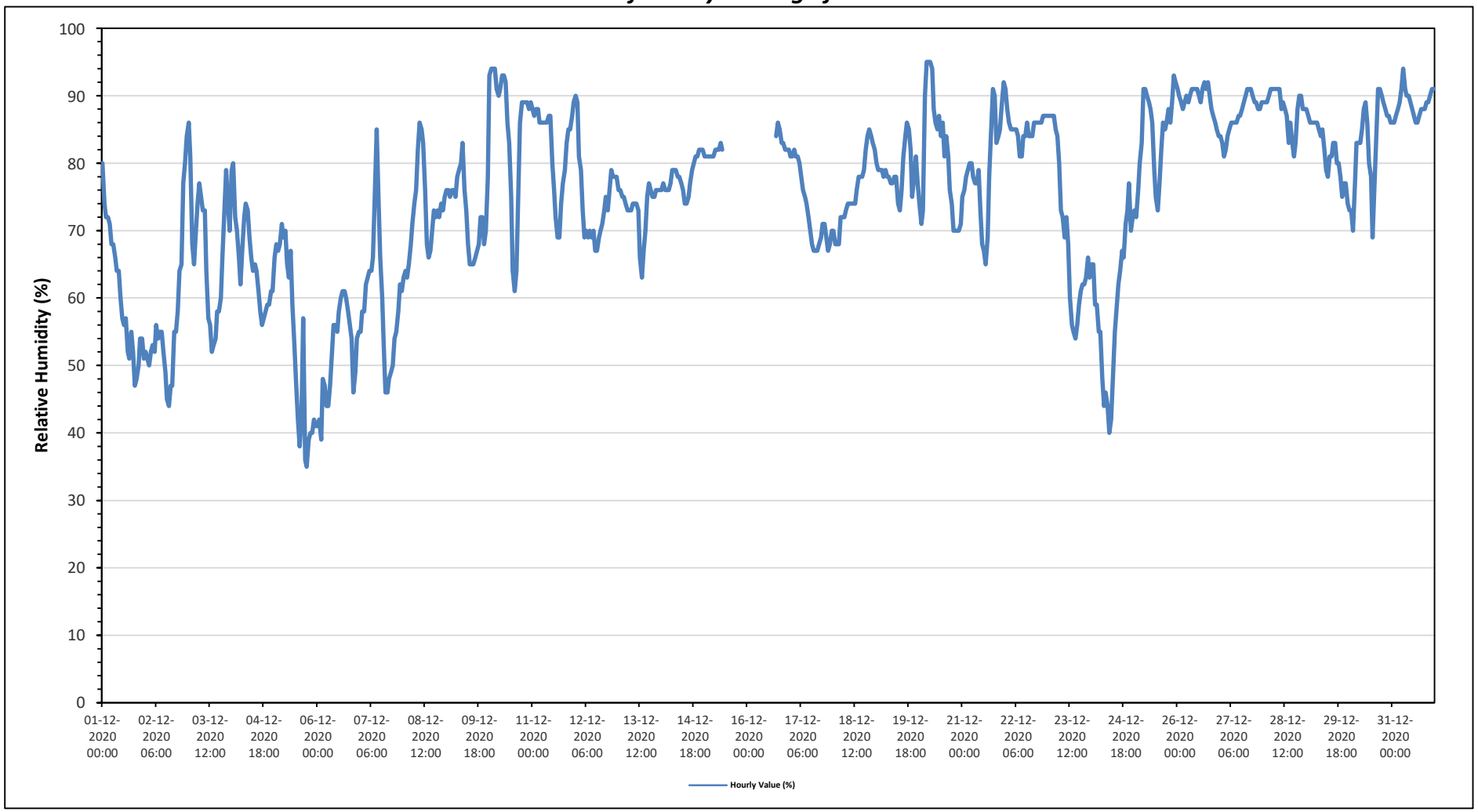
Maximum Hourly Value:	95	%	on December 20 at hour 4	Hours in Service:	744
Maximum Daily Value:	89.4	%	on December 26	Hours of Data:	715
Minimum Hourly Value:	35	%	on December 5 at hour 18	Hours of Missing Data:	29
Minimum Daily Value:	51.8	%	on December 6	Hours of Calibration:	0
Monthly Average:	74.6	%		Operational Uptime:	96.1

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	80	74	72	72	71	68	68	66	64	64	60	57	56	57	52	51	55	52	47	48	50	54	54	51	47	80	60.1
Dec 2	52	51	50	52	53	52	56	54	55	55	52	49	45	44	47	47	55	55	58	64	65	77	80	84	44	84	56.3
Dec 3	86	81	68	65	69	74	77	75	73	73	64	57	56	52	53	54	58	58	60	66	73	79	74	70	52	86	67.3
Dec 4	79	80	72	70	66	62	67	72	74	73	69	66	64	65	64	61	58	56	57	58	59	59	61	61	56	80	65.5
Dec 5	66	68	67	68	71	69	70	65	63	67	59	53	48	42	38	42	57	36	**35**	39	40	40	42	41	**35**	71	53.6
Dec 6	41	42	39	48	47	44	44	47	52	56	56	55	58	60	61	61	60	58	56	54	46	49	54	55	39	61	51.8
Dec 7	55	58	58	62	63	64	64	66	76	85	75	66	60	53	46	46	48	49	50	54	55	58	62	61	46	85	59.8
Dec 8	63	64	63	65	68	71	74	76	82	86	85	83	76	68	66	67	70	73	72	73	72	74	73	75	63	86	72.5
Dec 9	76	76	75	76	76	75	78	79	80	83	76	73	68	65	65	65	66	67	68	72	72	68	70	78	65	83	72.8
Dec 10	93	94	94	94	91	90	91	93	93	92	86	83	75	64	61	64	75	86	89	89	89	89	88	89	61	94	85.5
Dec 11	88	87	88	88	86	86	86	86	86	87	87	80	76	72	69	69	74	77	79	83	85	85	87	89	69	89	82.5
Dec 12	90	89	81	79	73	69	70	69	70	69	70	67	67	69	70	71	73	75	73	76	79	78	78	78	67	90	74.3
Dec 13	76	76	75	75	74	73	73	73	74	74	74	73	66	63	67	70	75	77	76	75	75	76	76	76	63	77	73.4
Dec 14	76	77	76	76	76	77	79	79	79	78	78	77	76	74	74	75	77	79	80	81	81	82	82	82	74	82	78.0
Dec 15	81	81	81	81	81	81	82	82	82	83	82	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	81	83	-
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	84	86	85	83	83	82	82	82	82	86	-
Dec 17	81	81	82	81	81	80	78	76	75	74	72	70	68	67	67	67	68	69	71	71	69	67	68	70	67	82	73.0
Dec 18	70	68	68	68	72	72	72	73	74	74	74	74	74	76	78	78	78	79	82	84	85	84	83	82	68	85	75.9
Dec 19	80	79	79	79	78	79	78	78	77	77	78	78	74	73	76	81	84	86	85	82	75	78	81	77	73	86	78.8
Dec 20	74	71	73	90	**95**	**95**	**95**	94	88	86	85	87	84	86	81	84	81	76	74	70	70	70	70	71	70	**95**	81.3
Dec 21	75	76	78	79	80	80	78	77	77	79	73	68	67	65	69	78	85	91	90	83	84	85	89	92	65	92	79.1
Dec 22	91	88	86	85	85	85	85	84	81	81	84	84	86	84	84	84	86	86	86	86	86	87	87	87	81	91	85.3
Dec 23	87	87	87	87	85	84	80	73	72	69	72	68	60	56	55	54	56	59	61	62	62	63	66	63	54	87	69.5
Dec 24	65	65	59	59	55	55	48	44	46	44	40	42	48	55	58	62	64	67	66	71	73	77	70	72	40	77	58.5
Dec 25	73	72	76	80	83	91	91	90	89	88	86	79	75	73	77	82	86	85	86	88	86	89	93	92	72	93	83.8
Dec 26	91	90	89	88	89	90	89	90	91	91	91	91	90	89	91	92	91	92	90	88	87	86	85	84	84	92	**89.4**
Dec 27	84	83	81	82	84	85	86	86	86	86	87	87	88	89	90	91	91	91	90	89	89	88	88	89	81	91	87.1
Dec 28	89	89	89	90	91	91	91	91	91	91	88	89	88	87	83	86	83	81	83	88	90	90	88	88	81	91	88.1
Dec 29	88	87	86	86	86	86	86	85	84	85	82	79	78	81	81	83	83	80	80	78	75	77	77	74	74	88	82.0
Dec 30	73	73	70	77	83	83	83	85	88	89	86	80	78	69	77	84	91	91	90	89	88	87	87	86	69	91	82.8
Dec 31	86	86	87	88	89	91	94	91	90	90	89	88	87	86	86	87	88	88	88	89	89	90	91	91	86	94	88.7
Diurnal Maximum	93	94	94	94	95	95	95	94	93	92	91	91	90	89	91	92	91	92	90	89	90	90	93	92			
Diurnal Average	77.0	76.4	75.0	76.3	76.7	76.7	77.1	76.6	77.1	77.6	75.3	72.5	70.2	68.4	68.5	70.2	73.3	73.5	73.6	74.4	74.4	75.6	76.2	76.3			

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 RH - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

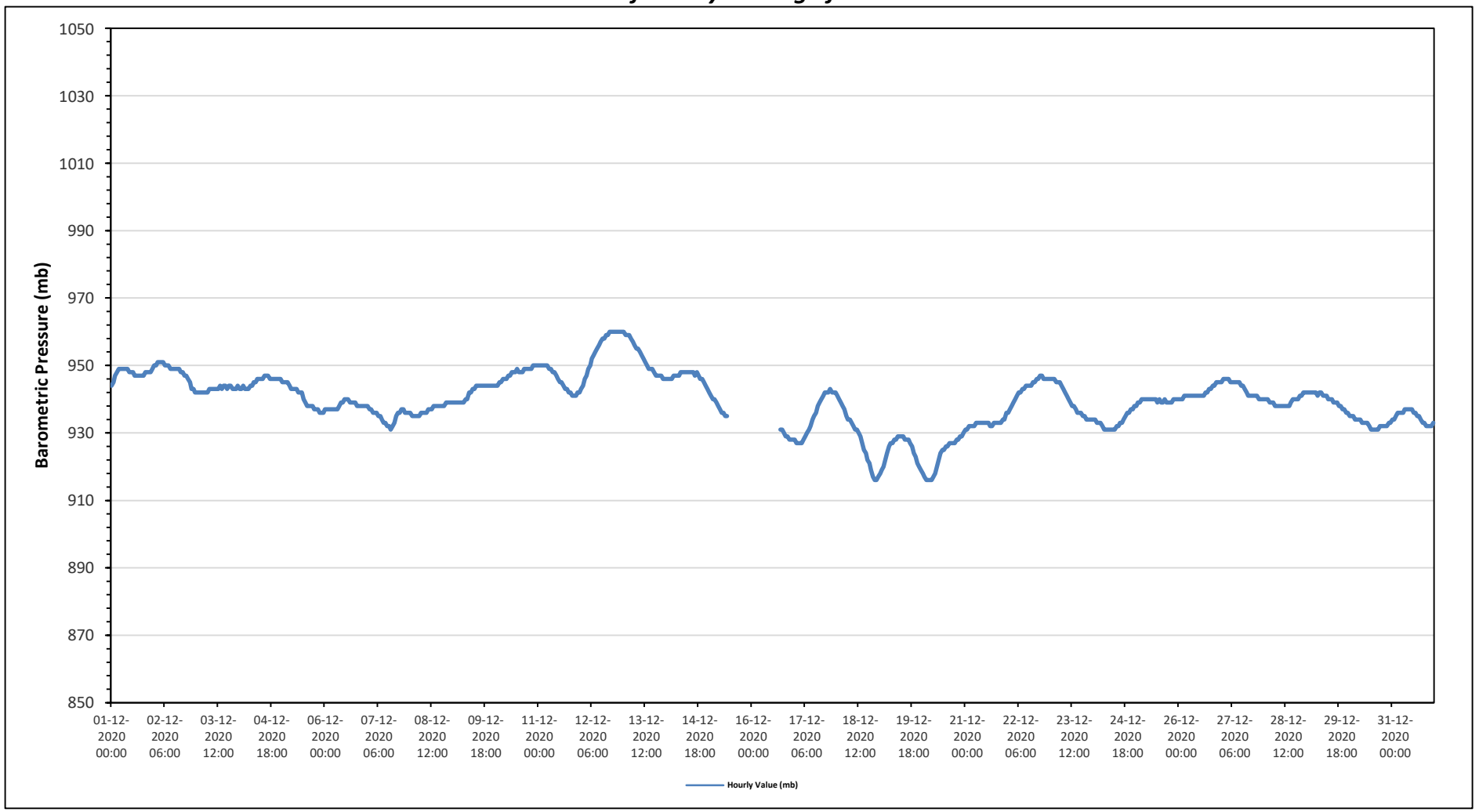
Maximum Hourly Value:	960	mb	on December 12 at hour 16	Hours in Service:	744
Maximum Daily Value:	955	mb	on December 12	Hours of Data:	715
Minimum Hourly Value:	916	mb	on December 18 at hour 21	Hours of Missing Data:	29
Minimum Daily Value:	923	mb	on December 20	Hours of Calibration:	0
Monthly Average:	940	mb		Operational Uptime:	96.1

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	944	945	947	948	949	949	949	949	949	949	948	948	948	947	947	947	947	947	947	948	948	948	948	949	944	949	948
Dec 2	950	950	951	951	951	951	950	950	950	949	949	949	949	949	949	948	948	947	947	946	945	943	943	942	942	951	948
Dec 3	942	942	942	942	942	942	942	943	943	943	943	943	943	944	943	944	944	943	944	944	943	943	943	944	942	944	943
Dec 4	943	943	944	943	943	943	944	944	945	945	946	946	946	946	947	947	947	946	946	946	946	946	946	946	943	947	945
Dec 5	945	945	945	945	944	943	943	943	943	942	942	942	940	939	938	938	938	938	937	937	937	936	936	936	936	945	941
Dec 6	937	937	937	937	937	937	937	937	938	939	939	940	940	940	939	939	939	939	938	938	938	938	938	938	937	940	938
Dec 7	938	937	937	936	936	936	935	935	934	933	933	932	932	931	932	933	935	936	936	937	937	936	936	936	931	938	935
Dec 8	936	935	935	935	935	935	936	936	936	936	937	937	937	938	938	938	938	938	938	938	939	939	939	939	935	939	937
Dec 9	939	939	939	939	939	939	939	940	940	942	942	943	943	944	944	944	944	944	944	944	944	944	944	944	939	944	942
Dec 10	944	944	945	945	946	946	946	947	947	948	948	948	949	948	948	948	949	949	949	949	949	950	950	950	944	950	948
Dec 11	950	950	950	950	950	950	949	949	948	948	947	946	945	945	944	943	943	942	942	941	941	941	942	942	941	950	946
Dec 12	943	944	946	947	949	950	952	953	954	955	956	957	958	958	959	959	**960**	**960**	**960**	**960**	**960**	**960**	**960**	**960**	943	**960**	**955**
Dec 13	**960**	959	959	959	958	957	956	955	955	954	953	952	951	950	949	949	949	948	947	947	947	947	946	946	946	**960**	952
Dec 14	946	946	946	946	947	947	947	947	948	948	948	948	948	948	948	948	947	948	947	946	946	945	944	943	943	948	947
Dec 15	942	941	940	940	939	938	937	936	936	935	935	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	935	942	-
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	931	931	930	929	929	928	928	928	928	931	-
Dec 17	928	927	927	927	927	928	929	930	931	932	934	935	936	938	939	940	941	942	942	942	943	942	942	942	927	943	935
Dec 18	941	940	939	938	937	935	934	934	933	932	931	931	930	929	927	925	924	922	921	919	917	**916**	**916**	917	**916**	941	929
Dec 19	918	919	920	922	924	926	927	927	928	928	929	929	929	929	928	928	928	927	926	924	923	921	920	919	918	929	925
Dec 20	918	917	**916**	**916**	**916**	**916**	917	918	920	922	924	925	925	926	926	927	927	927	927	928	928	929	929	930	**916**	930	923
Dec 21	931	931	932	932	932	932	933	933	933	933	933	933	933	933	932	932	933	933	933	933	933	934	934	936	931	936	933
Dec 22	936	937	938	939	940	941	942	942	943	943	944	944	944	944	945	945	946	946	947	947	946	946	946	946	936	947	943
Dec 23	946	946	946	945	945	945	944	943	942	941	940	939	938	938	937	936	936	936	935	935	934	934	934	934	934	946	940
Dec 24	934	934	933	933	933	932	931	931	931	931	931	931	931	932	932	933	933	934	935	936	936	937	937	938	931	938	933
Dec 25	938	939	939	940	940	940	940	940	940	940	940	940	939	940	939	939	940	939	939	939	939	940	940	940	938	940	940
Dec 26	940	940	940	941	941	941	941	941	941	941	941	941	941	941	941	942	942	943	943	944	944	945	945	945	940	945	942
Dec 27	945	946	946	946	946	945	945	945	945	945	945	944	944	943	942	941	941	941	941	941	941	940	940	940	940	946	943
Dec 28	940	940	940	939	939	939	938	938	938	938	938	938	938	938	938	939	940	940	940	940	941	941	942	942	938	942	939
Dec 29	942	942	942	942	942	942	941	942	942	941	941	941	940	940	940	939	939	939	938	938	937	937	936	936	936	942	940
Dec 30	935	935	935	934	934	934	934	933	933	933	933	932	931	931	931	931	931	932	932	932	932	932	933	933	931	935	933
Dec 31	934	934	935	936	936	936	936	937	937	937	937	937	936	936	935	935	934	933	933	932	932	932	932	933	932	937	935
Diurnal Maximum	960	959	959	959	958	957	956	955	955	955	956	957	958	958	959	959	960	960	960	960	960	960	960	960			
Diurnal Average	940	939	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	939	939	939	939	939	939			

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 2020

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

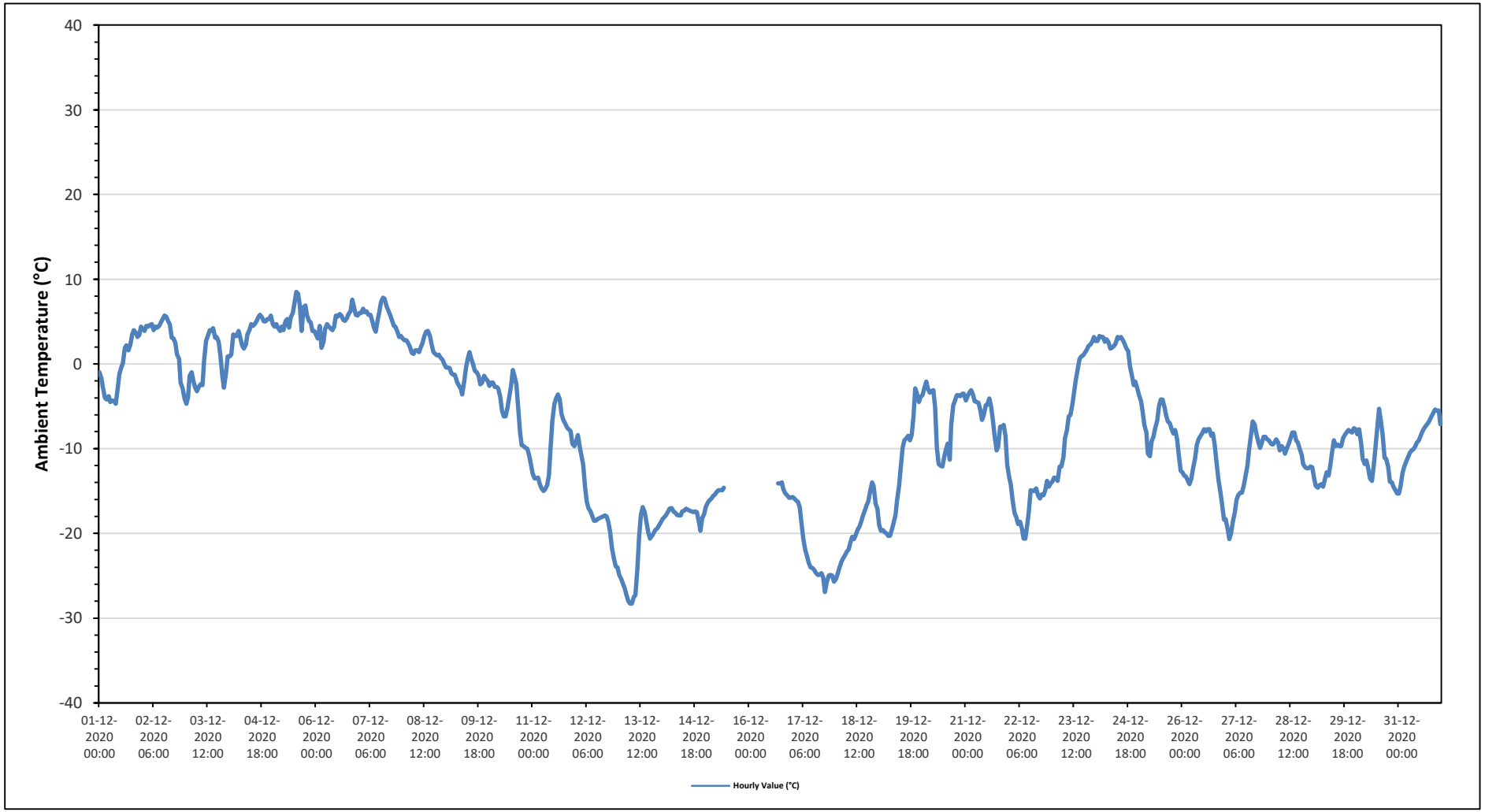
Maximum Hourly Value:	8.5	°C	on December 5 at hour 13	Hours in Service:	744
Maximum Daily Value:	5.5	°C	on December 7	Hours of Data:	715
Minimum Hourly Value:	-28.3	°C	on December 13 at hour 6	Hours of Missing Data:	29
Minimum Daily Value:	-22.6	°C	on December 13	Hours of Calibration:	0
Monthly Average:	-7.4	°C		Operational Uptime:	96.1

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	-1	-1.7	-2.8	-4	-4.2	-3.8	-4.5	-4.3	-4.4	-4.7	-3	-1.2	-0.5	0.1	1.9	2.2	1.6	2.2	3.5	4	3.7	3.2	3.4	4.4	-4.7	4.4	-0.4
Dec 2	4.1	3.9	4.5	4.4	4.6	4.7	4	4.4	4.3	4.5	4.9	5.3	5.7	5.6	5	4.7	3.1	3	2.5	1.1	0.6	-2.2	-2.9	-4	-4.0	5.7	3.2
Dec 3	-4.7	-4	-1.4	-1	-1.9	-2.8	-3.2	-2.7	-2.4	-2.5	0.3	2.7	3.3	4	3.9	4.2	3.1	3.2	2.6	1	-1.3	-2.8	-1.1	0.9	-4.7	4.2	-0.1
Dec 4	0.9	1.1	3.5	3.3	3.3	3.9	3.2	2.2	1.8	2.3	3.5	4	4.7	4.5	4.7	5.1	5.5	5.8	5.5	5	5	5.3	5.3	5.7	0.9	5.8	4.0
Dec 5	4.7	4.4	4.7	4.2	3.9	4.4	4	5	5.3	4.3	5.5	6	7	**8.5**	8.3	6.9	3.9	6.7	6.9	5.8	5.1	4.9	3.9	3.9	3.9	**8.5**	5.3
Dec 6	3.4	3	4.5	1.9	2.6	4.1	4.7	4.4	4.2	4	4.4	5.7	5.6	5.9	5.7	5.2	5.1	5.4	5.9	6.2	7.6	6.8	5.8	5.7	1.9	7.6	4.9
Dec 7	6	6	6.5	6.1	6.2	5.8	5.8	5.2	4.3	3.8	4.9	6.1	7.3	7.8	7.7	6.8	6.3	5.8	5.2	4.5	4.4	3.8	3.2	3.3	3.2	7.8	**5.5**
Dec 8	3	2.8	2.8	2.5	2	1.3	1.2	1.6	1.6	1.4	2	2.5	3.3	3.8	3.9	3.3	2.4	1.4	1.2	1	1.1	0.7	0.5	0	0.0	3.9	2.0
Dec 9	-0.4	-0.4	-0.5	-1.1	-1.3	-1.3	-2.1	-2.5	-2.9	-3.6	-2.1	-0.5	0.6	1.4	0.6	0	-0.8	-1	-1.4	-2.4	-2.2	-1.4	-1.7	-2	-3.6	1.4	-1.2
Dec 10	-2.6	-2.2	-2.2	-2.7	-2.7	-2.9	-3.9	-5.5	-6.2	-6.2	-5.1	-4	-2.6	-0.7	-1.5	-2.4	-5.1	-8.2	-9.6	-9.7	-9.9	-10	-10.7	-11.9	-11.9	-0.7	-5.4
Dec 11	-12.9	-13.5	-13.5	-13.4	-14.2	-14.7	-15	-14.8	-14.3	-13.2	-9.7	-6.6	-4.7	-4	-3.6	-4.2	-5.9	-6.6	-7	-7.5	-7.7	-7.9	-9.4	-9.7	-15.0	-3.6	-9.8
Dec 12	-9.3	-8.4	-9.7	-10.8	-11.9	-14.4	-16.2	-17	-17.4	-17.9	-18.5	-18.5	-18.3	-18.2	-18.1	-18	-17.9	-18	-18.7	-19.9	-21.7	-23	-23.9	-24	-24.0	-8.4	-17.1
Dec 13	-24.9	-25.4	-25.9	-26.5	-27.3	-28	**-28.3**	**-28.3**	-27.5	-27.3	-24.2	-20.3	-17.8	-16.9	-17.5	-18.5	-19.9	-20.6	-20.3	-20	-19.6	-19.4	-19.1	-18.7	**-28.3**	-16.9	-22.6
Dec 14	-18.3	-18.1	-17.8	-17.4	-17.1	-17	-17.4	-17.6	-17.8	-17.9	-17.9	-17.4	-17.3	-17.1	-17.2	-17.3	-17.4	-17.5	-17.4	-17.5	-18.7	-19.7	-18.2	-17.7	-19.7	-17.0	-17.7
Dec 15	-16.9	-16.4	-16.1	-15.9	-15.6	-15.4	-15.1	-14.9	-14.9	-14.9	-14.6	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	-16.9	-14.6	-
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	-14.1	-14.1	-14	-14.8	-15.3	-15.5	-15.8	-15.8	-15.8	-14.0	-
Dec 17	-15.7	-15.9	-16.1	-16.3	-16.9	-18.8	-20.6	-22	-22.7	-23.5	-24	-24.1	-24.3	-24.7	-24.9	-24.9	-24.7	-25.2	-26.9	-25.8	-25	-24.9	-25	-25.7	-26.9	-15.7	-22.4
Dec 18	-25.4	-24.8	-24	-23.4	-23	-22.6	-22.2	-21.9	-21.2	-20.4	-20.7	-20.2	-19.6	-19.2	-18.7	-17.9	-17.3	-16.7	-16.2	-15.1	-14	-14.4	-16.5	-17.1	-25.4	-14.0	-19.7
Dec 19	-19	-19.7	-19.6	-19.9	-20	-20.3	-20.3	-19.6	-18.8	-17.8	-16.1	-14.4	-12.1	-9.9	-9	-8.8	-8.5	-9	-8.4	-6.3	-2.9	-3.5	-4.5	-3.9	-20.3	-2.9	-13.0
Dec 20	-3.7	-2.9	-2.1	-2.9	-3.4	-3.2	-3.1	-5.1	-9.9	-11.8	-12	-12.1	-11	-10.1	-9.4	-11.3	-7.1	-4.9	-4.3	-3.7	-3.7	-3.8	-3.5	-3.5	-12.1	-2.1	-6.2
Dec 21	-4.3	-3.8	-3.4	-3.1	-3.7	-4.4	-4.5	-4.6	-5.4	-6.6	-6	-4.9	-4.8	-4.1	-5	-6.6	-8.5	-10.2	-9.8	-7.4	-7.4	-7.2	-8.5	-11.9	-11.9	-3.1	-6.1
Dec 22	-13.4	-14.2	-16.2	-17.6	-18.1	-18.9	-18.6	-19.4	-20.6	-20.6	-19.1	-17.3	-14.9	-15	-15	-14.7	-15.5	-15.9	-15.4	-15.5	-14.9	-13.8	-14.5	-14.1	-20.6	-13.4	-16.4
Dec 23	-13.9	-13.4	-13.5	-13.8	-12.1	-12.1	-11	-8.8	-7.8	-6.2	-6	-4.9	-3.4	-1.9	-0.7	0.6	0.9	1	1.3	1.7	2.1	2.3	2.6	3.2	-13.9	3.2	-4.7
Dec 24	2.7	2.7	3.3	3.2	3.2	2.6	2.9	2.6	1.8	1.9	2.1	2.4	3.2	3	3.2	2.8	2.4	1.8	1.5	-0.3	-1.3	-2.5	-2.1	-2.9	-2.9	3.3	1.7
Dec 25	-3.7	-4.4	-5.6	-7.2	-8.1	-10.6	-10.9	-9.1	-8.6	-7.6	-6.7	-5	-4.2	-4.2	-5.1	-6	-6.8	-7	-7.6	-8.2	-7.8	-8.9	-10.6	-12.6	-12.6	-3.7	-7.4
Dec 26	-12.8	-13.2	-13.3	-13.8	-14.2	-13.6	-12.2	-11.2	-9.6	-8.9	-8.5	-8.2	-7.7	-8	-7.7	-7.7	-8.5	-8.2	-9.5	-11.8	-13.7	-15	-16.5	-18.4	-18.4	-7.7	-11.3
Dec 27	-18.3	-19.4	-20.7	-20	-18.6	-17.5	-16	-15.5	-15.2	-15.2	-14.4	-13.3	-12	-10.2	-8.4	-6.8	-7.2	-8.2	-9.2	-9.9	-9.4	-8.6	-8.6	-8.9	-20.7	-6.8	-13.0
Dec 28	-9	-9.4	-9.5	-9.3	-8.9	-9.3	-10.2	-9.7	-10	-10.6	-9.9	-9.4	-8.8	-8.1	-8.1	-9	-9.3	-10	-10.7	-11.8	-12.2	-12.3	-12.3	-12.1	-12.3	-8.1	-10.0
Dec 29	-12.2	-13.6	-14.4	-14.6	-14.3	-14.2	-14.5	-13.5	-12.8	-13.2	-11.9	-10.3	-9	-9.7	-9.5	-9.7	-9.7	-8.8	-8.4	-8.1	-7.8	-8	-8.1	-7.6	-14.6	-7.6	-11.0
Dec 30	-7.7	-8.3	-7.7	-9.4	-11.2	-11.8	-11.4	-12.3	-13.5	-13.8	-12	-9.8	-7.5	-5.3	-6.7	-8.3	-11.1	-11.2	-12.1	-13.9	-14	-14.5	-14.9	-15.3	-15.3	-5.3	-11.0
Dec 31	-15.3	-14.3	-12.9	-12.1	-11.6	-11	-10.5	-10.2	-10.1	-9.7	-9.3	-9	-8.5	-8	-7.6	-7.3	-7	-6.7	-6.2	-5.8	-5.4	-5.5	-5.5	-7.1	-15.3	-5.4	-9.0
Diurnal Maximum	6.0	6.0	6.5	6.1	6.2	5.8	5.8	5.2	5.3	4.5	5.5	6.1	7.3	8.5	8.3	6.9	6.3	6.7	6.9	6.2	7.6	6.8	5.8	5.7			
Diurnal Average	-8.0	-8.1	-8.0	-8.4	-8.5	-8.7	-8.9	-8.8	-9.0	-9.1	-8.1	-6.8	-5.8	-5.2	-5.1	-5.4	-6.3	-6.4	-6.6	-6.8	-6.9	-7.3	-7.6	-7.9			

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 2020

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

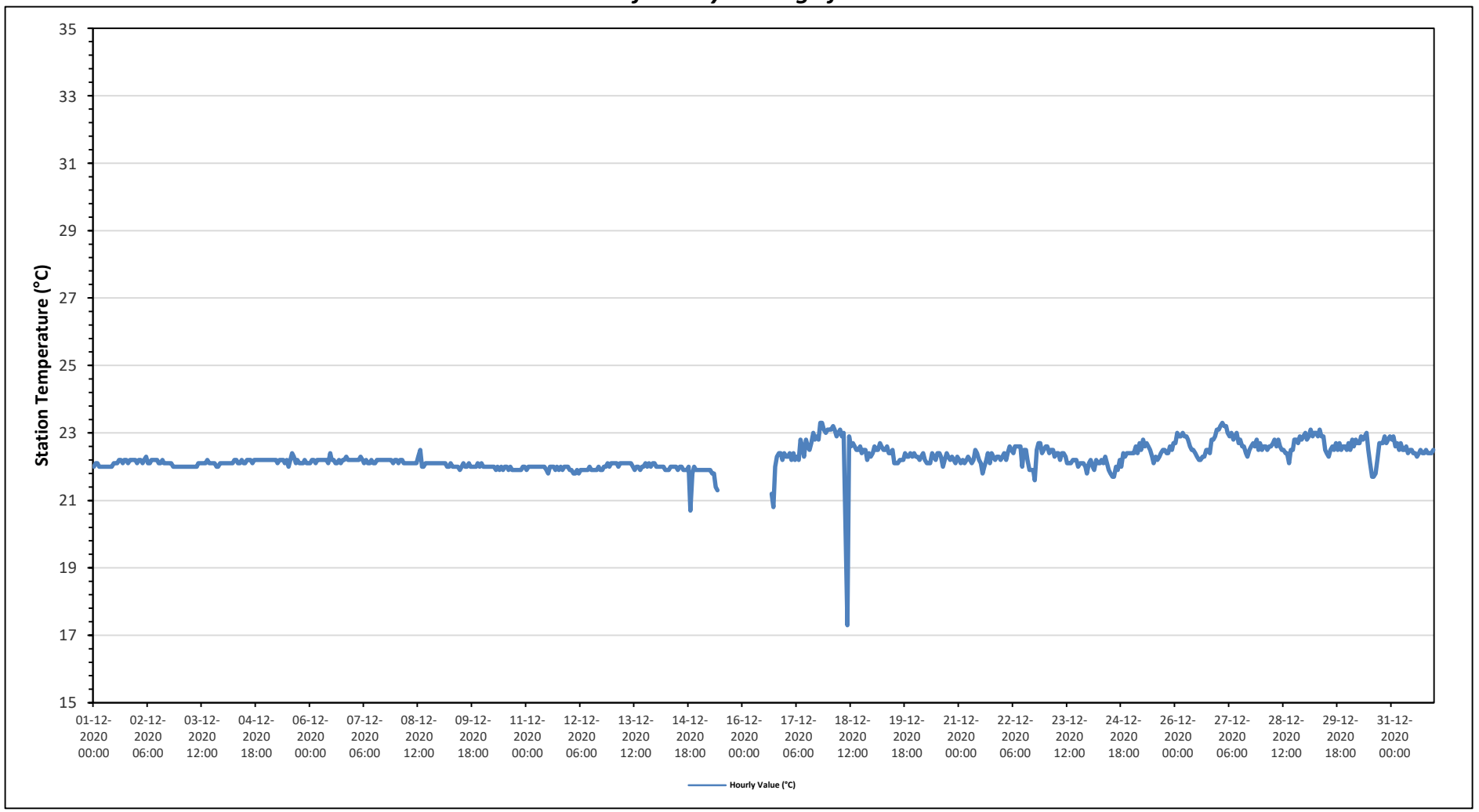
Maximum Hourly Value:	23.3	°C	on December 17 at hour 19	Hours in Service:	744
Maximum Daily Value:	22.8	°C	on December 27	Hours of Data:	715
Minimum Hourly Value:	17.3	°C	on December 18 at hour 10	Hours of Missing Data:	29
Minimum Daily Value:	21.9	°C	on December 14	Hours of Calibration:	0
Monthly Average:	22.3	°C		Operational Uptime:	96.1

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	22.0	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.1	22.1	22.1	22.2	22.2	22.1	22.2	22.2	22.1	22.2	22.2	22.2	22.2	22.0	22.2	22.1
Dec 2	22.1	22.2	22.2	22.1	22.2	22.3	22.1	22.1	22.2	22.2	22.2	22.2	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.3	22.1
Dec 3	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.1	22.1	22.1	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.0	22.0	22.1	22.1	22.0	22.2	22.1
Dec 4	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.1	22.1	22.2	22.1	22.1	22.2	22.2	22.2	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.2
Dec 5	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.2	22.2	22.1	22.2	22.0	22.2	22.4	22.3	22.1	22.2	22.1	22.1	22.1	22.2	22.1	22.1	22.0	22.4	22.2
Dec 6	22.1	22.2	22.2	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.4	22.2	22.2	22.1	22.1	22.2	22.1	22.2	22.2	22.3	22.2	22.2	22.2	22.1	22.4	22.2
Dec 7	22.2	22.2	22.2	22.2	22.3	22.2	22.1	22.2	22.1	22.1	22.2	22.1	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.1	22.3	22.2
Dec 8	22.2	22.1	22.2	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.3	22.5	22.0	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.5	22.1
Dec 9	22.1	22.1	22.1	22.1	22.0	22.0	22.1	22.0	22.0	22.0	22.0	21.9	22.0	22.1	22.0	22.0	22.1	22.0	22.0	22.0	22.0	22.1	22.0	22.1	21.9	22.1	22.0
Dec 10	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.9	22.0	21.9	22.0	21.9	22.0	22.0	21.9	22.0	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.0	21.9	22.0	22.0
Dec 11	21.9	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.9	21.8	22.0	22.0	22.0	21.9	22.0	21.9	22.0	21.9	22.0	22.0	22.0	21.8	22.0	22.0
Dec 12	21.9	21.9	21.8	21.8	21.9	21.8	21.9	21.9	21.9	21.9	21.9	22.0	21.9	21.9	21.9	21.9	22.0	21.9	21.9	22.0	22.0	22.1	22.0	22.1	21.8	22.1	21.9
Dec 13	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.0	21.9	22.0	22.0	21.9	22.0	22.0	22.1	22.0	22.1	22.0	22.1	22.1	21.9	22.1	22.1
Dec 14	22.0	22.0	22.0	22.0	22.0	21.9	21.9	21.9	22.0	22.0	22.0	22.0	21.9	22.0	22.0	21.9	21.9	21.9	22.0	20.7	21.8	22.0	21.9	21.9	20.7	22.0	21.9
Dec 15	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.4	21.3	N	N	N	N	N	N	N	N	N	N	N	N	N	21.3	21.9	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	21.2	20.8	22.0	22.3	22.4	22.4	22.2	22.4	20.8	22.4	-
Dec 17	22.3	22.3	22.4	22.2	22.4	22.2	22.3	22.2	22.8	22.6	22.3	22.8	22.6	22.5	22.7	23.0	22.8	22.9	22.8	**23.3**	**23.3**	23.1	23.0	23.1	22.2	**23.3**	22.7
Dec 18	23.1	23.1	23.2	23.1	22.9	23.0	23.1	22.9	23.0	20.0	**17.3**	22.9	22.6	22.7	22.6	22.5	22.5	22.6	22.4	22.5	22.5	22.2	22.4	22.3	**17.3**	23.2	22.4
Dec 19	22.4	22.6	22.5	22.5	22.7	22.6	22.5	22.5	22.6	22.4	22.4	22.5	22.1	22.1	22.1	22.2	22.2	22.2	22.4	22.3	22.3	22.4	22.3	22.4	22.1	22.7	22.4
Dec 20	22.3	22.3	22.2	22.3	22.4	22.2	22.1	22.1	22.1	22.4	22.3	22.2	22.4	22.4	22.3	22.0	22.2	22.4	22.3	22.2	22.3	22.2	22.1	22.3	22.0	22.4	22.3
Dec 21	22.2	22.1	22.2	22.1	22.2	22.3	22.2	22.1	22.2	22.5	22.4	22.2	22.1	21.8	22.0	22.2	22.4	22.1	22.4	22.3	22.2	22.3	22.3	22.2	21.8	22.5	22.2
Dec 22	22.3	22.4	22.2	22.4	22.6	22.5	22.4	22.6	22.6	22.6	22.6	22.0	22.5	22.5	22.2	21.9	21.9	21.9	21.6	22.5	22.7	22.7	22.4	22.5	21.6	22.7	22.4
Dec 23	22.6	22.6	22.4	22.5	22.5	22.3	22.4	22.4	22.2	22.4	22.4	22.3	22.1	22.1	22.1	22.2	22.2	22.2	22.0	22.1	22.1	22.1	22.0	21.8	21.8	22.6	22.3
Dec 24	22.1	22.2	22.0	21.9	22.2	22.1	22.1	22.2	22.1	22.3	22.1	21.9	21.8	21.7	21.7	22.0	21.9	22.2	22.0	22.4	22.3	22.4	22.4	22.4	21.7	22.4	22.1
Dec 25	22.4	22.4	22.6	22.4	22.7	22.5	22.8	22.6	22.7	22.6	22.5	22.3	22.1	22.3	22.2	22.3	22.4	22.5	22.5	22.4	22.4	22.6	22.5	22.7	22.1	22.8	22.5
Dec 26	22.7	23.0	22.9	22.9	23.0	22.9	22.9	22.8	22.6	22.5	22.5	22.4	22.3	22.2	22.2	22.3	22.3	22.5	22.5	22.4	22.8	22.8	22.9	23.1	22.2	23.1	22.6
Dec 27	23.1	23.2	**23.3**	23.2	23.2	23.0	22.9	23.0	22.8	22.9	23.0	22.7	22.8	22.6	22.6	22.4	22.3	22.5	22.6	22.7	22.6	22.8	22.5	22.7	22.3	**23.3**	**22.8**
Dec 28	22.5	22.6	22.6	22.5	22.6	22.6	22.7	22.8	22.6	22.8	22.6	22.5	22.5	22.4	22.4	22.1	22.5	22.5	22.8	22.8	22.7	22.9	22.8	22.9	22.1	22.9	22.6
Dec 29	23.0	22.8	22.9	23.1	22.9	23.0	23.0	22.9	23.1	22.9	22.9	22.5	22.4	22.3	22.5	22.6	22.5	22.7	22.5	22.7	22.5	22.6	22.6	22.5	22.3	23.1	22.7
Dec 30	22.7	22.5	22.8	22.6	22.8	22.7	22.7	22.9	22.8	22.9	23.0	22.5	22.1	21.7	21.7	21.8	22.2	22.7	22.7	22.7	22.9	22.7	22.8	22.9	21.7	23.0	22.6
Dec 31	22.8	22.9	22.6	22.7	22.5	22.7	22.5	22.5	22.6	22.4	22.5	22.5	22.4	22.4	22.3	22.4	22.5	22.4	22.4	22.5	22.4	22.4	22.4	22.5	22.3	22.9	22.5
Diurnal Maximum	23.1	23.2	23.3	23.2	23.2	23.0	23.1	23.0	23.1	22.9	23.0	22.9	22.8	22.7	22.7	23.0	22.8	22.9	22.8	23.3	23.3	23.1	23.0	23.1			
Diurnal Average	22.3	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.3	22.2	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.3	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 - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

PRECIPITATION in mm

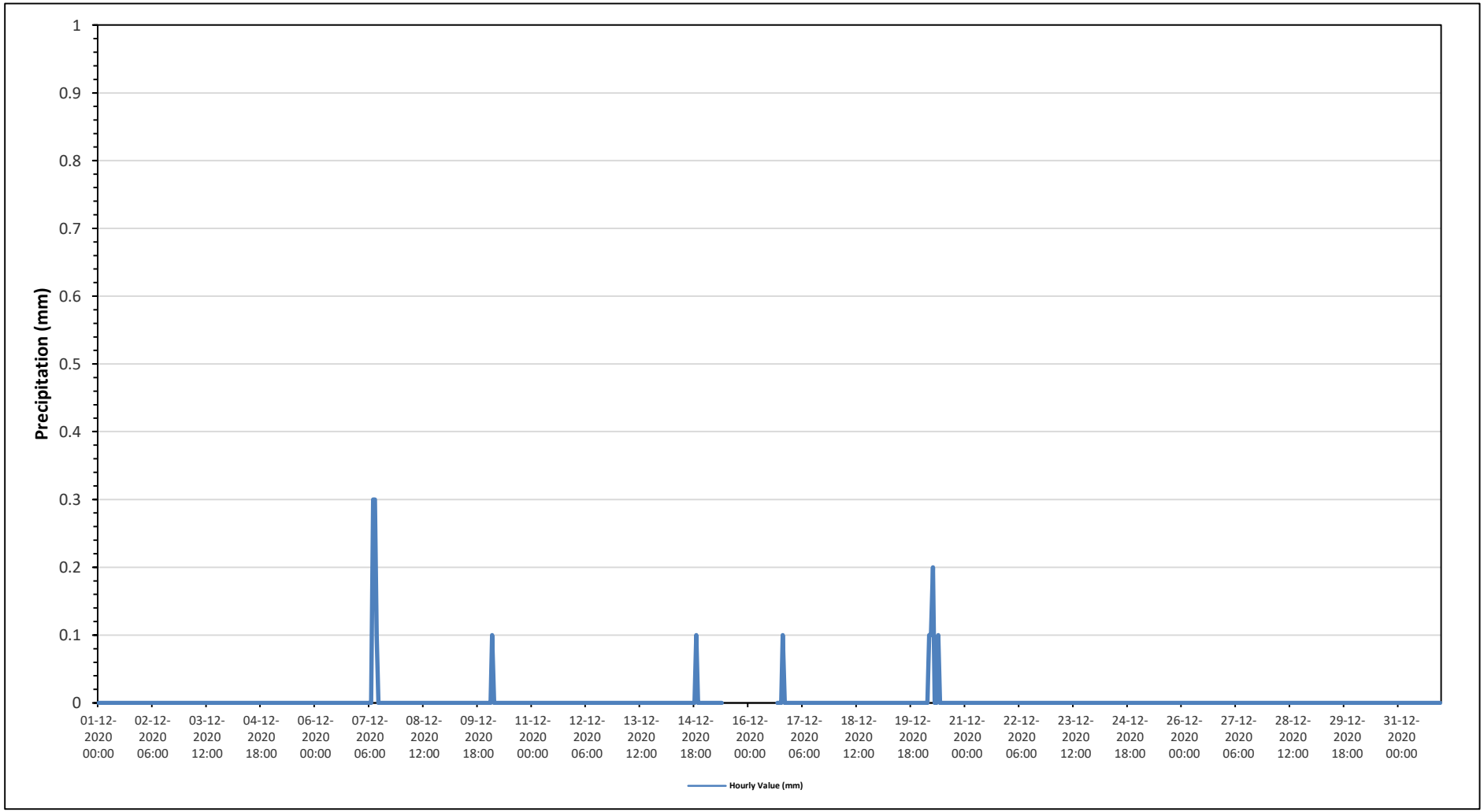
Maximum Hourly Value:	0.3	mm	on December 7 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.7	mm	on December 7	Hours of Data:	714
Minimum Hourly Value:	0.0	mm	on December 1 at hour 0	Hours of Missing Data:	30
Minimum Daily Value:	0.0	mm	on December 1	Hours of Calibration:	0
Monthly Total:	1.5	mm		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	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	**0.3**	**0.3**	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	**0.3**	**0.7**
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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
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	0.1	0	0	0	0	0.0	0.1	0.1
Dec 15	0	0	0	0	0	0	0	0	0	0	**NRM**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0.0	0.0	-
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0	0	0	0.1	0	0	0	0	0.0	0.1	-
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	0.1	0.1	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.5
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	0.1	0.0	0.1	0.1	0.2	0.0	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0			
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



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

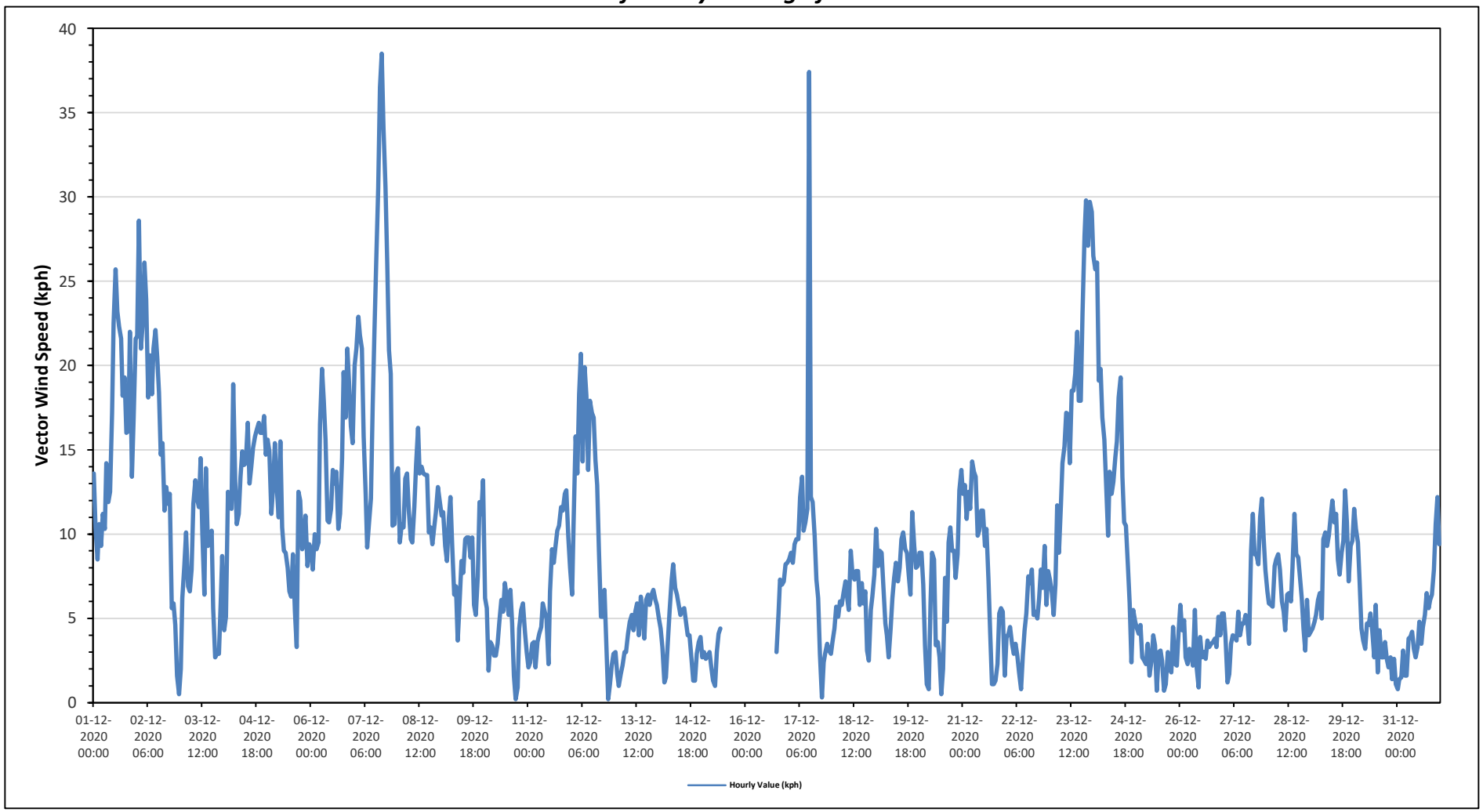
Maximum Hourly Value:	38.5	kph	on December 7 at hour 15	Hours in Service:	744
Maximum Daily Value:	19.2	kph	on December 7	Hours of Data:	714
Minimum Hourly Value:	0.2	kph	on December 10 at hour 17	Hours of Missing Data:	28
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	2
Monthly Average:	5.1	kph		Operational Uptime:	96.2

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	13.6	10.4	8.5	10.6	9.3	11.2	10.3	14.2	11.9	12.5	17.2	22.5	25.7	23.2	22.3	21.6	18.2	19.3	16.0	16.1	22.0	13.4	16.9	21.6	8.5	25.7	15.1
Dec 2	21.7	28.6	21.0	22.5	26.1	23.9	18.1	20.6	18.3	21.0	22.1	20.5	18.4	14.7	15.4	11.4	12.8	11.8	12.4	5.6	5.9	4.6	1.6	0.5	0.5	28.6	14.8
Dec 3	2.0	6.2	8.1	10.1	6.9	6.6	7.9	11.8	13.2	12.1	11.6	14.5	10.0	6.4	13.9	9.3	9.6	10.2	5.6	2.7	2.9	2.9	5.9	8.7	2.0	14.5	7.4
Dec 4	4.3	5.1	12.5	11.7	11.5	18.9	13.1	10.6	11.2	13.4	14.9	14.1	14.2	16.6	13.0	14.0	15.1	15.8	16.2	16.6	16.0	16.0	17.0	14.7	4.3	18.9	13.0
Dec 5	15.6	14.9	11.2	12.8	15.4	12.9	11.0	15.5	10.4	9.0	8.9	8.0	6.6	6.3	8.8	5.4	3.3	12.5	12.0	9.1	9.6	11.1	8.1	9.4	3.3	15.6	9.1
Dec 6	9.0	7.9	10.0	9.1	9.5	16.5	19.8	17.9	15.6	10.8	10.7	11.5	13.8	13.0	13.7	10.3	11.2	14.5	19.6	16.9	21.0	18.9	16.4	15.4	7.9	21.0	13.7
Dec 7	20.0	21.0	22.9	21.8	21.0	15.8	12.4	9.2	10.6	12.1	17.6	22.0	26.1	30.5	36.5	**38.5**	34.1	30.6	26.1	20.9	19.5	10.5	10.6	13.6	9.2	**38.5**	**19.2**
Dec 8	13.9	9.5	10.6	10.4	13.3	13.6	11.4	9.7	9.5	11.6	14.1	16.3	13.6	14.0	13.6	13.5	13.5	10.1	10.4	9.4	10.5	11.3	12.8	12.0	9.4	16.3	11.9
Dec 9	11.1	11.3	9.3	8.4	11.0	12.2	9.3	6.4	6.9	3.7	5.8	8.4	7.7	9.7	9.8	9.8	8.6	9.8	5.8	5.2	7.5	11.9	11.2	13.2	3.7	13.2	8.7
Dec 10	6.2	5.6	1.9	3.6	3.4	2.8	2.8	3.5	4.8	6.1	5.4	7.1	6.3	5.2	6.7	4.7	1.6	**0.2**	0.9	4.4	5.5	5.9	4.2	3.0	**0.2**	7.1	1.3
Dec 11	2.1	2.4	3.5	3.6	2.1	3.6	4.1	4.5	5.9	5.4	5.0	2.3	6.6	9.1	8.3	9.3	10.2	10.5	11.6	11.4	12.4	12.6	9.8	8.0	2.1	12.6	4.1
Dec 12	6.4	10.7	15.8	13.6	18.3	20.7	14.3	19.9	18.2	13.8	17.9	17.2	16.9	14.4	12.9	9.0	5.1	5.1	6.7	3.7	**0.2**	1.1	2.2	2.9	**0.2**	20.7	10.6
Dec 13	3.0	1.7	1.0	1.7	2.2	3.0	3.0	4.1	4.8	5.2	4.3	5.4	5.9	4.0	6.3	5.3	3.8	6.1	6.4	5.8	6.4	6.7	6.1	5.8	1.0	6.7	4.2
Dec 14	5.0	4.4	3.3	1.2	1.5	3.7	5.5	7.3	8.2	6.8	6.4	5.8	5.2	5.5	5.6	4.8	4.0	4.0	2.6	1.3	1.3	2.9	3.6	3.9	1.2	8.2	2.9
Dec 15	2.7	3.0	2.6	2.8	3.0	2.1	1.3	1.0	3.0	4.1	4.4	**C**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	1.0	4.4	-
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	3.0	5.3	7.3	7.0	7.2	8.2	8.3	3.0	8.3	-
Dec 17	8.5	8.9	8.3	9.4	9.7	9.7	12.2	13.4	10.2	10.7	11.5	37.4	12.2	11.9	9.9	7.3	6.2	2.9	0.3	2.4	3.0	3.5	3.1	2.9	0.3	37.4	8.1
Dec 18	3.6	4.4	5.7	5.1	6.0	5.8	6.5	7.2	6.2	5.5	9.0	7.6	7.3	7.8	7.8	5.8	7.1	5.9	6.6	3.1	2.5	5.5	6.3	7.6	2.5	9.0	4.9
Dec 19	10.3	8.1	9.0	8.9	6.9	4.7	4.0	2.7	4.4	6.2	7.4	8.3	7.2	8.0	9.7	10.1	9.1	8.9	7.6	6.4	11.3	9.3	8.0	8.1	2.7	11.3	3.1
Dec 20	8.9	8.9	7.0	3.4	1.1	0.8	5.9	8.9	8.5	3.4	3.6	2.7	0.5	2.0	7.4	4.8	9.5	10.4	9.0	9.0	7.4	8.8	12.6	13.8	0.5	13.8	4.4
Dec 21	12.4	12.9	10.9	12.5	11.5	14.3	13.7	13.4	9.9	10.2	11.4	11.4	9.3	10.3	7.3	4.1	1.1	1.1	1.3	2.3	5.3	5.6	5.4	1.6	1.1	14.3	6.7
Dec 22	3.9	4.1	4.5	3.5	2.9	3.5	2.8	1.8	0.8	2.8	4.3	5.3	7.5	7.1	7.9	5.2	5.4	5.0	6.2	7.9	6.8	9.3	5.8	7.8	0.8	9.3	2.8
Dec 23	7.3	6.5	5.2	7.0	11.7	8.9	11.8	14.2	15.2	17.2	17.1	14.2	18.5	18.5	19.5	22.0	17.9	17.9	23.1	27.7	29.8	27.1	29.7	29.1	5.2	29.8	15.9
Dec 24	26.5	25.7	26.1	19.1	19.8	16.9	15.6	13.0	9.9	13.7	12.4	13.1	14.6	15.5	18.1	19.3	13.4	10.7	10.5	8.1	5.9	2.4	5.5	4.8	2.4	26.5	13.5
Dec 25	4.4	4.1	4.6	2.7	2.5	2.3	3.5	1.6	2.5	4.0	3.4	0.7	3.0	3.1	2.5	0.7	1.1	3.0	2.0	1.8	4.5	2.3	2.2	4.2	0.7	4.6	**0.5**
Dec 26	5.8	4.3	4.9	2.7	2.3	3.2	2.8	2.2	5.5	2.1	0.9	3.9	2.7	3.0	2.6	3.7	3.3	3.5	3.6	3.8	3.3	5.1	4.0	5.3	0.9	5.8	3.1
Dec 27	5.3	3.9	1.2	1.7	3.5	4.0	3.9	3.7	5.4	4.0	4.7	4.7	5.2	4.8	3.5	9.0	11.2	8.8	8.8	8.2	11.0	12.1	9.8	7.9	1.2	12.1	4.3
Dec 28	6.6	5.9	5.8	5.7	8.1	8.5	8.8	7.9	6.0	5.4	4.3	6.4	6.5	6.0	8.0	11.2	8.8	8.6	7.6	6.2	4.4	3.1	6.1	4.0	3.1	11.2	5.8
Dec 29	4.2	4.4	4.8	5.2	6.1	6.5	5.0	9.7	10.1	9.3	9.9	11.0	12.0	10.7	11.2	8.5	7.6	8.9	9.6	12.6	10.7	7.2	9.3	9.6	4.2	12.6	8.1
Dec 30	11.5	10.3	9.5	7.1	4.4	3.7	3.2	4.7	4.6	5.3	4.3	2.7	5.8	1.8	4.3	2.7	2.7	3.6	2.6	2.1	2.7	1.4	2.6	1.1	1.1	11.5	3.5
Dec 31	0.8	1.4	1.5	3.1	1.6	1.6	3.8	3.9	4.2	3.2	2.7	3.3	4.8	3.5	4.5	5.2	6.5	5.6	6.1	6.4	7.9	10.6	12.2	9.4	0.8	12.2	2.4
Diurnal Maximum	27	29	26	23	26	24	20	21	18	21	22	37	26	31	37	39	34	31	26	28	30	27	30	29			
Diurnal Average	8.6	8.6	8.4	8.0	8.4	8.7	8.3	8.8	8.5	8.4	9.1	10.6	10.1	9.9	10.7	9.9	9.0	8.9	8.8	8.1	8.8	8.3	8.6	8.6			

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.

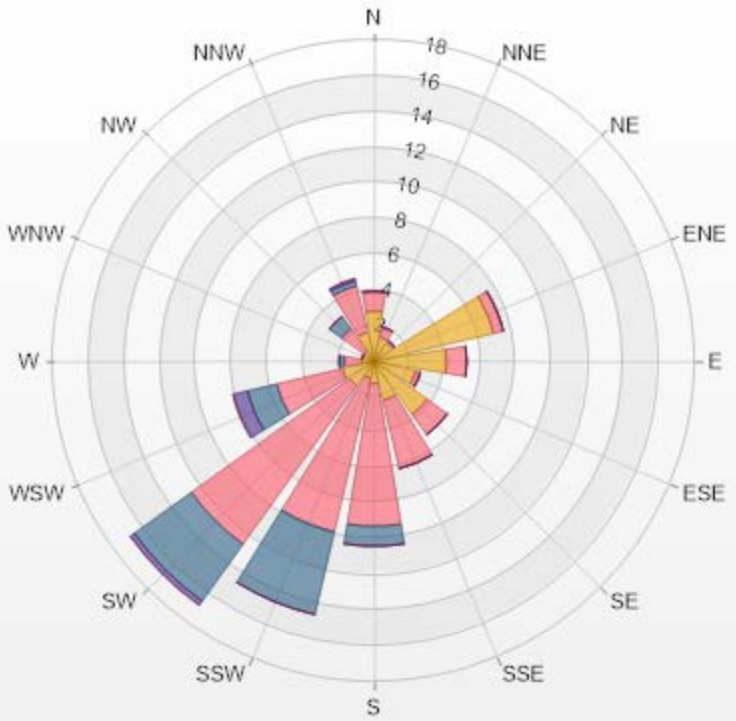
Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842b Monitor: WDS [KPH] Monthly: 12-2020 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 5.75% Valid Data: 95.83%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	2.81	1.12	0	0	0	3.93
NNE	1.4	0.56	0	0	0	1.96
NE	1.26	0.14	0	0	0	1.4
ENE	6.87	0.56	0	0	0	7.43
E	4.07	1.12	0	0	0	5.19
ESE	2.38	0.28	0	0	0	2.66
SE	3.65	1.4	0	0	0	5.05
SSE	2.24	3.93	0	0	0	6.17
S	1.26	7.99	1.12	0	0	10.37
SSW	0.98	8.84	4.77	0	0	14.59
SW	1.68	10.94	3.93	0.28	0	16.83
WSW	1.82	3.79	1.68	0.84	0	8.13
W	0.7	0.98	0.28	0	0	1.96
WNW	0.7	0	0	0	0	0.7
NW	0.7	1.54	0.84	0	0	3.08
NNW	1.68	2.66	0.28	0.14	0	4.76
Summary	34.2	45.85	12.9	1.26	0	94.21

PRAMP 842b 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 5.75% Calm Wind Avg Speed: 1.15(KPH)



% Icon Classes (KPH)	34 1.8-6.0	46 6.0-15.0	13 15.0-29.0	1 29.0-39.0	0 >39.0

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PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

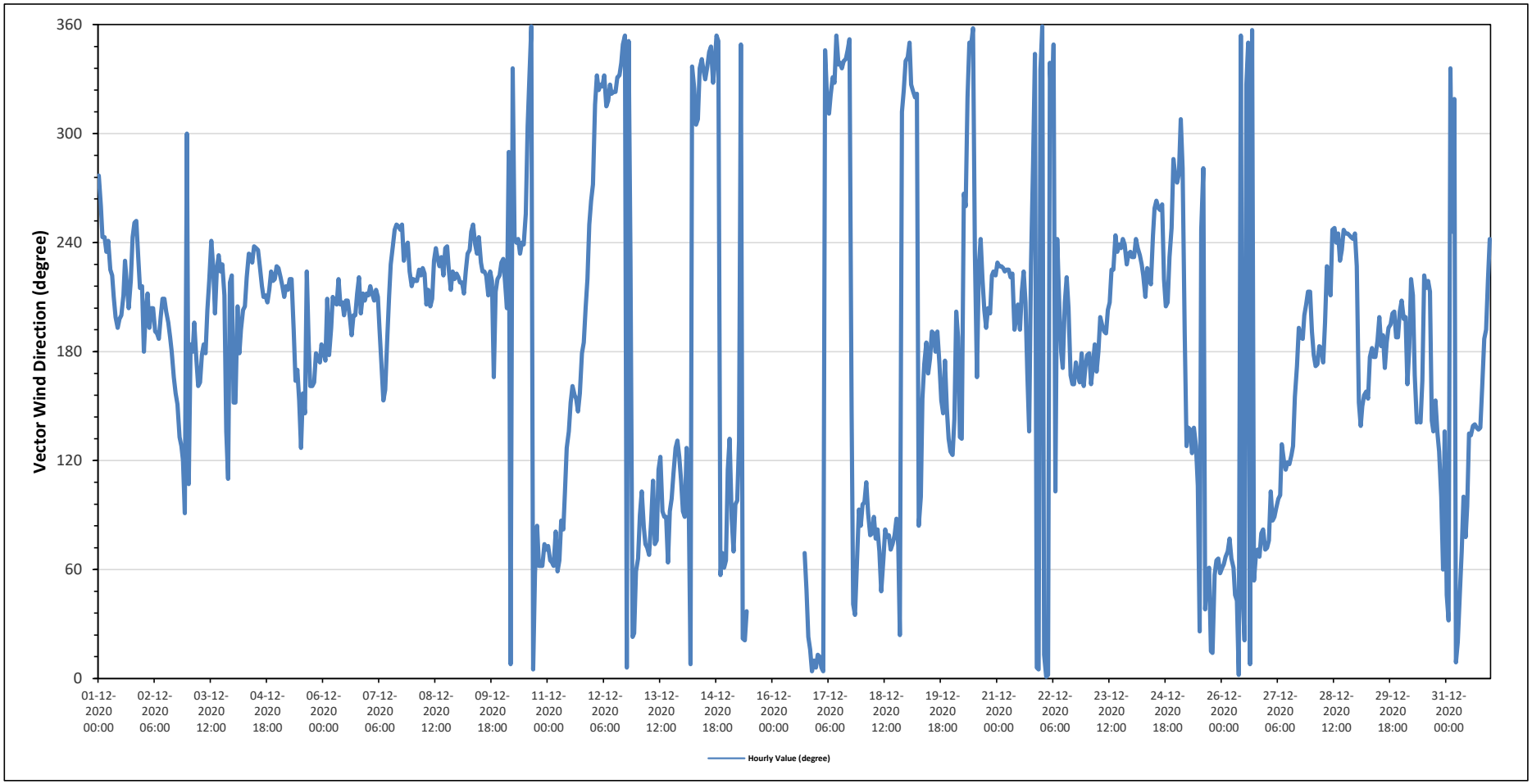
Monthly Average:	213 (SSW) degree	Hours in Service:	744
		Hours of Data:	714
		Hours of Missing Data:	28
		Hours of Calibration:	2
		Operational Uptime:	96.2

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	W	WSW	WSW	WSW	SW	WSW	SW	SW	SSW	SSW	S	SSW	SSW	SSW	SW	SW	SSW	SW	WSW	WSW	WSW	SW	SSW	SW	223	SW
Dec 2	S	SSW	SSW	S	SSW	SSW	S	S	S	SSW	SSW	SSW	SSW	SSW	S	S	SSE	SSE	SSE	SE	SE	ESE	E	WNW	191	S
Dec 3	ESE	S	S	SSW	S	SSE	SSE	S	S	S	SSW	SW	WSW	SW	SSW	SW	SW	SW	SW	SSW	SE	ESE	SW	SW	200	SSW
Dec 4	SSE	SSE	SSW	S	S	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	216	SW
Dec 5	SW	SW	SW	SSW	SW	SSW	SW	SW	S	SSE	SSE	SSE	SE	SSE	SE	SW	S	SSE	SSE	SSE	S	S	S	S	191	S
Dec 6	S	S	SSW	S	S	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	205	SSW
Dec 7	SSW	SW	SSW	SSW	SSW	SSW	S	S	SSE	SSE	S	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	SW	SW	225	SW
Dec 8	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	223	SW
Dec 9	SW	SW	SW	SSW	SW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SW	SSW	SW	SW	SSE	SSW	SW	SW	SW	224	SW
Dec 10	SW	SW	SSW	WNW	N	NNW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WNW	NNW	N	N	ENE	E	ENE	ENE	ENE	ENE	ENE	280	W
Dec 11	ENE	ENE	ENE	ENE	E	ENE	ENE	E	E	E	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	S	S	SSW	SW	WSW	W	161	SSE
Dec 12	W	NW	NNW	NW	NW	NW	NNW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	N	N	SW	NNE	NNE	ENE	327	NW
Dec 13	ENE	E	ESE	E	ENE	ENE	ENE	E	ESE	ENE	ENE	ESE	ESE	E	E	E	ENE	E	E	ESE	SE	SE	ESE	ESE	99	E
Dec 14	E	E	SE	E	N	NNW	NW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	ENE	ENE	ENE	ENE	350	N
Dec 15	ESE	SE	E	ENE	E	E	SE	NNW	NNE	NNE	NE	C	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Dec 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	ENE	NE	NNE	NNE	N	N	N	-	-
Dec 17	NNE	NNE	N	N	NNW	NW	NW	NW	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	N	SE	NE	NE	ENE	E	E	345	NNW
Dec 18	E	E	ESE	E	ENE	E	E	ENE	E	ENE	NE	ENE	E	ENE	ENE	ENE	ENE	ENE	E	ENE	NNE	NW	NW	NNW	69	ENE
Dec 19	NNW	N	NW	NW	NW	NW	E	E	SSE	S	S	SSE	S	S	S	S	S	S	SSE	SE	S	SSE	SE	SE	173	S
Dec 20	ESE	SE	SSW	S	SE	SE	W	WSW	NW	N	NNW	N	SW	SSE	SW	WSW	SW	SSW	S	SSW	SSW	SW	SW	SW	216	SW
Dec 21	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	SSW	SSW	S	SSW	SW	SSW	SSE	SE	SW	WNW	NNW	N	N	NNW	222	SW
Dec 22	N	NNE	N	N	NNW	NW	NNW	ESE	WSW	SSW	S	S	SSW	SW	SSW	SSE	SSE	SSE	S	SSE	SSE	S	SSE	S	181	S
Dec 23	S	S	SSE	S	S	SSE	S	SSW	SSW	S	S	SSW	SSW	SW	SW	WSW	SW	WSW	SW	WSW	WSW	SW	SW	SW	219	SW
Dec 24	SW	SW	WSW	SW	SW	SW	SW	SSW	SW	SW	SW	WSW	WSW	W	WSW	WSW	W	SW	SSW	SSW	SW	WSW	WNW	W	237	SW
Dec 25	W	W	NW	W	S	SE	SE	SE	ESE	SE	SE	ESE	NNE	WSW	W	NE	ENE	ENE	NNE	NNE	ENE	ENE	ENE	ENE	67	ENE
Dec 26	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	N	N	NE	NNE	NW	N	N	N	NE	ENE	ENE	ENE	E	E	ENE	52	NE
Dec 27	ENE	ENE	ESE	E	E	E	E	E	SE	ESE	ESE	ESE	ESE	ESE	SE	SSE	S	S	S	S	SSW	SSW	SSW	SSW	159	SSE
Dec 28	S	S	S	S	S	S	S	SSW	SW	SW	SSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	219	SW
Dec 29	SW	SSE	SE	SSE	SSE	SSE	SSE	S	S	S	S	S	SSW	S	S	S	S	S	SSW	SSW	SSW	S	S	SSW	184	S
Dec 30	SSW	SSW	SSW	SSE	S	SW	SSW	SSE	SE	SE	SE	SSE	SW	SSW	SW	SSW	SE	SE	SSE	SE	SE	E	ENE	SE	179	S
Dec 31	NE	NNE	NNW	WSW	NW	N	NNE	NE	ENE	E	ENE	E	SE	SE	SE	SE	SE	SE	SE	SSE	S	S	SW	WSW	158	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 (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 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	38.5	kph	on December 7 at hour 15	Hours in Service:	744
Maximum Daily Value:	19.2	kph	on December 7	Hours of Data:	714
Minimum Hourly Value:	0.2	kph	on December 10 at hour 17	Hours of Missing Data:	28
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	2
Monthly Average:	5.1	kph		Operational Uptime:	96.2

WIND DIRECTION

Monthly Average: 213 (SSW) 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	13.6	10.4	8.5	10.6	9.3	11.2	10.3	14.2	11.9	12.5	17.2	22.5	25.7	23.2	22.3	21.6	18.2	19.3	16.0	16.1	22.0	13.4	16.9	21.6	8.5	25.7	15.1
	W	WSW	WSW	WSW	SW	WSW	SW	SW	SSW	SSW	S	SSW	SSW	SSW	SW	SW	SSW	SW	WSW	WSW	WSW	SW	SSW	SW			
Dec 2	21.7	28.6	21.0	22.5	26.1	23.9	18.1	20.6	18.3	21.0	22.1	20.5	18.4	14.7	15.4	11.4	12.8	11.8	12.4	5.6	5.9	4.6	1.6	0.5	0.5	28.6	14.8
	S	SSW	SSW	S	SSW	SSW	S	S	S	SSW	SSW	SSW	SSW	SSW	S	S	SSE	SSE	SSE	SE	SE	ESE	E	WNW			
Dec 3	2.0	6.2	8.1	10.1	6.9	6.6	7.9	11.8	13.2	12.1	11.6	14.5	10.0	6.4	13.9	9.3	9.6	10.2	5.6	2.7	2.9	2.9	5.9	8.7	2.0	14.5	7.4
	ESE	S	S	SSW	S	SSE	SSE	S	S	S	SSW	SW	WSW	SW	SSW	SW	SW	SW	SW	SSW	SE	ESE	SW	SW			
Dec 4	4.3	5.1	12.5	11.7	11.5	18.9	13.1	10.6	11.2	13.4	14.9	14.1	14.2	16.6	13.0	14.0	15.1	15.8	16.2	16.6	16.0	16.0	17.0	14.7	4.3	18.9	13.0
	SSE	SSE	SSW	S	S	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW			
Dec 5	15.6	14.9	11.2	12.8	15.4	12.9	11.0	15.5	10.4	9.0	8.9	8.0	6.6	6.3	8.8	5.4	3.3	12.5	12.0	9.1	9.6	11.1	8.1	9.4	3.3	15.6	9.1
	SW	SW	SW	SSW	SW	SSW	SW	SW	S	SSE	SSE	SSE	SE	SSE	SE	SW	S	SSE	SSE	SSE	S	S	S	S			
Dec 6	9.0	7.9	10.0	9.1	9.5	16.5	19.8	17.9	15.6	10.8	10.7	11.5	13.8	13.0	13.7	10.3	11.2	14.5	19.6	16.9	21.0	18.9	16.4	15.4	7.9	21.0	13.7
	S	S	SSW	S	S	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW			
Dec 7	20.0	21.0	22.9	21.8	21.0	15.8	12.4	9.2	10.6	12.1	17.6	22.0	26.1	30.5	36.5	**38.5**	34.1	30.6	26.1	20.9	19.5	10.5	10.6	13.6	9.2	**38.5**	**19.2**
	SSW	SW	SSW	SSW	SSW	SSW	S	S	SSE	SSE	S	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	SW	SW			
Dec 8	13.9	9.5	10.6	10.4	13.3	13.6	11.4	9.7	9.5	11.6	14.1	16.3	13.6	14.0	13.6	13.5	13.5	10.1	10.4	9.4	10.5	11.3	12.8	12.0	9.4	16.3	11.9
	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW			
Dec 9	11.1	11.3	9.3	8.4	11.0	12.2	9.3	6.4	6.9	3.7	5.8	8.4	7.7	9.7	9.8	9.8	8.6	9.8	5.8	5.2	7.5	11.9	11.2	13.2	3.7	13.2	8.7
	SW	SW	SW	SSW	SW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SW	SSW	SW	SW	SSE	SSW	SW	SW	SW			
Dec 10	6.2	5.6	1.9	3.6	3.4	2.8	2.8	3.5	4.8	6.1	5.4	7.1	6.3	5.2	6.7	4.7	1.6	**0.2**	0.9	4.4	5.5	5.9	4.2	3.0	**0.2**	7.1	1.3
	SW	SW	SSW	WNW	N	NNW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WNW	NNW	N	N	ENE	E	ENE	ENE	ENE	ENE	ENE			
Dec 11	2.1	2.4	3.5	3.6	2.1	3.6	4.1	4.5	5.9	5.4	5.0	2.3	6.6	9.1	8.3	9.3	10.2	10.5	11.6	11.4	12.4	12.6	9.8	8.0	2.1	12.6	4.1
	ENE	ENE	ENE	ENE	E	ENE	ENE	E	E	E	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	S	S	SSW	SW	WSW	W			
Dec 12	6.4	10.7	15.8	13.6	18.3	20.7	14.3	19.9	18.2	13.8	17.9	17.2	16.9	14.4	12.9	9.0	5.1	5.1	6.7	3.7	**0.2**	1.1	2.2	2.9	**0.2**	20.7	10.6
	W	NW	NNW	NW	NW	NW	NNW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	N	N	SW	NNE	NNE	ENE			
Dec 13	3.0	1.7	1.0	1.7	2.2	3.0	3.0	4.1	4.8	5.2	4.3	5.4	5.9	4.0	6.3	5.3	3.8	6.1	6.4	5.8	6.4	6.7	6.1	5.8	1.0	6.7	4.2
	ENE	E	ESE	E	ENE	ENE	ENE	E	ESE	ENE	ENE	ESE	ESE	E	E	E	ENE	E	E	ESE	SE	SE	ESE	ESE			
Dec 14	5.0	4.4	3.3	1.2	1.5	3.7	5.5	7.3	8.2	6.8	6.4	5.8	5.2	5.5	5.6	4.8	4.0	4.0	2.6	1.3	1.3	2.9	3.6	3.9	1.2	8.2	2.9
	E	E	SE	E	N	NNW	NW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	ENE	ENE	ENE	ENE			
Dec 15	2.7	3.0	2.6	2.8	3.0	2.1	1.3	1.0	3.0	4.1	4.4	**C**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	1.0	4.4	-
	ESE	SE	E	ENE	E	E	SE	NNW	NNE	NNE	NE	**C**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**			
Dec 16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	3.0	5.3	7.3	7.0	7.2	8.2	8.3	3.0	8.3	-
	N	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	ENE	NE	NNE	NNE	N	N	N			
Dec 17	8.5	8.9	8.3	9.4	9.7	9.7	12.2	13.4	10.2	10.7	11.5	37.4	12.2	11.9	9.9	7.3	6.2	2.9	0.3	2.4	3.0	3.5	3.1	2.9	0.3	37.4	8.1
	NNE	NNE	N	N	NNW	NW	NW	NW	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	N	SE	NE	NE	ENE	E	E			
Dec 18	3.6	4.4	5.7	5.1	6.0	5.8	6.5	7.2	6.2	5.5	9.0	7.6	7.3	7.8	7.8	5.8	7.1	5.9	6.6	3.1	2.5	5.5	6.3	7.6	2.5	9.0	4.9
	E	E	ESE	E	ENE	E	E	ENE	E	ENE	NE	ENE	E	ENE	ENE	ENE	ENE	ENE	E	ENE	NNE	NW	NW	NNW			
Dec 19	10.3	8.1	9.0	8.9	6.9	4.7	4.0	2.7	4.4	6.2	7.4	8.3	7.2	8.0	9.7	10.1	9.1	8.9	7.6	6.4	11.3	9.3	8.0	8.1	2.7	11.3	3.1
	NNW	N	NW	NW	NW	NW	E	E	SSE	S	S	SSE	S	S	S	S	S	S	SSE	SE	S	SSE	SE	SE			
Dec 20	8.9	8.9	7.0	3.4	1.1	0.8	5.9	8.9	8.5	3.4	3.6	2.7	0.5	2.0	7.4	4.8	9.5	10.4	9.0	9.0	7.4	8.8	12.6	13.8	0.5	13.8	4.4
	ESE	SE	SSW	S	SE	SE	W	WSW	NW	N	NNW	N	SW	SSE	SW	WSW	SW	SSW	S	SSW	SSW	SW	SW	SW			

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PEACE RIVER AREA MONITORING PROGRAM

842b Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	38.5	kph	on December 7 at hour 15	Hours in Service:	744
Maximum Daily Value:	19.2	kph	on December 7	Hours of Data:	714
Minimum Hourly Value:	0.2	kph	on December 10 at hour 17	Hours of Missing Data:	28
Minimum Daily Value:	0.5	kph	on December 25	Hours of Calibration:	2
Monthly Average:	5.1	kph		Operational Uptime:	96.2

WIND DIRECTION

Monthly Average: 213 (SSW) 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	12.4	12.9	10.9	12.5	11.5	14.3	13.7	13.4	9.9	10.2	11.4	11.4	9.3	10.3	7.3	4.1	1.1	1.1	1.3	2.3	5.3	5.6	5.4	1.6	1.1	14.3	6.7
	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	SSW	SSW	S	SSW	SW	SSW	SSE	SE	SW	WNW	NNW	N	N	NNW			
Dec 22	3.9	4.1	4.5	3.5	2.9	3.5	2.8	1.8	0.8	2.8	4.3	5.3	7.5	7.1	7.9	5.2	5.4	5.0	6.2	7.9	6.8	9.3	5.8	7.8	0.8	9.3	2.8
	N	NNE	N	N	NNW	NW	NNW	ESE	WSW	SSW	S	S	SSW	SW	SSW	SSE	SSE	SSE	S	SSE	SSE	S	SSE	S			
Dec 23	7.3	6.5	5.2	7.0	11.7	8.9	11.8	14.2	15.2	17.2	17.1	14.2	18.5	18.5	19.5	22.0	17.9	17.9	23.1	27.7	29.8	27.1	29.7	29.1	5.2	29.8	15.9
	S	S	SSE	S	S	SSE	S	SSW	SSW	S	S	SSW	SSW	SW	SW	WSW	SW	WSW	SW	WSW	WSW	SW	SW	SW			
Dec 24	26.5	25.7	26.1	19.1	19.8	16.9	15.6	13.0	9.9	13.7	12.4	13.1	14.6	15.5	18.1	19.3	13.4	10.7	10.5	8.1	5.9	2.4	5.5	4.8	2.4	26.5	13.5
	SW	SW	WSW	SW	SW	SW	SW	SSW	SW	SW	SW	WSW	WSW	W	WSW	WSW	W	SW	SSW	SSW	SW	WSW	WNW	W			
Dec 25	4.4	4.1	4.6	2.7	2.5	2.3	3.5	1.6	2.5	4.0	3.4	0.7	3.0	3.1	2.5	0.7	1.1	3.0	2.0	1.8	4.5	2.3	2.2	4.2	0.7	4.6	**0.5**
	W	W	NW	W	S	SE	SE	SE	ESE	SE	SE	ESE	NNE	WSW	W	NE	ENE	ENE	NNE	NNE	ENE	ENE	ENE	ENE			
Dec 26	5.8	4.3	4.9	2.7	2.3	3.2	2.8	2.2	5.5	2.1	0.9	3.9	2.7	3.0	2.6	3.7	3.3	3.5	3.6	3.8	3.3	5.1	4.0	5.3	0.9	5.8	3.1
	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	N	N	NE	NNE	NW	N	N	N	NE	ENE	ENE	ENE	E	E	ENE			
Dec 27	5.3	3.9	1.2	1.7	3.5	4.0	3.9	3.7	5.4	4.0	4.7	4.7	5.2	4.8	3.5	9.0	11.2	8.8	8.8	8.2	11.0	12.1	9.8	7.9	1.2	12.1	4.3
	ENE	ENE	ESE	E	E	E	E	E	SE	ESE	ESE	ESE	ESE	ESE	SE	SSE	S	S	S	S	SSW	SSW	SSW	SSW			
Dec 28	6.6	5.9	5.8	5.7	8.1	8.5	8.8	7.9	6.0	5.4	4.3	6.4	6.5	6.0	8.0	11.2	8.8	8.6	7.6	6.2	4.4	3.1	6.1	4.0	3.1	11.2	5.8
	S	S	S	S	S	S	S	SSW	SW	SW	SSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW			
Dec 29	4.2	4.4	4.8	5.2	6.1	6.5	5.0	9.7	10.1	9.3	9.9	11.0	12.0	10.7	11.2	8.5	7.6	8.9	9.6	12.6	10.7	7.2	9.3	9.6	4.2	12.6	8.1
	SW	SSE	SE	SSE	SSE	SSE	SSE	S	S	S	S	S	SSW	S	S	S	S	S	SSW	SSW	SSW	S	S	SSW			
Dec 30	11.5	10.3	9.5	7.1	4.4	3.7	3.2	4.7	4.6	5.3	4.3	2.7	5.8	1.8	4.3	2.7	2.7	3.6	2.6	2.1	2.7	1.4	2.6	1.1	1.1	11.5	3.5
	SSW	SSW	SSW	SSE	S	SW	SSW	SSE	SE	SE	SE	SSE	SW	SSW	SW	SSW	SE	SE	SSE	SE	SE	E	ENE	SE			
Dec 31	0.8	1.4	1.5	3.1	1.6	1.6	3.8	3.9	4.2	3.2	2.7	3.3	4.8	3.5	4.5	5.2	6.5	5.6	6.1	6.4	7.9	10.6	12.2	9.4	0.8	12.2	2.4
	NE	NNE	NNW	WSW	NW	N	NNE	NE	ENE	E	ENE	E	SE	SE	SE	SE	SE	SE	SE	SSE	S	S	SW	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 (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.

RENO STATION

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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

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

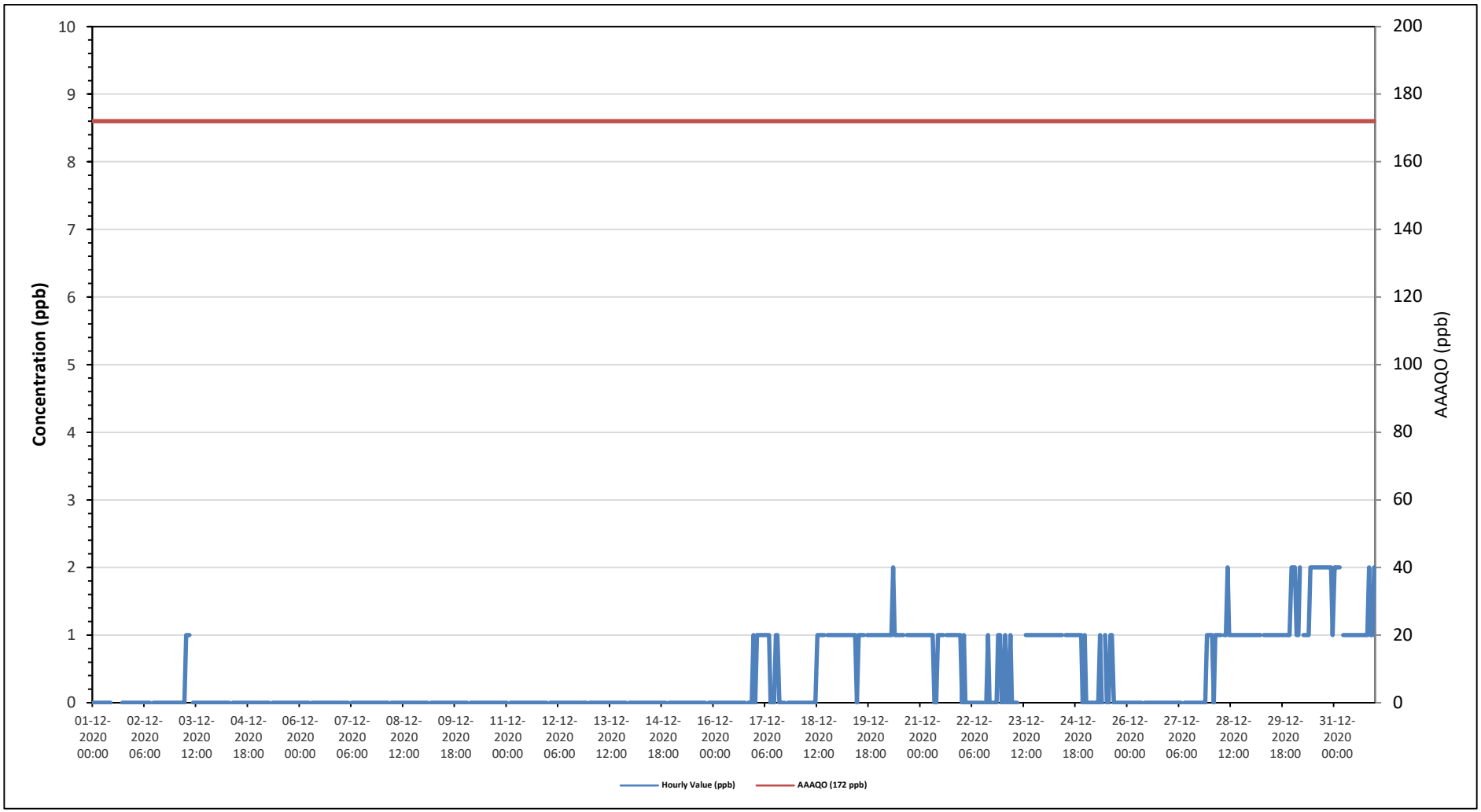
Maximum Hourly Value:	2	ppb	on December 20 at hour 8	Hours in Service:	744
Maximum Daily Value:	1.7	ppb	on December 30	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.0	ppb	on December 1	Hours of Calibration:	37
Monthly Average:	0.4	ppb		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	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	0	0.0
Dec 2	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 3	0	0	0	0	0	0	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 4	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 5	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 6	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 7	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 8	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 9	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 10	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 11	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 12	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 13	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 14	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 15	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 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	1	0.0
Dec 17	0	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	1	0.4
Dec 18	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S	1	1	1	1	1	1	0	1	0.5
Dec 19	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	S	1	1	1	1	1	1	1	0	1	1.0
Dec 20	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	1.0
Dec 21	1	1	1	1	1	1	1	1	0	0	1	1	1	1	S	1	1	1	1	1	1	1	1	1	0	1	0.9
Dec 22	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	1	1	0	0	1	0.2
Dec 23	0	1	0	0	1	0	0	0	0	NRM	NRM	1	S	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7
Dec 24	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1.0
Dec 25	0	0	0	0	0	0	0	0	1	0	S	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0.2
Dec 26	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 27	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1
Dec 28	1	1	0	1	1	1	1	S	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	2	1.0
Dec 29	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.0
Dec 30	2	2	1	1	2	S	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1.7
Dec 31	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	2	1.3
Diurnal Maximum	2	2	2	2	2	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
Diurnal Average	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5			

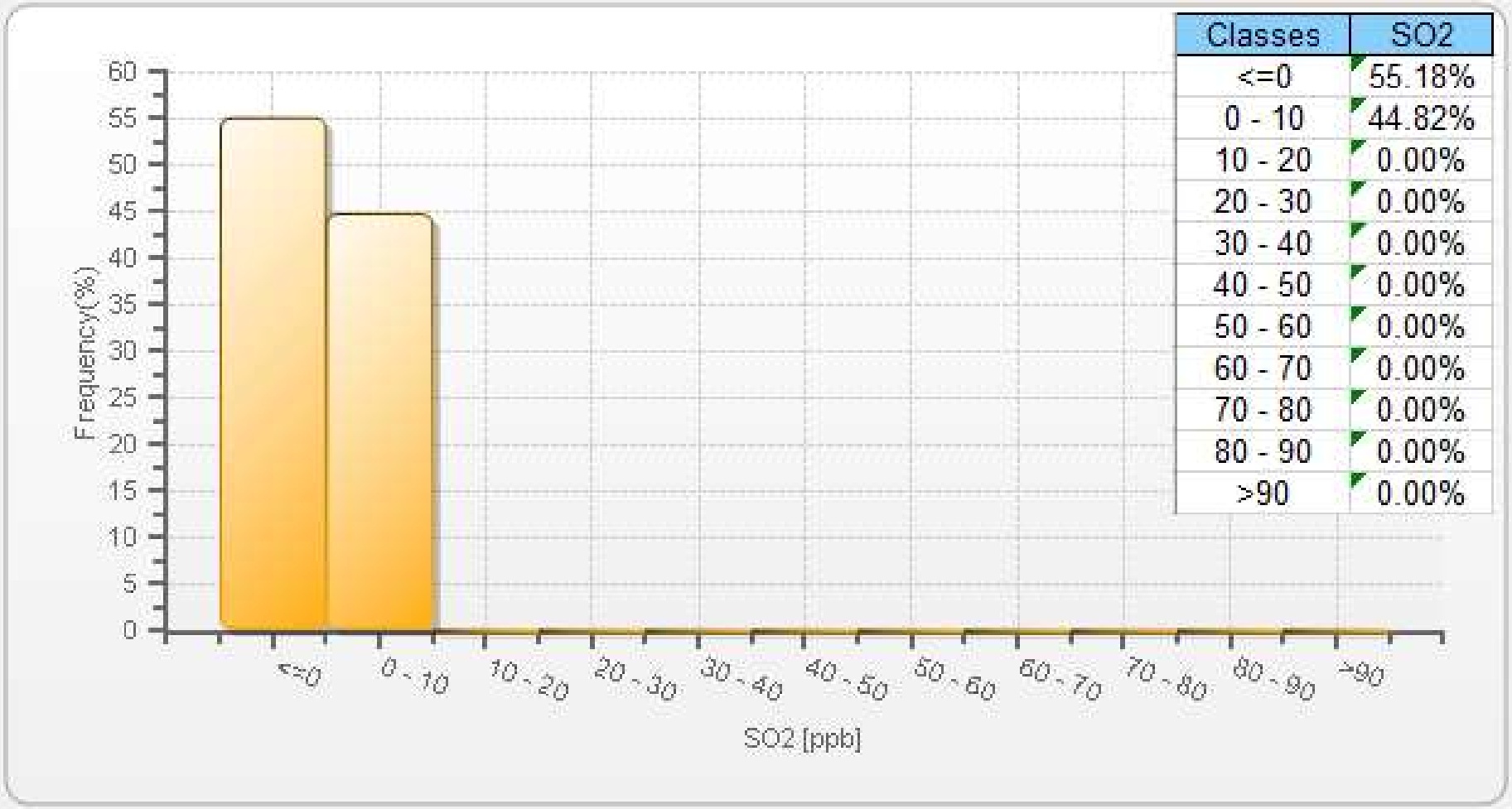
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 SO2 - Reno Station



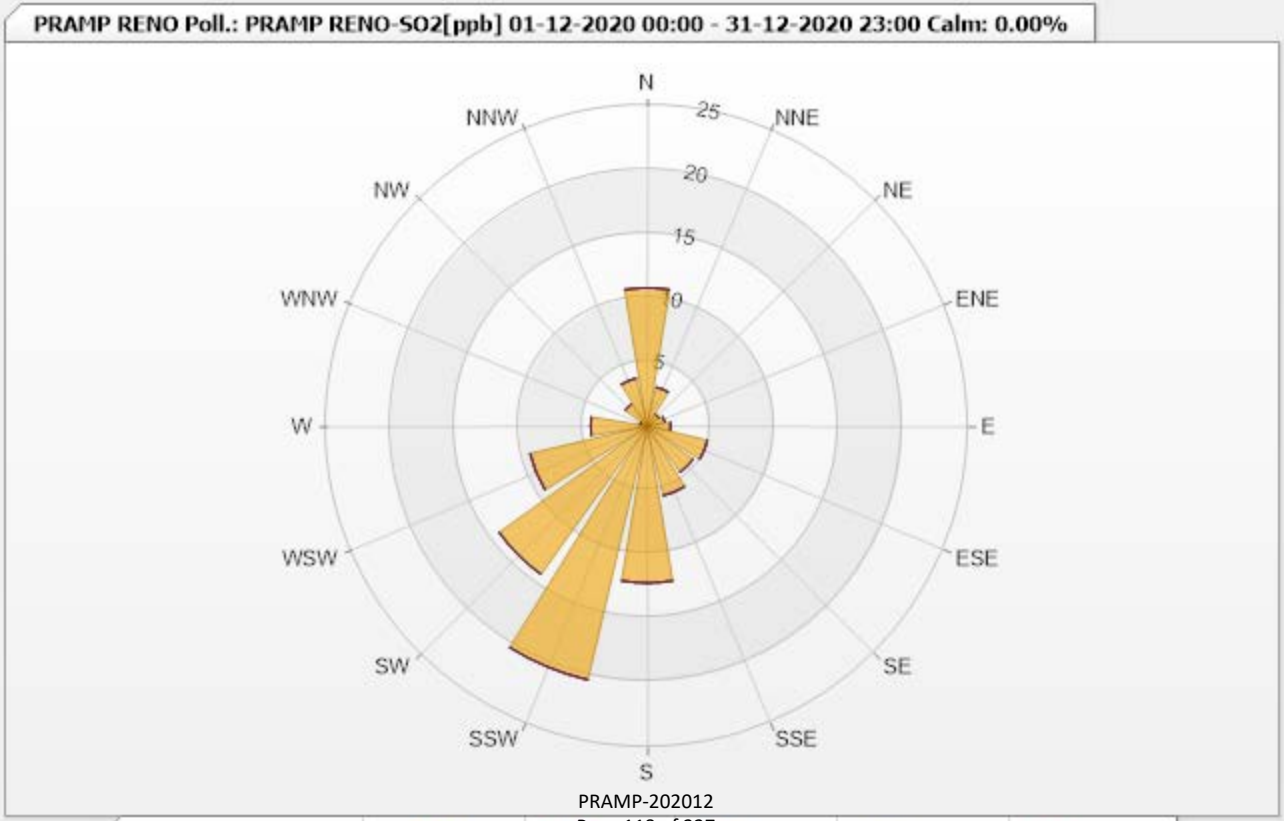
SO2[ppb] Histogram: PRAMP RENO Monthly: 12-2020 1 Hr.



Classes	SO2
<=0	55.18%
0 - 10	44.82%
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 Poll.: PRAMP RENO-SO2[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	10.78	0	0	0	0	10.78
NNE	3.12	0	0	0	0	3.12
NE	1.13	0	0	0	0	1.13
ENE	1.42	0	0	0	0	1.42
E	1.84	0	0	0	0	1.84
ESE	4.82	0	0	0	0	4.82
SE	4.4	0	0	0	0	4.4
SSE	5.53	0	0	0	0	5.53
S	12.2	0	0	0	0	12.2
SSW	20.28	0	0	0	0	20.28
SW	14.18	0	0	0	0	14.18
WSW	9.36	0	0	0	0	9.36
W	4.4	0	0	0	0	4.4
WNW	0.57	0	0	0	0	0.57
NW	2.13	0	0	0	0	2.13
NNW	3.83	0	0	0	0	3.83
Summary	100	0	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
25
20
15
0
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

Reno Station - December 2020

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

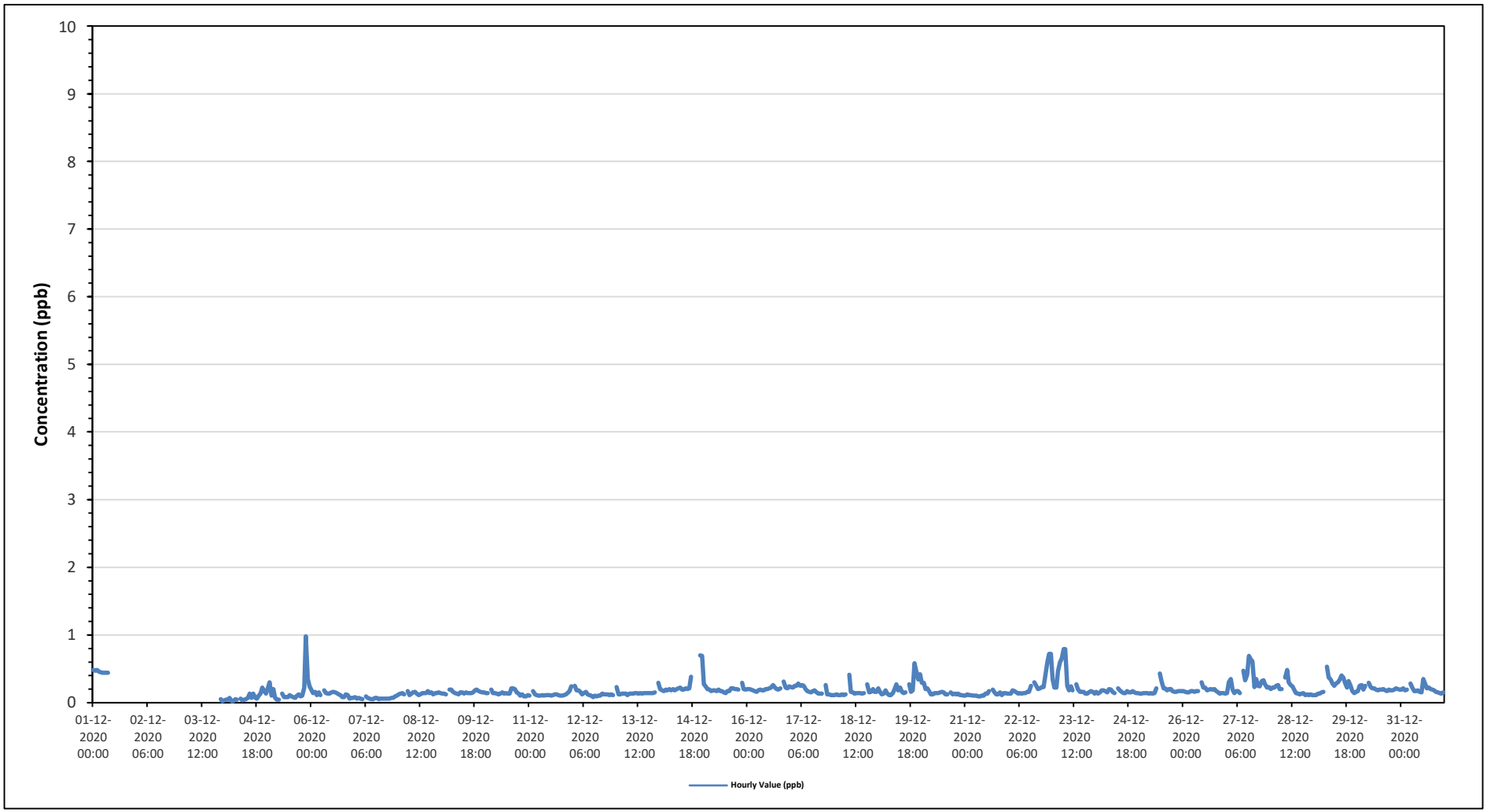
Maximum Hourly Value:	0.98	ppb	on December 5 at hour 21	Hours in Service:	744
Maximum Daily Value:	0.31	ppb	on December 27	Hours of Data:	651
Minimum Hourly Value:	0.02	ppb	on December 3 at hour 23	Hours of Missing Data:	51
Minimum Daily Value:	0.07	ppb	on December 7	Hours of Calibration:	42
Monthly Average:	0.18	ppb		Operational Uptime:	93.1

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	0.48	0.47	0.48	0.46	0.45	0.44	0.44	0.44	0.44	C	C	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	0.44	0.48	-
Dec 2	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	-	-	-
Dec 3	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	C	C	C	C	0.05	0.02	**0.02**	0.05	-
Dec 4	0.03	0.04	0.04	0.07	0.02	0.02	0.05	0.04	S	0.06	0.03	0.04	0.05	0.07	0.13	0.07	0.13	0.07	0.06	0.1	0.13	0.22	0.17	0.13	**0.02**	0.22	0.08
Dec 5	0.21	0.3	0.1	0.2	0.07	0.04	0.04	S	0.13	0.08	0.08	0.08	0.11	0.09	0.08	0.07	0.1	0.12	0.09	0.1	0.22	**0.98**	0.35	0.24	0.04	**0.98**	0.17
Dec 6	0.18	0.14	0.16	0.11	0.15	0.11	S	0.18	0.14	0.13	0.13	0.15	0.16	0.15	0.14	0.12	0.11	0.08	0.08	0.12	0.11	0.06	0.07	0.07	0.06	0.18	0.12
Dec 7	0.08	0.06	0.07	0.06	0.05	S	0.09	0.07	0.06	0.05	0.05	0.07	0.07	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.09	0.1	0.05	0.10	0.07
Dec 8	0.12	0.13	0.14	0.12	S	0.17	0.11	0.13	0.15	0.16	0.13	0.11	0.12	0.14	0.14	0.14	0.17	0.14	0.15	0.12	0.14	0.14	0.15	0.14	0.11	0.17	0.14
Dec 9	0.13	0.13	0.12	S	0.19	0.19	0.16	0.14	0.13	0.12	0.15	0.15	0.13	0.15	0.14	0.14	0.14	0.15	0.18	0.19	0.17	0.16	0.15	0.15	0.12	0.19	0.15
Dec 10	0.14	0.14	S	0.19	0.14	0.14	0.13	0.12	0.13	0.15	0.13	0.14	0.13	0.13	0.21	0.21	0.2	0.15	0.13	0.1	0.12	0.09	0.09	0.11	0.09	0.21	0.14
Dec 11	0.1	S	0.17	0.12	0.11	0.1	0.1	0.11	0.1	0.11	0.11	0.11	0.1	0.11	0.12	0.12	0.11	0.1	0.1	0.11	0.12	0.14	0.17	0.24	0.10	0.24	0.12
Dec 12	S	0.25	0.18	0.18	0.16	0.12	0.14	0.16	0.12	0.11	0.1	0.08	0.1	0.09	0.1	0.1	0.13	0.12	0.12	0.12	0.11	0.12	0.11	S	0.08	0.25	0.13
Dec 13	0.23	0.12	0.12	0.13	0.13	0.13	0.11	0.13	0.13	0.13	0.14	0.14	0.13	0.14	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.15	S	0.29	0.11	0.29	0.14
Dec 14	0.2	0.18	0.17	0.19	0.18	0.2	0.18	0.2	0.18	0.2	0.21	0.22	0.19	0.19	0.21	0.2	0.21	0.38	NRM	NRM	0.45	S	0.7	0.69	0.17	0.70	0.26
Dec 15	0.27	0.24	0.2	0.19	0.17	0.18	0.18	0.17	0.19	0.17	0.17	0.15	0.14	0.17	0.17	0.21	0.21	0.2	0.2	0.19	S	0.29	0.2	0.19	0.14	0.29	0.19
Dec 16	0.2	0.2	0.19	0.18	0.17	0.16	0.18	0.19	0.18	0.18	0.2	0.2	0.21	0.22	0.26	0.23	0.2	0.19	0.21	S	0.31	0.22	0.21	0.24	0.16	0.31	0.21
Dec 17	0.23	0.22	0.25	0.25	0.28	0.25	0.26	0.25	0.2	0.17	0.16	0.15	0.17	0.18	0.15	0.13	0.13	0.13	S	0.26	0.12	0.12	0.11	0.11	0.11	0.28	0.19
Dec 18	0.11	0.12	0.11	0.11	0.12	0.11	0.12	NRM	0.41	0.16	0.15	0.13	0.14	0.14	0.14	0.13	0.14	S	0.27	0.15	0.16	0.2	0.16	0.16	0.11	0.41	0.16
Dec 19	0.21	0.15	0.12	0.13	0.18	0.13	0.11	0.11	0.14	0.2	0.27	0.18	0.22	0.16	0.14	0.15	S	0.27	0.16	0.18	0.58	0.45	0.34	0.42	0.11	0.58	0.22
Dec 20	0.29	0.29	0.2	0.21	0.17	0.12	0.12	0.14	0.14	0.14	0.15	0.16	0.15	0.12	0.12	S	0.15	0.12	0.13	0.12	0.13	0.11	0.11	0.1	0.10	0.29	0.15
Dec 21	0.1	0.12	0.11	0.11	0.1	0.1	0.1	0.09	0.09	0.1	0.1	0.13	0.13	0.17	S	0.19	0.15	0.12	0.12	0.15	0.11	0.14	0.14	0.13	0.09	0.19	0.12
Dec 22	0.13	0.13	0.18	0.17	0.15	0.13	0.14	0.13	0.14	0.14	0.16	0.16	0.25	S	0.3	0.25	0.2	0.21	0.23	0.23	0.4	0.6	0.72	0.72	0.13	0.72	0.26
Dec 23	0.34	0.22	0.22	0.46	0.59	0.65	0.79	0.79	0.25	0.18	0.24	0.18	S	0.27	0.19	0.16	0.16	0.16	0.13	0.13	0.15	0.17	0.16	0.13	0.13	0.79	0.29
Dec 24	0.16	0.13	0.15	0.18	0.18	0.17	0.15	0.2	0.19	0.16	0.14	S	0.21	0.18	0.16	0.14	0.14	0.17	0.15	0.15	0.17	0.15	0.14	0.14	0.13	0.21	0.16
Dec 25	0.13	0.13	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.21	S	0.43	0.31	0.21	0.21	0.18	0.2	0.2	0.17	0.16	0.16	0.17	0.17	0.17	0.13	0.43	0.18
Dec 26	0.17	0.16	0.15	0.15	0.17	0.17	0.16	0.17	0.17	S	0.3	0.22	0.22	0.18	0.19	0.2	0.19	0.2	0.17	0.15	0.13	0.14	0.14	0.13	0.13	0.30	0.18
Dec 27	0.14	0.3	0.35	0.19	0.14	0.17	0.17	0.14	S	0.47	0.33	0.41	0.69	0.64	0.61	0.23	0.35	0.25	0.24	0.32	0.33	0.27	0.22	0.23	0.14	0.69	**0.31**
Dec 28	0.2	0.22	0.22	0.25	0.26	0.2	0.2	S	0.37	0.48	0.3	0.26	0.24	0.18	0.14	0.13	0.12	0.13	0.14	0.11	0.12	0.11	0.12	0.11	0.11	0.48	0.20
Dec 29	0.11	0.11	0.13	0.13	0.15	0.16	S	0.53	0.37	0.34	0.28	0.25	0.28	0.3	0.34	0.4	0.37	0.28	0.22	0.32	0.25	0.17	0.14	0.16	0.11	0.53	0.25
Dec 30	0.17	0.25	0.26	0.19	0.25	S	0.29	0.23	0.21	0.21	0.19	0.18	0.19	0.19	0.2	0.18	0.17	0.19	0.18	0.18	0.19	0.21	0.2	0.19	0.17	0.29	0.20
Dec 31	0.19	0.21	0.18	0.19	S	0.28	0.22	0.17	0.17	0.18	0.16	0.15	0.35	0.27	0.21	0.22	0.2	0.19	0.18	0.16	0.15	0.14	0.13	0.15	0.13	0.35	0.19
Diurnal Maximum	0.48	0.47	0.48	0.46	0.59	0.65	0.79	0.79	0.44	0.48	0.33	0.43	0.69	0.64	0.61	0.40	0.37	0.38	0.27	0.32	0.58	0.98	0.72	0.72			
Diurnal Average	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.20	0.19	0.18	0.17	0.17	0.19	0.18	0.18	0.17	0.17	0.17	0.15	0.16	0.19	0.21	0.20	0.20			

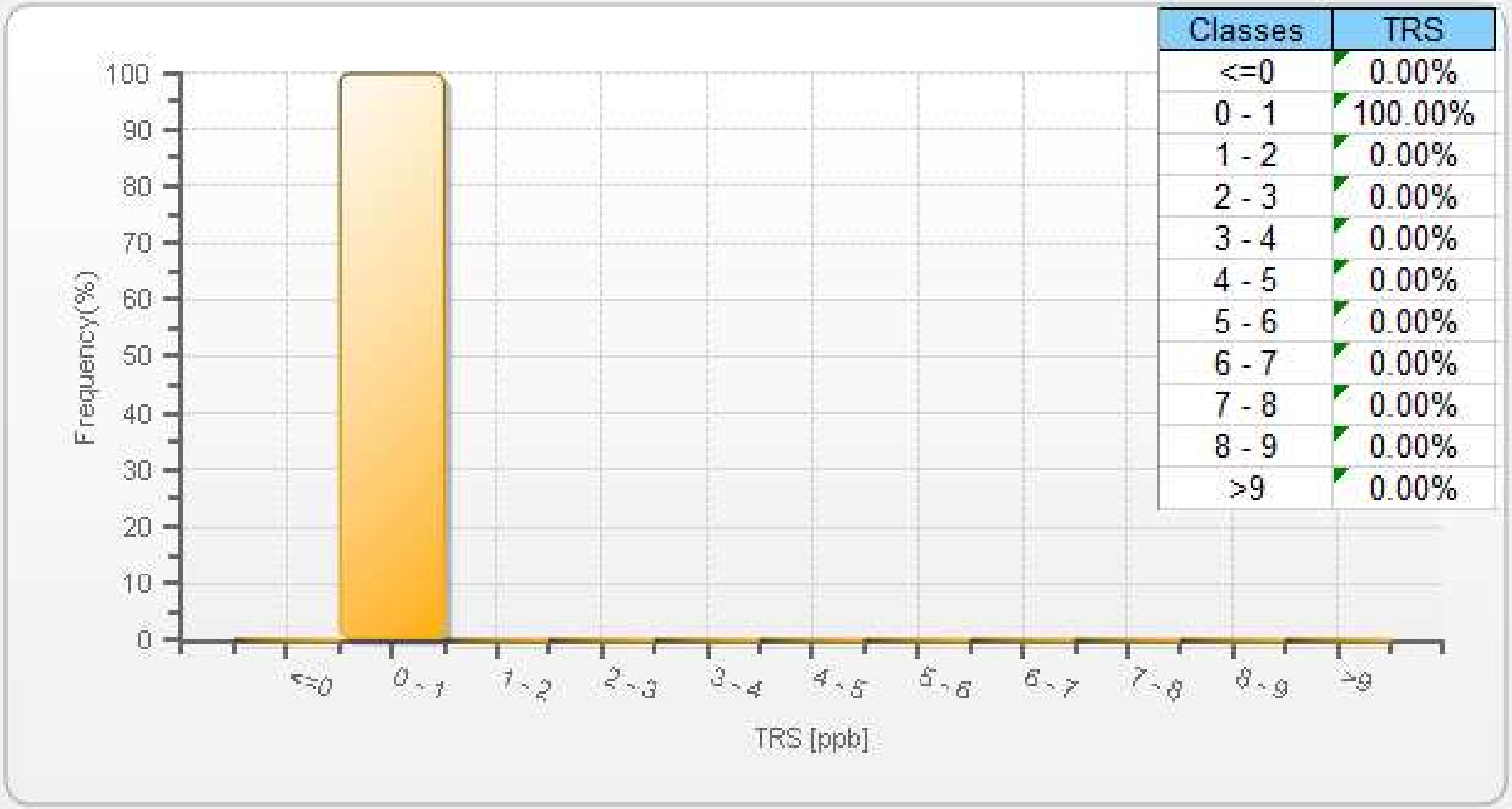
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 TRS - Reno Station



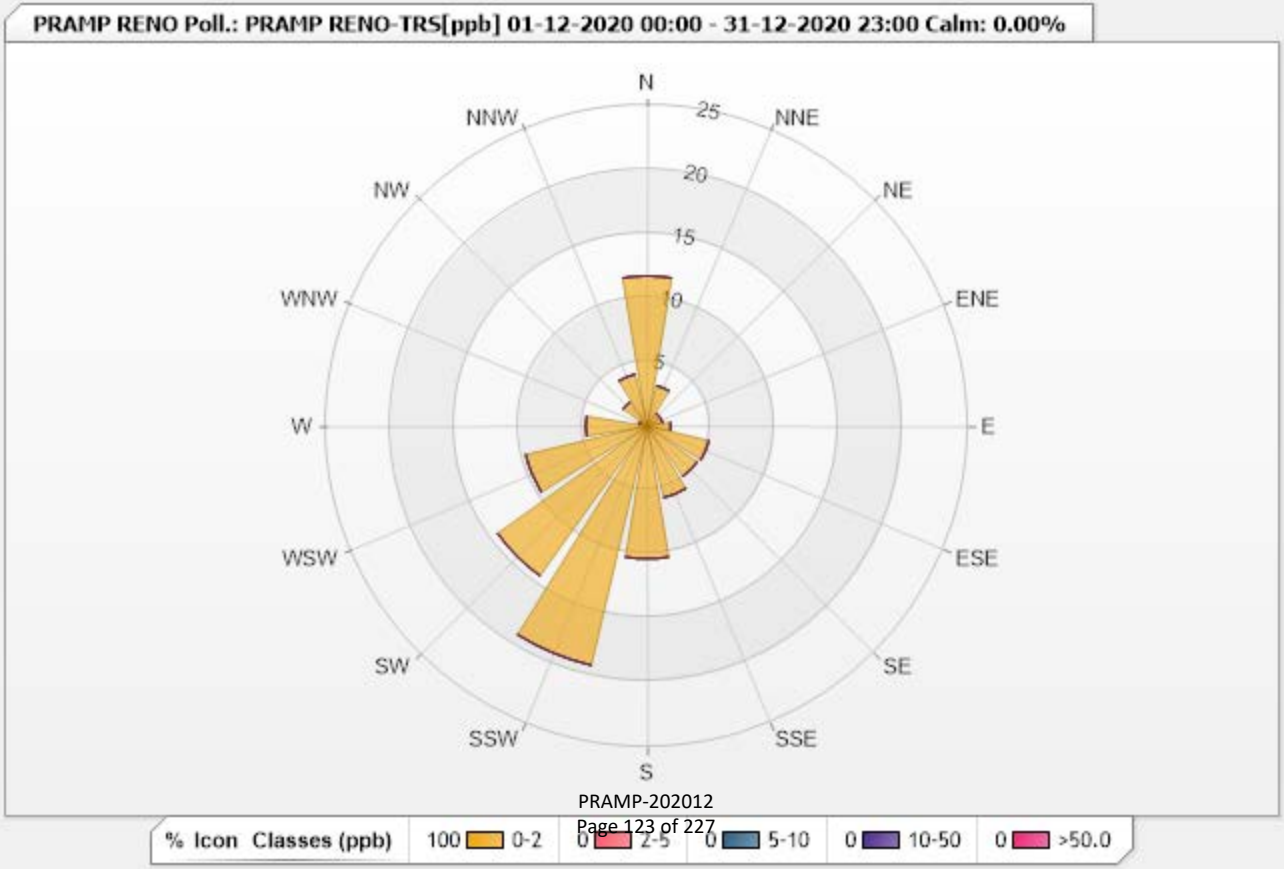
TRS[ppb] Histogram: PRAMP RENO Monthly: 12-2020 1 Hr.



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 Poll.: PRAMP RENO-TRS[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 87.23% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	11.71	0	0	0	0	11.71
NNE	3.24	0	0	0	0	3.24
NE	1.23	0	0	0	0	1.23
ENE	1.23	0	0	0	0	1.23
E	1.85	0	0	0	0	1.85
ESE	4.93	0	0	0	0	4.93
SE	4.78	0	0	0	0	4.78
SSE	5.7	0	0	0	0	5.7
S	10.32	0	0	0	0	10.32
SSW	19.11	0	0	0	0	19.11
SW	14.33	0	0	0	0	14.33
WSW	9.71	0	0	0	0	9.71
W	4.78	0	0	0	0	4.78
WNW	0.62	0	0	0	0	0.62
NW	2.31	0	0	0	0	2.31
NNW	4.16	0	0	0	0	4.16
Summary	100	0	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] 01-12-2020 00:00 - 31-12-2020 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

Reno Station - December 2020

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

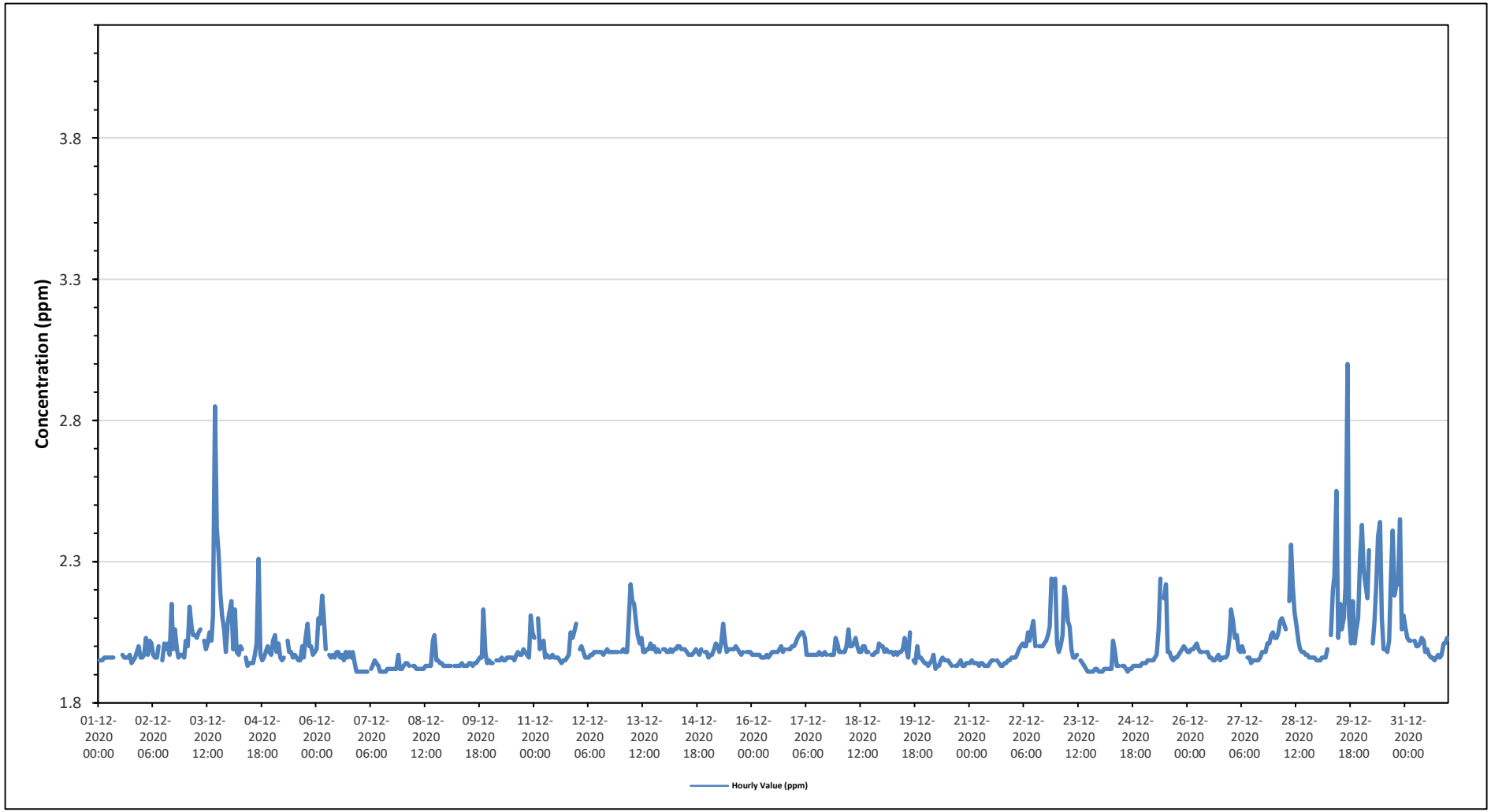
Maximum Hourly Value:	3.00	ppm	on December 29 at hour 16	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on December 30	Hours of Data:	709
Minimum Hourly Value:	1.91	ppm	on December 6 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	1.92	ppm	on December 7	Hours of Calibration:	35
Monthly Average:	2.00	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	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	C	C	C	C	1.97	1.96	1.96	1.96	1.97	1.94	1.95	1.96	1.98	2.00	1.96	1.94	2.00	1.96
Dec 2	1.96	1.97	2.03	1.97	2.02	2.01	1.97	1.96	1.96	2.00	S	1.95	2.01	1.99	2.01	1.97	2.15	1.99	2.06	1.99	1.96	1.97	1.97	1.96	1.95	2.15	1.99
Dec 3	2.02	2.00	2.14	2.07	2.04	2.04	2.03	2.05	2.06	S	2.02	1.99	2.01	2.05	2.02	2.11	2.85	2.42	2.33	2.19	2.11	2.06	1.98	2.08	1.98	2.85	2.12
Dec 4	2.12	2.16	1.99	2.13	1.98	1.97	2.00	1.99	S	1.96	1.93	1.94	1.94	1.94	1.97	2.01	2.31	1.97	1.95	1.96	1.98	2.00	1.98	1.97	1.93	2.31	2.01
Dec 5	2.02	2.04	1.98	2.01	1.96	1.95	1.96	S	2.02	1.98	1.98	1.96	1.97	1.96	1.95	1.95	2.00	1.96	2.03	2.08	2.00	2.00	1.97	1.98	1.95	2.08	1.99
Dec 6	1.99	2.10	2.08	2.18	2.11	1.99	S	1.97	1.96	1.97	1.96	1.98	1.98	1.96	1.97	1.95	1.98	1.96	1.98	1.96	1.98	1.94	1.91	1.91	**1.91**	2.18	1.99
Dec 7	1.91	1.91	1.91	1.91	1.91	S	1.92	1.93	1.95	1.94	1.93	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.97	1.92	1.92	**1.91**	1.97	1.92
Dec 8	1.93	1.94	1.94	1.93	S	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	2.02	2.04	1.95	1.95	1.94	1.94	1.93	1.93	1.92	2.04	1.94
Dec 9	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.94	1.94	1.93	1.94	1.94	1.95	1.96	1.96	2.13	1.98	1.94	1.95	1.93	2.13	1.95
Dec 10	1.94	1.94	S	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.97	1.98	1.97	1.97	1.99	1.98	1.97	1.96	2.11	2.05	1.94	2.11	1.97
Dec 11	2.03	S	2.10	1.99	2.01	2.02	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.95	1.94	1.95	1.95	1.96	1.97	2.05	2.03	2.05	2.08	1.94	2.10	1.99
Dec 12	S	1.99	2.00	1.98	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	S	1.96	2.00	1.98
Dec 13	1.98	1.99	1.98	1.98	2.08	2.22	2.16	2.15	2.09	2.04	2.01	2.03	1.98	1.98	1.99	1.99	2.01	1.99	2.00	1.98	1.99	1.98	S	1.99	1.98	2.22	2.03
Dec 14	1.99	1.98	1.98	1.99	1.98	1.99	1.99	2.00	2.00	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.98	1.99	1.98	1.97	1.99	S	1.98	1.98	1.97	2.00	1.98
Dec 15	1.96	1.97	1.97	1.99	2.01	2.00	1.98	2.01	2.08	2.02	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.98	1.97	1.98	S	1.98	1.98	1.98	1.96	2.08	1.99
Dec 16	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.98	1.98	1.98	1.99	2.00	1.98	1.99	S	1.99	1.99	2.00	2.00	1.96	2.00	1.98
Dec 17	2.01	2.03	2.04	2.05	2.05	2.03	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.98	1.97	S	1.97	1.97	1.97	2.03	2.01	1.97	2.05	1.99
Dec 18	1.98	1.98	1.98	1.98	2.00	2.06	2.00	2.00	2.01	2.03	2.00	1.98	1.98	2.00	2.00	1.98	1.98	S	1.97	1.97	1.98	1.98	2.01	2.00	1.97	2.06	1.99
Dec 19	2.00	1.98	1.99	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.98	1.99	2.03	1.99	1.96	2.05	S	1.95	1.94	2.00	1.96	1.96	1.95	1.94	1.94	2.05	1.98
Dec 20	1.94	1.93	1.94	1.95	1.97	1.92	1.93	1.93	1.95	1.96	1.95	1.95	1.95	1.94	1.93	S	1.93	1.93	1.94	1.95	1.93	1.93	1.94	1.94	1.92	1.97	1.94
Dec 21	1.94	1.95	1.94	1.94	1.94	1.93	1.94	1.94	1.93	1.93	1.93	1.94	1.95	1.95	S	1.95	1.94	1.93	1.93	1.94	1.94	1.95	1.95	1.96	1.93	1.96	1.94
Dec 22	1.96	1.96	1.97	1.99	2.00	2.01	2.00	2.00	2.05	2.02	2.06	2.09	2.00	S	2.00	2.00	2.00	2.01	2.02	2.04	2.07	2.24	2.23	2.24	1.96	2.24	2.04
Dec 23	2.01	1.98	2.00	2.04	2.21	2.17	2.09	2.07	1.99	1.96	1.96	1.97	S	1.95	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.91	**1.91**	2.21	1.98
Dec 24	1.91	1.91	1.92	1.92	1.92	1.92	1.92	2.02	1.98	1.93	1.93	S	1.93	1.93	1.92	1.91	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	**1.91**	2.02	1.93
Dec 25	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.97	2.06	2.24	S	2.17	2.22	1.98	1.98	1.96	1.95	1.96	1.96	1.97	1.98	1.99	2.00	1.99	1.94	2.24	2.00
Dec 26	1.98	1.98	1.99	1.99	2.00	2.01	1.99	1.98	1.98	S	1.98	1.98	1.96	1.96	1.95	1.95	1.96	1.97	1.95	1.96	1.96	1.96	1.97	2.03	1.95	2.03	1.98
Dec 27	2.13	2.09	2.03	2.04	1.99	1.98	2.00	1.98	S	1.96	1.96	1.94	1.95	1.95	1.95	1.95	1.96	1.98	1.98	1.98	2.01	2.01	2.04	2.05	1.94	2.13	2.00
Dec 28	2.03	2.03	2.05	2.09	2.10	2.08	2.06	S	2.16	2.36	2.21	2.12	2.07	2.02	1.99	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.95	1.95	2.36	2.05
Dec 29	1.95	1.95	1.96	1.96	1.96	1.99	S	2.04	2.20	2.25	2.55	2.03	2.15	2.06	2.10	2.21	**3.00**	2.11	2.01	2.16	2.01	2.06	2.10	2.32	1.95	**3.00**	2.14
Dec 30	2.43	2.27	2.22	2.17	2.34	S	2.01	2.09	2.22	2.39	2.44	2.10	1.99	1.99	1.98	2.02	2.24	2.41	2.18	2.22	2.22	2.45	2.06	2.11	1.98	2.45	**2.20**
Dec 31	2.07	2.03	2.02	2.02	S	2.02	2.00	2.00	2.01	2.03	2.02	1.98	1.99	1.97	1.96	1.96	1.95	1.96	1.97	1.96	1.97	2.01	2.01	2.03	1.95	2.07	2.00
Diurnal Maximum	2.43	2.27	2.22	2.18	2.34	2.22	2.16	2.15	2.22	2.39	2.55	2.17	2.22	2.06	2.10	2.21	3.00	2.42	2.33	2.22	2.22	2.45	2.23	2.32			
Diurnal Average	2.00	2.00	2.00	2.00	2.01	2.00	1.98	1.99	2.01	2.02	2.02	1.99	1.99	1.97	1.97	1.98	2.06	2.00	1.99	1.99	1.99	2.00	1.99	2.01			

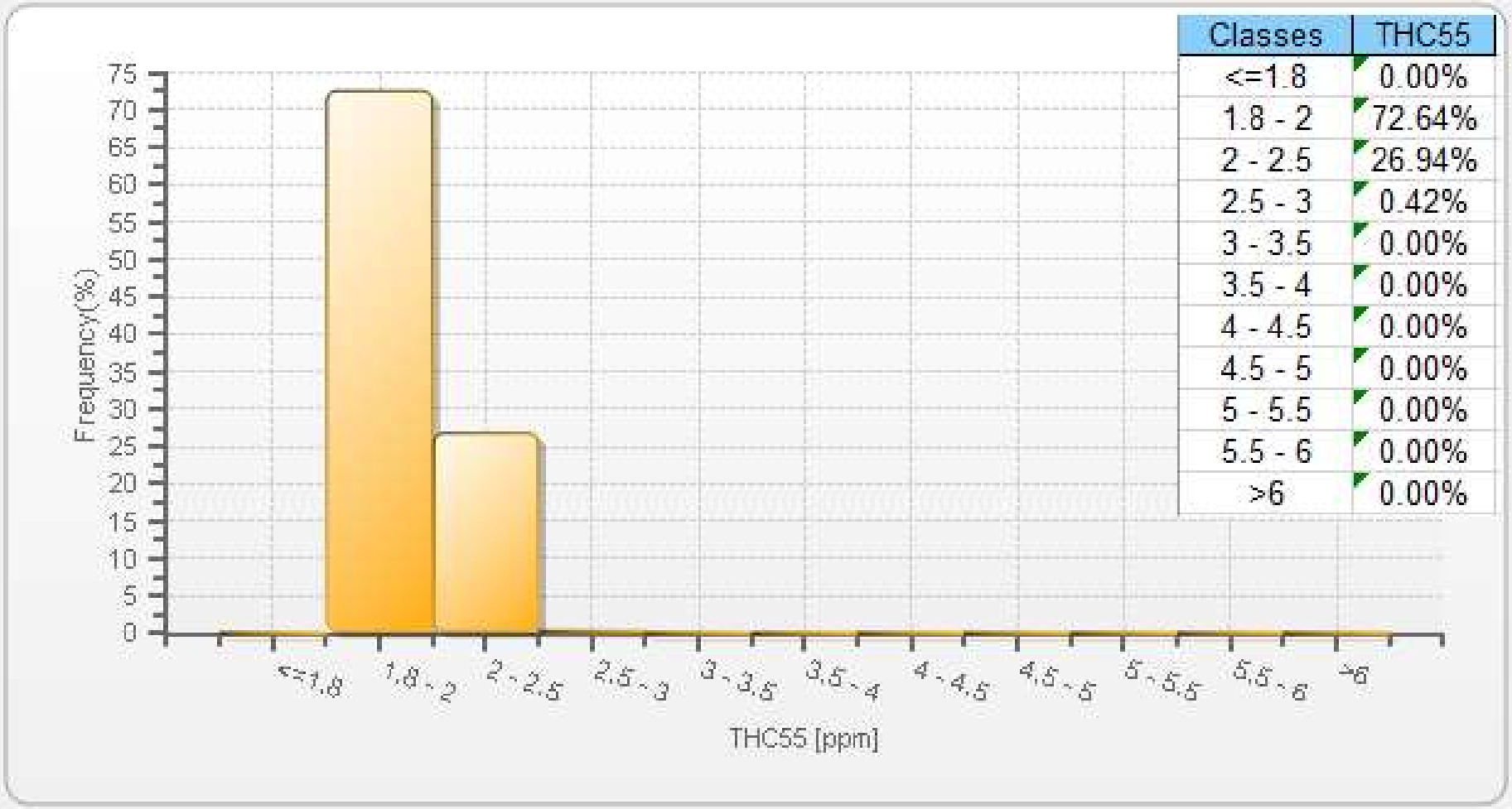
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 Station

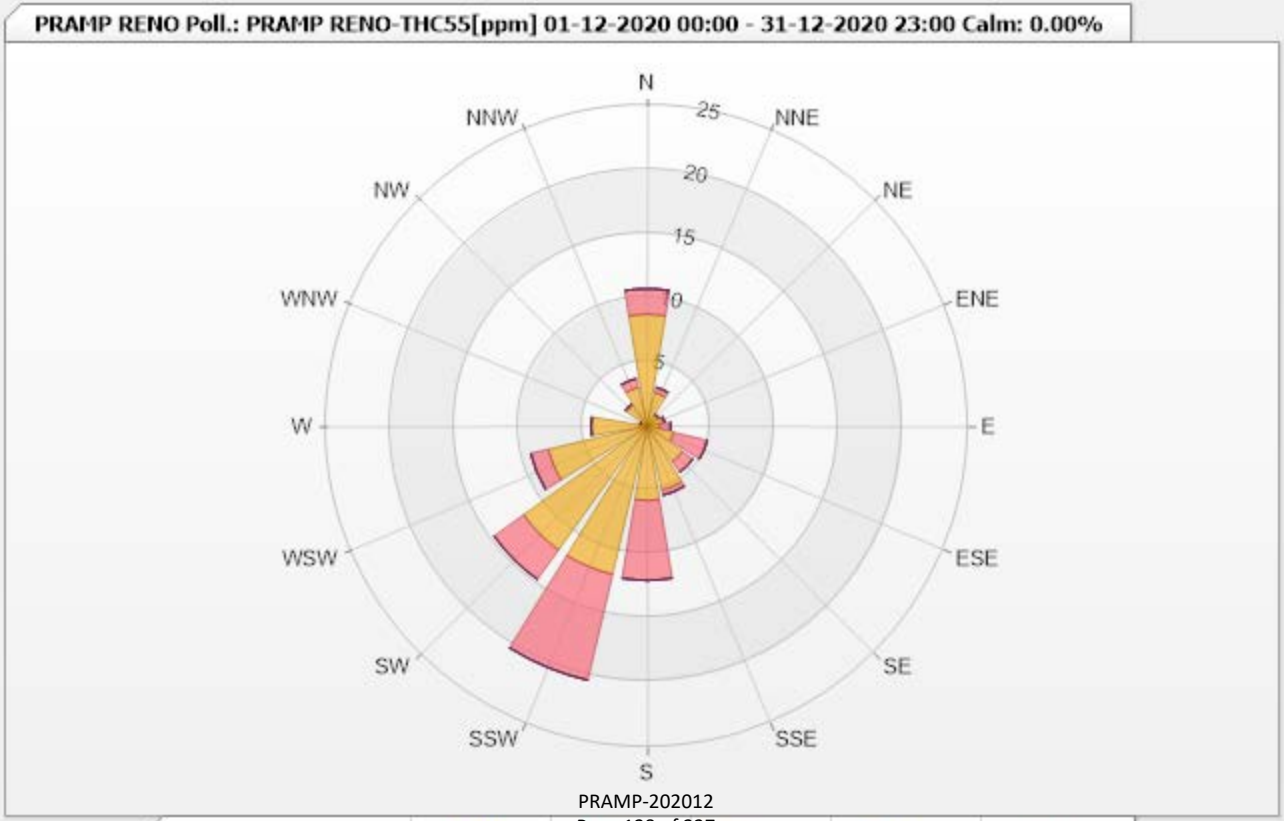


THC55[ppm] Histogram: PRAMP RENO Monthly: 12-2020 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	8.74	1.97	0	0	0	10.71
NNE	2.68	0.42	0	0	0	3.1
NE	0.99	0.14	0	0	0	1.13
ENE	1.27	0.14	0	0	0	1.41
E	0.99	0.85	0	0	0	1.84
ESE	2.12	2.68	0	0	0	4.8
SE	3.39	0.99	0	0	0	4.38
SSE	5.08	0.42	0	0	0	5.5
S	5.78	6.21	0	0	0	11.99
SSW	11.85	8.46	0	0	0	20.31
SW	11.85	2.82	0	0	0	14.67
WSW	7.9	1.41	0	0	0	9.31
W	4.37	0	0	0	0	4.37
WNW	0.56	0	0	0	0	0.56
NW	1.97	0.14	0	0	0	2.11
NNW	3.1	0.71	0	0	0	3.81
Summary	72.64	27.36	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] 01-12-2020 00:00 - 31-12-2020 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)
73 0-2
27 2-5
0 5-10
0 10-40
0 >40.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

METHANE (CH4) in ppm

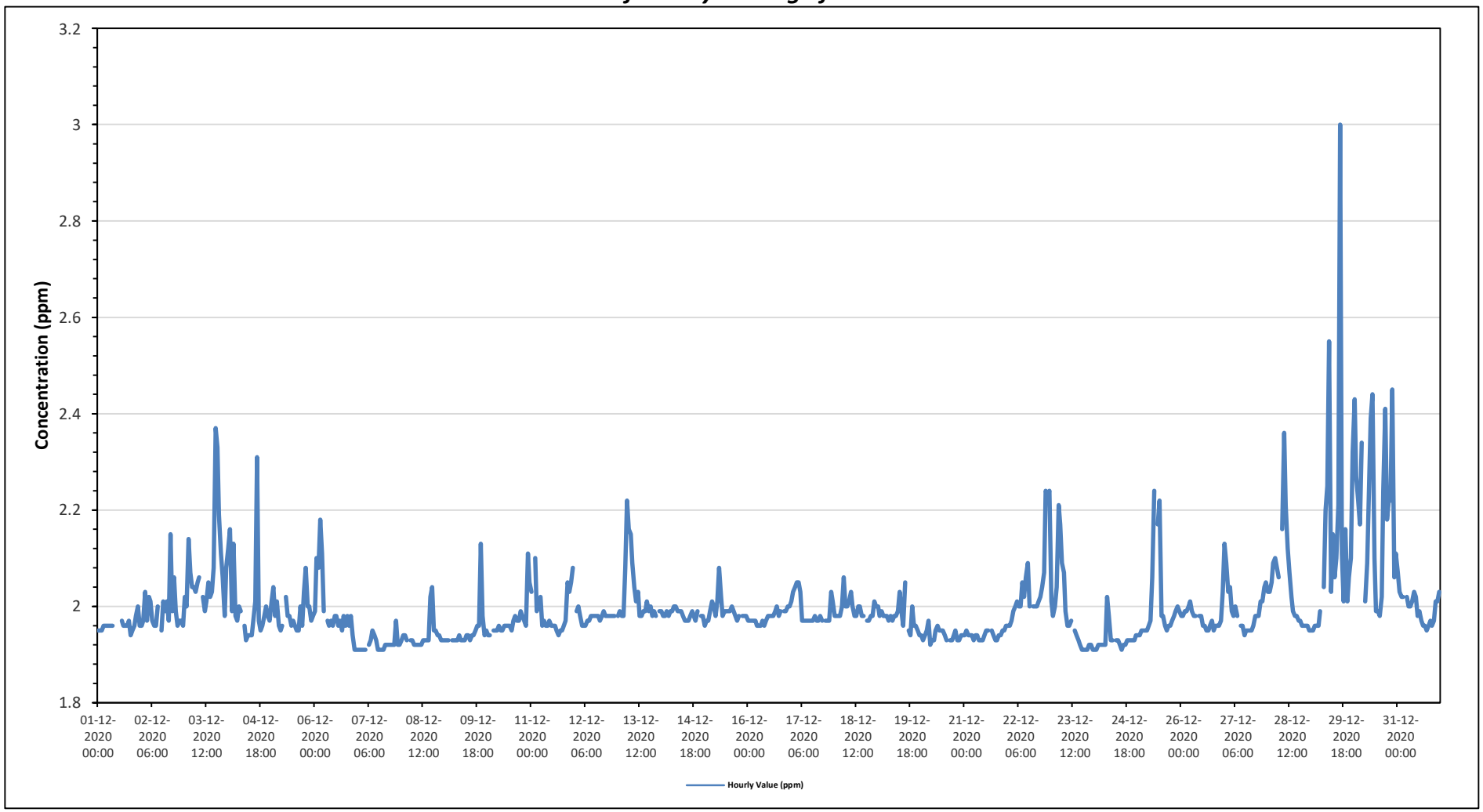
Maximum Hourly Value:	3.00	ppm	on December 29 at hour 16	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on December 30	Hours of Data:	709
Minimum Hourly Value:	1.91	ppm	on December 6 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	1.92	ppm	on December 7	Hours of Calibration:	35
Monthly Average:	2.00	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	C	C	C	C	1.97	1.96	1.96	1.96	1.97	1.94	1.95	1.96	1.98	2.00	1.96	1.94	2.00	1.96
Dec 2	1.96	1.97	2.03	1.97	2.02	2.01	1.97	1.96	1.96	2.00	S	1.95	2.01	1.99	2.01	1.97	2.15	1.99	2.06	1.99	1.96	1.97	1.97	1.96	1.95	2.15	1.99
Dec 3	2.02	2.00	2.14	2.07	2.04	2.04	2.03	2.05	2.06	S	2.02	1.99	2.01	2.05	2.02	2.03	2.08	2.37	2.33	2.19	2.11	2.06	1.98	2.08	1.98	2.37	2.08
Dec 4	2.12	2.16	1.99	2.13	1.98	1.97	2.00	1.99	S	1.96	1.93	1.94	1.94	1.94	1.97	2.01	2.31	1.97	1.95	1.96	1.98	2.00	1.98	1.97	1.93	2.31	2.01
Dec 5	2.01	2.04	1.98	2.01	1.96	1.95	1.96	S	2.02	1.98	1.98	1.96	1.97	1.96	1.95	1.95	2.00	1.96	2.03	2.08	2.00	2.00	1.97	1.98	1.95	2.08	1.99
Dec 6	1.99	2.10	2.08	2.18	2.11	1.99	S	1.97	1.96	1.97	1.96	1.98	1.98	1.96	1.97	1.95	1.98	1.96	1.98	1.96	1.98	1.94	1.91	1.91	**1.91**	2.18	1.99
Dec 7	1.91	1.91	1.91	1.91	1.91	S	1.92	1.93	1.95	1.94	1.93	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.97	1.92	1.92	**1.91**	1.97	1.92
Dec 8	1.93	1.94	1.94	1.93	S	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	2.02	2.04	1.95	1.95	1.94	1.94	1.93	1.93	1.92	2.04	1.94
Dec 9	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.94	1.94	1.93	1.94	1.94	1.95	1.96	1.96	2.13	1.98	1.94	1.95	1.93	2.13	1.95
Dec 10	1.94	1.94	S	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.97	1.98	1.97	1.97	1.99	1.98	1.97	1.96	2.11	2.05	1.94	2.11	1.97
Dec 11	2.03	S	2.10	1.99	2.01	2.02	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.95	1.94	1.95	1.95	1.96	1.97	2.05	2.03	2.05	2.08	1.94	2.10	1.99
Dec 12	S	1.99	2.00	1.98	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	S	1.96	2.00	1.98
Dec 13	1.98	1.99	1.98	1.98	2.08	2.22	2.16	2.15	2.09	2.04	2.01	2.03	1.98	1.98	1.99	1.99	2.01	1.99	2.00	1.98	1.99	1.98	S	1.99	1.98	2.22	2.03
Dec 14	1.99	1.98	1.98	1.99	1.98	1.99	1.99	2.00	2.00	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.98	1.99	1.98	1.97	1.99	S	1.98	1.98	1.97	2.00	1.98
Dec 15	1.96	1.97	1.97	1.99	2.01	2.00	1.98	2.01	2.08	2.02	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.98	1.97	1.98	S	1.98	1.98	1.98	1.96	2.08	1.99
Dec 16	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.98	1.98	1.98	1.99	2.00	1.98	1.99	S	1.99	1.99	2.00	2.00	1.96	2.00	1.98
Dec 17	2.01	2.03	2.04	2.05	2.05	2.03	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.98	1.97	S	1.97	1.97	1.97	2.03	2.01	1.97	2.05	1.99
Dec 18	1.98	1.98	1.98	1.98	2.00	2.06	2.00	2.00	2.01	2.03	2.00	1.98	1.98	2.00	2.00	1.98	1.98	S	1.97	1.97	1.98	1.98	2.01	2.00	1.97	2.06	1.99
Dec 19	2.00	1.98	1.99	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.98	1.99	2.03	1.99	1.96	2.05	S	1.95	1.94	2.00	1.96	1.96	1.95	1.94	1.94	2.05	1.98
Dec 20	1.94	1.93	1.94	1.95	1.97	1.92	1.93	1.93	1.95	1.96	1.95	1.95	1.95	1.94	1.93	S	1.93	1.93	1.94	1.95	1.93	1.93	1.94	1.94	1.92	1.97	1.94
Dec 21	1.94	1.95	1.94	1.94	1.94	1.93	1.94	1.94	1.93	1.93	1.93	1.94	1.95	1.95	S	1.95	1.94	1.93	1.93	1.94	1.94	1.95	1.95	1.96	1.93	1.96	1.94
Dec 22	1.96	1.96	1.97	1.99	2.00	2.01	2.00	2.00	2.05	2.02	2.06	2.09	2.00	S	2.00	2.00	2.00	2.01	2.02	2.04	2.07	2.24	2.23	2.24	1.96	2.24	2.04
Dec 23	2.01	1.98	2.00	2.04	2.21	2.17	2.09	2.07	1.99	1.96	1.96	1.97	S	1.95	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.91	**1.91**	2.21	1.98
Dec 24	1.91	1.91	1.92	1.92	1.92	1.92	1.92	2.02	1.98	1.93	1.93	S	1.93	1.93	1.92	1.91	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	**1.91**	2.02	1.93
Dec 25	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.97	2.06	2.24	S	2.17	2.22	1.98	1.98	1.96	1.95	1.96	1.96	1.97	1.98	1.99	2.00	1.99	1.94	2.24	2.00
Dec 26	1.98	1.98	1.99	1.99	2.00	2.01	1.99	1.98	1.98	S	1.98	1.98	1.96	1.96	1.95	1.95	1.96	1.97	1.95	1.96	1.96	1.96	1.97	2.03	1.95	2.03	1.98
Dec 27	2.13	2.09	2.03	2.04	1.99	1.98	2.00	1.98	S	1.96	1.96	1.94	1.95	1.95	1.95	1.95	1.96	1.98	1.98	1.98	2.01	2.01	2.04	2.05	1.94	2.13	2.00
Dec 28	2.03	2.03	2.05	2.09	2.10	2.08	2.06	S	2.16	2.36	2.21	2.12	2.07	2.02	1.99	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.95	1.95	2.36	2.05
Dec 29	1.95	1.95	1.96	1.96	1.96	1.99	S	2.04	2.20	2.25	2.55	2.03	2.15	2.06	2.10	2.21	**3.00**	2.11	2.01	2.16	2.01	2.06	2.10	2.32	1.95	**3.00**	2.14
Dec 30	2.43	2.27	2.22	2.17	2.34	S	2.01	2.09	2.22	2.39	2.44	2.10	1.99	1.99	1.98	2.02	2.24	2.41	2.18	2.22	2.22	2.45	2.06	2.11	1.98	2.45	**2.20**
Dec 31	2.07	2.03	2.02	2.02	S	2.02	2.00	2.00	2.01	2.03	2.02	1.98	1.99	1.97	1.96	1.96	1.95	1.96	1.97	1.96	1.97	2.01	2.01	2.03	1.95	2.07	2.00
Diurnal Maximum	2.43	2.27	2.22	2.18	2.34	2.22	2.16	2.15	2.22	2.39	2.55	2.17	2.22	2.06	2.10	2.21	3.00	2.41	2.33	2.22	2.22	2.45	2.23	2.32			
Diurnal Average	2.00	2.00	2.00	2.00	2.01	2.00	1.98	1.99	2.01	2.02	2.02	1.99	1.99	1.97	1.97	1.98	2.03	2.00	1.99	1.99	1.99	2.00	1.99	2.01			

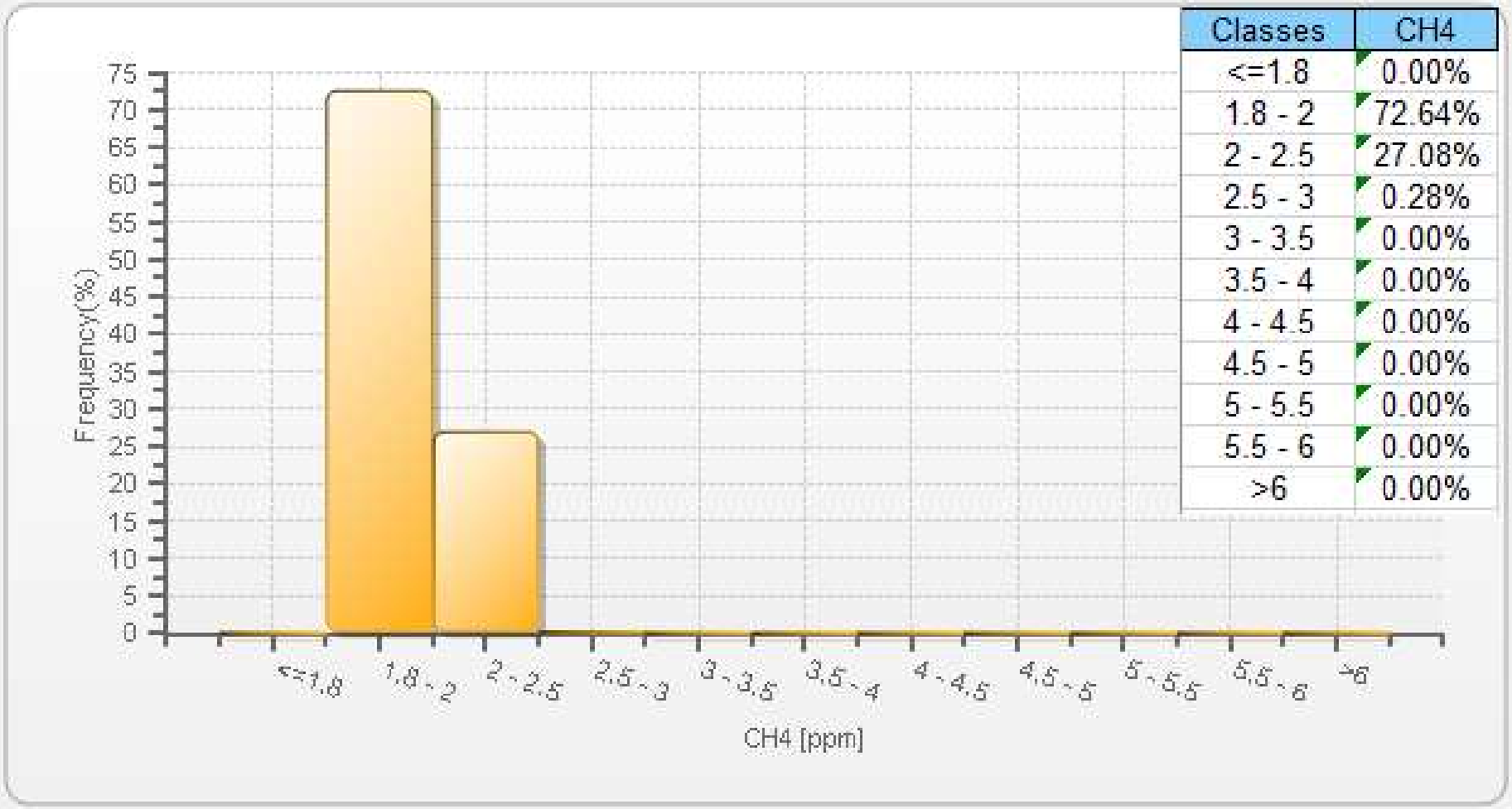
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

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 Station



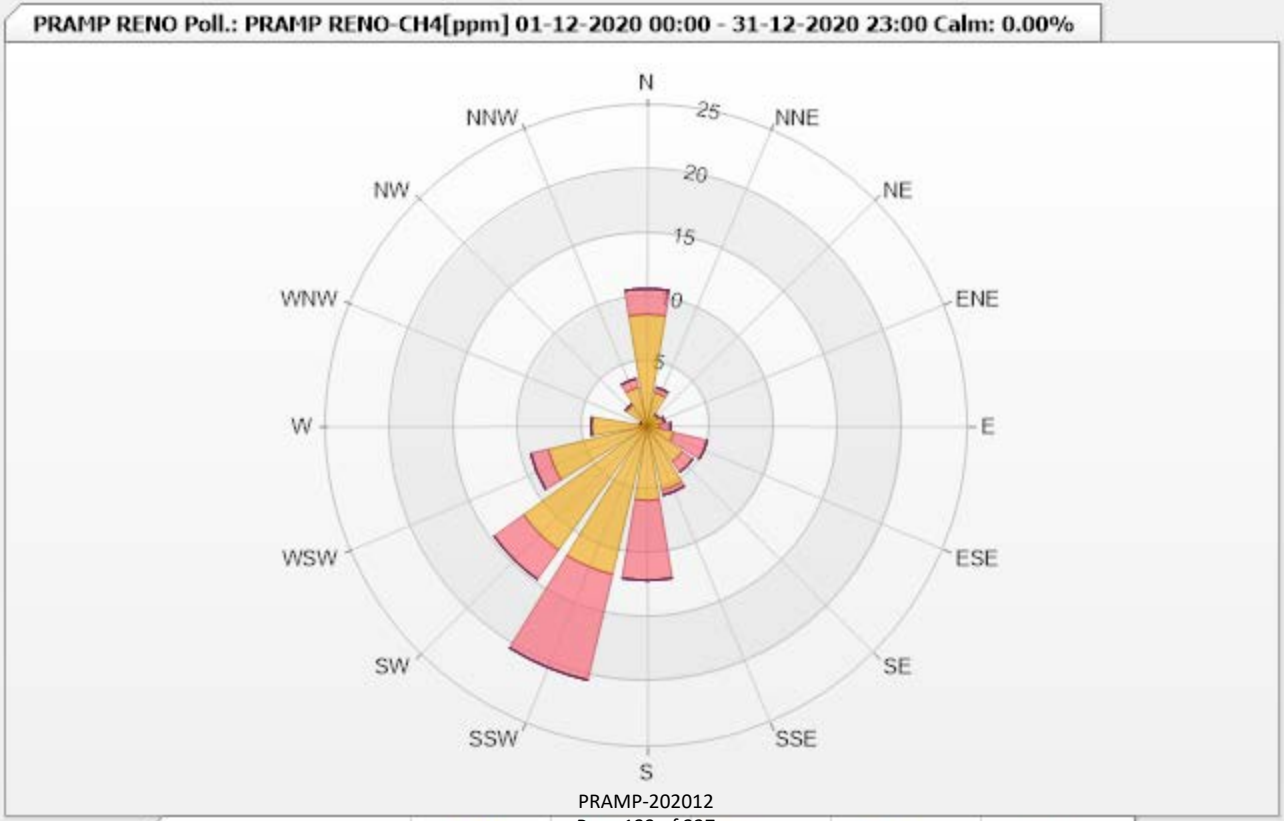
CH4[ppm] Histogram: PRAMP RENO Monthly: 12-2020 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	72.64%
2 - 2.5	27.08%
2.5 - 3	0.28%
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 Poll.: PRAMP RENO-CH4[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	8.74	1.97	0	0	0	10.71
NNE	2.68	0.42	0	0	0	3.1
NE	0.99	0.14	0	0	0	1.13
ENE	1.27	0.14	0	0	0	1.41
E	0.99	0.85	0	0	0	1.84
ESE	2.12	2.68	0	0	0	4.8
SE	3.39	0.99	0	0	0	4.38
SSE	5.08	0.42	0	0	0	5.5
S	5.78	6.21	0	0	0	11.99
SSW	11.85	8.46	0	0	0	20.31
SW	11.85	2.82	0	0	0	14.67
WSW	7.9	1.41	0	0	0	9.31
W	4.37	0	0	0	0	4.37
WNW	0.56	0	0	0	0	0.56
NW	1.97	0.14	0	0	0	2.11
NNW	3.1	0.71	0	0	0	3.81
Summary	72.64	27.36	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] 01-12-2020 00:00 - 31-12-2020 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)
73 0-2
27 2-5
0 5-10
0 10-20
0 >20.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

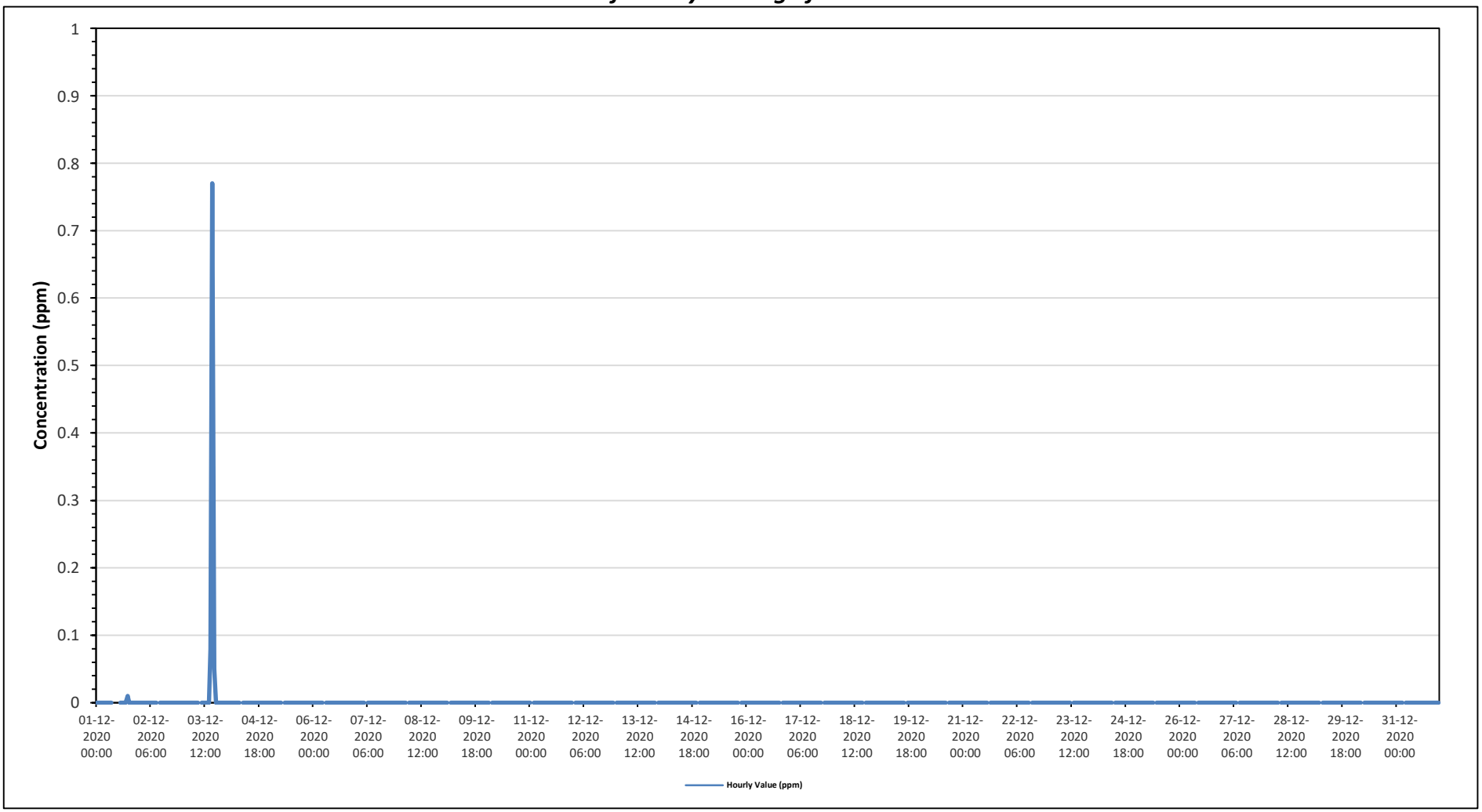
Maximum Hourly Value:	0.77	ppm	on December 3 at hour 16	Hours in Service:	744
Maximum Daily Value:	0.04	ppm	on December 3	Hours of Data:	709
Minimum Hourly Value:	0.00	ppm	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on December 2	Hours of Calibration:	35
Monthly Average:	0.00	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	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Dec 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.08	**0.77**	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.77**	**0.04**
Dec 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Dec 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Dec 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Dec 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Dec 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	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 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	S	0.00	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 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	S	0.00	0.00	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 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	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 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.08	0.77	0.05	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	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

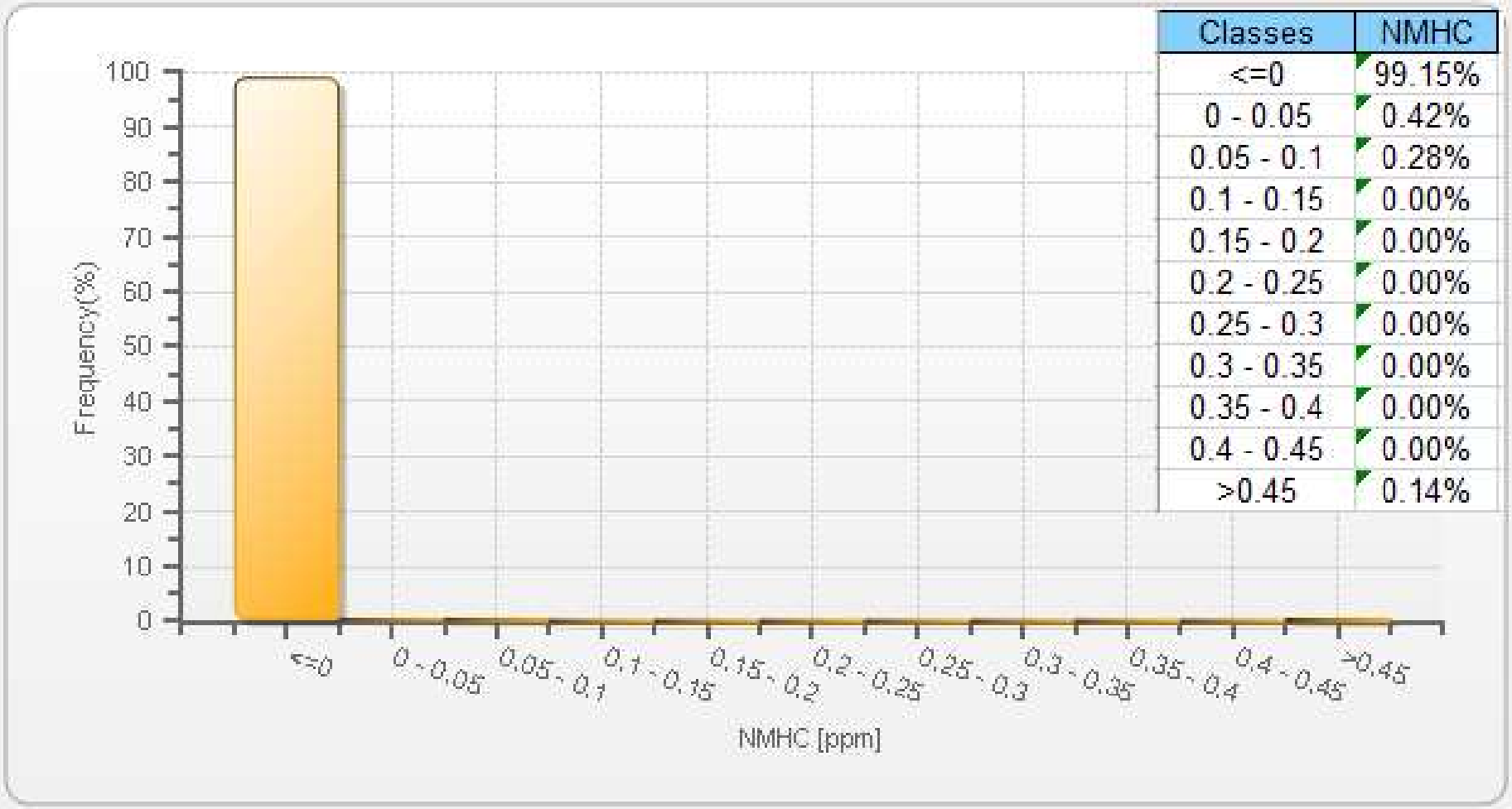
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 Station



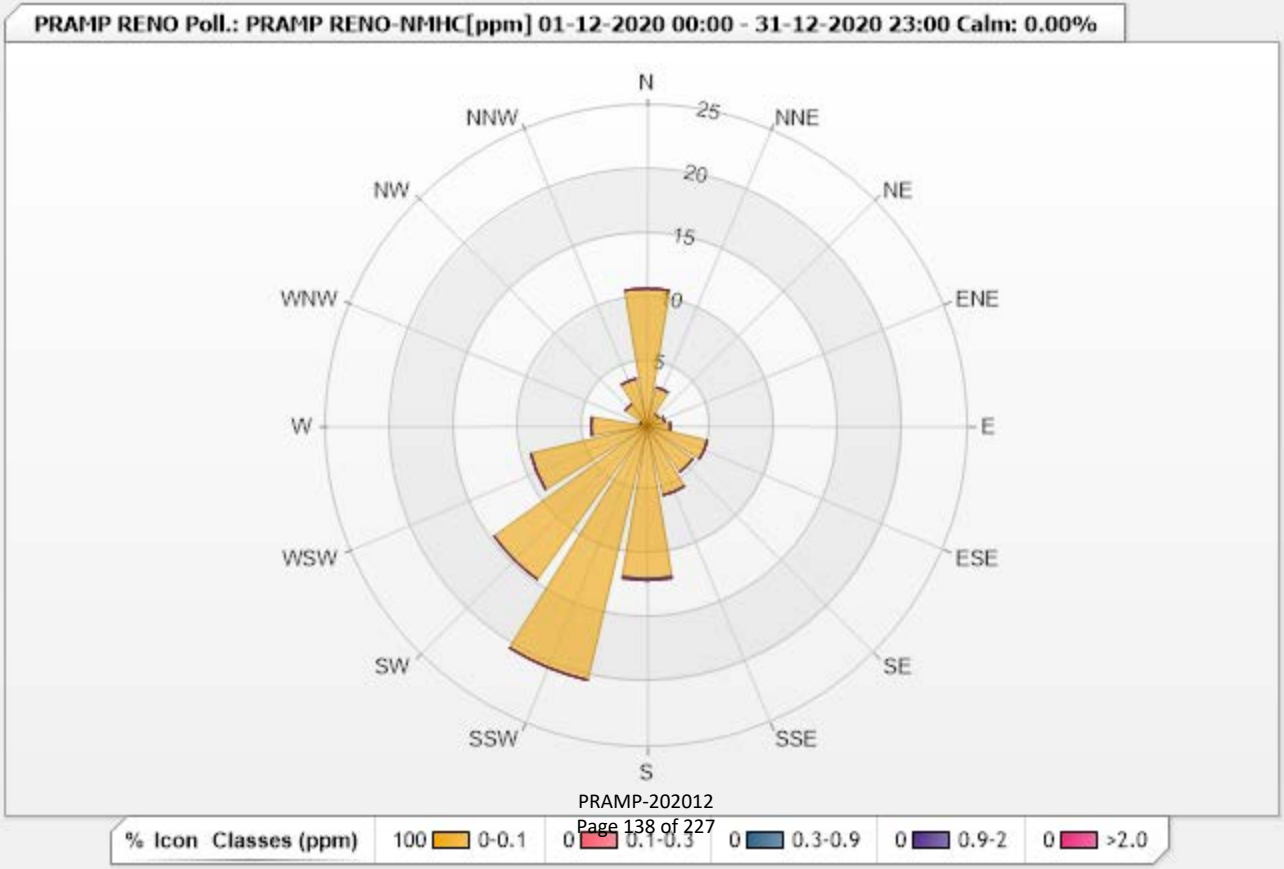
NMHC[ppm] Histogram: PRAMP RENO Monthly: 12-2020 1 Hr.



Classes	NMHC
<=0	99.15%
0 - 0.05	0.42%
0.05 - 0.1	0.28%
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	0.14%

Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	10.72	0	0	0	0	10.72
NNE	3.1	0	0	0	0	3.1
NE	1.13	0	0	0	0	1.13
ENE	1.41	0	0	0	0	1.41
E	1.83	0	0	0	0	1.83
ESE	4.8	0	0	0	0	4.8
SE	4.37	0	0	0	0	4.37
SSE	5.5	0	0	0	0	5.5
S	11.85	0	0.14	0	0	11.99
SSW	20.31	0	0	0	0	20.31
SW	14.67	0	0	0	0	14.67
WSW	9.31	0	0	0	0	9.31
W	4.37	0	0	0	0	4.37
WNW	0.56	0	0	0	0	0.56
NW	2.12	0	0	0	0	2.12
NNW	3.81	0	0	0	0	3.81
Summary	100	0	0.14	0	0	100


PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] 01-12-2020 00:00 - 31-12-2020 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 0.3-0.9
0 0.9-2
0 >2.0

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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

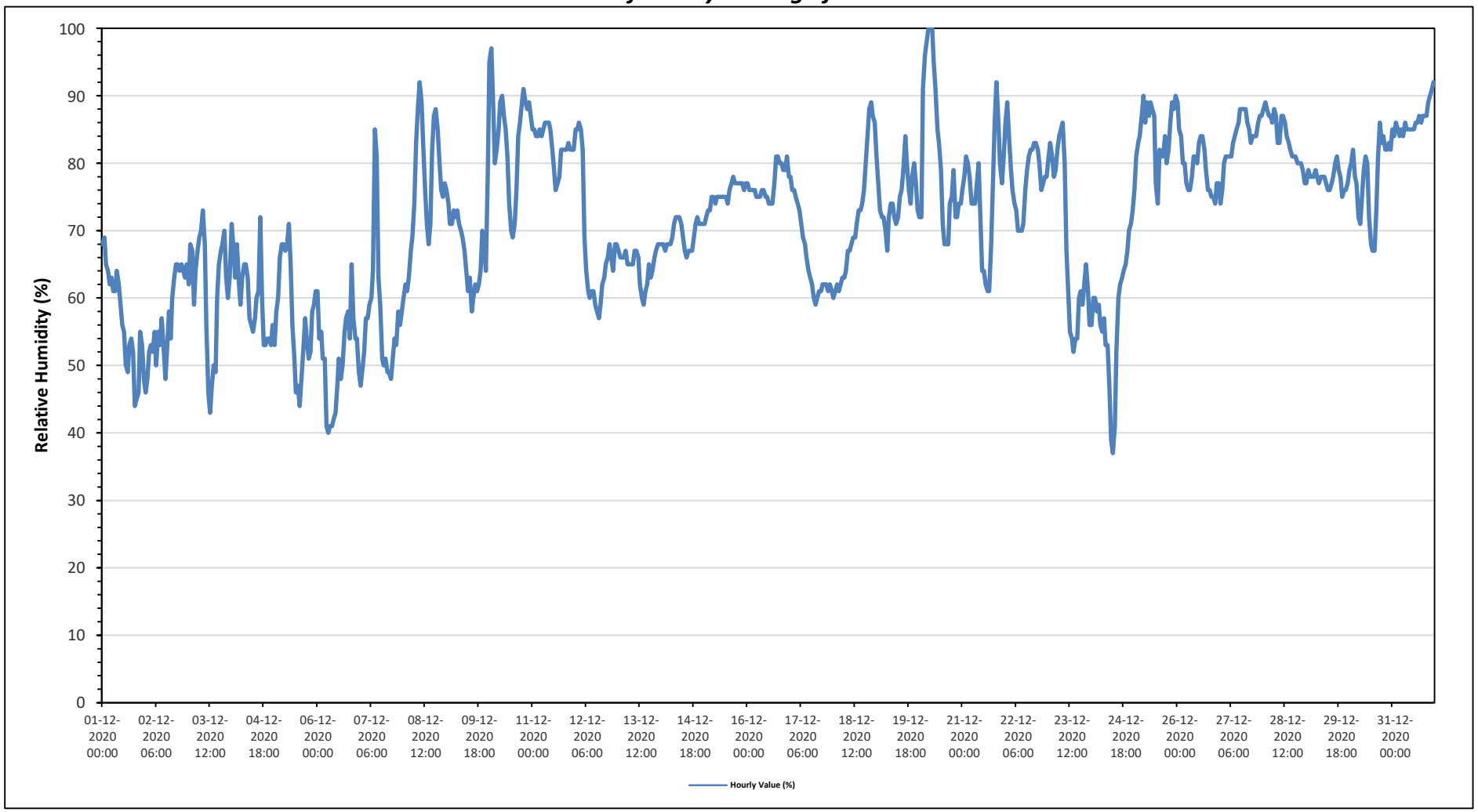
Maximum Hourly Value:	100	%	on December 20 at hour 5	Hours in Service:	744
Maximum Daily Value:	86.3	%	on December 31	Hours of Data:	744
Minimum Hourly Value:	37	%	on December 24 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	50.8	%	on December 6	Hours of Calibration:	0
Monthly Average:	71.3	%		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	68	69	65	64	62	63	61	61	64	62	59	56	55	50	49	53	54	52	44	45	46	55	53	48	44	69	56.6
Dec 2	46	48	52	53	52	55	50	55	53	57	53	48	52	58	54	60	63	65	65	64	65	64	63	65	46	65	56.7
Dec 3	62	68	67	59	64	67	69	70	73	68	56	46	43	47	50	49	60	65	67	68	70	63	60	63	43	73	61.4
Dec 4	71	68	63	68	62	59	63	65	65	63	57	56	55	57	60	61	72	60	53	53	54	54	53	56	53	72	60.3
Dec 5	53	58	60	66	68	68	67	68	71	65	56	51	46	47	44	48	52	57	54	51	52	58	59	61	44	71	57.5
Dec 6	61	54	55	51	51	41	40	41	41	42	43	47	51	48	50	55	57	58	54	65	57	54	54	49	40	65	50.8
Dec 7	47	49	52	57	57	59	60	64	85	81	63	59	51	50	51	49	49	48	51	54	53	58	56	58	47	85	56.7
Dec 8	60	62	61	63	67	69	74	83	88	92	89	83	76	71	68	71	82	87	88	85	81	76	75	77	60	92	76.2
Dec 9	76	74	71	71	73	72	73	71	70	69	67	64	61	63	58	60	62	61	62	64	70	68	64	79	58	79	67.6
Dec 10	95	97	89	80	82	85	89	90	87	85	81	74	70	69	71	76	84	86	89	91	89	88	89	87	69	97	84.3
Dec 11	85	85	84	84	85	84	85	86	86	86	85	82	79	76	77	78	82	82	82	82	83	82	82	82	76	86	82.7
Dec 12	85	85	86	85	82	69	64	61	60	61	61	59	58	57	59	62	63	65	66	68	66	64	68	68	57	86	67.6
Dec 13	67	66	66	66	67	65	65	65	65	67	67	66	62	60	59	61	62	65	63	64	66	67	68	68	59	68	64.9
Dec 14	68	68	67	68	68	68	69	71	72	72	72	71	69	67	66	67	67	67	69	71	72	71	71	71	66	72	69.3
Dec 15	71	72	73	73	75	75	74	75	75	75	75	75	75	74	76	77	78	77	77	77	77	77	76	77	71	78	75.3
Dec 16	77	76	76	76	76	75	75	75	76	76	75	75	74	74	74	77	81	81	80	80	79	79	81	78	74	81	76.9
Dec 17	78	76	76	75	74	73	71	69	68	66	64	63	62	60	59	60	61	61	62	62	62	61	62	61	59	78	66.1
Dec 18	60	61	62	61	62	63	63	64	67	67	68	69	69	71	73	73	74	76	80	84	88	89	87	86	60	89	71.5
Dec 19	81	77	73	72	72	70	67	72	74	74	72	71	72	75	76	79	84	80	76	74	78	80	77	73	67	84	75.0
Dec 20	72	72	91	96	98	**100**	**100**	**100**	95	91	85	83	79	71	68	68	68	74	75	79	72	72	74	74	68	**100**	81.5
Dec 21	76	78	81	80	78	74	74	74	77	80	72	64	64	62	61	61	68	77	86	92	86	80	77	81	61	92	75.1
Dec 22	86	89	84	79	76	74	73	70	70	70	71	76	79	81	82	82	83	83	82	80	76	77	78	78	70	89	78.3
Dec 23	81	83	81	78	79	82	84	85	86	80	67	61	55	54	52	54	54	60	61	59	62	65	61	56	52	86	68.3
Dec 24	56	60	60	58	59	56	55	57	53	53	47	39	**37**	41	52	60	62	63	64	65	67	70	71	73	**37**	73	57.4
Dec 25	76	81	83	84	87	90	86	89	87	89	88	87	77	74	82	81	81	84	80	82	86	89	88	90	74	90	84.2
Dec 26	89	85	84	80	80	77	76	76	78	81	81	80	83	84	84	82	79	76	76	75	75	74	77	77	74	89	79.5
Dec 27	74	76	80	81	81	81	81	83	84	85	86	88	88	88	88	86	85	83	84	84	84	86	87	87	74	88	83.8
Dec 28	88	89	88	87	87	86	88	87	83	83	87	87	86	84	83	82	81	81	81	80	80	80	79	77	77	89	83.9
Dec 29	77	79	78	78	78	79	78	77	78	78	78	77	76	76	77	78	80	81	79	78	75	76	76	77	75	81	77.7
Dec 30	79	80	82	78	77	72	71	75	79	81	80	72	68	67	67	73	81	86	83	84	82	82	83	82	67	86	77.7
Dec 31	85	84	86	85	84	85	84	86	85	85	85	85	85	86	86	87	86	87	87	87	89	90	91	92	84	92	**86.3**
Diurnal Maximum	95	97	91	96	98	100	100	100	95	92	89	88	88	88	88	87	86	87	89	92	89	90	91	92			
Diurnal Average	72.6	73.2	73.4	72.8	73.0	72.1	71.9	73.1	74.0	73.7	70.6	68.2	66.4	65.9	66.3	68.1	70.8	71.9	71.6	72.5	72.3	72.5	72.3	72.6			

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 RH - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

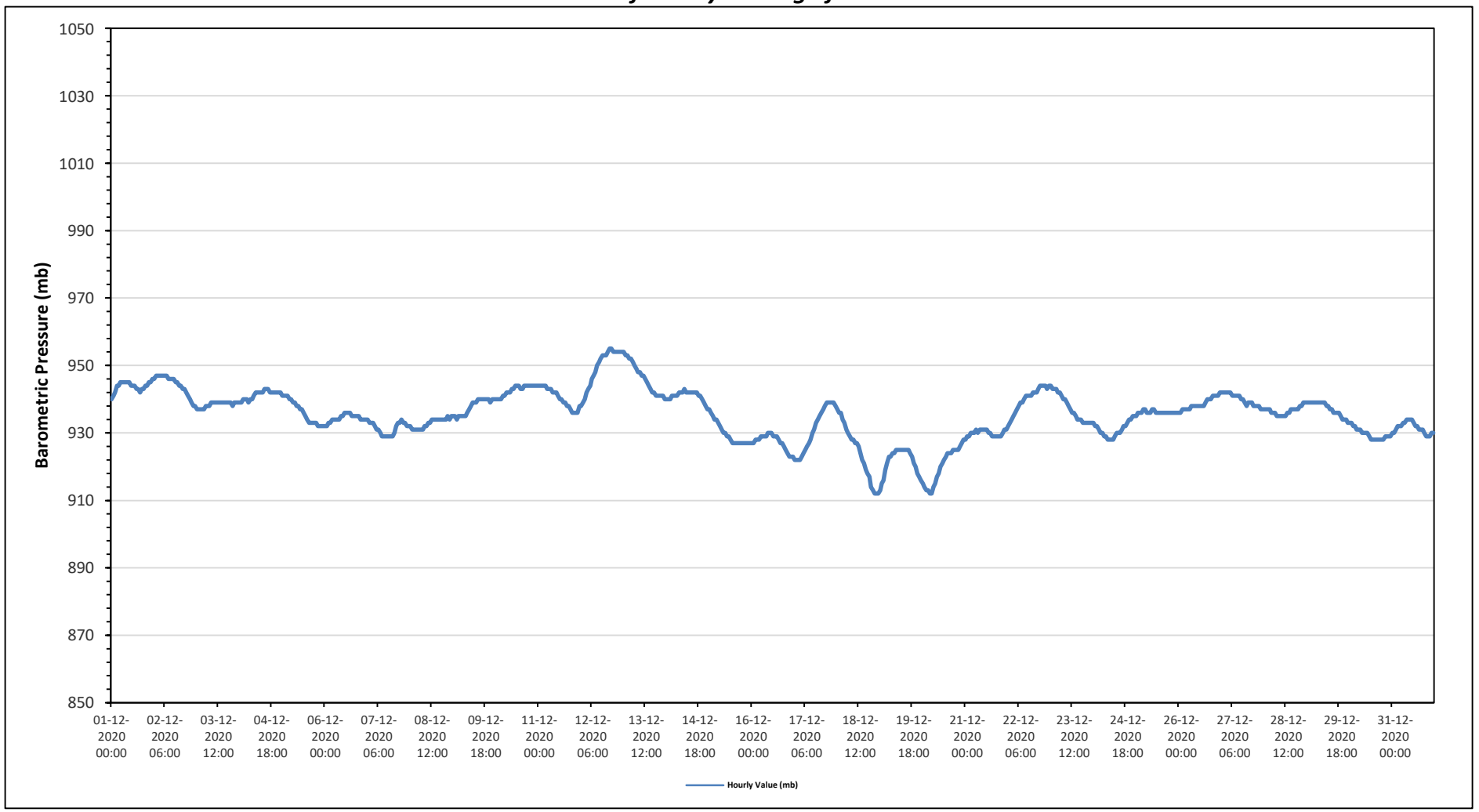
Maximum Hourly Value:	955	mb	on December 12 at hour 16	Hours in Service:	744
Maximum Daily Value:	949	mb	on December 12	Hours of Data:	744
Minimum Hourly Value:	912	mb	on December 18 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	920	mb	on December 20	Hours of Calibration:	0
Monthly Average:	936	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	940	941	942	944	944	945	945	945	945	945	945	944	944	944	943	943	942	943	943	944	944	945	945	946	940	946	943.8
Dec 2	946	947	947	947	947	947	947	947	946	946	946	946	945	945	944	944	943	943	942	941	940	939	938	938	938	947	944.2
Dec 3	937	937	937	937	937	938	938	938	939	939	939	939	939	939	939	939	939	939	939	939	938	939	939	939	937	939	938.4
Dec 4	939	939	940	940	940	939	940	940	941	942	942	942	942	942	943	943	943	942	942	942	942	942	942	942	939	943	941.3
Dec 5	941	941	941	941	940	940	939	939	938	938	937	937	936	935	934	933	933	933	933	933	932	932	932	932	932	941	936.3
Dec 6	932	932	933	933	934	934	934	934	934	935	935	936	936	936	936	935	935	935	935	935	934	934	934	934	932	936	934.4
Dec 7	934	933	933	933	932	931	931	930	929	929	929	929	929	929	929	930	932	933	933	934	933	933	932	932	929	934	931.3
Dec 8	932	931	931	931	931	931	931	931	932	932	933	933	934	934	934	934	934	934	934	934	934	935	934	935	931	935	932.9
Dec 9	935	935	934	935	935	935	935	935	936	937	938	939	939	939	940	940	940	940	940	940	940	939	940	940	934	940	937.8
Dec 10	940	940	940	940	941	941	942	942	942	943	943	944	944	944	943	943	944	944	944	944	944	944	944	944	940	944	942.7
Dec 11	944	944	944	944	944	943	943	943	942	942	942	941	940	940	939	939	938	938	937	936	936	936	936	938	936	944	940.4
Dec 12	938	939	940	942	943	944	946	947	948	950	951	952	953	953	953	954	**955**	**955**	954	954	954	954	954	954	938	**955**	**949.5**
Dec 13	954	953	953	952	952	951	950	949	948	948	947	947	946	945	944	943	942	942	941	941	941	941	941	940	940	954	946.3
Dec 14	940	940	940	941	941	941	941	942	942	942	943	942	942	942	942	942	942	942	941	941	940	939	938	937	937	943	941.0
Dec 15	937	936	935	934	934	933	932	931	930	930	929	929	928	927	927	927	927	927	927	927	927	927	927	927	927	937	929.8
Dec 16	927	927	928	928	928	929	929	929	929	930	930	930	929	929	929	928	927	927	926	925	924	923	923	923	923	930	927.4
Dec 17	922	922	922	922	923	924	925	926	927	928	930	931	933	934	935	936	937	938	939	939	939	939	939	938	922	939	931.2
Dec 18	937	936	936	934	933	931	930	929	928	928	927	927	926	924	922	921	919	918	917	914	913	**912**	**912**	**912**	**912**	937	924.4
Dec 19	913	915	916	919	921	923	923	924	924	925	925	925	925	925	925	925	925	924	923	921	920	918	917	916	913	925	921.5
Dec 20	915	914	913	913	**912**	**912**	914	915	917	918	920	921	922	923	924	924	924	925	925	925	925	926	927	928	**912**	928	920.1
Dec 21	928	929	929	930	930	930	931	930	931	931	931	931	931	930	930	929	929	929	929	929	929	930	931	931	928	931	929.9
Dec 22	932	933	934	935	936	937	938	939	939	940	941	941	941	941	942	942	942	943	944	944	944	944	943	944	932	944	940.0
Dec 23	944	943	943	943	942	942	941	940	940	939	938	937	936	936	935	934	934	934	933	933	933	933	933	933	933	944	937.5
Dec 24	933	932	932	931	930	930	929	929	928	928	928	928	929	930	930	930	931	932	932	933	934	934	935	935	928	935	931.0
Dec 25	935	936	936	936	937	937	936	936	936	937	937	936	936	936	936	936	936	936	936	936	936	936	936	936	935	937	936.1
Dec 26	936	936	937	937	937	937	937	938	938	938	938	938	938	938	938	939	940	940	940	941	941	941	941	942	936	942	938.6
Dec 27	942	942	942	942	942	942	941	941	941	941	941	940	940	939	938	939	939	939	938	938	938	938	937	937	937	942	939.9
Dec 28	937	937	937	937	936	936	936	935	935	935	935	935	935	936	936	937	937	937	937	937	938	938	939	939	935	939	936.5
Dec 29	939	939	939	939	939	939	939	939	939	939	939	938	938	937	937	936	936	936	936	935	934	934	934	933	933	939	937.2
Dec 30	933	933	932	932	931	931	931	930	930	930	930	929	928	928	928	928	928	928	928	928	929	929	929	929	928	933	929.7
Dec 31	930	930	931	932	932	932	933	933	934	934	934	934	933	932	932	931	931	931	930	929	929	929	930	930	929	934	931.5
Diurnal Maximum	954	953	953	952	952	951	950	949	948	950	951	952	953	953	953	954	955	955	954	954	954	954	954	954			
Diurnal Average	935	935	935	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	935	935	935	935	935	935			

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 Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

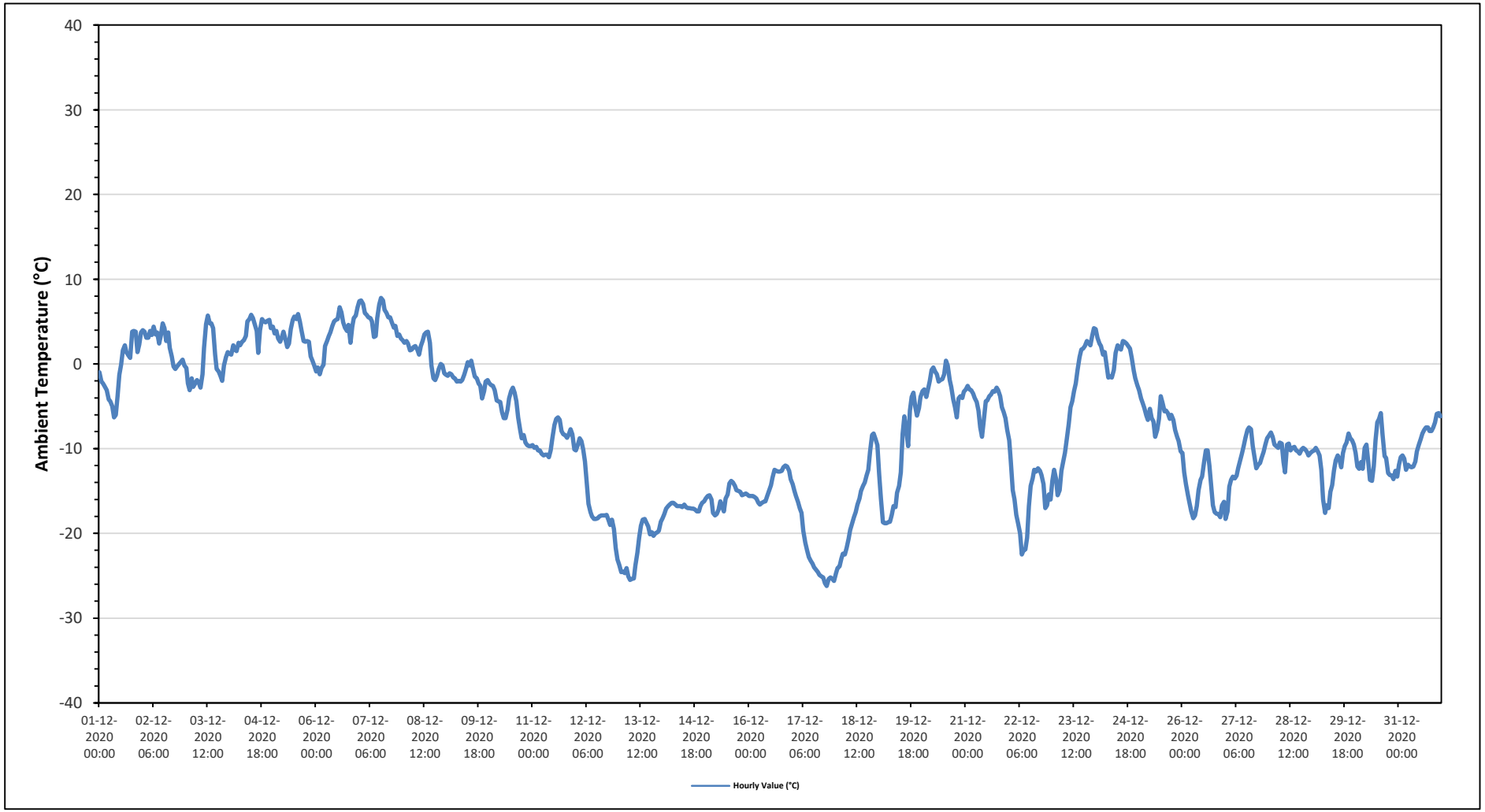
Maximum Hourly Value:	7.8	°C	on December 7 at hour 12	Hours in Service:	744
Maximum Daily Value:	5.5	°C	on December 7	Hours of Data:	744
Minimum Hourly Value:	-26.2	°C	on December 17 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	-22.1	°C	on December 17	Hours of Calibration:	0
Monthly Average:	-7.6	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Dec 1	-1	-2.1	-2.3	-2.7	-3.1	-4.2	-4.4	-5	-6.3	-6	-3.8	-1.3	-0.1	1.6	2.2	1.4	1	0.7	3.8	3.9	3.8	1.4	2.3	3.7	-6.3	3.9	-0.7
Dec 2	4	3.8	3.1	3.1	3.9	3.4	4.4	3.5	3.7	2.4	3.4	4.8	4.2	2.7	3.7	1.9	0.9	-0.3	-0.6	-0.3	0	0.2	0.5	-0.2	-0.6	4.8	2.3
Dec 3	-0.5	-2.3	-3.1	-1.7	-2.7	-2.3	-1.9	-2.2	-2.8	-1.2	1.9	4.7	5.7	4.8	4.8	4.2	1.1	-0.6	-0.9	-1.4	-2	-0.2	0.8	1.4	-3.1	5.7	0.2
Dec 4	1.2	1.1	2.2	1.7	1.5	2.5	2.2	2.6	2.8	3.3	5	5.3	5.8	5.4	4.7	3.9	1.3	4	5.3	5	4.9	5.1	5.2	4.2	1.1	5.8	3.6
Dec 5	4.4	3.6	3.9	3	2.6	3.1	3.8	2.9	2	2.4	4.1	5.2	5.6	5.3	5.9	5	3.9	2.7	2.6	2.7	2.6	0.9	0.4	-0.2	-0.2	5.9	3.3
Dec 6	-0.9	-0.4	-1.2	-0.5	-0.1	2.1	2.7	3.3	3.7	4.5	5	5.2	5.3	6.7	6.1	4.9	4.3	3.9	4.6	2.5	4.4	5.4	5.7	6.7	-1.2	6.7	3.5
Dec 7	7.4	7.5	7.1	6	5.8	5.5	5.4	5	3.2	3.3	5.4	7	**7.8**	7.5	6.4	6	5.5	5.5	4.9	4.3	4.5	3.3	3.5	3	3.0	**7.8**	**5.5**
Dec 8	2.8	2.5	2.7	2.4	1.6	1.7	2	2.1	1.7	1.1	2.1	2.7	3.5	3.7	3.8	2.5	-0.2	-1.7	-1.9	-1.4	-0.6	0	-0.2	-1.1	-1.9	3.8	1.3
Dec 9	-1.3	-1.4	-1.1	-1.2	-1.6	-1.7	-2.1	-2	-2.1	-1.9	-1.3	-0.6	0.2	-0.2	0.4	-0.6	-1.5	-1.7	-2.3	-2.6	-4.1	-3.2	-2.1	-1.9	-4.1	0.4	-1.6
Dec 10	-2.3	-2.5	-2.6	-3.1	-4.3	-4.4	-4.5	-5.7	-6.4	-6.4	-5.4	-4.1	-3.2	-2.8	-3.4	-4.4	-6.3	-7.8	-8.8	-8.4	-9.3	-9.6	-9.7	-9.7	-9.7	-2.3	-5.6
Dec 11	-9.6	-9.9	-9.8	-10.2	-10.2	-10.6	-10.8	-10.7	-10.7	-11	-10.2	-8.7	-7.2	-6.5	-6.3	-6.6	-7.9	-8.3	-8.4	-8.7	-8.4	-7.7	-8.3	-10.1	-11.0	-6.3	-9.0
Dec 12	-10.2	-9.5	-8.8	-9.1	-10.1	-11.5	-14	-16.5	-17.5	-18	-18.3	-18.3	-18.2	-18	-17.9	-17.9	-17.9	-17.8	-18.4	-19	-18.4	-19.5	-21.7	-23.1	-23.1	-8.8	-16.2
Dec 13	-23.7	-24.6	-24.5	-24.7	-24.1	-25.1	-25.5	-25.4	-25.3	-23.8	-22.3	-20.5	-19.1	-18.4	-18.3	-18.7	-19.2	-20.1	-19.9	-20.3	-20	-19.9	-19.7	-18.6	-25.5	-18.3	-21.7
Dec 14	-18.2	-17.7	-17.1	-16.8	-16.6	-16.4	-16.4	-16.6	-16.8	-16.8	-16.8	-16.9	-16.6	-16.9	-17	-17	-17.1	-17.1	-17.2	-17.4	-17.4	-16.8	-16.4	-16.2	-18.2	-16.2	-16.9
Dec 15	-15.9	-15.6	-15.5	-16	-17.6	-17.9	-17.7	-17.2	-16.2	-16.9	-17.4	-15.9	-15.4	-14.1	-13.8	-14	-14.4	-14.9	-15	-15.1	-15.5	-15.4	-15.3	-15.4	-17.9	-13.8	-15.8
Dec 16	-15.6	-15.6	-15.6	-15.7	-15.9	-16.4	-16.6	-16.4	-16.3	-16.2	-15.6	-14.9	-14.3	-13.4	-12.5	-12.6	-12.7	-12.7	-12.6	-12.2	-12	-12.1	-12.6	-13.6	-16.6	-12.0	-14.3
Dec 17	-14.2	-15	-15.6	-16.3	-17	-17.6	-19.7	-21.1	-22	-22.8	-23.2	-23.6	-24	-24.3	-24.6	-24.9	-25.1	-25.2	-25.9	**-26.2**	-25.4	-25.2	-25.4	-25.6	**-26.2**	-14.2	-22.1
Dec 18	-24.7	-24.1	-23.9	-23	-22.4	-22.5	-21.7	-20.6	-19.6	-18.8	-18.1	-17.5	-16.6	-15.9	-15	-14.4	-14	-13.2	-12.5	-10.3	-8.4	-8.2	-8.9	-9.6	-24.7	-8.2	-16.8
Dec 19	-13	-15.9	-18.7	-18.8	-18.8	-18.7	-18.6	-17.8	-16.8	-16.9	-15.2	-14.4	-12.8	-8.3	-6.2	-7.9	-9.7	-5.5	-3.9	-3.4	-5	-6.1	-5.2	-3.9	-18.8	-3.4	-11.7
Dec 20	-3.2	-3	-3.9	-3.1	-2	-0.7	-0.4	-0.9	-1.2	-2.1	-1.9	-1.8	-1.2	0.4	-0.2	-1.9	-2.7	-4.2	-5.1	-6.3	-4.1	-3.8	-4	-3.3	-6.3	0.4	-2.5
Dec 21	-3	-2.6	-3	-3.1	-3.5	-4	-4.5	-5.5	-7.5	-8.6	-6.7	-4.4	-4.3	-3.8	-3.6	-3.2	-3.3	-2.8	-3.1	-3.8	-5.1	-5.7	-6.4	-7.8	-8.6	-2.6	-4.6
Dec 22	-9	-11.4	-14.9	-16	-17.8	-18.8	-20	-22.5	-22	-21.9	-20.5	-16.8	-14.4	-13.5	-12.5	-12.7	-12.3	-12.6	-13.1	-14.2	-17	-16.7	-15.4	-16	-22.5	-9.0	-15.9
Dec 23	-13.8	-12.5	-13.6	-15.5	-14.9	-12.6	-11.4	-10.5	-8.7	-7.1	-5.1	-4.4	-3.2	-2.3	-0.7	0.8	1.7	1.8	2.1	2.7	2.5	2.2	3.3	4.2	-15.5	4.2	-4.8
Dec 24	4.1	3.1	2.4	2.1	1.1	1.4	-0.1	-1.6	-1.5	-1.6	-0.7	1.3	2.2	1.9	1.7	2.7	2.6	2.4	2.1	1.8	0.7	-0.8	-1.7	-2.5	-2.5	4.1	1.0
Dec 25	-3.1	-4.1	-4.6	-5.2	-6.1	-6.6	-5.3	-6.4	-6.8	-8.6	-7.8	-6.5	-3.8	-4.6	-5.6	-5.5	-5.8	-6.5	-6	-6.6	-7.8	-8.6	-9.1	-10.3	-10.3	-3.1	-6.3
Dec 26	-10.5	-12.8	-14.2	-15.5	-16.4	-17.4	-18.2	-17.9	-16.8	-14.9	-13.7	-13.3	-11.6	-10.2	-10.2	-12	-14.7	-16.7	-17.5	-17.7	-17.7	-18.1	-16.7	-16.3	-18.2	-10.2	-15.0
Dec 27	-18.3	-17.4	-14.5	-13.7	-13.3	-13.5	-13.2	-12.3	-11.4	-10.6	-9.7	-8.7	-7.8	-7.5	-7.7	-9.7	-11.2	-12.3	-11.9	-11.7	-11.1	-10.4	-9.5	-8.8	-18.3	-7.5	-11.5
Dec 28	-8.5	-8.1	-8.6	-9.5	-9.7	-9.9	-9.3	-9.4	-11.6	-12.8	-9.5	-9.4	-10.2	-9.9	-9.8	-10.2	-10.3	-10.6	-10.1	-9.9	-10.1	-10.4	-10.8	-10.5	-12.8	-8.1	-10.0
Dec 29	-10.3	-10.2	-9.9	-10.3	-10.8	-12.5	-16	-17.6	-16.7	-17	-15.1	-14.3	-12.6	-11.4	-10.8	-11.2	-12.2	-10.5	-9.7	-9.3	-8.2	-8.8	-9	-9.5	-17.6	-8.2	-11.8
Dec 30	-10.5	-12.1	-12.4	-11.6	-12.4	-9.9	-9.5	-11.5	-13.7	-13.8	-12.1	-9	-6.9	-6.5	-5.8	-8.4	-10.9	-11.1	-12.9	-13.1	-13.2	-13.6	-12.6	-13.3	-13.8	-5.8	-11.1
Dec 31	-11.9	-11	-10.8	-11.2	-12.5	-11.9	-12.1	-12.2	-12.1	-11.5	-10.3	-9.5	-8.9	-8.2	-7.8	-7.5	-7.5	-7.9	-7.9	-7.5	-6.9	-5.9	-5.8	-6.2	-12.5	-5.8	-9.4
Diurnal Maximum	7.4	7.5	7.1	6.0	5.8	5.5	5.4	5.0	3.7	4.5	5.4	7.0	7.8	7.5	6.4	6.0	5.5	5.5	5.3	5.0	4.9	5.4	5.7	6.7			
Diurnal Average	-7.4	-7.7	-8.0	-8.3	-8.6	-8.6	-8.8	-9.2	-9.4	-9.4	-8.2	-7.1	-6.2	-5.7	-5.5	-6.1	-6.9	-7.1	-7.1	-7.2	-7.2	-7.4	-7.3	-7.4			

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 - Reno Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

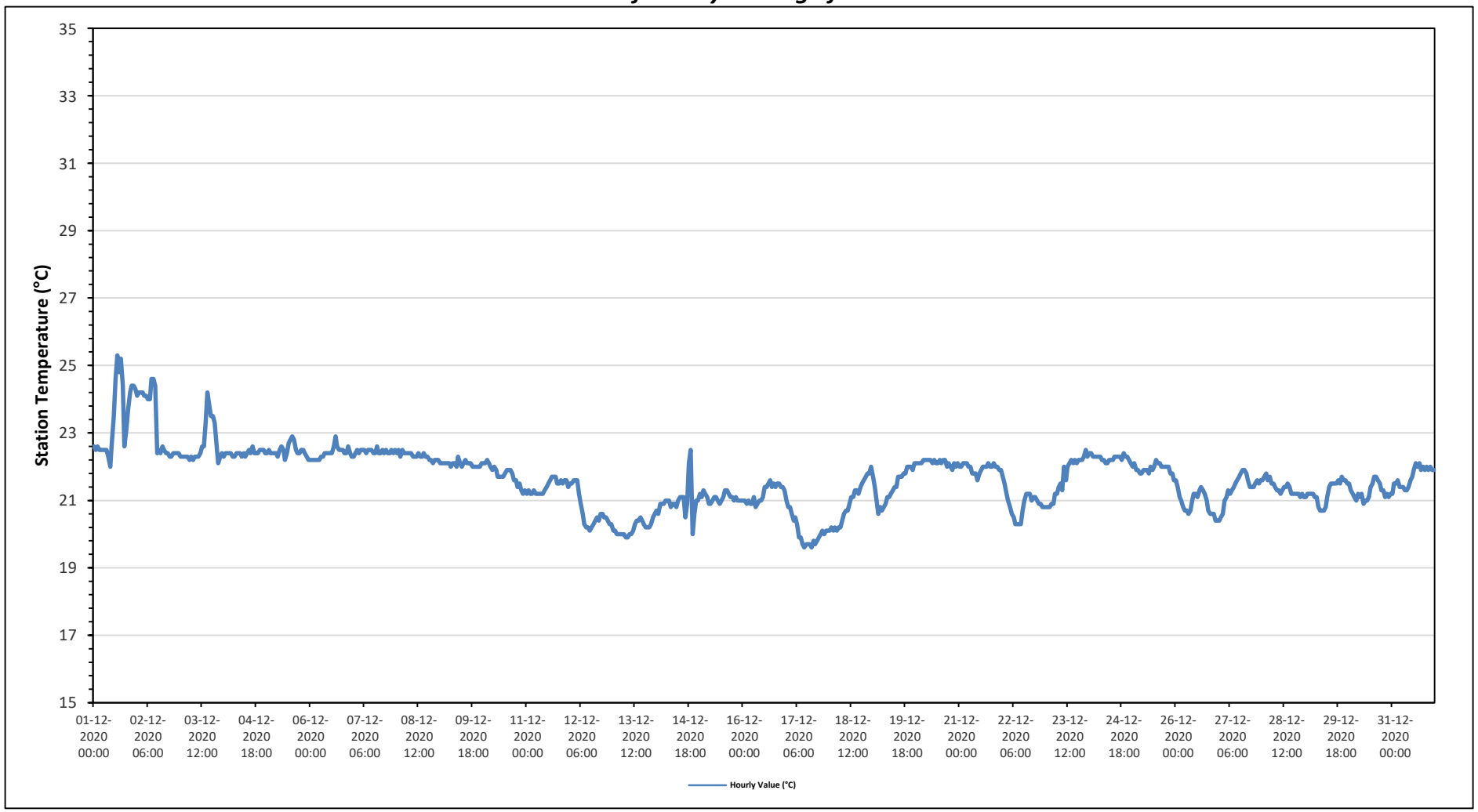
Maximum Hourly Value:	25.3	°C	on December 1 at hour 13	Hours in Service:	744
Maximum Daily Value:	23.4	°C	on December 1	Hours of Data:	744
Minimum Hourly Value:	19.6	°C	on December 17 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	20.1	°C	on December 17	Hours of Calibration:	0
Monthly Average:	21.7	°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	22.6	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.3	22.0	22.7	23.5	24.6	**25.3**	24.8	25.2	24.4	22.6	23.1	23.7	24.2	24.4	24.4	24.3	22.0	**25.3**	**23.4**
Dec 2	24.1	24.2	24.2	24.2	24.1	24.1	24.0	24.0	24.6	24.6	24.4	22.4	22.5	22.4	22.6	22.5	22.4	22.4	22.3	22.3	22.4	22.4	22.4	22.4	22.3	24.6	23.2
Dec 3	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.3	22.3	22.3	22.4	22.6	22.6	23.3	24.2	23.8	23.5	23.5	23.3	22.6	22.1	22.3	22.4	22.1	24.2	22.7
Dec 4	22.3	22.4	22.4	22.4	22.4	22.3	22.3	22.4	22.4	22.4	22.3	22.4	22.3	22.4	22.5	22.4	22.6	22.4	22.4	22.4	22.5	22.5	22.5	22.4	22.3	22.6	22.4
Dec 5	22.4	22.5	22.4	22.4	22.4	22.4	22.3	22.5	22.6	22.5	22.2	22.4	22.7	22.8	22.9	22.8	22.5	22.4	22.4	22.5	22.5	22.4	22.3	22.2	22.2	22.9	22.5
Dec 6	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.4	22.4	22.4	22.4	22.4	22.6	22.9	22.6	22.5	22.5	22.5	22.4	22.4	22.6	22.4	22.3	22.2	22.9	22.4
Dec 7	22.3	22.4	22.5	22.4	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.4	22.4	22.6	22.4	22.4	22.5	22.4	22.5	22.4	22.4	22.5	22.4	22.5	22.3	22.6	22.5
Dec 8	22.4	22.5	22.3	22.5	22.4	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.4	22.3	22.3	22.4	22.3	22.3	22.2	22.2	22.1	22.2	22.2	22.2	22.1	22.5	22.3
Dec 9	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.0	22.3	22.1	22.0	22.1	22.2	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.1	22.0	22.3	22.1
Dec 10	22.1	22.1	22.2	22.1	22.0	21.9	22.0	21.9	21.7	21.7	21.7	21.7	21.8	21.9	21.9	21.9	21.8	21.6	21.6	21.4	21.5	21.3	21.2	21.3	21.2	22.2	21.8
Dec 11	21.2	21.3	21.2	21.2	21.3	21.2	21.2	21.2	21.2	21.2	21.3	21.4	21.5	21.6	21.7	21.7	21.7	21.5	21.5	21.6	21.5	21.6	21.6	21.4	21.2	21.7	21.4
Dec 12	21.5	21.5	21.6	21.6	21.6	21.2	20.9	20.6	20.3	20.2	20.2	20.1	20.2	20.3	20.4	20.5	20.4	20.6	20.6	20.5	20.5	20.4	20.3	20.3	20.1	21.6	20.7
Dec 13	20.1	20.1	20.0	20.0	20.0	20.0	20.0	19.9	19.9	20.0	20.0	20.1	20.3	20.4	20.4	20.5	20.4	20.3	20.2	20.2	20.2	20.3	20.5	20.6	19.9	20.6	20.2
Dec 14	20.7	20.6	20.9	20.9	20.9	21.0	21.0	21.0	20.8	20.9	20.9	20.8	21.0	21.1	21.1	21.1	20.5	20.9	22.1	22.5	20.0	20.6	21.0	21.0	20.0	22.5	21.0
Dec 15	21.2	21.1	21.3	21.2	21.1	20.9	20.9	21.0	21.1	21.1	21.0	20.9	21.0	21.1	21.3	21.3	21.2	21.1	21.1	21.0	21.1	21.0	21.0	21.0	20.9	21.3	21.1
Dec 16	21.0	21.0	20.9	21.0	20.9	20.9	21.1	20.8	20.9	21.0	21.0	21.1	21.4	21.4	21.5	21.6	21.4	21.5	21.4	21.5	21.5	21.4	21.4	21.3	20.8	21.6	21.2
Dec 17	21.0	20.8	20.8	20.6	20.4	20.5	20.3	19.9	19.9	19.7	**19.6**	19.7	19.7	19.7	**19.6**	19.8	19.7	19.8	19.9	20.0	20.1	20.0	20.1	20.1	**19.6**	21.0	20.1
Dec 18	20.1	20.2	20.1	20.2	20.1	20.2	20.2	20.4	20.6	20.7	20.7	20.9	21.1	21.1	21.3	21.3	21.2	21.4	21.5	21.6	21.7	21.8	21.8	22.0	20.1	22.0	20.9
Dec 19	21.7	21.4	21.0	20.6	20.8	20.7	20.8	20.9	21.1	21.1	21.2	21.3	21.4	21.4	21.7	21.7	21.7	21.8	21.8	22.0	22.0	22.0	21.9	22.1	20.6	22.1	21.4
Dec 20	22.1	22.1	22.1	22.1	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.1	22.1	22.2	22.1	22.2	22.2	22.0	22.1	22.0	21.9	22.1	22.0	22.1	21.9	22.2	22.1
Dec 21	22.0	22.0	22.1	22.1	22.1	22.0	22.0	21.8	21.8	21.8	21.6	21.8	21.9	22.0	22.0	22.0	22.1	22.0	22.0	22.1	22.0	22.0	21.9	21.9	21.6	22.1	22.0
Dec 22	21.7	21.5	21.2	21.0	20.8	20.6	20.5	20.3	20.3	20.3	20.3	20.7	21.0	21.2	21.2	21.2	21.0	21.1	21.1	21.0	20.9	20.9	20.8	20.8	20.3	21.7	20.9
Dec 23	20.8	20.8	20.8	20.9	20.9	21.2	21.2	21.4	21.5	21.3	22.0	21.6	22.0	22.1	22.2	22.1	22.2	22.1	22.2	22.2	22.2	22.3	22.5	22.3	20.8	22.5	21.7
Dec 24	22.4	22.4	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.1	22.1	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.2	22.4	22.3	22.3	22.2	22.1	22.1	22.4	22.3
Dec 25	22.0	22.1	21.9	21.9	21.8	21.8	21.9	21.9	21.9	21.8	22.0	21.9	22.0	22.2	22.1	22.1	22.0	22.0	22.0	22.0	22.0	21.8	21.8	21.6	21.6	22.2	21.9
Dec 26	21.6	21.4	21.1	21.0	20.8	20.7	20.7	20.6	20.7	21.0	21.2	21.2	21.1	21.3	21.4	21.3	21.2	21.0	20.7	20.6	20.6	20.6	20.4	20.4	20.4	21.6	20.9
Dec 27	20.4	20.5	20.6	21.0	21.1	21.3	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	21.9	21.8	21.6	21.4	21.4	21.4	21.5	21.6	21.5	21.6	20.4	21.9	21.4
Dec 28	21.6	21.7	21.8	21.6	21.7	21.5	21.5	21.4	21.3	21.3	21.2	21.3	21.4	21.4	21.5	21.4	21.2	21.2	21.2	21.2	21.2	21.1	21.2	21.1	21.1	21.8	21.4
Dec 29	21.1	21.2	21.2	21.2	21.2	21.1	21.1	20.8	20.7	20.7	20.7	20.8	21.1	21.4	21.5	21.5	21.5	21.5	21.6	21.5	21.7	21.6	21.6	21.5	20.7	21.7	21.2
Dec 30	21.5	21.3	21.2	21.1	21.0	21.2	21.1	21.2	20.9	21.0	21.0	21.1	21.4	21.5	21.7	21.7	21.6	21.5	21.3	21.3	21.1	21.2	21.1	21.2	20.9	21.7	21.3
Dec 31	21.2	21.5	21.5	21.6	21.4	21.4	21.4	21.3	21.3	21.4	21.6	21.7	21.9	22.1	22.0	22.1	21.9	22.0	21.9	22.0	21.9	22.0	21.9	21.9	21.2	22.1	21.7
Diurnal Maximum	24.1	24.2	24.2	24.2	24.1	24.1	24.0	24.0	24.6	24.6	24.4	23.5	24.6	25.3	24.8	25.2	24.4	23.5	23.5	23.7	24.2	24.4	24.4	24.3			
Diurnal Average	21.7	21.7	21.6	21.6	21.6	21.6	21.6	21.5	21.5	21.5	21.6	21.6	21.7	21.8	21.9	21.9	21.8	21.7	21.8	21.8	21.7	21.7	21.7	21.7			

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 ST - Reno Station



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

PRECIPITATION in mm

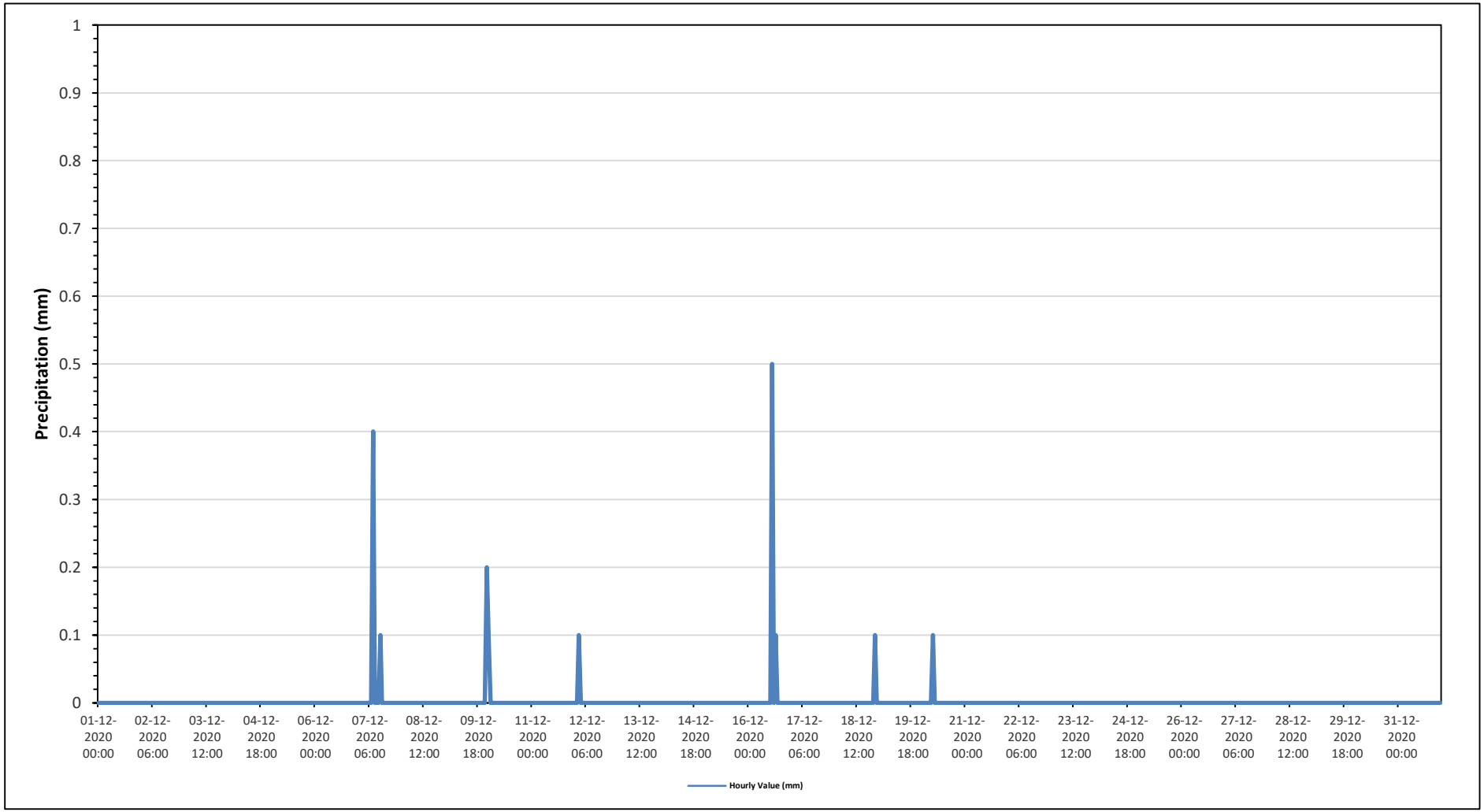
Maximum Hourly Value:	0.5	mm	on December 16 at hour 13	Hours in Service:	744
Maximum Daily Value:	0.6	mm	on December 16	Hours of Data:	744
Minimum Hourly Value:	0.0	mm	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	mm	on December 1	Hours of Calibration:	0
Monthly Total:	1.7	mm		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	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	0.4	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4	0.5
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	0.2	0.0	0.2	0.2
Dec 10	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	0.1
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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
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	0	0	0	0	0	**0.5**	0	0.1	0	0	0	0	0	0	0	0	0.0	**0.5**	**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	0.1	0	0.0	0.1	0.1
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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
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	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.1	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2			
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 Station



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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

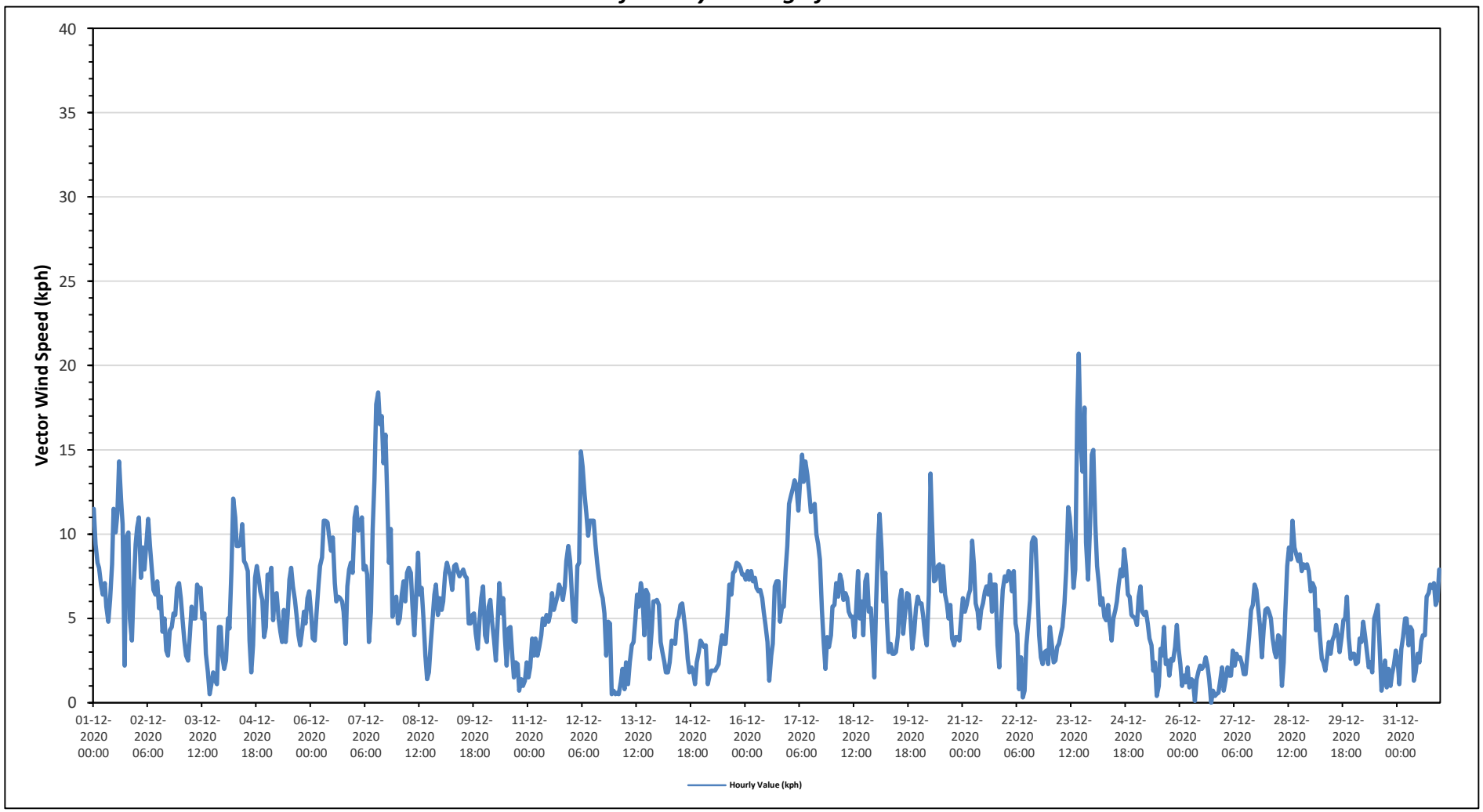
Maximum Hourly Value:	20.7	kph	on December 23 at hour 16	Hours in Service:	744
Maximum Daily Value:	10.3	kph	on December 7	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on December 26 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	0.9	kph	on December 14	Hours of Calibration:	0
Monthly Average:	2.7	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	11.5	9.4	8.3	8.0	7.0	6.4	7.1	5.7	4.8	6.1	8.2	11.5	10.1	11.2	14.3	12.0	10.6	2.2	9.8	10.1	5.0	3.7	6.8	9.4	2.2	14.3	7.6
Dec 2	10.4	11.0	7.4	9.2	7.9	9.3	10.9	9.3	7.8	6.7	6.4	7.2	5.6	6.3	4.2	5.0	3.1	2.8	4.3	4.5	5.3	5.2	6.8	7.1	2.8	11.0	6.6
Dec 3	6.2	5.1	3.7	2.8	2.5	4.0	5.7	5.0	5.0	7.0	6.6	6.8	5.0	5.3	2.9	1.8	0.5	1.2	1.8	1.3	1.1	4.5	4.5	2.8	0.5	7.0	3.7
Dec 4	2.0	2.5	5.0	4.4	7.9	12.1	11.0	9.3	9.3	9.4	10.6	8.4	8.2	7.8	3.7	1.8	3.4	7.4	8.1	7.3	6.6	6.1	3.9	4.5	1.8	12.1	6.6
Dec 5	7.6	7.3	8.0	4.9	6.4	6.5	5.0	4.2	3.6	5.5	3.6	5.2	7.3	8.0	6.9	6.1	5.1	4.0	3.4	4.3	5.4	4.7	6.2	6.6	3.4	8.0	5.3
Dec 6	5.2	3.8	3.7	5.3	7.0	8.1	8.6	10.8	10.8	10.7	9.9	9.0	9.8	7.1	6.0	6.3	6.2	6.0	5.4	3.5	6.9	7.9	8.3	7.7	3.5	10.8	7.1
Dec 7	11.0	11.6	10.2	10.5	11.0	7.9	8.1	7.6	3.6	5.4	10.3	13.2	17.7	18.4	16.5	17.0	14.2	15.9	12.2	8.3	10.3	5.1	5.9	6.3	3.6	18.4	**10.3**
Dec 8	4.7	5.0	6.4	7.2	6.0	7.7	8.0	7.7	5.9	4.0	6.2	8.9	6.4	6.8	5.1	2.8	1.4	1.8	3.4	4.8	6.4	7.0	5.2	6.2	1.4	8.9	5.5
Dec 9	5.5	6.0	7.7	8.3	7.8	7.5	6.7	8.1	8.2	7.8	7.5	7.7	7.9	7.5	7.4	4.7	4.7	5.2	5.3	4.1	3.2	4.9	6.2	6.9	3.2	8.3	6.3
Dec 10	4.0	3.6	5.7	6.1	4.8	3.7	2.5	4.7	7.1	5.3	6.2	3.9	2.2	4.4	4.5	2.9	1.5	2.4	2.3	0.7	1.4	1.0	1.3	2.4	0.7	7.1	2.7
Dec 11	1.5	2.1	3.8	2.8	3.8	2.8	3.3	4.0	5.0	4.6	5.2	4.8	5.2	6.5	5.5	5.9	6.3	7.0	6.7	6.1	6.9	8.4	9.3	8.4	1.5	9.3	4.4
Dec 12	6.2	4.9	4.8	8.1	8.3	14.9	14.0	12.3	11.2	9.9	10.8	10.8	10.8	9.4	8.3	7.4	6.6	6.2	5.3	2.8	4.8	4.7	0.5	0.7	0.5	14.9	7.1
Dec 13	0.5	0.6	0.5	1.2	2.0	0.8	2.4	1.1	2.4	3.4	3.6	4.9	6.4	5.7	7.1	6.6	4.0	6.7	6.4	2.6	4.2	6.0	6.0	6.1	0.5	7.1	3.6
Dec 14	5.8	3.6	3.0	2.4	1.8	1.8	2.4	3.7	3.6	3.5	4.9	5.1	5.8	5.9	4.9	4.0	2.6	1.8	2.1	1.8	1.1	2.4	3.0	3.7	1.1	5.9	**0.9**
Dec 15	3.5	3.3	3.4	1.1	1.6	1.9	1.9	1.9	2.1	2.3	3.3	4.0	3.5	3.5	5.2	7.0	6.4	7.7	7.8	8.3	8.2	8.0	7.6	7.6	1.1	8.3	3.5
Dec 16	7.3	7.8	7.3	7.8	7.2	7.4	6.8	6.6	6.7	6.2	5.4	4.6	3.6	1.3	2.8	3.5	6.9	7.2	7.2	4.8	5.7	5.7	7.8	9.3	1.3	9.3	4.9
Dec 17	11.8	12.3	12.7	13.2	12.9	11.4	13.1	14.7	13.1	14.3	13.5	12.5	11.3	11.5	11.8	10.0	9.4	8.5	5.5	3.6	2.0	3.9	3.3	4.0	2.0	14.7	9.4
Dec 18	5.7	5.8	7.1	6.3	7.6	7.2	6.1	6.5	6.2	5.4	5.1	5.1	3.9	5.4	7.8	5.0	6.0	4.0	7.2	7.6	5.4	5.6	4.1	1.5	1.5	7.8	5.1
Dec 19	5.9	9.6	11.2	9.0	6.0	7.7	5.0	3.0	3.5	2.9	2.9	3.0	4.0	6.1	6.7	4.1	5.4	6.5	6.4	5.1	3.2	4.2	5.6	6.3	2.9	11.2	1.0
Dec 20	5.9	5.9	5.1	4.0	3.4	6.4	13.6	10.7	7.2	7.3	8.1	8.2	6.6	8.1	6.4	5.9	5.0	5.8	3.8	3.4	3.9	3.9	3.7	5.2	3.4	13.6	5.2
Dec 21	6.2	5.4	5.8	6.4	6.7	9.6	8.2	5.9	5.4	4.4	5.5	5.9	6.6	6.9	6.4	7.6	5.4	7.0	7.0	3.4	2.1	4.7	6.7	7.5	2.1	9.6	4.4
Dec 22	7.2	7.8	7.7	6.6	7.8	4.7	4.1	0.8	2.7	0.3	0.7	3.4	4.8	6.1	9.5	9.8	9.7	6.9	4.0	2.7	2.3	3.0	3.1	2.3	0.3	9.8	2.1
Dec 23	4.5	3.4	2.4	2.5	3.3	3.5	4.1	4.5	5.9	7.9	11.6	11.0	9.3	6.8	7.9	17.2	**20.7**	15.2	13.7	17.5	9.5	7.3	10.1	14.7	2.4	**20.7**	8.4
Dec 24	15.0	10.6	8.1	7.1	5.8	6.2	5.1	4.9	5.8	4.7	3.7	5.0	5.5	6.0	7.0	7.9	7.5	9.1	8.1	6.4	6.3	5.2	5.1	5.0	3.7	15.0	6.2
Dec 25	4.6	6.3	6.9	5.4	5.2	5.4	4.7	3.8	3.4	1.9	2.4	0.4	1.0	3.2	2.8	4.5	2.3	2.5	1.6	2.6	2.5	3.3	4.6	3.2	0.4	6.9	1.8
Dec 26	2.3	1.0	1.6	1.2	2.1	0.9	1.4	1.3	0.1	1.4	1.9	2.2	2.0	2.2	2.7	2.2	1.4	**0.0**	0.7	0.4	0.5	0.6	1.3	2.1	**0.0**	2.7	1.2
Dec 27	0.7	1.3	2.1	1.6	1.6	3.1	2.2	2.9	2.6	2.7	2.3	1.7	1.7	2.8	3.9	5.5	5.8	7.0	6.7	5.5	4.5	2.7	4.3	5.5	0.7	7.0	2.9
Dec 28	5.6	5.4	5.0	3.8	3.0	2.7	4.0	3.9	1.0	2.4	5.2	8.1	9.2	8.5	10.8	9.2	8.8	8.4	8.8	7.8	8.2	8.0	8.2	7.8	1.0	10.8	6.1
Dec 29	6.6	7.1	6.8	4.3	5.5	4.0	2.6	2.4	1.9	2.7	3.6	2.9	3.7	4.0	4.6	4.0	3.0	3.9	4.9	5.0	6.3	3.9	2.6	2.9	1.9	7.1	3.9
Dec 30	2.9	2.3	2.4	3.8	3.6	4.8	3.9	3.0	2.1	2.4	1.8	5.0	5.3	5.8	3.5	0.7	1.6	2.5	0.9	2.0	1.0	1.7	2.3	3.1	0.7	5.8	2.5
Dec 31	2.4	1.1	3.2	3.9	5.0	5.0	3.4	4.5	4.3	1.3	1.8	2.9	2.4	3.7	4.0	4.0	6.3	6.5	7.0	6.8	7.1	5.8	6.1	7.9	1.1	7.9	1.4
Diurnal Maximum	15	12	13	13	13	15	14	15	13	14	14	13	18	18	17	17	21	16	14	18	10	8	10	15			
Diurnal Average	5.8	5.6	5.7	5.5	5.6	6.0	6.0	5.6	5.2	5.2	5.8	6.2	6.2	6.5	6.5	6.2	5.9	5.8	5.7	5.0	4.8	4.8	5.2	5.6			

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.

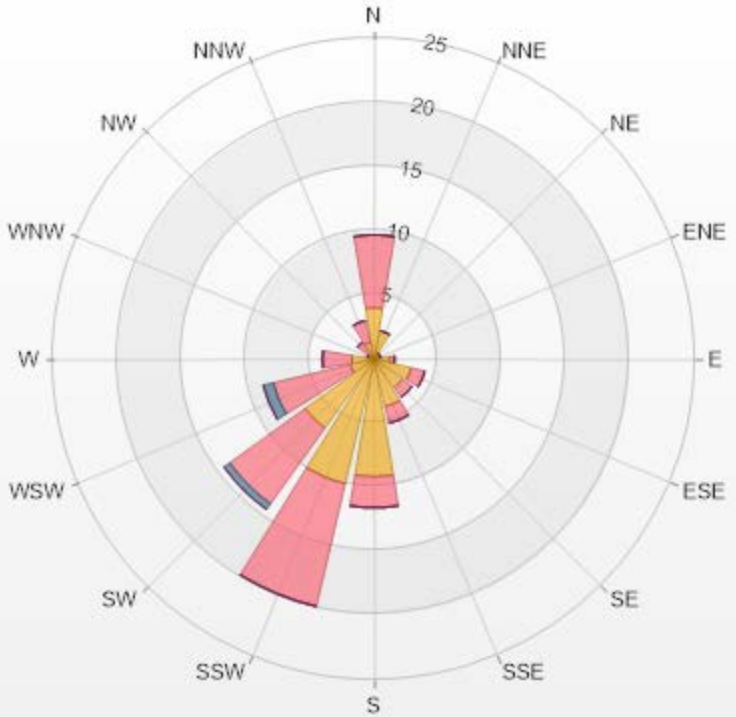
Timeseries Chart of Hourly Average for VWS - Reno Station



Wind: PRAMP RENO Monitor: WDS [KPH] Monthly: 12-2020 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 8.74% 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	4.03	5.65	0	0	0	9.68
NNE	2.28	0	0	0	0	2.28
NE	0.54	0	0	0	0	0.54
ENE	0.4	0.13	0	0	0	0.53
E	1.21	0.4	0	0	0	1.61
ESE	2.96	1.08	0	0	0	4.04
SE	2.69	0.94	0	0	0	3.63
SSE	3.76	1.34	0	0	0	5.1
S	9.14	2.42	0	0	0	11.56
SSW	9.95	9.81	0	0	0	19.76
SW	6.59	7.26	0.54	0	0	14.39
WSW	1.88	6.18	0.81	0	0	8.87
W	1.75	2.28	0	0	0	4.03
WNW	0.54	0	0	0	0	0.54
NW	0.27	1.34	0	0	0	1.61
NNW	1.34	1.75	0	0	0	3.09
Summary	49.33	40.58	1.35	0	0	91.26

PRAMP RENO 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 8.74% Calm Wind Avg Speed: 1.11(KPH)



% Icon Classes (KPH)	49 1.8-6.0	41 6.0-15.0	1 15.0-29.0	0 29.0-39.0	0 >39.0

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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 223 (SW) degree

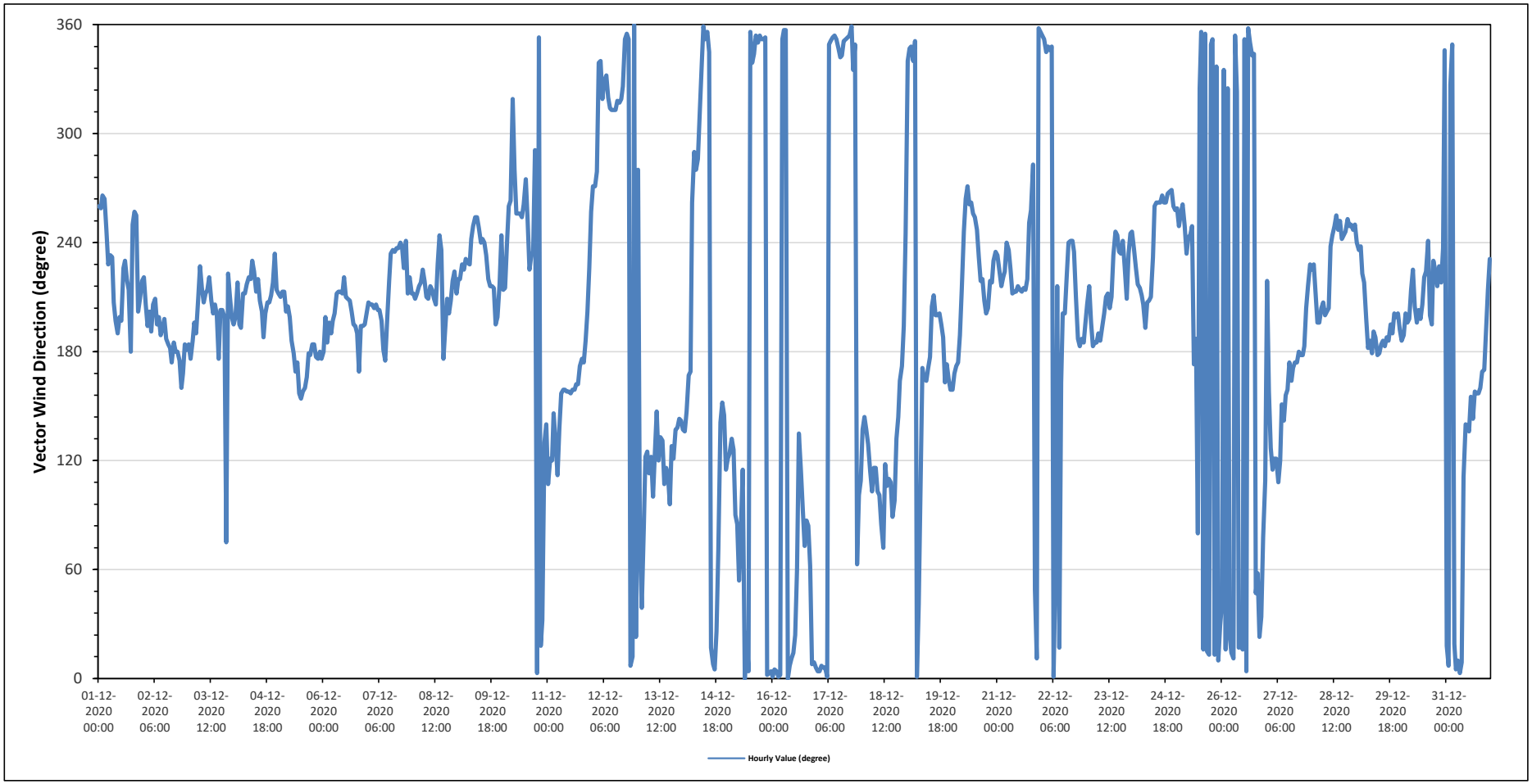
Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Operational Uptime:	100.0

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	WSW	WSW	W	W	WSW	SW	SW	SW	SSW	SSW	S	SSW	SSW	SW	SW	SW	SSW	S	WSW	WSW	WSW	SSW	SSW	SW	229	SW
Dec 2	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	S	S	SSW	S	S	S	S	S	S	S	S	SSE	SSE	S	S	193	S
Dec 3	S	S	S	SSW	S	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	ENE	SW	SSW	SSW	205	SSW
Dec 4	SSW	SSW	SW	SSW	S	SSW	SSW	SW	SW	SW	SW	SW	SSW	SW	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	SW	SSW	213	SSW
Dec 5	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	183	S
Dec 6	S	SSW	S	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	SSW	SSW	SSW	SSW	202	SSW
Dec 7	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	WSW	SSW	SW	SSW	221	SW
Dec 8	SSW	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SW	SSW	SSW	SSW	SW	WSW	SW	S	S	SSW	SSW	SSW	SW	SW	SSW	215	SSW
Dec 9	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SW	WSW	232	SW
Dec 10	SSW	SSW	WSW	WSW	W	NW	W	WSW	WSW	WSW	WSW	W	W	WSW	SW	SW	SW	WNW	N	N	NNE	NNE	SE	SE	254	WSW
Dec 11	ESE	ESE	ESE	SE	SE	ESE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	SSW	SW	WSW	170	SSE
Dec 12	W	W	W	NNW	NNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	N	N	N	NNE	N	NNE	323	NW
Dec 13	W	ENE	NE	E	ESE	SE	ESE	ESE	E	ESE	SE	ESE	SE	SE	ESE	ESE	ESE	E	SE	ESE	SE	SE	SE	SE	124	ESE
Dec 14	SE	SE	SE	SSE	SSE	W	WNW	W	WNW	NW	NNW	N	N	N	NNW	NNE	N	N	NNE	ENE	SE	SSE	SE	ESE	6	N
Dec 15	ESE	ESE	SE	SE	E	E	NE	E	ESE	N	NNE	N	N	NNW	NNW	N	N	N	N	N	N	N	N	N	8	N
Dec 16	N	N	N	N	N	N	N	N	N	N	NNE	NNE	NNE	ENE	SE	ESE	E	ENE	E	E	ENE	N	N	N	22	NNE
Dec 17	N	N	N	N	N	N	NNW	N	N	N	N	NNW	NNW	NNW	N	N	N	N	N	NNW	NNW	ENE	E	ESE	358	N
Dec 18	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	E	E	ENE	ESE	ESE	ESE	ESE	E	E	SE	SE	SSE	S	SSW	WSW	121	ESE
Dec 19	NNW	NNW	NNW	NNW	N	N	NE	ESE	S	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	S	SSE	SSE	205	SSW
Dec 20	SSE	SSE	S	S	S	SSW	WSW	W	W	W	W	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SW	SW	SW	SW	230	SW
Dec 21	SW	SW	SW	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	WSW	WSW	W	NE	NNE	N	N	234	SW
Dec 22	N	N	NNW	NNW	NNW	NNW	N	NE	SW	NNE	SSE	SSW	SSW	SW	WSW	WSW	WSW	SW	SSW	S	S	S	S	SSW	265	W
Dec 23	SSW	SW	SSW	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	SW	SW	WSW	SW	SSW	SW	WSW	224	SW
Dec 24	WSW	SW	SW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	WSW	W	W	W	W	W	W	W	W	W	WSW	WSW	243	WSW
Dec 25	WSW	WSW	WSW	W	WSW	SW	WSW	WSW	WSW	S	S	E	NW	N	NNE	N	NNE	NNE	NNW	N	NNE	NNW	N	NNE	288	WNW
Dec 26	NE	NNW	NNE	NW	NNE	NNE	NNE	N	NW	NNE	NNE	NNE	N	N	N	N	NNW	NNW	NE	ENE	NNE	NE	ENE	ESE	15	NNE
Dec 27	SW	SSE	SE	ESE	ESE	ESE	ESE	ESE	SSE	SE	SSE	SSE	S	SSE	S	S	S	S	S	S	S	SSW	SW	SW	171	S
Dec 28	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	239	WSW
Dec 29	WSW	SW	SW	SW	SW	SSW	S	S	S	S	S	S	S	S	S	S	S	S	SSW	S	SSW	SSW	SSW	S	202	SSW
Dec 30	S	S	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SSW	SSW	SW	SW	SW	SW	SW	SW	NNW	214	SSW
Dec 31	NNE	N	NW	NNW	NNE	N	N	N	N	ESE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSW	SW	159	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 (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

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Timeseries Chart of Hourly Average for VWD - Reno Station



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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	20.7	kph	on December 23 at hour 16	Hours in Service:	744
Maximum Daily Value:	10.3	kph	on December 7	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on December 26 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	0.9	kph	on December 14	Hours of Calibration:	0
Monthly Average:	2.7	kph		Operational Uptime:	100

WIND DIRECTION

Monthly Average: 223 (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	11.5	9.4	8.3	8.0	7.0	6.4	7.1	5.7	4.8	6.1	8.2	11.5	10.1	11.2	14.3	12.0	10.6	2.2	9.8	10.1	5.0	3.7	6.8	9.4	2.2	14.3	7.6
	WSW	WSW	W	W	WSW	SW	SW	SW	SSW	SSW	S	SSW	SSW	SW	SW	SW	SSW	S	WSW	WSW	WSW	SSW	SSW	SW			
Dec 2	10.4	11.0	7.4	9.2	7.9	9.3	10.9	9.3	7.8	6.7	6.4	7.2	5.6	6.3	4.2	5.0	3.1	2.8	4.3	4.5	5.3	5.2	6.8	7.1	2.8	11.0	6.6
	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	S	S	SSW	S	S	S	S	S	S	S	S	SSE	SSE	S	S			
Dec 3	6.2	5.1	3.7	2.8	2.5	4.0	5.7	5.0	5.0	7.0	6.6	6.8	5.0	5.3	2.9	1.8	0.5	1.2	1.8	1.3	1.1	4.5	4.5	2.8	0.5	7.0	3.7
	S	S	S	SSW	S	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	ENE	SW	SSW	SSW			
Dec 4	2.0	2.5	5.0	4.4	7.9	12.1	11.0	9.3	9.3	9.4	10.6	8.4	8.2	7.8	3.7	1.8	3.4	7.4	8.1	7.3	6.6	6.1	3.9	4.5	1.8	12.1	6.6
	SSW	SSW	SW	SSW	S	SSW	SSW	SW	SW	SW	SW	SW	SSW	SW	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	SW	SSW			
Dec 5	7.6	7.3	8.0	4.9	6.4	6.5	5.0	4.2	3.6	5.5	3.6	5.2	7.3	8.0	6.9	6.1	5.1	4.0	3.4	4.3	5.4	4.7	6.2	6.6	3.4	8.0	5.3
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S			
Dec 6	5.2	3.8	3.7	5.3	7.0	8.1	8.6	10.8	10.8	10.7	9.9	9.0	9.8	7.1	6.0	6.3	6.2	6.0	5.4	3.5	6.9	7.9	8.3	7.7	3.5	10.8	7.1
	S	SSW	S	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	SSW	SSW	SSW	SSW			
Dec 7	11.0	11.6	10.2	10.5	11.0	7.9	8.1	7.6	3.6	5.4	10.3	13.2	17.7	18.4	16.5	17.0	14.2	15.9	12.2	8.3	10.3	5.1	5.9	6.3	3.6	18.4	**10.3**
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	WSW	SSW	SW	SSW			
Dec 8	4.7	5.0	6.4	7.2	6.0	7.7	8.0	7.7	5.9	4.0	6.2	8.9	6.4	6.8	5.1	2.8	1.4	1.8	3.4	4.8	6.4	7.0	5.2	6.2	1.4	8.9	5.5
	SSW	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SW	SSW	SSW	SSW	SW	WSW	SW	S	S	SSW	SSW	SSW	SW	SW	SSW			
Dec 9	5.5	6.0	7.7	8.3	7.8	7.5	6.7	8.1	8.2	7.8	7.5	7.7	7.9	7.5	7.4	4.7	4.7	5.2	5.3	4.1	3.2	4.9	6.2	6.9	3.2	8.3	6.3
	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SW	WSW			
Dec 10	4.0	3.6	5.7	6.1	4.8	3.7	2.5	4.7	7.1	5.3	6.2	3.9	2.2	4.4	4.5	2.9	1.5	2.4	2.3	0.7	1.4	1.0	1.3	2.4	0.7	7.1	2.7
	SSW	SSW	WSW	WSW	W	NW	W	WSW	WSW	WSW	WSW	W	W	WSW	SW	SW	SW	WNW	N	N	NNE	NNE	SE	SE			
Dec 11	1.5	2.1	3.8	2.8	3.8	2.8	3.3	4.0	5.0	4.6	5.2	4.8	5.2	6.5	5.5	5.9	6.3	7.0	6.7	6.1	6.9	8.4	9.3	8.4	1.5	9.3	4.4
	ESE	ESE	ESE	SE	SE	ESE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	SSW	SW	WSW			
Dec 12	6.2	4.9	4.8	8.1	8.3	14.9	14.0	12.3	11.2	9.9	10.8	10.8	10.8	9.4	8.3	7.4	6.6	6.2	5.3	2.8	4.8	4.7	0.5	0.7	0.5	14.9	7.1
	W	W	W	NNW	NNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	N	N	N	NNE	N	NNE			
Dec 13	0.5	0.6	0.5	1.2	2.0	0.8	2.4	1.1	2.4	3.4	3.6	4.9	6.4	5.7	7.1	6.6	4.0	6.7	6.4	2.6	4.2	6.0	6.0	6.1	0.5	7.1	3.6
	W	ENE	NE	E	ESE	SE	ESE	ESE	E	ESE	SE	ESE	SE	SE	ESE	ESE	ESE	E	SE	ESE	SE	SE	SE	SE			
Dec 14	5.8	3.6	3.0	2.4	1.8	1.8	2.4	3.7	3.6	3.5	4.9	5.1	5.8	5.9	4.9	4.0	2.6	1.8	2.1	1.8	1.1	2.4	3.0	3.7	1.1	5.9	**0.9**
	SE	SE	SE	SSE	SSE	W	WNW	W	WNW	NW	NNW	N	N	N	NNW	NNE	N	N	NNE	ENE	SE	SSE	SE	ESE			
Dec 15	3.5	3.3	3.4	1.1	1.6	1.9	1.9	1.9	2.1	2.3	3.3	4.0	3.5	3.5	5.2	7.0	6.4	7.7	7.8	8.3	8.2	8.0	7.6	7.6	1.1	8.3	3.5
	ESE	ESE	SE	SE	E	E	NE	E	ESE	N	NNE	N	N	NNW	NNW	N	N	N	N	N	N	N	N	N			
Dec 16	7.3	7.8	7.3	7.8	7.2	7.4	6.8	6.6	6.7	6.2	5.4	4.6	3.6	1.3	2.8	3.5	6.9	7.2	7.2	4.8	5.7	5.7	7.8	9.3	1.3	9.3	4.9
	N	N	N	N	N	N	N	N	N	N	NNE	NNE	NNE	ENE	SE	ESE	E	ENE	E	E	ENE	N	N	N			
Dec 17	11.8	12.3	12.7	13.2	12.9	11.4	13.1	14.7	13.1	14.3	13.5	12.5	11.3	11.5	11.8	10.0	9.4	8.5	5.5	3.6	2.0	3.9	3.3	4.0	2.0	14.7	9.4
	N	N	N	N	N	N	NNW	N	N	N	N	NNW	NNW	NNW	N	N	N	N	N	NNW	NNW	ENE	E	ESE			
Dec 18	5.7	5.8	7.1	6.3	7.6	7.2	6.1	6.5	6.2	5.4	5.1	5.1	3.9	5.4	7.8	5.0	6.0	4.0	7.2	7.6	5.4	5.6	4.1	1.5	1.5	7.8	5.1
	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	E	E	ENE	ESE	ESE	ESE	ESE	E	E	SE	SE	SSE	S	SSW	WSW			
Dec 19	5.9	9.6	11.2	9.0	6.0	7.7	5.0	3.0	3.5	2.9	2.9	3.0	4.0	6.1	6.7	4.1	5.4	6.5	6.4	5.1	3.2	4.2	5.6	6.3	2.9	11.2	1.0
	NNW	NNW	NNW	NNW	N	N	NE	ESE	S	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	S	SSE	SSE			
Dec 20	5.9	5.9	5.1	4.0	3.4	6.4	13.6	10.7	7.2	7.3	8.1	8.2	6.6	8.1	6.4	5.9	5.0	5.8	3.8	3.4	3.9	3.9	3.7	5.2	3.4	13.6	5.2
	SSE	SSE	S	S	S	SSW	WSW	W	W	W	W	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SW	SW	SW	SW			

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PEACE RIVER AREA MONITORING PROGRAM

Reno Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	20.7	kph	on December 23 at hour 16	Hours in Service:	744
Maximum Daily Value:	10.3	kph	on December 7	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on December 26 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	0.9	kph	on December 14	Hours of Calibration:	0
Monthly Average:	2.7	kph		Operational Uptime:	100

WIND DIRECTION

Monthly Average: 223 (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	6.2	5.4	5.8	6.4	6.7	9.6	8.2	5.9	5.4	4.4	5.5	5.9	6.6	6.9	6.4	7.6	5.4	7.0	7.0	3.4	2.1	4.7	6.7	7.5	2.1	9.6	4.4
	SW	SW	SW	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	WSW	WSW	W	NE	NNE	N	N			
Dec 22	7.2	7.8	7.7	6.6	7.8	4.7	4.1	0.8	2.7	0.3	0.7	3.4	4.8	6.1	9.5	9.8	9.7	6.9	4.0	2.7	2.3	3.0	3.1	2.3	0.3	9.8	2.1
	N	N	NNW	NNW	NNW	NNW	N	NE	SW	NNE	SSE	SSW	SSW	SW	WSW	WSW	WSW	SW	SSW	S	S	S	S	SSW			
Dec 23	4.5	3.4	2.4	2.5	3.3	3.5	4.1	4.5	5.9	7.9	11.6	11.0	9.3	6.8	7.9	17.2	**20.7**	15.2	13.7	17.5	9.5	7.3	10.1	14.7	2.4	**20.7**	8.4
	SSW	SW	SSW	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	SW	SW	WSW	SW	SSW	SW	WSW			
Dec 24	15.0	10.6	8.1	7.1	5.8	6.2	5.1	4.9	5.8	4.7	3.7	5.0	5.5	6.0	7.0	7.9	7.5	9.1	8.1	6.4	6.3	5.2	5.1	5.0	3.7	15.0	6.2
	WSW	SW	SW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	WSW	W	W	W	W	W	W	W	W	W	WSW	WSW			
Dec 25	4.6	6.3	6.9	5.4	5.2	5.4	4.7	3.8	3.4	1.9	2.4	0.4	1.0	3.2	2.8	4.5	2.3	2.5	1.6	2.6	2.5	3.3	4.6	3.2	0.4	6.9	1.8
	WSW	WSW	WSW	W	WSW	SW	WSW	WSW	WSW	S	S	E	NW	N	NNE	N	NNE	NNE	NNW	N	NNE	NNW	N	NNE			
Dec 26	2.3	1.0	1.6	1.2	2.1	0.9	1.4	1.3	0.1	1.4	1.9	2.2	2.0	2.2	2.7	2.2	1.4	**0.0**	0.7	0.4	0.5	0.6	1.3	2.1	**0.0**	2.7	1.2
	NE	NNW	NNE	NW	NNE	NNE	NNE	N	NW	NNE	NNE	NNE	N	N	N	N	NNW	NNW	NE	ENE	NNE	NE	ENE	ESE			
Dec 27	0.7	1.3	2.1	1.6	1.6	3.1	2.2	2.9	2.6	2.7	2.3	1.7	1.7	2.8	3.9	5.5	5.8	7.0	6.7	5.5	4.5	2.7	4.3	5.5	0.7	7.0	2.9
	SW	SSE	SE	ESE	ESE	ESE	ESE	ESE	SSE	SE	SSE	SSE	S	SSE	S	S	S	S	S	S	S	SSW	SW	SW			
Dec 28	5.6	5.4	5.0	3.8	3.0	2.7	4.0	3.9	1.0	2.4	5.2	8.1	9.2	8.5	10.8	9.2	8.8	8.4	8.8	7.8	8.2	8.0	8.2	7.8	1.0	10.8	6.1
	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW			
Dec 29	6.6	7.1	6.8	4.3	5.5	4.0	2.6	2.4	1.9	2.7	3.6	2.9	3.7	4.0	4.6	4.0	3.0	3.9	4.9	5.0	6.3	3.9	2.6	2.9	1.9	7.1	3.9
	WSW	SW	SW	SW	SW	SSW	S	S	S	S	S	S	S	S	S	S	S	S	SSW	S	SSW	SSW	SSW	S			
Dec 30	2.9	2.3	2.4	3.8	3.6	4.8	3.9	3.0	2.1	2.4	1.8	5.0	5.3	5.8	3.5	0.7	1.6	2.5	0.9	2.0	1.0	1.7	2.3	3.1	0.7	5.8	2.5
	S	S	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SSW	SSW	SW	SW	SW	SW	SW	SW	NNW			
Dec 31	2.4	1.1	3.2	3.9	5.0	5.0	3.4	4.5	4.3	1.3	1.8	2.9	2.4	3.7	4.0	4.0	6.3	6.5	7.0	6.8	7.1	5.8	6.1	7.9	1.1	7.9	1.4
	NNE	N	NW	NNW	NNE	N	N	N	N	ESE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSW	SW			

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 CADOTTE LAKE STATION

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

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

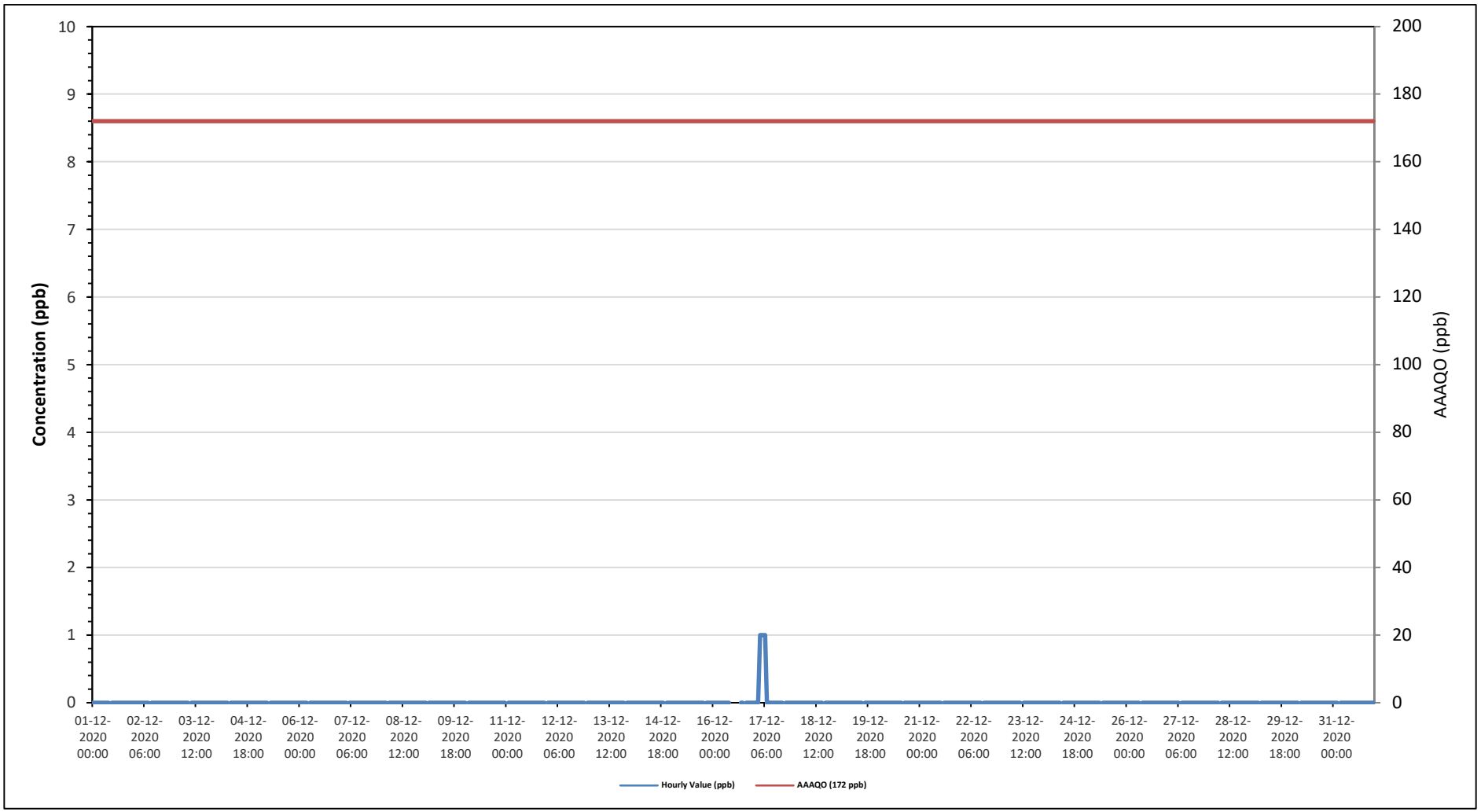
Maximum Hourly Value:	1	ppb	on December 17 at hour 3	Hours in Service:	744
Maximum Daily Value:	0.2	ppb	on December 17	Hours of Data:	706
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on December 1	Hours of Calibration:	38
Monthly Average:	0.0	ppb		Operational Uptime:	100.0

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

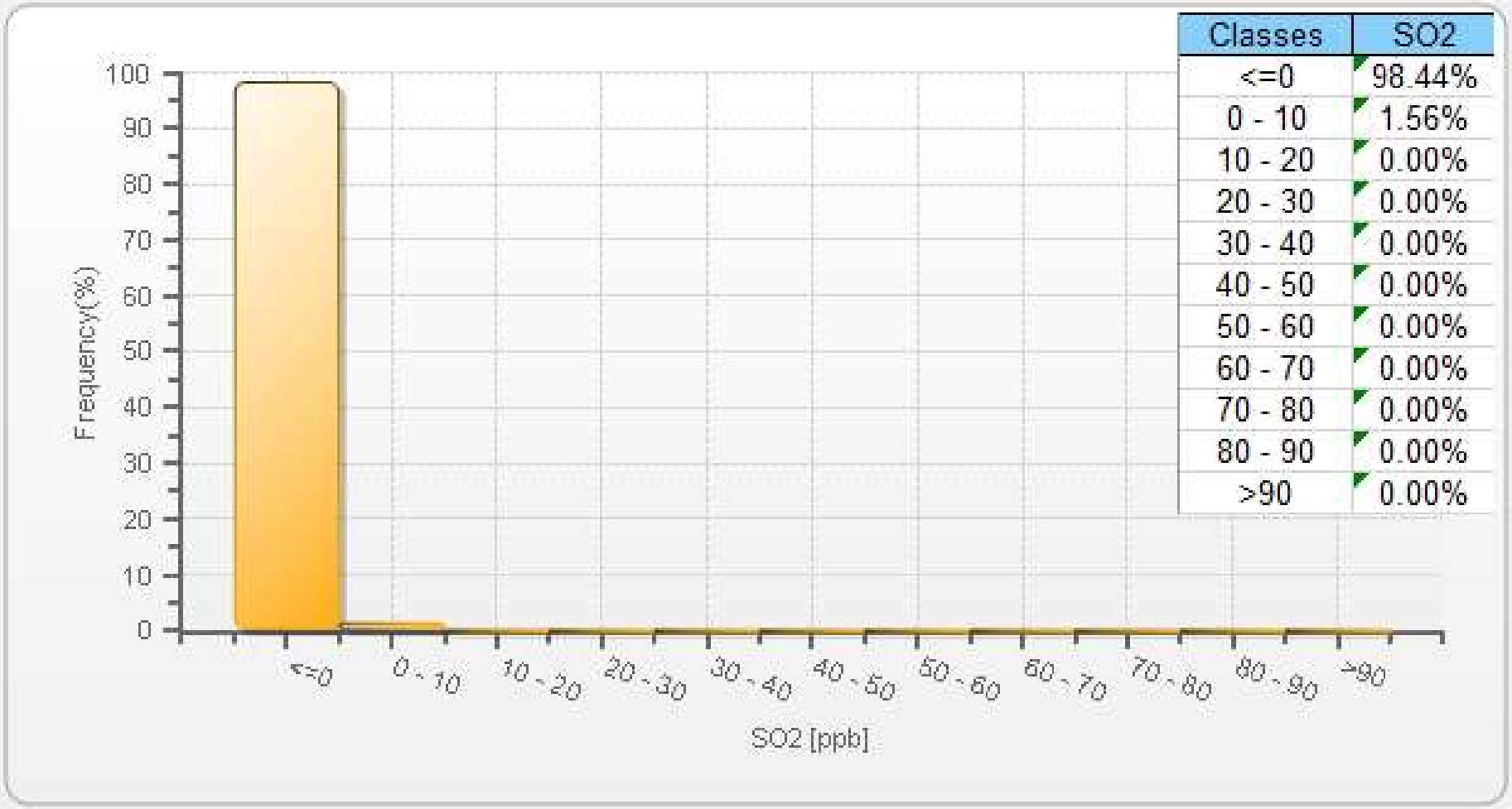
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 SO2 - AQHI - Cadotte Lake Station



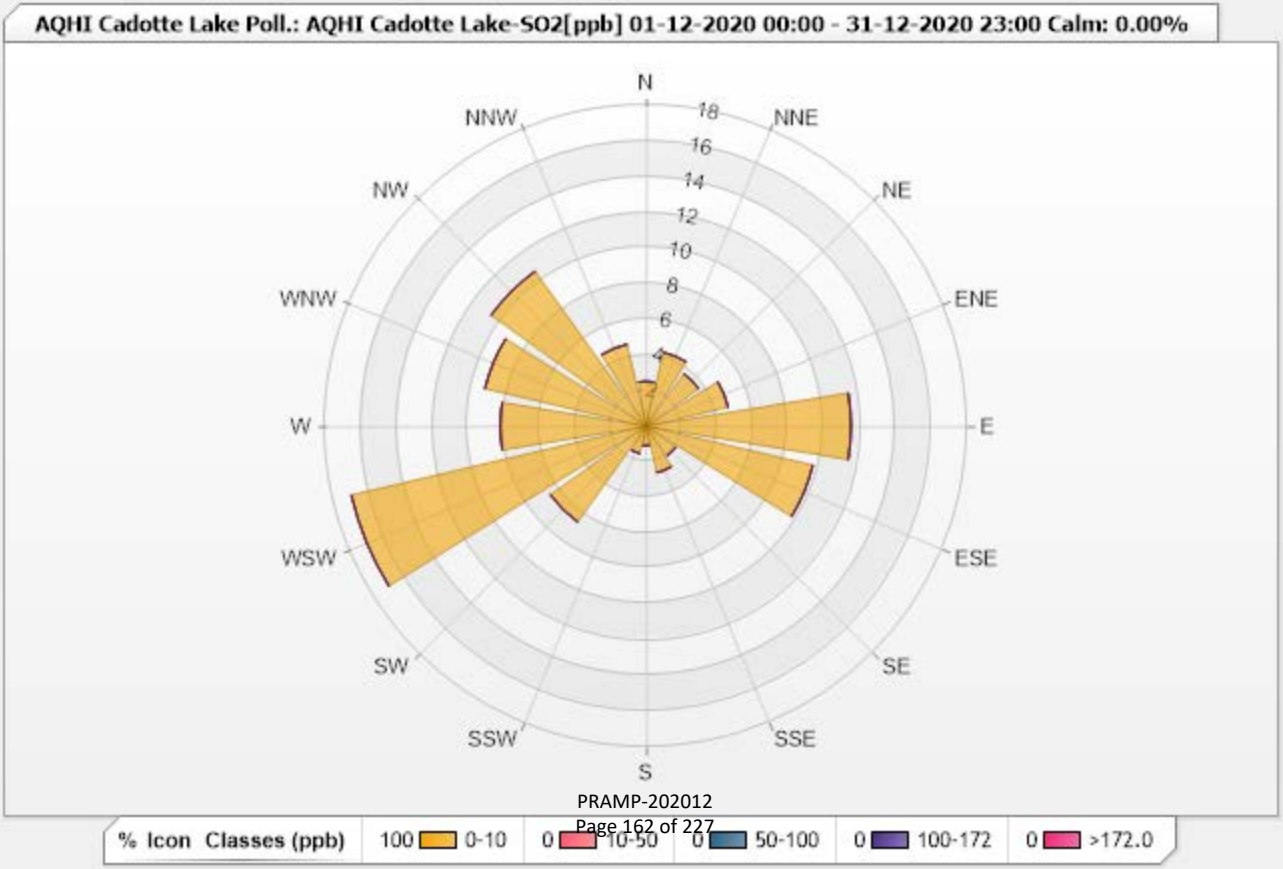
SO2[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	SO2
<=0	98.44%
0 - 10	1.56%
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 Cadotte Lake Poll.: AQHI Cadotte Lake-SO2[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.48% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	2.52	0	0	0	0	2.52
NNE	4.25	0	0	0	0	4.25
NE	3.62	0	0	0	0	3.62
ENE	4.72	0	0	0	0	4.72
E	11.48	0	0	0	0	11.48
ESE	9.59	0	0	0	0	9.59
SE	2.04	0	0	0	0	2.04
SSE	2.67	0	0	0	0	2.67
S	1.1	0	0	0	0	1.1
SSW	1.57	0	0	0	0	1.57
SW	6.6	0	0	0	0	6.6
WSW	16.98	0	0	0	0	16.98
W	8.18	0	0	0	0	8.18
WNW	9.28	0	0	0	0	9.28
NW	10.69	0	0	0	0	10.69
NNW	4.72	0	0	0	0	4.72
Summary	100	0	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-SO2[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

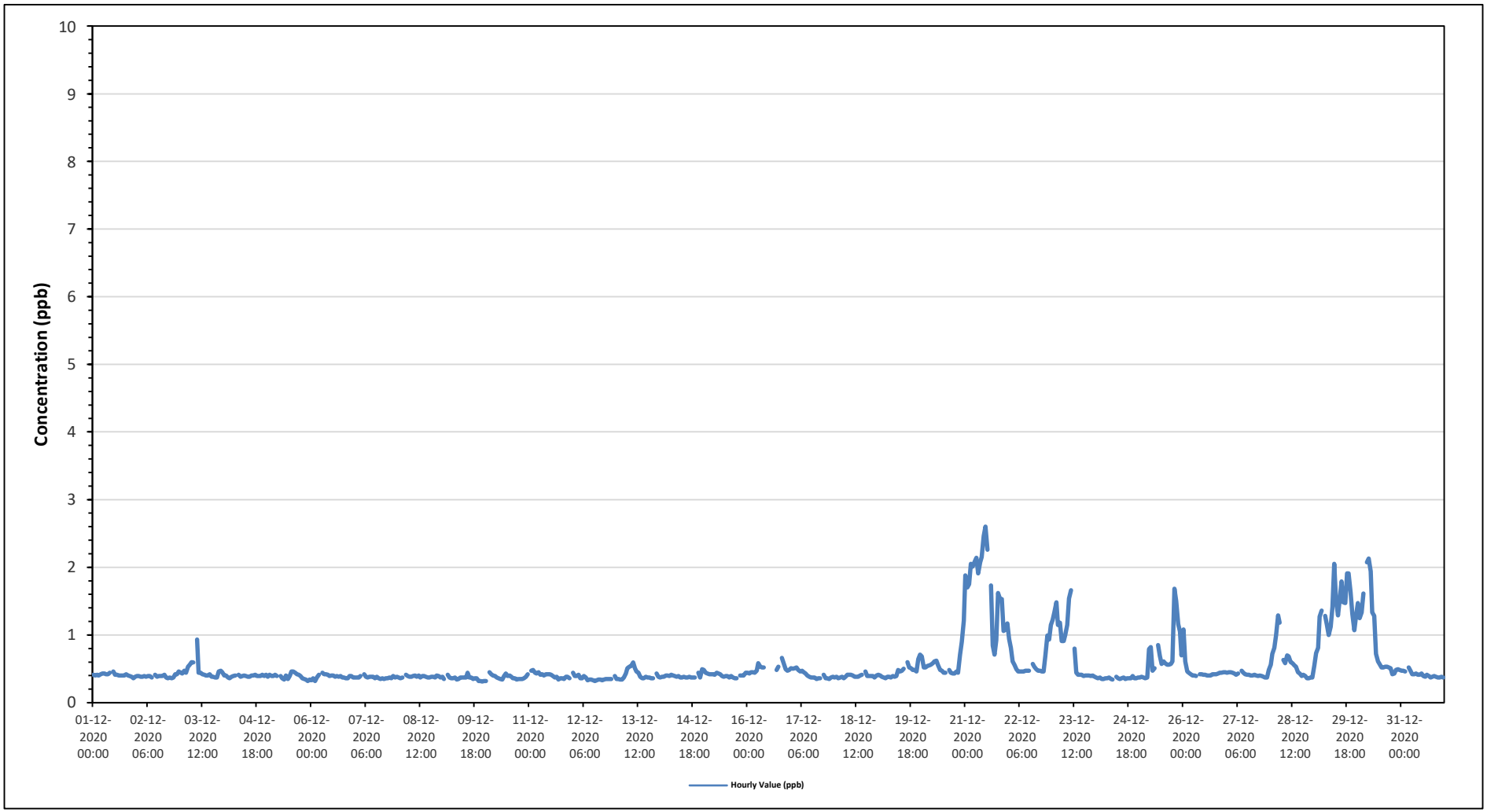
Maximum Hourly Value:	2.60	ppb	on December 21 at hour 11	Hours in Service:	744
Maximum Daily Value:	1.71	ppb	on December 21	Hours of Data:	706
Minimum Hourly Value:	0.31	ppb	on December 9 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	0.36	ppb	on December 12	Hours of Calibration:	38
Monthly Average:	0.54	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	0.41	0.4	0.41	0.4	0.42	0.43	0.43	0.42	0.42	0.44	S	0.46	0.41	0.41	0.4	0.4	0.4	0.4	0.42	0.4	0.39	0.38	0.36	0.38	0.36	0.46	0.41
Dec 2	0.39	0.39	0.38	0.38	0.39	0.38	0.39	0.39	0.37	S	0.41	0.38	0.39	0.39	0.39	0.41	0.37	0.36	0.37	0.36	0.37	0.42	0.42	0.46	0.36	0.46	0.39
Dec 3	0.44	0.43	0.47	0.44	0.53	0.56	0.6	0.59	S	0.93	0.44	0.44	0.42	0.41	0.4	0.4	0.42	0.38	0.38	0.37	0.37	0.46	0.47	0.45	0.37	0.93	0.47
Dec 4	0.4	0.4	0.37	0.36	0.38	0.39	0.4	S	0.41	0.38	0.39	0.4	0.39	0.38	0.38	0.4	0.4	0.41	0.39	0.39	0.39	0.41	0.39	0.41	0.36	0.41	0.39
Dec 5	0.38	0.41	0.39	0.39	0.41	0.39	S	0.39	0.36	0.34	0.4	0.35	0.39	0.46	0.46	0.44	0.42	0.41	0.39	0.36	0.35	0.34	0.32	0.34	0.32	0.46	0.39
Dec 6	0.33	0.36	0.32	0.37	0.41	S	0.44	0.42	0.42	0.41	0.39	0.4	0.4	0.38	0.39	0.38	0.39	0.37	0.37	0.36	0.36	0.39	0.39	0.37	0.32	0.44	0.38
Dec 7	0.37	0.37	0.37	0.39	S	0.42	0.38	0.37	0.38	0.38	0.38	0.36	0.38	0.36	0.35	0.36	0.35	0.36	0.36	0.37	0.36	0.39	0.37	0.38	0.35	0.42	0.37
Dec 8	0.37	0.36	0.37	S	0.41	0.39	0.38	0.38	0.39	0.4	0.38	0.4	0.37	0.39	0.39	0.38	0.37	0.37	0.38	0.38	0.37	0.4	0.39	0.37	0.36	0.41	0.38
Dec 9	0.38	0.35	S	0.41	0.37	0.36	0.36	0.37	0.34	0.35	0.37	0.37	0.37	0.37	0.44	0.37	0.37	0.35	0.36	0.36	0.32	0.32	0.31	0.32	**0.31**	0.44	0.36
Dec 10	0.32	S	0.45	0.42	0.4	0.39	0.37	0.36	0.35	0.34	0.39	0.43	0.39	0.4	0.38	0.36	0.36	0.34	0.35	0.35	0.35	0.36	0.38	0.42	0.32	0.45	0.38
Dec 11	S	0.47	0.48	0.44	0.43	0.45	0.41	0.42	0.4	0.42	0.42	0.42	0.41	0.39	0.37	0.38	0.34	0.36	0.36	0.35	0.38	0.38	0.36	S	0.34	0.48	0.40
Dec 12	0.44	0.39	0.39	0.41	0.36	0.36	0.39	0.37	0.33	0.34	0.34	0.33	0.32	0.33	0.34	0.34	0.33	0.34	0.35	0.35	0.35	0.35	S	0.39	0.32	0.44	0.36
Dec 13	0.35	0.35	0.34	0.34	0.37	0.43	0.51	0.53	0.54	0.59	0.51	0.46	0.44	0.38	0.36	0.36	0.38	0.37	0.37	0.36	0.36	S	0.43	0.38	0.34	0.59	0.41
Dec 14	0.37	0.38	0.38	0.4	0.4	0.39	0.41	0.4	0.39	0.38	0.39	0.37	0.37	0.38	0.37	0.37	0.38	0.37	0.37	0.37	S	0.44	0.37	0.49	0.37	0.49	0.39
Dec 15	0.48	0.44	0.43	0.42	0.42	0.42	0.41	0.44	0.43	0.42	0.39	0.38	0.39	0.39	0.37	0.39	0.37	0.36	0.36	S	0.4	0.4	0.4	0.44	0.36	0.48	0.41
Dec 16	0.44	0.43	0.45	0.45	0.44	0.47	0.58	0.53	0.52	0.52	C	C	C	C	C	C	0.48	0.53	S	0.66	0.58	0.49	0.47	0.48	0.43	0.66	-
Dec 17	0.51	0.5	0.51	0.52	0.48	0.46	0.47	0.45	0.43	0.4	0.38	0.37	0.37	0.37	0.35	0.36	0.36	S	0.41	0.36	0.36	0.35	0.37	0.38	0.35	0.52	0.41
Dec 18	0.37	0.38	0.36	0.37	0.38	0.36	0.38	0.41	0.41	0.41	0.4	0.38	0.38	0.38	0.4	0.41	S	0.46	0.39	0.39	0.39	0.39	0.37	0.4	0.36	0.46	0.39
Dec 19	0.41	0.4	0.38	0.37	0.36	0.38	0.38	0.37	0.39	0.38	0.39	0.48	0.46	0.47	0.5	S	0.6	0.52	0.51	0.48	0.48	0.46	0.64	0.71	0.36	0.71	0.46
Dec 20	0.68	0.52	0.52	0.54	0.55	0.56	0.58	0.61	0.62	0.55	0.48	0.47	0.44	0.44	S	0.48	0.44	0.43	0.43	0.46	0.44	0.71	0.9	1.21	0.43	1.21	0.57
Dec 21	1.88	1.7	1.75	2.05	2.01	2.07	2.14	1.91	2.07	2.15	2.46	**2.6**	2.26	S	1.73	0.84	0.71	0.92	1.62	1.53	1.53	1.06	1.08	1.17	0.71	**2.60**	**1.71**
Dec 22	0.94	0.81	0.61	0.56	0.49	0.46	0.46	0.46	0.46	0.47	0.47	0.47	S	0.57	0.53	0.49	0.47	0.47	0.46	0.46	0.69	0.99	0.93	1.15	0.46	1.15	0.60
Dec 23	1.22	1.34	1.48	1.15	1.18	0.91	0.91	1	1.15	1.54	1.66	S	0.8	0.44	0.41	0.41	0.41	0.39	0.4	0.4	0.4	0.39	0.4	0.38	0.38	1.66	0.82
Dec 24	0.37	0.36	0.37	0.35	0.35	0.36	0.36	0.37	0.35	0.34	S	0.38	0.36	0.35	0.36	0.37	0.35	0.36	0.36	0.36	0.39	0.36	0.36	0.37	0.34	0.39	0.36
Dec 25	0.37	0.38	0.37	0.36	0.37	0.79	0.82	0.47	0.51	S	0.85	0.69	0.57	0.61	0.58	0.56	0.56	0.57	0.61	1.68	1.5	1.16	1.05	0.7	0.36	1.68	0.70
Dec 26	1.08	0.61	0.46	0.44	0.42	0.4	0.4	0.39	S	0.42	0.42	0.41	0.41	0.4	0.4	0.4	0.42	0.42	0.42	0.43	0.44	0.44	0.45	0.45	0.39	1.08	0.46
Dec 27	0.44	0.45	0.45	0.44	0.43	0.41	0.43	S	0.47	0.44	0.42	0.41	0.41	0.4	0.4	0.41	0.4	0.39	0.4	0.39	0.38	0.37	0.37	0.48	0.37	0.48	0.42
Dec 28	0.56	0.72	0.81	1	1.29	1.18	S	0.63	0.58	0.7	0.68	0.6	0.58	0.55	0.53	0.45	0.43	0.39	0.41	0.39	0.36	0.36	0.37	0.37	0.36	1.29	0.61
Dec 29	0.55	0.73	0.81	1.27	1.36	S	1.28	1.15	1	1.12	1.41	2.05	1.52	1.29	1.53	1.79	1.48	1.47	1.91	1.91	1.63	1.31	1.07	1.29	0.55	2.05	1.34
Dec 30	1.47	1.25	1.33	1.61	S	2.07	2.13	1.94	1.33	1.28	0.72	0.61	0.57	0.52	0.52	0.53	0.53	0.52	0.51	0.42	0.43	0.48	0.49	0.48	0.42	2.13	0.95
Dec 31	0.47	0.47	0.46	S	0.52	0.47	0.42	0.42	0.43	0.41	0.41	0.43	0.39	0.38	0.41	0.39	0.37	0.38	0.39	0.38	0.37	0.37	0.38	0.37	0.37	0.52	0.41
Diurnal Maximum	1.88	1.70	1.75	2.05	2.01	2.07	2.14	1.94	2.07	2.15	2.46	2.60	2.26	1.29	1.73	1.79	1.48	1.47	1.91	1.91	1.63	1.31	1.08	1.29			
Diurnal Average	0.57	0.55	0.56	0.59	0.56	0.59	0.61	0.58	0.56	0.59	0.60	0.56	0.53	0.45	0.50	0.47	0.46	0.46	0.49	0.53	0.52	0.50	0.50	0.53			

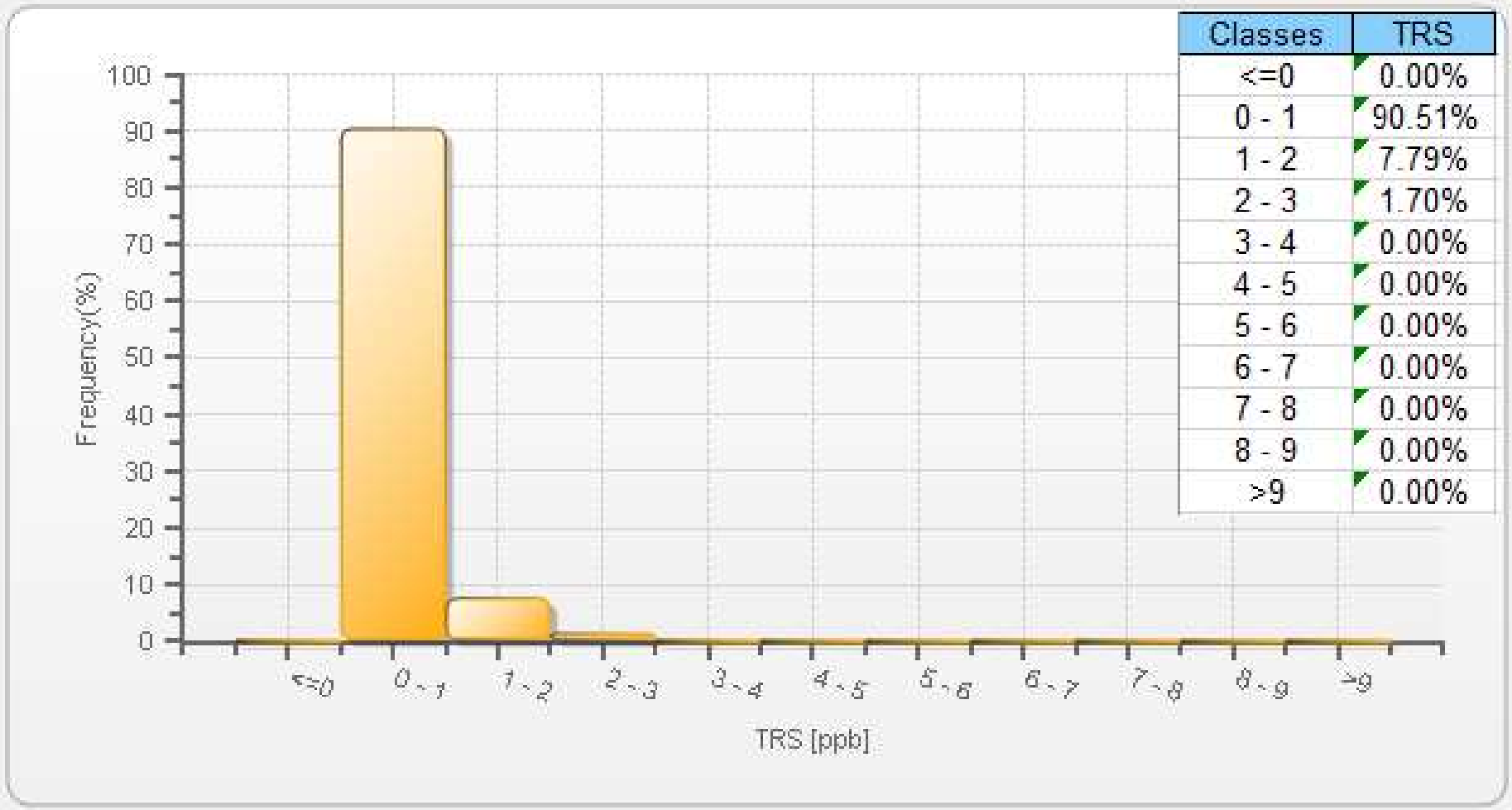
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 - Cadotte Lake Station



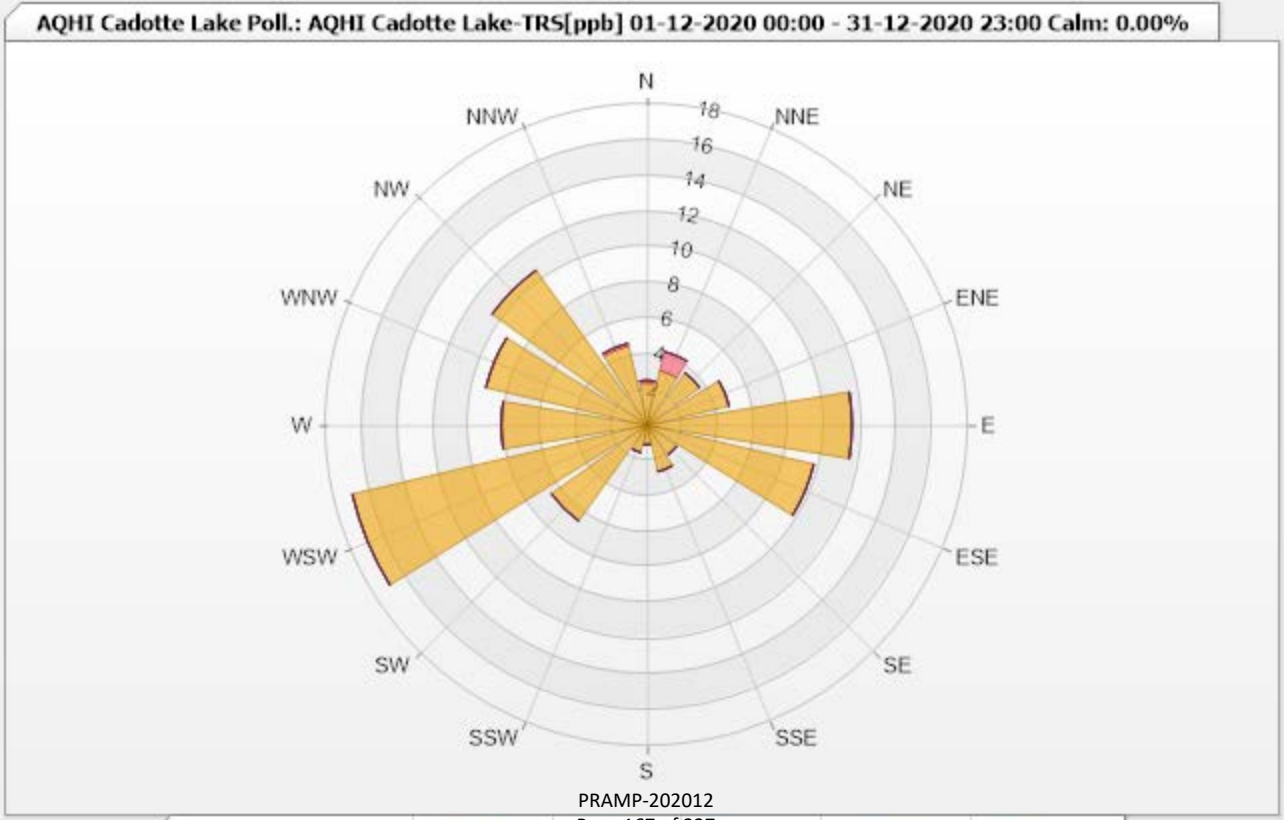
TRS[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	TRS
<=0	0.00%
0 - 1	90.51%
1 - 2	7.79%
2 - 3	1.70%
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 Cadotte Lake Poll.: AQHI Cadotte Lake-TRS[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.48% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	2.36	0.16	0	0	0	2.52
NNE	3.14	1.1	0	0	0	4.24
NE	3.62	0	0	0	0	3.62
ENE	4.72	0	0	0	0	4.72
E	11.48	0	0	0	0	11.48
ESE	9.59	0	0	0	0	9.59
SE	2.04	0	0	0	0	2.04
SSE	2.67	0	0	0	0	2.67
S	1.1	0	0	0	0	1.1
SSW	1.57	0	0	0	0	1.57
SW	6.6	0	0	0	0	6.6
WSW	16.98	0	0	0	0	16.98
W	8.18	0	0	0	0	8.18
WNW	9.28	0	0	0	0	9.28
NW	10.69	0	0	0	0	10.69
NNW	4.56	0.16	0	0	0	4.72
Summary	98.58	1.42	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-TRS[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
% Icon Classes (ppb)
99 0-2
1 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

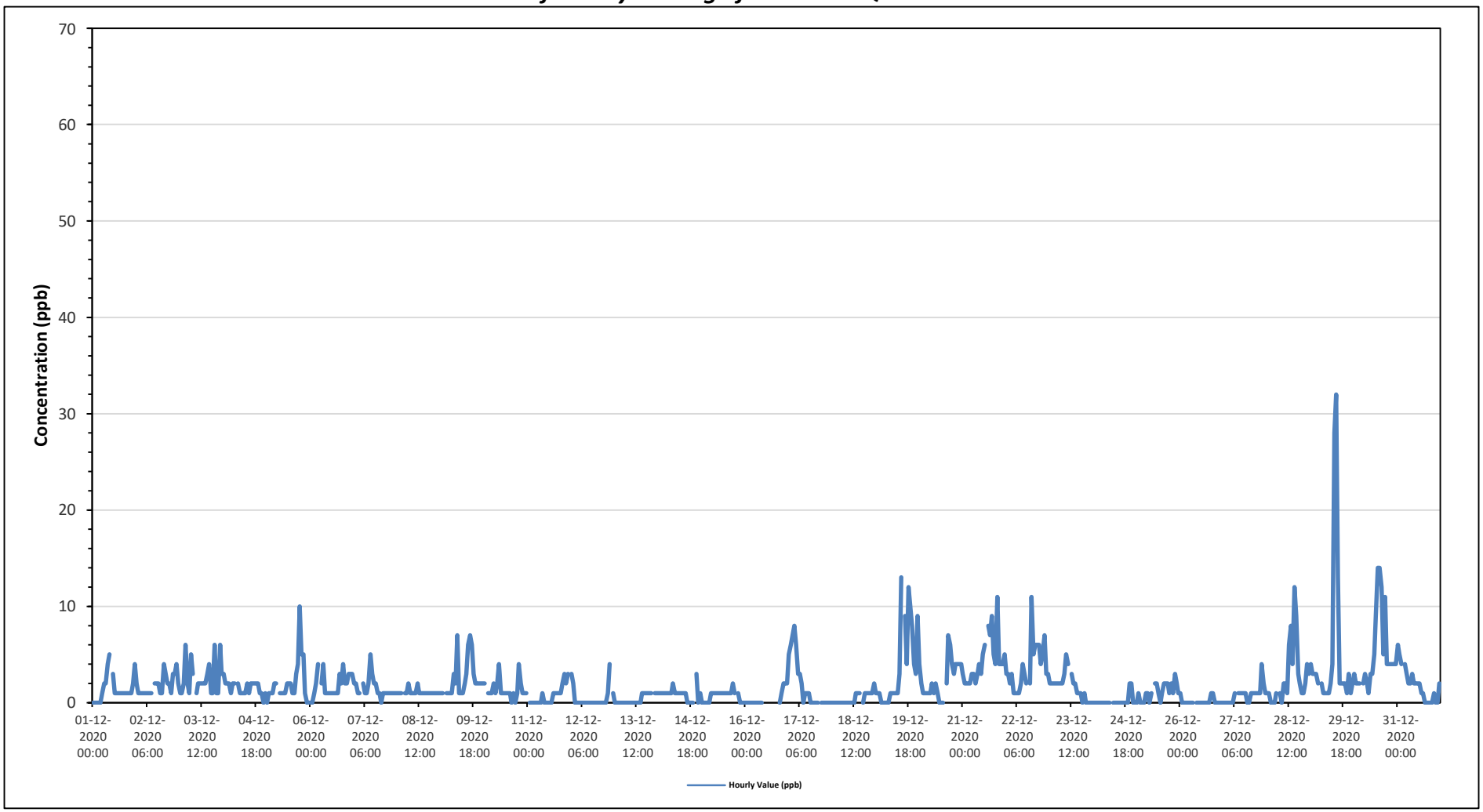
Maximum Hourly Value:	32	ppb	on December 29 at hour 14	Hours in Service:	744
Maximum Daily Value:	5.1	ppb	on December 30	Hours of Data:	704
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.1	ppb	on December 26	Hours of Calibration:	40
Monthly Average:	1.8	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	0	0	0	0	0	1	2	2	4	5	S	3	1	1	1	1	1	1	1	1	1	1	2	4	0	5	1.4
Dec 2	2	1	1	1	1	1	1	1	1	S	2	2	2	1	1	4	3	2	2	1	3	3	4	2	1	4	1.8
Dec 3	1	1	2	6	2	1	5	3	S	1	2	2	2	2	2	3	4	1	1	6	1	1	6	3	1	6	2.5
Dec 4	3	2	2	2	1	2	2	S	2	1	1	1	1	2	1	2	2	2	2	2	1	1	0	1	0	3	1.6
Dec 5	0	1	1	1	2	2	S	1	1	1	1	2	2	2	1	1	3	4	10	5	5	1	0	0	0	10	2.0
Dec 6	0	0	1	2	4	S	2	4	1	1	1	1	1	1	1	1	3	2	4	2	2	3	3	3	0	4	1.9
Dec 7	2	2	1	1	S	2	1	1	2	5	3	2	2	1	1	0	1	1	1	1	1	1	1	1	0	5	1.5
Dec 8	1	1	1	S	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Dec 9	1	1	S	1	1	1	1	3	2	7	1	1	1	2	3	6	7	6	3	2	2	2	2	2	1	7	2.5
Dec 10	2	S	1	1	1	2	1	2	4	1	1	1	1	1	1	0	1	0	1	4	2	1	1	1	0	4	1.3
Dec 11	S	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	2	3	2	3	S	0	3	0.7
Dec 12	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	S	1	0	4	0.5
Dec 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	S	1	1	0	1	0.3
Dec 14	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	S	3	0	1	0	3	0.9
Dec 15	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	S	1	0	0	0	0	2	0.7
Dec 16	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	C	0	1	2	2	2	0	2	-
Dec 17	5	6	7	8	6	3	3	2	0	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	8	1.9
Dec 18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	1	1	1	1	1	2	0	2	0.4
Dec 19	1	1	1	0	0	0	0	0	1	1	1	1	1	3	13	S	9	4	12	10	8	4	3	9	0	13	3.6
Dec 20	4	2	1	1	1	1	1	2	1	2	1	0	0	0	S	2	7	6	4	3	4	4	4	4	0	7	2.4
Dec 21	3	2	2	2	2	3	3	2	3	4	3	5	6	S	8	7	9	5	4	11	4	4	4	5	2	11	4.4
Dec 22	3	3	2	3	1	1	1	1	2	4	3	2	S	2	11	5	6	6	6	4	5	7	3	3	1	11	3.7
Dec 23	2	2	2	2	2	2	2	2	3	5	4	S	3	2	2	1	1	1	0	1	0	0	0	0	0	5	1.7
Dec 24	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0.2
Dec 25	0	1	0	0	0	1	1	0	1	S	2	2	1	0	1	2	2	2	1	2	1	3	2	1	0	3	1.1
Dec 26	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0.1
Dec 27	0	0	0	0	0	0	1	S	1	1	1	1	1	0	0	1	1	1	1	1	1	4	2	1	0	4	0.8
Dec 28	1	1	0	0	0	1	S	1	0	2	2	1	6	8	4	12	9	3	2	1	1	2	4	3	0	12	2.8
Dec 29	4	3	3	3	2	S	2	1	1	1	1	2	4	28	32	13	2	2	2	2	1	3	1	2	1	32	5.0
Dec 30	3	2	2	2	S	2	3	2	1	3	3	5	9	14	14	12	5	11	4	4	4	4	4	4	1	14	5.1
Dec 31	6	5	4	S	4	3	2	2	3	2	2	2	2	1	1	0	0	0	0	0	1	0	0	2	0	6	1.8
Diurnal Maximum	6	6	7	8	6	3	5	4	4	7	4	5	9	28	32	13	9	11	12	11	8	7	6	9			
Diurnal Average	1.6	1.3	1.2	1.3	1.1	1.1	1.3	1.2	1.3	1.8	1.4	1.4	1.7	2.6	3.6	2.7	2.8	2.3	2.2	2.3	2.0	2.1	1.8	2.0			

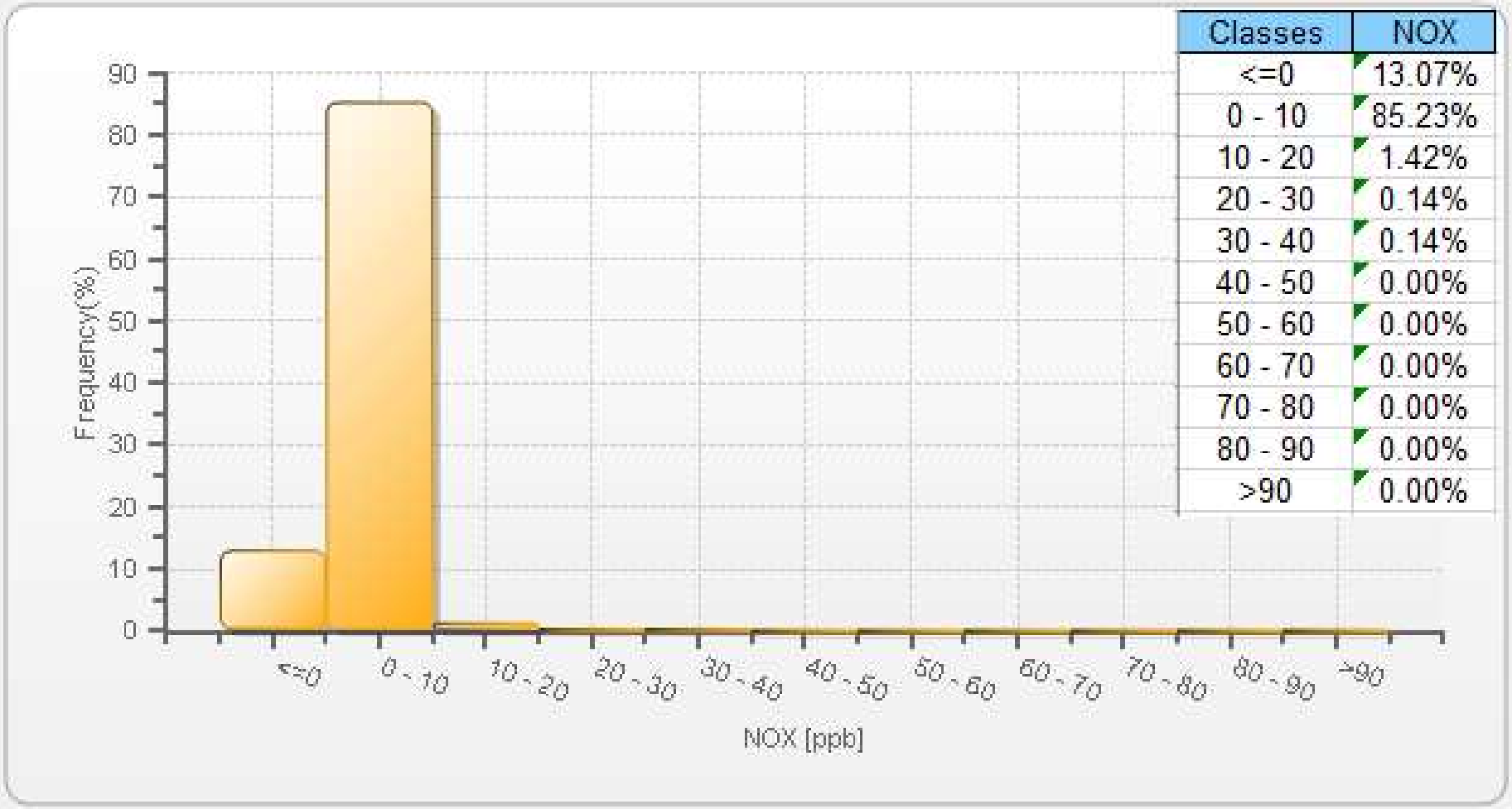
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

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 NOx - AQHI - Cadotte Lake Station



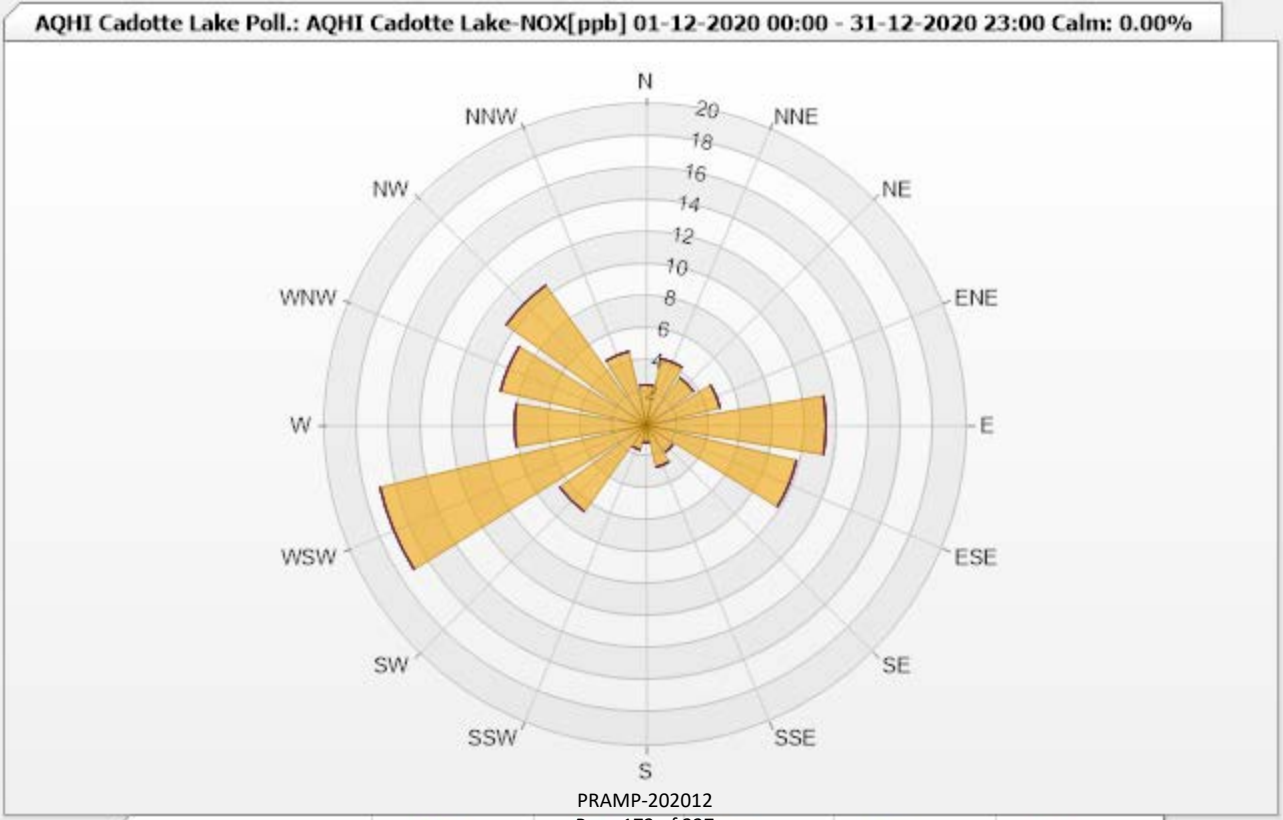
NOX[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	NOX
<=0	13.07%
0 - 10	85.23%
10 - 20	1.42%
20 - 30	0.14%
30 - 40	0.14%
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 Cadotte Lake Poll.: AQHI Cadotte Lake-NOX[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.52	0	0	0	0	2.52
NNE	4.26	0	0	0	0	4.26
NE	3.63	0	0	0	0	3.63
ENE	4.73	0	0	0	0	4.73
E	11.2	0	0	0	0	11.2
ESE	9.62	0	0	0	0	9.62
SE	2.05	0	0	0	0	2.05
SSE	2.68	0	0	0	0	2.68
S	1.1	0	0	0	0	1.1
SSW	1.58	0	0	0	0	1.58
SW	6.62	0	0	0	0	6.62
WSW	17.03	0	0	0	0	17.03
W	8.2	0	0	0	0	8.2
WNW	9.31	0	0	0	0	9.31
NW	10.73	0	0	0	0	10.73
NNW	4.73	0	0	0	0	4.73
Summary	100	0	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-NOX[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

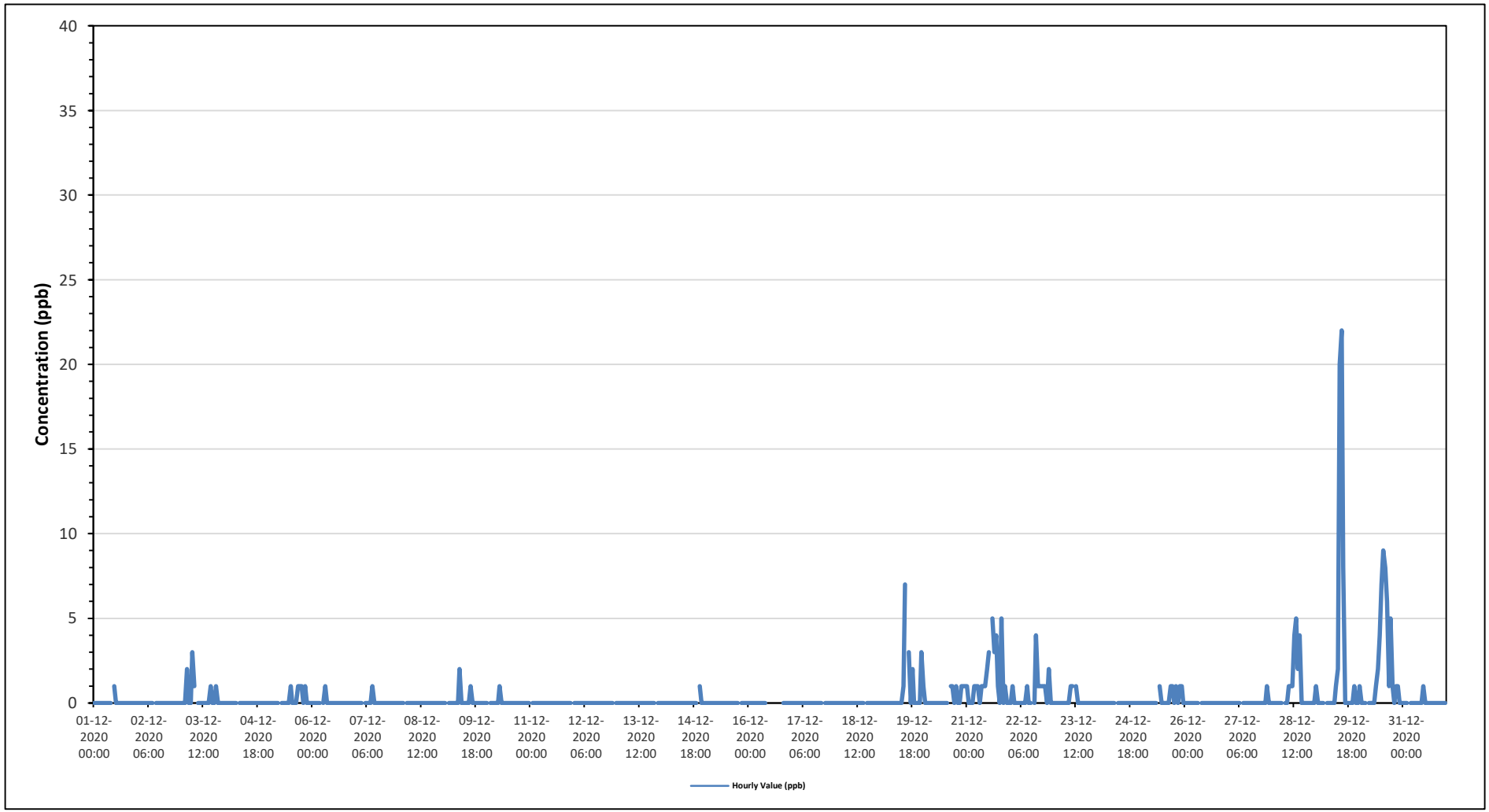
Maximum Hourly Value:	22	ppb	on December 29 at hour 14	Hours in Service:	744
Maximum Daily Value:	2.4	ppb	on December 29	Hours of Data:	704
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on December 2	Hours of Calibration:	40
Monthly Average:	0.3	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	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 2	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 3	0	0	0	2	0	0	3	1	S	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	0.3
Dec 4	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 5	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0.2
Dec 6	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 7	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Dec 8	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 9	0	0	S	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0.1
Dec 10	0	S	0	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 11	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 12	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 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Dec 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	1	0.0
Dec 15	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 16	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	-
Dec 17	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 18	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 19	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	S	3	0	2	0	0	0	0	3	0	7	0.7
Dec 20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0	1	0	0	1	1	1	0	1	0.3
Dec 21	1	0	0	0	1	1	1	0	1	1	1	2	3	S	5	3	4	1	0	5	0	1	0	0	0	5	1.3
Dec 22	0	1	0	0	0	0	0	0	0	1	0	0	S	0	4	1	1	1	1	1	0	2	0	0	0	4	0.6
Dec 23	0	0	0	0	0	0	0	0	0	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Dec 24	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 25	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	1	1	0	1	0	1	1	0	0	1	0.3
Dec 26	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 27	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0
Dec 28	0	0	0	0	0	0	S	0	0	1	1	1	4	5	2	4	0	0	0	0	0	0	0	0	0	5	0.8
Dec 29	1	0	0	0	0	S	0	0	0	0	0	1	2	20	22	8	0	0	0	0	0	1	0	0	0	22	2.4
Dec 30	1	0	0	0	S	0	0	0	0	1	2	4	7	9	8	6	1	5	1	0	1	1	0	0	0	9	2.0
Dec 31	0	0	0	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	1	1	0	2	1	1	3	1	1	2	2	4	7	20	22	8	4	5	2	5	1	2	1	3			
Diurnal Average	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.3	0.2	0.3	0.6	1.2	1.7	0.8	0.4	0.3	0.2	0.3	0.1	0.3	0.1	0.1			

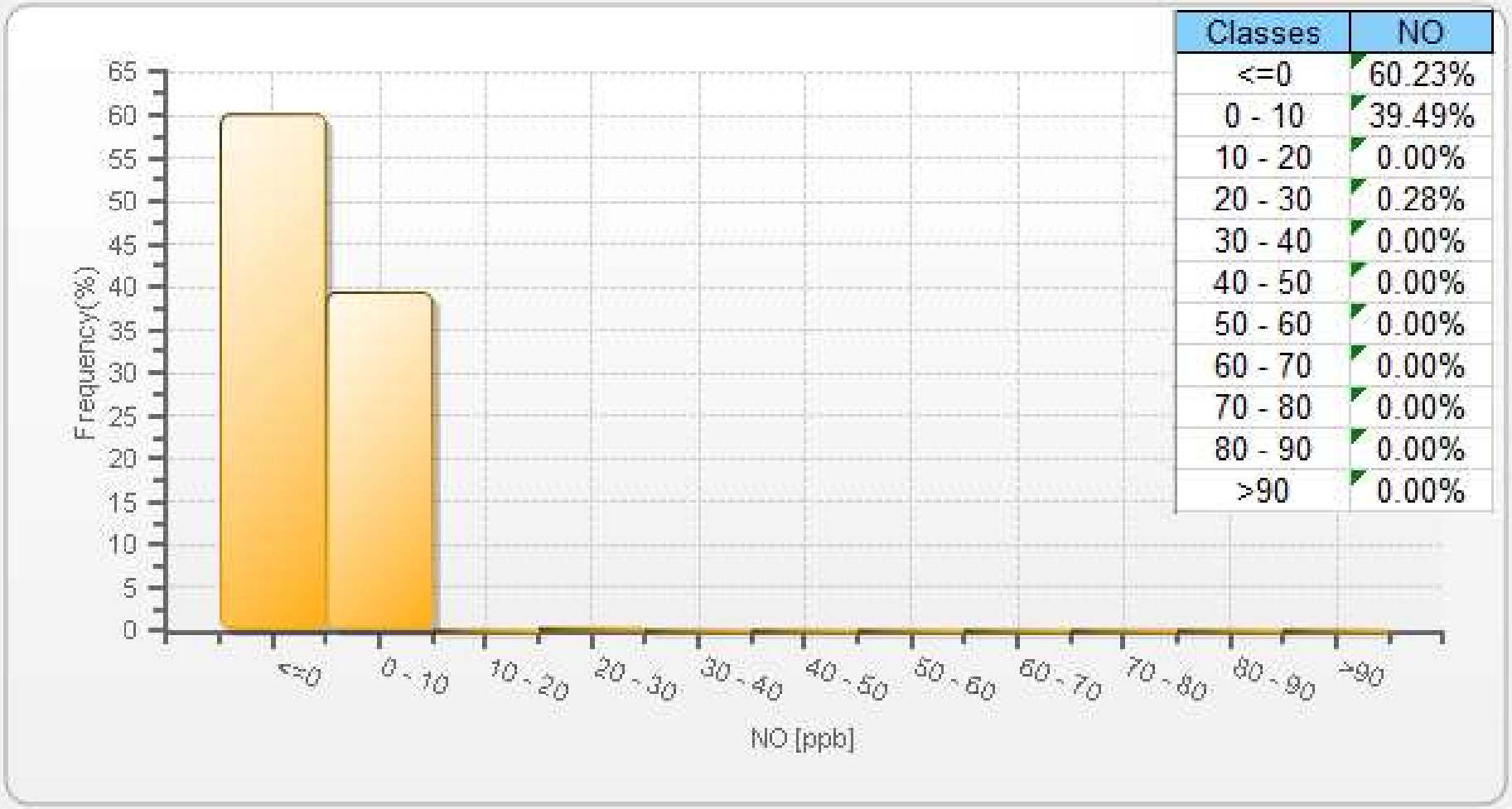
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 NO - AQHI - Cadotte Lake Station



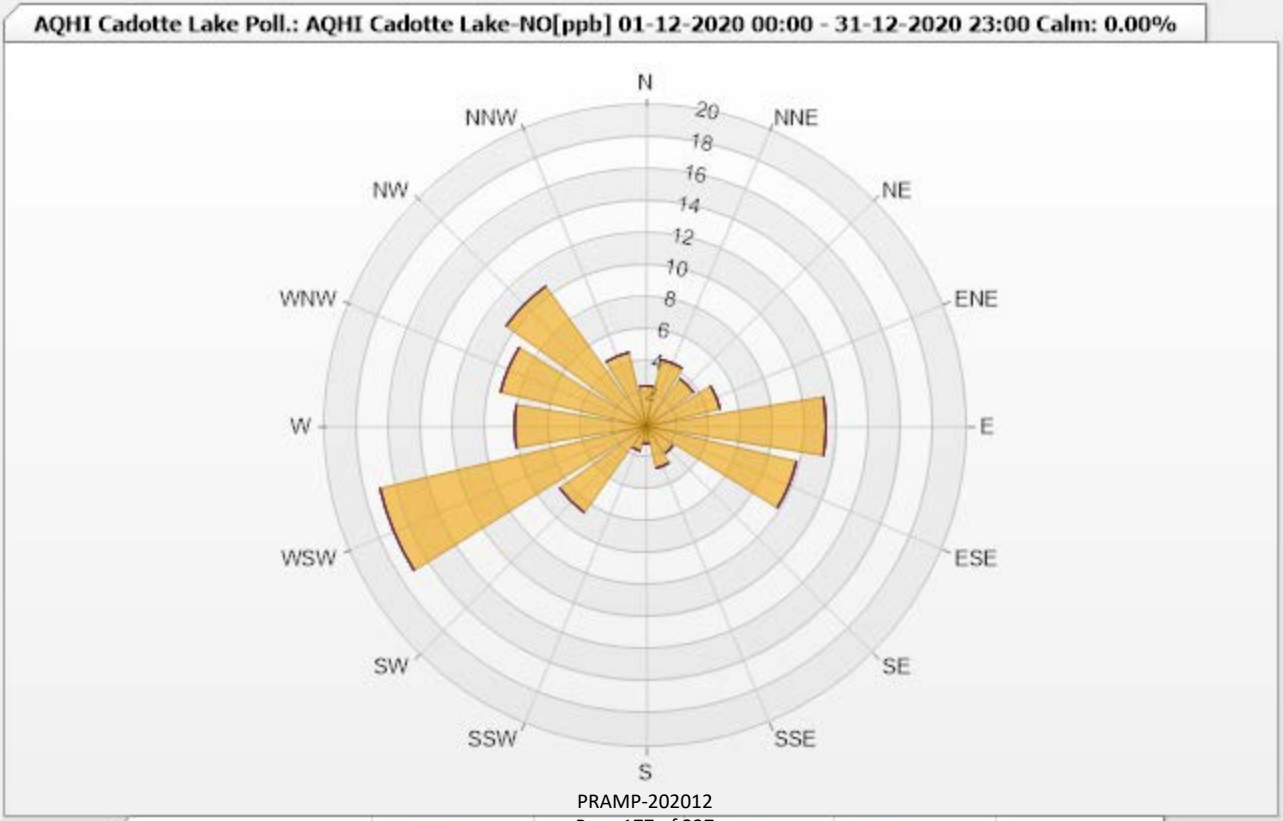
NO[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	NO
<=0	60.23%
0 - 10	39.49%
10 - 20	0.00%
20 - 30	0.28%
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 Cadotte Lake Poll.: AQHI Cadotte Lake-NO[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.52	0	0	0	0	2.52
NNE	4.26	0	0	0	0	4.26
NE	3.63	0	0	0	0	3.63
ENE	4.73	0	0	0	0	4.73
E	11.2	0	0	0	0	11.2
ESE	9.62	0	0	0	0	9.62
SE	2.05	0	0	0	0	2.05
SSE	2.68	0	0	0	0	2.68
S	1.1	0	0	0	0	1.1
SSW	1.58	0	0	0	0	1.58
SW	6.62	0	0	0	0	6.62
WSW	17.03	0	0	0	0	17.03
W	8.2	0	0	0	0	8.2
WNW	9.31	0	0	0	0	9.31
NW	10.73	0	0	0	0	10.73
NNW	4.73	0	0	0	0	4.73
Summary	100	0	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-NO[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

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

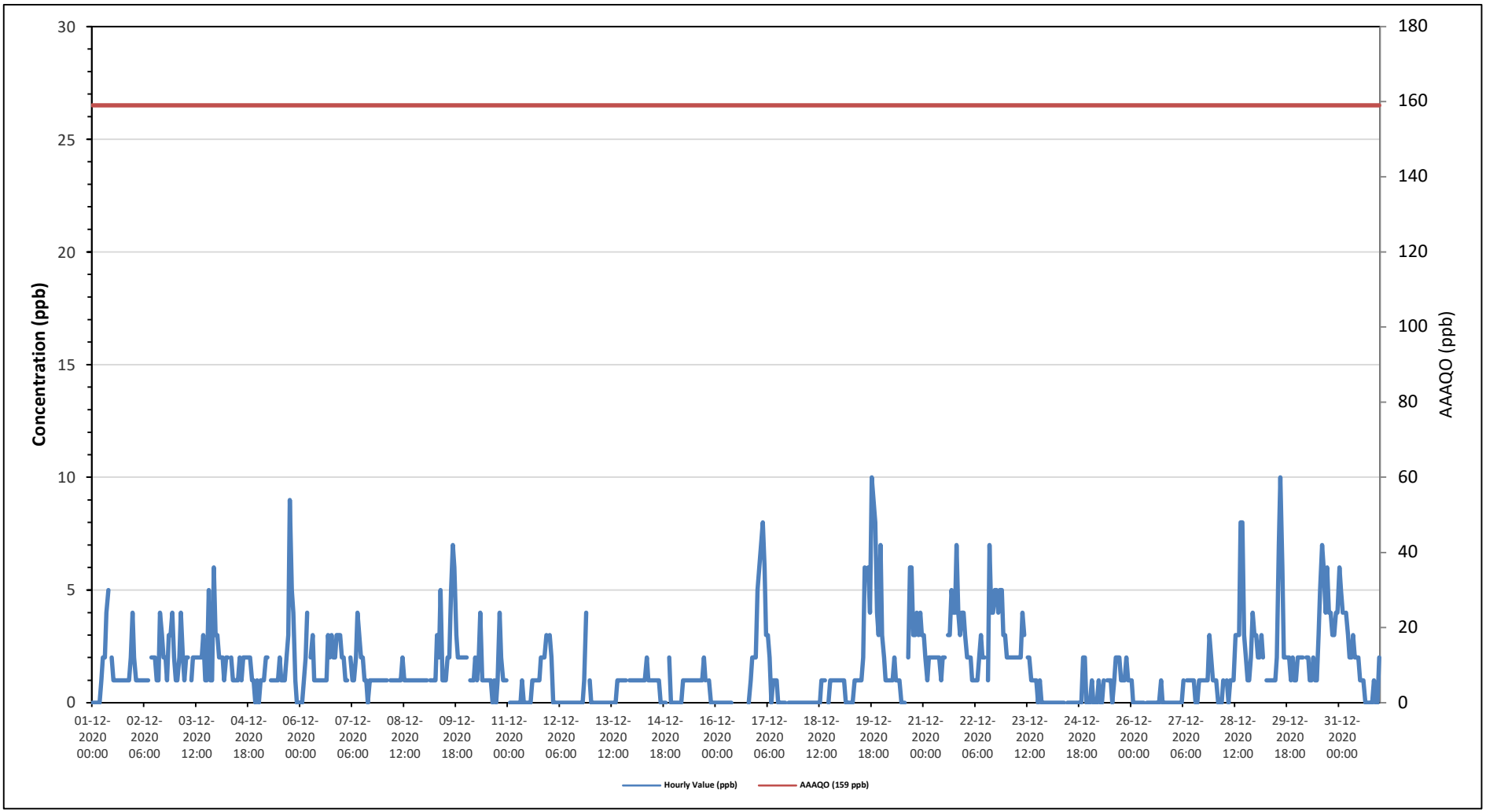
Maximum Hourly Value:	10	ppb	on December 19 at hour 18	Hours in Service:	744
Maximum Daily Value:	3.1	ppb	on December 30	Hours of Data:	704
Minimum Hourly Value:	0	ppb	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.1	ppb	on December 26	Hours of Calibration:	40
Monthly Average:	1.5	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	0	0	0	0	0	1	2	2	4	5	S	2	1	1	1	1	1	1	1	1	1	1	2	4	0	5	1.4
Dec 2	2	1	1	1	1	1	1	1	1	S	2	2	2	1	1	4	3	2	2	1	3	3	4	2	1	4	1.8
Dec 3	1	1	2	4	2	1	2	2	S	1	2	2	2	2	2	2	3	1	1	5	1	1	6	3	1	6	2.1
Dec 4	3	2	2	2	1	2	2	S	2	1	1	1	1	2	1	2	2	2	2	2	1	1	0	1	0	3	1.6
Dec 5	0	1	1	1	2	2	S	1	1	1	1	1	2	1	1	1	2	3	9	5	4	1	0	0	0	9	1.8
Dec 6	0	0	1	2	4	S	2	3	1	1	1	1	1	1	1	1	3	2	3	2	2	3	3	3	0	4	1.8
Dec 7	2	2	1	1	S	2	1	1	2	4	3	2	2	1	1	0	1	1	1	1	1	1	1	1	0	4	1.4
Dec 8	1	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0
Dec 9	1	1	S	1	1	1	1	3	2	5	1	1	1	2	2	5	7	6	3	2	2	2	2	2	1	7	2.3
Dec 10	2	S	1	1	1	2	1	2	4	1	1	1	1	1	1	0	1	0	1	4	2	1	1	1	0	4	1.3
Dec 11	S	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	2	2	2	3	S	0	3	0.7
Dec 12	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	S	1	0	4	0.5
Dec 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	S	1	1	0	1	0.3
Dec 14	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	S	2	0	0	0	2	0.8
Dec 15	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	S	1	0	0	0	0	2	0.7
Dec 16	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	C	0	1	2	2	2	0	2	-
Dec 17	5	6	7	8	6	3	3	2	0	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	8	1.9
Dec 18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	1	1	1	1	1	1	0	1	0.4
Dec 19	1	1	1	0	0	0	0	0	1	1	1	1	1	2	6	S	6	4	10	9	8	4	3	7	0	10	2.9
Dec 20	3	2	1	1	1	1	1	2	1	1	1	0	0	0	S	2	6	6	3	3	4	3	4	3	0	6	2.1
Dec 21	3	2	1	2	2	2	2	2	2	2	1	2	2	S	3	3	5	4	4	7	4	3	4	4	1	7	2.9
Dec 22	3	2	2	2	1	1	1	1	2	3	2	2	S	1	7	4	4	5	5	4	5	5	3	3	1	7	3.0
Dec 23	2	2	2	2	2	2	2	2	2	4	3	S	2	2	1	1	1	1	0	1	0	0	0	0	0	4	1.5
Dec 24	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0.2
Dec 25	0	1	0	0	0	1	0	0	1	S	1	1	1	0	1	2	2	2	1	1	1	2	1	1	0	2	0.9
Dec 26	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
Dec 27	0	0	0	0	0	0	1	S	1	1	1	1	1	0	0	1	1	1	1	1	1	3	2	1	0	3	0.8
Dec 28	1	1	0	0	0	1	S	1	0	1	1	1	3	3	3	8	8	3	2	1	1	2	4	3	0	8	2.1
Dec 29	3	2	2	3	2	S	1	1	1	1	1	1	2	7	10	6	2	2	2	2	1	2	1	1	1	10	2.4
Dec 30	2	2	2	2	S	2	2	1	1	2	1	1	3	5	7	6	4	6	4	4	3	3	4	4	1	7	3.1
Dec 31	6	5	4	S	4	3	2	2	3	2	2	2	1	1	1	0	0	0	0	0	1	0	0	2	0	6	1.8
Diurnal Maximum	6	6	7	8	6	3	3	3	4	5	3	2	3	7	10	8	8	6	10	9	8	5	6	7			
Diurnal Average	1.5	1.3	1.1	1.2	1.1	1.1	1.0	1.1	1.3	1.4	1.1	1.0	1.1	1.3	1.9	1.9	2.3	2.0	2.0	2.0	1.9	1.8	1.8	1.7			

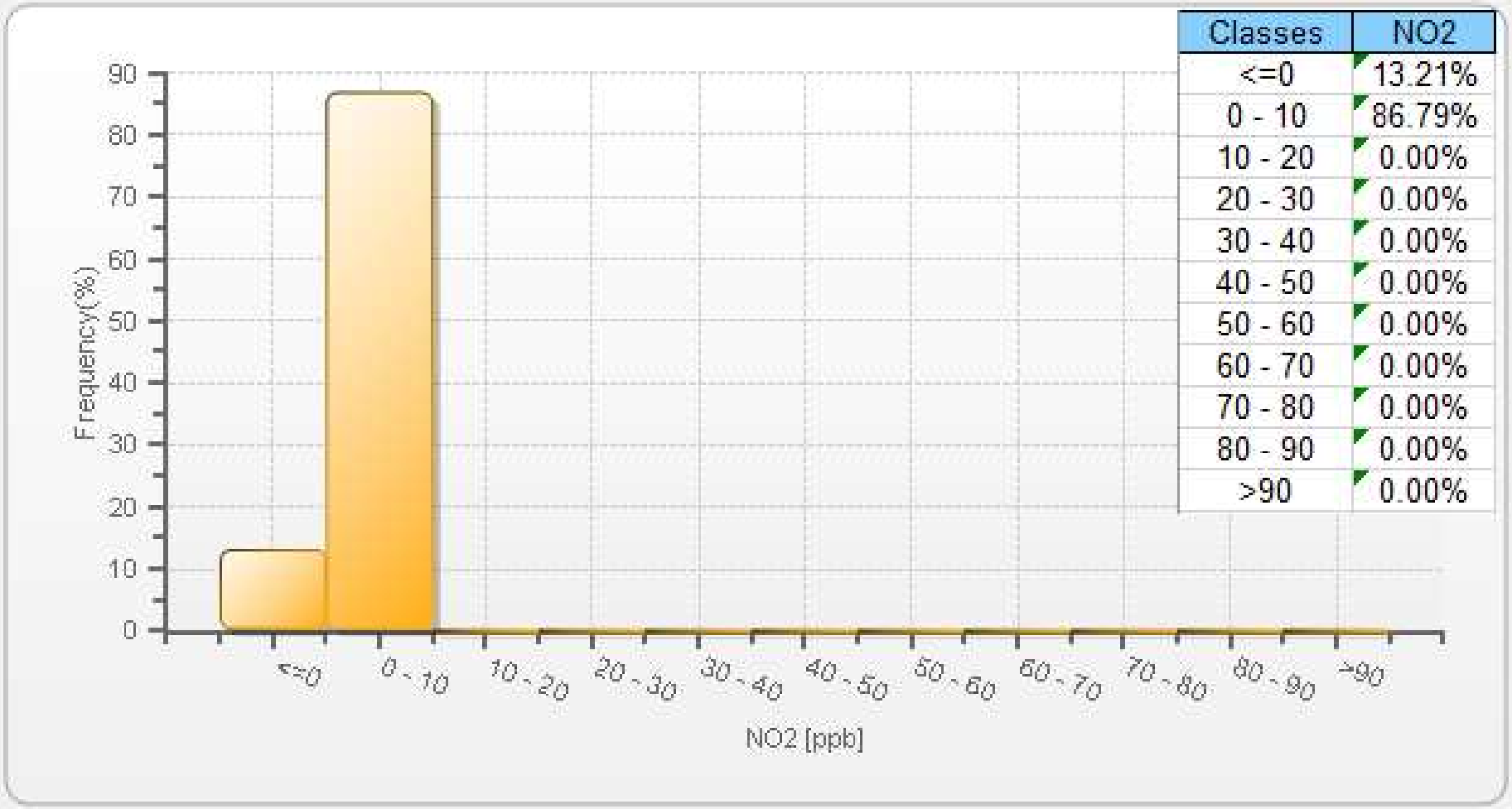
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 NO2 - AQHI - Cadotte Lake Station



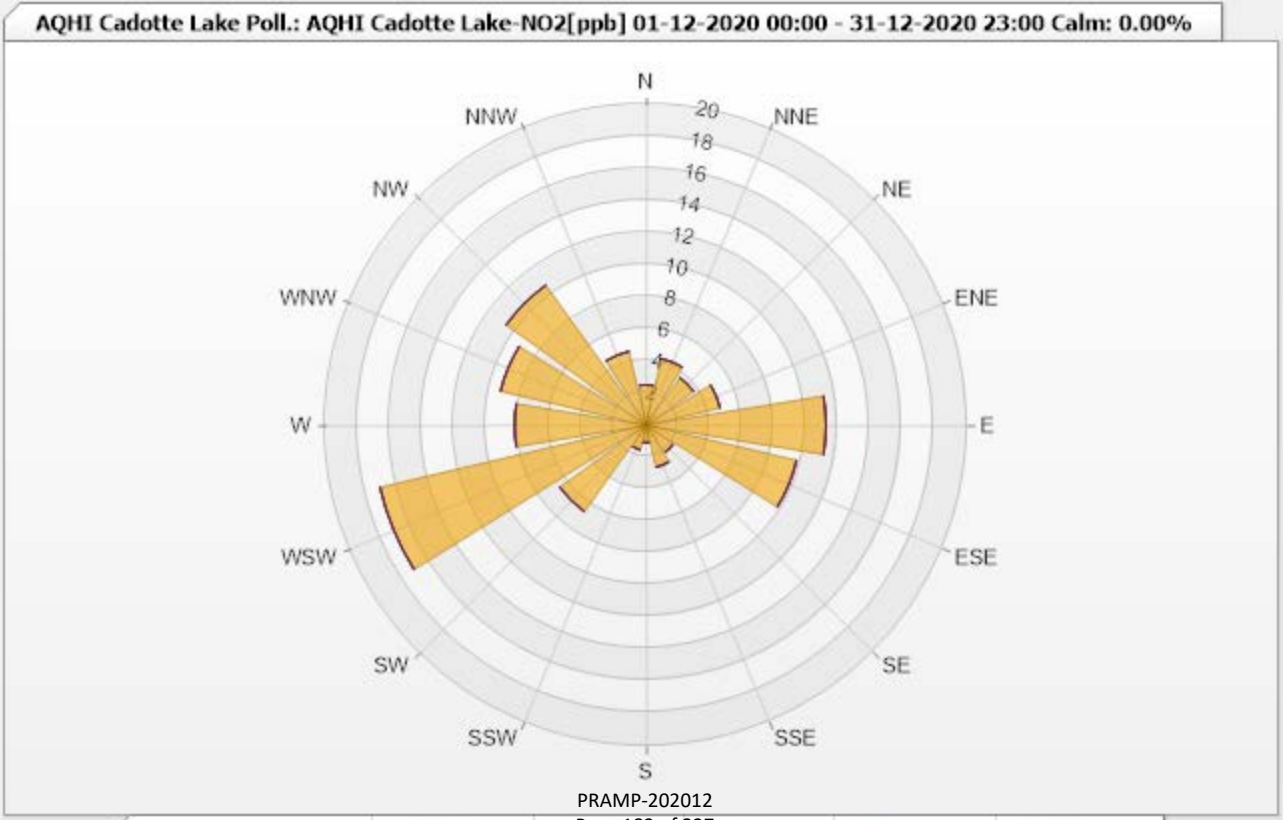
NO2[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	NO2
<=0	13.21%
0 - 10	86.79%
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 Cadotte Lake Poll.: AQHI Cadotte Lake-NO2[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.52	0	0	0	0	2.52
NNE	4.26	0	0	0	0	4.26
NE	3.63	0	0	0	0	3.63
ENE	4.73	0	0	0	0	4.73
E	11.2	0	0	0	0	11.2
ESE	9.62	0	0	0	0	9.62
SE	2.05	0	0	0	0	2.05
SSE	2.68	0	0	0	0	2.68
S	1.1	0	0	0	0	1.1
SSW	1.58	0	0	0	0	1.58
SW	6.62	0	0	0	0	6.62
WSW	17.03	0	0	0	0	17.03
W	8.2	0	0	0	0	8.2
WNW	9.31	0	0	0	0	9.31
NW	10.73	0	0	0	0	10.73
NNW	4.73	0	0	0	0	4.73
Summary	100	0	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-NO2[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

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

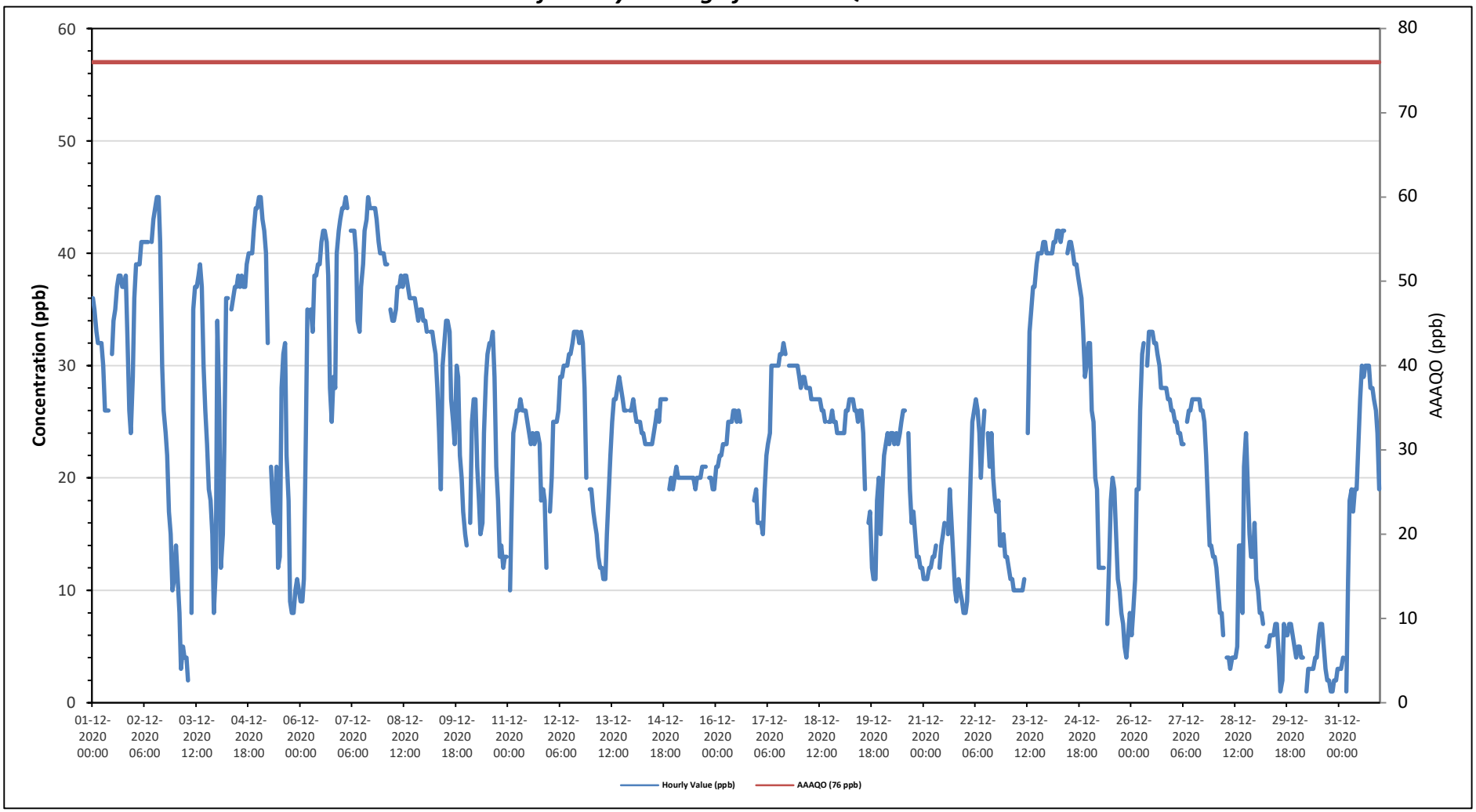
Maximum Hourly Value:	45	ppb	on December 2 at hour 13	Hours in Service:	744
Maximum Daily Value:	41.6	ppb	on December 7	Hours of Data:	706
Minimum Hourly Value:	1	ppb	on December 29 at hour 14	Hours of Missing Data:	2
Minimum Daily Value:	3.5	ppb	on December 30	Hours of Calibration:	36
Monthly Average:	23.7	ppb		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Dec 1	36	35	33	32	32	32	30	26	26	26	S	31	34	35	37	38	38	37	37	38	33	26	24	29	24.0	38.0	32.4
Dec 2	36	39	39	39	41	41	41	41	41	S	41	43	44	45	45	41	30	26	24	22	17	15	10	11	10.0	45.0	33.6
Dec 3	14	11	8	3	5	4	4	2	S	8	35	37	37	38	39	37	30	26	23	19	18	15	8	12	2.0	39.0	18.8
Dec 4	34	26	12	15	23	36	36	S	35	36	37	37	38	37	38	37	37	39	40	40	40	42	44	44	12.0	44.0	34.9
Dec 5	45	45	43	42	40	32	S	21	17	16	21	12	13	28	31	32	22	18	9	8	8	10	11	10	8.0	45.0	23.2
Dec 6	9	9	11	24	35	S	35	33	38	38	39	39	41	42	42	41	38	28	25	29	28	40	42	43	9.0	43.0	32.6
Dec 7	44	44	45	44	S	42	42	42	40	34	33	37	39	42	43	45	44	44	44	44	43	41	40	40	33.0	45.0	41.6
Dec 8	40	39	39	S	35	34	34	35	37	37	38	37	38	38	37	36	36	36	36	35	34	35	35	34	34.0	40.0	36.3
Dec 9	34	33	S	33	33	32	31	28	24	19	30	32	34	34	33	27	25	23	30	29	22	20	17	15	15.0	34.0	27.7
Dec 10	14	S	16	25	27	27	21	18	15	16	24	29	31	32	32	33	29	21	18	13	14	12	13	13	12.0	33.0	21.4
Dec 11	S	10	18	24	25	26	26	27	26	26	26	25	24	23	24	23	24	24	23	18	19	18	12	S	10.0	27.0	22.3
Dec 12	17	20	25	25	25	26	29	29	30	30	30	31	31	32	33	33	33	32	33	32	28	20	S	19	17.0	33.0	28.0
Dec 13	19	17	16	15	13	12	12	11	11	15	19	22	25	27	27	28	29	28	27	26	26	S	26	26	11.0	29.0	20.7
Dec 14	27	26	25	25	25	24	24	23	23	23	23	23	24	25	26	25	27	27	27	27	S	19	20	19	19.0	27.0	24.2
Dec 15	20	21	20	20	20	20	20	20	20	20	20	20	19	20	20	20	21	21	21	S	20	20	19	19	19.0	21.0	20.0
Dec 16	21	21	22	22	23	23	23	25	25	25	26	26	25	26	25	Y	26	C	C	C	C	C	18	19	18.0	26.0	23.4
Dec 17	16	16	16	15	19	22	23	24	30	30	30	30	30	31	31	32	31	S	30	30	30	30	30	30	15.0	32.0	26.3
Dec 18	29	28	29	29	28	28	28	27	27	27	27	27	27	26	26	25	S	25	25	26	25	25	24	24	24.0	29.0	26.6
Dec 19	24	24	24	26	26	27	27	27	26	26	25	26	26	24	19	S	16	17	12	11	11	18	20	15	11.0	27.0	21.6
Dec 20	19	22	23	24	23	24	24	23	24	23	24	25	26	26	S	24	19	16	17	15	13	13	12	12	12.0	26.0	20.5
Dec 21	11	11	11	12	12	13	13	14	NRM	12	14	15	16	S	15	19	16	13	10	9	11	10	9	8	8.0	19.0	12.5
Dec 22	8	9	14	20	25	26	27	26	24	20	24	26	S	24	21	24	20	18	17	18	14	14	15	13	8.0	27.0	19.4
Dec 23	13	12	11	11	10	10	10	10	10	10	11	S	24	33	35	37	37	39	40	40	40	41	41	40	10.0	41.0	24.6
Dec 24	40	40	40	41	41	42	42	41	42	42	S	40	41	41	40	39	39	38	37	36	33	29	30	32	29.0	42.0	38.5
Dec 25	32	26	25	20	19	12	12	12	12	S	7	13	18	20	19	15	11	10	8	7	5	4	6	8	4.0	32.0	14.0
Dec 26	6	8	11	19	19	26	31	32	S	30	33	33	33	32	32	31	30	28	28	28	28	27	27	26	6.0	33.0	26.0
Dec 27	26	25	25	24	24	23	23	S	25	26	26	27	27	27	27	27	26	26	25	22	18	14	14	13	13.0	27.0	23.5
Dec 28	13	12	10	8	8	6	S	4	4	3	4	4	4	5	14	14	8	21	24	20	15	13	13	16	3.0	24.0	10.6
Dec 29	11	10	8	8	7	S	5	5	6	6	6	7	7	4	1	2	7	6	6	7	7	6	5	4	1.0	11.0	6.1
Dec 30	5	5	4	4	S	1	3	3	3	3	4	4	6	7	7	5	3	2	2	1	1	2	2	3	1.0	7.0	3.5
Dec 31	3	3	4	S	1	11	18	19	17	19	19	23	27	30	29	30	30	30	28	28	27	26	24	19	1.0	30.0	20.2
Diurnal Maximum	45	45	45	44	41	42	42	42	42	42	41	43	44	45	45	45	44	44	44	44	43	42	44	44			
Diurnal Average	22.2	21.6	20.9	22.4	22.9	23.5	23.9	22.3	23.5	22.3	24.0	26.0	27.0	28.5	28.3	28.3	26.1	24.8	24.2	23.4	21.7	20.9	20.4	20.5			

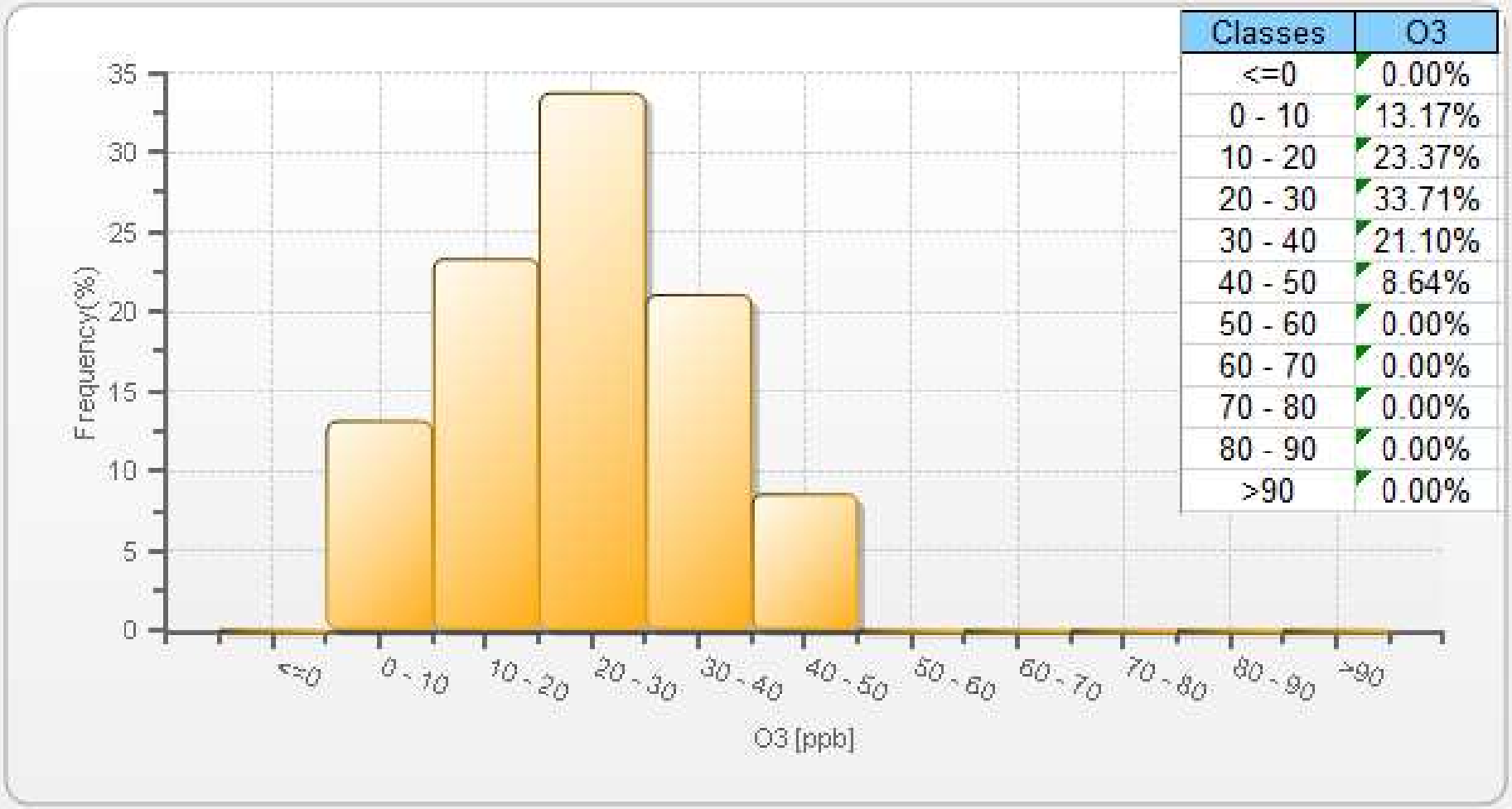
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 O3 - AQHI - Cadotte Lake Station



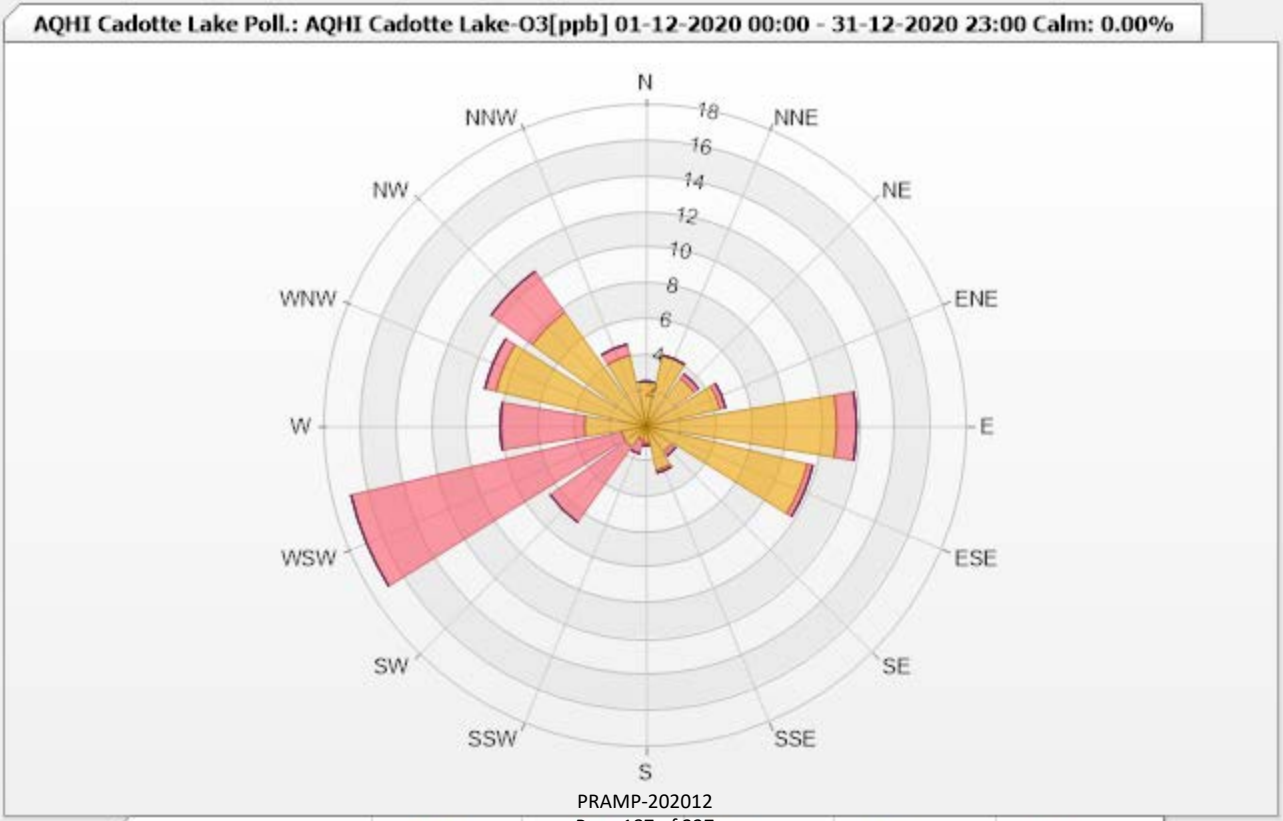
O3[ppb] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	13.17%
10 - 20	23.37%
20 - 30	33.71%
30 - 40	21.10%
40 - 50	8.64%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-O3[ppb] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.48% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.52	0	0	0	0	2.52
NNE	4.09	0	0	0	0	4.09
NE	3.3	0.31	0	0	0	3.61
ENE	4.25	0.31	0	0	0	4.56
E	10.69	1.1	0	0	0	11.79
ESE	9.28	0.31	0	0	0	9.59
SE	1.73	0.31	0	0	0	2.04
SSE	2.52	0.16	0	0	0	2.68
S	0.94	0.16	0	0	0	1.1
SSW	0.79	0.79	0	0	0	1.58
SW	1.42	5.19	0	0	0	6.61
WSW	1.42	15.57	0	0	0	16.99
W	3.46	4.72	0	0	0	8.18
WNW	8.65	0.63	0	0	0	9.28
NW	7.86	2.83	0	0	0	10.69
NNW	4.09	0.63	0	0	0	4.72
Summary	67.01	33.02	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-O3[ppb] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
67 0-30
33 30-50
0 50-76
0 76-159
0 >159.0

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

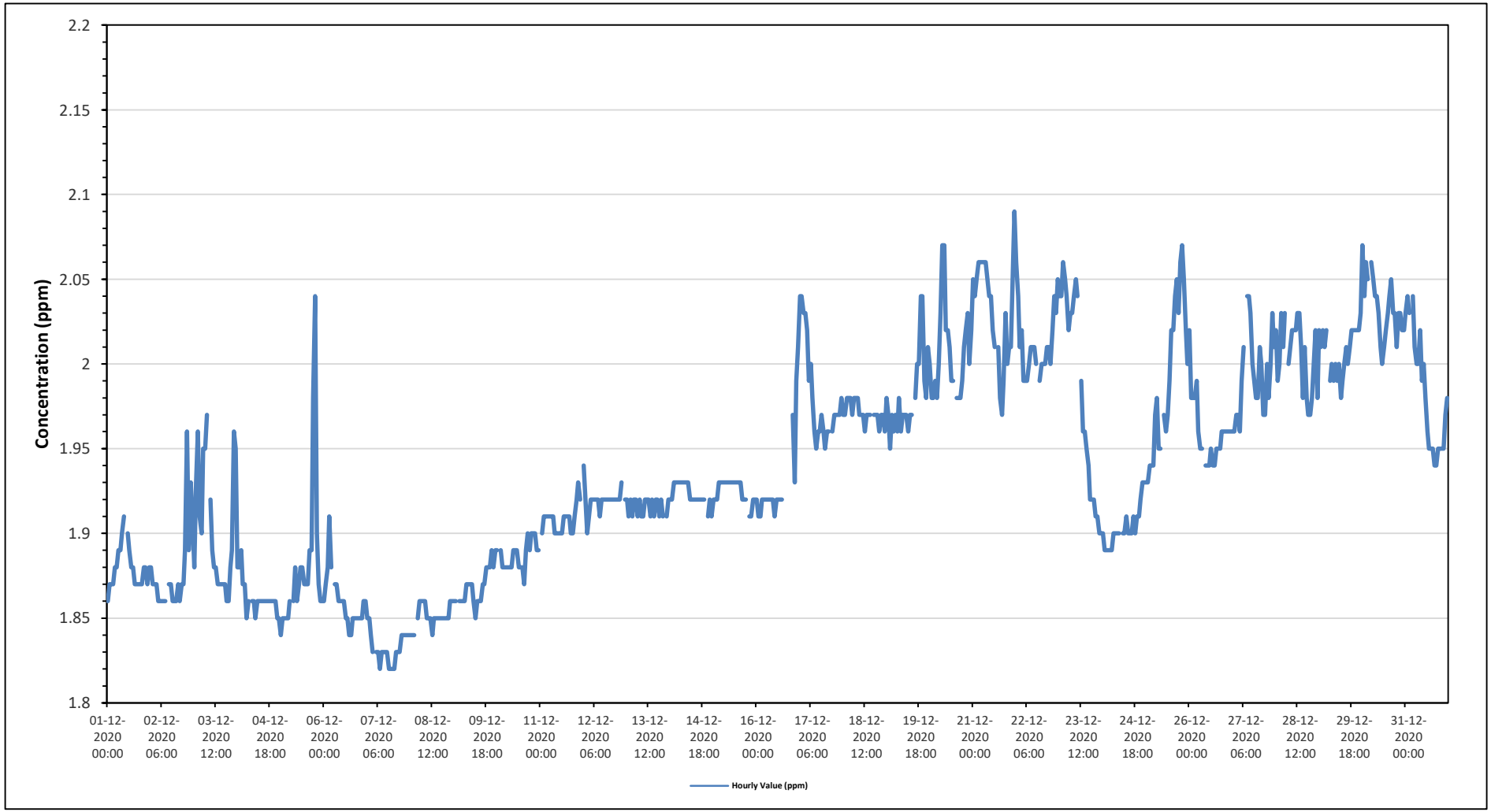
Maximum Hourly Value:	2.09	ppm	on December 21 at hour 23	Hours in Service:	744
Maximum Daily Value:	2.03	ppm	on December 30	Hours of Data:	708
Minimum Hourly Value:	1.82	ppm	on December 7 at hour 7	Hours of Missing Data:	0
Minimum Daily Value:	1.83	ppm	on December 7	Hours of Calibration:	36
Monthly Average:	1.94	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	1.86	1.87	1.87	1.87	1.88	1.88	1.89	1.89	1.90	1.91	S	1.90	1.89	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.87	1.88	1.86	1.91	1.88
Dec 2	1.88	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.86	S	1.87	1.87	1.86	1.86	1.86	1.87	1.86	1.87	1.87	1.89	1.96	1.89	1.93	1.91	1.86	1.96	1.88
Dec 3	1.88	1.93	1.96	1.91	1.90	1.95	1.95	1.97	S	1.92	1.89	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.88	1.89	1.96	1.95	1.86	1.97	1.90
Dec 4	1.88	1.88	1.89	1.87	1.87	1.85	1.86	S	1.86	1.86	1.85	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.89	1.86
Dec 5	1.84	1.85	1.85	1.85	1.85	1.86	S	1.86	1.88	1.86	1.87	1.88	1.88	1.87	1.87	1.87	1.89	1.89	1.98	2.04	1.90	1.87	1.86	1.86	1.84	2.04	1.88
Dec 6	1.86	1.87	1.88	1.91	1.88	S	1.87	1.87	1.86	1.86	1.86	1.86	1.85	1.85	1.84	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.86	1.84	1.91	1.86
Dec 7	1.85	1.85	1.84	1.83	S	1.83	1.83	1.82	1.83	1.83	1.83	1.83	1.82	1.82	1.82	1.82	1.83	1.83	1.83	1.84	1.84	1.84	1.84	1.84	**1.82**	1.85	1.83
Dec 8	1.84	1.84	1.84	S	1.85	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.86	1.84	1.86	1.85
Dec 9	1.86	1.86	S	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.86	1.85	1.86	1.86	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.88	1.89	1.85	1.89	1.87
Dec 10	1.89	S	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.88	1.88	1.88	1.87	1.89	1.90	1.89	1.90	1.90	1.90	1.89	1.89	1.87	1.90	1.89
Dec 11	S	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.90	1.91	1.92	1.93	1.92	S	1.90	1.93	1.91
Dec 12	1.94	1.92	1.90	1.91	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	S	1.92	1.90	1.94	1.92
Dec 13	1.92	1.91	1.92	1.91	1.92	1.92	1.91	1.92	1.91	1.91	1.92	1.92	1.92	1.91	1.92	1.91	1.92	1.92	1.91	1.92	1.91	S	1.91	1.92	1.91	1.92	1.92
Dec 14	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.91	1.92	1.91	1.91	1.93	1.92
Dec 15	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	S	1.91	1.91	1.92	1.92	1.91	1.93	1.92
Dec 16	1.92	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.92	C	C	C	C	C	1.97	1.93	1.99	2.01	1.91	2.01	1.93
Dec 17	2.04	2.04	2.03	2.03	2.02	1.99	2.00	1.98	1.96	1.95	1.96	1.96	1.97	1.96	1.95	1.96	1.96	S	1.96	1.97	1.97	1.97	1.97	1.98	1.95	2.04	1.98
Dec 18	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	S	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.98	1.97
Dec 19	1.98	1.97	1.95	1.97	1.96	1.97	1.96	1.98	1.96	1.97	1.97	1.97	1.96	1.97	1.97	S	1.98	2.00	2.00	2.04	2.04	1.99	1.98	2.01	1.95	2.04	1.98
Dec 20	2.00	1.98	1.98	1.99	1.98	2.00	2.03	2.07	2.07	2.02	2.02	2.01	1.99	1.99	S	1.98	1.98	1.98	1.99	2.01	2.02	2.03	2.00	2.02	1.98	2.07	2.01
Dec 21	2.05	2.04	2.05	2.06	2.06	2.06	2.06	2.06	2.05	2.04	2.04	2.02	2.01	S	2.01	1.98	1.97	1.99	2.03	2.00	2.01	2.01	2.05	**2.09**	1.97	**2.09**	2.03
Dec 22	2.06	2.04	2.01	2.02	1.99	1.99	1.99	2.00	2.01	2.01	2.01	2.00	S	1.99	2.00	2.00	2.00	2.01	2.01	2.00	2.02	2.04	2.03	2.05	1.99	2.06	2.01
Dec 23	2.04	2.04	2.06	2.05	2.04	2.02	2.03	2.03	2.04	2.05	2.04	S	1.99	1.96	1.96	1.95	1.94	1.92	1.92	1.92	1.91	1.91	1.90	1.90	1.90	2.06	1.98
Dec 24	1.90	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.90	S	1.90	1.90	1.91	1.90	1.90	1.90	1.91	1.90	1.91	1.91	1.92	1.93	1.93	1.89	1.93	1.90
Dec 25	1.93	1.93	1.94	1.94	1.94	1.97	1.98	1.95	1.95	S	1.97	1.96	1.97	1.99	2.02	2.02	2.04	2.05	2.03	2.06	2.07	2.05	2.02	2.00	1.93	2.07	1.99
Dec 26	2.02	1.98	1.98	1.98	1.99	1.96	1.95	1.95	S	1.94	1.94	1.94	1.95	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.94	2.02	1.96
Dec 27	1.96	1.96	1.97	1.97	1.96	1.99	2.01	S	2.04	2.04	2.03	2.00	1.99	1.98	1.98	2.01	2.00	1.97	1.97	2.00	1.98	2.00	2.03	2.01	1.96	2.04	1.99
Dec 28	2.02	1.99	2.00	2.03	2.01	2.03	S	2.00	2.01	2.02	2.02	2.02	2.03	2.03	2.01	1.98	2.01	1.98	1.97	1.97	1.98	2.00	2.02	1.98	1.97	2.03	2.00
Dec 29	2.02	2.01	2.02	2.01	2.02	S	1.99	2.00	1.99	2.00	1.99	2.00	1.98	1.99	2.00	2.01	2.00	2.01	2.02	2.02	2.02	2.02	2.02	2.03	1.98	2.03	2.01
Dec 30	2.07	2.04	2.06	2.05	S	2.06	2.05	2.04	2.04	2.03	2.01	2.00	2.01	2.02	2.03	2.04	2.05	2.03	2.03	2.01	2.03	2.03	2.02	2.02	2.00	2.07	**2.03**
Dec 31	2.03	2.04	2.03	S	2.04	2.01	2.00	2.00	2.02	1.99	2.00	1.98	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.97	1.98	1.94	2.04	1.98
Diurnal Maximum	2.07	2.04	2.06	2.06	2.06	2.06	2.06	2.07	2.07	2.05	2.04	2.02	2.03	2.03	2.03	2.04	2.05	2.05	2.03	2.06	2.07	2.05	2.05	2.09			
Diurnal Average	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.95			

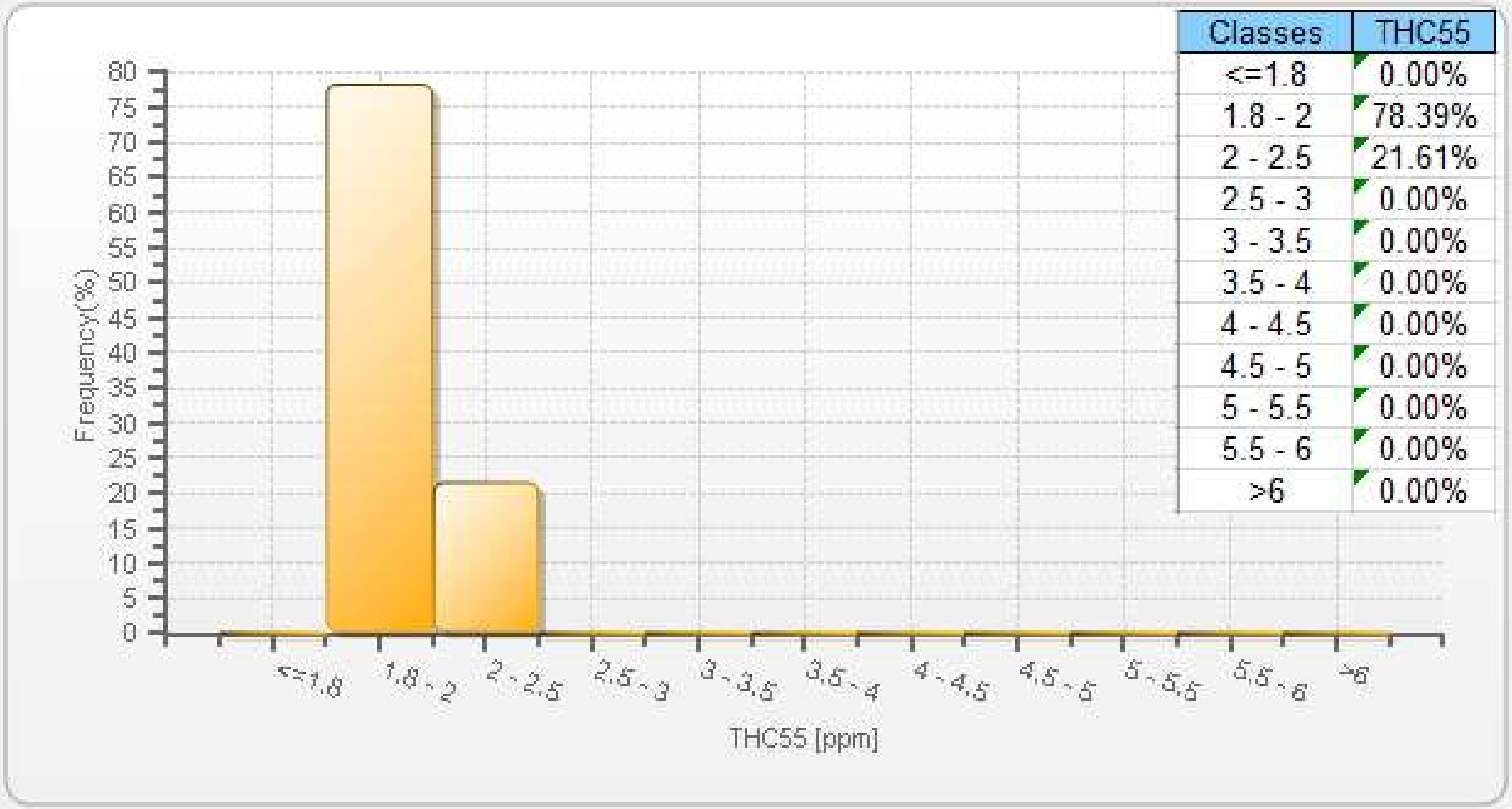
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 - Cadotte Lake Station

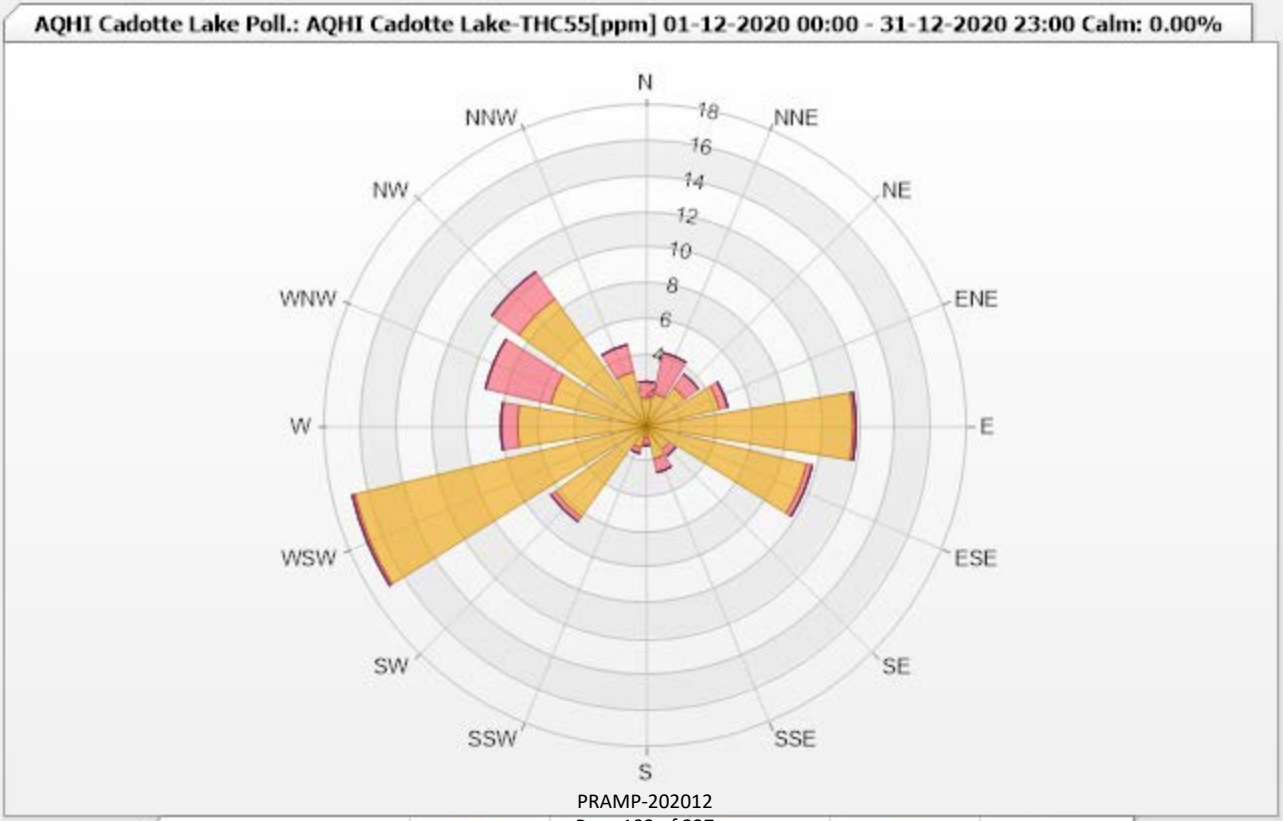


THC55[ppm] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Wind: AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-THC55[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.75% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.57	0.94	0	0	0	2.51
NNE	1.88	2.35	0	0	0	4.23
NE	2.66	0.94	0	0	0	3.6
ENE	4.23	0.47	0	0	0	4.7
E	11.6	0.16	0	0	0	11.76
ESE	9.25	0.31	0	0	0	9.56
SE	1.57	0.47	0	0	0	2.04
SSE	1.88	0.78	0	0	0	2.66
S	0.63	0.47	0	0	0	1.1
SSW	1.25	0.31	0	0	0	1.56
SW	6.27	0.31	0	0	0	6.58
WSW	16.77	0.16	0	0	0	16.93
W	7.21	0.94	0	0	0	8.15
WNW	5.49	3.76	0	0	0	9.25
NW	8.78	1.88	0	0	0	10.66
NNW	3.13	1.57	0	0	0	4.7
Summary	84.17	15.82	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-THC55[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
84 0-2
16 2-5
0 5-10
0 10-40
0 >40.0

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AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

METHANE (CH4) in ppm

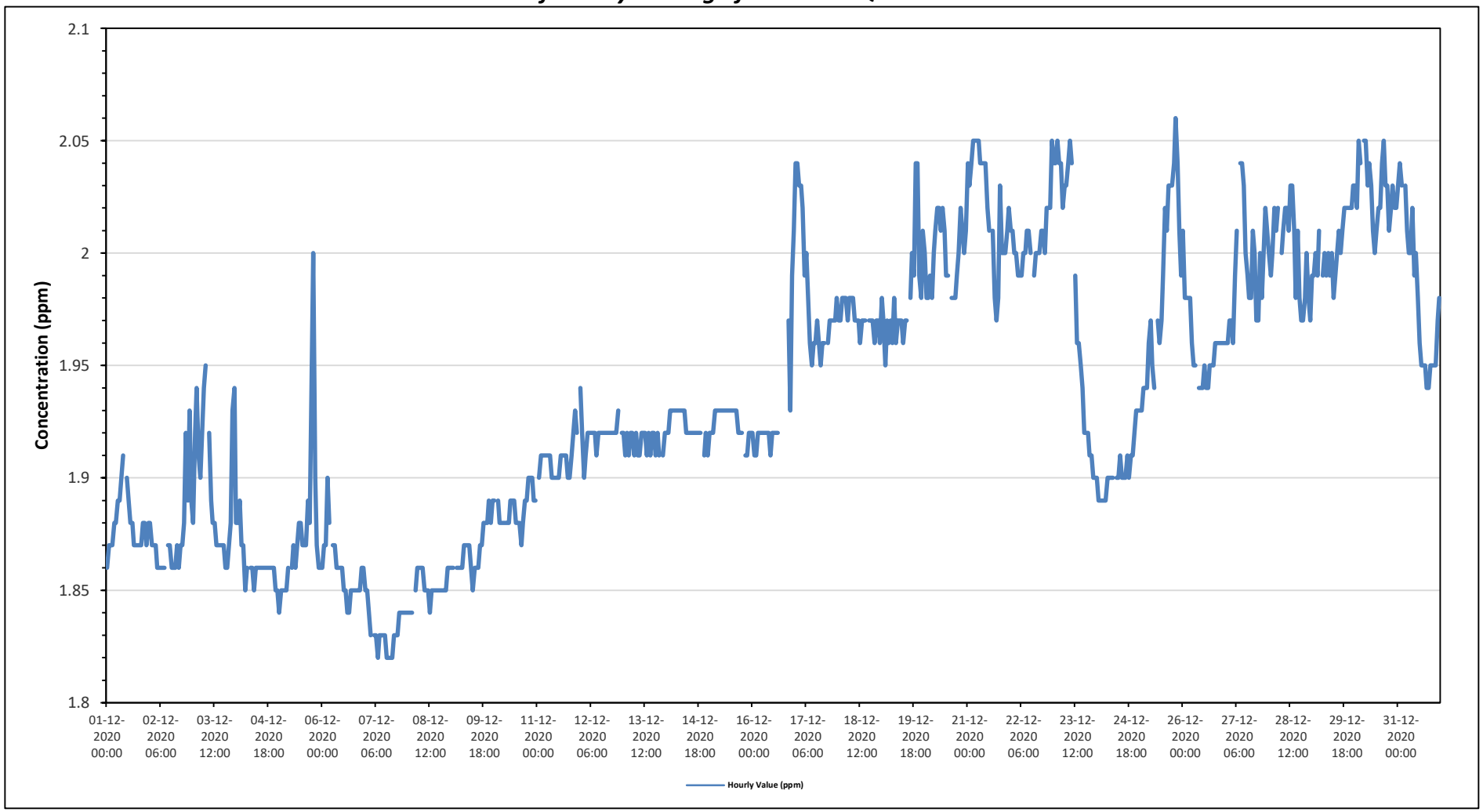
Maximum Hourly Value:	2.06	ppm	on December 25 at hour 20	Hours in Service:	744
Maximum Daily Value:	2.03	ppm	on December 30	Hours of Data:	708
Minimum Hourly Value:	1.82	ppm	on December 7 at hour 7	Hours of Missing Data:	0
Minimum Daily Value:	1.83	ppm	on December 7	Hours of Calibration:	36
Monthly Average:	1.94	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	1.86	1.87	1.87	1.87	1.88	1.88	1.89	1.89	1.90	1.91	S	1.90	1.89	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.87	1.88	1.86	1.91	1.88
Dec 2	1.88	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.86	S	1.87	1.87	1.86	1.86	1.86	1.87	1.86	1.87	1.87	1.88	1.92	1.89	1.93	1.89	1.86	1.93	1.87
Dec 3	1.88	1.92	1.94	1.91	1.90	1.92	1.94	1.95	S	1.92	1.89	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.87	1.88	1.93	1.94	1.86	1.95	1.90
Dec 4	1.88	1.88	1.89	1.87	1.87	1.85	1.86	S	1.86	1.86	1.85	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.89	1.86
Dec 5	1.84	1.85	1.85	1.85	1.85	1.86	S	1.86	1.87	1.86	1.87	1.88	1.88	1.87	1.87	1.87	1.89	1.88	1.94	2.00	1.90	1.87	1.86	1.86	1.84	2.00	1.88
Dec 6	1.86	1.87	1.87	1.90	1.88	S	1.87	1.87	1.86	1.86	1.86	1.86	1.85	1.85	1.84	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.86	1.84	1.90	1.86
Dec 7	1.85	1.85	1.84	1.83	S	1.83	1.83	1.82	1.83	1.83	1.83	1.83	1.82	1.82	1.82	1.82	1.83	1.83	1.83	1.84	1.84	1.84	1.84	1.84	**1.82**	1.85	1.83
Dec 8	1.84	1.84	1.84	S	1.85	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.86	1.84	1.86	1.85
Dec 9	1.86	1.86	S	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.86	1.85	1.86	1.86	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.88	1.89	1.85	1.89	1.87
Dec 10	1.89	S	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.88	1.88	1.88	1.87	1.88	1.89	1.89	1.90	1.90	1.90	1.89	1.89	1.87	1.90	1.89
Dec 11	S	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.90	1.90	1.91	1.92	1.93	1.92	S	1.90	1.93	1.91
Dec 12	1.94	1.92	1.90	1.91	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	S	1.92	1.90	1.94	1.92
Dec 13	1.92	1.91	1.92	1.91	1.92	1.92	1.91	1.92	1.91	1.91	1.92	1.92	1.92	1.91	1.92	1.91	1.92	1.92	1.91	1.92	1.91	S	1.91	1.92	1.91	1.92	1.92
Dec 14	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.91	1.92	1.91	1.91	1.93	1.92
Dec 15	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	S	1.91	1.91	1.92	1.92	1.91	1.93	1.92
Dec 16	1.92	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.92	C	C	C	C	C	1.97	1.93	1.99	2.01	1.91	2.01	1.93
Dec 17	2.04	2.04	2.03	2.03	2.02	1.99	2.00	1.98	1.96	1.95	1.96	1.96	1.97	1.96	1.95	1.96	1.96	S	1.96	1.97	1.97	1.97	1.97	1.98	1.95	2.04	1.98
Dec 18	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	S	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.98	1.97
Dec 19	1.98	1.97	1.95	1.97	1.96	1.97	1.96	1.98	1.96	1.97	1.97	1.97	1.96	1.97	1.97	S	1.98	2.00	1.99	2.04	2.04	1.99	1.98	2.01	1.95	2.04	1.98
Dec 20	2.00	1.98	1.98	1.99	1.98	2.00	2.01	2.02	2.02	2.01	2.02	2.01	1.99	1.99	S	1.98	1.98	1.98	1.99	2.00	2.02	2.01	2.00	2.01	1.98	2.02	2.00
Dec 21	2.04	2.03	2.04	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.04	2.02	2.01	S	2.01	1.98	1.97	1.98	2.03	2.00	2.00	2.00	2.01	2.02	1.97	2.05	2.02
Dec 22	2.01	2.01	2.00	2.00	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.00	S	1.99	2.00	2.00	2.00	2.01	2.01	2.00	2.02	2.02	2.02	2.05	1.99	2.05	2.01
Dec 23	2.04	2.04	2.05	2.04	2.04	2.02	2.03	2.03	2.04	2.05	2.04	S	1.99	1.96	1.96	1.95	1.94	1.92	1.92	1.92	1.91	1.91	1.90	1.90	1.90	2.05	1.98
Dec 24	1.90	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.90	S	1.90	1.90	1.91	1.90	1.90	1.90	1.91	1.90	1.91	1.91	1.92	1.93	1.93	1.89	1.93	1.90
Dec 25	1.93	1.93	1.94	1.94	1.94	1.96	1.97	1.95	1.94	S	1.97	1.96	1.97	1.99	2.02	2.01	2.03	2.03	2.03	2.04	**2.06**	2.04	2.01	1.99	1.93	**2.06**	1.98
Dec 26	2.01	1.98	1.98	1.98	1.98	1.96	1.95	1.95	S	1.94	1.94	1.94	1.95	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.94	2.01	1.96
Dec 27	1.96	1.96	1.97	1.97	1.96	1.99	2.01	S	2.04	2.04	2.03	2.00	1.99	1.98	1.98	2.01	2.00	1.97	1.97	2.00	1.98	2.00	2.02	2.01	1.96	2.04	1.99
Dec 28	2.00	1.99	2.00	2.02	2.01	2.02	S	2.00	2.01	2.02	2.02	2.01	2.03	2.03	2.01	1.98	2.01	1.98	1.97	1.97	1.98	2.00	1.98	1.97	1.97	2.03	2.00
Dec 29	1.99	1.99	2.00	1.99	2.01	S	1.99	2.00	1.99	2.00	1.99	2.00	1.98	1.99	2.00	2.01	2.00	2.01	2.02	2.02	2.02	2.02	2.02	2.03	1.98	2.03	2.00
Dec 30	2.03	2.02	2.05	2.04	S	2.05	2.05	2.03	2.04	2.03	2.01	2.00	2.01	2.02	2.02	2.04	2.05	2.03	2.03	2.01	2.02	2.03	2.02	2.02	2.00	2.05	**2.03**
Dec 31	2.03	2.04	2.03	S	2.03	2.01	2.00	2.00	2.02	1.99	2.00	1.98	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.97	1.98	1.94	2.04	1.98
Diurnal Maximum	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.05	2.04	2.02	2.03	2.03	2.02	2.04	2.05	2.03	2.03	2.04	2.06	2.04	2.02	2.05			
Diurnal Average	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94			

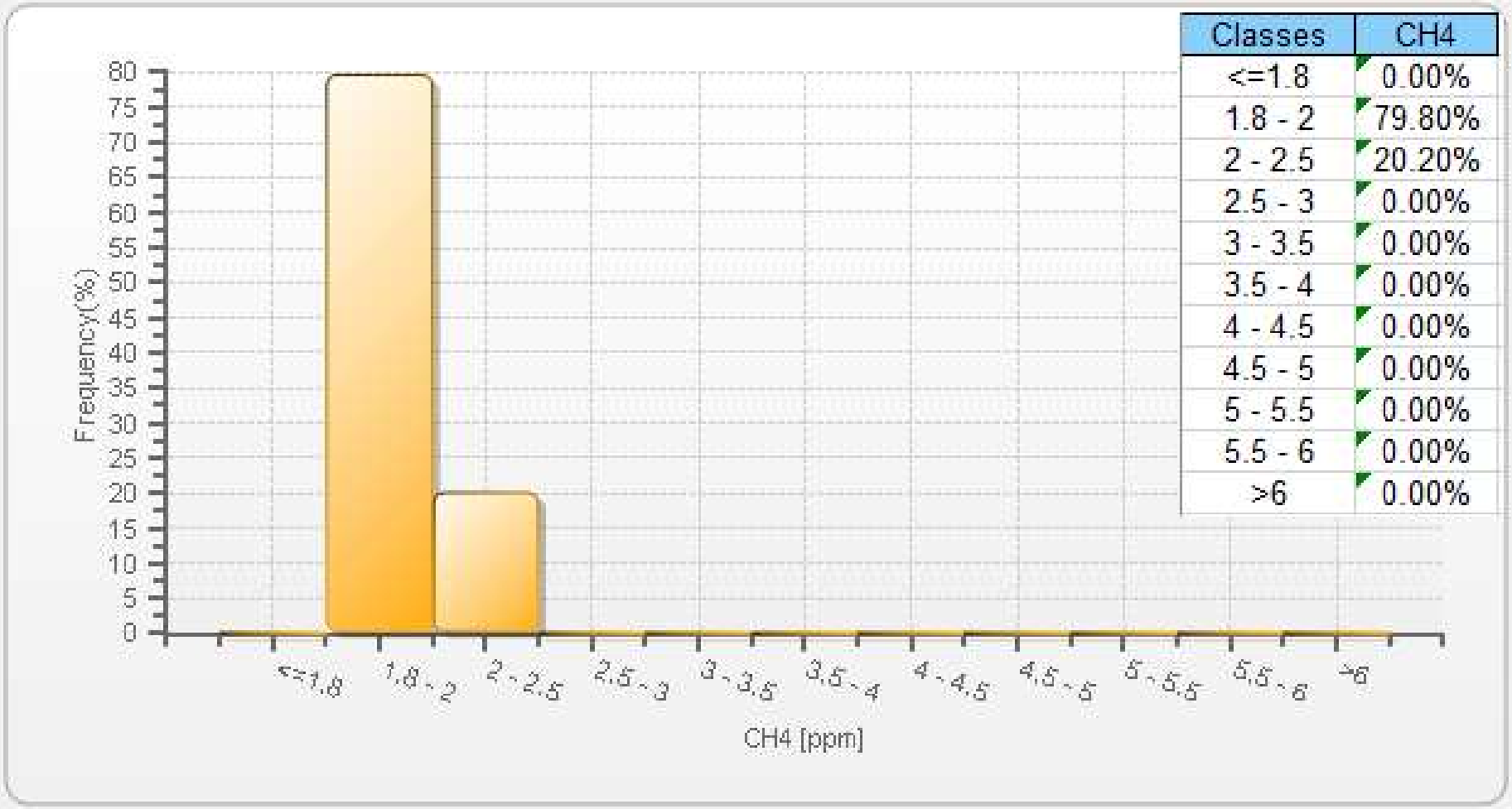
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 - Cadotte Lake Station



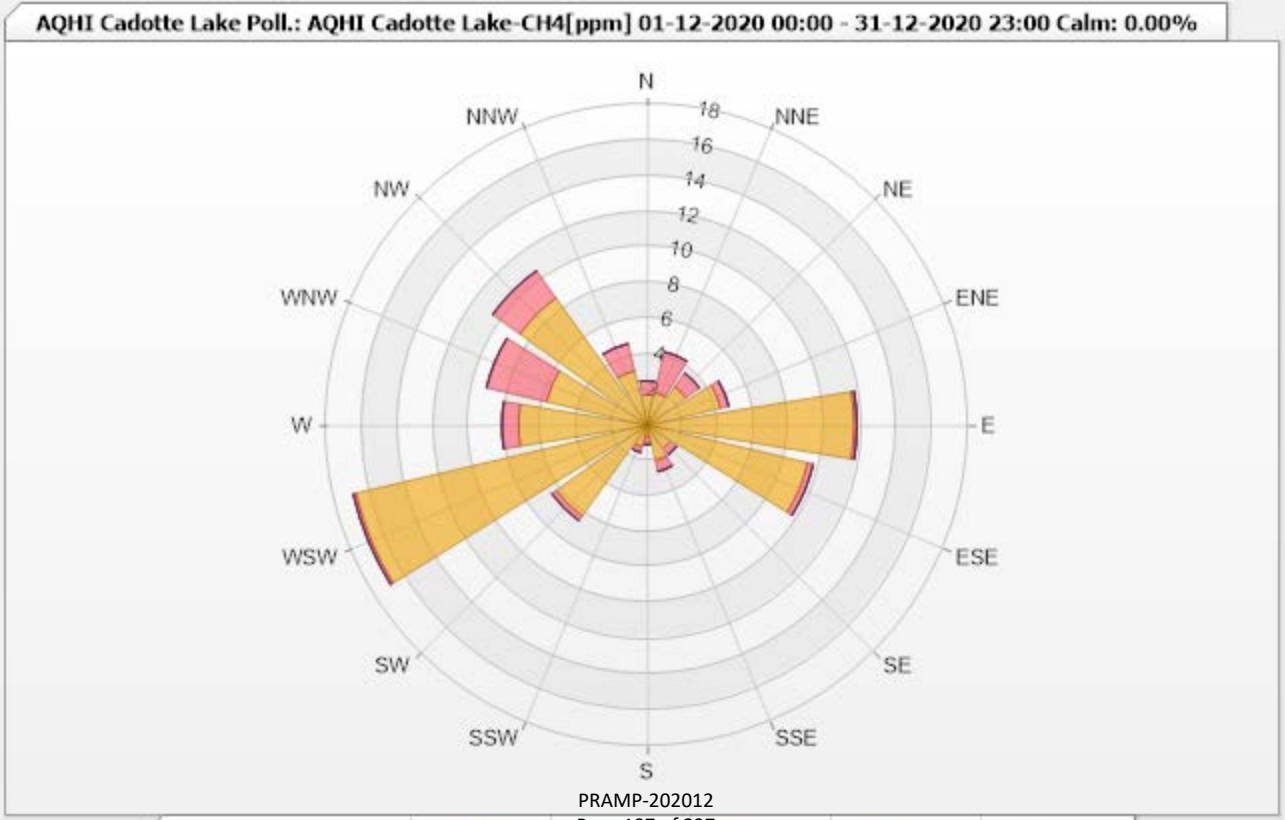
CH4[ppm] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	79.80%
2 - 2.5	20.20%
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: AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-CH4[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.75% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.72	0.78	0	0	0	2.5
NNE	1.88	2.35	0	0	0	4.23
NE	2.66	0.94	0	0	0	3.6
ENE	4.23	0.47	0	0	0	4.7
E	11.6	0.16	0	0	0	11.76
ESE	9.25	0.31	0	0	0	9.56
SE	1.57	0.47	0	0	0	2.04
SSE	2.04	0.63	0	0	0	2.67
S	0.63	0.47	0	0	0	1.1
SSW	1.25	0.31	0	0	0	1.56
SW	6.27	0.31	0	0	0	6.58
WSW	16.77	0.16	0	0	0	16.93
W	7.21	0.94	0	0	0	8.15
WNW	5.8	3.45	0	0	0	9.25
NW	8.78	1.88	0	0	0	10.66
NNW	3.13	1.57	0	0	0	4.7
Summary	84.79	15.2	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-CH4[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
85 0-2
15 2-5
0 5-10
0 10-20
0 >20.0

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

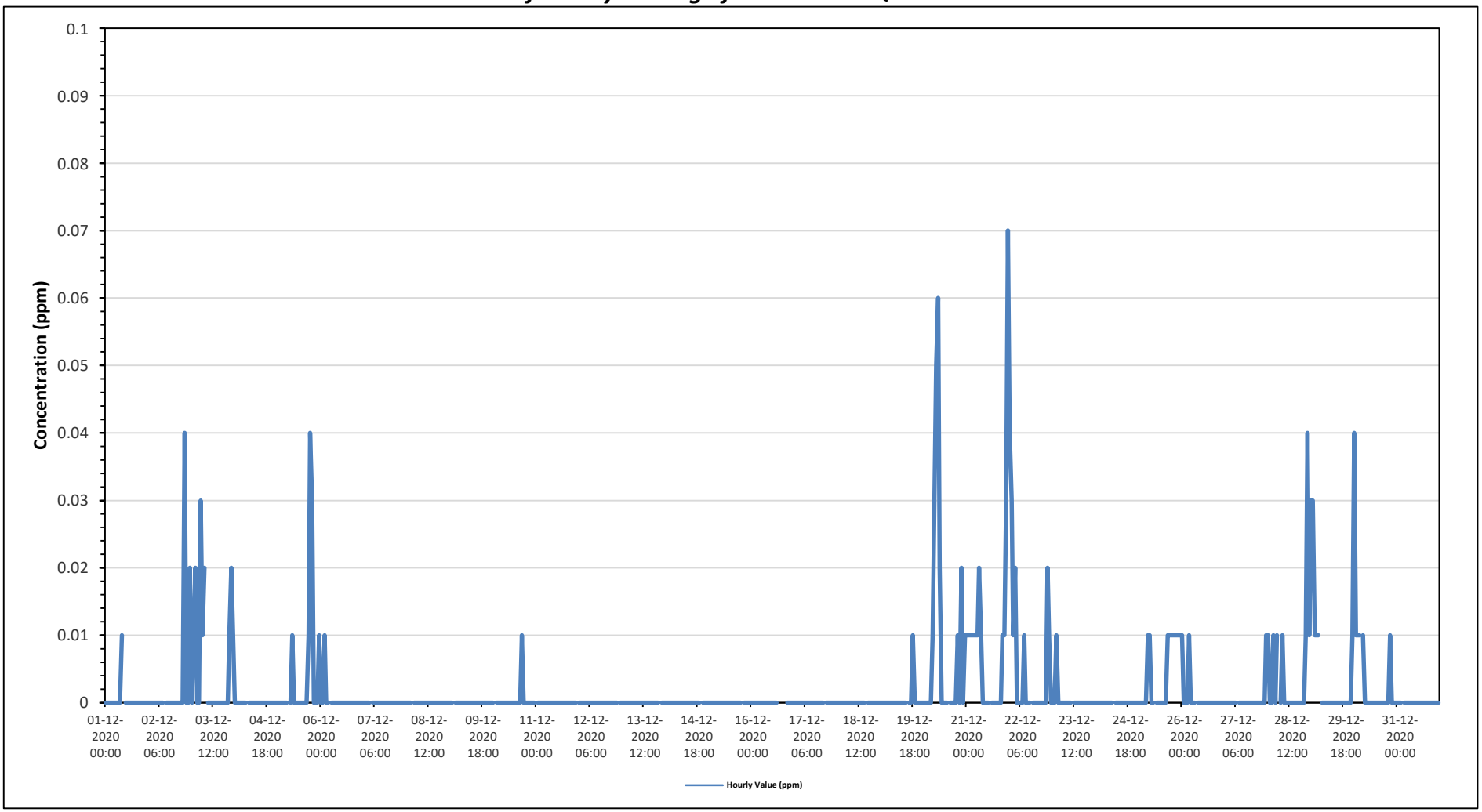
Maximum Hourly Value:	0.07	ppm	on December 21 at hour 23	Hours in Service:	744
Maximum Daily Value:	0.01	ppm	on December 21	Hours of Data:	708
Minimum Hourly Value:	0.00	ppm	on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on December 4	Hours of Calibration:	36
Monthly Average:	0.00	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	0.00	0.01	S	0.00	0.00	0.00	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
Dec 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.04	0.00
Dec 3	0.00	0.01	0.02	0.00	0.00	0.03	0.01	0.02	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.03	0.01
Dec 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.03	0.00	0.00	0.00	0.01	0.00	0.04	0.00
Dec 6	0.00	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Dec 7	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	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	0.01	0.00
Dec 11	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Dec 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Dec 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Dec 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Dec 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 16	0.00	0.00	0.00	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	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 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	S	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Dec 20	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.05	0.06	0.02	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.06	0.01
Dec 21	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	**0.07**	0.00	**0.07**	**0.01**
Dec 22	0.04	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.04	0.01
Dec 23	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Dec 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	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 25	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Dec 26	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	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
Dec 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	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	0.01	0.00
Dec 28	0.01	0.00	0.00	0.01	0.00	0.01	S	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	0.01	0.04	0.01	0.00	0.04	0.00
Dec 29	0.03	0.03	0.01	0.01	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	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	0.03	0.00
Dec 30	0.04	0.01	0.01	0.01	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.00
Dec 31	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.04	0.03	0.02	0.02	0.01	0.03	0.03	0.05	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.03	0.04	0.02	0.04	0.07			
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	0.01			

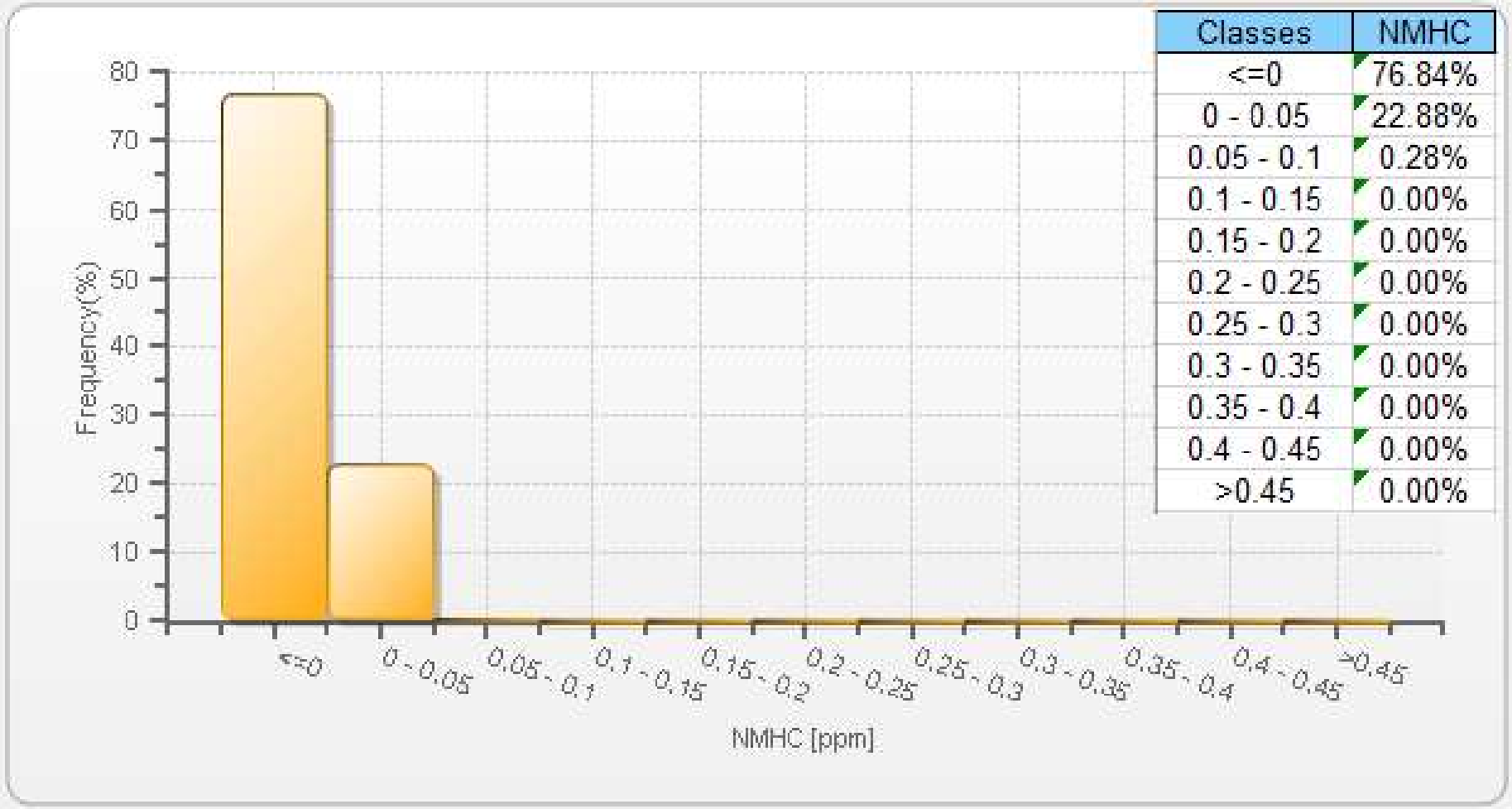
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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 - Cadotte Lake Station



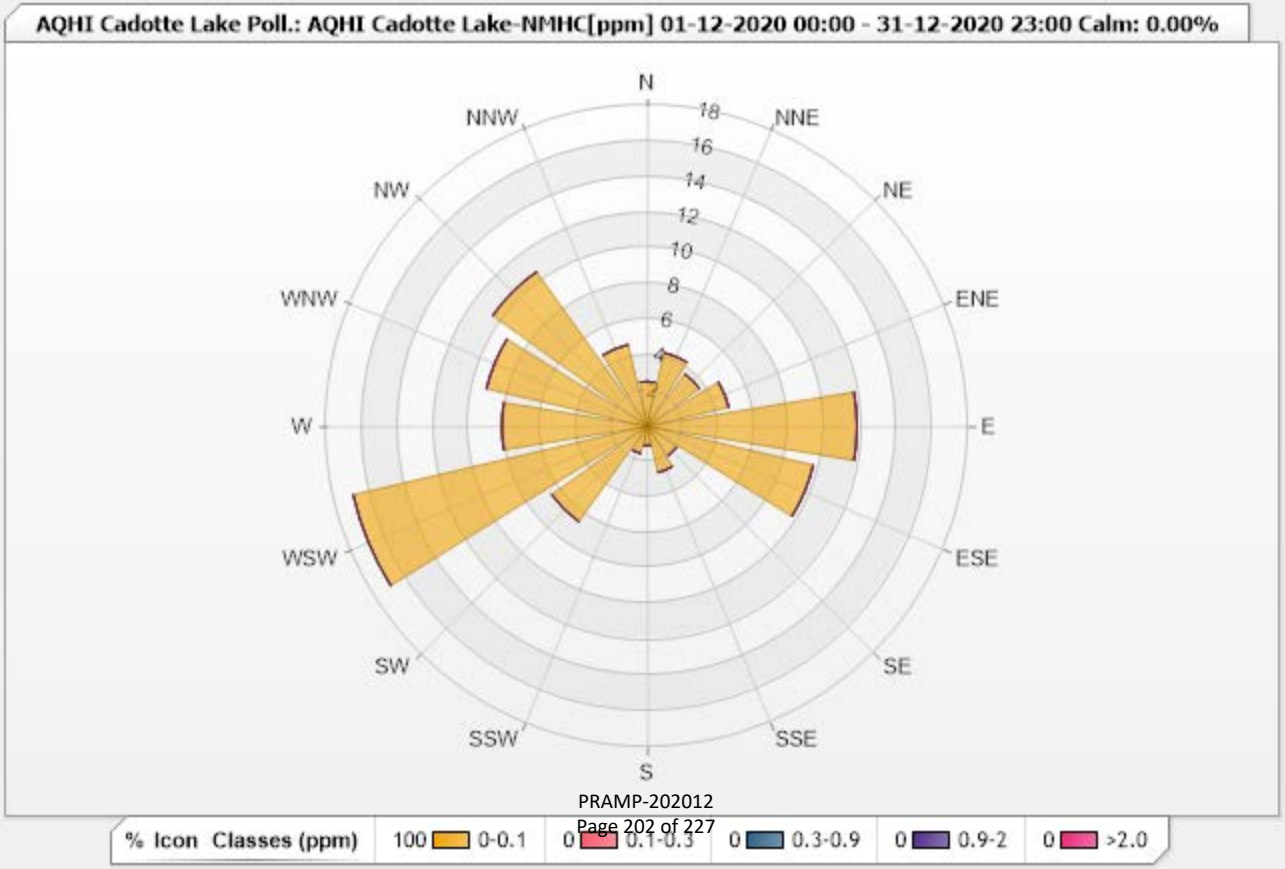
NMHC[ppm] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	NMHC
<=0	76.84%
0 - 0.05	22.88%
0.05 - 0.1	0.28%
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: AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-NMHC[ppm] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 85.75% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	2.51	0	0	0	0	2.51
NNE	4.23	0	0	0	0	4.23
NE	3.61	0	0	0	0	3.61
ENE	4.7	0	0	0	0	4.7
E	11.76	0	0	0	0	11.76
ESE	9.56	0	0	0	0	9.56
SE	2.04	0	0	0	0	2.04
SSE	2.66	0	0	0	0	2.66
S	1.1	0	0	0	0	1.1
SSW	1.57	0	0	0	0	1.57
SW	6.58	0	0	0	0	6.58
WSW	16.93	0	0	0	0	16.93
W	8.15	0	0	0	0	8.15
WNW	9.25	0	0	0	0	9.25
NW	10.66	0	0	0	0	10.66
NNW	4.7	0	0	0	0	4.7
Summary	100	0	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-NMHC[ppm] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 0-0.1
0 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

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

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 80 µg/m3, 24-Hour 29 µg/m3

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

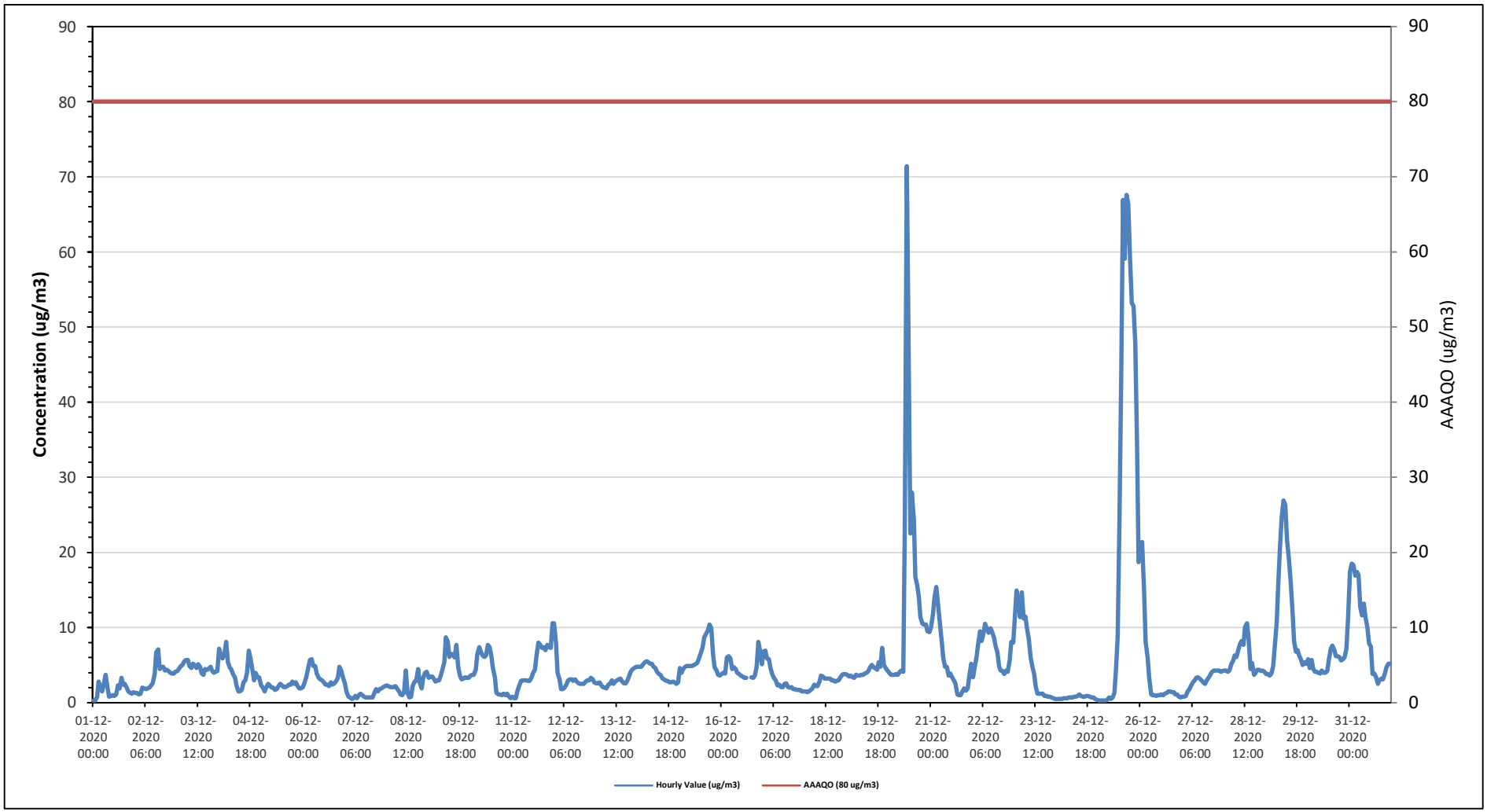
Maximum Hourly Value:	71.4 $\mu g/m^3$ on December 20 at hour 10	Hours in Service:	744
Maximum Daily Value:	25.5 $\mu g/m^3$ on December 25	Hours of Data:	742
Minimum Hourly Value:	0.3 $\mu g/m^3$ on December 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.7 $\mu g/m^3$ on December 24	Hours of Calibration:	2
Monthly Average:	5.3 $\mu g/m^3$	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	0.3	0.3	0.7	2.8	2	1.5	2.7	3.7	1.9	0.8	0.9	1	0.9	1.1	2.3	1.9	3.3	2.4	2.5	2	1.5	1.3	1.2	1.4	**0.3**	3.7	1.7
Dec 2	1.3	1.3	1.1	1.2	2.0	1.9	1.8	1.9	2.0	2.3	2.6	3.8	6.7	7.1	4.5	4.7	4.8	4.3	4.4	4.2	4.0	3.9	3.9	4.1	1.1	7.1	3.3
Dec 3	4.2	4.5	4.9	5.0	5.5	5.7	5.7	4.9	4.6	5.2	5.0	4.6	5.1	4.8	3.9	3.7	4.5	4.4	4.5	4.8	4.3	4.0	4.1	4.2	3.7	5.7	4.7
Dec 4	7.2	6.3	5.9	6.5	8.1	5.4	4.7	4.4	3.8	3.4	2.3	1.5	1.5	1.7	2.7	3.0	4.0	6.9	5.9	4.6	3.0	4.0	3.4	3.4	1.5	8.1	4.3
Dec 5	2.3	2.1	1.5	2.0	2.5	2.3	2.0	2.0	1.7	1.8	2.2	2.5	2.3	2.1	2.1	2.2	2.4	2.4	2.8	2.5	2.7	2.2	1.9	1.9	1.5	2.8	2.2
Dec 6	2.1	2.7	3.5	4.6	5.7	5.8	4.9	4.9	3.9	3.3	3.1	3.0	2.7	2.4	2.4	2.2	2.7	2.4	2.6	2.8	3.3	4.8	4.2	3.4	2.1	5.8	3.5
Dec 7	2.6	1.5	0.8	0.7	0.5	0.6	0.9	0.6	1.0	1.2	1.0	0.8	0.7	0.7	0.7	0.7	0.7	1.3	1.8	1.5	1.8	1.9	2.1	2.2	0.5	2.6	1.2
Dec 8	2.3	2.2	2.1	2.1	2.1	2.2	1.9	1.5	1.1	1.0	1.4	4.3	1.3	0.7	0.8	2.2	2.8	2.9	4.5	2.7	1.9	3.3	4.0	4.1	0.7	4.5	2.3
Dec 9	3.3	3.5	3.5	3.2	2.8	3.0	3.0	3.6	4.5	5.4	8.7	8.1	6.1	6.5	6.4	6.0	7.7	4.8	3.6	3.1	3.2	3.4	3.3	3.3	2.8	8.7	4.6
Dec 10	3.6	3.7	3.7	4.4	6.4	7.4	6.8	6.3	6.1	6.3	7.7	7.4	6.2	4.6	3.4	1.3	1.1	1.1	1.0	1.2	1.0	1.2	0.8	0.6	0.6	7.7	3.9
Dec 11	0.8	0.6	0.6	1.6	2.3	2.9	3.0	3.0	3.0	2.9	2.9	3.4	4.0	4.4	6.4	8.0	7.7	7.3	7.4	7.0	7.7	7.4	7.3	10.6	0.6	10.6	4.7
Dec 12	10.6	7.9	4.0	3.1	1.8	1.8	2.0	2.4	3.0	3.1	3.1	2.9	3.1	2.8	2.6	2.5	2.5	2.5	2.8	3.0	3.0	3.3	3.1	2.7	1.8	10.6	3.3
Dec 13	2.6	2.6	2.7	2.3	2.1	2.0	1.9	2.4	2.5	3.0	2.5	2.8	3.0	3.1	3.2	2.8	2.6	2.6	3.0	3.6	4.2	4.5	4.6	4.8	1.9	4.8	3.0
Dec 14	4.8	4.8	4.8	5.1	5.4	5.5	5.4	5.2	5.2	4.8	4.6	4.1	3.8	3.7	3.2	3.1	2.9	2.9	2.7	2.7	2.8	2.7	2.5	2.7	2.5	5.5	4.0
Dec 15	4.6	4.0	4.5	4.8	4.9	4.9	4.9	4.9	5.0	5.1	5.3	5.9	6.6	7.3	8.7	9.2	9.6	10.4	9.9	6.4	4.7	4.3	3.7	3.6	3.6	10.4	6.0
Dec 16	3.8	4.0	3.9	6.0	6.2	5.9	4.5	4.7	4.5	4.0	3.8	3.6	3.5	3.3	3.3	**C**	**C**	3.4	3.3	3.6	4.7	8.1	6.9	5.1	3.3	8.1	4.6
Dec 17	6.8	6.9	5.9	5.8	4.6	3.7	3.3	3.0	2.3	2.4	2.1	2.1	2.5	2.6	2.1	2.0	2.1	1.8	1.8	1.7	1.7	1.7	1.5	1.5	1.5	6.9	3.0
Dec 18	1.5	1.4	1.5	1.7	1.9	2.4	2.2	2.2	2.8	3.6	3.5	3.2	3.2	3.2	3.2	3.0	3.0	2.8	2.9	3.0	3.4	3.7	3.8	3.8	1.4	3.8	2.8
Dec 19	3.7	3.5	3.6	3.4	3.3	3.7	3.6	3.6	3.7	3.7	3.9	4.0	4.2	4.7	5.0	4.7	4.6	4.4	5.4	4.8	7.3	5.0	4.6	4.3	3.3	7.3	4.3
Dec 20	4.0	3.7	3.7	3.7	3.8	3.7	4.1	4.3	4.1	23.7	**71.4**	51.0	22.5	28.0	24.4	16.7	15.7	14.0	11.4	10.5	10.4	10.4	9.5	9.4	3.7	**71.4**	15.2
Dec 21	10.0	11.8	14.0	15.4	13.1	10.7	8.4	5.9	4.8	4.8	3.6	3.9	3.4	3.0	2.6	1.1	1.0	1.0	1.5	1.9	1.6	1.9	3.7	5.2	1.0	15.4	5.6
Dec 22	3.4	4.8	6.0	7.7	9.5	8.2	9.3	10.5	9.8	9.3	9.9	9.4	8.6	7.5	6.7	4.8	4.3	4.2	3.8	4.3	4.1	5.7	8.1	8.0	3.4	10.5	7.0
Dec 23	11.2	14.9	13.3	11.4	14.7	11.2	11.5	9.8	8.4	6.0	4.8	3.8	2.2	1.2	1.2	1.2	1.2	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.5	14.9	5.6
Dec 24	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.9	1.1	0.9	0.8	0.8	0.9	0.9	0.8	0.7	0.7	0.5	0.4	0.4	1.1	0.7
Dec 25	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.5	0.7	1.3	4.3	8.8	24.2	43.4	66.9	59.1	67.6	66.4	59.2	53.2	52.8	47.7	34.1	18.7	**0.3**	67.6	**25.5**
Dec 26	20.0	21.4	14.8	8.1	6.0	3.4	1.1	1.0	1.0	0.9	1.0	1.0	1.1	1.0	1.2	1.3	1.5	1.5	1.4	1.4	1.1	1.1	0.8	0.7	0.7	21.4	3.9
Dec 27	0.8	0.8	0.9	1.5	1.8	2.3	2.7	3.0	3.3	3.4	3.2	3.0	2.7	2.5	3.0	3.3	3.7	4.1	4.3	4.3	4.3	4.3	4.1	4.2	0.8	4.3	3.0
Dec 28	4.3	4.3	4.1	4.3	5.2	5.5	6.3	6.1	7.0	7.8	8.2	7.7	10.1	10.6	8.6	4.5	5.3	3.7	4.0	4.4	4.4	4.2	4.3	4.1	3.7	10.6	5.8
Dec 29	3.8	3.8	3.6	3.9	4.9	7.8	10.7	15.7	20.7	24.8	26.9	26.3	21.6	19.3	16.3	12.6	8.2	6.8	7.0	6.3	5.7	5.0	5.4	5.2	3.6	26.9	11.3
Dec 30	5.8	4.6	5.7	4.5	4.1	4.1	4.0	3.9	4.3	4.0	4.0	4.2	5.7	7.2	7.6	7.0	6.2	6.2	6.1	5.6	5.8	6.1	7.2	11.6	3.9	11.6	5.6
Dec 31	17.4	18.5	18.3	16.9	17.4	17.0	12.7	11.6	13.2	11.3	10.1	7.9	7.5	3.8	3.9	3.4	2.5	3.0	3.2	3.1	3.9	4.7	5.2	5.2	2.5	18.5	9.2
Diurnal Maximum	20	21	18	17	17	17	13	16	21	25	71	51	24	43	67	59	68	66	59	53	53	48	34	19			
Diurnal Average	4.8	4.9	4.7	4.7	4.9	4.6	4.4	4.5	4.5	5.2	6.9	6.3	5.7	6.3	6.8	6.0	6.2	5.9	5.7	5.2	5.2	5.3	4.9	4.5			

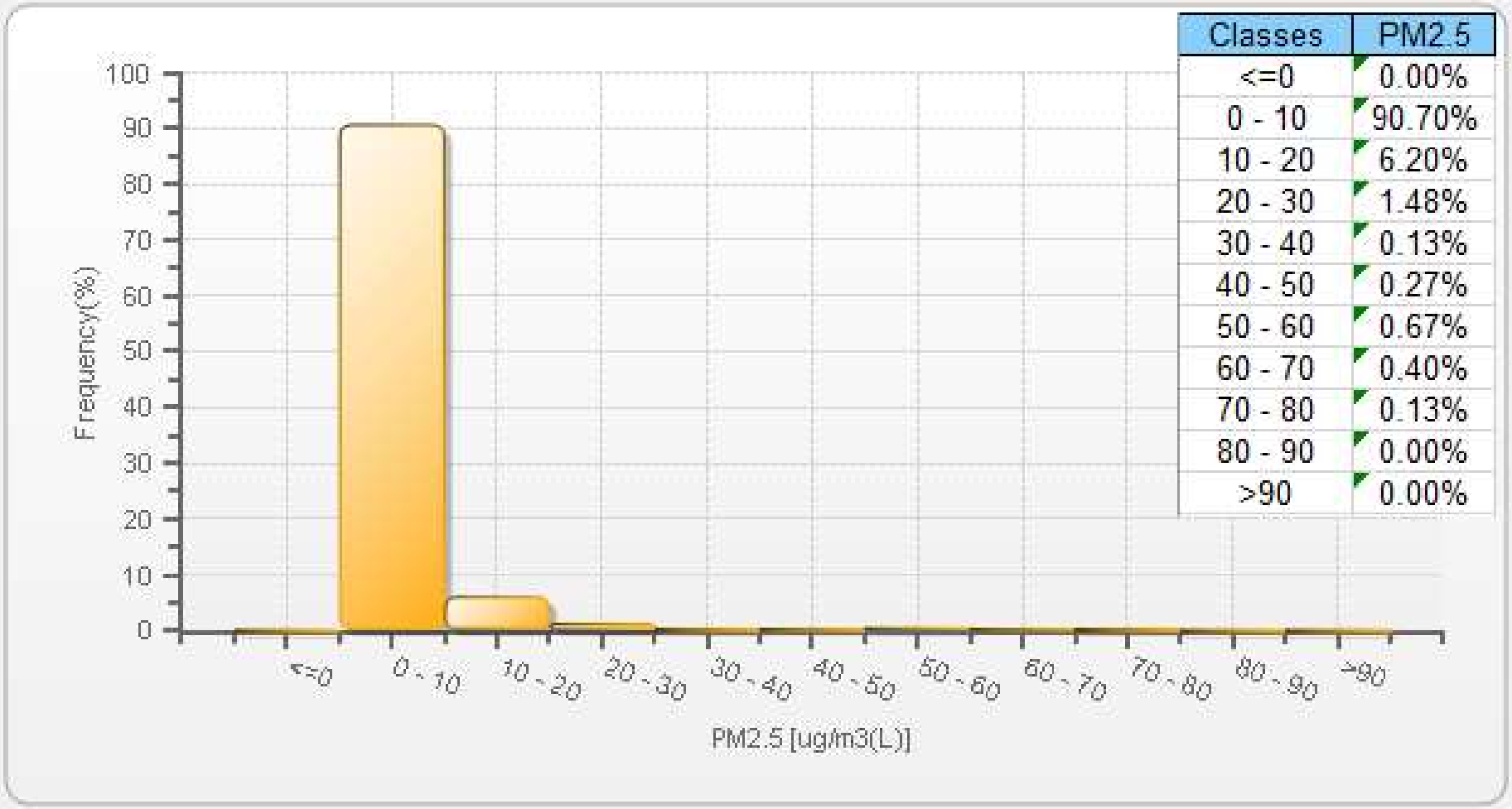
C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**N**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine 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 PM2.5 - AQHI - Cadotte Lake Station



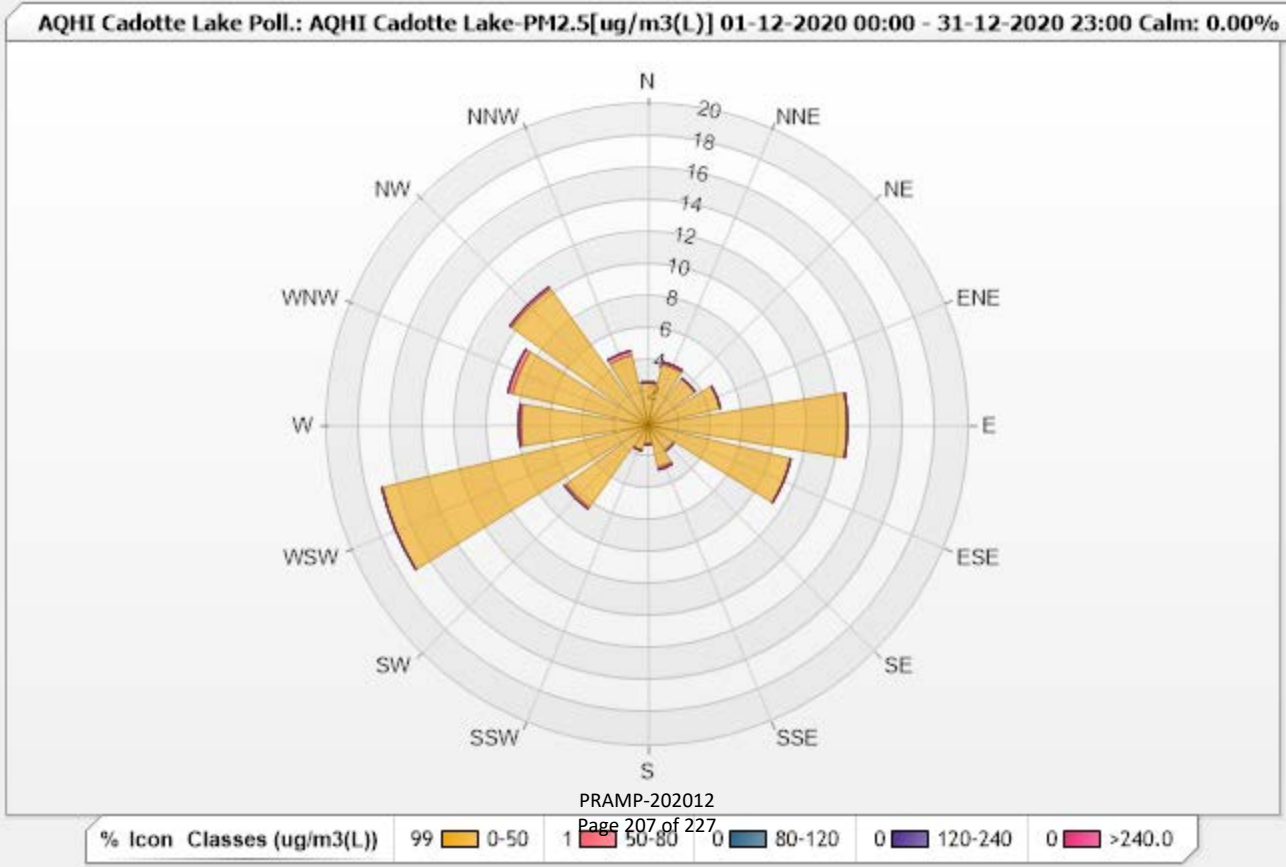
PM2.5[ug/m3(L)] Histogram: AQHI Cadotte Lake Monthly: 12-2020 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	90.70%
10 - 20	6.20%
20 - 30	1.48%
30 - 40	0.13%
40 - 50	0.27%
50 - 60	0.67%
60 - 70	0.40%
70 - 80	0.13%
80 - 90	0.00%
>90	0.00%

Wind: AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-PM2.5[ug/m3(L)] Monthly: 12-2020 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 89.92% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	2.69	0	0	0	0	2.69
NNE	3.89	0.15	0	0	0	4.04
NE	3.59	0	0	0	0	3.59
ENE	4.63	0	0	0	0	4.63
E	12.41	0	0	0	0	12.41
ESE	9.12	0	0	0	0	9.12
SE	1.94	0	0	0	0	1.94
SSE	2.69	0.15	0	0	0	2.84
S	1.2	0	0	0	0	1.2
SSW	1.64	0	0	0	0	1.64
SW	6.28	0.15	0	0	0	6.43
WSW	17.04	0	0	0	0	17.04
W	7.92	0.15	0	0	0	8.07
WNW	8.67	0.3	0	0	0	8.97
NW	10.46	0.15	0	0	0	10.61
NNW	4.48	0.3	0	0	0	4.78
Summary	98.65	1.35	0	0	0	100


AQHI Cadotte Lake Poll.: AQHI Cadotte Lake-PM2.5[ug/m3(L)] 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
4
2
% Icon Classes (ug/m3(L))
99 0-50
1 50-80
0 80-120
0 120-240
0 >240.0

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

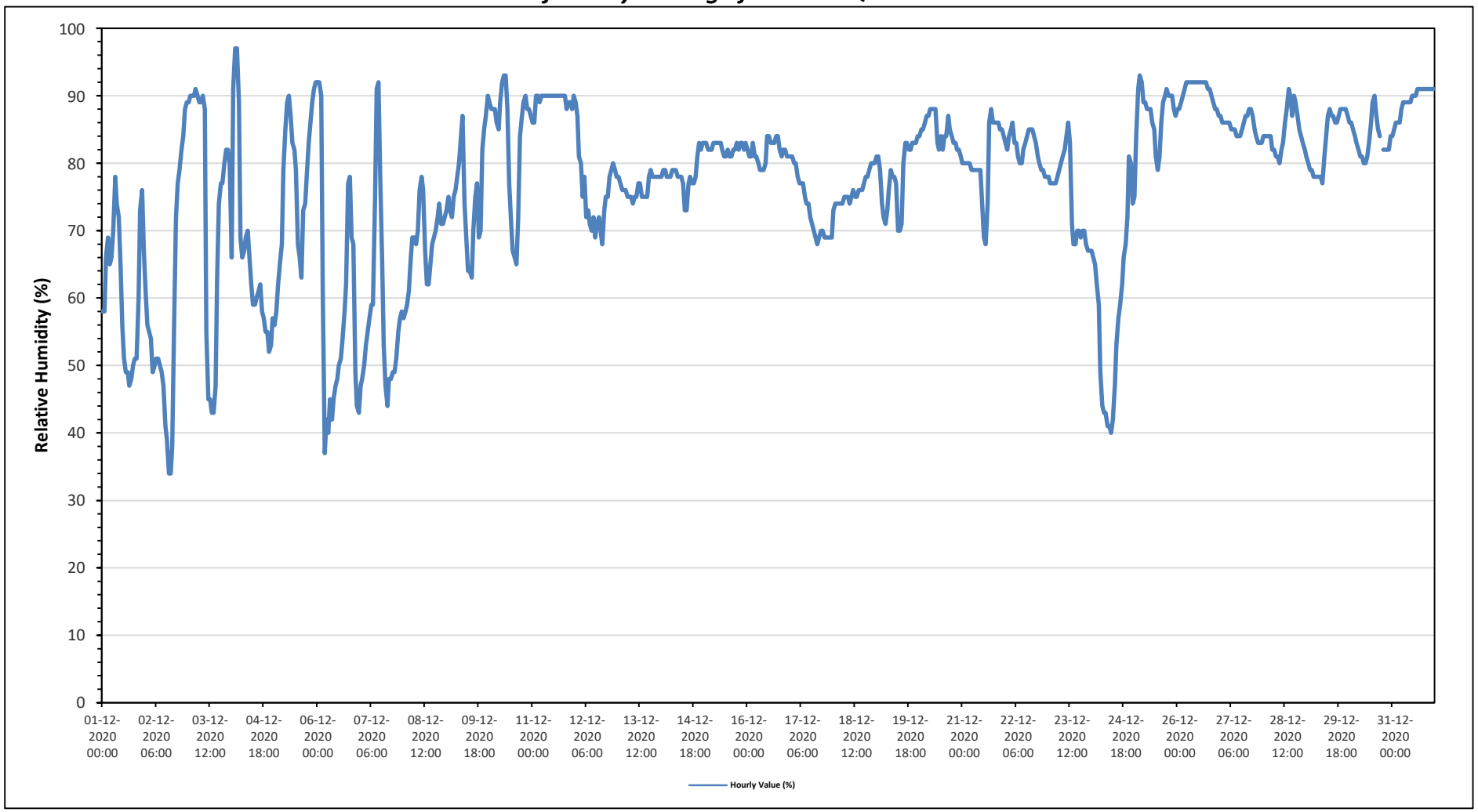
Maximum Hourly Value:	97	%	on December 4 at hour 2	Hours in Service:	744
Maximum Daily Value:	90.6	%	on December 26	Hours of Data:	743
Minimum Hourly Value:	34	%	on December 2 at hour 13	Hours of Missing Data:	1
Minimum Daily Value:	57.5	%	on December 24	Hours of Calibration:	0
Monthly Average:	76.6	%		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	58	58	66	69	65	66	70	78	74	72	65	56	51	49	49	47	48	50	51	51	60	73	76	67	47	78	61.2
Dec 2	61	56	55	54	49	50	51	51	50	49	47	41	39	**34**	**34**	38	57	72	77	79	82	84	88	89	**34**	89	57.8
Dec 3	89	90	90	90	91	90	89	89	90	88	55	45	45	43	43	47	63	74	77	77	80	82	82	80	43	91	74.5
Dec 4	66	91	**97**	**97**	89	69	66	67	69	70	66	62	59	59	60	61	62	58	57	55	55	52	53	57	52	**97**	66.5
Dec 5	56	58	62	65	68	79	85	89	90	87	83	82	79	68	66	63	73	74	78	83	86	89	91	92	56	92	76.9
Dec 6	92	92	90	61	37	42	40	45	42	45	47	48	50	51	54	58	62	77	78	69	68	49	44	43	37	92	57.7
Dec 7	47	48	50	53	55	57	59	59	74	91	92	78	65	53	47	44	48	48	49	49	51	55	57	58	44	92	57.8
Dec 8	57	58	59	61	66	69	69	68	70	76	78	76	67	62	62	65	68	69	70	72	74	71	71	72	57	78	67.9
Dec 9	73	75	73	72	75	76	78	80	84	87	74	69	64	64	63	70	75	77	69	70	82	85	87	90	63	90	75.5
Dec 10	89	88	88	88	86	85	89	92	93	93	88	77	71	67	66	65	72	84	87	89	90	88	88	87	65	93	83.8
Dec 11	86	86	90	90	89	90	90	90	90	90	90	90	90	90	90	90	90	90	90	88	89	89	88	90	86	90	89.4
Dec 12	89	87	81	80	75	78	72	73	71	70	72	69	71	72	70	68	73	75	75	78	79	80	79	78	68	89	75.6
Dec 13	78	77	76	76	76	75	75	75	74	75	75	77	77	75	75	75	75	78	79	78	78	78	78	78	74	79	76.4
Dec 14	78	79	79	78	78	78	79	79	79	78	78	78	77	73	73	77	78	77	77	78	81	83	82	83	73	83	78.3
Dec 15	83	83	82	82	82	83	83	83	83	83	82	81	81	82	81	81	82	82	83	82	83	83	82	83	81	83	82.3
Dec 16	82	81	81	83	81	81	80	79	79	79	80	84	84	83	83	83	84	84	82	81	82	82	81	81	79	84	81.7
Dec 17	81	81	80	80	78	77	77	77	75	74	74	72	71	70	69	68	69	70	70	69	69	69	69	69	68	81	73.3
Dec 18	73	74	74	74	74	74	75	75	75	74	75	76	75	75	76	76	76	77	78	78	79	80	80	80	73	80	76.0
Dec 19	81	81	79	74	72	71	73	76	79	78	78	77	70	70	71	80	83	83	82	82	83	83	83	84	70	84	78.0
Dec 20	84	85	85	86	87	87	88	88	88	88	83	82	84	82	84	84	87	85	84	83	83	82	82	81	81	88	84.7
Dec 21	80	80	80	80	80	79	79	79	79	79	79	74	69	68	74	86	88	86	86	86	86	85	85	84	68	88	80.5
Dec 22	83	82	84	85	86	83	83	81	80	80	82	83	84	85	85	85	84	83	81	80	79	79	78	78	78	86	82.2
Dec 23	78	77	77	77	77	78	79	80	81	82	84	86	83	71	68	68	70	70	69	70	70	68	67	67	67	86	74.9
Dec 24	67	66	65	62	59	49	44	43	43	41	41	40	42	47	53	57	59	62	66	68	72	81	80	74	40	81	57.5
Dec 25	75	84	91	93	92	89	89	88	88	88	86	85	81	79	81	86	89	90	91	90	90	90	88	87	75	93	87.1
Dec 26	88	88	89	90	91	92	92	92	92	92	92	92	92	92	92	92	92	91	91	90	89	88	88	87	87	92	**90.6**
Dec 27	87	86	86	86	86	86	85	85	85	84	84	84	85	86	87	87	88	88	87	85	84	83	83	83	83	88	85.4
Dec 28	84	84	84	84	84	82	82	81	81	80	82	83	86	88	91	90	87	90	89	87	85	84	83	82	80	91	84.7
Dec 29	81	80	79	79	78	78	78	78	78	77	81	84	87	88	87	87	86	86	87	88	88	88	88	87	77	88	83.3
Dec 30	86	86	85	84	83	82	81	81	80	80	81	83	86	89	90	87	85	84	**NRM**	82	82	82	82	84	80	90	83.7
Dec 31	84	85	86	86	86	88	89	89	89	89	89	90	90	90	91	91	91	91	91	91	91	91	91	91	84	91	89.2
Diurnal Maximum	92	92	97	97	92	92	92	92	93	93	92	92	92	92	92	92	92	91	91	91	91	91	91	92			
Diurnal Average	77.3	78.3	78.8	78.0	76.6	76.2	76.4	77.1	77.6	78.0	76.2	74.3	72.7	71.1	71.5	72.8	75.6	77.6	77.7	77.7	79.0	79.2	79.2	78.9			

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 - AQHI - Cadotte Lake Station



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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

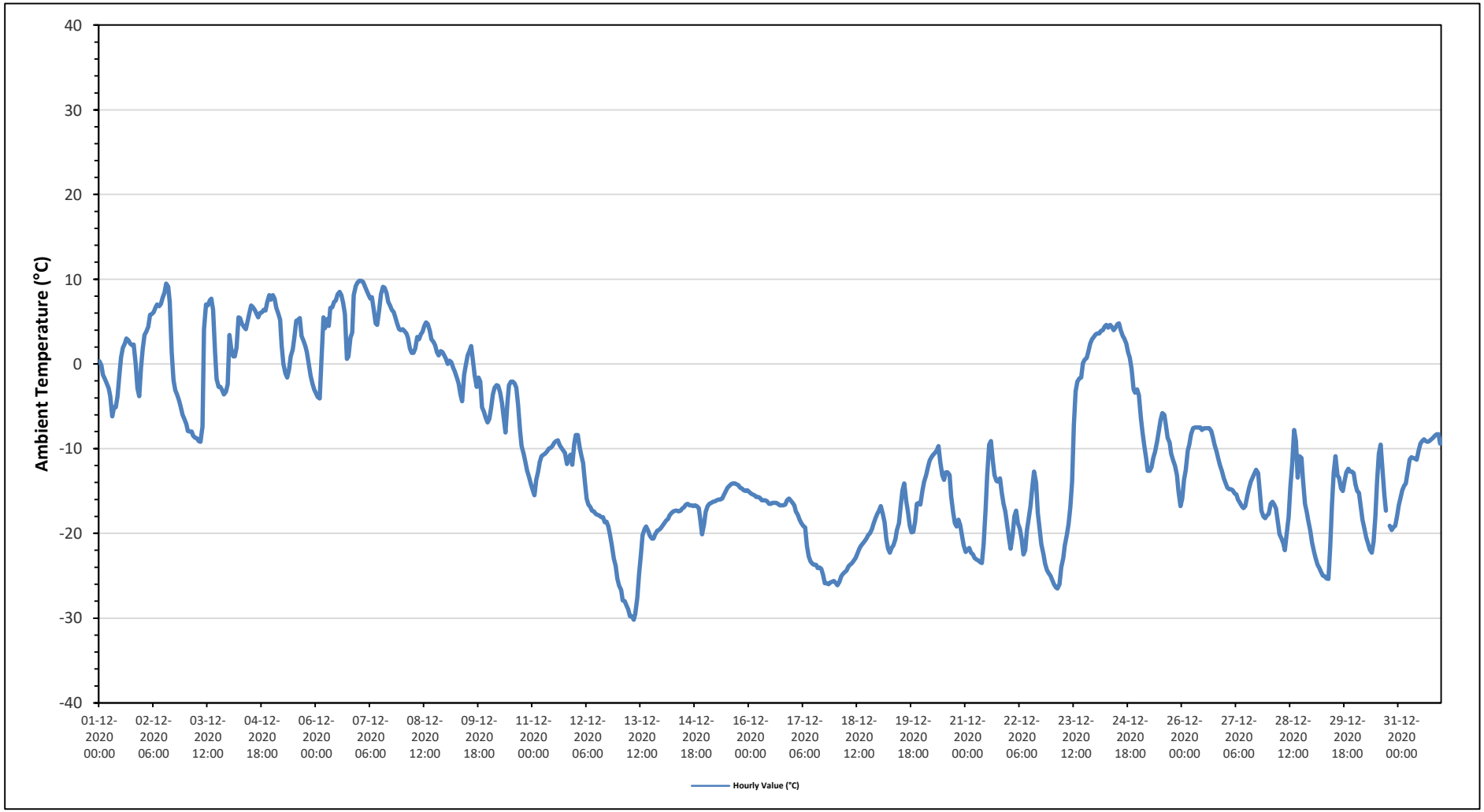
Maximum Hourly Value:	9.8	°C	on December 7 at hour 0	Hours in Service:	744
Maximum Daily Value:	7.2	°C	on December 7	Hours of Data:	743
Minimum Hourly Value:	-30.2	°C	on December 13 at hour 8	Hours of Missing Data:	1
Minimum Daily Value:	-24.1	°C	on December 13	Hours of Calibration:	0
Monthly Average:	-10.0	°C		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	-0.2	-1.3	-1.8	-2.3	-2.9	-3.8	-6.2	-5.1	-5.1	-3.8	-1.4	0.8	1.9	2.4	3	2.8	2.4	2.2	2.3	0	-2.9	-3.8	-0.5	-6.2	3.0	-1.0
Dec 2	1.8	3.4	3.8	4.4	5.8	5.9	6.1	6.7	7	6.8	7.1	7.8	8.4	9.5	9.1	7.3	1.3	-1.9	-3.1	-3.6	-4.3	-5	-6	-6.5	-6.5	9.5	3.0
Dec 3	-7.1	-7.9	-8	-8	-8.5	-8.7	-8.8	-9.1	-9.2	-7.4	4.1	7	6.9	7.5	7.7	6.4	1.3	-1.8	-2.7	-2.7	-3.1	-3.6	-3.3	-2.4	-9.2	7.7	-2.6
Dec 4	3.4	1.8	0.9	0.9	1.9	5.5	5.4	4.7	4.4	4.1	4.9	6	6.9	6.7	6.4	5.9	5.5	6	6.1	6.4	6.3	7.3	8.1	7.6	0.9	8.1	5.1
Dec 5	8.1	7.7	6.6	6	5.2	2.2	0	-1.1	-1.6	-0.7	0.9	1.7	3	5.1	5.2	5.4	3.3	2.7	2.1	1.4	-0.1	-1.4	-2.3	-3	-3.0	8.1	2.4
Dec 6	-3.5	-3.9	-4.1	0.5	5.5	4.2	5.3	4.5	6.6	6.7	7.3	7.5	8.2	8.5	8.1	7.2	5.9	0.6	0.9	3.1	3.7	8.1	9.2	9.6	-4.1	9.6	4.6
Dec 7	**9.8**	**9.8**	9.7	9.2	8.7	8.2	7.7	7.9	6.3	4.8	4.6	6.4	8.2	9.1	9	8.4	7.3	6.9	6.4	6.1	5.5	4.7	4.1	4	4.0	**9.8**	**7.2**
Dec 8	4.1	3.9	3.6	3.1	1.8	1.3	1.3	1.8	3.2	2.9	3.5	3.8	4.5	4.9	4.7	3.9	2.9	2.6	2.2	1.4	1	1.5	1.4	1	1.0	4.9	2.8
Dec 9	0.6	0	0.4	0.2	-0.5	-0.9	-1.6	-2.3	-3.7	-4.4	-1.3	-0.1	1	1.5	2.1	0.4	-1.4	-2.7	-1.6	-2.1	-5.1	-5.7	-6.3	-6.9	-6.9	2.1	-1.7
Dec 10	-6.5	-5.2	-3.6	-2.8	-2.5	-2.6	-3.4	-4.6	-6.3	-8.1	-4.5	-2.5	-2.1	-2.1	-2.3	-2.8	-4.8	-7.9	-9.7	-10.6	-11.6	-12.6	-13.3	-14.2	-14.2	-2.1	-6.1
Dec 11	-14.8	-15.5	-13.7	-12.8	-11.6	-10.9	-10.7	-10.6	-10.3	-10	-9.9	-9.7	-9.3	-9.1	-9	-9.6	-9.9	-10.2	-10.5	-11.8	-11.2	-10.7	-11.9	-9.4	-15.5	-9.0	-11.0
Dec 12	-8.4	-8.4	-9.8	-10.8	-11.7	-13.9	-15.9	-16.6	-16.9	-17.3	-17.4	-17.7	-17.8	-17.9	-18.1	-18.1	-18.7	-18.6	-19.2	-20.2	-21.4	-23	-23.8	-25.4	-25.4	-8.4	-17.0
Dec 13	-26.2	-26.7	-27.9	-28	-28.5	-29	-29.8	-29.8	**-30.2**	-29.5	-27.6	-24.8	-22.6	-20.2	-19.5	-19.2	-19.7	-20.3	-20.6	-20.6	-20.1	-19.7	-19.6	-19.4	**-30.2**	-19.2	-24.1
Dec 14	-19.1	-18.8	-18.5	-18.3	-17.9	-17.6	-17.4	-17.3	-17.3	-17.4	-17.3	-17.1	-16.9	-16.6	-16.5	-16.7	-16.7	-16.8	-16.7	-16.8	-17	-18.4	-20.1	-18.9	-20.1	-16.5	-17.6
Dec 15	-17.5	-16.8	-16.5	-16.4	-16.3	-16.2	-16.1	-16	-16	-15.9	-15.5	-15.1	-14.6	-14.4	-14.2	-14.1	-14.1	-14.2	-14.3	-14.6	-14.7	-14.9	-15	-14.9	-17.5	-14.1	-15.3
Dec 16	-15.1	-15.3	-15.4	-15.5	-15.7	-15.7	-15.8	-16.1	-16.1	-16.1	-16.2	-16.5	-16.5	-16.4	-16.4	-16.4	-16.5	-16.7	-16.7	-16.7	-16.6	-16.1	-15.9	-16.1	-16.7	-15.1	-16.1
Dec 17	-16.4	-16.7	-17.4	-17.8	-18.4	-18.8	-19.1	-19.3	-21.5	-22.7	-23.3	-23.6	-23.7	-23.7	-24.1	-24	-24.2	-24.9	-25.9	-25.9	-26	-25.8	-25.7	-25.6	-26.0	-16.4	-22.3
Dec 18	-25.9	-26.1	-25.7	-25.1	-24.8	-24.6	-24.4	-23.9	-23.7	-23.5	-23.2	-22.9	-22.4	-21.8	-21.5	-21.2	-20.9	-20.6	-20.2	-20	-19.5	-18.9	-18.2	-17.7	-26.1	-17.7	-22.4
Dec 19	-17.3	-16.8	-17.7	-18.7	-20.7	-21.8	-22.3	-21.7	-21.4	-20.7	-19.6	-18.8	-16.8	-14.9	-14.1	-16.2	-17.5	-19.1	-19.9	-19.8	-18.6	-16.5	-16.4	-16.6	-22.3	-14.1	-18.5
Dec 20	-15	-13.9	-13.1	-12.3	-11.4	-11	-10.7	-10.5	-10.2	-9.7	-11.6	-13.1	-13.7	-12.8	-12.8	-13.1	-15.6	-17.5	-18.8	-19.2	-18.4	-19	-20.4	-21.4	-21.4	-9.7	-14.4
Dec 21	-22.2	-21.9	-21.7	-22.3	-22.5	-22.9	-23.1	-23.2	-23.4	-23.5	-21.3	-17.1	-13.2	-9.5	-9.1	-11.3	-13.1	-13.8	-13.9	-13.5	-15.2	-16.5	-17.4	-18.9	-23.5	-9.1	-17.9
Dec 22	-20.7	-21.8	-20.2	-18	-17.3	-18.8	-19.5	-20.7	-22.5	-22	-19.6	-18.2	-16.8	-14.3	-12.7	-14	-17.6	-19.7	-21.3	-22.4	-23.6	-24.3	-24.7	-25	-25.0	-12.7	-19.8
Dec 23	-25.5	-26	-26.4	-26.5	-26	-24	-22.9	-21.4	-20.2	-18.9	-16.9	-13.9	-7.2	-3.2	-2.1	-1.7	-1.6	0.1	0.5	0.7	1.4	2.4	2.9	3.2	-26.5	3.2	-11.4
Dec 24	3.5	3.6	3.6	3.9	4	4.4	4.6	4.3	4.6	4.4	4	4.3	4.7	4.8	4	3.3	3	2.4	1.4	0.7	-0.6	-3	-3.4	-3	-3.4	4.8	2.6
Dec 25	-3.7	-6.4	-8	-9.6	-11.2	-12.6	-12.6	-12.2	-11.1	-10.4	-9.2	-7.9	-6.6	-5.8	-6	-7.2	-8.7	-9.3	-10.6	-11.4	-12	-13.1	-15	-16.8	-16.8	-3.7	-9.9
Dec 26	-15.9	-13.7	-12.5	-10.2	-9.5	-8.3	-7.6	-7.5	-7.5	-7.5	-7.5	-7.8	-7.6	-7.6	-7.6	-7.6	-7.9	-8.6	-9.5	-10.3	-11.2	-12	-12.6	-13.5	-15.9	-7.5	-9.6
Dec 27	-14	-14.6	-14.8	-14.8	-14.9	-15.3	-15.4	-16	-16.4	-16.8	-17	-16.8	-15.6	-14.8	-13.9	-13.4	-12.9	-12.5	-12.9	-15.2	-17.3	-18	-18.2	-17.9	-18.2	-12.5	-15.4
Dec 28	-17.7	-16.5	-16.3	-16.6	-17.1	-18.8	-20.1	-20.6	-21.2	-22	-19.9	-18.1	-14.5	-11.9	-7.8	-9.1	-13.4	-10.9	-11.1	-13.7	-16.5	-17.5	-18.5	-19.7	-22.0	-7.8	-16.2
Dec 29	-21.1	-22.2	-22.9	-23.7	-24.1	-24.6	-25	-25.1	-25.3	-25.4	-21.6	-16.6	-12.8	-10.9	-13.2	-13.4	-14.7	-15	-13.8	-12.8	-12.4	-12.7	-12.7	-12.9	-25.4	-10.9	-18.1
Dec 30	-14.2	-15	-15.2	-17	-18.4	-19.5	-20.5	-21.2	-21.9	-22.3	-21	-18.1	-13.8	-10.6	-9.5	-12.3	-15.5	-17.3	**NRM**	-19.1	-19.6	-19.3	-19.1	-18	-22.3	-9.5	-17.3
Dec 31	-16.7	-15.8	-14.9	-14.4	-14.1	-12.6	-11.3	-11	-11.1	-11.2	-11.3	-10.2	-9.4	-9.1	-8.9	-9.1	-9.2	-9.1	-8.9	-8.7	-8.5	-8.3	-8.3	-9.4	-16.7	-8.3	-10.9
Diurnal Maximum	9.8	9.8	9.7	9.2	8.7	8.2	7.7	7.9	7.0	6.8	7.3	7.8	8.4	9.5	9.1	8.4	7.3	6.9	6.4	6.4	6.3	8.1	9.2	9.6			
Diurnal Average	-10.7	-10.8	-10.9	-10.7	-10.7	-11.0	-11.2	-11.4	-11.5	-11.6	-10.3	-9.1	-7.8	-6.7	-6.5	-7.1	-8.4	-9.2	-9.3	-10.0	-10.5	-10.8	-11.2	-11.2			

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 - AQHI - Cadotte Lake Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

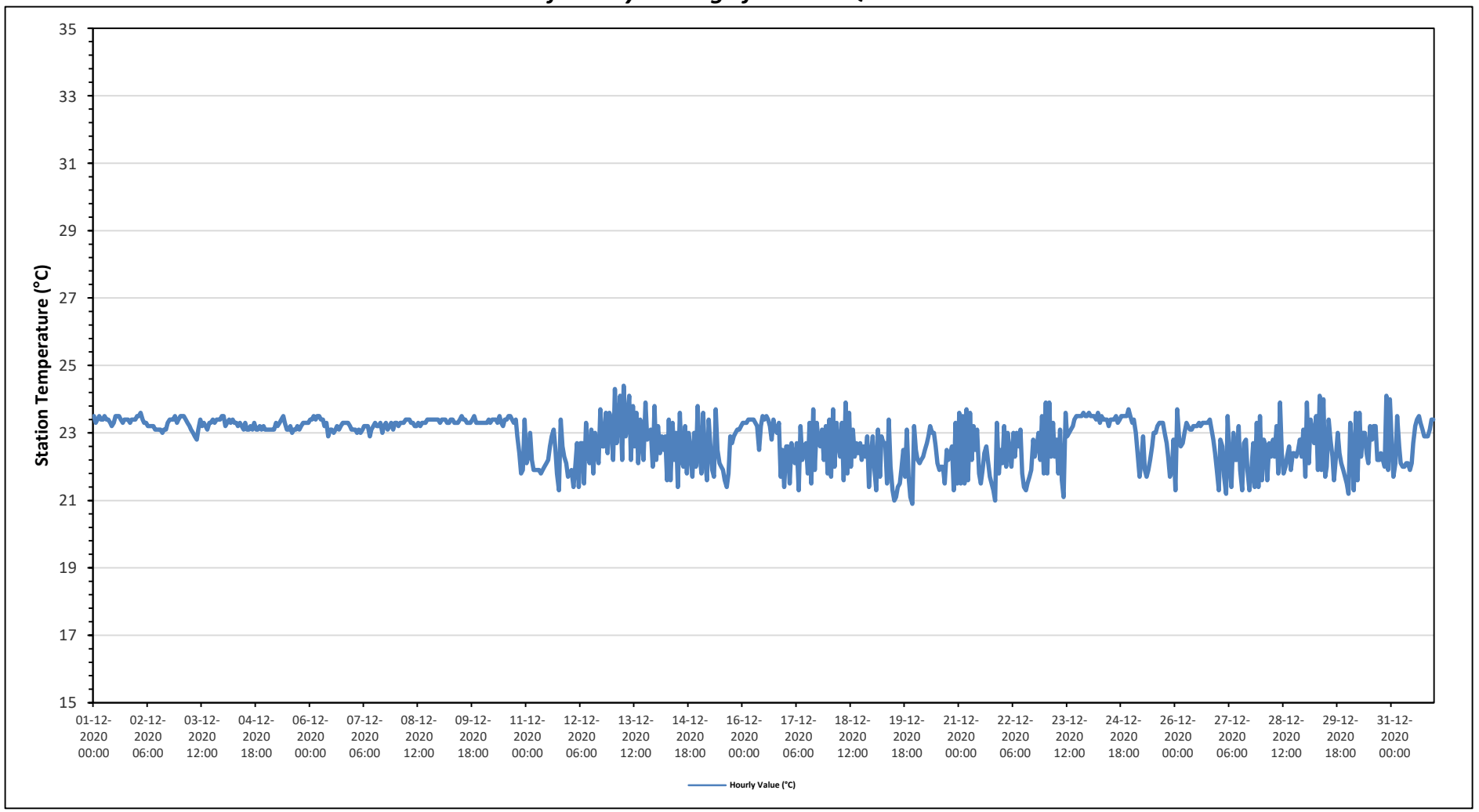
Maximum Hourly Value:	24.4	°C	on December 13 at hour 6	Hours in Service:	744
Maximum Daily Value:	23.5	°C	on December 24	Hours of Data:	744
Minimum Hourly Value:	20.9	°C	on December 19 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	22.0	°C	on December 19	Hours of Calibration:	0
Monthly Average:	22.8	°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	23.5	23.3	23.4	23.5	23.4	23.4	23.5	23.4	23.4	23.3	23.2	23.3	23.5	23.5	23.5	23.4	23.3	23.4	23.4	23.4	23.3	23.4	23.4	23.4	23.2	23.5	23.4
Dec 2	23.5	23.5	23.6	23.4	23.3	23.3	23.2	23.2	23.2	23.2	23.1	23.1	23.1	23.1	23.0	23.1	23.1	23.3	23.4	23.4	23.4	23.5	23.3	23.4	23.0	23.6	23.3
Dec 3	23.5	23.5	23.5	23.4	23.3	23.2	23.1	23.0	22.9	22.8	23.1	23.4	23.2	23.3	23.2	23.1	23.3	23.3	23.4	23.3	23.4	23.4	23.4	23.5	22.8	23.5	23.3
Dec 4	23.5	23.2	23.3	23.4	23.3	23.4	23.3	23.3	23.2	23.3	23.2	23.1	23.3	23.1	23.1	23.2	23.1	23.3	23.1	23.1	23.2	23.1	23.2	23.1	23.1	23.5	23.2
Dec 5	23.1	23.1	23.1	23.1	23.1	23.3	23.2	23.3	23.4	23.5	23.3	23.1	23.1	23.2	23.0	23.1	23.1	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.0	23.5	23.2
Dec 6	23.4	23.4	23.5	23.4	23.5	23.5	23.4	23.4	23.2	23.3	22.9	23.1	23.1	23.0	23.1	23.2	23.1	23.2	23.3	23.3	23.3	23.3	23.2	23.1	22.9	23.5	23.3
Dec 7	23.1	23.1	23.0	23.1	23.0	23.1	23.2	23.2	23.2	22.9	23.1	23.2	23.3	23.2	23.2	23.3	23.0	23.2	23.3	23.1	23.2	23.3	23.1	23.3	22.9	23.3	23.2
Dec 8	23.3	23.2	23.3	23.3	23.3	23.4	23.4	23.4	23.3	23.3	23.2	23.2	23.3	23.2	23.3	23.3	23.3	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.2	23.4	23.3
Dec 9	23.3	23.4	23.4	23.4	23.3	23.3	23.4	23.4	23.3	23.3	23.3	23.4	23.5	23.4	23.4	23.3	23.3	23.3	23.4	23.5	23.3	23.3	23.3	23.3	23.3	23.5	23.4
Dec 10	23.3	23.3	23.3	23.4	23.3	23.4	23.4	23.4	23.3	23.5	23.3	23.2	23.4	23.4	23.5	23.5	23.4	23.3	23.4	22.9	22.4	21.8	21.9	23.4	21.8	23.5	23.2
Dec 11	22.1	22.3	23.0	22.2	21.9	21.9	21.9	21.9	21.8	21.9	22.0	22.1	22.2	22.6	22.9	23.1	22.5	21.8	21.3	23.4	22.6	22.3	22.1	21.7	21.3	23.4	22.2
Dec 12	21.8	21.9	21.4	22.0	22.7	21.4	22.7	22.7	21.5	23.3	22.4	22.1	23.1	21.8	23.0	22.4	22.1	23.7	22.6	22.6	23.6	22.4	23.6	23.4	21.4	23.7	22.5
Dec 13	22.2	24.3	22.7	23.3	24.1	22.2	**24.4**	22.9	23.4	24.1	22.2	23.8	22.6	23.6	22.1	23.4	22.8	22.2	23.9	22.8	22.9	23.1	22.0	23.8	22.0	**24.4**	23.1
Dec 14	22.2	23.2	22.4	22.9	22.5	22.9	21.6	23.4	21.6	23.3	22.2	23.0	21.4	23.6	22.2	22.0	23.2	21.8	23.0	22.5	21.7	23.0	22.0	23.8	21.4	23.8	22.6
Dec 15	22.4	21.8	23.6	22.3	21.6	23.4	22.7	21.9	21.7	23.7	22.5	22.1	22.0	21.9	21.6	21.4	21.8	22.9	22.7	22.9	23.0	23.1	23.1	23.2	21.4	23.7	22.5
Dec 16	23.3	23.3	23.3	23.4	23.4	23.4	23.4	23.3	23.2	22.5	23.2	23.5	23.4	23.5	23.4	23.2	22.8	23.4	23.1	23.0	23.3	21.7	22.5	21.4	21.4	23.5	23.1
Dec 17	22.6	22.6	21.5	22.7	22.2	22.1	22.7	21.3	23.2	22.2	22.6	22.7	21.8	23.3	21.5	23.7	21.9	23.3	22.7	22.6	23.1	22.2	23.2	21.8	21.3	23.7	22.5
Dec 18	23.4	21.7	23.7	22.0	23.3	22.7	22.3	23.3	21.6	23.9	21.8	23.6	22.0	23.1	22.3	22.7	22.4	22.7	22.2	22.6	22.3	22.9	21.4	22.3	21.4	23.9	22.6
Dec 19	22.9	21.9	21.3	23.1	21.7	22.9	22.7	22.7	21.5	23.4	22.0	21.3	21.0	21.1	21.4	21.5	21.9	22.5	21.7	23.1	21.7	21.1	**20.9**	23.2	**20.9**	23.4	22.0
Dec 20	22.5	22.2	22.1	22.2	22.3	22.5	22.7	22.9	23.2	23.0	23.0	22.6	22.1	21.9	22.0	22.0	21.5	22.5	22.2	22.4	22.6	21.3	23.3	21.5	21.3	23.3	22.4
Dec 21	23.6	21.5	23.5	21.5	23.7	21.6	23.6	22.2	23.2	22.5	23.1	21.8	21.5	21.9	22.4	22.6	22.2	21.7	21.5	21.3	21.0	23.3	21.8	22.5	21.0	23.7	22.3
Dec 22	22.1	23.2	22.0	23.0	22.4	22.0	23.0	22.3	23.0	22.6	23.1	21.8	21.4	21.3	21.5	21.7	21.9	22.8	22.3	22.6	23.0	22.2	23.5	21.8	21.3	23.5	22.4
Dec 23	23.9	21.8	23.9	22.3	23.3	22.3	22.8	21.8	23.1	21.6	21.1	23.6	22.9	23.0	23.1	23.2	23.4	23.5	23.5	23.5	23.5	23.6	23.5	23.5	21.1	23.9	23.0
Dec 24	23.6	23.5	23.5	23.5	23.4	23.6	23.3	23.5	23.4	23.4	23.4	23.2	23.4	23.4	23.4	23.5	23.3	23.4	23.5	23.5	23.5	23.5	23.7	23.5	23.2	23.7	**23.5**
Dec 25	23.3	23.4	23.0	22.4	21.7	22.1	22.9	21.9	21.7	21.9	22.2	22.6	23.0	23.0	23.2	23.3	23.3	23.3	23.0	22.7	22.3	21.7	21.9	22.8	21.7	23.4	22.6
Dec 26	21.3	23.7	22.8	22.6	22.7	23.0	23.3	23.2	23.1	23.1	23.2	23.2	23.2	23.3	23.2	23.3	23.3	23.3	23.3	23.4	23.1	22.8	22.4	21.9	21.3	23.7	23.0
Dec 27	21.3	22.8	22.6	21.7	21.2	23.5	22.1	21.4	23.0	22.2	22.2	23.2	21.9	21.3	22.7	22.8	21.9	21.3	21.8	22.7	21.4	23.3	21.4	23.5	21.2	23.5	22.2
Dec 28	21.6	22.8	22.6	21.6	22.7	22.3	22.8	22.3	23.2	21.8	23.9	22.4	21.8	22.0	22.3	22.6	21.9	22.4	22.4	22.3	22.5	22.8	22.3	23.1	21.6	23.9	22.4
Dec 29	21.7	23.9	22.1	23.4	23.0	22.7	23.5	21.9	24.1	21.9	24.0	21.7	22.0	23.4	22.8	22.3	21.6	22.3	23.0	22.4	22.1	21.9	21.7	21.5	21.5	24.1	22.5
Dec 30	21.2	23.3	22.4	21.3	23.6	21.6	23.6	22.3	23.0	23.0	22.4	22.1	23.2	22.8	23.2	23.2	22.2	22.2	22.4	22.2	22.0	24.1	21.9	24.0	21.2	24.1	22.6
Dec 31	22.6	21.7	22.1	23.5	22.6	22.1	22.0	22.0	22.1	22.1	21.9	22.1	22.7	23.2	23.4	23.5	23.3	23.1	22.9	22.9	22.9	23.1	23.4	23.4	21.7	23.5	22.7
Diurnal Maximum	23.9	24.3	23.9	23.5	24.1	23.6	24.4	23.5	24.1	24.1	24.0	23.8	23.5	23.6	23.5	23.7	23.4	23.7	23.9	23.5	23.6	24.1	23.7	24.0			
Diurnal Average	22.7	22.9	22.9	22.8	22.9	22.8	23.0	22.7	22.8	22.9	22.8	22.8	22.6	22.8	22.8	22.9	22.7	22.9	22.8	22.9	22.8	22.8	22.7	22.9			

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 ST - AQHI - Cadotte Lake Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

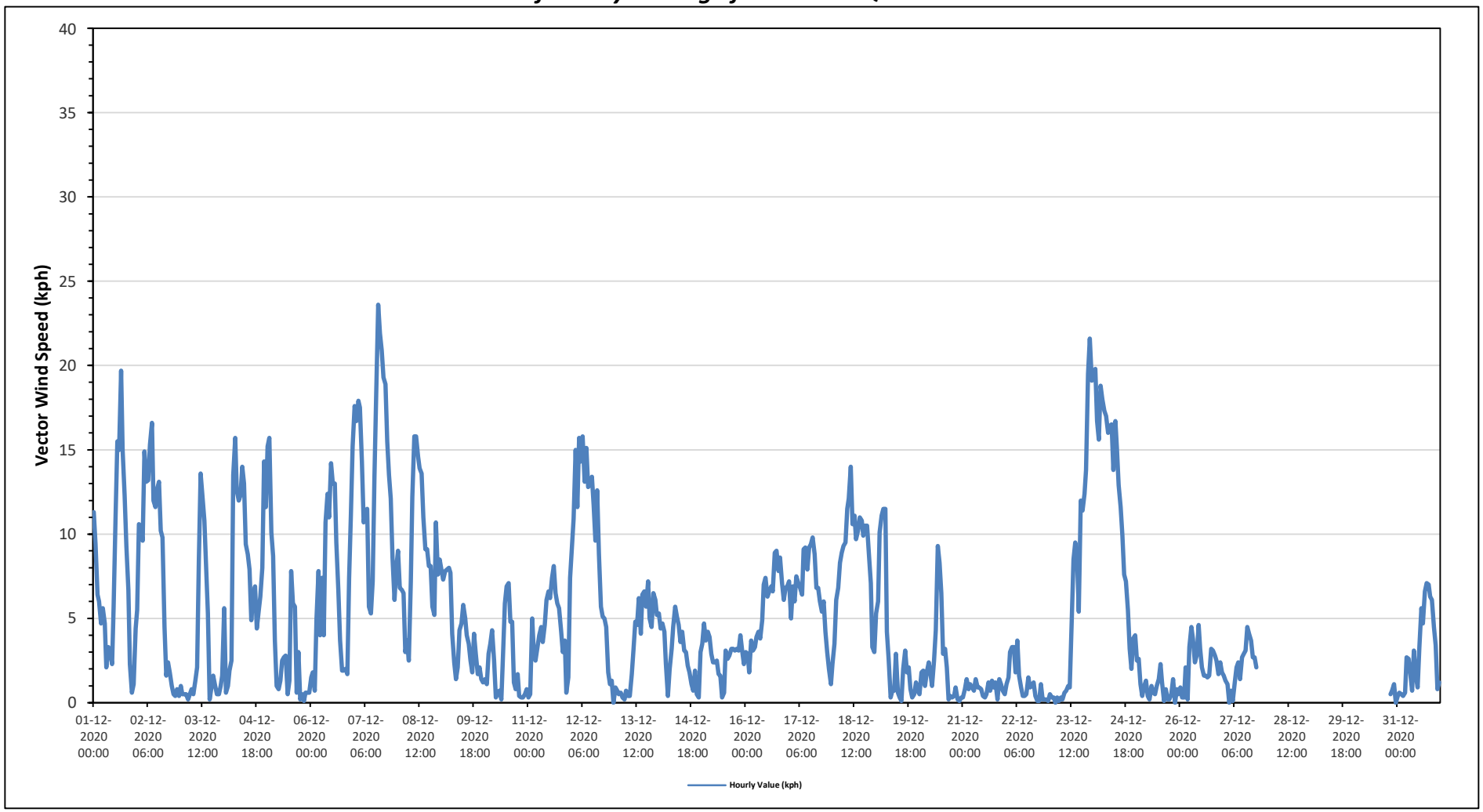
Maximum Hourly Value:	23.6	kph	on December 7 at hour 13	Hours in Service:	744
Maximum Daily Value:	13.5	kph	on December 7	Hours of Data:	671
Minimum Hourly Value:	0.0	kph	on December 12 at hour 23	Hours of Missing Data:	73
Minimum Daily Value:	0.6	kph	on December 21	Hours of Calibration:	0
Monthly Average:	2.2	kph		Operational Uptime:	90.2

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	11.3	9.4	6.4	6.0	4.7	5.6	4.7	2.1	3.3	3.0	2.3	5.6	11.1	15.5	15.0	19.7	15.0	12.3	9.3	6.7	2.3	0.6	1.1	4.4	0.6	19.7	6.9
Dec 2	5.5	10.6	10.4	9.6	14.9	13.1	13.2	15.3	16.6	12.0	11.6	12.7	13.1	10.2	9.8	4.5	1.6	2.4	1.8	1.0	0.5	0.4	0.8	0.4	0.4	16.6	7.3
Dec 3	1.0	0.5	0.5	0.5	0.2	0.5	0.8	0.5	1.3	2.1	8.5	13.6	12.3	10.8	8.4	5.3	0.2	1.0	1.6	1.0	0.5	0.5	1.0	1.6	0.2	13.6	2.5
Dec 4	5.6	0.6	1.0	1.9	2.5	13.5	15.7	12.6	12.0	12.3	14.0	13.0	9.4	8.8	7.9	4.9	6.3	6.9	4.4	5.5	6.3	8.0	14.3	11.6	0.6	15.7	8.0
Dec 5	15.2	15.7	10.1	8.7	3.7	1.0	0.8	1.3	2.5	2.7	2.8	0.5	1.3	7.8	5.9	5.7	0.6	3.0	0.2	0.5	0.1	0.6	0.6	0.6	0.1	15.7	1.4
Dec 6	1.5	1.8	0.7	5.0	7.8	4.0	7.4	4.0	10.7	12.4	11.0	14.2	13.0	13.0	9.5	6.7	3.7	1.9	1.9	2.0	1.7	7.4	11.1	15.2	0.7	15.2	6.2
Dec 7	17.6	16.7	17.9	17.5	14.3	10.7	11.4	11.5	5.7	5.3	7.2	13.4	18.3	**23.6**	21.9	20.9	19.3	18.9	15.5	13.5	12.1	8.6	6.1	8.0	5.3	**23.6**	**13.5**
Dec 8	9.0	6.8	6.7	6.5	3.0	3.7	2.5	7.2	12.2	15.8	15.8	14.6	13.9	13.6	11.0	9.1	9.1	8.1	8.1	5.7	5.2	10.7	7.6	8.5	2.5	15.8	8.9
Dec 9	7.8	7.3	7.8	7.9	8.0	7.7	4.1	2.4	1.4	2.1	4.3	4.7	5.8	5.0	4.0	3.5	2.5	1.8	4.1	2.9	1.7	2.1	1.4	1.2	1.2	8.0	3.6
Dec 10	1.4	1.1	2.9	3.5	4.3	2.5	0.3	0.6	0.7	0.2	3.0	5.9	6.9	7.1	4.8	4.8	1.2	0.8	1.7	0.4	0.3	0.3	0.5	0.8	0.2	7.1	1.9
Dec 11	0.3	0.5	5.0	2.8	2.5	3.3	4.0	4.5	3.6	4.6	6.1	6.6	6.2	7.4	8.1	6.5	5.9	5.6	4.3	3.0	3.7	0.6	1.5	7.4	0.3	8.1	3.5
Dec 12	9.4	10.9	15.0	11.6	15.7	14.3	15.8	13.1	15.1	12.8	12.9	13.4	11.7	9.6	12.6	8.8	5.7	5.1	5.0	4.5	1.8	1.1	1.3	**0.0**	**0.0**	15.8	9.4
Dec 13	0.9	0.7	0.5	0.6	0.3	0.2	0.7	0.4	0.4	1.7	3.2	4.8	4.6	6.2	4.1	6.4	6.6	5.7	7.2	5.0	4.5	6.5	6.1	5.2	0.2	7.2	3.2
Dec 14	5.3	4.4	4.7	4.2	2.3	0.4	2.0	3.2	4.5	5.7	5.1	4.6	3.6	4.2	3.1	3.0	2.2	1.8	1.1	0.7	1.9	0.5	0.3	3.0	0.3	5.7	0.9
Dec 15	3.5	4.7	3.7	4.2	3.9	2.9	2.4	2.4	2.5	1.7	1.6	0.3	0.6	3.1	2.6	2.8	3.2	3.2	3.1	3.2	3.1	4.0	3.1	2.3	0.3	4.7	1.1
Dec 16	3.0	2.9	1.8	3.7	3.1	3.3	3.9	4.2	3.8	4.9	7.0	7.4	6.3	6.6	6.9	6.6	8.9	9.0	7.8	8.6	7.1	6.1	6.8	6.9	1.8	9.0	5.2
Dec 17	7.2	5.0	6.9	6.0	7.5	7.1	6.8	6.4	9.1	9.2	7.9	9.2	9.4	9.8	8.8	6.8	6.8	6.0	5.4	6.0	4.2	3.0	2.0	1.1	1.1	9.8	5.5
Dec 18	2.3	3.5	6.1	6.8	8.3	8.9	9.3	9.5	11.5	12.1	14.0	10.6	11.1	9.7	10.2	11.0	10.8	9.9	10.5	10.5	8.9	7.1	3.3	3.0	2.3	14.0	8.5
Dec 19	5.3	6.0	10.1	11.1	11.5	11.5	4.2	2.6	0.3	0.7	0.7	2.9	0.6	0.3	0.1	2.0	3.1	1.8	2.1	0.8	0.3	0.5	1.2	0.7	0.1	11.5	2.1
Dec 20	0.5	1.8	1.9	1.0	1.8	2.4	1.7	1.0	2.5	4.3	9.3	8.3	6.5	2.9	3.2	2.1	0.2	0.4	0.3	0.4	0.9	0.2	0.1	0.3	0.1	9.3	1.4
Dec 21	0.3	0.8	1.4	0.8	1.1	0.9	0.7	1.4	0.9	0.9	0.8	0.4	0.3	0.5	1.2	0.7	1.3	0.9	1.2	0.2	1.4	1.1	0.7	0.5	0.2	1.4	**0.6**
Dec 22	1.1	1.5	3.0	3.3	3.3	1.8	3.7	1.6	0.9	0.4	0.4	0.5	1.5	0.9	1.0	1.2	0.4	0.1	0.1	1.1	0.2	0.2	0.2	0.1	0.1	3.7	1.0
Dec 23	0.5	0.3	0.3	**0.0**	0.3	0.1	0.3	0.2	0.6	0.7	1.0	0.9	4.9	8.5	9.5	8.2	5.4	12.0	11.4	12.4	13.8	19.5	21.6	19.1	**0.0**	21.6	6.0
Dec 24	19.2	19.8	16.7	15.6	18.8	18.0	17.3	17.0	16.0	16.4	16.5	13.8	16.7	15.1	12.9	11.6	9.9	7.6	7.2	5.5	3.2	2.0	3.8	4.0	2.0	19.8	12.6
Dec 25	2.5	2.6	1.1	0.4	1.0	1.3	0.4	0.2	1.0	0.6	0.5	1.0	1.4	2.3	1.2	0.1	0.8	0.2	0.2	0.5	1.4	**0.0**	0.8	0.5	**0.0**	2.6	**0.6**
Dec 26	0.9	0.3	0.3	2.1	0.2	3.3	4.5	3.8	2.4	2.8	4.6	3.2	2.1	1.6	1.6	1.5	1.6	3.2	3.1	2.8	2.5	1.7	2.4	1.8	0.2	4.6	1.8
Dec 27	1.6	1.3	1.1	**0.0**	0.7	0.1	1.2	2.1	2.4	1.4	2.7	2.9	3.1	4.5	4.1	3.7	2.7	2.7	2.1	**X**	**X**	**X**	**X**	**X**	**0.0**	4.5	2.0
Dec 28	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	-	-	-
Dec 29	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	-	-	-
Dec 30	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**NRM**	0.5	0.7	1.1	**0.0**	-	-	-
Dec 31	0.4	0.6	0.5	0.4	0.6	2.7	2.6	1.7	0.7	3.1	1.7	0.9	3.3	5.6	4.7	6.6	7.1	7.0	6.3	6.1	4.5	3.4	0.8	1.2	0.4	7.1	1.9
Diurnal Maximum	19	20	18	18	19	18	17	17	17	16	17	15	18	24	22	21	19	19	16	14	14	20	22	19			
Diurnal Average	5.0	4.9	5.2	5.1	5.2	5.2	5.1	4.7	5.2	5.4	6.3	6.8	7.1	7.7	6.9	6.2	5.1	5.0	4.5	4.1	3.4	3.5	3.6	3.9			

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.

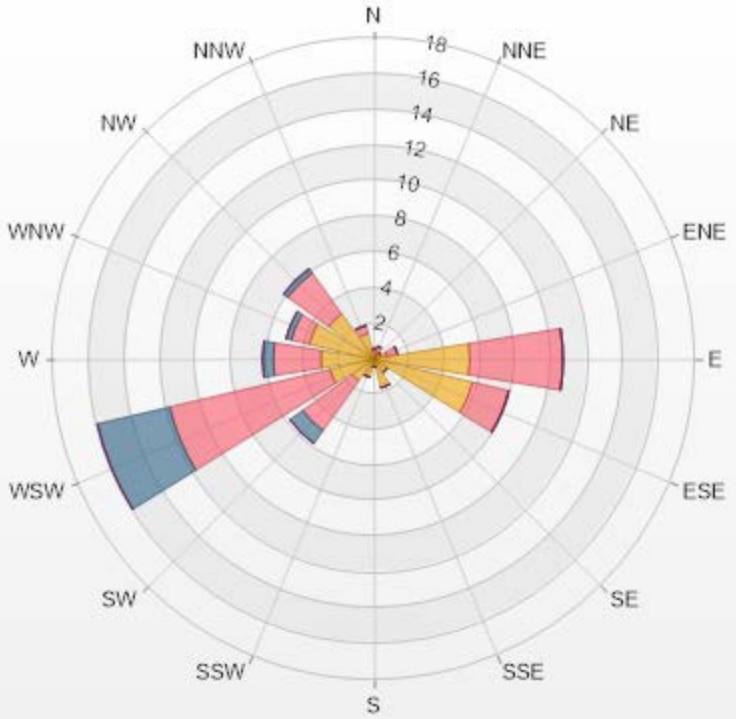
Timeseries Chart of Hourly Average for VWS - AQHI - Cadotte Lake Station



Wind: AQHI Cadotte Lake Monitor: WDS [KPH] Monthly: 12-2020 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 33.23% Valid Data: 90.19%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.45	0.15	0	0	0	0.6
NNE	0.15	0.6	0	0	0	0.75
NE	0.45	0	0	0	0	0.45
ENE	0.75	0.6	0	0	0	1.35
E	5.37	5.22	0	0	0	10.59
ESE	5.66	2.09	0	0	0	7.75
SE	0.89	0	0	0	0	0.89
SSE	1.64	0	0	0	0	1.64
S	0.3	0.15	0	0	0	0.45
SSW	1.04	0	0	0	0	1.04
SW	1.49	3.43	0.89	0	0	5.81
WSW	2.53	9.24	4.17	0	0	15.94
W	2.98	2.68	0.6	0	0	6.26
WNW	3.73	1.04	0.3	0	0	5.07
NW	3.13	2.83	0.3	0	0	6.26
NNW	1.49	0.45	0	0	0	1.94
Summary	32.05	28.48	6.26	0	0	66.79

AQHI Cadotte Lake 01-12-2020 00:00 - 31-12-2020 23:00 Calm: 33.23% Calm Wind Avg Speed: 0.78(KPH)



% Icon Classes (KPH)	32 1.8-6.0	28 6.0-15.0	6 15.0-29.0	0 29.0-39.0	0 >39.0

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

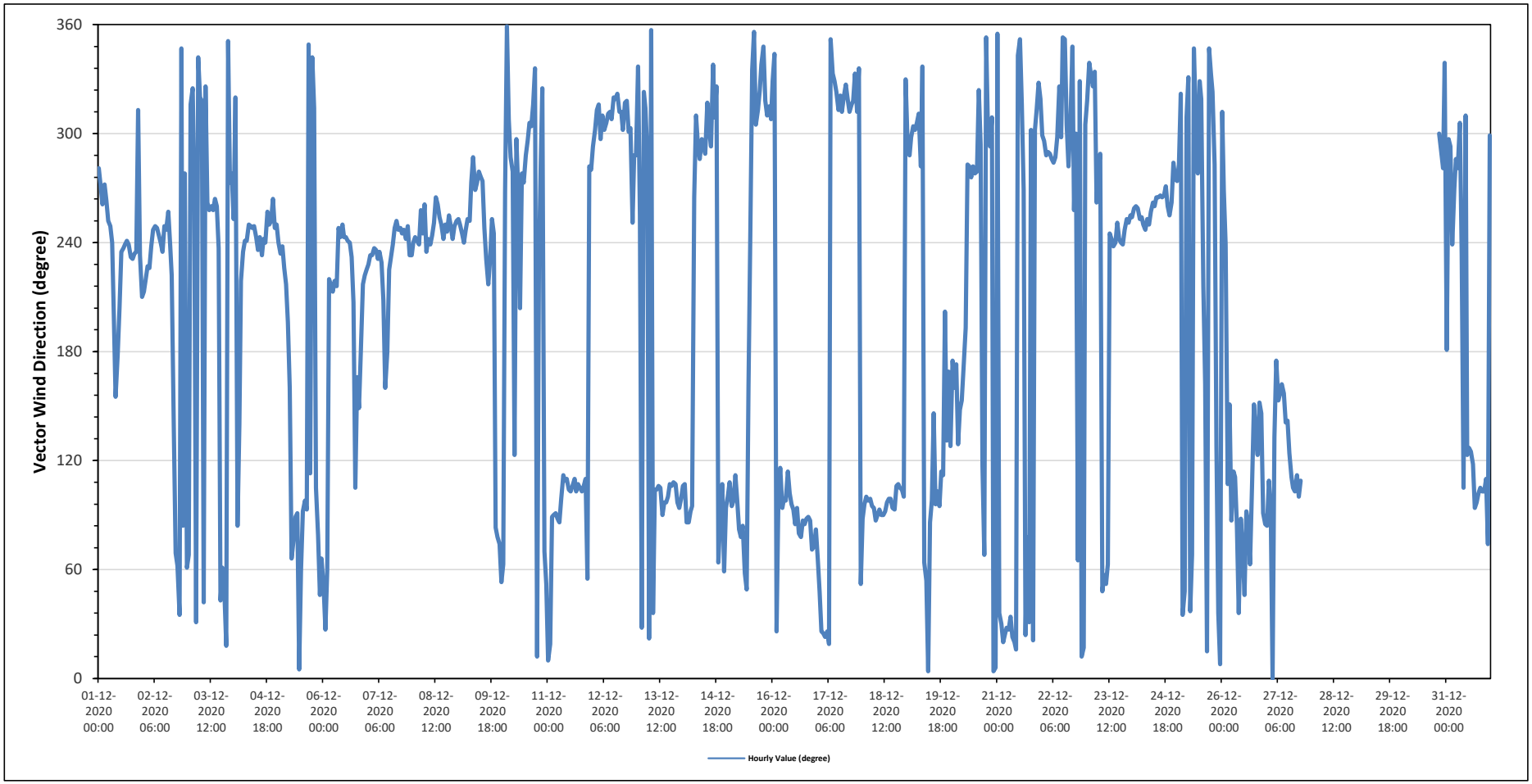
Monthly Average:	252 (WSW) degree	Hours in Service:	744
		Hours of Data:	671
		Hours of Missing Data:	73
		Hours of Calibration:	0
		Operational Uptime:	90.2

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	W	W	W	W	W	WSW	WSW	WSW	SSW	SSE	S	SSW	SW	SW	WSW	WSW	WSW	SW	SW	SW	SW	NW	SW	SSW	241	WSW
Dec 2	SSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	SE	ENE	ENE	NE	NNW	E	W	ENE	240	WSW
Dec 3	ENE	NW	NW	W	NNE	NNW	NW	NW	NE	NW	W	WSW	WSW	WSW	W	WSW	SW	NE	ENE	NE	NNE	N	W	W	269	W
Dec 4	WSW	NW	E	SE	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	245	WSW
Dec 5	WSW	SW	SW	SW	SW	SSW	SSE	ENE	ENE	E	E	N	ENE	E	E	E	NNW	ESE	NNW	NW	ESE	ENE	NE	ENE	197	SSW
Dec 6	NE	NNE	ENE	SW	SW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSW	ESE	SSE	SSE	S	SW	SW	SW	231	SW
Dec 7	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSE	S	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	236	SW
Dec 8	WSW	WSW	WSW	WSW	WSW	WSW	W	SW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	248	WSW
Dec 9	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	W	W	W	W	W	WSW	SW	SW	SW	WSW	WSW	E	ENE	ENE	NE	254	WSW
Dec 10	ENE	W	N	NW	WNW	W	ESE	WNW	W	SSW	W	W	WNW	WNW	NW	WNW	NW	NNW	NNE	SW	WNW	NW	ENE	NE	299	WNW
Dec 11	N	NNE	E	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	NE	W	W	102	E
Dec 12	WNW	WNW	NW	NW	WNW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WSW	WNW	WNW	309	NW
Dec 13	NNW	WSW	NNE	NW	NW	WNW	NNE	N	NE	ESE	ESE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	E	E	E	99	E
Dec 14	ESE	ESE	E	E	E	E	W	NW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NNW	NW	NW	ENE	E	ESE	ENE	E	332	NNW
Dec 15	E	ESE	E	E	ESE	E	E	ENE	E	ENE	NE	SSE	WSW	NNW	N	WNW	NW	NW	NNW	NNW	NW	NW	NW	NW	28	NNE
Dec 16	NNW	NNW	NNE	E	ESE	E	E	E	ESE	E	E	E	E	E	E	ENE	E	E	E	E	E	ENE	ENE	E	86	E
Dec 17	ENE	NE	NNE	NNE	NNE	NNE	NNE	N	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	NE	342	NNW
Dec 18	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	ESE	E	NNW	95	E
Dec 19	WNW	WNW	WNW	WNW	WNW	NW	NW	W	NNW	ENE	NE	N	E	E	SE	E	ESE	E	ESE	ESE	SSW	SE	SSE	SE	307	NW
Dec 20	S	SSE	S	SE	SE	SSE	S	S	W	W	W	W	W	W	NW	WNW	ESE	ENE	N	WNW	WNW	NW	N	N	269	W
Dec 21	N	NE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NNE	NNE	NNW	N	NW	W	NNE	ENE	NNE	WNW	NNE	WNW	NW	NNW	NW	3	N
Dec 22	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	N	N	WNW	W	NW	NNW	WSW	WNW	ENE	NNW	NNE	NNE	WNW	299	WNW
Dec 23	NW	NNW	NNW	NW	NNW	W	W	WNW	NE	ENE	NE	ENE	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	248	WSW
Dec 24	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	W	W	W	W	WSW	WSW	W	WNW	W	258	WSW
Dec 25	W	W	NW	NE	NE	NW	NNW	NE	ENE	NNW	WNW	W	NNW	NW	SW	SSE	NNE	NNW	NNW	NW	W	SE	NE	N	314	NW
Dec 26	NW	W	WSW	ESE	SSE	E	ESE	ESE	E	NE	E	ENE	NE	E	E	ENE	ESE	SSE	SE	ESE	SSE	SE	E	E	100	E
Dec 27	E	ESE	E	N	SE	S	SSE	SSE	SSE	SSE	SE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	X	X	X	X	X	121	ESE
Dec 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
Dec 29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-
Dec 30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NRM	WNW	WNW	W	NNW	-	-
Dec 31	S	WNW	WNW	WSW	W	WNW	W	NW	SW	ESE	NW	ESE	SE	SE	ESE	E	E	E	ESE	ESE	ESE	ESE	ENE	WNW	106	ESE

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 - Cadotte Lake Station



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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	23.6	kph	on December 7 at hour 13	Hours in Service:	744
Maximum Daily Value:	13.5	kph	on December 7	Hours of Data:	671
Minimum Hourly Value:	0.0	kph	on December 12 at hour 23	Hours of Missing Data:	73
Minimum Daily Value:	0.6	kph	on December 21	Hours of Calibration:	0
Monthly Average:	2.2	kph		Operational Uptime:	90.2

WIND DIRECTION

Monthly Average: 252 (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	11.3	9.4	6.4	6.0	4.7	5.6	4.7	2.1	3.3	3.0	2.3	5.6	11.1	15.5	15.0	19.7	15.0	12.3	9.3	6.7	2.3	0.6	1.1	4.4	0.6	19.7	6.9
	W	W	W	W	W	WSW	WSW	WSW	SSW	SSE	S	SSW	SW	SW	WSW	WSW	WSW	SW	SW	SW	SW	NW	SW	SSW			
Dec 2	5.5	10.6	10.4	9.6	14.9	13.1	13.2	15.3	16.6	12.0	11.6	12.7	13.1	10.2	9.8	4.5	1.6	2.4	1.8	1.0	0.5	0.4	0.8	0.4	0.4	16.6	7.3
	SSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	SE	ENE	ENE	NE	NNW	E	W	ENE			
Dec 3	1.0	0.5	0.5	0.5	0.2	0.5	0.8	0.5	1.3	2.1	8.5	13.6	12.3	10.8	8.4	5.3	0.2	1.0	1.6	1.0	0.5	0.5	1.0	1.6	0.2	13.6	2.5
	ENE	NW	NW	W	NNE	NNW	NW	NW	NE	NW	W	WSW	WSW	WSW	W	WSW	SW	NE	ENE	NE	NNE	N	W	W			
Dec 4	5.6	0.6	1.0	1.9	2.5	13.5	15.7	12.6	12.0	12.3	14.0	13.0	9.4	8.8	7.9	4.9	6.3	6.9	4.4	5.5	6.3	8.0	14.3	11.6	0.6	15.7	8.0
	WSW	NW	E	SE	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW			
Dec 5	15.2	15.7	10.1	8.7	3.7	1.0	0.8	1.3	2.5	2.7	2.8	0.5	1.3	7.8	5.9	5.7	0.6	3.0	0.2	0.5	0.1	0.6	0.6	0.6	0.1	15.7	1.4
	WSW	SW	SW	SW	SW	SSW	SSE	ENE	ENE	E	E	N	ENE	E	E	E	NNW	ESE	NNW	NW	ESE	ENE	NE	ENE			
Dec 6	1.5	1.8	0.7	5.0	7.8	4.0	7.4	4.0	10.7	12.4	11.0	14.2	13.0	13.0	9.5	6.7	3.7	1.9	1.9	2.0	1.7	7.4	11.1	15.2	0.7	15.2	6.2
	NE	NNE	ENE	SW	SW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSW	ESE	SSE	SSE	S	SW	SW	SW			
Dec 7	17.6	16.7	17.9	17.5	14.3	10.7	11.4	11.5	5.7	5.3	7.2	13.4	18.3	**23.6**	21.9	20.9	19.3	18.9	15.5	13.5	12.1	8.6	6.1	8.0	5.3	**23.6**	**13.5**
	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSE	S	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW			
Dec 8	9.0	6.8	6.7	6.5	3.0	3.7	2.5	7.2	12.2	15.8	15.8	14.6	13.9	13.6	11.0	9.1	9.1	8.1	8.1	5.7	5.2	10.7	7.6	8.5	2.5	15.8	8.9
	WSW	WSW	WSW	WSW	WSW	WSW	W	SW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW			
Dec 9	7.8	7.3	7.8	7.9	8.0	7.7	4.1	2.4	1.4	2.1	4.3	4.7	5.8	5.0	4.0	3.5	2.5	1.8	4.1	2.9	1.7	2.1	1.4	1.2	1.2	8.0	3.6
	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	W	W	W	W	W	WSW	SW	SW	SW	WSW	WSW	E	ENE	ENE	NE			
Dec 10	1.4	1.1	2.9	3.5	4.3	2.5	0.3	0.6	0.7	0.2	3.0	5.9	6.9	7.1	4.8	4.8	1.2	0.8	1.7	0.4	0.3	0.3	0.5	0.8	0.2	7.1	1.9
	ENE	W	N	NW	WNW	W	ESE	WNW	W	SSW	W	W	WNW	WNW	NW	WNW	NW	NNW	NNE	SW	WNW	NW	ENE	NE			
Dec 11	0.3	0.5	5.0	2.8	2.5	3.3	4.0	4.5	3.6	4.6	6.1	6.6	6.2	7.4	8.1	6.5	5.9	5.6	4.3	3.0	3.7	0.6	1.5	7.4	0.3	8.1	3.5
	N	NNE	E	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	NE	W	W			
Dec 12	9.4	10.9	15.0	11.6	15.7	14.3	15.8	13.1	15.1	12.8	12.9	13.4	11.7	9.6	12.6	8.8	5.7	5.1	5.0	4.5	1.8	1.1	1.3	**0.0**	**0.0**	15.8	9.4
	WNW	WNW	NW	NW	WNW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WSW	WNW	WNW			
Dec 13	0.9	0.7	0.5	0.6	0.3	0.2	0.7	0.4	0.4	1.7	3.2	4.8	4.6	6.2	4.1	6.4	6.6	5.7	7.2	5.0	4.5	6.5	6.1	5.2	0.2	7.2	3.2
	NNW	WSW	NNE	NW	NW	WNW	NNE	N	NE	ESE	ESE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	E	E	E			
Dec 14	5.3	4.4	4.7	4.2	2.3	0.4	2.0	3.2	4.5	5.7	5.1	4.6	3.6	4.2	3.1	3.0	2.2	1.8	1.1	0.7	1.9	0.5	0.3	3.0	0.3	5.7	0.9
	ESE	ESE	E	E	E	E	W	NW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NNW	NW	NW	ENE	E	ESE	ENE	E			
Dec 15	3.5	4.7	3.7	4.2	3.9	2.9	2.4	2.4	2.5	1.7	1.6	0.3	0.6	3.1	2.6	2.8	3.2	3.2	3.1	3.2	3.1	4.0	3.1	2.3	0.3	4.7	1.1
	E	ESE	E	E	ESE	E	E	ENE	E	ENE	NE	SSE	WSW	NNW	N	WNW	NW	NW	NNW	NNW	NW	NW	NW	NW			
Dec 16	3.0	2.9	1.8	3.7	3.1	3.3	3.9	4.2	3.8	4.9	7.0	7.4	6.3	6.6	6.9	6.6	8.9	9.0	7.8	8.6	7.1	6.1	6.8	6.9	1.8	9.0	5.2
	NNW	NNW	NNE	E	ESE	E	E	E	ESE	E	E	E	E	E	E	ENE	E	E	E	E	E	ENE	ENE	E			
Dec 17	7.2	5.0	6.9	6.0	7.5	7.1	6.8	6.4	9.1	9.2	7.9	9.2	9.4	9.8	8.8	6.8	6.8	6.0	5.4	6.0	4.2	3.0	2.0	1.1	1.1	9.8	5.5
	ENE	NE	NNE	NNE	NNE	NNE	NNE	N	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	NE			
Dec 18	2.3	3.5	6.1	6.8	8.3	8.9	9.3	9.5	11.5	12.1	14.0	10.6	11.1	9.7	10.2	11.0	10.8	9.9	10.5	10.5	8.9	7.1	3.3	3.0	2.3	14.0	8.5
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	ESE	E	NNW			
Dec 19	5.3	6.0	10.1	11.1	11.5	11.5	4.2	2.6	0.3	0.7	0.7	2.9	0.6	0.3	0.1	2.0	3.1	1.8	2.1	0.8	0.3	0.5	1.2	0.7	0.1	11.5	2.1
	WNW	WNW	WNW	WNW	WNW	NW	NW	W	NNW	ENE	NE	N	E	E	SE	E	ESE	E	ESE	ESE	SSW	SE	SSE	SE			
Dec 20	0.5	1.8	1.9	1.0	1.8	2.4	1.7	1.0	2.5	4.3	9.3	8.3	6.5	2.9	3.2	2.1	0.2	0.4	0.3	0.4	0.9	0.2	0.1	0.3	0.1	9.3	1.4
	S	SSE	S	SE	SE	SSE	S	S	W	W	W	W	W	W	NW	WNW	ESE	ENE	N	WNW	WNW	NW	N	N			

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PEACE RIVER AREA MONITORING PROGRAM

AQHI - Cadotte Lake Station - December 2020

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	23.6	kph	on December 7 at hour 13	Hours in Service:	744
Maximum Daily Value:	13.5	kph	on December 7	Hours of Data:	671
Minimum Hourly Value:	0.0	kph	on December 12 at hour 23	Hours of Missing Data:	73
Minimum Daily Value:	0.6	kph	on December 21	Hours of Calibration:	0
Monthly Average:	2.2	kph		Operational Uptime:	90.2

WIND DIRECTION

Monthly Average: 252 (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	0.3	0.8	1.4	0.8	1.1	0.9	0.7	1.4	0.9	0.9	0.8	0.4	0.3	0.5	1.2	0.7	1.3	0.9	1.2	0.2	1.4	1.1	0.7	0.5	0.2	1.4	**0.6**
	N	NE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NNE	NNE	NNW	N	NW	W	NNE	ENE	NNE	WNW	NNE	WNW	NW	NNW	NW			
Dec 22	1.1	1.5	3.0	3.3	3.3	1.8	3.7	1.6	0.9	0.4	0.4	0.5	1.5	0.9	1.0	1.2	0.4	0.1	0.1	1.1	0.2	0.2	0.2	0.1	0.1	3.7	1.0
	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	N	N	WNW	W	NW	NNW	WSW	WNW	ENE	NNW	NNE	NNE	WNW			
Dec 23	0.5	0.3	0.3	**0.0**	0.3	0.1	0.3	0.2	0.6	0.7	1.0	0.9	4.9	8.5	9.5	8.2	5.4	12.0	11.4	12.4	13.8	19.5	21.6	19.1	**0.0**	21.6	6.0
	NW	NNW	NNW	NW	NNW	W	W	WNW	NE	ENE	NE	ENE	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW			
Dec 24	19.2	19.8	16.7	15.6	18.8	18.0	17.3	17.0	16.0	16.4	16.5	13.8	16.7	15.1	12.9	11.6	9.9	7.6	7.2	5.5	3.2	2.0	3.8	4.0	2.0	19.8	12.6
	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	W	W	W	W	WSW	WSW	W	WNW	W			
Dec 25	2.5	2.6	1.1	0.4	1.0	1.3	0.4	0.2	1.0	0.6	0.5	1.0	1.4	2.3	1.2	0.1	0.8	0.2	0.2	0.5	1.4	**0.0**	0.8	0.5	**0.0**	2.6	**0.6**
	W	W	NW	NE	NE	NW	NNW	NE	ENE	NNW	WNW	W	NNW	NW	SW	SSE	NNE	NNW	NNW	NW	W	SE	NE	N			
Dec 26	0.9	0.3	0.3	2.1	0.2	3.3	4.5	3.8	2.4	2.8	4.6	3.2	2.1	1.6	1.6	1.5	1.6	3.2	3.1	2.8	2.5	1.7	2.4	1.8	0.2	4.6	1.8
	NW	W	WSW	ESE	SSE	E	ESE	ESE	E	NE	E	ENE	NE	E	E	ENE	ESE	SSE	SE	ESE	SSE	SE	E	E			
Dec 27	1.6	1.3	1.1	**0.0**	0.7	0.1	1.2	2.1	2.4	1.4	2.7	2.9	3.1	4.5	4.1	3.7	2.7	2.7	2.1	**X**	**X**	**X**	**X**	**X**	**0.0**	4.5	2.0
	E	ESE	E	N	SE	S	SSE	SSE	SSE	SSE	SE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	**X**	**X**	**X**	**X**	**X**			
Dec 28	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	-	-	-
	X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**			
Dec 29	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	-	-	-
	X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**			
Dec 30	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**NRM**	0.5	0.7	1.1	**0.0**	-	-	-
	X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**NRM**	WNW	WNW	W	NNW			
Dec 31	0.4	0.6	0.5	0.4	0.6	2.7	2.6	1.7	0.7	3.1	1.7	0.9	3.3	5.6	4.7	6.6	7.1	7.0	6.3	6.1	4.5	3.4	0.8	1.2	0.4	7.1	1.9
	S	WNW	WNW	WSW	W	WNW	W	NW	SW	ESE	NW	ESE	SE	SE	ESE	E	E	E	ESE	ESE	ESE	ESE	ENE	WNW			

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.

VOC CANISTER SAMPLING RESULTS

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - December 2020

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2020-12-03 @15:55**
Canister Sample	**Non-methane Hydrocarbon**
Canister ID	**32201**

Method	**NA-025**		**Method**	**NA-024**		**Method**	**AC-058**	
Maximum Reading (ppmv)	**2.5**	**Methane**	**Maximum Reading (ppbv)**	**2.5**	**Carbonyl sulphide**	**Maximum Reading (ppbv)**	**133**	**Ethanol**
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.16	2,5-Dimethylthiophene	0	0.5	1,1,1-Trichloroethane	0.08	0.03
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.2	3-Methylthiophene	0	0.5	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	Butyl mercaptan	0	0.5	1,1-Dichloroethylene	0.09	0.06
Ethylene	0	0.11	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0.2	0.08
Isobutane	0	0.2	Carbonyl sulphide	2.5	0.5	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.2	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0.31	0.08
Methane	2.5	0.2	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.3	Ethyl mercaptan	0	0.5	1,2-Dichlorobenzene	0	0.05
n-Propane	0	0.11	Ethyl sulphide	0	0.5	1,2-Dichloroethane	0.18	0.02
Propylene	0	0.2	Hydrogen sulphide	0	0.5	1,2-Dichloropropane	0.04	0.02
Propyne	0	0.2	Isobutyl mercaptan	0	0.5	1,3,5-Trimethylbenzene	0.23	0.03
trans-2-Butene	0	0.14	Isopropyl mercaptan	0	0.5	1,3-Butadiene	0.23	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.5
			Pentyl mercaptan	0	0.6	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	0	0.6	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	0	0.5	1-Butene/Isobutylene	2.14	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0.33	0.03
						1-Pentene	0.78	0.02
						2,2,4-Trimethylpentane	0	0.02
						2,2-Dimethylbutane	0.1	0.02
						2,3,4-Trimethylpentane	0.14	0.02
						2,3-Dimethylbutane	0.2	0.03
						2,3-Dimethylpentane	0.07	0.03
						2,4-Dimethylpentane	0	0.02
						2-Methylheptane	0	0.02
						2-Methylhexane	0.14	0.02
						2-Methylpentane	0.2	0.02
						3-Methylheptane	0.1	0.03
						3-Methylhexane	0.12	0.03
						3-Methylpentane	0.16	0.02
						Acetone	15.1	3.7
						Acrolein	1.3	0.5
						Benzene	1.04	0.02
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.02
						Carbon disulfide	0	0.02
						Carbon tetrachloride	0.25	0.02
						Chlorobenzene	0.04	0.03
						Chloroethane	0.03	0.03
						Chloroform	0.09	0.03
						Chloromethane	0.32	0.03
						cis-1,2-Dichloroethene	0.09	0.02
						cis-1,3-Dichloropropene	0	0.06
						cis-2-Butene	0.1	0.03
						cis-2-Pentene	0.12	0.03
						Cyclohexane	0.29	0.03
						Cyclopentane	0.83	0.02
						Dibromochloromethane	0	0.02
						Ethanol	133	2.8
						Ethyl acetate	0	0.6
						Ethylbenzene	0.37	0.02
						Freon-11	0.57	0.03
						Freon-113	0.21	0.02
						Freon-114	0.08	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - December 2020

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2020-12-03 @15:55**
Canister Sample	**Non-methane Hydrocarbon**
Canister ID	**32201**

Method	**NA-025**	**Method**	**NA-024**	**Method**	**AC-058**
Maximum Reading (ppmv)	**2.5 Methane**	**Maximum Reading (ppbv)**	**2.5 Carbonyl sulphide**	**Maximum Reading (ppbv)**	**133 Ethanol**

Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
						Freon-12	0	0.03
						Hexachloro-1,3-butadiene	0	0.78
						Isobutane	0	0.03
						Isopentane	1.91	0.05
						Isoprene	0.28	0.02
						Isopropyl alcohol	81	3.7
						Isopropylbenzene	0	0.02
						m,p-Xylene	0	0.05
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0.17	0.12
						Methyl butyl ketone	0	0.78
						Methyl ethyl ketone	1.2	0.5
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0	0.11
						Methyl tert butyl ether	0	0.05
						Methylcyclohexane	0.15	0.02
						Methylcyclopentane	0.14	0.03
						Methylene chloride	0	0.5
						n-Butane	1.71	0.05
						n-Decane	0.15	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.19	0.02
						n-Hexane	0.19	0.02
						n-Nonane	0.15	0.02
						n-Octane	0.18	0.03
						n-Pentane	1	0.2
						n-Propylbenzene	0	0.08
						n-Undecane	0	0.8
						Naphthalene	0	0.8
						o-Ethyltoluene	0.15	0.02
						o-Xylene	0.33	0.02
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.11
						Styrene	0.45	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	0.73	0.02
						trans-1,2-Dichloroethylene	69	0.09
						trans-1,3-Dichloropropylene	0	0.06
						trans-2-Butene	0.02	0.02
						trans-2-Pentene	0	0.03
						Trichloroethylene	0	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - December 2020

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2020-12-03 @15:55**
Canister Sample	**Blank**
Canister ID	**32266**

Method	**NA-025**
Maximum Reading (ppmv)	**-**

Parameter	**Result (ppmv)**	**RDL (ppmv)**
1-Butene	0	0.1
Acetylene	0	0.08
cis-2-Butene	0	0.04
Ethane	0	0.1
Ethylacetylene	0	0.06
Ethylene	0	0.07
Isobutane	0	0.1
Isobutylene	0	0.1
Methane	0	0.1
n-Butane	0	0.2
n-Propane	0	0.07
Propylene	0	0.1
Propyne	0	0.1
trans-2-Butene	0	0.09

Method	**NA-024**
Maximum Reading (ppbv)	**-**

Parameter	**Result (ppbv)**	**RDL (ppbv)**
2,5-Dimethylthiophene	0	0.3
2-Ethylthiophene	0	0.2
2-Methylthiophene	0	0.2
3-Methylthiophene	0	0.3
Butyl mercaptan	0	0.3
Carbon disulphide	0	0.2
Carbonyl sulphide	0	0.3
Dimethyl disulphide	0	0.2
Dimethyl sulphide	0	0.2
Ethyl mercaptan	0	0.3
Ethyl sulphide	0	0.3
Hydrogen sulphide	0	0.3
Isobutyl mercaptan	0	0.3
Isopropyl mercaptan	0	0.3
Methyl mercaptan	0	0.2
Pentyl mercaptan	0	0.4
Propyl mercaptan	0	0.4
tert-Butyl mercaptan	0	0.3
Thiophene	0	0.2

Method	**AC-058**	
Maximum Reading (ppbv)	**0.43**	**1-Butene/Isobutylene**

Parameter	**Result (ppbv)**	**RDL (ppbv)**
1,1,1-Trichloroethane	0	0.02
1,1,2,2-Tetrachloroethane	0	0.02
1,1,2-Trichloroethane	0	0.02
1,1-Dichloroethane	0	0.02
1,1-Dichloroethylene	0	0.04
1,2,3-Trimethylbenzene	0	0.05
1,2,4-Trichlorobenzene	0	0.8
1,2,4-Trimethylbenzene	0	0.05
1,2-Dibromoethane	0	0.02
1,2-Dichlorobenzene	0	0.03
1,2-Dichloroethane	0	0.01
1,2-Dichloropropane	0	0.01
1,3,5-Trimethylbenzene	0	0.02
1,3-Butadiene	0	0.02
1,3-Dichlorobenzene	0	0.3
1,4-Dichlorobenzene	0	0.4
1,4-Dioxane	0	0.4
1-Butene/Isobutylene	0.43	0.02
1-Hexene/2-Methyl-1-pentene	0	0.02
1-Pentene	0	0.01
2,2,4-Trimethylpentane	0	0.01
2,2-Dimethylbutane	0	0.01
2,3,4-Trimethylpentane	0	0.01
2,3-Dimethylbutane	0	0.02
2,3-Dimethylpentane	0	0.02
2,4-Dimethylpentane	0	0.01
2-Methylheptane	0	0.01
2-Methylhexane	0	0.01
2-Methylpentane	0	0.01
3-Methylheptane	0	0.02
3-Methylhexane	0	0.02
3-Methylpentane	0	0.01
Acetone	0	0.4
Acrolein	0	0.3
Benzene	0	0.01
Benzyl chloride	0	0.4
Bromodichloromethane	0	0.02
Bromoform	0	0.02
Bromomethane	0	0.01
Carbon disulfide	0	0.01
Carbon tetrachloride	0	0.01
Chlorobenzene	0	0.02
Chloroethane	0	0.02
Chloroform	0	0.02
Chloromethane	0.08	0.02
cis-1,2-Dichloroethene	0	0.01
cis-1,3-Dichloropropene	0	0.04
cis-2-Butene	0	0.02
cis-2-Pentene	0	0.02
Cyclohexane	0	0.02
Cyclopentane	0	0.01
Dibromochloromethane	0	0.01
Ethanol	0	0.3
Ethyl acetate	0	0.4
Ethylbenzene	0	0.01
Freon-11	0	0.02
Freon-113	0	0.01
Freon-114	0	0.02
Freon-12	0	0.02
Hexachloro-1,3-butadiene	0	0.50
Isobutane	0.43	0.02
Isopentane	0	0.03

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - December 2020

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2020-12-03 @15:55**
Canister Sample	**Blank**
Canister ID	**32266**

Method	**NA-025**	**Method**	**NA-024**	**Method**	**AC-058**
Maximum Reading (ppmv)	-	**Maximum Reading (ppbv)**	-	**Maximum Reading (ppbv)**	**0.43 1-Butene/Isobutylene**

Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
						Isoprene	0	0.01
						Isopropyl alcohol	0	0.4
						Isopropylbenzene	0	0.01
						m,p-Xylene	0.29	0.03
						m-Diethylbenzene	0	0.04
						m-Ethyltoluene	0	0.08
						Methyl butyl ketone	0	0.50
						Methyl ethyl ketone	0	0.3
						Methyl isobutyl ketone	0	0.4
						Methyl methacrylate	0	0.07
						Methyl tert butyl ether	0	0.03
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.02
						Methylene chloride	0	0.3
						n-Butane	0.18	0.03
						n-Decane	0	0.06
						n-Dodecane	0	0.4
						n-Heptane	0	0.01
						n-Hexane	0	0.01
						n-Nonane	0	0.01
						n-Octane	0.11	0.02
						n-Pentane	0	0.1
						n-Propylbenzene	0	0.05
						n-Undecane	0	0.5
						Naphthalene	0	0.5
						o-Ethyltoluene	0	0.01
						o-Xylene	0	0.01
						p-Diethylbenzene	0	0.04
						p-Ethyltoluene	0	0.07
						Styrene	0	0.04
						Tetrachloroethylene	0	0.04
						Tetrahydrofuran	0	0.4
						Toluene	0	0.01
						trans-1,2-Dichloroethylene	0	0.01
						trans-1,3-Dichloropropylene	0	0.04
						trans-2-Butene	0	0.01
						trans-2-Pentene	0	0.02
						Trichloroethylene	0	0.04
						Vinyl acetate	0	0.4
						Vinyl chloride	0	0.02

END OF REPORT

This page, 227 of 227, ends the December 2020 Monthly Ambient Air Quality Monitoring Report.

Peace River Area Monitoring Program

DECEMBER 2020

Ambient Air Monitoring Calibration Report

- 842b STATION-

CAL-PRAMP-202012-01561

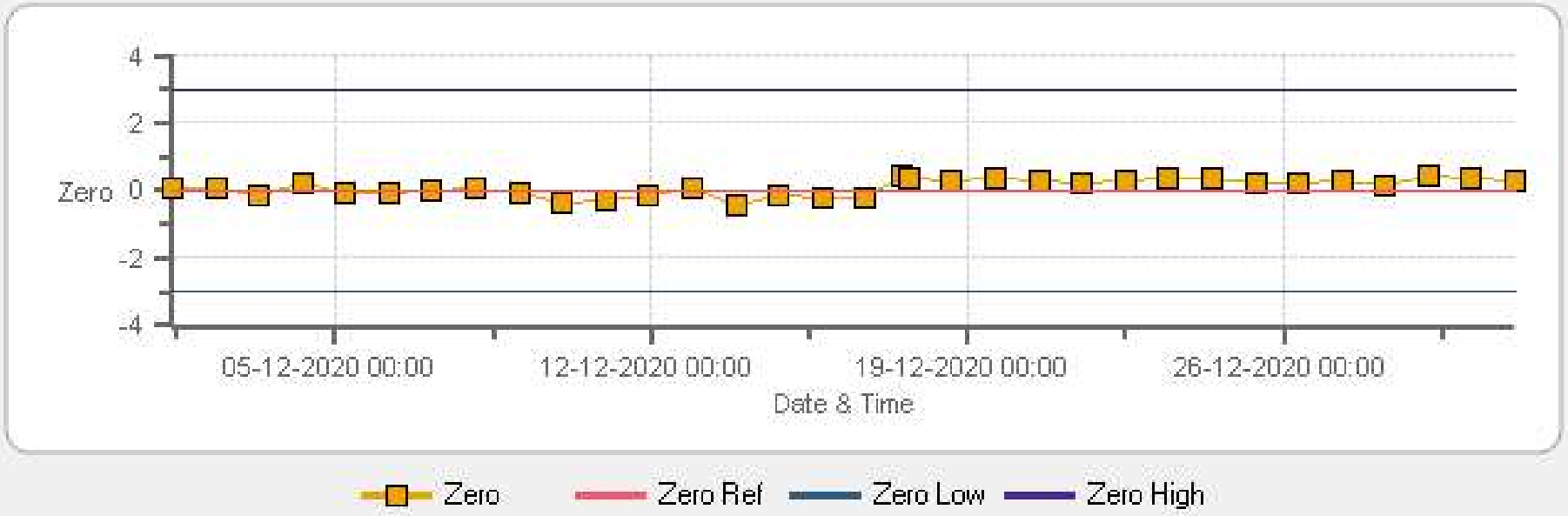
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

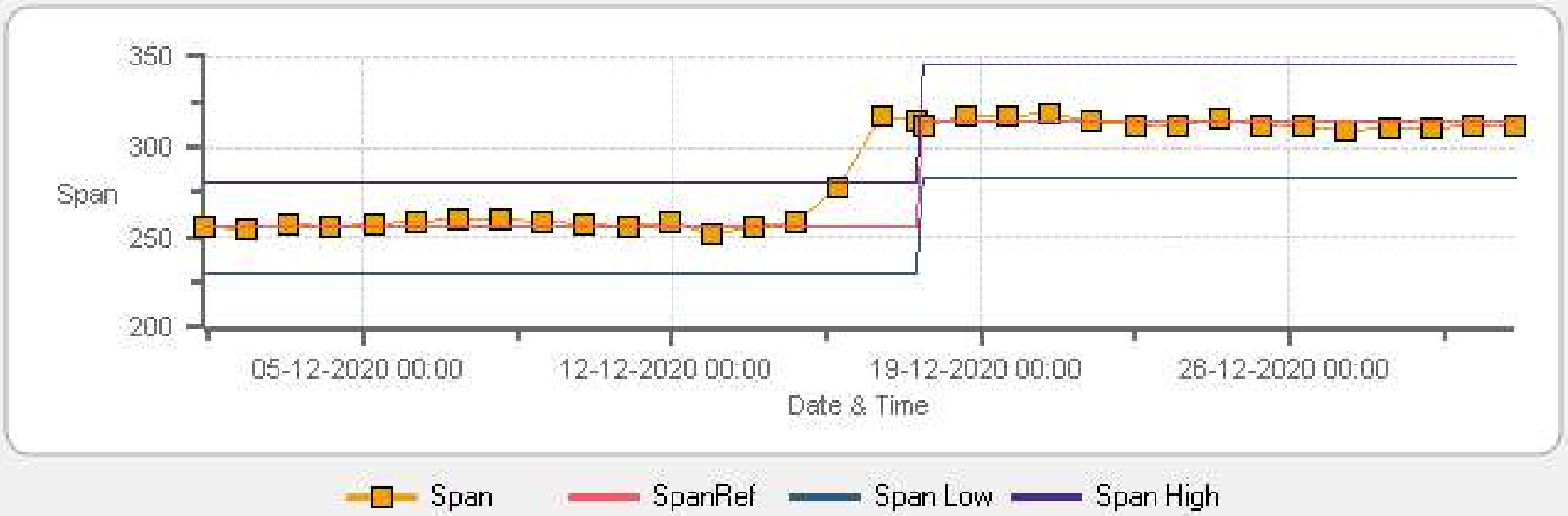
January 13, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

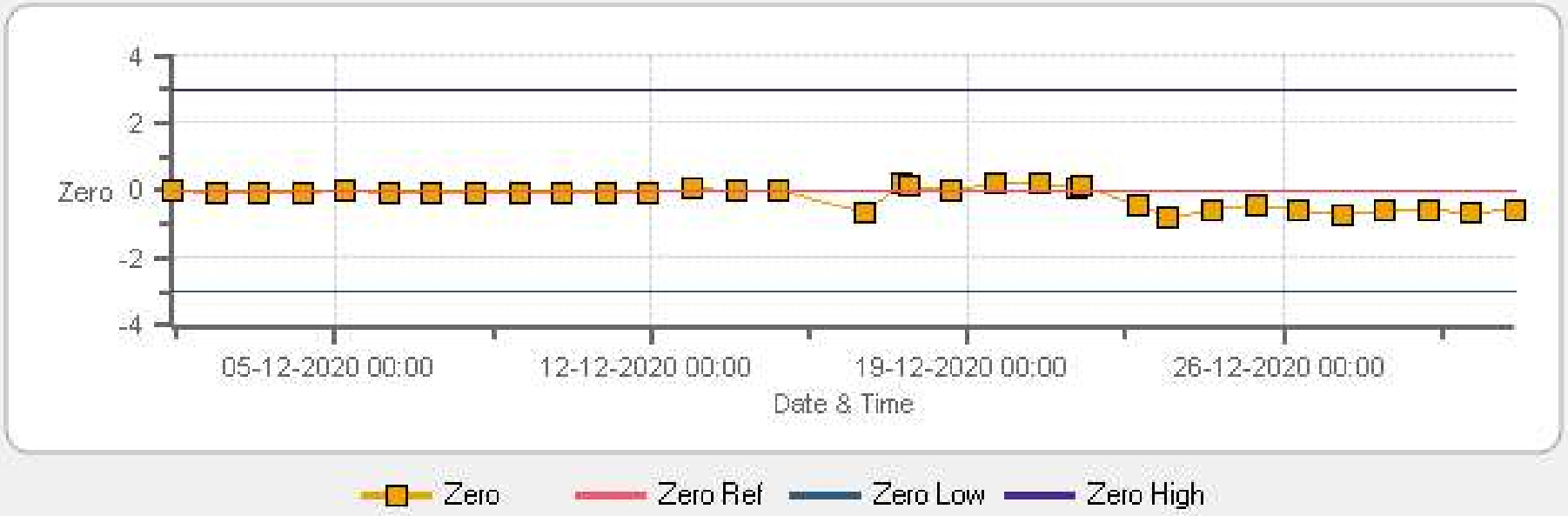
SO2[ppb] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Zero



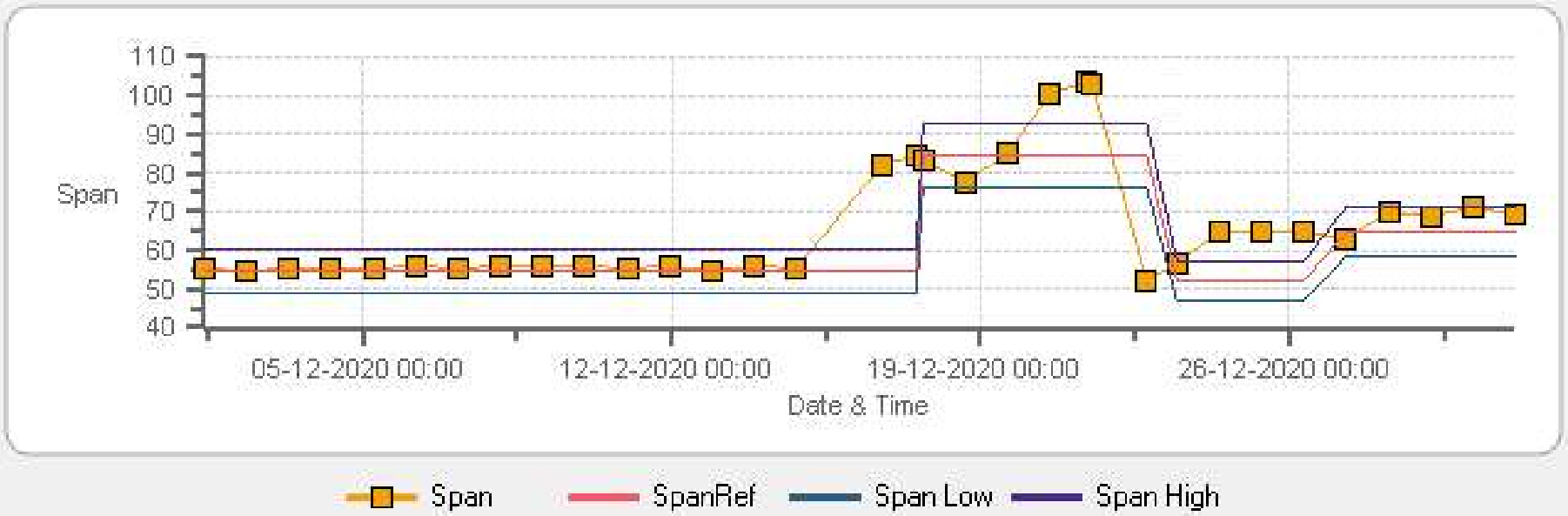
SO2[ppb] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Span



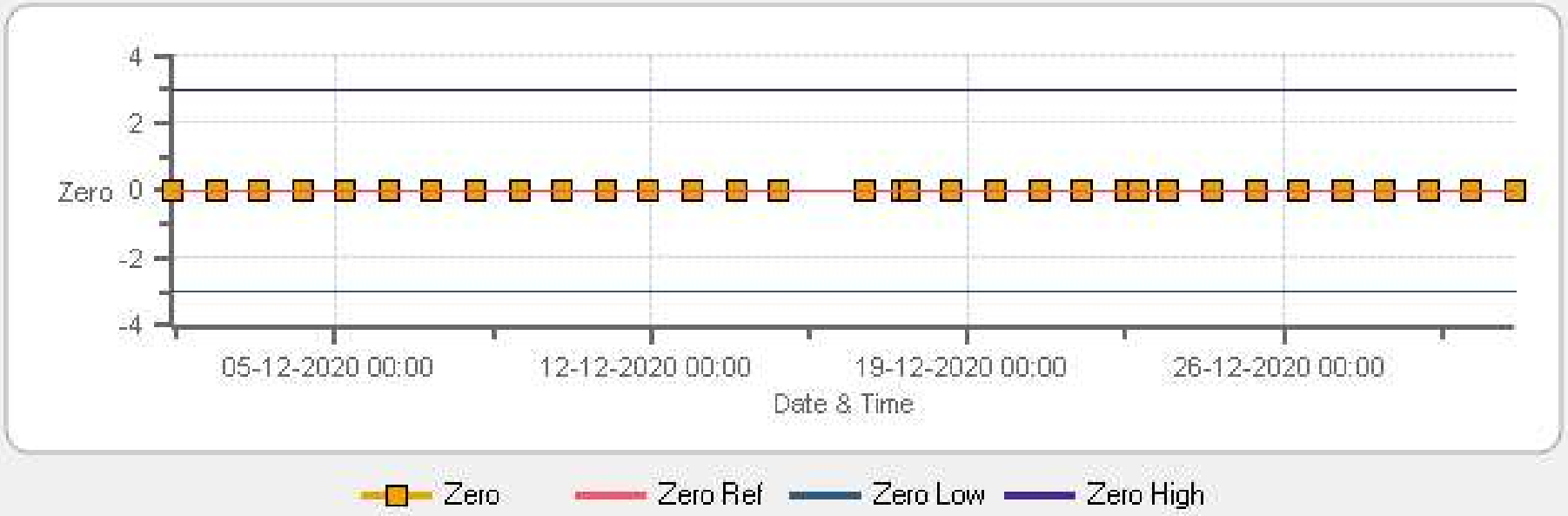
TRS[ppb] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Zero



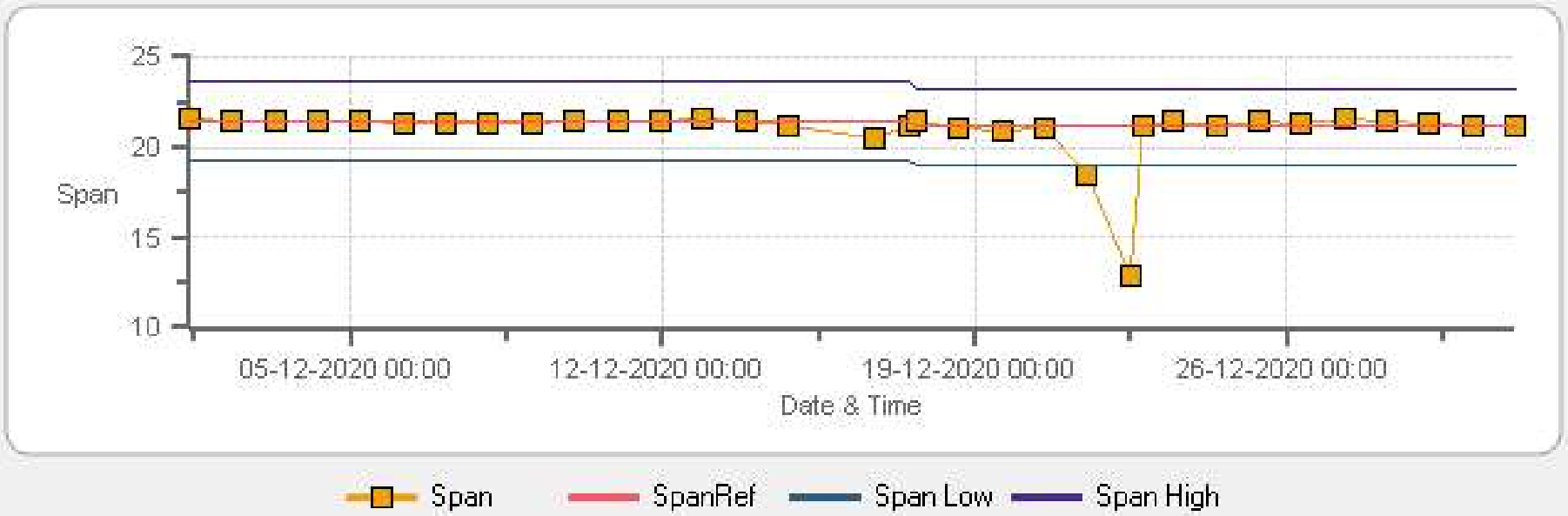
TRS[ppb] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Span



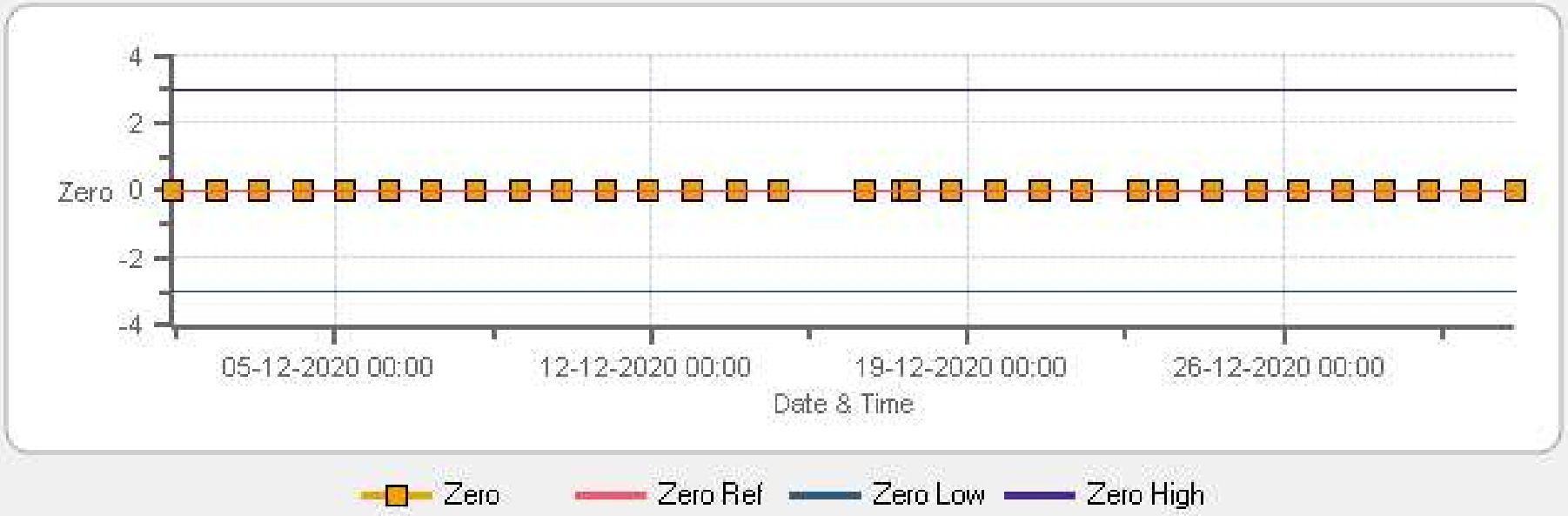
THC55[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Zero



THC55[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Span



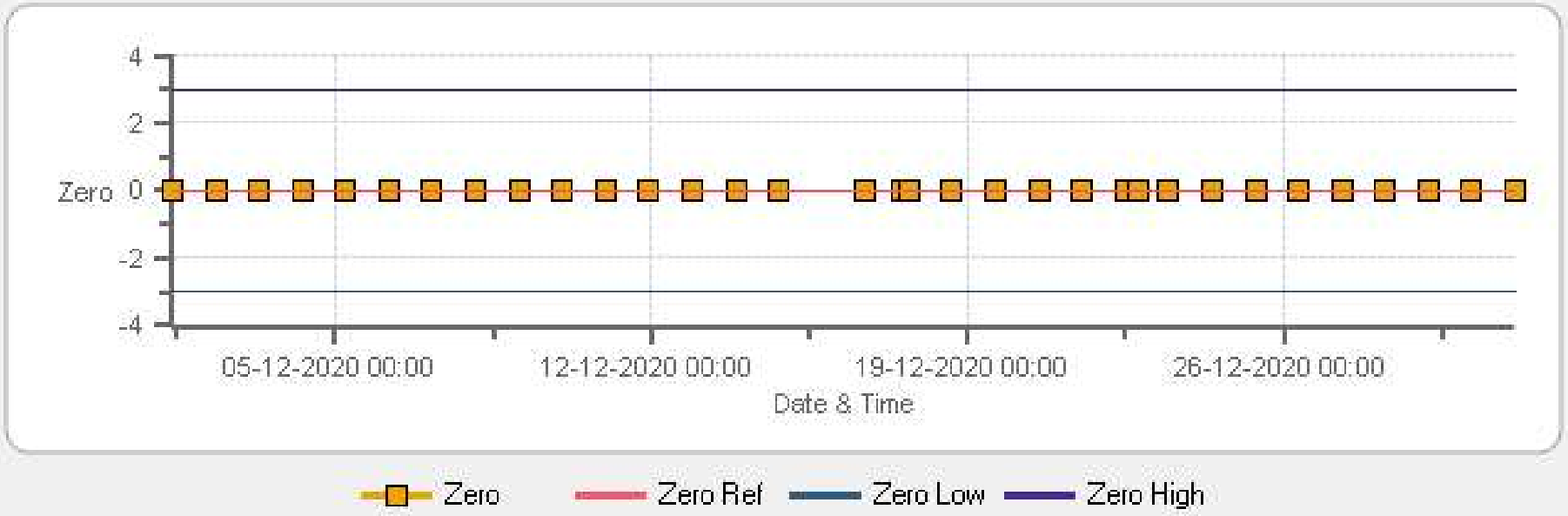
CH4[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Zero



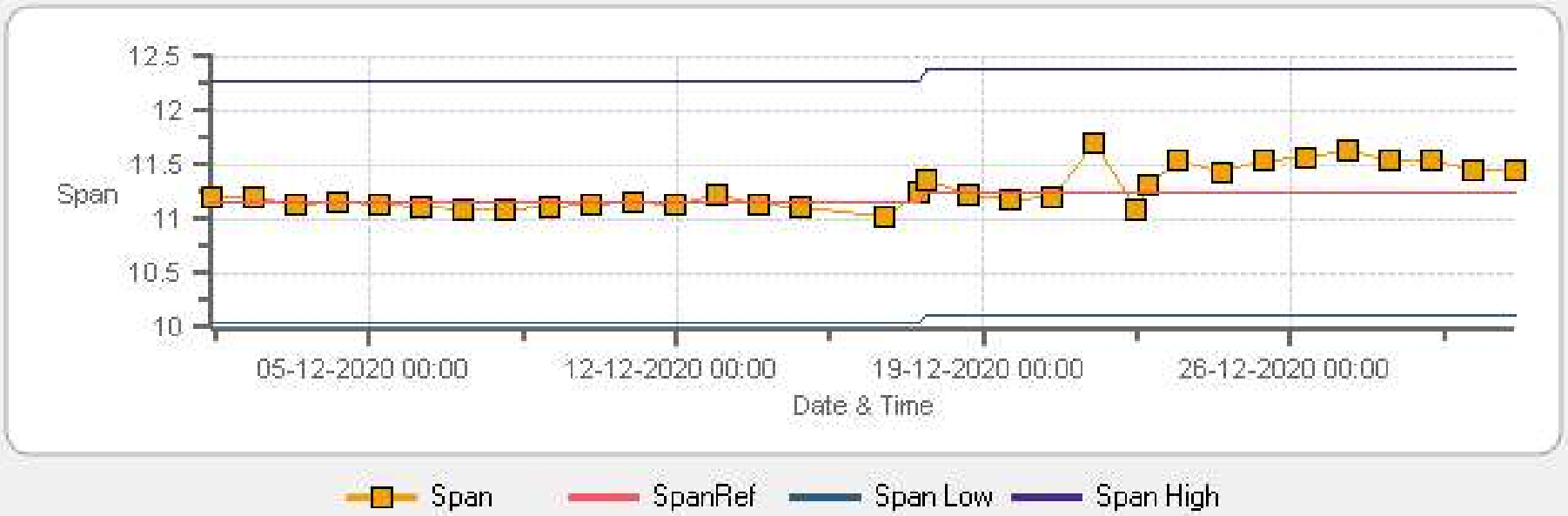
CH4[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: PRAMP 842b Monthly: 12-2020 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	19-Nov-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	PRAMP	TEMPERATURE (°C):	21.8
LOCATION:	842b	BAROMETRIC (mBar):	936
PURPOSE	Removal/Shut-down	START TIME (MST):	09:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	11:19

ANALYZER:

MAKE/MODEL	Thermo 43i	RANGE	500 ppb
SERIAL #	835033373	FLOW (mL/min)	419
INITIAL		FINAL	
BKG/OFFSET	16.7	BKG/OFFSET	n/a
COEF/SLOPE	1.074	COEF/SLOPE	n/a
Expected (reference) Value	255.3	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	API
MODEL:	2000	MODEL:	701
ID:	1991	ID:	1104
MFC CALIBRATION DATE:	14-Oct-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL19664	HIGH ID	n/a
CONC (ppm):	24.20	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4000		4000	0.00	-0.2	n/a		
3937	62.82	4000	380.03	380.4	n/a	0.999	n/a
3969	29.71	3999	179.79	180.9	n/a	0.993	n/a
3987	14.85	4001	89.79	90.7	n/a	0.988	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.1%

COMMENTS:

Shutdown for BV station removal
Zero air error: 09:57-09:10:00, high point restarted.

Shaping a world of trust


SO2[ppb] Station: PRAMP 842b Daily: 15-12-2020 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]

SO2 Analyzer Calibration by Dilution

DATE:	17-Dec-2020	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	22.0
LOCATION:	842b	BAROMETRIC (mBar):	932
PURPOSE	Install/Post-Repair	START TIME (MST):	09:10
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:52

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	500 ppb
SERIAL #	1200736629	FLOW (mL/min)	421
INITIAL		FINAL	
BKG/OFFSET	8.4	BKG/OFFSET	8
COEF/SLOPE	1.099	COEF/SLOPE	1.088
Expected (reference) Value	n/a	Expected (reference) Value	314

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	API
MODEL:	2000	MODEL:	701
ID:	1991	ID:	1104
MFC CALIBRATION DATE:	14-Oct-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL19664	HIGH ID	n/a
CONC (ppm):	24.20	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4001		4001	0.00	n/a	0		
3940	62.82	4003	379.79	n/a	379.9	n/a	1.000
3971	29.73	4001	179.83	n/a	180.5	n/a	0.996
3990	14.85	4004	89.71	n/a	89.7	n/a	1.000

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

No issues


SO2[ppb] Station: PRAMP 842b Daily: 17-12-2020 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:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	19-Nov-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	22.3
LOCATION:	842b	BAROMETRIC (mBar):	936
PURPOSE	Removal/Shut-down	START TIME (MST):	09:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	11:19

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460023	FLOW (mL/min)	394
INITIAL		FINAL	
BKG/OFFSET	3.15	BKG/OFFSET	n/a
COEF/SLOPE	0.881	COEF/SLOPE	n/a
Expected (reference) Value	54.66	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	API
MODEL:	2000	MODEL:	701
ID:	1991	ID:	1104
MFC CALIBRATION DATE:	14-Oct-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY000644	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4000		4000	0.00	-0.01	n/a		
3969	31.22	4000	78.04	78.44	n/a	0.995	n/a
3983	15.20	3999	38.01	38.22	n/a	0.994	n/a
3994	7.61	4001	19.03	19	n/a	1.001	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.006	-0.1%

COMMENTS:

Shutdown for BV station removal
Zero air error: 09:57-09:10:00, high point restarted.

TRS[ppb] Station: PRAMP 842b Daily: 15-12-2020 Type: AVG 1 Min. [1 Min.]



TRS Analyzer Calibration by Dilution

DATE:	17-Dec-2020	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	22.0
LOCATION:	842b	BAROMETRIC (mBar):	932
PURPOSE	Install/Post-Repair	START TIME (MST):	09:10
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:52

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	1200736630	FLOW (mL/min)	430
INITIAL		FINAL	
BKG/OFFSET	15.1	BKG/OFFSET	14.9
COEF/SLOPE	1.064	COEF/SLOPE	1.095
Expected (reference) Value	n/a	Expected (reference) Value	84.52

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	API
MODEL:	2000	MODEL:	701
ID:	1991	ID:	1104
MFC CALIBRATION DATE:	14-Oct-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY000644	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4001		4001	0.00	n/a	0		
3971	31.27	4003	78.13	n/a	78.1	n/a	1.000
3986	15.20	4001	37.99	n/a	38.47	n/a	0.988
3994	7.61	4001	19.03	n/a	19.55	n/a	0.973

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.3%

COMMENTS:

No issues


TRS[ppb] Station: PRAMP 842b Daily: 17-12-2020 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]

TRS Analyzer Calibration by Dilution

DATE:	22-Dec-2020	PREVIOUS CALIBRATION DATE:	17-Dec-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	24.1
LOCATION:	842b	BAROMETRIC (mBar):	944
PURPOSE	Repeat	START TIME (MST):	12:25
PERFORMED BY:	Limin Li	END TIME (MST):	18:10

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	1200736630	FLOW (mL/min)	436
INITIAL		FINAL	
BKG/OFFSET	14.8	BKG/OFFSET	16.2
COEF/SLOPE	1.095	COEF/SLOPE	1.134
Expected (reference) Value	84.52	Expected (reference) Value	52.07

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	API
MODEL:	6100	MODEL:	701
ID:	5212	ID:	1105
MFC CALIBRATION DATE:	28-Sep-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0001074	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	1600	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0.65	0		
7442	58.50	7500	78.00	76.1	78	1.034	1.000
7472	28.50	7500	38.00	n/a	38.2	n/a	0.995
7486	14.25	7500	19.00	n/a	18.6	n/a	1.022

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.1%

COMMENTS:

Change perm tube.


TRS[ppb] Station: PRAMP 842b Daily: 22-12-2020 Type: AVG 1 Min. [1 Min.]
TRS [ppb]
100
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:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	19-Nov-2020
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5
LOCATION:	842b	BAROMETRIC (mBar):	957
PURPOSE	Removal/Shut-down	START TIME (MST):	09:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	11:19

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1314057759	1220
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	0.998	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	API	CYLINDER ID:	LL168375		HIGH ID:	530H #148943
MODEL:	2010	MODEL:	701	CH_4/C_3H_8 (ppm):	914.0	307.0	HIGH EXPIRY:	01-Apr-2021
ID:	26701218	ID:	1104	CYLINDER (psi):	1500		LOW ID:	530L #152020
MFC CALIBRATION DATE:	n/a	OXIDIZER ID:	n/a	EXPIRY DATE	21-Jan-2028		LOW EXPIRY:	30-Mar-2021

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.28	11.15	21.43		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
3119		3119	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a						
3047	49.30	3096	14.55	13.44	28.00	14.93	13.25	28.18	n/a	n/a	n/a	0.975	1.015	0.994	n/a	n/a	n/a
3076	24.70	3100	7.28	6.73	14.01	7.45	6.60	14.05	n/a	n/a	n/a	0.977	1.019	0.997	n/a	n/a	n/a
3087	12.30	3099	3.63	3.35	6.98	3.73	3.34	7.08	n/a	n/a	n/a	0.973	1.003	0.986	n/a	n/a	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.025	0.0%
NMHC	1.000	0.984	0.0%
THC	1.000	1.006	0.0%

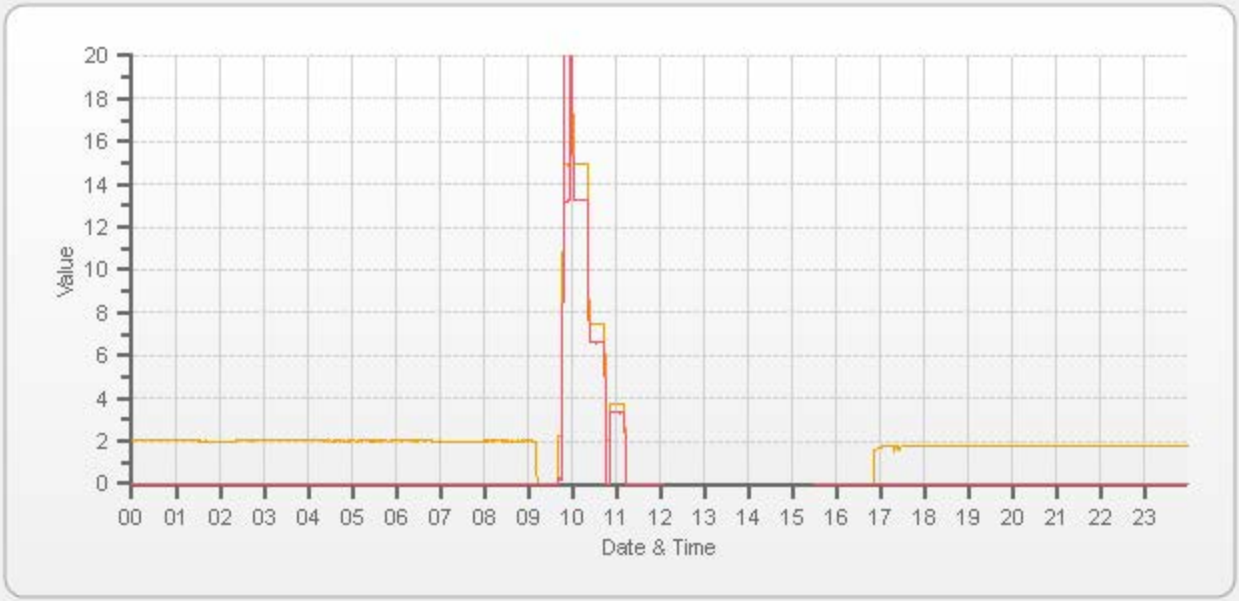
Comments:

Shutdown for BV station removal

Zero air error: 09:57-10:00, high point restarted.

Use Zero Chrom? **No**

Station: PRAMP 842b Daily: 15-12-2020 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	17-Dec-2020	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	22.0
LOCATION:	842b	BAROMETRIC (mBar):	932
PURPOSE	Install/Post-Repair	START TIME (MST):	09:10
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:00

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1501663728	1085
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:	API	CYLINDER ID:	LL168375		HIGH ID:	530H #148943
MODEL:	2010	MODEL:	701	CH_4/C_3H_8 (ppm):	914.0	307.0	HIGH EXPIRY:	01-Apr-2021
ID:	26701218	ID:	1104	CYLINDER (psi):	1500		LOW ID:	530L #152020
MFC CALIBRATION DATE:	n/a	OXIDIZER ID:	n/a	EXPIRY DATE	21-Jan-2028		LOW EXPIRY:	30-Mar-2021

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	n/a	n/a	n/a		9.88	11.25	21.13

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
3094		3094	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
3044	49.28	3093	14.56	13.45	28.01	n/a	n/a	n/a	14.60	13.45	28.03	n/a	n/a	n/a	0.997	1.000	0.999
3075	24.67	3100	7.27	6.72	13.99	n/a	n/a	n/a	7.20	6.63	13.83	n/a	n/a	n/a	1.010	1.013	1.012
3081	12.26	3093	3.62	3.35	6.97	n/a	n/a	n/a	3.57	3.33	6.89	n/a	n/a	n/a	1.015	1.005	1.011

LINEAR REGRESSION ANALYSIS:

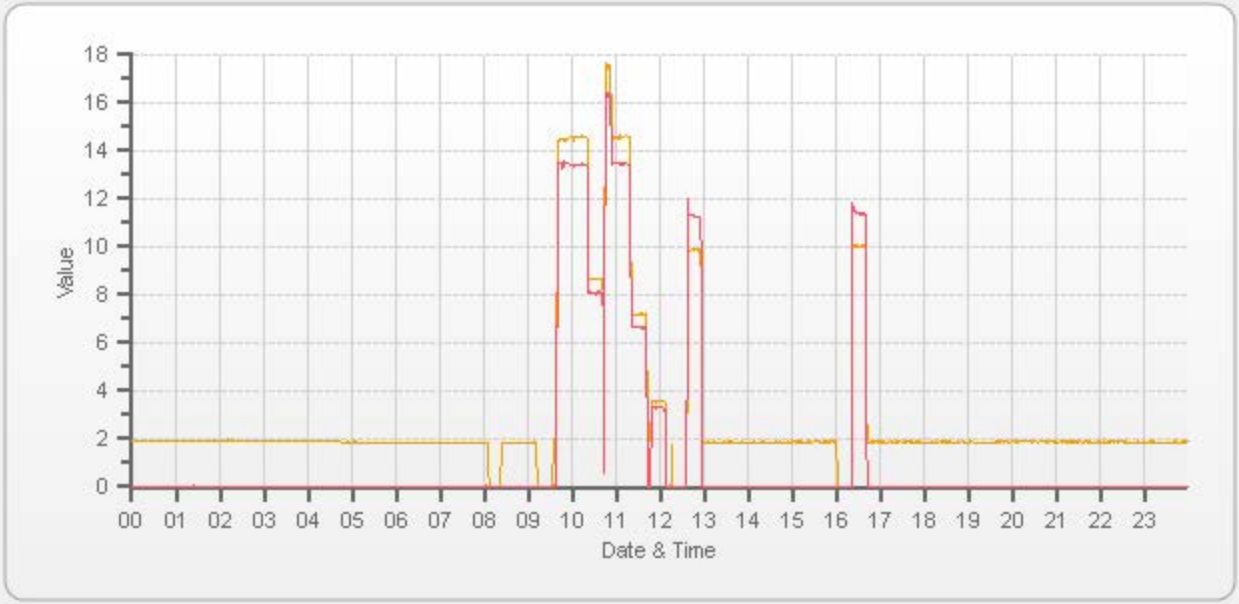
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.003	-0.2%
NMHC	1.000	1.000	-0.1%
THC	1.000	1.001	-0.2%

Comments:

Calibration error - restart at high at 10:44

Use Zero Chrom? **No**

Station: PRAMP 842b Daily: 17-12-2020 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	22-Dec-2020	PREVIOUS CALIBRATION DATE:	17-Dec-2020
CLIENT:	PRAMP	TEMPERATURE (°C):	23.7
LOCATION:	842b	BAROMETRIC (mBar):	945
PURPOSE	Install/Post-Repair	START TIME (MST):	14:51
PERFORMED BY:	Limin Li	END TIME (MST):	18:20

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1501663728	n/a
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.997	1.000	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	API	CYLINDER ID:	LL70331		HIGH ID:	n/a
MODEL:	2010	MODEL:	701	CH_4/C_3H_8 (ppm):	909.0	308.0	HIGH EXPIRY:	n/a
ID:	17200415	ID:	1105	CYLINDER (psi):	1700		LOW ID:	n/a
MFC CALIBRATION DATE:	01-Oct-2020	OXIDIZER ID:	111	EXPIRY DATE	21-Jan-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	847.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1756.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.88	11.25	21.13		9.88	11.25	21.13

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
3500		3500	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
3444	55.80	3500	14.49	13.50	28.00	n/a	n/a	n/a	14.48	13.49	27.97	n/a	n/a	n/a	1.001	1.001	1.001
3472	27.90	3500	7.25	6.75	14.00	n/a	n/a	n/a	7.10	6.68	13.78	n/a	n/a	n/a	1.021	1.011	1.016
3486	13.95	3500	3.62	3.38	7.00	n/a	n/a	n/a	3.51	3.31	6.82	n/a	n/a	n/a	1.032	1.020	1.026

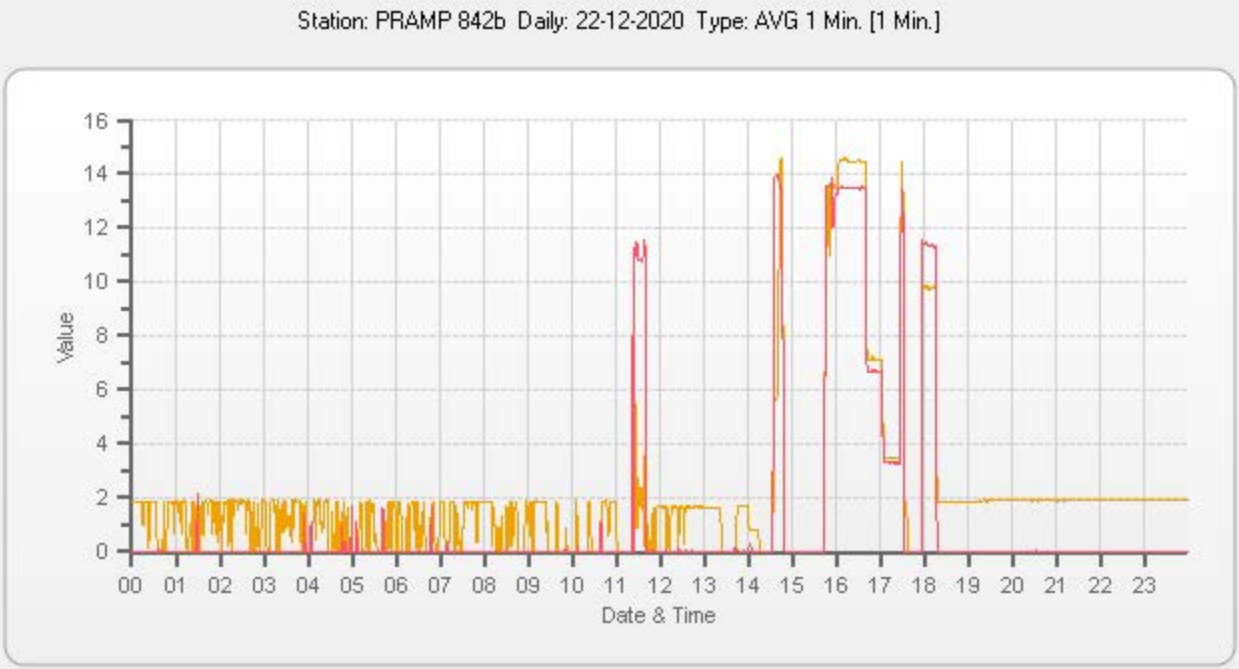
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.001	-0.4%
NMHC	1.000	1.000	-0.2%
THC	1.000	1.000	-0.3%

Comments:

Post-repair following actuator replacement and gas pressure adjustment. 17:27-17:33pm, double check high point.

Use Zero Chrom? **No**


Station: PRAMP 842b Daily: 22-12-2020 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]

Meteorological System Checklist

Date:	December 15, 2020		
Technician:	Chris Wesson		
Station:	PRAMP 842b		
Unit:	**Make:**	**Model:**	**Serial #:**
Precipitation Sampler:	RM Young	52202	15878
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	Campbell Scientific	HMP45C	C2608
Anemometer:	RM Young	05305VK	124638

PRECIPITATION SENSOR CHECK

Checklist:	**Reply:**	**Comments:**
Previous check date:	October 22, 2020	
Is the sensor Level?	yes	
Is the heater operating properly?	other - see comments	Yes but some ice inside.
Are the bucket drain holes clean?	other - see comments	Some ice build up
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	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	November 19, 2020	
Parameter:	Temperature @ 2 metres	
Reference Thermometer ID:	Fisher #170286131 / 05-Jun-2021	
Reference Temperature (^{o}C):	-13.7	
Station - Ambient Temperature (^{o}C):	-14.7	
Temperature Difference (^{o}C):	1.0	

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	November 19, 2020	
Reference Barometer ID:	Brunton 05535 expires Jan07, 2021	
Reference Pressure - Units/Reading:	millibar	932.6
Station Pressure - Units/Reading:	millibar	935
Pressure Tolerance +/- 15% of error:	793 - 1072	-0.26%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	November 19, 2020	
Reference Hygrometer ID:	Fisher #170286131 / 05-Jun-2021	
Reference Hygrometer % RH- Reading:	81.90	
Station Hygrometer % RH- Reading:	81.80	
RH Tolerance +/- 15% of difference:	69.62 - 94.19	0.1%

Comments

Meteorological System Checklist

Date:	December 16, 2020		
Technician:	Chris Wesson		
Station:	PRAMP 842b		
Unit:	**Make:**	**Model:**	**Serial #:**
Precipitation Sampler:	RM Young	52202	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:	December 15, 2020	
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	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	n/a	
Parameter:	Temperature @ 2 metres	
Reference Thermometer ID:	Fisher #170286131 / 05-Jun-2021	
Reference Temperature (^{o}C):	-13.5	
Station - Ambient Temperature (^{o}C):	-14.1	
Temperature Difference (^{o}C):	0.6	

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	n/a	
Reference Barometer ID:	Brunton 05535 expires Jan07, 2021	
Reference Pressure - Units/Reading:	millibar	930.5
Station Pressure - Units/Reading:	millibar	931
Pressure Tolerance +/- 15% of error:	791 - 1070	-0.05%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	n/a	
Reference Hygrometer ID:	Fisher #170286131 / 05-Jun-2021	
Reference Hygrometer % RH- Reading:	88.90	
Station Hygrometer % RH- Reading:	86.70	
RH Tolerance +/- 15% of difference:	75.57 - 102.24	2.5%

Comments

BP at 17:30, temp/RH at 17:35-17:40, precip at 17:45-17:48

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Ferdinand Roy
Audit Location:	842b	**Reviewed By:**	Chris Wesson
Audit Date:	June 11, 2020	**Start/End Time (mst):**	14:36 / 16:59
Calibration Purpose:	routine annual	**Weather Conditions:**	Mix of sun and clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	124638	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	August 7, 2019	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires November 20, 2020

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.2	0.2	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.8	36.8	1.002
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.4	110.4	1.002
7000	129.0	129.0	129.0	1.000
8000	147.4	147.4	147.4	1.000
9000	165.9	166.0	166.0	0.999
10000	184.3	184.2	184.6	0.999
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.001**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	355	1.0	0.0	0.5
30	330	29	330	1.0	0.0	0.5
60	300	60	300	0.0	0.0	0.0
90	270	90	270	0.0	0.0	0.0
120	240	120	240	0.0	0.0	0.0
150	210	150	210	0.0	0.0	0.0
180	180	180	180	0.0	0.0	0.0
210	150	210	150	0.0	0.0	0.0
240	120	240	120	0.0	0.0	0.0
270	90	270	90	0.0	0.0	0.0
300	60	300	60	0.0	0.0	0.0
330	30	330	29	0.0	1.0	0.5
355	0	355	1	0.0	1.0	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.2**

Comments:

Physical inspection completed - no issues.

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	842b	**Reviewed By:**	Ferdinand Roy
Audit Date:	December 15, 2020	**Start/End Time (mst):**	11:06 / 11:54
Calibration Purpose:	shut down	**Weather Conditions:**	Light snow

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 #:	124638	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	June 11, 2020	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young #R9133 Exp: Aug 06, 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	0.2	0.2	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.8	36.8	1.002
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.2	92.2	0.999
6000	110.6	110.6	110.6	1.000
7000	129.0	129.0	129.0	1.000
8000	147.4	147.6	147.6	0.999
9000	165.9	166.0	166.2	0.999
10000	184.3	184.6	184.6	0.998
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.000**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	355	1.0	0.0	0.5
30	330	30	331	0.0	-1.0	0.5
60	300	60	300	0.0	0.0	0.0
90	270	91	270	-1.0	0.0	0.5
120	240	121	241	-1.0	-1.0	1.0
150	210	151	211	-1.0	-1.0	1.0
180	180	181	182	-1.0	-2.0	1.5
210	150	211	151	-1.0	-1.0	1.0
240	120	241	121	-1.0	-1.0	1.0
270	90	270	91	0.0	-1.0	0.5
300	60	300	62	0.0	-2.0	1.0
330	30	330	31	0.0	-1.0	0.5
355	0	354	1	1.0	1.0	1.0
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.8**

Comments:

Physical inspection completed - no issues.

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	842b	**Reviewed By:**	Ferdinand Roy
Audit Date:	December 16, 2020	**Start/End Time (mst):**	16:48 / 17:04
Calibration Purpose:	installation	**Weather Conditions:**	Light snow

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 #:	174802	**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 #R9133 Exp: Aug 06, 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	353	0.0	2.0	1.0
30	330	28	328	2.0	2.0	2.0
60	300	58	298	2.0	2.0	2.0
90	270	88	269	2.0	1.0	1.5
120	240	119	239	1.0	1.0	1.0
150	210	149	210	1.0	0.0	0.5
180	180	179	179	1.0	1.0	1.0
210	150	211	149	-1.0	1.0	1.0
240	120	240	118	0.0	2.0	1.0
270	90	270	88	0.0	2.0	1.0
300	60	299	58	1.0	2.0	1.5
330	30	330	28	0.0	2.0	1.0
355	0	354	0	1.0	0.0	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.2**

Comments:

Signal translated via RMYoung32400
Declination = 16°E

Peace River Area Monitoring Program

DECEMBER 2020

Ambient Air Monitoring Calibration Report

- 986c STATION-

CAL-PRAMP-202012-01562

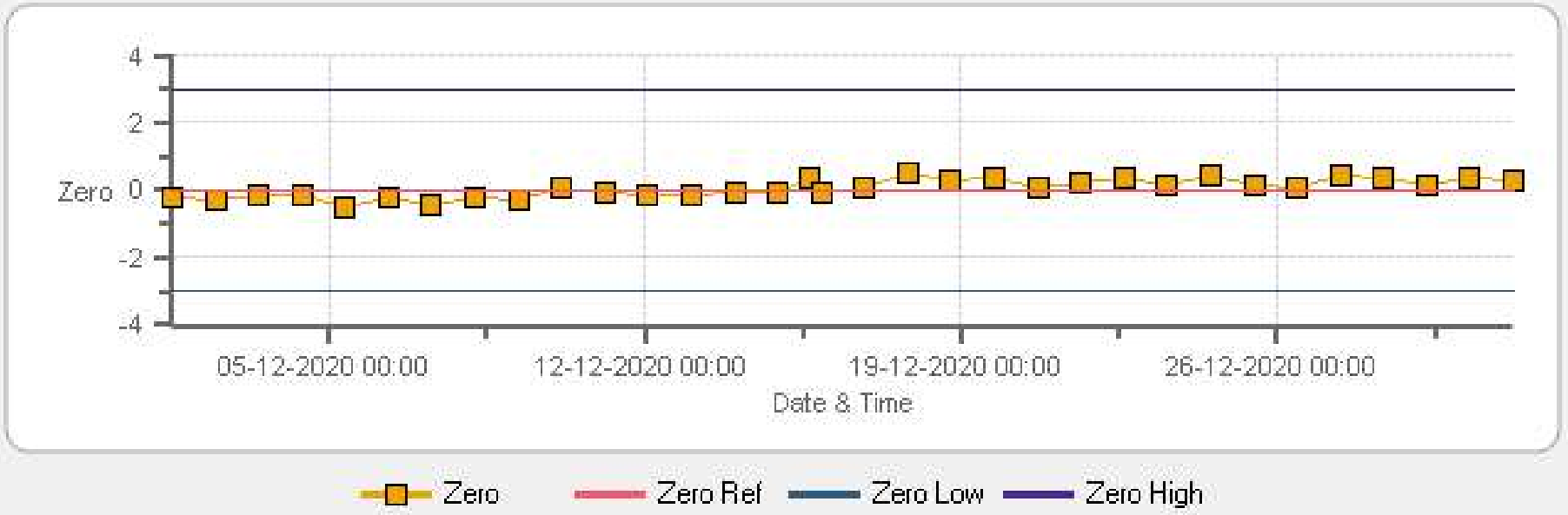
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Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

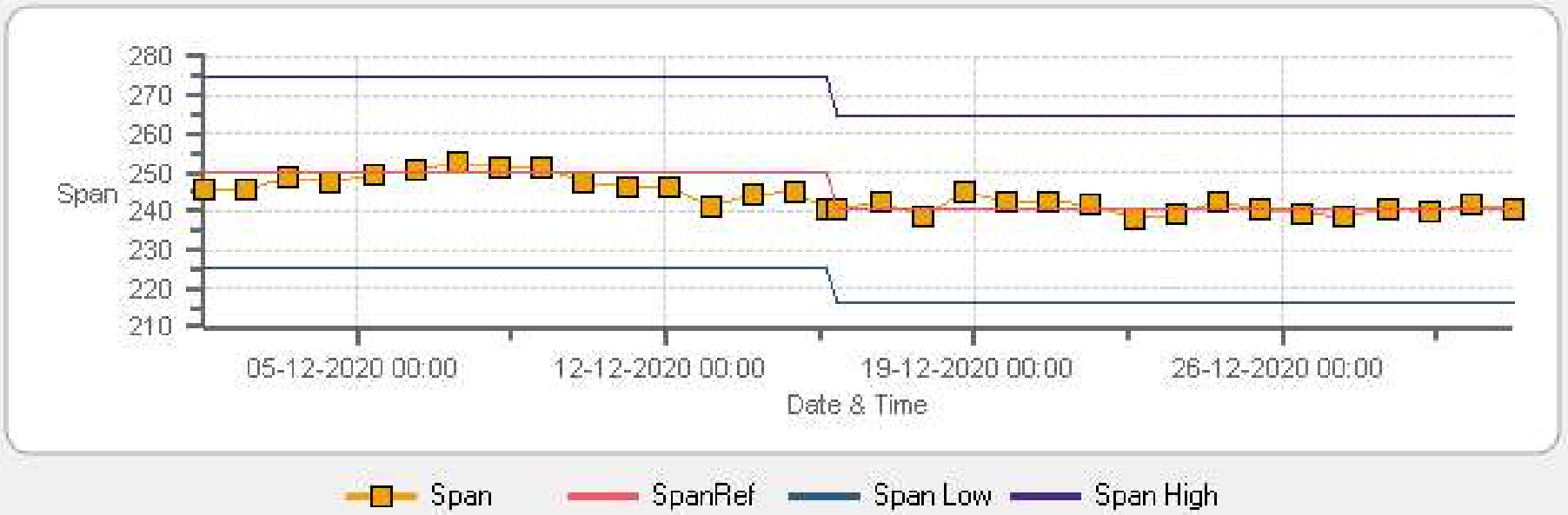
January 13, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

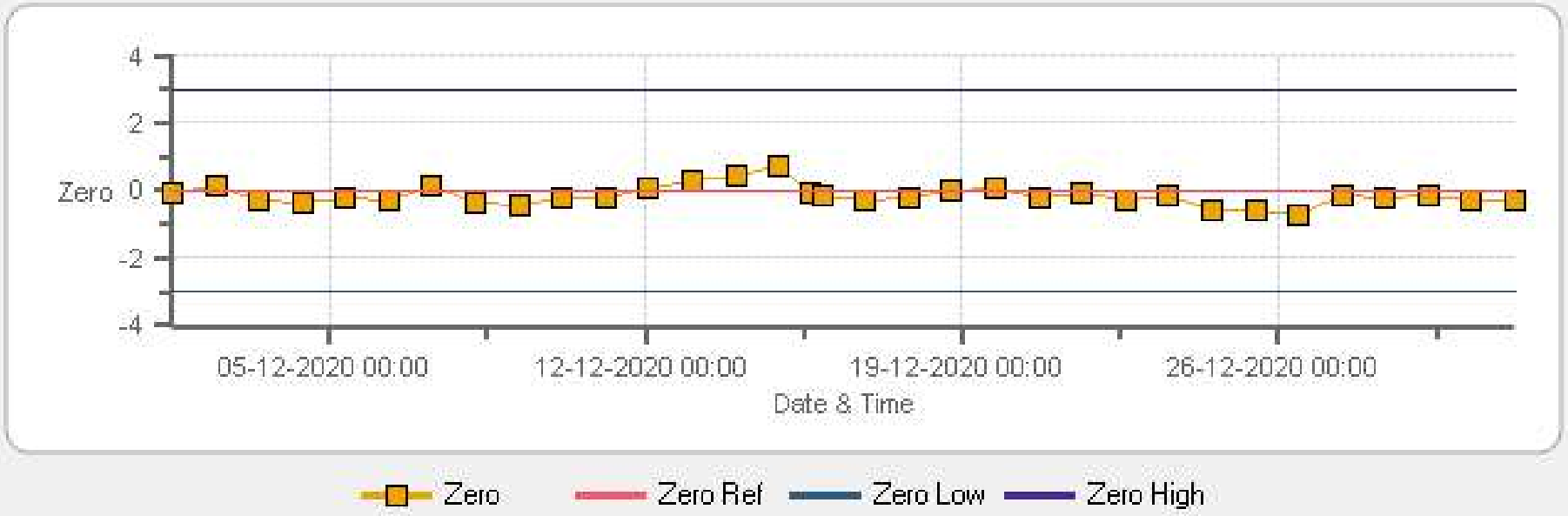
SO2[ppb] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Zero



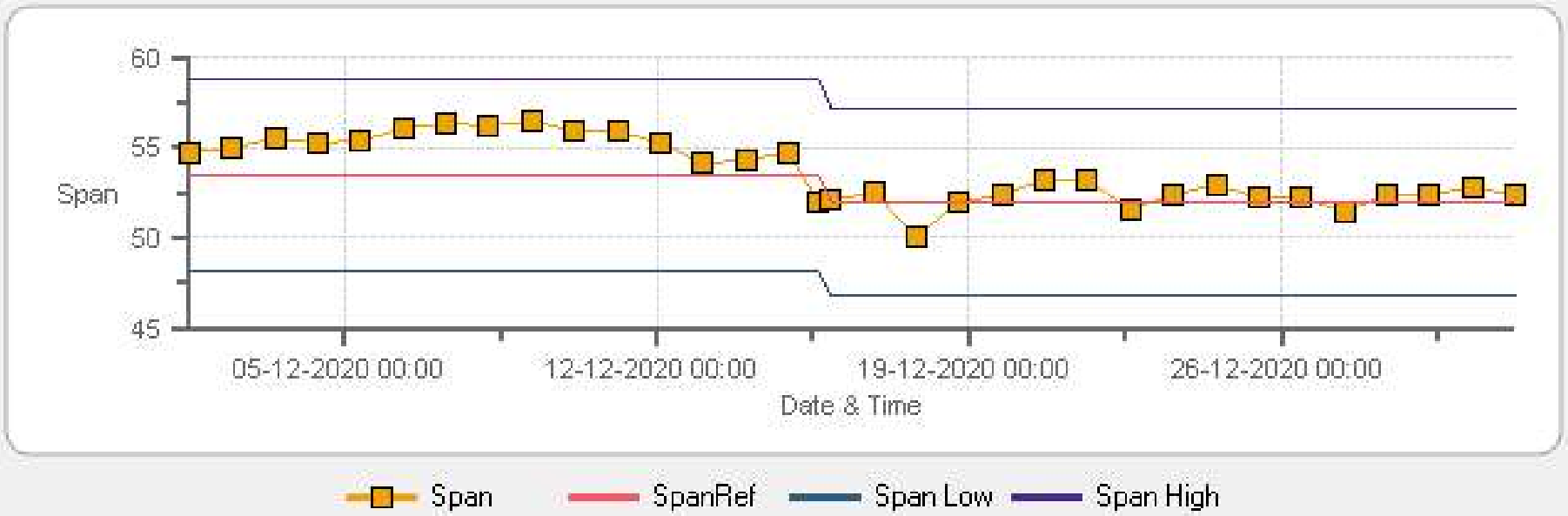
SO2[ppb] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Span



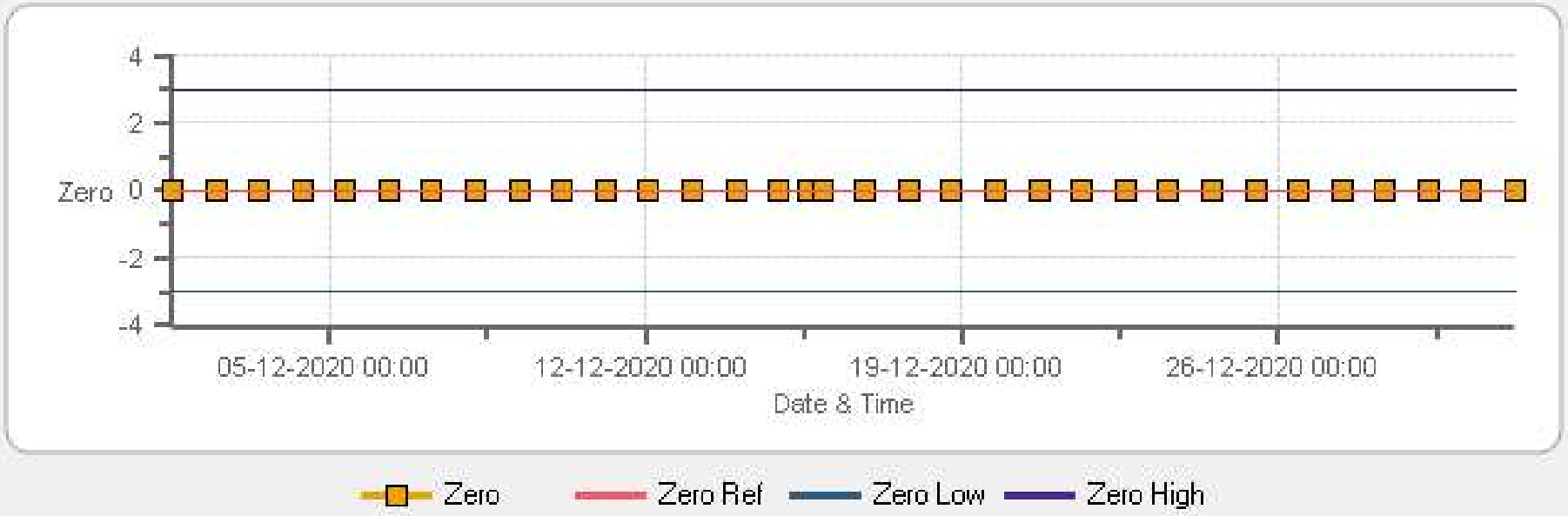
TRS[ppb] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Zero



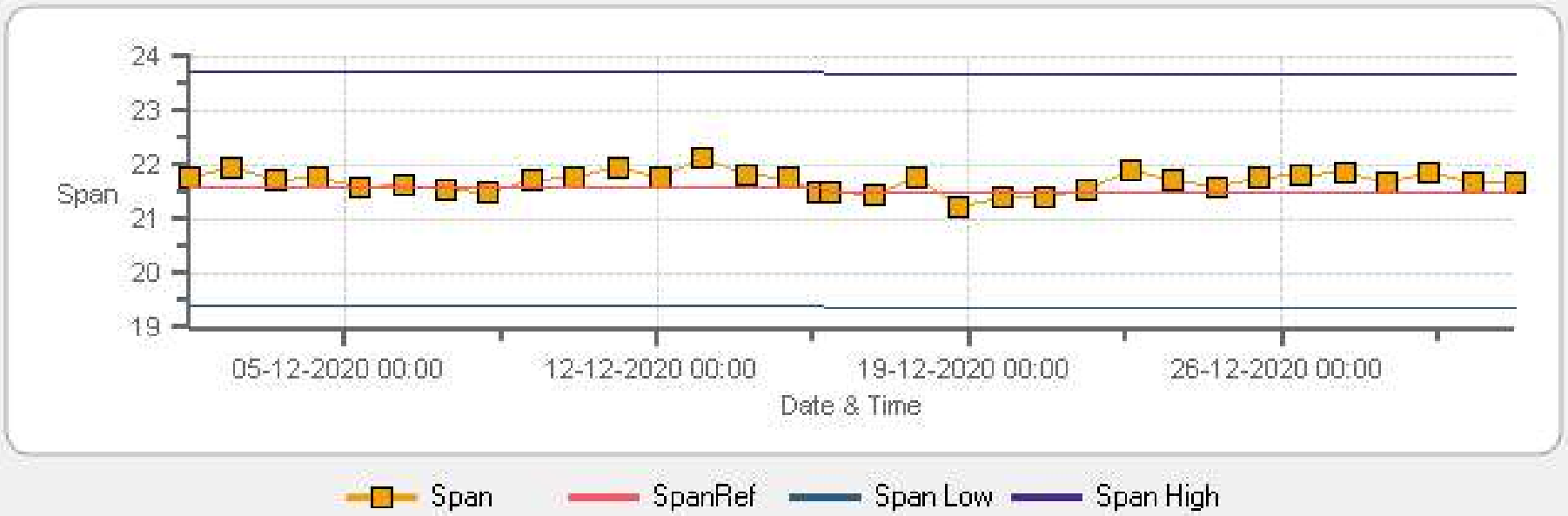
TRS[ppb] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Span



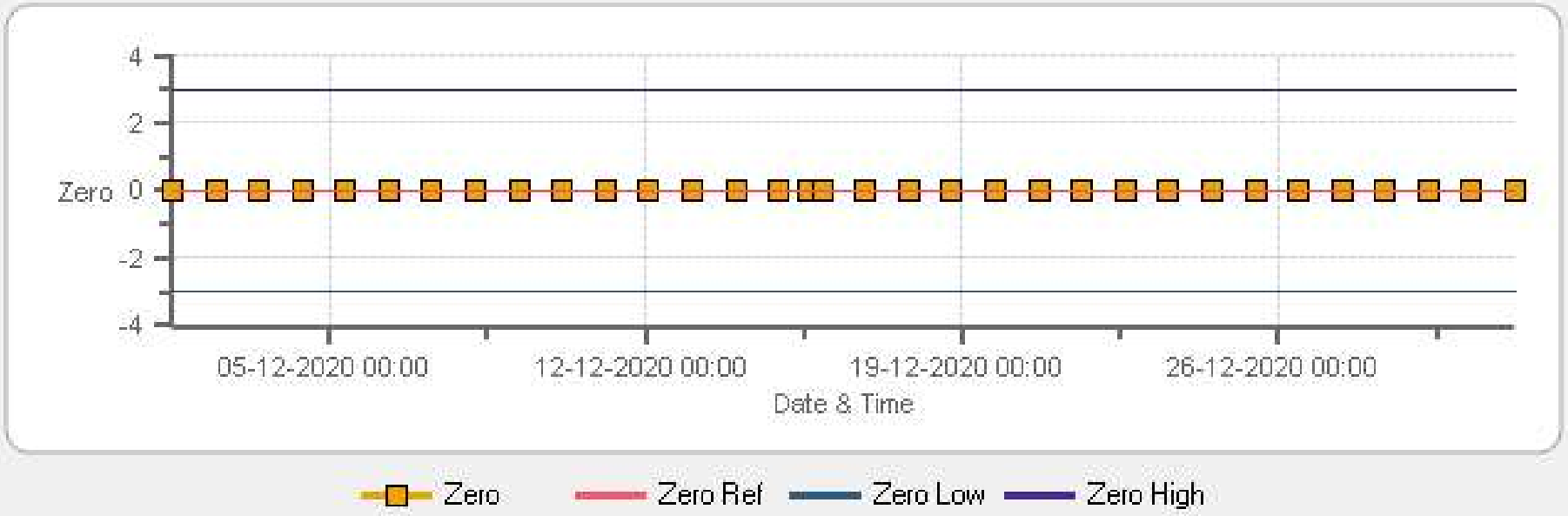
THC55[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Zero



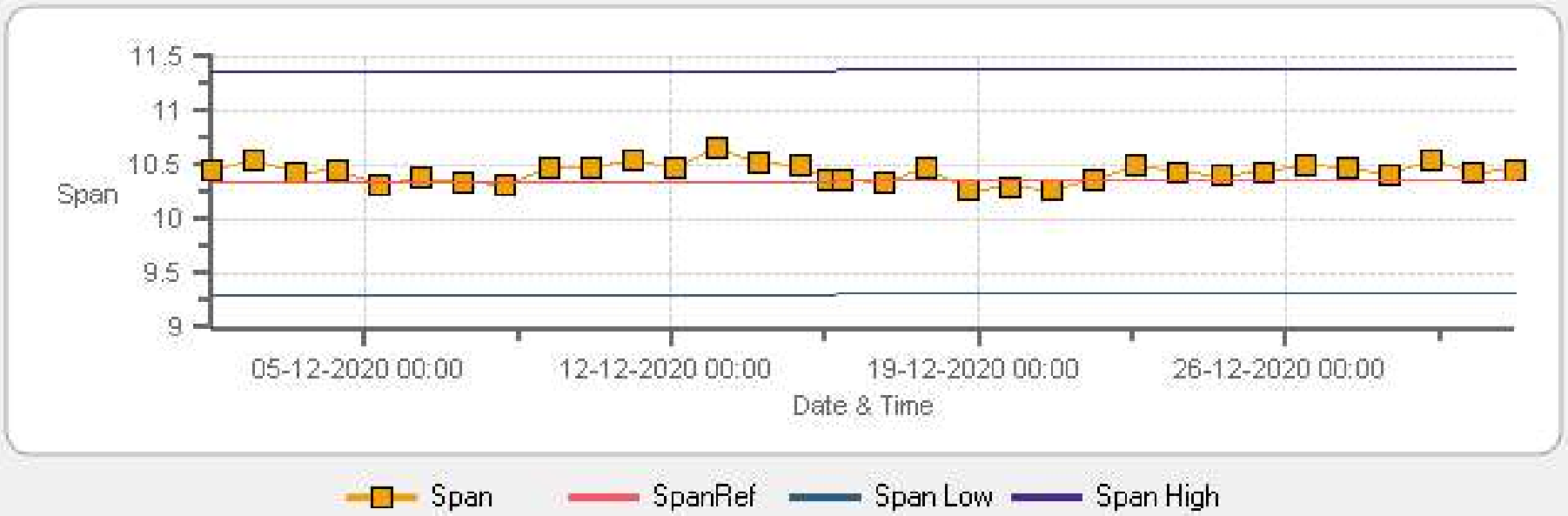
THC55[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Span



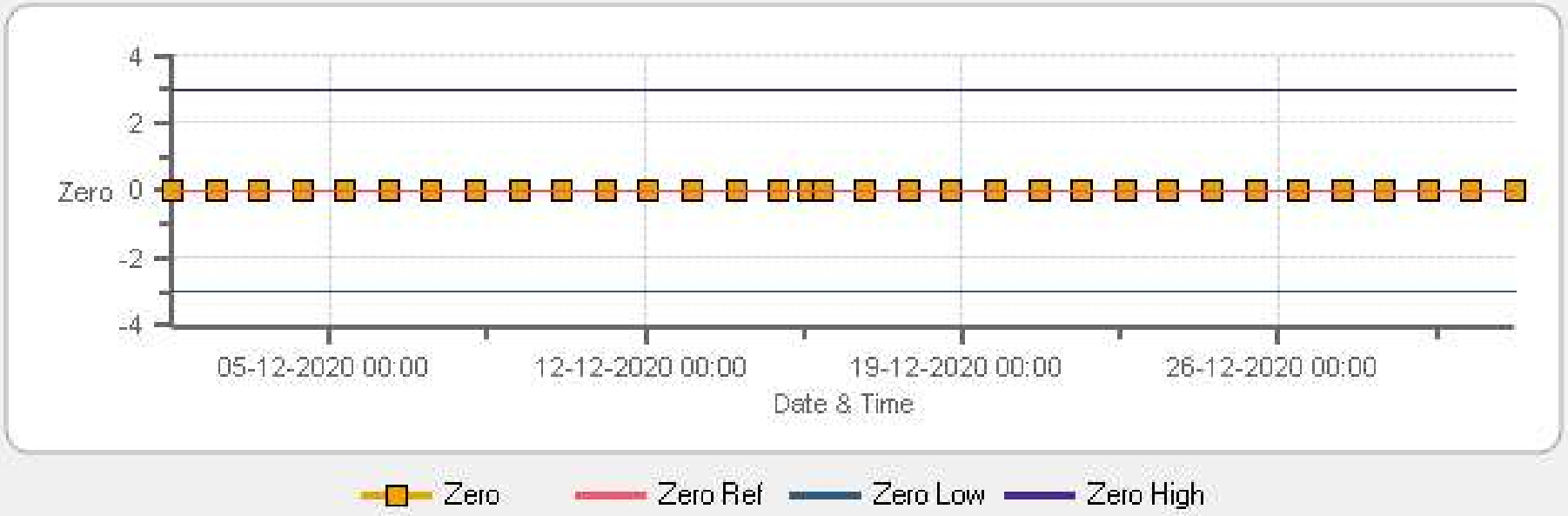
CH4[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Zero



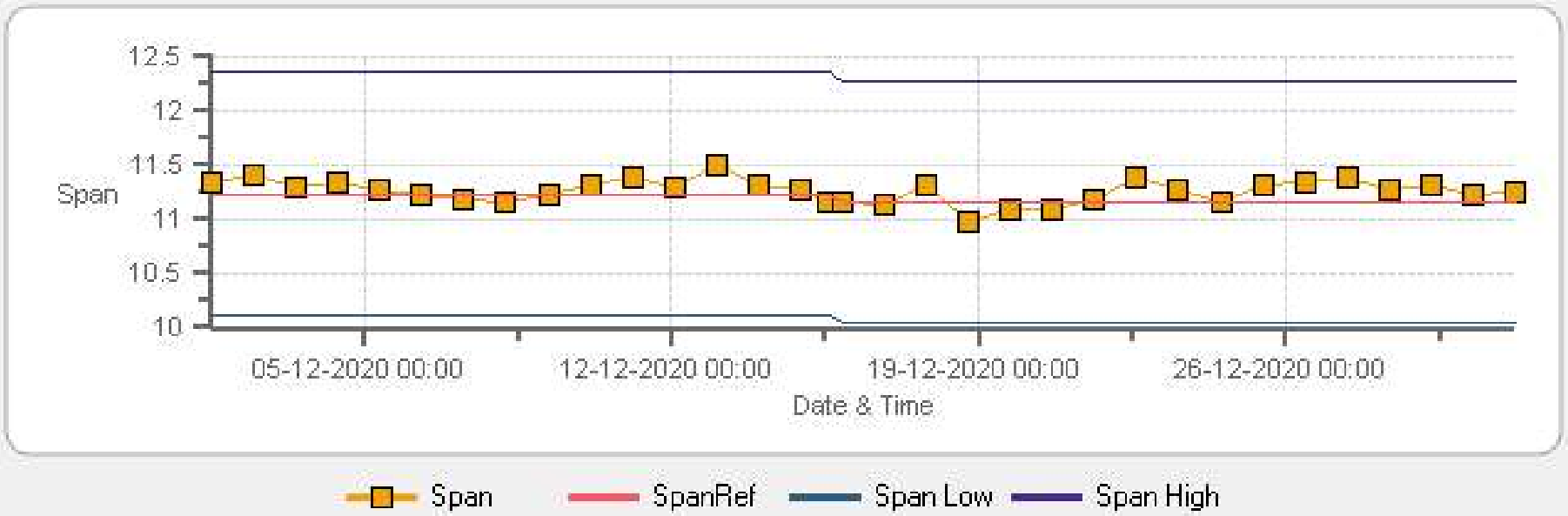
CH4[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: PRAMP 986c Monthly: 12-2020 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	18-Nov-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	PRAMP	TEMPERATURE (°C):	21.8
LOCATION:	986C	BAROMETRIC (mBar):	931
PURPOSE	Routine	START TIME (MST):	10:13
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	15:18

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	500 ppb
SERIAL #	1193585646	FLOW (mL/min)	426
INITIAL		FINAL	
BKG/OFFSET	12.1	BKG/OFFSET	11.7
COEF/SLOPE	1.059	COEF/SLOPE	1.024
Expected (reference) Value	250	Expected (reference) Value	240.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	5004
MFC CALIBRATION DATE:	23-Nov-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002357	HIGH ID	n/a
CONC (ppm):	24.90	EXPIRY DATE	n/a
CYLINDER (psi):	2000	LOW ID	n/a
EXPIRY DATE	13-Nov-2024	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	0.1	0		
3940	61.10	4001	380.25	390.9	380.2	0.973	1.000
3973	28.90	4002	179.81	n/a	183.3	n/a	0.981
3985	14.50	3999	90.29	n/a	92.9	n/a	0.972

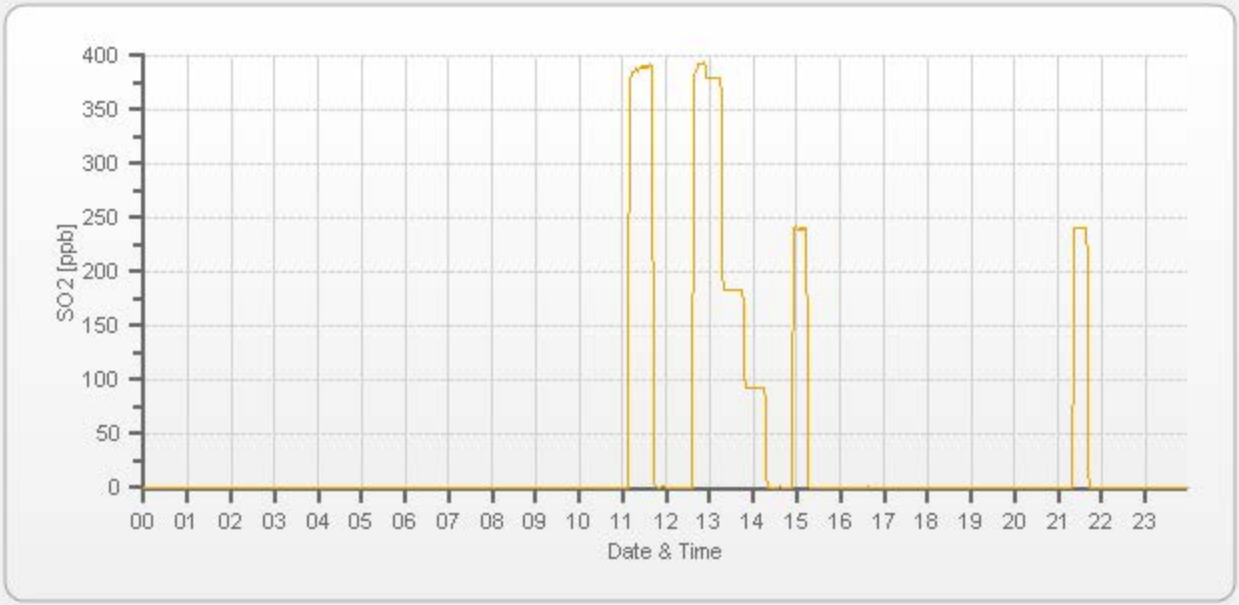
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.4%

COMMENTS:

Sample filter changed. Monthly calibration - no issues.

Shaping a world of trust


SO2[ppb] Station: PRAMP 986c Daily: 15-12-2020 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:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	19-Nov-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	21.8
LOCATION:	986C	BAROMETRIC (mBar):	931
PURPOSE	Routine	START TIME (MST):	10:13
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	15:18

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	1191833341	FLOW (mL/min)	425
INITIAL		FINAL	
BKG/OFFSET	14.4	BKG/OFFSET	14.2
COEF/SLOPE	0.999	COEF/SLOPE	0.949
Expected (reference) Value	53.42	Expected (reference) Value	51.91

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	5004
MFC CALIBRATION DATE:	23-Nov-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0000695	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	610	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4009		4009	0.00	0.23	0		
3970	31.20	4001	77.98	82.13	78.02	0.952	0.999
3987	15.20	4002	37.98	n/a	38.28	n/a	0.992
3991	7.60	3999	19.00	n/a	19.14	n/a	0.993

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.1%

COMMENTS:

Sample filter changed. Monthly calibration - no issues.


TRS[ppb] Station: PRAMP 986c Daily: 15-12-2020 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:	15-Dec-2020	PREVIOUS CALIBRATION DATE:	18-Nov-2020
CLIENT:	PRAMP	TEMPERATURE (°C):	21.8
LOCATION:	986C	BAROMETRIC (mBar):	931
PURPOSE	Routine	START TIME (MST):	10:13
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	14:20

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1193585652	1286.4
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL84567		HIGH ID:	148944
MODEL:	2010	MODEL:	M701	CH_4/C_3H_8 (ppm):	591.0	200.0	HIGH EXPIRY:	16-Nov-2021
ID:	17100415	ID:	5004	CYLINDER (psi):	1320		LOW ID:	152019
MFC CALIBRATION DATE:	n/a	OXIDIZER ID:	Internal	EXPIRY DATE	17-Jul-2027		LOW EXPIRY:	16-Nov-2021

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	550.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1141.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.34	11.23	21.57		10.36	11.16	21.52

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
3260		3260	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3154	79.55	3234	14.54	13.53	28.07	14.65	13.46	28.11	14.57	13.53	28.10	0.992	1.005	0.999	0.998	1.000	0.999
3195	39.76	3235	7.26	6.76	14.02	n/a	n/a	n/a	7.29	6.76	14.05	n/a	n/a	n/a	0.996	1.000	0.998
3219	19.83	3239	3.62	3.37	6.99	n/a	n/a	n/a	3.66	3.42	7.08	n/a	n/a	n/a	0.989	0.985	0.987

LINEAR REGRESSION ANALYSIS:

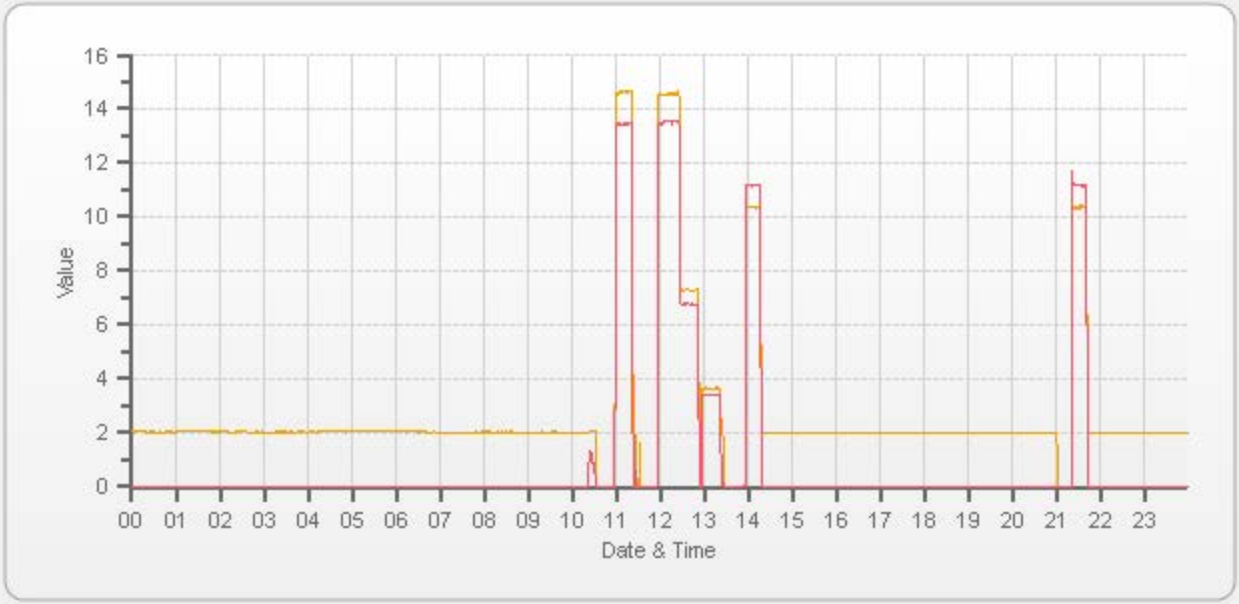
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.001	0.1%
NMHC	1.000	0.999	0.1%
THC	1.000	1.000	0.1%

Comments:

Sample filter changed. Monthly calibration - no issues.

Use Zero Chrom? **No**

Station: PRAMP 986c Daily: 15-12-2020 Type: AVG 1 Min. [1 Min.]



Meteorological System Checklist

Date:	December 15, 2020		
Technician:	Ferdinand Roy		
Station:	PRAMP 986c		
Unit:	**Make:**	**Model:**	**Serial #:**
Precipitation Sampler:	EML	ARG100	190114
Temperature Sensor:	Rotronic	HC2-S3	20357528
Barometric Pressure Sensor:	MetOne	92	Y23358
Relative Humidity Sensor:	Rotronic	HC2-S3	2057528
Anemometer:	RM Young	05305L	174795
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	November 18, 2020		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	F.S. 160348895 expires Sep 4, 2022		
Reference Temperature (^{o}C):	-15.3		
Station - Ambient Temperature (^{o}C):	-15.0		
Temperature Difference (^{o}C):	-0.3		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	November 18, 2020		
Reference Barometer ID:	Reference Barometer ID: F.S. 10528 expires February 26, 2021		
Reference Pressure - Units/Reading:	millibar	930	
Station Pressure - Units/Reading:	millibar	934.4	
Pressure Tolerance +/- 15% of error:	791 - 1070	-0.47%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	October 8, 2020		
Reference Hygrometer ID:	F.S. 160348895 expires Sep 4, 2022		
Reference Hygrometer % RH- Reading:	79.53		
Station Hygrometer % RH- Reading:	87.90		
RH Tolerance +/- 15% of difference:	67.60 - 91.46	-10.5%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	November 18, 2020	Previous check date:	November 18, 2020
Wind Speed Observed (kph):	2~5	Wind Direction Observed:	N
Wind speed on Data Logger (kph):	3.9	Wind Direction on Data Logger:	N
		Wind Direction Pass/Fail?:	Pass

Comments

No issues.

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	986C	**Reviewed By:**	Ferdinand Roy
Audit Date:	July 16, 2020	**Start/End Time (mst):**	15:07 / 16:17
Calibration Purpose:	installation	**Weather Conditions:**	Mix of sun and clouds with rain showers

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	n/a
Sensor Model:	05305L	**Velocity Unit Output Range:**	0-180
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# CA03309 expires November 20, 2020

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
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	0.0	1.0	0.5
30	330	30	330	0.0	0.0	0.0
60	300	59	299	1.0	1.0	1.0
90	270	90	270	0.0	0.0	0.0
120	240	119	240	1.0	0.0	0.5
150	210	150	210	0.0	0.0	0.0
180	180	181	180	-1.0	0.0	0.5
210	150	211	150	-1.0	0.0	0.5
240	120	241	120	-1.0	0.0	0.5
270	90	270	89	0.0	1.0	0.5
300	60	300	59	0.0	1.0	0.5
330	30	330	30	0.0	0.0	0.0
355	0	354	0	1.0	0.0	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.4**

Comments:

Magnetic declination = 15Deg(E)

Peace River Area Monitoring Program

DECEMBER 2020

Ambient Air Monitoring Calibration Report

- RENO STATION-

CAL-PRAMP-202012-01563

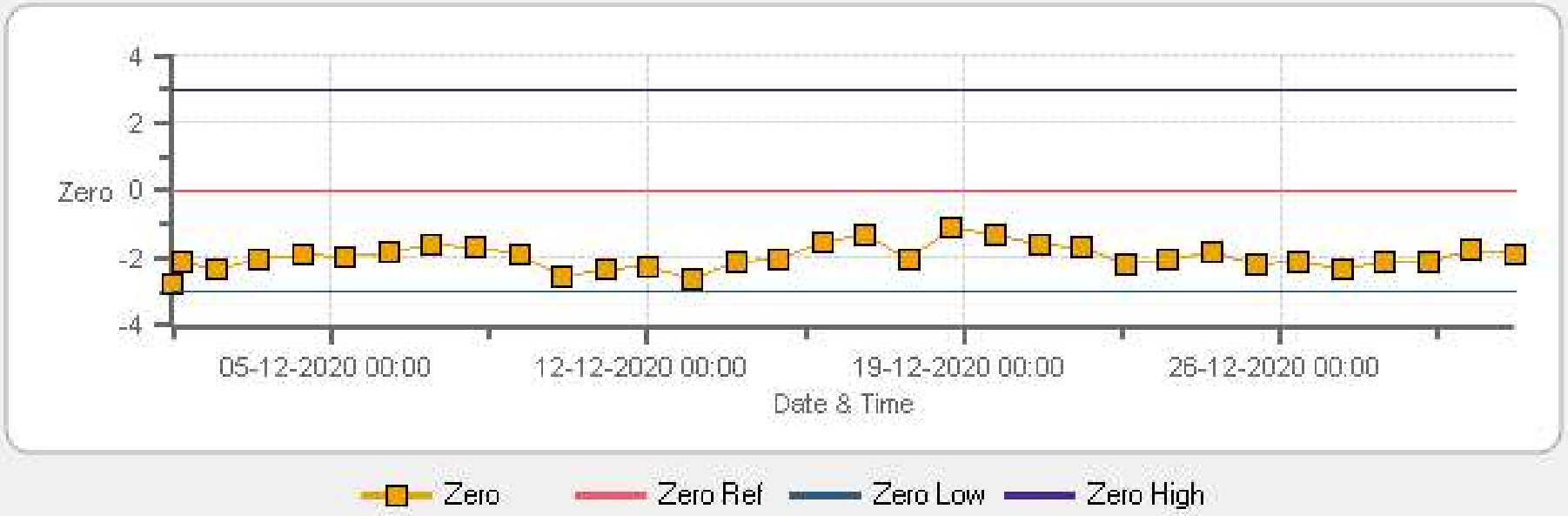
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

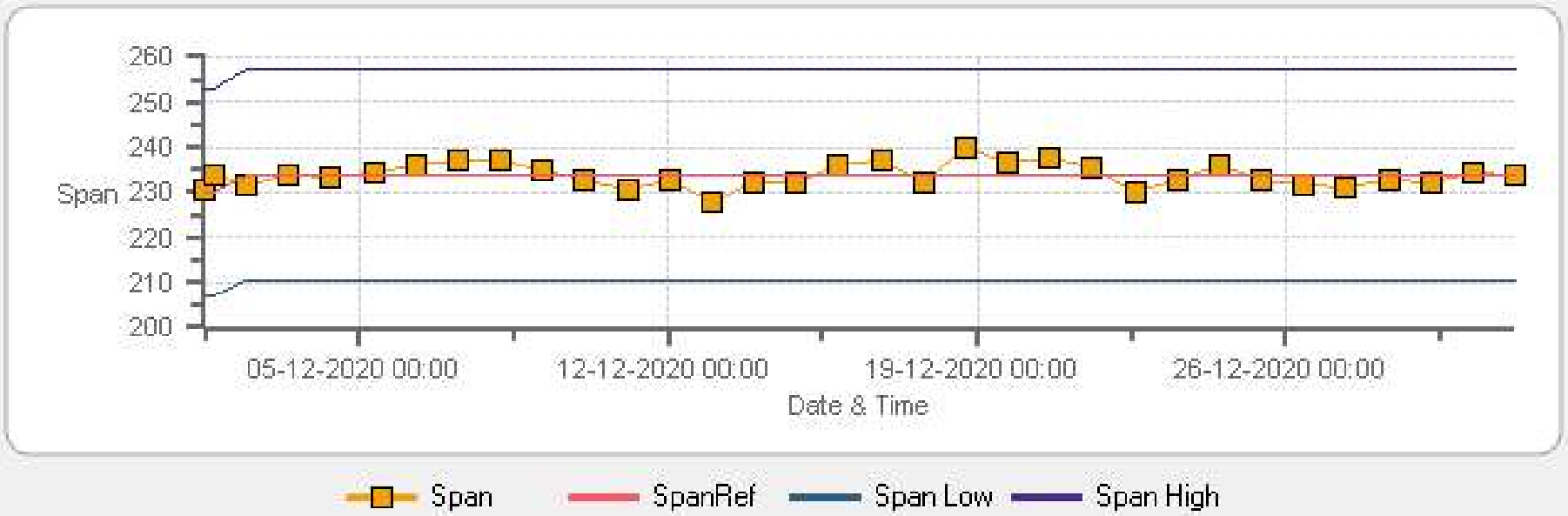
January 13, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

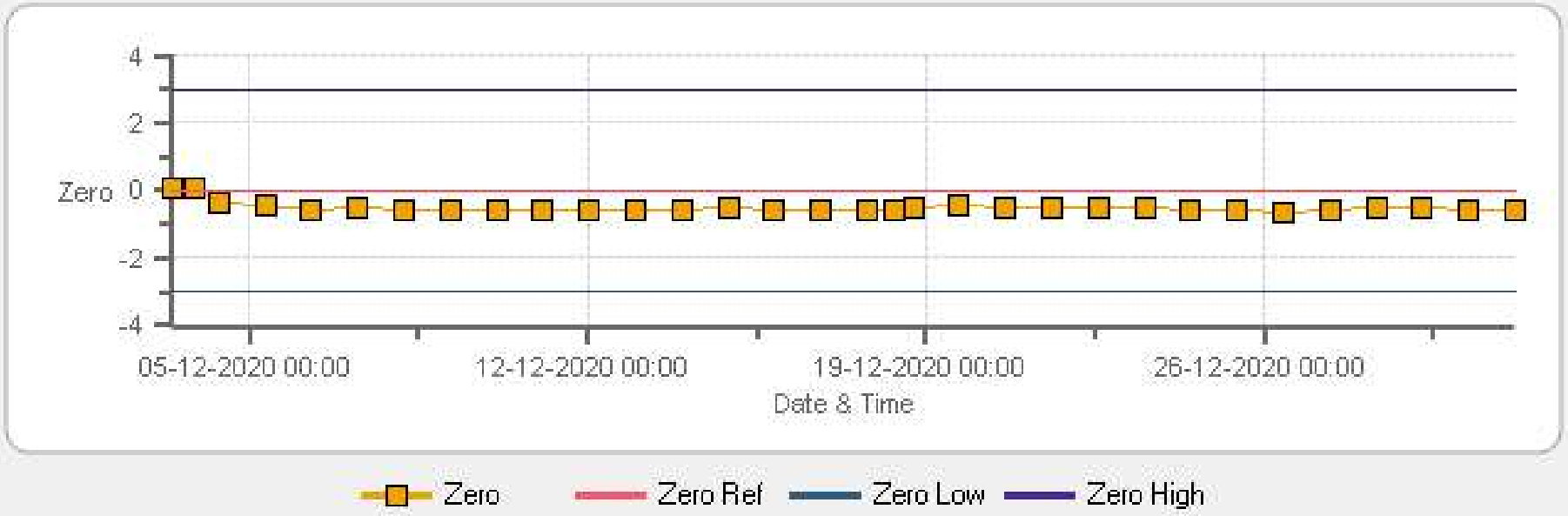
SO2[ppb] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Zero



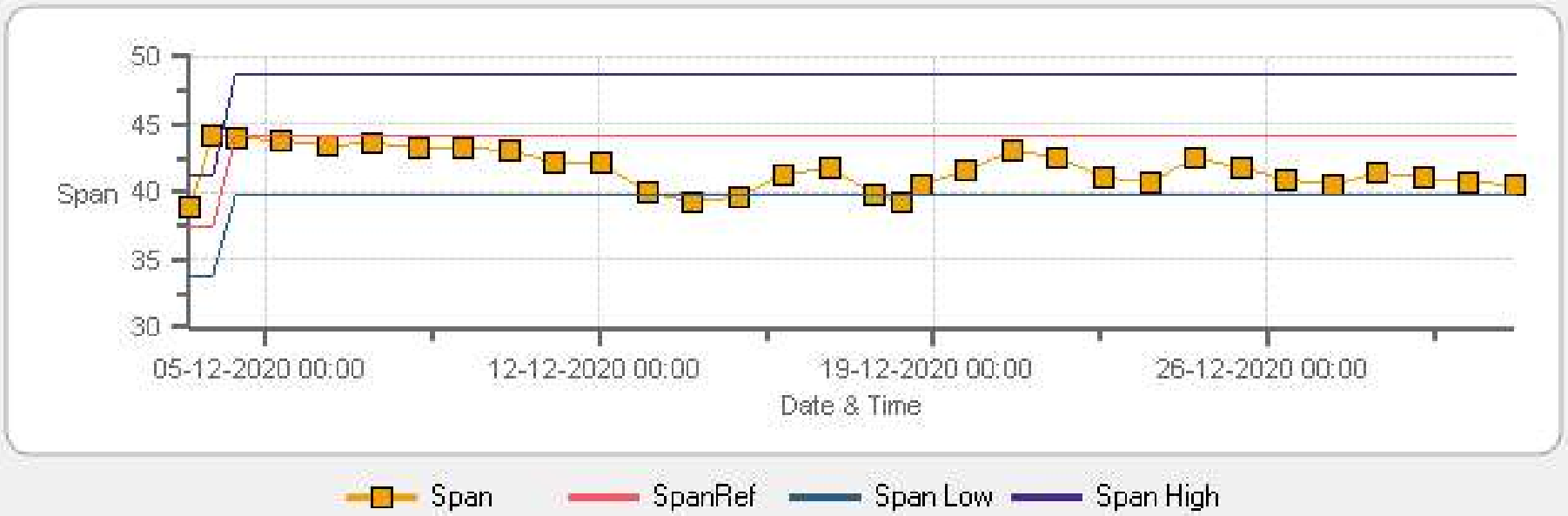
SO2[ppb] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Span

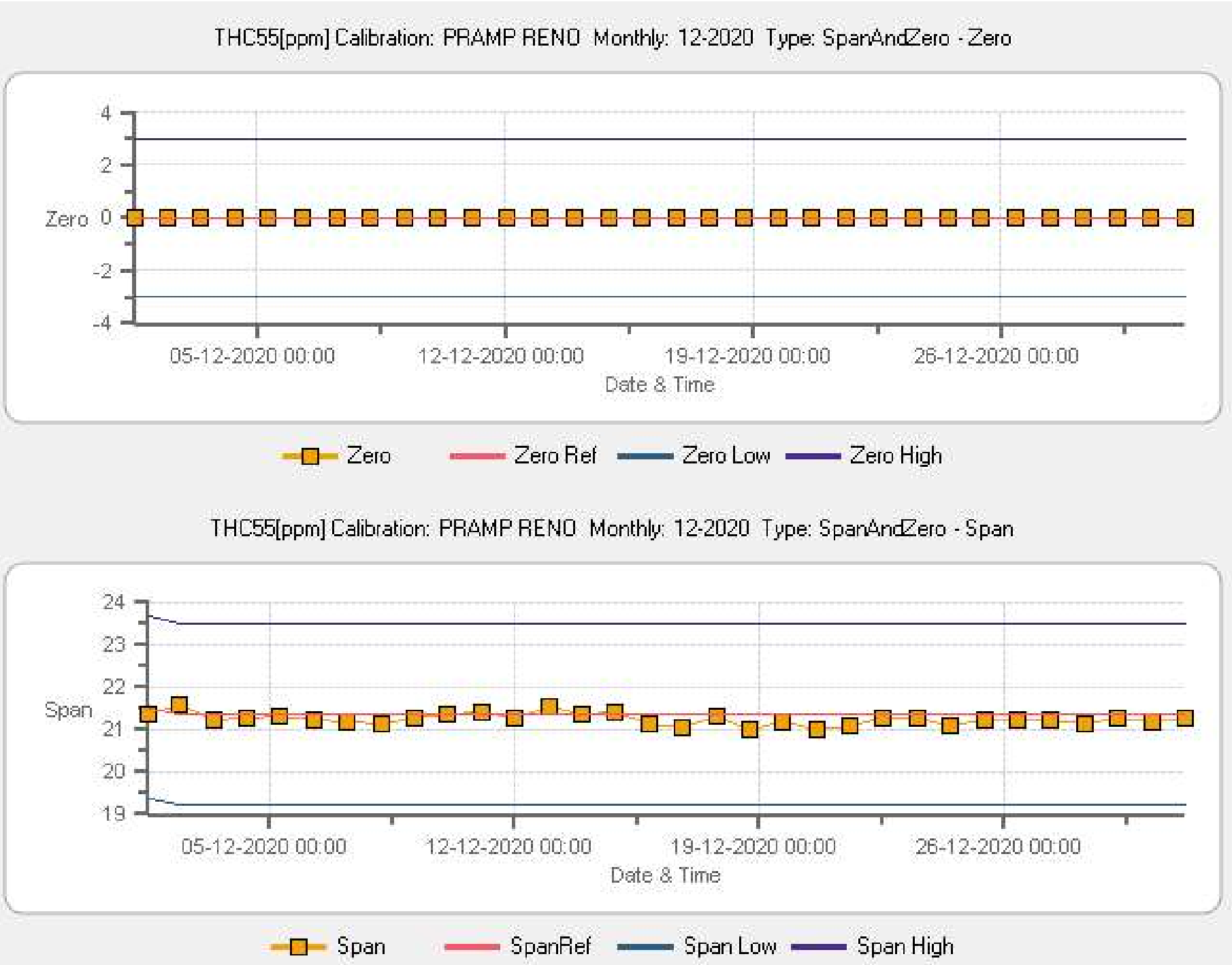


TRS[ppb] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Zero

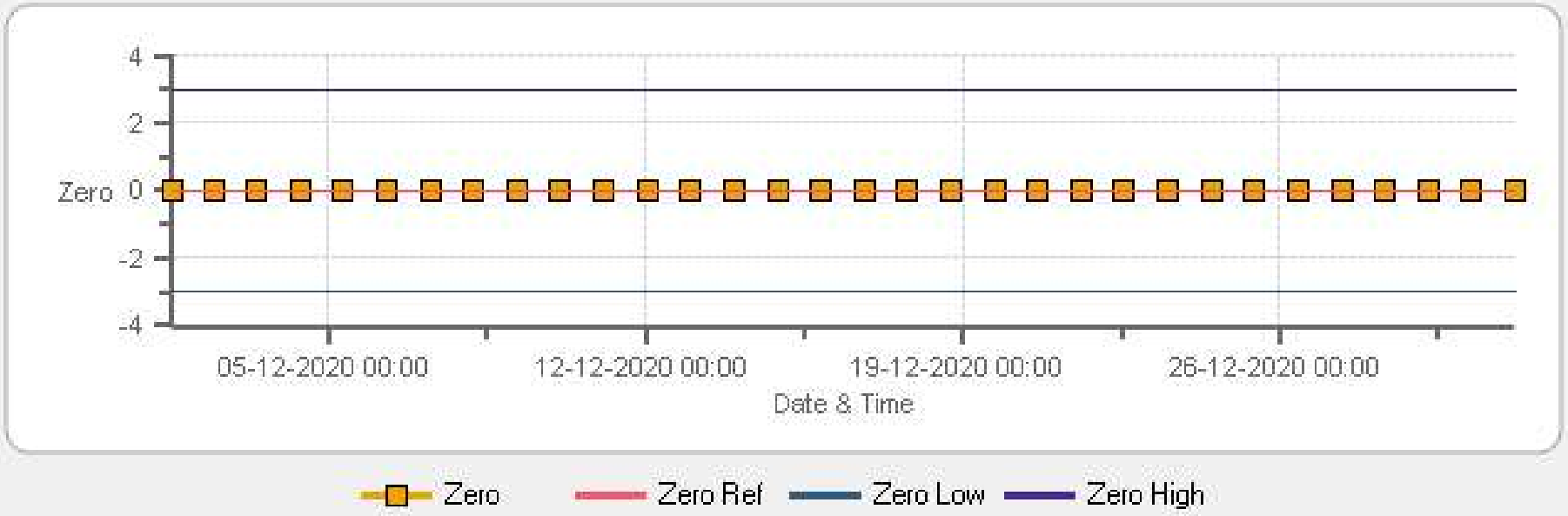


TRS[ppb] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Span

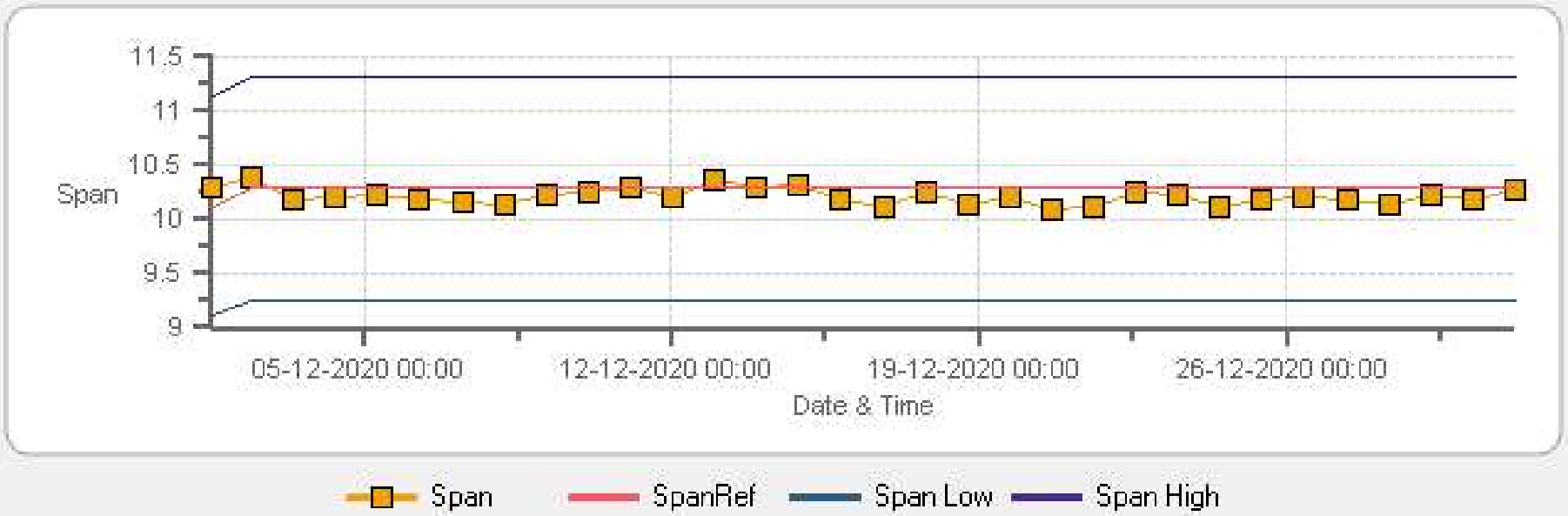



THC55[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
05-12-2020 00:00
12-12-2020 00:00
19-12-2020 00:00
26-12-2020 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Span
24
23
22
Span
21
20
19
05-12-2020 00:00
12-12-2020 00:00
19-12-2020 00:00
26-12-2020 00:00
Date & Time
Span
SpanRef
Span Low
Span High

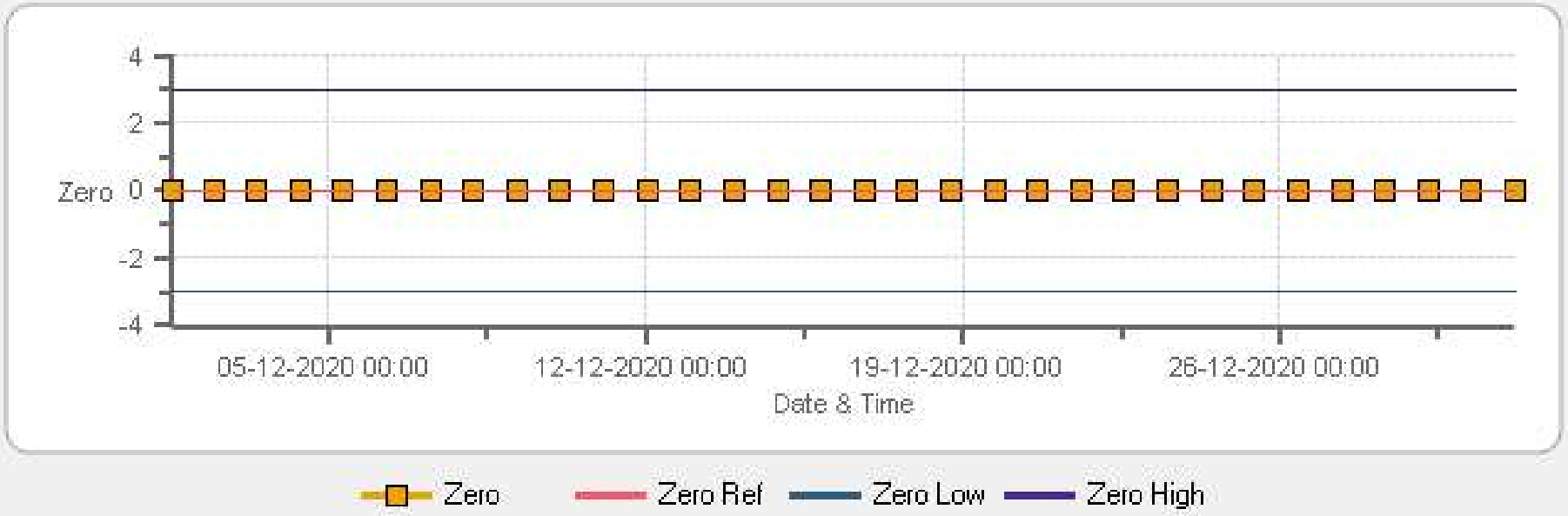
CH4[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Zero



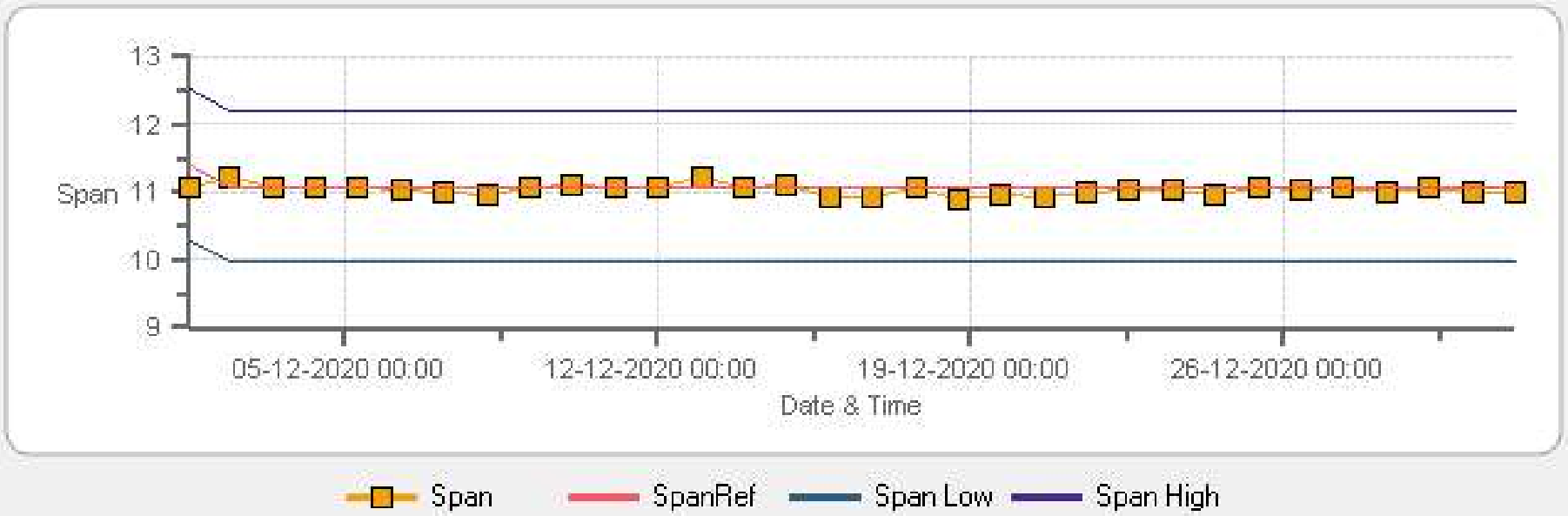
CH4[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Span



NMHC[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: PRAMP RENO Monthly: 12-2020 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	01-Dec-2020	PREVIOUS CALIBRATION DATE:	03-Nov-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	24.7
LOCATION:	Reno	BAROMETRIC (mBar):	944
PURPOSE	Routine	START TIME (MST):	12:25
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	16:50

ANALYZER:

MAKE/MODEL	API 100A	RANGE	500 ppb
SERIAL #	1502	FLOW (mL/min)	625
INITIAL		FINAL	
BKG/OFFSET	95.1	BKG/OFFSET	94.1
COEF/SLOPE	0.96	COEF/SLOPE	0.961
Expected (reference) Value	230	Expected (reference) Value	233.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	81
MFC CALIBRATION DATE:	08-Jun-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	BAL3157	HIGH ID	n/a
CONC (ppm):	49.30	EXPIRY DATE	n/a
CYLINDER (psi):	300	LOW ID	n/a
EXPIRY DATE	01-Jul-2027	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		
5999		5999	0.00	-0.4	0		
5953	46.20	5999	379.67	378.2	379.7	1.003	1.000
5979	21.90	6001	179.92	n/a	179.3	n/a	1.003
5991	10.90	6002	89.53	n/a	89.4	n/a	1.001

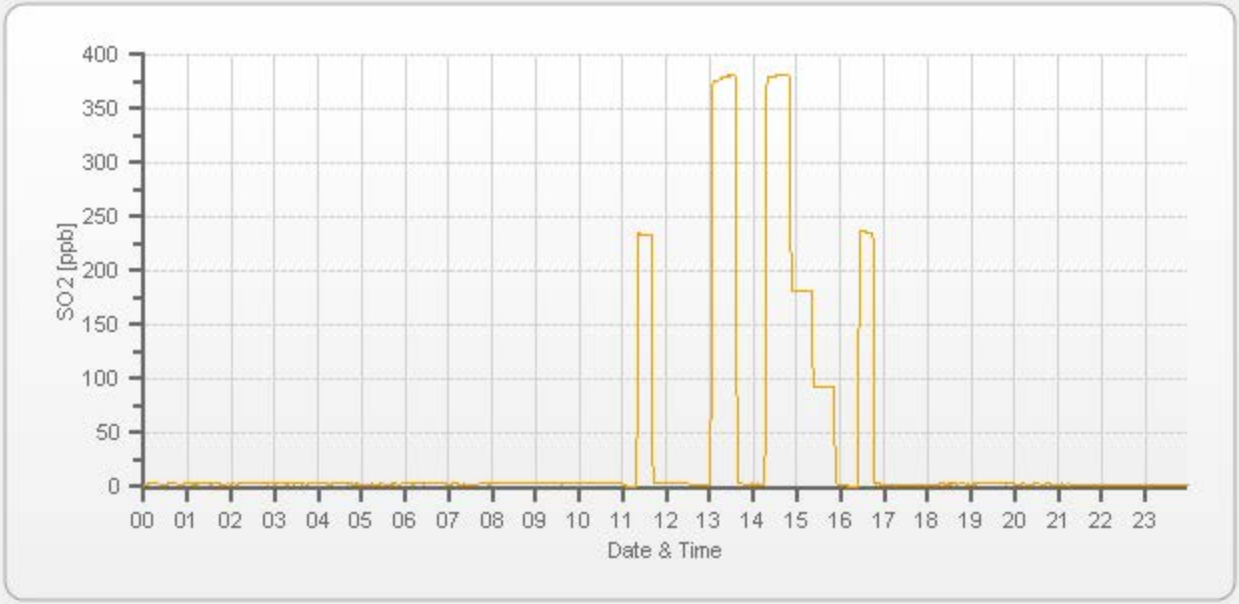
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample filter changed. Monthly calibration - no issues.

SO2[ppb] Station: PRAMP RENO Daily: 01-12-2020 Type: AVG 1 Min. [1 Min.]



SO2 Analyzer Calibration by Dilution

DATE:	23-Dec-2020	PREVIOUS CALIBRATION DATE:	01-Dec-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	21.3
LOCATION:	Reno	BAROMETRIC (mBar):	939
PURPOSE	As-Found	START TIME (MST):	09:24
PERFORMED BY:	Limin Li	END TIME (MST):	10:58

ANALYZER:

MAKE/MODEL	API 100A	RANGE	500 ppb
SERIAL #	1502	FLOW (mL/min)	597
INITIAL		FINAL	
BKG/OFFSET	94.1	BKG/OFFSET	94.1
COEF/SLOPE	0.961	COEF/SLOPE	0.961
Expected (reference) Value	233.9	Expected (reference) Value	233.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Environics	MAKE:	Teledyne
MODEL:	6100	MODEL:	701
ID:	5212	ID:	1105
MFC CALIBRATION DATE:	28-Sep-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0001011	HIGH ID	n/a
CONC (ppm):	50.10	EXPIRY DATE	n/a
CYLINDER (psi):	600	LOW ID	n/a
EXPIRY DATE	01-Jul-2028	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:

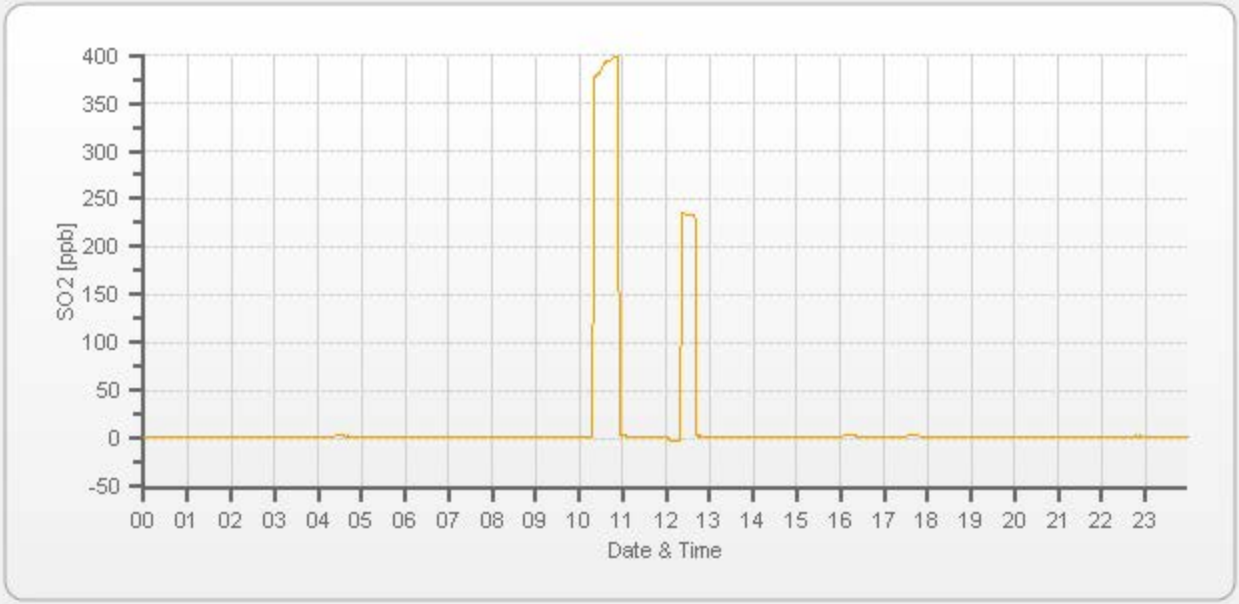
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
6000		6000	0.00	2.5	N/A		
5954	45.51	6000	380.01	396.7	N/A	0.964	n/a
n/a	N/A	N/A	n/a	n/a	N/A	n/a	n/a
n/a	N/A	N/A	n/a	n/a	N/A	n/a	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	n/a	n/a	**n/a**

COMMENTS:

Sample filter changed. Monthly calibration - no issues.


SO2[ppb] Station: PRAMP RENO Daily: 23-12-2020 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
-50
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:	01-Dec-2020	PREVIOUS CALIBRATION DATE:	03-Nov-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	PRAMP	TEMPERATURE (°C):	21.7
LOCATION:	Reno	BAROMETRIC (mBar):	943
PURPOSE	Routine	START TIME (MST):	08:56
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	13:31

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460022	FLOW (mL/min)	411
INITIAL		FINAL	
BKG/OFFSET	2.59	BKG/OFFSET	n/a
COEF/SLOPE	1.126	COEF/SLOPE	n/a
Expected (reference) Value	37.49	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26701218	ID:	81
MFC CALIBRATION DATE:	08-Jun-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0000695	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	710	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	09:36	SO2 Conc (ppb)	380
END TIME:	09:54	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
3998		3998	0.00	-0.01	0		
3967	31.20	3998	78.04	72.62	77.98	1.074	1.001
3985	15.20	4000	38.00	n/a	37.12	n/a	1.024
3990	7.60	3998	19.01	n/a	17.97	n/a	**1.058**

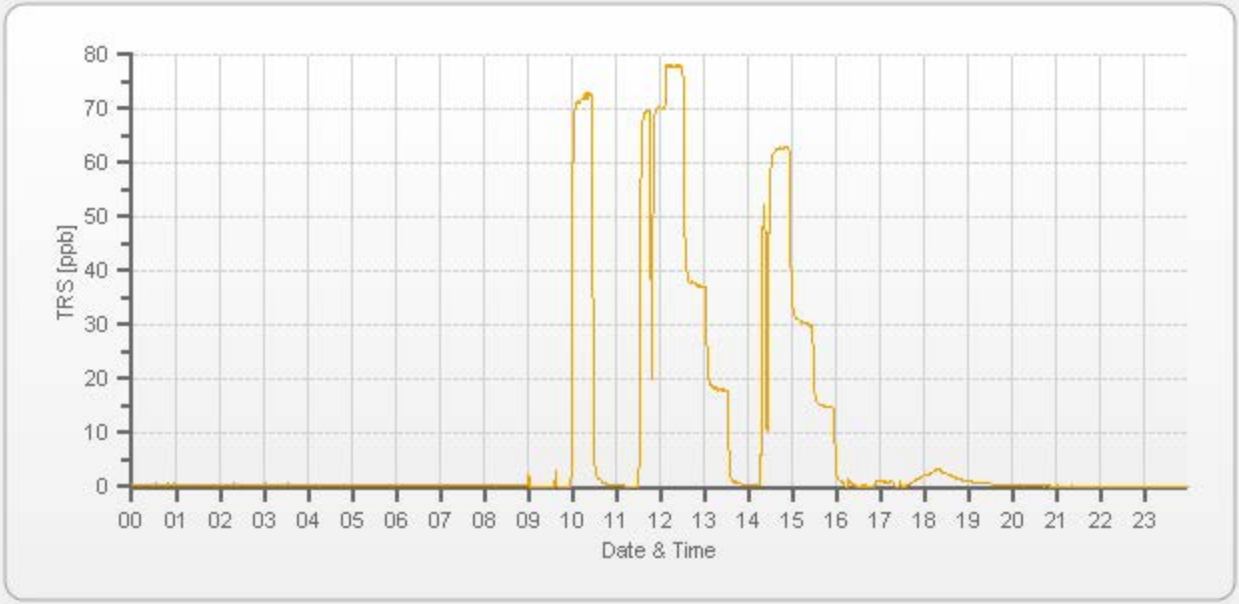
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	-0.6%

COMMENTS:

Sample filter changed. Monthly calibration - low point failed.

TRS[ppb] Station: PRAMP RENO Daily: 01-12-2020 Type: AVG 1 Min. [1 Min.]



TRS Analyzer Calibration by Dilution

DATE:	03-Dec-2020	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.2
LOCATION:	Reno	BAROMETRIC (mBar):	937
PURPOSE	Install/Post-Repair	START TIME (MST):	14:20
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	21:19

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460022	FLOW (mL/min)	410
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	3.55
COEF/SLOPE	n/a	COEF/SLOPE	1.269
Expected (reference) Value	n/a	Expected (reference) Value	TBD

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26701218	ID:	81
MFC CALIBRATION DATE:	08-Jun-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0000695	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	700	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	18:35	SO2 Conc (ppb)	380
END TIME:	18:53	Analyzer Response (ppb)	0.1

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
3999		3999	0.00	n/a	0		
3969	31.20	4000	78.00	n/a	78.01	n/a	1.000
3985	15.20	4000	38.00	n/a	37.42	n/a	1.015
3991	7.60	3999	19.00	n/a	18.11	n/a	1.049

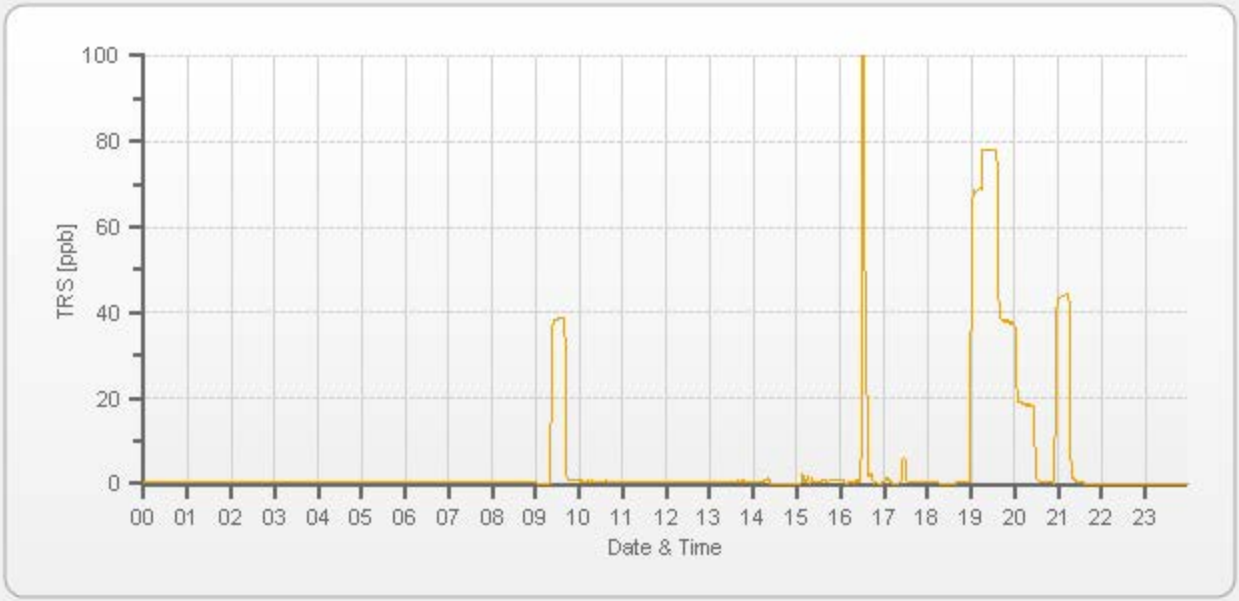
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	-0.5%

COMMENTS:

Swapped CD NOVA CDN-101 TRS Converter (#516->#552). Post Repair calibration - no issues.

TRS[ppb] Station: PRAMP RENO Daily: 03-12-2020 Type: AVG 1 Min. [1 Min.]



TRS Analyzer Calibration by Dilution

DATE:	14-Dec-2020	PREVIOUS CALIBRATION DATE:	03-Dec-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	21.6
LOCATION:	Reno	BAROMETRIC (mBar):	938
PURPOSE	As-Found	START TIME (MST):	18:00
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	19:59

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460022	FLOW (mL/min)	420
INITIAL		FINAL	
BKG/OFFSET	3.56	BKG/OFFSET	n/a
COEF/SLOPE	1.269	COEF/SLOPE	n/a
Expected (reference) Value	44.26	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	5004
MFC CALIBRATION DATE:	23-Nov-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0000695	HIGH ID	148944
CONC (ppm):	10.00	EXPIRY DATE	16-Nov-2021
CYLINDER (psi):	600	LOW ID	152019
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	16-Nov-2021

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:	18:39	SO2 Conc (ppb)	380
END TIME:	18:57	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
3999		3999	0.00	-0.36	n/a		
3969	31.20	4000	78.00	74.68	n/a	1.039	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

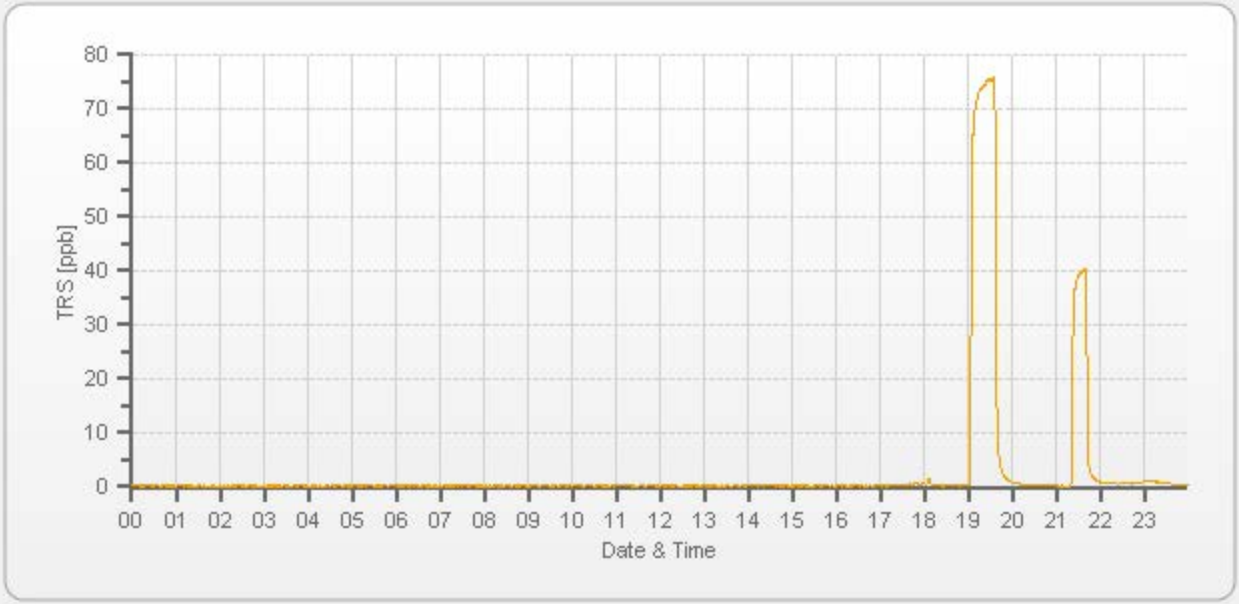
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	n/a	n/a	**n/a**

COMMENTS:

As found - no issues.

TRS[ppb] Station: PRAMP RENO Daily: 14-12-2020 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	01-Dec-2020	PREVIOUS CALIBRATION DATE:	03-Nov-2020
CLIENT:	PRAMP	TEMPERATURE (°C):	21.7
LOCATION:	Reno	BAROMETRIC (mBar):	943
PURPOSE	Routine	START TIME (MST):	08:56
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	13:10

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	150564392	1041.7
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.002	0.998	1.001

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL84567		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	591.0	200.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	81	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	08-Jun-2020	OXIDIZER ID:	Internal	EXPIRY DATE	17-Jul-2027		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	550.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1141.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.12	11.40	21.52		10.29	11.08	21.37

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
3197		3197	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3122	78.50	3200	14.50	13.49	27.99	14.60	14.04	28.64	14.48	13.50	27.98	0.993	0.961	0.977	1.001	0.999	1.000
3159	39.30	3198	7.26	6.76	14.02	n/a	n/a	n/a	7.29	6.80	14.09	n/a	n/a	n/a	0.996	0.994	0.995
3180	19.60	3200	3.62	3.37	6.99	n/a	n/a	n/a	3.65	3.45	7.09	n/a	n/a	n/a	0.992	0.976	0.986

LINEAR REGRESSION ANALYSIS:

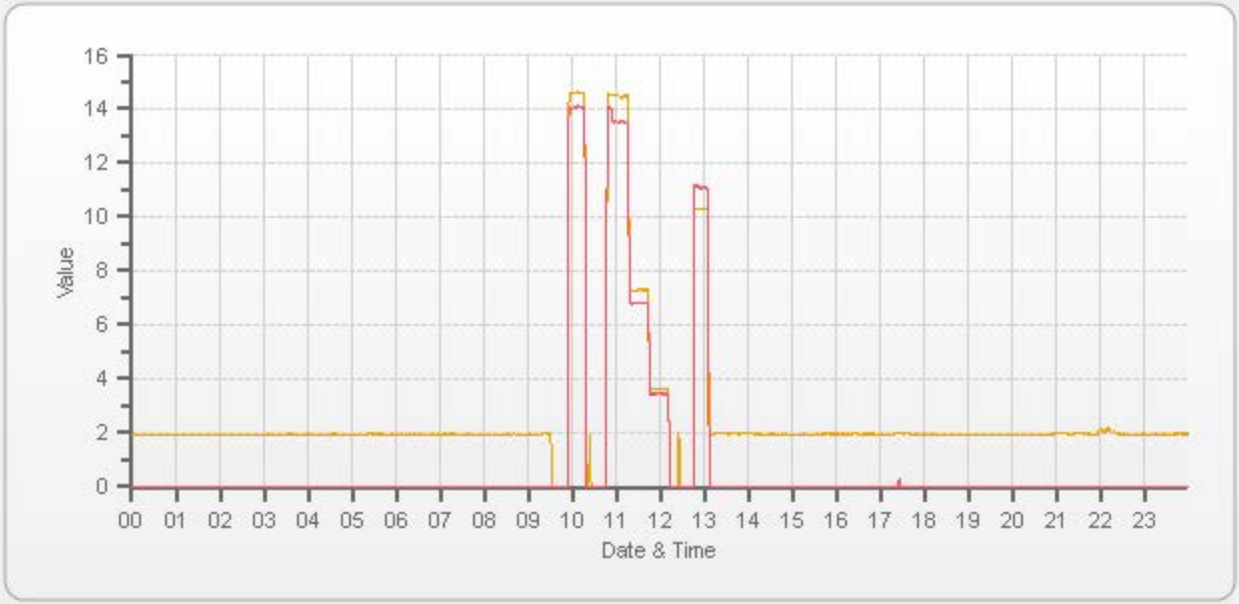
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.998	0.1%
NMHC	1.000	0.999	0.2%
THC	1.000	0.999	0.1%

Comments:

Sample filter changed. Monthly calibration - no issues.

Use Zero Chrom? **No**

Station: PRAMP RENO Daily: 01-12-2020 Type: AVG 1 Min. [1 Min.]



Meteorological System Checklist

Date:	December 1, 2020		
Technician:	Ferdinand Roy		
Station:	PRAMP Reno		
Unit:	**Make:**	**Model:**	**Serial #:**
Precipitation Sampler:	RM Young	5202	TB 1588
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	R12877
Relative Humidity Sensor:	RM Young	43172VC	60837897
Anemometer:	RM Young	05305VK	149769
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	October 21, 2020		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	FS 160348895 expires September 4, 2022		
Reference Temperature (^{o}C):	-6.0		
Station - Ambient Temperature (^{o}C):	-5.2		
Temperature Difference (^{o}C):	-0.8		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	October 21, 2020		
Reference Barometer ID:	F.S. 10528 expires February 26, 2021		
Reference Pressure - Units/Reading:	millibar	944	
Station Pressure - Units/Reading:	millibar	944.5	
Pressure Tolerance +/- 15% of error:	802 - 1086	-0.05%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	October 21, 2020		
Reference Hygrometer ID:	FS 160348895 expires September 4, 2022		
Reference Hygrometer % RH- Reading:	68.00		
Station Hygrometer % RH- Reading:	58.30		
RH Tolerance +/- 15% of difference:	57.80 - 78.20	14.3%	

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	October 21, 2020	Previous check date:	October 21, 2020
Wind Speed Observed (kph):	2~10	Wind Direction Observed:	S
Wind speed on Data Logger (kph):	6.8	Wind Direction on Data Logger:	S
		Wind Direction Pass/Fail?:	Pass

Comments

No issues

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	Reno	**Reviewed By:**	Ferdinand Roy
Audit Date:	June 17, 2020	**Start/End Time (mst):**	16:12 / 17:13
Calibration Purpose:	routine annual	**Weather Conditions:**	Light rain/scattered showers

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 #:	149769	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	April 24, 2019	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires November 20, 2020

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.8	36.8	1.002
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.2	92.2	0.999
6000	110.6	110.6	110.6	1.000
7000	129.0	129.2	129.2	0.999
8000	147.4	147.8	147.8	0.998
9000	165.9	166.2	166.2	0.998
10000	184.3	184.8	185.0	0.997
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.000**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	354	0.0	1.0	0.5
30	330	31	328	-1.0	2.0	1.5
60	300	61	298	-1.0	2.0	1.5
90	270	91	269	-1.0	1.0	1.0
120	240	121	239	-1.0	1.0	1.0
150	210	151	209	-1.0	1.0	1.0
180	180	180	180	0.0	0.0	0.0
210	150	210	150	0.0	0.0	0.0
240	120	240	121	0.0	-1.0	0.5
270	90	269	90	1.0	0.0	0.5
300	60	299	61	1.0	-1.0	1.0
330	30	328	30	2.0	0.0	1.0
355	0	354	0	1.0	0.0	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.8**

Comments:

Bearings replaced. Declination = 15deg East

Peace River Area Monitoring Program

DECEMBER 2020

Ambient Air Monitoring Calibration Report

- AQHI - CADOTTE LAKE STATION-

CAL-PRAMP-202012-01651

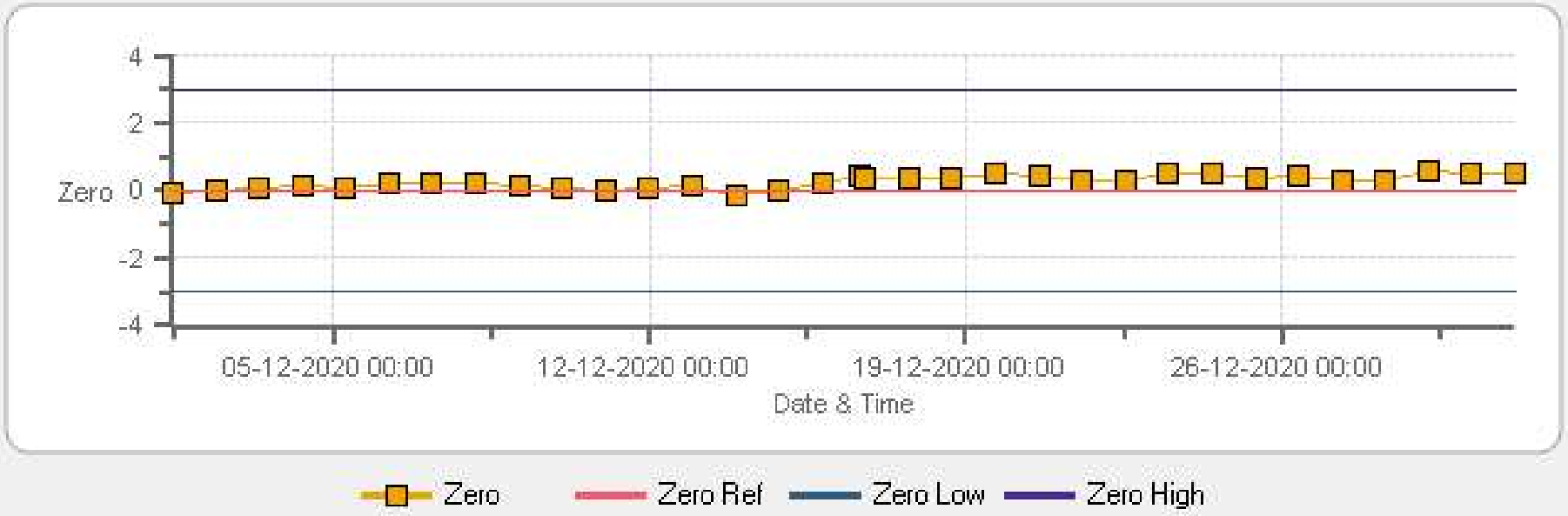
Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Bureau Veritas Canada

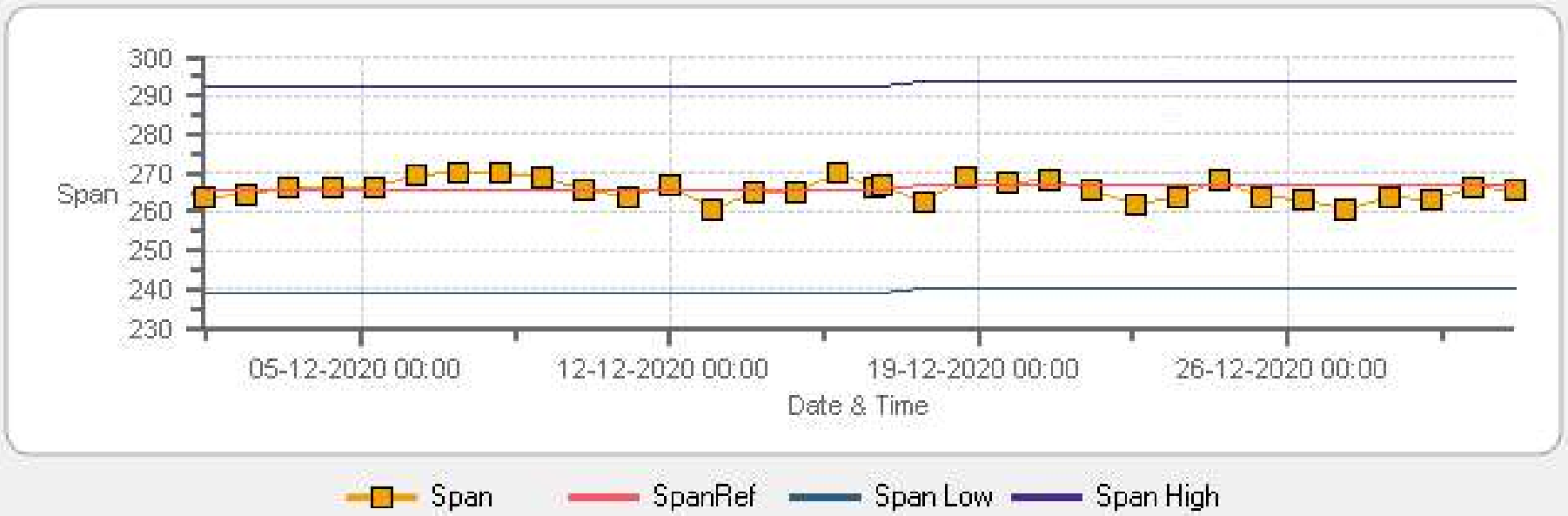
January 13, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

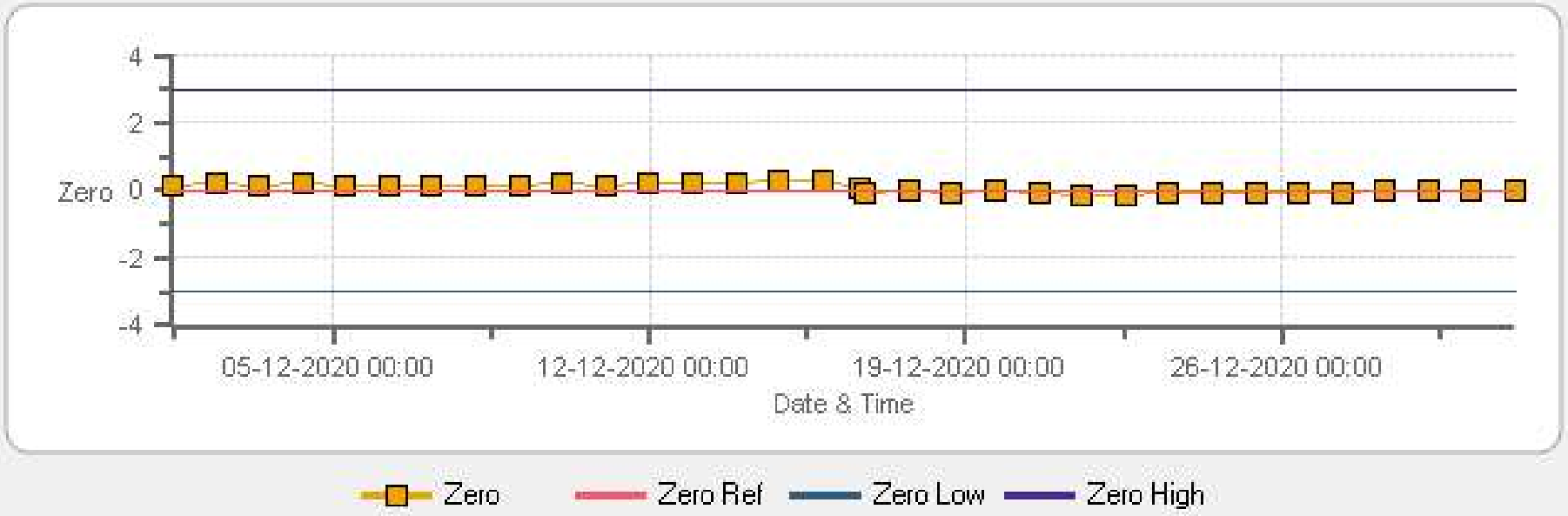
SO2[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



SO2[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span



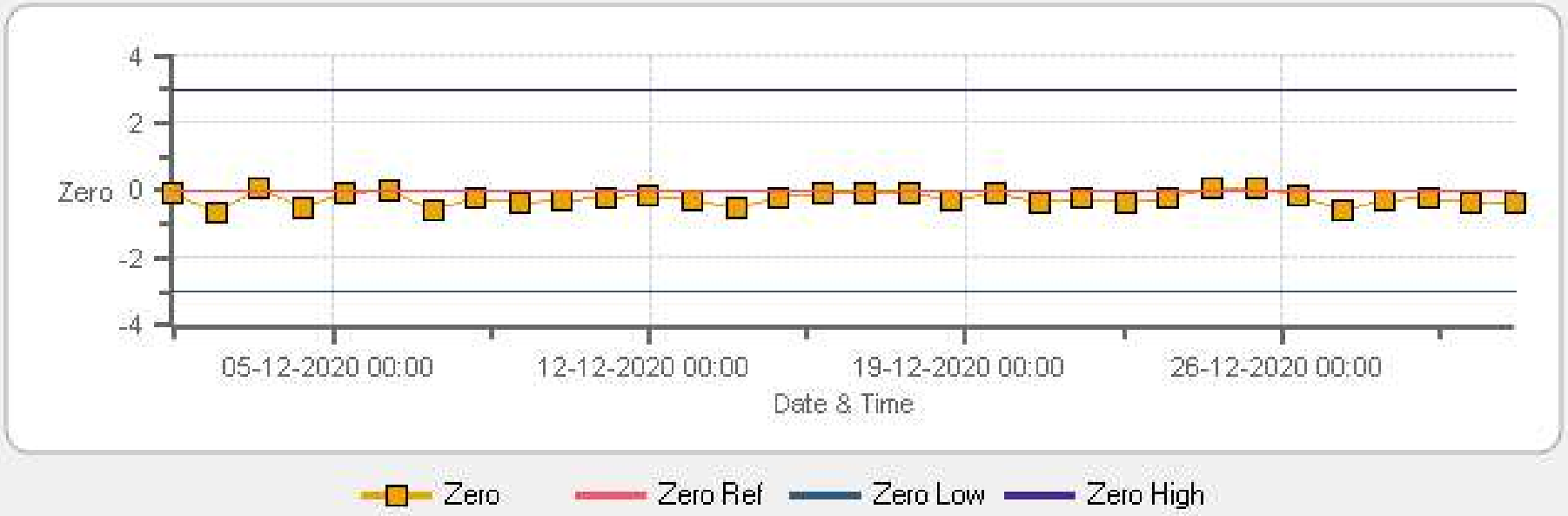
TRS[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



TRS[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span



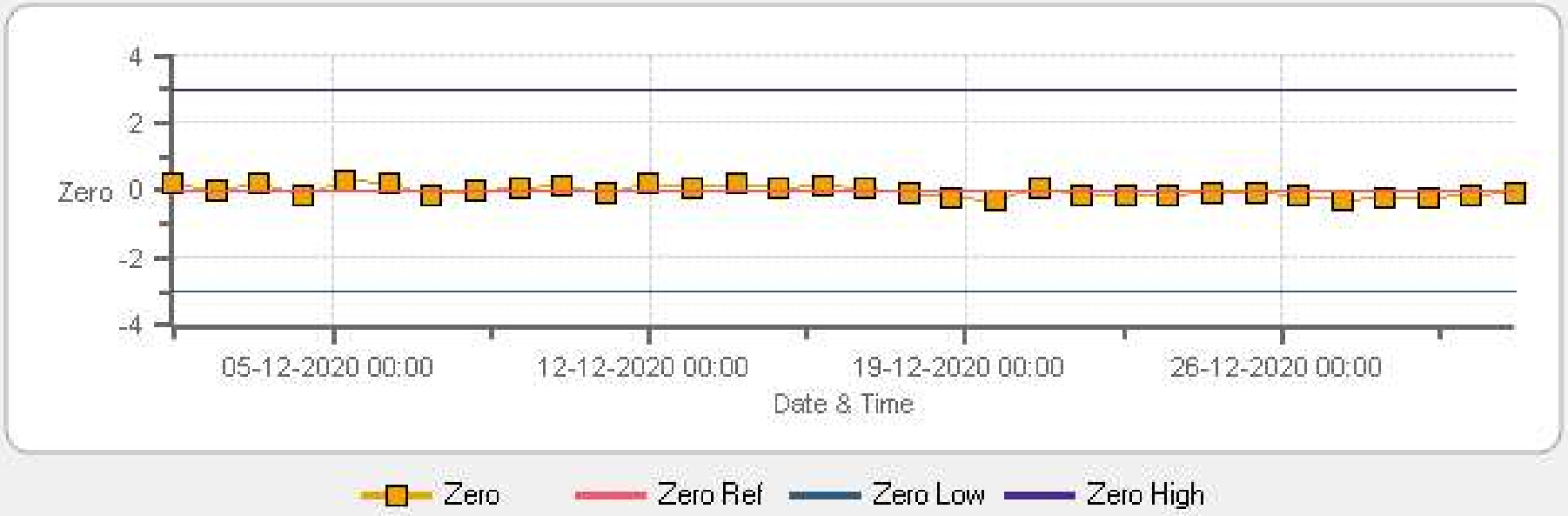
NOX[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



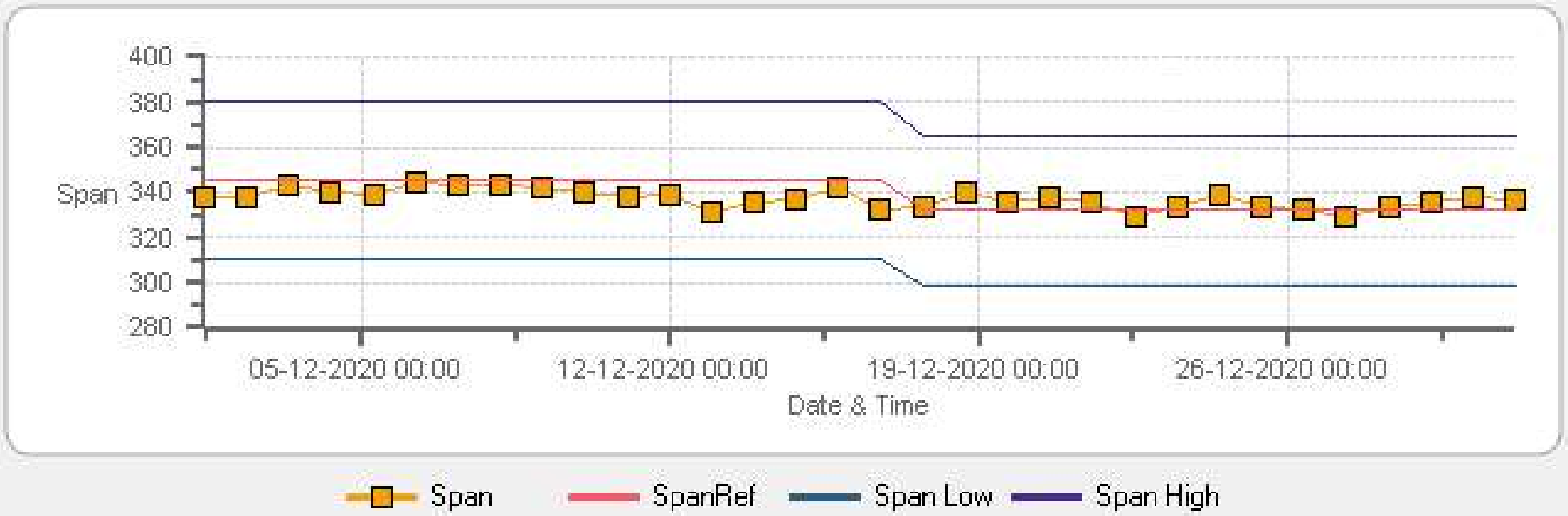
NOX[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span

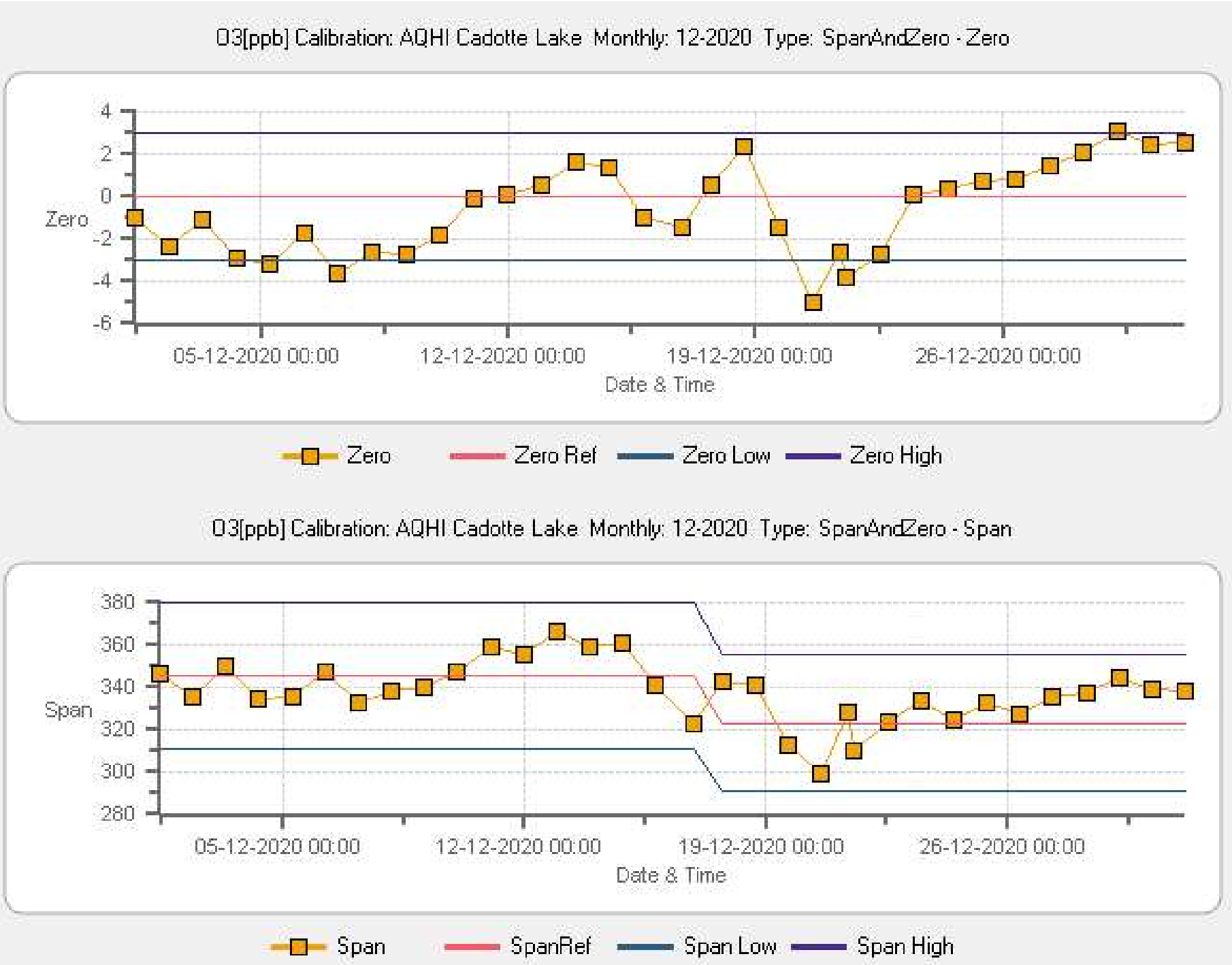


NO2[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero

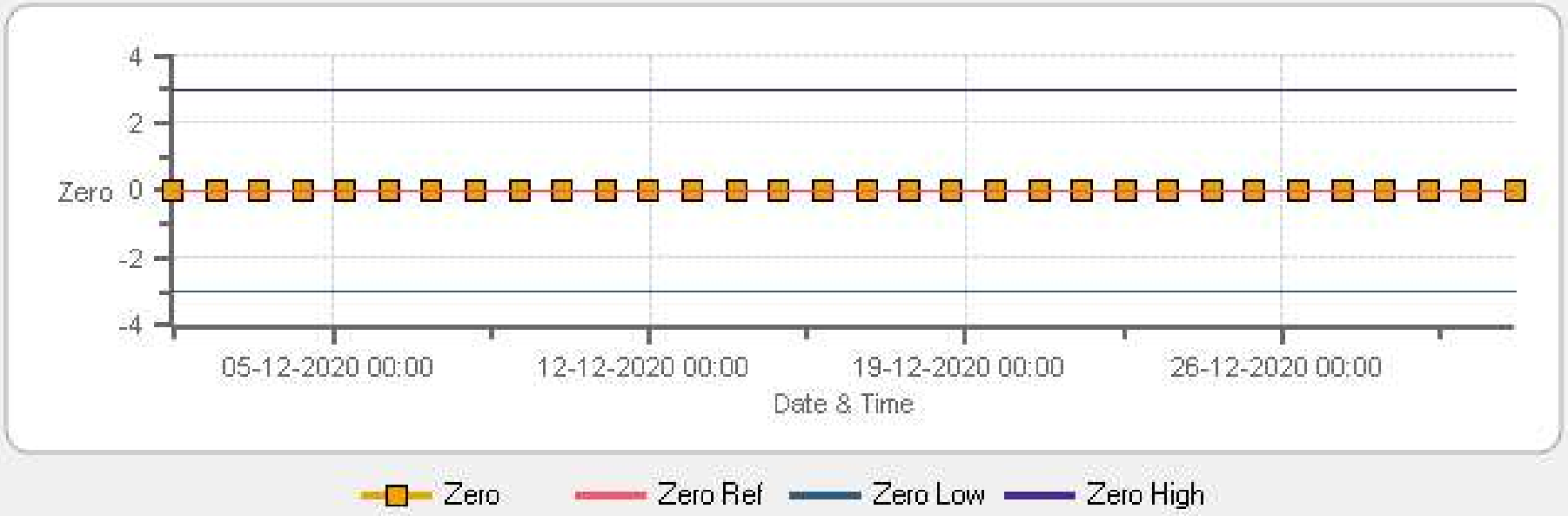


NO2[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span

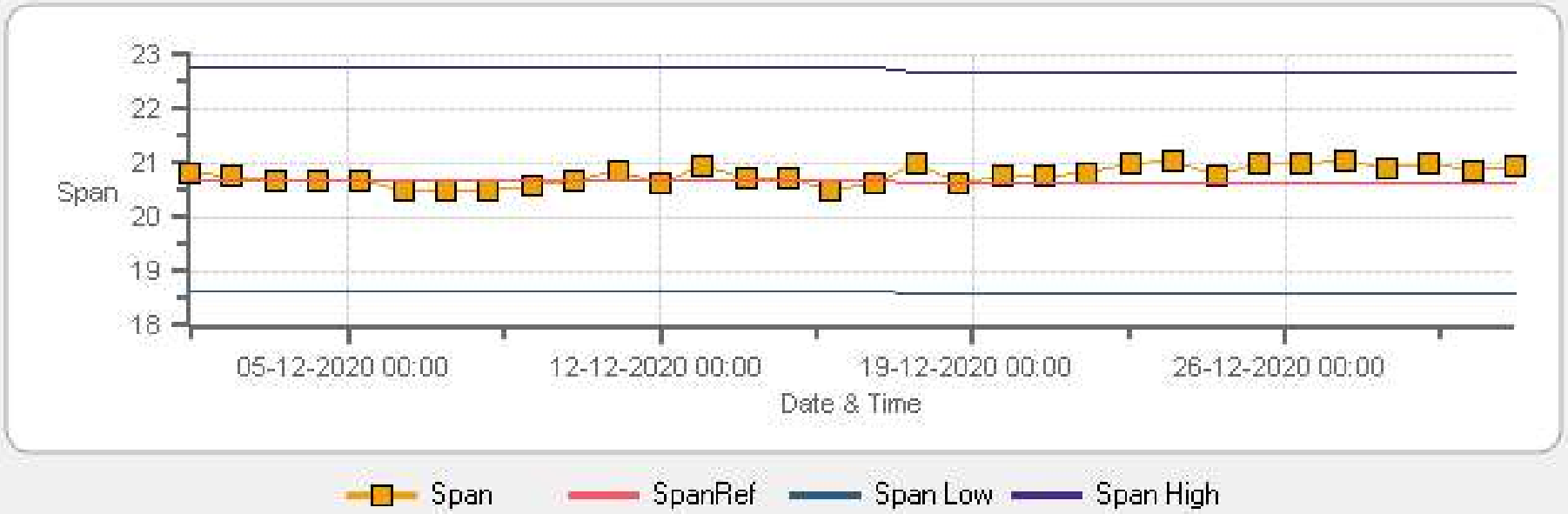



O3[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero
Zero
4
2
0
-2
-4
-6
05-12-2020 00:00
12-12-2020 00:00
19-12-2020 00:00
26-12-2020 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
O3[ppb] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span
Span
380
360
340
320
300
280
05-12-2020 00:00
12-12-2020 00:00
19-12-2020 00:00
26-12-2020 00:00
Date & Time
Span
SpanRef
Span Low
Span High

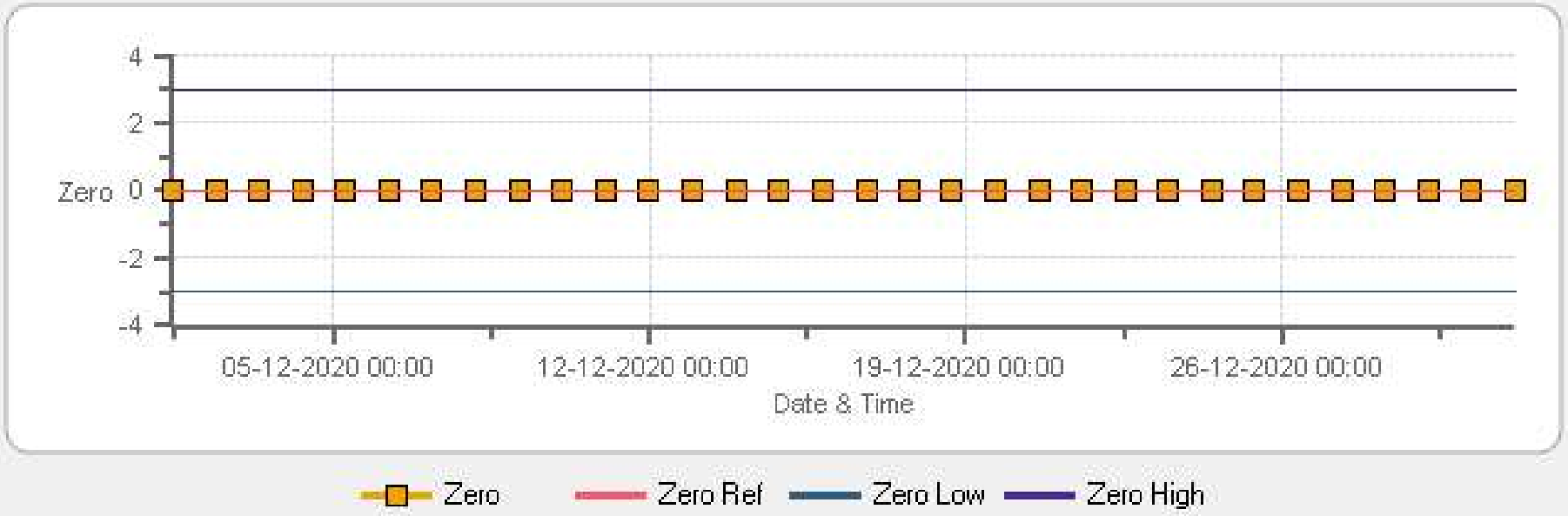
THC55[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



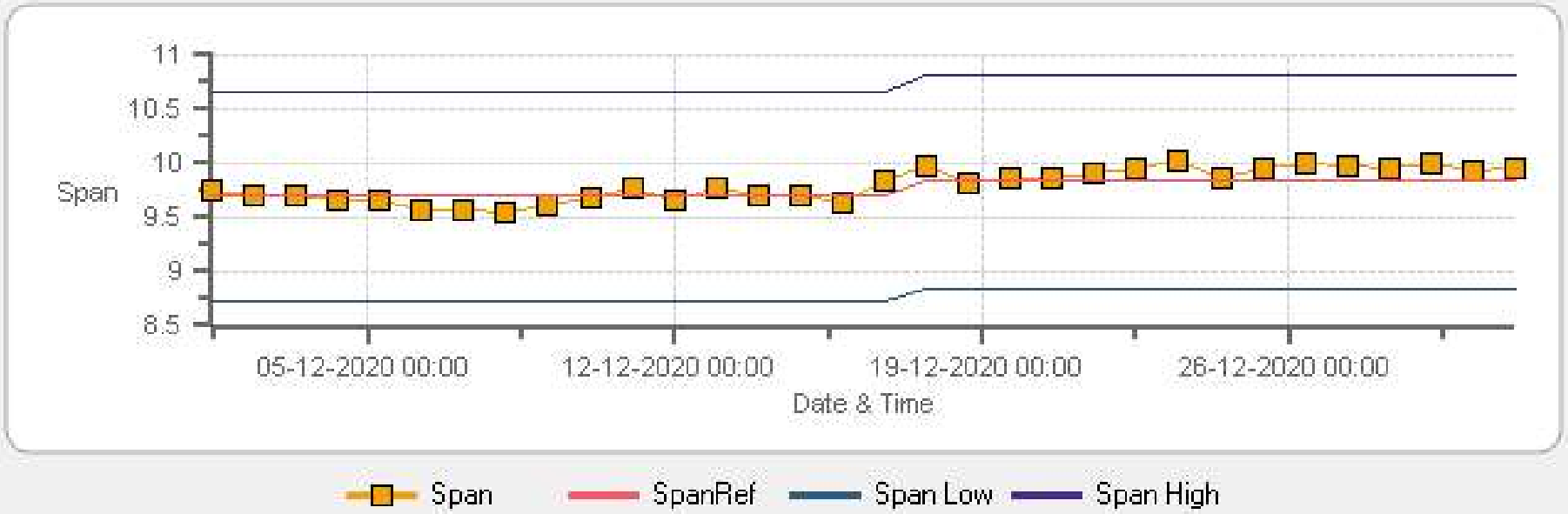
THC55[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span



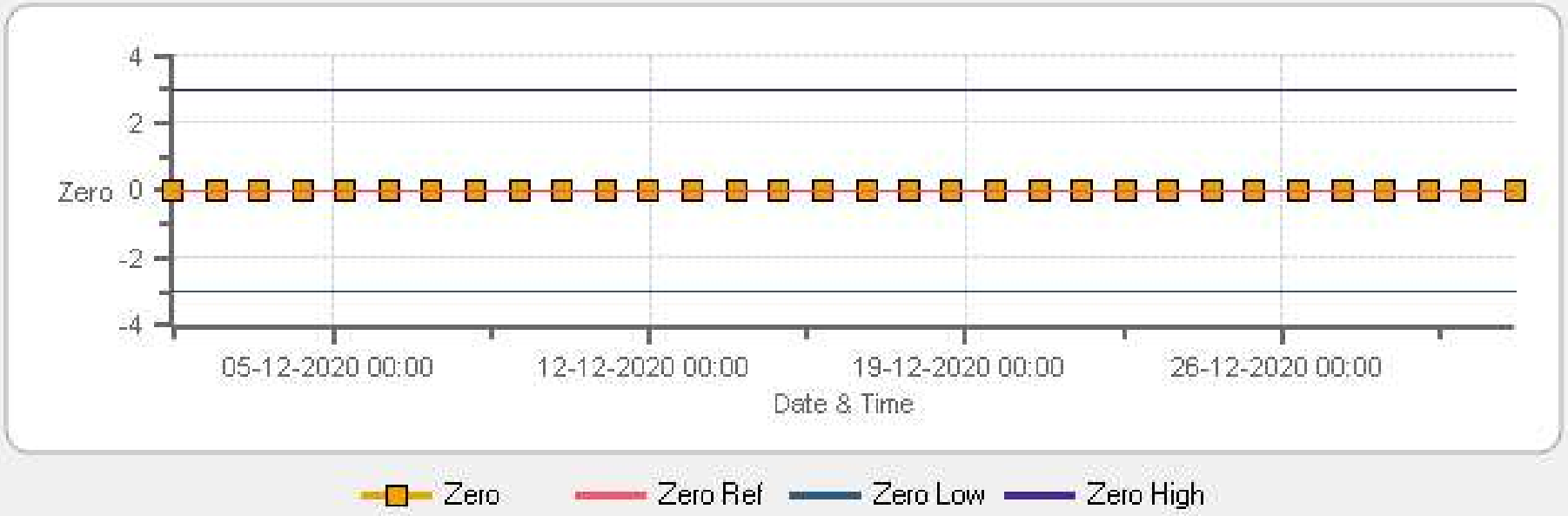
CH4[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



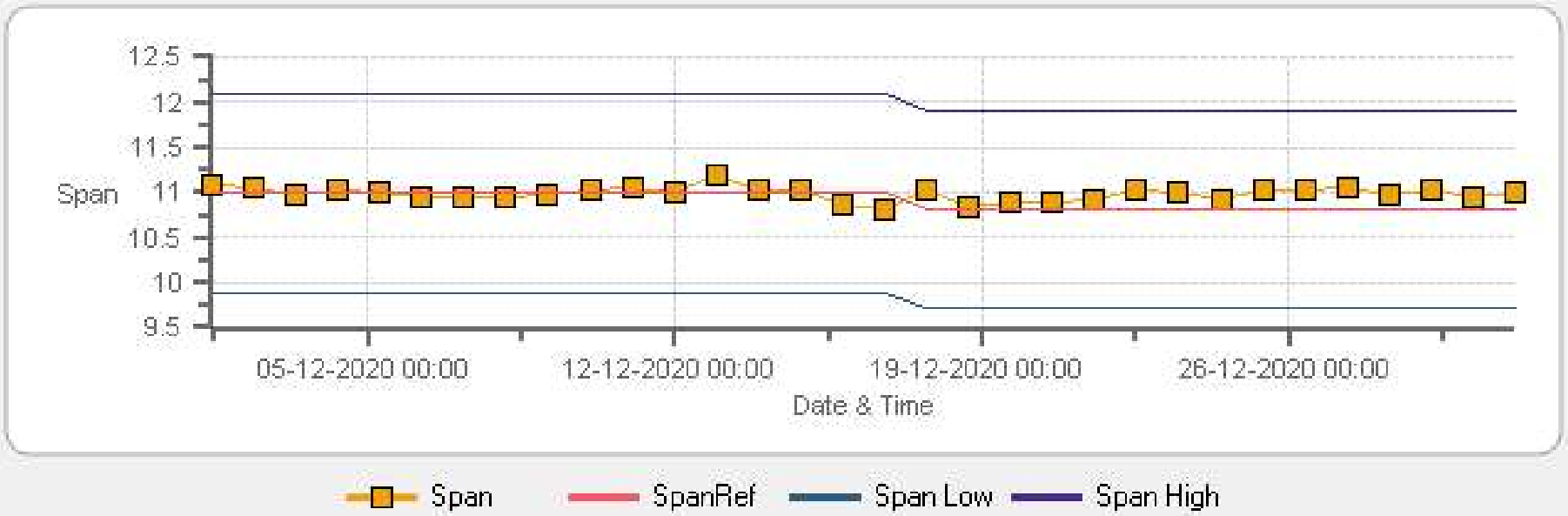
CH4[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span



NMHC[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: AQHI Cadotte Lake Monthly: 12-2020 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	16-Dec-2020	PREVIOUS CALIBRATION DATE:	04-Nov-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	935
PURPOSE	Routine	START TIME (MST):	09:50
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	15:07

ANALYZER:

MAKE/MODEL	Teledyne T100	RANGE	500 ppb
SERIAL #	722	FLOW (mL/min)	530
INITIAL		FINAL	
BKG/OFFSET	19.2	BKG/OFFSET	18.7
COEF/SLOPE	0.942	COEF/SLOPE	0.931
Expected (reference) Value	265.7	Expected (reference) Value	266

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	17100415	ID:	5004
MFC CALIBRATION DATE:	n/a	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002493	HIGH ID	148944
CONC (ppm):	49.40	EXPIRY DATE	16-Nov-2021
CYLINDER (psi):	2000	LOW ID	152019
EXPIRY DATE	13-Nov-2028	EXPIRY DATE	16-Nov-2021

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:

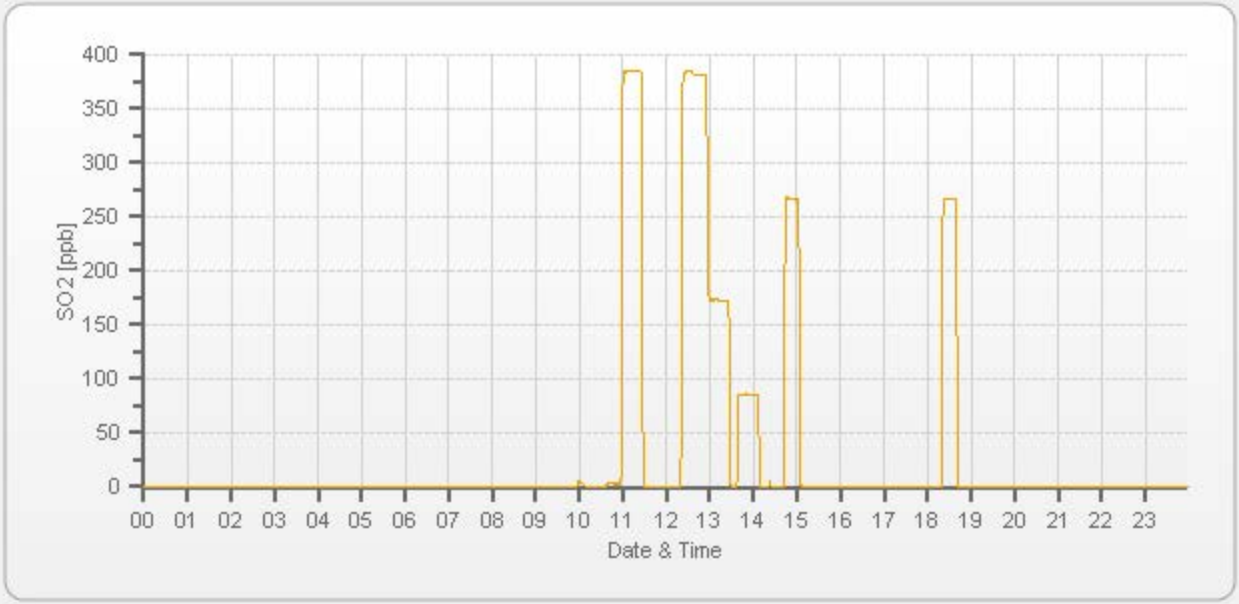
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5043		5043	0.00	-0.3	0		
4986	38.86	5025	381.98	385.8	382	0.989	1.000
5020	17.64	5037	173.03	n/a	173.6	n/a	0.997
5020	8.86	5028	87.06	n/a	86.2	n/a	1.010

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.0%

COMMENTS:

Sample filter changed. Monthly calibration - no issues


SO2[ppb] Station: AQHI Cadotte Lake Daily: 16-12-2020 Type: AVG 1 Min. [1 Min.]
SO2 [ppb]
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2 [ppb]

TRS Analyzer Calibration by Dilution

DATE:	16-Dec-2020	PREVIOUS CALIBRATION DATE:	05-Nov-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	935
PURPOSE	Routine	START TIME (MST):	09:50
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	15:28

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1152940011	FLOW (mL/min)	468
INITIAL		FINAL	
BKG/OFFSET	1.9	BKG/OFFSET	2.25
COEF/SLOPE	1.063	COEF/SLOPE	1.087
Expected (reference) Value	70.56	Expected (reference) Value	67.74

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	5004
MFC CALIBRATION DATE:	23-Nov-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0000695	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	610	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	10:27	SO2 Conc (ppb)	380
END TIME:	10:45	Analyzer Response (ppb)	0.0

CALIBRATION:

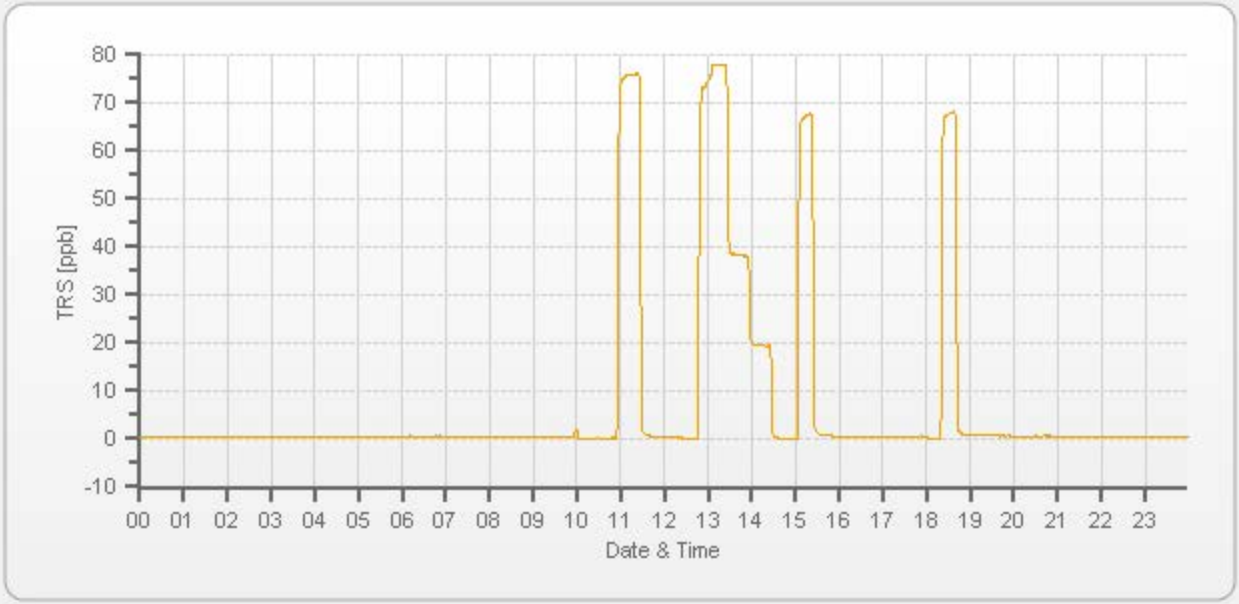
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
3999		3999	0.00	0.24	0		
3969	31.20	4000	78.00	76.15	78	1.028	1.000
3985	15.20	4000	38.00	n/a	38.17	n/a	0.996
3992	7.60	4000	19.00	n/a	19.44	n/a	0.977

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.2%

COMMENTS:

Sample filter changed. Monthly calibration - no issues.


TRS[ppb] Station: AQHI Cadotte Lake Daily: 16-12-2020 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:	16-Dec-2020	PREVIOUS CALIBRATION DATE:	04-Nov-2020	MAKE/MODEL:	Teledyne T200	PREVIOUS CF.	
CLIENT:	PRAMP	TEMPERATURE (°C):	22.5	SERIAL #:	837	NOx	1.000
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	935	FLOW (mL/min)	440	NO	0.999
PURPOSE	Routine	START TIME (MST):	09:51	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	18:24	GPT FOR O3?		Yes	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	EY0002493		HIGH ID:	148944
MODEL:	2010	MODEL:	M701	NO/NOx (PPM):	50.9	51.1	HIGH EXPIRY:	16-Nov-2021
ID:	17100415	ID:	5004	CYLINDER (psi):	2000		LOW ID:	152019
MFC CALIBRATION DATE:	n/a	OXIDIZER ID:	n/a	EXPIRY DATE	13-Nov-2028		LOW EXPIRY:	16-Nov-2021

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	0.6	0.6	n/a	BKG/OFFSET:	0.7	0.1	n/a
SLOPE/COEF/CE:	1.106	1.095	1	SLOPE/COEF/CE:	1.087	1.081	1

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	348.1	2.7	345.5		334.9	2.7	332.2

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
5043		5043	0.0	0.0	0.0	-0.7	-0.2	0.5	0.0	0.0	0.0						
4986	38.86	5025	393.6	395.1	1.5	397.8	401.1	3.4	393.7	395.2	1.5	0.988	0.985		1.000	1.000	
5020	17.64	5037	178.3	179.0	0.7	n/a	n/a	n/a	178.5	179.7	1.2	n/a	n/a		0.999	0.996	
5020	8.86	5028	89.7	90.1	0.4	n/a	n/a	n/a	89.5	90.5	1.0	n/a	n/a		1.002	0.995	

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	38.86	5025	0	392.4	394.5	2.1				
AS-FOUND HIGH	38.86	5025	260	124.9	394.0	269.1	267.5	267	1.002	99.81%
ADJUSTED HIGH	38.86	5025	260	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	38.86	5025	149	238.7	393.0	154.3	153.7	152.2	1.010	99.02%
LOW	38.86	5025	50	340.9	395.0	54.1	51.5	52	0.990	100.97%
NO2 adjustment not required.									AVERAGE:	99.94%

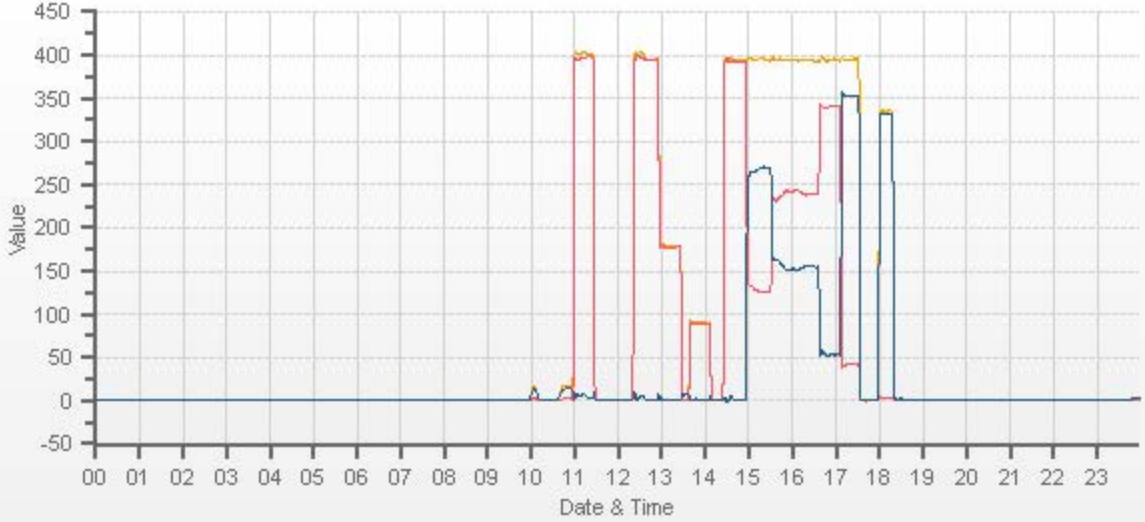
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.001	-0.01%
NOx	1.000	1.000	0.06%
NO2	1.000	0.996	0.04%

COMMENTS:

Sample filter changed. Monthly calibration - no issues. Extra O3 SETPOINT = 340; NO DROP/O3 = 353

Station: AQHI Cadotte Lake Daily: 16-12-2020 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Direct GPT

DATE:	16-Dec-2020	PREVIOUS CALIBRATION DATE:	05-Nov-2020
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.2
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	17:39
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	21:59

ANALYZER:

MAKE/MODEL	Teledyne T400	RANGE	500 ppb
SERIAL #	824	FLOW (mL/min)	750
INITIAL		FINAL	
BKG/OFFSET	0.2	BKG/OFFSET	-0.9
COEF/SLOPE	1.095	COEF/SLOPE	1.04
Expected (reference) Value	345.4	Expected (reference) Value	323.1

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	17100415	ID:	5004
MFC CALIBRATION DATE:	**n/a**	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Direct GPT	
GPT DATE:	16-Dec-2020	GPT END TIME:	17:32

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		
5025		5025	0.0	-1.1	0.0		
5025		5025	353.0	373.0	353.0	0.944	1.000
5025		5025	153.7	n/a	156.4	n/a	0.983
5025		5025	51.5	n/a	53.1	n/a	0.970

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.3%

COMMENTS:

Sample filter changed. As found zero interrupted by daily Z/S at 18:00. Redo as found zero.
Operator error - started As found high with calibrator source valve for NOx open. Restarted As found high at 18:39.


O3[ppb] Station: AQHI Cadotte Lake Daily: 16-12-2020 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
O3 [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
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	16-Dec-2020	PREVIOUS CALIBRATION DATE:	04-Nov-2020
CLIENT:	PRAMP	TEMPERATURE (°C):	23.6
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	934
PURPOSE	Routine	START TIME (MST):	14:49
PERFORMED BY:	Ferdinand Roy	END TIME (MST):	19:41

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1191032505	1224.8
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	0.999	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL84567		HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH_4/C_3H_8 (ppm):	591.0	200.0	HIGH EXPIRY:	n/a
ID:	58100720	ID:	5004	CYLINDER (psi):	1300		LOW ID:	n/a
MFC CALIBRATION DATE:	23-Nov-2020	OXIDIZER ID:	Internal	EXPIRY DATE	17-Jul-2027		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	550.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1141.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.70	10.99	20.70		9.83	10.81	20.64

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
3103		3103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3026	76.10	3102	14.50	13.49	27.99	14.18	13.58	27.76	14.56	13.47	28.03	1.022	0.994	1.008	0.996	1.002	0.999
3066	38.00	3104	7.24	6.73	13.97	n/a	n/a	n/a	7.41	6.69	14.10	n/a	n/a	n/a	0.976	1.006	0.991
3083	19.00	3102	3.62	3.37	6.99	n/a	n/a	n/a	3.78	3.29	7.07	n/a	n/a	n/a	0.958	1.024	0.989

LINEAR REGRESSION ANALYSIS:

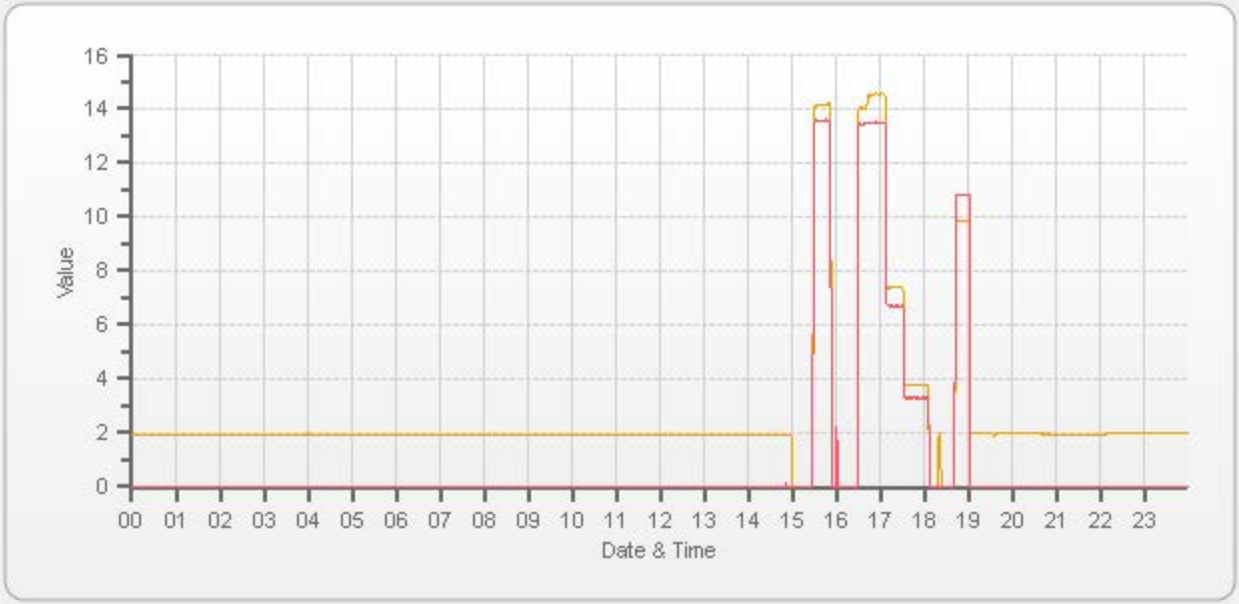
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.002	0.4%
NMHC	1.000	1.000	-0.2%
THC	1.000	1.001	0.1%

Comments:

Sample filter changed. Monthly calibration - no issues. Analyzer channel remained Offscan after internal Zero/Span due to HG-300 Dessicant Cartridge replacement (19:10 -19:40).

Use Zero Chrom? **Yes**

Station: AQHI Cadotte Lake Daily: 16-12-2020 Type: AVG 1 Min. [1 Min.]



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	December 16, 2020	November 4, 2020	**Weather Conditions:**	Mainly cloudy with light snow	
Company:	PRAMP		**Start Time (mst):**	15:45	
Station:	Cadotte Lake		**End Time (mst):**	16:39	
Parameter:	PM 2.5		**Performed By/Reviewer:**	Ferdiannd Roy	Chris Wesson
Instrument Data:					
Make/Model:	Teledyne T640		**Serial Number:**	318	
Owner:	PRAMP		**Alarms (detail in comments):**	No	
Reference Standards/I.D./Expiry Date:					
Flow Standard:	Maxxam ID #3 expires June 11, 2021		**Temperature:**	F.S. 160348895 expires Sep 4, 2022	
Digital Manometer:	Dwyer 475 Mark III id# 2 expires Feb 11, 2021		**Pressure:**	F.S. 10528 expires Feb 26, 2021	

DIAGNOSTICS:

Ambient Pressure (mmHg)	702.5	Ambient Temp (°C)	-15.5	ASC Heater Duty (%)	0.0
Box Temp (°C)	26.2	Current PMT HV (V)	1541	LED Temp (°C)	34.37
P3 Value	45	PMT Setting (V)	1547	Pump PWM (%)	44
Sample Flow (L/min)	5.00	Sample RH (%RH)	4.9	Sample Temp (°C)	23.8

Item:	**As-found**		**As-left**		**Tolerance**
	Reference	**T640x**	**Reference**	**T640x**	
Zero Test (Leak Check)	PM10	0.0	PM10	0.0	0.0 to 0.2
	PM2.5	0.0	PM2.5	0.0	
Ambient Pressure (mmHg)	700.6	702.5	699.807	701.9	+/- 10 mm Hg
Ambient Temperature (°C)	-17.06	-15.6	n/a		+/- 2°C
Sample Flow (L/min)	5.07	4.94	4.96	4.94	+/-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.

Meteorological System Checklist

Date:	December 16, 2020		
Technician:	Ferdinand Roy		
Station:	PRAMP Cadotte Lake		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Vaisala	HMP155	N2910506
Relative Humidity Sensor:	Vaisala	HMP155	N2910506
Anemometer:	RM Young	05305AQ	174801
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	November 5, 2020		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	F.S. 160348895 expires Sep 4, 2022		
Reference Temperature (°C):	-16.5		
Station - Ambient Temperature (°C):	-16.5		
Temperature Difference (°C):	0.0		
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	November 5, 2020		
Reference Hygrometer ID:	F.S. 160348895 expires Sep 4, 2022		
Reference Hygrometer % RH- Reading:	82.64		
Station Hygrometer % RH- Reading:	84.00		
RH Tolerance +/- 15% of difference:	70.24 - 95.04	-1.6%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	November 5, 2020	Previous check date:	November 5, 2020
Wind Speed Observed (kph):	5~10	Wind Direction Observed:	NE
Wind speed on Data Logger (kph):	7.2	Wind Direction on Data Logger:	NE
		Wind Direction Pass/Fail?:	Pass

Comments

No issues. Temp/RH @12:28; WS/Wd @ 13:13

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	Cadotte Lake	**Reviewed By:**	Ferdinand Roy
Audit Date:	June 18, 2020	**Start/End Time (mst):**	14:28 / 15:15
Calibration Purpose:	installation	**Weather Conditions:**	Mix of sun and 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 #:	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 18802 id# CA03309 expires November 20, 2020

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
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	0.1	2.0	1.1
30	330	28	329	2.0	1.0	1.5
60	300	58	299	2.0	1.0	1.5
90	270	88	268	2.0	2.0	2.0
120	240	119	239	1.0	1.0	1.0
150	210	149	209	1.0	1.0	1.0
180	180	179	179	1.0	1.0	1.0
210	150	209	149	1.0	1.0	1.0
240	120	239	119	1.0	1.0	1.0
270	90	270	89	0.0	1.0	0.5
300	60	299	58	1.0	2.0	1.5
330	30	329	29	1.0	1.0	1.0
355	0	354	1	1.0	0.6	0.8
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.1**

Comments:

Declination = 15deg East

Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	**Performed By:**	Chris Wesson
Audit Location:	Cadotte Lake	**Reviewed By:**	Ferdinand Roy
Audit Date:	December 30, 2020	**Start/End Time (mst):**	19:09
Calibration Purpose:	as found	**Weather Conditions:**	Mainly clear

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 #:	174801	**Direction Voltage Output Range:**	n/a
Previous Cal/Audit Date:	December 16, 2020	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young #R9133 Exp: Aug 06, 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	-
200	3.7	3.5	3.5	1.053
400	7.4	7.2	7.2	1.024
600	11.1	10.9	10.9	1.014
800	14.7	14.6	14.6	1.010
1000	18.4	18.3	18.3	1.007
1600	29.5	29.3	29.3	1.006
2200	40.5	40.4	40.4	1.004
2600	47.9	47.8	47.8	1.002
3200	59.0	58.8	58.8	1.003
4000	73.7	73.6	73.6	1.002
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.013**

On arrival, blade unbalanced due to ice and evidence of significant hoar-frost present. Very light winds during site visit (0-5kph). No other issues found. All connections tight and good continuity proven in all cables. Sensor cleaned of ice build up, dried, tested and remounted.

Peace River Area Monitoring Program

DECEMBER 2020

Ambient Air Monitoring

Certified Laboratory Analysis Report

LAB-PRAMP-202012

Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
Peace River Area Monitoring Program

December 20, 2020

InnoTech ALBERTA

Highway 16A & 75 Street
PO Bag 4000
Vegreville, AB, T9C 1T4
Environmental Analytical Services
Phone: (780) 632-8403 Fax: (780) 632-8620

EAS CANISTER

Sample ID: 20120065-001 **Priority:** Normal

Customer ID: PRAMP
Cust Samp ID: PRAMP_Reno-20201203

Date Received- Lab Use Only

RECEIVED
DEC 08 2020

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station □ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
□ 986 (Lat. 56.36988N, Long. 116.925636W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

Invoice Instructions:
Send to: officemanager@prampairshed.ca, karla@prampairshed.ca, pramptech@prampairshed.ca Attention: PRAMP Office Manager
Any correspondence related to canister analysis, send the information to karla@prampairshed.ca and pramptech@prampairshed.ca

InnoTech Contact: Graham Knox Phone: 780-6328403 Cell: 780-6321519
Email: Graham.Knox@innotechalberta.ca

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- _____ (Sample date: yyyymmdd) PRAMP_986- _____ (Sample date: yyyymmdd) PRAMP_Reno-20201203 (Sample date: yyyymmdd)	32201	□ Methane Trigger ☑ NMHC Trigger □ Methane Blank □ NMHC Blank □ Expired Canister – No further analysis is required.	03/12/20	16:00 ~~16:10~~	* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:

Collect By Ferdinand Roy **(Name) of** Bureau Veritas **(Company) on** 03DEC20/17:39 **(Date/Time (MST).**

InnoTech ALBERTA

Highway 16A & 75 Street
PO Bag 4000
Vegreville, AB, T9C 1T4
Environmental Analytical Services
Phone: (780) 632-8403 Fax: (780) 632-8620

Sample ID: 20120065-002 **Priority:** Normal

Customer ID: PRAMP
Cust Samp ID: PRAMP_Reno_Blank

Date Received-Lean Use Only

RECEIVED
DEC 08 2020

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station □ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
□ 986 (Lat. 56.36988N, Long. 116.925636W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

Invoice Instructions:
Send to: officemanager@prampairshed.ca, karla@prampairshed.ca, pramptech@prampairshed.ca Attention: PRAMP Office Manager
Any correspondence related to canister analysis, send the information to karla@prampairshed.ca and pramptech@prampairshed.ca

InnoTech Contact: Graham Knox Phone: 780-6328403 Cell: 780-6321519
Email: Graham.Knox@innotechalberta.ca

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- _____ (Sample date: yyyymmdd) PRAMP_986- _____ (Sample date: yyyymmdd) PRAMP_Reno- _____ (Sample date: yyyymmdd)	32266	□ Methane Trigger □ NMHC Trigger □ Methane Blank ☑ NMHC Blank □ Expired Canister – No further analysis is required.	n/a	n/a	* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:

Collect By Ferdinand Roy **(Name) of** Bureau Veritas **(Company) on** 03 DEC 20 / 17:39 **(Date/Time (MST).**

InnoTech ALBERTA

Canister ID: 3229

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: SEP 11 2020

Evacuated: SEP 14 2020 Recertified: SEP 22 2020

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID: PRAMP_Reno-20201203

Sampled By: Ferdinand Roy

Starting Vacuum: -27.0 "Hg

End Vacuum: -2.1 "Hg/psig KG -2

InnoTech ALBERTA

Canister ID: 32266

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: DO34 on: SEP 11 2020

Evacuated: SEP 14 2020 Recertified: SEP 22 2020

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID:

Sampled By: Blank

Starting Vacuum: -27 "Hg

End Vacuum: "Hg/psig

Sample ID: 20120065-001 **Priority:** Normal

Customer ID: PRAMP

Cust Samp ID: PRAMP_Reno-20201203

PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Office Manager
Peace River Area Monitoring Program Committee

INVOICE: Karla Reesor 403 807 2995

CLIENT SAMPLE ID: PRAMP_Reno_Blank

Matrix: Ambient Air

CANISTER ID: 32266

PRIORITY: Normal

DESCRIPTION: NMHC Blank

DATE SAMPLED: 03-Dec-20

DATE RECEIVED: 08-Dec-20

REPORT CREATED: 10-Dec-20

REPORT NUMBER: 20120065

VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	1-Butene	K, T, U	< 0.10	ppmv	0.10	NA-025	09-Dec-20
20120065-002	Acetylene	K, T, U	< 0.08	ppmv	0.08	NA-025	09-Dec-20
20120065-002	n-Butane	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-002	cis-2-Butene	K, T, U	< 0.04	ppmv	0.04	NA-025	09-Dec-20
20120065-002	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	Ethylacetylene	K, T, U	< 0.06	ppmv	0.06	NA-025	09-Dec-20
20120065-002	Ethylene	K, T, U	< 0.07	ppmv	0.07	NA-025	09-Dec-20
20120065-002	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	Methane	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	n-Propane	K, T, U	< 0.07	ppmv	0.07	NA-025	09-Dec-20
20120065-002	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	09-Dec-20
20120065-002	trans-2-Butene	K, T, U	< 0.09	ppmv	0.09	NA-025	09-Dec-20
20120065-002	2,5-Dimethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	2-Ethylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	2-Methylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	3-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: December 10, 2020

Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

InnoTech ALBERTA
PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno_Blank	32266	Ambient Air	03-Dec-20

DESCRIPTION: NMHC Blank

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Carbon disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	Carbonyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Dimethyl disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	Dimethyl sulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	Ethyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Ethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Hydrogen sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Isobutyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Isopropyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Methyl mercaptan	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	Pentyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	09-Dec-20
20120065-002	Propyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	09-Dec-20
20120065-002	tert-Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-002	Thiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	09-Dec-20
20120065-002	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,1,2-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,1-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,1-Dichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8	ppbv	0.8	AC-058	09-Dec-20
20120065-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-002	1,2-Dibromoethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,2-Dichlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: December 10, 2020 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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Canada T9C 1T4
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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno_Blank	32266	Ambient Air	03-Dec-20

DESCRIPTION: NMHC Blank

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,3-Butadiene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1,3-Dichlorobenzene	K, T, U	< 0.3	ppbv	0.3	AC-058	09-Dec-20
20120065-002	1,4-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	1,4-Dioxane	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	1-Butene/Isobutylene		0.43	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2,3-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	2,3-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	2-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	3-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	3-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Acetone	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Acrolein	K, T, U	< 0.3	ppbv	0.3	AC-058	09-Dec-20
20120065-002	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: December 10, 2020 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno_Blank	32266	Ambient Air	03-Dec-20

DESCRIPTION: NMHC Blank

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	Benzyl chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Bromodichloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Bromoform	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Chlorobenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Chloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Chloroform	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Chloromethane	I	0.08	ppbv	0.02	AC-058	09-Dec-20
20120065-002	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	cis-1,3-Dichloropropene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	cis-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	cis-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Cyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Ethanol	K, T, U	< 0.3	ppbv	0.3	AC-058	09-Dec-20
20120065-002	Ethyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Freon-11	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Freon-114	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Freon-12	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50	ppbv	0.50	AC-058	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno_Blank	32266	Ambient Air	03-Dec-20

DESCRIPTION: NMHC Blank

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	Isobutane		0.43	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Isopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-002	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Isopropyl alcohol	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	m,p-Xylene		0.29	ppbv	0.03	AC-058	09-Dec-20
20120065-002	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	m-Ethyltoluene	K, T, U	< 0.08	ppbv	0.08	AC-058	09-Dec-20
20120065-002	Methyl butyl ketone	K, T, U	< 0.50	ppbv	0.50	AC-058	09-Dec-20
20120065-002	Methyl ethyl ketone	K, T, U	< 0.3	ppbv	0.3	AC-058	09-Dec-20
20120065-002	Methyl isobutyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Methyl methacrylate	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Dec-20
20120065-002	Methyl tert butyl ether	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-002	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	Methylcyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Methylene chloride	K, T, U	< 0.3	ppbv	0.3	AC-058	09-Dec-20
20120065-002	n-Butane		0.18	ppbv	0.03	AC-058	09-Dec-20
20120065-002	n-Decane	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-002	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	n-Hexane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	n-Octane		0.11	ppbv	0.02	AC-058	09-Dec-20
20120065-002	n-Pentane	K, T, U	< 0.1	ppbv	0.1	AC-058	09-Dec-20
20120065-002	n-Propylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-002	n-Undecane	K, T, U	< 0.5	ppbv	0.5	AC-058	09-Dec-20

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno_Blank	32266	Ambient Air	03-Dec-20

DESCRIPTION: NMHC Blank

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-002	Naphthalene	K, T, U	< 0.5	ppbv	0.5	AC-058	09-Dec-20
20120065-002	n-Nonane	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Dec-20
20120065-002	Styrene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	Tetrachloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	Tetrahydrofuran	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Toluene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	09-Dec-20
20120065-002	trans-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-002	Trichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Dec-20
20120065-002	Vinyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	09-Dec-20
20120065-002	Vinyl chloride	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	1-Butene	K, T, U	< 0.16	ppmv	0.16	NA-025	09-Dec-20
20120065-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	09-Dec-20
20120065-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	09-Dec-20
20120065-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	09-Dec-20
20120065-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	09-Dec-20
20120065-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	09-Dec-20
20120065-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-001	Methane		2.5	ppmv	0.2	NA-025	09-Dec-20
20120065-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	09-Dec-20
20120065-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	09-Dec-20
20120065-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	09-Dec-20
20120065-001	2,5-Dimethylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	3-Methylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	Carbonyl sulphide		2.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	Ethyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Ethyl sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	Hydrogen sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Isobutyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Isopropyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	09-Dec-20
20120065-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	09-Dec-20
20120065-001	tert-Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	09-Dec-20
20120065-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	09-Dec-20
20120065-001	1,1,1-Trichloroethane	I	0.08	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,1-Dichloroethylene	I	0.09	ppbv	0.06	AC-058	09-Dec-20
20120065-001	1,2,3-Trimethylbenzene	I	0.20	ppbv	0.08	AC-058	09-Dec-20
20120065-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	09-Dec-20
20120065-001	1,2,4-Trimethylbenzene		0.31	ppbv	0.08	AC-058	09-Dec-20
20120065-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,2-Dichlorobenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-001	1,2-Dichloroethane	I	0.18	ppbv	0.02	AC-058	09-Dec-20
20120065-001	1,2-Dichloropropane	I	0.04	ppbv	0.02	AC-058	09-Dec-20
20120065-001	1,3,5-Trimethylbenzene		0.23	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,3-Butadiene	I	0.23	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	09-Dec-20
20120065-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	1-Butene/Isobutylene		2.14	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1-Hexene/2-Methyl-1-pentene	I	0.33	ppbv	0.03	AC-058	09-Dec-20
20120065-001	1-Pentene		0.78	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2,2,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2,2-Dimethylbutane		0.10	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2,3,4-Trimethylpentane		0.14	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2,3-Dimethylbutane		0.20	ppbv	0.03	AC-058	09-Dec-20
20120065-001	2,3-Dimethylpentane		0.07	ppbv	0.03	AC-058	09-Dec-20
20120065-001	2,4-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2-Methylhexane		0.14	ppbv	0.02	AC-058	09-Dec-20
20120065-001	2-Methylpentane		0.20	ppbv	0.02	AC-058	09-Dec-20
20120065-001	3-Methylheptane		0.10	ppbv	0.03	AC-058	09-Dec-20
20120065-001	3-Methylhexane		0.12	ppbv	0.03	AC-058	09-Dec-20
20120065-001	3-Methylpentane		0.16	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Acetone		15.1	ppbv	3.7	AC-058	09-Dec-20
20120065-001	Acrolein		1.3	ppbv	0.5	AC-058	09-Dec-20
20120065-001	Benzene		1.04	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Bromomethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Carbon disulfide	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Carbon tetrachloride	I	0.25	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Chlorobenzene	I	0.04	ppbv	0.03	AC-058	09-Dec-20

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	Chloroethane	I	0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Chloroform	I	0.09	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Chloromethane	I	0.32	ppbv	0.03	AC-058	09-Dec-20
20120065-001	cis-1,2-Dichloroethene	I	0.09	ppbv	0.02	AC-058	09-Dec-20
20120065-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-001	cis-2-Butene		0.10	ppbv	0.03	AC-058	09-Dec-20
20120065-001	cis-2-Pentene		0.12	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Cyclohexane		0.29	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Cyclopentane		0.83	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Dibromochloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Ethanol		133	ppbv	2.8	AC-058	09-Dec-20
20120065-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	Ethylbenzene		0.37	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Freon-11		0.57	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Freon-113	I	0.21	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Freon-114	I	0.08	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Freon-12	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Hexachloro-1,3-butadiene	K, T, U	< 0.78	ppbv	0.78	AC-058	09-Dec-20
20120065-001	Isobutane	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Isopentane		1.91	ppbv	0.05	AC-058	09-Dec-20
20120065-001	Isoprene		0.28	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Isopropyl alcohol		81.0	ppbv	3.7	AC-058	09-Dec-20
20120065-001	Isopropylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	m,p-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20

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TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	m-Ethyltoluene	I	0.17	ppbv	0.12	AC-058	09-Dec-20
20120065-001	Methyl butyl ketone	K, T, U	< 0.78	ppbv	0.78	AC-058	09-Dec-20
20120065-001	Methyl ethyl ketone		1.2	ppbv	0.5	AC-058	09-Dec-20
20120065-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	Methyl methacrylate	K, T, U	< 0.11	ppbv	0.11	AC-058	09-Dec-20
20120065-001	Methyl tert butyl ether	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Dec-20
20120065-001	Methylcyclohexane		0.15	ppbv	0.02	AC-058	09-Dec-20
20120065-001	Methylcyclopentane		0.14	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	09-Dec-20
20120065-001	n-Butane		1.71	ppbv	0.05	AC-058	09-Dec-20
20120065-001	n-Decane		0.15	ppbv	0.09	AC-058	09-Dec-20
20120065-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	n-Heptane		0.19	ppbv	0.02	AC-058	09-Dec-20
20120065-001	n-Hexane		0.19	ppbv	0.02	AC-058	09-Dec-20
20120065-001	n-Octane		0.18	ppbv	0.03	AC-058	09-Dec-20
20120065-001	n-Pentane		1.0	ppbv	0.2	AC-058	09-Dec-20
20120065-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	09-Dec-20
20120065-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	09-Dec-20
20120065-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	09-Dec-20
20120065-001	n-Nonane		0.15	ppbv	0.02	AC-058	09-Dec-20
20120065-001	o-Ethyltoluene	I	0.15	ppbv	0.02	AC-058	09-Dec-20
20120065-001	o-Xylene		0.33	ppbv	0.02	AC-058	09-Dec-20
20120065-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-001	p-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	09-Dec-20
20120065-001	Styrene	I	0.45	ppbv	0.06	AC-058	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: December 10, 2020 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20201203	32201	Ambient Air	03-Dec-20 16:00

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 20120065 **REPORT CREATED:** 10-Dec-20 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
20120065-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	Toluene		0.73	ppbv	0.02	AC-058	09-Dec-20
20120065-001	trans-1,2-Dichloroethylene		69.0	ppbv	0.09	AC-058	09-Dec-20
20120065-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-001	trans-2-Butene		0.02	ppbv	0.02	AC-058	09-Dec-20
20120065-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20
20120065-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	09-Dec-20
20120065-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	09-Dec-20
20120065-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	09-Dec-20

Report certified by: Rebecca Holgate, Account Coordinator On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: December 10, 2020 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
20120065	01	10-Dec-20	Report created

Methods

Method	Description
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
NA-024	Analysis for Reduced Sulfur Compounds in Air Samples
NA-025	Determination of Light Hydrocarbons (C1C4) in Ambient Air by Gas Chromatography Flame Ionization Detector

Qualifiers

Data Qualifier	Translation
B	Blank contamination; Analyte detected above the method reporting limit in an associated blank
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

Order Comments

Sample Comments

Result Comments

Note:

1. Results relate only to items tested and apply to the sample as received.

2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

End of Report